1317 South 13th Avenue Kelso, Washington 98626 (360) 577-7222 (360) 636-1068 fax

Columbia Analytical Services INC.
An Employee - Owned Company

December 7, 2009 Analytical Report for Service Request No: K0909140

David Weatherby
URS Corporation
111 SW Columbia, Suite 1500
Portland, OR 97201

RE: Boise St. Helens Pulp and Paper Mill-2009

Dear David:

Enclosed are the results of the samples submitted to our laboratory on September 29, 2009. For your reference, these analyses have been assigned our service request number K0909140.

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. The test results meet requirements of the current NELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP-accredited analytes, refer to the certifications section at www.caslab.com. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please call if you have any questions. My extension is 3358. You may also contact me via Email at LHuckestein@caslab.com.

Respectfully submitted,

Columbia Analytical Services, Inc.

Lynda Huckestein
Client Services Manager

LH/cw

Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

Inorganic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result.
E	The result is an estimate amount because the value exceeded the instrument calibration range.
J	The result is an estimated concentration that is less than the MRL or LOQ but greater than or equal to the MDL or LOD.
U	The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.1 definition*: Analyte was not detected and is reported as less than the LOD or as defined by the project. The LOD has been adjusted for dilution.
i	The MRL/MDL or LOQ/LOD has been elevated due to a matrix interference.
X	See case narrative.
Q	See case narrative. One or more quality control criteria was outside the limits.

Metals Data Qualifiers

#	The control limit criteria is not applicable. See case narrative.
J	The result is an estimated concentration that is less than the MRL or LOQ but greater than or equal to the MDL or LOD.
E	The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
M	The duplicate injection precision was not met.
N	The Matrix Spike sample recovery is not within control limits. See case narrative.
S	The reported value was determined by the Method of Standard Additions (MSA).
U	The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.1 definition*: Analyte was not detected and is reported as less than the LOD or as defined by the project. The LOD has been adjusted for any dilution or
W	The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
i	The MRL/MDL or LOQ/LOD has been elevated due to a matrix interference.
X	See case narrative.
+	The correlation coefficient for the MSA is less than 0.995.
Q	See case narrative. One or more quality control criteria was outside the limits.

Organic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
A	A tentatively identified compound, a suspected aldol-condensation product.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result.
C	The analyte was qualitatively confirmed using GC/MS techniques, pattern recognition, or by comparing to historical data.
D	The reported result is from a dilution.
E	The result is an estimate amount because the value exceeded the instrument calibration range.
J	The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
N	The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
P	The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results.
U	The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.1 definition*: Analyte was not detected and is reported as less than the LOD or as defined by the project. The LOD has been adjusted for any dilution or
i	The MRL/MDL or LOQ/LOD has been elevated due to a chromatographic interference.
X	See case narrative.
Q	See case narrative. One or more quality control criteria was outside the limits.

Additional Petroleum Hydrocarbon Specific Qualifiers

F	The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
L	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
H	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
O	The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
Y	The chromatographic fingerprint of the sample resembles a petroleum product eluting in approximately the correct carbon range, but the elution pattern does not match the calibration standard.
Z	The chromatographic fingerprint does not resemble a petroleum product.

Columbia Analytical Services, Inc.
Kelso, WA
State Certifications, Accreditations, and Licenses

Program	Number
Alaska DEC UST	UST-040
Arizona DHS	AZ0339
Arkansas - DEQ	88-0637
California DHS	2286
Colorado DPHE	-
Florida DOH	E87412
Hawaii DOH	-
Idaho DHW	-
Indiana DOH	C-WA-01
Louisiana DEQ	3016
Louisiana DHH	LA050010
Maine DHS	WA0035
Michigan DEQ	9949
Minnesota DOH	053-999-368
Montana DPHHS	CERT0047
Nevada DEP	WA35
New Jersey DEP	WA005
New Mexico ED	-
North Carolina DWQ	605
Oklahoma DEQ	9801
Oregon - DHS	WA200001
South Carolina DHEC	61002
Utah DOH	COLU
Washington DOE	C1203
Wisconsin DNR	998386840
Wyoming (EPA Region 8)	-

Case Narrative

COLUMBIA ANALYTICAL SERVICES, INC.

Client:	URS Corporation	**Service Request No.:**	K0909140
Project:	Boise St. Helens Pulp and Paper Mill-2009	**Date Received:**	9/29-10/9/2009
Sample Matrix:	Sediment		

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of Columbia Analytical Services, Inc. (CAS). This report contains analytical results for samples designated for Tier {tierlevel}. When appropriate to the method, method blank results have been reported with each analytical test. {surr}{qctext}

Sample Receipt

Nineteen sediment samples were received for analysis at Columbia Analytical Services on 9/29-10/9/2009. The samples were received in good condition and consistent with the accompanying chain of custody form. The samples were stored in a refrigerator at 4°C and an aliquot was frozen at –20°C following preparation at the laboratory.

Sample Preparation

The samples were composited in accordance with the project specific Sampling and Analysis Plan (SAP) provided by Christina Wheeler at URS Corporation.

General Chemistry Parameters

No anomalies associated with the analysis of these samples were observed.

Total Metals

No anomalies associated with the analysis of these samples were observed.

PCB Aroclors by EPA Method 8082

Calibration Verification Exceptions:
The primary evaluation criterion was exceeded for Aroclor 1260 in Continuing Calibration Verification (CCV) 1114F029. In accordance with CAS standard operating procedures, the alternative evaluation specified in the EPA method was performed using the average percent recovery of all analytes in the verification standard. The standard met the alternative evaluation criteria.

Sample Confirmation Notes:
The confirmation comparison criteria of 40% difference for Aroclor 1254 was exceeded in samples M-1-C and M-3-C. The lower of the two values was reported because there was an apparent interference on the alternate column that produced the higher value.

Elevated Detection Limits:
The detection limit was elevated for Aroclor 1254 and/or Aroclor 1260 in a few samples. The chromatogram indicated the presence of non-target background components. The matrix interference prevented adequate resolution of the target compounds at the normal limit. The results were flagged to indicate the matrix interference. Sample M-2-B required dilution due to the presence of elevated levels of target analyte. The reporting limits were adjusted to reflect the dilution.

Approved by _____ **Date** 12/7/09

Sample M-2-B required dilution due to the presence of elevated levels of target analyte. The reporting limits were adjusted to reflect the dilution.

Polynuclear Aromatic Hydrocarbons by EPA Method 8270C

Calibration Verification Exceptions:
The lower control criterion was exceeded for Pyrene in Continuing Calibration Verification (CCV) MS11\1116F002.D. The field samples analyzed in this sequence were dilutions for analytes other than the analyte in question. The data quality was not affected. No further corrective action was required.

Matrix Spike Recovery Exceptions:
The control criteria for matrix spike recovery of Phenanthrene for sample M-2-A were not applicable. The analyte concentration in the sample was significantly higher than the added spike concentration, preventing accurate evaluation of the spike recovery.

The matrix spike recovery of Fluoranthene, Benzo(k)fluoranthene, Indeno(1,2,3-cd)pyrene, Dibenz(a,h)anthracene, and Benzo(g,h,i)perylene for sample M-2-A was outside control criteria because of suspected matrix interference. A matrix spike duplicate was also analyzed, but produced similar results. The results of the original analysis were reported. No further corrective action was appropriate.

Dioxin and Furans

In accordance with instructions received from Christina Wheeler at URS Corporation, the Dioxin and Furan testing was performed at Axys Analytical. The report for this testing was submitted directly to URS Corporation.

Approved by _____ **Date** 12/7/09

Chain of Custody Documentation

K0909140

Columbia Analytical Services
800.695.7222
www.caslab.com

Client: OfficeMax & URS Corporation | Bill to: OfficeMax

CHAIN of CUSTODY

Page _1_ of _1_

Project: Boise St Helens Pulp and Paper Mill - Sediment 2009 | SR #

Project Manager: David Weatherby, URS Corporation | Telephone No. 503.222.7200 | Fax No. 503.222.4292

Composite I.D.	Lab I.D.	Matrix	Date	Time	Archive (1)	Submittal to Axys (2)	PAHs 8270 SIM	PCB's Aroclors	Total Metals (Sb, As, Cd, Pb, Hg, Se, and Zn)	TOC	Grain Size	Total Solids				Remarks
M-5-A		Sediment	9/28/2009	10:06	X	X	X	X	X	X	X	X				
M-5-B		Sediment	9/28/2009	10:07	X	X	X	X	X	X	X	X				*URS Dup = M-5-B2*
M-5-B2		*Sediment*	9/28/2009	*10:08*	*X*	*X*	*X*	*X*	*X*	*X*		*X*				*URS Duplicate*
M-5-C		Sediment	9/28/2009	11:09	X	X	X	X	X	X	X	X				
M-4-A		Sediment	9/28/2009	13:32	X	X	X	X	X	X	X	X				
M-4-B		Sediment	9/28/2009	12:57	X	X	X	X	X	X	X	X				
M-4-C		Sediment	9/28/2009	12:58	X	X	X	X	X	X	X	X				
M-3-A		Sediment	HOLD		X	X	X	X	X	X	X	X				
M-3-B		Sediment	LOG IN		X	X	X	X	X	X	X	X				
M-3-C		Sediment	OPEN		X	X	X	X	X	X	X	X				
M-2-A		Sediment			X	X	X	X	X	X	X	X				MS/MSD
M-2-B		Sediment			X	X	X	X	X	X	X	X				
M-2-C		Sediment			X	X	X	X	X	X	X	X				
M-1-A		Sediment			X	X	X	X	X	X	X	X				
M-1-B		Sediment			X	X	X	X	X	X	X	X				
M-1-C		Sediment			X	X	X	X	X	X	X	X				
B-1-A		Sediment			X	X	X	X	X	X	X	X				
B-1-B		Sediment			X	X	X	X	X	X	X	X				
B-1-C		Sediment			X	X	X	X	X	X	X	X				

Sample Received Intact: Yes No | Temperature received: Ice No ice

RELINQUISHED BY:
Signature:
Printed Name: Nicky Moody
Firm: URS
Date/Time: 9/28/09 / 5:30pm

~~**RELINQUISHED BY:**~~ 9/29/09
Received By:
Signature:
Printed Name: Tina Jones
Firm: CAS
Date/Time: 9/29/09 0730

RELINQUISHED BY:
Signature:
Printed Name:
Firm:
Date/Time:

RELINQUISHED BY:
Signature:
Printed Name:
Firm:
Date/Time:

Special Instructions/Comments:

Laboratory to create the above composite incremental samples (see Appendix B of the FSP).
(1) Archive entire remaining dry, sieved composite after completing MIS sub-sampling.
(2) Send MIS 30 scoop sub-sample container, back-up container, & as the MS/MSD send only a duplicate & back-up container.

Columbia Analytical Services
800.695.7222
www.caslab.com

Client: OfficeMax & URS Corporation
Bill to: OfficeMax
Project Manager: David Weatherby, URS Corporation

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Project: Boise St Helens Pulp and Paper Mill - Sediment 2009
Telephone No. 503.222.7200
Fax No. 503.222.4292

SR #

Composite I.D.	Lab I.D.	Matrix	Date	Time	Archive (1)	Submittal to Axys (2)	PAHs 8270 SIM	PCB's Aroclors	Total Metals (Sb, As, Cd, Pb, Hg, Se, and Zn)	TOC	Grain Size	Total Solids				Remarks
M-5-A		Sediment			X	X	X	X	X	X	X	X				
M-5-B		Sediment			X	X	X	X	X	X	X	X				*URS Dup = M-5-B2*
M-5-B2		*Sediment*			*X*	*X*	*X*	*X*	*X*	*X*		*X*				*URS Duplicate*
M-5-C		Sediment			X	X	X	X	X	X	X	X				
M-4-A		Sediment			X	X	X	X	X	X	X	X				
M-4-B		Sediment			X	X	X	X	X	X	X	X				
M-4-C		Sediment			X	X	X	X	X	X	X	X				
M-3-A		Sediment	10/5/09	1312	X	X	X	X	X	X	X	X				
M-3-B		Sediment	↓	1251	X	X	X	X	X	X	X	X				
M-3-C		Sediment	↓	1252	X	X	X	X	X	X	X	X				
M-2-A		Sediment			X	X	X	X	X	X	X	X				MS/MSD
M-2-B		Sediment			X	X	X	X	X	X	X	X				
M-2-C		Sediment			X	X	X	X	X	X	X	X				
M-1-A		Sediment			X	X	X	X	X	X	X	X				
M-1-B		Sediment			X	X	X	X	X	X	X	X				
M-1-C		Sediment			X	X	X	X	X	X	X	X				
B-1-A		Sediment			X	X	X	X	X	X	X	X				
B-1-B		Sediment			X	X	X	X	X	X	X	X				
B-1-C		Sediment			X	X	X	X	X	X	X	X				

Sample Received Intact: Yes No
Temperature received: Ice No ice

RELIQUISHED BY:	~~RELIQUISHED BY:~~	RELIQUISHED BY:	RELIQUISHED BY:
Signature: Nicky Moody	Signature: Received by	Signature:	Signature:
Printed Name: Nicky Moody	Printed Name: John Jones	Printed Name:	Printed Name:
Firm: URS	Firm: CAS	Firm:	Firm:
Date/Time: 10 5 09 / 16 35	Date/Time: 10/6/09 0905	Date/Time:	Date/Time:

Special Instructions/Comments:

Laboratory to create the above composite incremental samples (see Appendix B of the FSP).
(1) Archive entire remaining dry, sieved composite after completing MIS sub-sampling.
(2) Send MIS 30 scoop sub-sample container, back-up container, & as the MS/MSD send only a duplicate & back-up container.

Columbia Analytical Services
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Client: OfficeMax & URS Corporation
Bill to: OfficeMax
Project Manager: David Weatherby, URS Corporation

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Project: Boise St Helens Pulp and Paper Mill - Sediment 2009
Telephone No. 503.222.7200
Fax No. 503.222.4292

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SR #

Composite I.D.	Lab I.D.	Matrix	Date	Time	Archive (1)	Submittal to Axys (2)	PAHs 8270 SIM	PCB's Aroclors	Total Metals (Sb, As, Cd, Pb, Hg, Se, and Zn)	TOC	Grain Size	Total Solids				Remarks
M-5-A		Sediment			X	X	X	X	X	X	X	X				
M-5-B		Sediment			X	X	X	X	X	X	X	X				URS Dup = M-5-B2
M-5-B2		*Sediment*			*X*	*X*	*X*	*X*	*X*	*X*		*X*				*URS Duplicate*
M-5-C		Sediment			X	X	X	X	X	X	X	X				
M-4-A		Sediment			X	X	X	X	X	X	X	X				
M-4-B		Sediment			X	X	X	X	X	X	X	X				
M-4-C		Sediment			X	X	X	X	X	X	X	X				
M-3-A		Sediment			X	X	X	X	X	X	X	X				
M-3-B		Sediment			X	X	X	X	X	X	X	X				
M-3-C		Sediment			X	X	X	X	X	X	X	X				
M-2-A		Sediment			X	X	X	X	X	X	X	X				MS/MSD
M-2-B		Sediment			X	X	X	X	X	X	X	X				
M-2-C		Sediment			X	X	X	X	X	X	X	X				
M-1-A		Sediment	10.7.09	1301	X	X	X	X	X	X	X	X				Keep log
M-1-B		Sediment	↓	1214	X	X	X	X	X	X	X	X				in open
M-1-C		Sediment	↓	1215	X	X	X	X	X	X	X	X				
B-1-A		Sediment			X	X	X	X	X	X	X	X				
B-1-B		Sediment			X	X	X	X	X	X	X	X				
B-1-C		Sediment			X	X	X	X	X	X	X	X				

Sample Received Intact: Yes No
Temperature received: Ice No ice

Special Instructions/Comments:

Laboratory to create the above composite incremental samples (see Appendix B of the FSP).
(1) Archive entire remaining dry, sieved composite after completing MIS sub-sampling.
(2) Send MIS 30 scoop sub-sample container, back-up container, & as the MS/MSD send only a duplicate & back-up container.

RELIQUISHED BY:	RELIQUISHED BY:	RELIQUISHED BY:	RELIQUISHED BY:
Signature: Clay Moody	Signature: Brad Hagen	Signature:	Signature:
Printed Name: Nicky Moody	Printed Name: Brad Hagen	Printed Name:	Printed Name:
Firm: URS	Firm: CAS	Firm:	Firm:
Date/Time: 10.7.09 / 1600	Date/Time: 10/8/09 0800	Date/Time:	Date/Time:

Columbia Analytical Services
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Client: OfficeMax & URS Corporation
Bill to: OfficeMax
Project Manager: David Weatherby, URS Corporation

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Project: Boise St Helens Pulp and Paper Mill - Sediment 2009
SR #
Telephone No. 503.222.7200
Fax No. 503.222.4292

Composite I.D.	Lab I.D.	Matrix	Date	Time	Archive (1)	Submittal to Axys (2)	PAHs 8270 SIM	PCB's Aroclors	Total Metals (Sb, As, Cd, Pb, Hg, Se, and Zn)	TOC	Grain Size	Total Solids				Remarks
M-5-A		Sediment			X	X	X	X	X	X	X	X				
M-5-B		Sediment			X	X	X	X	X	X	X	X				URS Dup = M-5-B2
M-5-B2		*Sediment*			*X*	*X*	*X*	*X*	*X*	*X*		*X*				*URS Duplicate*
M-5-C		Sediment			X	X	X	X	X	X	X	X				
M-4-A		Sediment			X	X	X	X	X	X	X	X				
M-4-B		Sediment			X	X	X	X	X	X	X	X				
M-4-C		Sediment			X	X	X	X	X	X	X	X				
M-3-A		Sediment			X	X	X	X	X	X	X	X				
M-3-B		Sediment			X	X	X	X	X	X	X	X				
M-3-C		Sediment			X	X	X	X	X	X	X	X				
M-2-A		Sediment			X	X	X	X	X	X	X	X				MS/MSD
M-2-B		Sediment			X	X	X	X	X	X	X	X				
M-2-C		Sediment			X	X	X	X	X	X	X	X				
M-1-A		Sediment			X	X	X	X	X	X	X	X				
M-1-B		Sediment			X	X	X	X	X	X	X	X				
M-1-C		Sediment			X	X	X	X	X	X	X	X				
B-1-A		Sediment	10.9.09	1249	X	X	X	X	X	X	X	X				
B-1-B		Sediment	↓	1220	X	X	X	X	X	X	X	X				
B-1-C		Sediment	↓	1221	X	X	X	X	X	X	X	X				
keep	Log in open															

Sample Received Intact: Yes No
Temperature received: Ice No ice

RELIQUISHED BY:
Signature:
Printed Name: Nicky Mooney
Firm: URS
Date/Time: 10.9.09 / 1600

RELIQUISHED BY:
Signature:
Printed Name:
Firm: CAS
Date/Time: 10/9/09 / 1730

RELIQUISHED BY:
Signature:
Printed Name:
Firm:
Date/Time:

RELIQUISHED BY:
Signature:
Printed Name:
Firm:
Date/Time:

Special Instructions/Comments:

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Client: OfficeMax & URS Corporation
Bill to: OfficeMax

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Page _1_ of _1_

Project: Boise St Helens Pulp and Paper Mill - Sediment 2009
SR #

Project Manager: David Weatherby, URS Corporation
Telephone No. 503.222.7200
Fax No. 503.222.4292

Composite I.D.	Lab I.D.	Matrix	Date	Time	Archive (1)	Submittal to Axys (2)	PAHs 8270 SIM	PCB's Aroclors	Total Metals (Sb, As, Cd, Pb, Hg, Se, and Zn)	TOC	Grain Size	Total Solids				Remarks
M-5-A		Sediment			X	X	X	X	X	X	X	X				
M-5-B		Sediment			X	X	X	X	X	X	X	X				*URS Dup = M-5-B2*
M-5-B2		*Sediment*			*X*	*X*	*X*	*X*	*X*	*X*		*X*				*URS Duplicate*
M-5-C		Sediment			X	X	X	X	X	X	X	X				
M-4-A		Sediment			X	X	X	X	X	X	X	X				
M-4-B		Sediment			X	X	X	X	X	X	X	X				
M-4-C		Sediment			X	X	X	X	X	X	X	X				
M-3-A		Sediment			X	X	X	X	X	X	X	X				
M-3-B		Sediment			X	X	X	X	X	X	X	X				
M-3-C		Sediment			X	X	X	X	X	X	X	X				
M-2-A		Sediment	10/6/09	1306	X	X	X	X	X	X	X	X				MS/MSD
M-2-B		Sediment	10/6/09	1331	X	X	X	X	X	X	X	X				
M-2-C		Sediment	10/6/09	1307	X	X	X	X	X	X	X	X				
M-1-A	Keep log in open	Sediment			X	X	X	X	X	X	X	X				
M-1-B		Sediment			X	X	X	X	X	X	X	X				
M-1-C		Sediment			X	X	X	X	X	X	X	X				
B-1-A		Sediment			X	X	X	X	X	X	X	X				
B-1-B		Sediment			X	X	X	X	X	X	X	X				
B-1-C		Sediment			X	X	X	X	X	X	X	X				

Sample Received Intact: Yes No
Temperature received: Ice No ice

Special Instructions/Comments:

Laboratory to create the above composite incremental samples (see Appendix B of the FSP).
(1) Archive entire remaining dry, sieved composite after completing MIS sub-sampling.
(2) Send MIS 30 scoop sub-sample container, back-up container, & as the MS/MSD send only a duplicate & back-up container.

RELIQUISHED BY:	RELIQUISHED BY:	RELIQUISHED BY:	RELIQUISHED BY:
Signature: [signature]	Signature:	Signature:	Signature:
Printed Name: Nicky Moody	Printed Name:	Printed Name:	Printed Name:
Firm: URS	Firm:	Firm:	Firm:
Date/Time: 10.6.09 / 1600	Date/Time:	Date/Time:	Date/Time:

Columbia Analytical Services, Inc.
Cooler Receipt and Preservation Form

PC 44

Client / Project: URS Corp / Boise ST Helens Service Request K09 69140

Received: 9/24/09 Opened: 9/29/09 By: TT

1. Samples were received via? *US Mail* *Fed Ex* *UPS* *DHL* *GH* *GS* *PDX* (Courier) *Hand Delivered*
2. Samples were received in: (circle) (Cooler) *Box* *Envelope* *Other* _____ *NA*
3. Were custody seals on coolers? NA Y (N) If yes, how many and where? N/A
   If present, were custody seals intact? Y N N/A If present, were they signed and dated? Y N N/A
4. Is shipper's air-bill filed? If not, record air-bill number: Red Cooler - samples A thru C (NA) Y N
   Blue cooler - Contained D samples

5. **Temperature of cooler(s) upon receipt (°C):**	3.4	5.0		
Temperature Blank (°C):	1.5	9.8		
Thermometer ID:	273	261		
6. If applicable, list Chain of Custody Numbers:				

7. Packing material used. *Inserts* *Baggies* (Bubble Wrap) *Gel Packs* (Wet Ice) *Sleeves* *Other* _____

8. Were custody papers properly filled out (ink, signed, etc.)?	NA	(Y)	N
9. **Did all bottles arrive in good condition (unbroken)?** *Indicate in the table below.*	NA	(Y)	N
10. Were all sample labels complete (i.e analysis, preservation, etc.)?	NA	(Y)	N
11. Did all sample labels and tags agree with custody papers? *Indicate in the table below*	*NA	Y (11 applies)	(N)
12. **Were appropriate bottles/containers and volumes received for the tests indicated?**	NA	(Y)	N
13. Were the pH-preserved bottles tested* received at the appropriate pH? *Indicate in the table below*	(NA)	Y	N
14. Were VOA vials received without headspace? *Indicate in the table below.*	(NA)	Y	N
15. **Are CWA Microbiology samples received with >1/2 the 24hr. hold time remaining from collection?**	(NA)	Y	N
16. Was C12/Res negative?	(NA)	Y	N

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Sample ID	Bottle Count Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

pes not include all pH preserved sample aliquots received. See sample receiving SOP (SMO-GEN).

Additional Notes, Discrepancies, & Resolutions: * For D samples we received 3 x 8oz jars for samples: M-42-5-D, M-40-5-D, M-39-5-D, M-52-4-D, M-54-4-D, M-56-4-D, did not receive 2oz jars, did not receive samples M-5-D, M-4-D, M-3-D, M-2-D M-2-2D, M-1-D, B-1-D.

Columbia Analytical Services, Inc.
Cooler Receipt and Preservation Form

PC_____

Client / Project: URS Service Request K09_____

Received: 10/6/09 Opened: 10/6/09 By: TT

1. Samples were received via? *US Mail* *Fed Ex* *UPS* *DHL* *GH* *GS* *PDX* (*Courier*) *Hand Delivered*
2. Samples were received in: (circle) (*Cooler*) *Box* *Envelope* *Other*_____ *NA*
3. Were custody seals on coolers? NA (Y) N If yes, how many and where? 1 front
   If present, were custody seals intact? (Y) N If present, were they signed and dated? (Y) N
4. Is shipper's air-bill filed? If not, record air-bill number: 1 of 2 per cust seal - White cooler (NA) Y N
   2 of 2 per custody seal
5. **Temperature of cooler(s) upon receipt (°C):** 0.0 | 0.7 | | |
   Temperature Blank (°C): 2.6 | 1.2 | | |
   Thermometer ID: 271 | 266 | | |
6. If applicable, list Chain of Custody Numbers:
7. Packing material used. *Inserts* (*Baggies*) *Bubble Wrap* *Gel Packs* (*Wet Ice*) *Sleeves* *Other*_____
8. Were custody papers properly filled out (ink, signed, etc.)? NA (Y) N
9. **Did all bottles arrive in good condition (unbroken)?** *Indicate in the table below.* NA (Y) N
10. Were all sample labels complete (i.e analysis, preservation, etc.)? NA (Y) N
11. Did all sample labels and tags agree with custody papers? *Indicate in the table below* NA (Y) N
12. **Were appropriate bottles/containers and volumes received for the tests indicated?** NA (Y) N
13. Were the pH-preserved bottles tested* received at the appropriate pH? *Indicate in the table below* (NA) Y N
14. Were VOA vials received without headspace? *Indicate in the table below.* (NA) Y N
15. **Are CWA Microbiology samples received with >1/2 the 24hr. hold time remaining from collection?** (NA) Y N
16. Was C12/Res negative? (NA) Y N

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Sample ID	Bottle Count Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

*Does not include all pH preserved sample aliquots received. See sample receiving SOP (SMO-GEN).

*Additional Notes, Discrepancies, & Resolutions:*_____

Total Solids

Client: URS Corporation
Project: Boise St. Helens Pul
Sample Matrix: Sediment

Service Request: K0909140

Total Solids

Prep Method: NONE
Analysis Method: 160.3M
Test Notes:

Units: PERCENT
Basis: Wet

Sample Name	Lab Code	Date Collected	Date Received	Date Analyzed	Result	Result Notes
M-4-A	K0909140-001	09/28/2009	09/29/2009	10/27/2009	97.5	
M-4-B	K0909140-002	09/28/2009	09/29/2009	10/27/2009	97.5	
M-4-C	K0909140-003	09/28/2009	09/29/2009	10/27/2009	97.7	
M-1-B	K0909140-004	10/07/2009	10/08/2009	10/27/2009	95.7	
M-2-C	K0909140-005	10/06/2009	10/07/2009	10/27/2009	92.7	
M-2-A	K0909140-006	10/06/2009	10/07/2009	10/27/2009	97.8	
M-3-B	K0909140-007	10/05/2009	10/06/2009	10/27/2009	98.2	

Client: URS Corporation
Project: Boise St. Helens Pul
Sample Matrix: Sediment

Service Request: K0909140

Total Solids

Prep Method: NONE
Analysis Method: 160.3M
Test Notes:

Units: PERCENT
Basis: Wet

Sample Name	Lab Code	Date Collected	Date Received	Date Analyzed	Result	Result Notes
M-2-B	K0909140-008	10/06/2009	10/07/2009	11/02/2009	89.5	
M-1-C	K0909140-009	10/07/2009	10/08/2009	11/02/2009	90.5	
M-3-C	K0909140-010	10/05/2009	10/06/2009	11/02/2009	95.3	
B-1-A	K0909140-011	10/09/2009	10/09/2009	11/02/2009	94.8	
B-1-B	K0909140-012	10/09/2009	10/09/2009	11/02/2009	98.2	
M-3-A	K0909140-013	10/05/2009	10/06/2009	11/02/2009	93.9	
M-1-A	K0909140-014	10/07/2009	10/08/2009	11/02/2009	97.2	
M-5-B	K0909140-015	09/28/2009	09/29/2009	11/02/2009	97.2	
M-5-A	K0909140-016	09/28/2009	09/29/2009	11/02/2009	99.1	

Analytical Results

Client: URS Corporation
Project: Boise St. Helens Pul
Sample Matrix: Sediment

Service Request: K0909140

Total Solids

Prep Method: NONE
Analysis Method: 160.3M
Test Notes:

Units: PERCENT
Basis: Wet

Sample Name	Lab Code	Date Collected	Date Received	Date Analyzed	Result	Result Notes
M-5-B2	K0909140-018	09/28/2009	09/29/2009	11/12/2009	97.5	
B-1-C	K0909140-019	10/09/2009	10/09/2009	11/12/2009	98.3	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	URS Corporation	**Service Request:**	K0909140
Project:	Boise St. Helens Pul	**Date Collected:**	09/28/2009
Sample Matrix:	Sediment	**Date Received:**	09/29/2009
		Date Analyzed:	11/02/2009

Duplicate Sample Summary
Total Solids

Prep Method:	NONE	**Units:**	PERCENT
Analysis Method:	160.3M	**Basis:**	Wet
Test Notes:			

Sample Name	Lab Code	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
M-5-B	K0909140-015	97.2	98.4	97.8	1	

Client:	URS Corporation	**Service Request:**	K0909140
Project:	Boise St. Helens Pul	**Date Collected:**	09/28/2009
Sample Matrix:	Sediment	**Date Received:**	09/29/2009
		Date Analyzed:	11/12/2009

Duplicate Sample Summary
Total Solids

Prep Method:	NONE	**Units:**	PERCENT
Analysis Method:	160.3M	**Basis:**	Wet
Test Notes:			

Sample Name	Lab Code	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
M-5-B2	K0909140-018	97.5	97.5	97.5	<1	

Client: URS Corporation
Project: Boise St. Helens Pul
Sample Matrix: Sediment

Service Request: K0909140

Total Solids

Prep Method: NONE
Analysis Method: 160.3M
Test Notes:

Units: PERCENT
Basis: Wet

Sample Name	Lab Code	Date Collected	Date Received	Date Analyzed	Result	Result Notes
M-5-C	K0909140-017	09/28/2009	09/29/2009	11/09/2009	99.6	

Client:	URS Corporation	**Service Request:**	K0909140
Project:	Boise St. Helens Pul	**Date Collected:**	09/28/2009
Sample Matrix:	Sediment	**Date Received:**	09/29/2009
		Date Analyzed:	11/09/2009

Duplicate Sample Summary

Total Solids

Prep Method:	NONE	**Units:**	PERCENT
Analysis Method:	160.3M	**Basis:**	Wet
Test Notes:			

Sample Name	Lab Code	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
M-5-C	K0909140-017	99.6	99.7	99.7	<1	

COLUMBIA ANALYTICAL SERVICES, INC.

Service Request #: K0909140

Analysis For: Total Solids

Method: EPA METHOD 160.3 MODIFIED

+ Tare

Pan ID	Lab Code	Wet Weight (g)	Tare (g)	Tare + Dry Wt.(g)	Dry Weight (g)	% Total Solids
	K9140 - 1	11.85	1.27	11.59		
	-2	11.31	1.26	11.06		
	-3	11.66	1.27	11.42		
	-4	12.08	1.28	11.62		
	-5	11.28	1.27	10.55		
	-6	11.45	1.27	11.23		
	-7	11.93	1.27	11.74		

Oven Temp : _____ Time In : _____ Time Out : _____

Comments:

$\bar{x}$ RPD =

$\bar{x}$ RPD =

$\bar{x}$ RPD =

Analyst: TN Date: 10/27/09

Reviewed By: Date:

TSGEN.BCH

COLUMBIA ANALYTICAL SERVICES, INC.

EPA Method 160.3 - Total Solids

176735

Group ID:	KWG0910057				
Analyst:	TNguyen			**Reviewed By:**	BJ
Date Acquired:	10/27/2009 09:00	**Oven TempStart:**	105 DEG C	**Date Reviewed:**	10/28/09
Date Completed:	10/28/2009 09:45	**Oven TempEnd:**	105 DEG C		

#	Lab Code	Client ID	Matrix	Tare	Tare+Wet	Tare+Dry	% Solids	QC Ref Sample	Comments
1	K0909140-001	M-4-A	SEDIMENT	1.27g	11.85g	11.59g	97.5		
2	K0909140-002	M-4-B	SEDIMENT	1.26g	11.31g	11.06g	97.5		
3	K0909140-003	M-4-C	SEDIMENT	1.27g	11.66g	11.42g	97.7		
4	K0909140-004	M-1-B	SEDIMENT	1.28g	12.08g	11.62g	95.7		
5	K0909140-005	M-2-C	SEDIMENT	1.27g	11.28g	10.55g	92.7		
6	K0909140-006	M-2-A	SEDIMENT	1.27g	11.45g	11.23g	97.8		
7	K0909140-007	M-3-B	SEDIMENT	1.27g	11.93g	11.74g	98.2		
8	K0909258-009	M-2-D2	SEDIMENT	37.3300g	46.0044g	41.3856g	46.8		
9	K0909436-001	Fiberwaste	MISC. SOLID	1.29g	2.57g	2.53g	96.9		Air dry and ground
10	K0909436-002	Plastic Rejects	MISC. SOLID	1.27g	3.11g	3.00g	94.0		Air dry and ground
11	K0909436-003	Tail & Grapple Rejects	MISC. SOLID	1.27g	2.06g	2.03g	96.2		Air dry and ground
12	K0909947-001	Daily Composite 1; 8/26,8/27,8 /28	COAL	9.41g	71.85g	69.00g	95.4		As received
13	K0909947-002	Daily Composite 2; 8/29,8/30,8 /31	COAL	8.74g	79.55g	77.19g	96.7		As received
14	K0909947-003	Daily Composite 3; 9/1,9/2,9/3	COAL	8.46g	88.21g	85.88g	97.1		As received
15	K0909947-004	Daily Composite 4; 9/21,9/22,9 /23	COAL	8.69g	91.13g	87.52g	95.6		As received
16	K0909947-005	Daily Composite 5; 9/24,9/25,9 /26	COAL	9.32g	86.82g	84.48g	97.0		As received
17	K0909947-006	Daily Composite 6 - 9/27,9/28, 9/29	COAL	9.27g	123.62g	119.21g	96.1		As received
18	K0909947-007	Daily Composite 7; 9/30,10/1,1 0/2	COAL	8.37g	108.94g	106.09g	97.2		As received
19	K0909947-008	Daily Composite 8 - 10/3,10/4, 10/5	COAL	9.25g	112.01g	108.09g	96.2		As received

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Group ID:	KWG0910057		
Analyst:	TNguyen	**Reviewed By:**	BN
Date Acquired:	10/27/2009 09:00	**Oven TempStart:**	105 DEG C
Date Completed:	10/28/2009 09:45	**Oven TempEnd:**	105 DEG C
		Date Reviewed:	10/28/09

#	Lab Code	Client ID	Matrix	Tare	Tare+Wet	Tare+Dry	% Solids	QC Ref Sample	Comments
20	K0909947-009	Daily Composite 9 - 10/6,10/7, 10/8	COAL	9.21g	83.65g	78.81g	93.5		As received
21	K0909947-010	Run Composite 1; 1-4	COAL	8.36g	118.99g	114.04g	95.5		As received
22	K0909947-011	Run Composite 2; 1-4	COAL	8.79g	87.37g	83.07g	94.5		As received
23	K0909947-012	Run Composite 3; 5-8	COAL	9.45g	80.40g	77.49g	95.9		As received
24	K0909947-013	Run Composite 4; 5-8	COAL	9.33g	87.62g	84.98g	96.6		As received
25	K0909947-014	Run Composite 5; 1-4	COAL	9.27g	123.77g	117.88g	94.9		As received
26	K0909947-015	Run Composite 6; 5-8	COAL	9.25g	111.83g	107.63g	95.9		As received
27	K0909947-016	Run Composite 7; 1-4	COAL	9.45g	82.09g	78.23g	94.7		As received
28	K0909947-017	Run Composite 8; 5-8	COAL	8.09g	95.43g	91.39g	95.4		As received
29	K0909947-018	Run Composite 9; 9-12	COAL	8.70g	87.05g	83.17g	95.0		As received
30	K0910087-001	LPRT04A	SEDIMENT	1.27g	8.57g	5.21g	54.0		
31	K0910087-002	LPRT04B	SEDIMENT	1.27g	11.62g	5.39g	39.8		
32	K0910107-001	Annual Biosolids	SLUDGE, SOLID	37.2615g	64.2341g	38.0840g	3.05		
33	K0910107-002	Biosolids Fecal #1	SOIL	32.10g	61.20g	33.02g	3.16		
34	K0910107-003	Biosolids Fecal #2	SOIL	34.06g	62.49g	34.96g	3.17		
35	K0910107-004	Biosolids Fecal #3	SOIL	33.45g	61.63g	34.34g	3.16		
36	K0910107-005	Biosolids Fecal #4	SOIL	32.24g	65.39g	33.28g	3.14		
37	K0910107-006	Biosolids Fecal #5	SOIL	36.53g	66.67g	37.48g	3.15		
38	K0910107-007	Biosolids Fecal #6	SOIL	35.67g	66.59g	36.65g	3.17		
39	K0910107-008	Biosolids Fecal #7	SOIL	37.03g	67.24g	37.98g	3.14		
40	K0910107-009	S.O.U.R.	SLUDGE, SOLID	37.76g	73.33g	38.88g	3.15		
41	K0910173-001	MCFA1	SOIL	1.27g	9.27g	8.19g	86.5		
42	K0910201-001	Wood Fuel Sample	SOLID FUEL	13.84g	132.75g	65.04g	43.1		As received
43	K0910217-001	09GR01SO	SOIL	1.29g	13.24g	12.98g	97.8		
44	K0910217-002	09GR02SO	SOIL	1.29g	11.75g	11.44g	97.0		
45	K0910217-003	09GR03SO	SOIL	1.30g	12.50g	12.06g	96.1		
46	K0910217-004	09GR04SO	SOIL	1.29g	9.18g	8.95g	97.1		
47	K0910217-005	09GR05SO	SOIL	1.30g	11.91g	11.54g	96.5		

Group ID:	KWG0910057				
Analyst:	TNguyen			**Reviewed By:**	SH
Date Acquired:	10/27/2009 09:00	**Oven TempStart:**	105 DEG C	**Date Reviewed:**	10/28/09
Date Completed:	10/28/2009 09:45	**Oven TempEnd:**	105 DEG C		

#	Lab Code	Client ID	Matrix	Tare	Tare+Wet	Tare+Dry	% Solids	QC Ref Sample	Comments
48	K0910217-006	09GR06SO	SOIL	1.30g	11.44g	11.09g	96.5		
49	K0910217-007	09GR07SO	SOIL	1.31g	11.55g	11.06g	95.2		
50	K0910217-008	09GR08SO	SOIL	1.30g	13.57g	12.96g	95.0		
51	K0910217-009	09GR09SO	SOIL	1.29g	13.61g	12.72g	92.8		
52	K0910217-010	09GR10SO	SOIL	1.30g	14.89g	14.15g	94.6		
53	K0910217-011	09GR11SO	SOIL	1.29g	12.54g	12.09g	96.0		
54	K0910217-012	09GR12SO	SOIL	1.28g	13.75g	12.84g	92.7		
55	K0910217-013	09GR13SO	SOIL	1.28g	12.96g	12.58g	96.7		
56	K0910225-001	LPRT14D	SEDIMENT	1.29g	12.12g	6.66g	49.6		
57	K0910225-002	LPRT14C	SEDIMENT	1.27g	15.16g	11.50g	73.7		
58	K0910225-003	LPRT14F	SEDIMENT	1.28g	13.94g	10.78g	75.0		
59	K0910225-004	LPRT14F-FD	SEDIMENT	1.27g	13.15g	10.31g	76.1		
60	K0910225-005	LPRH17A	SEDIMENT	1.28g	14.35g	9.86g	65.6		
61	K0910225-006	LPRT17A	SEDIMENT	1.27g	13.36g	11.06g	81.0		
62	K0910225-007	LPRT15F	SEDIMENT	1.28g	14.62g	12.68g	85.5		
63	K0910225-008	LPRT15C	SEDIMENT	1.28g	12.51g	11.35g	89.7		
64	K0910225-009	LPRT14E	SEDIMENT	1.28g	11.77g	10.35g	86.5		
65	K0910225-010	LPRT14B	SEDIMENT	1.26g	12.35g	7.30g	54.5		
66	K0910225-013	LPRT15D	SEDIMENT	1.27g	12.86g	9.85g	74.0		
67	K0910225-014	LPRT14A	SEDIMENT	1.29g	11.57g	6.26g	48.3		
68	K0910225-015	LPRT15A	SEDIMENT	1.28g	11.24g	6.06g	48.0		
69	K0910225-016	LPRT15A-FD	SEDIMENT	1.28g	13.02g	7.09g	49.5		
70	K0910225-017	LPRT15E	SEDIMENT	1.28g	14.85g	12.18g	80.3		
71	K0910225-018	LPRT17D	SEDIMENT	1.28g	12.54g	9.46g	72.6		
72	K0910225-019	LPRT13A	SEDIMENT	1.27g	11.56g	6.38g	49.7		
73	K0910225-020	LPRT12E	SEDIMENT	1.28g	11.40g	4.95g	36.3		
74	K0910225-021	LPRT12E-FD	SEDIMENT	1.28g	13.08g	5.38g	34.7		
75	K0910225-022	LPRT13D	SEDIMENT	1.27g	12.02g	8.10g	63.5		
76	K0910225-023	LPRT14C-FD	SEDIMENT	1.27g	13.02g	10.61g	79.5		
77	KWG0910057-1	Duplicate Client Sample	SOIL	1.29g	15.62g	14.52g	92.3	K0910217-009	

Group ID:	KWG0910057		
Analyst:	TNguyen	**Reviewed By:**	BH
Date Acquired:	10/27/2009 09:00	**Oven TempStart:**	105 DEG C
Date Completed:	10/28/2009 09:45	**Oven TempEnd:**	105 DEG C
		Date Reviewed:	10/28/09

#	Lab Code	Client ID	Matrix	Tare	Tare+Wet	Tare+Dry	% Solids	QC Ref Sample	Comments
78	KWG0910057-10	Duplicate Client Sample	MISC. SOLID	1.27g	2.30g	2.26g	96.1	K0909436-003	
79	KWG0910057-11	Duplicate Client Sample	SOLID FUEL	13.88g	129.19g	65.27g	44.6	K0910201-001	
80	KWG0910057-2	Duplicate Client Sample	SLUDGE, SOLID	38.4490g	64.1168g	39.2485g	3.11	K0910107-001	
81	KWG0910057-3	Duplicate Client Sample	SLUDGE, SOLID	29.49g	62.21g	30.50g	3.09	K0910107-009	
82	KWG0910057-4	Duplicate Client Sample	SEDIMENT	30.6310g	46.8036g	38.1979g	46.8	K0909258-009	
83	KWG0910057-5	Duplicate Client Sample	SEDIMENT	1.28g	10.45g	4.95g	40.0	K0910087-002	
84	KWG0910057-6	Duplicate Client Sample	SEDIMENT	1.28g	10.13g	5.72g	50.2	K0910225-001	
85	KWG0910057-7	Duplicate Client Sample	SEDIMENT	1.28g	11.33g	9.12g	78.0	K0910225-023	
86	KWG0910057-8	Duplicate Client Sample	COAL	8.79g	68.98g	65.95g	95.0	K0909947-001	
87	KWG0910057-9	Duplicate Client Sample	COAL	9.67g	104.54g	99.34g	94.5	K0909947-018	

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ervice Request #: K0909140

Method: EPA METHOD 160.3 MODIFIED

nalysis For: Total Solids

Pan ID	Lab Code	Wet Weight (g)	Tare (g)	Tare + Dry Wt.(g)	Dry Weight (g)	% Total Solids
	K9140-8	11.54	1.32	10.47		
	-9	11.78	1.32	10.79		
	-10	11.82	1.32	11.32		
	-11	11.80	1.32	11.26		
	-12	11.50	1.31	11.32		
	-13	9.95	1.33	9.42		
	-14	11.54	1.33	11.25		
	-15	11.60	1.32	11.31		

en Temp : _____ Time In : _____ Time Out : _____

mments:

$\bar{x}$ RPD =

$\bar{x}$ RPD =

$\bar{x}$ RPD =

nalyst:	TN	Date:	11/2/09
viewed By:		Date:	11/4/09

TSGEN.BCH

COLUMBIA ANALYTICAL SERVICES, INC.

EPA Method 160.3 - Total Solids

177533

Group ID:	KWG0910229				
Analyst:	TNguyen			**Reviewed By:**	
Date Acquired:	11/02/2009 09:45	**Oven TempStart:**	105 DEG C	**Date Reviewed:**	11/3/09
Date Completed:	11/03/2009 09:54	**Oven TempEnd:**	105 DEG C		

#	Lab Code	Client ID	Matrix	Tare	Tare+Wet	Tare+Dry	% Solids	QC Ref Sample	Comments
1	K0909140-008	M-2-B	SEDIMENT	1.32g	11.54g	10.47g	89.5		
2	K0909140-009	M-1-C	SEDIMENT	1.32g	11.78g	10.79g	90.5		
3	K0909140-010	M-3-C	SEDIMENT	1.32g	11.82g	11.33g	95.3		
4	K0909140-011	B-1-A	SEDIMENT	1.32g	11.80g	11.26g	94.8		
5	K0909140-012	B-1-B	SEDIMENT	1.31g	11.50g	11.32g	98.2		
6	K0909140-013	M-3-A	SEDIMENT	1.33g	9.95g	9.42g	93.9		
7	K0909140-014	M-1-A	SEDIMENT	1.33g	11.54g	11.25g	97.2		
8	K0909140-015	M-5-B	SEDIMENT	1.32g	11.60g	11.31g	97.2		
9	K0909947-001	Daily Composite 1; 8/26,8/27,8 /28	COAL	1.30g	4.09g	4.09g	100		Air dry and grd
10	K0909947-002	Daily Composite 2; 8/29,8/30,8 /31	COAL	1.27g	4.99g	4.99g	100		Air dry and grd
11	K0909947-003	Daily Composite 3; 9/1,9/2,9/3	COAL	1.28g	4.40g	4.41g	100		Air dry and grd
12	K0909947-004	Daily Composite 4; 9/21,9/22,9 /23	COAL	1.29g	4.70g	4.70g	100		Air dry and grd
13	K0909947-005	Daily Composite 5; 9/24,9/25,9 /26	COAL	1.30g	4.95g	4.95g	100		Air dry and grd
14	K0909947-006	Daily Composite 6 - 9/27,9/28, 9/29	COAL	1.31g	5.79g	5.80g	100		Air dry and grd
15	K0909947-007	Daily Composite 7; 9/30,10/1,1 0/2	COAL	1.29g	6.98g	7.00g	100		Air dry and grd
16	K0909947-008	Daily Composite 8 - 10/3,10/4, 10/5	COAL	1.29g	4.55g	4.56g	100		Air dry and grd
17	K0909947-009	Daily Composite 9 - 10/6,10/7, 10/8	COAL	1.30g	5.53g	5.53g	100		Air dry and grd
18	K0909947-010	Run Composite 1; 1-4	COAL	1.29g	5.89g	5.90g	100		Air dry and grd
19	K0909947-011	Run Composite 2; 1-4	COAL	1.28g	5.91g	5.91g	100		Air dry and grd
20	K0909947-012	Run Composite 3; 5-8	COAL	1.29g	5.10g	5.11g	100		Air dry and grd
21	K0909947-013	Run Composite 4; 5-8	COAL	1.29g	5.67g	5.68g	100		Air dry and grd

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Group ID:	KWG0910229				
Analyst:	TNguyen			**Reviewed By:**	
Date Acquired:	11/02/2009 09:45	**Oven TempStart:**	105 DEG C	**Date Reviewed:**	11/3/09
Date Completed:	11/03/2009 09:54	**Oven TempEnd:**	105 DEG C		

#	Lab Code	Client ID	Matrix	Tare	Tare+Wet	Tare+Dry	% Solids	QC Ref Sample	Comments
22	K0909947-014	Run Composite 5; 1-4	COAL	1.29g	5.38g	5.39g	100		Air dry and grd
23	K0909947-015	Run Composite 6; 5-8	COAL	1.27g	5.65g	5.66g	100		Air dry and grd
24	K0909947-016	Run Composite 7; 1-4	COAL	1.28g	5.82g	5.82g	100		Air dry and grd
25	K0909947-017	Run Composite 8; 5-8	COAL	1.27g	5.13g	5.14g	100		Air dry and grd
26	K0909947-018	Run Composite 9; 9-12	COAL	1.28g	4.27g	4.28g	100		Air dry and grd
27	K0910180-001	1 Composite Landfill	SOIL	1.32g	7.94g	6.45g	77.5		
28	K0910319-001	Wampsher Soil	SOIL	1.29g	10.46g	8.51g	78.7		
29	K0910359-001	LPRT12B	SEDIMENT	1.33g	9.79g	4.02g	31.8		
30	K0910359-002	LPRT12C	SEDIMENT	1.32g	13.61g	7.23g	48.1		
31	K0910359-003	LPRT12D	SEDIMENT	1.32g	12.43g	7.27g	53.6		
32	K0910359-004	LPRT12A	SEDIMENT	1.32g	10.59g	4.08g	29.8		
33	K0910359-005	LPRH12A	SEDIMENT	1.32g	11.88g	7.14g	55.1		
34	K0910359-006	LPRT15B	SEDIMENT	1.32g	10.70g	3.35g	21.6		
35	K0910359-007	LPRH16B	SEDIMENT	1.32g	16.06g	11.64g	70.0		
36	K0910359-008	LPRT11G	SEDIMENT	1.33g	12.34g	5.06g	33.9		
37	K0910359-009	LPRT16A	SEDIMENT	1.33g	14.85g	11.07g	72.0		
38	K0910359-010	LPRT11A	SEDIMENT	1.32g	11.52g	9.13g	76.6		
39	K0910359-011	LPRT11D	SEDIMENT	1.32g	12.42g	6.67g	48.2		
40	K0910359-013	LPRT16E	SEDIMENT	1.32g	14.71g	9.62g	62.0		
41	K0910359-014	LPRT11C	SEDIMENT	1.33g	15.64g	10.83g	66.4		
42	K0910359-015	LPRT11E	SEDIMENT	1.32g	11.28g	4.07g	27.6		
43	K0910359-016	LPRT11E-FD	SEDIMENT	1.32g	12.91g	4.54g	27.8		
44	K0910359-017	LPRT11B	SEDIMENT	1.33g	12.97g	7.13g	49.8		
45	K0910359-018	LPRT10A	SEDIMENT	1.32g	12.93g	5.39g	35.1		
46	K0910359-019	LPRT10B	SEDIMENT	1.33g	12.81g	8.11g	59.1		
47	K0910359-020	LPRT10C	SEDIMENT	1.33g	11.63g	5.29g	38.4		
48	K0910359-021	LPRT16D	SEDIMENT	1.33g	14.31g	10.48g	70.5		
49	K0910359-022	LPRT16C	SEDIMENT	1.32g	15.01g	10.59g	67.7		
50	K0910359-023	LPRT11F	SEDIMENT	1.34g	12.57g	8.04g	59.7		
51	K0910366-001	Dry Sludge	SOIL	1.33g	7.80g	3.86g	39.1		
52	K0910382-001	MB09s-ZF-01	SEDIMENT	1.31g	16.39g	12.38g	73.4		

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Group ID:	KWG0910229				
Analyst:	TNguyen			**Reviewed By:**	
Date Acquired:	11/02/2009 09:45	**Oven TempStart:**	105 DEG C	**Date Reviewed:**	11/3/09
Date Completed:	11/03/2009 09:54	**Oven TempEnd:**	105 DEG C		

#	Lab Code	Client ID	Matrix	Tare	Tare+Wet	Tare+Dry	% Solids	QC Ref Sample	Comments
53	K0910382-002	MB09s-ZF-02	SEDIMENT	1.32g	18.29g	14.33g	76.7		
54	K0910382-003	MB09s-ZF-03	SEDIMENT	1.32g	16.91g	5.63g	27.6		
55	K0910382-004	MB09s-ZF-04	SEDIMENT	1.33g	14.63g	7.03g	42.9		
56	K0910382-005	MB09s-ZF-05	SEDIMENT	1.33g	15.74g	11.91g	73.4		
57	K0910382-006	MB09s-ZF-06	SEDIMENT	1.32g	13.62g	8.65g	59.6		
58	K0910382-007	MB09s-ZF-07	SEDIMENT	1.31g	13.43g	7.96g	54.9		
59	K0910382-008	MB09s-ZF-08	SEDIMENT	1.32g	14.68g	11.19g	73.9		
60	K0910382-009	MB09s-ZA-09	SEDIMENT	1.32g	15.33g	7.19g	41.9		
61	K0910382-010	MB09s-ZA-10	SEDIMENT	1.32g	12.52g	6.44g	45.7		
62	K0910382-011	MB09s-ZA-11	SEDIMENT	1.32g	13.14g	5.21g	32.9		
63	K0910382-012	MB09s-ZA-12	SEDIMENT	1.33g	14.60g	9.76g	63.5		
64	K0910382-013	MB09s-ZA-13	SEDIMENT	1.31g	13.38g	7.67g	52.7		
65	K0910382-014	MB09s-ZA-14	SEDIMENT	1.32g	13.39g	5.15g	31.7		
66	K0910382-015	MB09s-ZB-15	SEDIMENT	1.30g	14.21g	6.59g	41.0		
67	K0910382-016	MB09s-ZB-16	SEDIMENT	1.29g	14.28g	5.25g	30.5		
68	K0910382-017	MB09s-ZB-17	SEDIMENT	1.32g	12.96g	5.18g	33.2		
69	K0910382-018	MB09s-ZB-18R	SEDIMENT	1.32g	9.05g	3.62g	29.8		
70	K0910385-001	MB09s-ZB-19	SEDIMENT	1.32g	10.45g	4.42g	34.0		
71	K0910385-002	MB09s-ZC-20	SEDIMENT	1.32g	10.92g	5.17g	40.1		
72	K0910385-003	MB09s-ZC-21	SEDIMENT	1.32g	11.84g	5.68g	41.4		
73	K0910385-004	MB09s-ZC-22	SEDIMENT	1.31g	13.84g	4.58g	26.1		
74	K0910385-005	MB09s-ZC-23	SEDIMENT	1.33g	15.57g	5.13g	26.7		
75	K0910385-006	MB09s-ZC-24	SEDIMENT	1.33g	12.41g	4.22g	26.1		
76	K0910385-007	MB09s-ZE-25	SEDIMENT	1.32g	12.45g	5.09g	33.9		
77	K0910385-008	MB09s-ZE-26	SEDIMENT	1.33g	12.90g	5.13g	32.8		
78	K0910385-009	MB09s-ZE-27	SEDIMENT	1.32g	14.17g	8.30g	54.3		
79	K0910385-010	MB09s-ZD-28	SEDIMENT	1.33g	12.13g	4.53g	29.6		
80	K0910385-011	MB09s-ZD-29	SEDIMENT	1.31g	12.34g	4.50g	28.9		
81	K0910385-012	MB09s-ZD-30	SEDIMENT	1.33g	19.56g	14.51g	72.3		
82	K0910385-013	MB09s-ZG-31	SEDIMENT	1.33g	12.91g	6.38g	43.6		
83	K0910385-014	MB09s-ZG-32	SEDIMENT	1.31g	14.04g	8.12g	53.5		

Group ID:	KWG0910229				
Analyst:	TNguyen			**Reviewed By:**	
Date Acquired:	11/02/2009 09:45	**Oven TempStart:**	105 DEG C	**Date Reviewed:**	11/3/09
Date Completed:	11/03/2009 09:54	**Oven TempEnd:**	105 DEG C		

#	Lab Code	Client ID	Matrix	Tare	Tare+Wet	Tare+Dry	% Solids	QC Ref Sample	Comments
84	K0910386-001	MB09s-ZA-Comp	SEDIMENT	1.32g	15.27g	7.82g	46.6		
85	K0910386-002	MB09s-ZB-Comp	SEDIMENT	1.31g	14.46g	6.05g	36.0		
86	K0910386-003	MB09s-ZC-Comp	SEDIMENT	1.31g	10.71g	3.98g	28.4		
87	K0910386-004	MB09s-ZD+E-Comp	SEDIMENT	1.32g	13.51g	6.71g	44.2		
88	K0910386-005	MB09s-ZG-Comp	SEDIMENT	1.32g	11.81g	6.40g	48.4		
89	K0910427-001	CD1 #1	SOIL	1.30g	10.14g	8.25g	78.6		
90	K0910427-002	CD1 #3	SOIL	1.28g	10.74g	9.23g	84.0		
91	K0910427-003	CD1 #4	SOIL	1.29g	11.02g	9.57g	85.1		
92	K0910427-004	CD2 #1	SOIL	1.29g	10.94g	9.73g	87.5		
93	K0910427-005	CD2 #3	SOIL	1.28g	1083g	9.24g	0.74		
94	K0910427-006	CD2 #4	SOIL	1.29g	11.78g	10.69g	89.6		
95	K0910427-007	CD3 #1	SOIL	1.29g	14.50g	12.38g	84.0		
96	K0910427-008	CD3 #2	SOIL	1.27g	10.49g	8.96g	83.4		
97	K0910427-009	CD3 #4	SOIL	1.29g	15.83g	12.97g	80.3		
98	K0910427-010	CD4 #1	SOIL	1.29g	10.15g	7.83g	73.8		
99	K0910427-011	CD4 #2	SOIL	1.28g	9.96g	7.74g	74.4		
100	K0910427-012	CD5 #1	SOIL	1.27g	10.25g	7.79g	72.6		
101	K0910427-013	CD5 #2	SOIL	1.27g	10.38g	8.04g	74.3		
102	K0910427-014	CD6 #1	SOIL	1.29g	12.23g	9.56g	75.6		
103	K0910427-015	CD6 #2	SOIL	1.29g	13.70g	10.74g	76.1		
104	K0910432-001	RM11E-SL021	SEDIMENT	1.34g	10.92g	7.57g	65.0		
105	K0910432-002	RM11E-SL022	SEDIMENT	1.32g	13.77g	11.05g	78.2		
106	K0910432-003	RM11E-SL023	SEDIMENT	1.33g	14.53g	8.94g	57.7		
107	K0910432-004	RM11E-SL024	SEDIMENT	1.32g	5.99g	5.67g	93.1		
108	K0910432-005	RM11E-SL025	SEDIMENT	1.34g	5.57g	5.49g	98.1		
109	K0910432-006	RM11E-SL026	SEDIMENT	1.34g	4.95g	4.81g	96.1		
110	K0910432-007	RM11E-SL027	SEDIMENT	1.32g	5.46g	5.45g	99.8		
111	K0910453-002	09-FWA-EXBLD49-02-11	SOIL	1.31g	8.24g	7.79g	93.5		
112	K0910453-003	09-FWA-EXBLD49-03-11	SOIL	1.30g	11.77g	11.19g	94.5		
113	K0910453-004	09-FWA-EXBLD49-02-09B	SOIL	1.29g	11.17g	10.52g	93.4		
114	K0910453-005	09-FCS-RISO B49 WS01	SOIL	1.30g	6.20g	5.81g	92.0		

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Group ID:	KWG0910229				
Analyst:	TNguyen			**Reviewed By:**	
Date Acquired:	11/02/2009 09:45	**Oven TempStart:**	105 DEG C	**Date Reviewed:**	11/3/09
Date Completed:	11/03/2009 09:54	**Oven TempEnd:**	105 DEG C		

#	Lab Code	Client ID	Matrix	Tare	Tare+Wet	Tare+Dry	% Solids	QC Ref Sample	Comments
115	K0910475-001	IWS-102809	SOIL	1.34g	6.52g	6.51g	99.8		
116	K0910475-002	SVE-102809	SOIL	1.32g	4.27g	4.21g	98.0		
117	KWG0910229-1	Duplicate Client Sample	COAL	1.29g	5.50g	5.50g	100	K0909947-001	
118	KWG0910229-10	Triplicate Client Sample	SEDIMENT	1.32g	10.55g	7.39g	65.8	K0910432-001	
119	KWG0910229-11	Duplicate Client Sample	SEDIMENT	1.31g	16.27g	8.03g	44.9	K0910382-004	
120	KWG0910229-12	Triplicate Client Sample	SEDIMENT	1.32g	14.60g	7.08g	43.4	K0910382-004	
121	KWG0910229-13	Duplicate Client Sample	SEDIMENT	1.32g	12.97g	4.90g	30.7	K0910382-018	
122	KWG0910229-14	Triplicate Client Sample	SEDIMENT	1.33g	11.41g	4.26g	29.1	K0910382-018	
123	KWG0910229-15	Duplicate Client Sample	SEDIMENT	1.33g	13.36g	7.08g	47.8	K0910386-005	
124	KWG0910229-16	Duplicate Client Sample	SEDIMENT	1.32g	12.75g	5.26g	34.5	K0910385-001	
125	KWG0910229-17	Triplicate Client Sample	SEDIMENT	1.32g	13.73g	5.56g	34.2	K0910385-001	
126	KWG0910229-18	Duplicate Client Sample	SEDIMENT	1.33g	9.06g	3.80g	32.0	K0910359-001	
127	KWG0910229-19	Duplicate Client Sample	SEDIMENT	1.34g	11.25g	7.15g	58.6	K0910359-023	
128	KWG0910229-2	Duplicate Client Sample	COAL	1.29g	5.22g	5.23g	100	K0909947-018	
129	KWG0910229-3	Duplicate Client Sample	SOIL	1.33g	8.43g	6.88g	78.2	K0910180-001	
130	KWG0910229-4	Duplicate Client Sample	SOIL	1.29g	9.67g	7.88g	78.6	K0910427-001	
131	KWG0910229-5	Duplicate Client Sample	SOIL	1.29g	12.33g	9.64g	75.6	K0910427-015	
132	KWG0910229-6	Duplicate Client Sample	SOIL	1.31g	7.49g	3.73g	39.2	K0910366-001	
133	KWG0910229-7	Duplicate Client Sample	SOIL	1.30g	11.37g	10.76g	93.9	K0910453-002	
134	KWG0910229-8	Duplicate Client Sample	SOIL	1.33g	4.89g	4.84g	98.6	K0910475-002	
135	KWG0910229-9	Duplicate Client Sample	SEDIMENT	1.31g	11.39g	7.97g	66.1	K0910432-001	

COLUMBIA ANALYTICAL SERVICES, INC.

EPA Method 160.3 - Total Solids

Group ID:	KWG0910229				
Analyst:	TNguyen			**Reviewed By:**	_____
Date Acquired:	11/02/2009 09:45	**Oven TempStart:**	105 DEG C	**Date Reviewed:**	_____
Date Completed:	11/03/2009 09:54	**Oven TempEnd:**	105 DEG C		

#	Lab Code	Client ID	Matrix	Tare	Tare+Wet	Tare+Dry	% Solids	QC Ref Sample	Comments
1	K0909140-008	M-2-B	SEDIMENT	1.32g	11.54g	10.47g	89.5		
2	K0909140-009	M-1-C	SEDIMENT	1.32g	11.78g	10.79g	90.5		
3	K0909140-010	M-3-C	SEDIMENT	1.32g	11.82g	11.33g	95.3		
4	K0909140-011	B-1-A	SEDIMENT	1.32g	11.80g	11.26g	94.8		
5	K0909140-012	B-1-B	SEDIMENT	1.31g	11.50g	11.32g	98.2		
6	K0909140-013	M-3-A	SEDIMENT	1.33g	9.95g	9.42g	93.9		
7	K0909140-014	M-1-A	SEDIMENT	1.33g	11.54g	11.25g	97.2		
8	K0909140-015	M-5-B	SEDIMENT	1.32g	11.60g	11.31g	97.2		
9	K0909140-016	M-5-A	SEDIMENT	1.27g	11.57g	11.48g	99.1		
10	K0909947-001	Daily Composite 1; 8/26,8/27,8 /28	COAL	1.30g	4.09g	4.09g	100		Air dry and grd
11	K0909947-002	Daily Composite 2; 8/29,8/30,8 /31	COAL	1.27g	4.99g	4.99g	100		Air dry and grd
12	K0909947-003	Daily Composite 3; 9/1,9/2,9/3	COAL	1.28g	4.40g	4.41g	100		Air dry and grd
13	K0909947-004	Daily Composite 4; 9/21,9/22,9 /23	COAL	1.29g	4.70g	4.70g	100		Air dry and grd
14	K0909947-005	Daily Composite 5; 9/24,9/25,9 /26	COAL	1.30g	4.95g	4.95g	100		Air dry and grd
15	K0909947-006	Daily Composite 6 - 9/27,9/28, 9/29	COAL	1.31g	5.79g	5.80g	100		Air dry and grd
16	K0909947-007	Daily Composite 7; 9/30,10/1,1 0/2	COAL	1.29g	6.98g	7.00g	100		Air dry and grd
17	K0909947-008	Daily Composite 8 - 10/3,10/4, 10/5	COAL	1.29g	4.55g	4.56g	100		Air dry and grd
18	K0909947-009	Daily Composite 9 - 10/6,10/7, 10/8	COAL	1.30g	5.53g	5.53g	100		Air dry and grd
19	K0909947-010	Run Composite 1; 1-4	COAL	1.29g	5.89g	5.90g	100		Air dry and grd
20	K0909947-011	Run Composite 2; 1-4	COAL	1.28g	5.91g	5.91g	100		Air dry and grd
21	K0909947-012	Run Composite 3; 5-8	COAL	1.29g	5.10g	5.11g	100		Air dry and grd

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Group ID:	KWG0910229		
Analyst:	TNguyen		**Reviewed By:** _____
Date Acquired:	11/02/2009 09:45	**Oven TempStart:** 105 DEG C	**Date Reviewed:** _____
Date Completed:	11/03/2009 09:54	**Oven TempEnd:** 105 DEG C	

#	Lab Code	Client ID	Matrix	Tare	Tare+Wet	Tare+Dry	% Solids	QC Ref Sample	Comments
22	K0909947-013	Run Composite 4; 5-8	COAL	1.29g	5.67g	5.68g	100		Air dry and grd
23	K0909947-014	Run Composite 5; 1-4	COAL	1.29g	5.38g	5.39g	100		Air dry and grd
24	K0909947-015	Run Composite 6; 5-8	COAL	1.27g	5.65g	5.66g	100		Air dry and grd
25	K0909947-016	Run Composite 7; 1-4	COAL	1.28g	5.82g	5.82g	100		Air dry and grd
26	K0909947-017	Run Composite 8; 5-8	COAL	1.27g	5.13g	5.14g	100		Air dry and grd
27	K0909947-018	Run Composite 9; 9-12	COAL	1.28g	4.27g	4.28g	100		Air dry and grd
28	K0910180-001	1 Composite Landfill	SOIL	1.32g	7.94g	6.45g	77.5		
29	K0910319-001	Wampsher Soil	SOIL	1.29g	10.46g	8.51g	78.7		
30	K0910359-001	LPRT12B	SEDIMENT	1.33g	9.79g	4.02g	31.8		
31	K0910359-002	LPRT12C	SEDIMENT	1.32g	13.61g	7.23g	48.1		
32	K0910359-003	LPRT12D	SEDIMENT	1.32g	12.43g	7.27g	53.6		
33	K0910359-004	LPRT12A	SEDIMENT	1.32g	10.59g	4.08g	29.8		
34	K0910359-005	LPRH12A	SEDIMENT	1.32g	11.88g	7.14g	55.1		
35	K0910359-006	LPRT15B	SEDIMENT	1.32g	10.70g	3.35g	21.6		
36	K0910359-007	LPRH16B	SEDIMENT	1.32g	16.06g	11.64g	70.0		
37	K0910359-008	LPRT11G	SEDIMENT	1.33g	12.34g	5.06g	33.9		
38	K0910359-009	LPRT16A	SEDIMENT	1.33g	14.85g	11.07g	72.0		
39	K0910359-010	LPRT11A	SEDIMENT	1.32g	11.52g	9.13g	76.6		
40	K0910359-011	LPRT11D	SEDIMENT	1.32g	12.42g	6.67g	48.2		
41	K0910359-013	LPRT16E	SEDIMENT	1.32g	14.71g	9.62g	62.0		
42	K0910359-014	LPRT11C	SEDIMENT	1.33g	15.64g	10.83g	66.4		
43	K0910359-015	LPRT11E	SEDIMENT	1.32g	11.28g	4.07g	27.6		
44	K0910359-016	LPRT11E-FD	SEDIMENT	1.32g	12.91g	4.54g	27.8		
45	K0910359-017	LPRT11B	SEDIMENT	1.33g	12.97g	7.13g	49.8		
46	K0910359-018	LPRT10A	SEDIMENT	1.32g	12.93g	5.39g	35.1		
47	K0910359-019	LPRT10B	SEDIMENT	1.33g	12.81g	8.11g	59.1		
48	K0910359-020	LPRT10C	SEDIMENT	1.33g	11.63g	5.29g	38.4		
49	K0910359-021	LPRT16D	SEDIMENT	1.33g	14.31g	10.48g	70.5		
50	K0910359-022	LPRT16C	SEDIMENT	1.32g	15.01g	10.59g	67.7		
51	K0910359-023	LPRT11F	SEDIMENT	1.34g	12.57g	8.04g	59.7		
52	K0910366-001	Dry Sludge	SOIL	1.33g	7.80g	3.86g	39.1		

Group ID:	KWG0910229		
Analyst:	TNguyen		**Reviewed By:** _____
Date Acquired:	11/02/2009 09:45	**Oven TempStart:**	105 DEG C
Date Completed:	11/03/2009 09:54	**Oven TempEnd:**	105 DEG C
			Date Reviewed: _____

#	Lab Code	Client ID	Matrix	Tare	Tare+Wet	Tare+Dry	% Solids	QC Ref Sample	Comments
53	K0910382-001	MB09s-ZF-01	SEDIMENT	1.31g	16.39g	12.38g	73.4		
54	K0910382-002	MB09s-ZF-02	SEDIMENT	1.32g	18.29g	14.33g	76.7		
55	K0910382-003	MB09s-ZF-03	SEDIMENT	1.32g	16.91g	5.63g	27.6		
56	K0910382-004	MB09s-ZF-04	SEDIMENT	1.33g	14.63g	7.03g	42.9		
57	K0910382-005	MB09s-ZF-05	SEDIMENT	1.33g	15.74g	11.91g	73.4		
58	K0910382-006	MB09s-ZF-06	SEDIMENT	1.32g	13.62g	8.65g	59.6		
59	K0910382-007	MB09s-ZF-07	SEDIMENT	1.31g	13.43g	7.96g	54.9		
60	K0910382-008	MB09s-ZF-08	SEDIMENT	1.32g	14.68g	11.19g	73.9		
61	K0910382-009	MB09s-ZA-09	SEDIMENT	1.32g	15.33g	7.19g	41.9		
62	K0910382-010	MB09s-ZA-10	SEDIMENT	1.32g	12.52g	6.44g	45.7		
63	K0910382-011	MB09s-ZA-11	SEDIMENT	1.32g	13.14g	5.21g	32.9		
64	K0910382-012	MB09s-ZA-12	SEDIMENT	1.33g	14.60g	9.76g	63.5		
65	K0910382-013	MB09s-ZA-13	SEDIMENT	1.31g	13.38g	7.67g	52.7		
66	K0910382-014	MB09s-ZA-14	SEDIMENT	1.32g	13.39g	5.15g	31.7		
67	K0910382-015	MB09s-ZB-15	SEDIMENT	1.30g	14.21g	6.59g	41.0		
68	K0910382-016	MB09s-ZB-16	SEDIMENT	1.29g	14.28g	5.25g	30.5		
69	K0910382-017	MB09s-ZB-17	SEDIMENT	1.32g	12.96g	5.18g	33.2		
70	K0910382-018	MB09s-ZB-18R	SEDIMENT	1.32g	9.05g	3.62g	29.8		
71	K0910385-001	MB09s-ZB-19	SEDIMENT	1.32g	10.45g	4.42g	34.0		
72	K0910385-002	MB09s-ZC-20	SEDIMENT	1.32g	10.92g	5.17g	40.1		
73	K0910385-003	MB09s-ZC-21	SEDIMENT	1.32g	11.84g	5.68g	41.4		
74	K0910385-004	MB09s-ZC-22	SEDIMENT	1.31g	13.84g	4.58g	26.1		
75	K0910385-005	MB09s-ZC-23	SEDIMENT	1.33g	15.57g	5.13g	26.7		
76	K0910385-006	MB09s-ZC-24	SEDIMENT	1.33g	12.41g	4.22g	26.1		
77	K0910385-007	MB09s-ZE-25	SEDIMENT	1.32g	12.45g	5.09g	33.9		
78	K0910385-008	MB09s-ZE-26	SEDIMENT	1.33g	12.90g	5.13g	32.8		
79	K0910385-009	MB09s-ZE-27	SEDIMENT	1.32g	14.17g	8.30g	54.3		
80	K0910385-010	MB09s-ZD-28	SEDIMENT	1.33g	12.13g	4.53g	29.6		
81	K0910385-011	MB09s-ZD-29	SEDIMENT	1.31g	12.34g	4.50g	28.9		
82	K0910385-012	MB09s-ZD-30	SEDIMENT	1.33g	19.56g	14.51g	72.3		
83	K0910385-013	MB09s-ZG-31	SEDIMENT	1.33g	12.91g	6.38g	43.6		

Group ID:	KWG0910229				
Analyst:	TNguyen			**Reviewed By:**	
Date Acquired:	11/02/2009 09:45	**Oven TempStart:**	105 DEG C	**Date Reviewed:**	
Date Completed:	11/03/2009 09:54	**Oven TempEnd:**	105 DEG C		

#	Lab Code	Client ID	Matrix	Tare	Tare+Wet	Tare+Dry	% Solids	QC Ref Sample	Comments
84	K0910385-014	MB09s-ZG-32	SEDIMENT	1.31g	14.04g	8.12g	53.5		
85	K0910386-001	MB09s-ZA-Comp	SEDIMENT	1.32g	15.27g	7.82g	46.6		
86	K0910386-002	MB09s-ZB-Comp	SEDIMENT	1.31g	14.46g	6.05g	36.0		
87	K0910386-003	MB09s-ZC-Comp	SEDIMENT	1.31g	10.71g	3.98g	28.4		
88	K0910386-004	MB09s-ZD+E-Comp	SEDIMENT	1.32g	13.51g	6.71g	44.2		
89	K0910386-005	MB09s-ZG-Comp	SEDIMENT	1.32g	11.81g	6.40g	48.4		
90	K0910427-001	CD1 #1	SOIL	1.30g	10.14g	8.25g	78.6		
91	K0910427-002	CD1 #3	SOIL	1.28g	10.74g	9.23g	84.0		
92	K0910427-003	CD1 #4	SOIL	1.29g	11.02g	9.57g	85.1		
93	K0910427-004	CD2 #1	SOIL	1.29g	10.94g	9.73g	87.5		
94	K0910427-005	CD2 #3	SOIL	1.28g	10.83g	9.24g	83.4		
95	K0910427-006	CD2 #4	SOIL	1.29g	11.78g	10.69g	89.6		
96	K0910427-007	CD3 #1	SOIL	1.29g	14.50g	12.38g	84.0		
97	K0910427-008	CD3 #2	SOIL	1.27g	10.49g	8.96g	83.4		
98	K0910427-009	CD3 #4	SOIL	1.29g	15.83g	12.97g	80.3		
99	K0910427-010	CD4 #1	SOIL	1.29g	10.15g	7.83g	73.8		
100	K0910427-011	CD4 #2	SOIL	1.28g	9.96g	7.74g	74.4		
101	K0910427-012	CD5 #1	SOIL	1.27g	10.25g	7.79g	72.6		
102	K0910427-013	CD5 #2	SOIL	1.27g	10.38g	8.04g	74.3		
103	K0910427-014	CD6 #1	SOIL	1.29g	12.23g	9.56g	75.6		
104	K0910427-015	CD6 #2	SOIL	1.29g	13.70g	10.74g	76.1		
105	K0910432-001	RM11E-SL021	SEDIMENT	1.34g	10.92g	7.57g	65.0		
106	K0910432-002	RM11E-SL022	SEDIMENT	1.32g	13.77g	11.05g	78.2		
107	K0910432-003	RM11E-SL023	SEDIMENT	1.33g	14.53g	8.94g	57.7		
108	K0910432-004	RM11E-SL024	SEDIMENT	1.32g	5.99g	5.67g	93.1		
109	K0910432-005	RM11E-SL025	SEDIMENT	1.34g	5.57g	5.49g	98.1		
110	K0910432-006	RM11E-SL026	SEDIMENT	1.34g	4.95g	4.81g	96.1		
111	K0910432-007	RM11E-SL027	SEDIMENT	1.32g	5.46g	5.45g	99.8		
112	K0910453-002	09-FWA-EXBLD49-02-11	SOIL	1.31g	8.24g	7.79g	93.5		
113	K0910453-003	09-FWA-EXBLD49-03-11	SOIL	1.30g	11.77g	11.19g	94.5		
114	K0910453-004	09-FWA-EXBLD49-02-09B	SOIL	1.29g	11.17g	10.52g	93.4		

Group ID:	KWG0910229				
Analyst:	TNguyen			**Reviewed By:**	
Date Acquired:	11/02/2009 09:45	**Oven TempStart:**	105 DEG C	**Date Reviewed:**	
Date Completed:	11/03/2009 09:54	**Oven TempEnd:**	105 DEG C		

#	Lab Code	Client ID	Matrix	Tare	Tare+Wet	Tare+Dry	% Solids	QC Ref Sample	Comments
115	K0910453-005	09-FCS-RISO B49 WS01	SOIL	1.30g	6.20g	5.81g	92.0		
116	K0910475-001	IWS-102809	SOIL	1.34g	6.52g	6.51g	99.8		
117	K0910475-002	SVE-102809	SOIL	1.32g	4.27g	4.21g	98.0		
118	KWG0910229-1	Duplicate Client Sample	COAL	1.29g	5.50g	5.50g	100	K0909947-001	
119	KWG0910229-10	Triplicate Client Sample	SEDIMENT	1.32g	10.55g	7.39g	65.8	K0910432-001	
120	KWG0910229-11	Duplicate Client Sample	SEDIMENT	1.31g	16.27g	8.03g	44.9	K0910382-004	
121	KWG0910229-12	Triplicate Client Sample	SEDIMENT	1.32g	14.60g	7.08g	43.4	K0910382-004	
122	KWG0910229-13	Duplicate Client Sample	SEDIMENT	1.32g	12.97g	4.90g	30.7	K0910382-018	
123	KWG0910229-14	Triplicate Client Sample	SEDIMENT	1.33g	11.41g	4.26g	29.1	K0910382-018	
124	KWG0910229-15	Duplicate Client Sample	SEDIMENT	1.33g	13.36g	7.08g	47.8	K0910386-005	
125	KWG0910229-16	Duplicate Client Sample	SEDIMENT	1.32g	12.75g	5.26g	34.5	K0910385-001	
126	KWG0910229-17	Triplicate Client Sample	SEDIMENT	1.32g	13.73g	5.56g	34.2	K0910385-001	
127	KWG0910229-18	Duplicate Client Sample	SEDIMENT	1.33g	9.06g	3.80g	32.0	K0910359-001	
128	KWG0910229-19	Duplicate Client Sample	SEDIMENT	1.34g	11.25g	7.15g	58.6	K0910359-023	
129	KWG0910229-2	Duplicate Client Sample	COAL	1.29g	5.22g	5.23g	100	K0909947-018	
130	KWG0910229-20	Duplicate Client Sample	SEDIMENT	1.31g	11.48g	11.32g	98.4	K0909140-015	
131	KWG0910229-3	Duplicate Client Sample	SOIL	1.33g	8.43g	6.88g	78.2	K0910180-001	
132	KWG0910229-4	Duplicate Client Sample	SOIL	1.29g	9.67g	7.88g	78.6	K0910427-001	
133	KWG0910229-5	Duplicate Client Sample	SOIL	1.29g	12.33g	9.64g	75.6	K0910427-015	
134	KWG0910229-6	Duplicate Client Sample	SOIL	1.31g	7.49g	3.73g	39.2	K0910366-001	
135	KWG0910229-7	Duplicate Client Sample	SOIL	1.30g	11.37g	10.76g	93.9	K0910453-002	
136	KWG0910229-8	Duplicate Client Sample	SOIL	1.33g	4.89g	4.84g	98.6	K0910475-002	
137	KWG0910229-9	Duplicate Client Sample	SEDIMENT	1.31g	11.39g	7.97g	66.1	K0910432-001	

COLUMBIA ANALYTICAL SERVICES, INC.

EPA Method 160.3 - Total Solids

179188

Group ID:	KWG0910660				
Analyst:	TNguyen			**Reviewed By:**	BT
Date Acquired:	11/12/2009 09:45	**Oven TempStart:**	105 DEG C	**Date Reviewed:**	11/13/09
Date Completed:	11/13/2009 09:45	**Oven TempEnd:**	105 DEG C		

#	Lab Code	Client ID	Matrix	Tare	Tare+Wet	Tare+Dry	% Solids	QC Ref Sample	Comments
1	K0909140-018	M-5-B2	SEDIMENT	1.32g	5.75g	5.64g	97.5		
2	K0909140-019	B-1-C	SEDIMENT	1.33g	5.93g	5.85g	98.3		
3	K0910856-001	Bark-10	SOLID FUEL	1.32g	6.60g	6.35g	95.3		Air dry and grd
4	K0910871-001	CIPP2009102901	SOLID FUEL	1.33g	6.07g	5.78g	93.9		Air dry and grd
5	K0910871-002	CIPP2009102902	SOLID FUEL	1.33g	5.85g	5.51g	92.5		Air dry and grd
6	K0910871-003	CIPP2009102903	SOLID FUEL	1.32g	5.75g	5.40g	92.1		Air dry and grd
7	K0910947-003	B119A:SB-2:7.5:300	SOIL	1.33g	6.15g	4.84g	72.8		
8	K0910947-004	B119A:SB-2:25:301	SOIL	1.33g	6.87g	5.89g	82.3		
9	K0910947-005	B119A:SB-3:7.5:302	SOIL	1.33g	6.42g	4.94g	70.9		
10	K0910947-006	B119A:SB-3:25:303	SOIL	1.32g	7.20g	6.45g	87.2		
11	K0910947-007	B119A:SB-4:7.5:304	SOIL	1.32g	7.13g	5.47g	71.4		
12	K0910947-008	B119A:SB-4:25:305	SOIL	1.31g	7.54g	6.83g	88.6		
13	K0910947-009	B119:SB-2:7.5:306	SOIL	1.32g	5.61g	4.39g	71.6		
14	K0910947-010	B119:SB-2:25:307	SOIL	1.32g	5.75g	5.16g	86.7		
15	K0910947-012	B119:SB-3:7.5:308	SOIL	1.33g	7.01g	5.51g	73.6		
16	K0910947-013	B119:SB-3:25:309	SOIL	1.33g	6.39g	5.45g	81.4		
17	K0910947-014	B119:SB-4:7.5:310	SOIL	1.32g	6.51g	5.08g	72.4		
18	K0910947-015	B119:SB-4:25:311	SOIL	1.32g	6.96g	6.04g	83.7		
19	K0910947-016	B119:SB-1:7.5:312	SOIL	1.32g	7.01g	5.36g	71.0		
20	K0910947-017	B119:SB-1:25:313	SOIL	1.31g	6.58g	5.98g	88.6		
21	K0910947-018	B119:SB-1:25:314	SOIL	1.32g	7.17g	6.50g	88.5		
22	K0910947-019	B12:SB-5:7.5:315	SOIL	1.32g	5.99g	4.65g	71.3		
23	K0910947-020	B12:SB-5:25:316	SOIL	1.32g	6.27g	4.92g	72.7		

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Group ID:	KWG0910660		
Analyst:	TNguyen	**Reviewed By:**	BH
Date Acquired:	11/12/2009 09:45	**Oven TempStart:**	105 DEG C
Date Completed:	11/13/2009 09:45	**Oven TempEnd:**	105 DEG C
		Date Reviewed:	11/13/09

#	Lab Code	Client ID	Matrix	Tare	Tare+Wet	Tare+Dry	% Solids	QC Ref Sample	Comments
24	K0910955-001	09-11272	SLUDGE	37.9901g	46.0031g	39.5807g	19.9		
25	K0910975-001	4 Oliver	SLUDGE, SOLID	1.31g	11.31g	8.44g	71.3		
26	K0910975-002	6 Filter	SLUDGE, SOLID	1.31g	12.34g	9.49g	74.2		
27	K0910975-003	7 Filter	SLUDGE, SOLID	1.33g	11.77g	8.54g	69.1		
28	K0911008-001	T3357-67(3.5)-111009	SOIL	1.31g	11.74g	10.18g	85.0		
29	K0911008-002	T3357-52(3.5)-111009	SOIL	1.34g	11.63g	10.22g	86.3		
30	K0911008-003	T3357-84(2.5)-111009	SOIL	1.31g	13.61g	12.07g	87.5		
31	K0911017-001	WF-SD-C-S1	SOIL	1.32g	9.35g	5.10g	47.1		
32	KWG0910660-1	Duplicate Client Sample	SLUDGE	30.8299g	38.9583g	32.4013g	19.3	K0910955-001	
33	KWG0910660-2	Duplicate Client Sample	SOIL	1.33g	8.63g	4.87g	48.5	K0911017-001	
34	KWG0910660-3	Duplicate Client Sample	SOIL	1.31g	6.71g	5.27g	73.3	K0910947-020	
35	KWG0910660-4	Duplicate Client Sample	SOIL	1.31g	5.62g	4.36g	70.8	K0910947-005	
36	KWG0910660-5	Duplicate Client Sample	SEDIMENT	1.33g	6.98g	6.84g	97.5	K0909140-018	
37	KWG0910660-6	Duplicate Client Sample	SLUDGE, SOLID	1.32g	11.27g	8.42g	71.4	K0910975-001	
38	KWG0910660-7	Duplicate Client Sample	SOLID FUEL	1.33g	5.68g	5.49g	95.6	K0910856-001	
39	KWG0910660-8	Duplicate Client Sample	SOLID FUEL	1.33g	5.66g	5.41g	94.2	K0910871-001	

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ice Request #: K0909140

Method: EPA METHOD 160.3 MODIFIED

ysis For: Total Solids

Pan ID	Lab Code	Wet Weight (g)	Tare (g)	Tare + Dry Wt.(g)	Dry Weight (g)	% Total Solids
	K9140-18	5.75	1.32	5.64		
	-18R	6.98	1.33	6.84		
	-19	5.93	1.32 ~~3~~ TN 11/12/09	5.85		

Temp : _____ Time In : _____ Time Out : _____

nents:

$\bar{x}$ RPD =

$\bar{x}$ RPD =

$\bar{x}$ RPD =

vst: NC ITN Date: 12-NOV-09

ewed By: BH Date: 11/13/09

TSGEN.BCH

ice Request #: K0909140

Method: EPA METHOD 160.3 MODIFIED

ysis For: Total Solids

Have

an ID	Lab Code	Wet Weight (g)	Tare (g)	Tare + Dry Wt.(g)	Dry Weight (g)	% Total Solids
	K9140-17	5.77	1.32	5.75		
	I -17d	5.05	1.32	5.04		

Temp : _____ Time In : _____ Time Out : _____

ments:

$\bar{x}$ RPD =

$\bar{x}$ RPD =

$\bar{x}$ RPD =

st: NC	Date: 9 NOV 09
wed By: AH	Date: 11/11/09

TSGEN.BCH

COLUMBIA ANALYTICAL SERVICES, INC.

EPA Method 160.3 - Total Solids

178655

Group ID:	KWG0910520				
Analyst:	TNguyen			**Reviewed By:**	BH
Date Acquired:	11/09/2009 09:00	**Oven TempStart:**	105 DEG C	**Date Reviewed:**	11/11/09
Date Completed:	11/10/2009 09:00	**Oven TempEnd:**	105 DEG C		

#	Lab Code	Client ID	Matrix	Tare	Tare+Wet	Tare+Dry	% Solids	QC Ref Sample	Comments
1	K0909140-017	M-5-C	SEDIMENT	1.32g	5.77g	5.75g	99.6		
2	K0910367-008	Composite	PAPERBOA	1.33g	3.76g	3.71g	97.9		
3	K0910368-008	Composite	PAPERBOA	1.32g	4.00g	3.96g	98.5		
4	K0910727-001	Bark-09	SOLID FUEL	1.32g	4.15g	4.14g	99.6		Air dry and grd
5	K0910772-001	A	SOIL	1.32g	10.70g	8.69g	78.6		
6	K0910772-002	B	SOIL	1.31g	10.68g	9.18g	84.0		
7	K0910772-003	C	SOIL	1.31g	10.77g	9.34g	84.9		
8	K0910772-004	D	SOIL	1.31g	10.34g	9.15g	86.8		
9	K0910772-005	E	SOIL	1.31g	10.21g	8.27g	78.2		
10	K0910772-006	F	SOIL	1.32g	10.04g	8.04g	77.1		
11	K0910815-001	CSB-SB-01-S-1	SOIL	1.32g	12.68g	10.60g	81.7		
12	K0910815-002	CSB-SB-02-S-1	SOIL	1.32g	13.68g	11.21g	80.0		
13	K0910815-004	CSB-SB-03-S-1	SOIL	1.32g	10.90g	8.78g	77.9		
14	K0910815-005	CSB-SB-04-S-1	SOIL	1.32g	11.83g	10.02g	82.8		
15	K0910815-006	CSB-SB-04-S-2	SOIL	1.32g	10.67g	8.56g	77.4		
16	K0910842-001	WF-SD-C-1	SOIL	1.32g	14.05g	10.38g	71.2		
17	K0910842-002	WF-SD-C-1A	SOIL	1.32g	15.19g	11.60g	74.1		
18	K0910842-003	WF-SD-C-1B	SOIL	1.32g	11.71g	9.26g	76.4		
19	K0910850-001	0911146-01B(Location #6)	SEDIMENT	1.32g	8.97g	4.08g	36.1		
20	K0910850-002	0911146-02B(Location #7)	SEDIMENT	1.32g	9.13g	4.11g	35.7		
21	K0910850-003	0911146-03B(Location #8)	SEDIMENT	1.32g	10.49g	6.03g	51.4		
22	K0910850-004	0911146-04B(Location #9)	SEDIMENT	1.32g	9.20g	4.51g	40.5		
23	K0910850-005	0911146-05B(Location #10)	SEDIMENT	1.33g	9.58g	5.48g	50.3		
24	K0910850-006	0911146-06B(Location #11)	SEDIMENT	1.31g	10.37g	6.07g	52.5		

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Group ID:	KWG0910520		
Analyst:	TNguyen	**Reviewed By:**	BH
Date Acquired:	11/09/2009 09:00	**Oven TempStart:**	105 DEG C
Date Completed:	11/10/2009 09:00	**Oven TempEnd:**	105 DEG C
		Date Reviewed:	11/11/09

#	Lab Code	Client ID	Matrix	Tare	Tare+Wet	Tare+Dry	% Solids	QC Ref Sample	Comments
25	K0910850-007	0911146-07B(Location #12)	SEDIMENT	1.32g	10.19g	6.56g	59.1		
26	K0910850-008	0911146-08B(Location #14)	SEDIMENT	1.32g	9.85g	4.28g	34.7		
27	K0910850-009	0911146-09B(Location #13)	SEDIMENT	1.32g	10.34g	4.90g	39.7		
28	K0910850-010	0911146-10B(Location #15)	SEDIMENT	1.32g	6.26g	3.72g	48.6		
29	K0910856-001	Bark-10	SOLID FUEL	9.37g	55.69g	38.61g	63.1		As received
30	K0910856-002	TDF-10	MISC. SOLID	9.18g	55.26g	53.91g	97.1		As received
31	KWG0910520-1	Duplicate Client Sample	SOLID FUEL	1.32g	3.99g	3.98g	99.6	K0910727-001	
32	KWG0910520-2	Duplicate Client Sample	SEDIMENT	1.32g	5.05g	5.04g	99.7	K0909140-017	
33	KWG0910520-3	Duplicate Client Sample	SEDIMENT	1.32g	6.70g	3.91g	48.1	K0910850-010	
34	KWG0910520-4	Duplicate Client Sample	SOIL	1.32g	10.24g	8.27g	77.9	K0910772-006	
35	KWG0910520-5	Duplicate Client Sample	SOIL	1.32g	13.52g	10.60g	76.1	K0910842-003	
36	KWG0910520-6	Duplicate Client Sample	SOIL	1.32g	10.02g	8.02g	77.0	K0910815-006	
37	KWG0910520-7	Duplicate Client Sample	PAPERBOA	1.32g	3.46g	3.41g	97.7	K0910367-008	
38	KWG0910520-8	Duplicate Client Sample	PAPERBOA	1.32g	3.84g	3.81g	98.8	K0910368-008	

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Columbia Analytical Services Inc.

Service Request #: _____ Method: COMPOSITE
Analysis For: _____ Matrix: _____

Sample ID:	# of Drops:	Comments:
K9130		
- PAH 1		20.2145 g
- PAH 1d		20.1753 g
- PCB 1		20.3849 g
- PCB 1d		20.0478 g
- PCDD 1		10.0473 g
- PCDD 1d		10.8012 g
- METALS 1		10.4241 g
- METALS 1d		10.5801 g
- GRAIN SIZE 1		100.2 g
- GRAIN SIZE 1d		100.4 g
- TOTAL SOLIDS 1		10.0498 g
- TOTAL SOLIDS 1d		10.5831 g
K9132		
- PAH 1		20.0141 g
- PAH 1d		20.7536 g
- PCB 1		20.8108 g
- PCB 1d		20.3044 g
- PCDD 1		~~20.7179 g~~ NC 10.4712 g
- PCDD 1d		10.2467 g
- METALS 1		10.1696 g
- METALS 1d		10.5735 g
- GRAIN SIZE 1		100.5 g
- GRAIN SIZE 1d		100.1 g
- TOTAL SOLIDS 1		10.3928 g
- TOTAL SOLIDS 1d		10.5390 g
K9127		
- PAH 1		20.2885 g
- PAH 1d		20.2738 g
- PCB 1		20.9963 g
- PCB 1d		20.4904 g
- PCDD 1		10.0803 g
- PCDD 2		10.4927 g
- METALS 1		10.4051 g
- METALS 1d		10.6496 g
- GRAIN SIZE 1		100.34 g
- GRAIN SIZE 1d		100.45 g
- TOTAL SOLIDS 1		10.5891 g
- TOTAL SOLIDS 1d		10.4496 g

Analyst: NZ	Date: 22-OCT
Reviewed By:	Date:

Columbia Analytical Services Inc.

Service Request #: _____ Method: COMPOSITE

Analysis For: _____ Matrix: _____

Sample ID:	# of Drops:	Comments:
K9640		
-PAH 1		20.2262 g
-PAH 1d		20.9124 g
-PCB 1		20.0613 g
-PCB 1d		20.2407 g
-PCDD 1		20.0363 g
-PCDD 1d		20.0453 g
-METALS 1		10.2878 g
-METALS 1D		10.1660 g
-GRAIN SIZE 1		100.07 g
-GRAIN SIZE 1d		100.27 g
-TOTAL SOLIDS 1		10.8113 g
-TOTAL SOLIDS 1d		10.5555 g

Analyst: NC	Date: 22.OCT
Reviewed By:	Date:

Columbia Analytical Services Inc.

Service Request #: _____ Method: COMPOSITE

Analysis For: _____ Matrix: _____

Sample ID:	# of Drops:	Comments:
K9571		
- PAH I		20.4859 g
- PAH Id		20.0772g
- PCB I		20.2516g
- PCB Id		20.2300g
- PCDD I		~~20.7431g~~ NC 10.4854 g
- PCDD Id		~~20.0689g~~ NC 10.2580 g
- METALS I		10.0858g
- METALS Id		10.0335g
- GRAIN SIZE I		100.6 g
- GRAIN SIZE Id		100.3 g
- TOTAL SOLIDS I		10.0639 g
- TOTAL SOLIDS Id		10.0044 g

Analyst: NC	Date: 23 OCT
Reviewed By:	Date:

Columbia Analytical Services Inc.

Service Request #: K0909481, K0909569 Method: COMPOSITE

Analysis For: _____ Matrix: _____

SAMPLE ID		
K9481 - PAH 1	20.5089 g	
- PAH 1d	20.0042 g	
- PCB 1	20.6129 g	
- PCB 1d	20.0881 g	
- PCDD 1	10.4282 g	
- PCDD 1d	10.7238 g	
- METALS 1	10.4711 g	
- METALS 1d	10.4504 g	
- GRAIN SIZE 1	100.43 g	
- GRAIN SIZE 1d	100.37 g	
- TOTAL SOLIDS 1	10.6638 g	
- TOTAL SOLIDS 1d	10.1958 g	
K9569		
K9567 - PAH 1 NC	20.2035 g	
- PAH 1d	20.7661 g	
- PCB 1	20.1881 g	
- PCB 1d	20.2085 g	
- PCDD 1	10.4972 g	
- PCDD 1d	10.1028 g	
- METALS 1	10.3633 g	
- METALS 1d	10.8402 g	
- GRAIN SIZE 1	100.07 g	
- GRAIN SIZE 1d	100.21 g	
- TOTAL SOLIDS 1	10.1789 g	
- TOTAL SOLIDS 1d	10.2031 g	

Comments: _____

Analyzed By: MC	Date: 26-OCT-09
Reviewed By:	Date:

Genbench1

Columbia Analytical Services Inc.

Service Request #: K0909570, K0909642 Method: COMPOSITE

Analysis For: _____ Matrix: _____

SAMPLE ID		
K9570 - PAH 1	20.4024 g	
- PAH 1D	20.3082 g	
- PCB 1	20.4306 g	
- PCB 1D	20.5288 g	
- PCDD 1	10.0018 g	
- PCDD 1D	10.0022 g	
- METALS 1	10.0026 g	
- METALS 1D	10.6562 g	
- GRAIN SIZE 1	100.19 g	
- GRAIN SIZE 1D	100.35 g	
- TOTAL SOLIDS 1	10.2704 g	
- TOTAL SOLIDS 1D	10.0788 g	
K9642 - PAH - 1	20.1107 g	
- PAH - 1D	20.1266 g	
- PCB - 1	20.4927 g	
- PCB 1D	20.2773 g	
- PCDD 1	10.3912 g	
- PCDD 1D	10.8266 g	
- METALS 1	10.3826 g	
- METALS 1D	10.1590 g	
- GRAIN SIZE 1	100.99 g	
- GRAIN SIZE 1D	100.84 g	
- TOTAL SOLIDS 1	10.5206 g	
- TOTAL SOLIDS 1D	10.1344 g	

Comments: _____

Analyzed By: NC	Date: 27. OCT. 09
Reviewed By:	Date:

Genbench1

Columbia Analytical Services Inc.

Service Request #: K0909482, K0909743 Method: COMPOSITE

Analysis For: _____ Matrix: _____

SAMPLE #	
K9482 - PAH 1	20.4965 g
- PAH 1d	20.3102 g
- PCB 1	20.3604 g
- PCB 1d	20.0544 g
- PCDD 1	10.0683 g
- PCDD 1d	10.3483 g
- METALS 1	10.5318 g
- METALS 1d	10.7537 g
- GRAIN SIZE 1	100.2 g
- GRAIN SIZE 1d	100.4 g
- TOTAL SOLIDS 1	10.5145 g
- TOTAL SOLIDS 1d	10.1607 g
K9743 - PAH 1	20.0845 g
- PAH 1d	20.4413 g
- PCB 1	20.1850 g
- PCB 1d	20.1289 g
- PCDD 1	10.3528 g
- PCDD 1d	10.2150 g
- METALS 1	10.1043 g
- METALS 1d	10.3290 g
- GRAIN SIZE 1	100.4 g
- GRAIN SIZE 1d	100.2 g
- TOTAL SOLIDS 1	10.4896 g
- TOTAL SOLIDS 1d	10.2757 g

Comments: _____

Analyzed By: NC	Date: 28 OCT 09
Reviewed By:	Date:

Genbench1

Columbia Analytical Services Inc.

Service Request #: K0909744 Method: COMPOSITE

Analysis For: _____ Matrix: _____

SAMPLE #	
K9744 - PAH 1	20.4047 g
- PAH 1d	20.3188 g
- PCB 1	20.3696 g
- PCB 1d	20.5120 g
- PCDD 1	10.4276 g
- PCDD 1d	10.1313 g
- METALS 1	10.2348 g
- METALS 1d	10.3985 g
- GRAIN SIZE 1	100.2 g
- GRAIN SIZE 1d	100.1 g
- TOTAL SOLIDS 1	10.1882 g
- TOTAL SOLIDS 1d	10.3274 g

Comments: _____

Analyzed By: NC	Date: 28-OCT-09
Reviewed By:	Date:

Genbench1

Columbia Analytical Services Inc.

Service Request #: K0909745, K0909637 Method: Composite

Analysis For: _____ Matrix: _____

SAMPLE #		
K9745 - PAH 1	20.2735 g	
- PAH 1d	20.1871 g	
- PCB 1	20.2969 g	
- PCB 1d	20.2052 g	
- PCDD 1	10.3558 g	
- PCDD 1d	10.4628 g	
- METALS 1	10.3553 g	
- METALS 1d	10.1898 g	
- GRAIN SIZE 1	100.2 g	
- GRAIN SIZE 1d	100.3 g	
- TOTAL SOLIDS 1	10.1711 g	
- TOTAL SOLIDS 1d	10.2350 g	
K9637 - PAH - 1	20.0950 g	
- PAH - 1d	20.3978 g	
- PCB - 1	20.0347 g	
- PCB - 1d	20.1999 g	
- PCDD - 1	10.3346 g	
- PCDD 1d	10.3737 g	
- METALS 1	10.3740 g	
- METALS 1d	10.3827 g	
- GRAIN SIZE 1	100.3 g	
- GRAIN SIZE 1d	100.9 g	
- TOTAL SOLIDS 1	10.2161 g	
- TOTAL SOLIDS 1d	10.0751 g	

Comments:

Analyzed By: NC	Date: 30-OCT-09
Reviewed By:	Date:

Genbench1

Columbia Analytical Services Inc.

Service Request #: K0909480 Method: COMPOSITE

Analysis For: _____ Matrix: _____

SAMPLE #		
K9480 - PAH - 1	20.3514 g	
- PAH - 1D	20.4096 g	
- PCB - 1	20.4805 g	
- PCB - 1D	20.3816 g	
- PCDD - 1	10.0003 g	
- PCDD - 1D	10.1310 g	
- METALS 1	10.4926 g	
- METALS 1d	10.4405 g	
- GRAIN SIZE 1	100.4 g	
- GRAIN SIZE 1D	100.9 g	
- TOTAL SOLIDS 1	10.6392 g	
- TOTAL SOLIDS 1D	10.1860 g	

Comments: _____

Analyzed By: NC	Date: 29-OCT-09
Reviewed By:	Date:

Genbench1

Service Request #: K0909569, K0909135 Method: COMPOSITE

Analysis For: _____ Matrix: _____

SAMPLE #	
K9569 - PAH-MS-1	20.1911 g
- PAH-MS-1d	20.0623 g
- PCB-MS-1	20.2634 g
- PCB-MS-1d	20.2256 g
- PCDD-MS-1	10.1998 g
- PCDD-MS-1d	10.1788 g
- METALS-MS-1	10.1076 g
- METALS-MS-1d	10.1887 g
- GRAIN SIZE-MS-1	100.02 g
- GRAIN SIZE-MS-1d	100.43 g
- TOTAL SOLIDS-MS-1	10.0296 g
- TOTAL SOLIDS-MS-1d	10.0592 g
- PAH-MSD-1	20.1813 g
- PAH-MSD-1d	20.0690 g
- PCB-MSD-1	20.2628 g
- PCB-MSD-1d	20.3979 g
- PCDD-MSD-1	10.0997 g
- PCDD-MSD-1d	10.1123 g
- METALS-MSD-1	10.0254 g
- METALS-MSD-1d	10.0464 g
- GRAIN SIZE-MSD-1	100.21 g
- GRAIN SIZE-MSD-1d	100.36 g
- TOTAL SOLIDS-MSD-1	10.1518 g
- TOTAL SOLIDS-MSD-1d	10.2998 g
K9135- PAH DUP-1	20.2864 g
PCB DUP-1	20.0227 g
PCDD DUP-1	10.1465 g
METALS DUP-1	10.1997 g
GRAIN SIZE DUP-1	100.26 g
Comments: TOTAL SOLIDS DUP-1	10.0999 g

Analyzed By: NL	Date: 9-NOV-09
Reviewed By:	Date:

Genbench1

Columbia Analytical Services Inc.

Service Request #: K0909136 Method: COMPOSITE

Analysis For: _____ Matrix: _____

SAMPLE #	
K9136 - PAH 1	20.1992 g
- PAH 1d	20.1831 g
- PCB 1	20.0624 g
- PCB 1d	20.0272 g
- PCDD 1	10.0536 g
- PCDD 1d	10.1877 g
- METALS 1	10.2903 g
- METALS 1d	10.1654 g
- GRAIN SIZE 1	100.6 g
- GRAIN SIZE 1d	100.2 g
- TOTAL SOLIDS 1	10.0548 g
- TOTAL SOLIDS 1d	10.1195 g

Comments: _____

Analyzed By: NC	Date: 3-NOV-09
Reviewed By:	Date:

Genbench1

Columbia Analytical Services Inc.

Service Request #: K0909134 Method: COMPOSITE

Analysis For: _____ Matrix: _____

SAMPLE #		
K9134 - PAH 1	20.1969 g	
- PAH 1d	20.3466 g	
- PCB 1	20.5120 g	
- PCB 1d	20.5388 g	
- PCDD 1	10.3070 g	
- PCDD 1d	10.0308 g	
- METALS 1	10.1241 g	
- METALS 1d	10.0211 g	
- GRAIN SIZE 1	100.72 g	
- GRAIN SIZE 1d	100.13 g	
- TOTAL SOLIDS 1	10.2965 g	
- TOTAL SOLIDS 1d	10.1897 g	

Comments: _____

Analyzed By: NC	Date: 2-Nov-09
Reviewed By:	Date:

Genbench1

Columbia Analytical Services Inc.

Service Request #: K0909135 Method: COMPOSITE

Analysis For: _____ Matrix: _____

SAMPLE #		
K9135 - PAH 1	20.7988 g	
- PAH 1d	20.6352 g	
- PCB 1	20.3917 g	
- PCB 1d	20.3259 g	
- PCDD 1	10.1528 g	
- PCDD 1d	10.2228 g	
- METALS 1	10.8800 g	
- METALS 1d	10.1558 g	
- GRAIN SIZE 1	100.7 g	
- GRAIN SIZE 1d	100.3 g	
- TOTAL SOLIDS 1	10.2926 g	
- TOTAL SOLIDS 1d	10.2438 g	

Comments: _____

Analyzed By: NC	Date: 30-OCT-09
Reviewed By:	Date:

Genbench1

General Chemistry Parameters

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : URS Corporation
Project Name : Boise St. Helens Pulp and Paper Mill-2009
Project Number : NA
Sample Matrix : SEDIMENT

Service Request : K0909140
Date Collected : 09/28-10/09/09
Date Received : 09/29-10/09/09

Carbon, Total Organic (TOC)

Prep Method : CAS SOP
Analysis Method : ASTM D4129-82M
Test Notes :

Units : Percent
Basis : Dry

Sample Name	Lab Code	MRL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Result	Result Notes
M-4-A	K0909140-001	0.050	0.020	1	10/31/2009	11/05/09	3.18	
M-4-B	K0909140-002	0.050	0.020	1	10/31/2009	11/05/09	2.28	
M-4-C	K0909140-003	0.050	0.020	1	10/31/2009	11/05/09	2.01	
M-1-B	K0909140-004	0.050	0.020	1	10/31/2009	11/05/09	3.77	
M-2-C	K0909140-005	0.050	0.020	1	10/31/2009	11/05/09	4.35	
M-2-A	K0909140-006	0.050	0.020	1	10/31/2009	11/05/09	4.48	
M-3-B	K0909140-007	0.050	0.020	1	10/31/2009	11/05/09	1.89	
M-2-B	K0909140-008	0.050	0.020	1	10/31/2009	11/05/09	3.63	
M-1-C	K0909140-009	0.050	0.020	1	10/31/2009	11/05/09	2.79	
M-3-C	K0909140-010	0.050	0.020	1	10/31/2009	11/05/09	1.58	
B-1-A	K0909140-011	0.050	0.020	1	10/31/2009	11/05/09	0.800	
B-1-B	K0909140-012	0.050	0.020	1	10/31/2009	11/05/09	0.680	
M-3-A	K0909140-013	0.050	0.020	1	10/31/2009	11/05/09	1.54	
M-1-A	K0909140-014	0.050	0.020	1	10/31/2009	11/05/09	3.35	
M-5-B	K0909140-015	0.050	0.020	1	10/31/2009	11/05/09	0.667	
M-5-A	K0909140-016	0.050	0.020	1	10/31/2009	11/05/09	2.94	
M-5-C	K0909140-017	0.050	0.020	1	10/31/2009	11/20/09	2.11	
M-5-B2	K0909140-018	0.050	0.020	1	10/31/2009	11/20/09	2.33	
B-1-C	K0909140-019	0.050	0.020	1	10/31/2009	11/20/09	0.718	
Method Blank	K0909140-MB	0.050	0.020	1	NA	11/20/09	ND	
Method Blank	K0909140-MB	0.050	0.020	1	NA	11/05/09	ND	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : URS Corporation
Project Name : Boise St. Helens Pulp and Paper Mill-2009
Project Number : NA
Sample Matrix : SEDIMENT

Service Request : K0909140
Date Collected : 10/6/2009
Date Received : 10/7/2009
Date Prepared : 10/31/09
Date Analyzed : 11/05/09

Duplicate Summary
Inorganic Parameters

Sample Name : M-2-A
Lab Code : K0909140-006DUP
Test Notes :

Units : Percent
Basis : Dry

Analyte	Prep Method	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Carbon, Total Organic (TOC)	CAS SOP	ASTM D4129-82M	0.050	4.48	4.71	4.60	5	

Report By:EMIHAILA

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : URS Corporation
Project Name : Boise St. Helens Pulp and Paper Mill-2009
Project Number : NA
Sample Matrix : SEDIMENT

Service Request : K0909140
Date Collected : 10/9/2009
Date Received : 10/9/2009
Date Prepared : 10/31/09
Date Analyzed : 11/20/09

Duplicate Summary
Inorganic Parameters

Sample Name : B-1-C
Lab Code : K0909140-019DUP
Test Notes :

Units : Percent
Basis : Dry

Analyte	Prep Method	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Carbon, Total Organic (TOC)	CAS SOP	ASTM D4129-82M	0.050	0.718	0.667	0.693	7	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client :	URS Corporation	**Service Request :**	K0909140
Project Name :	Boise St. Helens Pulp and Paper Mill-2009	**Date Collected :**	10/6/2009
Project Number :	NA	**Date Received :**	10/7/2009
Sample Matrix :	SEDIMENT	**Date Prepared :**	10/31/09
		Date Analyzed :	11/05/09

Matrix Spike/Duplicate Matrix Spike Summary

Sample Name :	M-2-A		Units :	Percent
Lab Code :	K0909140-006MS	K0909140-006DMS	Basis :	Dry
Test Notes :				

Analyte	Prep Method	Analysis Method	MRL	Spike Level MS	Spike Level DMS	Sample Result	Spike Result MS	Spike Result DMS	Spike Recovery MS	Spike Recovery DMS	CAS Acceptance Limits	Relative Percent Difference	Result Notes
Carbon, Total Organic (TOC)	CAS SOP	ASTM D4129-82M	0.050	7.87	7.89	4.48	12.2	12.2	98	97	77-155	1	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client :	URS Corporation	**Service Request :**	K0909140
Project Name :	Boise St. Helens Pulp and Paper Mill-2009	**Date Collected :**	10/9/2009
Project Number :	NA	**Date Received :**	10/9/2009
Sample Matrix :	SEDIMENT	**Date Prepared :**	10/31/09
		Date Analyzed :	11/20/09

Matrix Spike/Duplicate Matrix Spike Summary

Sample Name :	B-1-C		Units :	Percent
Lab Code :	K0909140-019MS	K0909140-019DMS	Basis :	Dry
Test Notes :				

Analyte	Prep Method	Analysis Method	MRL	Spike Level MS	Spike Level DMS	Sample Result	Spike Result MS	Spike Result DMS	Spike Recovery MS	Spike Recovery DMS	CAS Acceptance Limits	Relative Percent Difference	Result Notes
Carbon, Total Organic (TOC)	CAS SOP	ASTM D4129-82M	0.050	5.54	4.44	0.718	6.23	4.92	100	95	77-155	5	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client :	URS Corporation	**Service Request :**	K0909140
Project Name :	Boise St. Helens Pulp and Paper Mill-2009	**Date Collected :**	NA
Project Number :	NA	**Date Received :**	NA
Sample Matrix :	SEDIMENT	**Date Prepared :**	NA
		Date Analyzed :	11/20/09

Laboratory Control Sample Summary
Inorganic Parameters

Sample Name :	Laboratory Control Sample	Units :	Percent
Lab Code :	K0909140-LCS	Basis :	Dry

Test Notes :

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Carbon, Total Organic (TOC)	CAS SOP	ASTM D4129-82M	0.550	0.579	105	82-119	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client :	URS Corporation	**Service Request :**	K0909140
Project Name :	Boise St. Helens Pulp and Paper Mill-2009	**Date Collected :**	NA
Project Number :	NA	**Date Received :**	NA
Sample Matrix :	SEDIMENT	**Date Prepared :**	NA
		Date Analyzed :	11/05/09

Laboratory Control Sample Summary
Inorganic Parameters

Sample Name :	Laboratory Control Sample	Units :	Percent
Lab Code :	K0909140-LCS	Basis :	Dry

Test Notes :

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Carbon, Total Organic (TOC)	CAS SOP	ASTM D4129-82M	0.550	0.567	103	82-119	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : URS Corporation
Project : Boise St. Helens Pulp and Paper Mill-2009

Service Request : K0909140
Date Collected : NA
Date Received : NA

Carbon, Total Organic (TOC)
ASTM D4129-82M
Units: Percent

CONTINUING CALIBRATION VERIFICATION (CCV)

	Date Analyzed	True Value	Measured Value	Percent Recovery
CCV1 Result	11/20/2009	20.0	19.3	97
CCV2 Result	11/20/2009	20.0	19.5	98
CCV3 Result	11/20/2009	20.0	19.5	98
CCV4 Result	11/20/2009	20.0	19.7	99
CCV5 Result	11/20/2009	20.0	19.9	100
CCV6 Result	11/20/2009	20.0	19.8	99
CCV1 Result	11/5/2009	20.0	19.8	99
CCV2 Result	11/5/2009	20.0	19.8	99
CCV3 Result	11/5/2009	20.0	19.3	97
CCV4 Result	11/5/2009	20.0	19.9	100
CCV5 Result	11/5/2009	20.0	19.8	99
CCV6 Result	11/5/2009	20.0	19.8	99

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : URS Corporation
Project : Boise St. Helens Pulp and Paper Mill-2009

Service Request : K0909140
Date Collected : NA
Date Received : NA

Carbon, Total Organic (TOC)
ASTM D4129-82M
Units: Percent

CONTINUING CALIBRATION BLANK (CCB)

	Date Analyzed	MRL	Blank Value
CCB1 Result	11/20/2009	0.050	ND
CCB2 Result	11/20/2009	0.050	ND
CCB3 Result	11/20/2009	0.050	ND
CCB4 Result	11/20/2009	0.050	ND
CCB5 Result	11/20/2009	0.050	ND
CCB6 Result	11/20/2009	0.050	ND
CCB1 Result	11/5/2009	0.050	ND
CCB2 Result	11/5/2009	0.050	ND
CCB3 Result	11/5/2009	0.050	ND
CCB4 Result	11/5/2009	0.050	ND
CCB5 Result	11/5/2009	0.050	ND
CCB6 Result	11/5/2009	0.050	ND

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	URS Corporation	**Service Request:**	K0909140
Project:	Boise St. Helens Pulp and Paper Mill-2009	**Date Collected:**	9/28/2009
Sample Matrix:	Sediment	**Date Received:**	9/29/2009
		Date Analyzed:	10/27/2009

Particle Size Determination
ASTM Method D 422

Sample Name: M-4-A
Lab Code: K0909140-001

Gravel and Sand
(Sieve Analysis)

Description	Sieve Size	Weight (g)	Percent Passing
Gravel	No.3/4"(19.0 mm)	0.0000	100
Gravel	No.3/8"(9.50 mm)	0.0000	100
Gravel, Medium	No.4 (4.75 mm)	0.0000	100
Gravel, Fine	No.10 (2.00 mm)	0.0000	100
Sand, Very Coarse	No.20 (0.850 mm)	0.6214	98.7
Sand, Coarse	No.40 (0.425 mm)	1.0438	96.6
Sand, Medium	No.60 (0.250 mm)	1.9835	92.7
Sand, Fine	No.140 (0.106 mm)	13.6582	65.2
Sand, Very Fine	No.200 (0.0750 mm)	8.5070	48.0

Silt and Clay
(Hydrometer Analysis)

Particle Diameter	Percent Passing
0.074 mm	48.2
0.005 mm	0.83
0.001 mm	0.00

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	URS Corporation	**Service Request:**	K0909140
Project:	Boise St. Helens Pulp and Paper Mill-2009	**Date Collected:**	9/28/2009
Sample Matrix:	Sediment	**Date Received:**	9/29/2009
		Date Analyzed:	10/27/2009

Particle Size Determination
ASTM Method D 422

Sample Name: M-4-B
Lab Code: K0909140-002

Gravel and Sand
(Sieve Analysis)

Description	Sieve Size	Weight (g)	Percent Passing
Gravel	No.3/4"(19.0 mm)	0.0000	100
Gravel	No.3/8"(9.50 mm)	0.0000	100
Gravel, Medium	No.4 (4.75 mm)	0.0000	100
Gravel, Fine	No.10 (2.00 mm)	0.0000	100
Sand, Very Coarse	No.20 (0.850 mm)	0.2577	99.5
Sand, Coarse	No.40 (0.425 mm)	0.5981	98.3
Sand, Medium	No.60 (0.250 mm)	1.0475	96.2
Sand, Fine	No.140 (0.106 mm)	10.3250	75.4
Sand, Very Fine	No.200 (0.0750 mm)	9.8974	55.4

Silt and Clay
(Hydrometer Analysis)

Particle Diameter	Percent Passing
0.074 mm	55.5
0.005 mm	0.00
0.001 mm	0.00

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	URS Corporation	**Service Request:**	K0909140
Project:	Boise St. Helens Pulp and Paper Mill-2009	**Date Collected:**	9/28/2009
Sample Matrix:	Sediment	**Date Received:**	9/29/2009
		Date Analyzed:	10/27/2009

Particle Size Determination
ASTM Method D 422

Sample Name: M-4-C
Lab Code: K0909140-003

Gravel and Sand
(Sieve Analysis)

Description	Sieve Size	Weight (g)	Percent Passing
Gravel	No.3/4"(19.0 mm)	0.0000	100
Gravel	No.3/8"(9.50 mm)	0.0000	100
Gravel, Medium	No.4 (4.75 mm)	0.0000	100
Gravel, Fine	No.10 (2.00 mm)	0.0000	100
Sand, Very Coarse	No.20 (0.850 mm)	0.4939	98.9
Sand, Coarse	No.40 (0.425 mm)	0.8727	97.0
Sand, Medium	No.60 (0.250 mm)	1.2113	94.3
Sand, Fine	No.140 (0.106 mm)	11.0285	69.9
Sand, Very Fine	No.200 (0.0750 mm)	8.1965	51.8

Silt and Clay
(Hydrometer Analysis)

Particle Diameter	Percent Passing
0.074 mm	51.6
0.005 mm	0.00
0.001 mm	0.00

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	URS Corporation	**Service Request:**	K0909140
Project:	Boise St. Helens Pulp and Paper Mill-2009	**Date Collected:**	10/7/2009
Sample Matrix:	Sediment	**Date Received:**	10/8/2009
		Date Analyzed:	10/27/2009

Particle Size Determination
ASTM Method D 422

Sample Name: M-1-B
Lab Code: K0909140-004

Gravel and Sand
(Sieve Analysis)

Description	Sieve Size	Weight (g)	Percent Passing
Gravel	No.3/4"(19.0 mm)	0.0000	100
Gravel	No.3/8"(9.50 mm)	0.0000	100
Gravel, Medium	No.4 (4.75 mm)	0.0000	100
Gravel, Fine	No.10 (2.00 mm)	0.0000	100
Sand, Very Coarse	No.20 (0.850 mm)	0.9271	97.9
Sand, Coarse	No.40 (0.425 mm)	1.8246	93.7
Sand, Medium	No.60 (0.250 mm)	3.7311	85.3
Sand, Fine	No.140 (0.106 mm)	13.8301	53.8
Sand, Very Fine	No.200 (0.0750 mm)	7.6706	36.4

Silt and Clay
(Hydrometer Analysis)

Particle Diameter	Percent Passing
0.074 mm	35.8
0.005 mm	6.28
0.001 mm	0.00

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	URS Corporation	**Service Request:**	K0909140
Project:	Boise St. Helens Pulp and Paper Mill-2009	**Date Collected:**	10/6/2009
Sample Matrix:	Sediment	**Date Received:**	10/7/2009
		Date Analyzed:	10/27/2009

Particle Size Determination
ASTM Method D 422

Sample Name: M-2-C
Lab Code: K0909140-005

Gravel and Sand
(Sieve Analysis)

Description	Sieve Size	Weight (g)	Percent Passing
Gravel	No.3/4"(19.0 mm)	0.0000	100
Gravel	No.3/8"(9.50 mm)	0.0000	100
Gravel, Medium	No.4 (4.75 mm)	0.0000	100
Gravel, Fine	No.10 (2.00 mm)	0.0000	100
Sand, Very Coarse	No.20 (0.850 mm)	0.8762	98.3
Sand, Coarse	No.40 (0.425 mm)	2.5836	93.1
Sand, Medium	No.60 (0.250 mm)	4.7488	83.6
Sand, Fine	No.140 (0.106 mm)	9.6470	64.4
Sand, Very Fine	No.200 (0.0750 mm)	5.5609	53.3

Silt and Clay
(Hydrometer Analysis)

Particle Diameter	Percent Passing
0.074 mm	47.4
0.005 mm	0.00
0.001 mm	0.00

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	URS Corporation	**Service Request:**	K0909140
Project:	Boise St. Helens Pulp and Paper Mill-2009	**Date Collected:**	9/28/2009
Sample Matrix:	Sediment	**Date Received:**	9/29/2009
		Date Analyzed:	10/27/2009

Particle Size Determination
ASTM Method D 422

Sample Name: M-4-C
Lab Code: K0909140-003DUP

Gravel and Sand
(Sieve Analysis)

Description	Sieve Size	Weight (g)	Percent Passing
Gravel	No.3/4"(19.0 mm)	0.0000	100
Gravel	No.3/8"(9.50 mm)	0.0000	100
Gravel, Medium	No.4 (4.75 mm)	0.0000	100
Gravel, Fine	No.10 (2.00 mm)	0.0000	100
Sand, Very Coarse	No.20 (0.850 mm)	0.4391	99.0
Sand, Coarse	No.40 (0.425 mm)	1.1427	96.4
Sand, Medium	No.60 (0.250 mm)	1.3375	93.4
Sand, Fine	No.140 (0.106 mm)	10.7472	69.3
Sand, Very Fine	No.200 (0.0750 mm)	8.8034	49.6

Silt and Clay
(Hydrometer Analysis)

Particle Diameter	Percent Passing
0.074 mm	50.5
0.005 mm	0.00
0.001 mm	0.00

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	URS Corporation	**Service Request:**	K0909140
Project:	Boise St. Helens Pulp and Paper Mill-2009	**Date Collected:**	10/6/2009
Sample Matrix:	Sediment	**Date Received:**	10/7/2009
		Date Analyzed:	10/30/2009

Particle Size Determination
ASTM Method D 422

Sample Name: M-2-A
Lab Code: K0909140-006

Gravel and Sand
(Sieve Analysis)

Description	Sieve Size	Weight (g)	Percent Passing
Gravel	No.3/4"(19.0 mm)	0.0000	100
Gravel	No.3/8"(9.50 mm)	0.0000	100
Gravel, Medium	No.4 (4.75 mm)	0.0000	100
Gravel, Fine	No.10 (2.00 mm)	0.0000	100
Sand, Very Coarse	No.20 (0.850 mm)	0.6103	98.6
Sand, Coarse	No.40 (0.425 mm)	1.1171	96.2
Sand, Medium	No.60 (0.250 mm)	3.0193	89.4
Sand, Fine	No.140 (0.106 mm)	9.2049	69.0
Sand, Very Fine	No.200 (0.0750 mm)	6.6346	54.2

Silt and Clay
(Hydrometer Analysis)

Particle Diameter	Percent Passing
0.074 mm	52.0
0.005 mm	0.00
0.001 mm	0.00

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	URS Corporation	**Service Request:**	K0909140
Project:	Boise St. Helens Pulp and Paper Mill-2009	**Date Collected:**	10/5/2009
Sample Matrix:	Sediment	**Date Received:**	10/6/2009
		Date Analyzed:	10/30/2009

Particle Size Determination
ASTM Method D 422

Sample Name: M-3-B
Lab Code: K0909140-007

Gravel and Sand
(Sieve Analysis)

Description	Sieve Size	Weight (g)	Percent Passing
Gravel	No.3/4"(19.0 mm)	0.0000	100
Gravel	No.3/8"(9.50 mm)	0.0000	100
Gravel, Medium	No.4 (4.75 mm)	0.0000	100
Gravel, Fine	No.10 (2.00 mm)	0.0000	100
Sand, Very Coarse	No.20 (0.850 mm)	0.2442	99.5
Sand, Coarse	No.40 (0.425 mm)	0.4812	98.6
Sand, Medium	No.60 (0.250 mm)	1.1663	96.2
Sand, Fine	No.140 (0.106 mm)	15.1842	66.1
Sand, Very Fine	No.200 (0.0750 mm)	9.9937	46.2

Silt and Clay
(Hydrometer Analysis)

Particle Diameter	Percent Passing
0.074 mm	47.8
0.005 mm	0.00
0.001 mm	0.00

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	URS Corporation	**Service Request:**	K0909140
Project:	Boise St. Helens Pulp and Paper Mill-2009	**Date Collected:**	10/6/2009
Sample Matrix:	Sediment	**Date Received:**	10/7/2009
		Date Analyzed:	10/30/2009

Particle Size Determination
ASTM Method D 422

Sample Name: M-2-B
Lab Code: K0909140-008

Gravel and Sand
(Sieve Analysis)

Description	Sieve Size	Weight (g)	Percent Passing
Gravel	No.3/4"(19.0 mm)	0.0000	100
Gravel	No.3/8"(9.50 mm)	0.0000	100
Gravel, Medium	No.4 (4.75 mm)	0.0000	100
Gravel, Fine	No.10 (2.00 mm)	0.0000	100
Sand, Very Coarse	No.20 (0.850 mm)	0.7596	98.3
Sand, Coarse	No.40 (0.425 mm)	1.3047	95.5
Sand, Medium	No.60 (0.250 mm)	2.7453	89.5
Sand, Fine	No.140 (0.106 mm)	7.4304	73.3
Sand, Very Fine	No.200 (0.0750 mm)	6.7869	58.6

Silt and Clay
(Hydrometer Analysis)

Particle Diameter	Percent Passing
0.074 mm	54.2
0.005 mm	0.32
0.001 mm	0.00

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	URS Corporation	**Service Request:**	K0909140
Project:	Boise St. Helens Pulp and Paper Mill-2009	**Date Collected:**	10/7/2009
Sample Matrix:	Sediment	**Date Received:**	10/8/2009
		Date Analyzed:	10/30/2009

Particle Size Determination
ASTM Method D 422

Sample Name: M-1-C
Lab Code: K0909140-009

Gravel and Sand
(Sieve Analysis)

Description	Sieve Size	Weight (g)	Percent Passing
Gravel	No.3/4"(19.0 mm)	0.0000	100
Gravel	No.3/8"(9.50 mm)	0.0000	100
Gravel, Medium	No.4 (4.75 mm)	0.0000	100
Gravel, Fine	No.10 (2.00 mm)	0.0000	100
Sand, Very Coarse	No.20 (0.850 mm)	1.2619	97.3
Sand, Coarse	No.40 (0.425 mm)	1.1982	94.6
Sand, Medium	No.60 (0.250 mm)	4.6001	84.6
Sand, Fine	No.140 (0.106 mm)	11.7859	59.0
Sand, Very Fine	No.200 (0.0750 mm)	7.5300	42.6

Silt and Clay
(Hydrometer Analysis)

Particle Diameter	Percent Passing
0.074 mm	44.4
0.005 mm	0.00
0.001 mm	0.00

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	URS Corporation	**Service Request:**	K0909140
Project:	Boise St. Helens Pulp and Paper Mill-2009	**Date Collected:**	10/5/2009
Sample Matrix:	Sediment	**Date Received:**	10/6/2009
		Date Analyzed:	10/30/2009

Particle Size Determination
ASTM Method D 422

Sample Name: M-3-C
Lab Code: K0909140-010

Gravel and Sand
(Sieve Analysis)

Description	Sieve Size	Weight (g)	Percent Passing
Gravel	No.3/4"(19.0 mm)	0.0000	100
Gravel	No.3/8"(9.50 mm)	0.0000	100
Gravel, Medium	No.4 (4.75 mm)	0.0000	100
Gravel, Fine	No.10 (2.00 mm)	0.0000	100
Sand, Very Coarse	No.20 (0.850 mm)	0.2046	99.6
Sand, Coarse	No.40 (0.425 mm)	0.3412	98.9
Sand, Medium	No.60 (0.250 mm)	1.5775	95.7
Sand, Fine	No.140 (0.106 mm)	14.6756	65.7
Sand, Very Fine	No.200 (0.0750 mm)	8.3434	48.6

Silt and Clay
(Hydrometer Analysis)

Particle Diameter	Percent Passing
0.074 mm	49.9
0.005 mm	0.00
0.001 mm	0.00

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	URS Corporation	**Service Request:**	K0909140
Project:	Boise St. Helens Pulp and Paper Mill-2009	**Date Collected:**	10/9/2009
Sample Matrix:	Sediment	**Date Received:**	10/9/2009
		Date Analyzed:	10/30/2009

Particle Size Determination
ASTM Method D 422

Sample Name: B-1-A
Lab Code: K0909140-011

Gravel and Sand
(Sieve Analysis)

Description	Sieve Size	Weight (g)	Percent Passing
Gravel	No.3/4"(19.0 mm)	0.0000	100
Gravel	No.3/8"(9.50 mm)	0.0000	100
Gravel, Medium	No.4 (4.75 mm)	0.0000	100
Gravel, Fine	No.10 (2.00 mm)	0.0000	100
Sand, Very Coarse	No.20 (0.850 mm)	0.2280	99.5
Sand, Coarse	No.40 (0.425 mm)	0.1923	99.1
Sand, Medium	No.60 (0.250 mm)	3.3924	92.0
Sand, Fine	No.140 (0.106 mm)	18.3747	53.5
Sand, Very Fine	No.200 (0.0750 mm)	7.2124	38.4

Silt and Clay
(Hydrometer Analysis)

Particle Diameter	Percent Passing
0.074 mm	41.4
0.005 mm	0.00
0.001 mm	0.00

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	URS Corporation	**Service Request:**	K0909140
Project:	Boise St. Helens Pulp and Paper Mill-2009	**Date Collected:**	10/9/2009
Sample Matrix:	Sediment	**Date Received:**	10/9/2009
		Date Analyzed:	10/30/2009

Particle Size Determination
ASTM Method D 422

Sample Name: B-1-B
Lab Code: K0909140-012

Gravel and Sand
(Sieve Analysis)

Description	Sieve Size	Weight (g)	Percent Passing
Gravel	No.3/4"(19.0 mm)	0.0000	100
Gravel	No.3/8"(9.50 mm)	0.0000	100
Gravel, Medium	No.4 (4.75 mm)	0.0000	100
Gravel, Fine	No.10 (2.00 mm)	0.0000	100
Sand, Very Coarse	No.20 (0.850 mm)	0.1449	99.7
Sand, Coarse	No.40 (0.425 mm)	0.1406	99.4
Sand, Medium	No.60 (0.250 mm)	2.3258	94.8
Sand, Fine	No.140 (0.106 mm)	17.8021	59.2
Sand, Very Fine	No.200 (0.0750 mm)	7.4215	44.4

Silt and Clay
(Hydrometer Analysis)

Particle Diameter	Percent Passing
0.074 mm	43.7
0.005 mm	0.00
0.001 mm	0.00

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	URS Corporation	**Service Request:**	K0909140
Project:	Boise St. Helens Pulp and Paper Mill-2009	**Date Collected:**	10/5/2009
Sample Matrix:	Sediment	**Date Received:**	10/6/2009
		Date Analyzed:	10/30/2009

Particle Size Determination
ASTM Method D 422

Sample Name: M-3-A
Lab Code: K0909140-013

Gravel and Sand
(Sieve Analysis)

Description	Sieve Size	Weight (g)	Percent Passing
Gravel	No.3/4"(19.0 mm)	0.0000	100
Gravel	No.3/8"(9.50 mm)	0.0000	100
Gravel, Medium	No.4 (4.75 mm)	0.0000	100
Gravel, Fine	No.10 (2.00 mm)	0.0000	100
Sand, Very Coarse	No.20 (0.850 mm)	0.1982	99.6
Sand, Coarse	No.40 (0.425 mm)	0.3589	98.8
Sand, Medium	No.60 (0.250 mm)	1.0763	96.6
Sand, Fine	No.140 (0.106 mm)	11.7286	72.2
Sand, Very Fine	No.200 (0.0750 mm)	10.1555	51.2

Silt and Clay
(Hydrometer Analysis)

Particle Diameter	Percent Passing
0.074 mm	51.2
0.005 mm	0.00
0.001 mm	0.00

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	URS Corporation	**Service Request:**	K0909140
Project:	Boise St. Helens Pulp and Paper Mill-2009	**Date Collected:**	10/7/2009
Sample Matrix:	Sediment	**Date Received:**	10/8/2009
		Date Analyzed:	11/2/2009

Particle Size Determination
ASTM Method D 422

Sample Name: M-1-A
Lab Code: K0909140-014

Gravel and Sand
(Sieve Analysis)

Description	Sieve Size	Weight (g)	Percent Passing
Gravel	No.3/4"(19.0 mm)	0.0000	100
Gravel	No.3/8"(9.50 mm)	0.0000	100
Gravel, Medium	No.4 (4.75 mm)	0.0000	100
Gravel, Fine	No.10 (2.00 mm)	0.0000	100
Sand, Very Coarse	No.20 (0.850 mm)	2.0586	95.9
Sand, Coarse	No.40 (0.425 mm)	1.6415	92.7
Sand, Medium	No.60 (0.250 mm)	4.2413	84.3
Sand, Fine	No.140 (0.106 mm)	13.2319	58.0
Sand, Very Fine	No.200 (0.0750 mm)	6.8244	44.5

Silt and Clay
(Hydrometer Analysis)

Particle Diameter	Percent Passing
0.074 mm	45.4
0.005 mm	0.96
0.001 mm	0.00

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	URS Corporation	**Service Request:**	K0909140
Project:	Boise St. Helens Pulp and Paper Mill-2009	**Date Collected:**	9/28/2009
Sample Matrix:	Sediment	**Date Received:**	9/29/2009
		Date Analyzed:	11/2/2009

Particle Size Determination
ASTM Method D 422

Sample Name: M-5-B
Lab Code: K0909140-015

Gravel and Sand
(Sieve Analysis)

Description	Sieve Size	Weight (g)	Percent Passing
Gravel	No.3/4"(19.0 mm)	0.0000	100
Gravel	No.3/8"(9.50 mm)	0.0000	100
Gravel, Medium	No.4 (4.75 mm)	0.0000	100
Gravel, Fine	No.10 (2.00 mm)	0.0000	100
Sand, Very Coarse	No.20 (0.850 mm)	0.5744	98.8
Sand, Coarse	No.40 (0.425 mm)	1.1450	96.6
Sand, Medium	No.60 (0.250 mm)	3.8661	88.8
Sand, Fine	No.140 (0.106 mm)	20.3763	48.0
Sand, Very Fine	No.200 (0.0750 mm)	5.9060	36.1

Silt and Clay
(Hydrometer Analysis)

Particle Diameter	Percent Passing
0.074 mm	39.1
0.005 mm	0.00
0.001 mm	0.00

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	URS Corporation	**Service Request:**	K0909140
Project:	Boise St. Helens Pulp and Paper Mill-2009	**Date Collected:**	9/28/2009
Sample Matrix:	Sediment	**Date Received:**	9/29/2009
		Date Analyzed:	11/5/2009

Particle Size Determination
ASTM Method D 422

Sample Name: M-5-A
Lab Code: K0909140-016

Gravel and Sand
(Sieve Analysis)

Description	Sieve Size	Weight (g)	Percent Passing
Gravel	No.3/4"(19.0 mm)	0.0000	100
Gravel	No.3/8"(9.50 mm)	0.0000	100
Gravel, Medium	No.4 (4.75 mm)	0.0000	100
Gravel, Fine	No.10 (2.00 mm)	0.0000	100
Sand, Very Coarse	No.20 (0.850 mm)	0.6826	98.5
Sand, Coarse	No.40 (0.425 mm)	1.1116	96.0
Sand, Medium	No.60 (0.250 mm)	2.7860	89.8
Sand, Fine	No.140 (0.106 mm)	12.1839	62.8
Sand, Very Fine	No.200 (0.0750 mm)	5.0310	51.6

Silt and Clay
(Hydrometer Analysis)

Particle Diameter	Percent Passing
0.074 mm	50.2
0.005 mm	14.9
0.001 mm	0.00

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	URS Corporation	**Service Request:**	K0909140
Project:	Boise St. Helens Pulp and Paper Mill-2009	**Date Collected:**	9/28/2009
Sample Matrix:	Sediment	**Date Received:**	9/29/2009
		Date Analyzed:	11/10/2009

Particle Size Determination
ASTM Method D 422

Sample Name: M-5-C
Lab Code: K0909140-017

Gravel and Sand
(Sieve Analysis)

Description	Sieve Size	Weight (g)	Percent Passing
Gravel	No.3/4"(19.0 mm)	0.0000	100
Gravel	No.3/8"(9.50 mm)	0.0000	100
Gravel, Medium	No.4 (4.75 mm)	0.0000	100
Gravel, Fine	No.10 (2.00 mm)	0.0000	100
Sand, Very Coarse	No.20 (0.850 mm)	0.6053	99.0
Sand, Coarse	No.40 (0.425 mm)	1.9185	95.8
Sand, Medium	No.60 (0.250 mm)	4.3324	88.7
Sand, Fine	No.140 (0.106 mm)	16.9386	60.8
Sand, Very Fine	No.200 (0.0750 mm)	8.0111	47.7

Silt and Clay
(Hydrometer Analysis)

Particle Diameter	Percent Passing
0.074 mm	46.7
0.005 mm	0.00
0.001 mm	0.00

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	URS Corporation	**Service Request:**	K0909140
Project:	Boise St. Helens Pulp and Paper Mill-2009	**Date Collected:**	9/28/2009
Sample Matrix:	Sediment	**Date Received:**	9/29/2009
		Date Analyzed:	11/10/2009

Particle Size Determination
ASTM Method D 422

Sample Name: M-5-B2
Lab Code: K0909140-018

Gravel and Sand
(Sieve Analysis)

Description	Sieve Size	Weight (g)	Percent Passing
Gravel	No.3/4"(19.0 mm)	0.0000	100
Gravel	No.3/8"(9.50 mm)	0.0000	100
Gravel, Medium	No.4 (4.75 mm)	0.0000	100
Gravel, Fine	No.10 (2.00 mm)	0.0000	100
Sand, Very Coarse	No.20 (0.850 mm)	1.5511	97.4
Sand, Coarse	No.40 (0.425 mm)	2.1113	93.9
Sand, Medium	No.60 (0.250 mm)	5.2241	85.1
Sand, Fine	No.140 (0.106 mm)	18.5930	53.9
Sand, Very Fine	No.200 (0.0750 mm)	6.6914	42.7

Silt and Clay
(Hydrometer Analysis)

Particle Diameter	Percent Passing
0.074 mm	42.9
0.005 mm	0.00
0.001 mm	0.00

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	URS Corporation	**Service Request:**	K0909140
Project:	Boise St. Helens Pulp and Paper Mill-2009	**Date Collected:**	10/9/2009
Sample Matrix:	Sediment	**Date Received:**	10/9/2009
		Date Analyzed:	11/10/2009

Particle Size Determination
ASTM Method D 422

Sample Name: B-1-C
Lab Code: K0909140-019

Gravel and Sand
(Sieve Analysis)

Description	Sieve Size	Weight (g)	Percent Passing
Gravel	No.3/4"(19.0 mm)	0.0000	100
Gravel	No.3/8"(9.50 mm)	0.0000	100
Gravel, Medium	No.4 (4.75 mm)	0.0000	100
Gravel, Fine	No.10 (2.00 mm)	0.0000	100
Sand, Very Coarse	No.20 (0.850 mm)	0.3877	98.5
Sand, Coarse	No.40 (0.425 mm)	0.5249	96.4
Sand, Medium	No.60 (0.250 mm)	2.1833	87.8
Sand, Fine	No.140 (0.106 mm)	9.0475	52.1
Sand, Very Fine	No.200 (0.0750 mm)	3.2412	39.4

Silt and Clay
(Hydrometer Analysis)

Particle Diameter	Percent Passing
0.074 mm	43.1
0.005 mm	0.00
0.001 mm	0.00

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009
Sample Matrix: Sediment

Service Request: K0909140
Date Collected: 10/6/2009
Date Received: 10/7/2009
Date Analyzed: 10/30/2009

Particle Size Determination
ASTM Method D 422

Sample Name: M-2-A
Lab Code: K0909140-006DUP

Gravel and Sand
(Sieve Analysis)

Description	Sieve Size	Weight (g)	Percent Passing
Gravel	No.3/4"(19.0 mm)	0.0000	100
Gravel	No.3/8"(9.50 mm)	0.0000	100
Gravel, Medium	No.4 (4.75 mm)	0.0000	100
Gravel, Fine	No.10 (2.00 mm)	0.0000	100
Sand, Very Coarse	No.20 (0.850 mm)	0.8261	98.1
Sand, Coarse	No.40 (0.425 mm)	1.0435	95.7
Sand, Medium	No.60 (0.250 mm)	3.0574	88.8
Sand, Fine	No.140 (0.106 mm)	9.1242	68.0
Sand, Very Fine	No.200 (0.0750 mm)	5.7903	54.9

Silt and Clay
(Hydrometer Analysis)

Particle Diameter	Percent Passing
0.074 mm	51.6
0.005 mm	0.00
0.001 mm	0.00

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	URS Corporation	**Service Request:**	K0909140
Project:	Boise St. Helens Pulp and Paper Mill-2009	**Date Collected:**	10/5/2009
Sample Matrix:	Sediment	**Date Received:**	10/6/2009
		Date Analyzed:	11/2/2009

Particle Size Determination
ASTM Method D 422

Sample Name: M-3-A
Lab Code: K0909140-013DUP

Gravel and Sand
(Sieve Analysis)

Description	Sieve Size	Weight (g)	Percent Passing
Gravel	No.3/4"(19.0 mm)	0.0000	100
Gravel	No.3/8"(9.50 mm)	0.0000	100
Gravel, Medium	No.4 (4.75 mm)	0.0000	100
Gravel, Fine	No.10 (2.00 mm)	0.0000	100
Sand, Very Coarse	No.20 (0.850 mm)	0.5485	98.1
Sand, Coarse	No.40 (0.425 mm)	0.4624	96.5
Sand, Medium	No.60 (0.250 mm)	1.0185	92.9
Sand, Fine	No.140 (0.106 mm)	7.3972	67.0
Sand, Very Fine	No.200 (0.0750 mm)	4.7728	50.3

Silt and Clay
(Hydrometer Analysis)

Particle Diameter	Percent Passing
0.074 mm	49.8
0.005 mm	0.00
0.001 mm	0.00

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	URS Corporation	**Service Request:**	K0909140
Project:	Boise St. Helens Pulp and Paper Mill-2009	**Date Collected:**	10/7/2009
Sample Matrix:	Sediment	**Date Received:**	10/8/2009
		Date Analyzed:	11/2/2009

Particle Size Determination
ASTM Method D 422

Sample Name: M-1-A
Lab Code: K0909140-014DUP

Gravel and Sand
(Sieve Analysis)

Description	Sieve Size	Weight (g)	Percent Passing
Gravel	No.3/4"(19.0 mm)	0.0000	100
Gravel	No.3/8"(9.50 mm)	0.0000	100
Gravel, Medium	No.4 (4.75 mm)	0.0000	100
Gravel, Fine	No.10 (2.00 mm)	0.0000	100
Sand, Very Coarse	No.20 (0.850 mm)	1.6656	96.6
Sand, Coarse	No.40 (0.425 mm)	1.0486	94.5
Sand, Medium	No.60 (0.250 mm)	3.1013	88.1
Sand, Fine	No.140 (0.106 mm)	10.6425	66.4
Sand, Very Fine	No.200 (0.0750 mm)	5.3696	55.5

Silt and Clay
(Hydrometer Analysis)

Particle Diameter	Percent Passing
0.074 mm	51.0
0.005 mm	0.00
0.001 mm	0.00

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	URS Corporation	**Service Request:**	K0909140
Project:	Boise St. Helens Pulp and Paper Mill-2009	**Date Collected:**	9/28/2009
Sample Matrix:	Sediment	**Date Received:**	9/29/2009
		Date Analyzed:	11/5/2009

Particle Size Determination
ASTM Method D 422

Sample Name: M-5-A
Lab Code: K0909140-016DUP

Gravel and Sand
(Sieve Analysis)

Description	Sieve Size	Weight (g)	Percent Passing
Gravel	No.3/4"(19.0 mm)	0.0000	100
Gravel	No.3/8"(9.50 mm)	0.0000	100
Gravel, Medium	No.4 (4.75 mm)	0.0000	100
Gravel, Fine	No.10 (2.00 mm)	0.0000	100
Sand, Very Coarse	No.20 (0.850 mm)	0.8625	98.1
Sand, Coarse	No.40 (0.425 mm)	1.1690	95.5
Sand, Medium	No.60 (0.250 mm)	3.6864	87.4
Sand, Fine	No.140 (0.106 mm)	13.7118	57.1
Sand, Very Fine	No.200 (0.0750 mm)	3.4771	49.5

Silt and Clay
(Hydrometer Analysis)

Particle Diameter	Percent Passing
0.074 mm	49.1
0.005 mm	14.7
0.001 mm	0.00

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	URS Corporation	**Service Request:**	K0909140
Project:	Boise St. Helens Pulp and Paper Mill-2009	**Date Collected:**	10/9/2009
Sample Matrix:	Sediment	**Date Received:**	10/9/2009
		Date Analyzed:	11/10/2009

Particle Size Determination
ASTM Method D 422

Sample Name: B-1-C
Lab Code: K0909140-019DUP

Gravel and Sand
(Sieve Analysis)

Description	Sieve Size	Weight (g)	Percent Passing
Gravel	No.3/4"(19.0 mm)	0.0000	100
Gravel	No.3/8"(9.50 mm)	0.0000	100
Gravel, Medium	No.4 (4.75 mm)	0.0000	100
Gravel, Fine	No.10 (2.00 mm)	0.0000	100
Sand, Very Coarse	No.20 (0.850 mm)	0.2613	99.0
Sand, Coarse	No.40 (0.425 mm)	0.5789	96.6
Sand, Medium	No.60 (0.250 mm)	2.3409	87.3
Sand, Fine	No.140 (0.106 mm)	9.6414	48.7
Sand, Very Fine	No.200 (0.0750 mm)	2.7470	37.7

Silt and Clay
(Hydrometer Analysis)

Particle Diameter	Percent Passing
0.074 mm	40.9
0.005 mm	0.00
0.001 mm	0.00

Columbia Analytical Services, Inc.

Sample Name :	M-5-A	Service Request:	K0909140
Lab Code:	K0909140-016	Method:	D421 / D422
Client:	URS Corporation	Date Collected:	9/28/2009
Project:	oise St. Helens Pulp and Paper Mill-2009	Date Received:	9/29/2009
Sample Matrix:	Sediment	Date Analyzed:	11/5/2009

Sample Preparation (ASTM D421-85)

(1) Mass of total test sample. (g) (6.1) 45.0567

(2) Coarse Material (6.2)

Coarse material + Tare. (g) 0.0000

Tare weight. (g) 0.0000

(3) Mass retained on the No. 4 sieve. (g) (6.2) 0.0000

(4) Selected portion of fine material. (g) (7.1) 45.0567

Particle Analysis (ASTM D422-63)

Sieve Analysis Of Coarse Material. (6.1)

Gravel 19.0 mm	3/4"	0.0000
Gravel 9.50 mm	3/8"	0.0000
Gravel 4.75 mm	4	0.0000
Gravel 2.00 mm	10	0.0000

Sieve Analysis Of Fine Material. (11.1)

Gravel 0.850 mm	20	0.6826
Gravel 0.425 mm	40	1.1116
Gravel 0.250 mm	60	2.7860
Gravel 0.106 mm	140	12.1839
Gravel 0.075 mm	200	5.0310
Pan	-	0.6803

Analysis of fine material.

Hydrometer corrections. (7.3)

	Hydro 1	Hydro 2
Reading:	6	0

Hygroscopic moisture. (8.1)

Air dried (g)	10.1600
Tare (g)	1.2999
Oven dried + Tare	11.5614

Weight of Fine material

Dry wt.+Tare (g)	127.1905
Tare (g)	104.6261
Fine material (g)	22.5644

Determination of Silt/Clay Fraction. (10.2) (10.3) (10.4)

(10.2) T (Min)	(10.2) Hydro Reading	(7.3) Corr. Fact.	(10.4) Temp °C	Specific Gravity		Table 1 a		Table 3 K		
2	22	6	20	1.07		1.340		0.02470		
5	19		20					0.02470		
15	17		20					0.02470		
30	15		20					0.02470		
60	14		20					0.02470		
250	12		20					0.02470		
1440	10		20					0.02470		

Analyst: KC CP Date: 11/5/2009

Reviewed by : Date: 11/18/09

Client:	URS Corporation	**Service Request:**	K0909140
Project:	Boise St. Helens Pulp and Paper Mill-2009	**Date Collected:**	9/28/2009
Sample Matrix:	Sediment	**Date Received:**	9/29/2009
		Date Analyzed:	11/5/2009

ASTM Method D422 Particle Size

Sample Name: M-5-A **Lab Code:** K0909140-016

Initial Weight of air-dried sample. **(6.1)**	45.0567
Mass retained on the No. 4 sieve. **(6.2)**	0.0000
Air-dried portion of fine material. **(7.1)**	45.0567

Course Sieving ASTM D421 (6.2)

Mass of coarse material (g)	0.0000
Percent Recovered	#DIV/0!

Coarse sieving (6.1)		**Sieve #**	**Weight (g)**	**% Passing**	**Mass Passing**
Gravel	19.0 mm	3/4"	0.0000	100.0	45.0567
Gravel	9.50 mm	3/8"	0.0000	100.0	45.0567
Medium Gravel	4.75 mm	4	0.0000	100.0	45.0567
Fine Gravel	2.00 mm	10	0.0000	100.0	45.0567
Fine sieving (11.1)					
V.C. Sand	0.850 mm	20	0.6826	98.5	44.3741
C. Sand	0.425 mm	40	1.1116	96.0	43.2625
M. Sand	0.250 mm	60	2.7860	89.8	40.4765
F. Sand	0.106 mm	140	12.1839	62.8	28.2926
V.F. Sand	0.075 mm	200	5.0310	51.6	23.2616 **(16.2)**

* Actual Hygroscopic Moisture = 1.0100. Rounded to 1.0000 for reporting purposes.

Calculated amount retained on the # 10 sieve.	**(16.1)**	0.0000

Total Recovered (g)	45.0567
Total Recovered (%)	100.0

Hygroscopic Moisture (8.1)

Air-dried sample (g)	10.1600
Oven dried sample (g)	10.2615
Hygroscopic Moisture **(13.1)**	1.0000 *

(W)	**(14.2)**	45.0567

Oven-Dried Sample used in hydrometer analysis. (g)	**(14.1)**	45.0567

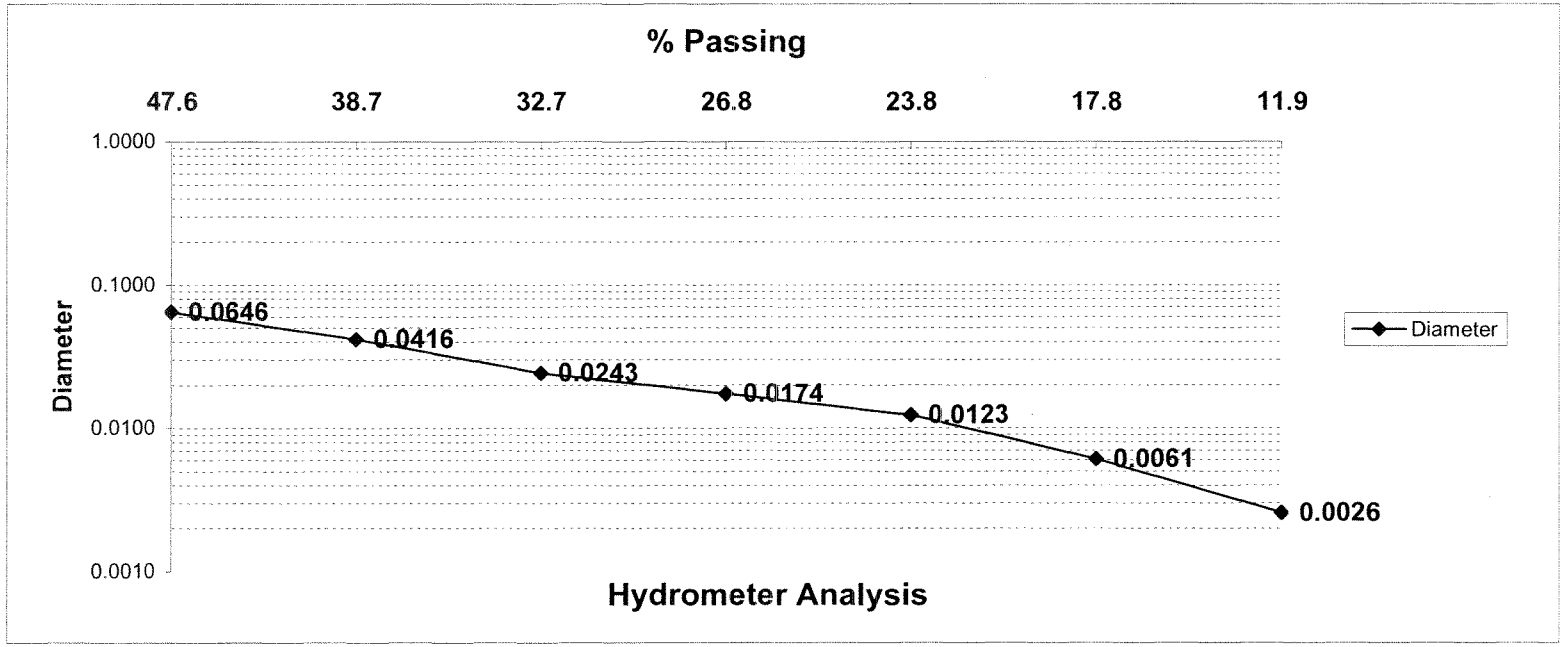
Determination of Silt/Clay Fraction

(10.2) T (Min)	**(10.2)** Hydro Reading	**(7.3)** Corr. Fact.	**(10.4)** Temp °C	**Table 1** Specific Gravity	H (Net)	**(14.3)** a	**Table 2** L Eff. Depth	**Table 3** K	**(14.3)** % Passing = H/Wa * 100	**(15.1)** Dia-meter
2	22	6	20	1.70	16	1.34	13.7	0.0247029	47.6	0.0646
5	19	6	20	1.70	13	1.34	14.2	0.0247029	38.7	0.0416
15	17	6	20	1.70	11	1.34	14.5	0.0247029	32.7	0.0243
30	15	6	20	1.70	9	1.34	14.8	0.0247029	26.8	0.0174
60	14	6	20	1.70	8	1.34	15.0	0.0247029	23.8	0.0123
250	12	6	20	1.70	6	1.34	15.3	0.0247029	17.8	0.0061
1440	10	6	20	1.70	4	1.34	15.6	0.0247029	11.9	0.0026

Comments:

Reviewed By:	Date: 11/18/09

Sample Name: M-5-A
Lab Code: K0909140-016



Columbia Analytical Services, Inc.

Sample Name :	M-5-A	Service Request:	K0909140
Lab Code:	K0909140-016DUP	Method:	D421 / D422
Client:	URS Corporation	Date Collected:	9/28/2009
Project:	oise St. Helens Pulp and Paper Mill-2009	Date Received:	9/29/2009
Sample Matrix:	Sediment	Date Analyzed:	11/5/2009

Sample Preparation (ASTM D421-85)

(1) Mass of total test sample. (g) (6.1) 45.3356

(2) Coarse Material (6.2)

Coarse material + Tare. (g) 0.0000

Tare weight. (g) 0.0000

(3) Mass retained on the No. 4 sieve. (g) (6.2) 0.0000

(4) Selected portion of fine material. (g) (7.1) 45.3356

Particle Analysis (ASTM D422-63)

Sieve Analysis Of Coarse Material. (6.1)

Gravel 19.0 mm	3/4"	0.0000
Gravel 9.50 mm	3/8"	0.0000
Gravel 4.75 mm	4	0.0000
Gravel 2.00 mm	10	0.0000

Sieve Analysis Of Fine Material. (11.1)

Gravel 0.850 mm	20	0.8625
Gravel 0.425 mm	40	1.1690
Gravel 0.250 mm	60	3.6864
Gravel 0.106 mm	140	13.7118
Gravel 0.075 mm	200	3.4771
Pan	-	0.4414

Analysis of fine material.

Hydrometer corrections. (7.3)

	Hydro 1	Hydro 2
Reading:	6	0

Hygroscopic moisture. (8.1)

Air dried (g)	10.1600
Tare (g)	1.2999
Oven dried + Tare	11.5614

Weight of Fine material

Dry wt.+Tare (g)	132.0440
Tare (g)	108.6654
Fine material (g)	23.3786

Determination of Silt/Clay Fraction. (10.2) (10.3) (10.4)

(10.2) T (Min)	(10.2) Hydro Reading	(7.3) Corr. Fact.	(10.4) Temp °C	Specific Gravity		Table 1 a		Table 3 K		
2	26	6	20	1.07		1.340		0.02470		
5	19		20					0.02470		
15	15		20					0.02470		
30	15		20					0.02470		
60	14		20					0.02470		
250	12		20					0.02470		
1440	10		20					0.02470		

Analyst: KC CP Date: 11/5/2009

Reviewed by : Date: 11/18/09

Client:	URS Corporation	**Service Request:**	K0909140
Project:	Boise St. Helens Pulp and Paper Mill-2009	**Date Collected:**	9/28/2009
Sample Matrix:	Sediment	**Date Received:**	9/29/2009
		Date Analyzed:	11/5/2009

ASTM Method D422 Particle Size

Sample Name: M-5-A **Lab Code:** K0909140-016DUP

Initial Weight of air-dried sample. **(6.1)**	45.3356
Mass retained on the No. 4 sieve. **(6.2)**	0.0000
Air-dried portion of fine material. **(7.1)**	45.3356

Course Sieving ASTM D421 (6.2)

Mass of coarse material (g)	0.0000
Percent Recovered	#DIV/0!

Coarse sieving (6.1)		**Sieve #**	**Weight (g)**	**% Passing**	**Mass Passing**
Gravel	19.0 mm	3/4"	0.0000	100.0	45.3356
Gravel	9.50 mm	3/8"	0.0000	100.0	45.3356
Medium Gravel	4.75 mm	4	0.0000	100.0	45.3356
Fine Gravel	2.00 mm	10	0.0000	100.0	45.3356
Fine sieving (11.1)					
V.C. Sand	0.850 mm	20	0.8625	98.1	44.4731
C. Sand	0.425 mm	40	1.1690	95.5	43.3041
M. Sand	0.250 mm	60	3.6864	87.4	39.6177
F. Sand	0.106 mm	140	13.7118	57.1	25.9059
V.F. Sand	0.075 mm	200	3.4771	49.5	22.4288 **(16.2)**

* Actual Hygroscopic Moisture = 1.0100. Rounded to 1.0000 for reporting purposes.

Calculated amount retained on the # 10 sieve. **(16.1)**	0.0000

Total Recovered (g)	45.3356
Total Recovered (%)	100.0

Hygroscopic Moisture (8.1)

Air-dried sample (g)	10.1600
Oven dried sample (g)	10.2615
Hygroscopic Moisture **(13.1)**	1.0000 *

(W) **(14.2)**	45.3356

Oven-Dried Sample used in hydrometer analysis. (g) **(14.1)**	45.3356

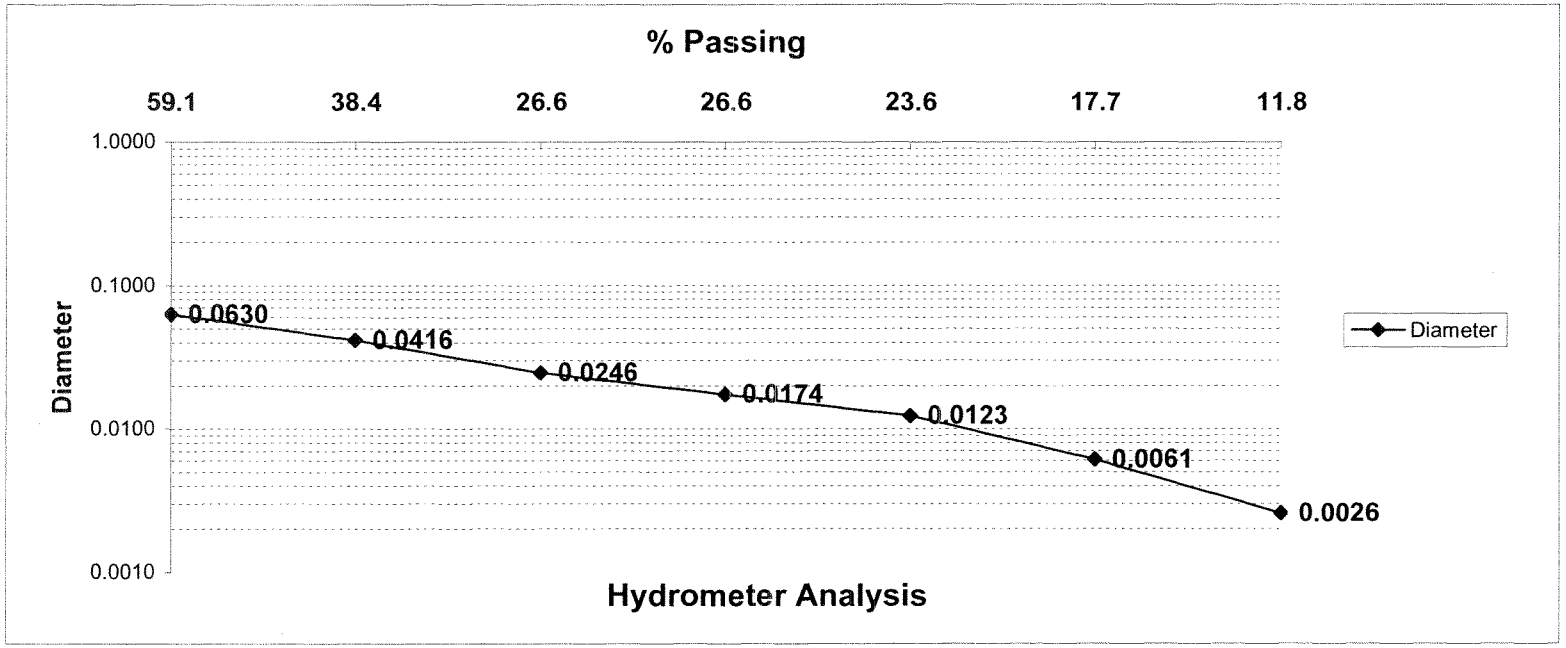
Determination of Silt/Clay Fraction

(10.2) T (Min)	**(10.2)** Hydro Reading	**(7.3)** Corr. Fact.	**(10.4)** Temp °C	**Table 1** Specific Gravity	H (Net)	**(14.3)** a	**Table 2** L Eff. Depth	**Table 3** K	**(14.3)** % Passing = H/Wa * 100	**(15.1)** Dia-meter
2	26	6	20	1.07	20	1.34	13.0	0.0247029	59.1	0.0630
5	19	6	20	1.07	13	1.34	14.2	0.0247029	38.4	0.0416
15	15	6	20	1.07	9	1.34	14.8	0.0247029	26.6	0.0246
30	15	6	20	1.07	9	1.34	14.8	0.0247029	26.6	0.0174
60	14	6	20	1.07	8	1.34	15.0	0.0247029	23.6	0.0123
250	12	6	20	1.07	6	1.34	15.3	0.0247029	17.7	0.0061
1440	10	6	20	1.07	4	1.34	15.6	0.0247029	11.8	0.0026

Comments:

Reviewed By:	Date: 11/18/09

Sample Name: M-5-A
Lab Code: K0909140-016DUP



Columbia Analytical Services, Inc.

Sample Name :	M-5-C	Service Request:	K0909140
Lab Code:	K0909140-017	Method:	D421 / D422
Client:	URS Corporation	Date Collected:	9/28/2009
Project:	oise St. Helens Pulp and Paper Mill-2009	Date Received:	9/29/2009
Sample Matrix:	Sediment	Date Analyzed:	11/10/2009

Sample Preparation (ASTM D421-85)

(1) Mass of total test sample. (g) (6.1) 60.8486

(2) Coarse Material (6.2)

Coarse material + Tare. (g) 0.0000

Tare weight. (g) 0.0000

(3) Mass retained on the No. 4 sieve. (g) (6.2) 0.0000

(4) Selected portion of fine material. (g) (7.1) 60.8486

Particle Analysis (ASTM D422-63)

Sieve Analysis Of Coarse Material. (6.1)

Gravel 19.0 mm	3/4"	0.0000
Gravel 9.50 mm	3/8"	0.0000
Gravel 4.75 mm	4	0.0000
Gravel 2.00 mm	10	0.0000

Sieve Analysis Of Fine Material. (11.1)

Gravel 0.850 mm	20	0.6053
Gravel 0.425 mm	40	1.9185
Gravel 0.250 mm	60	4.3324
Gravel 0.106 mm	140	16.9386
Gravel 0.075 mm	200	8.0111
Pan	-	1.1919

Analysis of fine material.

Hydrometer corrections. (7.3)

	Hydro 1	Hydro 2
Reading:	6	0

Hygroscopic moisture. (8.1)

Air dried (g)	10.6874
Tare (g)	1.3170
Oven dried + Tare	11.9890

Weight of Fine material

Dry wt.+Tare (g)	137.4202
Tare (g)	104.3645
Fine material (g)	33.0557

Determination of Silt/Clay Fraction. (10.2) (10.3) (10.4)

(10.2) T (Min)	(10.2) Hydro Reading	(7.3) Corr. Fact.	(10.4) Temp °C	Specific Gravity		Table 1 a		Table 3 K		
2	19	6	21	1.05		1.340		0.02441		
5	17		21					0.02441		
15	13		21					0.02441		
30	13		21					0.02441		
60	11		21					0.02441		
250	10		21					0.02441		
1440	8		21					0.02441		

Analyst: KC CP Date: 11/10/2009

Reviewed by : Date: 11/18/09

Client:	URS Corporation	**Service Request:**	K0909140
Project:	Boise St. Helens Pulp and Paper Mill-2009	**Date Collected:**	9/28/2009
Sample Matrix:	Sediment	**Date Received:**	9/29/2009
		Date Analyzed:	11/10/2009

ASTM Method D422 Particle Size

Sample Name: M-5-C **Lab Code:** K0909140-017

Initial Weight of air-dried sample. **(6.1)**	60.8486
Mass retained on the No. 4 sieve. **(6.2)**	0.0000
Air-dried portion of fine material. **(7.1)**	60.8486

Course Sieving ASTM D421 (6.2)

Mass of coarse material (g)	0.0000
Percent Recovered	#DIV/0!

Coarse sieving (6.1)		**Sieve #**	**Weight (g)**	**% Passing**	**Mass Passing**	
Gravel	19.0 mm	3/4"	0.0000	100.0	60.8486	
Gravel	9.50 mm	3/8"	0.0000	100.0	60.8486	
Medium Gravel	4.75 mm	4	0.0000	100.0	60.8486	
Fine Gravel	2.00 mm	10	0.0000	100.0	60.8486	
Fine sieving (11.1)						
V.C. Sand	0.850 mm	20	0.6053	99.0	60.1556	
C. Sand	0.425 mm	40	1.9185	95.8	58.2371	
M. Sand	0.250 mm	60	4.3324	88.7	53.9047	
F. Sand	0.106 mm	140	16.9386	60.8	36.9661	
V.F. Sand	0.075 mm	200	8.0111	47.7	28.9550	**(16.2)**

Calculated amount retained on the # 10 sieve. **(16.1)**	0.0000

Total Recovered (g)	60.7609
Total Recovered (%)	100.0

Hygroscopic Moisture (8.1)

Air-dried sample (g)	10.6874
Oven dried sample (g)	10.6720
Hygroscopic Moisture **(13.1)**	0.9986

(W) **(14.2)**	60.7609

Oven-Dried Sample used in hydrometer analysis. (g) **(14.1)**	60.7609

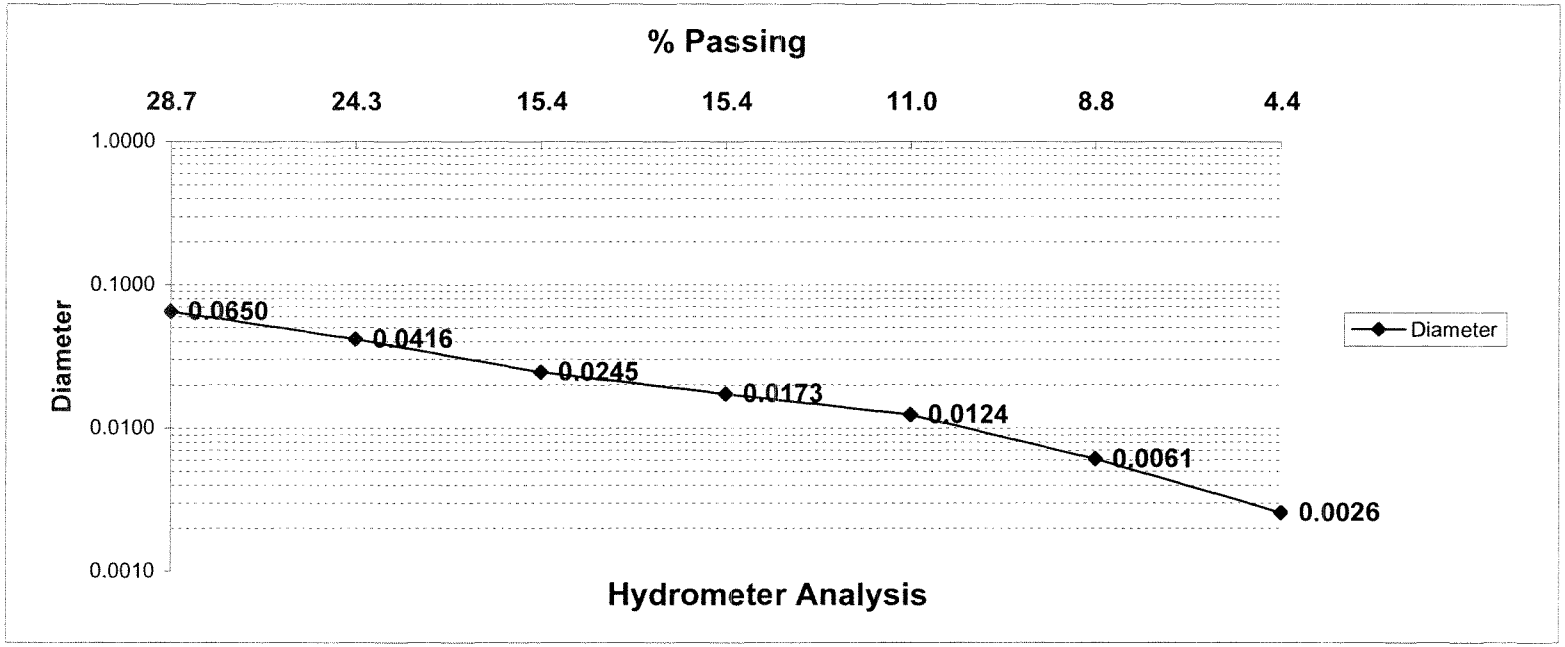
Determination of Silt/Clay Fraction

(10.2) T (Min)	**(10.2)** Hydro Reading	**(7.3)** Corr. Fact.	**(10.4)** Temp °C	**Table 1** Specific Gravity	H (Net)	**(14.3)** a	**Table 2** L Eff. Depth	**Table 3** K	**(14.3)** % Passing = H/Wa * 100	**(15.1)** Dia-meter
2	19	6	21	1.05	13	1.34	14.2	0.0244126	28.7	0.0650
5	17	6	21	1.05	11	1.34	14.5	0.0244126	24.3	0.0416
15	13	6	21	1.05	7	1.34	15.2	0.0244126	15.4	0.0245
30	13	6	21	1.05	7	1.34	15.2	0.0244126	15.4	0.0173
60	11	6	21	1.05	5	1.34	15.5	0.0244126	11.0	0.0124
250	10	6	21	1.05	4	1.34	15.6	0.0244126	8.8	0.0061
1440	8	6	21	1.05	2	1.34	16.0	0.0244126	4.4	0.0026

Comments:

Reviewed By:	Date: 11/18/09

Sample Name: M-5-C
Lab Code: K0909140-017



Columbia Analytical Services, Inc.

Sample Name :	M-5-B2	Service Request:	K0909140
Lab Code:	K0909140-018	Method:	D421 / D422
Client:	URS Corporation	Date Collected:	9/28/2009
Project:	oise St. Helens Pulp and Paper Mill-2009	Date Received:	9/29/2009
Sample Matrix:	Sediment	Date Analyzed:	11/10/2009

Sample Preparation (ASTM D421-85)

(1) Mass of total test sample. (g) (6.1) 60.3001

(2) Coarse Material (6.2)

Coarse material + Tare. (g) 0.0000

Tare weight. (g) 0.0000

(3) Mass retained on the No. 4 sieve. (g) (6.2) 0.0000

(4) Selected portion of fine material. (g) (7.1) 60.3001

Particle Analysis (ASTM D422-63)

Sieve Analysis Of Coarse Material. (6.1)

Gravel 19.0 mm	3/4"	0.0000
Gravel 9.50 mm	3/8"	0.0000
Gravel 4.75 mm	4	0.0000
Gravel 2.00 mm	10	0.0000

Sieve Analysis Of Fine Material. (11.1)

Gravel 0.850 mm	20	1.5511
Gravel 0.425 mm	40	2.1113
Gravel 0.250 mm	60	5.2241
Gravel 0.106 mm	140	18.5930
Gravel 0.075 mm	200	6.6914
Pan	-	1.3098

Analysis of fine material.

Hydrometer corrections. (7.3)

	Hydro 1	Hydro 2
Reading:	6	0

Hygroscopic moisture. (8.1)

Air dried (g)	10.0769
Tare (g)	1.3161
Oven dried + Tare	11.2756

Weight of Fine material

Dry wt.+Tare (g)	137.2874
Tare (g)	101.7719
Fine material (g)	35.5155

Determination of Silt/Clay Fraction. (10.2) (10.3) (10.4)

(10.2) T (Min)	(10.2) Hydro Reading	(7.3) Corr. Fact.	(10.4) Temp °C	Specific Gravity		Table 1 a		Table 3 K		
2	18	6	21	1.02		1.350		0.02441		
5	15		21					0.02441		
15	13		21					0.02441		
30	11		21					0.02441		
60	10		21					0.02441		
250	8		21					0.02441		
1440	7		21					0.02441		

Analyst: KC CP Date: 11/10/2009

Reviewed by : Date: 11/18/09

Client:	URS Corporation	**Service Request:**	K0909140
Project:	Boise St. Helens Pulp and Paper Mill-2009	**Date Collected:**	9/28/2009
Sample Matrix:	Sediment	**Date Received:**	9/29/2009
		Date Analyzed:	11/10/2009

ASTM Method D422 Particle Size

Sample Name: M-5-B2 **Lab Code:** K0909140-018

Initial Weight of air-dried sample. **(6.1)**	60.3001
Mass retained on the No. 4 sieve. **(6.2)**	0.0000
Air-dried portion of fine material. **(7.1)**	60.3001

Course Sieving ASTM D421 (6.2)

Mass of coarse material (g)	0.0000
Percent Recovered	#DIV/0!

Coarse sieving (6.1)		**Sieve #**	**Weight (g)**	**% Passing**	**Mass Passing**
Gravel	19.0 mm	3/4"	0.0000	100.0	60.3001
Gravel	9.50 mm	3/8"	0.0000	100.0	60.3001
Medium Gravel	4.75 mm	4	0.0000	100.0	60.3001
Fine Gravel	2.00 mm	10	0.0000	100.0	60.3001
Fine sieving (11.1)					
V.C. Sand	0.850 mm	20	1.5511	97.4	58.0465
C. Sand	0.425 mm	40	2.1113	93.9	55.9352
M. Sand	0.250 mm	60	5.2241	85.1	50.7111
F. Sand	0.106 mm	140	18.5930	53.9	32.1181
V.F. Sand	0.075 mm	200	6.6914	42.7	25.4267 **(16.2)**

Calculated amount retained on the # 10 sieve. **(16.1)**	0.0000

Total Recovered (g)	59.5976
Total Recovered (%)	100.0

Hygroscopic Moisture (8.1)

Air-dried sample (g)	10.0769
Oven dried sample (g)	9.9595
Hygroscopic Moisture **(13.1)**	0.9883

(W) **(14.2)**	59.5976

Oven-Dried Sample used in hydrometer analysis. (g) **(14.1)**	59.5976

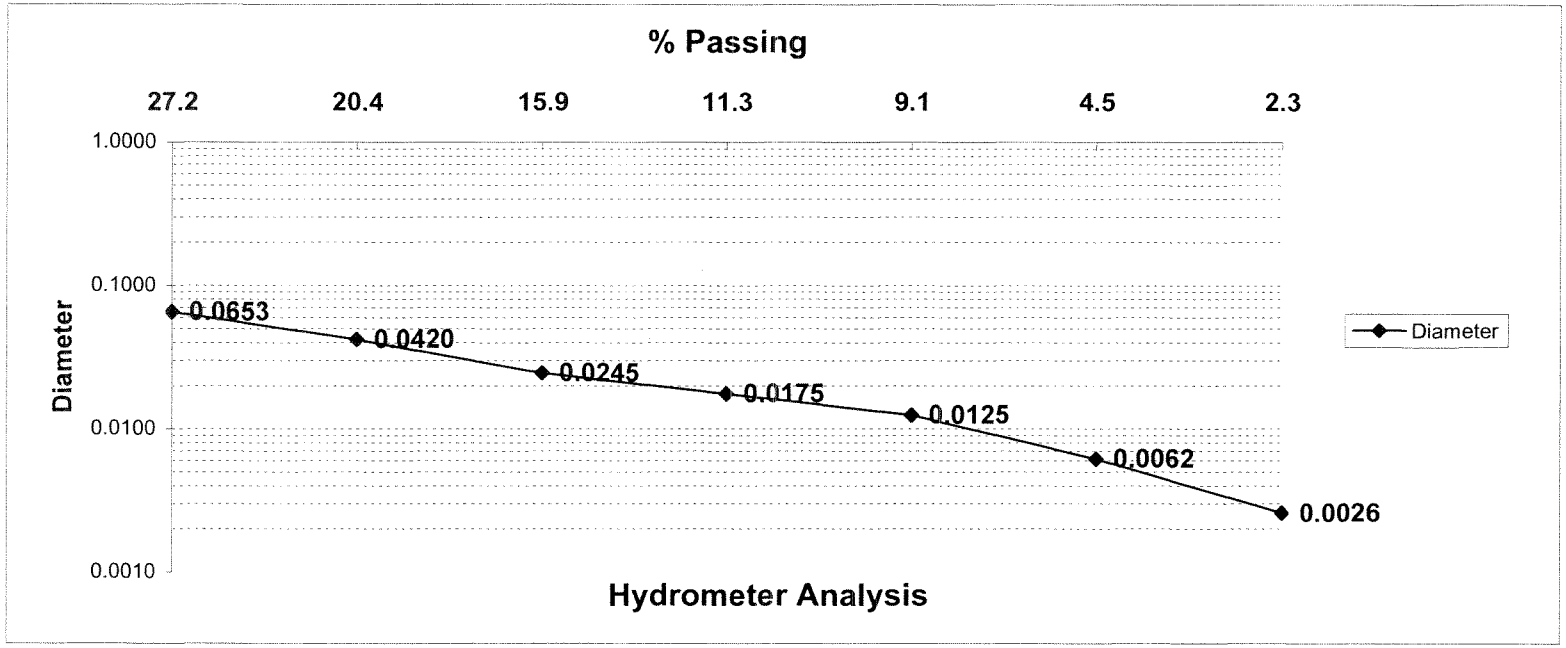
Determination of Silt/Clay Fraction

(10.2) T (Min)	**(10.2)** Hydro Reading	**(7.3)** Corr. Fact.	**(10.4)** Temp °C	**Table 1** Specific Gravity	H (Net)	**(14.3)** a	**Table 2** L Eff. Depth	**Table 3** K	**(14.3)** % Passing = H/Wa * 100	**(15.1)** Dia-meter
2	18	6	21	1.02	12	1.35	14.3	0.0244126	27.2	0.0653
5	15	6	21	1.02	9	1.35	14.8	0.0244126	20.4	0.0420
15	13	6	21	1.02	7	1.35	15.2	0.0244126	15.9	0.0245
30	11	6	21	1.02	5	1.35	15.5	0.0244126	11.3	0.0175
60	10	6	21	1.02	4	1.35	15.6	0.0244126	9.1	0.0125
250	8	6	21	1.02	2	1.35	16.0	0.0244126	4.5	0.0062
1440	7	6	21	1.02	1	1.35	16.1	0.0244126	2.3	0.0026

Comments:

Reviewed By:	Date: 11/18/09

Sample Name: M-5-B2
Lab Code: K0909140-018



Columbia Analytical Services, Inc.

Sample Name :	B-1-C	Service Request:	K0909140
Lab Code:	K0909140-019	Method:	D421 / D422
Client:	URS Corporation	Date Collected:	10/9/2009
Project:	oise St. Helens Pulp and Paper Mill-2009	Date Received:	10/9/2009
Sample Matrix:	Sediment	Date Analyzed:	11/10/2009

Sample Preparation (ASTM D421-85)

(1) Mass of total test sample. (g) (6.1) 25.4282

(2) Coarse Material (6.2)

Coarse material + Tare. (g) 0.0000

Tare weight. (g) 0.0000

(3) Mass retained on the No. 4 sieve. (g) (6.2) 0.0000

(4) Selected portion of fine material. (g) (7.1) 25.4282

Particle Analysis (ASTM D422-63)

Sieve Analysis Of Coarse Material. (6.1)

Gravel 19.0 mm	3/4"	0.0000
Gravel 9.50 mm	3/8"	0.0000
Gravel 4.75 mm	4	0.0000
Gravel 2.00 mm	10	0.0000

Sieve Analysis Of Fine Material. (11.1)

Gravel 0.850 mm	20	0.3877
Gravel 0.425 mm	40	0.5249
Gravel 0.250 mm	60	2.1833
Gravel 0.106 mm	140	9.0475
Gravel 0.075 mm	200	3.2412
Pan	-	0.5442

Analysis of fine material.

Hydrometer corrections. (7.3)

	Hydro 1	Hydro 2
Reading:	6	0

Hygroscopic moisture. (8.1)

Air dried (g)	10.4540
Tare (g)	1.3214
Oven dried + Tare	11.7540

Weight of Fine material

Dry wt.+Tare (g)	119.4730
Tare (g)	103.5202
Fine material (g)	15.9528

Determination of Silt/Clay Fraction. (10.2) (10.3) (10.4)

(10.2) T (Min)	(10.2) Hydro Reading	(7.3) Corr. Fact.	(10.4) Temp °C	Specific Gravity		Table 1 a		Table 3 K		
2	12	6	21	1.13		1.320		0.02441		
5	10		21					0.02441		
15	9		21					0.02441		
30	8		21					0.02441		
60	8		21					0.02441		
250	7		21					0.02441		
1440	6		21					0.02441		

Analyst: KC CP Date: 11/10/2009

Reviewed by : Date: 11/18/09

Client:	URS Corporation	**Service Request:**	K0909140
Project:	Boise St. Helens Pulp and Paper Mill-2009	**Date Collected:**	10/9/2009
Sample Matrix:	Sediment	**Date Received:**	10/9/2009
		Date Analyzed:	11/10/2009

ASTM Method D422 Particle Size

Sample Name: B-1-C **Lab Code:** K0909140-019

Initial Weight of air-dried sample. **(6.1)**	25.4282
Mass retained on the No. 4 sieve. **(6.2)**	0.0000
Air-dried portion of fine material. **(7.1)**	25.4282

Course Sieving ASTM D421 (6.2)

Mass of coarse material (g)	0.0000
Percent Recovered	#DIV/0!

Coarse sieving (6.1)		**Sieve #**	**Weight (g)**	**% Passing**	**Mass Passing**
Gravel	19.0 mm	3/4"	0.0000	100.0	25.4282
Gravel	9.50 mm	3/8"	0.0000	100.0	25.4282
Medium Gravel	4.75 mm	4	0.0000	100.0	25.4282
Fine Gravel	2.00 mm	10	0.0000	100.0	25.4282
Fine sieving (11.1)					
V.C. Sand	0.850 mm	20	0.3877	98.5	24.9884
C. Sand	0.425 mm	40	0.5249	96.4	24.4635
M. Sand	0.250 mm	60	2.1833	87.8	22.2802
F. Sand	0.106 mm	140	9.0475	52.1	13.2327
V.F. Sand	0.075 mm	200	3.2412	39.4	9.9915 **(16.2)**

Calculated amount retained on the # 10 sieve. **(16.1)**	0.0000

Total Recovered (g)	25.3761
Total Recovered (%)	100.0

Hygroscopic Moisture (8.1)

Air-dried sample (g)	10.4540
Oven dried sample (g)	10.4326
Hygroscopic Moisture **(13.1)**	0.9980

(W) **(14.2)**	25.3761

Oven-Dried Sample used in hydrometer analysis. (g) **(14.1)**	25.3761

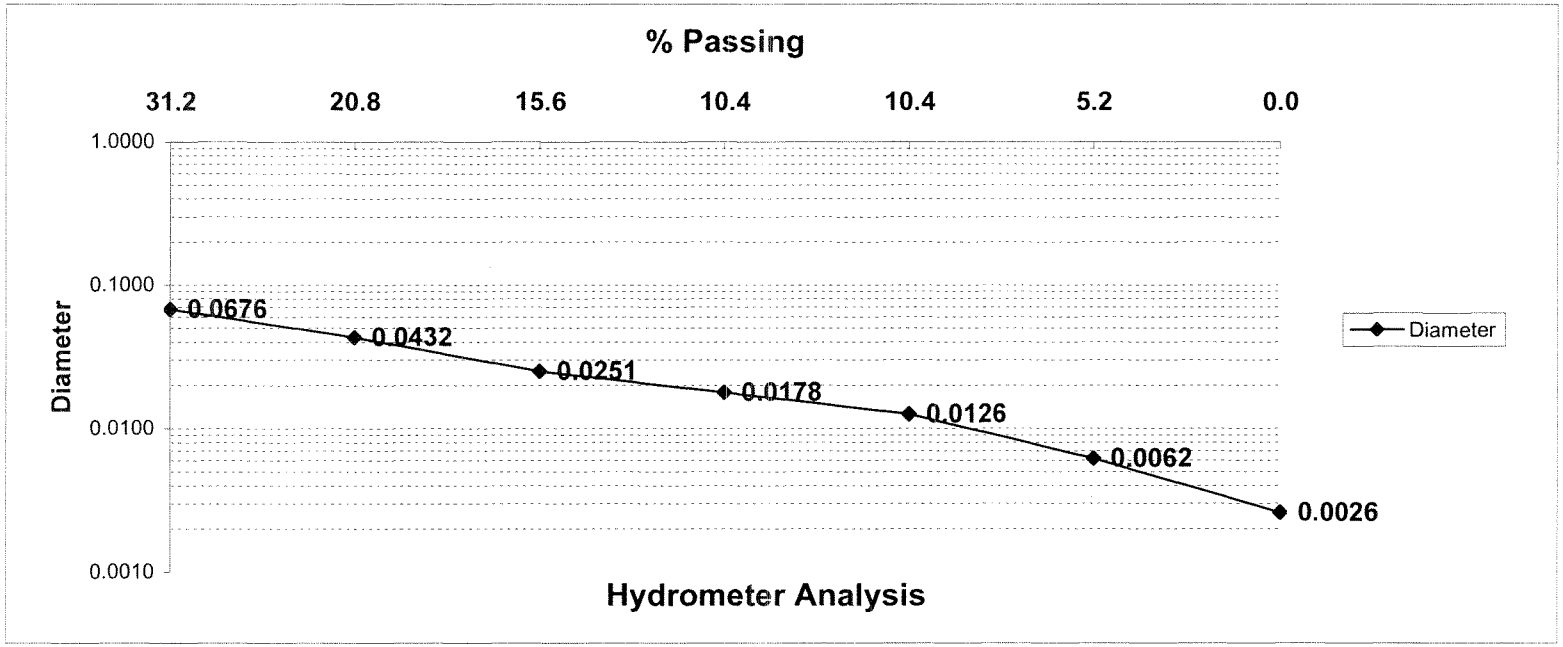
Determination of Silt/Clay Fraction

(10.2) T (Min)	**(10.2)** Hydro Reading	**(7.3)** Corr. Fact.	**(10.4)** Temp °C	**Table 1** Specific Gravity	H (Net)	**(14.3)** a	**Table 2** L Eff. Depth	**Table 3** K	**(14.3)** % Passing = H/Wa * 100	**(15.1)** Dia-meter
2	12	6	21	1.13	6	1.32	15.3	0.0244126	31.2	0.0676
5	10	6	21	1.13	4	1.32	15.6	0.0244126	20.8	0.0432
15	9	6	21	1.13	3	1.32	15.8	0.0244126	15.6	0.0251
30	8	6	21	1.13	2	1.32	16.0	0.0244126	10.4	0.0178
60	8	6	21	1.13	2	1.32	16.0	0.0244126	10.4	0.0126
250	7	6	21	1.13	1	1.32	16.1	0.0244126	5.2	0.0062
1440	6	6	21	1.13	0	1.32	16.3	0.0244126	0.0	0.0026

Comments:

Reviewed By:	Date: 11/18/09

Sample Name: B-1-C
Lab Code: K0909140-019



Columbia Analytical Services, Inc.

Sample Name :	B-1-C	Service Request:	K0909140
Lab Code:	K0909140-019DUP	Method:	D421 / D422
Client:	URS Corporation	Date Collected:	10/9/2009
Project:	oise St. Helens Pulp and Paper Mill-2009	Date Received:	10/9/2009
Sample Matrix:	Sediment	Date Analyzed:	11/10/2009

Sample Preparation (ASTM D421-85)

(1) Mass of total test sample. (g) (6.1) 25.0605

(2) Coarse Material (6.2)

Coarse material + Tare. (g) 0.0000

Tare weight. (g) 0.0000

(3) Mass retained on the No. 4 sieve. (g) (6.2) 0.0000

(4) Selected portion of fine material. (g) (7.1) 25.0605

Particle Analysis (ASTM D422-63)

Sieve Analysis Of Coarse Material. (6.1)

Gravel 19.0 mm	3/4"	0.0000
Gravel 9.50 mm	3/8"	0.0000
Gravel 4.75 mm	4	0.0000
Gravel 2.00 mm	10	0.0000

Sieve Analysis Of Fine Material. (11.1)

Gravel 0.850 mm	20	0.2613
Gravel 0.425 mm	40	0.5789
Gravel 0.250 mm	60	2.3409
Gravel 0.106 mm	140	9.6414
Gravel 0.075 mm	200	2.7470
Pan	-	0.4035

Analysis of fine material.

Hydrometer corrections. (7.3)

	Hydro 1	Hydro 2
Reading:	6	0

Hygroscopic moisture. (8.1)

Air dried (g)	10.4540
Tare (g)	1.3214
Oven dried + Tare	11.7540

Weight of Fine material

Dry wt.+Tare (g)	124.7319
Tare (g)	108.7154
Fine material (g)	16.0165

Determination of Silt/Clay Fraction. (10.2) (10.3) (10.4)

(10.2) T (Min)	(10.2) Hydro Reading	(7.3) Corr. Fact.	(10.4) Temp °C	Specific Gravity		Table 1 a		Table 3 K		
2	12	6	21	1.13		1.320		0.02441		
5	9		21					0.02441		
15	8		21					0.02441		
30	8		21					0.02441		
60	7		21					0.02441		
250	7		21					0.02441		
1440	6		21					0.02441		

Analyst: KC CP Date: 11/10/2009

Reviewed by : Date: 11/18/09

Client:	URS Corporation	**Service Request:**	K0909140
Project:	Boise St. Helens Pulp and Paper Mill-2009	**Date Collected:**	10/9/2009
Sample Matrix:	Sediment	**Date Received:**	10/9/2009
		Date Analyzed:	11/10/2009

ASTM Method D422 Particle Size

Sample Name: B-1-C **Lab Code:** K0909140-019DUP

Initial Weight of air-dried sample. **(6.1)**	25.0605
Mass retained on the No. 4 sieve. **(6.2)**	0.0000
Air-dried portion of fine material. **(7.1)**	25.0605

Course Sieving ASTM D421 (6.2)

Mass of coarse material (g)	0.0000
Percent Recovered	#DIV/0!

Coarse sieving (6.1)		**Sieve #**	**Weight (g)**	**% Passing**	**Mass Passing**
Gravel	19.0 mm	3/4"	0.0000	100.0	25.0605
Gravel	9.50 mm	3/8"	0.0000	100.0	25.0605
Medium Gravel	4.75 mm	4	0.0000	100.0	25.0605
Fine Gravel	2.00 mm	10	0.0000	100.0	25.0605
Fine sieving (11.1)					
V.C. Sand	0.850 mm	20	0.2613	99.0	24.7479
C. Sand	0.425 mm	40	0.5789	96.6	24.1690
M. Sand	0.250 mm	60	2.3409	87.3	21.8281
F. Sand	0.106 mm	140	9.6414	48.7	12.1867
V.F. Sand	0.075 mm	200	2.7470	37.7	9.4397 **(16.2)**

Calculated amount retained on the # 10 sieve. **(16.1)**	0.0000

Total Recovered (g)	25.0092
Total Recovered (%)	100.0

Hygroscopic Moisture (8.1)

Air-dried sample (g)	10.4540
Oven dried sample (g)	10.4326
Hygroscopic Moisture **(13.1)**	0.9980

(W) **(14.2)**	25.0092

Oven-Dried Sample used in hydrometer analysis. (g) **(14.1)**	25.0092

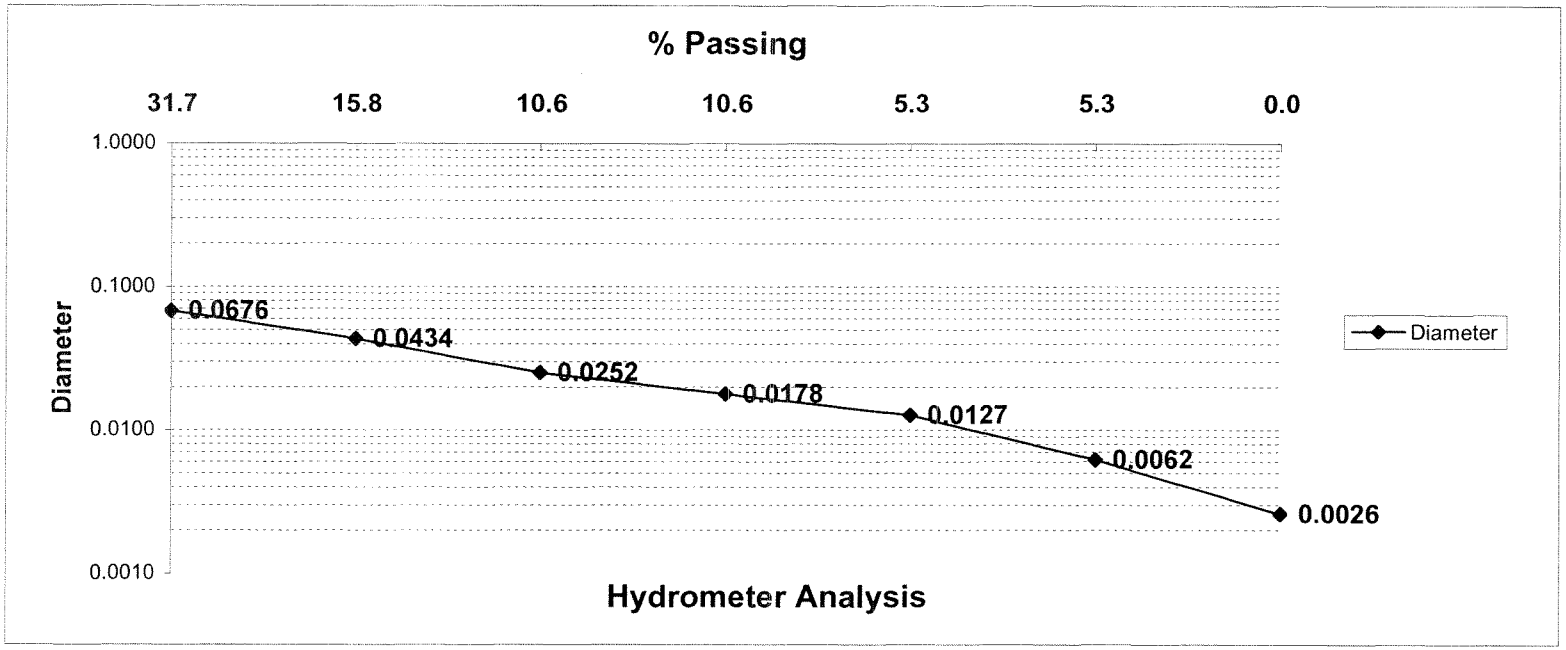
Determination of Silt/Clay Fraction

(10.2) T (Min)	**(10.2)** Hydro Reading	**(7.3)** Corr. Fact.	**(10.4)** Temp °C	**Table 1** Specific Gravity	H (Net)	**(14.3)** a	**Table 2** L Eff. Depth	**Table 3** K	**(14.3)** % Passing = H/Wa * 100	**(15.1)** Dia-meter
2	12	6	21	1.13	6	1.32	15.3	0.0244126	31.7	0.0676
5	9	6	21	1.13	3	1.32	15.8	0.0244126	15.8	0.0434
15	8	6	21	1.13	2	1.32	16.0	0.0244126	10.6	0.0252
30	8	6	21	1.13	2	1.32	16.0	0.0244126	10.6	0.0178
60	7	6	21	1.13	1	1.32	16.1	0.0244126	5.3	0.0127
250	7	6	21	1.13	1	1.32	16.1	0.0244126	5.3	0.0062
1440	6	6	21	1.13	0	1.32	16.3	0.0244126	0.0	0.0026

Comments:

Reviewed By:	Date: 11/18/09

Sample Name: B-1-C
Lab Code: K0909140-019DUP



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Columbia Analytical Services, Inc.

Sample Name :	9140-16	Service Request:	0
Lab Code:		Method:	
Client:	0	Date Collected:	
Project:	0	Date Received:	
Sample Matrix:	0	Date Analyzed:	

Sample Preparation (ASTM D421-85)

(1) Mass of total test sample. (g) (6.1) 45.0567

(3) Mass retained on the No. 4 sieve. (g) (6.2) 0.0000

(2) Coarse Material (6.2)

Coarse material + Tare. (g) 0

Tare weight. (g) 0

(4) Selected portion of fine material. (g) (7.1) #VALUE!

Particle Analysis (ASTM D422-63)

Sieve Analysis Of Coarse Material. (6.1)

Gravel 19.0 mm	3/4"	0
Gravel 9.50 mm	3/8"	0
Gravel 4.75 mm	4	0
Gravel 2.00 mm	10	0

Sieve Analysis Of Fine Material. (11.1)

Gravel 0.850 mm	20	0.6826
Gravel 0.425 mm	40	1.1116
Gravel 0.250 mm	60	2.786
Gravel 0.106 mm	140	12.1839
Gravel 0.075 mm	200	5.0310
Pan	-	0.6803

Analysis of fine material.

Hydrometer corrections. (7.3)

	Hydro 1	Hydro 2
Reading:	6	0

Hygroscopic moisture. (8.1)

Air dried (g)	10.1600
Tare (g)	1.2999
Oven dried + Tare	11.5614

Weight of Fine material

Dry wt.+Tare (g)	127.1905
Tare (g)	104.6260
Fine material (g)	#VALUE!

Determination of Silt/Clay Fraction. (10.2) (10.3) (10.4)

(10.2) T (Min)	(10.2) Hydro Reading	(7.3) Corr. Fact.	(10.4) Temp °C	Specific Gravity		Table 1 a		Table 3 K		
2	22	6	20	1.07		1.34				
5	19		20							
15	17		20							
30	15		20							
60	14		20							
250	12		20							
1440	10		20							

Analyst: KC CP TW Date: 11/5/09

Reviewed by : SM Date: 11/18/09

Columbia Analytical Services, Inc.

Sample Name :	9140-116 Dup	Service Request:	0
Lab Code:		Method:	
Client:	0	Date Collected:	
Project:	0	Date Received:	
Sample Matrix:	0	Date Analyzed:	

Sample Preparation (ASTM D421-85)

(1) Mass of total test sample. (g) (6.1) 45.33560

(3) Mass retained on the No. 4 sieve. (g) (6.2) 0.0000

(2) Coarse Material (6.2)

Coarse material + Tare. (g) ~~0~~

Tare weight. (g) ~~0~~

(4) Selected portion of fine material. (g) (7.1) #VALUE!

Particle Analysis (ASTM D422-63)

Sieve Analysis Of Coarse Material. (6.1)

Gravel 19.0 mm	3/4"	0
Gravel 9.50 mm	3/8"	0
Gravel 4.75 mm	4	0
Gravel 2.00 mm	10	0

Sieve Analysis Of Fine Material. (11.1) (1) KC 11/12/09 (WO)

Gravel 0.850 mm	20	~~0.8625~~ 0.8625
Gravel 0.425 mm	40	1.2690
Gravel 0.250 mm	60	3.6864
Gravel 0.106 mm	140	13.7118
Gravel 0.075 mm	200	3.4771
Pan	-	0.4414

Analysis of fine material.

Hydrometer corrections. (7.3)

	Hydro 1	Hydro 2
Reading:	6	0

Hygroscopic moisture. (8.1)

Air dried (g)	10.1600
Tare (g)	1.2999
Oven dried + Tare	11.5614

Weight of Fine material (2) 132.0440 KC 11/12/09 (WO)

Dry wt.+Tare (g)	~~132.0440~~
Tare (g)	108.1654
Fine material (g)	#VALUE!

Determination of Silt/Clay Fraction. (10.2) (10.3) (10.4)

(10.2) T (Min)	(10.2) Hydro Reading	(7.3) Corr. Fact.	(10.4) Temp °C	Specific Gravity		Table 1 a		Table 3 K		
2	26	6	20	1.07		1.34				
5	19		20							
15	15		20							
30	15		20							
60	14		20							
250	12		20							
1440	10		20							

Analyst: KC CP TM Date: 11/5/09

Reviewed by : SMM Date: 11/18/09

Columbia Analytical Services, Inc.

Sample Name :	9140-17	Service Request:	0
Lab Code:		Method:	
Client:	0	Date Collected:	
Project:	0	Date Received:	
Sample Matrix:	0	Date Analyzed:	

Sample Preparation (ASTM D421-85)

(1) Mass of total test sample. (g) (6.1) 60.8486

(3) Mass retained on the No. 4 sieve. (g) (6.2) 0.0000

(2) Coarse Material (6.2)

Coarse material + Tare. (g) 0

Tare weight. (g) 0

(4) Selected portion of fine material. (g) (7.1) #VALUE!

Particle Analysis (ASTM D422-63)

Sieve Analysis Of Coarse Material. (6.1)

Gravel 19.0 mm	3/4"	0
Gravel 9.50 mm	3/8"	0
Gravel 4.75 mm	4	0
Gravel 2.00 mm	10	0

Sieve Analysis Of Fine Material. (11.1)

Gravel 0.850 mm	20	0.6053
Gravel 0.425 mm	40	1.9185
Gravel 0.250 mm	60	4.3324
Gravel 0.106 mm	140	16.9386
Gravel 0.075 mm	200	8.0111
Pan	-	1.1919

Analysis of fine material.

Hydrometer corrections. (7.3)

	Hydro 1	Hydro 2
Reading:	6	0

Hygroscopic moisture. (8.1)

Air dried (g)	10.6874
Tare (g)	1.3170
Oven dried + Tare	11.9890

Weight of Fine material

Dry wt.+Tare (g)	132.4202
Tare (g)	104.3645
Fine material (g)	#VALUE!

Determination of Silt/Clay Fraction. (10.2) (10.3) (10.4)

(10.2) T (Min)	(10.2) Hydro Reading	(7.3) Corr. Fact.	(10.4) Temp °C	Specific Gravity		Table 1 a		Table 3 K		
2	19	6	21	1.05		1.34				
5	17		21							
15	13		21							
30	13		21							
60	11		21							
250	10		21							
1440	8		21							

Analyst: KC Date: 11/10/09

Reviewed by : SMH Date: 11/18/09

Columbia Analytical Services, Inc.

Sample Name :	9140-18	Service Request:	0
Lab Code:		Method:	
Client:	0	Date Collected:	
Project:	0	Date Received:	
Sample Matrix:	0	Date Analyzed:	

Sample Preparation (ASTM D421-85)

(1) Mass of total test sample. (g) (6.1) 60.3001

(3) Mass retained on the No. 4 sieve. (g) (6.2) 0.0000

(2) Coarse Material (6.2)

Coarse material + Tare. (g) 0

Tare weight. (g) 0

(4) Selected portion of fine material. (g) (7.1) #VALUE!

Particle Analysis (ASTM D422-63)

Sieve Analysis Of Coarse Material. (6.1)

Gravel 19.0 mm	3/4"	0
Gravel 9.50 mm	3/8"	0
Gravel 4.75 mm	4	0
Gravel 2.00 mm	10	0

Sieve Analysis Of Fine Material. (11.1)

Gravel 0.850 mm	20	1.5511
Gravel 0.425 mm	40	2.1113
Gravel 0.250 mm	60	5.2241
Gravel 0.106 mm	140	18.5930
Gravel 0.075 mm	200	6.6914
Pan	-	1.3098

Analysis of fine material.

Hydrometer corrections. (7.3)

	Hydro 1	Hydro 2
Reading:	6	0

Hygroscopic moisture. (8.1)

Air dried (g)	10.0769
Tare (g)	1.3161
Oven dried + Tare	11.2756

Weight of Fine material

Dry wt.+Tare (g)	137.2874
Tare (g)	101.7719
Fine material (g)	#VALUE!

Determination of Silt/Clay Fraction. (10.2) (10.3) (10.4)

(10.2) T (Min)	(10.2) Hydro Reading	(7.3) Corr. Fact.	(10.4) Temp °C	Specific Gravity		Table 1 a		Table 3 K		
2	18	6	21	1.02		1.35				
5	15		21							
15	13		21							
30	11		21							
60	10		21							
250	8		21							
1440	7		21							

Analyst: KC Date: 11/10/09

Reviewed by : Date: 11/18/09

Columbia Analytical Services, Inc.

Sample Name :	9140-19	Service Request:	0
Lab Code:		Method:	
Client:	0	Date Collected:	
Project:	0	Date Received:	
Sample Matrix:	0	Date Analyzed:	

Sample Preparation (ASTM D421-85)

(1) Mass of total test sample. (g) (6.1) 25.4282

(3) Mass retained on the No. 4 sieve. (g) (6.2) 0.0000

(2) Coarse Material (6.2)

Coarse material + Tare. (g) 0

Tare weight. (g) 0

(4) Selected portion of fine material. (g) (7.1) #VALUE!

Particle Analysis (ASTM D422-63)

Sieve Analysis Of Coarse Material. (6.1)

Gravel 19.0 mm	3/4"	0
Gravel 9.50 mm	3/8"	0
Gravel 4.75 mm	4	0
Gravel 2.00 mm	10	0

Sieve Analysis Of Fine Material. (11.1)

Gravel 0.850 mm	20	0.3877
Gravel 0.425 mm	40	0.5249
Gravel 0.250 mm	60	2.1833
Gravel 0.106 mm	140	9.0475
Gravel 0.075 mm	200	3.2412
Pan	-	0.5442

Analysis of fine material.

Hydrometer corrections. (7.3)

	Hydro 1	Hydro 2
Reading:	6	0

Hygroscopic moisture. (8.1)

Air dried (g)	~~10.0174~~ 10.4540 KC 11/10/09 (KC)
Tare (g)	1.3214
Oven dried + Tare	11.7540

Weight of Fine material

Dry wt.+Tare (g)	119.7730
Tare (g)	103.5202
Fine material (g)	#VALUE!

Determination of Silt/Clay Fraction. (10.2) (10.3) (10.4)

(10.2) T (Min)	(10.2) Hydro Reading	(7.3) Corr. Fact.	(10.4) Temp °C	Specific Gravity		Table 1 a		Table 3 K		
2	12	6	21	1.13		1.32				
5	10		21							
15	9		21							
30	8		21							
60	8		21							
250	7		21							
1440	6		21							

Analyst: KC Date: 11/10/09

Reviewed by : Date: 11/18/09

Columbia Analytical Services, Inc.

Sample Name :	9140-19 dup	Service Request:	0
Lab Code:		Method:	
Client:	0	Date Collected:	
Project:	0	Date Received:	
Sample Matrix:	0	Date Analyzed:	

Sample Preparation (ASTM D421-85)

(1) Mass of total test sample. (g) (6.1) 25.0605

(3) Mass retained on the No. 4 sieve. (g) (6.2) 0.0000

(2) Coarse Material (6.2)

Coarse material + Tare. (g) 0

Tare weight. (g) 0

(4) Selected portion of fine material. (g) (7.1) #VALUE!

Particle Analysis (ASTM D422-63)

Sieve Analysis Of Coarse Material. (6.1)

Gravel 19.0 mm	3/4"	0
Gravel 9.50 mm	3/8"	0
Gravel 4.75 mm	4	0
Gravel 2.00 mm	10	0

Sieve Analysis Of Fine Material. (11.1)

Gravel 0.850 mm	20	0.2613
Gravel 0.425 mm	40	0.5789
Gravel 0.250 mm	60	2.3409
Gravel 0.106 mm	140	9.6414
Gravel 0.075 mm	200	2.7470
Pan	-	0.4035

Analysis of fine material.

Hydrometer corrections. (7.3)

	Hydro 1	Hydro 2
Reading:	6	0

Hygroscopic moisture. (8.1)

Air dried (g)	~~10.0174~~ 10.4540 KC 11/10/09 (tc)
Tare (g)	1.3214
Oven dried + Tare	11.7540

Weight of Fine material

Dry wt.+Tare (g)	129.7319
Tare (g)	108.7154
Fine material (g)	#VALUE!

Determination of Silt/Clay Fraction. (10.2) (10.3) (10.4)

(10.2) T (Min)	(10.2) Hydro Reading	(7.3) Corr. Fact.	(10.4) Temp °C	Specific Gravity		Table 1 a		Table 3 K		
2	12	6	21	1.13		1.32				
5	9		21							
15	8		21							
30	8		21							
60	7		21							
250	7		21							
1440	6		21							

Analyst: KC Date: 11/10/09

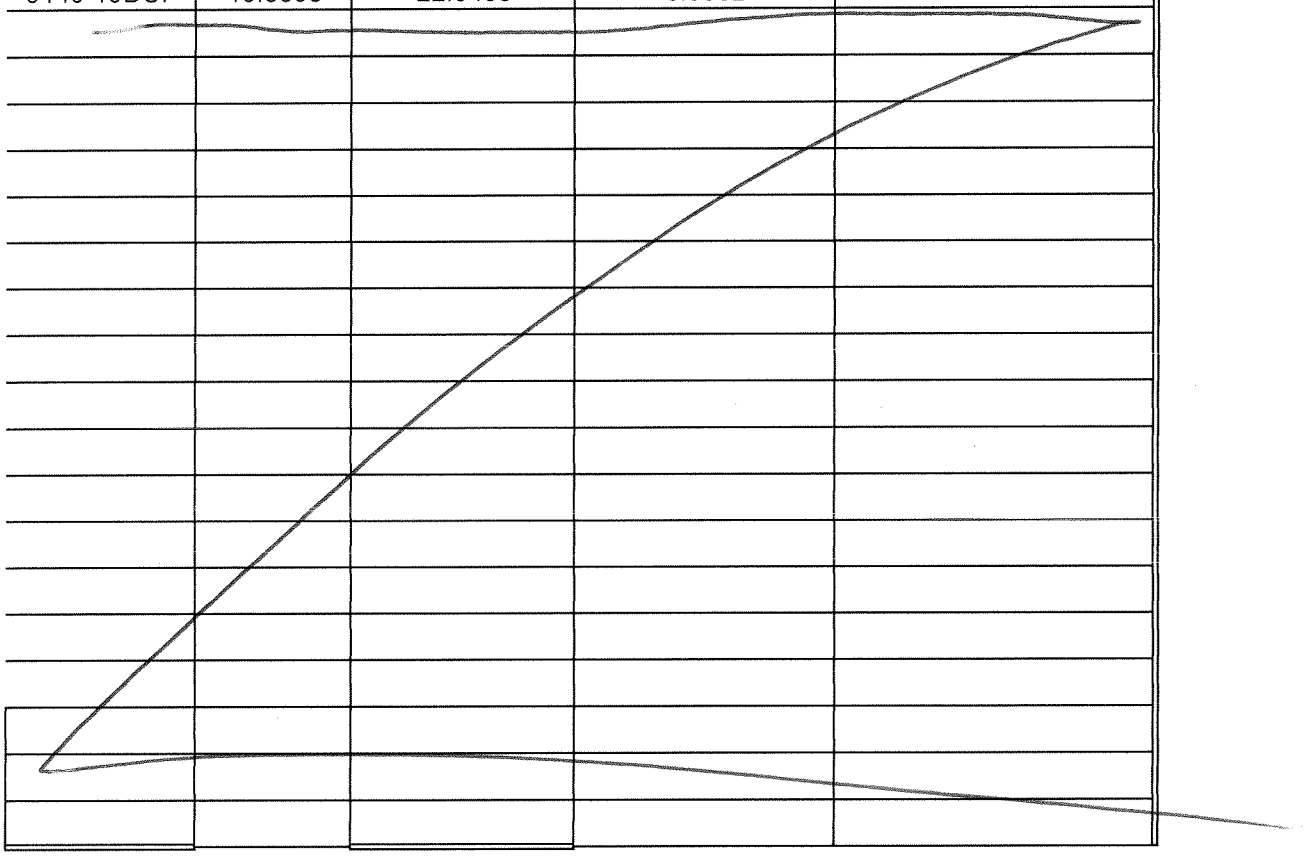
Reviewed by : Date: 11/18/09

Columbia Analytical Services Inc.

Service Request #: K0909140 Method: SM 2710 F

Analysis For: Specific Gravity

Sample	Weight of DIW	Weight of sample (g)	Temperature correction factor F	Specific Gravity
9140-17	19.8598	20.7926	0.9982	1.05
9140-18	19.8598	20.2850	0.9982	1.02
9140-19	19.8598	22.4764	0.9982	1.13
9140-19DUP	19.8598	22.9436	0.9982	1.15



Comments: **of 20mL DIW (g) =** 19.8598

9140-19/19DUP X= 1.14 RPD= 2%

Temperature C	Temp. Correction F	
15	0.9991	
20	0.9982	xxxxx
25	0.9975	
30	0.9957	
35	0.9941	

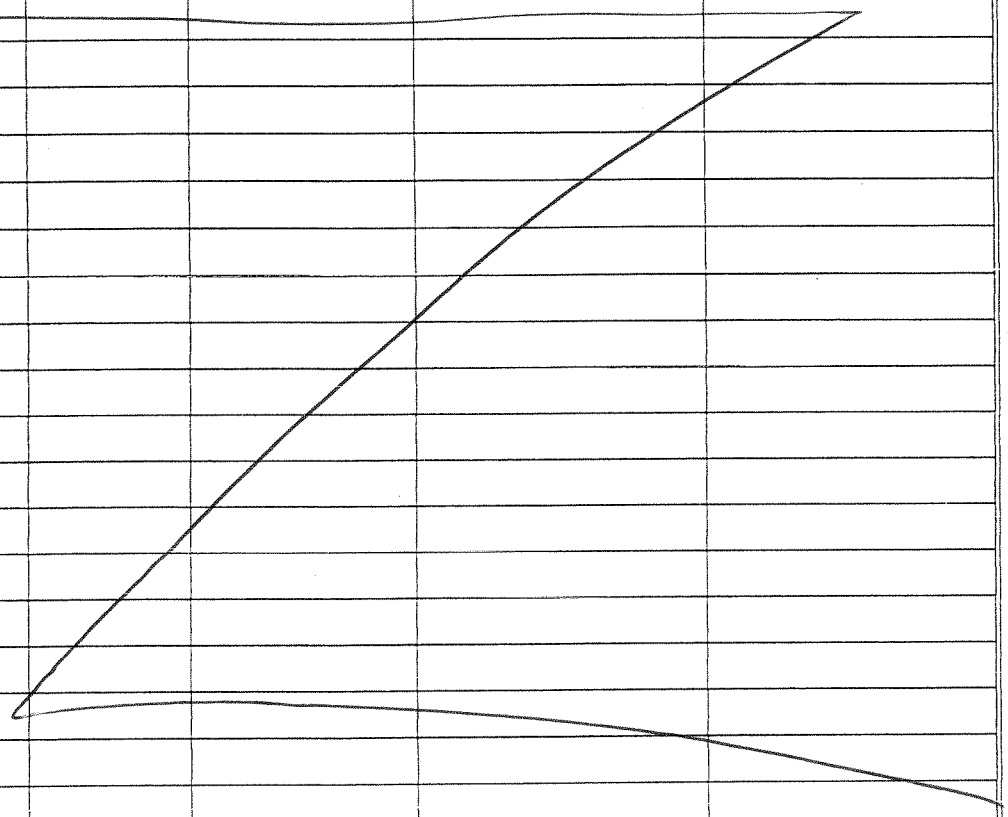
Analyzed By:	KC	Date:	11/10/09
Reviewed By:		Date:	11/18/09

SpecGrav_FillIn

Service Request #: K- 9140 Method: SM 2710 F

Analysis For: Specific Gravity

Sample	Weight of DIW	Weight of sample (g)	Temperature correction factor F	Specific Gravity
9140-17	19.8598	20.7926	0.9982	1.05
18	↓	20.2850	↓	1.02
19	↓	22.4764	↓	1.13
19d	↓	22.9436	↓	1.13



Comments: Weight of 20mL DIW (g) = 19.8598

9140-19/19dup $\bar{x}$ = 1.14
RPD = 2%

Temperature C	Temp. Correction F
15	0.9991
20	0.9982
25	0.9975
30	0.9957
35	0.9941

Analyzed By: KC Date: 11/10/09

Reviewed By: Date: 11/18/09

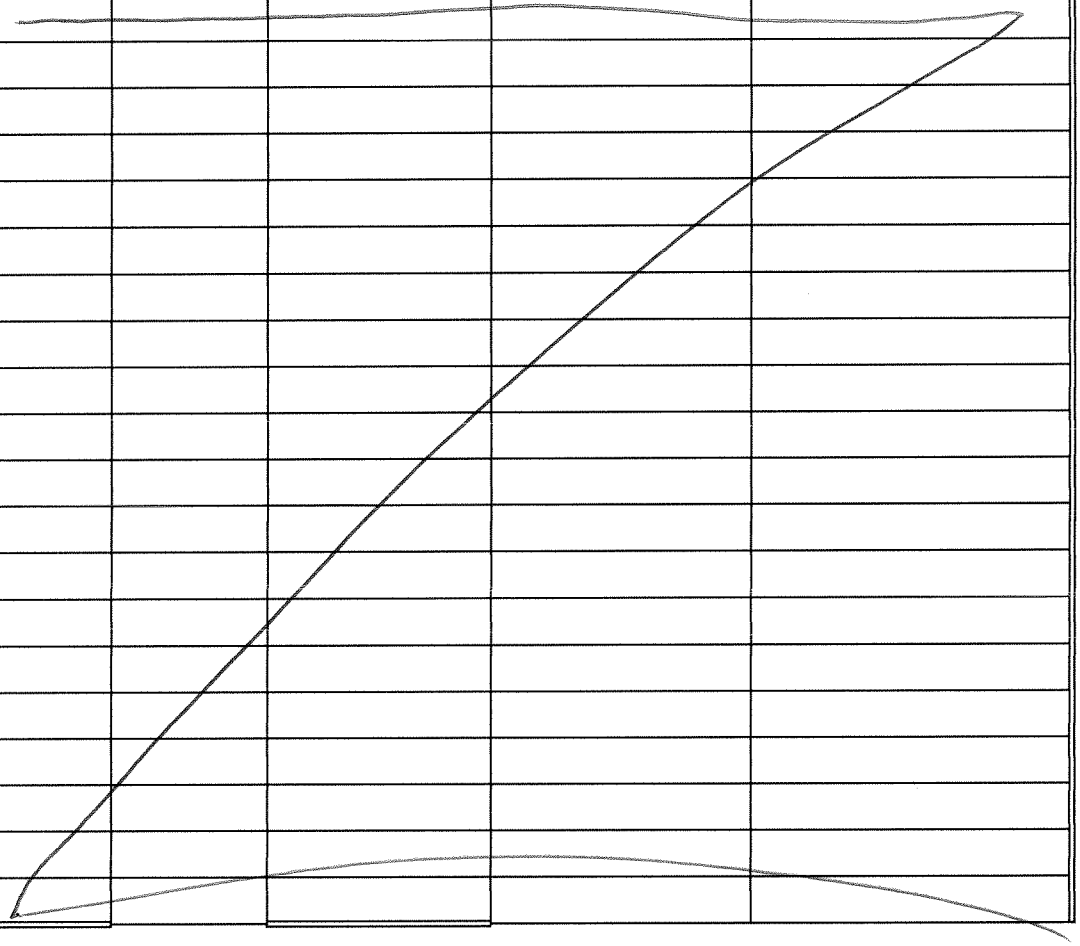
Specific Gravity1

Columbia Analytical Services Inc.

Service Request #: K0909140 Method: SM 2710 F

Analysis For: Specific Gravity

Sample	Weight of DIW	Weight of sample (g)	Temperature correction factor F	Specific Gravity
9140-16	19.8692	21.2221	0.9982	1.07
9140-16DUP	19.8692	21.9354	0.9982	1.10



Comments: of 20mL DIW (g) = 19.8692

Temperature C	Temp. Correction F	
15	0.9991	
20	0.9982	xxxxx
25	0.9975	
30	0.9957	
35	0.9941	

Analyzed By:	KC	Date:	11/5/09
Reviewed By:		Date:	11/18/09

K0909140.SPG.KC4

Service Request #: K-9140 Method: SM 2710 F

Analysis For: Specific Gravity

Sample	Weight of DIW	Weight of sample (g)	Temperature correction factor F	Specific Gravity
9140-16	19.8092	21.2221	0.9982	1.07
16d	↓	21.9354	↓	1.10

Comments: Weight of 20mL DIW (g) = 19.8092

9140-16/16dup $\bar{x}$ 1.09
RPD = 3%

Temperature C	Temp. Correction F
15	0.9991
20 X	0.9982 X
25	0.9975
30	0.9957
35	0.9941

Analyzed By: KC Date: 11/5/09

Reviewed By: SMP Date: 11/18/09

Specific Gravity1

Columbia Analytical Services, Inc.

Sample Name :	M-4-A	Service Request:	K0909140
Lab Code:	K0909140-001	Method:	D421 / D422
Client:	URS Corporation	Date Collected:	9/28/2009
Project:	oise St. Helens Pulp and Paper Mill-2009	Date Received:	9/29/2009
Sample Matrix:	Sediment	Date Analyzed:	10/27/2009

Sample Preparation (ASTM D421-85)

(1) Mass of total test sample. (g) (6.1) 50.3570

(2) Coarse Material (6.2)

Coarse material + Tare. (g) 0.0000

Tare weight. (g) 0.0000

(3) Mass retained on the No. 4 sieve. (g) (6.2) 0.0000

(4) Selected portion of fine material. (g) (7.1) 50.3570

Particle Analysis (ASTM D422-63)

Sieve Analysis Of Coarse Material. (6.1)

Gravel 19.0 mm	3/4"	0.0000
Gravel 9.50 mm	3/8"	0.0000
Gravel 4.75 mm	4	0.0000
Gravel 2.00 mm	10	0.0000

Sieve Analysis Of Fine Material. (11.1)

Gravel 0.850 mm	20	0.6214
Gravel 0.425 mm	40	1.0438
Gravel 0.250 mm	60	1.9835
Gravel 0.106 mm	140	13.6582
Gravel 0.075 mm	200	8.5070
Pan	-	2.1318

Analysis of fine material.

Hydrometer corrections. (7.3)

	Hydro 1	Hydro 2
Reading:	6	0

Hygroscopic moisture. (8.1)

Air dried (g)	10.8472
Tare (g)	1.3005
Oven dried + Tare	11.9999

Weight of Fine material

Dry wt.+Tare (g)	130.8474
Tare (g)	102.9787
Fine material (g)	27.8687

Determination of Silt/Clay Fraction. (10.2) (10.3) (10.4)

(10.2) T (Min)	(10.2) Hydro Reading	(7.3) Corr. Fact.	(10.4) Temp °C	Specific Gravity		Table 1 a		Table 3 K		
2	18	6	20	1.14		1.320		0.02470		
5	14		20					0.02470		
15	12		20					0.02470		
30	11		20					0.02470		
60	11		20					0.02470		
250	10		20					0.02470		
1440	9		20					0.02470		

Analyst: KC CP Date: 10/27/2009

Reviewed by : Date: 11/6/09

Client:	URS Corporation	**Service Request:**	K0909140
Project:	Boise St. Helens Pulp and Paper Mill-2009	**Date Collected:**	9/28/2009
Sample Matrix:	Sediment	**Date Received:**	9/29/2009
		Date Analyzed:	10/27/2009

ASTM Method D422 Particle Size

Sample Name: M-4-A **Lab Code:** K0909140-001

Initial Weight of air-dried sample. **(6.1)**	50.3570
Mass retained on the No. 4 sieve. **(6.2)**	0.0000
Air-dried portion of fine material. **(7.1)**	50.3570

Course Sieving ASTM D421 (6.2)

Mass of coarse material (g)	0.0000
Percent Recovered	#DIV/0!

Coarse sieving (6.1)		**Sieve #**	**Weight (g)**	**% Passing**	**Mass Passing**
Gravel	19.0 mm	3/4"	0.0000	100.0	50.3570
Gravel	9.50 mm	3/8"	0.0000	100.0	50.3570
Medium Gravel	4.75 mm	4	0.0000	100.0	50.3570
Fine Gravel	2.00 mm	10	0.0000	100.0	50.3570
Fine sieving (11.1)					
V.C. Sand	0.850 mm	20	0.6214	98.7	49.0495
C. Sand	0.425 mm	40	1.0438	96.6	48.0057
M. Sand	0.250 mm	60	1.9835	92.7	46.0222
F. Sand	0.106 mm	140	13.6582	65.2	32.3640
V.F. Sand	0.075 mm	200	8.5070	48.0	23.8570 **(16.2)**

Calculated amount retained on the # 10 sieve. **(16.1)**	0.0000

Total Recovered (g)	49.6709
Total Recovered (%)	100.0

Hygroscopic Moisture (8.1)

Air-dried sample (g)	10.8472
Oven dried sample (g)	10.6994
Hygroscopic Moisture **(13.1)**	0.9864

(W) **(14.2)**	49.6709

Oven-Dried Sample used in hydrometer analysis. (g) **(14.1)**	49.6709

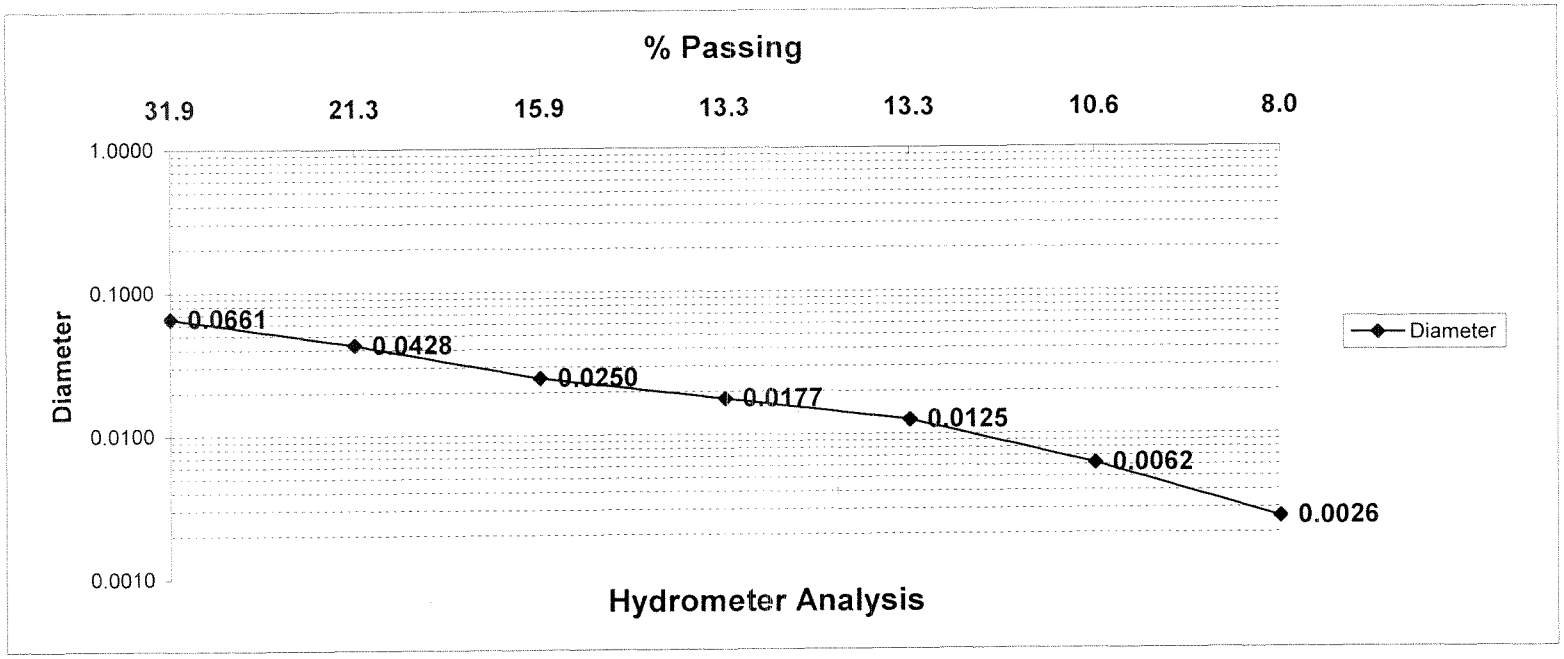
Determination of Silt/Clay Fraction

(10.2) T (Min)	**(10.2)** Hydro Reading	**(7.3)** Corr. Fact.	**(10.4)** Temp °C	**Table 1** Specific Gravity	H (Net)	**(14.3)** a	**Table 2** L Eff. Depth	**Table 3** K	**(14.3)** % Passing = H/Wa * 100	**(15.1)** Dia-meter
2	18	6	20	1.14	12	1.32	14.3	0.0247029	31.9	0.0661
5	14	6	20	1.14	8	1.32	15.0	0.0247029	21.3	0.0428
15	12	6	20	1.14	6	1.32	15.3	0.0247029	15.9	0.0250
30	11	6	20	1.14	5	1.32	15.5	0.0247029	13.3	0.0177
60	11	6	20	1.14	5	1.32	15.5	0.0247029	13.3	0.0125
250	10	6	20	1.14	4	1.32	15.6	0.0247029	10.6	0.0062
1440	9	6	20	1.14	3	1.32	15.8	0.0247029	8.0	0.0026

Comments:

Reviewed By: SAN Date: 11/6/09

Sample Name: M-4-A
Lab Code: K0909140-001



Columbia Analytical Services, Inc.

Sample Name :	M-4-B	Service Request:	K0909140
Lab Code:	K0909140-002	Method:	D421 / D422
Client:	URS Corporation	Date Collected:	9/28/2009
Project:	oise St. Helens Pulp and Paper Mill-2009	Date Received:	9/29/2009
Sample Matrix:	Sediment	Date Analyzed:	10/27/2009

Sample Preparation (ASTM D421-85)

(1) Mass of total test sample. (g) (6.1) 50.2440

(2) Coarse Material (6.2)

Coarse material + Tare. (g) 0.0000

Tare weight. (g) 0.0000

(3) Mass retained on the No. 4 sieve. (g) (6.2) 0.0000

(4) Selected portion of fine material. (g) (7.1) 50.2440

Particle Analysis (ASTM D422-63)

Sieve Analysis Of Coarse Material. (6.1)

Gravel 19.0 mm	3/4"	0.0000
Gravel 9.50 mm	3/8"	0.0000
Gravel 4.75 mm	4	0.0000
Gravel 2.00 mm	10	0.0000

Sieve Analysis Of Fine Material. (11.1)

Gravel 0.850 mm	20	0.2577
Gravel 0.425 mm	40	0.5981
Gravel 0.250 mm	60	1.0475
Gravel 0.106 mm	140	10.3250
Gravel 0.075 mm	200	9.8974
Pan	-	3.5066

Analysis of fine material.

Hydrometer corrections. (7.3)

	Hydro 1	Hydro 2
Reading:	6	0

Hygroscopic moisture. (8.1)

Air dried (g)	10.1498
Tare (g)	1.3006
Oven dried + Tare	11.3309

Weight of Fine material

Dry wt.+Tare (g)	129.9173
Tare (g)	104.3493
Fine material (g)	25.5680

Determination of Silt/Clay Fraction. (10.2) (10.3) (10.4)

(10.2) T (Min)	(10.2) Hydro Reading	(7.3) Corr. Fact.	(10.4) Temp °C	Specific Gravity		Table 1 a		Table 3 K		
2	21	6	20	1.09		1.330		0.02470		
5	15		20					0.02470		
15	13		20					0.02470		
30	12		20					0.02470		
60	11		20					0.02470		
250	10		20					0.02470		
1440	8		20					0.02470		

Analyst: KC CP Date: 10/27/2009

Reviewed by : Date: 11/6/09

Client:	URS Corporation	**Service Request:**	K0909140
Project:	Boise St. Helens Pulp and Paper Mill-2009	**Date Collected:**	9/28/2009
Sample Matrix:	Sediment	**Date Received:**	9/29/2009
		Date Analyzed:	10/27/2009

ASTM Method D422 Particle Size

Sample Name: M-4-B **Lab Code:** K0909140-002

Initial Weight of air-dried sample. **(6.1)**	50.2440
Mass retained on the No. 4 sieve. **(6.2)**	0.0000
Air-dried portion of fine material. **(7.1)**	50.2440

Course Sieving ASTM D421 (6.2)

Mass of coarse material (g)	0.0000
Percent Recovered	#DIV/0!

Coarse sieving (6.1)		**Sieve #**	**Weight (g)**	**% Passing**	**Mass Passing**
Gravel	19.0 mm	3/4"	0.0000	100.0	50.2440
Gravel	9.50 mm	3/8"	0.0000	100.0	50.2440
Medium Gravel	4.75 mm	4	0.0000	100.0	50.2440
Fine Gravel	2.00 mm	10	0.0000	100.0	50.2440
Fine sieving (11.1)					
V.C. Sand	0.850 mm	20	0.2577	99.5	49.3947
C. Sand	0.425 mm	40	0.5981	98.3	48.7966
M. Sand	0.250 mm	60	1.0475	96.2	47.7491
F. Sand	0.106 mm	140	10.3250	75.4	37.4241
V.F. Sand	0.075 mm	200	9.8974	55.4	27.5267 **(16.2)**

Calculated amount retained on the # 10 sieve. **(16.1)**	0.0000

Total Recovered (g)	49.6524
Total Recovered (%)	100.0

Hygroscopic Moisture (8.1)

Air-dried sample (g)	10.1498
Oven dried sample (g)	10.0303
Hygroscopic Moisture **(13.1)**	0.9882

(W) **(14.2)**	49.6524

Oven-Dried Sample used in hydrometer analysis. (g) **(14.1)**	49.6524

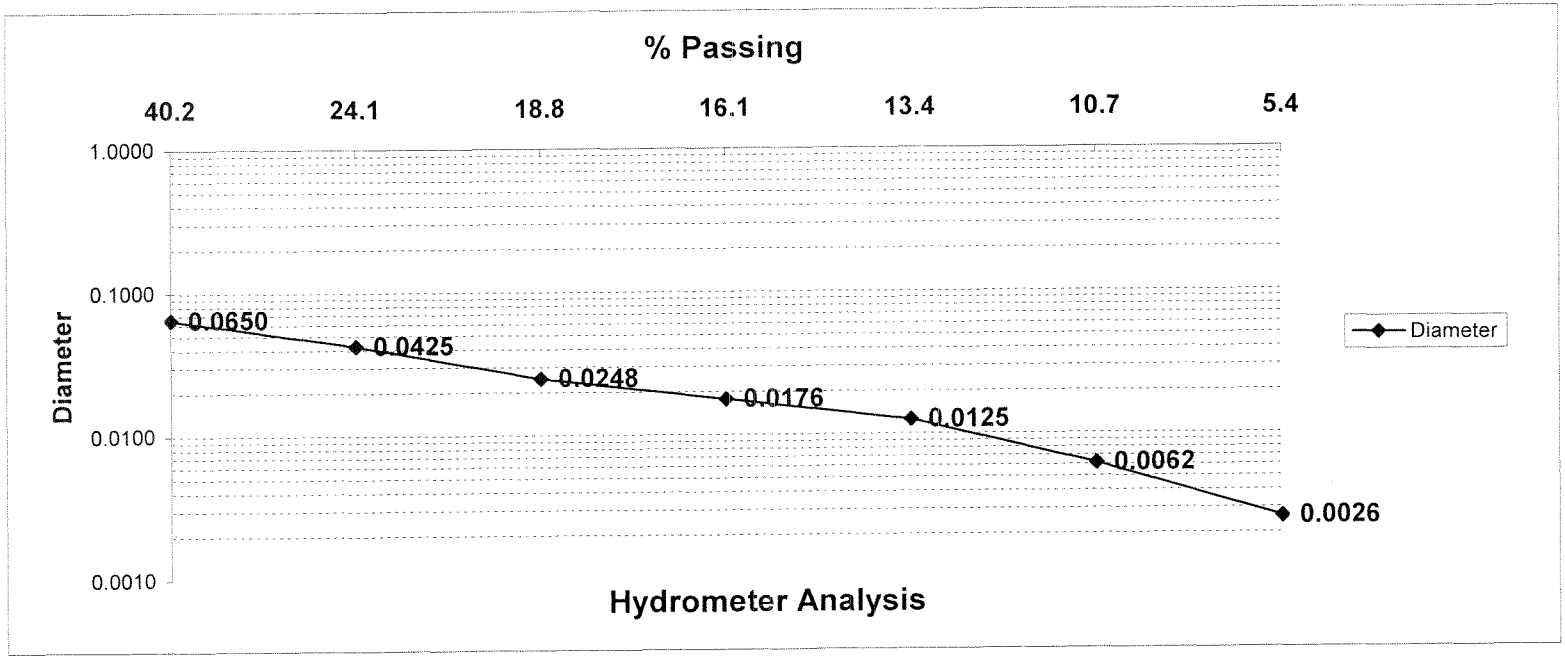
Determination of Silt/Clay Fraction

(10.2) T (Min)	**(10.2)** Hydro Reading	**(7.3)** Corr. Fact.	**(10.4)** Temp °C	**Table 1** Specific Gravity	H (Net)	**(14.3)** a	**Table 2** L Eff. Depth	**Table 3** K	**(14.3)** % Passing = H/Wa * 100	**(15.1)** Dia-meter
2	21	6	20	1.09	15	1.33	13.8	0.0247029	40.2	0.0650
5	15	6	20	1.09	9	1.33	14.8	0.0247029	24.1	0.0425
15	13	6	20	1.09	7	1.33	15.2	0.0247029	18.8	0.0248
30	12	6	20	1.09	6	1.33	15.3	0.0247029	16.1	0.0176
60	11	6	20	1.09	5	1.33	15.5	0.0247029	13.4	0.0125
250	10	6	20	1.09	4	1.33	15.6	0.0247029	10.7	0.0062
1440	8	6	20	1.09	2	1.33	16.0	0.0247029	5.4	0.0026

Comments:

Reviewed By:	Date: 11/6/09

Sample Name: M-4-B
Lab Code: K0909140-002



Columbia Analytical Services, Inc.

Sample Name :	M-4-C	Service Request:	K0909140
Lab Code:	K0909140-003	Method:	D421 / D422
Client:	URS Corporation	Date Collected:	9/28/2009
Project:	oise St. Helens Pulp and Paper Mill-2009	Date Received:	9/29/2009
Sample Matrix:	Sediment	Date Analyzed:	10/27/2009

Sample Preparation (ASTM D421-85)

(1) Mass of total test sample. (g) (6.1) 45.7714

(2) Coarse Material (6.2)

Coarse material + Tare. (g) 0.0000

Tare weight. (g) 0.0000

(3) Mass retained on the No. 4 sieve. (g) (6.2) 0.0000

(4) Selected portion of fine material. (g) (7.1) 45.7714

Particle Analysis (ASTM D422-63)

Sieve Analysis Of Coarse Material. (6.1)

Gravel 19.0 mm	3/4"	0.0000
Gravel 9.50 mm	3/8"	0.0000
Gravel 4.75 mm	4	0.0000
Gravel 2.00 mm	10	0.0000

Sieve Analysis Of Fine Material. (11.1)

Gravel 0.850 mm	20	0.4939
Gravel 0.425 mm	40	0.8727
Gravel 0.250 mm	60	1.2113
Gravel 0.106 mm	140	11.0285
Gravel 0.075 mm	200	8.1965
Pan	-	2.717

Analysis of fine material.

Hydrometer corrections. (7.3)

	Hydro 1	Hydro 2
Reading:	6	0

Hygroscopic moisture. (8.1)

Air dried (g)	10.1336
Tare (g)	1.2987
Oven dried + Tare	11.3067

Weight of Fine material

Dry wt.+Tare (g)	127.6746
Tare (g)	103.2155
Fine material (g)	24.4591

Determination of Silt/Clay Fraction. (10.2) (10.3) (10.4)

(10.2) T (Min)	(10.2) Hydro Reading	(7.3) Corr. Fact.	(10.4) Temp °C	Specific Gravity		Table 1 a		Table 3 K		
2	15	6	20	1.13		1.320		0.02470		
5	14		20					0.02470		
15	11		20					0.02470		
30	11		20					0.02470		
60	10		20					0.02470		
250	9		20					0.02470		
1440	8		20					0.02470		

Analyst: KC CP Date: 10/27/2009

Reviewed by : Date: 11/6/09

Client:	URS Corporation	**Service Request:**	K0909140
Project:	Boise St. Helens Pulp and Paper Mill-2009	**Date Collected:**	9/28/2009
Sample Matrix:	Sediment	**Date Received:**	9/29/2009
		Date Analyzed:	10/27/2009

ASTM Method D422 Particle Size

Sample Name: M-4-C **Lab Code:** K0909140-003

Initial Weight of air-dried sample. **(6.1)**	45.7714
Mass retained on the No. 4 sieve. **(6.2)**	0.0000
Air-dried portion of fine material. **(7.1)**	45.7714

Course Sieving ASTM D421 (6.2)

Mass of coarse material (g)	0.0000
Percent Recovered	#DIV/0!

Coarse sieving (6.1)		Sieve #	Weight (g)	% Passing	Mass Passing
Gravel	19.0 mm	3/4"	0.0000	100.0	45.7714
Gravel	9.50 mm	3/8"	0.0000	100.0	45.7714
Medium Gravel	4.75 mm	4	0.0000	100.0	45.7714
Fine Gravel	2.00 mm	10	0.0000	100.0	45.7714
Fine sieving (11.1)					
V.C. Sand	0.850 mm	20	0.4939	98.9	44.7102
C. Sand	0.425 mm	40	0.8727	97.0	43.8375
M. Sand	0.250 mm	60	1.2113	94.3	42.6262
F. Sand	0.106 mm	140	11.0285	69.9	31.5977
V.F. Sand	0.075 mm	200	8.1965	51.8	23.4012 **(16.2)**

Calculated amount retained on the # 10 sieve. **(16.1)**	0.0000

Total Recovered (g)	45.2041
Total Recovered (%)	100.0

Hygroscopic Moisture (8.1)

Air-dried sample (g)	10.1336
Oven dried sample (g)	10.0080
Hygroscopic Moisture **(13.1)**	0.9876

(W) **(14.2)**	45.2041

Oven-Dried Sample used in hydrometer analysis. (g) **(14.1)**	45.2041

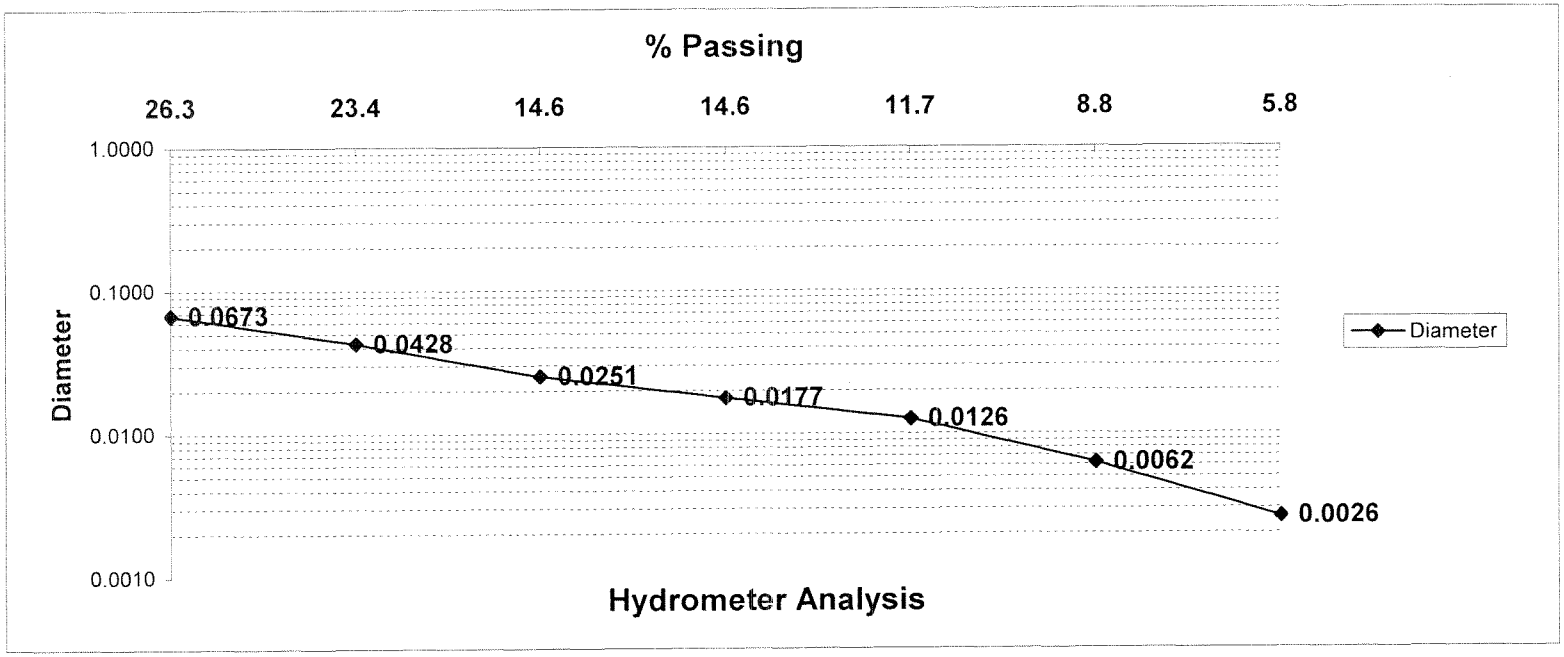
Determination of Silt/Clay Fraction

(10.2) T (Min)	(10.2) Hydro Reading	(7.3) Corr. Fact.	(10.4) Temp °C	Table 1 Specific Gravity	H (Net)	(14.3) a	Table 2 L Eff. Depth	Table 3 K	(14.3) % Passing = H/Wa * 100	(15.1) Dia-meter
2	15	6	20	1.13	9	1.32	14.8	0.0247029	26.3	0.0673
5	14	6	20	1.13	8	1.32	15.0	0.0247029	23.4	0.0428
15	11	6	20	1.13	5	1.32	15.5	0.0247029	14.6	0.0251
30	11	6	20	1.13	5	1.32	15.5	0.0247029	14.6	0.0177
60	10	6	20	1.13	4	1.32	15.6	0.0247029	11.7	0.0126
250	9	6	20	1.13	3	1.32	15.8	0.0247029	8.8	0.0062
1440	8	6	20	1.13	2	1.32	16.0	0.0247029	5.8	0.0026

Comments:

Reviewed By:	Date: 11/6/09

Sample Name: M-4-C
Lab Code: K0909140-003



Columbia Analytical Services, Inc.

Sample Name :	M-1-B	Service Request:	K0909140
Lab Code:	K0909140-004	Method:	D421 / D422
Client:	URS Corporation	Date Collected:	10/7/2009
Project:	oise St. Helens Pulp and Paper Mill-2009	Date Received:	10/8/2009
Sample Matrix:	Sediment	Date Analyzed:	10/27/2009

Sample Preparation (ASTM D421-85)

(1) Mass of total test sample. (g) (6.1) 50.7010

(2) Coarse Material (6.2)

Coarse material + Tare. (g) 0.0000

Tare weight. (g) 0.0000

(3) Mass retained on the No. 4 sieve. (g) (6.2) 0.0000

(4) Selected portion of fine material. (g) (7.1) 50.7010

Particle Analysis (ASTM D422-63)

Sieve Analysis Of Coarse Material. (6.1)

Gravel 19.0 mm	3/4"	0.0000
Gravel 9.50 mm	3/8"	0.0000
Gravel 4.75 mm	4	0.0000
Gravel 2.00 mm	10	0.0000

Sieve Analysis Of Fine Material. (11.1)

Gravel 0.850 mm	20	0.9271
Gravel 0.425 mm	40	1.8246
Gravel 0.250 mm	60	3.7311
Gravel 0.106 mm	140	73.8301
Gravel 0.075 mm	200	7.6706
Pan	-	2.1041

Analysis of fine material.

Hydrometer corrections. (7.3)

	Hydro 1	Hydro 2
Reading:	6	0

Hygroscopic moisture. (8.1)

Air dried (g)	11.1560
Tare (g)	1.2966
Oven dried + Tare	10.9769

Weight of Fine material

Dry wt.+Tare (g)	141.5520
Tare (g)	111.5655
Fine material (g)	29.9865

Determination of Silt/Clay Fraction. (10.2) (10.3) (10.4)

(10.2) T (Min)	(10.2) Hydro Reading	(7.3) Corr. Fact.	(10.4) Temp °C	Specific Gravity		Table 1 a		Table 3 K		
2	16	6	20	1.12		1.330		0.02470		
5	14		20					0.02470		
15	12		20					0.02470		
30	11		20					0.02470		
60	11		20					0.02470		
250	9		20					0.02470		
1440	8		20					0.02470		

Analyst: KC CP Date: 10/27/2009

Reviewed by : Date: 11/6/09

Client:	URS Corporation	**Service Request:**	K0909140
Project:	Boise St. Helens Pulp and Paper Mill-2009	**Date Collected:**	10/7/2009
Sample Matrix:	Sediment	**Date Received:**	10/8/2009
		Date Analyzed:	10/27/2009

ASTM Method D422 Particle Size

Sample Name: M-1-B **Lab Code:** K0909140-004

Initial Weight of air-dried sample. **(6.1)**	50.7010
Mass retained on the No. 4 sieve. **(6.2)**	0.0000
Air-dried portion of fine material. **(7.1)**	50.7010

Course Sieving ASTM D421 (6.2)

Mass of coarse material (g)	0.0000
Percent Recovered	#DIV/0!

Coarse sieving (6.1)		Sieve #	Weight (g)	% Passing	Mass Passing
Gravel	19.0 mm	3/4"	0.0000	100.0	50.7010
Gravel	9.50 mm	3/8"	0.0000	100.0	50.7010
Medium Gravel	4.75 mm	4	0.0000	100.0	50.7010
Fine Gravel	2.00 mm	10	0.0000	100.0	50.7010
Fine sieving (11.1)					
V.C. Sand	0.850 mm	20	0.9271	97.9	43.0672
C. Sand	0.425 mm	40	1.8246	93.7	41.2426
M. Sand	0.250 mm	60	3.7311	85.3	37.5115
F. Sand	0.106 mm	140	13.8301	53.8	23.6814
V.F. Sand	0.075 mm	200	7.6706	36.4	16.0108 **(16.2)**

Calculated amount retained on the # 10 sieve. **(16.1)**	0.0000

Total Recovered (g)	43.9943
Total Recovered (%)	100.0

Hygroscopic Moisture (8.1)

Air-dried sample (g)	11.1560
Oven dried sample (g)	9.6803
Hygroscopic Moisture **(13.1)**	0.8677

(W) **(14.2)**	43.9943

Oven-Dried Sample used in hydrometer analysis. (g) **(14.1)**	43.9943

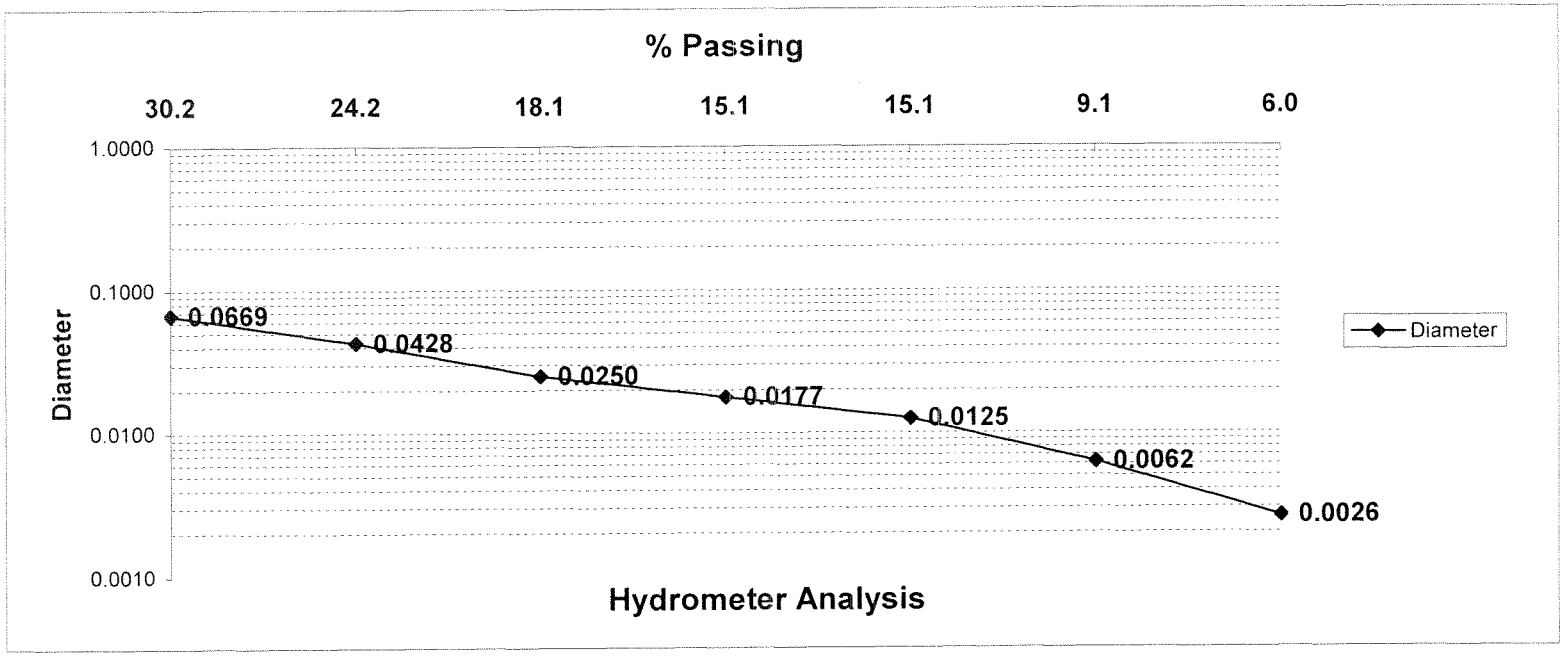
Determination of Silt/Clay Fraction

(10.2) T (Min)	(10.2) Hydro Reading	(7.3) Corr. Fact.	(10.4) Temp °C	Table 1 Specific Gravity	H (Net)	(14.3) a	Table 2 L Eff. Depth	Table 3 K	(14.3) % Passing = H/Wa * 100	(15.1) Dia-meter
2	16	6	20	1.12	10	1.33	14.7	0.0247029	30.2	0.0669
5	14	6	20	1.12	8	1.33	15.0	0.0247029	24.2	0.0428
15	12	6	20	1.12	6	1.33	15.3	0.0247029	18.1	0.0250
30	11	6	20	1.12	5	1.33	15.5	0.0247029	15.1	0.0177
60	11	6	20	1.12	5	1.33	15.5	0.0247029	15.1	0.0125
250	9	6	20	1.12	3	1.33	15.8	0.0247029	9.1	0.0062
1440	8	6	20	1.12	2	1.33	16.0	0.0247029	6.0	0.0026

Comments:

Reviewed By: Date: 11/6/09

Sample Name: M-1-B
Lab Code: K0909140-004



Columbia Analytical Services, Inc.

Sample Name :	M-2-C	Service Request:	K0909140
Lab Code:	K0909140-005	Method:	D421 / D422
Client:	URS Corporation	Date Collected:	10/6/2009
Project:	oise St. Helens Pulp and Paper Mill-2009	Date Received:	10/7/2009
Sample Matrix:	Sediment	Date Analyzed:	10/27/2009

Sample Preparation (ASTM D421-85)

(1) Mass of total test sample. (g) (6.1) 50.1550

(2) Coarse Material (6.2)

Coarse material + Tare. (g) 0.0000

Tare weight. (g) 0.0000

(3) Mass retained on the No. 4 sieve. (g) (6.2) 0.0000

(4) Selected portion of fine material. (g) (7.1) 50.1550

Particle Analysis (ASTM D422-63)

Sieve Analysis Of Coarse Material. (6.1)

Gravel 19.0 mm	3/4"	0.0000
Gravel 9.50 mm	3/8"	0.0000
Gravel 4.75 mm	4	0.0000
Gravel 2.00 mm	10	0.0000

Sieve Analysis Of Fine Material. (11.1)

Gravel 0.850 mm	20	0.8762
Gravel 0.425 mm	40	2.5836
Gravel 0.250 mm	60	4.7488
Gravel 0.106 mm	140	9.6470
Gravel 0.075 mm	200	5.5609
Pan	-	2.5451

Analysis of fine material.

Hydrometer corrections. (7.3)

	Hydro 1	Hydro 2
Reading:	6	0

Hygroscopic moisture. (8.1)

Air dried (g)	10.3727
Tare (g)	1.2913
Oven dried + Tare	12.1017

Weight of Fine material

Dry wt.+Tare (g)	125.9479
Tare (g)	100.0373
Fine material (g)	25.9106

Determination of Silt/Clay Fraction. (10.2) (10.3) (10.4)

(10.2) T (Min)	(10.2) Hydro Reading	(7.3) Corr. Fact.	(10.4) Temp °C	Specific Gravity		Table 1 a		Table 3 K		
2	15	6	20	1.09		1.330		0.02470		
5	13		20					0.02470		
15	10		20					0.02470		
30	10		20					0.02470		
60	9		20					0.02470		
250	8		20					0.02470		
1440	6		20					0.02470		

Analyst: KC CP Date: 10/27/2009

Reviewed by : Date: 11/10/09

Client:	URS Corporation	**Service Request:**	K0909140
Project:	Boise St. Helens Pulp and Paper Mill-2009	**Date Collected:**	10/6/2009
Sample Matrix:	Sediment	**Date Received:**	10/7/2009
		Date Analyzed:	10/27/2009

ASTM Method D422 Particle Size

Sample Name: M-2-C **Lab Code:** K0909140-005

Initial Weight of air-dried sample. **(6.1)**	50.1550
Mass retained on the No. 4 sieve. **(6.2)**	0.0000
Air-dried portion of fine material. **(7.1)**	50.1550

Course Sieving ASTM D421 (6.2)

Mass of coarse material (g)	0.0000
Percent Recovered	#DIV/0!

Coarse sieving (6.1)		**Sieve #**	**Weight (g)**	**% Passing**	**Mass Passing**
Gravel	19.0 mm	3/4"	0.0000	100.0	50.1550
Gravel	9.50 mm	3/8"	0.0000	100.0	50.1550
Medium Gravel	4.75 mm	4	0.0000	100.0	50.1550
Fine Gravel	2.00 mm	10	0.0000	100.0	50.1550
Fine sieving (11.1)					
V.C. Sand	0.850 mm	20	0.8762	98.3	49.2788
C. Sand	0.425 mm	40	2.5836	93.1	46.6952
M. Sand	0.250 mm	60	4.7488	83.6	41.9464
F. Sand	0.106 mm	140	9.6470	64.4	32.2994
V.F. Sand	0.075 mm	200	5.5609	53.3	26.7385

(16.2)

* Hygro. moisture actually 1.0422. Rounded to 1.0000 for reporting purposes.

Calculated amount retained on the # 10 sieve. **(16.1)**	0.0000

Total Recovered (g)	50.1550
Total Recovered (%)	100.0

Hygroscopic Moisture (8.1)

Air-dried sample (g)	10.3727
Oven dried sample (g)	10.8104
Hygroscopic Moisture **(13.1)**	* 1.0000

(W) **(14.2)**	50.1550

Oven-Dried Sample used in hydrometer analysis. (g) **(14.1)**	50.1550

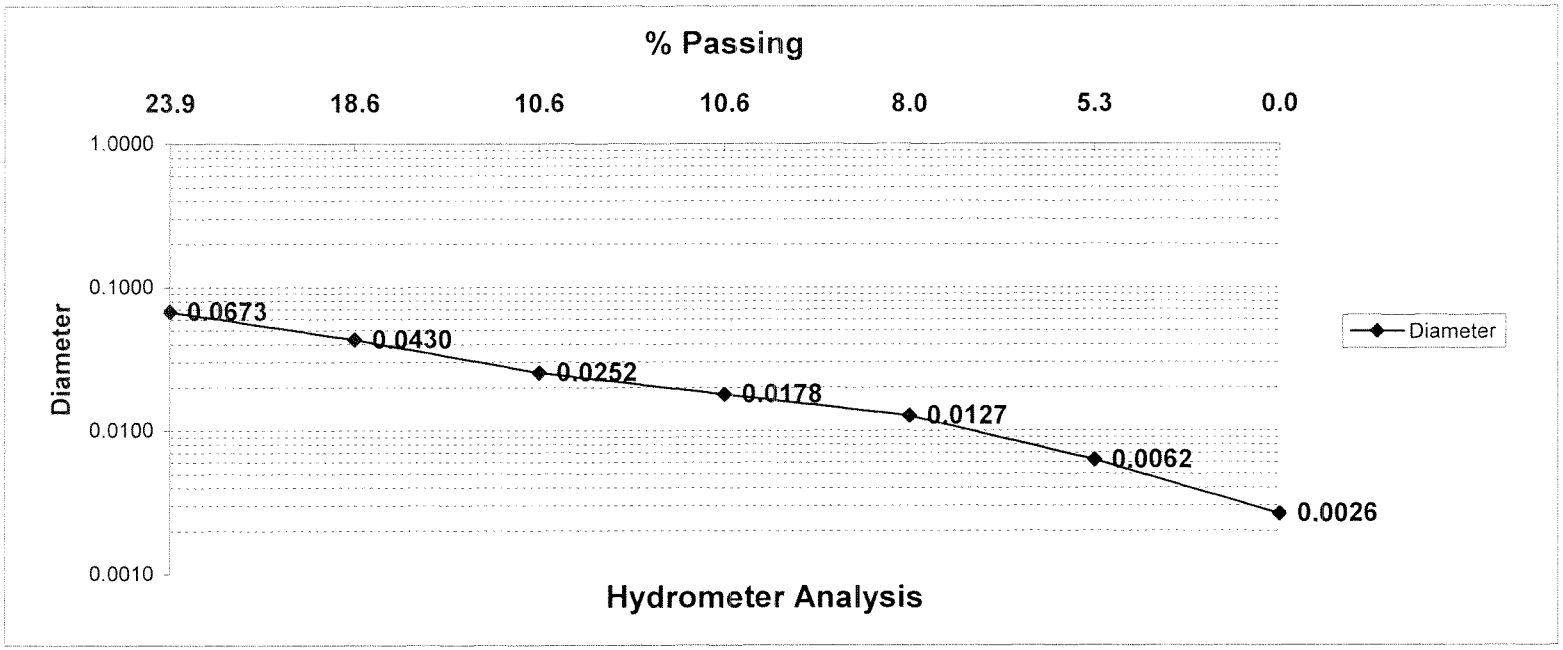
Determination of Silt/Clay Fraction

(10.2) T (Min)	**(10.2)** Hydro Reading	**(7.3)** Corr. Fact.	**(10.4)** Temp °C	**Table 1** Specific Gravity	H (Net)	**(14.3)** a	**Table 2** L Eff. Depth	**Table 3** K	**(14.3)** % Passing = H/Wa * 100	**(15.1)** Dia-meter
2	15	6	20	1.09	9	1.33	14.8	0.0247029	23.9	0.0673
5	13	6	20	1.09	7	1.33	15.2	0.0247029	18.6	0.0430
15	10	6	20	1.09	4	1.33	15.6	0.0247029	10.6	0.0252
30	10	6	20	1.09	4	1.33	15.6	0.0247029	10.6	0.0178
60	9	6	20	1.09	3	1.33	15.8	0.0247029	8.0	0.0127
250	8	6	20	1.09	2	1.33	16.0	0.0247029	5.3	0.0062
1440	6	6	20	1.09	0	1.33	16.3	0.0247029	0.0	0.0026

Comments:

Reviewed By:	Date: 11/6/09

Sample Name: M-2-C
Lab Code: K0909140-005



Columbia Analytical Services, Inc.

Sample Name :	M-4-C	Service Request:	K0909140
Lab Code:	K0909140-003DUP	Method:	D421 / D422
Client:	URS Corporation	Date Collected:	9/28/2009
Project:	oise St. Helens Pulp and Paper Mill-2009	Date Received:	9/29/2009
Sample Matrix:	Sediment	Date Analyzed:	10/27/2009

Sample Preparation (ASTM D421-85)

(1) Mass of total test sample. (g) (6.1) 45.1127

(2) Coarse Material (6.2)

Coarse material + Tare. (g) 0.0000

Tare weight. (g) 0.0000

(3) Mass retained on the No. 4 sieve. (g) (6.2) 0.0000

(4) Selected portion of fine material. (g) (7.1) 45.1127

Particle Analysis (ASTM D422-63)

Sieve Analysis Of Coarse Material. (6.1)

Gravel 19.0 mm	3/4"	0.0000
Gravel 9.50 mm	3/8"	0.0000
Gravel 4.75 mm	4	0.0000
Gravel 2.00 mm	10	0.0000

Sieve Analysis Of Fine Material. (11.1)

Gravel 0.850 mm	20	0.4391
Gravel 0.425 mm	40	1.1427
Gravel 0.250 mm	60	1.3375
Gravel 0.106 mm	140	10.7472
Gravel 0.075 mm	200	8.8034
Pan	-	3.1817

Analysis of fine material.

Hydrometer corrections. (7.3)

	Hydro 1	Hydro 2
Reading:	6	0

Hygroscopic moisture. (8.1)

Air dried (g)	10.1336
Tare (g)	1.2987
Oven dried + Tare	11.3067

Weight of Fine material

Dry wt.+Tare (g)	128.1609
Tare (g)	102.5570
Fine material (g)	25.6039

Determination of Silt/Clay Fraction. (10.2) (10.3) (10.4)

(10.2) T (Min)	(10.2) Hydro Reading	(7.3) Corr. Fact.	(10.4) Temp °C	Specific Gravity		Table 1 a		Table 3 K		
2	15	6	20	1.13		1.320		0.02470		
5	14		20					0.02470		
15	10		20					0.02470		
30	10		20					0.02470		
60	10		20					0.02470		
250	9		20					0.02470		
1440	7		20					0.02470		

Analyst: KC CP Date: 10/27/2009

Reviewed by : Date: 11/6/09

Client:	URS Corporation	**Service Request:**	K0909140
Project:	Boise St. Helens Pulp and Paper Mill-2009	**Date Collected:**	9/28/2009
Sample Matrix:	Sediment	**Date Received:**	9/29/2009
		Date Analyzed:	10/27/2009

ASTM Method D422 Particle Size

Sample Name: M-4-C **Lab Code:** K0909140-003DUP

Initial Weight of air-dried sample. **(6.1)**	45.1127
Mass retained on the No. 4 sieve. **(6.2)**	0.0000
Air-dried portion of fine material. **(7.1)**	45.1127

Course Sieving ASTM D421 (6.2)

Mass of coarse material (g)	0.0000
Percent Recovered	#DIV/0!

Coarse sieving (6.1)		**Sieve #**	**Weight (g)**	**% Passing**	**Mass Passing**
Gravel	19.0 mm	3/4"	0.0000	100.0	45.1127
Gravel	9.50 mm	3/8"	0.0000	100.0	45.1127
Medium Gravel	4.75 mm	4	0.0000	100.0	45.1127
Fine Gravel	2.00 mm	10	0.0000	100.0	45.1127
Fine sieving (11.1)					
V.C. Sand	0.850 mm	20	0.4391	99.0	44.1145
C. Sand	0.425 mm	40	1.1427	96.4	42.9718
M. Sand	0.250 mm	60	1.3375	93.4	41.6343
F. Sand	0.106 mm	140	10.7472	69.3	30.8871
V.F. Sand	0.075 mm	200	8.8034	49.6	22.0837 **(16.2)**

Calculated amount retained on the # 10 sieve. **(16.1)**	0.0000

Total Recovered (g)	44.5536
Total Recovered (%)	100.0

Hygroscopic Moisture (8.1)

Air-dried sample (g)	10.1336
Oven dried sample (g)	10.0080
Hygroscopic Moisture **(13.1)**	0.9876

(W) **(14.2)**	44.5536

Oven-Dried Sample used in hydrometer analysis. (g) **(14.1)**	44.5536

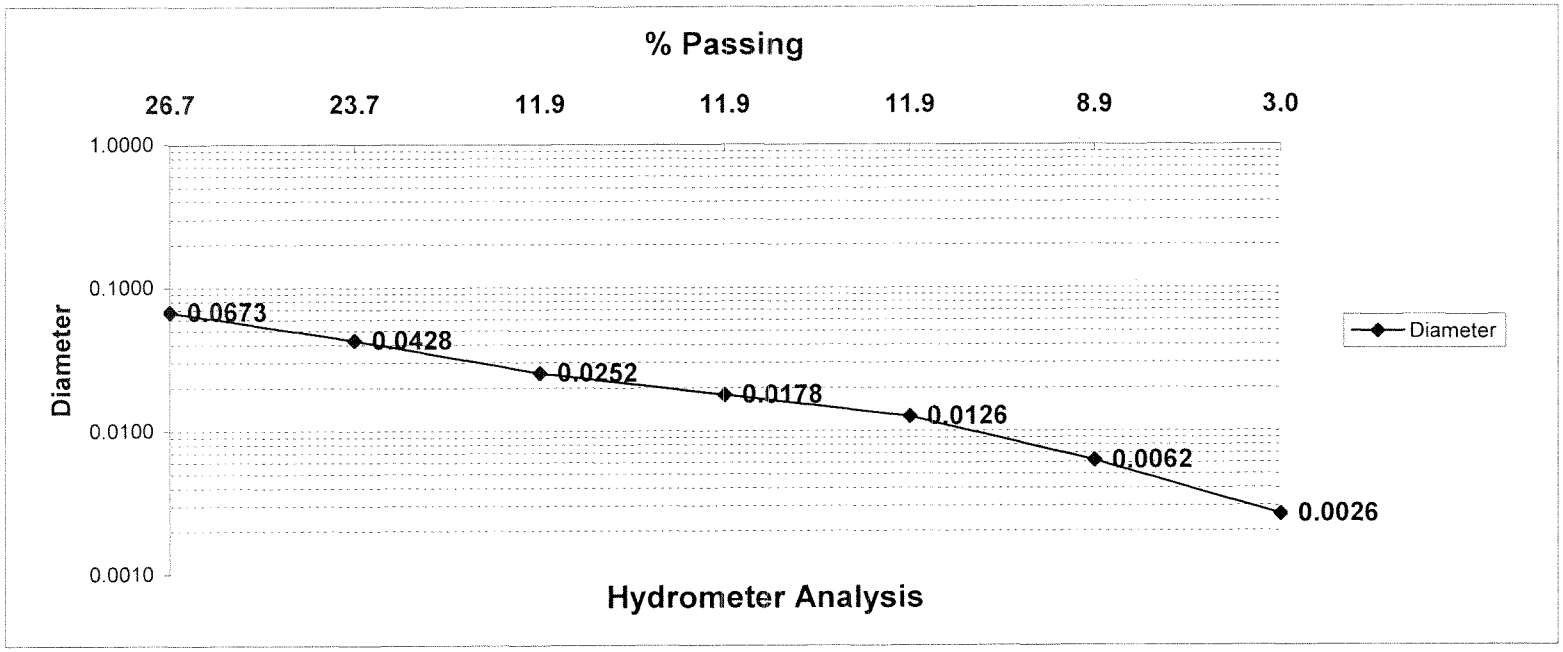
Determination of Silt/Clay Fraction

(10.2) T (Min)	**(10.2)** Hydro Reading	**(7.3)** Corr. Fact.	**(10.4)** Temp °C	**Table 1** Specific Gravity	H (Net)	**(14.3)** a	**Table 2** L Eff. Depth	**Table 3** K	**(14.3)** % Passing = H/Wa * 100	**(15.1)** Dia-meter
2	15	6	20	1.13	9	1.32	14.8	0.0247029	26.7	0.0673
5	14	6	20	1.13	8	1.32	15.0	0.0247029	23.7	0.0428
15	10	6	20	1.13	4	1.32	15.6	0.0247029	11.9	0.0252
30	10	6	20	1.13	4	1.32	15.6	0.0247029	11.9	0.0178
60	10	6	20	1.13	4	1.32	15.6	0.0247029	11.9	0.0126
250	9	6	20	1.13	3	1.32	15.8	0.0247029	8.9	0.0062
1440	7	6	20	1.13	1	1.32	16.1	0.0247029	3.0	0.0026

Comments:

Reviewed By:	Date: 11/6/09

Sample Name: M-4-C
Lab Code: K0909140-003DUP



Columbia Analytical Services, Inc.

Sample Name :	9140-1	Service Request:	0
Lab Code:		Method:	
Client:	0	Date Collected:	
Project:	0	Date Received:	
Sample Matrix:	0	Date Analyzed:	

Sample Preparation (ASTM D421-85)

(1) Mass of total test sample. (g) (6.1) 50.3570

(3) Mass retained on the No. 4 sieve. (g) (6.2) 0.0000

(2) Coarse Material (6.2)

Coarse material + Tare. (g) Ø

Tare weight. (g) Ø

(4) Selected portion of fine material. (g) (7.1) #VALUE!

Particle Analysis (ASTM D422-63)

Sieve Analysis Of Coarse Material. (6.1)

Gravel 19.0 mm	3/4"	Ø
Gravel 9.50 mm	3/8"	Ø
Gravel 4.75 mm	4	Ø
Gravel 2.00 mm	10	Ø

Sieve Analysis Of Fine Material. (11.1)

Gravel 0.850 mm	20	0.6214
Gravel 0.425 mm	40	1.0438
Gravel 0.250 mm	60	1.9835
Gravel 0.106 mm	140	13.6582
Gravel 0.075 mm	200	8.5070
Pan	-	2.1318

Analysis of fine material.

Hydrometer corrections. (7.3)

	Hydro 1	Hydro 2
Reading:	6	0

Hygroscopic moisture. (8.1)

Air dried (g)	10.8472
Tare (g)	1.3005
Oven dried + Tare	11.9999

Weight of Fine material

Dry wt.+Tare (g)	130.8474
Tare (g)	102.9787
Fine material (g)	#VALUE!

Determination of Silt/Clay Fraction. (10.2) (10.3) (10.4)

(10.2) T (Min)	(10.2) Hydro Reading	(7.3) Corr. Fact.	(10.4) Temp °C	Specific Gravity		Table 1 a		Table 3 K		
2	18	Co	20	1.14		1.32				
5	14		20							
15	12		20							
30	11		20							
60	11		20							
250	10		20							
1440	9		20							

Analyst: KC Date: 10/27/09

Reviewed by : Date: 11/6/09

Columbia Analytical Services, Inc.

Sample Name :	9140 -2	Service Request:	0
Lab Code:		Method:	
Client:	0	Date Collected:	
Project:	0	Date Received:	
Sample Matrix:	0	Date Analyzed:	

Sample Preparation (ASTM D421-85)

(1) Mass of total test sample. (g) (6.1) 50.2440

(3) Mass retained on the No. 4 sieve. (g) (6.2) 0.0000

(2) Coarse Material (6.2)

Coarse material + Tare. (g) 0

Tare weight. (g) 0

(4) Selected portion of fine material. (g) (7.1) #VALUE!

Particle Analysis (ASTM D422-63)

Sieve Analysis Of Coarse Material. (6.1)

Gravel 19.0 mm	3/4"	0
Gravel 9.50 mm	3/8"	0
Gravel 4.75 mm	4	0
Gravel 2.00 mm	10	0

Sieve Analysis Of Fine Material. (11.1)

Gravel 0.850 mm	20	0.2577
Gravel 0.425 mm	40	0.5981
Gravel 0.250 mm	60	1.0475
Gravel 0.106 mm	140	10.3250
Gravel 0.075 mm	200	9.8974
Pan	-	3.5066

Analysis of fine material.

Hydrometer corrections. (7.3)

	Hydro 1	Hydro 2
Reading:	6	0

Hygroscopic moisture. (8.1)

Air dried (g)	10.1498
Tare (g)	1.3006
Oven dried + Tare	11.3309

Weight of Fine material

Dry wt.+Tare (g)	129.9173
Tare (g)	104.3493
Fine material (g)	#VALUE!

Determination of Silt/Clay Fraction. (10.2) (10.3) (10.4)

(10.2) T (Min)	(10.2) Hydro Reading	(7.3) Corr. Fact.	(10.4) Temp °C	Specific Gravity		Table 1 a		Table 3 K		
2	21	6	20	1.09		1.33				
5	15		20							
15	13		20							
30	12		20							
60	11		20							
250	10		20							
1440	8		20							

Analyst: KC Date: 10/27/09

Reviewed by : SM Date: 11/6/09

Columbia Analytical Services, Inc.

Sample Name :	9140-3	Service Request:	0
Lab Code:		Method:	
Client:	0	Date Collected:	
Project:	0	Date Received:	
Sample Matrix:	0	Date Analyzed:	

Sample Preparation (ASTM D421-85)

(1) Mass of total test sample. (g) (6.1) ~~50.0000~~ 45.7714 KC 10/27/09

(3) Mass retained on the No. 4 sieve. (g) (6.2) 0.0000

(2) Coarse Material (6.2)

Coarse material + Tare. (g) 0

Tare weight. (g) 0

(4) Selected portion of fine material. (g) (7.1) #VALUE!

Particle Analysis (ASTM D422-63)

Sieve Analysis Of Coarse Material. (6.1)

Gravel 19.0 mm	3/4"	0
Gravel 9.50 mm	3/8"	0
Gravel 4.75 mm	4	0
Gravel 2.00 mm	10	0

Sieve Analysis Of Fine Material. (11.1)

Gravel 0.850 mm	20	0.4939
Gravel 0.425 mm	40	0.8727
Gravel 0.250 mm	60	1.2193
Gravel 0.106 mm	140	11.0285
Gravel 0.075 mm	200	8.1965
Pan	-	2.7170

Analysis of fine material.

Hydrometer corrections. (7.3)

	Hydro 1	Hydro 2
Reading:	6	0

Hygroscopic moisture. (8.1)

Air dried (g)	10.1336
Tare (g)	1.2987
Oven dried + Tare	11.3067

Weight of Fine material

Dry wt.+Tare (g)	127.6746
Tare (g)	103.2155
Fine material (g)	#VALUE!

Determination of Silt/Clay Fraction. (10.2) (10.3) (10.4)

(10.2) T (Min)	(10.2) Hydro Reading	(7.3) Corr. Fact.	(10.4) Temp °C	Specific Gravity		Table 1 a		Table 3 K		
2	15	6	20	1.13		1.32				
5	14									
15	11									
30	11									
60	10									
250	9									
1440	8									

Analyst: KC Date: 10/27/09

Reviewed by : Date: 11/6/09

Columbia Analytical Services, Inc.

Sample Name :	9140 -4	Service Request:	0
Lab Code:		Method:	
Client:	0	Date Collected:	
Project:	0	Date Received:	
Sample Matrix:	0	Date Analyzed:	

Sample Preparation (ASTM D421-85)

(1) Mass of total test sample. (g) (6.1) 50.700

(3) Mass retained on the No. 4 sieve. (g) (6.2) 0.0000

(2) Coarse Material (6.2)

Coarse material + Tare. (g) 0

Tare weight. (g) 0

(4) Selected portion of fine material. (g) (7.1) #VALUE!

Particle Analysis (ASTM D422-63)

Sieve Analysis Of Coarse Material. (6.1)

Gravel 19.0 mm	3/4"	0
Gravel 9.50 mm	3/8"	0
Gravel 4.75 mm	4	0
Gravel 2.00 mm	10	0

Sieve Analysis Of Fine Material. (11.1)

Gravel 0.850 mm	20	0.9271
Gravel 0.425 mm	40	1.8246
Gravel 0.250 mm	60	3.7311
Gravel 0.106 mm	140	13.8301
Gravel 0.075 mm	200	7.6706
Pan	-	2.1041

Analysis of fine material.

Hydrometer corrections. (7.3)

	Hydro 1	Hydro 2
Reading:	6	0

Hygroscopic moisture. (8.1)

Air dried (g)	11.1560
Tare (g)	1.2946
Oven dried + Tare	10.9769

Weight of Fine material

Dry wt.+Tare (g)	141.5520
Tare (g)	111.5055
Fine material (g)	#VALUE!

Determination of Silt/Clay Fraction. (10.2) (10.3) (10.4)

(10.2) T (Min)	(10.2) Hydro Reading	(7.3) Corr. Fact.	(10.4) Temp °C	Specific Gravity		Table 1 a		Table 3 K		
2	16	6	20	1.12		1.33				
5	14		20							
15	12		20							
30	11		20							
60	11		20							
250	9		20							
1440	8		20							

Analyst: KC Date: 10/27/09

Reviewed by : Date: 11/6/09

Columbia Analytical Services, Inc.

Sample Name :	9140-S	Service Request:	0
Lab Code:		Method:	
Client:	0	Date Collected:	
Project:	0	Date Received:	
Sample Matrix:	0	Date Analyzed:	

Sample Preparation (ASTM D421-85)

(1) Mass of total test sample. (g) (6.1) 50.1550

(3) Mass retained on the No. 4 sieve. (g) (6.2) 0.0000

(2) Coarse Material (6.2)

Coarse material + Tare. (g) 0

Tare weight. (g) 0

(4) Selected portion of fine material. (g) (7.1) #VALUE!

Particle Analysis (ASTM D422-63)

Sieve Analysis Of Coarse Material. (6.1)

Gravel 19.0 mm	3/4"	0
Gravel 9.50 mm	3/8"	0
Gravel 4.75 mm	4	0
Gravel 2.00 mm	10	0

Sieve Analysis Of Fine Material. (11.1)

Gravel 0.850 mm	20	0.8762
Gravel 0.425 mm	40	2.5836
Gravel 0.250 mm	60	4.7488
Gravel 0.106 mm	140	9.6470
Gravel 0.075 mm	200	5.5609
Pan	-	2.5451

Analysis of fine material.

Hydrometer corrections. (7.3)

	Hydro 1	Hydro 2
Reading:	6	0

Hygroscopic moisture. (8.1)

Air dried (g)	10.3727
Tare (g)	1.2913
Oven dried + Tare	12.1017

Weight of Fine material

Dry wt.+Tare (g)	125.9479
Tare (g)	100.0373
Fine material (g)	#VALUE!

Determination of Silt/Clay Fraction. (10.2) (10.3) (10.4)

(10.2) T (Min)	(10.2) Hydro Reading	(7.3) Corr. Fact.	(10.4) Temp °C	Specific Gravity		Table 1 a		Table 3 K		
2	15	6	20	1.09		1.33				
5	13		20							
15	10		20							
30	10		20							
60	9		20							
250	8		20							
1440	6		20							

Analyst: KC Date: 10/27/09

Reviewed by : [signature] Date: 11/6/09

Columbia Analytical Services, Inc.

Sample Name :	9140-3 DUP	Service Request:	0
Lab Code:		Method:	
Client:	0	Date Collected:	
Project:	0	Date Received:	
Sample Matrix:	0	Date Analyzed:	

Sample Preparation (ASTM D421-85)

(1) Mass of total test sample. (g) (6.1) 45.1127

(3) Mass retained on the No. 4 sieve. (g) (6.2) 0.0000

(2) Coarse Material (6.2)

Coarse material + Tare. (g) 0

Tare weight. (g) 0

(4) Selected portion of fine material. (g) (7.1) #VALUE!

Particle Analysis (ASTM D422-63)

Sieve Analysis Of Coarse Material. (6.1)

Gravel 19.0 mm	3/4"	0
Gravel 9.50 mm	3/8"	0
Gravel 4.75 mm	4	0
Gravel 2.00 mm	10	0

Sieve Analysis Of Fine Material. (11.1)

Gravel 0.850 mm	20	0.4391
Gravel 0.425 mm	40	1.1427
Gravel 0.250 mm	60	1.3375
Gravel 0.106 mm	140	10.7477
Gravel 0.075 mm	200	8.8034
Pan	-	3.1817

Analysis of fine material.

Hydrometer corrections. (7.3)

	Hydro 1	Hydro 2
Reading:	6	0

Hygroscopic moisture. (8.1)

Air dried (g)	~~11.5360~~	10.1336
Tare (g)	1.2966 KC 10/27/09	1.2987
Oven dried + Tare		11.3067

Weight of Fine material

Dry wt.+Tare (g)	128.1609
Tare (g)	102.5570
Fine material (g)	#VALUE!

Determination of Silt/Clay Fraction. (10.2) (10.3) (10.4)

(10.2) T (Min)	(10.2) Hydro Reading	(7.3) Corr. Fact.	(10.4) Temp °C	Specific Gravity		Table 1 a		Table 3 K		
2	15	6	20	1.13		1.32				
5	14		20							
15	10		20							
30	10		20							
60	10		20							
250	9		20							
1440	7		20							

Analyst: KC Date: 10/27/09

Reviewed by : [signature] Date: 11/6/09

Columbia Analytical Services Inc.

Service Request #: k0909140 Method: SM 2710 F

Analysis For: Specific Gravity

Sample	Weight of DIW	Weight of sample (g)	Temperature correction factor F	Specific Gravity
9140-1	20.0946	22.9998	0.9982	1.14
9140-2	20.0946	21.8708	0.9982	1.09
9140-3	20.0946	22.7614	0.9982	1.13
9140-4	20.0946	22.628	0.9982	1.12
9140-5	20.0946	22.0068	0.9982	1.09
9140-3DUP	20.0946	22.5631	0.9982	1.12

Comments: **of 20mL DIW (g) =** 20.0946

9140-3/3DUP X= 1.13 RPD = <1%

Temperature C	Temp. Correction F	
15	0.9991	
20	0.9982	xxxxx
25	0.9975	
30	0.9957	
35	0.9941	

Analyzed By:	KC	Date:	10/27/09
Reviewed By:		Date:	11/6/09

K0909140.SPG.KC

Service Request #: K- 9140-

Method: SM 2710 F

Analysis For: Specific Gravity

Sample	Weight of DIW	Weight of sample (g)	Temperature correction factor F	Specific Gravity
9140-1	20.0946	22.9998	0.9982	1.14
-2	↓	21.8708	↓	1.09
-3	↓	22.7614	↓	1.13
-4	↓	22.0280	↓	1.12
-5	↓	22.0068	↓	1.09
3d	↓	22.5631		1.12

Comments: Weight of 20mL DIW (g) = 20.0946

9140|3|3Dup $\bar{x}$ = 1.13
RPD = 4%

Temperature C	Temp. Correction F
15	0.9991
20 x	0.9982 x
25	0.9975
30	0.9957
35	0.9941

Analyzed By: KC Date: 10/27/09

Reviewed By: Date: 11/6/09

Specific Gravity1

Columbia Analytical Services, Inc.

Sample Name :	M-2-A	Service Request:	K0909140
Lab Code:	K0909140-006	Method:	D421 / D422
Client:	URS Corporation	Date Collected:	10/6/2009
Project:	oise St. Helens Pulp and Paper Mill-2009	Date Received:	10/7/2009
Sample Matrix:	Sediment	Date Analyzed:	10/30/2009

Sample Preparation (ASTM D421-85)

(1) Mass of total test sample. (g) (6.1) 45.2490

(3) Mass retained on the No. 4 sieve. (g) (6.2) 0.0000

(2) Coarse Material (6.2)

Coarse material + Tare. (g) 0.0000

Tare weight. (g) 0.0000

(4) Selected portion of fine material. (g) (7.1) 45.2490

Particle Analysis (ASTM D422-63)

Sieve Analysis Of Coarse Material. (6.1)

Gravel 19.0 mm	3/4"	0.0000
Gravel 9.50 mm	3/8"	0.0000
Gravel 4.75 mm	4	0.0000
Gravel 2.00 mm	10	0.0000

Sieve Analysis Of Fine Material. (11.1)

Gravel 0.850 mm	20	0.6103
Gravel 0.425 mm	40	1.1171
Gravel 0.250 mm	60	3.0193
Gravel 0.106 mm	140	9.2049
Gravel 0.075 mm	200	6.6346
Pan	-	3.5442

Analysis of fine material.

Hydrometer corrections. (7.3)

	Hydro 1	Hydro 2
Reading:	6	0

Hygroscopic moisture. (8.1)

Air dried (g)	10.2358
Tare (g)	1.2799
Oven dried + Tare	11.4460

Weight of Fine material

Dry wt.+Tare (g)	130.9581
Tare (g)	106.7268
Fine material (g)	24.2313

Determination of Silt/Clay Fraction. (10.2) (10.3) (10.4)

(10.2) T (Min)	(10.2) Hydro Reading	(7.3) Corr. Fact.	(10.4) Temp °C	Specific Gravity		Table 1 a		Table 3 K		
2	18	6	21	0.97		1.360		0.02441		
5	14		21					0.02441		
15	11		21					0.02441		
30	11		21					0.02441		
60	9		21					0.02441		
250	8		21					0.02441		
1440	7		21					0.02441		

Analyst: KC CP Date: 10/30/2009

Reviewed by : Date: 11/10/09

Client:	URS Corporation	**Service Request:**	K0909140
Project:	Boise St. Helens Pulp and Paper Mill-2009	**Date Collected:**	10/6/2009
Sample Matrix:	Sediment	**Date Received:**	10/7/2009
		Date Analyzed:	10/30/2009

ASTM Method D422 Particle Size

Sample Name: M-2-A **Lab Code:** K0909140-006

Initial Weight of air-dried sample. **(6.1)**	45.2490
Mass retained on the No. 4 sieve. **(6.2)**	0.0000
Air-dried portion of fine material. **(7.1)**	45.2490

Course Sieving ASTM D421 (6.2)

Mass of coarse material (g)	0.0000
Percent Recovered	#DIV/0!

Coarse sieving (6.1)		**Sieve #**	**Weight (g)**	**% Passing**	**Mass Passing**
Gravel	19.0 mm	3/4"	0.0000	100.0	45.2490
Gravel	9.50 mm	3/8"	0.0000	100.0	45.2490
Medium Gravel	4.75 mm	4	0.0000	100.0	45.2490
Fine Gravel	2.00 mm	10	0.0000	100.0	45.2490
Fine sieving (11.1)					
V.C. Sand	0.850 mm	20	0.6103	98.6	44.3306
C. Sand	0.425 mm	40	1.1171	96.2	43.2135
M. Sand	0.250 mm	60	3.0193	89.4	40.1942
F. Sand	0.106 mm	140	9.2049	69.0	30.9893
V.F. Sand	0.075 mm	200	6.6346	54.2	24.3547 **(16.2)**

Calculated amount retained on the # 10 sieve. **(16.1)**	0.0000

Total Recovered (g)	44.9409
Total Recovered (%)	100.0

Hygroscopic Moisture (8.1)

Air-dried sample (g)	10.2358
Oven dried sample (g)	10.1661
Hygroscopic Moisture **(13.1)**	0.9932

(W) **(14.2)**	44.9409

Oven-Dried Sample used in hydrometer analysis. (g) **(14.1)**	44.9409

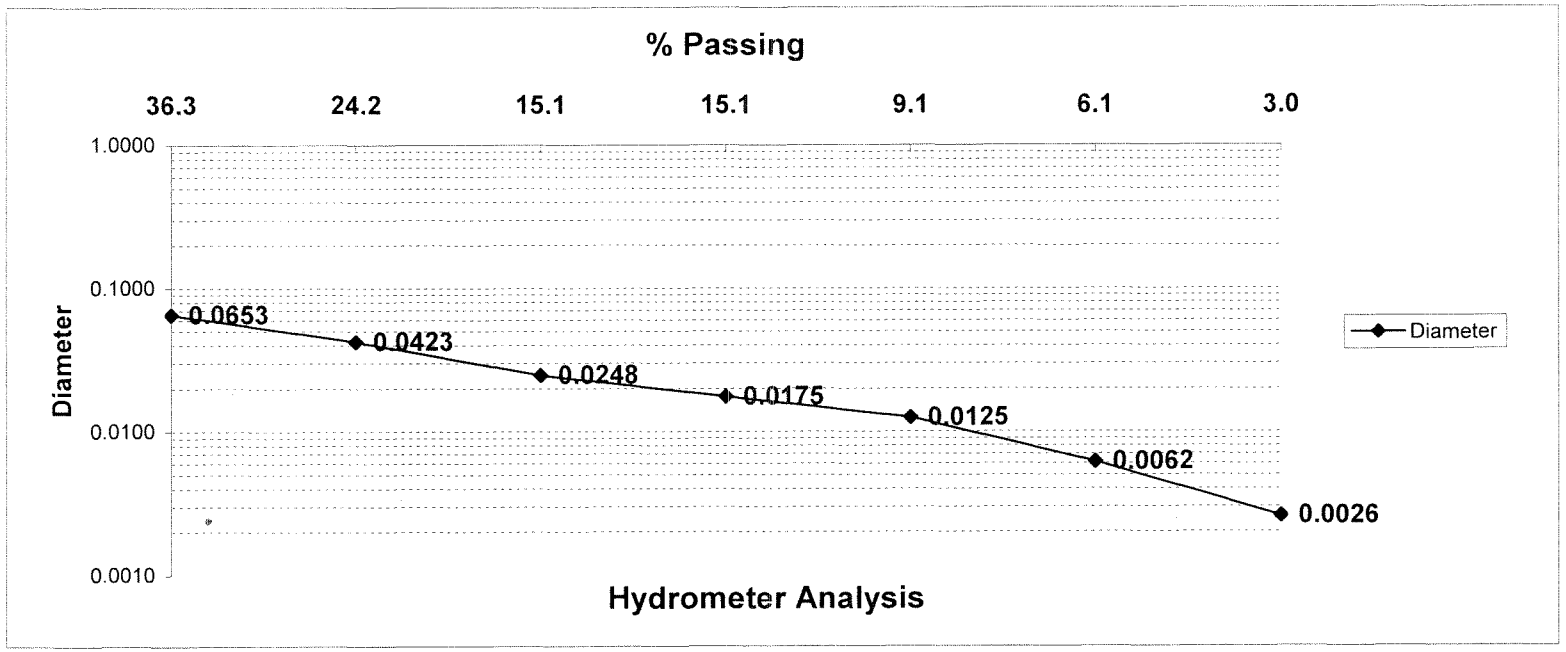
Determination of Silt/Clay Fraction

(10.2) T (Min)	**(10.2)** Hydro Reading	**(7.3)** Corr. Fact.	**(10.4)** Temp °C	**Table 1** Specific Gravity	H (Net)	**(14.3)** a	**Table 2** L Eff. Depth	**Table 3** K	**(14.3)** % Passing = H/Wa * 100	**(15.1)** Dia-meter
2	18	6	21	0.97	12	1.36	14.3	0.0244126	36.3	0.0653
5	14	6	21	0.97	8	1.36	15.0	0.0244126	24.2	0.0423
15	11	6	21	0.97	5	1.36	15.5	0.0244126	15.1	0.0248
30	11	6	21	0.97	5	1.36	15.5	0.0244126	15.1	0.0175
60	9	6	21	0.97	3	1.36	15.8	0.0244126	9.1	0.0125
250	8	6	21	0.97	2	1.36	16.0	0.0244126	6.1	0.0062
1440	7	6	21	0.97	1	1.36	16.1	0.0244126	3.0	0.0026

Comments:

Reviewed By:	Date: 11/6/09

Sample Name: M-2-A
Lab Code: K0909140-006



Columbia Analytical Services, Inc.

Sample Name :	M-3-B	Service Request:	K0909140
Lab Code:	K0909140-007	Method:	D421 / D422
Client:	URS Corporation	Date Collected:	10/5/2009
Project:	oise St. Helens Pulp and Paper Mill-2009	Date Received:	10/6/2009
Sample Matrix:	Sediment	Date Analyzed:	10/30/2009

Sample Preparation (ASTM D421-85)

(1) Mass of total test sample. (g) (6.1) 50.5162

(2) Coarse Material (6.2)

Coarse material + Tare. (g) 0.0000

Tare weight. (g) 0.0000

(3) Mass retained on the No. 4 sieve. (g) (6.2) 0.0000

(4) Selected portion of fine material. (g) (7.1) 50.5162

Particle Analysis (ASTM D422-63)

Sieve Analysis Of Coarse Material. (6.1)

Gravel 19.0 mm	3/4"	0.0000
Gravel 9.50 mm	3/8"	0.0000
Gravel 4.75 mm	4	0.0000
Gravel 2.00 mm	10	0.0000

Sieve Analysis Of Fine Material. (11.1)

Gravel 0.850 mm	20	0.2442
Gravel 0.425 mm	40	0.4812
Gravel 0.250 mm	60	1.1663
Gravel 0.106 mm	140	15.1842
Gravel 0.075 mm	200	9.9937
Pan	-	3.6909

Analysis of fine material.

Hydrometer corrections. (7.3)

	Hydro 1	Hydro 2
Reading:	6	0

Hygroscopic moisture. (8.1)

Air dried (g)	11.3753
Tare (g)	1.2789
Oven dried + Tare	12.6052

Weight of Fine material

Dry wt.+Tare (g)	136.3667
Tare (g)	105.5242
Fine material (g)	30.8425

Determination of Silt/Clay Fraction. (10.2) (10.3) (10.4)

(10.2) T (Min)	(10.2) Hydro Reading	(7.3) Corr. Fact.	(10.4) Temp °C	Specific Gravity		Table 1 a		Table 3 K		
2	16	6	21	1.07		1.340		0.02441		
5	13		21					0.02441		
15	12		21					0.02441		
30	12		21					0.02441		
60	10		21					0.02441		
250	9		21					0.02441		
1440	9		21					0.02441		

Analyst: KC CP Date: 10/30/2009

Reviewed by : Date: 11/6/09

Client:	URS Corporation	**Service Request:**	K0909140
Project:	Boise St. Helens Pulp and Paper Mill-2009	**Date Collected:**	10/5/2009
Sample Matrix:	Sediment	**Date Received:**	10/6/2009
		Date Analyzed:	10/30/2009

ASTM Method D422 Particle Size

Sample Name: M-3-B **Lab Code:** K0909140-007

Initial Weight of air-dried sample. **(6.1)**	50.5162
Mass retained on the No. 4 sieve. **(6.2)**	0.0000
Air-dried portion of fine material. **(7.1)**	50.5162

Course Sieving ASTM D421 (6.2)

Mass of coarse material (g)	0.0000
Percent Recovered	#DIV/0!

Coarse sieving (6.1)		**Sieve #**	**Weight (g)**	**% Passing**	**Mass Passing**
Gravel	19.0 mm	3/4"	0.0000	100.0	50.5162
Gravel	9.50 mm	3/8"	0.0000	100.0	50.5162
Medium Gravel	4.75 mm	4	0.0000	100.0	50.5162
Fine Gravel	2.00 mm	10	0.0000	100.0	50.5162
Fine sieving (11.1)					
V.C. Sand	0.850 mm	20	0.2442	99.5	50.0544
C. Sand	0.425 mm	40	0.4812	98.6	49.5732
M. Sand	0.250 mm	60	1.1663	96.2	48.4069
F. Sand	0.106 mm	140	15.1842	66.1	33.2227
V.F. Sand	0.075 mm	200	9.9937	46.2	23.2290 **(16.2)**

Calculated amount retained on the # 10 sieve. **(16.1)**	0.0000

Total Recovered (g)	50.2986
Total Recovered (%)	100.0

Hygroscopic Moisture (8.1)

Air-dried sample (g)	11.3753
Oven dried sample (g)	11.3263
Hygroscopic Moisture **(13.1)**	0.9957

(W) **(14.2)**	50.2986

Oven-Dried Sample used in hydrometer analysis. (g) **(14.1)**	50.2986

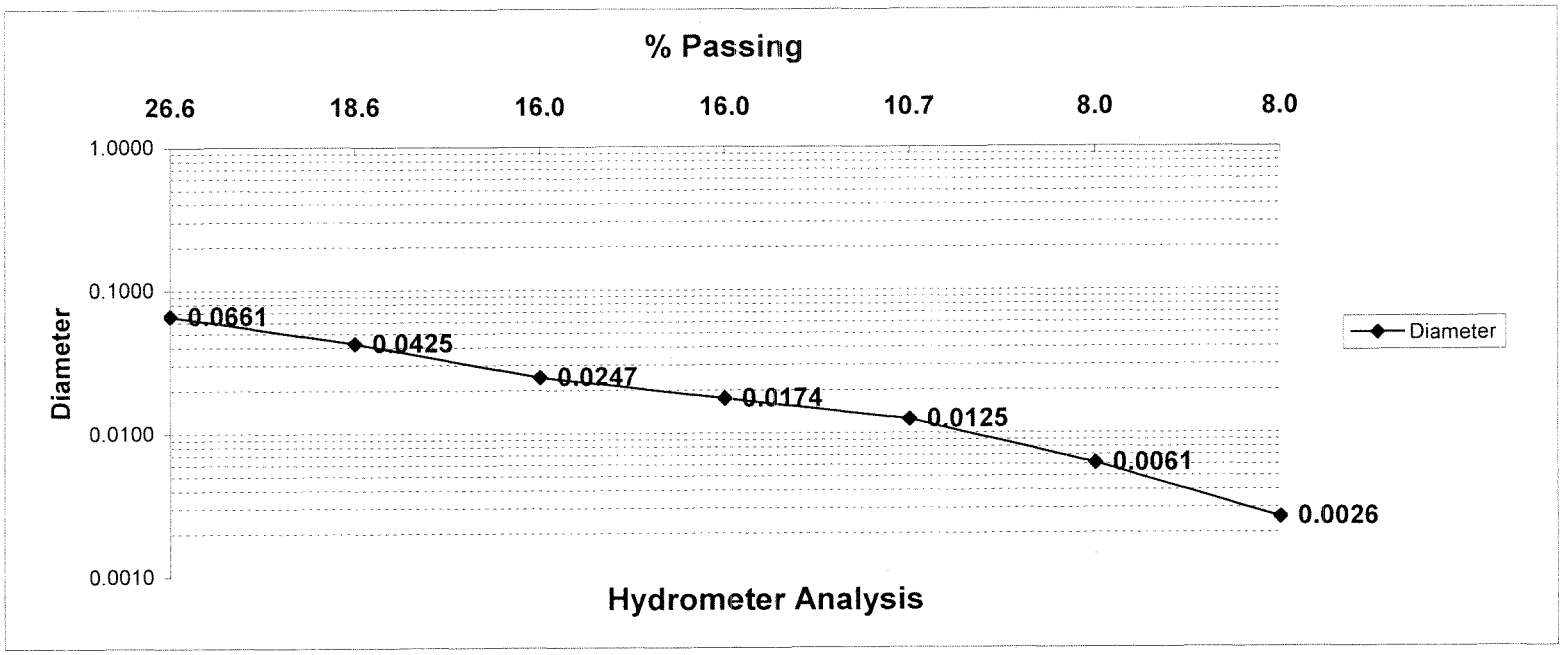
Determination of Silt/Clay Fraction

(10.2) T (Min)	**(10.2)** Hydro Reading	**(7.3)** Corr. Fact.	**(10.4)** Temp °C	**Table 1** Specific Gravity	H (Net)	**(14.3)** a	**Table 2** L Eff. Depth	**Table 3** K	**(14.3)** % Passing = H/Wa * 100	**(15.1)** Dia-meter
2	16	6	21	1.07	10	1.34	14.7	0.0244126	26.6	0.0661
5	13	6	21	1.07	7	1.34	15.2	0.0244126	18.6	0.0425
15	12	6	21	1.07	6	1.34	15.3	0.0244126	16.0	0.0247
30	12	6	21	1.07	6	1.34	15.3	0.0244126	16.0	0.0174
60	10	6	21	1.07	4	1.34	15.6	0.0244126	10.7	0.0125
250	9	6	21	1.07	3	1.34	15.8	0.0244126	8.0	0.0061
1440	9	6	21	1.07	3	1.34	15.8	0.0244126	8.0	0.0026

Comments:

Reviewed By: Date: 11/6/09

Sample Name: M-3-B
Lab Code: K0909140-007



Columbia Analytical Services, Inc.

Sample Name :	M-2-B	Service Request:	K0909140
Lab Code:	K0909140-008	Method:	D421 / D422
Client:	URS Corporation	Date Collected:	10/6/2009
Project:	oise St. Helens Pulp and Paper Mill-2009	Date Received:	10/7/2009
Sample Matrix:	Sediment	Date Analyzed:	10/30/2009

Sample Preparation (ASTM D421-85)

(1) Mass of total test sample. (g) (6.1) 50.3223

(2) Coarse Material (6.2)

Coarse material + Tare. (g) 0.0000

Tare weight. (g) 0.0000

(3) Mass retained on the No. 4 sieve. (g) (6.2) 0.0000

(4) Selected portion of fine material. (g) (7.1) 50.3223

Particle Analysis (ASTM D422-63)

Sieve Analysis Of Coarse Material. (6.1)

Gravel 19.0 mm	3/4"	0.0000
Gravel 9.50 mm	3/8"	0.0000
Gravel 4.75 mm	4	0.0000
Gravel 2.00 mm	10	0.0000

Sieve Analysis Of Fine Material. (11.1)

Gravel 0.850 mm	20	0.7596
Gravel 0.425 mm	40	1.3047
Gravel 0.250 mm	60	2.7453
Gravel 0.106 mm	140	7.4304
Gravel 0.075 mm	200	6.7869
Pan	-	3.5749

Analysis of fine material.

Hydrometer corrections. (7.3)

	Hydro 1	Hydro 2
Reading:	6	0

Hygroscopic moisture. (8.1)

Air dried (g)	10.6645
Tare (g)	1.2770
Oven dried + Tare	11.0084

Weight of Fine material

Dry wt.+Tare (g)	123.7904
Tare (g)	100.9837
Fine material (g)	22.8067

Determination of Silt/Clay Fraction. (10.2) (10.3) (10.4)

(10.2) T (Min)	(10.2) Hydro Reading	(7.3) Corr. Fact.	(10.4) Temp °C	Specific Gravity		Table 1 a		Table 3 K		
2	18	6	21	0.89		1.370		0.02441		
5	15		21					0.02441		
15	13		21					0.02441		
30	12		21					0.02441		
60	10		21					0.02441		
250	9		21					0.02441		
1440	8		21					0.02441		

Analyst: KC CP Date: 10/30/2009

Reviewed by : Date: 11/6/09

Client:	URS Corporation	**Service Request:**	K0909140
Project:	Boise St. Helens Pulp and Paper Mill-2009	**Date Collected:**	10/6/2009
Sample Matrix:	Sediment	**Date Received:**	10/7/2009
		Date Analyzed:	10/30/2009

ASTM Method D422 Particle Size

Sample Name: M-2-B **Lab Code:** K0909140-008

Initial Weight of air-dried sample. **(6.1)**	50.3223
Mass retained on the No. 4 sieve. **(6.2)**	0.0000
Air-dried portion of fine material. **(7.1)**	50.3223

Course Sieving ASTM D421 (6.2)

Mass of coarse material (g)	0.0000
Percent Recovered	#DIV/0!

Coarse sieving (6.1)		**Sieve #**	**Weight (g)**	**% Passing**	**Mass Passing**	
Gravel	19.0 mm	3/4"	0.0000	100.0	50.3223	
Gravel	9.50 mm	3/8"	0.0000	100.0	50.3223	
Medium Gravel	4.75 mm	4	0.0000	100.0	50.3223	
Fine Gravel	2.00 mm	10	0.0000	100.0	50.3223	
Fine sieving (11.1)						
V.C. Sand	0.850 mm	20	0.7596	98.3	45.1597	
C. Sand	0.425 mm	40	1.3047	95.5	43.8550	
M. Sand	0.250 mm	60	2.7453	89.5	41.1097	
F. Sand	0.106 mm	140	7.4304	73.3	33.6793	
V.F. Sand	0.075 mm	200	6.7869	58.6	26.8924	**(16.2)**

Calculated amount retained on the # 10 sieve. **(16.1)**	0.0000

Total Recovered (g)	45.9193
Total Recovered (%)	100.0

Hygroscopic Moisture (8.1)

Air-dried sample (g)	10.6645
Oven dried sample (g)	9.7314
Hygroscopic Moisture **(13.1)**	0.9125

(W) **(14.2)**	45.9193

Oven-Dried Sample used in hydrometer analysis. (g) **(14.1)**	45.9193

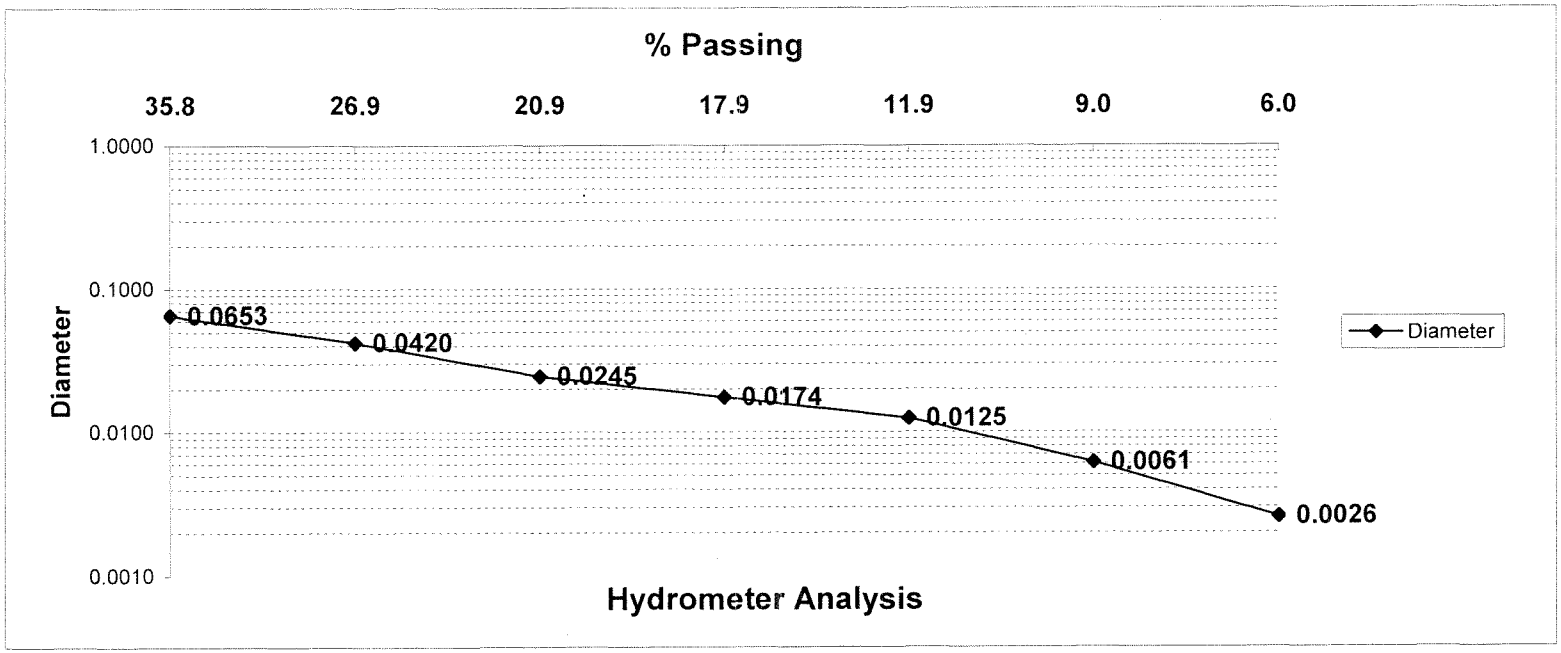
Determination of Silt/Clay Fraction

(10.2) T (Min)	**(10.2)** Hydro Reading	**(7.3)** Corr. Fact.	**(10.4)** Temp °C	**Table 1** Specific Gravity	H (Net)	**(14.3)** a	**Table 2** L Eff. Depth	**Table 3** K	**(14.3)** % Passing = H/Wa * 100	**(15.1)** Dia-meter
2	18	6	21	0.89	12	1.37	14.3	0.0244126	35.8	0.0653
5	15	6	21	0.89	9	1.37	14.8	0.0244126	26.9	0.0420
15	13	6	21	0.89	7	1.37	15.2	0.0244126	20.9	0.0245
30	12	6	21	0.89	6	1.37	15.3	0.0244126	17.9	0.0174
60	10	6	21	0.89	4	1.37	15.6	0.0244126	11.9	0.0125
250	9	6	21	0.89	3	1.37	15.8	0.0244126	9.0	0.0061
1440	8	6	21	0.89	2	1.37	16.0	0.0244126	6.0	0.0026

Comments:

Reviewed By:	Date: 11/6/09

Sample Name: M-2-B
Lab Code: K0909140-008



Columbia Analytical Services, Inc.

Sample Name :	M-1-C	Service Request:	K0909140
Lab Code:	K0909140-009	Method:	D421 / D422
Client:	URS Corporation	Date Collected:	10/7/2009
Project:	oise St. Helens Pulp and Paper Mill-2009	Date Received:	10/8/2009
Sample Matrix:	Sediment	Date Analyzed:	10/30/2009

Sample Preparation (ASTM D421-85)

(1) Mass of total test sample. (g) (6.1) 50.5714

(3) Mass retained on the No. 4 sieve. (g) (6.2) 0.0000

(2) Coarse Material (6.2)

Coarse material + Tare. (g) 0.0000

Tare weight. (g) 0.0000

(4) Selected portion of fine material. (g) (7.1) 50.5714

Particle Analysis (ASTM D422-63)

Sieve Analysis Of Coarse Material. (6.1)

Gravel 19.0 mm	3/4"	0.0000
Gravel 9.50 mm	3/8"	0.0000
Gravel 4.75 mm	4	0.0000
Gravel 2.00 mm	10	0.0000

Sieve Analysis Of Fine Material. (11.1)

Gravel 0.850 mm	20	1.2619
Gravel 0.425 mm	40	1.1982
Gravel 0.250 mm	60	4.6001
Gravel 0.106 mm	140	11.7859
Gravel 0.075 mm	200	7.5300
Pan	-	1.9558

Analysis of fine material.

Hydrometer corrections. (7.3)

	Hydro 1	Hydro 2
Reading:	6	0

Hygroscopic moisture. (8.1)

Air dried (g)	10.6730
Tare (g)	1.2985
Oven dried + Tare	10.9982

Weight of Fine material

Dry wt.+Tare (g)	138.1799
Tare (g)	109.6498
Fine material (g)	28.5301

Determination of Silt/Clay Fraction. (10.2) (10.3) (10.4)

(10.2) T (Min)	(10.2) Hydro Reading	(7.3) Corr. Fact.	(10.4) Temp °C	Specific Gravity		Table 1 a		Table 3 K		
2	16	6	21	1.04		1.340		0.02441		
5	13		21					0.02441		
15	12		21					0.02441		
30	11		21					0.02441		
60	10		21					0.02441		
250	8		21					0.02441		
1440	7		21					0.02441		

Analyst: KC CP Date: 10/30/2009

Reviewed by : Date: 11/6/09

Client:	URS Corporation	**Service Request:**	K0909140
Project:	Boise St. Helens Pulp and Paper Mill-2009	**Date Collected:**	10/7/2009
Sample Matrix:	Sediment	**Date Received:**	10/8/2009
		Date Analyzed:	10/30/2009

ASTM Method D422 Particle Size

Sample Name: M-1-C **Lab Code:** K0909140-009

Initial Weight of air-dried sample. **(6.1)**	50.5714
Mass retained on the No. 4 sieve. **(6.2)**	0.0000
Air-dried portion of fine material. **(7.1)**	50.5714

Course Sieving ASTM D421 (6.2)

Mass of coarse material (g)	0.0000
Percent Recovered	#DIV/0!

Coarse sieving (6.1)		**Sieve #**	**Weight (g)**	**% Passing**	**Mass Passing**
Gravel	19.0 mm	3/4"	0.0000	100.0	50.5714
Gravel	9.50 mm	3/8"	0.0000	100.0	50.5714
Medium Gravel	4.75 mm	4	0.0000	100.0	50.5714
Fine Gravel	2.00 mm	10	0.0000	100.0	50.5714
Fine sieving (11.1)					
V.C. Sand	0.850 mm	20	1.2619	97.3	44.6978
C. Sand	0.425 mm	40	1.1982	94.6	43.4996
M. Sand	0.250 mm	60	4.6001	84.6	38.8995
F. Sand	0.106 mm	140	11.7859	59.0	27.1136
V.F. Sand	0.075 mm	200	7.5300	42.6	19.5836 **(16.2)**

Calculated amount retained on the # 10 sieve. **(16.1)**	0.0000

Total Recovered (g)	45.9597
Total Recovered (%)	100.0

Hygroscopic Moisture (8.1)

Air-dried sample (g)	10.6730
Oven dried sample (g)	9.6997
Hygroscopic Moisture **(13.1)**	0.9088

(W) **(14.2)**	45.9597

Oven-Dried Sample used in hydrometer analysis. (g) **(14.1)**	45.9597

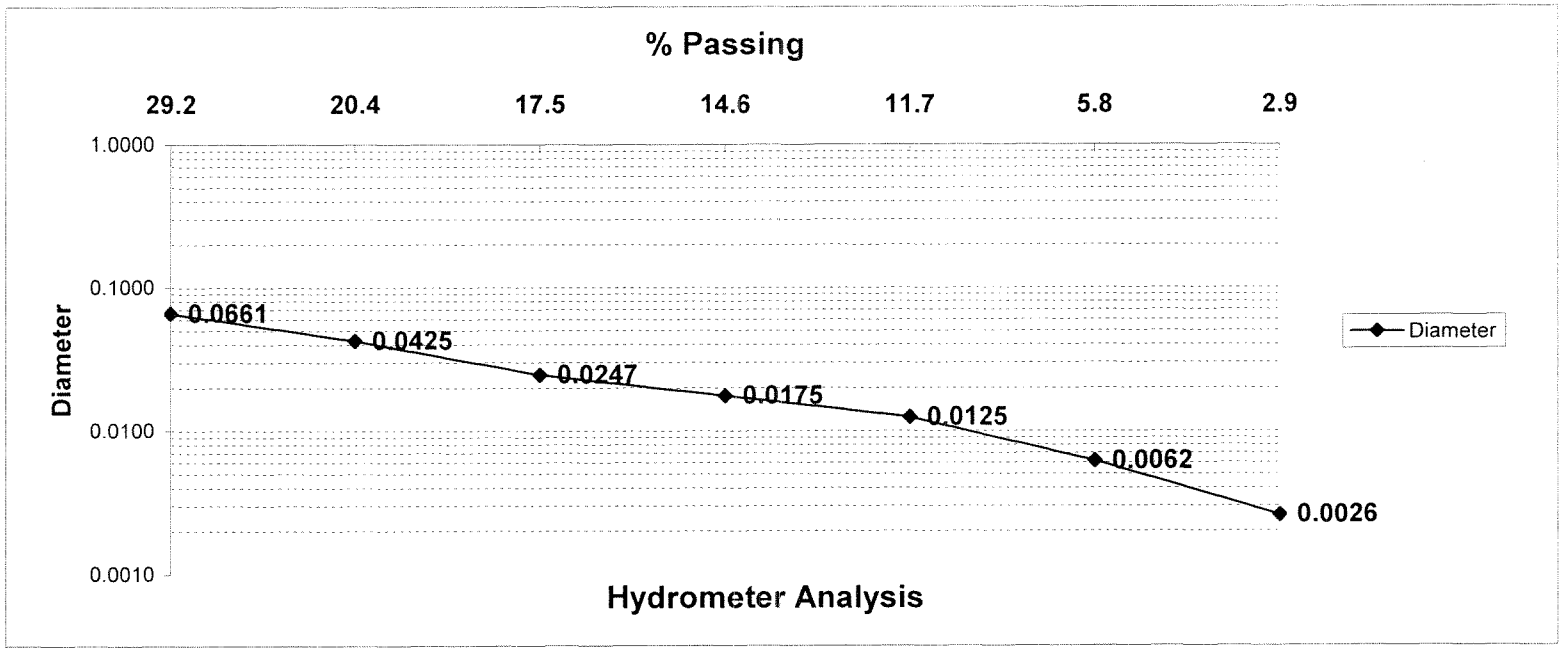
Determination of Silt/Clay Fraction

(10.2) T (Min)	**(10.2)** Hydro Reading	**(7.3)** Corr. Fact.	**(10.4)** Temp °C	**Table 1** Specific Gravity	H (Net)	**(14.3)** a	**Table 2** L Eff. Depth	**Table 3** K	**(14.3)** % Passing = H/Wa * 100	**(15.1)** Dia-meter
2	16	6	21	1.04	10	1.34	14.7	0.0244126	29.2	0.0661
5	13	6	21	1.04	7	1.34	15.2	0.0244126	20.4	0.0425
15	12	6	21	1.04	6	1.34	15.3	0.0244126	17.5	0.0247
30	11	6	21	1.04	5	1.34	15.5	0.0244126	14.6	0.0175
60	10	6	21	1.04	4	1.34	15.6	0.0244126	11.7	0.0125
250	8	6	21	1.04	2	1.34	16.0	0.0244126	5.8	0.0062
1440	7	6	21	1.04	1	1.34	16.1	0.0244126	2.9	0.0026

Comments:

Reviewed By:	Date: 11/6/09

Sample Name: M-1-C
Lab Code: K0909140-009



Columbia Analytical Services, Inc.

Sample Name :	M-3-C	Service Request:	K0909140
Lab Code:	K0909140-010	Method:	D421 / D422
Client:	URS Corporation	Date Collected:	10/5/2009
Project:	oise St. Helens Pulp and Paper Mill-2009	Date Received:	10/6/2009
Sample Matrix:	Sediment	Date Analyzed:	10/30/2009

Sample Preparation (ASTM D421-85)

(1) Mass of total test sample. (g) (6.1) 50.7369

(2) Coarse Material (6.2)

Coarse material + Tare. (g) 0.0000

Tare weight. (g) 0.0000

(3) Mass retained on the No. 4 sieve. (g) (6.2) 0.0000

(4) Selected portion of fine material. (g) (7.1) 50.7369

Particle Analysis (ASTM D422-63)

Sieve Analysis Of Coarse Material. (6.1)

Gravel 19.0 mm	3/4"	0.0000
Gravel 9.50 mm	3/8"	0.0000
Gravel 4.75 mm	4	0.0000
Gravel 2.00 mm	10	0.0000

Sieve Analysis Of Fine Material. (11.1)

Gravel 0.850 mm	20	0.2046
Gravel 0.425 mm	40	0.3412
Gravel 0.250 mm	60	1.5775
Gravel 0.106 mm	140	14.6756
Gravel 0.075 mm	200	8.3434
Pan	-	1.4762

Analysis of fine material.

Hydrometer corrections. (7.3)

	Hydro 1	Hydro 2
Reading:	6	0

Hygroscopic moisture. (8.1)

Air dried (g)	10.8431
Tare (g)	1.3063
Oven dried + Tare	11.7678

Weight of Fine material

Dry wt.+Tare (g)	132.7152
Tare (g)	105.9064
Fine material (g)	26.8088

Determination of Silt/Clay Fraction. (10.2) (10.3) (10.4)

(10.2) T (Min)	(10.2) Hydro Reading	(7.3) Corr. Fact.	(10.4) Temp °C	Specific Gravity		Table 1 a		Table 3 K		
2	16	6	21	1.09		1.330		0.02441		
5	13		21					0.02441		
15	11		21					0.02441		
30	10		21					0.02441		
60	8		21					0.02441		
250	8		21					0.02441		
1440	7		21					0.02441		

Analyst: KC CP Date: 10/30/2009

Reviewed by : Date: 11/6/09

Client:	URS Corporation	**Service Request:**	K0909140
Project:	Boise St. Helens Pulp and Paper Mill-2009	**Date Collected:**	10/5/2009
Sample Matrix:	Sediment	**Date Received:**	10/6/2009
		Date Analyzed:	10/30/2009

ASTM Method D422 Particle Size

Sample Name: M-3-C **Lab Code:** K0909140-010

Initial Weight of air-dried sample. **(6.1)**	50.7369
Mass retained on the No. 4 sieve. **(6.2)**	0.0000
Air-dried portion of fine material. **(7.1)**	50.7369

Course Sieving ASTM D421 (6.2)

Mass of coarse material (g)	0.0000
Percent Recovered	#DIV/0!

Coarse sieving (6.1)		Sieve #	Weight (g)	% Passing	Mass Passing
Gravel	19.0 mm	3/4"	0.0000	100.0	50.7369
Gravel	9.50 mm	3/8"	0.0000	100.0	50.7369
Medium Gravel	4.75 mm	4	0.0000	100.0	50.7369
Fine Gravel	2.00 mm	10	0.0000	100.0	50.7369
Fine sieving (11.1)					
V.C. Sand	0.850 mm	20	0.2046	99.6	48.7467
C. Sand	0.425 mm	40	0.3412	98.9	48.4055
M. Sand	0.250 mm	60	1.5775	95.7	46.8280
F. Sand	0.106 mm	140	14.6756	65.7	32.1524
V.F. Sand	0.075 mm	200	8.3434	48.6	23.8090 **(16.2)**

Calculated amount retained on the # 10 sieve. **(16.1)**	0.0000

Total Recovered (g)	48.9513
Total Recovered (%)	100.0

Hygroscopic Moisture (8.1)

Air-dried sample (g)	10.8431
Oven dried sample (g)	10.4615
Hygroscopic Moisture **(13.1)**	0.9648

(W) **(14.2)**	48.9513

Oven-Dried Sample used in hydrometer analysis. (g) **(14.1)**	48.9513

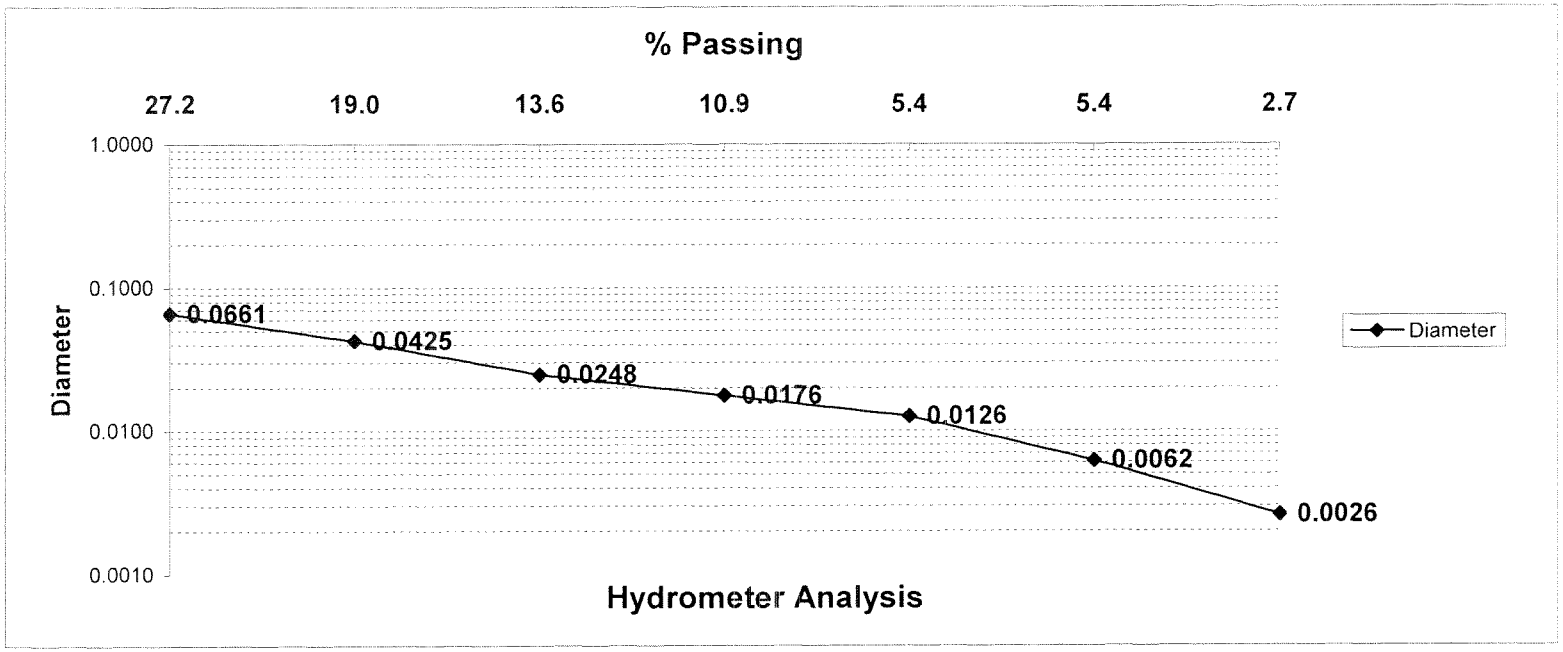
Determination of Silt/Clay Fraction

(10.2) T (Min)	(10.2) Hydro Reading	(7.3) Corr. Fact.	(10.4) Temp °C	Table 1 Specific Gravity	H (Net)	(14.3) a	Table 2 L Eff. Depth	Table 3 K	(14.3) % Passing = H/Wa * 100	(15.1) Dia-meter
2	16	6	21	1.09	10	1.33	14.7	0.0244126	27.2	0.0661
5	13	6	21	1.09	7	1.33	15.2	0.0244126	19.0	0.0425
15	11	6	21	1.09	5	1.33	15.5	0.0244126	13.6	0.0248
30	10	6	21	1.09	4	1.33	15.6	0.0244126	10.9	0.0176
60	8	6	21	1.09	2	1.33	16.0	0.0244126	5.4	0.0126
250	8	6	21	1.09	2	1.33	16.0	0.0244126	5.4	0.0062
1440	7	6	21	1.09	1	1.33	16.1	0.0244126	2.7	0.0026

Comments:

Reviewed By: SAN	Date: 11/6/09

Sample Name: M-3-C
Lab Code: K0909140-010



Columbia Analytical Services, Inc.

Sample Name :	B-1-A	Service Request:	K0909140
Lab Code:	K0909140-011	Method:	D421 / D422
Client:	URS Corporation	Date Collected:	10/9/2009
Project:	oise St. Helens Pulp and Paper Mill-2009	Date Received:	10/9/2009
Sample Matrix:	Sediment	Date Analyzed:	10/30/2009

Sample Preparation (ASTM D421-85)

(1) Mass of total test sample. (g) (6.1) 50.0988

(2) Coarse Material (6.2)

Coarse material + Tare. (g) 0.0000

Tare weight. (g) 0.0000

(3) Mass retained on the No. 4 sieve. (g) (6.2) 0.0000

(4) Selected portion of fine material. (g) (7.1) 50.0988

Particle Analysis (ASTM D422-63)

Sieve Analysis Of Coarse Material. (6.1)

Gravel 19.0 mm	3/4"	0.0000
Gravel 9.50 mm	3/8"	0.0000
Gravel 4.75 mm	4	0.0000
Gravel 2.00 mm	10	0.0000

Sieve Analysis Of Fine Material. (11.1)

Gravel 0.850 mm	20	0.2280
Gravel 0.425 mm	40	0.1923
Gravel 0.250 mm	60	3.3924
Gravel 0.106 mm	140	18.3747
Gravel 0.075 mm	200	7.2124
Pan	-	1.24

Analysis of fine material.

Hydrometer corrections. (7.3)

	Hydro 1	Hydro 2
Reading:	6	0

Hygroscopic moisture. (8.1)

Air dried (g)	10.9989
Tare (g)	1.2833
Oven dried + Tare	11.7586

Weight of Fine material

Dry wt.+Tare (g)	138.8513
Tare (g)	108.1654
Fine material (g)	30.6859

Determination of Silt/Clay Fraction. (10.2) (10.3) (10.4)

(10.2) T (Min)	(10.2) Hydro Reading	(7.3) Corr. Fact.	(10.4) Temp °C	Specific Gravity		Table 1 a		Table 3 K		
2	14	6	21	1.21		1.300		0.02441		
5	11		21					0.02441		
15	10		21					0.02441		
30	10		21					0.02441		
60	9		21					0.02441		
250	7		21					0.02441		
1440	6		21					0.02441		

Analyst: KC CP Date: 10/30/2009

Reviewed by : SAH Date: 11/6/09

Client:	URS Corporation	**Service Request:**	K0909140
Project:	Boise St. Helens Pulp and Paper Mill-2009	**Date Collected:**	10/9/2009
Sample Matrix:	Sediment	**Date Received:**	10/9/2009
		Date Analyzed:	10/30/2009

ASTM Method D422 Particle Size

Sample Name: B-1-A **Lab Code:** K0909140-011

Initial Weight of air-dried sample. **(6.1)**	50.0988
Mass retained on the No. 4 sieve. **(6.2)**	0.0000
Air-dried portion of fine material. **(7.1)**	50.0988

Course Sieving ASTM D421 (6.2)

Mass of coarse material (g)	0.0000
Percent Recovered	#DIV/0!

Coarse sieving (6.1)		**Sieve #**	**Weight (g)**	**% Passing**	**Mass Passing**
Gravel	19.0 mm	3/4"	0.0000	100.0	50.0988
Gravel	9.50 mm	3/8"	0.0000	100.0	50.0988
Medium Gravel	4.75 mm	4	0.0000	100.0	50.0988
Fine Gravel	2.00 mm	10	0.0000	100.0	50.0988
Fine sieving (11.1)					
V.C. Sand	0.850 mm	20	0.2280	99.5	47.4859
C. Sand	0.425 mm	40	0.1923	99.1	47.2936
M. Sand	0.250 mm	60	3.3924	92.0	43.9012
F. Sand	0.106 mm	140	18.3747	53.5	25.5265
V.F. Sand	0.075 mm	200	7.2124	38.4	18.3141 **(16.2)**

Calculated amount retained on the # 10 sieve. **(16.1)**	0.0000

Total Recovered (g)	47.7139
Total Recovered (%)	100.0

Hygroscopic Moisture (8.1)

Air-dried sample (g)	10.9989
Oven dried sample (g)	10.4753
Hygroscopic Moisture **(13.1)**	0.9524

(W) **(14.2)**	47.7139

Oven-Dried Sample used in hydrometer analysis. (g) **(14.1)**	47.7139

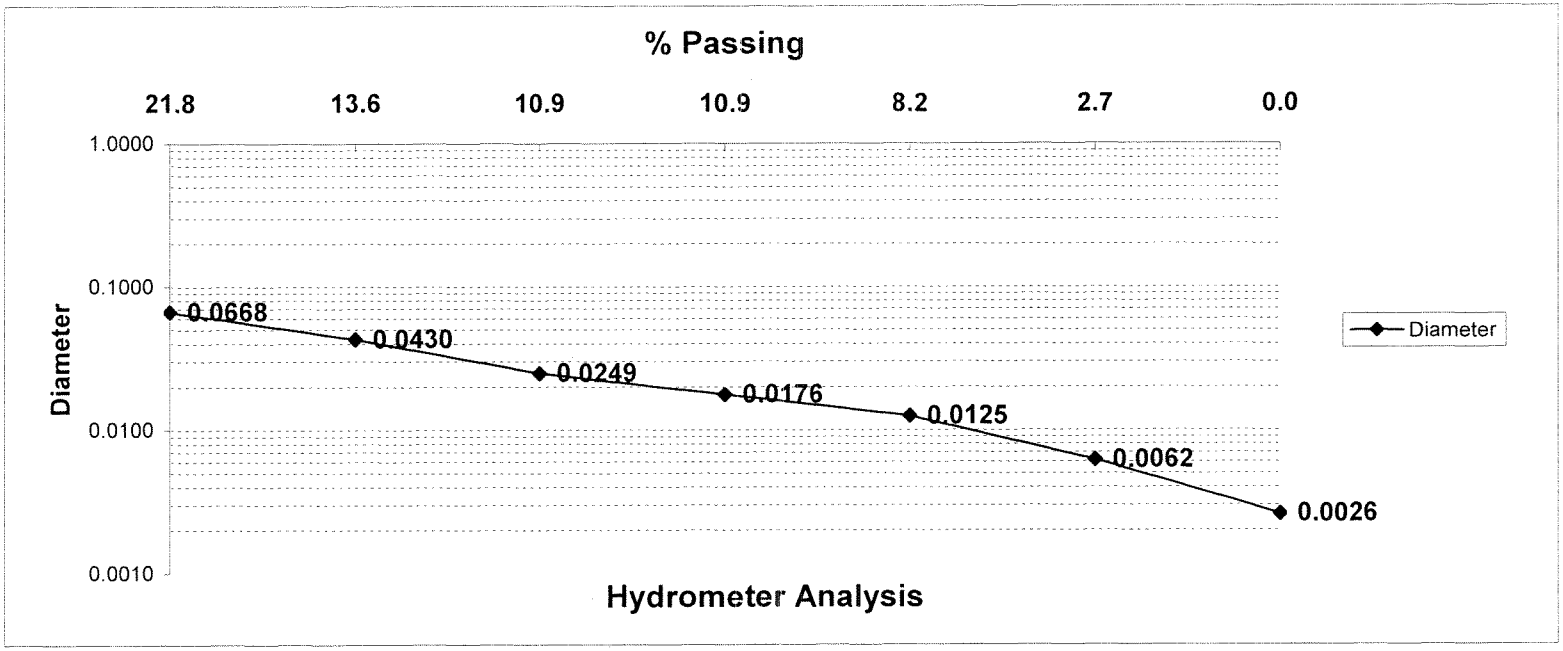
Determination of Silt/Clay Fraction

(10.2) T (Min)	**(10.2)** Hydro Reading	**(7.3)** Corr. Fact.	**(10.4)** Temp °C	**Table 1** Specific Gravity	H (Net)	**(14.3)** a	**Table 2** L Eff. Depth	**Table 3** K	**(14.3)** % Passing = H/Wa * 100	**(15.1)** Dia-meter
2	14	6	21	1.21	8	1.30	15.0	0.0244126	21.8	0.0668
5	11	6	21	1.21	5	1.30	15.5	0.0244126	13.6	0.0430
15	10	6	21	1.21	4	1.30	15.6	0.0244126	10.9	0.0249
30	10	6	21	1.21	4	1.30	15.6	0.0244126	10.9	0.0176
60	9	6	21	1.21	3	1.30	15.8	0.0244126	8.2	0.0125
250	7	6	21	1.21	1	1.30	16.1	0.0244126	2.7	0.0062
1440	6	6	21	1.21	0	1.30	16.3	0.0244126	0.0	0.0026

Comments:

Reviewed By:	Date: 11/6/09

Sample Name: B-1-A
Lab Code: K0909140-011



Columbia Analytical Services, Inc.

Sample Name :	B-1-B	Service Request:	K0909140
Lab Code:	K0909140-012	Method:	D421 / D422
Client:	URS Corporation	Date Collected:	10/9/2009
Project:	oise St. Helens Pulp and Paper Mill-2009	Date Received:	10/9/2009
Sample Matrix:	Sediment	Date Analyzed:	10/30/2009

Sample Preparation (ASTM D421-85)

(1) Mass of total test sample. (g) (6.1) 50.0904

(2) Coarse Material (6.2)

Coarse material + Tare. (g) 0.0000

Tare weight. (g) 0.0000

(3) Mass retained on the No. 4 sieve. (g) (6.2) 0.0000

(4) Selected portion of fine material. (g) (7.1) 50.0904

Particle Analysis (ASTM D422-63)

Sieve Analysis Of Coarse Material. (6.1)

Gravel 19.0 mm	3/4"	0.0000
Gravel 9.50 mm	3/8"	0.0000
Gravel 4.75 mm	4	0.0000
Gravel 2.00 mm	10	0.0000

Sieve Analysis Of Fine Material. (11.1)

Gravel 0.850 mm	20	0.1449
Gravel 0.425 mm	40	0.1406
Gravel 0.250 mm	60	2.3258
Gravel 0.106 mm	140	17.8021
Gravel 0.075 mm	200	7.4215
Pan	-	2.7486

Analysis of fine material.

Hydrometer corrections. (7.3)

	Hydro 1	Hydro 2
Reading:	6	0

Hygroscopic moisture. (8.1)

Air dried (g)	10.3618
Tare (g)	1.3020
Oven dried + Tare	11.6568

Weight of Fine material

Dry wt.+Tare (g)	134.5384
Tare (g)	103.8314
Fine material (g)	30.7070

Determination of Silt/Clay Fraction. (10.2) (10.3) (10.4)

(10.2) T (Min)	(10.2) Hydro Reading	(7.3) Corr. Fact.	(10.4) Temp °C	Specific Gravity		Table 1 a		Table 3 K		
2	15	6	21	1.26		1.290		0.02441		
5	11		21					0.02441		
15	10		21					0.02441		
30	10		21					0.02441		
60	8		21					0.02441		
250	7		21					0.02441		
1440	6		21					0.02441		

Analyst: KC CP Date: 10/30/2009

Reviewed by : Date: 11/6/09

Client:	URS Corporation	**Service Request:**	K0909140
Project:	Boise St. Helens Pulp and Paper Mill-2009	**Date Collected:**	10/9/2009
Sample Matrix:	Sediment	**Date Received:**	10/9/2009
		Date Analyzed:	10/30/2009

ASTM Method D422 Particle Size

Sample Name: B-1-B **Lab Code:** K0909140-012

Initial Weight of air-dried sample. **(6.1)**	50.0904
Mass retained on the No. 4 sieve. **(6.2)**	0.0000
Air-dried portion of fine material. **(7.1)**	50.0904

Course Sieving ASTM D421 (6.2)

Mass of coarse material (g)	0.0000
Percent Recovered	#DIV/0!

Coarse sieving (6.1)		**Sieve #**	**Weight (g)**	**% Passing**	**Mass Passing**
Gravel	19.0 mm	3/4"	0.0000	100.0	50.0904
Gravel	9.50 mm	3/8"	0.0000	100.0	50.0904
Medium Gravel	4.75 mm	4	0.0000	100.0	50.0904
Fine Gravel	2.00 mm	10	0.0000	100.0	50.0904
Fine sieving (11.1)					
V.C. Sand	0.850 mm	20	0.1449	99.7	49.9117
C. Sand	0.425 mm	40	0.1406	99.4	49.7711
M. Sand	0.250 mm	60	2.3258	94.8	47.4453
F. Sand	0.106 mm	140	17.8021	59.2	29.6432
V.F. Sand	0.075 mm	200	7.4215	44.4	22.2217 **(16.2)**

Calculated amount retained on the # 10 sieve. **(16.1)**	0.0000

Total Recovered (g)	50.0566
Total Recovered (%)	100.0

Hygroscopic Moisture (8.1)

Air-dried sample (g)	10.3618
Oven dried sample (g)	10.3548
Hygroscopic Moisture **(13.1)**	0.9993

(W) **(14.2)**	50.0566

Oven-Dried Sample used in hydrometer analysis. (g) **(14.1)**	50.0566

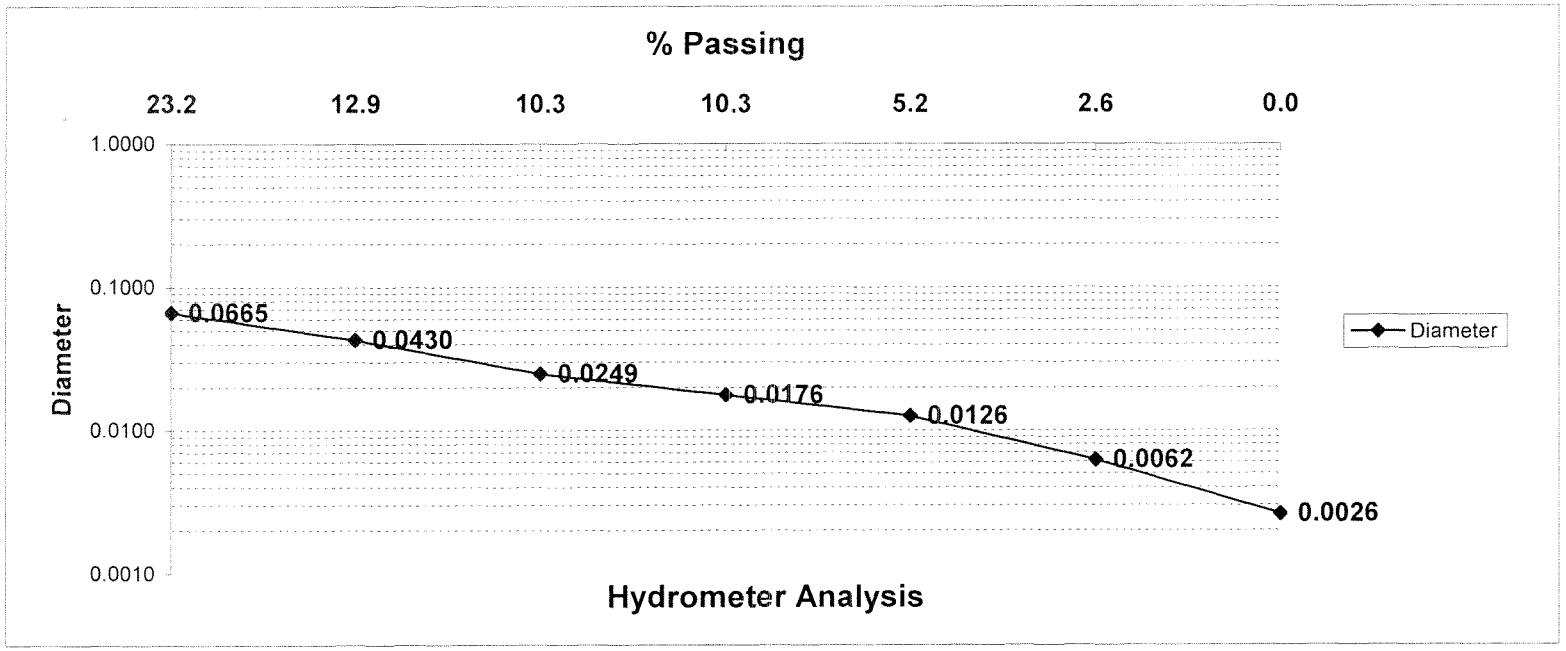
Determination of Silt/Clay Fraction

(10.2) T (Min)	**(10.2)** Hydro Reading	**(7.3)** Corr. Fact.	**(10.4)** Temp °C	**Table 1** Specific Gravity	H (Net)	**(14.3)** a	**Table 2** L Eff. Depth	**Table 3** K	**(14.3)** % Passing = H/Wa * 100	**(15.1)** Dia-meter
2	15	6	21	1.26	9	1.29	14.8	0.0244126	23.2	0.0665
5	11	6	21	1.26	5	1.29	15.5	0.0244126	12.9	0.0430
15	10	6	21	1.26	4	1.29	15.6	0.0244126	10.3	0.0249
30	10	6	21	1.26	4	1.29	15.6	0.0244126	10.3	0.0176
60	8	6	21	1.26	2	1.29	16.0	0.0244126	5.2	0.0126
250	7	6	21	1.26	1	1.29	16.1	0.0244126	2.6	0.0062
1440	6	6	21	1.26	0	1.29	16.3	0.0244126	0.0	0.0026

Comments:

Reviewed By:	Date: 11/6/09

Sample Name: B-1-B
Lab Code: K0909140-012



Columbia Analytical Services, Inc.

Sample Name :	M-3-A	Service Request:	K0909140
Lab Code:	K0909140-013	Method:	D421 / D422
Client:	URS Corporation	Date Collected:	10/5/2009
Project:	oise St. Helens Pulp and Paper Mill-2009	Date Received:	10/6/2009
Sample Matrix:	Sediment	Date Analyzed:	10/30/2009

Sample Preparation (ASTM D421-85)

(1) Mass of total test sample. (g) (6.1) 50.6368

(2) Coarse Material (6.2)

Coarse material + Tare. (g) 0.0000

Tare weight. (g) 0.0000

(3) Mass retained on the No. 4 sieve. (g) (6.2) 0.0000

(4) Selected portion of fine material. (g) (7.1) 50.6368

Particle Analysis (ASTM D422-63)

Sieve Analysis Of Coarse Material. (6.1)

Gravel 19.0 mm	3/4"	0.0000
Gravel 9.50 mm	3/8"	0.0000
Gravel 4.75 mm	4	0.0000
Gravel 2.00 mm	10	0.0000

Sieve Analysis Of Fine Material. (11.1)

Gravel 0.850 mm	20	0.1982
Gravel 0.425 mm	40	0.3589
Gravel 0.250 mm	60	1.0763
Gravel 0.106 mm	140	11.7286
Gravel 0.075 mm	200	10.1555
Pan	-	2.8112

Analysis of fine material.

Hydrometer corrections. (7.3)

	Hydro 1	Hydro 2
Reading:	6	0

Hygroscopic moisture. (8.1)

Air dried (g)	10.0408
Tare (g)	1.2825
Oven dried + Tare	10.8287

Weight of Fine material

Dry wt.+Tare (g)	131.7590
Tare (g)	105.3434
Fine material (g)	26.4156

Determination of Silt/Clay Fraction. (10.2) (10.3) (10.4)

(10.2) T (Min)	(10.2) Hydro Reading	(7.3) Corr. Fact.	(10.4) Temp °C	Specific Gravity		Table 1 a		Table 3 K		
2	16	6	21	1.05		1.340		0.02441		
5	13		21					0.02441		
15	12		21					0.02441		
30	10		21					0.02441		
60	9		21					0.02441		
250	7		21					0.02441		
1440	7		21					0.02441		

Analyst: KC CP Date: 10/30/2009

Reviewed by : SMN Date: 11/6/09

Client:	URS Corporation	**Service Request:**	K0909140
Project:	Boise St. Helens Pulp and Paper Mill-2009	**Date Collected:**	10/5/2009
Sample Matrix:	Sediment	**Date Received:**	10/6/2009
		Date Analyzed:	10/30/2009

ASTM Method D422 Particle Size

Sample Name: M-3-A **Lab Code:** K0909140-013

Initial Weight of air-dried sample. **(6.1)**	50.6368
Mass retained on the No. 4 sieve. **(6.2)**	0.0000
Air-dried portion of fine material. **(7.1)**	50.6368

Course Sieving ASTM D421 (6.2)

Mass of coarse material (g)	0.0000
Percent Recovered	#DIV/0!

Coarse sieving (6.1)		**Sieve #**	**Weight (g)**	**% Passing**	**Mass Passing**
Gravel	19.0 mm	3/4"	0.0000	100.0	50.6368
Gravel	9.50 mm	3/8"	0.0000	100.0	50.6368
Medium Gravel	4.75 mm	4	0.0000	100.0	50.6368
Fine Gravel	2.00 mm	10	0.0000	100.0	50.6368
Fine sieving (11.1)					
V.C. Sand	0.850 mm	20	0.1982	99.6	47.9443
C. Sand	0.425 mm	40	0.3589	98.8	47.5854
M. Sand	0.250 mm	60	1.0763	96.6	46.5091
F. Sand	0.106 mm	140	11.7286	72.2	34.7805
V.F. Sand	0.075 mm	200	10.1555	51.2	24.6250 **(16.2)**

Calculated amount retained on the # 10 sieve. **(16.1)**	0.0000

Total Recovered (g)	48.1425
Total Recovered (%)	100.0

Hygroscopic Moisture (8.1)

Air-dried sample (g)	10.0408
Oven dried sample (g)	9.5462
Hygroscopic Moisture **(13.1)**	0.9507

(W) **(14.2)**	48.1425

Oven-Dried Sample used in hydrometer analysis. (g) **(14.1)**	48.1425

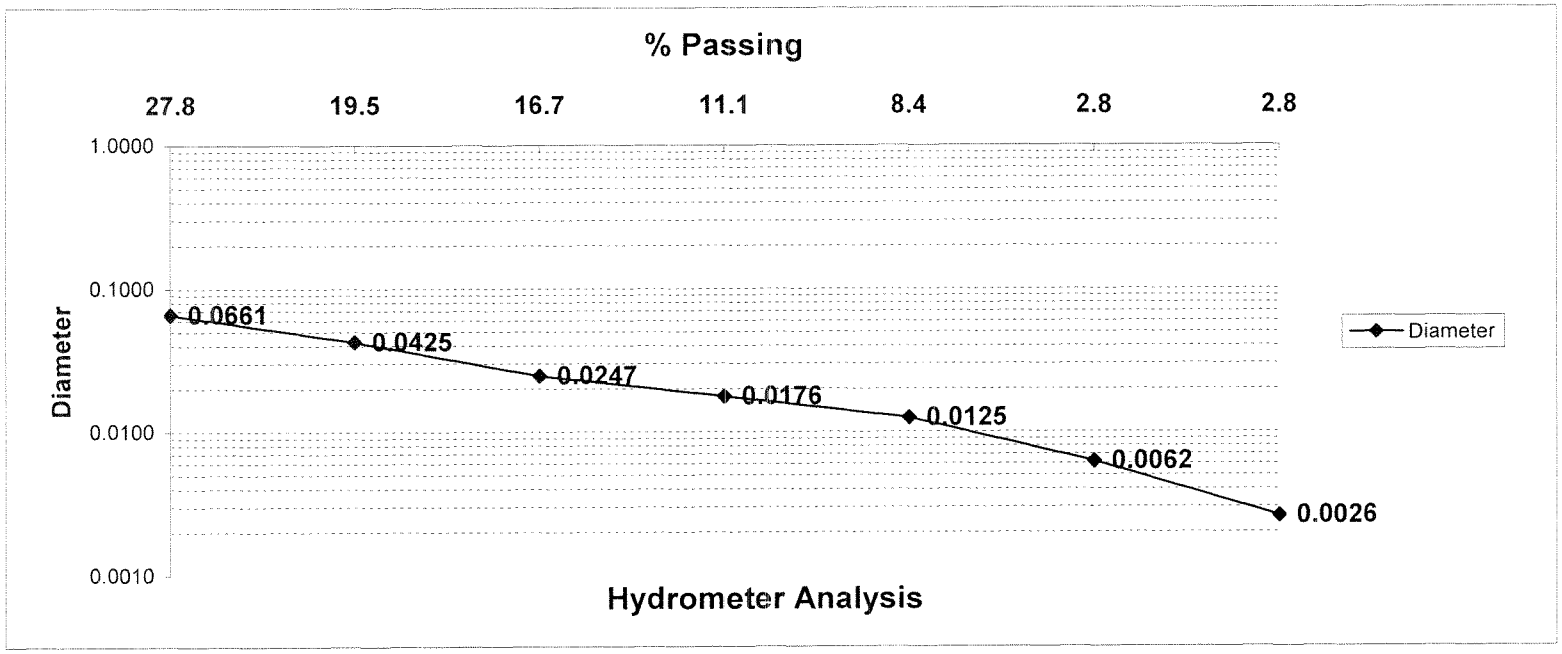
Determination of Silt/Clay Fraction

(10.2) T (Min)	**(10.2)** Hydro Reading	**(7.3)** Corr. Fact.	**(10.4)** Temp °C	**Table 1** Specific Gravity	H (Net)	**(14.3)** a	**Table 2** L Eff. Depth	**Table 3** K	**(14.3)** % Passing = H/Wa * 100	**(15.1)** Dia-meter
2	16	6	21	1.05	10	1.34	14.7	0.0244126	27.8	0.0661
5	13	6	21	1.05	7	1.34	15.2	0.0244126	19.5	0.0425
15	12	6	21	1.05	6	1.34	15.3	0.0244126	16.7	0.0247
30	10	6	21	1.05	4	1.34	15.6	0.0244126	11.1	0.0176
60	9	6	21	1.05	3	1.34	15.8	0.0244126	8.4	0.0125
250	7	6	21	1.05	1	1.34	16.1	0.0244126	2.8	0.0062
1440	7	6	21	1.05	1	1.34	16.1	0.0244126	2.8	0.0026

Comments:

Reviewed By:	Date: 11/6/09

Sample Name: M-3-A
Lab Code: K0909140-013



Columbia Analytical Services, Inc.

Sample Name :	M-1-A	Service Request:	K0909140
Lab Code:	K0909140-014	Method:	D421 / D422
Client:	URS Corporation	Date Collected:	10/7/2009
Project:	oise St. Helens Pulp and Paper Mill-2009	Date Received:	10/8/2009
Sample Matrix:	Sediment	Date Analyzed:	11/2/2009

Sample Preparation (ASTM D421-85)

(1) Mass of total test sample. (g) (6.1) 50.8902

(3) Mass retained on the No. 4 sieve. (g) (6.2) 0.0000

(2) Coarse Material (6.2)

Coarse material + Tare. (g) 0.0000

Tare weight. (g) 0.0000

(4) Selected portion of fine material. (g) (7.1) 50.8902

Particle Analysis (ASTM D422-63)

Sieve Analysis Of Coarse Material. (6.1)

Gravel 19.0 mm	3/4"	0.0000
Gravel 9.50 mm	3/8"	0.0000
Gravel 4.75 mm	4	0.0000
Gravel 2.00 mm	10	0.0000

Sieve Analysis Of Fine Material. (11.1)

Gravel 0.850 mm	20	2.0586
Gravel 0.425 mm	40	1.6415
Gravel 0.250 mm	60	4.2413
Gravel 0.106 mm	140	13.2319
Gravel 0.075 mm	200	6.8244
Pan	-	1.3794

Analysis of fine material.

Hydrometer corrections. (7.3)

	Hydro 1	Hydro 2
Reading:	6	0

Hygroscopic moisture. (8.1)

Air dried (g)	10.1546
Tare (g)	1.3031
Oven dried + Tare	11.3670

Weight of Fine material

Dry wt.+Tare (g)	137.7890
Tare (g)	108.4000
Fine material (g)	29.3890

Determination of Silt/Clay Fraction. (10.2) (10.3) (10.4)

(10.2) T (Min)	(10.2) Hydro Reading	(7.3) Corr. Fact.	(10.4) Temp °C	Specific Gravity		Table 1 a		Table 3 K		
2	19	6	21	1.06		1.340		0.02441		
5	15		21					0.02441		
15	12		21					0.02441		
30	11		21					0.02441		
60	10		21					0.02441		
250	10		21					0.02441		
1440	8		21					0.02441		

Analyst: KC CP Date: 11/2/2009

Reviewed by : Date: 11/6/09

Client:	URS Corporation	**Service Request:**	K0909140
Project:	Boise St. Helens Pulp and Paper Mill-2009	**Date Collected:**	10/7/2009
Sample Matrix:	Sediment	**Date Received:**	10/8/2009
		Date Analyzed:	11/2/2009

ASTM Method D422 Particle Size

Sample Name: M-1-A **Lab Code:** K0909140-014

Initial Weight of air-dried sample. **(6.1)**	50.8902
Mass retained on the No. 4 sieve. **(6.2)**	0.0000
Air-dried portion of fine material. **(7.1)**	50.8902

Course Sieving ASTM D421 (6.2)

Mass of coarse material (g)	0.0000
Percent Recovered	#DIV/0!

Coarse sieving (6.1)		**Sieve #**	**Weight (g)**	**% Passing**	**Mass Passing**
Gravel	19.0 mm	3/4"	0.0000	100.0	50.8902
Gravel	9.50 mm	3/8"	0.0000	100.0	50.8902
Medium Gravel	4.75 mm	4	0.0000	100.0	50.8902
Fine Gravel	2.00 mm	10	0.0000	100.0	50.8902
Fine sieving (11.1)					
V.C. Sand	0.850 mm	20	2.0586	95.9	48.3771
C. Sand	0.425 mm	40	1.6415	92.7	46.7356
M. Sand	0.250 mm	60	4.2413	84.3	42.4943
F. Sand	0.106 mm	140	13.2319	58.0	29.2624
V.F. Sand	0.075 mm	200	6.8244	44.5	22.4380 **(16.2)**

Calculated amount retained on the # 10 sieve. **(16.1)**	0.0000

Total Recovered (g)	50.4357
Total Recovered (%)	100.0

Hygroscopic Moisture (8.1)

Air-dried sample (g)	10.1546
Oven dried sample (g)	10.0639
Hygroscopic Moisture **(13.1)**	0.9911

(W) **(14.2)**	50.4357

Oven-Dried Sample used in hydrometer analysis. (g) **(14.1)**	50.4357

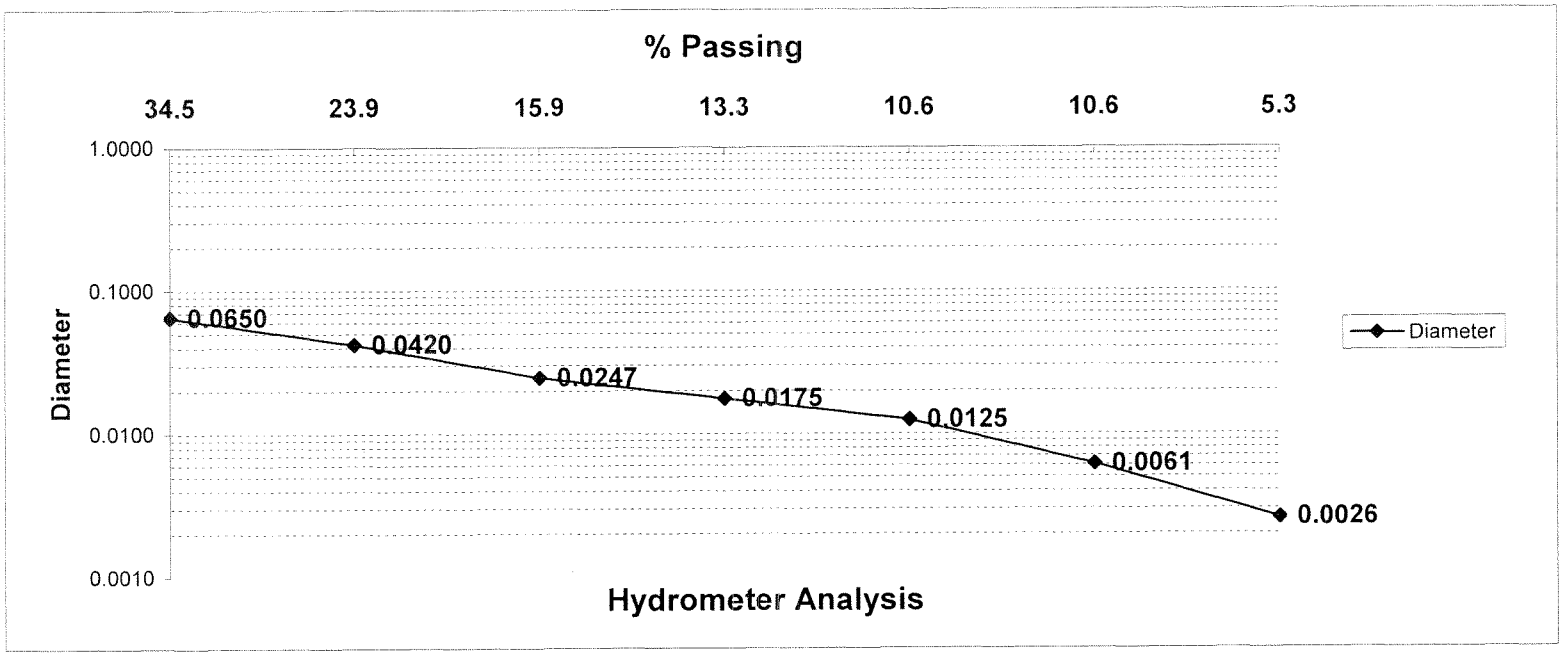
Determination of Silt/Clay Fraction

(10.2) T (Min)	**(10.2)** Hydro Reading	**(7.3)** Corr. Fact.	**(10.4)** Temp °C	**Table 1** Specific Gravity	H (Net)	**(14.3)** a	**Table 2** L Eff. Depth	**Table 3** K	**(14.3)** % Passing = H/Wa * 100	**(15.1)** Dia-meter
2	19	6	21	1.06	13	1.34	14.2	0.0244126	34.5	0.0650
5	15	6	21	1.06	9	1.34	14.8	0.0244126	23.9	0.0420
15	12	6	21	1.06	6	1.34	15.3	0.0244126	15.9	0.0247
30	11	6	21	1.06	5	1.34	15.5	0.0244126	13.3	0.0175
60	10	6	21	1.06	4	1.34	15.6	0.0244126	10.6	0.0125
250	10	6	21	1.06	4	1.34	15.6	0.0244126	10.6	0.0061
1440	8	6	21	1.06	2	1.34	16.0	0.0244126	5.3	0.0026

Comments:

Reviewed By:	Date: 11/6/09

Sample Name: M-1-A
Lab Code: K0909140-014



Columbia Analytical Services, Inc.

Sample Name :	M-5-B	Service Request:	K0909140
Lab Code:	K0909140-015	Method:	D421 / D422
Client:	URS Corporation	Date Collected:	9/28/2009
Project:	oise St. Helens Pulp and Paper Mill-2009	Date Received:	9/29/2009
Sample Matrix:	Sediment	Date Analyzed:	11/2/2009

Sample Preparation (ASTM D421-85)

(1) Mass of total test sample. (g) (6.1) 50.0784

(2) Coarse Material (6.2)

Coarse material + Tare. (g) 0.0000

Tare weight. (g) 0.0000

(3) Mass retained on the No. 4 sieve. (g) (6.2) 0.0000

(4) Selected portion of fine material. (g) (7.1) 50.0784

Particle Analysis (ASTM D422-63)

Sieve Analysis Of Coarse Material. (6.1)

Gravel 19.0 mm	3/4"	0.0000
Gravel 9.50 mm	3/8"	0.0000
Gravel 4.75 mm	4	0.0000
Gravel 2.00 mm	10	0.0000

Sieve Analysis Of Fine Material. (11.1)

Gravel 0.850 mm	20	0.5744
Gravel 0.425 mm	40	1.1450
Gravel 0.250 mm	60	3.8661
Gravel 0.106 mm	140	20.3763
Gravel 0.075 mm	200	5.9060
Pan	-	0.8923

Analysis of fine material.

Hydrometer corrections. (7.3)

	Hydro 1	Hydro 2
Reading:	6	0

Hygroscopic moisture. (8.1)

Air dried (g)	10.1906
Tare (g)	1.3063
Oven dried + Tare	11.4588

Weight of Fine material

Dry wt.+Tare (g)	137.9314
Tare (g)	105.1636
Fine material (g)	32.7678

Determination of Silt/Clay Fraction. (10.2) (10.3) (10.4)

(10.2) T (Min)	(10.2) Hydro Reading	(7.3) Corr. Fact.	(10.4) Temp °C	Specific Gravity		Table 1 a		Table 3 K		
2	14	6	21	1.13		1.320		0.02441		
5	12		21					0.02441		
15	10		21					0.02441		
30	8		21					0.02441		
60	8		21					0.02441		
250	7		21					0.02441		
1440	6		21					0.02441		

Analyst: KC CP Date: 11/2/2009

Reviewed by : Date: 11/10/09

Client:	URS Corporation	**Service Request:**	K0909140
Project:	Boise St. Helens Pulp and Paper Mill-2009	**Date Collected:**	9/28/2009
Sample Matrix:	Sediment	**Date Received:**	9/29/2009
		Date Analyzed:	11/2/2009

ASTM Method D422 Particle Size

Sample Name: M-5-B **Lab Code:** K0909140-015

Initial Weight of air-dried sample. **(6.1)**	50.0784
Mass retained on the No. 4 sieve. **(6.2)**	0.0000
Air-dried portion of fine material. **(7.1)**	50.0784

Course Sieving ASTM D421 (6.2)

Mass of coarse material (g)	0.0000
Percent Recovered	#DIV/0!

Coarse sieving (6.1)		Sieve #	Weight (g)	% Passing	Mass Passing
Gravel	19.0 mm	3/4"	0.0000	100.0	50.0784
Gravel	9.50 mm	3/8"	0.0000	100.0	50.0784
Medium Gravel	4.75 mm	4	0.0000	100.0	50.0784
Fine Gravel	2.00 mm	10	0.0000	100.0	50.0784
Fine sieving (11.1)					
V.C. Sand	0.850 mm	20	0.5744	98.8	49.3168
C. Sand	0.425 mm	40	1.1450	96.6	48.1718
M. Sand	0.250 mm	60	3.8661	88.8	44.3057
F. Sand	0.106 mm	140	20.3763	48.0	23.9294
V.F. Sand	0.075 mm	200	5.9060	36.1	18.0234 **(16.2)**

Calculated amount retained on the # 10 sieve. **(16.1)**	0.0000

Total Recovered (g)	49.8912
Total Recovered (%)	100.0

Hygroscopic Moisture (8.1)

Air-dried sample (g)	10.1906
Oven dried sample (g)	10.1525
Hygroscopic Moisture **(13.1)**	0.9963

(W) **(14.2)**	49.8912

Oven-Dried Sample used in hydrometer analysis. (g) **(14.1)**	49.8912

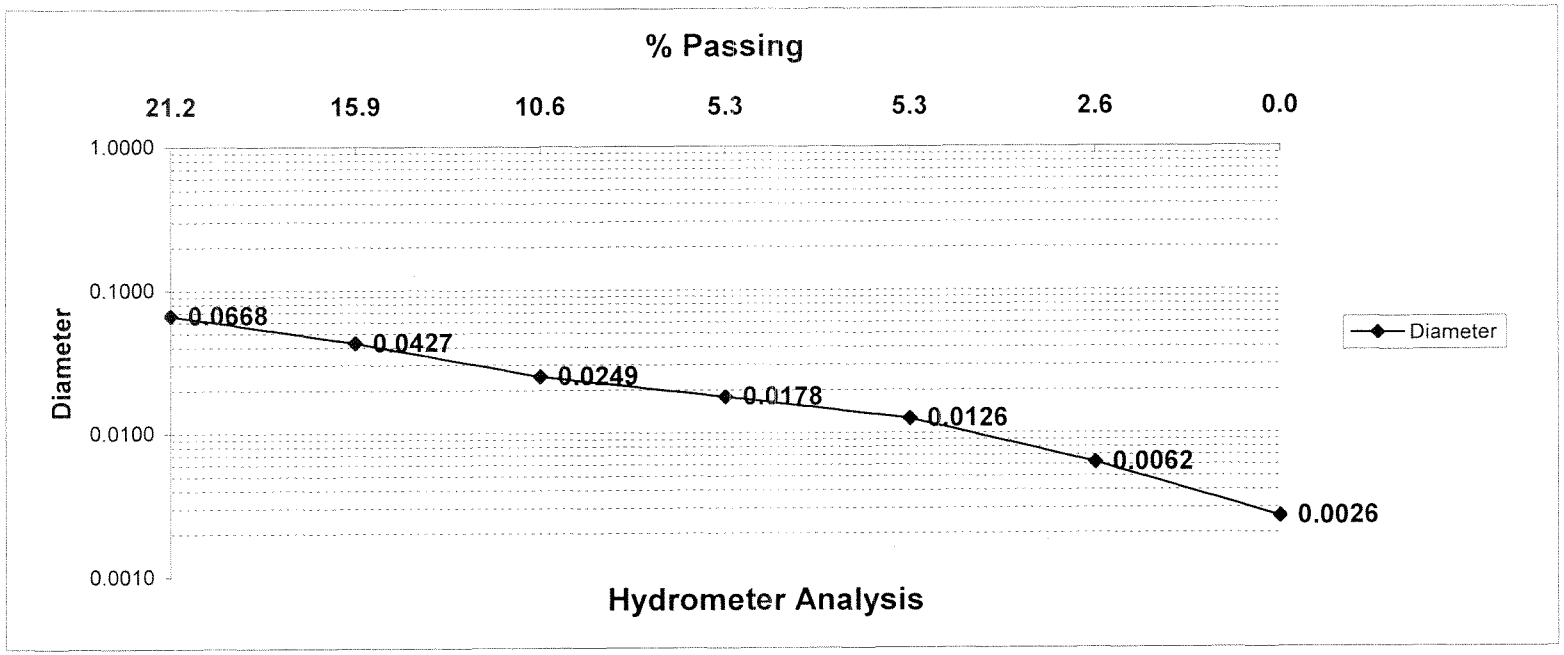
Determination of Silt/Clay Fraction

(10.2) T (Min)	(10.2) Hydro Reading	(7.3) Corr. Fact.	(10.4) Temp °C	Table 1 Specific Gravity	H (Net)	(14.3) a	Table 2 L Eff. Depth	Table 3 K	(14.3) % Passing = H/Wa * 100	(15.1) Dia-meter
2	14	6	21	1.13	8	1.32	15.0	0.0244126	21.2	0.0668
5	12	6	21	1.13	6	1.32	15.3	0.0244126	15.9	0.0427
15	10	6	21	1.13	4	1.32	15.6	0.0244126	10.6	0.0249
30	8	6	21	1.13	2	1.32	16.0	0.0244126	5.3	0.0178
60	8	6	21	1.13	2	1.32	16.0	0.0244126	5.3	0.0126
250	7	6	21	1.13	1	1.32	16.1	0.0244126	2.6	0.0062
1440	6	6	21	1.13	0	1.32	16.3	0.0244126	0.0	0.0026

Comments:

Reviewed By:	Date: 11/4/09

Sample Name: M-5-B
Lab Code: K0909140-015



Columbia Analytical Services, Inc.

Sample Name :	M-2-A	Service Request:	K0909140
Lab Code:	K0909140-006DUP	Method:	D421 / D422
Client:	URS Corporation	Date Collected:	10/6/2009
Project:	oise St. Helens Pulp and Paper Mill-2009	Date Received:	10/7/2009
Sample Matrix:	Sediment	Date Analyzed:	10/30/2009

Sample Preparation (ASTM D421-85)

(1) Mass of total test sample. (g) (6.1) 44.2709

(3) Mass retained on the No. 4 sieve. (g) (6.2) 0.0000

(2) Coarse Material (6.2)

Coarse material + Tare. (g) 0.0000

Tare weight. (g) 0.0000

(4) Selected portion of fine material. (g) (7.1) 44.2709

Particle Analysis (ASTM D422-63)

Sieve Analysis Of Coarse Material. (6.1)

Gravel 19.0 mm	3/4"	0.0000
Gravel 9.50 mm	3/8"	0.0000
Gravel 4.75 mm	4	0.0000
Gravel 2.00 mm	10	0.0000

Sieve Analysis Of Fine Material. (11.1)

Gravel 0.850 mm	20	0.8261
Gravel 0.425 mm	40	1.0435
Gravel 0.250 mm	60	3.0574
Gravel 0.106 mm	140	9.1242
Gravel 0.075 mm	200	5.7903
Pan	-	2.344

Analysis of fine material.

Hydrometer corrections. (7.3)

	Hydro 1	Hydro 2
Reading:	6	0

Hygroscopic moisture. (8.1)

Air dried (g)	10.2358
Tare (g)	1.2799
Oven dried + Tare	11.4460

Weight of Fine material

Dry wt.+Tare (g)	130.7233
Tare (g)	108.4462
Fine material (g)	22.2771

Determination of Silt/Clay Fraction. (10.2) (10.3) (10.4)

(10.2) T (Min)	(10.2) Hydro Reading	(7.3) Corr. Fact.	(10.4) Temp °C	Specific Gravity		Table 1 a		Table 3 K		
2	17	6	21	0.97		1.360		0.02441		
5	14		21					0.02441		
15	11		21					0.02441		
30	10		21					0.02441		
60	10		21					0.02441		
250	8		21					0.02441		
1440	7		21					0.02441		

Analyst: KC CP Date: 10/30/2009

Reviewed by : Date: 11/6/09

Client:	URS Corporation	**Service Request:**	K0909140
Project:	Boise St. Helens Pulp and Paper Mill-2009	**Date Collected:**	10/6/2009
Sample Matrix:	Sediment	**Date Received:**	10/7/2009
		Date Analyzed:	10/30/2009

ASTM Method D422 Particle Size

Sample Name: M-2-A **Lab Code:** K0909140-006DUP

Initial Weight of air-dried sample. **(6.1)**	44.2709
Mass retained on the No. 4 sieve. **(6.2)**	0.0000
Air-dried portion of fine material. **(7.1)**	44.2709

Course Sieving ASTM D421 (6.2)

Mass of coarse material (g)	0.0000
Percent Recovered	#DIV/0!

Coarse sieving (6.1)		Sieve #	Weight (g)	% Passing	Mass Passing
Gravel	19.0 mm	3/4"	0.0000	100.0	44.2709
Gravel	9.50 mm	3/8"	0.0000	100.0	44.2709
Medium Gravel	4.75 mm	4	0.0000	100.0	44.2709
Fine Gravel	2.00 mm	10	0.0000	100.0	44.2709
Fine sieving (11.1)					
V.C. Sand	0.850 mm	20	0.8261	98.1	43.1433
C. Sand	0.425 mm	40	1.0435	95.7	42.0998
M. Sand	0.250 mm	60	3.0574	88.8	39.0424
F. Sand	0.106 mm	140	9.1242	68.0	29.9182
V.F. Sand	0.075 mm	200	5.7903	54.9	24.1279 **(16.2)**

Calculated amount retained on the # 10 sieve. **(16.1)**	0.0000

Total Recovered (g)	43.9694
Total Recovered (%)	100.0

Hygroscopic Moisture (8.1)

Air-dried sample (g)	10.2358
Oven dried sample (g)	10.1661
Hygroscopic Moisture **(13.1)**	0.9932

(W) **(14.2)**	43.9694

Oven-Dried Sample used in hydrometer analysis. (g) **(14.1)**	43.9694

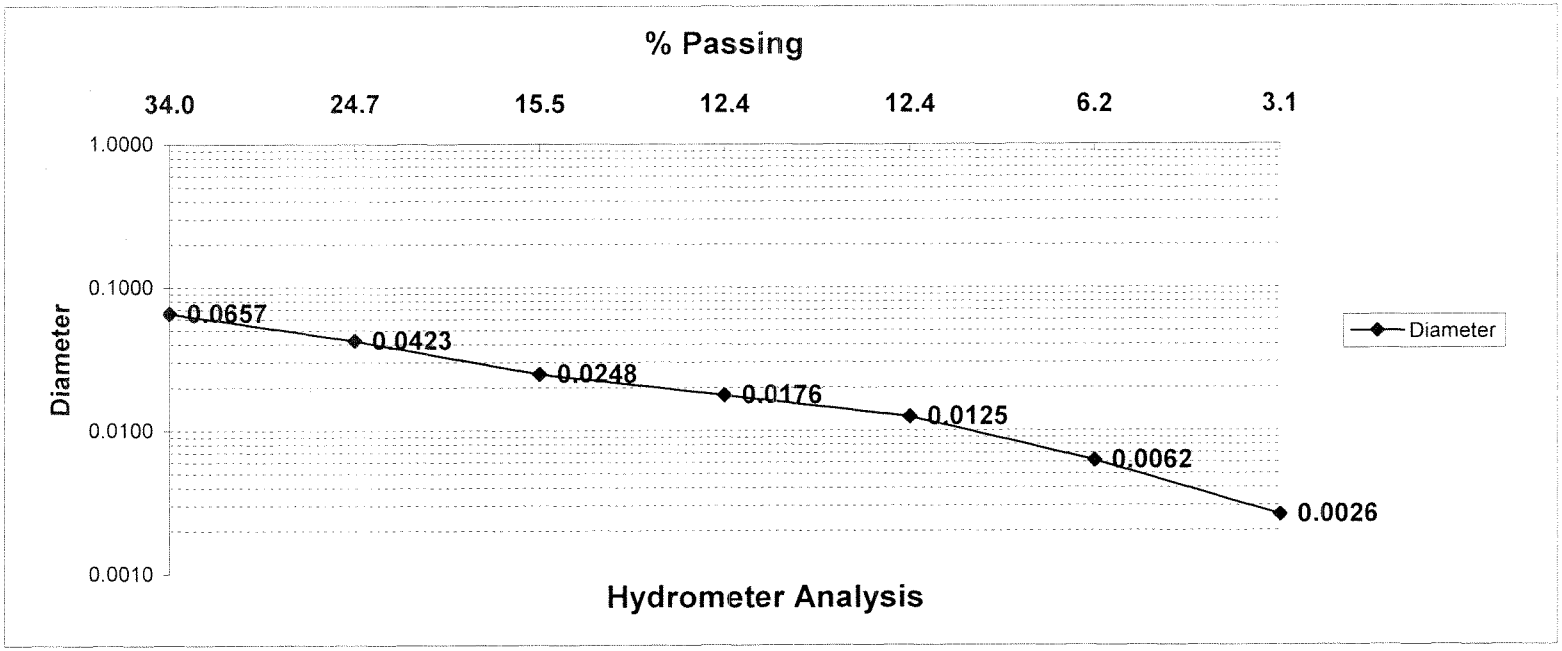
Determination of Silt/Clay Fraction

(10.2) T (Min)	(10.2) Hydro Reading	(7.3) Corr. Fact.	(10.4) Temp °C	Table 1 Specific Gravity	H (Net)	(14.3) a	Table 2 L Eff. Depth	Table 3 K	(14.3) % Passing = H/Wa * 100	(15.1) Dia-meter
2	17	6	21	0.97	11	1.36	14.5	0.0244126	34.0	0.0657
5	14	6	21	0.97	8	1.36	15.0	0.0244126	24.7	0.0423
15	11	6	21	0.97	5	1.36	15.5	0.0244126	15.5	0.0248
30	10	6	21	0.97	4	1.36	15.6	0.0244126	12.4	0.0176
60	10	6	21	0.97	4	1.36	15.6	0.0244126	12.4	0.0125
250	8	6	21	0.97	2	1.36	16.0	0.0244126	6.2	0.0062
1440	7	6	21	0.97	1	1.36	16.1	0.0244126	3.1	0.0026

Comments:

Reviewed By:	Date: 11/6/09

Sample Name: M-2-A
Lab Code: K0909140-006DUP



Columbia Analytical Services, Inc.

Sample Name :	M-3-A	Service Request:	K0909140
Lab Code:	K0909140-013DUP	Method:	D421 / D422
Client:	URS Corporation	Date Collected:	10/5/2009
Project:	oise St. Helens Pulp and Paper Mill-2009	Date Received:	10/6/2009
Sample Matrix:	Sediment	Date Analyzed:	11/2/2009

Sample Preparation (ASTM D421-85)

(1) Mass of total test sample. (g) (6.1) 30.0610

(2) Coarse Material (6.2)

Coarse material + Tare. (g) 0.0000

Tare weight. (g) 0.0000

(3) Mass retained on the No. 4 sieve. (g) (6.2) 0.0000

(4) Selected portion of fine material. (g) (7.1) 30.0610

Particle Analysis (ASTM D422-63)

Sieve Analysis Of Coarse Material. (6.1)

Gravel 19.0 mm	3/4"	0.0000
Gravel 9.50 mm	3/8"	0.0000
Gravel 4.75 mm	4	0.0000
Gravel 2.00 mm	10	0.0000

Sieve Analysis Of Fine Material. (11.1)

Gravel 0.850 mm	20	0.5485
Gravel 0.425 mm	40	0.4624
Gravel 0.250 mm	60	1.0185
Gravel 0.106 mm	140	7.3972
Gravel 0.075 mm	200	4.7728
Pan	-	1.0923

Analysis of fine material.

Hydrometer corrections. (7.3)

	Hydro 1	Hydro 2
Reading:	6	0

Hygroscopic moisture. (8.1)

Air dried (g)	10.6520
Tare (g)	1.2994
Oven dried + Tare	11.4322

Weight of Fine material

Dry wt.+Tare (g)	121.6111
Tare (g)	106.3113
Fine material (g)	15.2998

Determination of Silt/Clay Fraction. (10.2) (10.3) (10.4)

(10.2) T (Min)	(10.2) Hydro Reading	(7.3) Corr. Fact.	(10.4) Temp °C	Specific Gravity		Table 1 a		Table 3 K		
2	12	6	21	1.25		1.290		0.02441		
5	10		21					0.02441		
15	9		21					0.02441		
30	9		21					0.02441		
60	8		21					0.02441		
250	7		21					0.02441		
1440	6		21					0.02441		

Analyst: KC CP Date: 11/2/2009

Reviewed by : Date: 11/6/09

Client:	URS Corporation	**Service Request:**	K0909140
Project:	Boise St. Helens Pulp and Paper Mill-2009	**Date Collected:**	10/5/2009
Sample Matrix:	Sediment	**Date Received:**	10/6/2009
		Date Analyzed:	11/2/2009

ASTM Method D422 Particle Size

Sample Name: M-3-A **Lab Code:** K0909140-013DUP

Initial Weight of air-dried sample. **(6.1)**	30.0610
Mass retained on the No. 4 sieve. **(6.2)**	0.0000
Air-dried portion of fine material. **(7.1)**	30.0610

Course Sieving ASTM D421 (6.2)

Mass of coarse material (g)	0.0000
Percent Recovered	#DIV/0!

Coarse sieving (6.1)		**Sieve #**	**Weight (g)**	**% Passing**	**Mass Passing**
Gravel	19.0 mm	3/4"	0.0000	100.0	30.0610
Gravel	9.50 mm	3/8"	0.0000	100.0	30.0610
Medium Gravel	4.75 mm	4	0.0000	100.0	30.0610
Fine Gravel	2.00 mm	10	0.0000	100.0	30.0610
Fine sieving (11.1)					
V.C. Sand	0.850 mm	20	0.5485	98.1	28.0473
C. Sand	0.425 mm	40	0.4624	96.5	27.5849
M. Sand	0.250 mm	60	1.0185	92.9	26.5664
F. Sand	0.106 mm	140	7.3972	67.0	19.1692
V.F. Sand	0.075 mm	200	4.7728	50.3	14.3964 **(16.2)**

Calculated amount retained on the # 10 sieve. **(16.1)**	0.0000

Total Recovered (g)	28.5958
Total Recovered (%)	100.0

Hygroscopic Moisture (8.1)

Air-dried sample (g)	10.6520
Oven dried sample (g)	10.1328
Hygroscopic Moisture **(13.1)**	0.9513

(W) **(14.2)**	28.5958

Oven-Dried Sample used in hydrometer analysis. (g) **(14.1)**	28.5958

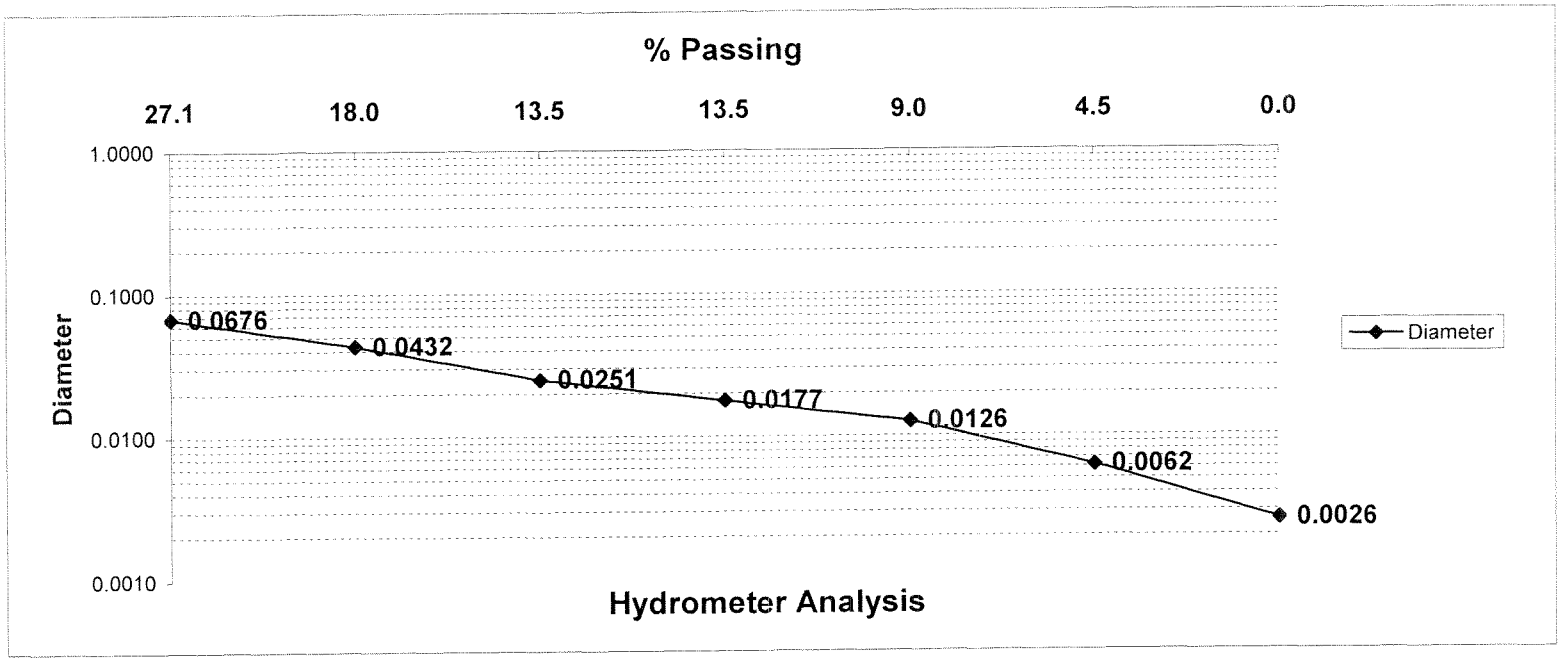
Determination of Silt/Clay Fraction

(10.2) T (Min)	**(10.2)** Hydro Reading	**(7.3)** Corr. Fact.	**(10.4)** Temp °C	**Table 1** Specific Gravity	H (Net)	**(14.3)** a	**Table 2** L Eff. Depth	**Table 3** K	**(14.3)** % Passing = H/Wa * 100	**(15.1)** Dia-meter
2	12	6	21	1.25	6	1.29	15.3	0.0244126	27.1	0.0676
5	10	6	21	1.25	4	1.29	15.6	0.0244126	18.0	0.0432
15	9	6	21	1.25	3	1.29	15.8	0.0244126	13.5	0.0251
30	9	6	21	1.25	3	1.29	15.8	0.0244126	13.5	0.0177
60	8	6	21	1.25	2	1.29	16.0	0.0244126	9.0	0.0126
250	7	6	21	1.25	1	1.29	16.1	0.0244126	4.5	0.0062
1440	6	6	21	1.25	0	1.29	16.3	0.0244126	0.0	0.0026

Comments:

Reviewed By:	Date: 11/6/09

Sample Name: M-3-A
Lab Code: K0909140-013DUP



Columbia Analytical Services, Inc.

Sample Name :	M-1-A	Service Request:	K0909140
Lab Code:	K0909140-014DUP	Method:	D421 / D422
Client:	URS Corporation	Date Collected:	10/7/2009
Project:	oise St. Helens Pulp and Paper Mill-2009	Date Received:	10/8/2009
Sample Matrix:	Sediment	Date Analyzed:	11/2/2009

Sample Preparation (ASTM D421-85)

(1) Mass of total test sample. (g) (6.1) 49.4708

(2) Coarse Material (6.2)

Coarse material + Tare. (g) 0.0000

Tare weight. (g) 0.0000

(3) Mass retained on the No. 4 sieve. (g) (6.2) 0.0000

(4) Selected portion of fine material. (g) (7.1) 49.4708

Particle Analysis (ASTM D422-63)

Sieve Analysis Of Coarse Material. (6.1)

Gravel 19.0 mm	3/4"	0.0000
Gravel 9.50 mm	3/8"	0.0000
Gravel 4.75 mm	4	0.0000
Gravel 2.00 mm	10	0.0000

Sieve Analysis Of Fine Material. (11.1)

Gravel 0.850 mm	20	1.6656
Gravel 0.425 mm	40	1.0486
Gravel 0.250 mm	60	3.1013
Gravel 0.106 mm	140	10.6425
Gravel 0.075 mm	200	5.3696
Pan	-	0.9811

Analysis of fine material.

Hydrometer corrections. (7.3)

	Hydro 1	Hydro 2
Reading:	6	0

Hygroscopic moisture. (8.1)

Air dried (g)	10.1546
Tare (g)	1.3031
Oven dried + Tare	11.3670

Weight of Fine material

Dry wt.+Tare (g)	128.2398
Tare (g)	105.4209
Fine material (g)	22.8189

Determination of Silt/Clay Fraction. (10.2) (10.3) (10.4)

(10.2) T (Min)	(10.2) Hydro Reading	(7.3) Corr. Fact.	(10.4) Temp °C	Specific Gravity		Table 1 a		Table 3 K		
2	18	6	21	1.06		1.340		0.02441		
5	15		21					0.02441		
15	11		21					0.02441		
30	10		21					0.02441		
60	10		21					0.02441		
250	10		21					0.02441		
1440	7		21					0.02441		

Analyst: KC CP Date: 11/2/2009

Reviewed by : Date: 11/6/09

Client:	URS Corporation	**Service Request:**	K0909140
Project:	Boise St. Helens Pulp and Paper Mill-2009	**Date Collected:**	10/7/2009
Sample Matrix:	Sediment	**Date Received:**	10/8/2009
		Date Analyzed:	11/2/2009

ASTM Method D422 Particle Size

Sample Name: M-1-A **Lab Code:** K0909140-014DUP

Initial Weight of air-dried sample. **(6.1)**	49.4708
Mass retained on the No. 4 sieve. **(6.2)**	0.0000
Air-dried portion of fine material. **(7.1)**	49.4708

Course Sieving ASTM D421 (6.2)

Mass of coarse material (g)	0.0000
Percent Recovered	#DIV/0!

Coarse sieving (6.1)		Sieve #	Weight (g)	% Passing	Mass Passing
Gravel	19.0 mm	3/4"	0.0000	100.0	49.4708
Gravel	9.50 mm	3/8"	0.0000	100.0	49.4708
Medium Gravel	4.75 mm	4	0.0000	100.0	49.4708
Fine Gravel	2.00 mm	10	0.0000	100.0	49.4708
Fine sieving (11.1)					
V.C. Sand	0.850 mm	20	1.6656	96.6	47.3633
C. Sand	0.425 mm	40	1.0486	94.5	46.3147
M. Sand	0.250 mm	60	3.1013	88.1	43.2134
F. Sand	0.106 mm	140	10.6425	66.4	32.5709
V.F. Sand	0.075 mm	200	5.3696	55.5	27.2013 **(16.2)**

Calculated amount retained on the # 10 sieve. **(16.1)**	0.0000

Total Recovered (g)	49.0289
Total Recovered (%)	100.0

Hygroscopic Moisture (8.1)

Air-dried sample (g)	10.1546
Oven dried sample (g)	10.0639
Hygroscopic Moisture **(13.1)**	0.9911

(W) **(14.2)**	49.0289

Oven-Dried Sample used in hydrometer analysis. (g) **(14.1)**	49.0289

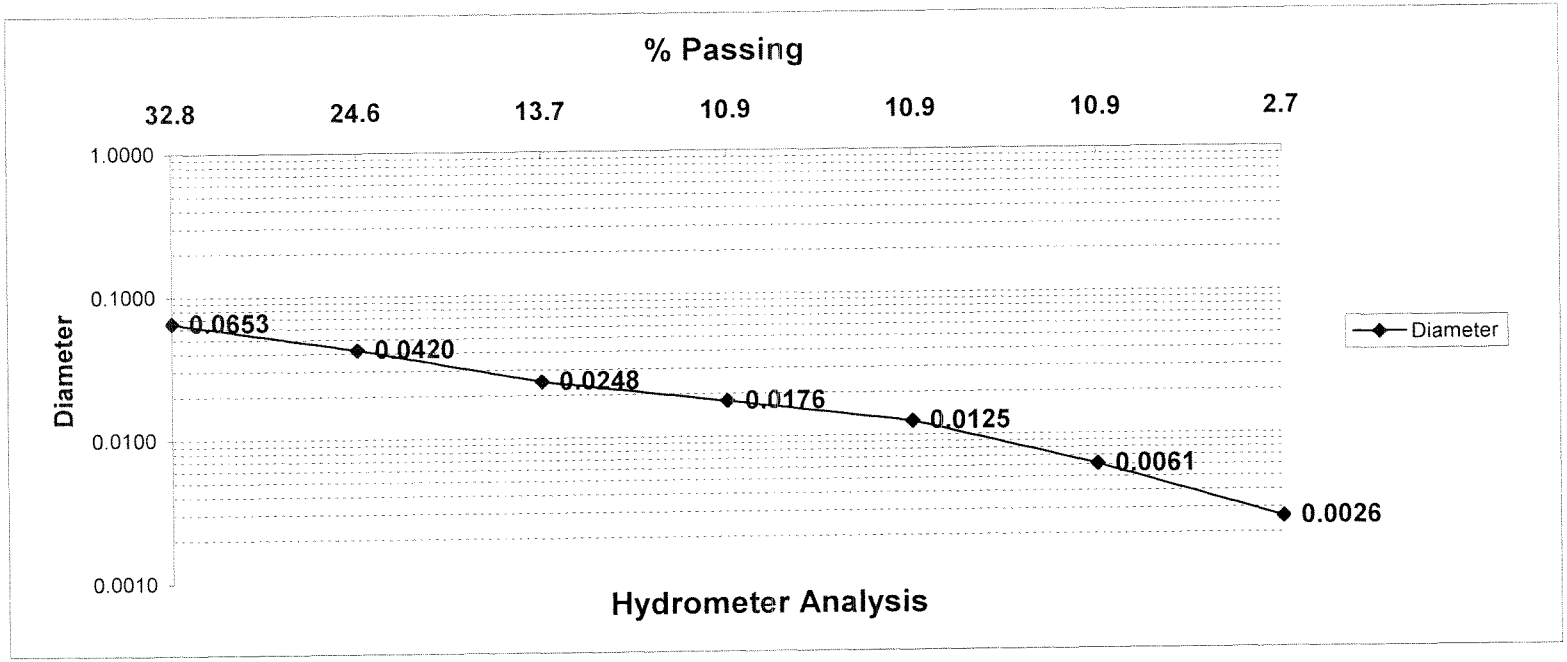
Determination of Silt/Clay Fraction

(10.2) T (Min)	(10.2) Hydro Reading	(7.3) Corr. Fact.	(10.4) Temp °C	Table 1 Specific Gravity	H (Net)	(14.3) a	Table 2 L Eff. Depth	Table 3 K	(14.3) % Passing = H/Wa * 100	(15.1) Dia-meter
2	18	6	21	1.06	12	1.34	14.3	0.0244126	32.8	0.0653
5	15	6	21	1.06	9	1.34	14.8	0.0244126	24.6	0.0420
15	11	6	21	1.06	5	1.34	15.5	0.0244126	13.7	0.0248
30	10	6	21	1.06	4	1.34	15.6	0.0244126	10.9	0.0176
60	10	6	21	1.06	4	1.34	15.6	0.0244126	10.9	0.0125
250	10	6	21	1.06	4	1.34	15.6	0.0244126	10.9	0.0061
1440	7	6	21	1.06	1	1.34	16.1	0.0244126	2.7	0.0026

Comments:

Reviewed By: Date: 11/6/09

Sample Name: M-1-A
Lab Code: K0909140-014DUP



Columbia Analytical Services, Inc.

Sample Name :	9140-L0	Service Request:	0
Lab Code:		Method:	
Client:	0	Date Collected:	
Project:	0	Date Received:	
Sample Matrix:	0	Date Analyzed:	

Sample Preparation (ASTM D421-85)

(1) Mass of total test sample. (g) (6.1) 45.2490

(3) Mass retained on the No. 4 sieve. (g) (6.2) 0.0000

(2) Coarse Material (6.2)

Coarse material + Tare. (g) 0

Tare weight. (g) 0

(4) Selected portion of fine material. (g) (7.1) #VALUE!

Particle Analysis (ASTM D422-63)

Sieve Analysis Of Coarse Material. (6.1)

Gravel 19.0 mm	3/4"	0
Gravel 9.50 mm	3/8"	0
Gravel 4.75 mm	4	0
Gravel 2.00 mm	10	0

Sieve Analysis Of Fine Material. (11.1)

Gravel 0.850 mm	20	0.6103 g
Gravel 0.425 mm	40	1.1171 g
Gravel 0.250 mm	60	3.0193 g
Gravel 0.106 mm	140	9.2049 g
Gravel 0.075 mm	200	6.6346 g
Pan	-	3.5442 g

Analysis of fine material.

Hydrometer corrections. (7.3)

	Hydro 1	Hydro 2
Reading:	6	0

Hygroscopic moisture. (8.1)

Air dried (g)	10.2352
Tare (g)	1.2799
Oven dried + Tare	11.4460

Weight of Fine material

Dry wt.+Tare (g)	130.9581
Tare (g)	100.7268
Fine material (g)	#VALUE!

Determination of Silt/Clay Fraction. (10.2) (10.3) (10.4)

(10.2) T (Min)	(10.2) Hydro Reading	(7.3) Corr. Fact.	(10.4) Temp °C	Specific Gravity		Table 1 a		Table 3 K		
2	17	6	21	0.97		1.36				
5	14		21							
15	11		21							
30	11									
60	9		21							
250	8		21							
1440	7		21							

Analyst: KC Date: 10/30/09

Reviewed by : Date: 11/6/09

Columbia Analytical Services, Inc.

Sample Name : 9140-7
Lab Code:
Client: 0
Project: 0
Sample Matrix: 0

Service Request: 0
Method: D421 / D422
Date Collected:
Date Received:
Date Analyzed:

Sample Preparation (ASTM D421-85)

(1) Mass of total test sample. (g) (6.1) 50.5162

(3) Mass retained on the No. 4 sieve. (g) (6.2) 0.0000

(2) Coarse Material (6.2)

Coarse material + Tare. (g) 0

Tare weight. (g) 0

(4) Selected portion of fine material. (g) (7.1)

Particle Analysis (ASTM D422-63)

Sieve Analysis Of Coarse Material. (6.1)

Gravel 19.0 mm	3/4"	0
Gravel 9.50 mm	3/8"	0
Gravel 4.75 mm	4	0
Gravel 2.00 mm	10	0

Sieve Analysis Of Fine Material. (11.1)

Gravel 0.850 mm	20	0.2442 g
Gravel 0.425 mm	40	0.4812 g
Gravel 0.250 mm	60	1.1663 g
Gravel 0.106 mm	140	15.1842 g
Gravel 0.075 mm	200	9.9937 g
Pan	-	3.6909 g

Analysis of fine material.

Hydrometer corrections. (7.3)

	Hydro 1	Hydro 2
Reading:	6	0

Hygroscopic moisture. (8.1)

Air dried (g)	11.3753
Tare (g)	1.2789
Oven dried + Tare	12.6052

Weight of Fine material

Dry wt.+Tare (g)	136.3667
Tare (g)	105.5242
Fine material (g)	#VALUE!

Determination of Silt/Clay Fraction. (10.2) (10.3) (10.4)

(10.2) T (Min)	(10.2) Hydro Reading	(7.3) Corr. Fact.	(10.4) Temp °C	Specific Gravity		Table 1 a		Table 3 K		
2	16	6	21	1.07		1.34				
5	13		21							
15	12		21							
30	12		21							
60	10		21							
250	9		21							
1440	9		21							

Analyst: KC Date: 10/30/09

Reviewed by : Date: 11/6/09

Columbia Analytical Services, Inc.

Sample Name :	9140-8	Service Request:	0
Lab Code:		Method:	D421 / D422
Client:	0	Date Collected:	
Project:	0	Date Received:	
Sample Matrix:	0	Date Analyzed:	

Sample Preparation (ASTM D421-85)

(1) Mass of total test sample. (g) (6.1) 50.3223

(3) Mass retained on the No. 4 sieve. (g) (6.2) 0.0000

(2) Coarse Material (6.2)

Coarse material + Tare. (g) 0

Tare weight. (g) 0

(4) Selected portion of fine material. (g) (7.1)

Particle Analysis (ASTM D422-63)

Sieve Analysis Of Coarse Material. (6.1)

Gravel 19.0 mm	3/4"	0
Gravel 9.50 mm	3/8"	0
Gravel 4.75 mm	4	0
Gravel 2.00 mm	10	0

Sieve Analysis Of Fine Material. (11.1)

Gravel 0.850 mm	20	0.7596 g
Gravel 0.425 mm	40	1.3047 g
Gravel 0.250 mm	60	2.7453 g
Gravel 0.106 mm	140	7.4304 g
Gravel 0.075 mm	200	6.7869 g
Pan	-	3.5749 g

Analysis of fine material.

Hydrometer corrections. (7.3)

	Hydro 1	Hydro 2
Reading:	6	0

Hygroscopic moisture. (8.1)

Air dried (g)	10.6645
Tare (g)	1.2770
Oven dried + Tare	11.0084

Weight of Fine material

Dry wt.+Tare (g)	123.7904
Tare (g)	100.9837
Fine material (g)	#VALUE!

Determination of Silt/Clay Fraction. (10.2) (10.3) (10.4)

(10.2) T (Min)	(10.2) Hydro Reading	(7.3) Corr. Fact.	(10.4) Temp °C	Specific Gravity		Table 1 a		Table 3 K		
2	18	6	21	0.89		1.37				
5	15		21							
15	13		21							
30	12		21							
60	10		21							
250	9		21							
1440	8		21							

Analyst: KC Date: 10/30/09

Reviewed by : Date: 11/6/09

Columbia Analytical Services, Inc.

Sample Name :	9140-9	Service Request:	0
Lab Code:		Method:	D421 / D422
Client:	0	Date Collected:	
Project:	0	Date Received:	
Sample Matrix:	0	Date Analyzed:	

Sample Preparation (ASTM D421-85)

(1) Mass of total test sample. (g) (6.1) 50.5714

(3) Mass retained on the No. 4 sieve. (g) (6.2) 0.0000

(2) Coarse Material (6.2)

Coarse material + Tare. (g) 0

Tare weight. (g) 0

(4) Selected portion of fine material. (g) (7.1)

Particle Analysis (ASTM D422-63)

Sieve Analysis Of Coarse Material. (6.1)

Gravel 19.0 mm	3/4"	0
Gravel 9.50 mm	3/8"	0
Gravel 4.75 mm	4	0
Gravel 2.00 mm	10	0

Sieve Analysis Of Fine Material. (11.1)

Gravel 0.850 mm	20	1.2619 g
Gravel 0.425 mm	40	1.1982 g
Gravel 0.250 mm	60	4.6001 g
Gravel 0.106 mm	140	11.7859 g
Gravel 0.075 mm	200	7.5300 g
Pan	-	1.9558 g

Analysis of fine material.

Hydrometer corrections. (7.3)

	Hydro 1	Hydro 2
Reading:	6	0

Hygroscopic moisture. (8.1)

Air dried (g)	10.6730
Tare (g)	1.2985
Oven dried + Tare	10.9982

Weight of Fine material

Dry wt.+Tare (g)	138.1799
Tare (g)	109.6498
Fine material (g)	#VALUE!

Determination of Silt/Clay Fraction. (10.2) (10.3) (10.4)

(10.2) T (Min)	(10.2) Hydro Reading	(7.3) Corr. Fact.	(10.4) Temp °C	Specific Gravity		Table 1 a		Table 3 K		
2	16	0	21	1.04		1.34				
5	13		21							
15	12		21							
30	11		21							
60	10		21							
250	8		21							
1440	7		21							

Analyst: KC Date: 10/30/09

Reviewed by : Date: 11/6/09

Columbia Analytical Services, Inc.

Sample Name :	9140-10	Service Request:	0
Lab Code:		Method:	D421 / D422
Client:	0	Date Collected:	
Project:	0	Date Received:	
Sample Matrix:	0	Date Analyzed:	

Sample Preparation (ASTM D421-85)

(1) Mass of total test sample. (g) (6.1) 50.7369

(3) Mass retained on the No. 4 sieve. (g) (6.2) 0.0000

(2) Coarse Material (6.2)

Coarse material + Tare. (g) 0

Tare weight. (g) 0

(4) Selected portion of fine material. (g) (7.1)

Particle Analysis (ASTM D422-63)

Sieve Analysis Of Coarse Material. (6.1)

Gravel 19.0 mm	3/4"	0
Gravel 9.50 mm	3/8"	0
Gravel 4.75 mm	4	0
Gravel 2.00 mm	10	0

Sieve Analysis Of Fine Material. (11.1)

Gravel 0.850 mm	20	0.2046
Gravel 0.425 mm	40	0.3412
Gravel 0.250 mm	60	1.5775
Gravel 0.106 mm	140	14.6756
Gravel 0.075 mm	200	8.3434
Pan	-	1.4762

Analysis of fine material.

Hydrometer corrections. (7.3)

	Hydro 1	Hydro 2
Reading:	6	0

Hygroscopic moisture. (8.1)

Air dried (g)	10.8931
Tare (g)	1.3063
Oven dried + Tare	11.7678

Weight of Fine material

Dry wt.+Tare (g)	132.7152
Tare (g)	105.9064
Fine material (g)	#VALUE!

Determination of Silt/Clay Fraction. (10.2) (10.3) (10.4)

(10.2) T (Min)	(10.2) Hydro Reading	(7.3) Corr. Fact.	(10.4) Temp °C	Specific Gravity		Table 1 a		Table 3 K		
2	16	0	21	1.09		1.33				
5	13		21							
15	11		21							
30	10		21							
60	8		21							
250	8		21							
1440	7		21							

Analyst: KC Date: 10/30/09

Reviewed by : Date: 11/6/09

Columbia Analytical Services, Inc.

Sample Name :	9140-11	Service Request:	0
Lab Code:		Method:	
Client:	0	Date Collected:	
Project:	0	Date Received:	
Sample Matrix:	0	Date Analyzed:	

Sample Preparation (ASTM D421-85)

(1) Mass of total test sample. (g) (6.1) 50.0988

(3) Mass retained on the No. 4 sieve. (g) (6.2) 0.0000

(2) Coarse Material (6.2)

Coarse material + Tare. (g) 0

Tare weight. (g) 0

(4) Selected portion of fine material. (g) (7.1) #VALUE!

Particle Analysis (ASTM D422-63)

Sieve Analysis Of Coarse Material. (6.1)

Gravel 19.0 mm	3/4"	0
Gravel 9.50 mm	3/8"	0
Gravel 4.75 mm	4	0
Gravel 2.00 mm	10	0

Sieve Analysis Of Fine Material. (11.1)

Gravel 0.850 mm	20	0.2280
Gravel 0.425 mm	40	0.1923
Gravel 0.250 mm	60	3.3924
Gravel 0.106 mm	140	18.3747
Gravel 0.075 mm	200	7.2124
Pan	-	1.2400

Analysis of fine material.

Hydrometer corrections. (7.3)

	Hydro 1	Hydro 2
Reading:	6	0

Hygroscopic moisture. (8.1)

Air dried (g)	10.9989
Tare (g)	1.2833
Oven dried + Tare	11.7586

Weight of Fine material

Dry wt.+Tare (g)	138.9513
Tare (g)	108.1654
Fine material (g)	#VALUE!

Determination of Silt/Clay Fraction. (10.2) (10.3) (10.4)

(10.2) T (Min)	(10.2) Hydro Reading	(7.3) Corr. Fact.	(10.4) Temp °C	Specific Gravity		Table 1 a		Table 3 K		
2	14	6	21	1.21		1.30				
5	11		21							
15	10		21							
30	10		21							
60	9		21							
250	7		21							
1440	6		21							

Analyst: KC Date: 10/30/09

Reviewed by : Date: 11/6/09

Columbia Analytical Services, Inc.

Sample Name :	9140-12	Service Request:	0
Lab Code:		Method:	
Client:	0	Date Collected:	
Project:	0	Date Received:	
Sample Matrix:	0	Date Analyzed:	

Sample Preparation (ASTM D421-85)

(1) Mass of total test sample. (g) (6.1) 50.0904

(3) Mass retained on the No. 4 sieve. (g) (6.2) 0.0000

(2) Coarse Material (6.2)

Coarse material + Tare. (g) 0

Tare weight. (g) 0

(4) Selected portion of fine material. (g) (7.1) #VALUE!

Particle Analysis (ASTM D422-63)

Sieve Analysis Of Coarse Material. (6.1)

Gravel 19.0 mm	3/4"	0
Gravel 9.50 mm	3/8"	0
Gravel 4.75 mm	4	0
Gravel 2.00 mm	10	0

Sieve Analysis Of Fine Material. (11.1)

Gravel 0.850 mm	20	0.1449 g
Gravel 0.425 mm	40	0.1406 g
Gravel 0.250 mm	60	2.3258 g
Gravel 0.106 mm	140	17.8021 g
Gravel 0.075 mm	200	7.4215 g
Pan	-	2.7486 g

Analysis of fine material.

Hydrometer corrections. (7.3)

	Hydro 1	Hydro 2
Reading:	6	0

Hygroscopic moisture. (8.1)

Air dried (g)	10.3618
Tare (g)	1.3020
Oven dried + Tare	11.6568

Weight of Fine material

Dry wt.+Tare (g)	134.5384
Tare (g)	103.8314
Fine material (g)	#VALUE!

D21 KC 11/2/09 (KC)

Determination of Silt/Clay Fraction. (10.2) (10.3) (10.4)

(10.2) T (Min)	(10.2) Hydro Reading	(7.3) Corr. Fact.	(10.4) Temp °C	Specific Gravity		Table 1 a		Table 3 K		
2	15	6	21	1.26		1.29				
5	11		21							
15	10		21							
30	10		21							
60	8		21							
250	7		21							
1440	6		21							

Analyst: KC Date: 10/30/09

Reviewed by : Date: 11/6/09

Columbia Analytical Services, Inc.

Sample Name :	9140-13	Service Request:	0
Lab Code:		Method:	
Client:	0	Date Collected:	
Project:	0	Date Received:	
Sample Matrix:	0	Date Analyzed:	

Sample Preparation (ASTM D421-85)

(1) Mass of total test sample. (g) (6.1) 50.6368

(3) Mass retained on the No. 4 sieve. (g) (6.2) 0.0000

(2) Coarse Material (6.2)

Coarse material + Tare. (g) 0

Tare weight. (g) 0

(4) Selected portion of fine material. (g) (7.1) #VALUE!

Particle Analysis (ASTM D422-63)

Sieve Analysis Of Coarse Material. (6.1)

Gravel 19.0 mm	3/4"	0
Gravel 9.50 mm	3/8"	0
Gravel 4.75 mm	4	0
Gravel 2.00 mm	10	0

Sieve Analysis Of Fine Material. (11.1)

Gravel 0.850 mm	20	0.1982 g
Gravel 0.425 mm	40	0.3589 g
Gravel 0.250 mm	60	1.0763 g
Gravel 0.106 mm	140	11.7286 g
Gravel 0.075 mm	200	10.1555 g
Pan	-	2.8112 g

Analysis of fine material.

Hydrometer corrections. (7.3)

	Hydro 1	Hydro 2
Reading:	6	0

Hygroscopic moisture. (8.1)

Air dried (g)	10.0408
Tare (g)	1.2825
Oven dried + Tare	10.8287

Weight of Fine material

Dry wt.+Tare (g)	131.7590
Tare (g)	105.3434
Fine material (g)	#VALUE!

Determination of Silt/Clay Fraction. (10.2) (10.3) (10.4)

(10.2) T (Min)	(10.2) Hydro Reading	(7.3) Corr. Fact.	(10.4) Temp °C	Specific Gravity		Table 1 a		Table 3 K		
2	16	6.0	21	1.05		1.34				
5	13		21							
15	12		21							
30	10		21							
60	9		21							
250	7		21							
1440	7		21							

Analyst: KC Date: 10/30/09

Reviewed by : Date: 11/10/09

Columbia Analytical Services, Inc.

Sample Name :	9140-14	Service Request:	0
Lab Code:		Method:	
Client:	0	Date Collected:	
Project:	0	Date Received:	
Sample Matrix:	0	Date Analyzed:	

Sample Preparation (ASTM D421-85)

(1) Mass of total test sample. (g) (6.1) 50.8902

(3) Mass retained on the No. 4 sieve. (g) (6.2) 0.0000

(2) Coarse Material (6.2)

Coarse material + Tare. (g) 0

Tare weight. (g) 0

(4) Selected portion of fine material. (g) (7.1) #VALUE!

Particle Analysis (ASTM D422-63)

Sieve Analysis Of Coarse Material. (6.1)

Gravel 19.0 mm	3/4"	0
Gravel 9.50 mm	3/8"	0
Gravel 4.75 mm	4	0
Gravel 2.00 mm	10	0

Sieve Analysis Of Fine Material. (11.1)

Gravel 0.850 mm	20	2.0586
Gravel 0.425 mm	40	1.6415
Gravel 0.250 mm	60	4.2413
Gravel 0.106 mm	140	13.2319
Gravel 0.075 mm	200	6.8244
Pan	-	1.3794

Analysis of fine material.

Hydrometer corrections. (7.3)

	Hydro 1	Hydro 2
Reading:	6	0

Hygroscopic moisture. (8.1)

Air dried (g)	10.1546
Tare (g)	1.3031
Oven dried + Tare	11.3670

Weight of Fine material

Dry wt.+Tare (g)	137.7890
Tare (g)	108.4000
Fine material (g)	#VALUE!

Determination of Silt/Clay Fraction. (10.2) (10.3) (10.4)

(10.2) T (Min)	(10.2) Hydro Reading	(7.3) Corr. Fact.	(10.4) Temp °C	Specific Gravity		Table 1 a		Table 3 K		
2	19	6	21	1.06		1.34				
5	15		21							
15	12		21							
30	11		21							
60	10		21							
250	10		21							
1440	8		21							

Analyst: KC Date: 11/2/09

Reviewed by : Date: 11/6/09

Columbia Analytical Services, Inc.

Sample Name :	9140-15	Service Request:	0
Lab Code:		Method:	
Client:	0	Date Collected:	
Project:	0	Date Received:	
Sample Matrix:	0	Date Analyzed:	

Sample Preparation (ASTM D421-85)

(1) Mass of total test sample. (g) (6.1) 50.0784

(3) Mass retained on the No. 4 sieve. (g) (6.2) 0.0000

(2) Coarse Material (6.2)

Coarse material + Tare. (g) 0

Tare weight. (g) 0

(4) Selected portion of fine material. (g) (7.1) #VALUE!

Particle Analysis (ASTM D422-63)

Sieve Analysis Of Coarse Material. (6.1)

Gravel 19.0 mm	3/4"	0
Gravel 9.50 mm	3/8"	0
Gravel 4.75 mm	4	0
Gravel 2.00 mm	10	0

Sieve Analysis Of Fine Material. (11.1)

Gravel 0.850 mm	20	0.5744
Gravel 0.425 mm	40	1.1450
Gravel 0.250 mm	60	3.8661
Gravel 0.106 mm	140	20.3763
Gravel 0.075 mm	200	5.9060
Pan	-	0.8923

Analysis of fine material.

Hydrometer corrections. (7.3)

	Hydro 1	Hydro 2
Reading:	6	0

Hygroscopic moisture. (8.1)

Air dried (g)	10.1906
Tare (g)	1.3063
Oven dried + Tare	11.4586

Weight of Fine material

Dry wt.+Tare (g)	137.9314
Tare (g)	105.1636
Fine material (g)	#VALUE!

Determination of Silt/Clay Fraction. (10.2) (10.3) (10.4)

(10.2) T (Min)	(10.2) Hydro Reading	(7.3) Corr. Fact.	(10.4) Temp °C	Specific Gravity		Table 1 a		Table 3 K		
2	14	6	21	1.13		1.32				
5	12		21							
15	10		21							
30	8		21							
60	4		21							
250	7		21							
1440	6		21							

Analyst: KC Date: 11/2/09

Reviewed by : Date: 11/6/09

Columbia Analytical Services, Inc.

Sample Name :	9140-6 Dup	Service Request:	0
Lab Code:		Method:	D421 / D422
Client:	0	Date Collected:	
Project:	0	Date Received:	
Sample Matrix:	0	Date Analyzed:	

Sample Preparation (ASTM D421-85)

(1) Mass of total test sample. (g) (6.1) 44.2709

(3) Mass retained on the No. 4 sieve. (g) (6.2) 0.0000

(2) Coarse Material (6.2)

Coarse material + Tare. (g) 0

Tare weight. (g) 0

(4) Selected portion of fine material. (g) (7.1)

Particle Analysis (ASTM D422-63)

Sieve Analysis Of Coarse Material. (6.1)

Gravel 19.0 mm	3/4"	0
Gravel 9.50 mm	3/8"	0
Gravel 4.75 mm	4	0
Gravel 2.00 mm	10	0

Sieve Analysis Of Fine Material. (11.1)

Gravel 0.850 mm	20	0.8261 g
Gravel 0.425 mm	40	1.0435 g
Gravel 0.250 mm	60	3.0574 g
Gravel 0.106 mm	140	9.1242 g
Gravel 0.075 mm	200	5.7903 g
Pan	-	2.3440 g

Analysis of fine material.

Hydrometer corrections. (7.3)

	Hydro 1	Hydro 2
Reading:	6	0

Hygroscopic moisture. (8.1)

Air dried (g)	10.2358
Tare (g)	1.2799
Oven dried + Tare	11.4460

Weight of Fine material

Dry wt.+Tare (g)	130.7233
Tare (g)	108.4462
Fine material (g)	#VALUE!

Determination of Silt/Clay Fraction. (10.2) (10.3) (10.4)

(10.2) T (Min)	(10.2) Hydro Reading	(7.3) Corr. Fact.	(10.4) Temp °C	Specific Gravity		Table 1 a		Table 3 K		
2 (1)	11	4	21	0.97		1.36				
5 (2)	13		21							
15	11		21							
30	10		21							
60	10		21							
250	8		21							
1440	7		21							

Analyst: KC CP Date: 10/30/09

Reviewed by: Date: 11/6/09

(1) 17 KC 11/2/09

(2) 14 KC 11/2/09 +c

Columbia Analytical Services, Inc.

Sample Name :	9140-13 d	Service Request:	0
Lab Code:		Method:	
Client:	0	Date Collected:	
Project:	0	Date Received:	
Sample Matrix:	0	Date Analyzed:	

Sample Preparation (ASTM D421-85)

(1) Mass of total test sample. (g) (6.1) 30.0010

(3) Mass retained on the No. 4 sieve. (g) (6.2) 0.0000

(2) Coarse Material (6.2)

Coarse material + Tare. (g) 0

Tare weight. (g) 0

(4) Selected portion of fine material. (g) (7.1) #VALUE!

Particle Analysis (ASTM D422-63)

Sieve Analysis Of Coarse Material. (6.1)

Gravel 19.0 mm	3/4"	0
Gravel 9.50 mm	3/8"	0
Gravel 4.75 mm	4	0
Gravel 2.00 mm	10	0

Sieve Analysis Of Fine Material. (11.1)

Gravel 0.850 mm	20	0.5485
Gravel 0.425 mm	40	0.4624
Gravel 0.250 mm	60	1.0185
Gravel 0.106 mm	140	7.3972
Gravel 0.075 mm	200	4.7728
Pan	-	1.0923

Analysis of fine material.

Hydrometer corrections. (7.3)

	Hydro 1	Hydro 2
Reading:	6	0

Hygroscopic moisture. (8.1)

Air dried (g)	~~10.1515~~	10.6520
Tare (g)	~~8031~~	1.2994
Oven dried + Tare	11.4322	

Weight of Fine material

Dry wt.+Tare (g)	121.6111
Tare (g)	106.3113
Fine material (g)	#VALUE!

Determination of Silt/Clay Fraction. (10.2) (10.3) (10.4)

(10.2) T (Min)	(10.2) Hydro Reading	(7.3) Corr. Fact.	(10.4) Temp °C	Specific Gravity		Table 1 a		Table 3 K		
2	12	6	21	1.25		1.29				
5	10		21							
15	9		21							
30	9		21							
60	8		21							
250	7		21							
1440	6		21							

Analyst: KC CD Date: 11/2/09

Reviewed by : Date: 11/6/09

Columbia Analytical Services, Inc.

Sample Name :	9140 14 - Dup	Service Request:	0
Lab Code:		Method:	
Client:	0	Date Collected:	
Project:	0	Date Received:	
Sample Matrix:	0	Date Analyzed:	

Sample Preparation (ASTM D421-85)

(1) Mass of total test sample. (g) (6.1) 49.4708

(3) Mass retained on the No. 4 sieve. (g) (6.2) 0.0000

(2) Coarse Material (6.2)

Coarse material + Tare. (g) 0

Tare weight. (g) 0

(4) Selected portion of fine material. (g) (7.1) #VALUE!

Particle Analysis (ASTM D422-63)

Sieve Analysis Of Coarse Material. (6.1)

Gravel 19.0 mm	3/4"	0
Gravel 9.50 mm	3/8"	0
Gravel 4.75 mm	4	0
Gravel 2.00 mm	10	0

Sieve Analysis Of Fine Material. (11.1)

Gravel 0.850 mm	20	1.6656
Gravel 0.425 mm	40	1.0486
Gravel 0.250 mm	60	3.1013
Gravel 0.106 mm	140	10.6925
Gravel 0.075 mm	200	5.3696
Pan	-	0.9811

Analysis of fine material.

Hydrometer corrections. (7.3)

	Hydro 1	Hydro 2
Reading:	6	0

Hygroscopic moisture. (8.1)

Air dried (g)	10.1546
Tare (g)	1.3031
Oven dried + Tare	11.3670

Weight of Fine material

Dry wt.+Tare (g)	128.2398
Tare (g)	105.4209
Fine material (g)	#VALUE!

Determination of Silt/Clay Fraction. (10.2) (10.3) (10.4)

(10.2) T (Min)	(10.2) Hydro Reading	(7.3) Corr. Fact.	(10.4) Temp °C	Specific Gravity		Table 1 a		Table 3 K		
2	18	0	21	1.06		1.34				
5	15		21							
15	11		21							
30	10		21							
60	10		21							
250	10		21							
1440	7		21							

Analyst: KC Date: 11/2/09

Reviewed by : Date:

Columbia Analytical Services Inc.

Service Request #: K0909140 Method: SM 2710 F

Analysis For: Specific Gravity

Sample	Weight of DIW	Weight of sample (g)	Temperature correction factor F	Specific Gravity
9140-6	19.9082	19.4416	0.9982	0.97
9140-7	19.9082	21.3986	0.9982	1.07
9140-8	19.9082	17.7141	0.9982	0.89
9140-9	19.9082	20.8165	0.9982	1.04
9140-10	19.9082	21.7570	0.9982	1.09
9140-11	19.9082	24.1708	0.9982	1.21
9140-12	19.9082	25.1246	0.9982	1.26
9140-13	19.9082	20.9384	0.9982	1.05
9140-6DUP	19.9082	18.5037	0.9982	0.93

Comments: **of 20mL DIW (g) =** 19.9082

Temperature C	Temp. Correction F	
15	0.9991	
20	0.9982	xxxxx
25	0.9975	
30	0.9957	
35	0.9941	

Analyzed By:	KC	Date:	10/30/09
Reviewed By:		Date:	11/2/09

SpecGrav_FillIn

Service Request #: K- 9140 Method: SM 2710 F

Analysis For: Specific Gravity

Sample	Weight of DIW	Weight of sample (g)	Temperature correction factor F	Specific Gravity
9140-6	19.9082	19.4416	0.9982	0.97
7		21.3986		1.07
8		17.7141		0.89
9		20.8165		1.04
10		21.7570		1.09
11		24.1708		1.21
12		25.1246		1.26
6DI		18.5037	~~1.05~~ 0.93	KC 11/2/09 (tc)
13	19.9082	20.9384	0.9982	1.05

Comments: Weight of 20mL DIW (g) = 19.9082

Temperature C	Temp. Correction F
15	0.9991
20 x	0.9982 x
25	0.9975
30	0.9957
35	0.9941

Analyzed By: KC CD Date: 10/30/09

Reviewed By: Date: 11/4/09

Specific Gravity1

Service Request #: K-9140-

Analysis For: Specific Gravity

Method: SM 2710 F

Sample	Weight of DIW	Weight of sample (g)	Temperature correction factor F	Specific Gravity
9140-13	19.8071	~~21.0835~~ (1)	0.9982	1.25
14	↓	21.0835	↓	1.06
15		22.4090		1.13
14d		20.3701		1.03
		(1) 24.7533		

Comments: Weight of 20mL DIW (g) = 19.8071

9140-14/14dup $\bar{x}$ = 1.05
RPD = 3%

9140-13/13dup $\bar{x}$ = 1.15
RPD = 17%

Temperature C	Temp. Correction F
15	0.9991
20 ✗	0.9982 ✗
25	0.9975
30	0.9957
35	0.9941

Analyzed By: KC CP Date: 11/02/09

Reviewed By: Date: 11/6/09

Specific Gravity1

Work Request # (Original) K0585 K9935 K1048 K0438 K0439 K9140 K0843 K095C K1024

Tier: III II III II III III II II II

Date Analyzed: 11/20/09

Analyst: [signature]

Analysis: 9060M/PSEP/ASTM D4129-82M

180494

DATA QUALITY REPORT
INORGANICS

Explain any "no" responses to questions below, and any corrective actions in the comments section below.

1.	Is the method name and number correct and appropriate?	(yes)/no/NA
2.	Holding times met for all analyses and for all samples?	(yes)/no/NA
3.	Are calculations correct?	(yes)/no/NA
4.	Is the reporting basis correct? (Dry Weight)	(yes)/no/NA
5.	All quality control criteria met?	(yes)/no/NA
a.	Is the calibration curve correlation coefficient ≥ 0.995?	yes/no/NA
b.	MBs, CCVs, CCBs, LCSs, Dups, and Spikes, analyzed at proper frequency?	yes/no/NA
c.	Are ICVs, CCVs, and CCBs all within acceptance limits?	yes/no/NA
d.	Are results for methods blanks all ND?	yes/no/NA
e.	Are all QC samples within acceptance criteria? (LCS % rec, MS/DMS % rec, DUP or MS/DMS RPDs, etc.)	yes/no/NA
f.	Are all exceptions explained?	yes/no/NA
6.	Are all service requests that apply attached?	(yes)/no/NA
7.	Are all samples labelled correctly?	(yes)/no/NA
8.	Have all instructions on the service request been followed? (e.g. Special MRLs, QC on a specific sample)	(yes)/no/NA
9.	Are detection limits and units reported correctly?	(yes)/no/NA
10.	Are proper Analysis/Extraction stickers included on report?	(yes)/no/NA
11.	Is the unused space on the benchsheet crossed out?	(yes)/no/NA
12.	Was analysis turned in by the due date? (n-2) (If not record SR#)	(yes)/no/NA

COMMENTS:

Final Approved by: [signature] Date: 11/23/09

DQREPORT

Columbia Analytical Services, Inc.

180494

Service Request #: K0385 K9935 K1048 K0458 K0439 K9140 K0843 K0956 K1024

Method: 9060s PSEP (Combustion/Coulometric) (ASTM D4129-82M)

Analysis For: Total Organic Carbon (TOC)

Matrix: Soil / Dry Weight Basis

Sample Number	mg Sample Injected	Sample Reading, µg C	Baseline Reading, µg C	Net µg C	% Carbon	% Carbon Reported
CCV-1	11.1	2156.1	10.6	2145.5	19.329	19.3
CCB-1	50.0	6.5	10.6	-4.1	< 0.0	<0.02
LCS-1	35.1	207.3	10.6	196.7	0.560	0.560
MB-1	50.0	11.5	10.6	0.9	0.002	<0.02
K0910385-001	47.1	817.9	10.6	807.3	1.714	1.71
K0910385-001D	46.0	820.3	10.6	809.7	1.760	1.76
K0910385-001MS	25.4	2052.0	10.6	2041.4	8.037	8.04
K0910385-001MSD	26.0	2189.4	10.6	2178.8	8.380	8.38
K0910385-002	46.1	1008.8	10.6	998.2	2.165	2.17
K0910385-003	45.6	569.5	10.6	558.9	1.226	1.23
K0910385-004	46.8	1046.9	10.6	1036.3	2.214	2.21
K0910385-005	46.4	997.5	10.6	986.9	2.127	2.13
CCV-2	10.0	1965.1	10.6	1954.5	19.545	19.5
CCB-2	50.0	8.9	10.6	-1.7	< 0.0	<0.02
K0910385-006	45.7	975.9	10.6	965.3	2.112	2.11
K0910385-007	47.7	816.1	10.6	805.5	1.689	1.69
K0910385-008	47.9	748.3	10.6	737.7	1.540	1.54
K0910385-009	46.1	368.5	10.6	357.9	0.776	0.776
K0910385-010	44.9	856.1	10.6	845.5	1.883	1.88
K0910385-011	47.6	958.1	10.6	947.5	1.991	1.99
K0910385-012	47.9	84.8	10.6	74.2	0.155	0.155
K0910385-013	49.1	387.9	10.6	377.3	0.768	0.768
K0910385-014	45.4	331.7	10.6	321.1	0.707	0.707
K0909935-001	46.8	18804.3	10.6	18793.7	40.157	40.2
CCV-3	10.3	2016.2	10.6	2005.6	19.472	19.5
CCB-3	50.0	16.9	10.6	6.3	0.013	<0.02

Acid Purge Time: 1 minute **Reading Time:** 5 minutes **TOC % =** $\frac{\text{(Net Reading)(µg 0.1)}}{\text{mg Sample Injected}}$

CCV : Urea Baker (lot #A17584) ID#: TOCS/1-10-J TV = 20.0%C

CCV1 = 97 CCV2 = 98 CCV3= 98

LCS: ERA Cat#: 542 Lot#: D064-542 ID#: PO3/2-26-P TV = 0.550%C %REC=102, 105

Comments :

K0385-1MS= 8.1mg X20/25.4=6.38 x=1.74 RPD=3 %REC=99

K0385-1MSD=9.1mg X20/26.0=7.00 %REC=95

		date	time
Analyzed By:	SA	Date:	11/20/2009 9:00
Reveiwed By:	BH	Date:	11/23/09

TOC.XLT

Columbia Analytical Services, Inc.

180494

Service Request #: _____ Method: 9060s / PSEP (Combustion/Coulometric)

Analysis For: Total Organic Carbon (TOC) Matrix: Soil / Dry Weight Basis

Sample Number	mg Sample Injected	Sample Reading, ug C	Baseline Reading, ug C	Net µg C	% Carbon	% Carbon Reported
K0909935-002	46.2	18866.5	10.6	18855.9	40.814	40.8
K0909935-003	46.5	17590.9	10.6	17580.3	37.807	37.8
K0909935-004	47.0	17736.9	10.6	17726.3	37.716	37.7
K0909935-005	49.2	15626.9	10.6	15616.3	31.740	31.7
K0909935-006	46.7	12248.5	10.6	12237.9	26.205	26.2
LCS-2	36.8	223.8	10.6	213.2	0.579	0.579
MB-2	50.0	8.3	10.6	-2.3	< 0.0	<0.02
K0911048-001	46.6	1224.9	10.6	1214.3	2.606	2.61
K0911048-001D	49.2	1279.8	10.6	1269.2	2.580	2.58
K0911048-001T	47.9	1260.9	10.6	1250.3	2.610	2.61
CCV-4	10.3	2036.5	10.6	2025.9	19.669	19.7
CCB-4	50.0	10.7	10.6	0.1	0.000	<0.02
K0911048-001MS	25.7	2946.7	10.6	2936.1	11.425	11.4
K0911048-001MSD	26.0	2832.6	10.6	2822.0	10.854	10.9
K0911048-002	46.9	243.6	10.6	233.0	0.497	0.497
K0910438-005	45.3	697.1	10.6	686.5	1.515	1.52
K0910438-006 NR	46.0	2075.8	10.6	2065.2	4.490	4.49 NR
K0910439-014	45.9	2543.6	10.6	2533.0	5.519	5.52
K0909140-017	48.1	1026.5	10.6	1015.9	2.112	2.11
K0909140-018	49.6	1164.4	10.6	1153.8	2.326	2.33
K0909140-019	47.6	352.6	10.6	342.0	0.718	0.718
K0909140-019D	45.3	312.9	10.6	302.3	0.667	0.667
CCV-5	9.7	1937.5	10.6	1926.9	19.865	19.9
CCB-5	50.0	9.0	10.6	-1.6	< 0.0	<0.02

Acid Purge Time: 1 minute **Reading Time:** 5 minutes **TOC % =** $\frac{(\text{Net Reading})(\mu g\ 0.1)}{\text{mg Sample Injected}}$

CCV : Urea Baker (lot #A17584) ID#: TOCS/1-10-J TV = 20.0%C

CCV4= 99 CCV5= 100

Comments :

K1048-1MS=11.9mg X20/25.7=9.26 x=2.60 RSD=<1 %REC=95

K1048-1MSD= 11.5mg X20/26.0=8.85 %REC=93 ~~93~~ 94 MS Acceptable

Analyzed By:	SA	Date: 11/20/09	Time:
Reveiwed By:	SA	Date: 11/23/09	

Columbia Analytical Services, Inc.

180494

Service Request #: _____ Method: 9060s / PSEP (Combustion/Coulometric)

Analysis For: Total Organic Carbon (TOC) Matrix: Soil / Dry Weight Basis

Sample Number	mg Sample Injected	Sample Reading, µg C	Baseline Reading, µg C	Net µg C	% Carbon	% Carbon Reported
K0909140-019MS	27.8	1743	10.6	1732.4	6.232	6.23
K0909140-019MSD	27.0	1339.4	10.6	1328.8	4.921	4.92
K0910843-001	45.8	415.6	10.6	405	0.884	0.884
K0910956-001	44.8	895.4	10.6	884.8	1.975	1.98
K0911024-001	48.6	3468.2	10.6	3457.6	7.114	7.11
CCV-6	10	1993.4	10.6	1982.8	19.828	19.8
CCB-6	50	7.3	10.6	-3.3	< 0.0	<0.02

Acid Purge Time: 1 minute **Reading Time:** 5 minutes **TOC % =** (Net Reading)(µg 0.1) / mg Sample Injected

CCV : Urea Baker (lot #A17584) ID#: TOCS/1-10-J TV = 20.0%C

CCV6= 99

Comments :

K9140-19MS= 7.7mg X20/27.8=5.54 x=0.693 RPD=7 %REC=~~100~~ 99 ME Combustion

K9140-19MSD= 6.0mg X20/27.0=4.44 %REC=95

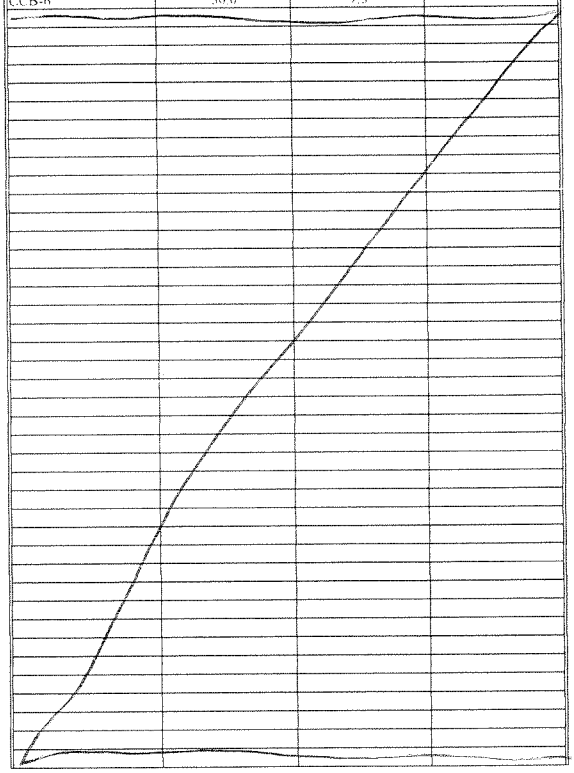
Analyzed By:	Date: 11/20/09 Time:
Reveiwed By:	Date: 11/23/09

TOC.XLT

TOC Soil Benchsheet

180494

Sample #	mg Sample	Reading	Date Baked	Baseline
CCV-1	11.1	2156.1		9.1
CCB-1	50.0	6.5		16.1
LCS-1	35.1	207.3		6.6
MB-1	50.0	11.5		
K0910385-001	47.1	817.9	10/31/09 70*c 1250	10.6
K0910385-001D	46.0	820.3	10/31/09 70*c 1250	
K0910385-001MS	25.4	2052.0	10/31/09 70*c 1250	
K0910385-001MSD	26.0	2189.4	10/31/09 70*c 1250	
K0910385-002	46.1	1008.8	10/31/09 70*c 1250	
K0910385-003	45.6	569.5	10/31/09 70*c 1250	
K0910385-004	46.8	1046.9	10/31/09 70*c 1250	
K0910385-005	46.4	997.5	10/31/09 70*c 1250	
CCV-2	10.0	1965.1		
CCB-2	50.0	8.9		
K0910385-006	45.7	975.9	10/31/09 70*c 1250	
K0910385-007	47.7	816.1	10/31/09 70*c 1250	
K0910385-008	47.9	748.3	10/31/09 70*c 1250	
K0910385-009	46.1	368.5	10/31/09 70*c 1250	
K0910385-010	44.9	856.1	10/31/09 70*c 1250	
K0910385-011	47.6	958.1	10/31/09 70*c 1250	
K0910385-012	47.9	84.8	10/31/09 70*c 1250	
K0910385-013	49.1	387.9	10/31/09 70*c 1250	
K0910385-014	45.4	331.7	10/31/09 70*c 1250	
K0909935-001	46.8	18804.3	11/18/09 70*c 1545	
CCV-3	10.3	2016.2		
CCB-3	50.0	16.9		
K0909935-002	46.2	18866.5	11/18/09 70*c 1545	
K0909935-003	46.5	17590.9	11/18/09 70*c 1545	
K0909935-004	47.0	17736.9	11/18/09 70*c 1545	
K0909935-005	49.2	15626.9	11/18/09 70*c 1545	
K0909935-006	46.7	12248.5	11/18/09 70*c 1545	
LCS-2	36.8	223.8		
MB-2	50.0	8.3		
K0911048-001	46.6	1224.9	11/16/09 70*c 1020	
K0911048-001D	49.2	1279.8	11/16/09 70*c 1020	
K0911048-001T	47.9	1260.9	11/16/09 70*c 1020	
CCV-4	10.3	2036.5		
CCB-4	50.0	10.7		
K0911048-001MS	25.7	2946.7	11/16/09 70*c 1020	
K0911048-001MSD	26.0	2832.6	11/16/09 70*c 1020	
K0911048-002	46.9	243.6	11/16/09 70*c 1020	
K0910438-005	45.3	697.1	11/10/09 70*c 1040	
K0910438-006	46.0	2075.8	11/10/09 70*c 1040	
K0910439-014	45.9	2543.6	11/10/09 70*c 1040	
K0909140-017	48.1	1026.5	11/10/09 70*c 0845	
K0909140-018	49.6	1164.4	11/12/09 70*c 0925	
K0909140-019	47.6	352.6	11/12/09 70*c 0925	
K0909140-019D	45.3	312.9	11/12/09 70*c 0925	
CCV-5	9.7	1937.5		
CCB-5	50.0	9.0		
K0909140-019MS	27.8	1743.0	11/12/09 70*c 0925	
K0909140-019MSD	27.0	1339.4	11/12/09 70*c 0925	
K0910843-001	45.8	415.6	11/10/09 70*c 0845	
K0910956-001	44.8	895.4	11/16/09 70*c 1020	
K0911024-001	48.6	3468.2	11/16/09 70*c 1020	
CCV-6	10.0	1993.4		
CCB-6	50.0	7.3		



BA 11/03/09

Signed 11/20/09 JLS

TOC Soil Benchsheet

Sample #	mg Sample	Reading	Date Baked
CCV-1	11.1	2154.1	
CCB-1	50.0	6.5	
LCS	35.1	207.3	
MB	50.0	11.5	
K10385-1	47.1	817.9	10/31/09 70°C 1250
-1d	46.0	820.3	
-1ms	25.4	2052.0	
-1msd	26.0	2189.4	
-2	46.1	1008.8	
-3	45.6	569.5	
-4	46.8	1046.9	
-5	46.4	997.5	
CCV-2	10.0	1965.1	
CCB-2	50.0	8.9	
K10385-6	45.7	975.9	
-7	47.7	816.1	
-8	47.9	748.3	
-9	46.1	368.5	
-10	44.9	856.1	
-11	47.6	958.1	
-12	47.9	84.8	
-13	49.1	387.9	
-14	45.4	331.7	
K9935-1	46.8	18804.3	11/18/09 70°C 1545
CCV-3	10.3	2016.2	
CCB-3	50.0	16.9	
K9935-2	46.2	18866.5	
-3	46.5	17590.9	
-4	47.0	17736.9	
-5	49.2	15626.9	
-6	46.7	12248.5	
LCS2	36.8	223.8	
MB2	50.0	8.3	
K11048-1	46.6	1224.9	11/16/09 70°C 1020
-1d	49.2	1279.8	
-1t	47.9	1260.9	
CCV-4	10.3	20365	
CCB-4	50.0	10.7	
K11048-1ms	25.7	2946.7	
-1msd	26.0	2832.6	
-2	46.9	243.6	
K10438-5	①~~48.1~~ 45.3	①~~1021.5~~ 997.1	11/10/09 70°C 1040
-6	46.0	2075.8	
K10439-14	45.9	2543.6	
K9140-17	48.1	1026.5	11/10/09 70°C 0845
-18	49.6	1164.4	11/12/09 70°C 0925
-19	47.6	352.6	
-19d	45.3	312.9	
CCV-5	9.7	1937.5	
CCB-5	50.0	9.0	
K9140-19ms	27.8	1743.0	
-19msd	27.0	1339.4	
K10843-1	45.8	415.6	11/10/09 70°C 0845
② ~~K10950~~ -1	44.8	895.4	11/16/09 70°C 1020

Baseline
9.1
16.1
6.6
10.6 Avg

K10385-1ms
8.1 mg x 20 ÷ 25.4 = 6.38
K10385-1msd
9.1 mg x 20 ÷ 26.0 = 7.00

① ~~K10~~ K11048-1ms
11.9 mg x 20 ÷ 25.7 = 9.26
K11048-1msd
11.5 mg x 20 ÷ 26.0 = 8.85

K9140-19ms
7.7 mg x 20 ÷ 27.8 = 5.54
K9140-19msd
6.0 mg x 20 ÷ 27.0 = 4.44

~~3~~ ② K10950 ① TE

11/20/09 208 ~~908~~

TOC Soil Benchsheet

Sample #	mg Sample	Reading	Date Baked
K11024 -1	48.6	3468.2	11/16/09 70°C 1020
CCV-6	10.0	1993.4	
~~CCV~~ CCB-6	50.0	7.3	
CCV-6			
CCB-6			
CCV-7			
CCB-7			
CCV-8			
CCB-8			
CCV-5			
CCB-5			

11/16/09

4/20/09 900

Work Request # (Original) K10511 K10313 K10432 K10481 K9140 K10131

Tier: I I III III III III

Date Analyzed: 11/5/09

Analyst: [signature]

Analysis: 9060M, PSEP, ASTM D4129-82M

178188

DATA QUALITY REPORT
INORGANICS

Explain any "no" responses to questions below, and any corrective actions in the comments section below.

1.	Is the method name and number correct and appropriate?	(yes)/no/NA
2.	Holding times met for all analyses and for all samples?	(yes)/no/NA
3.	Are calculations correct?	(yes)/no/NA
4.	Is the reporting basis correct? (Dry Weight)	(yes)/no/NA
5.	All quality control criteria met?	(yes)/no/NA
	a. Is the calibration curve correlation coefficient ≥ 0.995?	yes/no/NA
	b. MBs, CCVs, CCBs, LCSs, Dups, and Spikes, analyzed at proper frequency?	yes/no/NA
	c. Are ICVs, CCVs, and CCBs all within acceptance limits?	yes/no/NA
	d. Are results for methods blanks all ND?	yes/no/NA
	e. Are all QC samples within acceptance criteria? (LCS % rec, MS/DMS % rec, DUP or MS/DMS RPDs, etc.)	yes/no/NA
	f. Are all exceptions explained?	yes/no/NA
6.	Are all service requests that apply attached?	(yes)/no/NA
7.	Are all samples labelled correctly?	(yes)/no/NA
8.	Have all instructions on the service request been followed? (e.g. Special MRLs, QC on a specific sample)	(yes)/no/NA
9.	Are detection limits and units reported correctly?	(yes)/no/NA
10.	Are proper Analysis/Extraction stickers included on report?	(yes)/no/NA
11.	Is the unused space on the benchsheet crossed out?	(yes)/no/NA
12.	Was analysis turned in by the due date? (n-2) (If not record SR#)	(yes)/no/NA

COMMENTS:

K10481 PSEP QC to be analyzed on 11/7/09

Final Approved by: BH Date: 11/6/09

DQREPORT

Columbia Analytical Services, Inc.

178188

Service Request #: K10511, K10313, K10432, K10481, K9140, K1031 Method: 9060s (PSEP) (Combustion/Coulometric) ASTM D4129-82M

Analysis For: Total Organic Carbon (TOC) Matrix: Soil / Dry Weight Basis

Sample Number	mg Sample Injected	Sample Reading, ug C	Baseline Reading, ug C	Net µg C	% Carbon	% Carbon Reported
CCV-1	9.6	1906.3 ~~19.06.3~~ D	9.5	1896.8 ~~19.8~~ D	19.75 ~~0.206~~ D	198 ~~0.206~~ D
CCB-1	50.0	9.0	9.5	-0.5	< 0.0	<0.02
LCS-1	35.9	175.1	9.5	165.6	0.461	0.461
MB-1	50.0	6.0	9.5	-3.5	< 0.0	<0.02
K0910511-001	9.3	3334.4	9.5	3324.9	35.752	35.8
K0910511-001D	10.4	3735.1	9.5	3725.6	35.823	35.8
K0910511-001MS	9.1	4270.2	9.5	4260.7	46.821	46.8
K0910511-001MSD	9.4	4434.1	9.5	4424.6	47.070	47.1
K0910511-002	10.3	3656.8	9.5	3647.3	35.411	35.4
K0910511-003	10.5	3880.3	9.5	3870.8	36.865	36.9
K0910313-005	50.0	281.2	9.5	271.7	0.543	0.543
K0910432-001	47.9	1215.3	9.5	1205.8	2.517	2.52
CCV-2	10.0	1992.2	9.5	1982.7	19.827	19.8
CCB-2	50.0	6.6	9.5	-2.9	< 0.0	<0.02
K0910432-002	47.6	921.8	9.5	912.3	1.917	1.92
K0910432-003	46.8	599.7	9.5	590.2	1.261	1.26
K0910481-001	45.6	78.2	9.5	68.7	0.151	0.151
K0910481-002	47.0	47.4	9.5	37.9	0.081	0.081
K0910481-003	47.6	89.7	9.5	80.2	0.168	0.168
K0910481-004	45.2	61.5	9.5	52.0	0.115	0.115
K0910481-005	47.3	66.7	9.5	57.2	0.121	0.121
K0910481-006	46.1	64.1	9.5	54.6	0.118	0.118
K0910481-007	45.3	111.1	9.5	101.6	0.224	0.224
K0910481-008	47.1	95.6	9.5	86.1	0.183	0.183
CCV-3	10.6	2058.0	9.5	2048.5	19.325	19.3
CCB-3	50.0	12.8	9.5	3.3	0.007	<0.02

Acid Purge Time: 1 minute **Reading Time:** 5 minutes **TOC % =** $\frac{\text{(Net Reading)(µg 0.1)}}{\text{mg Sample Injected}}$

CCV : Urea Baker (lot #A17584) ID#: TOCS/1-10-J TV = 20.0%C

CCV1 = 99 CCV2 = 99 MEO CCV3= 97

LCS: ERA Cat#: 542 Lot#: D064-542 ID#: PO3/2-26-P TV = 0.550%C %REC 110 87, 103

Comments :

K10511-1MS= 4.9mgX20/ 9.1= 10.8 x=35.8 RPD=<1 %REC=102

K10511-1MSD= 5.1mgX 20/9.4= 10.9 %REC=103 104 MEO

		date	time
Analyzed By:		Date:	11/5/2009 7:00
Reveiwed By:	BH	Date:	11/6/09

OTE Brinkman

Columbia Analytical Services, Inc.

178188

Service Request #: _____ Method: 9060s / PSEP (Combustion/Coulometric)

Analysis For: Total Organic Carbon (TOC) Matrix: Soil / Dry Weight Basis

Sample Number	mg Sample Injected	Sample Reading, ug C	Baseline Reading, ug C	Net µg C	% Carbon	% Carbon Reported
K0909140-001	47.3	1511.4	9.5	1501.9	3.175	3.18
K0909140-002	47.9	1100.5	9.5	1091.0	2.278	2.28
K0909140-003	47.1	958.1	9.5	948.6	2.014	2.01
K0909140-004	47.9	1816.7	9.5	1807.2	3.773	3.77
K0909140-005	47.5	2075.5	9.5	2066.0	4.349	4.35
K0909140-006	46.1	2073.2	9.5	2063.7	4.477	4.48
LCS-2	35.3	209.5	9.5	200.0	0.567	0.567
MB-2	50.0	9.3	9.5	-0.2	< 0.0	<0.02
K0909140-006D	45.3	2142.8	9.5	2133.3	4.709	4.71
K0909140-006MS	25.4	3105.2	9.5	3095.7	12.188	12.2
CCV-4	10.1	2018.4	9.5	2008.9	19.890	19.9
CCB-4	50.0	9.5	9.5	0.0	0.000	<0.02
K0909140-006MSD	25.6	3122.6	9.5	3113.1	12.161	12.2
K0909140-007	45.3	866.1	9.5	856.6	1.891	1.89
K0909140-008	44.9	1639.5	9.5	1630.0	3.630	3.63
K0909140-009	44.8	1259.5	9.5	1250.0	2.790	2.79
K0909140-010	45.2	723.8	9.5	714.3	1.580	1.58
K0909140-011	44.7	367.1	9.5	357.6	0.800	0.800
K0909140-012	45.1	316.4	9.5	306.9	0.680	0.680
K0909140-013	45.5	708.5	9.5	699.0	1.536	1.54
K0909140-014	44.5	1498.8	9.5	1489.3	3.347	3.35
K0909140-015	45.9	315.8	9.5	306.3	0.667	0.667
CCV-5	9.5	1886.9	9.5	1877.4	19.762	19.8
CCB-5	50.0	15.3	9.5	5.8	0.012	<0.02

Acid Purge Time: 1 minute **Reading Time:** 5 minutes **TOC % =** $\frac{\text{(Net Reading)(µg 0.1)}}{\text{mg Sample Injected}}$

CCV : Urea Baker (lot #A17584) ID#: TOCS/1-10-J TV = 20.0%C

CCV4= 100 CCV5= 99

~~110~~

Comments :

K9140-6MS= 10.0mgX 20/25.4= 7.87 x= 4.60 RPD=5 %REC=98

K9140-6MSD= 10.1mgX 20/25.6=7.89 %REC=~~97~~ 98 MEO

Analyzed By:	Date:11-05-09 Time:7:00
Reveiwed By: BH	Date: 11/6/09

Columbia Analytical Services, Inc.

178188

Service Request #: _____ Method: 9060s / PSEP (Combustion/Coulometric)

Analysis For: Total Organic Carbon (TOC) Matrix: Soil / Dry Weight Basis

Sample Number	mg Sample Injected	Sample Reading, ug C	Baseline Reading, ug C	Net µg C	% Carbon	% Carbon Reported
K0909140-016	44.7	1325.4	9.5	1315.9	2.944	2.94
K0910131-22	552.6	562.3	9.5	552.8	0.100	0.100
CCV-6	9.4	1870.9	9.5	1861.4	19.802	19.8
CCB-6	50	14.9	9.5	5.4	0.011	<0.02

Acid Purge Time: 1 minute **Reading Time:** 5 minutes **TOC % =** $\frac{\text{(Net Reading)(µg 0.1)}}{\text{mg Sample Injected}}$

CCV : Urea Baker (lot #A17584) ID#: TOCS/1-10-J TV = 20.0%C

CCV6= 99

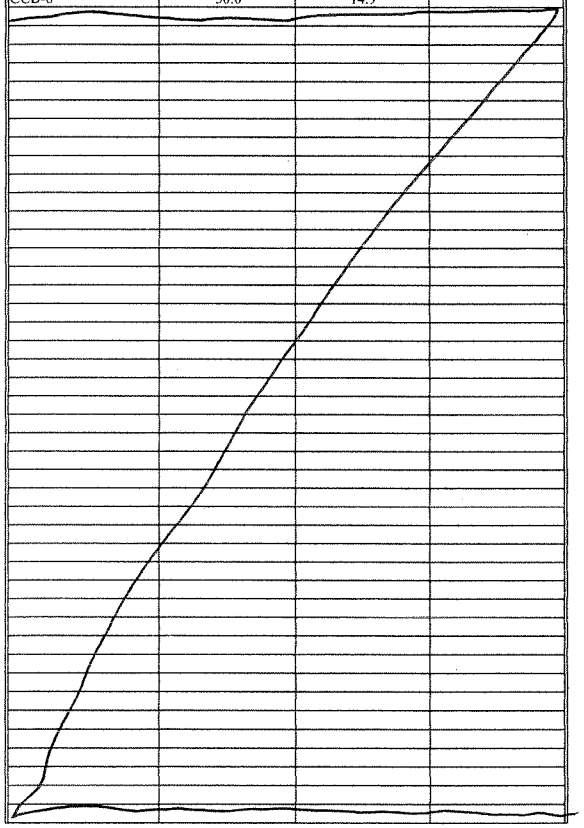
Comments : _____

Analyzed By:	Date:11-05-09 Time:7:00
Reveiwed By: BH	Date: 11/6/09

TOC Soil Benchsheet

178188

Sample #	mg Sample	Reading	Date Baked	Baseline
CCV-1	9.6	~~19.06.3~~		10.8
CCB-1	50.0	9.0		8.2
LCS-1	35.9	175.1		9.4
MB-1	50.0	6.0		Avg
K0910511-001	9.3	3334.4	11-3-09 70*c 1130	9.5
K0910511-001D	10.4	3735.1	11-3-09 70*c 1130	
K0910511-001MS	9.1	4270.2	11-3-09 70*c 1130	
K0910511-001MSD	9.4	4434.1	11-3-09 70*c 1130	
K0910511-002	10.3	3656.8	11-3-09 70*c 1130	
K0910511-003	10.5	3880.3	11-3-09 70*c 1130	
K0910313-005	50.0	281.2	10-27-09 70*c 1555	
K0910432-001	47.9	1215.3	11-3-09 70*c 1130	
CCV-2	10.0	1992.2		
CCB-2	50.0	6.6		
K0910432-002	47.6	921.8	11-3-09 70*c 1130	
K0910432-003	46.8	599.7	11-3-09 70*c 1130	
K0910481-001	45.6	78.2	11-3-09 70*c 1130	
K0910481-002	47.0	47.4	11-3-09 70*c 1130	
K0910481-003	47.6	89.7	11-3-09 70*c 1130	
K0910481-004	45.2	61.5	11-3-09 70*c 1130	
K0910481-005	47.3	66.7	11-3-09 70*c 1130	
K0910481-006	46.1	64.1	11-3-09 70*c 1130	
K0910481-007	45.3	111.1	11-3-09 70*c 1130	
K0910481-008	47.1	95.6	11-3-09 70*c 1130	
CCV-3	10.6	2058.0		
CCB-3	50.0	12.8		
K0909140-001	47.3	1511.4	10-31-09 70*c 1225	
K0909140-002	47.9	1100.5	10-31-09 70*c 1225	
K0909140-003	47.1	958.1	10-31-09 70*c 1225	
K0909140-004	47.9	1816.7	10-31-09 70*c 1225	
K0909140-005	47.5	2075.5	10-31-09 70*c 1225	
K0909140-006	46.1	2073.2	10-31-09 70*c 1225	
LCS-2	35.3	209.5		
MB-2	50.0	9.3		
K0909140-006D	45.3	2142.8	10-31-09 70*c 1225	
K0909140-006MS	25.4	3105.2	10-31-09 70*c 1225	
CCV-4	10.1	2018.4		
CCB-4	50.0	9.5		
K0909140-006MSD	25.6	3122.6	10-31-09 70*c 1225	
K0909140-007	45.3	866.1	10-31-09 70*c 1225	
K0909140-008	44.9	1639.5	10-31-09 70*c 1225	
K0909140-009	44.8	1259.5	10-31-09 70*c 1225	
K0909140-010	45.2	723.8	10-31-09 70*c 1225	
K0909140-011	44.7	367.1	10-31-09 70*c 1225	
K0909140-012	45.1	316.4	10-31-09 70*c 1225	
K0909140-013	45.5	708.5	10-31-09 70*c 1225	
K0909140-014	44.5	1498.8	10-31-09 70*c 1225	
K0909140-015	45.9	315.8	10-31-09 70*c 1225	
CCV-5	9.5	1886.9		
CCB-5	50.0	15.3		
K0909140-016	44.7	1325.4	10-31-09 70*c 1225	
K0910131-22	552.6	562.3	11-5-09 70*C 1115	
CCV-6	9.4	1870.9		
CCB-6	50.0	14.9		



11/5/09 700

TOC Soil Benchsheet

Sample #	mg Sample	Reading	Date Baked	Baseline
CCV-1	9.6	1906.3		10.8
CCB-1	50.0	9.0		8.2
LCS	35.9	175.1		9.4
MB	50.0	6.0		9.5 Avg
K10511 - 1	9.3	3334.4	11/3/09 70°C 1130	
-1d	10.4	3735.1		
-1ms	9.1	4270.2		
-1msd	9.4	4434.1		
-2	10.3	3656.8		
-3	10.5	3880.3		
K10313 -5	50.0	281.2	~~11/5/09~~ ③ 70°C ~~1115~~ ③	
K10432 -1	47.9	1215.3	11/3/09 70°C 1130	
CCV-2	10.0	1992.2		
CCB-2	50.0	6.6		
K10432 -2	47.6	921.8		
-3	46.8	599.7		
K10481 - 1	45.6	78.2		
-2	47.0	47.4		
-3	47.6	89.7		
-4	② 45.2	61.5		
-5	② 47.3	66.7		
-6	46.1	64.1		
-7	45.3	111.1		
-8	47.1	95.6		
CCV-3	10.6	2058.0		
CCB-3	50.0	12.8		
K9140 - 1	47.3	1511.4	10/31/09 70°C 1225	
-2	① ~~47.9~~ 47.9	1100.5		
-3	① ~~47.8~~ 47.1	958.1		
-4	① ~~45.2~~ 47.9	1816.7		
-5	① ~~47.3~~ 47.5	2075.5		
-6	46.1	2073.2		
LCS2	35.3	209.5		
MB2	50.0	9.3		
K9140 -6 ~~ms~~	45.3	2142.8	10/31/09 70°C 1225	
-6ms - ~~7d~~	① ~~47.10~~ ~~46.3~~	3105.2		
CCV-4	10.1	2018.4		
CCB-4	50.0	9.5		
K9140 ~~-7ms~~	① 47.3 ~~25.6~~ ~~26.0~~	3122.6		
-7msd	① ~~26.8~~ 45.3	866.1		
-8	44.9	1639.5		
-9	44.8	1259.5		
-10	45.2	723.8		
-11	44.7	367.1		
-12	45.1	316.4		
-13	45.5	708.5		
-14	44.5	1498.8		
-15	45.9	315.8		
CCV-5	9.5	1886.9		
CCB-5	50.0	15.3		
K9140 -16	④ 44.7	1325.4		
~~CCV6~~ ~~K10131~~	~~9.4~~ 552.6	562.3	11/5/09 70°C 1115	
~~CCB6~~ CCV6	~~50.0~~ 9.4	1870.9		
CCB6	50.0	14.9		

K10511-1ms
4.9 mg x 20 ÷ 9.1 = 10.8

K10511-1msd
5.1 mg x 20 ÷ 9.4 = 10.9

K9140 6 ① ms
10.0 mg x 20 ÷ 25.4 = 7.87

K9140 - 6 ① msd
10.1 mg x 20 ÷ 25.6 ② = 7.89

① TE ~~4~~

④ 22

② SPILLED LIQUID ON WRITING

③ 10/27/09 1555 WROTE WRONG SPACE.

11/5/09

Columbia Analytical Services Inc.

Service Request #: K0910131 -22

Method: 9060 M/TOC

Analysis For: _____

Matrix: _____

SAMPLE #	WT W/FILTER g	WT of FILTER g
~~B~~		~~0.1126~~ ①
K10131 -22	0.6652	0.1126

Comments: _____

Analyzed By:	Date: 11/5/09
Reviewed By: BH	Date: 11/6/09

① TE $

Genbench1

Metals

Columbia Analytical Services

- Cover Page -
INORGANIC ANALYSIS DATA PACKAGE

Client: URS Corporation
Project Name: Boise St. Helens Pulp and Paper Mill-2009
Project No.:
Service Request: K0909140

Sample Name:	Lab Code:
M-4-A	K0909140-001
M-4-AD	K0909140-001D
M-4-AS	K0909140-001S
M-4-B	K0909140-002
M-4-C	K0909140-003
M-1-B	K0909140-004
M-2-C	K0909140-005
M-2-A	K0909140-006
M-2-AD	K0909140-006D
M-2-AS	K0909140-006S
M-2-ASD	K0909140-006SD
M-3-B	K0909140-007
M-2-B	K0909140-008
M-1-C	K0909140-009
M-3-C	K0909140-010
B-1-A	K0909140-011
B-1-B	K0909140-012
M-3-A	K0909140-013
M-3-AD	K0909140-013D
M-3-AS	K0909140-013S
M-1-A	K0909140-014
M-5-B	K0909140-015
M-5-A	K0909140-016
M-5-AD	K0909140-016D
M-5-AS	K0909140-016S
M-5-C	K0909140-017
M-5-B2	K0909140-018
B-1-C	K0909140-019
Method Blank	K0909140-MB
Method Blank	K0909140-MB2
Method Blank	K0909140-MB3
Method Blank	K0909140-MB4

Comments:

Approved By: _____ **Date:** 11/30/09

Metals

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client:	URS Corporation	**Service Request:**	K0909140
Project No.:	NA	**Date Collected:**	9/28/2009
Project Name:	Boise St. Helens Pulp and Paper	**Date Received:**	9/29/2009
Matrix:	SEDIMENT	**Units:**	mg/Kg
		Basis:	DRY

Sample Name: M-4-A **Lab Code:** K0909140-001

Analyte	Analysis Method	MRL	MDL	Dil. Factor	Date Extracted	Date Analyzed	Result	C	Q
Antimony	6020	0.05	0.01	5.0	11/10/09	11/21/09	0.17		
Arsenic	6020	0.51	0.05	5.0	11/10/09	11/20/09	4.56		
Cadmium	6020	0.020	0.004	5.0	11/10/09	11/20/09	0.332		
Lead	6020	0.051	0.006	5.0	11/23/09	11/24/09	11.1		
Mercury	7471A	0.019	0.002	1.0	10/26/09	10/26/09	0.065		
Selenium	7742	0.10	0.03	2.0	11/10/09	11/16/09	0.10		
Zinc	6020	0.5	0.2	5.0	11/23/09	11/24/09	82.6		

% Solids: 97.5

Comments:

Metals

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client:	URS Corporation	**Service Request:**	K0909140
Project No.:	NA	**Date Collected:**	9/28/2009
Project Name:	Boise St. Helens Pulp and Paper	**Date Received:**	9/29/2009
Matrix:	SEDIMENT	**Units:**	mg/Kg
		Basis:	DRY

Sample Name: M-4-B **Lab Code:** K0909140-002

Analyte	Analysis Method	MRL	MDL	Dil. Factor	Date Extracted	Date Analyzed	Result	C	Q
Antimony	6020	0.05	0.01	5.0	11/10/09	11/21/09	0.15		
Arsenic	6020	0.51	0.05	5.0	11/10/09	11/20/09	4.44		
Cadmium	6020	0.021	0.004	5.0	11/10/09	11/20/09	0.341		
Lead	6020	0.051	0.006	5.0	11/23/09	11/24/09	11.3		
Mercury	7471A	0.018	0.002	1.0	10/26/09	10/26/09	0.067		
Selenium	7742	0.10	0.03	2.0	11/10/09	11/16/09	0.11		
Zinc	6020	0.5	0.2	5.0	11/23/09	11/24/09	87.6		

% Solids: 97.5

Comments:

Metals

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client:	URS Corporation	**Service Request:**	K0909140
Project No.:	NA	**Date Collected:**	9/28/2009
Project Name:	Boise St. Helens Pulp and Paper	**Date Received:**	9/29/2009
Matrix:	SEDIMENT	**Units:**	mg/Kg
		Basis:	DRY

Sample Name: M-4-C **Lab Code:** K0909140-003

Analyte	Analysis Method	MRL	MDL	Dil. Factor	Date Extracted	Date Analyzed	Result	C	Q
Antimony	6020	0.05	0.01	5.0	11/10/09	11/21/09	0.16		
Arsenic	6020	0.51	0.05	5.0	11/10/09	11/20/09	3.96		
Cadmium	6020	0.020	0.004	5.0	11/10/09	11/20/09	0.252		
Lead	6020	0.050	0.006	5.0	11/23/09	11/24/09	11.8		
Mercury	7471A	0.018	0.002	1.0	10/26/09	10/26/09	0.068		
Selenium	7742	0.10	0.03	2.0	11/10/09	11/16/09	0.16		
Zinc	6020	0.5	0.2	5.0	11/23/09	11/24/09	84.2		

% Solids: 97.7

Comments:

Metals

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client:	URS Corporation	**Service Request:**	K0909140
Project No.:	NA	**Date Collected:**	10/7/2009
Project Name:	Boise St. Helens Pulp and Paper	**Date Received:**	10/8/2009
Matrix:	SEDIMENT	**Units:**	mg/Kg
		Basis:	DRY

Sample Name: M-1-B **Lab Code:** K0909140-004

Analyte	Analysis Method	MRL	MDL	Dil. Factor	Date Extracted	Date Analyzed	Result	C	Q
Antimony	6020	0.05	0.01	5.0	11/10/09	11/21/09	0.38		
Arsenic	6020	0.52	0.05	5.0	11/10/09	11/20/09	10.6		
Cadmium	6020	0.021	0.004	5.0	11/10/09	11/20/09	0.478		
Lead	6020	0.052	0.006	5.0	11/23/09	11/24/09	13.3		
Mercury	7471A	0.018	0.002	1.0	10/26/09	10/26/09	0.071		
Selenium	7742	0.10	0.03	2.0	11/10/09	11/16/09	0.09	J	
Zinc	6020	0.5	0.2	5.0	11/23/09	11/24/09	93.6		

% Solids: 95.7

Comments:

Metals

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client: URS Corporation
Project No.: NA
Project Name: Boise St. Helens Pulp and Paper
Matrix: SEDIMENT

Service Request: K0909140
Date Collected: 10/6/2009
Date Received: 10/7/2009
Units: mg/Kg
Basis: DRY

Sample Name: M-2-C
Lab Code: K0909140-005

Analyte	Analysis Method	MRL	MDL	Dil. Factor	Date Extracted	Date Analyzed	Result	C	Q
Antimony	6020	0.05	0.01	5.0	11/10/09	11/21/09	0.50		
Arsenic	6020	0.54	0.05	5.0	11/10/09	11/20/09	5.19		
Cadmium	6020	0.021	0.004	5.0	11/10/09	11/20/09	0.349		
Lead	6020	0.053	0.006	5.0	11/23/09	11/24/09	13.1		
Mercury	7471A	0.019	0.002	1.0	10/26/09	10/26/09	0.078		
Selenium	7742	0.11	0.03	2.0	11/10/09	11/16/09	0.15		
Zinc	6020	0.5	0.2	5.0	11/23/09	11/24/09	97.6		

% Solids: 92.7

Comments:

Metals

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client:	URS Corporation	**Service Request:**	K0909140
Project No.:	NA	**Date Collected:**	10/6/2009
Project Name:	Boise St. Helens Pulp and Paper	**Date Received:**	10/7/2009
Matrix:	SEDIMENT	**Units:**	mg/Kg
		Basis:	DRY

Sample Name: M-2-A **Lab Code:** K0909140-006

Analyte	Analysis Method	MRL	MDL	Dil. Factor	Date Extracted	Date Analyzed	Result	C	Q
Antimony	6020	0.05	0.01	5.0	11/10/09	11/21/09	0.23		
Arsenic	6020	0.51	0.05	5.0	11/10/09	11/20/09	5.71		
Cadmium	6020	0.020	0.004	5.0	11/10/09	11/20/09	0.364		
Lead	6020	0.051	0.006	5.0	11/23/09	11/24/09	12.9		
Mercury	7471A	0.019	0.002	1.0	10/29/09	10/30/09	0.099		
Selenium	7742	0.10	0.03	2.0	11/10/09	11/16/09	0.15		
Zinc	6020	0.5	0.2	5.0	11/23/09	11/24/09	100		

% Solids: 97.8

Comments:

Metals

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client: URS Corporation
Project No.: NA
Project Name: Boise St. Helens Pulp and Paper
Matrix: SEDIMENT

Service Request: K0909140
Date Collected: 10/5/2009
Date Received: 10/6/2009
Units: mg/Kg
Basis: DRY

Sample Name: M-3-B
Lab Code: K0909140-007

Analyte	Analysis Method	MRL	MDL	Dil. Factor	Date Extracted	Date Analyzed	Result	C	Q
Antimony	6020	0.05	0.01	5.0	11/10/09	11/21/09	0.16		
Arsenic	6020	0.51	0.05	5.0	11/10/09	11/20/09	4.81		
Cadmium	6020	0.020	0.004	5.0	11/10/09	11/20/09	0.374		
Lead	6020	0.050	0.006	5.0	11/23/09	11/24/09	11.6		
Mercury	7471A	0.019	0.002	1.0	10/29/09	10/30/09	0.074		
Selenium	7742	0.10	0.03	2.0	11/10/09	11/16/09	0.10		
Zinc	6020	0.5	0.2	5.0	11/23/09	11/24/09	93.1		

% Solids: 98.2

Comments:

Metals

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client: URS Corporation
Project No.: NA
Project Name: Boise St. Helens Pulp and Paper
Matrix: SEDIMENT

Service Request: K0909140
Date Collected: 10/6/2009
Date Received: 10/7/2009
Units: mg/Kg
Basis: DRY

Sample Name: M-2-B
Lab Code: K0909140-008

Analyte	Analysis Method	MRL	MDL	Dil. Factor	Date Extracted	Date Analyzed	Result	C	Q
Antimony	6020	0.06	0.01	5.0	11/10/09	11/21/09	0.23		
Arsenic	6020	0.56	0.06	5.0	11/10/09	11/20/09	5.46		
Cadmium	6020	0.022	0.004	5.0	11/10/09	11/20/09	0.329		
Lead	6020	0.055	0.007	5.0	11/23/09	11/24/09	11.8		
Mercury	7471A	0.020	0.002	1.0	10/29/09	10/30/09	0.104		
Selenium	7742	0.11	0.03	2.0	11/10/09	11/16/09	0.10	J	
Zinc	6020	0.6	0.2	5.0	11/23/09	11/24/09	98.8		

% Solids: 89.5

Comments:

Metals

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client:	URS Corporation	**Service Request:**	K0909140
Project No.:	NA	**Date Collected:**	10/7/2009
Project Name:	Boise St. Helens Pulp and Paper	**Date Received:**	10/8/2009
Matrix:	SEDIMENT	**Units:**	mg/Kg
		Basis:	DRY

Sample Name: M-1-C **Lab Code:** K0909140-009

Analyte	Analysis Method	MRL	MDL	Dil. Factor	Date Extracted	Date Analyzed	Result	C	Q
Antimony	6020	0.06	0.01	5.0	11/10/09	11/21/09	0.42		
Arsenic	6020	0.55	0.06	5.0	11/10/09	11/20/09	6.98		
Cadmium	6020	0.022	0.004	5.0	11/10/09	11/20/09	0.288		
Lead	6020	0.055	0.007	5.0	11/23/09	11/24/09	14.6		
Mercury	7471A	0.019	0.002	1.0	10/29/09	10/30/09	0.088		
Selenium	7742	0.11	0.03	2.0	11/10/09	11/16/09	0.09	J	
Zinc	6020	0.5	0.2	5.0	11/23/09	11/24/09	93.8		

% Solids: 90.5

Comments:

Metals

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client: URS Corporation
Project No.: NA
Project Name: Boise St. Helens Pulp and Paper
Matrix: SEDIMENT

Service Request: K0909140
Date Collected: 10/5/2009
Date Received: 10/6/2009
Units: mg/Kg
Basis: DRY

Sample Name: M-3-C
Lab Code: K0909140-010

Analyte	Analysis Method	MRL	MDL	Dil. Factor	Date Extracted	Date Analyzed	Result	C	Q
Antimony	6020	0.05	0.01	5.0	11/10/09	11/21/09	0.18		
Arsenic	6020	0.52	0.05	5.0	11/10/09	11/20/09	4.73		
Cadmium	6020	0.021	0.004	5.0	11/10/09	11/20/09	0.309		
Lead	6020	0.052	0.006	5.0	11/23/09	11/24/09	12.0		
Mercury	7471A	0.019	0.002	1.0	10/29/09	10/30/09	0.078		
Selenium	7742	0.10	0.03	2.0	11/10/09	11/16/09	0.07	J	
Zinc	6020	0.5	0.2	5.0	11/23/09	11/24/09	91.1		

% Solids: 95.3

Comments:

Metals

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client:	URS Corporation	**Service Request:**	K0909140
Project No.:	NA	**Date Collected:**	10/9/2009
Project Name:	Boise St. Helens Pulp and Paper	**Date Received:**	10/9/2009
Matrix:	SEDIMENT	**Units:**	mg/Kg
		Basis:	DRY

Sample Name: B-1-A **Lab Code:** K0909140-011

Analyte	Analysis Method	MRL	MDL	Dil. Factor	Date Extracted	Date Analyzed	Result	C	Q
Antimony	6020	0.05	0.01	5.0	11/10/09	11/21/09	0.06		
Arsenic	6020	0.53	0.05	5.0	11/10/09	11/20/09	3.84		
Cadmium	6020	0.021	0.004	5.0	11/10/09	11/20/09	0.139		
Lead	6020	0.052	0.006	5.0	11/23/09	11/24/09	8.210		
Mercury	7471A	0.019	0.002	1.0	10/29/09	10/30/09	0.036		
Selenium	7742	0.11	0.03	2.0	11/10/09	11/16/09	0.09	J	
Zinc	6020	0.5	0.2	5.0	11/23/09	11/24/09	68.0		

% Solids: 94.8

Comments:

Metals

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client:	URS Corporation	**Service Request:**	K0909140
Project No.:	NA	**Date Collected:**	10/9/2009
Project Name:	Boise St. Helens Pulp and Paper	**Date Received:**	10/9/2009
Matrix:	SEDIMENT	**Units:**	mg/Kg
		Basis:	DRY

Sample Name: B-1-B **Lab Code:** K0909140-012

Analyte	Analysis Method	MRL	MDL	Dil. Factor	Date Extracted	Date Analyzed	Result	C	Q
Antimony	6020	0.05	0.01	5.0	11/10/09	11/21/09	0.05		
Arsenic	6020	0.51	0.05	5.0	11/10/09	11/20/09	3.71		
Cadmium	6020	0.020	0.004	5.0	11/10/09	11/20/09	0.139		
Lead	6020	0.050	0.006	5.0	11/23/09	11/24/09	7.810		
Mercury	7471A	0.018	0.002	1.0	10/29/09	10/30/09	0.038		
Selenium	7742	0.10	0.03	2.0	11/10/09	11/16/09	0.09	J	
Zinc	6020	0.5	0.2	5.0	11/23/09	11/24/09	68.9		

% Solids: 98.2

Comments:

Metals

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client:	URS Corporation	**Service Request:**	K0909140
Project No.:	NA	**Date Collected:**	10/5/2009
Project Name:	Boise St. Helens Pulp and Paper	**Date Received:**	10/6/2009
Matrix:	SEDIMENT	**Units:**	mg/Kg
		Basis:	DRY

Sample Name: M-3-A **Lab Code:** K0909140-013

Analyte	Analysis Method	MRL	MDL	Dil. Factor	Date Extracted	Date Analyzed	Result	C	Q
Antimony	6020	0.05	0.01	5.0	11/10/09	11/21/09	0.17		
Arsenic	6020	0.53	0.05	5.0	11/10/09	11/20/09	5.22		
Cadmium	6020	0.021	0.004	5.0	11/10/09	11/20/09	0.395		
Lead	6020	0.053	0.006	5.0	11/23/09	11/24/09	13.4		
Mercury	7471A	0.021	0.002	1.0	11/02/09	11/02/09	0.100		
Selenium	7742	0.11	0.03	2.0	11/10/09	11/16/09	0.11		
Zinc	6020	0.5	0.2	5.0	11/23/09	11/24/09	107		

% Solids: 93.9

Comments:

Metals

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client:	URS Corporation	**Service Request:**	K0909140
Project No.:	NA	**Date Collected:**	10/7/2009
Project Name:	Boise St. Helens Pulp and Paper	**Date Received:**	10/8/2009
Matrix:	SEDIMENT	**Units:**	mg/Kg
		Basis:	DRY

Sample Name: M-1-A **Lab Code:** K0909140-014

Analyte	Analysis Method	MRL	MDL	Dil. Factor	Date Extracted	Date Analyzed	Result	C	Q
Antimony	6020	0.05	0.01	5.0	11/10/09	11/21/09	0.53		
Arsenic	6020	0.51	0.05	5.0	11/10/09	11/20/09	7.90		
Cadmium	6020	0.021	0.004	5.0	11/10/09	11/20/09	0.335		
Lead	6020	0.051	0.006	5.0	11/23/09	11/24/09	13.5		
Mercury	7471A	0.020	0.002	1.0	11/02/09	11/02/09	0.075		
Selenium	7742	0.10	0.03	2.0	11/10/09	11/16/09	0.18		
Zinc	6020	0.5	0.2	5.0	11/23/09	11/24/09	98.4		

% Solids: 97.2

Comments:

Metals

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client:	URS Corporation	**Service Request:**	K0909140
Project No.:	NA	**Date Collected:**	9/28/2009
Project Name:	Boise St. Helens Pulp and Paper	**Date Received:**	9/29/2009
Matrix:	SEDIMENT	**Units:**	mg/Kg
		Basis:	DRY

Sample Name: M-5-B **Lab Code:** K0909140-015

Analyte	Analysis Method	MRL	MDL	Dil. Factor	Date Extracted	Date Analyzed	Result	C	Q
Antimony	6020	0.05	0.01	5.0	11/10/09	11/21/09	0.11		
Arsenic	6020	0.51	0.05	5.0	11/10/09	11/20/09	4.67		
Cadmium	6020	0.021	0.004	5.0	11/10/09	11/20/09	0.279		
Lead	6020	0.050	0.006	5.0	11/23/09	11/24/09	9.800		
Mercury	7471A	0.019	0.002	1.0	11/02/09	11/02/09	0.039		
Selenium	7742	0.10	0.03	2.0	11/10/09	11/16/09	0.15		
Zinc	6020	0.5	0.2	5.0	11/23/09	11/24/09	90.3		

% Solids: 97.2

Comments:

Metals

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client:	URS Corporation	**Service Request:**	K0909140
Project No.:	NA	**Date Collected:**	9/28/2009
Project Name:	Boise St. Helens Pulp and Paper	**Date Received:**	9/29/2009
Matrix:	SEDIMENT	**Units:**	mg/Kg
		Basis:	DRY

Sample Name: M-5-A **Lab Code:** K0909140-016

Analyte	Analysis Method	MRL	MDL	Dil. Factor	Date Extracted	Date Analyzed	Result	C	Q
Antimony	6020	0.05	0.01	5.0	11/10/09	11/21/09	0.11		
Arsenic	6020	0.50	0.05	5.0	11/10/09	11/20/09	4.54		
Cadmium	6020	0.020	0.004	5.0	11/10/09	11/20/09	0.300		
Lead	6020	0.050	0.006	5.0	11/23/09	11/24/09	11.0		
Mercury	7471A	0.020	0.002	1.0	11/11/09	11/11/09	0.052		
Selenium	7742	0.10	0.03	2.0	11/10/09	11/16/09	0.17		
Zinc	6020	0.5	0.2	5.0	11/23/09	11/24/09	93.7		

% Solids: 99.1

Comments:

Metals

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client: URS Corporation
Project No.: NA
Project Name: Boise St. Helens Pulp and Paper
Matrix: SEDIMENT

Service Request: K0909140
Date Collected: 9/28/2009
Date Received: 9/29/2009
Units: mg/Kg
Basis: DRY

Sample Name: M-5-C
Lab Code: K0909140-017

Analyte	Analysis Method	MRL	MDL	Dil. Factor	Date Extracted	Date Analyzed	Result	C	Q
Antimony	6020	0.05	0.01	5.0	11/10/09	11/21/09	0.20		
Arsenic	6020	0.50	0.05	5.0	11/10/09	11/20/09	4.43		
Cadmium	6020	0.020	0.004	5.0	11/10/09	11/20/09	0.300		
Lead	6020	0.050	0.006	5.0	11/23/09	11/24/09	9.420		
Mercury	7471A	0.019	0.002	1.0	11/11/09	11/11/09	0.048		
Selenium	7742	0.10	0.03	2.0	11/10/09	11/16/09	0.15		
Zinc	6020	0.5	0.2	5.0	11/23/09	11/24/09	81.0		

% Solids: 99.6

Comments:

Metals

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client:	URS Corporation	**Service Request:**	K0909140
Project No.:	NA	**Date Collected:**	9/28/2009
Project Name:	Boise St. Helens Pulp and Paper	**Date Received:**	9/29/2009
Matrix:	SEDIMENT	**Units:**	mg/Kg
		Basis:	DRY

Sample Name: M-5-B2 **Lab Code:** K0909140-018

Analyte	Analysis Method	MRL	MDL	Dil. Factor	Date Extracted	Date Analyzed	Result	C	Q
Antimony	6020	0.05	0.01	5.0	11/10/09	11/21/09	0.09		
Arsenic	6020	0.51	0.05	5.0	11/10/09	11/20/09	4.51		
Cadmium	6020	0.020	0.004	5.0	11/10/09	11/20/09	0.245		
Lead	6020	0.050	0.006	5.0	11/23/09	11/24/09	9.600		
Mercury	7471A	0.019	0.002	1.0	11/11/09	11/11/09	0.069		
Selenium	7742	0.10	0.03	2.0	11/10/09	11/16/09	0.18		
Zinc	6020	0.5	0.2	5.0	11/23/09	11/24/09	85.4		

% Solids: 97.5

Comments:

Metals

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client:	URS Corporation	**Service Request:**	K0909140
Project No.:	NA	**Date Collected:**	10/9/2009
Project Name:	Boise St. Helens Pulp and Paper	**Date Received:**	10/9/2009
Matrix:	SEDIMENT	**Units:**	mg/Kg
		Basis:	DRY

Sample Name: B-1-C **Lab Code:** K0909140-019

Analyte	Analysis Method	MRL	MDL	Dil. Factor	Date Extracted	Date Analyzed	Result	C	Q
Antimony	6020	0.05	0.01	5.0	11/10/09	11/21/09	0.05	J	
Arsenic	6020	0.51	0.05	5.0	11/10/09	11/20/09	4.08		
Cadmium	6020	0.020	0.004	5.0	11/10/09	11/20/09	0.136		
Lead	6020	0.050	0.006	5.0	11/23/09	11/24/09	8.240		
Mercury	7471A	0.020	0.002	1.0	11/11/09	11/11/09	0.031		
Selenium	7742	0.10	0.03	2.0	11/10/09	11/16/09	0.08	J	
Zinc	6020	0.5	0.2	5.0	11/23/09	11/24/09	72.0		

% Solids: 98.3

Comments:

Metals

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client: URS Corporation
Service Request: K0909140
Project No.: NA
Date Collected:
Project Name: Boise St. Helens Pulp and Paper
Date Received:
Matrix: SEDIMENT
Units: mg/Kg
Basis: DRY

Sample Name: Method Blank
Lab Code: K0909140-MB

Analyte	Analysis Method	MRL	MDL	Dil. Factor	Date Extracted	Date Analyzed	Result	C	Q
Antimony	6020	0.05	0.01	5.0	11/10/09	11/21/09	0.01	U	
Arsenic	6020	0.50	0.05	5.0	11/10/09	11/20/09	0.05	U	
Cadmium	6020	0.020	0.004	5.0	11/10/09	11/20/09	0.004	U	
Lead	6020	0.050	0.006	5.0	11/23/09	11/24/09	0.006	U	
Mercury	7471A	0.020	0.002	1.0	10/26/09	10/26/09	0.002	U	
Selenium	7742	0.10	0.03	2.0	11/10/09	11/16/09	0.03	U	
Zinc	6020	0.5	0.2	5.0	11/23/09	11/24/09	0.2	U	

% Solids: 100.0

Comments:

Metals

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client:	URS Corporation	**Service Request:**	K0909140
Project No.:	NA	**Date Collected:**	
Project Name:	Boise St. Helens Pulp and Paper	**Date Received:**	
Matrix:	SEDIMENT	**Units:**	mg/Kg
		Basis:	DRY

Sample Name: Method Blank **Lab Code:** K0909140-MB2

Analyte	Analysis Method	MRL	MDL	Dil. Factor	Date Extracted	Date Analyzed	Result	C	Q
Mercury	7471A	0.020	0.002	1.0	10/29/09	10/30/09	0.002	U	

% Solids: 100.0

Comments:

Metals

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client:	URS Corporation	**Service Request:**	K0909140
Project No.:	NA	**Date Collected:**	
Project Name:	Boise St. Helens Pulp and Paper	**Date Received:**	
Matrix:	SEDIMENT	**Units:**	mg/Kg
		Basis:	DRY

Sample Name: Method Blank **Lab Code:** K0909140-MB3

Analyte	Analysis Method	MRL	MDL	Dil. Factor	Date Extracted	Date Analyzed	Result	C	Q
Mercury	7471A	0.020	0.002	1.0	11/02/09	11/02/09	0.002	U	

% Solids: 100.0

Comments:

Metals

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client: URS Corporation
Service Request: K0909140
Project No.: NA
Date Collected:
Project Name: Boise St. Helens Pulp and Paper
Date Received:
Matrix: SEDIMENT
Units: mg/Kg
Basis: DRY

Sample Name: Method Blank
Lab Code: K0909140-MB4

Analyte	Analysis Method	MRL	MDL	Dil. Factor	Date Extracted	Date Analyzed	Result	C	Q
Mercury	7471A	0.020	0.002	1.0	11/11/09	11/11/09	0.002	U	

% Solids: 100.0

Comments:

Metals

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: URS Corporation **Service Request:** K0909140

Project No.: NA

Project Name: Boise St. Helens Pulp and Paper

ICV Source: Inorganic Ventures **CCV Source:** CAS MIXED

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					Method
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	
Antimony	25.0	23.9	96	25.0	25.7	103	25.5	102	6020
Arsenic	25.0	23.9	96	25.0	25.0	100	24.9	100	6020
Cadmium	12.5	12.1	97	25.0	24.8	99	25.0	100	6020
Lead	25.0	23.6	94	25.0	24.7	99	24.9	100	6020
Mercury	5.00	5.03	101	5.00	4.99	100	4.99	100	7471A
Selenium	7.50	8.06	107	7.50	7.66	102	8.08	108	7742
Zinc	25.0	24.9	100	25.0	25.1	100	24.7	99	6020

Metals

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: URS Corporation **Service Request:** K0909140

Project No.: NA

Project Name: Boise St. Helens Pulp and Paper

ICV Source: Inorganic Ventures **CCV Source:** CAS MIXED

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					Method
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	
Antimony				25.0	25.0	100	25.0	100	6020
Arsenic				25.0	24.7	99	24.7	99	6020
Cadmium				25.0	25.0	100	24.9	100	6020
Lead				25.0	24.8	99	24.9	100	6020
Mercury				5.00	4.97	99	4.98	100	7471A
Selenium				7.50	7.64	102	7.97	106	7742
Zinc				25.0	24.6	98	24.4	98	6020

Metals

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: URS Corporation **Service Request:** K0909140

Project No.: NA

Project Name: Boise St. Helens Pulp and Paper

ICV Source: Inorganic Ventures **CCV Source:** CAS MIXED

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					Method
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	
Antimony				25.0	24.8	99			6020
Selenium				7.50	8.09	108	8.19	109	7742

Metals

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: URS Corporation **Service Request:** K0909140

Project No.: NA

Project Name: Boise St. Helens Pulp and Paper

ICV Source: Inorganic Ventures **CCV Source:** CAS MIXED

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					Method
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	
Selenium				7.50	8.00	107			7742

Metals

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: URS Corporation **Service Request:** K0909140

Project No.: NA

Project Name: Boise St. Helens Pulp and Paper

ICV Source: Inorganic Ventures **CCV Source:** CAS MIXED

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					Method
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	
Mercury	5.00	5.12	102	5.00	5.29	106	5.10	102	7471A

Metals

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: URS Corporation **Service Request:** K0909140

Project No.: NA

Project Name: Boise St. Helens Pulp and Paper

ICV Source: Inorganic Ventures **CCV Source:** CAS MIXED

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					Method
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	
Mercury				5.00	5.03	101			7471A

Metals

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: URS Corporation **Service Request:** K0909140

Project No.: NA

Project Name: Boise St. Helens Pulp and Paper

ICV Source: Inorganic Ventures **CCV Source:** CAS MIXED

Concentration Units: ug/L

	Initial Calibration			Continuing Calibration					
Analyte	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	Method
Mercury	5.00	5.02	100	5.00	4.99	100	5.14	103	7471A

Metals

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: URS Corporation **Service Request:** K0909140

Project No.: NA

Project Name: Boise St. Helens Pulp and Paper

ICV Source: Inorganic Ventures **CCV Source:** CAS MIXED

Concentration Units: ug/L

	Initial Calibration			Continuing Calibration					
Analyte	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	Method
Mercury	5.00	4.89	98	5.00	4.99	100	4.81	96	7471A

Metals

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: URS Corporation **Service Request:** K0909140

Project No.: NA

Project Name: Boise St. Helens Pulp and Paper

ICV Source: Inorganic Ventures **CCV Source:** CAS MIXED

Concentration Units: ug/L

	Initial Calibration			Continuing Calibration					
Analyte	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	Method
Mercury				5.00	4.60	92	4.82	96	7471A

Metals

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: URS Corporation **Service Request:** K0909140

Project No.: NA

Project Name: Boise St. Helens Pulp and Paper

ICV Source: Inorganic Ventures **CCV Source:** CAS MIXED

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					Method
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	
Mercury				5.00	4.49	90			7471A

Metals
- 2b -
CRDL STANDARD FOR AA AND ICP

Client: URS Corporation **Service Request:** K0909140

Project No.: NA

Project Name: Boise St. Helens Pulp and Paper

Concentration Units: ug/L

Analyte	CRDL Standard for AA			CRDL Standard for ICP Initial			Final	
	True	Found	%R	True	Found	%R	Found	%R
Antimony				0.10	0.09	90		
Arsenic				1.00	1.01	101		
Cadmium				0.04	0.033	82		
Lead				0.10	0.02	20		
Mercury	0.20	0.19	95					
Selenium	0.50	0.59	118.0					
Zinc				1.0	0.48	48		

Metals
- 2b -
CRDL STANDARD FOR AA AND ICP

Client: URS Corporation **Service Request:** K0909140

Project No.: NA

Project Name: Boise St. Helens Pulp and Paper

Concentration Units: ug/L

Analyte	CRDL Standard for AA			CRDL Standard for ICP Initial			CRDL Standard for ICP Final	
	True	Found	%R	True	Found	%R	Found	%R
Mercury	0.20	0.20	100					

Metals
- 2b -
CRDL STANDARD FOR AA AND ICP

Client: URS Corporation **Service Request:** K0909140

Project No.: NA

Project Name: Boise St. Helens Pulp and Paper

Concentration Units: ug/L

Analyte	CRDL Standard for AA			CRDL Standard for ICP Initial			CRDL Standard for ICP Final	
	True	Found	%R	True	Found	%R	Found	%R
Mercury	0.20	0.18	90					

Metals
- 2b -
CRDL STANDARD FOR AA AND ICP

Client: URS Corporation **Service Request:** K0909140

Project No.: NA

Project Name: Boise St. Helens Pulp and Paper

Concentration Units: ug/L

Analyte	CRDL Standard for AA			CRDL Standard for ICP				
				Initial			Final	
	True	Found	%R	True	Found	%R	Found	%R
Mercury	0.20	0.19	95					

Metals

-3-

BLANKS

Client: URS Corporation **Service Request:** K0909140

Project No.: NA

Project Name: Boise St. Helens Pulp and Paper

Concentration Units: ug/L

Analyte	Initial Calib. Blank	C	Continuing Calibration Blank 1	C	2	C	3	C	Method
Antimony	0.02	U	0.02	U	-0.05	J	-0.07	J	6020
Arsenic	0.1	U	0.1	U	0.1	U	0.1	U	6020
Cadmium	0.008	U	0.008	U	0.008	U	0.008	U	6020
Lead	0.012	U	0.012	U	0.012	U	0.012	U	6020
Mercury	-0.030	J	-0.030	J	-0.030	J	-0.030	J	7471A
Selenium	0.20	J	0.10	U	0.10	J	0.10	U	7742
Zinc	0.40	U	0.40	U	0.40	U	0.40	U	6020

Metals

- 3 -

BLANKS

Client: URS Corporation **Service Request:** K0909140

Project No.: NA

Project Name: Boise St. Helens Pulp and Paper

Concentration Units: ug/L

Analyte	Initial Calib. Blank	C	Continuing Calibration Blank 1	C	2	C	3	C	Method
Antimony			-0.09	J	-0.10	J			6020
Arsenic			0.1	U					6020
Cadmium			0.008	U					6020
Lead			0.012	U					6020
Mercury			-0.030	J					7471A
Selenium			0.10	U	0.10	J	0.10	J	7742
Zinc			0.40	U					6020

Metals

- 3 -

BLANKS

Client: URS Corporation **Service Request:** K0909140

Project No.: NA

Project Name: Boise St. Helens Pulp and Paper

Concentration Units: ug/L

Analyte	Initial Calib. Blank	C	Continuing Calibration Blank 1	C	2	C	3	C	Method
Selenium			0.12	J					7742

Metals

BLANKS

Client: URS Corporation **Service Request:** K0909140

Project No.: NA

Project Name: Boise St. Helens Pulp and Paper

Concentration Units: ug/L

Analyte	Initial Calib. Blank	C	Continuing Calibration Blank 1	C	2	C	3	C	Method
Mercury	-0.020	J	0.020	U	0.020	U	0.020	U	7471A

Metals

- 3 -

BLANKS

Client: URS Corporation **Service Request:** K0909140

Project No.: NA

Project Name: Boise St. Helens Pulp and Paper

Concentration Units: ug/L

Analyte	Initial Calib. Blank	C	Continuing Calibration Blank 1	C	2	C	3	C	Method
Mercury	-0.020	J	0.020	U	-0.020	J			7471A

Metals

- 3 -

BLANKS

Client: URS Corporation **Service Request:** K0909140

Project No.: NA

Project Name: Boise St. Helens Pulp and Paper

Concentration Units: ug/L

Analyte	Initial Calib. Blank	C	Continuing Calibration Blank 1	C	2	C	3	C	Method
Mercury	-0.020	J	0.020	U	0.020	U	0.020	U	7471A

Metals

- 3 -

BLANKS

Client: URS Corporation **Service Request:** K0909140

Project No.: NA

Project Name: Boise St. Helens Pulp and Paper

Concentration Units: ug/L

Analyte	Initial Calib. Blank	C	Continuing Calibration Blank 1	C	2	C	3	C	Method
Mercury			-0.020	J	0.020	U			7471A

Metals

- 4 -

ICP INTERFERENCE CHECK SAMPLE

Client: URS Corporation **Service Request:** K0909140

Project No.: NA

Project Name: Boise St. Helens Pulp and Paper

ICP ID Number: K-ICP-MS-02 **ICS Source:** Inorganic Ventures

Concentration Units: ug/L

Analyte	True		Initial Found			Final Found		
	Sol.A	Sol.AB	Sol.A	Sol.AB	%R	Sol.A	Sol.AB	%R
Antimony	0.0		0.1	0.1				
Arsenic	0.0	25.0	0.0	28.4	114			
Cadmium	0.0	25.0	0.1	25.7	103			
Lead	0.0		0.1	0.1				
Zinc	0.0	25.0	2.2	25.3	101			

80-120% control criteria is not applicable to interfering elements (Al,Ca,Fe,Mg).

Metals

- 5A -

SPIKE SAMPLE RECOVERY

Client:	URS Corporation	**Service Request:**	K0909140
Project No.:	NA	**Units:**	MG/KG
Project Name:	Boise St. Helens Pulp and Paper	**Basis:**	DRY
Matrix:	SEDIMENT	**% Solids:**	97.5

Sample Name: M-4-AS **Lab Code:** K0909140-001S

Analyte	Control Limit %R	Spike Result	C	Sample Result	C	Spike Added	%R	Q	Method
Mercury	60 - 135	0.519		0.065		0.46	98.7		7471A

An empty field in the Control Limit column indicates the control limit is not applicable

Metals

- 5A -

SPIKE SAMPLE RECOVERY

Client:	URS Corporation	**Service Request:**	K0909140
Project No.:	NA	**Units:**	MG/KG
Project Name:	Boise St. Helens Pulp and Paper	**Basis:**	DRY
Matrix:	SEDIMENT	**% Solids:**	97.8

Sample Name: M-2-AS **Lab Code:** K0909140-006S

Analyte	Control Limit %R	Spike Result	C	Sample Result	C	Spike Added	%R	Q	Method
Antimony	10 - 103	45.5		0.23		101.24	44.7		6020
Arsenic	57 - 133	106		5.71		101.74	98.6		6020
Cadmium	68 - 137	10.8		0.364		10.17	102.6		6020
Lead	27 - 178	118		12.9		102.25	102.8		6020
Mercury	60 - 135	0.605		0.099		0.48	105.4		7471A
Selenium	57 - 134	2.04		0.15		2.03	93.1		7742
Zinc	37 - 162	235		100		102.25	132.0		6020

An empty field in the Control Limit column indicates the control limit is not applicable

Metals

- 5A -

SPIKE SAMPLE RECOVERY

Client:	URS Corporation	**Service Request:**	K0909140
Project No.:	NA	**Units:**	MG/KG
Project Name:	Boise St. Helens Pulp and Paper	**Basis:**	DRY
Matrix:	SEDIMENT	**% Solids:**	97.8

Sample Name: M-2-ASD **Lab Code:** K0909140-006SD

Analyte	Control Limit %R	Spike Result	C	Sample Result	C	Spike Added	%R	Q	Method
Antimony	10 - 103	48.0		0.23		101.64	47.0		6020
Arsenic	57 - 133	108		5.710		101.94	100.3		6020
Cadmium	68 - 137	11.0		0.364		10.19	104.4		6020
Lead	27 - 178	115		12.9		101.24	100.8		6020
Selenium	57 - 134	1.98		0.15		2.04	89.7		7742
Zinc	37 - 162	224		100		101.24	122.5		6020

An empty field in the Control Limit column indicates the control limit is not applicable

Metals

- 5A -

SPIKE SAMPLE RECOVERY

Client:	URS Corporation	**Service Request:**	K0909140
Project No.:	NA	**Units:**	MG/KG
Project Name:	Boise St. Helens Pulp and Paper	**Basis:**	DRY
Matrix:	SEDIMENT	**% Solids:**	93.9

Sample Name: M-3-AS **Lab Code:** K0909140-013S

Analyte	Control Limit %R	Spike Result	C	Sample Result	C	Spike Added	%R	Q	Method
Mercury	60 - 135	0.606		0.100		0.53	95.5		7471A

An empty field in the Control Limit column indicates the control limit is not applicable

Metals

- 5A -

SPIKE SAMPLE RECOVERY

Client:	URS Corporation	**Service Request:**	K0909140
Project No.:	NA	**Units:**	MG/KG
Project Name:	Boise St. Helens Pulp and Paper	**Basis:**	DRY
Matrix:	SEDIMENT	**% Solids:**	99.1

Sample Name: M-5-AS **Lab Code:** K0909140-016S

Analyte	Control Limit %R	Spike Result	C	Sample Result	C	Spike Added	%R	Q	Method
Mercury	60 - 135	0.483		0.052		0.49	88.0		7471A

An empty field in the Control Limit column indicates the control limit is not applicable

Metals

- 5B -

POST SPIKE SAMPLE RECOVERY

Client:	URS Corporation	**Service Request:**	K0909140
Project No.:	NA	**Units:**	UG/L
Project Name:	Boise St. Helens Pulp and Paper	**Basis:**	DRY
Matrix:	WATER		

Sample Name: M-4-AA **Lab Code:** K0909140-001A

Analyte	Control Limit %R	Spike Result	C	Sample Result	C	Spike Added	%R	Q	Method
Mercury	85 - 115	5.290		0.700		5.0	92		7471A

Metals

- 5B -

POST SPIKE SAMPLE RECOVERY

Client: URS Corporation **Service Request:** K0909140

Project No.: NA **Units:** UG/L

Project Name: Boise St. Helens Pulp and Paper **Basis:** DRY

Matrix: WATER

Sample Name: M-2-AA **Lab Code:** K0909140-006A

Analyte	Control Limit %R	Spike Result	C	Sample Result	C	Spike Added	%R	Q	Method
Arsenic	75 - 125	59.3		11.3		50.0	96		6020
Cadmium	75 - 125	46.710		0.719		50.0	92		6020
Lead	75 - 125	70.80		25.19		50.0	91		6020
Mercury	85 - 115	6.130		1.020		5.0	102		7471A
Zinc	75 - 125	241.90		195.90		50.0	92		6020

Metals

- 5B -

POST SPIKE SAMPLE RECOVERY

Client:	URS Corporation	**Service Request:**	K0909140
Project No.:	NA	**Units:**	UG/L
Project Name:	Boise St. Helens Pulp and Paper	**Basis:**	DRY
Matrix:	WATER		

Sample Name: M-3-AA **Lab Code:** K0909140-013A

Analyte	Control Limit %R	Spike Result	C	Sample Result	C	Spike Added	%R	Q	Method
Mercury	85 - 115	6.010		0.960		5.0	101		7471A

Metals

- 5B -

POST SPIKE SAMPLE RECOVERY

Client:	URS Corporation	**Service Request:**	K0909140
Project No.:	NA	**Units:**	UG/L
Project Name:	Boise St. Helens Pulp and Paper	**Basis:**	DRY
Matrix:	WATER		

Sample Name: M-5-AA **Lab Code:** K0909140-016A

Analyte	Control Limit %R	Spike Result	C	Sample Result	C	Spike Added	%R	Q	Method
Mercury	85 - 115	5.060		0.530		5.0	91		7471A

Metals

- 5B -

POST SPIKE SAMPLE RECOVERY

Client:	URS Corporation	**Service Request:**	K0909140
Project No.:	NA	**Units:**	UG/L
Project Name:	Boise St. Helens Pulp and Paper	**Basis:**	DRY
Matrix:	WATER		

Sample Name: Batch QC1A **Lab Code:** K0910432-007A

Analyte	Control Limit %R	Spike Result	C	Sample Result	C	Spike Added	%R	Q	Method
Antimony	75 - 125	184.20		139.30		50.0	90		6020

Metals

- 6 -

DUPLICATES

Client:	URS Corporation	**Service Request:**	K0909140
Project No.:	NA	**Units:**	MG/KG
Project Name:	Boise St. Helens Pulp and Paper	**Basis:**	DRY
Matrix:	SEDIMENT	**% Solids:**	97.5

Sample Name: M-4-AD **Lab Code:** K0909140-001D

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	Method
Mercury		0.065		0.070		7.4		7471A

An empty field in the Control Limit column indicates the control limit is not applicable.

Metals

- 6 -

DUPLICATES

Client:	URS Corporation	**Service Request:**	K0909140
Project No.:	NA	**Units:**	MG/KG
Project Name:	Boise St. Helens Pulp and Paper	**Basis:**	DRY
Matrix:	SEDIMENT	**% Solids:**	97.8

Sample Name: M-2-AD **Lab Code:** K0909140-006D

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	Method
Mercury		0.099		0.093		6.2		7471A

An empty field in the Control Limit column indicates the control limit is not applicable.

Metals

- 6 -

DUPLICATES

Client:	URS Corporation	**Service Request:**	K0909140
Project No.:	NA	**Units:**	MG/KG
Project Name:	Boise St. Helens Pulp and Paper	**Basis:**	DRY
Matrix:	SEDIMENT	**% Solids:**	97.8

Sample Name: M-2-ASD **Lab Code:** K0909140-006SD

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	Method
Antimony		45.5		48.0		5.3		6020
Arsenic		106		108		1.9		6020
Cadmium		10.8		11.0		1.8		6020
Lead		118		115		2.6		6020
Selenium		2.0		1.98		1.0		7742
Zinc		235		224		4.8		6020

An empty field in the Control Limit column indicates the control limit is not applicable.

Metals

- 6 -

DUPLICATES

Client:	URS Corporation	**Service Request:**	K0909140
Project No.:	NA	**Units:**	MG/KG
Project Name:	Boise St. Helens Pulp and Paper	**Basis:**	DRY
Matrix:	SEDIMENT	**% Solids:**	93.9

Sample Name: M-3-AD **Lab Code:** K0909140-013D

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	Method
Mercury		0.100		0.098		2.0		7471A

An empty field in the Control Limit column indicates the control limit is not applicable.

Metals

- 6 -

DUPLICATES

Client:	URS Corporation	**Service Request:**	K0909140
Project No.:	NA	**Units:**	MG/KG
Project Name:	Boise St. Helens Pulp and Paper	**Basis:**	DRY
Matrix:	SEDIMENT	**% Solids:**	99.1

Sample Name: M-5-AD **Lab Code:** K0909140-016D

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	Method
Mercury		0.052		0.060		14.3		7471A

An empty field in the Control Limit column indicates the control limit is not applicable.

Metals

-7-

LABORATORY CONTROL SAMPLE

Client: URS Corporation **Service Request:** K0909140

Project No.: NA

Project Name: Boise St. Helens Pulp and Paper

Aqueous LCS Source: **Solid LCS Source:** ERA D065-540

Analyte	Aqueous: ug/L			Solid: mg/kg				
	True	Found	%R	True	Found	C	Limits	%R
Antimony				105	99.4	50	150	94.7
Arsenic				88.3	89.8	78	122	101.7
Cadmium				91	93.4	81	119	102.6
Lead				104	110	79	121	105.8
Mercury				6.8	6.570	71	128	96.6
Selenium				192	197	80	120	102.6
Zinc				292	283	73	121	96.9

Metals

- 7 -

LABORATORY CONTROL SAMPLE

Client: URS Corporation **Service Request:** K0909140

Project No.: NA

Project Name: Boise St. Helens Pulp and Paper

Aqueous LCS Source: **Solid LCS Source:** ERA D045540

Analyte	Aqueous: ug/L			Solid: mg/kg				
	True	Found	%R	True	Found	C	Limits	%R
Mercury				1.77	1.700		72 122	96.0

Metals

- 7 -

LABORATORY CONTROL SAMPLE

Client: URS Corporation **Service Request:** K0909140

Project No.: NA

Project Name: Boise St. Helens Pulp and Paper

Aqueous LCS Source: **Solid LCS Source:** ERA D045540

Analyte	Aqueous: ug/L			Solid: mg/kg				
	True	Found	%R	True	Found	C	Limits	%R
Mercury				1.77	1.720		72 | 122	97.2

Metals

- 7 -

LABORATORY CONTROL SAMPLE

Client: URS Corporation **Service Request:** K0909140

Project No.: NA

Project Name: Boise St. Helens Pulp and Paper

Aqueous LCS Source: **Solid LCS Source:** ERA D045540

Analyte	Aqueous: ug/L			Solid: mg/kg				
	True	Found	%R	True	Found	C	Limits	%R
Mercury				1.77	1.590		72 | 122	89.8

Metals

- 9 -

ICP SERIAL DILUTIONS

Client: URS Corporation **Service Request:** K0909140

Project No.: NA **Units:** UG/L

Project Name: Boise St. Helens Pulp and Paper

Sample Name: M-2-AL **Lab Code:** K0909140-006L

Analyte	Initial Sample Result (I)	C	Serial Dilution Result (S)	C	% Difference	Q	M
Arsenic	11.3		12.8		13		MS
Cadmium	0.719		0.808		12		MS
Lead	25.190		27.625		10		MS
Zinc	195.9		226.1		15	E	MS

Metals

- 9 -

ICP SERIAL DILUTIONS

Client: URS Corporation **Service Request:** K0909140

Project No.: NA **Units:** UG/L

Project Name: Boise St. Helens Pulp and Paper

Sample Name: Batch QC1L **Lab Code:** K0910432-007L

Analyte	Initial Sample Result (I)	C	Serial Dilution Result (S)	C	% Difference	Q	M
Antimony	139.30		150.60		8		MS

Metals

- 10 -

DETECTION LIMITS

Client: URS Corporation **Service Request:** K0909140

Project No.: NA

Project Name: Boise St. Helens Pulp and Paper

ICP/ICP-MS ID #:

GFAA ID #: AA ID #: K-CVAA-01

Analyte	Wave-length (nm)	Back-ground	MRL ug/L	MDL ug/L	M
Mercury	253.70		0.20	0.020	CV

Comments:

Metals

- 10 -

DETECTION LIMITS

Client: URS Corporation **Service Request:** K0909140

Project No.: NA

Project Name: Boise St. Helens Pulp and Paper

ICP/ICP-MS ID #:

GFAA ID #: K-FLAA-02 **AA ID #:**

Analyte	Wave-length (nm)	Back-ground	MRL ug/L	MDL ug/L	M
Selenium	196.0		0.50	0.10	H

Comments:

Metals

- 10 -

DETECTION LIMITS

Client: URS Corporation **Service Request:** K0909140

Project No.: NA

Project Name: Boise St. Helens Pulp and Paper

ICP/ICP-MS ID #: K-ICP-MS-02

GFAA ID #: **AA ID #:**

Analyte	Isotope	Back-ground	MRL ug/L	MDL ug/L	M
Antimony	121		0.10	0.02	MS
Arsenic	75		1.0	0.1	MS
Cadmium	111		0.040	0.008	MS
Lead	208		0.10	0.01	MS
Zinc	66		1.00	0.40	MS

Comments:

Metals
-12-
ICP LINEAR RANGES (QUARTERLY)

Client: URS Corporation **Service Request:** K0909140

Project No.: NA

Project Name: Boise St. Helens Pulp and Paper

ICP ID Number: K-ICP-MS-02

Analyte	Integ. Time (Sec.)	Concentration (ug/L)	Method
Antimony	15.000	900	6020
Arsenic	15.000	900	6020
Cadmium	15.000	900	6020
Lead	15.000	900	6020
Zinc	15.000	900	6020

Comments:

Metals
-13-
PREPARATION LOG

Client: URS Corporation **Service Request:** K0909140

Project No.: NA

Project Name: Boise St. Helens Pulp and Paper

Method: F

Sample ID	Preparation Date	Initial Weight (g)	Final Volume(mL)
K0909140-001	11/10/2009	1.01	100.0
K0909140-002	11/10/2009	1.01	100.0
K0909140-003	11/10/2009	1.00	100.0
K0909140-004	11/10/2009	1.00	100.0
K0909140-005	11/10/2009	1.01	100.0
K0909140-006	11/10/2009	1.00	100.0
K0909140-006S	11/10/2009	1.01	100.0
K0909140-006SD	11/10/2009	1.00	100.0
K0909140-007	11/10/2009	1.00	100.0
K0909140-008	11/10/2009	1.01	100.0
K0909140-009	11/10/2009	1.00	100.0
K0909140-010	11/10/2009	1.01	100.0
K0909140-011	11/10/2009	1.00	100.0
K0909140-012	11/10/2009	1.00	100.0
K0909140-013	11/10/2009	1.00	100.0
K0909140-014	11/10/2009	1.01	100.0
K0909140-015	11/10/2009	1.00	100.0
K0909140-016	11/10/2009	1.01	100.0
K0909140-017	11/10/2009	1.01	100.0
K0909140-018	11/10/2009	1.00	100.0
K0909140-019	11/10/2009	1.01	100.0
K0909140-MB	11/10/2009	1.00	100.0
LCSS	11/10/2009	1.00	100.0

Metals
-13-
PREPARATION LOG

Client: URS Corporation **Service Request:** K0909140

Project No.: NA

Project Name: Boise St. Helens Pulp and Paper

Method: CV

Sample ID	Preparation Date	Initial Weight (g)	Final Volume(mL)
K0909140-016	11/11/2009	0.51	50.0
K0909140-016D	11/11/2009	0.52	50.0
K0909140-016S	11/11/2009	0.52	50.0
K0909140-017	11/11/2009	0.53	50.0
K0909140-018	11/11/2009	0.55	50.0
K0909140-019	11/11/2009	0.51	50.0
K0909140-MB4	11/11/2009	0.50	50.0

Metals
-13-
PREPARATION LOG

Client: URS Corporation **Service Request:** K0909140

Project No.: NA

Project Name: Boise St. Helens Pulp and Paper

Method: CV

Sample ID	Preparation Date	Initial Weight (g)	Final Volume (mL)
K0909140-001	10/26/2009	0.55	50.0
K0909140-001D	10/26/2009	0.57	50.0
K0909140-001S	10/26/2009	0.56	50.0
K0909140-002	10/26/2009	0.57	50.0
K0909140-003	10/26/2009	0.57	50.0
K0909140-004	10/26/2009	0.57	50.0
K0909140-005	10/26/2009	0.56	50.0
K0909140-MB	10/26/2009	0.50	50.0
LCSS	10/26/2009	0.28	50.0

Metals
-13-
PREPARATION LOG

Client: URS Corporation **Service Request:** K0909140

Project No.: NA

Project Name: Boise St. Helens Pulp and Paper

Method: CV

Sample ID	Preparation Date	Initial Weight (g)	Final Volume(mL)
K0909140-006	10/29/2009	0.53	50.0
K0909140-006D	10/29/2009	0.54	50.0
K0909140-006S	10/29/2009	0.53	50.0
K0909140-007	10/29/2009	0.53	50.0
K0909140-008	10/29/2009	0.56	50.0
K0909140-009	10/29/2009	0.57	50.0
K0909140-010	10/29/2009	0.56	50.0
K0909140-011	10/29/2009	0.55	50.0
K0909140-012	10/29/2009	0.55	50.0
K0909140-MB2	10/29/2009	0.50	50.0
LCSS2	10/29/2009	0.26	50.0

Metals
-13-
PREPARATION LOG

Client: URS Corporation **Service Request:** K0909140

Project No.: NA

Project Name: Boise St. Helens Pulp and Paper

Method: CV

Sample ID	Preparation Date	Initial Weight (g)	Final Volume (mL)
K0909140-013	11/2/2009	0.51	50.0
K0909140-013D	11/2/2009	0.50	50.0
K0909140-013S	11/2/2009	0.50	50.0
K0909140-014	11/2/2009	0.51	50.0
K0909140-015	11/2/2009	0.54	50.0
K0909140-MB3	11/2/2009	0.50	50.0
LCSS3	11/2/2009	0.28	50.0

Metals
-13-
PREPARATION LOG

Client: URS Corporation **Service Request:** K0909140

Project No.: NA

Project Name: Boise St. Helens Pulp and Paper

Method: MS

Sample ID	Preparation Date	Initial Weight (g)	Final Volume(mL)
K0909140-001	11/10/2009	1.00	100.0
K0909140-002	11/10/2009	1.00	100.0
K0909140-003	11/10/2009	1.00	100.0
K0909140-004	11/10/2009	1.00	100.0
K0909140-005	11/10/2009	1.01	100.0
K0909140-006	11/10/2009	1.01	100.0
K0909140-006S	11/10/2009	1.00	100.0
K0909140-006SD	11/10/2009	1.00	100.0
K0909140-007	11/10/2009	1.00	100.0
K0909140-008	11/10/2009	1.00	100.0
K0909140-009	11/10/2009	1.01	100.0
K0909140-010	11/10/2009	1.00	100.0
K0909140-011	11/10/2009	1.00	100.0
K0909140-012	11/10/2009	1.01	100.0
K0909140-013	11/10/2009	1.01	100.0
K0909140-014	11/10/2009	1.00	100.0
K0909140-015	11/10/2009	1.00	100.0
K0909140-016	11/10/2009	1.01	100.0
K0909140-017	11/10/2009	1.00	100.0
K0909140-018	11/10/2009	1.00	100.0
K0909140-019	11/10/2009	1.00	100.0
K0909140-MB	11/10/2009	1.00	100.0
LCSS	11/10/2009	1.01	100.0

Metals
-13-
PREPARATION LOG

Client: URS Corporation **Service Request:** K0909140

Project No.: NA

Project Name: Boise St. Helens Pulp and Paper

Method: MS

Sample ID	Preparation Date	Initial Weight (g)	Final Volume(mL)
K0909140-001	11/10/2009	1.00	100.0
K0909140-002	11/10/2009	1.00	100.0
K0909140-003	11/10/2009	1.00	100.0
K0909140-004	11/10/2009	1.01	100.0
K0909140-005	11/10/2009	1.01	100.0
K0909140-006	11/10/2009	1.00	100.0
K0909140-006S	11/10/2009	1.01	100.0
K0909140-006SD	11/10/2009	1.01	100.0
K0909140-007	11/10/2009	1.00	100.0
K0909140-008	11/10/2009	1.01	100.0
K0909140-009	11/10/2009	1.01	100.0
K0909140-010	11/10/2009	1.00	100.0
K0909140-011	11/10/2009	1.01	100.0
K0909140-012	11/10/2009	1.01	100.0
K0909140-013	11/10/2009	1.00	100.0
K0909140-014	11/10/2009	1.00	100.0
K0909140-015	11/10/2009	1.01	100.0
K0909140-016	11/10/2009	1.00	100.0
K0909140-017	11/10/2009	1.01	100.0
K0909140-018	11/10/2009	1.01	100.0
K0909140-019	11/10/2009	1.00	100.0
K0909140-MB	11/10/2009	1.00	100.0
LCSS	11/10/2009	1.00	100.0

Metals
-13-
PREPARATION LOG

Client: URS Corporation **Service Request:** K0909140

Project No.: NA

Project Name: Boise St. Helens Pulp and Paper

Method: MS

Sample ID	Preparation Date	Initial Weight (g)	Final Volume(mL)
K0909140-001	11/23/2009	1.01	100.0
K0909140-002	11/23/2009	1.01	100.0
K0909140-003	11/23/2009	1.02	100.0
K0909140-004	11/23/2009	1.01	100.0
K0909140-005	11/23/2009	1.01	100.0
K0909140-006	11/23/2009	1.00	100.0
K0909140-006S	11/23/2009	1.00	100.0
K0909140-006SD	11/23/2009	1.01	100.0
K0909140-007	11/23/2009	1.02	100.0
K0909140-008	11/23/2009	1.01	100.0
K0909140-009	11/23/2009	1.01	100.0
K0909140-010	11/23/2009	1.00	100.0
K0909140-011	11/23/2009	1.01	100.0
K0909140-012	11/23/2009	1.02	100.0
K0909140-013	11/23/2009	1.00	100.0
K0909140-014	11/23/2009	1.00	100.0
K0909140-015	11/23/2009	1.02	100.0
K0909140-016	11/23/2009	1.01	100.0
K0909140-017	11/23/2009	1.01	100.0
K0909140-018	11/23/2009	1.02	100.0
K0909140-019	11/23/2009	1.01	100.0
K0909140-MB	11/23/2009	1.00	100.0
LCSS	11/23/2009	1.01	100.0

Metals
- 14 -
ANALYSIS RUN LOG

Client: URS Corporation **Service Request:** K0909140

Project No.: NA

Project Name: Boise St. Helens Pulp and Paper

Instrument ID Number: K-CVAA-01 **Method:** CV

Start Date: 10/26/2009 **End Date:** 10/26/2009

Sample No.	D/F	Time	% R	Analytes																								
				AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	CN
Calibration Zero	1	12:41																X									
Standard #1	1	12:43																X									
Standard #2	1	12:44																X									
Standard #3	1	12:46																X									
Standard #4	1	12:48																X									
Standard #5	1	12:50																X									
ICV1	1	12:52																X									
ICB1	1	12:53																X									
CCV1	1	12:55																X									
CCB1	1	12:57																X									
CRDL1	1	12:59																X									
K0909140-MB	1	13:00																X									
LCSS	2	13:02																X									
K0909140-001	1	13:04																X									
K0909140-001A	1	13:06																X									
K0909140-001D	1	13:07																X									
K0909140-001S	1	13:09																X									
K0909140-002	1	13:11																X									
K0909140-003	1	13:13																X									
K0909140-004	1	13:15																X									
CCV2	1	13:16																X									
CCB2	1	13:18																X									
K0909140-005	1	13:20																X									
ZZZZZZ	1	13:22																									
ZZZZZZ	1	13:24																									
ZZZZZZ	1	13:26																									
ZZZZZZ	1	13:27																									
ZZZZZZ	1	13:29																									
ZZZZZZ	1	13:32																									
ZZZZZZ	1	13:34																									
ZZZZZZ	1	13:36																									
ZZZZZZ	1	13:40																									

* - Denotes additional elements (other than the standard CLP elements) are represented on another Form 14

Metals
- 14 -
ANALYSIS RUN LOG

Client: URS Corporation **Service Request:** K0909140

Project No.: NA

Project Name: Boise St. Helens Pulp and Paper

Instrument ID Number: K-CVAA-01 **Method:** CV

Start Date: 10/26/2009 **End Date:** 10/26/2009

Sample No.	D/F	Time	% R	Analytes																										
				AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	CN
CCV3	1	13:42																X									
CCB3	1	13:44																X									
ZZZZZZ	1	13:46																									
CCV4	1	13:47																X									
CCB4	1	13:49																X									

* - Denotes additional elements (other than the standard CLP elements) are represented on another Form 14

Metals
- 14 -
ANALYSIS RUN LOG

Client: URS Corporation **Service Request:** K0909140

Project No.: NA

Project Name: Boise St. Helens Pulp and Paper

Instrument ID Number: K-CVAA-01 **Method:** CV

Start Date: 10/30/2009 **End Date:** 10/30/2009

Sample No.	D/F	Time	% R	Analytes																										
				AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	CN
Calibration Zero	1	10:40																X									
Standard #1	1	10:41																X									
Standard #2	1	10:43																X									
Standard #3	1	10:45																X									
Standard #4	1	10:47																X									
Standard #5	1	10:48																X									
ICV2	1	10:50																X									
ICB2	1	10:52																X									
CCV1	1	10:54																X									
CCB1	1	10:56																X									
CRDL2	1	10:57																X									
K0909140-MB2	1	10:59																X									
LCSS2	2	11:01																X									
K0909140-006	1	11:03																X									
ZZZZZZ	1	11:04																									
K0909140-006D	1	11:06																X									
K0909140-006S	1	11:08																X									
K0909140-007	1	11:10																X									
K0909140-008	1	11:11																X									
K0909140-009	1	11:13																X									
CCV2	1	11:15																X									
CCB2	1	11:17																X									
K0909140-010	1	11:19																X									
K0909140-011	1	11:20																X									
K0909140-012	1	11:22																X									
K0909140-006A	1	11:28																X									
ZZZZZZ	1	11:33																									
ZZZZZZ	1	11:35																									
ZZZZZZ	1	11:37																									
ZZZZZZ	1	11:39																									
ZZZZZZ	1	11:41																									
ZZZZZZ	1	11:42																									

* - Denotes additional elements (other than the standard CLP elements) are represented on another Form 14

Metals
- 14 -
ANALYSIS RUN LOG

Client: URS Corporation **Service Request:** K0909140

Project No.: NA

Project Name: Boise St. Helens Pulp and Paper

Instrument ID Number: K-CVAA-01 **Method:** CV

Start Date: 10/30/2009 **End Date:** 10/30/2009

Sample No.	D/F	Time	% R	Analytes																										
				AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	CN
CCV3	1	11:44																X									
CCB3	1	11:46																X									

* - Denotes additional elements (other than the standard CLP elements) are represented on another Form 14

Metals
- 14 -
ANALYSIS RUN LOG

Client: URS Corporation **Service Request:** K0909140

Project No.: NA

Project Name: Boise St. Helens Pulp and Paper

Instrument ID Number: K-CVAA-01 **Method:** CV

Start Date: 11/2/2009 **End Date:** 11/2/2009

Sample No.	D/F	Time	% R	Analytes																										
				AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	CN
Calibration Zero	1	15:39																X									
Standard #1	1	15:41																X									
Standard #2	1	15:43																X									
Standard #3	1	15:45																X									
Standard #4	1	15:46																X									
Standard #5	1	15:48																X									
ICV3	1	15:50																X									
ICB3	1	15:52																X									
CCV1	1	15:53																X									
CCB1	1	15:55																X									
CRDL3	1	15:57																X									
K0909140-MB3	1	15:59																X									
LCSS3	2	16:00																X									
K0909140-013	1	16:02																X									
K0909140-013A	1	16:04																X									
K0909140-013D	1	16:06																X									
K0909140-013S	1	16:08																X									
K0909140-014	1	16:09																X									
K0909140-015	1	16:11																X									
CCV2	1	16:20																X									
CCB2	1	16:22																X									

* - Denotes additional elements (other than the standard CLP elements) are represented on another Form 14

Metals
- 14 -
ANALYSIS RUN LOG

Client: URS Corporation **Service Request:** K0909140

Project No.: NA

Project Name: Boise St. Helens Pulp and Paper

Instrument ID Number: K-CVAA-01 **Method:** CV

Start Date: 11/11/2009 **End Date:** 11/11/2009

Sample No.	D/F	Time	% R	Analytes																										
				AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	CN
Calibration Zero	1	14:22																X									
Standard #1	1	14:24																X									
Standard #2	1	14:26																X									
Standard #3	1	14:28																X									
Standard #4	1	14:29																X									
Standard #5	1	14:31																X									
ICV4	1	14:33																X									
ICB4	1	14:35																X									
CCV1	1	14:36																X									
CCB1	1	14:38																X									
CRDL4	1	14:40																X									
ZZZZZZ	1	14:42																									
ZZZZZZ	1	14:44																									
ZZZZZZ	1	14:45																									
ZZZZZZ	1	14:47																									
ZZZZZZ	1	14:49																									
ZZZZZZ	1	14:52																									
ZZZZZZ	1	14:54																									
ZZZZZZ	1	14:55																									
ZZZZZZ	1	14:57																									
CCV2	1	14:59																X									
CCB2	1	15:01																X									
ZZZZZZ	1	15:03																									
ZZZZZZ	1	15:04																									
ZZZZZZ	1	15:06																									
ZZZZZZ	1	15:20																									
ZZZZZZ	1	15:22																									
ZZZZZZ	1	15:23																									
ZZZZZZ	1	15:25																									
ZZZZZZ	1	15:27																									
ZZZZZZ	1	15:29																									
ZZZZZZ	1	15:30																									

* - Denotes additional elements (other than the standard CLP elements) are represented on another Form 14

Metals
- 14 -
ANALYSIS RUN LOG

Client: URS Corporation **Service Request:** K0909140

Project No.: NA

Project Name: Boise St. Helens Pulp and Paper

Instrument ID Number: K-CVAA-01 **Method:** CV

Start Date: 11/11/2009 **End Date:** 11/11/2009

Sample No.	D/F	Time	% R	Analytes																								
				AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	CN
CCV3	1	15:32																X									
CCB3	1	15:34																X									
ZZZZZZ	1	15:36																									
K0909140-MB4	1	15:44																X									
ZZZZZZ	2	15:45																									
ZK0909140-015	1	15:49																									
K0909140-016	1	15:50																X									
K0909140-016A	1	15:52																X									
K0909140-016D	1	15:54																X									
K0909140-016S	1	15:56																X									
K0909140-017	1	15:58																X									
K0909140-018	1	15:59																X									
CCV4	1	16:01																X									
CCB4	1	16:03																X									
K0909140-019	1	16:05																X									
ZZZZZZ	1	16:06																									
ZZZZZZ	1	16:08																									
ZZZZZZ	1	16:10																									
LCSS4	10	16:14																X									
CCV5	1	16:17																X									
ZZZZZZ	1	16:20																									
ZZZZZZ	1	16:22																									
CCB5	1	16:24																X									

* - Denotes additional elements (other than the standard CLP elements) are represented on another Form 14

Metals
- 14 -
ANALYSIS RUN LOG

Client: URS Corporation **Service Request:** K0909140

Project No.: NA

Project Name: Boise St. Helens Pulp and Paper

Instrument ID Number: K-FLAA-02 **Method:** H

Start Date: 11/16/2009 **End Date:** 11/16/2009

Sample No.	D/F	Time	% R	Analytes																								
				AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	CN
CAL BLK	1	09:31																		X						
STD 0.5	1	09:34																		X						
STD 1.0	1	09:36																		X						
STD 5.0	1	09:39																		X						
STD 7.5	1	09:41																		X						
STD 10.0	1	09:43																		X						
ICV1	1	09:46																		X						
ICB1	1	09:48																		X						
CRA	1	09:51																		X						
CCV1	1	09:53																		X						
CCB1	1	09:55																		X						
K0909140-MB	2	09:58																		X						
LCSS	1,000	10:00																		X						
K0909140-001	2	10:02																		X						
ZZZZZZ	2	10:05																								
K0909140-002	2	10:07																		X						
ZZZZZZ	2	10:09																								
K0909140-003	2	10:12																		X						
ZZZZZZ	2	10:14																								
ZZZZZZ	2	10:17																								
ZZZZZZ	2	10:19																								
CCV2	1	10:21																		X						
CCB2	1	10:24																		X						
K0909140-005	2	10:26																		X						
ZZZZZZ	2	10:28																								
K0909140-006	2	10:31																		X						
ZZZZZZ	2	10:33																								
K0909140-006S	10	10:36																		X						
ZZZZZZ	10	10:38																								
K0909140-006SD	10	10:40																		X						
ZZZZZZ	10	10:43																								
K0909140-007	2	10:45																		X						

* - Denotes additional elements (other than the standard CLP elements) are represented on another Form 14

Metals
- 14 -
ANALYSIS RUN LOG

Client: URS Corporation **Service Request:** K0909140

Project No.: NA

Project Name: Boise St. Helens Pulp and Paper

Instrument ID Number: K-FLAA-02 **Method:** H

Start Date: 11/16/2009 **End Date:** 11/16/2009

Sample No.	D/F	Time	% R	Analytes																										
				AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	CN
ZZZZZZ	2	10:48																												
CCV3	1	10:50																			X									
CCB3	1	10:52																			X									
K0909140-008	2	10:55																			X									
ZZZZZZ	2	10:57																												
K0909140-009	2	11:00																			X									
ZZZZZZ	2	11:02																												
ZZZZZZ	2	11:04																												
ZZZZZZ	2	11:07																												
K0909140-011	2	11:09																			X									
ZZZZZZ	2	11:11																												
K0909140-012	2	11:14																			X									
ZZZZZZ	2	11:16																												
CCV4	1	11:18																			X									
CCB4	1	11:21																			X									
K0909140-013	2	11:23																			X									
ZZZZZZ	2	11:25																												
ZZZZZZ	2	11:28																												
ZZZZZZ	2	11:30																												
K0909140-015	2	11:33																			X									
ZZZZZZ	2	11:35																												
ZZZZZZ	2	11:37																												
ZZZZZZ	2	11:40																												
K0909140-017	2	11:42																			X									
ZZZZZZ	2	11:45																												
CCV5	1	11:47																			X									
CCB5	1	11:49																			X									
K0909140-018	2	11:52																			X									
ZZZZZZ	2	11:54																												
K0909140-019	2	11:56																			X									
ZZZZZZ	2	11:59																												
ZZZZZZ	1	12:01																												

* - Denotes additional elements (other than the standard CLP elements) are represented on another Form 14

Metals
- 14 -
ANALYSIS RUN LOG

Client: URS Corporation **Service Request:** K0909140

Project No.: NA

Project Name: Boise St. Helens Pulp and Paper

Instrument ID Number: K-FLAA-02 **Method:** H

Start Date: 11/16/2009 **End Date:** 11/16/2009

Sample No.	D/F	Time	% R	Analytes																								
				AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	CN
ZZZZZZ	1	12:03																										
CCV6	1	12:06																			X							
CCB6	1	12:08																			X							
K0909140-004	2	12:11																			X							
ZZZZZZ	2	12:13																										
ZZZZZZ	2	12:18																										
K0909140-010	2	12:20																			X							
ZZZZZZ	2	12:22																										
ZZZZZZ	2	12:24																										
K0909140-014	2	12:27																			X							
ZZZZZZ	2	12:29																										
K0909140-016	2	12:31																			X							
ZZZZZZ	2	12:33																										
ZZZZZZ	1	12:36																										
CCV7	1	12:39																			X							
CCB7	1	12:41																			X							

* - Denotes additional elements (other than the standard CLP elements) are represented on another Form 14

Metals
- 14 -
ANALYSIS RUN LOG

Client: URS Corporation **Service Request:** K0909140

Project No.: NA

Project Name: Boise St. Helens Pulp and Paper

Instrument ID Number: K-ICP-MS-02 **Method:** MS

Start Date: 11/20/2009 **End Date:** 11/20/2009

Sample No.	D/F	Time	% R	Analytes																										
				AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	CN
Cal. Blk	1	17:44				X			X																		
Cal. Stn	1	17:47				X			X																		
ICV1	1	17:49				X			X																		
CCV1	1	17:52				X			X																		
ICB1	1	17:55				X			X																		
CCB1	1	17:58				X			X																		
CRA	1	18:01				X			X																		
ICS-A1	1	18:03				X			X																		
ICS-AB1	1	18:06				X			X																		
K0909140-MB	5	18:09				X			X																		
LCSS	50	18:12				X			X																		
K0909140-006	5	18:15				X			X																		
K0909140-006L	25	18:17				X			X																		
K0909140-006A	5	18:20				X			X																		
K0909140-006S	25	18:23				X			X																		
K0909140-006SD	25	18:26				X			X																		
CCV2	1	18:29				X			X																		
CCB2	1	18:31				X			X																		
K0909140-001	5	18:34				X			X																		
K0909140-002	5	18:37				X			X																		
K0909140-003	5	18:40				X			X																		
K0909140-004	5	18:43				X			X																		
K0909140-005	5	18:46				X			X																		
K0909140-007	5	18:48				X			X																		
K0909140-008	5	18:51				X			X																		
K0909140-009	5	18:54				X			X																		
K0909140-010	5	18:57				X			X																		
K0909140-011	5	19:00				X			X																		
CCV3	1	19:02				X			X																		
CCB3	1	19:05				X			X																		
K0909140-012	5	19:08				X			X																		
K0909140-013	5	19:11				X			X																		

* - Denotes additional elements (other than the standard CLP elements) are represented on another Form 14

Metals
- 14 -
ANALYSIS RUN LOG

Client: URS Corporation **Service Request:** K0909140

Project No.: NA

Project Name: Boise St. Helens Pulp and Paper

Instrument ID Number: K-ICP-MS-02 **Method:** MS

Start Date: 11/20/2009 **End Date:** 11/20/2009

Sample No.	D/F	Time	% R	Analytes																										
				AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	CN
K0909140-014	5	19:14				X			X																		
K0909140-015	5	19:16				X			X																		
K0909140-016	5	19:19				X			X																		
K0909140-017	5	19:22				X			X																		
K0909140-018	5	19:25				X			X																		
K0909140-019	5	19:28				X			X																		
CCV4	1	19:30				X			X																		
CCB4	1	19:33				X			X																		

* - Denotes additional elements (other than the standard CLP elements) are represented on another Form 14

Metals
- 14 -
ANALYSIS RUN LOG

Client: URS Corporation **Service Request:** K0909140

Project No.: NA

Project Name: Boise St. Helens Pulp and Paper

Instrument ID Number: K-ICP-MS-02 **Method:** MS

Start Date: 11/24/2009 **End Date:** 11/24/2009

Sample No.	D/F	Time	% R	Analytes																										
				AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	CN			
Cal. Blk	1	20:46													X											X				
Cal. Stn	1	20:48													X											X				
ICV1	1	20:51													X											X				
CCV1	1	20:53													X											X				
ICB1	1	20:56													X											X				
CCB1	1	20:58													X											X				
CRA	1	21:01													X											X				
ICS-A1	1	21:04													X											X				
ICS-AB1	1	21:06													X											X				
K0909140-MB	5	21:09													X											X				
LCSS	50	21:11													X											X				
K0909140-006	5	21:14													X											X				
K0909140-006L	25	21:16													X											X				
K0909140-006A	5	21:19													X											X				
K0909140-006S	25	21:24													X											X				
K0909140-006SD	25	21:27													X											X				
CCV2	1	21:29													X											X				
CCB2	1	21:32													X											X				
K0909140-001	5	21:34													X											X				
K0909140-002	5	21:37													X											X				
K0909140-003	5	21:40													X											X				
K0909140-004	5	21:42													X											X				
K0909140-005	5	21:45													X											X				
K0909140-007	5	21:47													X											X				
K0909140-008	5	21:50													X											X				
K0909140-009	5	21:53													X											X				
K0909140-010	5	21:55													X											X				
K0909140-011	5	21:58													X											X				
CCV3	1	22:00													X											X				
CCB3	1	22:03													X											X				
K0909140-012	5	22:05													X											X				
K0909140-013	5	22:08													X											X				

* - Denotes additional elements (other than the standard CLP elements) are represented on another Form 14

Metals
- 14 -
ANALYSIS RUN LOG

Client: URS Corporation **Service Request:** K0909140

Project No.: NA

Project Name: Boise St. Helens Pulp and Paper

Instrument ID Number: K-ICP-MS-02 **Method:** MS

Start Date: 11/24/2009 **End Date:** 11/24/2009

Sample No.	D/F	Time	% R	Analytes																										
				AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	CN
K0909140-014	5	22:11													X											X	
K0909140-015	5	22:13													X											X	
K0909140-016	5	22:16													X											X	
K0909140-017	5	22:18													X											X	
K0909140-018	5	22:21													X											X	
K0909140-019	5	22:24													X											X	
CCV4	1	22:26													X											X	
CCB4	1	22:29													X											X	

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Metals
- 14 -
ANALYSIS RUN LOG

Client: URS Corporation **Service Request:** K0909140

Project No.: NA

Project Name: Boise St. Helens Pulp and Paper

Instrument ID Number: K-ICP-MS-02 **Method:** MS

Start Date: 11/21/2009 **End Date:** 11/21/2009

Sample No.	D/F	Time	% R	Analytes																										
				AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	CN
Cal. Blk	1	11:22			X																									
Cal. Stn	1	11:24			X																									
ICV1	1	11:26			X																									
CCV1	1	11:28			X																									
ICB1	1	11:38			X																									
CCB1	1	11:41			X																									
CRA	1	11:43			X																									
ICS-A1	1	11:46			X																									
ICS-AB1	1	11:49			X																									
ZZZZZZ	1	11:54																												
ZZZZZZ	1	11:59																												
ZZZZZZ	1	12:08																												
ZZZZZZ	1	12:15																												
ZZZZZZ	1	12:22																												
CCV2	1	12:30			X																									
CCB2	1	12:38			X																									
K0909140-MB	5	12:40			X																									
LCSS	50	12:42			X																									
ZZZZZZ	5	12:47																												
ZZZZZZ	5	12:53																												
K0910432-007L	25	12:58			X																									
K0910432-007A	5	13:02			X																									
ZZZZZZ	25	13:07																												
K0909140-001	5	13:13			X																									
K0909140-002	5	13:16			X																									
CCV3	1	13:20			X																									
CCB3	1	13:25			X																									
K0909140-003	5	13:28			X																									
K0909140-004	5	13:30			X																									
K0909140-005	5	13:34			X																									
K0909140-006	5	13:37			X																									
K0909140-006S	25	13:40			X																									

* - Denotes additional elements (other than the standard CLP elements) are represented on another Form 14

Metals
- 14 -
ANALYSIS RUN LOG

Client: URS Corporation **Service Request:** K0909140

Project No.: NA

Project Name: Boise St. Helens Pulp and Paper

Instrument ID Number: K-ICP-MS-02 **Method:** MS

Start Date: 11/21/2009 **End Date:** 11/21/2009

Sample No.	D/F	Time	% R	Analytes																										
				AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	CN
K0909140-006SD	25	13:45			X																									
K0909140-007	5	13:50			X																									
K0909140-008	5	13:52			X																									
K0909140-009	5	13:55			X																									
K0909140-010	5	13:58			X																									
CCV4	1	14:01			X																									
CCB4	1	14:07			X																									
K0909140-011	5	14:11			X																									
K0909140-012	5	14:14			X																									
K0909140-013	5	14:17			X																									
K0909140-014	5	14:20			X																									
K0909140-015	5	14:23			X																									
K0909140-016	5	14:26			X																									
K0909140-017	5	14:29			X																									
K0909140-018	5	14:32			X																									
K0909140-019	5	14:35			X																									
CCV5	1	14:38			X																									
CCB5	1	14:43			X																									

* - Denotes additional elements (other than the standard CLP elements) are represented on another Form 14

Columbia Analytical Services
Metals Digestion Sheet

Service Request Number(s): K0909140, K0910432
Star Lims Run No.: 100183
Method: EPA 3050B
Analysis for: ICP ICP-MS GFAA Flame AA Other

Sample	Initial Weight (g)	Dry	Wet	Initial Volume(ml)	Final Volume (ml)	Matrix
PBS			X		100	10% HNO3, 5% HCl
LCS	1.00					
K0909140-001	1.008					
-002	1.006					
-003	1.002					
-004	1.005					
-005	1.008					
-006	1.001					
-006S	1.008					
-006SD	1.001					
-007	1.005 AB 11/10/09					
-008	~~1.000~~ 1.014					
-009	1.005					
-010	1.014					
-011	1.003					
-012	1.004					
-013	1.002					
-014	1.007					
-015	1.005					
-016	1.011					
-017	1.009					
-018	1.004					
-019	1.015					
-019S						AB 11/10/09
-019SD						
K0910432-007	1.004		X		100	10% HNO3, 5% HCl

Balance I.D.: 21B Date Balance Checked 11/10/09
Lot # Acids Used: HNO3 M120227 HCl 20091001 H_2O_2 49191937 HF
Hot Block Temp: 94°C
LCSS (circle appropriate) ERA CLP Soil Lot # D065-540 Other:

GFAA LCSW = GFLCSW, MET1-75-R, _____ mL
ICP LCSW = QCP-CICV-1, MET1-79-E, _____ mL
QCP CICV-2, MET1-77-M, _____ mL
QCP CICV-3, MET1-77-L, _____ mL
SS6, MET1-79-O, _____ mL

Time Digestion Started: 9:10am
Initial Reflux Time: 15 min.
Secondary Reflux Time: 30 min.
HCL Reflux Time (if needed): 240 min.

SPIKE INFO
SS1-MET1-79-M, _____ mls added
SS4-MET1-71-R 0.50 mls added
SS7-MET1-78-H _____ mls added
SS5-MET1-79-K, _____ mls added
200.8 1000ppb Stock (MS12-90-A) _____ mls added
SS6-MET1-79-O, _____ mls added
Ag 1000ppb Stock (MS13-23-J) _____ mls added
Additional spikes:
Comments: K0909140 Samples air dried and sieved <2mm

Analyst: Angela Black Date 11/10/09
Reviewer: Date 11/12/09
metdig_3050B.xls

Columbia Analytical Services
Metals Digestion Sheet

Service Request Number(s): K0909140, K0910432
Star Lims Run No.:
Method: EPA 3050B
Analysis for: ICP ICP-MS GFAA Flame AA Other

Sample	Initial Weight (g)	Dry	Wet	Initial Volume(ml)	Final Volume (ml)	Matrix
K0910432-007D	1.005		x		100	10% HNO3, 5% HCl
" -007S	1.003		"		"	"

MH 11/10/09

Balance I.D.: 213 Date Balance Checked
Lot # Acids Used: HNO3 H120222 HCl X200917G01 MH 11/10/09 H_2O_2 49191937 HF
Hot Block Temp: 94°C
LCSS (circle appropriate) ERA CLP Soil Lot # D065-540 Other:

GFAA LCSW = GFLCSW, MET1-75-R, _____ mL
ICP LCSW = QCP-CICV-1, MET1-79-E, _____ mL
QCP CICV-2, MET1-77-M, _____ mL
QCP CICV-3, MET1-77-L, _____ mL
SS6, MET1-79-O, _____ mL

Time Digestion Started: 9:10am
Initial Reflux Time: 15 min.
Secondary Reflux Time: 30 min.
HCL Reflux Time (if needed): 240 min.

SPIKE INFO
SS1-MET1-79-M, _____ mls added
SS4-MET1-71-R 0.50 mls added
SS7-MET1-78-H _____ mls added
SS5-MET1-79-K, _____ mls added
200.8 1000ppb Stock (MS12-90-A) _____ mls added
SS6-MET1-79-O, _____ mls added
Ag 1000ppb Stock (MS13-23-J) _____ mls added
Additional spikes:
Comments:

Analyst Angela Black / Matthew Hunt Date 11/10/09
Reviewer [signature] Date 11/12/09

metdig_3050B.xls

METALS SPIKE FORM

Service Request # K0909440, K0910432
Q.C. Sample # 9140-6; 10432-7

Circle type of digest: GFAA ICP (FAA) ICP-MS Other:_____ Initials / Date: MH / 11/10/09
Circle type of sample: (Soil) Water Misc. Sludge Oil Other:_____

Solution Name	Element	mLs of 1000ppm Solution	Final Volume	Solution Conc. mg/L	Enter mls Added	
SS1-MET1-79-M	HNO3	50.0	1000ml	-		Expires:05/01/2010
	Al	100*	1000ml	200		
	Ag	100*	1000ml	5		
	Ba	100*	1000ml	200		
	Be	100*	1000ml	5		
	Cd	100*	1000ml	5		
	Co	100*	1000ml	50		
	Cr	100*	1000ml	20		
	Cu	100*	1000ml	25		
	Fe	100*	1000ml	100		
	Pb	100*	1000ml	50		
	Mn	100*	1000ml	50		
	Ni	100*	1000ml	50		
	Sb	50	1000ml	50		
	V	100*	1000ml	50		
	Zn	100*	1000ml	50		
SS4-MET1-76-B	HNO3	25.0	500ml	-		Expires:4/2010
	As	2.0	500ml	4		
	Cd	2.0	500ml	4		
	Pb	2.0	500ml	4		
	Se	2.0	500ml	4		
	Tl	2.0	500ml	4	0.50	
	Cu	2.0	500ml	4		
SS5-MET1-79-K	HNO3	25.0	500ml	-		Expires:1/1/10
	As	50.0	500ml	100		
	Se	50.0	500ml	100		
	Tl	50.0	500ml	100		
SS6-MET1-79-O	HNO3	25	500ml	-		Expires:7/2010
	B	50	500ml	100		
	Mo	50	500ml	100		
SS7-MET1-78-H	HNO3	10.0	200ml	-		Expires:3/29/10
	K**	20	200ml	1000		
	Na**	20	200ml	1000		
	Mg**	20	200ml	1000		
	Ca**	20	200ml	1000		
GFLCSW (MET1-75-R)	HNO3	10.0	1000ml	-		Expires: 12/01/09
	As, Pb, Se, Tl	5.0	1000ml	2.5		
	Cd	-	-	1.25		
	Cu	2.5	1000ml	2.5		
QCP-CICV-1 (MET1-79-E)	Ca, Mg, Na, K	no dilution	-	2500		Expires:10/01/10
	Al, Ba	no dilution	-	1000		
	Fe	no dilution	-	500		
	Co, Mn, Ni, V, Zn	no dilution	-	250		
	Cu, Ag	no dilution	-	125		
	Cr	no dilution	-	100		
	Be	no dilution	-	25		
QCP-CICV-2 (MET1-77-M)	Sb	no dilution	-	500		Expires: 7/1/10
QCP-CICV-3 (MET1-77-L)	As, Pb, Se, Tl	no dilution	-	500		Expires:1/1/10
	Cd	no dilution	-	250		

* Denotes volume of mixed stock standard.
** Denotes 10,000 ppm individual stock standards.

Standard	mls of standard	ppm	Logbook #	Exp. Date

Columbia Analytical Services
Metals Digestion Sheet

Service Request Number(s): K0909140, K0910432
Star Lims Run No.: 100181
AB 11/10/09 As Cd
Method: EPA 3050B
Analysis for: (ICP) (ICP-MS) GFAA Flame AA Other

Sample	Initial Weight (g)	Dry	Wet	Initial Volume(ml)	Final Volume (ml)	Matrix
PBS			X		100	10% HNO3
LCSS	1.01		"		"	"
K0909140-001	1.001		"		"	"
-002	1.000		"		"	"
-003	1.003		"		"	"
-004	1.005		"		"	"
-005	1.008		"		"	"
-006	1.009		"		"	"
-006S	1.005		"		"	"
-006SD	1.003		"		"	"
-007	1.000		"		"	"
-008	1.000		"		"	"
-009	1.006		"		"	"
-010	1.005		"		"	"
-011	1.003		"		"	"
-012	1.006		"		"	"
-013	1.013		"		"	"
-014	1.002		"		"	"
-015	1.002		"		"	"
-016	1.007		"		"	"
-017	1.005		"		"	"
-018	1.001		"		"	"
-019	1.001		"		"	"
-019S			"		"	"
-019SD			"		"	"
K0910432-007	1.016		"		"	"

AB 11/10/09

Balance I.D.: 21B Date Balance Checked 11/10/09
Lot # Acids Used: HNO3 H120222 HCl _____ H_2O_2 491937 HF _____
Hot Block Temp: 95 C
LCSS (circle appropriate) ERA CLP Soil Lot # D065-540 Other: _____

GFAA LCSW = GFLCSW, MET1-75-R, _____ mL
ICP LCSW = QCP-CICV-1, MET1-79-E, _____ mL
QCP CICV-2, MET1-77-M, _____ mL
QCP CICV-3, MET1-77-L, _____ mL
SS6, MET1-79-O, _____ mL

Time Digestion Started: 2:30pm
Initial Reflux Time: 15 min.
Secondary Reflux Time: 30 min.
HCL Reflux Time (if needed): _____ min.

SPIKE INFO
SS1-MET1-79-M, 1.00 mls added SS4-MET1-71-R _____ mls added SS7-MET1-78-H _____ mls added
SS5-MET1-79-K, 1.00 mls added 200.8 1000ppb Stock (MS12-90-A) _____ mls added
SS6-MET1-79-O, 1.00 mls added Ag 1000ppb Stock (MS13-23-J) _____ mls added
Additional spikes: _____
Comments: K0909140 Samples air dried and sieved <2mm

Analyst Angela Black Date 11/10/09
Reviewer _____ Date _____

metdig_3050B.xls

Columbia Analytical Services

Metals Digestion Sheet

MH 11/10/09

Service Request Number(s): K0909140, K0910432

Star Lims Run No.: 100151

Method: EPA 3050B

Analysis for: ICP (ICP-MS) GFAA Flame AA Other _____

Sample	Initial Weight (g)	Dry	Wet	Initial Volume(ml)	Final Volume (ml)	Matrix
K0910432-007	1.003		X		100	10% HNO3
I-007	1.005		I		I	I
				MH 11/10/09		

Balance I.D.: 21B **Date Balance Checked** 11/10/09

Lot # Acids Used: HNO3 H12022 **HCl** _____ **H_2O_2** 49191937 **HF** _____

Hot Block Temp: 95°C

LCSS (circle appropriate) **ERA CLP Soil Lot # D065-540** **Other:** _____

GFAA LCSW = GFLCSW, MET1-75-R, _____ mL

ICP LCSW = QCP-CICV-1, MET1-79-E, _____ mL

QCP CICV-2, MET1-77-M, _____ mL

QCP CICV-3, MET1-77-L, _____ mL

SS6, MET1-79-O, _____ mL

Time Digestion Started: 2:30 PM

Initial Reflux Time: 15 min.

Secondary Reflux Time: 30 min.

HCL Reflux Time (if needed): _____ min.

SPIKE INFO

SS1-MET1-79-M, 2.00 mls added SS4-MET1-71-R _____ mls added SS7-MET1-78-H _____ mls added

SS5-MET1-79-K, 1.00 mls added 200.8 1000ppb Stock (MS12-90-A) _____ mls added

SS6-MET1-79-O, 1.00 mls added Ag 1000ppb Stock (MS13-23-J) _____ mls added

Additional spikes: _____

Comments: _____

Analyst Angela Black **Date** 11/10/09

Reviewer _____ **Date** 11/12/09

metdig_3050B.xls

Columbia Analytical Services
Metals Digestion Sheet

Service Request Number(s): K0909140
Star Lims Run No.: 100181R
Rediyest Pb, Zn
Method: EPA 3050B
Analysis for: ICP (ICP-MS) GFAA
Flame AA Other _____

Sample	Initial Weight (g)	Dry	Wet	Initial Volume(ml)	Final Volume (ml)	Matrix
K0909140 -Blank			X		100	10% HNO3
-LCSS	1.01					
-1	1.01					
-2	1.01					
-3	1.02					
-4	1.01					
-5	1.01					
-6	1.00					
-6S	1.00					
-6DS	1.01					
-7	1.02					
-8	1.01					
-9	1.01					
-10	1.00					
-11	1.01					
-12	1.02					
-13	1.00					
-14	1.00					
-15	1.02					
-16	1.01					
-17	1.01					
-18	1.02					
-19	1.01					
			MH 11/23/09			

Balance I.D.: #2 Date Balance Checked 11/23/09
Lot # Acids Used: HNO3 H140209 HCl _____ H_2O_2 49171937 HF _____
Hot Block Temp: 95°C
LCSS (circle appropriate) ERA CLP Soil Lot # D065-540 Other: _____

GFAA LCSW = GFLCSW, MET1-75-R, _____ mL
ICP LCSW = QCP-CICV-1, MET1-79-E, _____ mL
QCP CICV-2, MET1-77-M, _____ mL
QCP CICV-3, MET1-77-L, _____ mL
SS6, MET1-79-O, _____ mL

Time Digestion Started: 8:47 am
Initial Reflux Time: _____ min.
Secondary Reflux Time: _____ min.
HCL Reflux Time (if needed): _____ min.

SPIKE INFO
SS1-MET1-79-M, 2.00 mls added SS4-MET1-76-B _____ mls added SS7-MET1-78-H _____ mls added
SS5-MET1-79-Q, 1.00 mls added 200.8 1000ppb Stock (MS12-90-A) _____ mls added
SS6-MET1-79-O, 1.00 mls added Ag 1000ppb Stock (MS13-38-C) _____ mls added
Additional spikes: _____
Comments: _____

Analyst Lacey Nugent Initials Date 11/23/09
Reviewer [signature] Date 11/24/09

metdig_3050B.xls

METALS SPIKE FORM

Service Request # K0909140
Q.C. Sample # 9140-16

Circle type of digest: GFAA ICP FAA (ICP-MS) Other:_____ Initials / Date: MM / 11/23/09
Circle type of sample: (Soil) Water Misc. Sludge Oil Other:_____

Solution Name	Element	mLs of 1000ppm Solution	Final Volume	Solution Conc. mg/L	Enter mls Added	
SS1-MET1-79-M	HNO3	50.0	1000ml	-	2.00	Expires:05/01/2010
	Al	100*	1000ml	200		
	Ag	100*	1000ml	5		
	Ba	100*	1000ml	200		
	Be	100*	1000ml	5		
	Cd	100*	1000ml	5		
	Co	100*	1000ml	50		
	Cr	100*	1000ml	20		
	Cu	100*	1000ml	25		
	Fe	100*	1000ml	100		
	Pb	100*	1000ml	50		
	Mn	100*	1000ml	50		
	Ni	100*	1000ml	50		
	Sb	50	1000ml	50		
	V	100*	1000ml	50		
	Zn	100*	1000ml	50		
SS4-MET1-76-B	HNO3	25.0	500ml	-		Expires:4/2010
	As	2.0	500ml	4		
	Cd	2.0	500ml	4		
	Pb	2.0	500ml	4		
	Se	2.0	500ml	4		
	Tl	2.0	500ml	4		
	Cu	2.0	500ml	4		
SS5-MET1-79-Q	HNO3	25.0	500ml	-	1.00	Expires:05/2010
	As	50.0	500ml	100		
	Se	50.0	500ml	100		
	Tl	50.0	500ml	100		
SS6-MET1-79-O	HNO3	25	500ml	-	1.00	Expires:7/2010
	B	50	500ml	100		
	Mo	50	500ml	100		
SS7-MET1-78-H	HNO3	10.0	200ml	-		Expires:3/29/10
	K**	20	200ml	1000		
	Na**	20	200ml	1000		
	Mg**	20	200ml	1000		
	Ca**	20	200ml	1000		
GFLCSW (MET1-75-R)	HNO3	10.0	1000ml	-		Expires: 12/01/09
	As, Pb, Se, Tl	5.0	1000ml	2.5		
	Cd	-	-	1.25		
	Cu	2.5	1000ml	2.5		
QCP-CICV-1 (MET1-79-E)	Ca, Mg, Na, K	no dilution	-	2500		Expires:10/01/10
	Al, Ba	no dilution	-	1000		
	Fe	no dilution	-	500		
	Co, Mn, Ni, V, Zn	no dilution	-	250		
	Cu, Ag	no dilution	-	125		
	Cr	no dilution	-	100		
	Be	no dilution	-	25		
QCP-CICV-2 (MET1-77-M)	Sb	no dilution	-	500		Expires: 7/1/10
QCP-CICV-3 (MET1-77-L)	As, Pb, Se, Tl	no dilution	-	500		Expires:1/1/10
	Cd	no dilution	-	250		

* Denotes volume of mixed stock standard.
** Denotes 10,000 ppm individual stock standards.

Standard	mls of standard	ppm	Logbook #	Exp. Date

Columbia Analytical Services
Metals Digestion Sheet

Service Request Number(s): K0909140, K0910432
Star Lims Run No.: ID0181H
Method: EPA 3050B
Analysis for: (ICP) (ICP-MS) GFAA Flame AA Other _____

Sample	Initial Weight (g)	Dry	Wet	Initial Volume(ml)	Final Volume (ml)	Matrix
PBS			X		100	10% HNO3 1% HCl
LCSS	1.00		〃		〃	〃
K0909140-001	1.005					
-002	1.001					
-003	1.000					
-004	1.010					
-005	1.007					
-006	1.002					
-006S	1.010					
-006SD	1.006					
-007	1.002					
-008	1.012					
-009	1.008					
-010	1.001					
-011	1.014					
-012	1.009					
-013	1.001					
-014	1.005					
-015	1.012					
-016	1.002					
-017	1.014					
-018	1.007					
-019	1.000					
-019S						AB 11/10/09
-019SD						〃
K0910432-007	1.021					

Balance I.D.: 2/13 Date Balance Checked 11/10/09
Lot # Acids Used: HNO3 H120224 HCl 200917601 H_2O_2 49/9/937 HF _____
Hot Block Temp: 94°C
LCSS (circle appropriate) ERA CLP Soil Lot # D065-540 Other: _____

GFAA LCSW = GFLCSW, MET1-75-R, _____ mL
ICP LCSW = QCP-CICV-1, MET1-79-E, _____ mL
QCP CICV-2, MET1-77-M, _____ mL
QCP CICV-3, MET1-77-L, _____ mL
SS6, MET1-79-O, _____ mL

Time Digestion Started: 2:30pm
Initial Reflux Time: 15 min.
Secondary Reflux Time: 30 min.
HCL Reflux Time (if needed): 20 min.

SPIKE INFO
SS1-MET1-79-M, 2.00 mls added SS4-MET1-71-R _____ mls added SS7-MET1-78-H _____ mls added
SS5-MET1-79-K, 1.00 mls added 200.8 1000ppb Stock (MS12-90-A) _____ mls added
SS6-MET1-79-O, 1.00 mls added Ag 1000ppb Stock (MS13-23-J) _____ mls added
Additional spikes: _____
Comments: K0909140 Samples air dried and sieved <2mm

Analyst Angela Black Date 11/10/09
Reviewer _____ Date 11/12/09

metdig_3050B.xls

Columbia Analytical Services
Metals Digestion Sheet

Service Request Number(s): K0909146, K0910432 SDG

Star Lims Run No.:

Method: EPA 3050B

Analysis for: (ICP) (ICP-MS) GFAA Flame AA Other

Sample	Initial Weight (g)	Dry	Wet	Initial Volume(ml)	Final Volume (ml)	Matrix
K0910432-007D	1.005		X		100	10% HNO3, HCl
I -007S	1.003		I		I	I

AH 11/10/09

Balance I.D.: 21B Date Balance Checked 11/10/09

Lot # Acids Used: HNO3 H120222 HCl 20091760 H_2O_2 49191937 HF

Hot Block Temp: 94°C

LCSS (circle appropriate) ERA CLP Soil Lot # D065-540 Other:

GFAA LCSW = GFLCSW, MET1-75-R, _____ mL

ICP LCSW = QCP-CICV-1, MET1-79-E, _____ mL

QCP CICV-2, MET1-77-M, _____ mL

QCP CICV-3, MET1-77-L, _____ mL

SS6, MET1-79-O, _____ mL

Time Digestion Started: 2:30pm

Initial Reflux Time: 15 min.

Secondary Reflux Time: 30 min.

HCL Reflux Time (if needed): 20 min.

SPIKE INFO

SS1-MET1-79-M, 2.00 mls added SS4-MET1-71-R _____ mls added SS7-MET1-78-H _____ mls added

SS5-MET1-79-K, 1.00 mls added 200.8 1000ppb Stock (MS12-90-A) _____ mls added

SS6-MET1-79-O, 1.00 mls added Ag 1000ppb Stock (MS13-23-J) _____ mls added

Additional spikes:

Comments:

Analyst Angela Black Date 11/10/09

Reviewer _____ Date 11/12/09

metdig_3050B.xls

METALS SPIKE FORM

Service Request # K0909140, K0910432
Q.C. Sample # 9140-C, 10432-7

Circle type of digest: GFAA ICP FAA ICP-MS Other:_____ Initials / Date: MH, 11/10/09
Circle type of sample: Soil Water Misc. Sludge Oil Other:_____

Solution Name	Element	mLs of 1000ppm Solution	Final Volume	Solution Conc. mg/L	Enter mls Added	
SS1-MET1-79-M	HNO3	50.0	1000ml	-	2.00	Expires:05/01/2010
	Al	100*	1000ml	200		
	Ag	100*	1000ml	5		
	Ba	100*	1000ml	200		
	Be	100*	1000ml	5		
	Cd	100*	1000ml	5		
	Co	100*	1000ml	50		
	Cr	100*	1000ml	20		
	Cu	100*	1000ml	25		
	Fe	100*	1000ml	100		
	Pb	100*	1000ml	50		
	Mn	100*	1000ml	50		
	Ni	100*	1000ml	50		
	Sb	50	1000ml	50		
	V	100*	1000ml	50		
	Zn	100*	1000ml	50		
SS4-MET1-76-B	HNO3	25.0	500ml	-		Expires:4/2010
	As	2.0	500ml	4		
	Cd	2.0	500ml	4		
	Pb	2.0	500ml	4		
	Se	2.0	500ml	4		
	Tl	2.0	500ml	4		
	Cu	2.0	500ml	4		
SS5-MET1-79-K	HNO3	25.0	500ml	-	1.00	Expires:1/1/10
	As	50.0	500ml	100		
	Se	50.0	500ml	100		
	Tl	50.0	500ml	100		
SS6-MET1-79-O	HNO3	25	500ml	-	1.00	Expires:7/2010
	B	50	500ml	100		
	Mo	50	500ml	100		
SS7-MET1-78-H	HNO3	10.0	200ml	-		Expires:3/29/10
	K**	20	200ml	1000		
	Na**	20	200ml	1000		
	Mg**	20	200ml	1000		
	Ca**	20	200ml	1000		
GFLCSW (MET1-75-R)	HNO3	10.0	1000ml	-		Expires: 12/01/09
	As, Pb, Se, Tl	5.0	1000ml	2.5		
	Cd	-	-	1.25		
	Cu	2.5	1000ml	2.5		
QCP-CICV-1 (MET1-79-E)	Ca, Mg, Na, K	no dilution	-	2500		Expires:10/01/10
	Al, Ba	no dilution	-	1000		
	Fe	no dilution	-	500		
	Co, Mn, Ni, V, Zn	no dilution	-	250		
	Cu, Ag	no dilution	-	125		
	Cr	no dilution	-	100		
	Be	no dilution	-	25		
QCP-CICV-2 (MET1-77-M)	Sb	no dilution	-	500		Expires: 7/1/10
QCP-CICV-3 (MET1-77-L)	As, Pb, Se, Tl	no dilution	-	500		Expires:1/1/10
	Cd	no dilution	-	250		

* Denotes volume of mixed stock standard.
** Denotes 10,000 ppm individual stock standards.

Standard	mls of standard	ppm	Logbook #	Exp. Date

CVAA Mercury Data Review Form

Element: Hg

Analysis Lot #: 176432

Cal. STD/CCV Source: HG1-86-U

Service Request Numbers:

K0909140, K0910084, K0910283

	Yes	No	NA
1) Appropriate standardization completed	X		
2) ICV within 10% of true value	X		
3) CCVs in control	X		
4) CCBs and or ICBs below MRL	X		
5) All reported samples within calibration range	X		
6) Calculations correct	X		

Comments:

Data reviewed against service request(s) to ensure no samples were omitted: MS (initials)

Primary Reviewed By: MAS Date: 10/26/09

Secondary Reviewed By: JDS Date: 10/26/09

COLUMBIA ANALYTICAL SERVICES, INC.
ANALYTICAL WORKSHEET

PRINTOUT WITH:_____

Method: (Circle One) 7470A 7471A 245.1	**Service Request # :** K0909140, K0910084, K0910283
Analysis For: Hg	

DATA

Pos.	SAMPLE NUMBER	Initial Sample (g) or (mL)	Initial Dilution (mL)	Dilution Factor	Measured (µg/L)	MSA Calculated (µg/L)	Sample Actual (mg/kg)	Sample Actual (µg/L)
1	ICV1	~	~	~	5.03			101%
2	ICB1	~	~	~	-0.03			< 0.2
3	CCV1	~	~	~	4.99			100%
4	CCB1	~	~	~	-0.03			< 0.2
5	CRA1	~	~	~	0.19			95%
6	K0909140-MB	0.790	50	~	-0.02		-0.001	
7	LCSS K0909140 1/2	0.275	50	2	4.38		1.593	90%
8	K0909140-001	0.554	50	~	0.70		0.063	
9	K0909140-001A		50	~	5.29			92%
10	K0909140-001D	0.566	50	~	0.77		0.068	
11	K0909140-001S	0.559	50	~	5.66		0.506	99%
12	K0909140-002	0.574	50	~	0.75		0.065	
13	K0909140-003	0.569	50	~	0.76		0.067	
14	K0909140-004	0.567	50	~	0.77		0.068	
15	CCV2	~	~	~	4.99			100%
16	CCB2	~	~	~	-0.03			< 0.2
17	K0909140-005	0.555	50	~	0.80		0.072	
18	K0910084-MB	0.695	50	~	-0.01		-0.001	
19	LCSW K0910084		50	~	5.02			100%
20	K0910084-001	0.520	50	~	0.38	0.53	0.051	
21	K0910084-001A		50	~	3.98	72%		
22	K0910084-001D	0.516	50	~	0.31	0.41	0.039	
23	K0910084-001DA		50	~	4.13	76%		
24	K0910084-001S	0.508	50	~	4.16	5.64	0.555	102%
25	K0910084-001SA		50	~	7.85	74%		

Comments: Reporting Levels:

Soil/Tissue Spike Level:	**K0909140-001S=0.447mg/kg, K0910084-001S=0.492mg/kg**				
Post Spike Level:	**x @ 1 µg/L**				
Method	**Spike Level**	**MRL**	**LCS Limit**	**MS Limit**	**RPD**
7470A Water	**1.0 µg/L**	**0.2 µg/L**	**83-117%**	**76-126%**	**20%**
245.1 Water	**1.0 µg/L**	**0.2 µg/L**	**85-115%**	**70-131%**	**20%**
7470A TCLP	**5.0 µg/L**	**1.0 µg/L**	**85-115%**	**75-125%**	**20%**
7471A Soil LCSS	**1.77 mg/kg**	**0.02 mg/kg**	**72-122%**	**60-135%**	**30%**
7471A Tissue Tort	**0.27 mg/kg**	**0.02 mg/kg**	**63-130%**	**60-130%**	**30%**

Analyst:	**Date:**	**Page Number:**
Melissa A Goth	10/26/09	1

[Controlled - HgMSASoilRunForm 7-24-09] HG1.XLS

COLUMBIA ANALYTICAL SERVICES, INC. PRINTOUT WITH:_____
ANALYTICAL WORKSHEET

Method: (Circle One) 7470A 7471A 245.1	Service Request # :
Analysis For: Hg	

DATA

Pos.	SAMPLE NUMBER	Initial Sample (g) or (mL)	Initial Dilution (mL)	Dilution Factor	Measured (µg/L)	MSA Calculated (µg/L)	Sample Actual (mg/kg)	Sample Actual (µg/L)
26	K0910283-001	0.510	50	~	-0.02	-0.03	-0.003	
27	CCV3	~	~	~	4.97			99%
28	CCB3	~	~	~	-0.03			< 0.2
29	K0910283-001A		50	~	2.90	58%		
30	CCV3	~	~	~	4.98			100%
31	CCB3	~	~	~	-0.03			< 0.2
32								
33								
34								
35								
36								
37								
38								
39								
40								
41					MS 10/26/09			
42								
43								
44								
45								
46								
47								
48								
49								
50								

Comments: Reporting Levels:

Soil/Tissue Spike Level:

Post Spike Level:

Method	Spike Level	MRL	LCS Limit	MS Limit	RPD
7470A Water	1.0 µg/L	0.2 µg/L	83-117%	76-126%	20%
245.1 Water	1.0 µg/L	0.2 µg/L	85-115%	70-131%	20%
7470A TCLP	5.0 µg/L	1.0 µg/L	85-115%	75-125%	20%
7471A Soil LCSS	1.77 mg/kg	0.02 mg/kg	72-122%	60-135%	30%
7471A Tissue Tort	0.27 mg/kg	0.02 mg/kg	63-130%	60-130%	30%

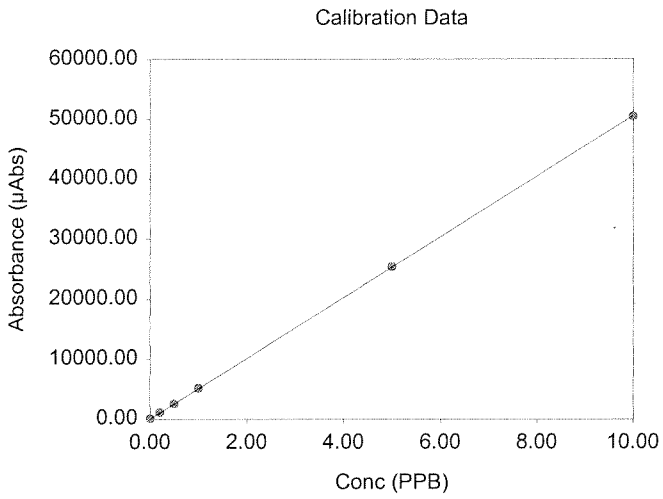
Analyst:	Date:	Page Number:
Melissa Smith	10/26/09	2

[Controlled - HgMSASoilRunForm 7-24-09] HG2.XLS

CETAC Hg Analysis Report - 09102601.DB - Monday, October 26, 2009, 2:30:27 PM

Analyst M SMITH
Date Started Monday, October 26, 2009, 12:41:24
Worksheet Hg 102609B
Comment K-CVAA-01

Sample ID	Analysis Time	Conc (PPB)	%RSD	Avg. µAbs	Readings				Flags
Calibration Zero	26-Oct-2009, 12:41	0.00	4.08	146.00	144	140	147	154	
Standard #1	26-Oct-2009, 12:43	0.20	0.84	1120.00	1109	1127	1124	1130	
Standard #2	26-Oct-2009, 12:44	0.50	0.54	2610.00	2587	2607	2614	2620	
Standard #3	26-Oct-2009, 12:46	1.00	0.54	5200.00	5167	5199	5214	5234	
Standard #4	26-Oct-2009, 12:48	5.00	0.53	25400.00	25192	25320	25466	25476	
Standard #5	26-Oct-2009, 12:50	10.00	0.70	50500.00	50047	50304	50606	50854	



Int.	0.000
Slope	5052.489
Correlation	0.99998

Sample ID	Analysis Time	Conc (PPB)	%RSD	Avg. µAbs	Readings				Flags
ICV1	26-Oct-2009, 12:52	5.03	0.63	25400.00	25232	25383	25569	25559	

Sample ID	Analysis Time	Conc (PPB)	%RSD	Avg. µAbs	Readings				Flags
ICB1	26-Oct-2009, 12:53	-0.03	2.64	-163.00	-163	-161	-160	-169	

Sample ID	Analysis Time	Conc (PPB)	%RSD	Avg. µAbs	Readings				Flags
CCV1	26-Oct-2009, 12:55	4.99	0.39	25200.00	25105	25145	25240	25323	

Sample ID	Analysis Time	Conc (PPB)	%RSD	Avg. µAbs	Readings				Flags
CCB1	26-Oct-2009, 12:57	-0.03	1.95	-133.00	-130	-134	-134	-135	

Sample ID	Analysis Time	Conc (PPB)	%RSD	Avg. µAbs	Readings				Flags
CRA1	26-Oct-2009, 12:59	0.19	0.58	946.00	951	944	949	939	

Sample ID	Analysis Time	Conc (PPB)	%RSD	Avg. µAbs	Readings				Flags
K0909140-MB	26-Oct-2009, 13:00	-0.02	5.25	-81.80	-77	-82	-81	-87	
LCSS K0909140 1/2	26-Oct-2009, 13:02	4.38	0.48	22100.00	22030	22058	22169	22260	
K0909140-001	26-Oct-2009, 13:04	0.70	0.37	3560.00	3544	3553	3569	3572	
K0909140-001A	26-Oct-2009, 13:06	5.29	0.51	26700.00	26589	26653	26773	26901	
K0909140-001D	26-Oct-2009, 13:07	0.77	0.09	3910.00	3903	3904	3908	3911	
K0909140-001S	26-Oct-2009, 13:09	5.66	0.51	28600.00	28447	28509	28655	28770	
K0909140-002	26-Oct-2009, 13:11	0.75	0.40	3790.00	3768	3779	3795	3801	
K0909140-003	26-Oct-2009, 13:13	0.76	0.47	3860.00	3840	3856	3867	3883	
K0909140-004	26-Oct-2009, 13:15	0.77	0.47	3890.00	3864	3893	3906	3899	

Sample ID	Analysis Time	Conc (PPB)	%RSD	Avg. µAbs	Readings				Flags
CCV2	26-Oct-2009, 13:16	4.99	0.61	25200.00	25044	25176	25335	25382	

Sample ID	Analysis Time	Conc (PPB)	%RSD	Avg. µAbs	Readings				Flags
CCB2	26-Oct-2009, 13:18	-0.03	1.10	-135.00	-134	-134	-137	-135	

Sample ID	Analysis Time	Conc (PPB)	%RSD	Avg. µAbs	Readings				Flags
K0909140-005	26-Oct-2009, 13:20	0.80	0.39	4020.00	4005	4021	4030	4043	
K0910084-MB	26-Oct-2009, 13:22	-0.01	7.88	-73.50	-78	-65	-75	-76	
LCSW K0910084	26-Oct-2009, 13:24	5.02	0.69	25400.00	25174	25281	25443	25568	
K0910084-001	26-Oct-2009, 13:26	0.38	7.57	1930.00	1761	1864	2003	2090	
K0910084-001A	26-Oct-2009, 13:27	3.98	3.49	20100.00	19985	20205	20123	20181	

Analyst M SMITH
Date Started Monday, October 26, 2009, 13:29:45
Worksheet Hg 102609B
Comment K-CVAA-01

Sample ID	Analysis Time	Conc (PPB)	%RSD	Avg. µAbs	Readings				Flags
K0910084-001D	26-Oct-2009, 13:29	0.31	8.04	1560.00	1406	1531	1615	1700	
K0910084-001DA	26-Oct-2009, 13:32	4.13	1.68	20900.00	20435	20744	21026	21245	
K0910084-001S	26-Oct-2009, 13:34	4.16	1.68	21000.00	20635	20912	21163	21462	
K0910084-001SA	26-Oct-2009, 13:36	7.85	0.84	39700.00	39267	39543	39925	39970	
K0910283-001	26-Oct-2009, 13:40	-0.02	16.80	-77.10	-96	-74	-68	-70	

Sample ID	Analysis Time	Conc (PPB)	%RSD	Avg. µAbs	Readings				Flags
CCV3	26-Oct-2009, 13:42	4.97	0.67	25100.00	24933	25022	25196	25307	

Sample ID	Analysis Time	Conc (PPB)	%RSD	Avg. µAbs	Readings				Flags
CCB3	26-Oct-2009, 13:44	-0.03	3.02	-136.00	-132	-133	-137	-141	

Sample ID	Analysis Time	Conc (PPB)	%RSD	Avg. µAbs	Readings				Flags
K0910283-001A	26-Oct-2009, 13:46	2.90	0.62	14600.00	14527	14621	14692	14734	

Sample ID	Analysis Time	Conc (PPB)	%RSD	Avg. µAbs	Readings				Flags
CCV3	26-Oct-2009, 13:47	4.98	0.66	25200.00	24963	25099	25205	25357	

Sample ID	Analysis Time	Conc (PPB)	%RSD	Avg. µAbs	Readings				Flags
CCB3	26-Oct-2009, 13:49	-0.03	1.41	-137.00	-137	-139	-135	-138	

Columbia Analytical Services

EPA METHOD 7471A

Service Request Number(s) :	K0909140
PREP RUN: 091126	

Sample	Wet Weight (g)	% Solids	Dry Weight (g)	Final Volume (mL)
MB	0.790	~	0.790	50
LCSS	0.275	~	0.275	
K0909140-001	0.554			
K0909140-001D	0.566			
K0909140-001S	0.559	Not Available MS		
K0909140-002	0.574			
K0909140-003	0.569			
K0909140-004	0.567			
K0909140-005	0.555			
Std. 0.2	0.1 * mL			50
Std. 0.5	0.25 * mL			50
Std. 1.0	0.5 * mL			50
Std. 5.0	2.5 * mL			50
Std. 10.0	5.0 * mL			50
ICV	0.25 ** mL			50

Start Time: 10:50 **Finish Time:** 11:20 **Hot block Temp.:** 95° C **Balance#:** 1

Lot # of Reagents Used:

HNO_3: H12022	**$K_2S_2O_8$: G19476**	**NaCl : G28620**
H_2SO_4: 47213	**$KMnO_4$: G25592**	**NH_2OH-HCL: H26621**
HCL: 200917601	**$SnCl_2$: H13584**	**ERA CLP Soil: D045540**

*** Source Standard:** Hg1-816-W **100 ppb** **Spike =** 0.25 **ml** Hg1-816-E **1000 ppb**

****Source Standard: ICV** Hg1-816-D **1000 ppb** **LCSW=** **ml ICV **Source Standard**

Comments:

Analyst: Melissa Smith **Date:** 10/26/09

Columbia Analytical Services

EPA METHOD 7471A

Service Request Number(s) :	K0910084, K0901283
PREP RUN: 99127	

Sample	Wet Weight (g)	% Solids	Dry Weight (g)	Final Volume (mL)
MB	0.695	~	0.695	50
LCSW	~	~	~	
K0910084-001	0.520	~	0.520	
K0910084-001D	0.516	~	0.516	
K0910084-001S	0.508	~	0.508	
K0910283-001	0.510	~	0.510	
Std. 0.2	0.1 * mL			50
Std. 0.5	0.25 * mL			50
Std. 1.0	0.5 * mL			50
Std. 5.0	2.5 * mL			50
Std. 10.0	5.0 * mL			50
ICV	0.25 ** mL			50

MS 12/16/09

Start Time: 10:50 **Finish Time:** 11:20 **Hot block Temp.:** 95° C **Balance#:** 1

Lot # of Reagents Used:

HNO_3: H12022	**$K_2S_2O_8$: G19476**	**NaCl : G28620**
H_2SO_4: 47213	**$KMnO_4$: G25592**	**NH_2OH-HCL: H26621**
HCL: 200917601	**$SnCl_2$: H13584**	**ERA CLP Soil: D045540**

*** Source Standard:** Hg1-86-W **100 ppb** **Spike =** 0.25 **ml** Hg1-86-E **1000 ppb**

****Source Standard: ICV** Hg1-86-D **1000 ppb** **LCSW=** 0.25 **ml ICV **Source Standard**

Comments:

Analyst: Melinda Smith **Date:** 12/16/09

[HGFORMnew.XLW] 7471 MISC

CVAA Mercury Data Review Form

Element: Hg

Analysis Lot #: 177213

Cal. STD/CCV Source: HG1-86-X

Service Request Numbers:

K0909140 #6-12, R0905882, R0905963

	Yes	No	NA
1) Appropriate standardization completed	X		
2) ICV within 10% of true value	X		
3) CCVs in control	X		
4) CCBs and or ICBs below MRL	X		
5) All reported samples within calibration range	X		
6) Calculations correct	X		

Comments: K0909140 #6,7 Dry weights used
K0909140 #8-12, R0905882, R0905963
~~As Recieved~~ Air dried basis.
11/30/09

Data reviewed against service request(s) to ensure no samples were omitted: MS (initials)

Primary Reviewed By: MAS Date: 10/30/09

Secondary Reviewed By: [signature] Date: 11/4/09

COLUMBIA ANALYTICAL SERVICES, INC. **PRINTOUT WITH:**_____
ANALYTICAL WORKSHEET

Method: (Circle One) 7470A 7471A 245.1	**Service Request # :**
Analysis For: Hg	

DATA

Pos.	SAMPLE NUMBER	Initial Sample (g) or (mL)	Initial Dilution (mL)	Dilution Factor	(µg/L) Measured	Sample Actual (mg/kg)	Sample Actual (µg/L)
1	ICV1	~	~	~	5.12		102%
2	ICB1	~	~	~	-0.02		< 0.2
3	CCV1	~	~	~	5.29		106%
4	CCB1	~	~	~	-0.01		< 0.2
5	CRA1	~	~	~	0.20		100%
6	K0909140-MB	0.548	50	~	0.01	0.001	
7	LCSS K099140 1/2	0.256	50	2	4.36	1.703	96%
8	K0909140-006	0.515	50	~	1.02	0.099	
9	K0909140-006A		50	~	1.07		
10	K0909140-006D	0.526	50	~	0.98	0.093	
11	K0909140-006S	0.520	50	~	6.30	0.606	105%
12	K0909140-007	0.524	50	~	0.78	0.074	
13	K0909140-008	0.555	50	~	1.03	0.093	
14	K0909140-009	0.568	50	~	0.90	0.079	
15	CCV2	~	~	~	5.10		102%
16	CCB2	~	~	~	-0.01		< 0.2
17	K0909140-010	0.563	50	~	0.84	0.075	
18	K0909140-011	0.547	50	~	0.37	0.034	
19	K0909140-012	0.551	50	~	0.41	0.037	
20	K0909140-006A		50	~	6.13		102%
21	R0905882-MB	0.564	50	~	0.00	0.000	
22	LCSS R0905882 1/2	0.253	50	2	4.32	1.708	96%
23	R0905882-001	0.586	50	~	0.45	0.038	
24	R0905882-001A		50	~	5.97		110%
25	R0905882-002	0.553	50	~	0.09	0.008	

Comments: Reporting Levels:

Soil/Tissue Spike Level:		**K0909140-006S=0.481mg/kg**			
Post Spike Level:		**x @ 5 µg/L**			
Method	**Spike Level**	**MRL**	**LCS Limit**	**MS Limit**	**RPD**
7470A Water	**1.0 µg/L**	**0.2 µg/L**	**83-117%**	**76-126%**	**20%**
245.1 Water	**1.0 µg/L**	**0.2 µg/L**	**85-115%**	**70-131%**	**20%**
7470A TCLP	**5.0 µg/L**	**1.0 µg/L**	**85-115%**	**75-125%**	**20%**
7471A Soil LCSS	**1.77 mg/kg**	**0.02 mg/kg**	**72-122%**	**60-135%**	**30%**
7471A Tissue Tort	**0.27 mg/kg**	**0.02 mg/kg**	**63-130%**	**60-130%**	**30%**

Analyst:	**Date:**	**Page Number:**
Michael Cath	10/30/09	1

[Controlled - HgSoilRunForm 7-24-09] HG1.XLS

COLUMBIA ANALYTICAL SERVICES, INC. **PRINTOUT WITH:**_____
ANALYTICAL WORKSHEET

Method: (Circle One) 7470A (7471A) 245.1	**Service Request # :**
Analysis For: Hg	

DATA

Pos.	SAMPLE NUMBER	Initial Sample (g) or (mL)	Initial Dilution (mL)	Dilution Factor	(µg/L) Measured	Sample Actual (mg/kg)	Sample Actual (µg/L)
26	R0905882-003	0.544	50	~	0.09	0.008	
27	CCV3	~	~	~	5.03		101%
28	CCB3	~	~	~	-0.01		< 0.2
29	R0905882-004	0.846	50	~	0.06	0.004	
30	R0905882-007	0.590	50	~	0.95	0.081	
31	R0905882-008	0.596	50	~	0.17	0.014	
32	R0905882-008D	0.602	50	~	0.17	0.014	
33	R0905882-008S	0.591	50	~	4.91	0.415	95%
34	R0905882-009	0.584	50	~	0.07	0.006	
35	R0905882-010	0.908	50	~	0.11	0.006	
36	R0905882-011	0.619	50	~	0.14	0.011	
37	R0905882-012	0.606	50	~	0.25	0.021	
38	R0905882-013	0.618	50	~	0.12	0.010	
39	CCV4	~	~	~	5.31		106%
40	CCB4	~	~	~	-0.01		< 0.2
41	R0905882-014	0.589	50	~	0.08	0.007	
42	R0905882-015	0.659	50	~	0.05	0.004	
43	R0905882-018	0.592	50	~	0.27	0.023	
44	R0905882-019	0.593	50	~	0.35	0.030	
45	R0905882-020	0.602	50	~	0.13	0.011	
46	R0905882-021	0.595	50	~	0.10	0.008	
47	R0905882-022	0.609	50	~	0.09	0.007	
48	R0905882-023	0.625	50	~	0.14	0.011	
49	R0905882-024	0.613	50	~	0.09	0.007	
50	CCV5	~	~	~	4.51		90%

Comments: Reporting Levels:

Soil/Tissue Spike Level: **R0905882-008S=0.423mg/kg**

Post Spike Level:

Method	Spike Level	MRL	LCS Limit	MS Limit	RPD
7470A Water	**1.0 µg/L**	**0.2 µg/L**	**83-117%**	**76-126%**	**20%**
245.1 Water	**1.0 µg/L**	**0.2 µg/L**	**85-115%**	**70-131%**	**20%**
7470A TCLP	**5.0 µg/L**	**1.0 µg/L**	**85-115%**	**75-125%**	**20%**
7471A Soil LCSS	**1.77 mg/kg**	**0.02 mg/kg**	**72-122%**	**60-135%**	**30%**
7471A Tissue Tort	**0.27 mg/kg**	**0.02 mg/kg**	**63-130%**	**60-130%**	**30%**

Analyst:	**Date:**	**Page Number:**
Melissa Smith	10/30/09	2

[Controlled - HgSoilRunForm 7-24-09] HG2.XLS

COLUMBIA ANALYTICAL SERVICES, INC. **PRINTOUT WITH:**_____
ANALYTICAL WORKSHEET

Method: (Circle One) 7470A 7471A 245.1	**Service Request # :**
Analysis For: Hg	

DATA

Pos.	SAMPLE NUMBER	Initial Sample (g) or (mL)	Initial Dilution (mL)	Dilution Factor	(µg/L) Measured	Sample Actual (mg/kg)	Sample Actual (µg/L)
51	CCB5	~	~	~	-0.01		< 0.2
52	~~CCV6~~	~	~	~	5.58		112%
53	CCV6	~	~	~	5.43		109%
54	CCB6	~	~	~	-0.01		< 0.2
55	Calibration Zero	~	~	~	0.00		
56	Standard #1	~	~	~	0.20		
57	Standard #2	~	~	~	0.50		
58	Standard #3	~	~	~	1.00		
59	Standard #4	~	~	~	5.00		
60	Standard #5	~	~	~	10.00		
61	~~ICV2~~	~	~	~	4.39		~~88%~~
62	ICV2	~	~	~	4.92		98%
63	ICB2	~	~	~	-0.02		< 0.2
64	CCV1	~	~	~	4.89		98%
65	CCB1	~	~	~	-0.02		< 0.2
66	CRA2	~	~	~	0.19		95%
67	R0905882-MB(2)	0.573	50	~	-0.01	-0.001	
68	LCSS R0905882(2) 1/2	0.296	50	2	4.16	1.405	79%
69	R0905882-025	0.796	50	~	0.70	0.044	
70	R0905963-001	0.613	50	~	0.20	0.016	
71	R0905963-001A		50	~	5.13		99%
72	R0905963-001D	0.615	50	~	0.17	0.014	
73	R0905963-001S	0.616	50	~	4.97	0.403	95%
74	R0905963-002	0.623	50	~	0.06	0.005	
75	R0905963-003	0.739	50	~	0.08	0.005	

MS10130109

MS10130109

Comments: Reporting Levels:

Soil/Tissue Spike Level: **R0905963-001S=0.406mg/kg**

Post Spike Level:

Method	Spike Level	MRL	LCS Limit	MS Limit	RPD
7470A Water	1.0 µg/L	0.2 µg/L	83-117%	76-126%	20%
245.1 Water	1.0 µg/L	0.2 µg/L	85-115%	70-131%	20%
7470A TCLP	5.0 µg/L	1.0 µg/L	85-115%	75-125%	20%
7471A Soil LCSS	1.77 mg/kg	0.02 mg/kg	72-122%	60-135%	30%
7471A Tissue Tort	0.27 mg/kg	0.02 mg/kg	63-130%	60-130%	30%

Analyst:	Date:	Page Number:
Melissa Gth	10/30/09	3

[Controlled - HgSoilRunForm 7-24-09] HG3.XLS

COLUMBIA ANALYTICAL SERVICES, INC. PRINTOUT WITH:_____
ANALYTICAL WORKSHEET

Method: (Circle One) 7470A 7471A 245.1	Service Request # :
Analysis For: ~~Hg~~	

DATA

Pos.	SAMPLE NUMBER	Initial Sample (g) or (mL)	Initial Dilution (mL)	Dilution Factor	(µg/L) Measured	Sample Actual (mg/kg)	Sample Actual (µg/L)
76	CCV2	~	~	~	4.96		99%
77	CCB2	~	~	~	-0.01		< 0.2
78	R0905963-004	0.684	50	~	0.27	0.020	
79	R0905963-005	0.638	50	~	0.31	0.024	
80	R0905963-006	0.596	50	~	0.21	0.018	
81	R0905963-007	0.608	50	~	0.13	0.011	
82	R0905963-010	0.606	50	~	0.19	0.016	
83	R0905963-011	0.655	50	~	0.05	0.004	
84	R0905963-012	0.750	50	~	0.04	0.003	
85	R0905963-013	0.633	50	~	0.14	0.011	
86	R0905963-014	0.626	50	~	0.15	0.012	
87	R0905963-015	0.651	50	~	0.19	0.015	
88	CCV3	~	~	~	4.93		99%
89	CCB3	~	~	~	-0.01		< 0.2
90	R0905963-016	0.845	50	~	0.11	0.007	
91	CCV4	~	~	~	4.90		98%
92	CCB4	~	~	~	-0.01		< 0.2
93							
94							
95							
96				MS 11/30/09			
97							
98							
99							
100							

Comments: Reporting Levels:

Soil/Tissue Spike Level:

Post Spike Level:

Method	Spike Level	MRL	LCS Limit	MS Limit	RPD
7470A Water	1.0 µg/L	0.2 µg/L	83-117%	76-126%	20%
245.1 Water	1.0 µg/L	0.2 µg/L	85-115%	70-131%	20%
7470A TCLP	5.0 µg/L	1.0 µg/L	85-115%	75-125%	20%
7471A Soil LCSS	1.77 mg/kg	0.02 mg/kg	72-122%	60-135%	30%
7471A Tissue Tort	0.27 mg/kg	0.02 mg/kg	63-130%	60-130%	30%

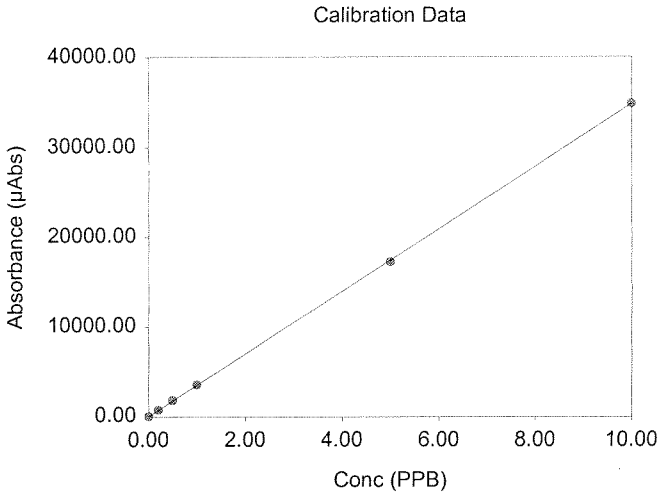
Analyst:	Date:	Page Number:
Melissa A Cisk	11/30/09	4

[Controlled - HgSoilRunForm 7-24-09] HG4.XLS

CETAC Hg Analysis Report - 09103001.DB - Friday, October 30, 2009, 2:33:16 PM

Analyst M SMITH
Date Started Friday, October 30, 2009, 10:40:05
Worksheet Hg 103009B
Comment K-CVAA-01

Sample ID	Analysis Time	Conc (PPB)	%RSD	Avg. µAbs	Readings				Flags
Calibration Zero	30-Oct-2009, 10:40	0.00	51.10	39.80	44	66	20	28	
Standard #1	30-Oct-2009, 10:41	0.20	4.81	755.00	708	776	790	747	
Standard #2	30-Oct-2009, 10:43	0.50	3.38	1830.00	1788	1793	1822	1921	
Standard #3	30-Oct-2009, 10:45	1.00	4.78	3570.00	3581	3413	3486	3806	
Standard #4	30-Oct-2009, 10:47	5.00	3.70	17200.00	16302	17524	17729	17371	
Standard #5	30-Oct-2009, 10:48	10.00	2.69	34900.00	35200	35698	35117	33532	



Int.	0.000
Slope	3481.367
Correlation	0.99997

Sample ID	Analysis Time	Conc (PPB)	%RSD	Avg. µAbs	Readings				Flags
ICV1	30-Oct-2009, 10:50	5.12	6.36	17800.00	17556	16455	18130	19173	

Sample ID	Analysis Time	Conc (PPB)	%RSD	Avg. µAbs	Readings				Flags
ICB1	30-Oct-2009, 10:52	-0.02	7.38	-58.50	-54	-57	-61	-63	

Sample ID	Analysis Time	Conc (PPB)	%RSD	Avg. µAbs	Readings				Flags
CCV1	30-Oct-2009, 10:54	5.29	2.17	18400.00	17866	18356	18637	18769	

Sample ID	Analysis Time	Conc (PPB)	%RSD	Avg. µAbs	Readings				Flags
CCB1	30-Oct-2009, 10:56	-0.01	13.70	-44.80	-46	-36	-46	-51	

Sample ID	Analysis Time	Conc (PPB)	%RSD	Avg. µAbs	Readings				Flags
CRA1	30-Oct-2009, 10:57	0.20	4.19	696.00	683	740	684	678	

Sample ID	Analysis Time	Conc (PPB)	%RSD	Avg. µAbs	Readings				Flags
K0909140-MB	30-Oct-2009, 10:59	0.01	32.70	31.00	43	35	23	23	
LCSS K099140 1/2	30-Oct-2009, 11:01	4.36	1.20	15200.00	15195	15079	15002	15420	
K0909140-006	30-Oct-2009, 11:03	1.02	1.55	3550.00	3608	3538	3484	3588	
K0909140-006A	30-Oct-2009, 11:04	1.07	2.39	3720.00	3596	3705	3768	3796	
K0909140-006D	30-Oct-2009, 11:06	0.98	0.50	3420.00	3431	3431	3414	3395	
K0909140-006S	30-Oct-2009, 11:08	6.30	1.69	21900.00	22368	22134	21687	21580	
K0909140-007	30-Oct-2009, 11:10	0.78	0.97	2710.00	2683	2735	2738	2702	
K0909140-008	30-Oct-2009, 11:11	1.03	1.91	3600.00	3549	3543	3628	3687	
K0909140-009	30-Oct-2009, 11:13	0.90	2.73	3140.00	3052	3084	3218	3211	

Sample ID	Analysis Time	Conc (PPB)	%RSD	Avg. µAbs	Readings				Flags
CCV2	30-Oct-2009, 11:15	5.10	1.60	17800.00	17437	17676	17806	18118	

Sample ID	Analysis Time	Conc (PPB)	%RSD	Avg. µAbs	Readings				Flags
CCB2	30-Oct-2009, 11:17	-0.01	17.10	-47.00	-51	-48	-54	-36	

Sample ID	Analysis Time	Conc (PPB)	%RSD	Avg. µAbs	Readings				Flags
K0909140-010	30-Oct-2009, 11:19	0.84	1.35	2910.00	2863	2903	2933	2953	
K0909140-011	30-Oct-2009, 11:20	0.37	8.27	1290.00	1253	1158	1318	1410	
K0909140-012	30-Oct-2009, 11:22	0.41	1.11	1430.00	1418	1454	1435	1422	
K0909140-006A	30-Oct-2009, 11:28	6.13	0.42	21300.00	21350	21288	21245	21452	
R0905882-MB	30-Oct-2009, 11:33	0.00	27.00	4.14	17	-3	-3	6	

Analyst M SMITH
Date Started Friday, October 30, 2009, 11:35:42
Worksheet Hg 103009B
Comment K-CVAA-01

Sample ID	Analysis Time	Conc (PPB)	%RSD	Avg. µAbs	Readings				Flags
LCSS R0905882 1/2	30-Oct-2009, 11:35	4.32	5.22	15100.00	13951	15054	15505	15714	
R0905882-001	30-Oct-2009, 11:37	0.45	5.35	1560.00	1590	1440	1556	1635	
R0905882-001A	30-Oct-2009, 11:39	5.97	2.09	20800.00	21446	20558	20573	20602	
R0905882-002	30-Oct-2009, 11:41	0.09	4.32	322.00	308	314	326	339	
R0905882-003	30-Oct-2009, 11:42	0.09	2.00	300.00	299	294	309	299	

Sample ID	Analysis Time	Conc (PPB)	%RSD	Avg. µAbs	Readings				Flags
CCV3	30-Oct-2009, 11:44	5.03	1.59	17500.00	17373	17938	17426	17352	

Sample ID	Analysis Time	Conc (PPB)	%RSD	Avg. µAbs	Readings				Flags
CCB3	30-Oct-2009, 11:46	-0.01	7.37	-45.30	-47	-47	-40	-47	

Sample ID	Analysis Time	Conc (PPB)	%RSD	Avg. µAbs	Readings				Flags
R0905882-004	30-Oct-2009, 11:48	0.06	5.80	205.00	200	198	199	223	
R0905882-007	30-Oct-2009, 11:49	0.95	5.06	3310.00	3553	3285	3171	3237	
R0905882-008	30-Oct-2009, 11:51	0.17	3.01	578.00	569	600	582	560	
R0905882-008D	30-Oct-2009, 11:53	0.17	1.87	605.00	594	619	609	598	
R0905882-008S	30-Oct-2009, 11:55	4.91	4.83	17100.00	18168	16732	16232	17195	
R0905882-009	30-Oct-2009, 11:57	0.07	2.61	246.00	242	254	247	239	
R0905882-010	30-Oct-2009, 11:58	0.11	16.20	372.00	326	343	358	460	
R0905882-011	30-Oct-2009, 12:00	0.14	4.99	484.00	450	484	499	503	
R0905882-012	30-Oct-2009, 12:02	0.25	4.36	867.00	834	844	919	868	
R0905882-013	30-Oct-2009, 12:04	0.12	6.04	435.00	397	440	456	448	

Sample ID	Analysis Time	Conc (PPB)	%RSD	Avg. µAbs	Readings				Flags
CCV4	30-Oct-2009, 12:05	5.31	0.65	18500.00	18667	18431	18415	18438	

Sample ID	Analysis Time	Conc (PPB)	%RSD	Avg. µAbs	Readings				Flags
CCB4	30-Oct-2009, 12:07	-0.01	12.70	-40.80	-39	-36	-48	-40	

Sample ID	Analysis Time	Conc (PPB)	%RSD	Avg. µAbs	Readings				Flags
R0905882-014	30-Oct-2009, 12:09	0.08	0.46	288.00	288	287	287	290	
R0905882-015	30-Oct-2009, 12:11	0.05	7.59	185.00	176	171	190	202	
R0905882-018	30-Oct-2009, 12:13	0.27	4.57	945.00	1005	940	928	905	
R0905882-019	30-Oct-2009, 12:14	0.35	1.05	1220.00	1199	1224	1220	1227	
R0905882-020	30-Oct-2009, 12:16	0.13	3.10	466.00	452	456	483	472	
R0905882-021	30-Oct-2009, 12:18	0.10	4.72	358.00	347	341	368	377	
R0905882-022	30-Oct-2009, 12:20	0.09	1.24	316.00	311	317	318	320	
R0905882-023	30-Oct-2009, 12:22	0.14	4.15	480.00	458	472	486	505	
R0905882-024	30-Oct-2009, 12:23	0.09	1.26	306.00	302	307	311	306	

Sample ID	Analysis Time	Conc (PPB)	%RSD	Avg. µAbs	Readings				Flags
CCV5	30-Oct-2009, 12:25	4.51	0.99	15700.00	15854	15759	15627	15499	

Sample ID	Analysis Time	Conc (PPB)	%RSD	Avg. µAbs	Readings				Flags
CCB5	30-Oct-2009, 12:27	-0.01	9.02	-37.90	-34	-40	-41	-37	

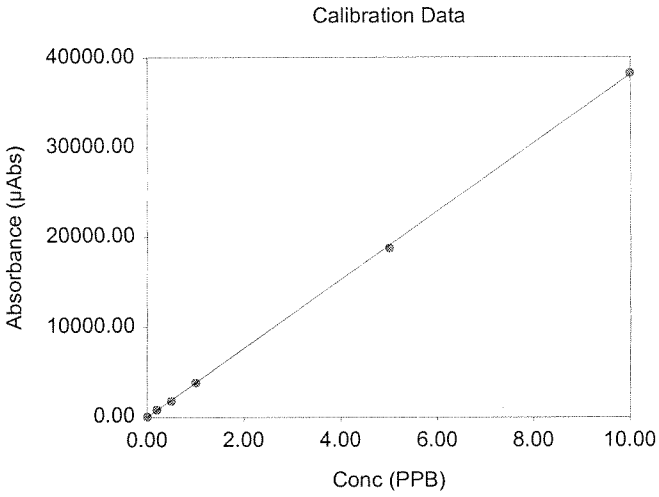
Sample ID	Analysis Time	Conc (PPB)	%RSD	Avg. µAbs	Readings				Flags
CCV6	30-Oct-2009, 13:11	5.58	2.51	19400.00	19950	19686	19074	18928	Q
CCV6	30-Oct-2009, 13:14	5.43	0.14	18900.00	18887	18896	18927	18861	

Sample ID	Analysis Time	Conc (PPB)	%RSD	Avg. µAbs	Readings				Flags
CCB6	30-Oct-2009, 13:16	-0.01	2.97	-45.30	-44	-45	-46	-47	

CETAC Hg Analysis Report - 09103001.DB - Friday, October 30, 2009, 2:33:17 PM

Analyst M SMITH
Date Started Friday, October 30, 2009, 13:20:10
Worksheet Hg 103009B
Comment K-CVAA-01

Sample ID	Analysis Time	Conc (PPB)	%RSD	Avg. µAbs	Readings				Flags
Calibration Zero	30-Oct-2009, 13:20	0.00	8.09	55.80	56	59	49	59	
Standard #1	30-Oct-2009, 13:21	0.20	4.74	829.00	770	843	853	850	
Standard #2	30-Oct-2009, 13:23	0.50	2.71	1810.00	1755	1791	1818	1872	
Standard #3	30-Oct-2009, 13:25	1.00	1.90	3830.00	3723	3839	3853	3891	
Standard #4	30-Oct-2009, 13:27	5.00	1.00	18700.00	18513	18656	18809	18946	
Standard #5	30-Oct-2009, 13:29	10.00	1.09	38300.00	37662	38440	38413	38594	



Int.	0.000
Slope	3811.261
Correlation	0.99994

Sample ID	Analysis Time	Conc (PPB)	%RSD	Avg. µAbs	Readings				Flags
ICV2	30-Oct-2009, 13:30	4.39	1.21	16700.00	16470	16649	16827	16928	Q
ICV2	30-Oct-2009, 13:33	4.92	1.73	18700.00	18463	18528	18781	19178	

Sample ID	Analysis Time	Conc (PPB)	%RSD	Avg. µAbs	Readings				Flags
ICB2	30-Oct-2009, 13:35	-0.02	13.40	-76.00	-69	-66	-86	-84	

Sample ID	Analysis Time	Conc (PPB)	%RSD	Avg. µAbs	Readings				Flags
CCV1	30-Oct-2009, 13:38	4.89	2.05	18600.00	18117	18622	18932	18924	

Sample ID	Analysis Time	Conc (PPB)	%RSD	Avg. µAbs	Readings				Flags
CCB1	30-Oct-2009, 13:40	-0.02	1.59	-92.10	-92	-94	-90	-92	

Sample ID	Analysis Time	Conc (PPB)	%RSD	Avg. µAbs	Readings				Flags
CRA2	30-Oct-2009, 13:42	0.19	1.80	726.00	734	736	725	708	

Sample ID	Analysis Time	Conc (PPB)	%RSD	Avg. µAbs	Readings				Flags
R0905882-MB(2)	30-Oct-2009, 13:44	-0.01	19.90	-31.50	-41	-28	-27	-30	
LCSS R0905882(2) 1/2	30-Oct-2009, 13:45	4.16	0.62	15800.00	15772	15776	15869	15981	
R0905882-025	30-Oct-2009, 13:47	0.70	1.93	2690.00	2635	2653	2705	2750	
R0905963-001	30-Oct-2009, 13:49	0.20	8.33	747.00	697	719	733	837	
R0905963-001A	30-Oct-2009, 13:51	5.13	0.72	19600.00	19684	19389	19518	19673	
R0905963-001D	30-Oct-2009, 13:53	0.17	3.07	656.00	626	667	670	661	
R0905963-001S	30-Oct-2009, 13:55	4.97	1.18	19000.00	18743	18815	19018	19239	
R0905963-002	30-Oct-2009, 13:56	0.06	2.40	230.00	223	235	233	229	
R0905963-003	30-Oct-2009, 13:58	0.08	4.79	305.00	292	299	302	326	

Sample ID	Analysis Time	Conc (PPB)	%RSD	Avg. µAbs	Readings				Flags
CCV2	30-Oct-2009, 14:00	4.96	3.49	18900.00	17953	18887	19348	19357	

Sample ID	Analysis Time	Conc (PPB)	%RSD	Avg. µAbs	Readings				Flags
CCB2	30-Oct-2009, 14:02	-0.01	9.02	-55.80	-54	-57	-62	-50	

Sample ID	Analysis Time	Conc (PPB)	%RSD	Avg. µAbs	Readings				Flags
R0905963-004	30-Oct-2009, 14:03	0.27	2.89	1020.00	999	996	1033	1059	
R0905963-005	30-Oct-2009, 14:05	0.31	1.09	1170.00	1158	1176	1176	1190	
R0905963-006	30-Oct-2009, 14:07	0.21	4.30	812.00	780	801	862	806	
R0905963-007	30-Oct-2009, 14:09	0.13	3.32	514.00	490	531	516	518	

Analyst M SMITH
Date Started Friday, October 30, 2009, 14:11:13
Worksheet Hg 103009B
Comment K-CVAA-01

Sample ID	Analysis Time	Conc (PPB)	%RSD	Avg. µAbs	Readings				Flags
R0905963-010	30-Oct-2009, 14:11	0.19	2.19	727.00	714	737	744	713	
R0905963-011	30-Oct-2009, 14:13	0.05	8.88	193.00	173	184	202	211	
R0905963-012	30-Oct-2009, 14:14	0.04	12.20	166.00	136	181	172	175	
R0905963-013	30-Oct-2009, 14:16	0.14	7.99	520.00	471	515	524	572	
R0905963-014	30-Oct-2009, 14:18	0.15	2.54	558.00	538	571	557	565	
R0905963-015	30-Oct-2009, 14:20	0.19	0.45	730.00	728	734	727	733	

Sample ID	Analysis Time	Conc (PPB)	%RSD	Avg. µAbs	Readings				Flags
CCV3	30-Oct-2009, 14:22	4.93	0.50	18800.00	18766	18868	18691	18897	

Sample ID	Analysis Time	Conc (PPB)	%RSD	Avg. µAbs	Readings				Flags
CCB3	30-Oct-2009, 14:23	-0.01	14.90	-47.90	-50	-42	-57	-43	

Sample ID	Analysis Time	Conc (PPB)	%RSD	Avg. µAbs	Readings				Flags
R0905963-016	30-Oct-2009, 14:25	0.11	9.34	415.00	372	395	441	455	

Sample ID	Analysis Time	Conc (PPB)	%RSD	Avg. µAbs	Readings				Flags
CCV4	30-Oct-2009, 14:30	4.90	1.85	18700.00	18280	18495	18807	19064	

Sample ID	Analysis Time	Conc (PPB)	%RSD	Avg. µAbs	Readings				Flags
CCB4	30-Oct-2009, 14:32	-0.01	20.30	-50.40	-65	-43	-47	-46	

Columbia Analytical Services

EPA METHOD 7471A

Service Request Number(s) :	K0909140 #6-12
PREP RUN: 99473	

Sample	Wet Weight (g)	% Solids	Dry Weight (g)	Final Volume (mL)
MB	0.548	~	0.548	50
LCSS	0.256	~	0.256	
K0909140-006	0.527	97.8	0.515	
K0909140-006D	0.538	97.8	0.526	
K0909140-006S	0.532	97.8	0.520	
K0909140-007	0.534	98.2	0.524	
K0909140-008	0.555			
K0909140-009	0.568	Not Available		
K0909140-010	0.563	MS 1/30/09		
K0909140-011	0.547			
K0909140-012	0.551			
		MS 1/30/09		
Std. 0.2	0.1 * mL			50
Std. 0.5	0.25 * mL			50
Std. 1.0	0.5 * mL			50
Std. 5.0	2.5 * mL			50
Std. 10.0	5.0 * mL			50
ICV	0.25 ** mL			50

Start Time: 5:20 **Finish Time:** 5:50 **Hot block Temp.:** 95° C **Balance#:** 1

Lot # of Reagents Used:

HNO_3: H12022	$K_2S_2O_8$: G19476	NaCl : G28620
H_2SO_4: 47213	$KMnO_4$: G25592	NH_2OH-HCL: H26621
HCL: 200917601	$SnCl_2$: H13584	ERA CLP Soil: D045540

*** Source Standard:** HG1-86-X **100 ppb** **Spike =** 0.25 **ml** HG1-86-E **1000 ppb**

****Source Standard: ICV** HG1-86-D **1000 ppb** **LCSW=** **ml ICV **Source Standard**

Comments:

Analyst: Rebecca Clark **Date:** 1/29/09

[HGFORMnew.XLW] 7471 Soil

Columbia Analytical Services

EPA METHOD 7471A

Service Request Number(s) :	R0905882 #1-24
PREP RUN: 99470	

Sample	Wet Weight (g)	% Solids	Dry Weight (g)	Final Volume (mL)
MB	0.564	~	0.564	50
LCSS	0.253	~	0.253	↓
R0905882-001	0.586			
R0905882-002	0.553			
R0905882-003	0.544			
R0905882-004	0.846			
R0905882-007	0.590			
R0905882-008	0.596			
R0905882-008D	0.602			
R0905882-008S	0.591	Not Available		
R0905882-009	0.584			
R0905882-010	0.908			
R0905882-011	0.609			
R0905882-012	0.606			
R0905882-013	0.618			
R0905882-014	0.589			
R0905882-015	0.659			
R0905882-018	0.592			
R0905882-019	0.593			
R0905882-020	0.602			
R0905882-021	0.595			
R0905882-022	0.609			
R0905882-023	0.625			
R0905882-024	0.613			↓
				MSU 10/29/09
Std. 0.2	0.1 * mL			50
Std. 0.5	0.25 * mL			50
Std. 1.0	0.5 * mL			50
Std. 5.0	2.5 * mL			50
Std. 10.0	5.0 * mL			50
ICV	0.25 ** mL			50

Start Time: 4:45 **Finish Time:** 5:15 **Hot block Temp.:** 95° C **Balance#:** 1

Lot # of Reagents Used:

HNO_3: H12022	**$K_2S_2O_8$: G19476**	**NaCl : G28620**
H_2SO_4: 47213	**$KMnO_4$: G25592**	**NH_2OH-HCL: H26621**
HCL: 200917601	**$SnCl_2$: H13584**	**ERA CLP Soil: D045540**

*** Source Standard:** HG1-86-X **100 ppb** **Spike =** 0.25 **ml** HG1-86-E **1000 ppb**

****Source Standard: ICV** HG1-86-D **1000 ppb** **LCSW=** **ml ICV **Source Standard**

Comments:

Analyst: Melissa Guth **Date:** 10/29/09

Columbia Analytical Services

EPA METHOD 7471A

Service Request Number(s) :	R0905882 #25, R0905963, K0909140
PREP RUN: 99471	

Sample	Wet Weight (g)	% Solids	Dry Weight (g)	Final Volume (mL)
MB	0.573	~	0.573	50
LCSS	0.2946	~	0.2946	"
R0905882-025	0.7946			
R0905963-001	0.7540.6013			
R0905963-001D	0.7690.6015			
R0905963-001S	0.7480.6016			
R0905963-002	0.623			
R0905963-003	0.739			
R0905963-004	0.684			
R0905963-005	0.638	Not Available		
R0905963-006	0.5946	MS w/Batch		
R0905963-007	0.608			
R0905963-010	0.606			
R0905963-011	0.655			
R0905963-012	0.750			
R0905963-013	0.633			
R0905963-014	0.626			
R0905963-015	0.651			
R0905963-016	0.845			"
~~K0909140-006~~ Moved to		97.8		
K0909140-006D another		97.8		
K0909140-006S Batch		98.2		
K0909140-007			10/29/09	
Std. 0.2	0.1 * mL			50
Std. 0.5	0.25 * mL			50
Std. 1.0	0.5 * mL			50
Std. 5.0	2.5 * mL			50
Std. 10.0	5.0 * mL			50
ICV	0.25 ** mL			50

Start Time: 4:45 **Finish Time:** 5:15 **Hot block Temp.:** 95° C **Balance#:** 1

Lot # of Reagents Used:

HNO_3: H12022	**$K_2S_2O_8$: G19476**	**NaCl : G28620**
H_2SO_4: 47213	**$KMnO_4$: G25592**	**NH_2OH-HCL: H26621**
HCL: 200917601	**$SnCl_2$: H13584**	**ERA CLP Soil: D045540**

*** Source Standard:** HG1-86-X **100 ppb** **Spike =** 0.25 **ml** HG1-86-E **1000 ppb**

****Source Standard: ICV** HG1-86-D **1000 ppb** **LCSW=** **ml ICV **Source Standard**

Comments:
Analyst: Melissa Smith **Date:** 10/29/09

[r5963] 7471 Soil

CVAA Mercury Data Review Form

Element: Hg

Analysis Lot #: 177493

Cal. STD/CCV Source: HG1-87-B

Service Request Numbers:

K0909140 #13-15

	Yes	No	NA
1) Appropriate standardization completed	X		
2) ICV within 10% of true value	X		
3) CCVs in control	X		
4) CCBs and or ICBs below MRL	X		
5) All reported samples within calibration range	X		
6) Calculations correct	X		

Comments:

Data reviewed against service request(s) to ensure no samples were omitted: MS (initials)

Primary Reviewed By: MAS Date: 11/2/09

Secondary Reviewed By: EMA Date: 11/4/09

COLUMBIA ANALYTICAL SERVICES, INC. **PRINTOUT WITH:**_____
ANALYTICAL WORKSHEET

Method: (Circle One) 7470A (7471A) 245.1	**Service Request # :** K0909140 #13-15
Analysis For: Hg	

DATA

Pos.	SAMPLE NUMBER	Initial Sample (g) or (mL)	Initial Dilution (mL)	Dilution Factor	(µg/L) Measured	Sample Actual (mg/kg)	Sample Actual (µg/L)
1	ICV1	~	~	~	5.02		100%
2	ICB1	~	~	~	-0.02		< 0.2
3	CCV1	~	~	~	4.99		100%
4	CCB1	~	~	~	-0.01		< 0.2
5	CRA1	~	~	~	0.18		90%
6	K0909140-MB	0.619	50	~	0.00	0.000	
7	LCSS K0909140 1/2	2.850	50	2	4.89	0.172	10%
8	K0909140-013	0.512	50	~	0.96	0.094	
9	K0909140-013A		50	~	6.01		101%
10	K0909140-013D	0.502	50	~	0.92	0.092	
11	K0909140-013S	0.502	50	~	5.71	0.569	95%
12	K0909140-014	0.514	50	~	0.75	0.073	
13	K0909140-015	0.535	50	~	0.41	0.038	
14	CCV2	~	~	~	5.14		103%
15	CCB2	~	~	~	-0.02		< 0.2
16							
17							
18							
19			MS 11/2/09				
20							
21							
22							
23							
24							
25							

Comments: Reporting Levels:

Soil/Tissue Spike Level:		**K0909140-013S=0.498mg/kg**			
Post Spike Level:		**x @ 5 µg/L**			
Method	**Spike Level**	**MRL**	**LCS Limit**	**MS Limit**	**RPD**
7470A Water	**1.0 µg/L**	**0.2 µg/L**	**83-117%**	**76-126%**	**20%**
245.1 Water	**1.0 µg/L**	**0.2 µg/L**	**85-115%**	**70-131%**	**20%**
7470A TCLP	**5.0 µg/L**	**1.0 µg/L**	**85-115%**	**75-125%**	**20%**
7471A Soil LCSS	**1.77 mg/kg**	**0.02 mg/kg**	**72-122%**	**60-135%**	**30%**
7471A Tissue Tort	**0.27 mg/kg**	**0.02 mg/kg**	**63-130%**	**60-130%**	**30%**

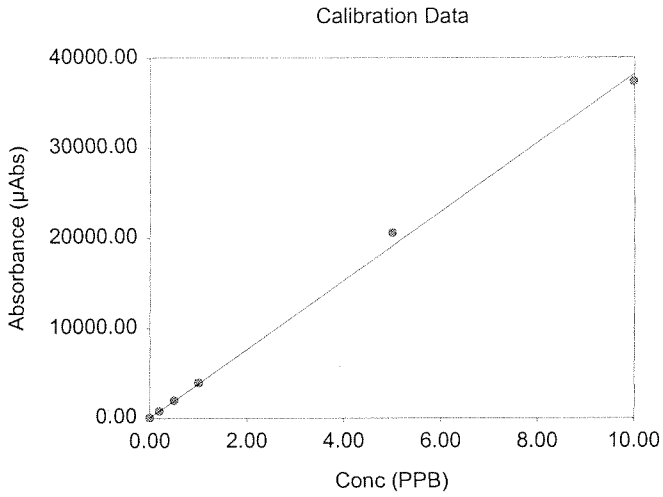
Analyst:	**Date:**	**Page Number:**
Mulvaney SH	11/2/09	1

[Controlled - HgSoilRunForm 7-24-09] HG1.XLS

CETAC Hg Analysis Report - 09110203.DB - Monday, November 02, 2009, 4:23:25 PM

Analyst M SMITH
Date Started Monday, November 02, 2009, 15:39:45
Worksheet Hg 110209C
Comment K-CVAA-01

Sample ID	Analysis Time	Conc (PPB)	%RSD	Avg. µAbs	Readings				Flags
Calibration Zero	02-Nov-2009, 15:39	0.00	16.60	40.40	42	49	34	36	
Standard #1	02-Nov-2009, 15:41	0.20	1.78	787.00	775	776	793	804	
Standard #2	02-Nov-2009, 15:43	0.50	3.61	1980.00	1894	1955	2025	2053	
Standard #3	02-Nov-2009, 15:45	1.00	5.61	3970.00	3692	3898	4119	4182	
Standard #4	02-Nov-2009, 15:46	5.00	3.82	20600.00	19680	20166	20951	21434	
Standard #5	02-Nov-2009, 15:48	10.00	2.50	37400.00	38756	37242	36840	36732	



Int.	0.000
Slope	3815.304
Correlation	0.99877

Sample ID	Analysis Time	Conc (PPB)	%RSD	Avg. µAbs	Readings				Flags
ICV1	02-Nov-2009, 15:50	5.02	0.63	19200.00	19270	19156	18996	19234	

Sample ID	Analysis Time	Conc (PPB)	%RSD	Avg. µAbs	Readings				Flags
ICB1	02-Nov-2009, 15:52	-0.02	8.72	-66.80	-63	-66	-62	-75	

Sample ID	Analysis Time	Conc (PPB)	%RSD	Avg. µAbs	Readings				Flags
CCV1	02-Nov-2009, 15:53	4.99	0.66	19000.00	18880	19188	19048	19045	

Sample ID	Analysis Time	Conc (PPB)	%RSD	Avg. µAbs	Readings				Flags
CCB1	02-Nov-2009, 15:55	-0.01	4.03	-34.10	-32	-34	-36	-35	

Sample ID	Analysis Time	Conc (PPB)	%RSD	Avg. µAbs	Readings				Flags
CRA1	02-Nov-2009, 15:57	0.18	4.70	681.00	634	686	698	704	

Sample ID	Analysis Time	Conc (PPB)	%RSD	Avg. µAbs	Readings				Flags
K0909140-MB	02-Nov-2009, 15:59	0.00	80.90	8.80	1	7	9	18	
LCSS K0909140 1/2	02-Nov-2009, 16:00	4.89	4.23	18700.00	18109	18228	18488	19823	
K0909140-013	02-Nov-2009, 16:02	0.96	2.85	3650.00	3501	3646	3714	3729	
K0909140-013A	02-Nov-2009, 16:04	6.01	2.82	22900.00	21995	23012	23360	23364	
K0909140-013D	02-Nov-2009, 16:06	0.92	0.94	3530.00	3482	3525	3557	3546	
K0909140-013S	02-Nov-2009, 16:08	5.71	1.19	21800.00	21572	21592	21886	22113	
K0909140-014	02-Nov-2009, 16:09	0.75	1.77	2870.00	2806	2866	2896	2925	
K0909140-015	02-Nov-2009, 16:11	0.41	2.09	1550.00	1502	1548	1570	1571	

Sample ID	Analysis Time	Conc (PPB)	%RSD	Avg. µAbs	Readings				Flags
CCV2	02-Nov-2009, 16:20	5.14	1.33	19600.00	19770	19324	19512	19906	

Sample ID	Analysis Time	Conc (PPB)	%RSD	Avg. µAbs	Readings				Flags
CCB2	02-Nov-2009, 16:22	-0.02	9.45	-64.50	-58	-60	-69	-70	

Columbia Analytical Services

EPA METHOD 7471A

Service Request Number(s) :	K0909140
PREP RUN: 99656	

Sample	Wet Weight (g)	% Solids	Dry Weight (g)	Final Volume (mL)
MB	0.619	~	0.619	50
LCSS	0.285	~	0.285	
K0909140-013	0.512	Not Available		
K0909140-013 D	0.502			
K0909140-013 S	0.502	MS 11/2/09		
K0909140-014	0.514			
K0909140-015	0.535			
		MS 11/2/09		
Std. 0.2	0.1 * mL			50
Std. 0.5	0.25 * mL			50
Std. 1.0	0.5 * mL			50
Std. 5.0	2.5 * mL			50
Std. 10.0	5.0 * mL			50
ICV	0.25 ** mL			50

Start Time: 1:15 **Finish Time:** 1:45 **Hot block Temp.:** 95° C **Balance#:** 1

Lot # of Reagents Used:		
HNO_3: H12022	**$K_2S_2O_8$: G19476**	**NaCl : G28620**
H_2SO_4: 47213	**$KMnO_4$: G25592**	**NH_2OH-HCL: H26621**
HCL: 200917601	**$SnCl_2$: H13584**	**ERA CLP Soil: D045540**

*** Source Standard:** HG1-87-B **100 ppb** **Spike =** 0.25 **ml** HG1-87-A **1000 ppb**

****Source Standard: ICV** HG1-86-Z **1000 ppb** **LCSW=** **ml ICV **Source Standard**

Comments:	
Analyst:	**Date:** 11/2/09

[HGFORMnew.XLW] 7471 Soil

CVAA Mercury Data Review Form

Element: Hg

Analysis Lot #: 178976

Cal. STD/CCV Source: HG1-87-GH MS 11/11/09

Service Request Numbers:

K0910877, K0910035 Redigest, K0910179 Redigest, K0910346,
K0910822, K0909140 #15 Redigest, #16-19

	Yes	No	NA
1) Appropriate standardization completed	X		
2) ICV within 10% of true value	X		
3) CCVs in control	X		
4) CCBs and or ICBs below MRL	X		
5) All reported samples within calibration range	X		
6) Calculations correct	X		

Comments: K0910822, K0909140 #18,19 ~~As Recieved~~ Air dried basis
K0909140 #15 Redigested to compare to original result only MS 11/30/09

Data reviewed against service request(s) to ensure no samples were omitted: MS (initials)

Primary Reviewed By: MA Date: 11/4/09

Secondary Reviewed By: JDB Date: 11/12/09

COLUMBIA ANALYTICAL SERVICES, INC. PRINTOUT WITH:_____
ANALYTICAL WORKSHEET

Method: (Circle One) 7470A (7471A) 245.1	Service Request # :
Analysis For: Hg	K0910877, K0910035 Redigest, K0910179 Redigest, K0910346, K0910822, K0909140 #15 Redigest, #16-19

DATA

Pos.	SAMPLE NUMBER	Initial Sample (g) or (mL)	Initial Dilution (mL)	Dilution Factor	(µg/L) Measured	Sample Actual (mg/kg)	Sample Actual (µg/L)
1	ICV1	~	~	~	4.89		98%
2	ICB1	~	~	~	-0.02		< 0.2
3	CCV1	~	~	~	4.99		100%
4	CCB1	~	~	~	-0.01		< 0.2
5	CRA1	~	~	~	0.19		95%
6	K0910877-MB	0.663	50	~	0.00	0.000	
7	LCSW K0910877		50	~	4.95		99%
8	LCSW2 K0910877		50	~	5.01		100%
9	K0910877-001	5.006	50	~	-0.02	0.000	
10	K0910877-001A		50	~	4.60		92%
11	K0910035-MB	0.576	50	~	0.00	0.000	
12	LCSW K0910035		50	~	5.00		100%
13	K0910035-001	0.526	50	~	0.02	0.002	
14	K0910035-001A		50	~	5.10		102%
15	CCV2	~	~	~	4.81		96%
16	CCB2	~	~	~	-0.01		< 0.2
17	K0910035-001D	0.533	50	~	4.91	0.461	98%
18	K0910035-001S	0.552	50	~	4.75	0.430	95%
19	K0910179-001	0.532	50	~	0.01	0.001	
20	K0910346-001	0.541	50	~	0.07	0.006	
21	K0910346-002	0.517	50	~	0.05	0.005	
22	K0910822-001	0.864	50	~	0.31	0.018	
23	K0910822-002	0.848	50	~	0.13	0.008	
24	K0910822-003	0.828	50	~	0.21	0.013	
25	K0910822-004	1.236	50	~	0.09	0.004	

Comments: Reporting Levels: K0910035-001S=0.469mg/kg, K0910035-001SD=0.453mg/kg

Soil/Tissue Spike Level:

Post Spike Level: x @ 5 µg/L

Method	Spike Level	MRL	LCS Limit	MS Limit	RPD
7470A Water	1.0 µg/L	0.2 µg/L	83-117%	76-126%	20%
245.1 Water	1.0 µg/L	0.2 µg/L	85-115%	70-131%	20%
7470A TCLP	5.0 µg/L	1.0 µg/L	85-115%	75-125%	20%
7471A Soil LCSS	1.77 mg/kg	0.02 mg/kg	72-128%	60-135%	30%
7471A Tissue Tort	0.27 mg/kg	0.02 mg/kg	63-130%	60-130%	30%

Analyst:	Date:	Page Number:
Melissa AGH	11/11/09	1

[Controlled - HgSoilRunForm 7-24-09] HG1.XLS

COLUMBIA ANALYTICAL SERVICES, INC. PRINTOUT WITH:_____
ANALYTICAL WORKSHEET

Method: (Circle One) 7470A 7471A 245.1	Service Request # :
Analysis For: Hg	

DATA

Pos.	SAMPLE NUMBER	Initial Sample (g) or (mL)	Initial Dilution (mL)	Dilution Factor	(µg/L) Measured	Sample Actual (mg/kg)	Sample Actual (µg/L)
26	K0910822-004S	1.210	50	~	4.59	0.190	90%
27	CCV3	~	~	~	4.60		92%
28	CCB3	~	~	~	-0.01		< 0.2
29	K0910822-004SD	1.204	50	~	4.58	0.190	90%
30	K0909140-MB	0.567	50	~	0.00	0.000	
31	~~LCSS K0909140 1/2~~	~~0.252~~	~~50~~	~~2~~	~~12.40~~	recalculation MS11/11/09	
32	K0909140-015	0.517	50	~	0.47	0.045	
33	K0909140-016	0.510	50	~	0.53	0.052	
34	K0909140-016A		50	~	5.06		102%
35	K0909140-016D	0.516	50	~	0.62	0.060	
36	K0909140-016S	0.513	50	~	4.96	0.483	89%
37	K0909140-017	0.530	50	~	0.51	0.048	
38	K0909140-018	0.545	50	~	0.73	0.067	
39	CCV4	~	~	~	4.82		96%
40	CCB4	~	~	~	-0.02		< 0.2
41	K0909140-019	0.513	50	~	0.31	0.030	
42	K0910432-007	0.517	50	~	0.35	0.034	
43	K0910432-007D	0.523	50	~	0.35	0.033	
44	K0910432-007S	0.531	50	~	5.02	0.473	93%
45	LCSS K0909140 1/2	0.252	50	10	3.31	6.567	97%
46	~~CCV5~~	-	-	-	~~4.49~~	Failed MS11/11/09	
47	~~CCV5~~	-	-	-	~~4.43~~		
48	CCV5	~	~	~	4.83		97%
49	CCB5	~	~	~	-0.01		< 0.2
50							

MS11/11/09

Comments: Reporting Levels:

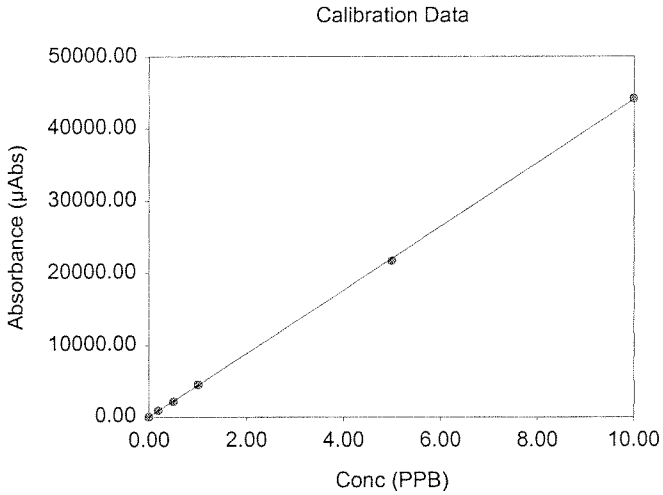
Soil/Tissue Spike Level:	K0910822-004S=0.207mg/kg, K0910822-004SD=0.208mg/kg				
Post Spike Level:	K0909140-016S=0.487mg/kg, K0910432-007S=0.471mg/kg				
Method	**Spike Level**	**MRL**	**LCS Limit**	**MS Limit**	**RPD**
7470A Water	1.0 µg/L	0.2 µg/L	83-117%	76-126%	20%
245.1 Water	1.0 µg/L	0.2 µg/L	85-115%	70-131%	20%
7470A TCLP	5.0 µg/L	1.0 µg/L	85-115%	75-125%	20%
7471A Soil LCSS	1.77 mg/kg	0.02 mg/kg	72-122%	60-135%	30%
7471A Tissue Tort	0.27 mg/kg	0.02 mg/kg	63-130%	60-130%	30%

Analyst:	Date:	Page Number:
Melissa Ash	11/11/09	2

CETAC Hg Analysis Report - 09111100.DB - Wednesday, November 11, 2009, 4:25:41 PM

Analyst M SMITH
Date Started Wednesday, November 11, 2009, 14:22:50
Worksheet Hg 111109A
Comment K-CVAA-01

Sample ID	Analysis Time	Conc (PPB)	%RSD	Avg. µAbs	Readings				Flags
Calibration Zero	11-Nov-2009, 14:22	0.00	21.70	29.00	24	24	30	38	
Standard #1	11-Nov-2009, 14:24	0.20	2.07	926.00	900	930	929	946	
Standard #2	11-Nov-2009, 14:26	0.50	1.37	2170.00	2121	2174	2181	2184	
Standard #3	11-Nov-2009, 14:28	1.00	0.28	4530.00	4511	4536	4535	4537	
Standard #4	11-Nov-2009, 14:29	5.00	2.12	21700.00	21455	21346	21827	22367	
Standard #5	11-Nov-2009, 14:31	10.00	1.13	44200.00	43528	44059	44482	44642	



Int.	0.000
Slope	4405.075
Correlation	0.99996

Sample ID	Analysis Time	Conc (PPB)	%RSD	Avg. µAbs	Readings				Flags
ICV1	11-Nov-2009, 14:33	4.89	1.44	21600.00	21860	21753	21422	21181	

Sample ID	Analysis Time	Conc (PPB)	%RSD	Avg. µAbs	Readings				Flags
ICB1	11-Nov-2009, 14:35	-0.02	6.21	-101.00	-95	-97	-106	-108	

Sample ID	Analysis Time	Conc (PPB)	%RSD	Avg. µAbs	Readings				Flags
CCV1	11-Nov-2009, 14:36	4.99	0.81	22000.00	21756	21886	22057	22158	

Sample ID	Analysis Time	Conc (PPB)	%RSD	Avg. µAbs	Readings				Flags
CCB1	11-Nov-2009, 14:38	-0.01	15.40	-50.50	-47	-41	-57	-57	

Sample ID	Analysis Time	Conc (PPB)	%RSD	Avg. µAbs	Readings				Flags
CRA1	11-Nov-2009, 14:40	0.19	1.60	856.00	839	857	873	853	

Sample ID	Analysis Time	Conc (PPB)	%RSD	Avg. µAbs	Readings				Flags
K0910877-MB	11-Nov-2009, 14:42	-0.00	44.50	-9.11	-9	-7	-5	-15	
LCSW K0910877	11-Nov-2009, 14:44	4.95	1.35	21800.00	21450	21662	21901	22132	
LCSW2 K0910877	11-Nov-2009, 14:45	5.01	1.01	22100.00	21765	22040	22208	22258	
K0910877-001	11-Nov-2009, 14:47	-0.02	17.20	-68.80	-55	-63	-78	-80	
K0910877-001A	11-Nov-2009, 14:49	4.60	0.95	20300.00	19997	20283	20415	20391	
K0910035-MB	11-Nov-2009, 14:52	-0.00	1960.00	-0.64	6	14	-9	-13	
LCSW K0910035	11-Nov-2009, 14:54	5.00	1.10	22000.00	21677	22016	22170	22211	
K0910035-001	11-Nov-2009, 14:55	0.02	2.30	88.90	92	89	87	88	
K0910035-001A	11-Nov-2009, 14:57	5.10	0.42	22500.00	22331	22535	22527	22475	

Sample ID	Analysis Time	Conc (PPB)	%RSD	Avg. µAbs	Readings				Flags
CCV2	11-Nov-2009, 14:59	4.81	0.49	21200.00	21084	21162	21296	21289	

Sample ID	Analysis Time	Conc (PPB)	%RSD	Avg. µAbs	Readings				Flags
CCB2	11-Nov-2009, 15:01	-0.01	12.20	-65.00	-58	-59	-75	-68	

Sample ID	Analysis Time	Conc (PPB)	%RSD	Avg. µAbs	Readings				Flags
K0910035-001D	11-Nov-2009, 15:03	4.91	1.64	21700.00	21192	21561	21857	21990	
K0910035-001S	11-Nov-2009, 15:04	4.75	0.88	20900.00	20651	20940	21020	21058	
K0910179-001	11-Nov-2009, 15:06	0.01	6.34	63.60	65	66	58	65	
K0910346-001	11-Nov-2009, 15:20	0.07	3.62	296.00	280	305	299	299	
K0910346-002	11-Nov-2009, 15:22	0.05	34.96	203.00	211	197	210	195	

Analyst M SMITH
Date Started Wednesday, November 11, 2009, 15:23:48
Worksheet Hg 111109A
Comment K-CVAA-01

Sample ID	Analysis Time	Conc (PPB)	%RSD	Avg. µAbs	Readings				Flags
K0910822-001	11-Nov-2009, 15:23	0.31	1.87	1360.00	1335	1361	1365	1397	
K0910822-002	11-Nov-2009, 15:25	0.13	1.79	571.00	560	576	567	583	
K0910822-003	11-Nov-2009, 15:27	0.21	1.47	921.00	902	923	931	930	
K0910822-004	11-Nov-2009, 15:29	0.09	1.78	375.00	381	380	370	368	
K0910822-004S	11-Nov-2009, 15:30	4.59	1.26	20200.00	19870	20166	20368	20437	

Sample ID	Analysis Time	Conc (PPB)	%RSD	Avg. µAbs	Readings				Flags
CCV3	11-Nov-2009, 15:32	4.60	0.30	20300.00	20230	20358	20306	20235	

Sample ID	Analysis Time	Conc (PPB)	%RSD	Avg. µAbs	Readings				Flags
CCB3	11-Nov-2009, 15:34	-0.01	11.20	-57.50	-55	-56	-52	-67	

Sample ID	Analysis Time	Conc (PPB)	%RSD	Avg. µAbs	Readings				Flags
K0910822-004SD	11-Nov-2009, 15:36	4.58	0.31	20200.00	20093	20215	20230	20212	
K0909140-MB	11-Nov-2009, 15:44	-0.00	37.80	-12.40	-16	-10	-7	-16	
~~LCSS K0909140 1/2~~	~~11-Nov-2009, 15:45~~	Sat'd.	0.00	~~54600.00~~	~~54612~~	~~54612~~	~~54612~~	~~54612~~	SO MS 11/11/09
K0909140-015	11-Nov-2009, 15:49	0.47	1.38	2070.00	2037	2059	2075	2104	
K0909140-016	11-Nov-2009, 15:50	0.53	0.69	2310.00	2291	2315	2319	2328	
K0909140-016A	11-Nov-2009, 15:52	5.06	1.31	22300.00	21900	22263	22460	22564	
K0909140-016D	11-Nov-2009, 15:54	0.62	1.69	2740.00	2673	2731	2772	2769	
K0909140-016S	11-Nov-2009, 15:56	4.96	0.29	21900.00	21774	21875	21904	21914	
K0909140-017	11-Nov-2009, 15:58	0.51	0.26	2260.00	2249	2262	2261	2257	
K0909140-018	11-Nov-2009, 15:59	0.73	0.82	3200.00	3161	3215	3218	3201	

Sample ID	Analysis Time	Conc (PPB)	%RSD	Avg. µAbs	Readings				Flags
CCV4	11-Nov-2009, 16:01	4.82	1.52	21200.00	20805	21185	21437	21527	

Sample ID	Analysis Time	Conc (PPB)	%RSD	Avg. µAbs	Readings				Flags
CCB4	11-Nov-2009, 16:03	-0.02	13.30	-81.00	-70	-74	-92	-88	

Sample ID	Analysis Time	Conc (PPB)	%RSD	Avg. µAbs	Readings				Flags
K0909140-019	11-Nov-2009, 16:05	0.31	1.57	1360.00	1325	1366	1363	1371	
K0910432-007	11-Nov-2009, 16:06	0.35	0.63	1530.00	1517	1524	1532	1540	
K0910432-007D	11-Nov-2009, 16:08	0.35	0.81	1530.00	1517	1521	1533	1545	
K0910432-007S	11-Nov-2009, 16:10	5.02	0.67	22100.00	21921	22127	22266	22187	
LCSS K0909140 1/2	11-Nov-2009, 16:14	3.31	0.52	14600.00	14488	14577	14612	14669	

Sample ID	Analysis Time	Conc (PPB)	%RSD	Avg. µAbs	Readings				Flags
~~CCV5~~	~~11-Nov-2009, 16:17~~	~~4.49~~	~~0.70~~	~~19800.00~~	~~19929~~	~~19743~~	~~19627~~	~~19886~~	Q
CCV5	11-Nov-2009, 16:20	4.43	0.86	19500.00	19699	19640	19378	19385	Q MS 11/11/09
CCV5	11-Nov-2009, 16:22	4.83	1.14	21300.00	20951	21241	21430	21493	

Sample ID	Analysis Time	Conc (PPB)	%RSD	Avg. µAbs	Readings				Flags
CCB5	11-Nov-2009, 16:24	-0.01	18.30	-45.50	-58	-38	-42	-44	

Columbia Analytical Services

EPA METHOD 7471A

Service Request Number(s) :	K0910877
PREP RUN: 100528	

Sample	Wet Weight (g)	% Solids	Dry Weight (g)	Final Volume (mL)
MB	0.663	~	0.663	50
LCSW	~	~	~	↓
LCSW2	~	~	~	↓
K0910877-001	5.006	~	5.006	↓
			MS 11/11/09	
Std. 0.2	0.1 * mL			50
Std. 0.5	0.25 * mL			50
Std. 1.0	0.5 * mL			50
Std. 5.0	2.5 * mL			50
Std. 10.0	5.0 * mL			50
ICV	0.25 ** mL			50

Start Time: 12:40 **Finish Time:** 1:10 **Hot block Temp.:** 95° C **Balance#:** 1

Lot # of Reagents Used:

HNO_3: H12022	$K_2S_2O_8$: G19476	NaCl : G28620
H_2SO_4: 47213	$KMnO_4$: G25592	NH_2OH-HCL: H26621
HCL: 200917601	$SnCl_2$: H13584	ERA CLP Soil: D065540

* Source Standard: HG1-87-6 MS 11/11/09 100 ppb Spike = 0.25 ml HG1-89-A MS 11/11/09 1000 ppb

**Source Standard: ICV HG1-86-7 1000 ppb LCSW= 0.25 ml ICV **Source Standard

Comments:

Analyst: Melissa Gill **Date:** 11/11/09

[HGFORMnew.XLW] 7471 MISC

Columbia Analytical Services

EPA METHOD 7471A

Service Request Number(s) :	K0910035, K0910179, K0910346, K0910822
PREP RUN: 100529	

Sample	Wet Weight (g)	% Solids	Dry Weight (g)	Final Volume (mL)
MB	0.576	~	0.576	50
LCSW	~	~	~	
K0910035-001	0.582	90.4	0.526	
K0910035-001S	0.590	90.4	0.533	
K0910035-001SD	0.611	90.4	0.552	
K0910179-001	0.608	79.6	0.532	
K0910346-001	0.628	86.2	0.541	
K0910346-002	0.638	81.1	0.517	
K0910822-001	0.864			
K0910822-002	0.848	Not Available		
K0910822-003	0.828	MS 11/11/09		
K0910822-004	1.236			
K0910822-004S	1.210			
K0910822-004SD	1.204			
		MS 11/11/09		
Std. 0.2	0.1 * mL			50
Std. 0.5	0.25 * mL			50
Std. 1.0	0.5 * mL			50
Std. 5.0	2.5 * mL			50
Std. 10.0	5.0 * mL			50
ICV	0.25 ** mL			50

Start Time: 12:40 **Finish Time:** 1:10 **Hot block Temp.:** 95° C **Balance#:** 1

Lot # of Reagents Used:

HNO_3: H12022	$K_2S_2O_8$: G19476	NaCl : G28620
H_2SO_4: 47213	$KMnO_4$: G25592	NH_2OH-HCL: H26621
HCL: 200917601	$SnCl_2$: H13584	ERA CLP Soil: D065540

* Source Standard: HG1-87-A 100 ppb Spike = 0.25 ml HG1-87-A 1000 ppb

**Source Standard: ICV HG1-86-2 1000 ppb LCSW=0.25 ml ICV **Source Standard

Comments:

Analyst: Melissa Cook **Date:** 11/11/09

[k9140] 7471 MISC

Columbia Analytical Services

EPA METHOD 7471A

Service Request Number(s) :	K0909140 #15 Redigest, #16-19, K0910432
PREP RUN: 100530	

Sample	Wet Weight (g)	% Solids	Dry Weight (g)	Final Volume (mL)
MB	0.567	~	0.567	50
LCSS	0.252	~	0.252	
K0909140-015	0.532	97.2	0.517	
K0909140-016	0.515	99.1	0.510	
K0909140-016D	0.521		0.516	
K0909140-016S	0.518		0.513	
K0909140-017	0.532	99.6	0.530	
K0909140-018	0.545		Not Available	
K0909140-019	0.513			
K0910432-007	0.518	99.8	0.517	
K0910432-007D	0.524		0.523	
K0910432-007S	0.~~523~~ MS 11/11/09		0.531	
Std. 0.2	0.1 * mL			50
Std. 0.5	0.25 * mL			50
Std. 1.0	0.5 * mL			50
Std. 5.0	2.5 * mL			50
Std. 10.0	5.0 * mL			50
ICV	0.25 ** mL			50

Start Time: 12:40 **Finish Time:** 1:10 **Hot block Temp.:** 95° C **Balance#:** 1

Lot # of Reagents Used:

HNO_3: H12022	$K_2S_2O_8$: G19476	NaCl : G28620
H_2SO_4: 47213	$KMnO_4$: G25592	NH_2OH-HCL: H26621
HCL: 200917601	$SnCl_2$: H13584	ERA CLP Soil: D065540

MS 11/11/09

* Source Standard: HG1-87-G 100 ppb Spike = 0.25 ml HG1-87-A 1000 ppb

**Source Standard: ICV HG1-86-2 1000 ppb LCSW= ml ICV **Source Standard

Comments:

Analyst: Melissa Abel **Date:** 11/11/09

Element Analyzed Se Hydride Instrument K-FLAA-2
Service Request # K0909140

Batch QC SR's #

Calibration Std. AA1-12-E Expiration Date 3/16/10
2nd Source Std. AA1-12-C Expiration Date 12/2/09
Starlims # 179627
Run # 111609-Se

Hydride Data Review Form

		Yes	No	NA
1	ICV within 10% of true Value	X		
2.	Calibration data included	X		
3.	CCV's in control	X		
4.	CCB's and/or ICB's below MRL	X		
5.	All reported Results within Cal. Range	X		
6.	All Calculations are Correct	X		

Comments

Primary Reviewed by [signature] Date 11/16/09

Secondary Reviewed by [signature] Date 11/17/09

COLUMBIA ANALYTICAL SERVICES, INC.

FAA Run Log

Method: (Circle Method Used) 7742 7062 Other:_____ Element: As Se	**Service Request # :**

SAMPLE NUMBER	Dilution Factor	Measured (µg/L)	Recoveries (ICV, CCV, CRA, LCS, Matrix Spk.)	Comments Post Spike = 5 ppb
ICV	-	8.057	107%	
ICB	-	0.198		
CRA	-	0.585	117%	
CCV	-	7.661	102%	
CCB	-	0.094		
K0909140-MB	1/2	0.033		
LCSS K0909140	1/2x1/100x1/5	1.969	103%	
K0909140-001	1/2	0.404		Cx = 0.502
K0909140-001A	1/2	4.426	80.4%	
K0909140-002	1/2	0.441		Cx = 0.533
K0909140-002A	1/2	4.581	82.8%	
K0909140-003	1/2	0.647		Cx = 0.763
K0909140-003A	1/2	4.888	84.8%	
~~K0909140-004~~	~~1/2~~	~~0.723~~		Rerun
~~K0909140-004A~~	~~1/2~~	~~4.972~~		Rerun
CCV	-	8.084	108%	
CCB	-	0.101		
K0909140-005	1/2	0.613		Cx = 0.703
K0909140-005A	1/2	4.975	87.2%	
K0909140-006	1/2	0.602		Cx = 0.714
K0909140-006A	1/2	4.819	84.3%	
K0909140-006S	1/2x1/5	1.967	101%	Cx = 2.013
K0909140-006SA	1/2x1/5	6.853	97.7%	
K0909140-006SD	1/2x1/5	1.897	97%	Cx = 1.934
K0909140-006SDA	1/2x1/5	6.804	98.1%	
K0909140-007	1/2	0.445		Cx = 0.510
K0909140-007A	1/2	4.811	87.3%	
CCV	-	7.641	102%	
CCB	-	0.095		
K0909140-008	1/2	0.341		Cx = 0.450

11/16/09

True Values/QC Limits:	LCSW	Water Spike	LCSS (ERA D045540)	Soil Spike
Arsenic:	8ppb (80-120%)	8ppb (75-125%)	146.0mg/kg (80-120%)	10ppb (75-125%)
Selenium	8ppb (72-125%)	8ppb (66-128%)	73.0mg/kg (62-147%)	10ppb (64-131%)

Cx = MSA Corrected Concentration (as per method)

Analyst	**Date:**	**Page Number:**
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COLUMBIA ANALYTICAL SERVICES, INC.
GFAA Run Log

Method: (Circle Method Used) 7742 7062 Other: _____ Element: As Se	**Service Request # :**

SAMPLE NUMBER	Dilution Factor	Measured (µg/L)	Recoveries (ICV, CCV, CRA, LCS, Matrix Spk.)	Comments Post Spike = 5 ppb
K0909140-008A	1/2	4.138	75.9%	
K0909140-009	1/2	0.292		Cx = 0.405
K0909140-009A	1/2	3.899	72.1%	
~~K0909140-010~~	~~1/2~~	~~1.809~~		Rerun
~~K0909140-010A~~	~~1/2~~	~~5.255~~		Rerun
K0909140-011	1/2	0.414		Cx = 0.414
K0909140-011A	1/2	5.419	100.1%	
K0909140-012	1/2	0.399		Cx = 0.428
K0909140-012A	1/2	5.061	93.2%	
CCV	-	7.968	106%	
CCB	-	0.029		
K0909140-013	1/2	0.440		Cx = 0.521
K0909140-013A	1/2	4.663	84.5%	
~~K0909140-014~~	~~1/2~~	~~0.473~~		Rerun
~~K0909140-014A~~	~~1/2~~	~~4.536~~		Rerun
K0909140-015	1/2	0.683		Cx = 0.714
K0909140-015A	1/2	5.468	95.7%	
~~K0909140-016~~	~~1/2~~	~~0.845~~		Rerun
~~K0909140-016A~~	~~1/2~~	~~4.800~~		Rerun
K0909140-017	1/2	0.610		Cx = 0.732
K0909140-017A	1/2	4.773	83.3%	
CCV	-	8.094	108%	
CCB	-	0.104		
K0909140-018	1/2	0.672		Cx = 0.889
K0909140-018A	1/2	4.452	75.6%	
K0909140-019	1/2	0.405		Cx = 0.401
K0909140-019A	1/2	5.461	101.1%	
K0909140-020	-	-0.121	NA	
K0909140-020A	-	8.087	NA	
CCV	-	8.192	109%	

True Values/QC Limits:	LCSW	Water Spike	LCSS (ERA D045540)	Soil Spike
Arsenic:	8ppb (80-120%)	8ppb (75-125%)	146.0mg/kg (80-120%)	10ppb (75-125%)
Selenium	8ppb (72-125%)	8ppb (66-128%)	73.0mg/kg (62-147%)	10ppb (64-131%)

Cx = MSA Corrected Concentration (as per method)

Analyst	**Date:**	**Page Number:**
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C:\Documents and Settings\djurhs\Desktop\Hydride Tissue Data

COLUMBIA ANALYTICAL SERVICES, INC.
GFAA Run Log

Method: (Circle Method Used) 7742 7062 ~~Other:~~ Element: As Se	**Service Request # :**

SAMPLE NUMBER	Dilution Factor	Measured (µg/L)	Recoveries (ICV, CCV, CRA, LCS, Matrix Spk.)	Comments Post Spike = 5 ppb
CCB	-	0.100		
K0909140-004	1/2	0.361		Cx = 0.454
~~K0909140-004A~~	~~1/2~~	~~3.658~~		Rerun
K0909140-004A	1/2	4.337	79.5%	
K0909140-010	1/2	0.281		Cx = 0.323
K0909140-010A	1/2	4.628	86.9%	
~~K0909140-014~~	~~1/2~~	~~1.824~~		Rerun
K0909140-014	1/2	0.756		Cx = 0.887
K0909140-014A	1/2	5.017	85.2%	
K0909140-016	1/2	0.694		Cx = 0.829
K0909140-016A	1/2	4.877	83.7%	
~~CCV~~	-	~~8.496~~		Rerun
CCV	-	8.000	107%	
CCB	-	0.121		

11/16/09

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True Values/QC Limits:	LCSW	Water Spike	LCSS (ERA D045540)	Soil Spike
Arsenic:	8ppb (80-120%)	8ppb (75-125%)	146.0mg/kg (80-120%)	10ppb (75-125%)
Selenium	8ppb (72-125%)	8ppb (66-128%)	73.0mg/kg (62-147%)	10ppb (64-131%)

Cx = MSA Corrected Concentration (as per method)

Analyst	**Date:**	**Page Number:**
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Analysis Begun

Logged In Analyst: ACQMET10 Technique: AA FIAS-Flame
Spectrometer Model: AAnalyst 200, S/N 200S5061701 Autosampler Model: AS-90

Sample Information File: C:\data-AA\ACQMET10\Sample Information\111609-Se.sif
Batch ID: 111609-Se
Results Data Set: 111609-Se
Results Library: R:\ICP\WIP\DATA\K-FLAA-02\Results.mdb

Sequence No.: 1 Autosampler Location: 1
Sample ID: Cal Blk Date Collected: 11/16/2009 9:31:58 AM
Analyst: Data Type: Original

Replicate Data: Cal Blk

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Bkgnd Area	Bkgnd Height	Time	Peak Stored
1		[0.00]	0.002	0.003	0.002			09:32:14	Yes
2		[0.00]	0.002	-0.003	0.002			09:32:50	Yes
3		[0.00]	0.001	-0.003	0.001			09:33:26	Yes
Mean:		[0.00]	0.002						
SD:		0.00	0.0003						
%RSD:		0.00	15.71						

Auto-zero performed.

Sequence No.: 2 Autosampler Location: 2
Sample ID: Std 0.5 Date Collected: 11/16/2009 9:34:18 AM
Analyst: Data Type: Original

Replicate Data: Std 0.5

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Bkgnd Area	Bkgnd Height	Time	Peak Stored
1		[0.5]	0.012	0.053	0.013			09:34:35	Yes
2		[0.5]	0.013	0.060	0.014			09:35:11	Yes
3		[0.5]	0.011	0.041	0.012			09:35:46	Yes
Mean:		[0.5]	0.012						
SD:		0.0	0.0009						
%RSD:		0.0	7.39						

Standard number 1 applied. [0.5]
Correlation Coef.: 1.000000 Slope: 0.02333 Intercept: 0.00000

Sequence No.: 3 Autosampler Location: 3
Sample ID: Std 1.0 Date Collected: 11/16/2009 9:36:39 AM
Analyst: Data Type: Original

Replicate Data: Std 1.0

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Bkgnd Area	Bkgnd Height	Time	Peak Stored
1		[1.0]	0.024	0.127	0.026			09:36:56	Yes
2		[1.0]	0.021	0.090	0.023			09:37:32	Yes
3		[1.0]	0.021	0.117	0.023			09:38:08	Yes
Mean:		[1.0]	0.022						
SD:		0.0	0.0016						
%RSD:		0.0	7.36						

Standard number 2 applied. [1.0]
Correlation Coef.: 0.997499 Slope: 0.02235 Intercept: 0.00000

Sequence No.: 4 Autosampler Location: 4

Sample ID: Std 5.0 **Date Collected: 11/16/2009 9:39:01 AM**
Analyst: **Data Type: Original**

Replicate Data: Std 5.0

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Bkgnd Area	Bkgnd Height	Time	Peak Stored
1		[5.0]	0.098	0.398	0.099			09:39:19	Yes
2		[5.0]	0.098	0.394	0.100			09:39:55	Yes
3		[5.0]	0.094	0.358	0.096			09:40:31	Yes
Mean:		[5.0]	0.097						
SD:		0.0	0.0019						
%RSD:		0.0	1.95						

Standard number 3 applied. [5.0]
Correlation Coef.: 0.998801 Slope: 0.01949 Intercept: 0.00000

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Sequence No.: 5 **Autosampler Location: 5**
Sample ID: Std 7.5 **Date Collected: 11/16/2009 9:41:24 AM**
Analyst: **Data Type: Original**

Replicate Data: Std 7.5

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Bkgnd Area	Bkgnd Height	Time	Peak Stored
1		[7.5]	0.139	0.580	0.141			09:41:43	Yes
2		[7.5]	0.145	0.579	0.146			09:42:19	Yes
3		[7.5]	0.141	0.594	0.142			09:42:54	Yes
Mean:		[7.5]	0.141						
SD:		0.0	0.0030						
%RSD:		0.0	2.15						

Standard number 4 applied. [7.5]
Correlation Coef.: 0.999267 Slope: 0.01906 Intercept: 0.00000

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Sequence No.: 6 **Autosampler Location: 6**
Sample ID: Std 10.0 **Date Collected: 11/16/2009 9:43:49 AM**
Analyst: **Data Type: Original**

Replicate Data: Std 10.0

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Bkgnd Area	Bkgnd Height	Time	Peak Stored
1		[10.0]	0.181	0.737	0.182			09:44:07	Yes
2		[10.0]	0.180	0.753	0.182			09:44:43	Yes
3		[10.0]	0.181	0.744	0.183			09:45:19	Yes
Mean:		[10.0]	0.181						
SD:		0.0	0.0003						
%RSD:		0.0	0.14						

Standard number 5 applied. [10.0]
Correlation Coef.: 0.998657 Slope: 0.01853 Intercept: 0.00000
The calibration curve may not be linear.

Calibration data for Se 196.03 **Equation: Linear Through Zero**

ID	Mean Signal (Abs)	Entered Conc. ug/L	Calculated Conc. ug/L	Standard Deviation	%RSD
Cal Blk	0.0000	0	0.000	0.00	15.7
Std 0.5	0.0117	0.5	0.630	0.00	7.4
Std 1.0	0.0221	1.0	1.192	0.00	7.4
Std 5.0	0.0966	5.0	5.216	0.00	1.9
Std 7.5	0.1414	7.5	7.633	0.00	2.2
Std 10.0	0.1806	10.0	9.749	0.00	0.1

Correlation Coef.: 0.998657 Slope: 0.01853 Intercept: 0.00000

Sequence No.: 7 **Autosampler Location: 7**
Sample ID: ICV **Date Collected: 11/16/2009 9:46:14 AM**
Analyst: **Data Type: Original**

Replicate Data: ICV

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Bkgnd Area	Bkgnd Height	Time	Peak Stored
1	8.773	8.773	0.163	0.865	0.164			09:46:33	Yes
2	7.753	7.753	0.144	0.582	0.145			09:47:08	Yes
3	7.643	7.643	0.142	0.566	0.143			09:47:44	Yes
Mean:	8.057	8.057	0.149						
SD:	0.623	0.623	0.0115						
%RSD:	7.731	7.731	7.73						

QC value within limits for Se 196.03 Recovery = 107.42%
All analyte(s) passed QC.

Sequence No.: 8 **Autosampler Location: 1**
Sample ID: ICB **Date Collected: 11/16/2009 9:48:40 AM**
Analyst: **Data Type: Original**

Replicate Data: ICB

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Bkgnd Area	Bkgnd Height	Time	Peak Stored
1	0.424	0.424	0.008	0.057	0.010			09:48:56	Yes
2	0.065	0.065	0.001	0.007	0.003			09:49:32	Yes
3	0.104	0.104	0.002	0.017	0.004			09:50:08	Yes
Mean:	0.198	0.198	0.004						
SD:	0.197	0.197	0.0036						
%RSD:	99.51	99.51	99.51						

QC value within limits for Se 196.03 Recovery = Not calculated
All analyte(s) passed QC.

Sequence No.: 9 **Autosampler Location: 2**
Sample ID: CRA **Date Collected: 11/16/2009 9:51:00 AM**
Analyst: **Data Type: Original**

Replicate Data: CRA

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Bkgnd Area	Bkgnd Height	Time	Peak Stored
1	0.603	0.603	0.011	0.045	0.013			09:51:17	Yes
2	0.627	0.627	0.012	0.046	0.013			09:51:53	Yes
3	0.525	0.525	0.010	0.020	0.011			09:52:28	Yes
Mean:	0.585	0.585	0.011						
SD:	0.053	0.053	0.0010						
%RSD:	9.092	9.092	9.09						

QC value within limits for Se 196.03 Recovery = 117.03%
All analyte(s) passed QC.

Sequence No.: 10 **Autosampler Location: 5**
Sample ID: CCV **Date Collected: 11/16/2009 9:53:22 AM**
Analyst: **Data Type: Original**

Replicate Data: CCV

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Bkgnd Area	Bkgnd Height	Time	Peak Stored
1	7.663	7.663	0.142	0.568	0.144			09:53:40	Yes
2	7.618	7.618	0.141	0.578	0.143			09:54:16	Yes
3	7.702	7.702	0.143	0.631	0.144			09:54:51	Yes
Mean:	7.661	7.661	0.142						

SD:	0.042	0.042	0.0008
%RSD:	0.550	0.550	0.55

QC value within limits for Se 196.03 Recovery = 102.15%
All analyte(s) passed QC.

Sequence No.: 11 **Autosampler Location: 1**
Sample ID: CCB **Date Collected: 11/16/2009 9:55:46 AM**
Analyst: **Data Type: Original**

Replicate Data: CCB

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Bkgnd Area	Bkgnd Height	Time	Peak Stored
1	0.133	0.133	0.002	0.022	0.004			09:56:02	Yes
2	0.086	0.086	0.002	0.010	0.003			09:56:38	Yes
3	0.063	0.063	0.001	0.002	0.003			09:57:13	Yes
Mean:	0.094	0.094	0.002						
SD:	0.036	0.036	0.0007						
%RSD:	38.11	38.11	38.11						

QC value within limits for Se 196.03 Recovery = Not calculated
All analyte(s) passed QC.

Sequence No.: 12 **Autosampler Location: 9**
Sample ID: K0909140-MB **Date Collected: 11/16/2009 9:58:06 AM**
Analyst: **Data Type: Original**

Replicate Data: K0909140-MB

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Bkgnd Area	Bkgnd Height	Time	Peak Stored
1	0.047	0.047	0.001	0.005	0.003			09:58:22	Yes
2	0.035	0.035	0.001	0.009	0.002			09:58:57	Yes
3	0.019	0.019	0.000	0.004	0.002			09:59:33	Yes
Mean:	0.033	0.033	0.001						
SD:	0.014	0.014	0.0003						
%RSD:	40.88	40.88	40.88						

Sequence No.: 13 **Autosampler Location: 10**
Sample ID: LCSS K0909140 **Date Collected: 11/16/2009 10:00:26 AM**
Analyst: **Data Type: Original**

Replicate Data: LCSS K0909140

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Bkgnd Area	Bkgnd Height	Time	Peak Stored
1	1.802	1.802	0.033	0.103	0.035			10:00:43	Yes
2	2.059	2.059	0.038	0.160	0.040			10:01:19	Yes
3	2.045	2.045	0.038	0.156	0.040			10:01:54	Yes
Mean:	1.969	1.969	0.036						
SD:	0.145	0.145	0.0027						
%RSD:	7.355	7.355	7.36						

Sequence No.: 14 **Autosampler Location: 11**
Sample ID: K0909140-001 **Date Collected: 11/16/2009 10:02:47 AM**
Analyst: **Data Type: Original**

Replicate Data: K0909140-001

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Bkgnd Area	Bkgnd Height	Time	Peak Stored
1	0.432	0.432	0.008	0.037	0.010			10:03:05	Yes
2	0.391	0.391	0.007	0.038	0.009			10:03:41	Yes
3	0.390	0.390	0.007	0.036	0.009			10:04:17	Yes

Mean:	0.404	0.404	0.007
SD:	0.024	0.024	0.0004
%RSD:	5.862	5.862	5.86

Sequence No.: 15 **Autosampler Location: 12**
Sample ID: K0909140-001A **Date Collected: 11/16/2009 10:05:10 AM**
Analyst: **Data Type: Original**

Replicate Data: K0909140-001A

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Bkgnd Area	Bkgnd Height	Time	Peak Stored
1	4.453	4.453	0.083	0.347	0.084			10:05:27	Yes
2	4.392	4.392	0.081	0.344	0.083			10:06:03	Yes
3	4.433	4.433	0.082	0.344	0.084			10:06:39	Yes
Mean:	4.426	4.426	0.082						
SD:	0.031	0.031	0.0006						
%RSD:	0.704	0.704	0.70						

Sequence No.: 16 **Autosampler Location: 13**
Sample ID: K0909140-002 **Date Collected: 11/16/2009 10:07:33 AM**
Analyst: **Data Type: Original**

Replicate Data: K0909140-002

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Bkgnd Area	Bkgnd Height	Time	Peak Stored
1	0.469	0.469	0.009	0.041	0.010			10:07:51	Yes
2	0.396	0.396	0.007	0.029	0.009			10:08:26	Yes
3	0.459	0.459	0.009	0.047	0.010			10:09:02	Yes
Mean:	0.441	0.441	0.008						
SD:	0.040	0.040	0.0007						
%RSD:	8.997	8.997	9.00						

Sequence No.: 17 **Autosampler Location: 14**
Sample ID: K0909140-002A **Date Collected: 11/16/2009 10:09:57 AM**
Analyst: **Data Type: Original**

Replicate Data: K0909140-002A

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Bkgnd Area	Bkgnd Height	Time	Peak Stored
1	4.704	4.704	0.087	0.373	0.089			10:10:15	Yes
2	4.532	4.532	0.084	0.364	0.086			10:10:51	Yes
3	4.509	4.509	0.084	0.359	0.085			10:11:27	Yes
Mean:	4.581	4.581	0.085						
SD:	0.106	0.106	0.0020						
%RSD:	2.322	2.322	2.32						

Sequence No.: 18 **Autosampler Location: 15**
Sample ID: K0909140-003 **Date Collected: 11/16/2009 10:12:22 AM**
Analyst: **Data Type: Original**

Replicate Data: K0909140-003

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Bkgnd Area	Bkgnd Height	Time	Peak Stored
1	0.639	0.639	0.012	0.047	0.013			10:12:41	Yes
2	0.692	0.692	0.013	0.062	0.014			10:13:17	Yes
3	0.611	0.611	0.011	0.048	0.013			10:13:52	Yes
Mean:	0.647	0.647	0.012						
SD:	0.041	0.041	0.0008						
%RSD:	6.383	6.383	6.38						

Sequence No.: 19 **Autosampler Location: 16**
Sample ID: K0909140-003A **Date Collected: 11/16/2009 10:14:48 AM**
Analyst: **Data Type: Original**

Replicate Data: K0909140-003A

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Bkgnd Area	Bkgnd Height	Time	Peak Stored
1	4.771	4.771	0.088	0.404	0.090			10:15:07	Yes
2	4.796	4.796	0.089	0.387	0.091			10:15:43	Yes
3	5.099	5.099	0.094	0.435	0.096			10:16:19	Yes
Mean:	4.888	4.888	0.091						
SD:	0.183	0.183	0.0034						
%RSD:	3.741	3.741	3.74						

Sequence No.: 20 **Autosampler Location: 17**
Sample ID: K0909140-004 **Date Collected: 11/16/2009 10:17:15 AM**
Analyst: **Data Type: Original**

Replicate Data: K0909140-004

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Bkgnd Area	Bkgnd Height	Time	Peak Stored
1	0.666	0.666	0.012	0.057	0.014			10:17:31	Yes
2	0.854	0.854	0.016	0.062	0.017			10:18:06	Yes
3	0.649	0.649	0.012	0.051	0.014			10:18:42	Yes
Mean:	0.723	0.723	0.013						
SD:	0.114	0.114	0.0021						
%RSD:	15.78	15.78	15.78						

Sequence No.: 21 **Autosampler Location: 18**
Sample ID: K0909140-004A **Date Collected: 11/16/2009 10:19:33 AM**
Analyst: **Data Type: Original**

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Replicate Data: K0909140-004A

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Bkgnd Area	Bkgnd Height	Time	Peak Stored
1	5.114	5.114	0.095	0.400	0.096			10:19:50	Yes
2	4.856	4.856	0.090	0.379	0.092			10:20:25	Yes
3	4.946	4.946	0.092	0.357	0.093			10:21:01	Yes
Mean:	4.972	4.972	0.092						
SD:	0.131	0.131	0.0024						
%RSD:	2.641	2.641	2.64						

Sequence No.: 22 **Autosampler Location: 5**
Sample ID: CCV **Date Collected: 11/16/2009 10:21:53 AM**
Analyst: **Data Type: Original**

Replicate Data: CCV

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Bkgnd Area	Bkgnd Height	Time	Peak Stored
1	7.793	7.793	0.144	0.586	0.146			10:22:11	Yes
2	8.693	8.693	0.161	0.781	0.163			10:22:47	Yes
3	7.766	7.766	0.144	0.588	0.146			10:23:23	Yes
Mean:	8.084	8.084	0.150						
SD:	0.527	0.527	0.0098						
%RSD:	6.525	6.525	6.52						

QC value within limits for Se 196.03 Recovery = 107.79%
All analyte(s) passed QC.

Sequence No.: 23 **Autosampler Location: 1**
Sample ID: CCB **Date Collected: 11/16/2009 10:24:18 AM**
Analyst: **Data Type: Original**

Replicate Data: CCB

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Bkgnd Area	Bkgnd Height	Time	Peak Stored
1	0.158	0.158	0.003	0.014	0.005			10:24:34	Yes
2	0.089	0.089	0.002	0.015	0.003			10:25:10	Yes
3	0.057	0.057	0.001	0.006	0.003			10:25:46	Yes
Mean:	0.101	0.101	0.002						
SD:	0.052	0.052	0.0010						
%RSD:	51.05	51.05	51.05						

QC value within limits for Se 196.03 Recovery = Not calculated
All analyte(s) passed QC.

Sequence No.: 24 **Autosampler Location: 19**
Sample ID: K0909140-005 **Date Collected: 11/16/2009 10:26:39 AM**
Analyst: **Data Type: Original**

Replicate Data: K0909140-005

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Bkgnd Area	Bkgnd Height	Time	Peak Stored
1	0.616	0.616	0.011	0.054	0.013			10:26:55	Yes
2	0.622	0.622	0.012	0.054	0.013			10:27:31	Yes
3	0.601	0.601	0.011	0.054	0.013			10:28:07	Yes
Mean:	0.613	0.613	0.011						
SD:	0.011	0.011	0.0002						
%RSD:	1.748	1.748	1.75						

Sequence No.: 25 **Autosampler Location: 20**
Sample ID: K0909140-005A **Date Collected: 11/16/2009 10:28:59 AM**
Analyst: **Data Type: Original**

Replicate Data: K0909140-005A

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Bkgnd Area	Bkgnd Height	Time	Peak Stored
1	5.031	5.031	0.093	0.409	0.095			10:29:16	Yes
2	4.987	4.987	0.092	0.406	0.094			10:29:52	Yes
3	4.906	4.906	0.091	0.400	0.093			10:30:27	Yes
Mean:	4.975	4.975	0.092						
SD:	0.063	0.063	0.0012						
%RSD:	1.269	1.269	1.27						

Sequence No.: 26 **Autosampler Location: 21**
Sample ID: K0909140-006 **Date Collected: 11/16/2009 10:31:20 AM**
Analyst: **Data Type: Original**

Replicate Data: K0909140-006

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Bkgnd Area	Bkgnd Height	Time	Peak Stored
1	0.634	0.634	0.012	0.040	0.013			10:31:37	Yes
2	0.578	0.578	0.011	0.050	0.012			10:32:13	Yes
3	0.595	0.595	0.011	0.108	0.013			10:32:48	Yes
Mean:	0.602	0.602	0.011						
SD:	0.029	0.029	0.0005						
%RSD:	4.809	4.809	4.81						

Sequence No.: 27 Autosampler Location: 22
Sample ID: K0909140-006A Date Collected: 11/16/2009 10:33:42 AM
Analyst: Data Type: Original

Replicate Data: K0909140-006A

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Bkgnd Area	Bkgnd Height	Time	Peak Stored
1	4.875	4.875	0.090	0.389	0.092			10:33:59	Yes
2	4.753	4.753	0.088	0.384	0.090			10:34:35	Yes
3	4.829	4.829	0.089	0.383	0.091			10:35:11	Yes
Mean:	4.819	4.819	0.089						
SD:	0.062	0.062	0.0011						
%RSD:	1.285	1.285	1.29						

Sequence No.: 28 Autosampler Location: 23
Sample ID: K0909140-006D Date Collected: 11/16/2009 10:36:04 AM
Analyst: SA 11/16/09 Data Type: Original

Replicate Data: K0909140-006D

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Bkgnd Area	Bkgnd Height	Time	Peak Stored
1	1.902	1.902	0.035	0.118	0.037			10:36:22	Yes
2	2.013	2.013	0.037	0.152	0.039			10:36:58	Yes
3	1.986	1.986	0.037	0.157	0.038			10:37:33	Yes
Mean:	1.967	1.967	0.036						
SD:	0.058	0.058	0.0011						
%RSD:	2.952	2.952	2.95						

Sequence No.: 29 Autosampler Location: 24
Sample ID: K0909140-006DA SA 11/16/09 Date Collected: 11/16/2009 10:38:27 AM
Analyst: Data Type: Original

Replicate Data: K0909140-006DA

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Bkgnd Area	Bkgnd Height	Time	Peak Stored
1	6.916	6.916	0.128	0.543	0.130			10:38:45	Yes
2	6.752	6.752	0.125	0.585	0.127			10:39:21	Yes
3	6.892	6.892	0.128	0.535	0.129			10:39:56	Yes
Mean:	6.853	6.853	0.127						
SD:	0.089	0.089	0.0016						
%RSD:	1.297	1.297	1.30						

Sequence No.: 30 Autosampler Location: 25
Sample ID: K0909140-006SD 11/16/09 Date Collected: 11/16/2009 10:40:50 AM
Analyst: Data Type: Original

Replicate Data: K0909140-006S

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Bkgnd Area	Bkgnd Height	Time	Peak Stored
1	1.929	1.929	0.036	0.156	0.037			10:41:08	Yes
2	1.948	1.948	0.036	0.150	0.038			10:41:43	Yes
3	1.815	1.815	0.034	0.112	0.035			10:42:19	Yes
Mean:	1.897	1.897	0.035						
SD:	0.072	0.072	0.0013						
%RSD:	3.800	3.800	3.80						

Sequence No.: 31 Autosampler Location: 26
Sample ID: K0909140-006SA Date Collected: 11/16/2009 10:43:13 AM
Analyst: Data Type: Original

DA 11/16/09

Replicate Data: K0909140-006SA

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Bkgnd Area	Bkgnd Height	Time	Peak Stored
1	6.649	6.649	0.123	0.532	0.125			10:43:31	Yes
2	6.827	6.827	0.127	0.537	0.128			10:44:07	Yes
3	6.936	6.936	0.129	0.540	0.130			10:44:43	Yes
Mean:	6.804	6.804	0.126						
SD:	0.145	0.145	0.0027						
%RSD:	2.130	2.130	2.13						

Sequence No.: 32 **Autosampler Location: 27**
Sample ID: K0909140-007 **Date Collected: 11/16/2009 10:45:38 AM**
Analyst: **Data Type: Original**

Replicate Data: K0909140-007

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Bkgnd Area	Bkgnd Height	Time	Peak Stored
1	0.491	0.491	0.009	0.042	0.011			10:45:55	Yes
2	0.428	0.428	0.008	0.038	0.010			10:46:31	Yes
3	0.415	0.415	0.008	0.037	0.009			10:47:07	Yes
Mean:	0.445	0.445	0.008						
SD:	0.041	0.041	0.0008						
%RSD:	9.154	9.154	9.15						

Sequence No.: 33 **Autosampler Location: 28**
Sample ID: K0909140-007A **Date Collected: 11/16/2009 10:48:02 AM**
Analyst: **Data Type: Original**

Replicate Data: K0909140-007A

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Bkgnd Area	Bkgnd Height	Time	Peak Stored
1	4.728	4.728	0.088	0.375	0.089			10:48:20	Yes
2	4.886	4.886	0.091	0.374	0.092			10:48:56	Yes
3	4.820	4.820	0.089	0.373	0.091			10:49:32	Yes
Mean:	4.811	4.811	0.089						
SD:	0.079	0.079	0.0015						
%RSD:	1.650	1.650	1.65						

Sequence No.: 34 **Autosampler Location: 5**
Sample ID: CCV **Date Collected: 11/16/2009 10:50:27 AM**
Analyst: **Data Type: Original**

Replicate Data: CCV

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Bkgnd Area	Bkgnd Height	Time	Peak Stored
1	7.586	7.586	0.141	0.592	0.142			10:50:44	Yes
2	7.729	7.729	0.143	0.593	0.145			10:51:20	Yes
3	7.607	7.607	0.141	0.603	0.143			10:51:56	Yes
Mean:	7.641	7.641	0.142						
SD:	0.077	0.077	0.0014						
%RSD:	1.012	1.012	1.01						

QC value within limits for Se 196.03 Recovery = 101.87%
All analyte(s) passed QC.

Sequence No.: 35 **Autosampler Location: 1**
Sample ID: CCB **Date Collected: 11/16/2009 10:52:51 AM**
Analyst: **Data Type: Original**

Replicate Data: CCB

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Bkgnd Area	Bkgnd Height	Time	Peak Stored
1	0.119	0.119	0.002	0.012	0.004			10:53:06	Yes
2	0.095	0.095	0.002	0.019	0.003			10:53:42	Yes
3	0.072	0.072	0.001	0.008	0.003			10:54:18	Yes
Mean:	0.095	0.095	0.002						
SD:	0.023	0.023	0.0004						
%RSD:	24.37	24.37	24.37						

QC value within limits for Se 196.03 Recovery = Not calculated
All analyte(s) passed QC.

Sequence No.: 36 **Autosampler Location: 29**
Sample ID: K0909140-008 **Date Collected: 11/16/2009 10:55:10 AM**
Analyst: **Data Type: Original**

Replicate Data: K0909140-008

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Bkgnd Area	Bkgnd Height	Time	Peak Stored
1	0.320	0.320	0.006	0.031	0.008			10:55:29	Yes
2	0.343	0.343	0.006	0.037	0.008			10:56:05	Yes
3	0.360	0.360	0.007	0.036	0.008			10:56:41	Yes
Mean:	0.341	0.341	0.006						
SD:	0.020	0.020	0.0004						
%RSD:	5.971	5.971	5.97						

Sequence No.: 37 **Autosampler Location: 30**
Sample ID: K0909140-008A **Date Collected: 11/16/2009 10:57:36 AM**
Analyst: **Data Type: Original**

Replicate Data: K0909140-008A

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Bkgnd Area	Bkgnd Height	Time	Peak Stored
1	4.050	4.050	0.075	0.314	0.077			10:57:55	Yes
2	4.144	4.144	0.077	0.325	0.078			10:58:31	Yes
3	4.221	4.221	0.078	0.325	0.080			10:59:07	Yes
Mean:	4.138	4.138	0.077						
SD:	0.086	0.086	0.0016						
%RSD:	2.070	2.070	2.07						

Sequence No.: 38 **Autosampler Location: 31**
Sample ID: K0909140-009 **Date Collected: 11/16/2009 11:00:02 AM**
Analyst: **Data Type: Original**

Replicate Data: K0909140-009

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Bkgnd Area	Bkgnd Height	Time	Peak Stored
1	0.328	0.328	0.006	0.025	0.008			11:00:21	Yes
2	0.288	0.288	0.005	0.021	0.007			11:00:57	Yes
3	0.259	0.259	0.005	0.022	0.006			11:01:33	Yes
Mean:	0.292	0.292	0.005						
SD:	0.035	0.035	0.0006						
%RSD:	12.02	12.02	12.02						

Sequence No.: 39 **Autosampler Location: 32**
Sample ID: K0909140-009A **Date Collected: 11/16/2009 11:02:29 AM**
Analyst: **Data Type: Original**

Replicate Data: K0909140-009A

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Bkgnd Area	Bkgnd Height	Time	Peak Stored
1	3.736	3.736	0.069	0.288	0.071			11:02:44	Yes
2	3.899	3.899	0.072	0.318	0.074			11:03:20	Yes
3	4.062	4.062	0.075	0.303	0.077			11:03:55	Yes
Mean:	3.899	3.899	0.072						
SD:	0.163	0.163	0.0030						
%RSD:	4.181	4.181	4.18						

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Sequence No.: 40 Autosampler Location: 33
Sample ID: K0909140-010 Date Collected: 11/16/2009 11:04:48 AM
Analyst: Data Type: Original

Replicate Data: K0909140-010

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Bkgnd Area	Bkgnd Height	Time	Peak Stored
1	0.287	0.287	0.005	0.023	0.007			11:05:03	Yes
2	0.287	0.287	0.005	0.027	0.007			11:05:39	Yes
3	4.852	4.852	0.090	0.204	0.092			11:06:15	Yes
Mean:	1.809	1.809	0.034						
SD:	2.635	2.635	0.0488						
%RSD:	145.7	145.7	145.71						

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Sequence No.: 41 Autosampler Location: 34
Sample ID: K0909140-010A Date Collected: 11/16/2009 11:07:07 AM
Analyst: Data Type: Original

Replicate Data: K0909140-010A

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Bkgnd Area	Bkgnd Height	Time	Peak Stored
1	5.271	5.271	0.098	0.356	0.099			11:07:23	Yes
2	5.268	5.268	0.098	0.399	0.099			11:07:59	Yes
3	5.227	5.227	0.097	0.390	0.099			11:08:35	Yes
Mean:	5.255	5.255	0.097						
SD:	0.025	0.025	0.0005						
%RSD:	0.470	0.470	0.47						

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Sequence No.: 42 Autosampler Location: 35
Sample ID: K0909140-011 Date Collected: 11/16/2009 11:09:27 AM
Analyst: Data Type: Original

Replicate Data: K0909140-011

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Bkgnd Area	Bkgnd Height	Time	Peak Stored
1	0.355	0.355	0.007	0.004	0.008			11:09:43	Yes
2	0.435	0.435	0.008	0.035	0.010			11:10:18	Yes
3	0.452	0.452	0.008	0.044	0.010			11:10:54	Yes
Mean:	0.414	0.414	0.008						
SD:	0.052	0.052	0.0010						
%RSD:	12.54	12.54	12.54						

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Sequence No.: 43 Autosampler Location: 36
Sample ID: K0909140-011A Date Collected: 11/16/2009 11:11:46 AM
Analyst: Data Type: Original

Replicate Data: K0909140-011A

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Bkgnd Area	Bkgnd Height	Time	Peak Stored

1	5.351	5.351	0.099	0.406	0.101		11:12:02	Yes
2	5.472	5.472	0.101	0.428	0.103		11:12:38	Yes
3	5.433	5.433	0.101	0.436	0.102		11:13:14	Yes
Mean:	5.419	5.419	0.100					
SD:	0.062	0.062	0.0011					
%RSD:	1.143	1.143	1.14					

Sequence No.: 44 **Autosampler Location: 37**
Sample ID: K0909140-012 **Date Collected: 11/16/2009 11:14:07 AM**
Analyst: **Data Type: Original**

Replicate Data: K0909140-012

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Bkgnd Area	Bkgnd Height	Time	Peak Stored
1	0.421	0.421	0.008	0.039	0.009			11:14:24	Yes
2	0.428	0.428	0.008	0.048	0.010			11:15:00	Yes
3	0.350	0.350	0.006	0.036	0.008			11:15:36	Yes
Mean:	0.399	0.399	0.007						
SD:	0.043	0.043	0.0008						
%RSD:	10.78	10.78	10.78						

Sequence No.: 45 **Autosampler Location: 38**
Sample ID: K0909140-012A **Date Collected: 11/16/2009 11:16:29 AM**
Analyst: **Data Type: Original**

Replicate Data: K0909140-012A

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Bkgnd Area	Bkgnd Height	Time	Peak Stored
1	4.941	4.941	0.092	0.392	0.093			11:16:45	Yes
2	5.158	5.158	0.096	0.399	0.097			11:17:21	Yes
3	5.084	5.084	0.094	0.438	0.096			11:17:56	Yes
Mean:	5.061	5.061	0.094						
SD:	0.110	0.110	0.0020						
%RSD:	2.176	2.176	2.18						

Sequence No.: 46 **Autosampler Location: 5**
Sample ID: CCV **Date Collected: 11/16/2009 11:18:49 AM**
Analyst: **Data Type: Original**

Replicate Data: CCV

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Bkgnd Area	Bkgnd Height	Time	Peak Stored
1	7.805	7.805	0.145	0.623	0.146			11:19:08	Yes
2	7.939	7.939	0.147	0.616	0.149			11:19:43	Yes
3	8.159	8.159	0.151	0.640	0.153			11:20:19	Yes
Mean:	7.968	7.968	0.148						
SD:	0.178	0.178	0.0033						
%RSD:	2.239	2.239	2.24						

QC value within limits for Se 196.03 Recovery = 106.24%
All analyte(s) passed QC.

Sequence No.: 47 **Autosampler Location: 1**
Sample ID: CCB **Date Collected: 11/16/2009 11:21:13 AM**
Analyst: **Data Type: Original**

Replicate Data: CCB

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Bkgnd Area	Bkgnd Height	Time	Peak Stored
1	-0.080	-0.080	-0.001	-0.038	0.000			11:21:30	Yes

2	0.082	0.082	0.002	0.013	0.003	11:22:05	Yes
3	0.085	0.085	0.002	0.009	0.003	11:22:41	Yes
Mean:	0.029	0.029	0.001				
SD:	0.094	0.094	0.0018				
%RSD:	330.4	330.4	330.37				

QC value within limits for Se 196.03 Recovery = Not calculated
All analyte(s) passed QC.

Sequence No.: 48 **Autosampler Location: 39**
Sample ID: K0909140-013 **Date Collected: 11/16/2009 11:23:34 AM**
Analyst: **Data Type: Original**

Replicate Data: K0909140-013

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Bkgnd Area	Bkgnd Height	Time	Peak Stored
1	0.452	0.452	0.008	0.050	0.010			11:23:50	Yes
2	0.429	0.429	0.008	0.036	0.010			11:24:26	Yes
3	0.438	0.438	0.008	0.044	0.010			11:25:02	Yes
Mean:	0.440	0.440	0.008						
SD:	0.012	0.012	0.0002						
%RSD:	2.640	2.640	2.64						

Sequence No.: 49 **Autosampler Location: 40**
Sample ID: K0909140-013A **Date Collected: 11/16/2009 11:25:56 AM**
Analyst: **Data Type: Original**

Replicate Data: K0909140-013A

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Bkgnd Area	Bkgnd Height	Time	Peak Stored
1	4.516	4.516	0.084	0.352	0.085			11:26:13	Yes
2	4.697	4.697	0.087	0.365	0.089			11:26:49	Yes
3	4.775	4.775	0.088	0.372	0.090			11:27:25	Yes
Mean:	4.663	4.663	0.086						
SD:	0.133	0.133	0.0025						
%RSD:	2.856	2.856	2.86						

Sequence No.: 50 **Autosampler Location: 41**
Sample ID: K0909140-014 **Date Collected: 11/16/2009 11:28:18 AM**
Analyst: **Data Type: Original**

Replicate Data: K0909140-014

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Bkgnd Area	Bkgnd Height	Time	Peak Stored
1	0.482	0.482	0.009	0.042	0.011			11:28:35	Yes
2	0.476	0.476	0.009	0.049	0.010			11:29:11	Yes
3	0.460	0.460	0.009	0.037	0.010			11:29:47	Yes
Mean:	0.473	0.473	0.009						
SD:	0.011	0.011	0.0002						
%RSD:	2.411	2.411	2.41						

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Sequence No.: 51 **Autosampler Location: 42**
Sample ID: K0909140-014A **Date Collected: 11/16/2009 11:30:41 AM**
Analyst: **Data Type: Original**

Replicate Data: K0909140-014A

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Bkgnd Area	Bkgnd Height	Time	Peak Stored
1	4.034	4.034	0.075	0.322	0.076			11:30:58	Yes
2	4.376	4.376	0.081	0.444	0.083			11:31:34	Yes

3	5.199	5.199	0.096	0.415	0.098		11:32:10	Yes
Mean:	4.536	4.536	0.084					
SD:	0.599	0.599	0.0111					
%RSD:	13.20	13.20	13.20					

Sequence No.: 52 **Autosampler Location: 43**
Sample ID: K0909140-015 **Date Collected: 11/16/2009 11:33:04 AM**
Analyst: **Data Type: Original**

Replicate Data: K0909140-015

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Bkgnd Area	Bkgnd Height	Time	Peak Stored
1	0.712	0.712	0.013	0.056	0.015			11:33:22	Yes
2	0.667	0.667	0.012	0.056	0.014			11:33:58	Yes
3	0.671	0.671	0.012	0.059	0.014			11:34:33	Yes
Mean:	0.683	0.683	0.013						
SD:	0.025	0.025	0.0005						
%RSD:	3.598	3.598	3.60						

Sequence No.: 53 **Autosampler Location: 44**
Sample ID: K0909140-015A **Date Collected: 11/16/2009 11:35:28 AM**
Analyst: **Data Type: Original**

Replicate Data: K0909140-015A

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Bkgnd Area	Bkgnd Height	Time	Peak Stored
1	5.604	5.604	0.104	0.434	0.106			11:35:46	Yes
2	5.423	5.423	0.100	0.441	0.102			11:36:22	Yes
3	5.377	5.377	0.100	0.428	0.101			11:36:58	Yes
Mean:	5.468	5.468	0.101						
SD:	0.120	0.120	0.0022						
%RSD:	2.192	2.192	2.19						

Sequence No.: 54 **Autosampler Location: 45**
Sample ID: K0909140-016 **Date Collected: 11/16/2009 11:37:53 AM**
Analyst: **Data Type: Original**

Replicate Data: K0909140-016

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Bkgnd Area	Bkgnd Height	Time	Peak Stored
1	0.752	0.752	0.014	0.060	0.016			11:38:11	Yes
2	0.642	0.642	0.012	0.061	0.014			11:38:47	Yes
3	1.142	1.142	0.021	0.174	0.023			11:39:23	Yes
Mean:	0.845	0.845	0.016						
SD:	0.263	0.263	0.0049						
%RSD:	31.08	31.08	31.08						

Sequence No.: 55 **Autosampler Location: 46**
Sample ID: K0909140-016A **Date Collected: 11/16/2009 11:40:18 AM**
Analyst: **Data Type: Original**

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Replicate Data: K0909140-016A

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Bkgnd Area	Bkgnd Height	Time	Peak Stored
1	4.752	4.752	0.088	0.399	0.090			11:40:37	Yes
2	4.878	4.878	0.090	0.396	0.092			11:41:12	Yes
3	4.770	4.770	0.088	0.393	0.090			11:41:48	Yes
Mean:	4.800	4.800	0.089						
SD:	0.068	0.068	0.0013						

%RSD: 1.419 1.419 1.42

Sequence No.: 56 **Autosampler Location: 47**
Sample ID: K0909140-017 **Date Collected: 11/16/2009 11:42:43 AM**
Analyst: **Data Type: Original**

Replicate Data: K0909140-017

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Bkgnd Area	Bkgnd Height	Time	Peak Stored
1	0.619	0.619	0.011	0.052	0.013			11:43:02	Yes
2	0.582	0.582	0.011	0.045	0.012			11:43:38	Yes
3	0.628	0.628	0.012	0.060	0.013			11:44:14	Yes
Mean:	0.610	0.610	0.011						
SD:	0.024	0.024	0.0005						
%RSD:	4.012	4.012	4.01						

Sequence No.: 57 **Autosampler Location: 48**
Sample ID: K0909140-017A **Date Collected: 11/16/2009 11:45:09 AM**
Analyst: **Data Type: Original**

Replicate Data: K0909140-017A

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Bkgnd Area	Bkgnd Height	Time	Peak Stored
1	4.667	4.667	0.086	0.372	0.088			11:45:25	Yes
2	4.605	4.605	0.085	0.373	0.087			11:46:01	Yes
3	5.048	5.048	0.094	0.380	0.095			11:46:36	Yes
Mean:	4.773	4.773	0.088						
SD:	0.240	0.240	0.0044						
%RSD:	5.027	5.027	5.03						

Sequence No.: 58 **Autosampler Location: 5**
Sample ID: CCV **Date Collected: 11/16/2009 11:47:28 AM**
Analyst: **Data Type: Original**

Replicate Data: CCV

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Bkgnd Area	Bkgnd Height	Time	Peak Stored
1	7.953	7.953	0.147	0.622	0.149			11:47:46	Yes
2	8.144	8.144	0.151	0.625	0.153			11:48:22	Yes
3	8.184	8.184	0.152	0.611	0.153			11:48:58	Yes
Mean:	8.094	8.094	0.150						
SD:	0.123	0.123	0.0023						
%RSD:	1.523	1.523	1.52						

QC value within limits for Se 196.03 Recovery = 107.91%
All analyte(s) passed QC.

Sequence No.: 59 **Autosampler Location: 1**
Sample ID: CCB **Date Collected: 11/16/2009 11:49:52 AM**
Analyst: **Data Type: Original**

Replicate Data: CCB

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Bkgnd Area	Bkgnd Height	Time	Peak Stored
1	0.136	0.136	0.003	0.015	0.004			11:50:09	Yes
2	0.082	0.082	0.002	-0.001	0.003			11:50:44	Yes
3	0.094	0.094	0.002	0.008	0.003			11:51:20	Yes
Mean:	0.104	0.104	0.002						
SD:	0.029	0.029	0.0005						
%RSD:	27.62	27.62	27.62						

QC value within limits for Se 196.03 Recovery = Not calculated
All analyte(s) passed QC.

Sequence No.: 60 **Autosampler Location: 49**
Sample ID: K0909140-018 **Date Collected: 11/16/2009 11:52:13 AM**
Analyst: **Data Type: Original**

Replicate Data: K0909140-018

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Bkgnd Area	Bkgnd Height	Time	Peak Stored
1	0.696	0.696	0.013	0.061	0.015			11:52:29	Yes
2	0.677	0.677	0.013	0.059	0.014			11:53:04	Yes
3	0.642	0.642	0.012	0.058	0.014			11:53:40	Yes
Mean:	0.672	0.672	0.012						
SD:	0.028	0.028	0.0005						
%RSD:	4.108	4.108	4.11						

Sequence No.: 61 **Autosampler Location: 50**
Sample ID: K0909140-018A **Date Collected: 11/16/2009 11:54:32 AM**
Analyst: **Data Type: Original**

Replicate Data: K0909140-018A

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Bkgnd Area	Bkgnd Height	Time	Peak Stored
1	4.435	4.435	0.082	0.360	0.084			11:54:48	Yes
2	4.475	4.475	0.083	0.364	0.085			11:55:24	Yes
3	4.445	4.445	0.082	0.358	0.084			11:56:00	Yes
Mean:	4.452	4.452	0.082						
SD:	0.021	0.021	0.0004						
%RSD:	0.461	0.461	0.46						

Sequence No.: 62 **Autosampler Location: 51**
Sample ID: K0909140-019 **Date Collected: 11/16/2009 11:56:52 AM**
Analyst: **Data Type: Original**

Replicate Data: K0909140-019

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Bkgnd Area	Bkgnd Height	Time	Peak Stored
1	0.432	0.432	0.008	0.038	0.010			11:57:08	Yes
2	0.409	0.409	0.008	0.029	0.009			11:57:44	Yes
3	0.372	0.372	0.007	0.040	0.009			11:58:20	Yes
Mean:	0.405	0.405	0.007						
SD:	0.030	0.030	0.0006						
%RSD:	7.451	7.451	7.45						

Sequence No.: 63 **Autosampler Location: 52**
Sample ID: K0909140-019A **Date Collected: 11/16/2009 11:59:12 AM**
Analyst: **Data Type: Original**

Replicate Data: K0909140-019A

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Bkgnd Area	Bkgnd Height	Time	Peak Stored
1	5.262	5.262	0.097	0.417	0.099			11:59:29	Yes
2	5.482	5.482	0.102	0.523	0.103			12:00:04	Yes
3	5.639	5.639	0.104	0.435	0.106			12:00:40	Yes
Mean:	5.461	5.461	0.101						
SD:	0.190	0.190	0.0035						
%RSD:	3.470	3.470	3.47						

Sequence No.: 64 **Autosampler Location: 53**
Sample ID: K0909140-020 **Date Collected: 11/16/2009 12:01:33 PM**
Analyst: **Data Type: Original**

Replicate Data: K0909140-020

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Bkgnd Area	Bkgnd Height	Time	Peak Stored
1	-0.173	-0.173	-0.003	-0.069	-0.002			12:01:50	Yes
2	-0.128	-0.128	-0.002	-0.055	-0.001			12:02:25	Yes
3	-0.062	-0.062	-0.001	-0.036	0.001			12:03:01	Yes
Mean:	-0.121	-0.121	-0.002						
SD:	0.056	0.056	0.0010						
%RSD:	45.96	45.96	45.96						

Sequence No.: 65 **Autosampler Location: 54**
Sample ID: K0909140-020A **Date Collected: 11/16/2009 12:03:54 PM**
Analyst: **Data Type: Original**

Replicate Data: K0909140-020A

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Bkgnd Area	Bkgnd Height	Time	Peak Stored
1	8.028	8.028	0.149	0.616	0.150			12:04:11	Yes
2	8.082	8.082	0.150	0.625	0.151			12:04:47	Yes
3	8.151	8.151	0.151	0.617	0.153			12:05:23	Yes
Mean:	8.087	8.087	0.150						
SD:	0.061	0.061	0.0011						
%RSD:	0.760	0.760	0.76						

Sequence No.: 66 **Autosampler Location: 5**
Sample ID: CCV **Date Collected: 11/16/2009 12:06:16 PM**
Analyst: **Data Type: Original**

Replicate Data: CCV

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Bkgnd Area	Bkgnd Height	Time	Peak Stored
1	8.140	8.140	0.151	0.630	0.152			12:06:33	Yes
2	8.029	8.029	0.149	0.627	0.150			12:07:09	Yes
3	8.407	8.407	0.156	0.638	0.157			12:07:45	Yes
Mean:	8.192	8.192	0.152						
SD:	0.194	0.194	0.0036						
%RSD:	2.372	2.372	2.37						

QC value within limits for Se 196.03 Recovery = 109.23%
All analyte(s) passed QC.

Sequence No.: 67 **Autosampler Location: 1**
Sample ID: CCB **Date Collected: 11/16/2009 12:08:39 PM**
Analyst: **Data Type: Original**

Replicate Data: CCB

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Bkgnd Area	Bkgnd Height	Time	Peak Stored
1	0.132	0.132	0.002	0.010	0.004			12:08:56	Yes
2	0.107	0.107	0.002	0.014	0.004			12:09:31	Yes
3	0.063	0.063	0.001	0.014	0.003			12:10:07	Yes
Mean:	0.100	0.100	0.002						
SD:	0.035	0.035	0.0006						
%RSD:	34.85	34.85	34.85						

QC value within limits for Se 196.03 Recovery = Not calculated
All analyte(s) passed QC.

Analysis Begun

Logged In Analyst: ACQMET10 Technique: AA FIAS-Flame
Spectrometer Model: AAnalyst 200, S/N 200S5061701 Autosampler Model: AS-90

Sample Information File: C:\data-AA\ACQMET10\Sample Information\111609-Se.sif
Batch ID: 111609-Se
Results Data Set: 111609-Se
Results Library: R:\ICP\WIP\DATA\K-FLAA-02\Results.mdb

Sequence No.: 68 Autosampler Location:
Sample ID: K0909140-004 Date Collected: 11/16/2009 12:11:16 PM
Analyst: Data Type: Original

Replicate Data: K0909140-004

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Bkgnd Area	Bkgnd Height	Time	Peak Stored
1	0.347	0.347	0.006	0.034	0.008			12:11:28	Yes
2	0.359	0.359	0.007	0.029	0.008			12:12:03	Yes
3	0.377	0.377	0.007	0.032	0.009			12:12:39	Yes
Mean:	0.361	0.361	0.007						
SD:	0.015	0.015	0.0003						
%RSD:	4.207	4.207	4.21						

Sequence No.: 69 Autosampler Location:
Sample ID: K0909140-004A Date Collected: 11/16/2009 12:13:24 PM
Analyst: Data Type: Original

Replicate Data: K0909140-004A

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Bkgnd Area	Bkgnd Height	Time	Peak Stored
1	4.438	4.438	0.082	0.352	0.084			12:13:36	Yes
2	5.257	5.257	0.097	0.401	0.099			12:14:11	Yes
3	1.280	1.280	0.024	0.058	0.025			12:14:47	Yes
Mean:	3.658	3.658	0.068						
SD:	2.100	2.100	0.0389						
%RSD:	57.41	57.41	57.41						

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Sequence No.: 70 Autosampler Location:
Sample ID: K0909140-004A Date Collected: 11/16/2009 12:18:03 PM
Analyst: Data Type: Original

Replicate Data: K0909140-004A

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Bkgnd Area	Bkgnd Height	Time	Peak Stored
1	4.390	4.390	0.081	0.350	0.083			12:18:14	Yes
2	4.268	4.268	0.079	0.340	0.081			12:18:49	Yes
3	4.353	4.353	0.081	0.339	0.082			12:19:25	Yes
Mean:	4.337	4.337	0.080						
SD:	0.062	0.062	0.0012						
%RSD:	1.433	1.433	1.43						

Sequence No.: 71 Autosampler Location:
Sample ID: K0909140-010 Date Collected: 11/16/2009 12:20:12 PM
Analyst: Data Type: Original

Replicate Data: K0909140-010

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Bkgnd Area	Bkgnd Height	Time	Peak Stored
1	0.269	0.269	0.005	0.019	0.007			12:20:23	Yes
2	0.286	0.286	0.005	0.029	0.007			12:20:59	Yes
3	0.287	0.287	0.005	0.035	0.007			12:21:35	Yes
Mean:	0.281	0.281	0.005						
SD:	0.010	0.010	0.0002						
%RSD:	3.469	3.469	3.47						

Sequence No.: 72 **Autosampler Location:**
Sample ID: K0909140-010A **Date Collected: 11/16/2009 12:22:33 PM**
Analyst: **Data Type: Original**

Replicate Data: K0909140-010A

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Bkgnd Area	Bkgnd Height	Time	Peak Stored
1	4.653	4.653	0.086	0.367	0.088			12:22:45	Yes
2	4.614	4.614	0.085	0.344	0.087			12:23:21	Yes
3	4.618	4.618	0.086	0.360	0.087			12:23:57	Yes
Mean:	4.628	4.628	0.086						
SD:	0.021	0.021	0.0004						
%RSD:	0.460	0.460	0.46						

Sequence No.: 73 **Autosampler Location:**
Sample ID: K0909140-014 **Date Collected: 11/16/2009 12:24:42 PM**
Analyst: **Data Type: Original**

Replicate Data: K0909140-014

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Bkgnd Area	Bkgnd Height	Time	Peak Stored
1	0.402	0.402	0.007	0.038	0.009			12:24:54	Yes
2	0.393	0.393	0.007	0.030	0.009			12:25:29	Yes
3	4.678	4.678	0.087	0.797	0.088			12:26:05	Yes
Mean:	1.824	1.824	0.034						
SD:	2.471	2.471	0.0458						
%RSD:	135.5	135.5	135.47						

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Sequence No.: 74 **Autosampler Location:**
Sample ID: K0909140-014 **Date Collected: 11/16/2009 12:27:31 PM**
Analyst: **Data Type: Original**

Replicate Data: K0909140-014

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Bkgnd Area	Bkgnd Height	Time	Peak Stored
1	0.695	0.695	0.013	0.024	0.015			12:27:43	Yes
2	0.796	0.796	0.015	0.072	0.016			12:28:18	Yes
3	0.776	0.776	0.014	0.106	0.016			12:28:54	Yes
Mean:	0.756	0.756	0.014						
SD:	0.053	0.053	0.0010						
%RSD:	7.059	7.059	7.06						

Sequence No.: 75 **Autosampler Location:**
Sample ID: K0909140-014A **Date Collected: 11/16/2009 12:29:38 PM**
Analyst: **Data Type: Original**

Replicate Data: K0909140-014A

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Bkgnd Area	Bkgnd Height	Time	Peak Stored
1	5.030	5.030	0.093	0.420	0.095			12:29:50	Yes

2	5.194	5.194	0.096	0.422	0.098			12:30:26	Yes
3	4.828	4.828	0.089	0.400	0.091			12:31:01	Yes
Mean:	5.017	5.017	0.093						
SD:	0.183	0.183	0.0034						
%RSD:	3.650	3.650	3.65						

Sequence No.: 76 **Autosampler Location:**
Sample ID: K0909140-016 **Date Collected: 11/16/2009 12:31:47 PM**
Analyst: **Data Type: Original**

Replicate Data: K0909140-016

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Bkgnd Area	Bkgnd Height	Time	Peak Stored
1	0.687	0.687	0.013	0.044	0.014			12:31:59	Yes
2	0.681	0.681	0.013	0.061	0.014			12:32:34	Yes
3	0.716	0.716	0.013	0.067	0.015			12:33:10	Yes
Mean:	0.694	0.694	0.013						
SD:	0.019	0.019	0.0003						
%RSD:	2.683	2.683	2.68						

Sequence No.: 77 **Autosampler Location:**
Sample ID: K0909140-016A **Date Collected: 11/16/2009 12:33:52 PM**
Analyst: **Data Type: Original**

Replicate Data: K0909140-016A

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Bkgnd Area	Bkgnd Height	Time	Peak Stored
1	4.945	4.945	0.092	0.409	0.093			12:34:04	Yes
2	4.934	4.934	0.091	0.398	0.093			12:34:40	Yes
3	4.751	4.751	0.088	0.397	0.090			12:35:16	Yes
Mean:	4.877	4.877	0.090						
SD:	0.109	0.109	0.0020						
%RSD:	2.238	2.238	2.24						

Sequence No.: 78 **Autosampler Location:**
Sample ID: CCV **Date Collected: 11/16/2009 12:36:01 PM**
Analyst: **Data Type: Original**

Replicate Data: CCV

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Bkgnd Area	Bkgnd Height	Time	Peak Stored
1	8.326	8.326	0.154	0.624	0.156			12:36:13	Yes
2	8.805	8.805	0.163	0.720	0.165			12:36:49	Yes
3	8.356	8.356	0.155	0.645	0.156			12:37:24	Yes
Mean:	8.496	8.496	0.157						
SD:	0.268	0.268	0.0050						
%RSD:	3.158	3.158	3.16						

11/16/09

Sequence No.: 79 **Autosampler Location:**
Sample ID: CCV **Date Collected: 11/16/2009 12:39:03 PM**
Analyst: **Data Type: Original**

Replicate Data: CCV

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Bkgnd Area	Bkgnd Height	Time	Peak Stored
1	7.879	7.879	0.146	0.590	0.148			12:39:14	Yes
2	7.971	7.971	0.148	0.633	0.149			12:39:50	Yes
3	8.151	8.151	0.151	0.633	0.153			12:40:25	Yes
Mean:	8.000	8.000	0.148						

SD:	0.138	0.138	0.0026
%RSD:	1.731	1.731	1.73

Sequence No.: 80 Autosampler Location:
Sample ID: CCB Date Collected: 11/16/2009 12:41:13 PM
Analyst: Data Type: Original

Replicate Data: CCB

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Bkgnd Area	Bkgnd Height	Time	Peak Stored
1	0.137	0.137	0.003	0.022	0.004			12:41:25	Yes
2	0.129	0.129	0.002	0.018	0.004			12:42:00	Yes
3	0.097	0.097	0.002	-0.001	0.003			12:42:36	Yes
Mean:	0.121	0.121	0.002						
SD:	0.021	0.021	0.0004						
%RSD:	17.29	17.29	17.29						

Service Request Summary

Folder #: **K0909140**
Client Name: URS Corporation
Project Name: Boise St. Helens Pulp and Paper Mill-2009
Project Number:

Report To: David Weatherby
URS Corporation
111 SW Columbia, Suite 1500
Portland, OR 97201
Phone Number: 503-948-7219
Cell Number:
Fax Number: 503-222-4292
E-mail: david_weatherby@urscorp.com

Project Chemist: Lynda Huckestein
Originating Lab: KELSO
Logged By: FADAIR
Date Received: 9/29 - 10/ 9/09
Internal Due Date: 11/6/09
QAP: LAB QAP
Qualifier Set: CAS Standard
Formset: CAS Standard
Merged?: Y
Report to MDL?: Y
P.O. Number: 169357
EDD: GISKEY 3.1

105 - 2 oz-Glass Jar WM CLEAR Teflon Liner 4-deg C
65 - 32 oz-Glass Jar WM CLEAR Teflon Liner Unpreserved
34 - 8 oz-Glass Jar WM CLEAR Teflon Liner Unpreserved

Location: SUBBED, K-Delilah-36, K-Empty Bottles, K-Disposed, K-Delilah-48, In Lab, K-Delilah-33, K-Delilah-57, K-ATHENA-46, K-ATHENA-45

					GenChem		Metals			SVG	SVM	SMO	TS	s Analytical S
CAS Samp No.	Client Samp No.	Matrix	Collected		ASTM D4129-82M/ TOC	ASTM D422/ Part Size	6020/ Metals T	7471A/ Hg	7742/ Se T	8082/ PCB_LL	8270C SIM/ PAH_SIM	Archive/ Archive -20C	TS-MET/ Total Solids	1613B/ Dioxins Furans
K0909140-001	M-4-A	Sediment	9/28/09	0000	V	V	V	V	V	V	V	V	V	V
K0909140-002	M-4-B	Sediment	9/28/09	0000	V	V	V	V	V	V	V	V	V	V
K0909140-003	M-4-C	Sediment	9/28/09	0000	V	V	V	V	V	V	V	V	V	V
K0909140-004	M-1-B	Sediment	10/7/09	0000	V	V	V	V	V	V	V	V	V	V
K0909140-005	M-2-C	Sediment	10/6/09	0000	V	V	V	V	V	V	V	V	V	V
K0909140-006	M-2-A	Sediment	10/6/09	0000	V	V	V	V	V	V	V	V	V	V
K0909140-007	M-3-B	Sediment	10/5/09	0000	V	V	V	V	V	V	V	V	V	V
K0909140-008	M-2-B	Sediment	10/6/09	0000	V	V	V	V	V	V	V	V	V	V
K0909140-009	M-1-C	Sediment	10/7/09	0000	V	V	V	V	V	V	V	V	V	V
K0909140-010	M-3-C	Sediment	10/5/09	0000	V	V	V	V	V	V	V	V	V	V
K0909140-011	B-1-A	Sediment	10/9/09	0000	V	V	V	V	V	V	V	V	V	V
K0909140-012	B-1-B	Sediment	10/9/09	0000	V	V	V	V	V	V	V	V	V	V
K0909140-013	M-3-A	Sediment	10/5/09	0000	V	V	V	V	V	V	V	V	V	V
K0909140-014	M-1-A	Sediment	10/7/09	0000	V	V	V	V	V	V	V	V	V	V
K0909140-015	M-5-B	Sediment	9/28/09	0000	V	V	V	V	V	V	V	V	V	V
K0909140-016	M-5-A	Sediment	9/28/09	0000	V	V	V	V	V	V	V	V	V	V
K0909140-017	M-5-C	Sediment	9/28/09	0000	V	V	V	V	V	V	V	V	V	V
K0909140-018	M-5-B2	Sediment	9/28/09	0000	V	V	V	V	V	V	V		V	V
K0909140-019	B-1-C	Sediment	10/9/09	0000	V	V	V	V	V	V	V	V	V	V

Folder Comments:

More samples to be added to this login. USE JAR DESIGNATED FOR YOUR TEST ONLY. MS/MSD on sample -006

Service Request Summary

Folder #: **K0909140**
Client Name: URS Corporation
Project Name: Boise St. Helens Pulp and Paper Mill-2009
Project Number:

Report To: David Weatherby
URS Corporation
111 SW Columbia, Suite 1500
Portland, OR 97201
Phone Number: 503-948-7219
Cell Number:
Fax Number: 503-222-4292
E-mail: david_weatherby@urscorp.com

Project Chemist: Lynda Huckestein
Originating Lab: KELSO
Logged By: FADAIR
Date Received: 9/29 - 10/ 9/09
Internal Due Date: 11/6/09
QAP: LAB QAP
Qualifier Set: CAS Standard
Formset: CAS Standard
Merged?: Y
Report to MDL?: Y
P.O. Number: 169357
EDD: GISKEY 3.1

105 - 2 oz-Glass Jar WM CLEAR Teflon Liner 4-deg C
65 - 32 oz-Glass Jar WM CLEAR Teflon Liner Unpreserved
34 - 8 oz-Glass Jar WM CLEAR Teflon Liner Unpreserved

Location: SUBBED, K-Delilah-36, K-Empty Bottles, K-Disposed, K-Delilah-48, In Lab, K-Delilah-33, K-Delilah-57, K-ATHENA-46, K-ATHENA-45

Test Comments:

Group	Test/Method	Samples	Comments
Metals	Hg/7471A	1-19	28 day hold time applies
Metals	Metals T/6020	1-19	Sb,As,Cd,Pb,Zn
SMO	Archive -20C/Archive	1-17, 19	Price/month/6months. Start 60 days after data reported
SubLab	Dioxins Furans/1613B	1-19	Subbed to Axys

380

Columbia Analytical Services Inc.

Client : URS Corp

Project Chemist : Lynda Huckestein

Project Name : Boise/Office Max

Service Request : k0909140

Project Number :

SMO LimsTemplate ID :

Project Description :

QAPP/SOW Information :

Reporting

Tier Level :

PDF:

Report to :

In result field use :

EDD :

Flagging Requirements :

Other Requirements : Project requirements attached.

Sample Considerations

Sample Limitations : Samples generated using project specific MIS procedure. Use the aliquot generated for your test only.

Sample Prep/Analysis : USE THE JAR DESIGNATED FOR YOUR TEST.

Non-Standard Holdtimes : 28 day hold time for mercury. Samples frozen to extend the holding time for organics (1 year hold time applies).

Historical Data :

Comments :

Service Request # K0909140 (HNO3)_____
Calibration _____112009D_____ + 112409D Zn+Pb redigest
QC in calibration__112009D_____
QC Service Request # K0909140_____
STARLIMS Batch # 180269_____

ICP-MS Data Review Form

	Yes	No	NA
1. Appropriate standardization completed	X		
2. ICV within 10 % of true value	X		
3. CCV's in control	X		
4. CCB's and/or ICB's below MRL	X		
5. Method blank below MRL	X		
6. LCS in control	X		
7. Spike and duplicate in control	X	X	
8. All analytes within instrument linear range	X		
9. Adequate rinse out time allowed	X		
10. Internal standards in control	X		
11. Interferences checked	X		
12. Se over MRL			X
13. CRA run	X		
14. ICSA and ICSAB in control	X		
15. Serial dilution run	X		
16. Post spike in control	X	X	

Comments: Bad sample aliquot for Pb. Sample much higher than spikes. Post spike out of control for Zn. Report Zn & Pb from redigest.

Primary Review by _____ Date 12/21/09
Secondary Review by _____ Date 12/25/09
R:\icp\misc\data review forms\PQ ExCell review form

Sample List

Num	Label	Type	Weight	Volume	Dilution	Rack	Row	Column	Height
1	Cal. Blk	Blank	0 kg	0 ml	1.00	0	1	1	145
2	Cal. Stn	Fully Quant Standard	0 kg	0 ml	1.00	0	1	2	145
3	ICV1	Unknown	0 kg	0 ml	1.00	0	1	3	145
4	CCV1	Unknown	0 kg	0 ml	1.00	0	1	2	145
5	ICB1	Unknown	0 kg	0 ml	1.00	0	1	1	145
6	CCB1	Unknown	0 kg	0 ml	1.00	0	1	1	145
7	SOIL CRA	Unknown	0 kg	0 ml	1.00	0	1	4	145
8	ICSA	Unknown	0 kg	0 ml	1.00	0	1	5	145
9	ICSAB	Unknown	0 kg	0 ml	1.00	0	1	6	145
10	K09109140-MB 1/5	Unknown	0 kg	0 ml	1.00	1	1	1	145
11	LCSS K0909140 1/50	Unknown	0 kg	0 ml	1.00	1	1	2	145
12	K0909140-006 1/5	Unknown	0 kg	0 ml	1.00	1	1	3	145
13	K0909140-006 1/25L	Unknown	0 kg	0 ml	1.00	1	1	4	145
14	K0909140-006 1/5 +50A	Unknown	0 kg	0 ml	1.00	1	1	5	145
15	K0909140-006 1/25S	Unknown	0 kg	0 ml	1.00	1	1	6	145
16	K0909140-006 1/25SD	Unknown	0 kg	0 ml	1.00	1	1	7	145
17	CCV2	Unknown	0 kg	0 ml	1.00	0	1	2	145
18	CCB2	Unknown	0 kg	0 ml	1.00	0	1	1	145
19	K0909140-001 1/5	Unknown	0 kg	0 ml	1.00	1	1	8	145
20	K0909140-002 1/5	Unknown	0 kg	0 ml	1.00	1	1	9	145
21	K0909140-003 1/5	Unknown	0 kg	0 ml	1.00	1	1	10	145
22	K0909140-004 1/5	Unknown	0 kg	0 ml	1.00	1	1	11	145
23	K0909140-005 1/5	Unknown	0 kg	0 ml	1.00	1	1	12	145
24	K0909140-007 1/5	Unknown	0 kg	0 ml	1.00	1	2	1	145
25	K0909140-008 1/5	Unknown	0 kg	0 ml	1.00	1	2	2	145
26	K0909140-009 1/5	Unknown	0 kg	0 ml	1.00	1	2	3	145
27	K0909140-010 1/5	Unknown	0 kg	0 ml	1.00	1	2	4	145
28	K0909140-011 1/5	Unknown	0 kg	0 ml	1.00	1	2	5	145
29	CCV3	Unknown	0 kg	0 ml	1.00	0	1	2	145
30	CCB3	Unknown	0 kg	0 ml	1.00	0	1	1	145
31	K0909140-012 1/5	Unknown	0 kg	0 ml	1.00	1	2	6	145
32	K0909140-013 1/5	Unknown	0 kg	0 ml	1.00	1	2	7	145
33	K0909140-014 1/5	Unknown	0 kg	0 ml	1.00	1	2	8	145
34	K0909140-015 1/5	Unknown	0 kg	0 ml	1.00	1	2	9	145
35	K0909140-016 1/5	Unknown	0 kg	0 ml	1.00	1	2	10	145
36	K0909140-017 1/5	Unknown	0 kg	0 ml	1.00	1	2	11	145
37	K0909140-018 1/5	Unknown	0 kg	0 ml	1.00	1	2	12	145
38	K0909140-019 1/5	Unknown	0 kg	0 ml	1.00	1	3	1	145
39	CCV4	Unknown	0 kg	0 ml	1.00	0	1	2	145
40	CCB4	Unknown	0 kg	0 ml	1.00	0	1	1	145

Instrument Setup - Sample Configuration

Sample	Configuration	Date
All Samples	acqmet11	8:01:59 11/20/09

Instrument Setup - Configurations

Configuration Name - acqmet11
Description - PQExcell CCT Sim Default
Date - 8:01:59 11/20/09
Maximum Uptake Time - 0
Maximum Washout Time - 0
S-Option Pump Running - No
Plasma Screen Forward - No
Makeup Gas On - No
Use CCT - No
Use Accessory Gas - No

Setting	Value
Extraction	-500.00
Lens1	-5.00
Lens2	-75.00
Lens3	5.00
Pole Bias	3.00
Sampling Depth	350.00
Horizontal	-70.00
Vertical	55.00
Cool	13.00
Auxiliary	0.60
Nebuliser	0.78
Forward power	1,420.00
HT1 Voltage	1,900.00
HT2 Voltage	2,600.00
D1	-36.00
Focus	10.00

ExCell Mass Calibration Date: 11/20/2009

Mass	Mass DAC	Peak Width (AMU)	Error (AMU)	Include
6.015	1322	0.717	-0.014	TRUE
7.016	1575	0.665	-0.019	TRUE
9.012	2089	0.717	0.009	TRUE
23.985	5900	0.716	0.037	TRUE
24.986	6147	0.716	0.008	TRUE
25.983	6400	0.665	0.007	TRUE
26.982	6654	0.716	0.008	TRUE
53.949	13503	0.818	-0.011	TRUE
55.935	14010	0.818	-0.003	TRUE
56.935	14270	0.818	0.02	TRUE
57.934	14517	0.818	-0.008	TRUE
58.933	14764	0.818	-0.035	TRUE
69.925	17572	0.818	0.017	TRUE
75.92	19086	0.869	-0.025	TRUE
77.919	19593	0.869	-0.03	TRUE
112.904	28499	0.868	-0.008	TRUE
114.904	29006	0.868	-0.015	TRUE
118.903	30053	0.817	0.099	TRUE
126.904	32061	0.868	-0.013	TRUE
128.905	32575	0.817	0.006	TRUE
130.905	33082	0.817	-0.003	TRUE
131.905	33335	0.868	-0.008	TRUE
133.905	33849	0.817	0.01	TRUE
135.906	34356	0.817	0	TRUE
139.905	35376	0.868	0.008	TRUE
141.908	35883	0.868	-0.004	TRUE
155.923	39445	0.868	-0.031	TRUE
157.924	39959	0.817	-0.014	TRUE
205.974	52205	0.816	-0.003	TRUE
206.976	52465	0.816	0.016	TRUE
207.977	52718	0.867	0.008	TRUE
208.98	52972	0.816	0	TRUE
238.051	60382	0.816	-0.01	TRUE

Excluded In Calib | Excluded In Results | Peak Not Selected | Multi Element | Semi Quant | Internal Standard | Standard Addition

Uncorrected ICPS Per Mass

S-Calibration Has Edited Standard
F-Interference Correction Failed
E-Calibration Edited
T-Tripped
I-Invalid Calibration
P-Pulse Counting
V-Valley Integration Failed
M-Result Over Max

Run	Label	TimeStamp	6Li	7Li	9Be	59Co	115In	208Pb
1	Stability 11/20/09	11/20/2009 8:15:39 A	(P)0.000	(P)39360.014	(P)12739.514	(P)69254.309	(P)70931.854	(P)26929.692
2	Stability 11/20/09	11/20/2009 8:16:41 A	(P)0.833	(P)39612.580	(P)12768.539	(P)68749.209	(P)69555.426	(P)26838.186
3	Stability 11/20/09	11/20/2009 8:17:43 A	(P)0.667	(P)39064.245	(P)12599.056	(P)68600.331	(P)69861.923	(P)26824.494
4	Stability 11/20/09	11/20/2009 8:18:45 A	(P)0.667	(P)39179.025	(P)12698.145	(P)68499.025	(P)69267.372	(P)26145.070
5	Stability 11/20/09	11/20/2009 8:19:47 A	(P)0.000	(P)38108.632	(P)12516.819	(P)68498.507	(P)69583.398	(P)26521.763
	Mean of Stability 11/20	11/20/2009 8:15:39 A	(P)0.433	(P)39064.899	(P)12664.414	(P)68720.276	(P)69839.995	(P)26651.841
	SD of Stability 11/20/09		(P)0.401	(P)573.262	(P)104.494	(P)315.654	(P)645.631	(P)322.285
	%RSD of Stability 11		(P)92.628	(P)1.467	(P)0.825	(P)0.459	(P)0.924	(P)1.209

Run	Label	TimeStamp	209Bi	232Th	238U
1	Stability 11/20/09	11/20/2009 8:15:39 A	(P)50172.284	(P)0.167	(P)40014.143
2	Stability 11/20/09	11/20/2009 8:16:41 A	(P)47650.004	(P)0.000	(P)39122.670
3	Stability 11/20/09	11/20/2009 8:17:43 A	(P)46446.217	(P)0.167	(P)38975.777
4	Stability 11/20/09	11/20/2009 8:18:45 A	(P)45220.799	(P)0.167	(P)38786.262
5	Stability 11/20/09	11/20/2009 8:19:47 A	(P)44855.817	(P)0.167	(P)38956.048
	Mean of Stability 11/20	11/20/2009 8:15:39 A	(P)46869.024	(P)0.133	(P)39170.980
	SD of Stability 11/20/09		(P)2148.829	(P)0.075	(P)486.201
	%RSD of Stability 11		(P)4.585	(P)55.902	(P)1.241

Instrument ID: K-ICP-MS-02
Experiment: 11-20-09D
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #180269

Sample Name:		**Cal. Blk**			**Mean**	**SD**	**%RSD**
TimeStamp		**11/20/09 17:44**					
Arsenic	75	0.0028	-0.0081	0.0053	**0**	0.0071	0
Cadmium	111	0.0008	-0.0029	0.0021	**0**	0.0026	0
Cadmium	114	0.0006	-0.0003	-0.0003	**0**	0.0005	0
Lead	206	-0.0021	-0.0048	0.0069	**0**	0.0061	0
Lead	207	-0.0018	-0.0035	0.0053	**0**	0.0047	0
Lead	208	-0.0025	-0.0033	0.0058	**0**	0.005	0
Molybdenum	95	-0.0016	0.0019	-0.0002	**0**	0.0018	0
Molybdenum	97	-0.0047	0.0043	0.0003	**0**	0.0045	0
Molybdenum	98	-0.0003	-0.0012	0.0015	**0**	0.0013	0
Selenium	77	0.011	-0.0163	0.0053	**0**	0.0144	0
Selenium	78	-0.1159	0.093	0.0229	**0**	0.1063	0
Selenium	82	0.0236	-0.0426	0.019	**0**	0.0369	0
Zinc	66	-0.0041	-0.0091	0.0132	**0**	0.0117	0
Zinc	67	-0.0307	0.0263	0.0044	**0**	0.0287	0
Zinc	68	-0.003	0.0047	-0.0018	**0**	0.0041	0

Internal Standard Factors:

Rhodium	103	0.995	0.998	1.007	**0.995**	n/a	n/a
Indium	115	0.997	0.998	1.005	**0.997**	n/a	n/a
Lutetium	175	0.973	0.996	1.033	**0.973**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 11-20-09D
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #180269

Sample Name:		**Cal. Stn**			**Mean**	**SD**	**%RSD**
TimeStamp		**11/20/09 17:47**					
Arsenic	75	24.78	25.09	25.13	**25**	0.1926	0.7705
Cadmium	111	24.74	24.98	25.29	**25**	0.2742	1.097
Cadmium	114	25.02	24.92	25.06	**25**	0.076	0.304
Lead	206	25.05	25.21	24.74	**25**	0.2372	0.949
Lead	207	24.77	25.16	25.06	**25**	0.2031	0.8126
Lead	208	24.73	25.17	25.1	**25**	0.2365	0.9461
Molybdenum	95	24.3	25.42	25.28	**25**	0.6129	2.452
Molybdenum	97	24.51	25	25.48	**25**	0.4847	1.939
Molybdenum	98	24.38	25.14	25.48	**25**	0.5639	2.256
Selenium	77	24.52	25.02	25.47	**25**	0.4762	1.905
Selenium	78	24.66	25.18	25.16	**25**	0.292	1.168
Selenium	82	24.59	25.25	25.16	**25**	0.3566	1.426
Zinc	66	24.76	25.15	25.1	**25**	0.2131	0.8523
Zinc	67	24.73	25.3	24.97	**25**	0.2893	1.157
Zinc	68	24.64	25.22	25.14	**25**	0.3183	1.273

Internal Standard Factors:

Rhodium	103	0.995	1.015	1.024	**0.995**	n/a	n/a
Indium	115	1.003	1.012	1.019	**1.003**	n/a	n/a
Lutetium	175	1.011	1.023	1.023	**1.011**	n/a	n/a

Instrument ID: K-ICP-MS-02 | **Method: EPA 6020**
Experiment: 11-20-09D | **Analyst: Greg Jasper**
Units: µg/L (ppb) | **STARLIMS #180269**

Sample Name:		**ICV1**			**Mean**	**SD**	**%RSD**
TimeStamp		**11/20/09 17:49**					
Arsenic	75	23.9	24.05	23.76	**23.9**	0.1433	0.5996
Cadmium	111	11.96	12.12	12.2	**12.09**	0.1223	1.012
Cadmium	114	11.93	12.1	11.99	**12.01**	0.085	0.7079
Lead	206	22.92	22.53	22.79	**22.75**	0.1995	0.8771
Lead	207	26.26	25.04	25.97	**25.76**	0.6405	2.487
Lead	208	24.95	24.15	24.56	**24.56**	0.3982	1.622
Molybdenum	95	24.38	24.25	24.83	**24.49**	0.3032	1.238
Molybdenum	97	24.99	25.3	25.25	**25.18**	0.1651	0.6558
Molybdenum	98	24.21	25.01	24.76	**24.66**	0.4094	1.66
Selenium	77	23.57	22.44	24.17	**23.39**	0.8795	3.759
Selenium	78	22.92	22.95	23.69	**23.19**	0.4349	1.876
Selenium	82	23.23	22.98	23.4	**23.2**	0.2137	0.9209
Zinc	66	24.03	24.38	24.3	**24.24**	0.1857	0.7663
Zinc	67	28.35	28.52	28.22	**28.36**	0.152	0.536
Zinc	68	27.35	27.63	27.52	**27.5**	0.1407	0.5116

Internal Standard Factors:

Rhodium	103	1.024	1.037	1.042	**1.024**	n/a	n/a
Indium	115	1.034	1.04	1.048	**1.034**	n/a	n/a
Lutetium	175	1.053	1.033	1.051	**1.053**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 11-20-09D
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #180269

Sample Name:		**CCV1**			**Mean**	**SD**	**%RSD**
TimeStamp		**11/20/09 17:52**					
Arsenic	75	24.95	25.06	25	**25.01**	0.0571	0.2285
Cadmium	111	24.85	24.88	24.76	**24.83**	0.0655	0.2636
Cadmium	114	24.75	25.05	24.92	**24.91**	0.1502	0.603
Lead	206	25.22	24.86	24.77	**24.95**	0.2371	0.9503
Lead	207	25.64	25.29	25.06	**25.33**	0.2904	1.147
Lead	208	25.63	25.05	24.97	**25.21**	0.3584	1.421
Molybdenum	95	24.82	25.14	25.03	**25**	0.1614	0.6458
Molybdenum	97	25.36	25.24	25.91	**25.51**	0.3548	1.391
Molybdenum	98	25.46	24.82	25.55	**25.28**	0.4013	1.588
Selenium	77	24.71	25.12	24.77	**24.86**	0.2198	0.884
Selenium	78	24.9	24.81	24.87	**24.86**	0.0479	0.1927
Selenium	82	24.61	24.96	24.85	**24.8**	0.1798	0.7248
Zinc	66	25	24.58	24.92	**24.84**	0.222	0.8939
Zinc	67	24.91	24.56	25	**24.82**	0.2291	0.9228
Zinc	68	24.65	24.5	24.82	**24.66**	0.1587	0.6437

Internal Standard Factors:

Rhodium	103	1.056	1.049	1.053	**1.056**	n/a	n/a
Indium	115	1.047	1.056	1.056	**1.047**	n/a	n/a
Lutetium	175	1.07	1.057	1.056	**1.07**	n/a	n/a

Instrument ID: K-ICP-MS-02 | **Method: EPA 6020**
Experiment: 11-20-09D | **Analyst: Greg Jasper**
Units: µg/L (ppb) | **STARLIMS #180269**

Sample Name:		**ICB1**			**Mean**	**SD**	**%RSD**
TimeStamp		**11/20/09 17:55**					
Arsenic	75	0.032	0.0713	0.0281	**0.0438**	0.0239	54.5
Cadmium	111	0.0004	-0.0012	0.0005	**-0.0001**	0.001	910.1
Cadmium	114	0.0007	-0.0014	0.0013	**0.0002**	0.0014	803.8
Lead	206	0.0038	-0.0013	-0.002	**0.0002**	0.0032	1705
Lead	207	-0.003	0.0006	-0.003	**-0.0018**	0.0021	116.2
Lead	208	0.0028	0.0002	-0.0007	**0.0008**	0.0018	240.1
Molybdenum	95	0.1885	0.1209	0.0938	**0.1344**	0.0488	36.3
Molybdenum	97	0.1923	0.1228	0.1007	**0.1386**	0.0478	34.48
Molybdenum	98	0.1812	0.1185	0.0935	**0.1311**	0.0452	34.46
Selenium	77	0.0371	-0.0359	-0.0319	**-0.0103**	0.041	400.3
Selenium	78	-0.2053	-0.4198	-0.0073	**-0.2108**	0.2063	97.88
Selenium	82	0.0894	0.1678	0.0653	**0.1075**	0.0536	49.87
Zinc	66	-0.0146	-0.0017	-0.0117	**-0.0093**	0.0067	72.23
Zinc	67	-0.0113	-0.0343	-0.0247	**-0.0234**	0.0116	49.32
Zinc	68	-0.0084	0.0098	-0.0073	**-0.002**	0.0102	520.9

Internal Standard Factors:

Rhodium	103	1.069	1.076	1.088	**1.069**	n/a	n/a
Indium	115	1.077	1.078	1.096	**1.077**	n/a	n/a
Lutetium	175	1.07	1.066	1.056	**1.07**	n/a	n/a

Instrument ID: K-ICP-MS-02 | **Method: EPA 6020**
Experiment: 11-20-09D | **Analyst: Greg Jasper**
Units: µg/L (ppb) | **STARLIMS #180269**

Sample Name:		**CCB1**			**Mean**	**SD**	**%RSD**
TimeStamp		**11/20/09 17:58**					
Arsenic	75	-0.0225	0.0368	0.0754	**0.0299**	0.0493	164.9
Cadmium	111	0.0004	-0.0002	0.0009	**0.0004**	0.0005	137.8
Cadmium	114	0.0006	-0.0002	0.0014	**0.0006**	0.0008	128.9
Lead	206	-0.0023	-0.0011	-0.002	**-0.0018**	0.0006	35.19
Lead	207	-0.0009	-0.0024	0.0037	**0.0001**	0.0032	2586
Lead	208	-0.0008	-0.0008	0.0004	**-0.0004**	0.0007	164.1
Molybdenum	95	0.039	0.0334	0.0309	**0.0344**	0.0042	12.09
Molybdenum	97	0.0323	0.0415	0.0381	**0.0373**	0.0046	12.46
Molybdenum	98	0.0341	0.0357	0.0259	**0.0319**	0.0052	16.44
Selenium	77	0.0426	-0.2422	-0.1738	**-0.1245**	0.1487	119.5
Selenium	78	-0.0197	-0.2036	0.0163	**-0.069**	0.118	170.9
Selenium	82	-0.0552	-0.1087	0.0997	**-0.0214**	0.1082	505.4
Zinc	66	-0.0183	-0.0022	0.0027	**-0.0059**	0.011	185.8
Zinc	67	0.0045	-0.0196	-0.0079	**-0.0077**	0.012	156.9
Zinc	68	-0.0084	-0.0169	-0.022	**-0.0158**	0.0068	43.45

Internal Standard Factors:

Rhodium	103	1.072	1.082	1.096	**1.072**	n/a	n/a
Indium	115	1.08	1.096	1.094	**1.08**	n/a	n/a
Lutetium	175	1.089	1.071	1.099	**1.089**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 11-20-09D
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #180269

Sample Name:		**SOIL CRA**			**Mean**	**SD**	**%RSD**
TimeStamp		**11/20/09 18:01**					
Arsenic	75	1.025	1.033	0.9839	**1.014**	0.0262	2.585
Cadmium	111	0.0306	0.0329	0.036	**0.0332**	0.0027	8.131
Cadmium	114	0.0423	0.0332	0.0353	**0.0369**	0.0048	12.91
Lead	206	0.0964	0.092	0.0896	**0.0927**	0.0035	3.728
Lead	207	0.0946	0.0953	0.0976	**0.0958**	0.0016	1.663
Lead	208	0.0965	0.0962	0.0958	**0.0962**	0.0004	0.3729
Molybdenum	95	0.1122	0.1195	0.1163	**0.116**	0.0037	3.159
Molybdenum	97	0.1253	0.1346	0.1116	**0.1239**	0.0116	9.346
Molybdenum	98	0.1116	0.1238	0.1165	**0.1173**	0.0062	5.268
Selenium	77	1.744	1.627	1.793	**1.721**	0.0852	4.947
Selenium	78	1.592	1.504	1.908	**1.668**	0.2123	12.73
Selenium	82	1.932	1.83	1.753	**1.838**	0.0901	4.903
Zinc	66	0.9005	0.9221	0.918	**0.9135**	0.0115	1.256
Zinc	67	0.895	0.8088	0.8119	**0.8386**	0.0489	5.834
Zinc	68	0.9059	0.8956	0.8879	**0.8964**	0.009	1.009

Internal Standard Factors:

Rhodium	103	1.081	1.079	1.097	**1.081**	n/a	n/a
Indium	115	1.079	1.09	1.1	**1.079**	n/a	n/a
Lutetium	175	1.087	1.113	1.093	**1.087**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 11-20-09D
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #180269

Sample Name:		**ICSA**			**Mean**	**SD**	**%RSD**
TimeStamp		**11/20/09 18:03**					
Arsenic	75	0.0526	0.0031	0.068	**0.0412**	0.0339	82.19
Cadmium	111	0.1251	0.1292	0.118	**0.1241**	0.0057	4.571
Cadmium	114	0.0898	0.0898	0.0868	**0.0888**	0.0017	1.964
Lead	206	0.1142	0.1049	0.1034	**0.1075**	0.0058	5.433
Lead	207	0.1096	0.1016	0.1076	**0.1063**	0.0042	3.92
Lead	208	0.1118	0.1035	0.1076	**0.1076**	0.0042	3.862
Molybdenum	95	58.9	60.93	61.18	**60.34**	1.251	2.073
Molybdenum	97	60.25	61.39	62.23	**61.29**	0.9945	1.623
Molybdenum	98	59.13	60.26	61.72	**60.37**	1.297	2.149
Selenium	77	4.851	5.052	4.974	**4.959**	0.1013	2.043
Selenium	78	0.7493	0.5888	0.6668	**0.6683**	0.0803	12.01
Selenium	82	0.0059	0.0811	-0.0171	**0.0233**	0.0513	220.3
Zinc	66	1.861	1.937	1.867	**1.888**	0.0423	2.238
Zinc	67	4.567	4.296	4.47	**4.444**	0.137	3.082
Zinc	68	1.32	1.428	1.39	**1.379**	0.0548	3.972

Internal Standard Factors:

Rhodium	103	1.312	1.304	1.289	**1.312**	n/a	n/a
Indium	115	1.268	1.264	1.237	**1.268**	n/a	n/a
Lutetium	175	1.291	1.23	1.232	**1.291**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 11-20-09D
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #180269

Sample Name:		**ICSAB**			**Mean**	**SD**	**%RSD**
TimeStamp		**11/20/09 18:06**					
Arsenic	75	28.5	28.2	28.45	**28.38**	0.1623	0.5718
Cadmium	111	25.84	25.32	25.98	**25.71**	0.3444	1.339
Cadmium	114	25.31	25.26	25.38	**25.32**	0.0575	0.2269
Lead	206	0.1111	0.1132	0.1089	**0.1111**	0.0022	1.972
Lead	207	0.1177	0.1188	0.1195	**0.1187**	0.0009	0.7539
Lead	208	0.1127	0.1174	0.1099	**0.1134**	0.0038	3.342
Molybdenum	95	54.16	54.64	55.7	**54.83**	0.7839	1.43
Molybdenum	97	55.4	55.97	56.33	**55.9**	0.4726	0.8455
Molybdenum	98	55.1	55.34	56.12	**55.52**	0.5333	0.9604
Selenium	77	33.25	32.84	33.63	**33.24**	0.392	1.179
Selenium	78	29.46	29.32	29.58	**29.45**	0.1298	0.4406
Selenium	82	28.29	28.54	28.88	**28.57**	0.3006	1.052
Zinc	66	27.8	27.07	27.28	**27.38**	0.3748	1.369
Zinc	67	29.45	29.38	29.23	**29.35**	0.1115	0.3798
Zinc	68	25.82	25.62	26	**25.82**	0.1939	0.751

Internal Standard Factors:

Rhodium	103	1.27	1.236	1.232	**1.27**	n/a	n/a
Indium	115	1.229	1.2	1.189	**1.229**	n/a	n/a
Lutetium	175	1.242	1.226	1.202	**1.242**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 11-20-09D
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #180269

Sample Name:		**K09109140-MB 1/5**			**Mean**	**SD**	**%RSD**
TimeStamp		**11/20/09 18:09**					
Arsenic	75	0.0891	0.0662	0.0223	**0.0592**	0.0339	57.35
Cadmium	111	-0.0025	0.0004	-0.0015	**-0.0012**	0.0015	124.2
Cadmium	114	0.1804	0.1874	0.1991	**0.189**	0.0095	5.018
Lead	206	0.0248	0.0281	0.0319	**0.0283**	0.0036	12.62
Lead	207	0.0292	0.0306	0.0266	**0.0288**	0.002	6.954
Lead	208	0.0256	0.0299	0.0274	**0.0276**	0.0021	7.695
Molybdenum	95	0.416	0.2845	0.1809	**0.2938**	0.1178	40.11
Molybdenum	97	0.4444	0.2719	0.1819	**0.2994**	0.1334	44.55
Molybdenum	98	0.4094	0.2672	0.1973	**0.2913**	0.1081	37.12
Selenium	77	-0.0524	-0.079	-0.1234	**-0.0849**	0.0359	42.21
Selenium	78	0.0503	-0.0357	-0.0281	**-0.0045**	0.0476	1059
Selenium	82	0.169	0.0846	-0.0729	**0.0602**	0.1228	203.9
Zinc	66	0.1119	0.1076	0.1042	**0.1079**	0.0039	3.571
Zinc	67	0.2293	0.2032	0.1643	**0.199**	0.0327	16.44
Zinc	68	0.1325	0.1433	0.12	**0.1319**	0.0116	8.823

Internal Standard Factors:

Rhodium	103	1.081	1.076	1.083	**1.081**	n/a	n/a
Indium	115	1.091	1.083	1.078	**1.091**	n/a	n/a
Lutetium	175	1.049	1.094	1.074	**1.049**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 11-20-09D
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #180269

Sample Name:		**LCSS K0909140 1/50**			**Mean**	**SD**	**%RSD**
TimeStamp		**11/20/09 18:12**					
Arsenic	75	18.18	18.09	18.11	**18.13**	0.0463	0.2553
Cadmium	111	18.78	18.95	18.86	**18.86**	0.0829	0.4396
Cadmium	114	18.86	18.86	18.95	**18.89**	0.052	0.2751
Lead	206	19.26	19.58	19.73	**19.52**	0.2374	1.216
Lead	207	22.46	22.23	22.61	**22.43**	0.1918	0.8552
Lead	208	21.5	21.4	21.59	**21.5**	0.095	0.4421
Molybdenum	95	12.8	12.86	13.16	**12.94**	0.1928	1.49
Molybdenum	97	13.23	13.22	13.14	**13.2**	0.0478	0.3622
Molybdenum	98	12.87	13.18	13.14	**13.06**	0.1679	1.286
Selenium	77	36.82	36.68	37.43	**36.97**	0.4003	1.083
Selenium	78	37.52	37.49	38.23	**37.75**	0.4196	1.112
Selenium	82	37.05	37	37.63	**37.22**	0.3488	0.9369
Zinc	66	55.51	55.25	55.41	**55.39**	0.1318	0.2379
Zinc	67	56.59	56.67	57.76	**57.01**	0.6543	1.148
Zinc	68	56.44	56.82	57.21	**56.83**	0.3838	0.6754

Internal Standard Factors:

Rhodium	103	1.089	1.088	1.094	**1.089**	n/a	n/a
Indium	115	1.081	1.083	1.082	**1.081**	n/a	n/a
Lutetium	175	1.108	1.096	1.11	**1.108**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 11-20-09D
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #180269

Sample Name:		**K0909140-006 1/5**			**Mean**	**SD**	**%RSD**
TimeStamp		**11/20/09 18:15**					
Arsenic	75	11.07	11.31	11.42	**11.27**	0.1797	1.595
Cadmium	111	0.7062	0.7281	0.7232	**0.7192**	0.0115	1.601
Cadmium	114	0.7148	0.7271	0.7169	**0.7196**	0.0066	0.9113
Lead	206	1347	1357	1308	**1338**	25.86	1.934
Lead	207	1583	1589	1576	**1583**	6.879	0.4346
Lead	208	1512	1502	1487	**1500**	12.22	0.8142
Molybdenum	95	0.7235	0.6716	0.6983	**0.6978**	0.026	3.718
Molybdenum	97	0.7192	0.7107	0.7313	**0.7204**	0.0104	1.437
Molybdenum	98	0.6657	0.6578	0.6357	**0.6531**	0.0155	2.377
Selenium	77	3.98	3.796	4.02	**3.932**	0.1195	3.039
Selenium	78	0.9372	0.9319	0.9904	**0.9531**	0.0324	3.394
Selenium	82	1.139	1.378	1.41	**1.309**	0.1482	11.32
Zinc	66	179.6	182	182.1	**181.2**	1.456	0.8034
Zinc	67	187	187.3	189.4	**187.9**	1.294	0.6889
Zinc	68	186.2	185.1	189.2	**186.8**	2.09	1.119

Internal Standard Factors:

Rhodium	103	1.188	1.172	1.157	**1.188**	n/a	n/a
Indium	115	1.167	1.16	1.131	**1.167**	n/a	n/a
Lutetium	175	1.188	1.179	1.141	**1.188**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 11-20-09D
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #180269

Sample Name:		K0909140-006 1/25L			Mean	SD	%RSD
TimeStamp		11/20/09 18:17					
Arsenic	75	2.535	2.563	2.561	**2.553**	0.016	0.6275
Cadmium	111	0.1711	0.1547	0.1589	**0.1616**	0.0085	5.275
Cadmium	114	0.156	0.1568	0.1522	**0.155**	0.0025	1.595
Lead	206	285	281.5	293.5	**286.7**	6.178	2.155
Lead	207	342.8	340.3	352	**345**	6.157	1.784
Lead	208	314.4	317.3	329.4	**320.4**	7.932	2.476
Molybdenum	95	0.1481	0.1381	0.1407	**0.1423**	0.0052	3.655
Molybdenum	97	0.1354	0.1312	0.1522	**0.1396**	0.0112	7.988
Molybdenum	98	0.1205	0.1313	0.1308	**0.1275**	0.0061	4.781
Selenium	77	0.751	0.795	0.6811	**0.7424**	0.0575	7.741
Selenium	78	0.0599	-0.0468	0.0903	**0.0345**	0.072	208.9
Selenium	82	0.1495	0.2982	0.1249	**0.1909**	0.0937	49.11
Zinc	66	44.41	44.41	44.9	**44.57**	0.2847	0.6387
Zinc	67	45.32	45.53	45.11	**45.32**	0.2127	0.4692
Zinc	68	45.56	44.73	44.95	**45.08**	0.4299	0.9537

Internal Standard Factors:							
Rhodium	103	1.091	1.084	1.088	**1.091**	n/a	n/a
Indium	115	1.079	1.08	1.084	**1.079**	n/a	n/a
Lutetium	175	1.075	1.081	1.111	**1.075**	n/a	n/a

Instrument ID: K-ICP-MS-02 | **Method: EPA 6020**
Experiment: 11-20-09D | **Analyst: Greg Jasper**
Units: µg/L (ppb) | **STARLIMS #180269**

Sample Name:		**K0909140-006 1/5 +50A**			**Mean**	**SD**	**%RSD**
TimeStamp		**11/20/09 18:20**					
Arsenic	75	58.41	59.8	59.57	**59.26**	0.7441	1.256
Cadmium	111	46.38	46.93	46.82	**46.71**	0.2888	0.6183
Cadmium	114	46.4	46.05	45.97	**46.14**	0.2254	0.4884
Lead	206	1354	1364	1383	**1367**	15.08	1.103
Lead	207	1592	1615	1590	**1599**	13.87	0.8676
Lead	208	1514	1518	1527	**1520**	6.796	0.4472
Molybdenum	95	51.87	52.25	52.42	**52.18**	0.2793	0.5353
Molybdenum	97	52.42	53.09	52.95	**52.82**	0.3583	0.6783
Molybdenum	98	52.09	52.39	51.99	**52.16**	0.2123	0.407
Selenium	77	49.69	49.68	49.77	**49.71**	0.0494	0.0994
Selenium	78	47.65	47.73	48.65	**48.01**	0.5552	1.156
Selenium	82	47.07	47.93	48.08	**47.69**	0.546	1.145
Zinc	66	217.1	218.4	218.9	**218.1**	0.8815	0.4041
Zinc	67	224.9	227.1	227.5	**226.5**	1.385	0.6113
Zinc	68	223.6	225.4	225.9	**225**	1.239	0.5508

Internal Standard Factors:

Rhodium	103	1.163	1.147	1.132	**1.163**	n/a	n/a
Indium	115	1.163	1.129	1.118	**1.163**	n/a	n/a
Lutetium	175	1.195	1.162	1.157	**1.195**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 11-20-09D
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #180269

Sample Name:		**K0909140-006 1/25S**			**Mean**	**SD**	**%RSD**
TimeStamp		**11/20/09 18:23**					
Arsenic	75	41.79	40.99	41.67	**41.48**	0.436	1.051
Cadmium	111	4.223	4.34	4.232	**4.265**	0.0655	1.535
Cadmium	114	4.197	4.206	4.179	**4.194**	0.0139	0.3313
Lead	206	47.46	47.63	47.19	**47.43**	0.2197	0.4632
Lead	207	57.76	58.93	58.69	**58.46**	0.6185	1.058
Lead	208	53.74	54.4	53.59	**53.91**	0.4294	0.7966
Molybdenum	95	33.52	33.94	34.26	**33.91**	0.3705	1.093
Molybdenum	97	33.67	34.87	35.13	**34.56**	0.7774	2.25
Molybdenum	98	33.49	34.53	34.77	**34.26**	0.6808	1.987
Selenium	77	41.22	42.03	41.59	**41.61**	0.4012	0.9641
Selenium	78	40.89	41.28	41.44	**41.2**	0.2835	0.688
Selenium	82	41.39	41.13	41.54	**41.35**	0.2082	0.5036
Zinc	66	88.25	88.88	89.04	**88.72**	0.4197	0.473
Zinc	67	95.85	95.42	96.14	**95.8**	0.3631	0.379
Zinc	68	95.44	94.2	94.42	**94.69**	0.6645	0.7018

Internal Standard Factors:

Rhodium	103	1.087	1.095	1.088	**1.087**	n/a	n/a
Indium	115	1.08	1.1	1.09	**1.08**	n/a	n/a
Lutetium	175	1.093	1.115	1.095	**1.093**	n/a	n/a

Instrument ID: K-ICP-MS-02 | **Method: EPA 6020**
Experiment: 11-20-09D | **Analyst: Greg Jasper**
Units: µg/L (ppb) | **STARLIMS #180269**

Sample Name:		**K0909140-006 1/25SD**			**Mean**	**SD**	**%RSD**
TimeStamp		**11/20/09 18:26**					
Arsenic	75	42.31	42.67	41.72	**42.23**	0.4758	1.127
Cadmium	111	4.255	4.328	4.361	**4.315**	0.0545	1.264
Cadmium	114	4.184	4.316	4.205	**4.235**	0.0712	1.682
Lead	206	38.59	39.81	39.59	**39.33**	0.6513	1.656
Lead	207	48.88	49.66	49.04	**49.2**	0.4111	0.8355
Lead	208	44.05	44.9	44.87	**44.61**	0.4806	1.077
Molybdenum	95	33.4	34.81	34.14	**34.12**	0.7041	2.064
Molybdenum	97	34.74	35.69	35.32	**35.25**	0.4798	1.361
Molybdenum	98	34.28	35.17	34.63	**34.7**	0.4486	1.293
Selenium	77	41.1	41.63	41.47	**41.4**	0.2719	0.6567
Selenium	78	41.31	42.46	41.91	**41.89**	0.5751	1.373
Selenium	82	42.34	42.39	42.29	**42.34**	0.0469	0.1106
Zinc	66	81.52	82.75	81.53	**81.93**	0.7082	0.8643
Zinc	67	88.35	89.26	88.77	**88.79**	0.4544	0.5117
Zinc	68	87.29	88.99	86.86	**87.71**	1.123	1.281

Internal Standard Factors:

Rhodium	103	1.102	1.116	1.101	**1.102**	n/a	n/a
Indium	115	1.097	1.118	1.11	**1.097**	n/a	n/a
Lutetium	175	1.09	1.108	1.12	**1.09**	n/a	n/a

Instrument ID: K-ICP-MS-02 | **Method: EPA 6020**
Experiment: 11-20-09D | **Analyst: Greg Jasper**
Units: µg/L (ppb) | **STARLIMS #180269**

Sample Name:		**CCV2**			**Mean**	**SD**	**%RSD**
TimeStamp		**11/20/09 18:29**					
Arsenic	75	24.94	24.86	24.81	**24.87**	0.0657	0.2641
Cadmium	111	24.88	25.05	25.19	**25.04**	0.1551	0.6195
Cadmium	114	25.33	25.2	24.98	**25.17**	0.176	0.6995
Lead	206	25.61	24.23	25.27	**25.03**	0.7201	2.876
Lead	207	25.94	25.63	25.49	**25.68**	0.2298	0.8946
Lead	208	25.96	25.25	25.27	**25.49**	0.4057	1.591
Molybdenum	95	25.42	25.26	25.47	**25.38**	0.1107	0.4362
Molybdenum	97	26.21	25.67	25.68	**25.85**	0.3113	1.204
Molybdenum	98	26.08	25.78	25.74	**25.87**	0.1837	0.7101
Selenium	77	24.36	24.32	24.02	**24.23**	0.1881	0.776
Selenium	78	24.35	24.64	24.41	**24.47**	0.1505	0.6153
Selenium	82	24.51	24.88	24.69	**24.69**	0.183	0.7412
Zinc	66	24.53	24.39	24.57	**24.5**	0.0921	0.376
Zinc	67	24.63	24.8	24.07	**24.5**	0.3772	1.54
Zinc	68	24.14	24.36	24.04	**24.18**	0.1656	0.6849

Internal Standard Factors:

Rhodium	103	1.091	1.09	1.08	**1.091**	n/a	n/a
Indium	115	1.09	1.088	1.085	**1.09**	n/a	n/a
Lutetium	175	1.119	1.096	1.103	**1.119**	n/a	n/a

Instrument ID: K-ICP-MS-02 | **Method: EPA 6020**
Experiment: 11-20-09D | **Analyst: Greg Jasper**
Units: µg/L (ppb) | **STARLIMS #180269**

Sample Name:		**CCB2**			**Mean**	**SD**	**%RSD**
TimeStamp		**11/20/09 18:31**					
Arsenic	75	0.0758	0.0232	0.0765	**0.0585**	0.0306	52.26
Cadmium	111	0.0039	0.0075	0.0003	**0.0039**	0.0036	91.74
Cadmium	114	0.0011	0.0017	-0.0002	**0.0009**	0.0009	107.1
Lead	206	0.0043	0.0086	0.0023	**0.0051**	0.0032	63.74
Lead	207	0.0118	0.0033	0.0058	**0.007**	0.0043	62.1
Lead	208	0.0078	0.0061	0.0041	**0.006**	0.0018	30.31
Molybdenum	95	0.2228	0.1718	0.132	**0.1755**	0.0455	25.91
Molybdenum	97	0.2192	0.165	0.1314	**0.1719**	0.0443	25.76
Molybdenum	98	0.2379	0.1623	0.1249	**0.175**	0.0575	32.87
Selenium	77	-0.1255	-0.0286	-0.1677	**-0.1072**	0.0713	66.5
Selenium	78	-0.1543	-0.1868	-0.2149	**-0.1853**	0.0303	16.35
Selenium	82	0.0758	0.0246	0.0619	**0.0541**	0.0264	48.87
Zinc	66	-0.0155	-0.0099	-0.0375	**-0.021**	0.0146	69.6
Zinc	67	-0.0037	-0.0184	-0.0366	**-0.0196**	0.0165	84.17
Zinc	68	-0.017	-0.0188	0.0044	**-0.0105**	0.0129	123.2

Internal Standard Factors:

Rhodium	103	1.101	1.107	1.111	**1.101**	n/a	n/a
Indium	115	1.105	1.122	1.112	**1.105**	n/a	n/a
Lutetium	175	1.085	1.123	1.118	**1.085**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 11-20-09D
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #180269

Sample Name:		**K0909140-001 1/5**			**Mean**	**SD**	**%RSD**
TimeStamp		**11/20/09 18:34**					
Arsenic	75	8.925	8.857	8.913	**8.898**	0.0366	0.4111
Cadmium	111	0.6307	0.652	0.6591	**0.6473**	0.0148	2.288
Cadmium	114	0.665	0.6727	0.6674	**0.6684**	0.004	0.5936
Lead	206	23.06	22.08	22.8	**22.65**	0.5087	2.246
Lead	207	27.09	25.82	26	**26.3**	0.688	2.616
Lead	208	25.2	24.98	24.82	**25**	0.1898	0.7591
Molybdenum	95	0.5877	0.5652	0.5403	**0.5644**	0.0237	4.199
Molybdenum	97	0.5905	0.6074	0.5991	**0.599**	0.0085	1.411
Molybdenum	98	0.5541	0.5603	0.5622	**0.5589**	0.0042	0.759
Selenium	77	3.858	3.944	4.24	**4.014**	0.2002	4.988
Selenium	78	0.906	1.009	0.4761	**0.7971**	0.2827	35.47
Selenium	82	1.072	0.9688	1.149	**1.063**	0.0903	8.494
Zinc	66	178.8	177	177.2	**177.6**	0.9974	0.5614
Zinc	67	186.1	183.7	184.6	**184.8**	1.197	0.6476
Zinc	68	182.3	183.6	184.2	**183.4**	1.008	0.5498

Internal Standard Factors:

Rhodium	103	1.208	1.188	1.172	**1.208**	n/a	n/a
Indium	115	1.168	1.173	1.148	**1.168**	n/a	n/a
Lutetium	175	1.225	1.17	1.17	**1.225**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 11-20-09D
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #180269

Sample Name:		**K0909140-002 1/5**			**Mean**	**SD**	**%RSD**
TimeStamp		**11/20/09 18:37**					
Arsenic	75	8.477	8.873	8.645	**8.665**	0.199	2.297
Cadmium	111	0.6726	0.6755	0.6441	**0.6641**	0.0173	2.612
Cadmium	114	0.6385	0.6576	0.6311	**0.6424**	0.0137	2.125
Lead	206	20.7	21.36	20.97	**21.01**	0.332	1.58
Lead	207	23.43	24.24	23.93	**23.87**	0.4104	1.719
Lead	208	22.73	22.99	22.94	**22.89**	0.1414	0.618
Molybdenum	95	0.555	0.5394	0.5503	**0.5482**	0.008	1.464
Molybdenum	97	0.5584	0.5863	0.6007	**0.5818**	0.0215	3.702
Molybdenum	98	0.5187	0.5213	0.5358	**0.5253**	0.0092	1.754
Selenium	77	3.69	3.789	3.915	**3.798**	0.1128	2.971
Selenium	78	0.7351	0.5996	0.7272	**0.6873**	0.0761	11.07
Selenium	82	1.061	1.143	0.6963	**0.967**	0.238	24.61
Zinc	66	173	175.6	175.7	**174.8**	1.518	0.8688
Zinc	67	181.4	182.1	179.7	**181.1**	1.242	0.686
Zinc	68	178.6	182.3	178.6	**179.8**	2.111	1.174

Internal Standard Factors:

Rhodium	103	1.186	1.168	1.149	**1.186**	n/a	n/a
Indium	115	1.156	1.154	1.126	**1.156**	n/a	n/a
Lutetium	175	1.168	1.166	1.154	**1.168**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 11-20-09D
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #180269

Sample Name:		**K0909140-003 1/5**			**Mean**	**SD**	**%RSD**
TimeStamp		**11/20/09 18:40**					
Arsenic	75	7.608	7.84	7.86	**7.77**	0.1399	1.801
Cadmium	111	0.4926	0.4837	0.503	**0.4931**	0.0096	1.954
Cadmium	114	0.4789	0.4692	0.4831	**0.477**	0.0071	1.498
Lead	206	20.72	20.71	21.54	**20.99**	0.4738	2.257
Lead	207	23.63	24.01	24.57	**24.07**	0.4724	1.963
Lead	208	22.69	22.59	23.07	**22.78**	0.2528	1.109
Molybdenum	95	0.3753	0.3646	0.3646	**0.3682**	0.0062	1.685
Molybdenum	97	0.373	0.3853	0.403	**0.3871**	0.015	3.884
Molybdenum	98	0.3148	0.344	0.3444	**0.3344**	0.017	5.083
Selenium	77	3.178	3.37	3.44	**3.329**	0.1356	4.074
Selenium	78	0.3638	0.6756	0.534	**0.5245**	0.1561	29.76
Selenium	82	0.8469	1.042	1.279	**1.056**	0.2164	20.49
Zinc	66	153.1	155	156.6	**154.9**	1.752	1.131
Zinc	67	159.9	161.6	164.4	**161.9**	2.249	1.389
Zinc	68	157.3	158.8	159.8	**158.6**	1.239	0.7812

Internal Standard Factors:

Rhodium	103	1.179	1.169	1.167	**1.179**	n/a	n/a
Indium	115	1.16	1.154	1.156	**1.16**	n/a	n/a
Lutetium	175	1.177	1.177	1.186	**1.177**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 11-20-09D
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #180269

Sample Name:		**K0909140-004 1/5**			**Mean**	**SD**	**%RSD**
TimeStamp		**11/20/09 18:43**					
Arsenic	75	20.4	20.48	20.06	**20.31**	0.2207	1.086
Cadmium	111	0.9435	0.8947	0.9216	**0.92**	0.0244	2.656
Cadmium	114	0.9048	0.8949	0.8794	**0.8931**	0.0128	1.437
Lead	206	35.84	34.88	34.57	**35.1**	0.6641	1.892
Lead	207	40.2	40.2	39.6	**40**	0.3462	0.8655
Lead	208	38.45	37.95	37.67	**38.03**	0.3952	1.039
Molybdenum	95	0.9554	0.922	0.9566	**0.9447**	0.0196	2.079
Molybdenum	97	0.9784	0.9807	0.9636	**0.9742**	0.0093	0.9499
Molybdenum	98	0.9076	0.9016	0.8955	**0.9016**	0.0061	0.6745
Selenium	77	5.208	5.273	4.814	**5.098**	0.2482	4.869
Selenium	78	0.9537	1.31	1.043	**1.102**	0.1852	16.8
Selenium	82	1.588	1.683	1.45	**1.574**	0.1174	7.461
Zinc	66	218.6	218.2	215.1	**217.3**	1.887	0.8682
Zinc	67	223	225.3	218.8	**222.4**	3.261	1.467
Zinc	68	225.4	224.8	220.1	**223.4**	2.904	1.3

Internal Standard Factors:

Rhodium	103	1.198	1.182	1.16	**1.198**	n/a	n/a
Indium	115	1.155	1.14	1.121	**1.155**	n/a	n/a
Lutetium	175	1.169	1.149	1.152	**1.169**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 11-20-09D
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #180269

Sample Name: / **TimeStamp**		**K0909140-005 1/5** **11/20/09 18:46**			**Mean**	**SD**	**%RSD**
Arsenic	75	9.646	9.674	9.764	**9.695**	0.0614	0.6328
Cadmium	111	0.6272	0.6614	0.6659	**0.6515**	0.0212	3.253
Cadmium	114	0.6719	0.6379	0.6433	**0.651**	0.0183	2.808
Lead	206	22	22.32	21.63	**21.98**	0.345	1.569
Lead	207	24.42	25.5	24.68	**24.87**	0.5644	2.269
Lead	208	23.71	24.45	23.59	**23.92**	0.4627	1.935
Molybdenum	95	0.939	0.9519	0.9479	**0.9463**	0.0066	0.6978
Molybdenum	97	0.9938	0.9915	0.9611	**0.9822**	0.0183	1.859
Molybdenum	98	0.935	0.9402	0.9493	**0.9415**	0.0072	0.768
Selenium	77	3.219	3.574	3.484	**3.426**	0.185	5.4
Selenium	78	0.6809	0.7148	0.714	**0.7032**	0.0193	2.748
Selenium	82	1.282	1.297	1.115	**1.231**	0.1008	8.183
Zinc	66	172.9	173.4	176.3	**174.2**	1.804	1.035
Zinc	67	178.2	179.4	182.4	**180**	2.163	1.202
Zinc	68	176.8	175.7	180.8	**177.8**	2.666	1.5

Internal Standard Factors:

Rhodium	103	1.178	1.169	1.172	**1.178**	n/a	n/a
Indium	115	1.155	1.147	1.136	**1.155**	n/a	n/a
Lutetium	175	1.207	1.216	1.177	**1.207**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 11-20-09D
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #180269

Sample Name:		K0909140-007 1/5			Mean	SD	%RSD
TimeStamp		11/20/09 18:48					
Arsenic	75	9.524	9.374	9.435	**9.444**	0.0753	0.7968
Cadmium	111	0.7373	0.732	0.7353	**0.7349**	0.0027	0.3641
Cadmium	114	0.7095	0.717	0.6848	**0.7038**	0.0168	2.393
Lead	206	28.01	27.43	26.86	**27.43**	0.5724	2.086
Lead	207	32.63	31.44	31.14	**31.73**	0.7879	2.483
Lead	208	30.5	30.15	29.45	**30.04**	0.5325	1.773
Molybdenum	95	0.4436	0.4435	0.4296	**0.4389**	0.0081	1.846
Molybdenum	97	0.4319	0.4187	0.457	**0.4359**	0.0195	4.466
Molybdenum	98	0.4054	0.4117	0.4091	**0.4087**	0.0032	0.7709
Selenium	77	3.68	3.832	3.86	**3.791**	0.0967	2.55
Selenium	78	0.8063	0.5204	0.8185	**0.7151**	0.1687	23.59
Selenium	82	1.122	1.442	1.199	**1.254**	0.1673	13.34
Zinc	66	183.5	183	183	**183.2**	0.307	0.1676
Zinc	67	189.9	187.4	189	**188.8**	1.287	0.6819
Zinc	68	187.7	187.1	188.2	**187.7**	0.545	0.2904

Internal Standard Factors:							
Rhodium	103	1.191	1.174	1.162	**1.191**	n/a	n/a
Indium	115	1.158	1.157	1.133	**1.158**	n/a	n/a
Lutetium	175	1.203	1.177	1.142	**1.203**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 11-20-09D
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #180269

Sample Name:		**K0909140-008 1/5**			**Mean**	**SD**	**%RSD**
TimeStamp		**11/20/09 18:51**					
Arsenic	75	9.745	9.685	9.904	**9.778**	0.1129	1.155
Cadmium	111	0.5891	0.5793	0.5984	**0.5889**	0.0095	1.619
Cadmium	114	0.5674	0.5864	0.5814	**0.5784**	0.0098	1.703
Lead	206	23.39	23.16	23.88	**23.48**	0.3699	1.576
Lead	207	25.58	25.95	27.12	**26.21**	0.8024	3.061
Lead	208	25.09	25.03	25.75	**25.29**	0.3986	1.576
Molybdenum	95	0.606	0.5946	0.6069	**0.6025**	0.0068	1.136
Molybdenum	97	0.6269	0.5691	0.6216	**0.6059**	0.0319	5.269
Molybdenum	98	0.5701	0.568	0.5611	**0.5664**	0.0047	0.8303
Selenium	77	3.578	3.563	3.479	**3.54**	0.0535	1.512
Selenium	78	0.9796	0.6943	0.8511	**0.8417**	0.1428	16.97
Selenium	82	1.076	1.034	1.059	**1.056**	0.0215	2.032
Zinc	66	168.5	170.5	171.3	**170.1**	1.431	0.8413
Zinc	67	173.9	177.1	177.7	**176.2**	2.049	1.163
Zinc	68	173.3	175.6	174.8	**174.6**	1.158	0.6634

Internal Standard Factors:

Rhodium	103	1.181	1.178	1.167	**1.181**	n/a	n/a
Indium	115	1.148	1.146	1.142	**1.148**	n/a	n/a
Lutetium	175	1.16	1.15	1.181	**1.16**	n/a	n/a

Instrument ID: K-ICP-MS-02 | **Method: EPA 6020**
Experiment: 11-20-09D | **Analyst: Greg Jasper**
Units: µg/L (ppb) | **STARLIMS #180269**

Sample Name:		**K0909140-009 1/5**			**Mean**	**SD**	**%RSD**
TimeStamp		**11/20/09 18:54**					
Arsenic	75	12.67	12.86	12.6	**12.71**	0.1386	1.09
Cadmium	111	0.5216	0.5195	0.5293	**0.5235**	0.0052	0.9922
Cadmium	114	0.5033	0.5077	0.5377	**0.5162**	0.0187	3.628
Lead	206	23.11	23.06	23.63	**23.26**	0.3159	1.358
Lead	207	27.01	26.16	27.17	**26.78**	0.5416	2.022
Lead	208	25.7	25.07	25.6	**25.46**	0.3378	1.327
Molybdenum	95	0.5314	0.552	0.5542	**0.5458**	0.0126	2.304
Molybdenum	97	0.5242	0.5365	0.5102	**0.5236**	0.0132	2.512
Molybdenum	98	0.4992	0.5131	0.5084	**0.5069**	0.007	1.387
Selenium	77	3.509	3.748	3.76	**3.672**	0.1417	3.858
Selenium	78	0.521	0.6289	0.8203	**0.6567**	0.1516	23.08
Selenium	82	1.07	1.393	1.147	**1.203**	0.1688	14.03
Zinc	66	160.7	161.9	161.1	**161.2**	0.6444	0.3997
Zinc	67	166.1	168	167.7	**167.3**	1.056	0.6311
Zinc	68	163.2	166.3	166.9	**165.5**	2.01	1.215

Internal Standard Factors:

Rhodium	103	1.182	1.176	1.161	**1.182**	n/a	n/a
Indium	115	1.154	1.151	1.146	**1.154**	n/a	n/a
Lutetium	175	1.19	1.151	1.174	**1.19**	n/a	n/a

Instrument ID: K-ICP-MS-02 | **Method: EPA 6020**
Experiment: 11-20-09D | **Analyst: Greg Jasper**
Units: µg/L (ppb) | **STARLIMS #180269**

Sample Name:		**K0909140-010 1/5**			**Mean**	**SD**	**%RSD**
TimeStamp		**11/20/09 18:57**					
Arsenic	75	9	9.056	9.101	**9.052**	0.0507	0.5601
Cadmium	111	0.6053	0.589	0.5795	**0.5913**	0.0131	2.208
Cadmium	114	0.5785	0.6041	0.5934	**0.592**	0.0129	2.173
Lead	206	24.5	25.84	25.58	**25.31**	0.7093	2.803
Lead	207	28.18	28.59	28.53	**28.43**	0.2221	0.7811
Lead	208	26.86	27.34	27.37	**27.19**	0.2849	1.048
Molybdenum	95	0.3944	0.3692	0.375	**0.3795**	0.0132	3.472
Molybdenum	97	0.3949	0.3841	0.4033	**0.3941**	0.0096	2.445
Molybdenum	98	0.3527	0.3543	0.3458	**0.3509**	0.0045	1.281
Selenium	77	3.479	3.777	3.567	**3.608**	0.1533	4.25
Selenium	78	0.5655	0.4869	0.4768	**0.5097**	0.0486	9.525
Selenium	82	0.9485	1.202	0.9122	**1.021**	0.1577	15.45
Zinc	66	190.3	193.9	191.1	**191.8**	1.897	0.9892
Zinc	67	197.1	198	196.2	**197.1**	0.8914	0.4522
Zinc	68	195.1	196.7	194.8	**195.6**	1.043	0.5331

Internal Standard Factors:

Rhodium	103	1.207	1.189	1.168	**1.207**	n/a	n/a
Indium	115	1.169	1.159	1.131	**1.169**	n/a	n/a
Lutetium	175	1.174	1.186	1.18	**1.174**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 11-20-09D
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #180269

Sample Name:		K0909140-011 1/5			Mean	SD	%RSD
TimeStamp		11/20/09 19:00					
Arsenic	75	7.252	7.293	7.352	**7.299**	0.0503	0.689
Cadmium	111	0.2625	0.2661	0.2636	**0.2641**	0.0018	0.6963
Cadmium	114	0.2459	0.2647	0.2378	**0.2495**	0.0138	5.537
Lead	206	13.94	13.65	13.86	**13.82**	0.1523	1.102
Lead	207	15.41	15.62	15.66	**15.56**	0.1361	0.8744
Lead	208	14.93	14.91	14.96	**14.93**	0.026	0.1739
Molybdenum	95	0.3387	0.356	0.3711	**0.3553**	0.0162	4.565
Molybdenum	97	0.356	0.3464	0.3883	**0.3636**	0.022	6.044
Molybdenum	98	0.3288	0.3224	0.3392	**0.3301**	0.0084	2.558
Selenium	77	3.036	3.156	3.027	**3.073**	0.0718	2.338
Selenium	78	0.6374	0.3554	0.4918	**0.4948**	0.141	28.5
Selenium	82	0.7624	0.8068	1.019	**0.8629**	0.1373	15.91
Zinc	66	121.1	120.8	123	**121.6**	1.175	0.9666
Zinc	67	129.2	132.7	130.8	**130.9**	1.736	1.326
Zinc	68	125.6	126.4	127.8	**126.6**	1.096	0.8659

Internal Standard Factors:

Rhodium	103	1.185	1.173	1.172	**1.185**	n/a	n/a
Indium	115	1.181	1.157	1.153	**1.181**	n/a	n/a
Lutetium	175	1.185	1.171	1.181	**1.185**	n/a	n/a

Instrument ID: K-ICP-MS-02 | **Method: EPA 6020**
Experiment: 11-20-09D | **Analyst: Greg Jasper**
Units: µg/L (ppb) | **STARLIMS #180269**

Sample Name:		**CCV3**			**Mean**	**SD**	**%RSD**
TimeStamp		**11/20/09 19:02**					
Arsenic	75	24.85	24.4	24.89	**24.71**	0.2747	1.111
Cadmium	111	24.86	24.92	25.13	**24.97**	0.1421	0.5692
Cadmium	114	24.64	25.09	25.05	**24.93**	0.2485	0.9971
Lead	206	24.6	25.23	25.36	**25.06**	0.4051	1.616
Lead	207	25.03	25.46	25.4	**25.3**	0.2328	0.9203
Lead	208	24.98	25.61	25.54	**25.38**	0.3422	1.349
Molybdenum	95	24.48	24.94	25.29	**24.9**	0.4057	1.629
Molybdenum	97	25.76	25.29	25.54	**25.53**	0.2354	0.9221
Molybdenum	98	24.98	25.08	26.1	**25.39**	0.6191	2.439
Selenium	77	24.31	24.14	24.11	**24.19**	0.1075	0.4446
Selenium	78	23.84	24.59	25.04	**24.49**	0.6058	2.473
Selenium	82	24.36	24.69	24.46	**24.5**	0.1676	0.6839
Zinc	66	24.1	24.26	24.29	**24.22**	0.1038	0.4285
Zinc	67	23.79	24	24.36	**24.05**	0.2847	1.184
Zinc	68	24	23.93	24.34	**24.09**	0.2164	0.8982

Internal Standard Factors:

Rhodium	103	1.101	1.094	1.1	**1.101**	n/a	n/a
Indium	115	1.094	1.096	1.092	**1.094**	n/a	n/a
Lutetium	175	1.096	1.11	1.103	**1.096**	n/a	n/a

Instrument ID: K-ICP-MS-02 | **Method: EPA 6020**
Experiment: 11-20-09D | **Analyst: Greg Jasper**
Units: µg/L (ppb) | **STARLIMS #180269**

Sample Name:		**CCB3**			**Mean**	**SD**	**%RSD**
TimeStamp		**11/20/09 19:05**					
Arsenic	75	0.079	0.0679	0.0176	**0.0548**	0.0327	59.68
Cadmium	111	0.0033	0.0031	0.0057	**0.004**	0.0014	35.87
Cadmium	114	0.0031	0.0002	0.0001	**0.0011**	0.0017	147.3
Lead	206	0.0079	0.0065	0.0063	**0.0069**	0.0009	12.99
Lead	207	0.0108	0.0035	0.005	**0.0064**	0.0038	59.64
Lead	208	0.0078	0.0048	0.0043	**0.0056**	0.0019	33.94
Molybdenum	95	0.1514	0.0922	0.0722	**0.1052**	0.0412	39.14
Molybdenum	97	0.1412	0.0966	0.0645	**0.1008**	0.0385	38.21
Molybdenum	98	0.1416	0.0949	0.0645	**0.1004**	0.0388	38.69
Selenium	77	-0.2449	-0.1965	-0.149	**-0.1968**	0.048	24.36
Selenium	78	-0.2696	-0.364	-0.3746	**-0.3361**	0.0578	17.2
Selenium	82	-0.009	0.0075	-0.1157	**-0.0391**	0.0669	171.3
Zinc	66	-0.0155	-0.0043	-0.0215	**-0.0138**	0.0088	63.68
Zinc	67	-0.0032	-0.0148	-0.0168	**-0.0116**	0.0074	63.49
Zinc	68	-0.0001	0.0042	-0.0238	**-0.0066**	0.0151	229.9

Internal Standard Factors:

Rhodium	103	1.104	1.118	1.107	**1.104**	n/a	n/a
Indium	115	1.111	1.12	1.111	**1.111**	n/a	n/a
Lutetium	175	1.088	1.099	1.093	**1.088**	n/a	n/a

Instrument ID: K-ICP-MS-02 | **Method: EPA 6020**
Experiment: 11-20-09D | **Analyst: Greg Jasper**
Units: µg/L (ppb) | **STARLIMS #180269**

Sample Name:		**K0909140-012 1/5**			**Mean**	**SD**	**%RSD**
TimeStamp		**11/20/09 19:08**					
Arsenic	75	7.33	7.359	7.312	**7.334**	0.024	0.3278
Cadmium	111	0.2628	0.2659	0.2946	**0.2744**	0.0175	6.382
Cadmium	114	0.2751	0.2702	0.2733	**0.2729**	0.0025	0.9126
Lead	206	14.23	13.72	14.08	**14.01**	0.26	1.856
Lead	207	15.7	15.19	15.8	**15.56**	0.3248	2.087
Lead	208	15.33	14.78	15.46	**15.19**	0.3575	2.353
Molybdenum	95	0.3697	0.3824	0.3669	**0.373**	0.0083	2.228
Molybdenum	97	0.3745	0.3861	0.375	**0.3785**	0.0066	1.735
Molybdenum	98	0.3705	0.3512	0.3478	**0.3565**	0.0123	3.447
Selenium	77	3.571	3.113	3.349	**3.344**	0.2292	6.854
Selenium	78	0.4577	0.6501	0.4048	**0.5042**	0.1291	25.61
Selenium	82	1.064	0.7973	0.9659	**0.9424**	0.1348	14.31
Zinc	66	124	125.4	125.6	**125**	0.8542	0.6833
Zinc	67	133.9	134.6	135.6	**134.7**	0.8329	0.6184
Zinc	68	131.1	132	131.6	**131.6**	0.4268	0.3244

Internal Standard Factors:

Rhodium	103	1.202	1.21	1.2	**1.202**	n/a	n/a
Indium	115	1.183	1.186	1.169	**1.183**	n/a	n/a
Lutetium	175	1.183	1.162	1.192	**1.183**	n/a	n/a

Instrument ID: K-ICP-MS-02 | **Method: EPA 6020**
Experiment: 11-20-09D | **Analyst: Greg Jasper**
Units: µg/L (ppb) | **STARLIMS #180269**

Sample Name:		**K0909140-013 1/5**			**Mean**	**SD**	**%RSD**
TimeStamp		**11/20/09 19:11**					
Arsenic	75	9.863	9.969	9.938	**9.924**	0.0544	0.5481
Cadmium	111	0.7544	0.744	0.7564	**0.7516**	0.0067	0.8856
Cadmium	114	0.7216	0.7315	0.7244	**0.7258**	0.0051	0.7014
Lead	206	23.46	23.76	23.48	**23.56**	0.1703	0.7227
Lead	207	26.56	27.17	26.75	**26.83**	0.3094	1.153
Lead	208	25.59	25.71	25.53	**25.61**	0.0924	0.3607
Molybdenum	95	0.4514	0.4593	0.4597	**0.4568**	0.0047	1.021
Molybdenum	97	0.4706	0.4907	0.4782	**0.4798**	0.0101	2.112
Molybdenum	98	0.4361	0.4273	0.4326	**0.432**	0.0045	1.032
Selenium	77	3.575	3.654	3.559	**3.596**	0.051	1.418
Selenium	78	0.7778	0.807	0.6545	**0.7464**	0.081	10.85
Selenium	82	1.128	0.9315	1.115	**1.058**	0.1101	10.4
Zinc	66	189	191	187.7	**189.3**	1.669	0.8821
Zinc	67	195.9	196	195.1	**195.7**	0.5003	0.2557
Zinc	68	194.6	196.7	194.3	**195.2**	1.316	0.674

Internal Standard Factors:

Rhodium	103	1.228	1.215	1.204	**1.228**	n/a	n/a
Indium	115	1.189	1.176	1.175	**1.189**	n/a	n/a
Lutetium	175	1.171	1.184	1.196	**1.171**	n/a	n/a

Instrument ID: K-ICP-MS-02 | **Method: EPA 6020**
Experiment: 11-20-09D | **Analyst: Greg Jasper**
Units: µg/L (ppb) | **STARLIMS #180269**

Sample Name:		**K0909140-014 1/5**			**Mean**	**SD**	**%RSD**
TimeStamp		**11/20/09 19:14**					
Arsenic	75	15.39	15.28	15.49	**15.38**	0.1051	0.6835
Cadmium	111	0.6554	0.6539	0.648	**0.6524**	0.0039	0.5972
Cadmium	114	0.6659	0.6745	0.6691	**0.6698**	0.0043	0.6466
Lead	206	28.73	28.45	28.31	**28.5**	0.2125	0.7458
Lead	207	33.6	32.13	33.21	**32.98**	0.7619	2.31
Lead	208	31.41	31.14	31.35	**31.3**	0.1399	0.4471
Molybdenum	95	0.61	0.6097	0.5874	**0.6024**	0.013	2.151
Molybdenum	97	0.5721	0.5938	0.6381	**0.6013**	0.0336	5.593
Molybdenum	98	0.5446	0.5536	0.5934	**0.5638**	0.026	4.604
Selenium	77	3.406	3.693	3.705	**3.601**	0.169	4.692
Selenium	78	0.3578	0.7455	0.6925	**0.5986**	0.2102	35.11
Selenium	82	1.082	1.106	1.315	**1.168**	0.1282	10.98
Zinc	66	184.7	187	188.4	**186.7**	1.854	0.9927
Zinc	67	192.2	194.6	196.2	**194.3**	2.035	1.047
Zinc	68	191.4	194.6	194.5	**193.5**	1.798	0.9291

Internal Standard Factors:

Rhodium	103	1.197	1.184	1.181	**1.197**	n/a	n/a
Indium	115	1.184	1.16	1.147	**1.184**	n/a	n/a
Lutetium	175	1.183	1.15	1.136	**1.183**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 11-20-09D
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #180269

Sample Name:		**K0909140-015 1/5**			**Mean**	**SD**	**%RSD**
TimeStamp		**11/20/09 19:16**					
Arsenic	75	9.103	9.119	9.092	**9.105**	0.0137	0.1507
Cadmium	111	0.5358	0.5388	0.553	**0.5426**	0.0092	1.699
Cadmium	114	0.5272	0.5361	0.5526	**0.5386**	0.0129	2.387
Lead	206	16.46	16.61	16.3	**16.46**	0.1557	0.9464
Lead	207	18.55	18.92	18.34	**18.6**	0.2891	1.554
Lead	208	17.87	18.02	17.68	**17.86**	0.1693	0.9481
Molybdenum	95	0.6782	0.6691	0.6693	**0.6722**	0.0051	0.7658
Molybdenum	97	0.6767	0.6698	0.7053	**0.6839**	0.0188	2.753
Molybdenum	98	0.634	0.6259	0.6418	**0.6339**	0.0079	1.251
Selenium	77	3.778	3.595	3.47	**3.614**	0.1552	4.293
Selenium	78	0.6297	0.6342	0.5768	**0.6136**	0.0319	5.201
Selenium	82	1.188	1.506	1.351	**1.348**	0.1587	11.77
Zinc	66	150.2	151.6	153	**151.6**	1.426	0.9404
Zinc	67	156.7	159.2	159.5	**158.4**	1.543	0.9739
Zinc	68	154.8	157	156.9	**156.2**	1.236	0.7913

Internal Standard Factors:

Rhodium	103	1.194	1.183	1.179	**1.194**	n/a	n/a
Indium	115	1.169	1.167	1.161	**1.169**	n/a	n/a
Lutetium	175	1.161	1.174	1.142	**1.161**	n/a	n/a

Instrument ID: K-ICP-MS-02 | **Method: EPA 6020**
Experiment: 11-20-09D | **Analyst: Greg Jasper**
Units: µg/L (ppb) | **STARLIMS #180269**

Sample Name:		**K0909140-016 1/5**			**Mean**	**SD**	**%RSD**
TimeStamp		**11/20/09 19:19**					
Arsenic	75	8.977	9.08	9.124	**9.06**	0.0755	0.8329
Cadmium	111	0.6168	0.5915	0.5883	**0.5989**	0.0156	2.602
Cadmium	114	0.6003	0.5656	0.5915	**0.5858**	0.0181	3.084
Lead	206	18.39	18.3	18.14	**18.27**	0.125	0.6839
Lead	207	20.46	20.6	20.96	**20.67**	0.2548	1.233
Lead	208	19.78	19.93	19.95	**19.89**	0.0899	0.4523
Molybdenum	95	0.5044	0.5234	0.5374	**0.5217**	0.0165	3.169
Molybdenum	97	0.5537	0.5482	0.5822	**0.5614**	0.0182	3.249
Molybdenum	98	0.4831	0.4901	0.4898	**0.4877**	0.004	0.8126
Selenium	77	3.844	3.528	3.423	**3.598**	0.2194	6.098
Selenium	78	0.4725	0.6679	0.8614	**0.6673**	0.1945	29.14
Selenium	82	1.289	1.161	1.022	**1.157**	0.1336	11.55
Zinc	66	161.1	163.4	164.9	**163.1**	1.931	1.184
Zinc	67	170.1	170.5	171.7	**170.8**	0.8285	0.4852
Zinc	68	165.7	169.9	170.4	**168.7**	2.55	1.512

Internal Standard Factors:

Rhodium	103	1.202	1.196	1.192	**1.202**	n/a	n/a
Indium	115	1.174	1.168	1.154	**1.174**	n/a	n/a
Lutetium	175	1.169	1.165	1.147	**1.169**	n/a	n/a

Instrument ID: K-ICP-MS-02 | **Method: EPA 6020**
Experiment: 11-20-09D | **Analyst: Greg Jasper**
Units: µg/L (ppb) | **STARLIMS #180269**

Sample Name:		**K0909140-017 1/5**			**Mean**	**SD**	**%RSD**
TimeStamp		**11/20/09 19:22**					
Arsenic	75	8.727	8.997	8.877	**8.867**	0.1349	1.521
Cadmium	111	0.5821	0.6303	0.5865	**0.5996**	0.0267	4.451
Cadmium	114	0.5719	0.5864	0.5687	**0.5757**	0.0094	1.639
Lead	206	17.19	17.31	17.48	**17.33**	0.1451	0.8376
Lead	207	19.62	20.1	20	**19.9**	0.2544	1.278
Lead	208	18.86	18.97	19.01	**18.95**	0.0753	0.3973
Molybdenum	95	0.5009	0.5128	0.5127	**0.5088**	0.0069	1.349
Molybdenum	97	0.4956	0.5179	0.5139	**0.5091**	0.0119	2.338
Molybdenum	98	0.4632	0.4918	0.4742	**0.4764**	0.0144	3.026
Selenium	77	3.682	3.752	3.713	**3.716**	0.035	0.9426
Selenium	78	0.7222	0.7068	0.7162	**0.7151**	0.0078	1.086
Selenium	82	1.14	1.369	0.9711	**1.16**	0.1999	17.23
Zinc	66	156.6	160.2	161.2	**159.3**	2.419	1.519
Zinc	67	164.8	167.8	167.7	**166.8**	1.696	1.017
Zinc	68	160.6	165.9	165.7	**164.1**	3.037	1.851

Internal Standard Factors:

Rhodium	103	1.189	1.194	1.18	**1.189**	n/a	n/a
Indium	115	1.161	1.188	1.157	**1.161**	n/a	n/a
Lutetium	175	1.159	1.163	1.148	**1.159**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 11-20-09D
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #180269

Sample Name:		K0909140-018 1/5			Mean	SD	%RSD
TimeStamp		11/20/09 19:25					
Arsenic	75	8.687	8.855	8.855	**8.799**	0.0972	1.105
Cadmium	111	0.4572	0.4849	0.4938	**0.4787**	0.0191	3.99
Cadmium	114	0.4556	0.4747	0.463	**0.4644**	0.0097	2.084
Lead	206	17.16	18.27	17.74	**17.72**	0.557	3.143
Lead	207	19.36	20.33	19.68	**19.79**	0.4964	2.508
Lead	208	18.6	19.55	19.13	**19.09**	0.4786	2.507
Molybdenum	95	0.7411	0.7933	0.7878	**0.7741**	0.0287	3.705
Molybdenum	97	0.7901	0.7791	0.7714	**0.7802**	0.0094	1.204
Molybdenum	98	0.7412	0.7351	0.7525	**0.7429**	0.0089	1.194
Selenium	77	3.578	3.55	3.341	**3.49**	0.1297	3.717
Selenium	78	0.521	0.5994	0.6481	**0.5895**	0.0641	10.88
Selenium	82	1.117	1.175	1.148	**1.147**	0.029	2.53
Zinc	66	167.8	170.7	170.5	**169.7**	1.629	0.9603
Zinc	67	173.7	176.3	178.1	**176**	2.207	1.253
Zinc	68	171.5	174.4	176.2	**174**	2.375	1.365

Internal Standard Factors:

Rhodium	103	1.203	1.198	1.183	**1.203**	n/a	n/a
Indium	115	1.179	1.171	1.16	**1.179**	n/a	n/a
Lutetium	175	1.155	1.201	1.164	**1.155**	n/a	n/a

Instrument ID: K-ICP-MS-02 | **Method: EPA 6020**
Experiment: 11-20-09D | **Analyst: Greg Jasper**
Units: µg/L (ppb) | **STARLIMS #180269**

Sample Name:		**K0909140-019 1/5**			**Mean**	**SD**	**%RSD**
TimeStamp		**11/20/09 19:28**					
Arsenic	75	8.042	8.05	8.016	**8.036**	0.0176	0.2185
Cadmium	111	0.262	0.2645	0.2769	**0.2678**	0.008	2.98
Cadmium	114	0.2562	0.2578	0.2651	**0.2597**	0.0047	1.829
Lead	206	14.2	13.87	14.44	**14.17**	0.2887	2.037
Lead	207	16.28	15.73	16.17	**16.06**	0.2954	1.839
Lead	208	15.56	14.98	15.72	**15.42**	0.39	2.529
Molybdenum	95	0.3494	0.3509	0.3595	**0.3533**	0.0054	1.538
Molybdenum	97	0.3752	0.3642	0.36	**0.3665**	0.0078	2.135
Molybdenum	98	0.3266	0.3118	0.3335	**0.3239**	0.0111	3.422
Selenium	77	3.355	3.374	3.329	**3.353**	0.023	0.685
Selenium	78	0.53	0.4899	0.4656	**0.4952**	0.0325	6.568
Selenium	82	0.9347	0.9679	0.7019	**0.8682**	0.1449	16.69
Zinc	66	128.8	130.5	130.3	**129.9**	0.9402	0.7239
Zinc	67	136.6	139.8	139.9	**138.8**	1.892	1.363
Zinc	68	133.8	138	136.9	**136.2**	2.216	1.627

Internal Standard Factors:

Rhodium	103	1.187	1.195	1.177	**1.187**	n/a	n/a
Indium	115	1.162	1.163	1.154	**1.162**	n/a	n/a
Lutetium	175	1.171	1.12	1.158	**1.171**	n/a	n/a

Instrument ID: K-ICP-MS-02 | **Method: EPA 6020**
Experiment: 11-20-09D | **Analyst: Greg Jasper**
Units: µg/L (ppb) | **STARLIMS #180269**

Sample Name:		**CCV4**			**Mean**	**SD**	**%RSD**
TimeStamp		**11/20/09 19:30**					
Arsenic	75	24.56	24.64	24.85	**24.69**	0.1508	0.6109
Cadmium	111	24.67	25.42	24.45	**24.85**	0.507	2.041
Cadmium	114	24.71	25.21	24.83	**24.92**	0.2621	1.052
Lead	206	24.16	25.16	24.84	**24.72**	0.5089	2.059
Lead	207	24.7	25.08	25.19	**24.99**	0.2557	1.023
Lead	208	24.47	25.29	25.05	**24.94**	0.42	1.684
Molybdenum	95	24.65	25.12	25.18	**24.98**	0.2904	1.162
Molybdenum	97	25.07	25.78	25.52	**25.46**	0.3581	1.406
Molybdenum	98	24.91	25.64	25.55	**25.36**	0.3963	1.562
Selenium	77	23.76	24.4	23.71	**23.96**	0.3834	1.6
Selenium	78	24.18	23.94	24.52	**24.21**	0.2911	1.202
Selenium	82	24.49	24.02	24.18	**24.23**	0.2381	0.9827
Zinc	66	23.82	24.14	24.05	**24**	0.1623	0.676
Zinc	67	24.03	24.19	23.81	**24.01**	0.1922	0.8005
Zinc	68	23.8	23.93	23.75	**23.82**	0.0936	0.393

Internal Standard Factors:

Rhodium	103	1.085	1.094	1.087	**1.085**	n/a	n/a
Indium	115	1.081	1.102	1.078	**1.081**	n/a	n/a
Lutetium	175	1.082	1.089	1.094	**1.082**	n/a	n/a

Instrument ID: K-ICP-MS-02 | **Method: EPA 6020**
Experiment: 11-20-09D | **Analyst: Greg Jasper**
Units: µg/L (ppb) | **STARLIMS #180269**

Sample Name:		**CCB4**			**Mean**	**SD**	**%RSD**
TimeStamp		**11/20/09 19:33**					
Arsenic	75	-0.0174	-0.0185	0.0099	**-0.0086**	0.0161	185.9
Cadmium	111	0.0024	0.0052	0.0068	**0.0048**	0.0023	47.01
Cadmium	114	0.0034	0.0041	0.0027	**0.0034**	0.0007	20.67
Lead	206	0.0092	0.0043	0.0084	**0.0073**	0.0026	35.74
Lead	207	0.0049	0.0098	0.0094	**0.0081**	0.0027	33.79
Lead	208	0.0048	0.0059	0.0085	**0.0064**	0.0019	29.84
Molybdenum	95	0.1058	0.0983	0.0759	**0.0934**	0.0155	16.65
Molybdenum	97	0.1118	0.0899	0.0783	**0.0934**	0.017	18.24
Molybdenum	98	0.1059	0.0895	0.0638	**0.0864**	0.0212	24.59
Selenium	77	0.0885	-0.0932	-0.0264	**-0.0104**	0.0919	885.5
Selenium	78	-0.66	-0.0003	-0.0902	**-0.2502**	0.3577	143
Selenium	82	-0.0384	-0.1943	-0.0112	**-0.0813**	0.0988	121.6
Zinc	66	-0.0065	-0.0081	-0.0135	**-0.0093**	0.0037	39.39
Zinc	67	0.0021	-0.0249	-0.0255	**-0.0161**	0.0158	98.06
Zinc	68	-0.0123	-0.0021	0.0065	**-0.0026**	0.0094	358.7

Internal Standard Factors:

Rhodium	103	1.038	1.125	1.121	**1.038**	n/a	n/a
Indium	115	1.04	1.127	1.12	**1.04**	n/a	n/a
Lutetium	175	1.021	1.086	1.122	**1.021**	n/a	n/a

Sample List

Num	Label	Type	Weight	Volume	Dilution	Rack	Row	Column	Height
1	Cal. Blk	Blank	0 kg	0 ml	1.00	0	1	1	145
2	Cal. Stn	Fully Quant Standard	0 kg	0 ml	1.00	0	1	2	145
3	ICV1	Unknown	0 kg	0 ml	1.00	0	1	3	145
4	CCV1	Unknown	0 kg	0 ml	1.00	0	1	2	145
5	ICB1	Unknown	0 kg	0 ml	1.00	0	1	1	145
6	CCB1	Unknown	0 kg	0 ml	1.00	0	1	1	145
7	SOIL CRA	Unknown	0 kg	0 ml	1.00	0	1	4	145
8	ICSA	Unknown	0 kg	0 ml	1.00	0	1	5	145
9	ICSAB	Unknown	0 kg	0 ml	1.00	0	1	6	145
10	K09109140-MB 1/5	Unknown	0 kg	0 ml	1.00	2	1	1	145
11	LCSS K0909140 1/50	Unknown	0 kg	0 ml	1.00	2	1	2	145
12	K0909140-006 1/5	Unknown	0 kg	0 ml	1.00	2	1	3	145
13	K0909140-006 1/25L	Unknown	0 kg	0 ml	1.00	2	1	4	145
14	K0909140-006 1/5 +50A	Unknown	0 kg	0 ml	1.00	2	1	5	145
15	K0909140-006 1/5 +100A	Unknown	0 kg	0 ml	1.00	2	1	6	145
16	K0909140-006 1/25S	Unknown	0 kg	0 ml	1.00	2	1	7	145
17	K0909140-006 1/25SD	Unknown	0 kg	0 ml	1.00	2	1	8	145
18	CCV2	Unknown	0 kg	0 ml	1.00	0	1	2	145
19	CCB2	Unknown	0 kg	0 ml	1.00	0	1	1	145
20	K0909140-001 1/5	Unknown	0 kg	0 ml	1.00	2	1	9	145
21	K0909140-002 1/5	Unknown	0 kg	0 ml	1.00	2	1	10	145
22	K0909140-003 1/5	Unknown	0 kg	0 ml	1.00	2	1	11	145
23	K0909140-004 1/5	Unknown	0 kg	0 ml	1.00	2	1	12	145
24	K0909140-005 1/5	Unknown	0 kg	0 ml	1.00	2	2	1	145
25	K0909140-007 1/5	Unknown	0 kg	0 ml	1.00	2	2	2	145
26	K0909140-008 1/5	Unknown	0 kg	0 ml	1.00	2	2	3	145
27	K0909140-009 1/5	Unknown	0 kg	0 ml	1.00	2	2	4	145
28	K0909140-010 1/5	Unknown	0 kg	0 ml	1.00	2	2	5	145
29	K0909140-011 1/5	Unknown	0 kg	0 ml	1.00	2	2	6	145
30	CCV3	Unknown	0 kg	0 ml	1.00	0	1	2	145
31	CCB3	Unknown	0 kg	0 ml	1.00	0	1	1	145
32	K0909140-012 1/5	Unknown	0 kg	0 ml	1.00	2	2	7	145
33	K0909140-013 1/5	Unknown	0 kg	0 ml	1.00	2	2	8	145
34	K0909140-014 1/5	Unknown	0 kg	0 ml	1.00	2	2	9	145
35	K0909140-015 1/5	Unknown	0 kg	0 ml	1.00	2	2	10	145
36	K0909140-016 1/5	Unknown	0 kg	0 ml	1.00	2	2	11	145
37	K0909140-017 1/5	Unknown	0 kg	0 ml	1.00	2	2	12	145
38	K0909140-018 1/5	Unknown	0 kg	0 ml	1.00	2	3	1	145
39	K0909140-019 1/5	Unknown	0 kg	0 ml	1.00	2	3	2	145
40	CCV4	Unknown	0 kg	0 ml	1.00	0	1	2	145
41	CCB4	Unknown	0 kg	0 ml	1.00	0	1	1	145

Instrument Setup - Sample Configuration

Sample	Configuration	Date
All Samples	acqmet11	17:28:56 11/24/09

Instrument Setup - Configurations

Configuration Name - acqmet11
Description - PQExcell CCT Sim Default
Date - 17:28:56 11/24/09
Maximum Uptake Time - 0
Maximum Washout Time - 0
S-Option Pump Running - No
Plasma Screen Forward - No
Makeup Gas On - No
Use CCT - No
Use Accessory Gas - No

Setting	Value
Extraction	-650.00
Lens1	-5.00
Lens2	-75.00
Lens3	5.00
Pole Bias	3.00
Sampling Depth	350.00
Horizontal	-35.00
Vertical	65.00
Cool	13.00
Auxiliary	0.60
Nebuliser	0.80
Forward power	1,350.00
HT1 Voltage	1,900.00
HT2 Voltage	2,600.00
D1	-38.00
Focus	8.00

ExCell Mass Calibration **Date: 11/24/2009**

Mass	Mass DAC	Peak Width (AMU)	Error (AMU)	Include
6.015	1317	0.717	-0.039	TRUE
7.016	1577	0.717	-0.016	TRUE
9.012	2090	0.665	0.008	TRUE
23.985	5896	0.716	0.02	TRUE
24.986	6149	0.665	0.015	TRUE
25.983	6403	0.716	0.018	TRUE
43.956	10965	0.716	-0.001	TRUE
45.953	11478	0.665	0.02	TRUE
51.94	12993	0.716	-0.006	TRUE
53.949	13506	0.767	0.003	TRUE
55.935	14013	0.767	0.012	TRUE
56.935	14267	0.818	0.011	TRUE
57.934	14520	0.767	0.007	TRUE
58.933	14767	0.767	-0.02	TRUE
69.925	17569	0.818	0.009	TRUE
75.92	19090	0.818	-0.006	TRUE
77.919	19597	0.818	-0.011	TRUE
112.904	28492	0.817	-0.034	TRUE
114.904	28999	0.817	-0.042	TRUE
128.905	32574	0.817	0.001	TRUE
130.905	33081	0.817	-0.008	TRUE
131.905	33334	0.766	-0.014	TRUE
133.905	33848	0.817	0.004	TRUE
135.906	34361	0.766	0.018	TRUE
139.905	35382	0.817	0.028	TRUE
141.908	35889	0.817	0.016	TRUE
155.923	39457	0.765	0.009	TRUE
205.974	52210	0.765	-0.008	TRUE
206.976	52470	0.765	0.01	TRUE
207.977	52724	0.714	0.005	TRUE
208.98	52977	0.765	-0.006	TRUE
238.051	60394	0.713	-0.004	TRUE

Excluded In Calib | Excluded In Results | Peak Top Selected | Multi Element | Semi Quant | Internal Standard | Standard Addition

Uncorrected ICPS Per Mass

S-Calibration Has Edited Standard
F-Interference Correction Failed
E-Calibration Edited
T-Tripped
I-Invalid Calibration
P-Pulse Counting
V-Valley Integration Failed
M-Result Over Max

Run	Label	TimeStamp	6Li	7Li	9Be	59Co	115In	208Pb
1	Stability 11/24/09	11/24/2009 8:48:33 A	(P)0.167	(P)70923.475	(P)20424.758	(P)236595.660	(P)357282.070	(P)146364.010
2	Stability 11/24/09	11/24/2009 8:49:35 A	(P)0.333	(P)75598.200	(P)21154.153	(P)243444.320	(P)366868.210	(P)147942.140
3	Stability 11/24/09	11/24/2009 8:50:37 A	(P)0.500	(P)75067.636	(P)21061.515	(P)239813.790	(P)358895.810	(P)145436.600
4	Stability 11/24/09	11/24/2009 8:51:39 A	(P)0.833	(P)75634.815	(P)21167.338	(P)240832.890	(P)361272.390	(P)147065.340
5	Stability 11/24/09	11/24/2009 8:52:41 A	(P)0.500	(P)77039.994	(P)21255.636	(P)242748.420	(P)362019.700	(P)148031.740
	Mean of Stability 11/24	11/24/2009 8:48:33 A	(P)0.467	(P)74852.824	(P)21012.680	(P)240687.020	(P)361267.640	(P)146967.970
	SD of Stability 11/24/09		(P)0.247	(P)2314.991	(P)335.782	(P)2709.941	(P)3655.214	(P)1095.438
	%RSD of Stability 11		(P)52.973	(P)3.093	(P)1.598	(P)1.126	(P)1.012	(P)0.745

Run	Label	TimeStamp	209Bi	232Th	238U
1	Stability 11/24/09	11/24/2009 8:48:33 A	(P)220333.490	(P)0.167	(P)244931.780
2	Stability 11/24/09	11/24/2009 8:49:35 A	(P)223988.360	(P)0.167	(P)246554.010
3	Stability 11/24/09	11/24/2009 8:50:37 A	(P)219763.700	(P)0.000	(P)243193.800
4	Stability 11/24/09	11/24/2009 8:51:39 A	(P)224921.510	(P)0.000	(P)245801.100
5	Stability 11/24/09	11/24/2009 8:52:41 A	(P)227650.060	(P)0.000	(P)247346.760
	Mean of Stability 11/24	11/24/2009 8:48:33 A	(P)223331.420	(P)0.067	(P)245565.490
	SD of Stability 11/24/09		(P)3291.156	(P)0.091	(P)1599.381
	%RSD of Stability 11		(P)1.474	(P)136.931	(P)0.651

Instrument ID: K-ICP-MS-02
Experiment: 11-24-09D
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #180269

Sample Name:		Cal. Blk			Mean	SD	%RSD
TimeStamp		11/24/09 20:46					
Lead	206	0.0004	-0.0009	0.0004	**0**	0.0007	0
Lead	207	0.0005	0.0002	-0.0006	**0**	0.0006	0
Lead	208	0.0012	-0.0006	-0.0007	**0**	0.0011	0
Zinc	66	0.0015	-0.0126	0.0111	**0**	0.0119	0
Zinc	67	-0.0504	-0.0196	0.0701	**0**	0.0626	0
Zinc	68	0.018	0.0059	-0.0239	**0**	0.0216	0

Internal Standard Factors:

Rhodium	103	0.977	1.001	1.023	**0.977**	n/a	n/a
Lutetium	175	0.967	1.011	1.024	**0.967**	n/a	n/a

Instrument ID: K-ICP-MS-02 | **Method: EPA 6020**
Experiment: 11-24-09D | **Analyst: Greg Jasper**
Units: µg/L (ppb) | **STARLIMS #180269**

Sample Name:		Cal. Stn			Mean	SD	%RSD
TimeStamp		11/24/09 20:48					
Lead	206	24.82	25.32	24.86	**25**	0.2815	1.126
Lead	207	24.22	25.26	25.52	**25**	0.6874	2.75
Lead	208	24.55	25.27	25.18	**25**	0.3913	1.565
Zinc	66	24.9	25.05	25.06	**25**	0.0887	0.3549
Zinc	67	25.27	24.8	24.94	**25**	0.2408	0.9634
Zinc	68	25.15	24.52	25.33	**25**	0.4269	1.707

Internal Standard Factors:

Rhodium	103	0.989	1.016	1.018	**0.989**	n/a	n/a
Lutetium	175	0.96	0.998	1.008	**0.96**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 11-24-09D
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #180269

Sample Name:		ICV1			Mean	SD	%RSD
TimeStamp		11/24/09 20:51					
Lead	206	22.64	21.85	22.32	**22.27**	0.3986	1.79
Lead	207	24.89	24.75	25.06	**24.9**	0.158	0.6344
Lead	208	23.77	23.34	23.73	**23.61**	0.2393	1.013
Zinc	66	24.87	24.73	25	**24.87**	0.1356	0.5454
Zinc	67	29.96	30.19	29.52	**29.89**	0.3417	1.143
Zinc	68	28.25	28.49	28.67	**28.47**	0.2102	0.7385

Internal Standard Factors:

Rhodium	103	0.993	1.021	1.047	**0.993**	n/a	n/a
Lutetium	175	0.987	0.991	1.022	**0.987**	n/a	n/a

Instrument ID: K-ICP-MS-02 | **Method: EPA 6020**
Experiment: 11-24-09D | **Analyst: Greg Jasper**
Units: µg/L (ppb) | **STARLIMS #180269**

Sample Name:		**CCV1**			**Mean**	**SD**	**%RSD**
TimeStamp		**11/24/09 20:53**					
Lead	206	24.15	24.27	25.42	**24.62**	0.7002	2.844
Lead	207	24.57	24.26	25.33	**24.72**	0.5524	2.235
Lead	208	24.59	24.3	25.14	**24.68**	0.4242	1.719
Zinc	66	25.11	25.23	25.03	**25.12**	0.0965	0.3839
Zinc	67	25.79	25.18	26.09	**25.69**	0.4588	1.786
Zinc	68	25.08	24.61	24.75	**24.81**	0.238	0.9593

Internal Standard Factors:

Rhodium	103	1.01	1.04	1.066	**1.01**	n/a	n/a
Lutetium	175	0.98	0.995	1.039	**0.98**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 11-24-09D
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #180269

Sample Name:		ICB1			Mean	SD	%RSD
TimeStamp		11/24/09 20:56					
Lead	206	0.0038	0	0.0018	**0.0019**	0.0019	100.2
Lead	207	0.0051	0.0005	0.002	**0.0025**	0.0024	93.31
Lead	208	0.0046	0.0016	0.0014	**0.0026**	0.0018	70.79
Zinc	66	-0.0133	-0.0361	-0.0235	**-0.0243**	0.0114	47
Zinc	67	-0.0331	-0.001	0.0027	**-0.0105**	0.0197	188.2
Zinc	68	-0.0141	-0.0107	-0.0042	**-0.0096**	0.005	52.26

Internal Standard Factors:

Rhodium	103	1.022	1.06	1.078	**1.022**	n/a	n/a
Lutetium	175	1.005	1.045	1.044	**1.005**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 11-24-09D
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #180269

Sample Name:		**CCB1**			**Mean**	**SD**	**%RSD**
TimeStamp		**11/24/09 20:58**					
Lead	206	0.0044	-0.0011	0.0022	**0.0018**	0.0028	152
Lead	207	-0.0015	0.002	-0.0007	**0**	0.0018	4462
Lead	208	0.0021	0.0009	0.0014	**0.0015**	0.0006	40.11
Zinc	66	0.0099	-0.0317	-0.0269	**-0.0162**	0.0228	140.3
Zinc	67	0.0068	-0.0103	0.0193	**0.0053**	0.0149	282.2
Zinc	68	-0.009	-0.0418	-0.0407	**-0.0305**	0.0186	61.12

Internal Standard Factors:

Rhodium	103	1.075	1.061	1.076	**1.075**	n/a	n/a
Lutetium	175	1.05	1.046	1.073	**1.05**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 11-24-09D
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #180269

water 12/1/25/09

Sample Name:		SOIL CRA			Mean	SD	%RSD
TimeStamp		11/24/09 21:01					
Lead	206	0.0186	0.0206	0.0259	**0.0217**	0.0038	17.4
Lead	207	0.0237	0.0247	0.022	**0.0235**	0.0014	5.811
Lead	208	0.0212	0.0239	0.0237	**0.0229**	0.0015	6.513
Zinc	66	0.5018	0.4722	0.4677	**0.4806**	0.0185	3.856
Zinc	67	0.4979	0.5313	0.4229	**0.484**	0.0555	11.47
Zinc	68	0.4524	0.4432	0.4779	**0.4578**	0.018	3.923

Internal Standard Factors:

Rhodium	103	1.032	1.052	1.071	**1.032**	n/a	n/a
Lutetium	175	1.015	1.077	1.084	**1.015**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 11-24-09D
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #180269

Sample Name:		ICSA			Mean	SD	%RSD
TimeStamp		11/24/09 21:04					
Lead	206	0.115	0.1175	0.1111	**0.1145**	0.0033	2.845
Lead	207	0.1175	0.1226	0.1197	**0.1199**	0.0026	2.14
Lead	208	0.1202	0.1193	0.1198	**0.1198**	0.0004	0.3567
Zinc	66	2.158	2.171	2.193	**2.174**	0.0175	0.8055
Zinc	67	4.508	4.882	4.346	**4.579**	0.2748	6.003
Zinc	68	1.784	1.674	1.707	**1.722**	0.0565	3.281

Internal Standard Factors:

Rhodium	103	1.215	1.273	1.278	**1.215**	n/a	n/a
Lutetium	175	1.116	1.156	1.165	**1.116**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 11-24-09D
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #180269

Sample Name:		ICSAB			Mean	SD	%RSD
TimeStamp		11/24/09 21:06					
Lead	206	0.1207	0.1206	0.1275	**0.123**	0.004	3.221
Lead	207	0.1342	0.1398	0.1463	**0.1401**	0.0061	4.323
Lead	208	0.1316	0.1326	0.1376	**0.134**	0.0032	2.403
Zinc	66	25.16	24.94	25.77	**25.29**	0.4331	1.713
Zinc	67	27.69	27.15	27.93	**27.59**	0.402	1.457
Zinc	68	23.77	23.16	24.3	**23.74**	0.5669	2.388

Internal Standard Factors:

Rhodium	103	1.214	1.243	1.277	**1.214**	n/a	n/a
Lutetium	175	1.093	1.113	1.138	**1.093**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 11-24-09D
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #180269

Sample Name:		K09109140-MB 1/5			Mean	SD	%RSD
TimeStamp		11/24/09 21:09					
Lead	206	0.0082	0.007	0.0072	**0.0075**	0.0006	8.459
Lead	207	0.0027	0.0028	0.0048	**0.0034**	0.0012	34.89
Lead	208	0.0064	0.0052	0.0062	**0.0059**	0.0006	10.48
Zinc	66	0.0122	0.0182	0.0121	**0.0142**	0.0035	24.72
Zinc	67	0.1235	0.1871	0.1126	**0.1411**	0.0403	28.54
Zinc	68	0.0326	0.0256	0.0333	**0.0305**	0.0043	14.03

Internal Standard Factors:

Rhodium	103	1.1	1.102	1.127	**1.1**	n/a	n/a
Lutetium	175	1.048	1.07	1.079	**1.048**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 11-24-09D
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #180269

Sample Name:		LCSS K0909140 1/50			Mean	SD	%RSD
TimeStamp		11/24/09 21:11					
Lead	206	20.64	20.58	20.61	**20.61**	0.0319	0.1549
Lead	207	22.94	22.64	23.24	**22.94**	0.2979	1.299
Lead	208	22.2	21.93	22.29	**22.14**	0.1861	0.8406
Zinc	66	57.47	57.51	56.22	**57.07**	0.7338	1.286
Zinc	67	60.73	58.95	58.95	**59.54**	1.026	1.723
Zinc	68	59.72	57.64	58.24	**58.53**	1.073	1.833

Internal Standard Factors:

Rhodium	103	1.11	1.131	1.133	**1.11**	n/a	n/a
Lutetium	175	1.038	1.06	1.083	**1.038**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 11-24-09D
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #180269

Sample Name:		K0909140-006 1/5			Mean	SD	%RSD
TimeStamp		11/24/09 21:14					
Lead	206	23.22	23.13	23.37	**23.24**	0.1216	0.5232
Lead	207	25.9	26.37	26.49	**26.25**	0.311	1.185
Lead	208	24.95	25.31	25.33	**25.19**	0.2156	0.8556
Zinc	66	199.2	193.3	195.1	**195.9**	3.018	1.541
Zinc	67	203.7	206.7	204.6	**205**	1.561	0.7614
Zinc	68	200.2	206.2	196.1	**200.8**	5.083	2.531

Internal Standard Factors:

Rhodium	103	1.146	1.208	1.202	**1.146**	n/a	n/a
Lutetium	175	1.031	1.079	1.08	**1.031**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 11-24-09D
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #180269

Sample Name:		K0909140-006 1/25L			Mean	SD	%RSD
TimeStamp		11/24/09 21:16					
Lead	206	5.063	5.213	5.158	**5.145**	0.0758	1.472
Lead	207	5.737	5.938	5.777	**5.818**	0.1061	1.824
Lead	208	5.477	5.56	5.538	**5.525**	0.0432	0.7825
Zinc	66	45.8	44.99	44.85	**45.22**	0.5103	1.129
Zinc	67	46.92	47.78	45.94	**46.88**	0.9166	1.955
Zinc	68	46.8	45.23	45.4	**45.81**	0.8616	1.881

Internal Standard Factors:

Rhodium	103	1.099	1.116	1.148	**1.099**	n/a	n/a
Lutetium	175	1.033	1.083	1.08	**1.033**	n/a	n/a

Instrument ID: K-ICP-MS-02 | **Method: EPA 6020**
Experiment: 11-24-09D | **Analyst: Greg Jasper**
Units: µg/L (ppb) | **STARLIMS #180269**

Sample Name:		**K0909140-006 1/5 +50A**			**Mean**	**SD**	**%RSD**
TimeStamp		**11/24/09 21:19**					
Lead	206	63.92	66.48	64.93	**65.11**	1.288	1.978
Lead	207	71.95	76.02	74.4	**74.12**	2.045	2.758
Lead	208	69.51	72.11	70.78	**70.8**	1.299	1.835
Zinc	66	243.7	240.7	241.2	**241.9**	1.649	0.682
Zinc	67	252.6	246.1	247.3	**248.7**	3.49	1.404
Zinc	68	249.1	241.7	242.7	**244.5**	4.049	1.656

Internal Standard Factors:

Rhodium	103	1.165	1.184	1.186	**1.165**	n/a	n/a
Lutetium	175	1.007	1.072	1.067	**1.007**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 11-24-09D
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #180269

Sample Name:		K0909140-006 1/25S			Mean	SD	%RSD
TimeStamp		11/24/09 21:24					
Lead	206	42.28	39.75	42.84	**41.62**	1.645	3.952
Lead	207	50.35	48.04	51.81	**50.06**	1.903	3.801
Lead	208	46.72	44.6	47.34	**46.22**	1.437	3.11
Zinc	66	92.61	89.66	93.6	**91.96**	2.052	2.231
Zinc	67	103.3	100.6	104	**102.6**	1.764	1.719
Zinc	68	99.81	95.08	100.9	**98.58**	3.078	3.122

Internal Standard Factors:

Rhodium	103	1.093	1.101	1.142	**1.093**	n/a	n/a
Lutetium	175	1.029	1.016	1.071	**1.029**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 11-24-09D
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #180269

Sample Name:		K0909140-006 1/25SD			Mean	SD	%RSD
TimeStamp		11/24/09 21:27					
Lead	206	39.61	40.41	40.67	**40.23**	0.5524	1.373
Lead	207	49.19	49.35	49.4	**49.31**	0.1116	0.2264
Lead	208	45.17	45.44	45.53	**45.38**	0.1869	0.4119
Zinc	66	88.2	90.15	87.12	**88.49**	1.537	1.737
Zinc	67	97.5	99.06	96.59	**97.72**	1.254	1.283
Zinc	68	94.29	96.22	95.93	**95.48**	1.04	1.089

Internal Standard Factors:

Rhodium	103	1.073	1.135	1.125	**1.073**	n/a	n/a
Lutetium	175	1.007	1.045	1.066	**1.007**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 11-24-09D
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #180269

Sample Name:		CCV2			Mean	SD	%RSD
TimeStamp		11/24/09 21:29					
Lead	206	25.05	25.23	24.76	**25.01**	0.2353	0.9409
Lead	207	24.9	25.12	24.79	**24.94**	0.1714	0.6872
Lead	208	24.65	25.18	24.9	**24.91**	0.2665	1.07
Zinc	66	25.46	24.4	24.16	**24.67**	0.6925	2.807
Zinc	67	25.47	25.68	24.75	**25.3**	0.4904	1.938
Zinc	68	24.77	24.78	24.08	**24.54**	0.4002	1.631

Internal Standard Factors:

Rhodium	103	1.087	1.107	1.109	**1.087**	n/a	n/a
Lutetium	175	1.027	1.067	1.067	**1.027**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 11-24-09D
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #180269

Sample Name:		CCB2			Mean	SD	%RSD
TimeStamp		11/24/09 21:32					
Lead	206	0.0082	0.0088	0.0075	**0.0082**	0.0006	7.912
Lead	207	0.0042	0.0064	0.0071	**0.0059**	0.0015	26.18
Lead	208	0.0076	0.0075	0.0065	**0.0072**	0.0006	8.27
Zinc	66	-0.0208	-0.0521	-0.0547	**-0.0425**	0.0189	44.34
Zinc	67	0.0248	0.0413	0.0263	**0.0308**	0.0092	29.69
Zinc	68	-0.0424	-0.024	-0.0151	**-0.0272**	0.0139	51.15

Internal Standard Factors:

Rhodium	103	1.091	1.129	1.109	**1.091**	n/a	n/a
Lutetium	175	1.041	1.085	1.088	**1.041**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 11-24-09D
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #180269

Sample Name:		K0909140-001 1/5			Mean	SD	%RSD
TimeStamp		11/24/09 21:34					
Lead	206	20.21	20.15	21.01	**20.45**	0.4828	2.36
Lead	207	22.57	23.23	22.94	**22.91**	0.3307	1.443
Lead	208	21.52	22.07	21.93	**21.84**	0.2831	1.296
Zinc	66	162.2	163.1	162.9	**162.7**	0.4483	0.2754
Zinc	67	172.3	172.8	172.9	**172.7**	0.3304	0.1914
Zinc	68	168.6	168.9	168.5	**168.7**	0.2023	0.1199

Internal Standard Factors:

Rhodium	103	1.169	1.235	1.244	**1.169**	n/a	n/a
Lutetium	175	1.036	1.101	1.11	**1.036**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 11-24-09D
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #180269

Sample Name:		K0909140-002 1/5			Mean	SD	%RSD
TimeStamp		11/24/09 21:37					
Lead	206	21.11	20.56	20.51	**20.73**	0.3297	1.591
Lead	207	23.22	22.99	22.82	**23.01**	0.2009	0.8732
Lead	208	22.37	22.36	22.03	**22.26**	0.1972	0.8862
Zinc	66	175.6	171.3	171	**172.6**	2.581	1.495
Zinc	67	185.8	185.1	186.3	**185.7**	0.5963	0.3211
Zinc	68	177.4	182.5	178.2	**179.3**	2.745	1.53

Internal Standard Factors:

Rhodium	103	1.193	1.229	1.238	**1.193**	n/a	n/a
Lutetium	175	1.067	1.095	1.098	**1.067**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 11-24-09D
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #180269

Sample Name:		K0909140-003 1/5			Mean	SD	%RSD
TimeStamp		11/24/09 21:40					
Lead	206	22.14	21.45	21.79	**21.79**	0.3411	1.565
Lead	207	24.78	24.41	25.02	**24.74**	0.3068	1.24
Lead	208	23.56	23.23	23.76	**23.52**	0.2694	1.145
Zinc	66	167.6	169.3	166.7	**167.9**	1.317	0.7847
Zinc	67	178.8	179	178.5	**178.8**	0.2775	0.1552
Zinc	68	176.1	176.3	169.1	**173.8**	4.112	2.366

Internal Standard Factors:

Rhodium	103	1.183	1.236	1.239	**1.183**	n/a	n/a
Lutetium	175	1.062	1.092	1.107	**1.062**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 11-24-09D
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #180269

Sample Name:		K0909140-004 1/5			Mean	SD	%RSD
TimeStamp		11/24/09 21:42					
Lead	206	24.21	23.39	23.53	**23.71**	0.4411	1.861
Lead	207	27.15	26.92	26.72	**26.93**	0.2161	0.8023
Lead	208	25.74	25.68	25.56	**25.66**	0.0896	0.349
Zinc	66	181.8	181.6	179.7	**181**	1.154	0.6374
Zinc	67	194.8	192	191.2	**192.7**	1.857	0.9638
Zinc	68	182.7	183.7	187.4	**184.6**	2.505	1.357

Internal Standard Factors:

Rhodium	103	1.212	1.239	1.244	**1.212**	n/a	n/a
Lutetium	175	1.084	1.107	1.105	**1.084**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 11-24-09D
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #180269

Sample Name:		K0909140-005 1/5			Mean	SD	%RSD
TimeStamp		11/24/09 21:45					
Lead	206	22.66	22.66	22.45	**22.59**	0.1247	0.5519
Lead	207	26.11	25.63	25.44	**25.73**	0.3455	1.343
Lead	208	24.69	24.69	24.16	**24.51**	0.3074	1.254
Zinc	66	182.5	184.8	180.6	**182.7**	2.088	1.143
Zinc	67	191	188.8	191.9	**190.6**	1.557	0.8171
Zinc	68	187.4	191	187	**188.5**	2.206	1.171

Internal Standard Factors:

Rhodium	103	1.195	1.239	1.226	**1.195**	n/a	n/a
Lutetium	175	1.075	1.115	1.103	**1.075**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 11-24-09D
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #180269

Sample Name:		K0909140-007 1/5			Mean	SD	%RSD
TimeStamp		11/24/09 21:47					
Lead	206	21.31	22.05	21.44	**21.6**	0.3955	1.831
Lead	207	24.27	24.38	24.17	**24.28**	0.105	0.4325
Lead	208	23.55	23.47	22.98	**23.33**	0.3098	1.328
Zinc	66	188.2	185.6	185.8	**186.5**	1.417	0.7598
Zinc	67	197.6	195.2	198.2	**197**	1.59	0.8072
Zinc	68	192.7	188	190.7	**190.5**	2.346	1.232

Internal Standard Factors:

Rhodium	103	1.219	1.248	1.248	**1.219**	n/a	n/a
Lutetium	175	1.076	1.11	1.094	**1.076**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 11-24-09D
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #180269

Sample Name:		K0909140-008 1/5			Mean	SD	%RSD
TimeStamp		11/24/09 21:50					
Lead	206	19.91	19.58	19.88	**19.79**	0.1798	0.9087
Lead	207	22.37	22.25	22.49	**22.37**	0.1187	0.5305
Lead	208	21.29	21.28	21.32	**21.3**	0.0207	0.0974
Zinc	66	180.4	178.9	176.8	**178.7**	1.834	1.026
Zinc	67	191.7	188.6	185.6	**188.6**	3.025	1.604
Zinc	68	186.3	183.2	181.9	**183.8**	2.273	1.236

Internal Standard Factors:

Rhodium	103	1.229	1.25	1.246	**1.229**	n/a	n/a
Lutetium	175	1.068	1.109	1.121	**1.068**	n/a	n/a

Instrument ID: K-ICP-MS-02 | **Method: EPA 6020**
Experiment: 11-24-09D | **Analyst: Greg Jasper**
Units: µg/L (ppb) | **STARLIMS #180269**

Sample Name:		**K0909140-009 1/5**			**Mean**	**SD**	**%RSD**
TimeStamp		**11/24/09 21:53**					
Lead	206	24.64	24.87	24.98	**24.83**	0.1762	0.7097
Lead	207	28.38	28.25	27.81	**28.15**	0.3028	1.076
Lead	208	26.49	26.76	26.58	**26.61**	0.1364	0.5127
Zinc	66	169.3	173.5	171.6	**171.5**	2.117	1.234
Zinc	67	178.4	182	179.6	**180**	1.845	1.025
Zinc	68	179.8	176.5	175.5	**177.3**	2.27	1.28

Internal Standard Factors:

Rhodium	103	1.21	1.262	1.259	**1.21**	n/a	n/a
Lutetium	175	1.078	1.126	1.131	**1.078**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 11-24-09D
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #180269

Sample Name:		K0909140-010 1/5			Mean	SD	%RSD
TimeStamp		11/24/09 21:55					
Lead	206	21.4	21.32	21.26	**21.33**	0.068	0.319
Lead	207	23.7	23.57	23.67	**23.65**	0.0691	0.2924
Lead	208	22.94	22.9	22.75	**22.86**	0.0969	0.4238
Zinc	66	175.4	171.9	173.3	**173.6**	1.775	1.022
Zinc	67	186.2	183.5	182.4	**184**	1.941	1.055
Zinc	68	181.4	176.5	175.5	**177.8**	3.157	1.776

Internal Standard Factors:

Rhodium	103	1.22	1.231	1.23	**1.22**	n/a	n/a
Lutetium	175	1.084	1.104	1.102	**1.084**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 11-24-09D
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #180269

Sample Name:		K0909140-011 1/5			Mean	SD	%RSD
TimeStamp		11/24/09 21:58					
Lead	206	14.61	14.65	14.56	**14.61**	0.0447	0.3061
Lead	207	16.17	16.55	16.05	**16.26**	0.2654	1.633
Lead	208	15.6	16.01	15.58	**15.73**	0.2417	1.536
Zinc	66	129.9	129.4	131.6	**130.3**	1.127	0.865
Zinc	67	142	142.8	144.8	**143.2**	1.422	0.9934
Zinc	68	136.1	137.5	138.8	**137.5**	1.335	0.9712

Internal Standard Factors:

Rhodium	103	1.201	1.237	1.267	**1.201**	n/a	n/a
Lutetium	175	1.075	1.132	1.117	**1.075**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 11-24-09D
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #180269

Sample Name:		CCV3			Mean	SD	%RSD
TimeStamp		11/24/09 22:00					
Lead	206	24.74	24.96	24.72	**24.81**	0.1347	0.5431
Lead	207	24.31	24.86	25.02	**24.73**	0.3736	1.511
Lead	208	24.62	25.12	24.7	**24.81**	0.2725	1.098
Zinc	66	24.43	24.31	24.95	**24.57**	0.3367	1.371
Zinc	67	25.71	24.54	24.06	**24.77**	0.8502	3.433
Zinc	68	24.39	23.72	23.9	**24**	0.3471	1.446

Internal Standard Factors:

Rhodium	103	1.115	1.113	1.134	**1.115**	n/a	n/a
Lutetium	175	1.071	1.097	1.085	**1.071**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 11-24-09D
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #180269

Sample Name:		CCB3			Mean	SD	%RSD
TimeStamp		11/24/09 22:03					
Lead	206	0.0061	0.0041	0.0037	**0.0046**	0.0013	27.8
Lead	207	0.0067	0.0053	0.004	**0.0053**	0.0013	25.36
Lead	208	0.0067	0.0057	0.0045	**0.0056**	0.0011	19.54
Zinc	66	-0.0022	0.0155	-0.0511	**-0.0126**	0.0345	273.8
Zinc	67	0.0003	-0.0212	-0.0466	**-0.0225**	0.0235	104.3
Zinc	68	0.0146	-0.0058	-0.0311	**-0.0074**	0.0229	307.9

Internal Standard Factors:

Rhodium	103	1.137	1.118	1.119	**1.137**	n/a	n/a
Lutetium	175	1.083	1.084	1.111	**1.083**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 11-24-09D
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #180269

Sample Name:		K0909140-012 1/5			Mean	SD	%RSD
TimeStamp		11/24/09 22:05					
Lead	206	14.55	14.34	14.77	**14.55**	0.2175	1.494
Lead	207	16.1	16.39	16.77	**16.42**	0.3372	2.054
Lead	208	15.47	15.59	15.9	**15.65**	0.2246	1.435
Zinc	66	136.9	137	140	**138**	1.732	1.256
Zinc	67	150.1	148.8	155.1	**151.3**	3.315	2.191
Zinc	68	142.4	142.5	150.1	**145**	4.409	3.041

Internal Standard Factors:

Rhodium	103	1.193	1.245	1.293	**1.193**	n/a	n/a
Lutetium	175	1.065	1.111	1.135	**1.065**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 11-24-09D
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #180269

Sample Name:		K0909140-013 1/5			Mean	SD	%RSD
TimeStamp		11/24/09 22:08					
Lead	206	23.42	23.42	23.59	**23.48**	0.0999	0.4257
Lead	207	26.35	26.51	26.43	**26.43**	0.0825	0.3121
Lead	208	25.04	25.09	25.19	**25.11**	0.0728	0.2899
Zinc	66	203.8	197.9	201.8	**201.1**	3.007	1.495
Zinc	67	213.5	208.8	213.2	**211.8**	2.637	1.245
Zinc	68	205.4	201.3	207	**204.6**	2.941	1.437

Internal Standard Factors:

Rhodium	103	1.24	1.247	1.28	**1.24**	n/a	n/a
Lutetium	175	1.092	1.128	1.127	**1.092**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 11-24-09D
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #180269

Sample Name:		K0909140-014 1/5			Mean	SD	%RSD
TimeStamp		11/24/09 22:11					
Lead	206	24.23	25.02	24.09	**24.45**	0.5005	2.048
Lead	207	26.9	27.72	26.95	**27.19**	0.4604	1.693
Lead	208	26.01	26.57	25.97	**26.19**	0.3365	1.285
Zinc	66	193.7	193.1	186.8	**191.2**	3.798	1.986
Zinc	67	201.2	198.3	198	**199.2**	1.752	0.8799
Zinc	68	196.7	195.6	190.9	**194.4**	3.106	1.598

Internal Standard Factors:

Rhodium	103	1.24	1.277	1.269	**1.24**	n/a	n/a
Lutetium	175	1.072	1.126	1.106	**1.072**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 11-24-09D
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #180269

Sample Name:		K0909140-015 1/5			Mean	SD	%RSD
TimeStamp		11/24/09 22:13					
Lead	206	18.35	18.19	18.22	**18.25**	0.0875	0.4795
Lead	207	20.16	19.96	20.52	**20.21**	0.2829	1.4
Lead	208	19.57	19.31	19.43	**19.43**	0.131	0.674
Zinc	66	180	179.6	177.4	**179**	1.407	0.7861
Zinc	67	191.7	193	195	**193.2**	1.626	0.8416
Zinc	68	186.2	185.4	188	**186.5**	1.306	0.7003

Internal Standard Factors:

Rhodium	103	1.218	1.272	1.28	**1.218**	n/a	n/a
Lutetium	175	1.088	1.103	1.129	**1.088**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 11-24-09D
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #180269

Sample Name:		K0909140-016 1/5			Mean	SD	%RSD
TimeStamp		11/24/09 22:16					
Lead	206	20.26	20.17	20.54	**20.32**	0.1954	0.9617
Lead	207	23.06	22.33	23.4	**22.93**	0.5496	2.397
Lead	208	21.88	21.72	22.36	**21.99**	0.3342	1.52
Zinc	66	188	189.1	185.2	**187.5**	2.017	1.076
Zinc	67	204.8	200.6	200.8	**202.1**	2.345	1.16
Zinc	68	196.1	193.1	196.7	**195.3**	1.946	0.9964

Internal Standard Factors:

Rhodium	103	1.239	1.28	1.28	**1.239**	n/a	n/a
Lutetium	175	1.094	1.109	1.141	**1.094**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 11-24-09D
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #180269

Sample Name:		K0909140-017 1/5			Mean	SD	%RSD
TimeStamp		11/24/09 22:18					
Lead	206	17.75	17.7	17.78	**17.74**	0.0372	0.2098
Lead	207	19.8	19.7	19.74	**19.75**	0.0523	0.2648
Lead	208	18.84	18.92	19.12	**18.96**	0.1396	0.7363
Zinc	66	160.7	162.7	165.7	**163**	2.49	1.527
Zinc	67	172.3	174.8	172.8	**173.3**	1.297	0.7483
Zinc	68	168.7	169.5	169.6	**169.3**	0.4945	0.2921

Internal Standard Factors:

Rhodium	103	1.187	1.259	1.27	**1.187**	n/a	n/a
Lutetium	175	1.067	1.099	1.119	**1.067**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 11-24-09D
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #180269

Sample Name:		K0909140-018 1/5			Mean	SD	%RSD
TimeStamp		11/24/09 22:21					
Lead	206	17.82	17.17	17.98	**17.66**	0.4292	2.431
Lead	207	20.07	19.72	19.88	**19.89**	0.1797	0.9036
Lead	208	19.04	18.88	19.36	**19.09**	0.2436	1.276
Zinc	66	171.6	171.3	166.5	**169.8**	2.86	1.684
Zinc	67	183	180.5	177.9	**180.5**	2.572	1.425
Zinc	68	178	174.5	174	**175.5**	2.167	1.235

Internal Standard Factors:

Rhodium	103	1.252	1.276	1.279	**1.252**	n/a	n/a
Lutetium	175	1.082	1.101	1.133	**1.082**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 11-24-09D
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #180269

Sample Name:		K0909140-019 1/5			Mean	SD	%RSD
TimeStamp		11/24/09 22:24					
Lead	206	15.59	15.04	15.51	**15.38**	0.2998	1.949
Lead	207	17.25	16.97	17.18	**17.13**	0.1434	0.8369
Lead	208	16.39	16.26	16.42	**16.36**	0.0846	0.5171
Zinc	66	141.3	144.7	142.6	**142.9**	1.698	1.188
Zinc	67	155.7	156.1	155.3	**155.7**	0.3995	0.2565
Zinc	68	150.6	151.6	149.7	**150.6**	0.951	0.6313

Internal Standard Factors:

Rhodium	103	1.231	1.267	1.276	**1.231**	n/a	n/a
Lutetium	175	1.097	1.13	1.134	**1.097**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 11-24-09D
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #180269

Sample Name:		CCV4			Mean	SD	%RSD
TimeStamp		11/24/09 22:26					
Lead	206	24.73	25.18	24.81	**24.91**	0.2361	0.9481
Lead	207	25.36	25.4	24.66	**25.14**	0.4188	1.666
Lead	208	25.1	25.16	24.55	**24.94**	0.334	1.339
Zinc	66	24.72	24.18	24.43	**24.44**	0.2699	1.104
Zinc	67	24.28	24.65	24.91	**24.61**	0.3205	1.302
Zinc	68	24.35	24.04	24.07	**24.16**	0.1722	0.7128

Internal Standard Factors:

Rhodium	103	1.139	1.137	1.147	**1.139**	n/a	n/a
Lutetium	175	1.085	1.104	1.089	**1.085**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 11-24-09D
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #180269

Sample Name:		CCB4			Mean	SD	%RSD
TimeStamp		11/24/09 22:29					
Lead	206	0.0074	0.0069	0.0068	**0.007**	0.0003	4.573
Lead	207	0.0074	0.009	0.003	**0.0065**	0.0031	47.87
Lead	208	0.0092	0.007	0.0044	**0.0069**	0.0024	35.48
Zinc	66	-0.0135	-0.0508	-0.0076	**-0.024**	0.0234	97.65
Zinc	67	0.1014	-0.0067	-0.0434	**0.0171**	0.0753	440.6
Zinc	68	-0.0053	-0.0219	-0.0371	**-0.0215**	0.0159	74.12

Internal Standard Factors:

Rhodium	103	1.095	1.124	1.121	**1.095**	n/a	n/a
Lutetium	175	1.067	1.085	1.108	**1.067**	n/a	n/a

Service Request # K0909140 (HCl)_____
Calibration _____112109A_____
QC in calibration__112109A_____
QC Service Request # K0909140_____
STARLIMS Batch # 180444_____

ICP-MS Data Review Form

	Yes	No	NA
1. Appropriate standardization completed	X		
2. ICV within 10 % of true value	X		
3. CCV's in control	X		
4. CCB's and/or ICB's below MRL	X		
5. Method blank below MRL	X		
6. LCS in control	X		
7. Spike and duplicate in control	X		
8. All analytes within instrument linear range	X		
9. Adequate rinse out time allowed	X		
10. Internal standards in control	X		
11. Interferences checked	X		
12. Se over MRL			X
13. CRA run	X		
14. ICSA and ICSAB in control	X		
15. Serial dilution run	X		
16. Post spike in control	X		

Comments: Report Ag-107. + Sb 121 11/25/09

Primary Review by _____ Date 11/23/09
Secondary Review by JPS Date 11/23/09
R:\icp\misc\data review forms\PQ ExCell review form

Sample List

Num	Label	Type	Weight	Volume	Dilution	Rack	Row	Column	Height
1	Cal. Blk	Blank	0 kg	0 ml	1.00	0	1	1	145
2	Cal. Stn	Fully Quant Standard	0 kg	0 ml	1.00	0	1	2	145
3	ICV1	Unknown	0 kg	0 ml	1.00	0	1	3	145
4	CCV1	Unknown	0 kg	0 ml	1.00	0	1	2	145
5	ICB1	Unknown	0 kg	0 ml	1.00	0	1	1	145
6	CCB1	Unknown	0 kg	0 ml	1.00	0	1	1	145
7	SOIL CRA	Unknown	0 kg	0 ml	1.00	0	1	4	145
8	ICSA	Unknown	0 kg	0 ml	1.00	0	1	5	145
9	ICSAB	Unknown	0 kg	0 ml	1.00	0	1	6	145
10	K0910313-MB 1/5	Unknown	0 kg	0 ml	1.00	1	3	5	145
11	LCSS K0910313 1/50	Unknown	0 kg	0 ml	1.00	1	3	6	145
12	K0910313-001 1/50	Unknown	0 kg	0 ml	1.00	1	3	7	145
13	K0910313-001 1/50D	Unknown	0 kg	0 ml	1.00	1	3	8	145
14	K0910313-001 1/50S	Unknown	0 kg	0 ml	1.00	1	3	9	145
15	CCV2	Unknown	0 kg	0 ml	1.00	0	1	2	145
16	CCB2	Unknown	0 kg	0 ml	1.00	0	1	1	145
17	K0910432-MB 1/5	Unknown	0 kg	0 ml	1.00	1	1	1	145
18	LCSS K0910432	Unknown	0 kg	0 ml	1.00	1	1	2	145
19	K0910432-007 1/5	Unknown	0 kg	0 ml	1.00	1	1	3	145
20	K0910432-007 1/5D	Unknown	0 kg	0 ml	1.00	1	1	4	145
21	K0910432-007 1/25L	Unknown	0 kg	0 ml	1.00	1	1	5	145
22	K0910432-007 1/5 +10/50A	Unknown	0 kg	0 ml	1.00	1	1	6	145
23	K0910432-007 1/25S	Unknown	0 kg	0 ml	1.00	1	1	7	145
24	K0909140-001 1/5	Unknown	0 kg	0 ml	1.00	1	1	8	145
25	K0909140-002 1/5	Unknown	0 kg	0 ml	1.00	1	1	9	145
26	CCV3	Unknown	0 kg	0 ml	1.00	0	1	2	145
27	CCB3	Unknown	0 kg	0 ml	1.00	0	1	1	145
28	K0909140-003 1/5	Unknown	0 kg	0 ml	1.00	1	1	10	145
29	K0909140-004 1/5	Unknown	0 kg	0 ml	1.00	1	1	11	145
30	K0909140-005 1/5	Unknown	0 kg	0 ml	1.00	1	1	12	145
31	K0909140-006 1/5	Unknown	0 kg	0 ml	1.00	1	2	1	145
32	K0909140-006 1/25S	Unknown	0 kg	0 ml	1.00	1	2	2	145
33	K0909140-006 1/25SD	Unknown	0 kg	0 ml	1.00	1	2	3	145
34	K0909140-007 1/5	Unknown	0 kg	0 ml	1.00	1	2	4	145
35	K0909140-008 1/5	Unknown	0 kg	0 ml	1.00	1	2	5	145
36	K0909140-009 1/5	Unknown	0 kg	0 ml	1.00	1	2	6	145
37	K0909140-010 1/5	Unknown	0 kg	0 ml	1.00	1	2	7	145
38	CCV4	Unknown	0 kg	0 ml	1.00	0	1	2	145
39	CCB4	Unknown	0 kg	0 ml	1.00	0	1	1	145
40	K0909140-011 1/5	Unknown	0 kg	0 ml	1.00	1	2	8	145
41	K0909140-012 1/5	Unknown	0 kg	0 ml	1.00	1	2	9	145
42	K0909140-013 1/5	Unknown	0 kg	0 ml	1.00	1	2	10	145
43	K0909140-014 1/5	Unknown	0 kg	0 ml	1.00	1	2	11	145
44	K0909140-015 1/5	Unknown	0 kg	0 ml	1.00	1	2	12	145
45	K0909140-016 1/5	Unknown	0 kg	0 ml	1.00	1	3	1	145
46	K0909140-017 1/5	Unknown	0 kg	0 ml	1.00	1	3	2	145
47	K0909140-018 1/5	Unknown	0 kg	0 ml	1.00	1	3	3	145
48	K0909140-019 1/5	Unknown	0 kg	0 ml	1.00	1	3	4	145

49	CCV5	Unknown	0 kg	0 ml	1.00	0	1	2	145
50	CCB5	Unknown	0 kg	0 ml	1.00	0	1	1	145
51	K0910357-MB 1/5	Unknown	0 kg	0 ml	1.00	1	3	10	145
52	LCSS K0910357 1/50	Unknown	0 kg	0 ml	1.00	1	3	11	145
53	K0910357-009 1/5	Unknown	0 kg	0 ml	1.00	1	3	12	145
54	K0910357-009 1/5D	Unknown	0 kg	0 ml	1.00	1	4	1	145
55	K0910357-009 1/25L	Unknown	0 kg	0 ml	1.00	1	4	2	145
56	K0910357-009 1/5	Unknown	0 kg	0 ml	1.00	1	4	3	145
57	K0910357-009 1/25S	Unknown	0 kg	0 ml	1.00	1	4	4	145
58	K0910357-001 1/5	Unknown	0 kg	0 ml	1.00	1	4	5	145
59	K0910357-002 1/5	Unknown	0 kg	0 ml	1.00	1	4	6	145
60	K0910357-003 1/5	Unknown	0 kg	0 ml	1.00	1	4	7	145
61	CCV6	Unknown	0 kg	0 ml	1.00	0	1	2	145
62	CCB6	Unknown	0 kg	0 ml	1.00	0	1	1	145
63	K0910357-004 1/5	Unknown	0 kg	0 ml	1.00	1	4	8	145
64	K0910357-005 1/5	Unknown	0 kg	0 ml	1.00	1	4	9	145
65	K0910357-006 1/5	Unknown	0 kg	0 ml	1.00	1	4	10	145
66	K0910357-007 1/5	Unknown	0 kg	0 ml	1.00	1	4	11	145
67	K0910357-008 1/5	Unknown	0 kg	0 ml	1.00	1	4	12	145
68	K0910357-010 1/5	Unknown	0 kg	0 ml	1.00	1	5	1	145
69	K0910357-011 1/5	Unknown	0 kg	0 ml	1.00	1	5	2	145
70	K0910357-012 1/5	Unknown	0 kg	0 ml	1.00	1	5	3	145
71	K0910357-013 1/5	Unknown	0 kg	0 ml	1.00	1	5	4	145
72	K0910357-014 1/5	Unknown	0 kg	0 ml	1.00	1	5	5	145
73	CCV7	Unknown	0 kg	0 ml	1.00	0	1	2	145
74	CCB7	Unknown	0 kg	0 ml	1.00	0	1	1	145
75	K0910357-015 1/5	Unknown	0 kg	0 ml	1.00	1	5	6	145
76	K0910357-016 1/5	Unknown	0 kg	0 ml	1.00	1	5	7	145
77	K0910357-017 1/5	Unknown	0 kg	0 ml	1.00	1	5	8	145
78	K0910357-018 1/5	Unknown	0 kg	0 ml	1.00	1	5	9	145
79	K0910357-019 1/5	Unknown	0 kg	0 ml	1.00	1	5	10	145
80	K0910357-020 1/5	Unknown	0 kg	0 ml	1.00	1	5	11	145
81	K0910382-MB 1/5	Unknown	0 kg	0 ml	1.00	1	5	12	145
82	LCSS K0910382 1/50	Unknown	0 kg	0 ml	1.00	2	1	1	145
83	CCV8	Unknown	0 kg	0 ml	1.00	0	1	2	145
84	CCB8	Unknown	0 kg	0 ml	1.00	0	1	1	145
85	K0910382-001 1/5	Unknown	0 kg	0 ml	1.00	2	1	2	145
86	K0910382-001 1/5D	Unknown	0 kg	0 ml	1.00	2	1	3	145
87	K0910382-001 1/25S	Unknown	0 kg	0 ml	1.00	2	1	4	145
88	K0910382-002 1/5	Unknown	0 kg	0 ml	1.00	2	1	5	145
89	K0910382-003 1/5	Unknown	0 kg	0 ml	1.00	2	1	6	145
90	K0910382-004 1/5	Unknown	0 kg	0 ml	1.00	2	1	7	145
91	K0910382-005 1/5	Unknown	0 kg	0 ml	1.00	2	1	8	145
92	K0910382-006 1/5	Unknown	0 kg	0 ml	1.00	2	1	9	145
93	K0910382-007 1/5	Unknown	0 kg	0 ml	1.00	2	1	10	145
94	CCV9	Unknown	0 kg	0 ml	1.00	0	1	2	145
95	CCB9	Unknown	0 kg	0 ml	1.00	0	1	1	145
96	K0910382-008 1/5	Unknown	0 kg	0 ml	1.00	2	1	11	145
97	K0910382-008 1/5D	Unknown	0 kg	0 ml	1.00	2	1	12	145
98	K0910382-008 1/25S	Unknown	0 kg	0 ml	1.00	2	2	1	145
99	K0910382-009 1/5	Unknown	0 kg	0 ml	1.00	2	2	2	145

100	K0910382-010 1/5	Unknown	0 kg	0 ml	1.00	2	2	3	145
101	K0910382-011 1/5	Unknown	0 kg	0 ml	1.00	2	2	4	145
102	K0910382-012 1/5	Unknown	0 kg	0 ml	1.00	2	2	5	145
103	K0910382-013 1/5	Unknown	0 kg	0 ml	1.00	2	2	6	145
104	K0910382-014 1/5	Unknown	0 kg	0 ml	1.00	2	2	7	145
105	K0910382-015 1/5	Unknown	0 kg	0 ml	1.00	2	2	8	145
106	CCV10	Unknown	0 kg	0 ml	1.00	0	1	2	145
107	CCB10	Unknown	0 kg	0 ml	1.00	0	1	1	145
108	K0910382-016 1/5	Unknown	0 kg	0 ml	1.00	2	2	9	145
109	K0910382-017 1/5	Unknown	0 kg	0 ml	1.00	2	2	10	145
110	K0910382-018 1/5	Unknown	0 kg	0 ml	1.00	2	2	11	145
111	K0910789-MB 1/5	Unknown	0 kg	0 ml	1.00	2	2	12	145
112	LCSW K0910789 1/10	Unknown	0 kg	0 ml	1.00	2	3	1	145
113	K0910789-001 1/5	Unknown	0 kg	0 ml	1.00	2	3	2	145
114	K0910789-001 1/5D	Unknown	0 kg	0 ml	1.00	2	3	3	145
115	K0910789-001 1/25S	Unknown	0 kg	0 ml	1.00	2	3	4	145
116	K0910594-MB 1/5	Unknown	0 kg	0 ml	1.00	2	3	5	145
117	LCSS K0910594 1/50	Unknown	0 kg	0 ml	1.00	2	3	6	145
118	CCV11	Unknown	0 kg	0 ml	1.00	0	1	2	145
119	CCB11	Unknown	0 kg	0 ml	1.00	0	1	1	145
120	K0910594-001 1/5	Unknown	0 kg	0 ml	1.00	2	3	7	145
121	K0910594-001 1/5D	Unknown	0 kg	0 ml	1.00	2	3	8	145
122	K0910594-001 1/25S	Unknown	0 kg	0 ml	1.00	2	3	9	145
123	K0910896-001 1/5	Unknown	0 kg	0 ml	1.00	2	3	10	145
124	K0910748-MB 1/5	Unknown	0 kg	0 ml	1.00	2	3	11	145
125	LCSS K0910748 1/50	Unknown	0 kg	0 ml	1.00	2	3	12	145
126	K0910748-001 1/5	Unknown	0 kg	0 ml	1.00	2	4	1	145
127	K0910748-001 1/5D	Unknown	0 kg	0 ml	1.00	2	4	2	145
128	K0910748-001 1/25S	Unknown	0 kg	0 ml	1.00	2	4	3	145
129	CCV12	Unknown	0 kg	0 ml	1.00	0	1	2	145
130	CCB12	Unknown	0 kg	0 ml	1.00	0	1	1	145
131	K0910825-001 1/5	Unknown	0 kg	0 ml	1.00	2	4	4	145
132	K0910825-002 1/5	Unknown	0 kg	0 ml	1.00	2	4	5	145
133	CCV13	Unknown	0 kg	0 ml	1.00	0	1	2	145
134	CCB13	Unknown	0 kg	0 ml	1.00	0	1	1	145

Instrument Setup - Sample Configuration

Sample	Configuration	Date
All Samples	acqmet11	10:27:03 11/21/09

Instrument Setup - Configurations

Configuration Name - acqmet11
Description - PQExcell CCT Sim Default
Date - 10:27:03 11/21/09
Maximum Uptake Time - 0
Maximum Washout Time - 0
S-Option Pump Running - No
Plasma Screen Forward - No
Makeup Gas On - No
Use CCT - No
Use Accessory Gas - No

Setting	Value
Extraction	-500.00
Lens1	-5.00
Lens2	-75.00
Lens3	5.00
Pole Bias	3.00
Sampling Depth	350.00
Horizontal	-70.00
Vertical	55.00
Cool	13.00
Auxiliary	0.60
Nebuliser	0.78
Forward power	1,410.00
HT1 Voltage	1,900.00
HT2 Voltage	2,600.00
D1	-34.00
Focus	10.00

ExCell Mass Calibration

Date: 11/21/2009

Mass	Mass DAC	Peak Width (AMU)	Error (AMU)	Include
6.015	1322	0.717	-0.014	TRUE
7.016	1575	0.665	-0.019	TRUE
9.012	2089	0.717	0.009	TRUE
23.985	5900	0.716	0.037	TRUE
24.986	6147	0.716	0.008	TRUE
25.983	6400	0.665	0.007	TRUE
26.982	6654	0.716	0.008	TRUE
53.949	13503	0.818	-0.011	TRUE
55.935	14010	0.818	-0.003	TRUE
56.935	14270	0.818	0.02	TRUE
57.934	14517	0.818	-0.008	TRUE
58.933	14764	0.818	-0.035	TRUE
69.925	17572	0.818	0.017	TRUE
75.92	19086	0.869	-0.025	TRUE
77.919	19593	0.869	-0.03	TRUE
112.904	28499	0.868	-0.008	TRUE
114.904	29006	0.868	-0.015	TRUE
118.903	30053	0.817	0.099	TRUE
126.904	32061	0.868	-0.013	TRUE
128.905	32575	0.817	0.006	TRUE
130.905	33082	0.817	-0.003	TRUE
131.905	33335	0.868	-0.008	TRUE
133.905	33849	0.817	0.01	TRUE
135.906	34356	0.817	0	TRUE
139.905	35376	0.868	0.008	TRUE
141.908	35883	0.868	-0.004	TRUE
155.923	39445	0.868	-0.031	TRUE
157.924	39959	0.817	-0.014	TRUE
205.974	52205	0.816	-0.003	TRUE
206.976	52465	0.816	0.016	TRUE
207.977	52718	0.867	0.008	TRUE
208.98	52972	0.816	0	TRUE
238.051	60382	0.816	-0.01	TRUE

Excluded In Calib | Excluded In Results | Peak Can Excluded | Multi Element | Semi Quant | Internal Standard | Standard Addition

Uncorrected ICPS Per Mass

S-Calibration Has Edited Standard
F-Interference Correction Failed
E-Calibration Edited
T-Tripped
I-Invalid Calibration
P-Pulse Counting
V-Valley Integration Failed
M-Result Over Max

Run	Label	TimeStamp	6Li	7Li	9Be	59Co	115In	208Pb
1	Stability 11/20/09	11/21/2009 10:30:41	(P)0.833	(P)35147.857	(P)10727.028	(P)59758.229	(P)57161.641	(P)21152.816
2	Stability 11/20/09	11/21/2009 10:31:43	(P)0.167	(P)35985.776	(P)10943.859	(P)60172.463	(P)57334.667	(P)21145.973
3	Stability 11/20/09	11/21/2009 10:32:45	(P)0.000	(P)35701.900	(P)10825.772	(P)59982.844	(P)56945.785	(P)21530.213
4	Stability 11/20/09	11/21/2009 10:33:48	(P)0.500	(P)36438.087	(P)11025.092	(P)59939.162	(P)56873.333	(P)21298.366
5	Stability 11/20/09	11/21/2009 10:34:50	(P)0.333	(P)35267.982	(P)10638.629	(P)59526.949	(P)56847.065	(P)21635.039
	Mean of Stability 11/20	11/21/2009 10:30:41	(P)0.367	(P)35708.320	(P)10832.076	(P)59875.929	(P)57032.498	(P)21352.481
	SD of Stability 11/20/09		(P)0.321	(P)528.583	(P)156.722	(P)244.439	(P)209.298	(P)221.849
	%RSD of Stability 11		(P)87.434	(P)1.480	(P)1.447	(P)0.408	(P)0.367	(P)1.039

Run	Label	TimeStamp	209Bi	232Th	238U
1	Stability 11/20/09	11/21/2009 10:30:41	(P)32722.435	(P)0.167	(P)31295.079
2	Stability 11/20/09	11/21/2009 10:31:43	(P)33377.280	(P)0.167	(P)31220.420
3	Stability 11/20/09	11/21/2009 10:32:45	(P)33625.697	(P)0.167	(P)31530.766
4	Stability 11/20/09	11/21/2009 10:33:48	(P)33790.919	(P)0.000	(P)31649.376
5	Stability 11/20/09	11/21/2009 10:34:50	(P)33962.658	(P)0.000	(P)32018.847
	Mean of Stability 11/20	11/21/2009 10:30:41	(P)33495.798	(P)0.100	(P)31542.898
	SD of Stability 11/20/09		(P)483.235	(P)0.091	(P)317.576
	%RSD of Stability 11		(P)1.443	(P)91.287	(P)1.007

Instrument ID: K-ICP-MS-02
Experiment: 11-21-09A
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #180444

Sample Name:		Cal. Blk			Mean	SD	%RSD
TimeStamp		11/21/09 11:22					
Antimony	121	0.0016	-0.001	-0.0006	**0**	0.0014	0
Antimony	123	0.0044	-0.0009	-0.0035	**0**	0.004	0
Silver	107	-0.0005	0.0012	-0.0006	**0**	0.001	0
Silver	109	0.0004	0.0001	-0.0005	**0**	0.0004	0
Tin	118	-0.0022	0.0068	-0.0046	**0**	0.006	0
Tin	120	-0.0023	-0.0008	0.0031	**0**	0.0028	0

Internal Standard Factors:

Rhodium	103	1.009	0.991	1	**1.009**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 11-21-09A
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #180444

Sample Name:		Cal. Stn			Mean	SD	%RSD
TimeStamp		11/21/09 11:24					
Antimony	121	25.08	25.08	24.84	**25**	0.1362	0.5448
Antimony	123	25.04	24.77	25.19	**25**	0.2148	0.8593
Silver	107	24.96	24.97	25.07	**25**	0.0639	0.2555
Silver	109	25.04	24.89	25.07	**25**	0.0976	0.3905
Tin	118	25.07	24.89	25.04	**25**	0.0979	0.3916
Tin	120	25.2	24.73	25.07	**25**	0.2393	0.9572

Internal Standard Factors:							
Rhodium	103	0.972	0.949	0.943	**0.972**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 11-21-09A
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #180444

Sample Name:		ICV1			Mean	SD	%RSD
TimeStamp		11/21/09 11:26					
Antimony	121	24.02	23.56	23.95	**23.85**	0.2467	1.034
Antimony	123	23.29	23.46	23.42	**23.39**	0.0915	0.3912
Silver	107	13.46	13.34	13.41	**13.4**	0.0614	0.4579
Silver	109	13.42	13.38	13.34	**13.38**	0.0394	0.2948
Tin	118	26.25	26.45	25.92	**26.21**	0.2674	1.02
Tin	120	26.13	25.9	26.06	**26.03**	0.116	0.4458

Internal Standard Factors:							
Rhodium	103	0.972	0.954	0.954	**0.972**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 11-21-09A
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #180444

Sample Name:		CCV1			Mean	SD	%RSD
TimeStamp		11/21/09 11:28					
Antimony	121	25.99	25.45	25.5	**25.65**	0.3001	1.17
Antimony	123	26.03	25.17	25.15	**25.45**	0.5038	1.979
Silver	107	25.22	24.95	25.39	**25.18**	0.2228	0.8846
Silver	109	25.27	24.81	25.29	**25.12**	0.2721	1.083
Tin	118	24.75	24.57	25.02	**24.78**	0.2265	0.9139
Tin	120	24.77	24.73	24.83	**24.77**	0.0513	0.2071

Internal Standard Factors:							
Rhodium	103	0.974	0.952	0.96	**0.974**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 11-21-09A
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #180444

Sample Name:		ICB1			Mean	SD	%RSD
TimeStamp		11/21/09 11:38					
Antimony	121	0.0074	0.001	-0.0123	**-0.0013**	0.01	755.2
Antimony	123	-0.0113	-0.0234	-0.0212	**-0.0186**	0.0065	34.61
Silver	107	0.0192	0.0186	0.013	**0.017**	0.0034	20.15
Silver	109	0.0184	0.014	0.0136	**0.0153**	0.0027	17.43
Tin	118	-0.0012	-0.0027	-0.0135	**-0.0058**	0.0067	115.5
Tin	120	0.0482	-0.0113	-0.0036	**0.0111**	0.0324	292.4

Internal Standard Factors:

Rhodium	103	1.023	0.993	0.948	**1.023**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 11-21-09A
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #180444

Sample Name:		CCB1			Mean	SD	%RSD
TimeStamp		11/21/09 11:41					
Antimony	121	-0.0199	-0.0184	-0.0103	**-0.0162**	0.0051	31.79
Antimony	123	-0.0312	-0.0271	-0.0247	**-0.0277**	0.0033	11.83
Silver	107	0.0107	0.0073	0.0069	**0.0083**	0.0021	25.37
Silver	109	0.0097	0.0081	0.0074	**0.0084**	0.0012	13.95
Tin	118	-0.0045	0.0031	-0.0043	**-0.0019**	0.0043	229.7
Tin	120	-0.0076	-0.0067	-0.0071	**-0.0071**	0.0005	6.36

Internal Standard Factors:							
Rhodium	103	1	0.995	0.98	**1**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 11-21-09A
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #180444

Sample Name:		SOIL CRA			Mean	SD	%RSD
TimeStamp		11/21/09 11:43					
Antimony	121	0.0966	0.0969	0.0852	**0.0929**	0.0067	7.205
Antimony	123	0.0875	0.0834	0.0648	**0.0786**	0.0122	15.46
Silver	107	0.0433	0.0433	0.0416	**0.0427**	0.0009	2.221
Silver	109	0.0415	0.0386	0.0441	**0.0414**	0.0027	6.578
Tin	118	0.1077	0.1143	0.1015	**0.1079**	0.0064	5.958
Tin	120	0.1501	0.0878	0.0946	**0.1108**	0.0342	30.87

Internal Standard Factors:							
Rhodium	103	0.986	0.993	0.98	**0.986**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 11-21-09A
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #180444

Sample Name:		ICSA			Mean	SD	%RSD
TimeStamp		11/21/09 11:46					
Antimony	121	0.1129	0.1042	0.1195	**0.1122**	0.0077	6.837
Antimony	123	0.0817	0.0861	0.0793	**0.0823**	0.0035	4.204
Silver	107	0.0812	0.0734	0.0748	**0.0765**	0.0042	5.468
Silver	109	0.0666	0.0686	0.0676	**0.0676**	0.001	1.439
Tin	118	0.0602	0.0594	0.0576	**0.0591**	0.0013	2.232
Tin	120	0.089	0.056	0.1944	**0.1131**	0.0723	63.9

Internal Standard Factors:

Rhodium	103	1.261	1.251	1.247	**1.261**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 11-21-09A
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #180444

Sample Name:		ICSAB			Mean	SD	%RSD
TimeStamp		11/21/09 11:49					
Antimony	121	0.0849	0.0852	0.07	**0.08**	0.0087	10.89
Antimony	123	0.0783	0.0749	0.0517	**0.0683**	0.0145	21.22
Silver	107	13.02	12.92	13.1	**13.01**	0.0947	0.7275
Silver	109	13.16	13.01	13.24	**13.14**	0.114	0.8679
Tin	118	0.0795	0.1078	0.0884	**0.0919**	0.0145	15.74
Tin	120	0.0845	0.0944	0.094	**0.091**	0.0056	6.191

Internal Standard Factors:							
Rhodium	103	1.254	1.231	1.242	**1.254**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 11-21-09A
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #180444

Sample Name:		K0910313-MB 1/5			Mean	SD	%RSD
TimeStamp		11/21/09 11:54					
Antimony	121	-0.1529	-0.1486	-0.1474	**-0.1496**	0.0029	1.921
Antimony	123	-0.1615	-0.1589	-0.1619	**-0.1608**	0.0016	1.024
Silver	107	0.0035	0.0049	0.0063	**0.0049**	0.0014	28.44
Silver	109	0.0049	0.0044	0.0071	**0.0055**	0.0014	26.1
Tin	118	0.0069	0.0007	0.0104	**0.006**	0.0049	81.74
Tin	120	0.0571	0.0048	0.0006	**0.0208**	0.0315	151.4

Internal Standard Factors:

Rhodium	103	0.987	0.973	0.966	**0.987**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 11-21-09A
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #180444

Sample Name: / TimeStamp		LCSS K0910313 1/50 11/21/09 11:59			Mean	SD	%RSD
Antimony	121	22.01	21.79	21.76	**21.85**	0.1318	0.603
Antimony	123	21.35	21.22	21.11	**21.23**	0.1188	0.5598
Silver	107	20.62	20.53	20.56	**20.57**	0.0482	0.2341
Silver	109	20.64	20.71	20.57	**20.64**	0.0714	0.3458
Tin	118	21.1	21.05	21.15	**21.1**	0.0515	0.2438
Tin	120	21.05	21.06	21.3	**21.14**	0.1419	0.6714

Internal Standard Factors:

Rhodium	103	0.975	0.952	0.944	**0.975**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 11-21-09A
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #180444

Sample Name: / TimeStamp		K0910313-001 1/50 11/21/09 12:08			Mean	SD	%RSD
Antimony	121	11.17	10.83	10.96	**10.98**	0.1736	1.58
Antimony	123	10.76	10.53	10.59	**10.63**	0.1155	1.087
Silver	107	10.18	10.14	10.07	**10.13**	0.0595	0.5873
Silver	109	10.15	10.04	10.2	**10.13**	0.0785	0.7747
Tin	118	18.17	17.92	18.51	**18.2**	0.2956	1.624
Tin	120	18.2	18.35	18.41	**18.32**	0.1096	0.5984

Internal Standard Factors:

Rhodium	103	0.99	0.957	0.948	**0.99**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 11-21-09A
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #180444

Sample Name:		K0910313-001 1/50D			Mean	SD	%RSD
TimeStamp		11/21/09 12:15					
Antimony	121	10.82	10.83	10.81	**10.82**	0.0066	0.0612
Antimony	123	10.6	10.57	10.68	**10.62**	0.0541	0.5093
Silver	107	11.19	11.17	11.31	**11.22**	0.0728	0.6488
Silver	109	11.19	11.29	11.38	**11.28**	0.0945	0.8378
Tin	118	18.96	18.97	19.02	**18.98**	0.036	0.1895
Tin	120	18.78	18.83	19.26	**18.96**	0.2611	1.377

Internal Standard Factors:

Rhodium	103	0.977	0.957	0.953	**0.977**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 11-21-09A
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #180444

Sample Name:		K0910313-001 1/50S			Mean	SD	%RSD
TimeStamp		11/21/09 12:22					
Antimony	121	24.16	24.23	24.06	**24.15**	0.0837	0.3467
Antimony	123	24.03	23.65	23.49	**23.72**	0.2745	1.157
Silver	107	12.41	12.56	12.59	**12.52**	0.0974	0.7782
Silver	109	12.44	12.44	12.52	**12.47**	0.0453	0.3636
Tin	118	122.4	122.8	124.8	**123.4**	1.287	1.043
Tin	120	121.9	121.3	123.6	**122.3**	1.156	0.9455

Internal Standard Factors:

Rhodium	103	0.958	0.933	0.929	**0.958**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 11-21-09A
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #180444

Sample Name:		CCV2			Mean	SD	%RSD
TimeStamp		11/21/09 12:30					
Antimony	121	25.66	25.37	25.44	**25.49**	0.1491	0.585
Antimony	123	25.16	25.58	25.27	**25.34**	0.2161	0.853
Silver	107	25.33	25.59	25.49	**25.47**	0.1297	0.5092
Silver	109	25.22	25.39	25.58	**25.4**	0.1803	0.71
Tin	118	25.35	25.24	25.34	**25.31**	0.0574	0.2268
Tin	120	25.52	25.33	25.27	**25.38**	0.1298	0.5114

Internal Standard Factors:

Rhodium	103	0.995	0.968	0.966	**0.995**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 11-21-09A
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #180444

Sample Name:		CCB2			Mean	SD	%RSD
TimeStamp		11/21/09 12:38					
Antimony	121	-0.0563	-0.0495	-0.0506	**-0.0521**	0.0036	6.995
Antimony	123	-0.0558	-0.0698	-0.0668	**-0.0641**	0.0073	11.44
Silver	107	0.0231	0.0214	0.018	**0.0208**	0.0026	12.51
Silver	109	0.0211	0.0164	0.0198	**0.0191**	0.0024	12.69
Tin	118	0.1049	0.1244	0.0939	**0.1078**	0.0154	14.33
Tin	120	0.1547	0.0936	0.0918	**0.1134**	0.0358	31.61

Internal Standard Factors:							
Rhodium	103	1.016	1.003	1.003	**1.016**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 11-21-09A
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #180444

Sample Name:		K0910432-MB 1/5			Mean	SD	%RSD
TimeStamp		11/21/09 12:40					
Antimony	121	-0.0636	-0.0591	-0.0592	**-0.0606**	0.0026	4.231
Antimony	123	-0.0778	-0.0765	-0.0845	**-0.0796**	0.0043	5.385
Silver	107	0.012	0.01	0.0123	**0.0114**	0.0013	11.13
Silver	109	0.009	0.0071	0.0107	**0.0089**	0.0018	19.72
Tin	118	0.0743	0.0695	0.1266	**0.0902**	0.0317	35.14
Tin	120	0.1043	0.0592	0.0751	**0.0796**	0.0229	28.76

Internal Standard Factors:							
Rhodium	103	1.012	0.996	0.985	**1.012** n/a		n/a

Instrument ID: K-ICP-MS-02
Experiment: 11-21-09A
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #180444

Sample Name:		LCSS K0910432			Mean	SD	%RSD
TimeStamp		11/21/09 12:42					
Antimony	121	19.74	20.32	19.54	**19.87**	0.4061	2.044
Antimony	123	19.58	19.42	19.36	**19.45**	0.1116	0.5736
Silver	107	16.27	16.2	16.01	**16.16**	0.1307	0.8089
Silver	109	16.23	16.22	16.02	**16.15**	0.1207	0.7473
Tin	118	30.77	30.8	30.21	**30.59**	0.3306	1.081
Tin	120	30.41	30.92	29.69	**30.34**	0.6176	2.036

Internal Standard Factors:

Rhodium	103	1.005	0.99	0.967	**1.005**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 11-21-09A
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #180444

Sample Name:		K0910432-007 1/5			Mean	SD	%RSD
TimeStamp		11/21/09 12:47					
Antimony	121	142.4	136.5	139	**139.3**	2.956	2.122
Antimony	123	139.8	134.8	138.5	**137.7**	2.586	1.878
Silver	107	26.02	25.38	25.9	**25.77**	0.3404	1.321
Silver	109	26.08	25.23	25.68	**25.66**	0.4225	1.646
Tin	118	373.7	357.7	372.2	**367.8**	8.841	2.403
Tin	120	363	348.4	369	**360.1**	10.6	2.944

Internal Standard Factors:

Rhodium	103	1.162	1.084	1.091	**1.162** n/a		n/a

Instrument ID: K-ICP-MS-02
Experiment: 11-21-09A
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #180444

Sample Name:		K0910432-007 1/5D			Mean	SD	%RSD
TimeStamp		11/21/09 12:53					
Antimony	121	135.8	134.4	136.2	**135.5**	0.9286	0.6855
Antimony	123	136.2	130.1	132.3	**132.9**	3.073	2.313
Silver	107	24.23	23.97	24.52	**24.24**	0.2707	1.117
Silver	109	24.2	24.06	24.34	**24.2**	0.14	0.5784
Tin	118	336.1	330.1	337.4	**334.5**	3.885	1.161
Tin	120	329.1	328.2	335.4	**330.9**	3.909	1.181

Internal Standard Factors:

Rhodium	103	1.13	1.064	1.074	**1.13**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 11-21-09A
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #180444

Sample Name: TimeStamp		K0910432-007 1/25L 11/21/09 12:58			Mean	SD	%RSD
Antimony	121	29.15	29.83	31.37	**30.12**	1.136	3.772
Antimony	123	27.87	29.21	30.91	**29.33**	1.524	5.194
Silver	107	5.367	5.471	5.757	**5.532**	0.2017	3.647
Silver	109	5.265	5.434	5.731	**5.477**	0.2357	4.303
Tin	118	69.22	71.84	76.62	**72.56**	3.754	5.173
Tin	120	68.14	71.84	76.06	**72.01**	3.96	5.499

Internal Standard Factors:

Rhodium	103	0.97	0.966	0.987	**0.97**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 11-21-09A
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #180444

Sample Name:		K0910432-007 1/5 +10/50A			Mean	SD	%RSD
TimeStamp		11/21/09 13:02					
Antimony	121	181.4	185.7	185.4	**184.2**	2.419	1.314
Antimony	123	176.7	182.2	186.9	**181.9**	5.106	2.806
Silver	107	33.88	34.62	34.62	**34.37**	0.4255	1.238
Silver	109	34.02	34.64	34.39	**34.35**	0.3104	0.9036
Tin	118	347.6	350.3	354.4	**350.8**	3.388	0.9659
Tin	120	342.7	350	350.4	**347.7**	4.342	1.249

Internal Standard Factors:							
Rhodium	103	1.136	1.101	1.086	**1.136** n/a		n/a

Instrument ID: K-ICP-MS-02
Experiment: 11-21-09A
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #180444

Sample Name:		K0910432-007 1/25S			Mean	SD	%RSD
TimeStamp		11/21/09 13:07					
Antimony	121	61.2	62.14	63.35	**62.23**	1.079	1.734
Antimony	123	59.41	60.7	61.07	**60.39**	0.8666	1.435
Silver	107	9.435	9.516	9.637	**9.529**	0.1014	1.064
Silver	109	9.282	9.468	9.548	**9.433**	0.1365	1.447
Tin	118	76.48	76.85	77.76	**77.03**	0.657	0.8529
Tin	120	75.18	77.03	76.42	**76.21**	0.9394	1.233

Internal Standard Factors:

Rhodium	103	0.947	0.93	0.935	**0.947** n/a		n/a

Instrument ID: K-ICP-MS-02
Experiment: 11-21-09A
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #180444

Sample Name:		K0909140-001 1/5			Mean	SD	%RSD
TimeStamp		11/21/09 13:13					
Antimony	121	0.3578	0.3237	0.3218	**0.3344**	0.0203	6.054
Antimony	123	0.3226	0.3245	0.3203	**0.3224**	0.0021	0.6621
Silver	107	0.6022	0.6052	0.5776	**0.595**	0.0152	2.55
Silver	109	0.2905	0.2839	0.2761	**0.2835**	0.0072	2.542
Tin	118	8.991	8.941	9.114	**9.015**	0.0888	0.9845
Tin	120	8.807	8.835	8.939	**8.86**	0.0697	0.7871

Internal Standard Factors:							
Rhodium	103	1.037	1.032	1.032	**1.037** n/a		n/a

Instrument ID: K-ICP-MS-02
Experiment: 11-21-09A
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #180444

Sample Name:		K0909140-002 1/5			Mean	SD	%RSD
TimeStamp		11/21/09 13:16					
Antimony	121	0.2891	0.2763	0.2915	**0.2856**	0.0082	2.854
Antimony	123	0.3102	0.3217	0.2761	**0.3027**	0.0237	7.826
Silver	107	0.6669	0.6374	0.604	**0.6361**	0.0315	4.945
Silver	109	0.2979	0.2943	0.2882	**0.2934**	0.0049	1.669
Tin	118	9.08	9.093	8.8	**8.991**	0.1653	1.838
Tin	120	9.012	8.901	8.696	**8.87**	0.1603	1.807

Internal Standard Factors:

Rhodium	103	1.071	1.06	1.045	**1.071**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 11-21-09A
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #180444

Sample Name:		CCV3			Mean	SD	%RSD
TimeStamp		11/21/09 13:20					
Antimony	121	24.92	24.92	25.04	**24.96**	0.0649	0.2599
Antimony	123	24.75	25	25.14	**24.96**	0.1942	0.778
Silver	107	25.5	25.44	25.32	**25.42**	0.0919	0.3614
Silver	109	25.34	25.19	25.21	**25.25**	0.0853	0.338
Tin	118	24.93	24.81	24.82	**24.85**	0.0663	0.2666
Tin	120	25.11	24.8	24.95	**24.96**	0.1541	0.6176

Internal Standard Factors:							
Rhodium	103	0.958	0.929	0.921	**0.958**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 11-21-09A
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #180444

Sample Name:		CCB3			Mean	SD	%RSD
TimeStamp		11/21/09 13:25					
Antimony	121	-0.0727	-0.0751	-0.0743	**-0.074**	0.0013	1.694
Antimony	123	-0.0784	-0.0808	-0.0784	**-0.0792**	0.0014	1.742
Silver	107	0.0181	0.0197	0.0141	**0.0173**	0.0029	16.71
Silver	109	0.0163	0.0156	0.0142	**0.0154**	0.0011	7.246
Tin	118	0.0324	0.048	0.0428	**0.0411**	0.008	19.36
Tin	120	0.0328	0.0561	0.0407	**0.0432**	0.0118	27.38

Internal Standard Factors:

Rhodium	103	0.982	0.971	0.959	**0.982**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 11-21-09A
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #180444

Sample Name:		K0909140-003 1/5			Mean	SD	%RSD
TimeStamp		11/21/09 13:28					
Antimony	121	0.314	0.2826	0.3368	**0.3111**	0.0272	8.738
Antimony	123	0.3148	0.314	0.315	**0.3146**	0.0005	0.1748
Silver	107	0.6404	0.6068	0.6219	**0.623**	0.0169	2.706
Silver	109	0.3018	0.2938	0.2927	**0.2961**	0.005	1.673
Tin	118	9.983	9.951	9.943	**9.959**	0.0212	0.2124
Tin	120	10.1	9.715	9.834	**9.884**	0.199	2.013

Internal Standard Factors:							
Rhodium	103	1.062	1.061	1.06	**1.062** n/a		n/a

Instrument ID: K-ICP-MS-02
Experiment: 11-21-09A
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #180444

Sample Name:		K0909140-004 1/5			Mean	SD	%RSD
TimeStamp		11/21/09 13:30					
Antimony	121	0.724	0.7312	0.7308	**0.7287**	0.004	0.5529
Antimony	123	0.7055	0.7074	0.7064	**0.7064**	0.001	0.1394
Silver	107	0.575	0.5931	0.5859	**0.5847**	0.0091	1.563
Silver	109	0.2489	0.2613	0.2461	**0.2521**	0.008	3.193
Tin	118	9.695	9.948	9.99	**9.878**	0.1595	1.615
Tin	120	9.733	9.946	9.84	**9.84**	0.1063	1.08

Internal Standard Factors:

Rhodium	103	1.059	1.06	1.063	**1.059**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 11-21-09A
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #180444

Sample Name: / TimeStamp		K0909140-005 1/5 11/21/09 13:34			Mean	SD	%RSD
Antimony	121	0.9346	0.9501	0.9344	**0.9397**	0.009	0.9599
Antimony	123	0.9352	0.8875	0.9137	**0.9121**	0.0239	2.619
Silver	107	0.5781	0.5825	0.5769	**0.5791**	0.0029	0.5075
Silver	109	0.2569	0.2567	0.2638	**0.2591**	0.0041	1.564
Tin	118	10.89	10.94	10.85	**10.89**	0.0474	0.4353
Tin	120	10.97	10.95	10.96	**10.96**	0.0137	0.1246

Internal Standard Factors:

Rhodium	103	1.073	1.067	1.072	**1.073** n/a		n/a

Instrument ID: K-ICP-MS-02
Experiment: 11-21-09A
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #180444

Sample Name:		K0909140-006 1/5			Mean	SD	%RSD
TimeStamp		11/21/09 13:37					
Antimony	121	0.4409	0.463	0.4367	**0.4469**	0.0141	3.164
Antimony	123	0.4432	0.4344	0.4242	**0.4339**	0.0095	2.194
Silver	107	0.5813	0.5889	0.6029	**0.591**	0.0109	1.85
Silver	109	0.2732	0.269	0.2658	**0.2693**	0.0037	1.371
Tin	118	9.391	9.253	9.115	**9.253**	0.1381	1.493
Tin	120	9.386	9.27	9.153	**9.27**	0.1166	1.258

Internal Standard Factors:							
Rhodium	103	1.084	1.08	1.068	**1.084**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 11-21-09A
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #180444

Sample Name: / TimeStamp		K0909140-006 1/25S 11/21/09 13:40			Mean	SD	%RSD
Antimony	121	17.77	18.25	17.96	**17.99**	0.2392	1.33
Antimony	123	17.62	17.32	17.84	**17.59**	0.2632	1.496
Silver	107	4.02	4.016	4.055	**4.031**	0.0213	0.5293
Silver	109	3.933	3.951	3.989	**3.958**	0.0284	0.7165
Tin	118	2.433	2.339	2.382	**2.385**	0.047	1.972
Tin	120	2.291	2.309	2.359	**2.32**	0.0348	1.499

Internal Standard Factors:

Rhodium	103	0.987	0.973	0.971	**0.987**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 11-21-09A
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #180444

Sample Name:		K0909140-006 1/25SD			Mean	SD	%RSD
TimeStamp		11/21/09 13:45					
Antimony	121	18.88	18.84	18.98	**18.9**	0.0708	0.3748
Antimony	123	18.93	18.94	18.65	**18.84**	0.1665	0.8837
Silver	107	4.331	4.354	4.383	**4.356**	0.0258	0.5932
Silver	109	4.266	4.248	4.284	**4.266**	0.0182	0.4254
Tin	118	1.972	1.97	1.953	**1.965**	0.0106	0.5394
Tin	120	1.975	1.934	2.004	**1.971**	0.0347	1.763

Internal Standard Factors:							
Rhodium	103	0.986	0.973	0.972	**0.986**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 11-21-09A
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #180444

Sample Name:		K0909140-007 1/5			Mean	SD	%RSD
TimeStamp		11/21/09 13:50					
Antimony	121	0.3396	0.282	0.302	**0.3079**	0.0292	9.486
Antimony	123	0.3307	0.2826	0.3068	**0.3067**	0.0241	7.846
Silver	107	0.6862	0.6562	0.6637	**0.6687**	0.0156	2.337
Silver	109	0.3412	0.3214	0.3178	**0.3268**	0.0126	3.851
Tin	118	9.79	9.697	9.522	**9.67**	0.136	1.407
Tin	120	9.487	9.578	9.611	**9.558**	0.0642	0.6714

Internal Standard Factors:							
Rhodium	103	1.087	1.069	1.073	**1.087**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 11-21-09A
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #180444

Sample Name:		K0909140-008 1/5			Mean	SD	%RSD
TimeStamp		11/21/09 13:52					
Antimony	121	0.4422	0.4108	0.4095	**0.4208**	0.0185	4.397
Antimony	123	0.4129	0.4055	0.4304	**0.4163**	0.0128	3.068
Silver	107	0.6203	0.6098	0.6026	**0.6109**	0.0089	1.454
Silver	109	0.2819	0.2731	0.2708	**0.2752**	0.0059	2.133
Tin	118	9.522	9.425	9.455	**9.467**	0.0497	0.5248
Tin	120	9.23	9.297	9.409	**9.312**	0.0907	0.9743

Internal Standard Factors:							
Rhodium	103	1.086	1.087	1.084	**1.086**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 11-21-09A
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #180444

Sample Name:		K0909140-009 1/5			Mean	SD	%RSD
TimeStamp		11/21/09 13:55					
Antimony	121	0.7733	0.7584	0.7665	**0.7661**	0.0075	0.9727
Antimony	123	0.7685	0.7639	0.7622	**0.7648**	0.0032	0.4248
Silver	107	0.5675	0.5633	0.5817	**0.5708**	0.0097	1.691
Silver	109	0.2433	0.2327	0.2335	**0.2365**	0.0059	2.489
Tin	118	11.3	11.4	11.28	**11.33**	0.0655	0.5781
Tin	120	11.17	11.08	11.24	**11.16**	0.0779	0.6975

Internal Standard Factors:

Rhodium	103	1.068	1.07	1.068	**1.068**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 11-21-09A
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #180444

Sample Name:		K0909140-010 1/5			Mean	SD	%RSD
TimeStamp		11/21/09 13:58					
Antimony	121	0.3415	0.3421	0.3534	**0.3457**	0.0067	1.933
Antimony	123	0.3411	0.3539	0.3169	**0.3373**	0.0188	5.566
Silver	107	0.5894	0.5975	0.5912	**0.5927**	0.0043	0.7197
Silver	109	0.2485	0.2415	0.2546	**0.2482**	0.0066	2.651
Tin	118	10.01	9.935	9.87	**9.937**	0.0684	0.6884
Tin	120	9.809	9.776	9.867	**9.817**	0.0459	0.4671

Internal Standard Factors:							
Rhodium	103	1.086	1.078	1.075	**1.086**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 11-21-09A
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #180444

Sample Name:		CCV4			Mean	SD	%RSD
TimeStamp		11/21/09 14:01					
Antimony	121	24.49	24.95	25.42	**24.95**	0.4685	1.878
Antimony	123	23.87	25.15	25.16	**24.73**	0.7454	3.015
Silver	107	24.78	25.38	25.8	**25.32**	0.5141	2.031
Silver	109	24.75	25.54	25.7	**25.33**	0.5106	2.016
Tin	118	24.06	24.81	25.11	**24.66**	0.5441	2.206
Tin	120	23.81	25	25.09	**24.63**	0.7175	2.913

Internal Standard Factors:

Rhodium	103	0.93	0.932	0.933	**0.93**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 11-21-09A
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #180444

Sample Name:		CCB4			Mean	SD	%RSD
TimeStamp		11/21/09 14:07					
Antimony	121	-0.0861	-0.0875	-0.0832	**-0.0856**	0.0022	2.563
Antimony	123	-0.106	-0.0994	-0.0963	**-0.1006**	0.005	4.926
Silver	107	0.0148	0.0128	0.0131	**0.0136**	0.0011	8.061
Silver	109	0.014	0.009	0.0095	**0.0108**	0.0028	25.55
Tin	118	0.0166	0.0019	0.008	**0.0088**	0.0074	84.22
Tin	120	0.031	0.0126	0.0175	**0.0204**	0.0095	46.73

Internal Standard Factors:							
Rhodium	103	0.978	0.958	0.955	**0.978**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 11-21-09A
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #180444

Sample Name:		K0909140-011 1/5			Mean	SD	%RSD
TimeStamp		11/21/09 14:11					
Antimony	121	0.128	0.1106	0.1069	**0.1152**	0.0113	9.806
Antimony	123	0.1273	0.0979	0.1048	**0.11**	0.0154	13.99
Silver	107	0.4764	0.4674	0.4705	**0.4714**	0.0046	0.9756
Silver	109	0.1687	0.1595	0.1556	**0.1613**	0.0067	4.168
Tin	118	8.261	8.064	8.144	**8.156**	0.0994	1.218
Tin	120	8.022	7.975	7.985	**7.994**	0.0249	0.3112

Internal Standard Factors:							
Rhodium	103	1.063	1.055	1.067	**1.063**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 11-21-09A
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #180444

Sample Name:		K0909140-012 1/5			Mean	SD	%RSD
TimeStamp		11/21/09 14:14					
Antimony	121	0.128	0.107	0.0856	**0.1068**	0.0212	19.84
Antimony	123	0.0933	0.0923	0.088	**0.0912**	0.0029	3.127
Silver	107	0.4653	0.455	0.443	**0.4544**	0.0112	2.458
Silver	109	0.1486	0.1436	0.1473	**0.1465**	0.0026	1.776
Tin	118	8.719	8.588	8.585	**8.631**	0.0763	0.8842
Tin	120	8.553	8.495	8.439	**8.495**	0.0569	0.6695

Internal Standard Factors:							
Rhodium	103	1.072	1.073	1.065	**1.072**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 11-21-09A
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #180444

Sample Name:		K0909140-013 1/5			Mean	SD	%RSD
TimeStamp		11/21/09 14:17					
Antimony	121	0.3095	0.3444	0.3208	**0.3249**	0.0178	5.482
Antimony	123	0.3252	0.3245	0.3247	**0.3248**	0.0004	0.1137
Silver	107	0.6115	0.6169	0.6258	**0.618**	0.0072	1.168
Silver	109	0.2897	0.2864	0.2919	**0.2893**	0.0028	0.9616
Tin	118	10.86	10.9	10.88	**10.88**	0.02	0.1841
Tin	120	10.78	10.76	10.76	**10.77**	0.0146	0.1354

Internal Standard Factors:							
Rhodium	103	1.081	1.078	1.079	**1.081**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 11-21-09A
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #180444

Sample Name:		K0909140-014 1/5			Mean	SD	%RSD
TimeStamp		11/21/09 14:20					
Antimony	121	1.066	1.047	0.9759	**1.03**	0.0475	4.614
Antimony	123	1.039	1.032	0.9669	**1.013**	0.0398	3.932
Silver	107	0.7551	0.7608	0.7622	**0.7594**	0.0037	0.4915
Silver	109	0.3643	0.3676	0.3505	**0.3608**	0.009	2.508
Tin	118	12.29	12.13	11.89	**12.1**	0.2008	1.659
Tin	120	12.64	12.04	11.73	**12.14**	0.4657	3.837

Internal Standard Factors:

Rhodium	103	1.084	1.081	1.069	**1.084**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 11-21-09A
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #180444

Sample Name:		K0909140-015 1/5			Mean	SD	%RSD
TimeStamp		11/21/09 14:23					
Antimony	121	0.217	0.2212	0.2177	**0.2186**	0.0022	1.026
Antimony	123	0.229	0.2121	0.2098	**0.2169**	0.0105	4.835
Silver	107	0.5249	0.5141	0.5249	**0.5213**	0.0062	1.196
Silver	109	0.2034	0.2	0.2033	**0.2022**	0.0019	0.945
Tin	118	8.651	8.784	8.672	**8.702**	0.0714	0.8199
Tin	120	8.752	8.382	8.53	**8.555**	0.1859	2.173

Internal Standard Factors:

Rhodium	103	1.08	1.073	1.082	**1.08**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 11-21-09A
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #180444

Sample Name:		K0909140-016 1/5			Mean	SD	%RSD
TimeStamp		11/21/09 14:26					
Antimony	121	0.2165	0.2128	0.2267	**0.2187**	0.0072	3.296
Antimony	123	0.2367	0.2126	0.1962	**0.2152**	0.0204	9.457
Silver	107	0.5711	0.5716	0.5653	**0.5693**	0.0035	0.6171
Silver	109	0.2215	0.231	0.2088	**0.2204**	0.0111	5.055
Tin	118	9.388	9.188	9.172	**9.249**	0.1203	1.301
Tin	120	9.288	9.211	9.231	**9.243**	0.0398	0.4307

Internal Standard Factors:							
Rhodium	103	1.088	1.097	1.09	**1.088**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 11-21-09A
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #180444

Sample Name:		K0909140-017 1/5			Mean	SD	%RSD
TimeStamp		11/21/09 14:29					
Antimony	121	0.3949	0.3962	0.4131	**0.4014**	0.0102	2.529
Antimony	123	0.3918	0.3905	0.4006	**0.3943**	0.0055	1.385
Silver	107	0.5423	0.5452	0.5629	**0.5501**	0.0111	2.025
Silver	109	0.2213	0.2259	0.2308	**0.226**	0.0047	2.1
Tin	118	8.796	8.628	8.683	**8.702**	0.0857	0.9852
Tin	120	8.709	8.702	8.654	**8.688**	0.0297	0.3414

Internal Standard Factors:							
Rhodium	103	1.07	1.066	1.08	**1.07**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 11-21-09A
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #180444

Sample Name:		K0909140-018 1/5			Mean	SD	%RSD
TimeStamp		11/21/09 14:32					
Antimony	121	0.1666	0.1665	0.1772	**0.1701**	0.0061	3.607
Antimony	123	0.1622	0.1555	0.169	**0.1622**	0.0068	4.18
Silver	107	0.5161	0.4956	0.5131	**0.5083**	0.0111	2.185
Silver	109	0.1928	0.1914	0.1946	**0.1929**	0.0016	0.8223
Tin	118	8.84	8.763	8.599	**8.734**	0.1229	1.407
Tin	120	8.612	8.602	8.559	**8.591**	0.0279	0.3252

Internal Standard Factors:							
Rhodium	103	1.082	1.063	1.066	**1.082** n/a		n/a

Instrument ID: K-ICP-MS-02
Experiment: 11-21-09A
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #180444

Sample Name:		K0909140-019 1/5			Mean	SD	%RSD
TimeStamp		11/21/09 14:35					
Antimony	121	0.1114	0.087	0.0794	**0.0926**	0.0167	18.06
Antimony	123	0.1	0.0895	0.0986	**0.096**	0.0057	5.937
Silver	107	0.4316	0.4454	0.4542	**0.4437**	0.0114	2.561
Silver	109	0.147	0.1528	0.1475	**0.1491**	0.0032	2.177
Tin	118	8.353	8.307	8.33	**8.33**	0.023	0.2757
Tin	120	8.173	8.119	8.186	**8.159**	0.0355	0.4345

Internal Standard Factors:							
Rhodium	103	1.078	1.07	1.073	**1.078**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 11-21-09A
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #180444

Sample Name:		CCV5			Mean	SD	%RSD
TimeStamp		11/21/09 14:38					
Antimony	121	24.64	24.94	24.67	**24.75**	0.1662	0.6717
Antimony	123	24.38	24.61	24.42	**24.47**	0.1216	0.4968
Silver	107	25.48	25.12	25.41	**25.34**	0.1887	0.7448
Silver	109	25.33	25.04	25.27	**25.21**	0.1567	0.6215
Tin	118	24.73	24.63	24.55	**24.64**	0.0921	0.3738
Tin	120	24.44	24.67	24.43	**24.51**	0.1346	0.5491

Internal Standard Factors:							
Rhodium	103	0.951	0.934	0.925	**0.951**	n/a	n/a

Instrument ID: K-ICP-MS-02
Experiment: 11-21-09A
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Greg Jasper
STARLIMS #180444

Sample Name:		CCB5			Mean	SD	%RSD
TimeStamp		11/21/09 14:43					
Antimony	121	-0.0942	-0.1006	-0.0928	**-0.0959**	0.0042	4.354
Antimony	123	-0.1098	-0.1127	-0.1011	**-0.1079**	0.0061	5.618
Silver	107	0.0134	0.0107	0.0079	**0.0107**	0.0027	25.75
Silver	109	0.0107	0.0082	0.0045	**0.0078**	0.0031	40.16
Tin	118	0.0022	0.0838	0.0088	**0.0316**	0.0453	143.5
Tin	120	-0.0065	0.0068	0.0124	**0.0042**	0.0097	229.2

Internal Standard Factors:							
Rhodium	103	0.976	0.965	0.957	**0.976**	n/a	n/a

Polychlorinated Biphenyls
PCB's
EPA Method 8082

Organic Analysis:
Polychlorinated Biphenyls (PCBs)

Summary Package

Sample and QC Results

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009
Service Request: K0909140

Cover Page - Organic Analysis Data Package
Polychlorinated Biphenyls (PCBs)

Sample Name	Lab Code	Date Collected	Date Received
M-4-A	K0909140-001	09/28/2009	09/29/2009
M-4-B	K0909140-002	09/28/2009	09/29/2009
M-4-C	K0909140-003	09/28/2009	09/29/2009
M-1-B	K0909140-004	10/07/2009	10/08/2009
M-2-C	K0909140-005	10/06/2009	10/07/2009
M-2-A	K0909140-006	10/06/2009	10/07/2009
M-3-B	K0909140-007	10/05/2009	10/06/2009
M-2-B	K0909140-008	10/06/2009	10/07/2009
M-1-C	K0909140-009	10/07/2009	10/08/2009
M-3-C	K0909140-010	10/05/2009	10/06/2009
B-1-A	K0909140-011	10/09/2009	10/09/2009
B-1-B	K0909140-012	10/09/2009	10/09/2009
M-3-A	K0909140-013	10/05/2009	10/06/2009
M-1-A	K0909140-014	10/07/2009	10/08/2009
M-5-B	K0909140-015	09/28/2009	09/29/2009
M-5-A	K0909140-016	09/28/2009	09/29/2009
M-5-C	K0909140-017	09/28/2009	09/29/2009
M-5-B2	K0909140-018	09/28/2009	09/29/2009
B-1-C	K0909140-019	10/09/2009	10/09/2009
M-2-AMS	KWG0910513-1	10/06/2009	10/07/2009
M-2-ADMS	KWG0910513-2	10/06/2009	10/07/2009

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed in the case narrative. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on floppy diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Signature: _____ Name: _____

Date: 11/18/09 Title: _____

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009
Sample Matrix: Sediment

Service Request: K0909140
Date Collected: 09/28/2009
Date Received: 09/29/2009

Polychlorinated Biphenyls (PCBs)

Sample Name: M-4-A
Lab Code: K0909140-001

Extraction Method: EPA 3541
Analysis Method: 8082

Units: ug/Kg
Basis: Dry

Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Aroclor 1016	ND	U	9.8	2.1	1	11/10/09	11/14/09	KWG0910513	
Aroclor 1221	ND	U	20	2.1	1	11/10/09	11/14/09	KWG0910513	
Aroclor 1232	ND	U	9.8	2.1	1	11/10/09	11/14/09	KWG0910513	
Aroclor 1242	ND	U	9.8	2.1	1	11/10/09	11/14/09	KWG0910513	
Aroclor 1248	ND	U	9.8	2.1	1	11/10/09	11/14/09	KWG0910513	
Aroclor 1254	ND	Ui	17	17	1	11/10/09	11/14/09	KWG0910513	
Aroclor 1260	ND	Ui	9.8	5.0	1	11/10/09	11/14/09	KWG0910513	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Decachlorobiphenyl	92	35-133	11/14/09	Acceptable

Comments:

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009
Sample Matrix: Sediment

Service Request: K0909140
Date Collected: 09/28/2009
Date Received: 09/29/2009

Polychlorinated Biphenyls (PCBs)

Sample Name: M-4-B
Lab Code: K0909140-002

Units: ug/Kg
Basis: Dry

Extraction Method: EPA 3541
Analysis Method: 8082

Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Aroclor 1016	ND	U	11	2.2	1	11/10/09	11/14/09	KWG0910513	
Aroclor 1221	ND	U	21	2.2	1	11/10/09	11/14/09	KWG0910513	
Aroclor 1232	ND	U	11	2.2	1	11/10/09	11/14/09	KWG0910513	
Aroclor 1242	ND	U	11	2.2	1	11/10/09	11/14/09	KWG0910513	
Aroclor 1248	ND	U	11	2.2	1	11/10/09	11/14/09	KWG0910513	
Aroclor 1254	ND	Ui	14	14	1	11/10/09	11/14/09	KWG0910513	
Aroclor 1260	ND	Ui	11	6.4	1	11/10/09	11/14/09	KWG0910513	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Decachlorobiphenyl	89	35-133	11/14/09	Acceptable

Comments:

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009
Sample Matrix: Sediment

Service Request: K0909140
Date Collected: 09/28/2009
Date Received: 09/29/2009

Polychlorinated Biphenyls (PCBs)

Sample Name: M-4-C
Lab Code: K0909140-003

Units: ug/Kg
Basis: Dry

Extraction Method: EPA 3541
Analysis Method: 8082

Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Aroclor 1016	ND	U	9.9	2.1	1	11/10/09	11/14/09	KWG0910513	
Aroclor 1221	ND	U	20	2.1	1	11/10/09	11/14/09	KWG0910513	
Aroclor 1232	ND	U	9.9	2.1	1	11/10/09	11/14/09	KWG0910513	
Aroclor 1242	ND	U	9.9	2.1	1	11/10/09	11/14/09	KWG0910513	
Aroclor 1248	ND	U	9.9	2.1	1	11/10/09	11/14/09	KWG0910513	
Aroclor 1254	ND	Ui	22	22	1	11/10/09	11/14/09	KWG0910513	
Aroclor 1260	ND	Ui	9.9	8.0	1	11/10/09	11/14/09	KWG0910513	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Decachlorobiphenyl	90	35-133	11/14/09	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009
Sample Matrix: Sediment

Service Request: K0909140
Date Collected: 10/07/2009
Date Received: 10/08/2009

Polychlorinated Biphenyls (PCBs)

Sample Name: M-1-B
Lab Code: K0909140-004

Extraction Method: EPA 3541
Analysis Method: 8082

Units: ug/Kg
Basis: Dry

Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Aroclor 1016	ND	U	11	2.2	1	11/10/09	11/14/09	KWG0910513	
Aroclor 1221	ND	U	21	2.2	1	11/10/09	11/14/09	KWG0910513	
Aroclor 1232	ND	U	11	2.2	1	11/10/09	11/14/09	KWG0910513	
Aroclor 1242	ND	U	11	2.2	1	11/10/09	11/14/09	KWG0910513	
Aroclor 1248	ND	U	11	2.2	1	11/10/09	11/14/09	KWG0910513	
Aroclor 1254	**33**		11	2.2	1	11/10/09	11/14/09	KWG0910513	
Aroclor 1260	ND	Ui	12	12	1	11/10/09	11/14/09	KWG0910513	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Decachlorobiphenyl	87	35-133	11/14/09	Acceptable

Comments:

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009
Sample Matrix: Sediment

Service Request: K0909140
Date Collected: 10/06/2009
Date Received: 10/07/2009

Polychlorinated Biphenyls (PCBs)

Sample Name: M-2-C
Lab Code: K0909140-005

Extraction Method: EPA 3541
Analysis Method: 8082

Units: ug/Kg
Basis: Dry

Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Aroclor 1016	ND	U	11	2.3	1	11/10/09	11/14/09	KWG0910513	
Aroclor 1221	ND	U	22	2.3	1	11/10/09	11/14/09	KWG0910513	
Aroclor 1232	ND	U	11	2.3	1	11/10/09	11/14/09	KWG0910513	
Aroclor 1242	ND	U	11	2.3	1	11/10/09	11/14/09	KWG0910513	
Aroclor 1248	ND	U	11	2.3	1	11/10/09	11/14/09	KWG0910513	
Aroclor 1254	**440**		11	2.3	1	11/10/09	11/14/09	KWG0910513	
Aroclor 1260	ND	U	11	2.3	1	11/10/09	11/14/09	KWG0910513	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Decachlorobiphenyl	92	35-133	11/14/09	Acceptable

Comments:

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009
Sample Matrix: Sediment

Service Request: K0909140
Date Collected: 10/06/2009
Date Received: 10/07/2009

Polychlorinated Biphenyls (PCBs)

Sample Name: M-2-A
Lab Code: K0909140-006

Extraction Method: EPA 3541
Analysis Method: 8082

Units: ug/Kg
Basis: Dry
Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Aroclor 1016	ND	U	11	2.2	1	11/10/09	11/14/09	KWG0910513	
Aroclor 1221	ND	U	21	2.2	1	11/10/09	11/14/09	KWG0910513	
Aroclor 1232	ND	U	11	2.2	1	11/10/09	11/14/09	KWG0910513	
Aroclor 1242	ND	U	11	2.2	1	11/10/09	11/14/09	KWG0910513	
Aroclor 1248	ND	U	11	2.2	1	11/10/09	11/14/09	KWG0910513	
Aroclor 1254	**450**		11	2.2	1	11/10/09	11/14/09	KWG0910513	
Aroclor 1260	ND	U	11	2.2	1	11/10/09	11/14/09	KWG0910513	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Decachlorobiphenyl	98	35-133	11/14/09	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009
Sample Matrix: Sediment

Service Request: K0909140
Date Collected: 10/05/2009
Date Received: 10/06/2009

Polychlorinated Biphenyls (PCBs)

Sample Name: M-3-B
Lab Code: K0909140-007

Extraction Method: EPA 3541
Analysis Method: 8082

Units: ug/Kg
Basis: Dry

Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Aroclor 1016	ND	U	9.9	2.1	1	11/10/09	11/14/09	KWG0910513	
Aroclor 1221	ND	U	20	2.1	1	11/10/09	11/14/09	KWG0910513	
Aroclor 1232	ND	U	9.9	2.1	1	11/10/09	11/14/09	KWG0910513	
Aroclor 1242	ND	U	9.9	2.1	1	11/10/09	11/14/09	KWG0910513	
Aroclor 1248	ND	U	9.9	2.1	1	11/10/09	11/14/09	KWG0910513	
Aroclor 1254	**22**		9.9	2.1	1	11/10/09	11/14/09	KWG0910513	
Aroclor 1260	ND	Ui	9.9	8.5	1	11/10/09	11/14/09	KWG0910513	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Decachlorobiphenyl	91	35-133	11/14/09	Acceptable

Comments:

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009
Sample Matrix: Sediment

Service Request: K0909140
Date Collected: 10/06/2009
Date Received: 10/07/2009

Polychlorinated Biphenyls (PCBs)

Sample Name: M-2-B
Lab Code: K0909140-008

Extraction Method: EPA 3541
Analysis Method: 8082

Units: ug/Kg
Basis: Dry
Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Aroclor 1016	ND	U	110	24	10	11/10/09	11/17/09	KWG0910513	
Aroclor 1221	ND	U	220	24	10	11/10/09	11/17/09	KWG0910513	
Aroclor 1232	ND	U	110	24	10	11/10/09	11/17/09	KWG0910513	
Aroclor 1242	ND	U	110	24	10	11/10/09	11/17/09	KWG0910513	
Aroclor 1248	ND	U	110	24	10	11/10/09	11/17/09	KWG0910513	
Aroclor 1254	**2900**	D	110	24	10	11/10/09	11/17/09	KWG0910513	
Aroclor 1260	ND	U	110	24	10	11/10/09	11/17/09	KWG0910513	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Decachlorobiphenyl	123	35-133	11/17/09	Acceptable

Comments:

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009
Sample Matrix: Sediment

Service Request: K0909140
Date Collected: 10/07/2009
Date Received: 10/08/2009

Polychlorinated Biphenyls (PCBs)

Sample Name: M-1-C
Lab Code: K0909140-009

Extraction Method: EPA 3541
Analysis Method: 8082

Units: ug/Kg
Basis: Dry

Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Aroclor 1016	ND	U	11	2.3	1	11/10/09	11/17/09	KWG0910513	
Aroclor 1221	ND	U	22	2.3	1	11/10/09	11/17/09	KWG0910513	
Aroclor 1232	ND	U	11	2.3	1	11/10/09	11/17/09	KWG0910513	
Aroclor 1242	ND	U	11	2.3	1	11/10/09	11/17/09	KWG0910513	
Aroclor 1248	ND	U	11	2.3	1	11/10/09	11/17/09	KWG0910513	
Aroclor 1254	**23**	P	11	2.3	1	11/10/09	11/17/09	KWG0910513	
Aroclor 1260	ND	Ui	14	14	1	11/10/09	11/17/09	KWG0910513	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Decachlorobiphenyl	96	35-133	11/17/09	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	URS Corporation	**Service Request:**	K0909140
Project:	Boise St. Helens Pulp and Paper Mill-2009	**Date Collected:**	10/05/2009
Sample Matrix:	Sediment	**Date Received:**	10/06/2009

Polychlorinated Biphenyls (PCBs)

Sample Name:	M-3-C	**Units:**	ug/Kg
Lab Code:	K0909140-010	**Basis:**	Dry
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8082		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Aroclor 1016	ND	U	12	2.5	1	11/10/09	11/17/09	KWG0910513	
Aroclor 1221	ND	U	24	2.5	1	11/10/09	11/17/09	KWG0910513	
Aroclor 1232	ND	U	12	2.5	1	11/10/09	11/17/09	KWG0910513	
Aroclor 1242	ND	U	12	2.5	1	11/10/09	11/17/09	KWG0910513	
Aroclor 1248	ND	U	12	2.5	1	11/10/09	11/17/09	KWG0910513	
Aroclor 1254	**23**	P	12	2.5	1	11/10/09	11/17/09	KWG0910513	
Aroclor 1260	ND	Ui	16	16	1	11/10/09	11/17/09	KWG0910513	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Decachlorobiphenyl	90	35-133	11/17/09	Acceptable

Comments:

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009
Sample Matrix: Sediment

Service Request: K0909140
Date Collected: 10/09/2009
Date Received: 10/09/2009

Polychlorinated Biphenyls (PCBs)

Sample Name: B-1-A
Lab Code: K0909140-011

Extraction Method: EPA 3541
Analysis Method: 8082

Units: ug/Kg
Basis: Dry

Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Aroclor 1016	ND	U	11	2.2	1	11/10/09	11/15/09	KWG0910513	
Aroclor 1221	ND	U	21	2.2	1	11/10/09	11/15/09	KWG0910513	
Aroclor 1232	ND	U	11	2.2	1	11/10/09	11/15/09	KWG0910513	
Aroclor 1242	ND	U	11	2.2	1	11/10/09	11/15/09	KWG0910513	
Aroclor 1248	ND	U	11	2.2	1	11/10/09	11/15/09	KWG0910513	
Aroclor 1254	ND	U	11	2.2	1	11/10/09	11/15/09	KWG0910513	
Aroclor 1260	ND	U	11	2.2	1	11/10/09	11/15/09	KWG0910513	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Decachlorobiphenyl	93	35-133	11/15/09	Acceptable

Comments:

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009
Sample Matrix: Sediment

Service Request: K0909140
Date Collected: 10/09/2009
Date Received: 10/09/2009

Polychlorinated Biphenyls (PCBs)

Sample Name: B-1-B
Lab Code: K0909140-012

Extraction Method: EPA 3541
Analysis Method: 8082

Units: ug/Kg
Basis: Dry
Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Aroclor 1016	ND	U	10	2.1	1	11/10/09	11/15/09	KWG0910513	
Aroclor 1221	ND	U	20	2.1	1	11/10/09	11/15/09	KWG0910513	
Aroclor 1232	ND	U	10	2.1	1	11/10/09	11/15/09	KWG0910513	
Aroclor 1242	ND	U	10	2.1	1	11/10/09	11/15/09	KWG0910513	
Aroclor 1248	ND	U	10	2.1	1	11/10/09	11/15/09	KWG0910513	
Aroclor 1254	ND	U	10	2.1	1	11/10/09	11/15/09	KWG0910513	
Aroclor 1260	ND	U	10	2.1	1	11/10/09	11/15/09	KWG0910513	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Decachlorobiphenyl	90	35-133	11/15/09	Acceptable

Comments:

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009
Sample Matrix: Sediment

Service Request: K0909140
Date Collected: 10/05/2009
Date Received: 10/06/2009

Polychlorinated Biphenyls (PCBs)

Sample Name: M-3-A
Lab Code: K0909140-013

Extraction Method: EPA 3541
Analysis Method: 8082

Units: ug/Kg
Basis: Dry

Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Aroclor 1016	ND	U	11	2.2	1	11/10/09	11/15/09	KWG0910513	
Aroclor 1221	ND	U	21	2.2	1	11/10/09	11/15/09	KWG0910513	
Aroclor 1232	ND	U	11	2.2	1	11/10/09	11/15/09	KWG0910513	
Aroclor 1242	ND	U	11	2.2	1	11/10/09	11/15/09	KWG0910513	
Aroclor 1248	ND	U	11	2.2	1	11/10/09	11/15/09	KWG0910513	
Aroclor 1254	**48**		11	2.2	1	11/10/09	11/15/09	KWG0910513	
Aroclor 1260	ND	Ui	20	20	1	11/10/09	11/15/09	KWG0910513	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Decachlorobiphenyl	95	35-133	11/15/09	Acceptable

Comments:

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009
Sample Matrix: Sediment

Service Request: K0909140
Date Collected: 10/07/2009
Date Received: 10/08/2009

Polychlorinated Biphenyls (PCBs)

Sample Name: M-1-A
Lab Code: K0909140-014

Extraction Method: EPA 3541
Analysis Method: 8082

Units: ug/Kg
Basis: Dry
Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Aroclor 1016	ND	U	11	2.2	1	11/10/09	11/15/09	KWG0910513	
Aroclor 1221	ND	U	21	2.2	1	11/10/09	11/15/09	KWG0910513	
Aroclor 1232	ND	U	11	2.2	1	11/10/09	11/15/09	KWG0910513	
Aroclor 1242	ND	U	11	2.2	1	11/10/09	11/15/09	KWG0910513	
Aroclor 1248	ND	U	11	2.2	1	11/10/09	11/15/09	KWG0910513	
Aroclor 1254	ND	Ui	17	17	1	11/10/09	11/15/09	KWG0910513	
Aroclor 1260	ND	Ui	11	9.0	1	11/10/09	11/15/09	KWG0910513	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Decachlorobiphenyl	91	35-133	11/15/09	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009
Sample Matrix: Sediment

Service Request: K0909140
Date Collected: 09/28/2009
Date Received: 09/29/2009

Polychlorinated Biphenyls (PCBs)

Sample Name: M-5-B
Lab Code: K0909140-015

Extraction Method: EPA 3541
Analysis Method: 8082

Units: ug/Kg
Basis: Dry

Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Aroclor 1016	ND	U	11	2.2	1	11/10/09	11/15/09	KWG0910513	
Aroclor 1221	ND	U	21	2.2	1	11/10/09	11/15/09	KWG0910513	
Aroclor 1232	ND	U	11	2.2	1	11/10/09	11/15/09	KWG0910513	
Aroclor 1242	ND	U	11	2.2	1	11/10/09	11/15/09	KWG0910513	
Aroclor 1248	ND	U	11	2.2	1	11/10/09	11/15/09	KWG0910513	
Aroclor 1254	ND	Ui	11	11	1	11/10/09	11/15/09	KWG0910513	
Aroclor 1260	ND	Ui	11	3.0	1	11/10/09	11/15/09	KWG0910513	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Decachlorobiphenyl	88	35-133	11/15/09	Acceptable

Comments:

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009
Sample Matrix: Sediment

Service Request: K0909140
Date Collected: 09/28/2009
Date Received: 09/29/2009

Polychlorinated Biphenyls (PCBs)

Sample Name: M-5-A
Lab Code: K0909140-016

Extraction Method: EPA 3541
Analysis Method: 8082

Units: ug/Kg
Basis: Dry

Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Aroclor 1016	ND	U	9.9	2.1	1	11/10/09	11/15/09	KWG0910513	
Aroclor 1221	ND	U	20	2.1	1	11/10/09	11/15/09	KWG0910513	
Aroclor 1232	ND	U	9.9	2.1	1	11/10/09	11/15/09	KWG0910513	
Aroclor 1242	ND	U	9.9	2.1	1	11/10/09	11/15/09	KWG0910513	
Aroclor 1248	ND	U	9.9	2.1	1	11/10/09	11/15/09	KWG0910513	
Aroclor 1254	ND	Ui	11	11	1	11/10/09	11/15/09	KWG0910513	
Aroclor 1260	ND	Ui	9.9	5.7	1	11/10/09	11/15/09	KWG0910513	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Decachlorobiphenyl	89	35-133	11/15/09	Acceptable

Comments:

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009
Sample Matrix: Sediment

Service Request: K0909140
Date Collected: 09/28/2009
Date Received: 09/29/2009

Polychlorinated Biphenyls (PCBs)

Sample Name: M-5-C
Lab Code: K0909140-017

Extraction Method: EPA 3541
Analysis Method: 8082

Units: ug/Kg
Basis: Dry
Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Aroclor 1016	ND	U	11	2.2	1	11/10/09	11/15/09	KWG0910513	
Aroclor 1221	ND	U	21	2.2	1	11/10/09	11/15/09	KWG0910513	
Aroclor 1232	ND	U	11	2.2	1	11/10/09	11/15/09	KWG0910513	
Aroclor 1242	ND	U	11	2.2	1	11/10/09	11/15/09	KWG0910513	
Aroclor 1248	ND	U	11	2.2	1	11/10/09	11/15/09	KWG0910513	
Aroclor 1254	ND	Ui	11	7.7	1	11/10/09	11/15/09	KWG0910513	
Aroclor 1260	ND	Ui	11	3.7	1	11/10/09	11/15/09	KWG0910513	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Decachlorobiphenyl	90	35-133	11/15/09	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009
Sample Matrix: Sediment

Service Request: K0909140
Date Collected: 09/28/2009
Date Received: 09/29/2009

Polychlorinated Biphenyls (PCBs)

Sample Name: M-5-B2
Lab Code: K0909140-018

Extraction Method: EPA 3541
Analysis Method: 8082

Units: ug/Kg
Basis: Dry
Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Aroclor 1016	ND	U	11	2.2	1	11/10/09	11/15/09	KWG0910513	
Aroclor 1221	ND	U	21	2.2	1	11/10/09	11/15/09	KWG0910513	
Aroclor 1232	ND	U	11	2.2	1	11/10/09	11/15/09	KWG0910513	
Aroclor 1242	ND	U	11	2.2	1	11/10/09	11/15/09	KWG0910513	
Aroclor 1248	ND	U	11	2.2	1	11/10/09	11/15/09	KWG0910513	
Aroclor 1254	ND	Ui	11	8.1	1	11/10/09	11/15/09	KWG0910513	
Aroclor 1260	ND	Ui	11	3.8	1	11/10/09	11/15/09	KWG0910513	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Decachlorobiphenyl	92	35-133	11/15/09	Acceptable

Comments:

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009
Sample Matrix: Sediment

Service Request: K0909140
Date Collected: 10/09/2009
Date Received: 10/09/2009

Polychlorinated Biphenyls (PCBs)

Sample Name: B-1-C
Lab Code: K0909140-019

Units: ug/Kg
Basis: Dry

Extraction Method: EPA 3541
Analysis Method: 8082

Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Aroclor 1016	ND	U	11	2.2	1	11/10/09	11/15/09	KWG0910513	
Aroclor 1221	ND	U	21	2.2	1	11/10/09	11/15/09	KWG0910513	
Aroclor 1232	ND	U	11	2.2	1	11/10/09	11/15/09	KWG0910513	
Aroclor 1242	ND	U	11	2.2	1	11/10/09	11/15/09	KWG0910513	
Aroclor 1248	ND	U	11	2.2	1	11/10/09	11/15/09	KWG0910513	
Aroclor 1254	ND	U	11	2.2	1	11/10/09	11/15/09	KWG0910513	
Aroclor 1260	ND	U	11	2.2	1	11/10/09	11/15/09	KWG0910513	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Decachlorobiphenyl	92	35-133	11/15/09	Acceptable

Comments:

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009
Sample Matrix: Sediment

Service Request: K0909140
Date Collected: NA
Date Received: NA

Polychlorinated Biphenyls (PCBs)

Sample Name: Method Blank
Lab Code: KWG0910513-6

Extraction Method: EPA 3541
Analysis Method: 8082

Units: ug/Kg
Basis: Dry

Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Aroclor 1016	ND	U	5.0	2.1	1	11/10/09	11/14/09	KWG0910513	
Aroclor 1221	ND	U	9.9	2.1	1	11/10/09	11/14/09	KWG0910513	
Aroclor 1232	ND	U	5.0	2.1	1	11/10/09	11/14/09	KWG0910513	
Aroclor 1242	ND	U	5.0	2.1	1	11/10/09	11/14/09	KWG0910513	
Aroclor 1248	ND	U	5.0	2.1	1	11/10/09	11/14/09	KWG0910513	
Aroclor 1254	ND	U	5.0	2.1	1	11/10/09	11/14/09	KWG0910513	
Aroclor 1260	ND	U	5.0	2.1	1	11/10/09	11/14/09	KWG0910513	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Decachlorobiphenyl	91	35-133	11/14/09	Acceptable

Comments:

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009
Sample Matrix: Sediment

Service Request: K0909140

Surrogate Recovery Summary
Polychlorinated Biphenyls (PCBs)

Extraction Method: EPA 3541
Analysis Method: 8082

Units: PERCENT
Level: Low

Sample Name	Lab Code	Sur1
M-2-AMS	KWG0910513-1	96
M-2-ADMS	KWG0910513-2	81
Lab Control Sample	KWG0910513-5	92
M-4-A	K0909140-001	92
M-4-B	K0909140-002	89
M-4-C	K0909140-003	90
M-1-B	K0909140-004	87
M-2-C	K0909140-005	92
M-2-A	K0909140-006	98
M-3-B	K0909140-007	91
M-2-B	K0909140-008	123 D
M-1-C	K0909140-009	96
M-3-C	K0909140-010	90
B-1-A	K0909140-011	93
B-1-B	K0909140-012	90
M-3-A	K0909140-013	95
M-1-A	K0909140-014	91
M-5-B	K0909140-015	88
M-5-A	K0909140-016	89
M-5-C	K0909140-017	90
M-5-B2	K0909140-018	92
B-1-C	K0909140-019	92
Method Blank	KWG0910513-6	91

Surrogate Recovery Control Limits (%)

Sur1 = Decachlorobiphenyl	35-133

Results flagged with an asterisk (*) indicate values outside control criteria.
Results flagged with a pound (#) indicate the control criteria is not applicable.

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009
Sample Matrix: Sediment

Service Request: K0909140
Date Extracted: 11/10/2009
Date Analyzed: 11/14/2009

Matrix Spike/Duplicate Matrix Spike Summary
Polychlorinated Biphenyls (PCBs)

Sample Name: M-2-A
Lab Code: K0909140-006

Extraction Method: EPA 3541
Analysis Method: 8082

Units: ug/Kg
Basis: Dry

Level: Low
Extraction Lot: KWG0910513

Analyte Name	Sample Result	M-2-AMS KWG0910513-1 Matrix Spike			M-2-ADMS KWG0910513-2 Duplicate Matrix Spike			%Rec Limits	RPD	RPD Limit
		Result	Expected	%Rec	Result	Expected	%Rec			
Aroclor 1016	ND	174	202	86	179	202	89	27-174	3	40
Aroclor 1260	ND	235	202	116	227	202	112	20-185	3	40

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009
Sample Matrix: Sediment

Service Request: K0909140
Date Extracted: 11/10/2009
Date Analyzed: 11/14/2009

Lab Control Spike Summary
Polychlorinated Biphenyls (PCBs)

Extraction Method: EPA 3541
Analysis Method: 8082

Units: ug/Kg
Basis: Dry
Level: Low
Extraction Lot: KWG0910513

	Lab Control Sample KWG0910513-5 Lab Control Spike			
Analyte Name	**Result**	**Expected**	**%Rec**	**%Rec Limits**
Aroclor 1016	162	200	81	48-121
Aroclor 1260	177	200	89	53-129

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009
Sample Matrix: Sediment

Service Request: K0909140
Date Extracted: 11/10/2009
Date Analyzed: 11/14/2009
Time Analyzed: 16:13

Method Blank Summary
Polychlorinated Biphenyls (PCBs)

Sample Name: Method Blank
Lab Code: KWG0910513-6

Extraction Method: EPA 3541
Analysis Method: 8082

File ID: J:\GC09\DATA\111409.B\1114F017.D
Instrument ID: GC09.i

Level: Low
Extraction Lot: KWG0910513

This Method Blank applies to the following analyses:

Sample Name	Lab Code	File ID	Date Analyzed	Time Analyzed
Lab Control Sample	KWG0910513-5	J:\GC09\DATA\111409.B\1114F018.D	11/14/09	16:39
M-4-A	K0909140-001	J:\GC09\DATA\111409.B\1114F019.D	11/14/09	17:05
M-4-B	K0909140-002	J:\GC09\DATA\111409.B\1114F020.D	11/14/09	17:31
M-4-C	K0909140-003	J:\GC09\DATA\111409.B\1114F021.D	11/14/09	17:58
M-1-B	K0909140-004	J:\GC09\DATA\111409.B\1114F022.D	11/14/09	18:24
M-2-C	K0909140-005	J:\GC09\DATA\111409.B\1114F023.D	11/14/09	18:50
M-2-A	K0909140-006	J:\GC09\DATA\111409.B\1114F024.D	11/14/09	19:17
M-2-AMS	KWG0910513-1	J:\GC09\DATA\111409.B\1114F025.D	11/14/09	19:43
M-2-ADMS	KWG0910513-2	J:\GC09\DATA\111409.B\1114F026.D	11/14/09	20:09
M-3-B	K0909140-007	J:\GC09\DATA\111409.B\1114F031.D	11/14/09	22:21
B-1-A	K0909140-011	J:\GC09\DATA\111409.B\1114F035.D	11/15/09	00:06
B-1-B	K0909140-012	J:\GC09\DATA\111409.B\1114F036.D	11/15/09	00:32
M-3-A	K0909140-013	J:\GC09\DATA\111409.B\1114F037.D	11/15/09	00:59
M-1-A	K0909140-014	J:\GC09\DATA\111409.B\1114F042.D	11/15/09	03:10
M-5-B	K0909140-015	J:\GC09\DATA\111409.B\1114F043.D	11/15/09	03:37
M-5-A	K0909140-016	J:\GC09\DATA\111409.B\1114F044.D	11/15/09	04:03
M-5-C	K0909140-017	J:\GC09\DATA\111409.B\1114F045.D	11/15/09	04:29
M-5-B2	K0909140-018	J:\GC09\DATA\111409.B\1114F046.D	11/15/09	04:56
B-1-C	K0909140-019	J:\GC09\DATA\111409.B\1114F047.D	11/15/09	05:22
M-1-C	K0909140-009	J:\GC09\DATA\111609.B\1116F014.D	11/17/09	02:34
M-3-C	K0909140-010	J:\GC09\DATA\111609.B\1116F015.D	11/17/09	03:01
M-2-B	K0909140-008	J:\GC09\DATA\111609.B\1116F016.D	11/17/09	03:27

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009
Sample Matrix: Sediment

Service Request: K0909140
Date Extracted: 11/10/2009
Date Analyzed: 11/14/2009
Time Analyzed: 16:39

Lab Control Sample Summary
Polychlorinated Biphenyls (PCBs)

Sample Name: Lab Control Sample
Lab Code: KWG0910513-5

Extraction Method: EPA 3541
Analysis Method: 8082

File ID: J:\GC09\DATA\111409.B\1114F018.D
Instrument ID: GC09.i

Level: Low
Extraction Lot: KWG0910513

This Lab Control Sample applies to the following analyses:

Sample Name	Lab Code	File ID	Date Analyzed	Time Analyzed
Method Blank	KWG0910513-6	J:\GC09\DATA\111409.B\1114F017.D	11/14/09	16:13
M-4-A	K0909140-001	J:\GC09\DATA\111409.B\1114F019.D	11/14/09	17:05
M-4-B	K0909140-002	J:\GC09\DATA\111409.B\1114F020.D	11/14/09	17:31
M-4-C	K0909140-003	J:\GC09\DATA\111409.B\1114F021.D	11/14/09	17:58
M-1-B	K0909140-004	J:\GC09\DATA\111409.B\1114F022.D	11/14/09	18:24
M-2-C	K0909140-005	J:\GC09\DATA\111409.B\1114F023.D	11/14/09	18:50
M-2-A	K0909140-006	J:\GC09\DATA\111409.B\1114F024.D	11/14/09	19:17
M-2-AMS	KWG0910513-1	J:\GC09\DATA\111409.B\1114F025.D	11/14/09	19:43
M-2-ADMS	KWG0910513-2	J:\GC09\DATA\111409.B\1114F026.D	11/14/09	20:09
M-3-B	K0909140-007	J:\GC09\DATA\111409.B\1114F031.D	11/14/09	22:21
B-1-A	K0909140-011	J:\GC09\DATA\111409.B\1114F035.D	11/15/09	00:06
B-1-B	K0909140-012	J:\GC09\DATA\111409.B\1114F036.D	11/15/09	00:32
M-3-A	K0909140-013	J:\GC09\DATA\111409.B\1114F037.D	11/15/09	00:59
M-1-A	K0909140-014	J:\GC09\DATA\111409.B\1114F042.D	11/15/09	03:10
M-5-B	K0909140-015	J:\GC09\DATA\111409.B\1114F043.D	11/15/09	03:37
M-5-A	K0909140-016	J:\GC09\DATA\111409.B\1114F044.D	11/15/09	04:03
M-5-C	K0909140-017	J:\GC09\DATA\111409.B\1114F045.D	11/15/09	04:29
M-5-B2	K0909140-018	J:\GC09\DATA\111409.B\1114F046.D	11/15/09	04:56
B-1-C	K0909140-019	J:\GC09\DATA\111409.B\1114F047.D	11/15/09	05:22
M-1-C	K0909140-009	J:\GC09\DATA\111609.B\1116F014.D	11/17/09	02:34
M-3-C	K0909140-010	J:\GC09\DATA\111609.B\1116F015.D	11/17/09	03:01
M-2-B	K0909140-008	J:\GC09\DATA\111609.B\1116F016.D	11/17/09	03:27

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Results

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0909140
Calibration Date: 10/15/2009

Initial Calibration Summary
Polychlorinated Biphenyls (PCBs)

Calibration ID: CAL8918
Instrument ID: GC09.i

Column: DB-35MS

Level ID	File ID
A	\\cash1\acqudata\GC09\data\101409.b\1014F003.D
B	\\cash1\acqudata\GC09\data\101409.b\1014F004.D
C	\\cash1\acqudata\GC09\data\101409.b\1014F005.D
D	\\cash1\acqudata\GC09\data\101409.b\1014F006.D
E	\\cash1\acqudata\GC09\data\101409.b\1014F007.D
F	\\cash1\acqudata\GC09\data\101409.b\1014F008.D
G	\\cash1\acqudata\GC09\data\101409.b\1014F009.D
H	\\cash1\acqudata\GC09\data\101409.b\1014F010.D
I	\\cash1\acqudata\GC09\data\101409.b\1014F011.D
J	\\cash1\acqudata\GC09\data\101409.b\1014F012.D
K	\\cash1\acqudata\GC09\data\101409.b\1014F013.D
L	\\cash1\acqudata\GC09\data\101409.b\1014F014.D
M	\\cash1\acqudata\GC09\data\101409.b\1014F015.D

Analyte Name	Level ID	Amt	RF	Level ID	Amt	RF	Level ID	Amt	RF	Level ID	Amt	RF	Level ID	Amt	RF
Decachlorobiphenyl	K	100	5230	L	200	4710	H	2.5	6530	I	5.0	6390	J	50	5740
							M	500	4090						
Aroclor 1016 {1}	K	1000	130	L	2000	116	H	25	138	I	50	141	J	500	144
							M	5000	100						
Aroclor 1016 {2}	K	1000	505	L	2000	447	H	25	617	I	50	601	J	500	548
							M	5000	385						
Aroclor 1016 {3}	K	1000	291	L	2000	255	H	25	349	I	50	350	J	500	324
							M	5000	211						
Aroclor 1016 {4}	K	1000	166	L	2000	146	H	25	188	I	50	184	J	500	180
							M	5000	130						
Aroclor 1016 {5}	K	1000	146	L	2000	136	H	25	136	I	50	138	J	500	156
							M	5000	122						
Aroclor 1260 {1}	K	1000	407	L	2000	366	H	25	510	I	50	502	J	500	448
							M	5000	313						
Aroclor 1260 {2}	K	1000	221	L	2000	199	H	25	281	I	50	270	J	500	241
							M	5000	171						
Aroclor 1260 {3}	K	1000	247	L	2000	231	H	25	300	I	50	284	J	500	263
							M	5000	204						
Aroclor 1260 {4}	K	1000	524	L	2000	488	H	25	683	I	50	611	J	500	555
							M	5000	434						
Aroclor 1260 {5}	K	1000	374	L	2000	357	H	25	429	I	50	398	J	500	387
							M	5000	318						

Results flagged with an asterisk (*) indicate values outside control criteria.

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0909140
Calibration Date: 10/15/2009

Initial Calibration Summary
Polychlorinated Biphenyls (PCBs)

Calibration ID: CAL8918
Instrument ID: GC09.i

Column: DB-35MS

Analyte Name	Compound Type	Calibration Evaluation				
		Fit Type	Eval.	Eval. Result	Q	Control Criteria
Decachlorobiphenyl	SURR	AverageRF	% RSD	17.5		≤ 20
Aroclor 1016 {1}	MULTI	AverageRF	% RSD	13.2		≤ 20
Aroclor 1016 {2}	MULTI	AverageRF	% RSD	17.4		≤ 20
Aroclor 1016 {3}	MULTI	AverageRF	% RSD	18.7		≤ 20
Aroclor 1016 {4}	MULTI	AverageRF	% RSD	14.0		≤ 20
Aroclor 1016 {5}	MULTI	AverageRF	% RSD	8.3		≤ 20
Aroclor 1260 {1}	MULTI	AverageRF	% RSD	18.3		≤ 20
Aroclor 1260 {2}	MULTI	AverageRF	% RSD	18.2		≤ 20
Aroclor 1260 {3}	MULTI	AverageRF	% RSD	13.7		≤ 20
Aroclor 1260 {4}	MULTI	AverageRF	% RSD	16.1		≤ 20
Aroclor 1260 {5}	MULTI	AverageRF	% RSD	10.0		≤ 20

Results flagged with an asterisk (*) indicate values outside control criteria.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Results

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0909140
Calibration Date: 10/15/2009
Date Analyzed: 10/15/2009

Second Source Calibration Verification
Polychlorinated Biphenyls (PCBs)

Calibration Type: External Standard
Analysis Method: 8082

Calibration ID: CAL8918
Units: ng/mL

File ID:
\\cash1\acqudata\GC09\data\101409.b\1014F016.D
\\cash1\acqudata\GC09\data\101409.b\1014F017.D
\\cash1\acqudata\GC09\data\101409.b\1014F018.D
\\cash1\acqudata\GC09\data\101409.b\1014F019.D
\\cash1\acqudata\GC09\data\101409.b\1014F020.D
\\cash1\acqudata\GC09\data\101409.b\1014F021.D
\\cash1\acqudata\GC09\data\101409.b\1014F022.D
\\cash1\acqudata\GC09\data\101409.b\1014F023.D
\\cash1\acqudata\GC09\data\101409.b\1014F024.D

Column ID: DB-35MS

Analyte Name	Expected	Result	Average RF	SSV RF	%D	%Drift	Criteria	Curve Fit
Aroclor 1016 {1}	1000	990	128	126	-1	NA	± 100 %	AverageRF
Aroclor 1016 {2}	1000	920	517	477	-8	NA	± 100 %	AverageRF
Aroclor 1016 {3}	1000	970	297	289	-3	NA	± 100 %	AverageRF
Aroclor 1016 {4}	1000	940	166	156	-6	NA	± 100 %	AverageRF
Aroclor 1016 {5}	1000	1200	139	163	17	NA	± 100 %	AverageRF
Aroclor 1016	1000	1000	NA	NA	NA	0	± 15 %	NA
Aroclor 1260 {1}	1000	900	424	381	-10	NA	± 100 %	AverageRF
Aroclor 1260 {2}	1000	890	230	206	-11	NA	± 100 %	AverageRF
Aroclor 1260 {3}	1000	990	255	253	-1	NA	± 100 %	AverageRF
Aroclor 1260 {4}	1000	990	549	545	-1	NA	± 100 %	AverageRF
Aroclor 1260 {5}	1000	1000	377	385	2	NA	± 100 %	AverageRF
Aroclor 1260	1000	960	NA	NA	NA	4	± 15 %	NA

Results flagged with an asterisk (*) indicate values outside control criteria.

† **SPCC Compound** ‡ **CCC Compound**

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0909140
Calibration Date: 10/15/2009

Initial Calibration Summary
Polychlorinated Biphenyls (PCBs)

Calibration ID: CAL8918
Instrument ID: GC09.i

Column: DB-XLB

Level ID	File ID
A	\\cash1\acqudata\GC09\data\101409_r.b\1014R003.D
B	\\cash1\acqudata\GC09\data\101409_r.b\1014R004.D
C	\\cash1\acqudata\GC09\data\101409_r.b\1014R005.D
D	\\cash1\acqudata\GC09\data\101409_r.b\1014R006.D
E	\\cash1\acqudata\GC09\data\101409_r.b\1014R007.D
F	\\cash1\acqudata\GC09\data\101409_r.b\1014R008.D
G	\\cash1\acqudata\GC09\data\101409_r.b\1014R009.D
J	\\cash1\acqudata\GC09\data\101409_r.b\1014R012.D
K	\\cash1\acqudata\GC09\data\101409_r.b\1014R013.D
L	\\cash1\acqudata\GC09\data\101409_r.b\1014R014.D
M	\\cash1\acqudata\GC09\data\101409_r.b\1014R015.D
H	\\cash1\acqudata\GC09\data\101409_r.b\1014R010.D
I	\\cash1\acqudata\GC09\data\101409_r.b\1014R011.D

Analyte Name	Level ID	Amt	RF	Level ID	Amt	RF	Level ID	Amt	RF	Level ID	Amt	RF	Level ID	Amt	RF
Decachlorobiphenyl							H	2.5	4690	I	5.0	4690	J	50	4450
	K	100	4170	L	200	3790	M	500	3260						
Aroclor 1016 {1}							H	25	143	I	50	147	J	500	143
	K	1000	136	L	2000	124	M	5000	111						
Aroclor 1016 {2}							H	25	269	I	50	281	J	500	257
	K	1000	233	L	2000	204	M	5000	168						
Aroclor 1016 {3}							H	25	131	I	50	127	J	500	109
	K	1000	101	L	2000	91.1	M	5000	78.4						
Aroclor 1016 {4}							H	25	149	I	50	141	J	500	132
	K	1000	120	L	2000	110	M	5000	97.5						
Aroclor 1016 {5}							H	25	112	I	50	107	J	500	107
	K	1000	101	L	2000	91.8	M	5000	84.5						
Aroclor 1260 {1}							H	25	301	I	50	283	J	500	248
	K	1000	226	L	2000	204	M	5000	178						
Aroclor 1260 {2}							H	25	345	I	50	337	J	500	321
	K	1000	304	L	2000	286	M	5000	257						
Aroclor 1260 {3}							H	25	193	I	50	194	J	500	178
	K	1000	164	L	2000	154	M	5000	133						
Aroclor 1260 {4}							H	25	374	I	50	376	J	500	374
	K	1000	359	L	2000	336	M	5000	305						
Aroclor 1260 {5}							H	25	254	I	50	242	J	500	252
	K	1000	243	L	2000	230	M	5000	212						

Results flagged with an asterisk (*) indicate values outside control criteria.

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0909140
Calibration Date: 10/15/2009

Initial Calibration Summary
Polychlorinated Biphenyls (PCBs)

Calibration ID: CAL8918
Instrument ID: GC09.i

Column: DB-XLB

Analyte Name	Compound Type	Calibration Evaluation				
		Fit Type	Eval.	Eval. Result	Q	Control Criteria
Decachlorobiphenyl	SURR	AverageRF	% RSD	13.5		≤ 20
Aroclor 1016 {1}	MULTI	AverageRF	% RSD	10.2		≤ 20
Aroclor 1016 {2}	MULTI	AverageRF	% RSD	18.2		≤ 20
Aroclor 1016 {3}	MULTI	AverageRF	% RSD	19.3		≤ 20
Aroclor 1016 {4}	MULTI	AverageRF	% RSD	15.5		≤ 20
Aroclor 1016 {5}	MULTI	AverageRF	% RSD	10.4		≤ 20
Aroclor 1260 {1}	MULTI	AverageRF	% RSD	19.5		≤ 20
Aroclor 1260 {2}	MULTI	AverageRF	% RSD	10.7		≤ 20
Aroclor 1260 {3}	MULTI	AverageRF	% RSD	14.1		≤ 20
Aroclor 1260 {4}	MULTI	AverageRF	% RSD	8.1		≤ 20
Aroclor 1260 {5}	MULTI	AverageRF	% RSD	6.5		≤ 20

Results flagged with an asterisk (*) indicate values outside control criteria.

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0909140
Calibration Date: 10/15/2009
Date Analyzed: 10/15/2009

Second Source Calibration Verification
Polychlorinated Biphenyls (PCBs)

Calibration Type: External Standard
Analysis Method: 8082

Calibration ID: CAL8918
Units: ng/mL

File ID:
\\cash1\acqudata\GC09\data\101409_r.b\1014R016.D
\\cash1\acqudata\GC09\data\101409_r.b\1014R017.D
\\cash1\acqudata\GC09\data\101409_r.b\1014R018.D
\\cash1\acqudata\GC09\data\101409_r.b\1014R019.D
\\cash1\acqudata\GC09\data\101409_r.b\1014R020.D
\\cash1\acqudata\GC09\data\101409_r.b\1014R021.D
\\cash1\acqudata\GC09\data\101409_r.b\1014R022.D
\\cash1\acqudata\GC09\data\101409_r.b\1014R023.D
\\cash1\acqudata\GC09\data\101409_r.b\1014R024.D

Column ID: DB-XLB

Analyte Name	Expected	Result	Average RF	SSV RF	%D	%Drift	Criteria	Curve Fit
Aroclor 1016 {1}	1000	960	134	129	-4	NA	± 100 %	AverageRF
Aroclor 1016 {2}	1000	890	235	209	-11	NA	± 100 %	AverageRF
Aroclor 1016 {3}	1000	860	106	91.1	-14	NA	± 100 %	AverageRF
Aroclor 1016 {4}	1000	920	125	114	-8	NA	± 100 %	AverageRF
Aroclor 1016 {5}	1000	950	101	95.9	-5	NA	± 100 %	AverageRF
Aroclor 1016	1000	920	NA	NA	NA	8	± 15 %	NA
Aroclor 1260 {1}	1000	860	240	206	-14	NA	± 100 %	AverageRF
Aroclor 1260 {2}	1000	800	308	248	-20	NA	± 100 %	AverageRF
Aroclor 1260 {3}	1000	1000	170	176	4	NA	± 100 %	AverageRF
Aroclor 1260 {4}	1000	1000	354	363	2	NA	± 100 %	AverageRF
Aroclor 1260 {5}	1000	990	239	237	-1	NA	± 100 %	AverageRF
Aroclor 1260	1000	940	NA	NA	NA	6	± 15 %	NA

Results flagged with an asterisk (*) indicate values outside control criteria.

† SPCC Compound ‡ CCC Compound

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Results

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0909140
Date Analyzed: 11/14/2009

Continuing Calibration Verification Summary
Polychlorinated Biphenyls (PCBs)

Calibration Type: External Standard
Analysis Method: 8082
CCV Standard ID: PCB5-41P

Calibration Date: 10/15/2009
Calibration ID: CAL8918
Analysis Lot: KWG0910694
Units: ng/mL

File ID: \\CASH1\ACQUDATA\GC09\DATA\111409.B\1114F015.D

Column ID: DB-35MS

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Decachlorobiphenyl	100	96	5450	5240	-4	NA	± 15 %	AverageRF
Aroclor 1016 {1}	1000	1000	128	129	1	NA	± 100 %	AverageRF
Aroclor 1016 {2}	1000	920	517	473	-8	NA	± 100 %	AverageRF
Aroclor 1016 {3}	1000	1000	297	299	1	NA	± 100 %	AverageRF
Aroclor 1016 {4}	1000	1000	166	166	0	NA	± 100 %	AverageRF
Aroclor 1016 {5}	1000	1100	139	146	5	NA	± 100 %	AverageRF
Aroclor 1016	1000	1000	NA	NA	NA	0	± 15 %	NA
Aroclor 1260 {1}	1000	960	424	408	-4	NA	± 100 %	AverageRF
Aroclor 1260 {2}	1000	970	230	224	-3	NA	± 100 %	AverageRF
Aroclor 1260 {3}	1000	970	255	248	-3	NA	± 100 %	AverageRF
Aroclor 1260 {4}	1000	940	549	518	-6	NA	± 100 %	AverageRF
Aroclor 1260 {5}	1000	970	377	366	-3	NA	± 100 %	AverageRF
Aroclor 1260	1000	960	NA	NA	NA	-4	± 15 %	NA

Results flagged with an asterisk (*) indicate values outside control criteria.

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0909140
Date Analyzed: 11/14/2009

Continuing Calibration Verification Summary
Polychlorinated Biphenyls (PCBs)

Calibration Type: External Standard
Analysis Method: 8082
CCV Standard ID: PCB5-41P

Calibration Date: 10/15/2009
Calibration ID: CAL8918
Analysis Lot: KWG0910694
Units: ng/mL

File ID: \\CASH1\ACQUDATA\GC09\DATA\111409_R.B\1114R015.D

Column ID: DB-XLB

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Decachlorobiphenyl	100	100	4180	4280	2	NA	± 15 %	AverageRF
Aroclor 1016 {1}	1000	1000	134	136	2	NA	± 100 %	AverageRF
Aroclor 1016 {2}	1000	920	235	217	-8	NA	± 100 %	AverageRF
Aroclor 1016 {3}	1000	1000	106	107	1	NA	± 100 %	AverageRF
Aroclor 1016 {4}	1000	1000	125	128	2	NA	± 100 %	AverageRF
Aroclor 1016 {5}	1000	1100	101	106	6	NA	± 100 %	AverageRF
Aroclor 1016	1000	1000	NA	NA	NA	0	± 15 %	NA
Aroclor 1260 {1}	1000	970	240	232	-3	NA	± 100 %	AverageRF
Aroclor 1260 {2}	1000	1000	308	311	1	NA	± 100 %	AverageRF
Aroclor 1260 {3}	1000	1000	170	173	2	NA	± 100 %	AverageRF
Aroclor 1260 {4}	1000	1000	354	369	4	NA	± 100 %	AverageRF
Aroclor 1260 {5}	1000	1000	239	249	4	NA	± 100 %	AverageRF
Aroclor 1260	1000	1000	NA	NA	NA	2	± 15 %	NA

Results flagged with an asterisk (*) indicate values outside control criteria.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Results

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0909140
Date Analyzed: 11/14/2009

Continuing Calibration Verification Summary
Polychlorinated Biphenyls (PCBs)

Calibration Type: External Standard
Analysis Method: 8082
CCV Standard ID: PCB5-41P

Calibration Date: 10/15/2009
Calibration ID: CAL8918
Analysis Lot: KWG0910694
Units: ng/mL

File ID: \\CASH1\ACQUDATA\GC09\DATA\111409.B\1114F029.D

Column ID: DB-35MS

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift		Criteria	Curve Fit
Decachlorobiphenyl	100	86	5450	4710	-14	NA		± 15 %	AverageRF
Aroclor 1016 {1}	1000	950	128	122	-5	NA		± 100 %	AverageRF
Aroclor 1016 {2}	1000	900	517	466	-10	NA		± 100 %	AverageRF
Aroclor 1016 {3}	1000	900	297	268	-10	NA		± 100 %	AverageRF
Aroclor 1016 {4}	1000	910	166	150	-9	NA		± 100 %	AverageRF
Aroclor 1016 {5}	1000	950	139	132	-5	NA		± 100 %	AverageRF
Aroclor 1016	1000	920	NA	NA	NA	-8		± 15 %	NA
Aroclor 1260 {1}	1000	820	424	348	-18	NA		± 100 %	AverageRF
Aroclor 1260 {2}	1000	810	230	186	-19	NA		± 100 %	AverageRF
Aroclor 1260 {3}	1000	820	255	208	-18	NA		± 100 %	AverageRF
Aroclor 1260 {4}	1000	810	549	444	-19	NA		± 100 %	AverageRF
Aroclor 1260 {5}	1000	850	377	321	-15	NA		± 100 %	AverageRF
Aroclor 1260	1000	820	NA	NA	NA	-18	*	± 15 %	NA

Results flagged with an asterisk (*) indicate values outside control criteria.

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0909140
Date Analyzed: 11/14/2009

Continuing Calibration Verification Summary
Polychlorinated Biphenyls (PCBs)

Calibration Type: External Standard
Analysis Method: 8082
CCV Standard ID: PCB5-41P

Calibration Date: 10/15/2009
Calibration ID: CAL8918
Analysis Lot: KWG0910694
Units: ng/mL

File ID: \\CASH1\ACQUDATA\GC09\DATA\111409_R.B\1114R029.D

Column ID: DB-XLB

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Decachlorobiphenyl	100	99	4180	4140	-1	NA	± 15 %	AverageRF
Aroclor 1016 {1}	1000	1000	134	134	0	NA	± 100 %	AverageRF
Aroclor 1016 {2}	1000	960	235	226	-4	NA	± 100 %	AverageRF
Aroclor 1016 {3}	1000	970	106	104	-3	NA	± 100 %	AverageRF
Aroclor 1016 {4}	1000	980	125	122	-2	NA	± 100 %	AverageRF
Aroclor 1016 {5}	1000	1000	101	103	2	NA	± 100 %	AverageRF
Aroclor 1016	1000	990	NA	NA	NA	-1	± 15 %	NA
Aroclor 1260 {1}	1000	930	240	223	-7	NA	± 100 %	AverageRF
Aroclor 1260 {2}	1000	990	308	306	-1	NA	± 100 %	AverageRF
Aroclor 1260 {3}	1000	960	170	163	-4	NA	± 100 %	AverageRF
Aroclor 1260 {4}	1000	1000	354	361	2	NA	± 100 %	AverageRF
Aroclor 1260 {5}	1000	1000	239	244	2	NA	± 100 %	AverageRF
Aroclor 1260	1000	990	NA	NA	NA	-1	± 15 %	NA

Results flagged with an asterisk (*) indicate values outside control criteria.

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0909140
Date Analyzed: 11/15/2009

Continuing Calibration Verification Summary
Polychlorinated Biphenyls (PCBs)

Calibration Type: External Standard
Analysis Method: 8082
CCV Standard ID: PCB5-41P

Calibration Date: 10/15/2009
Calibration ID: CAL8918
Analysis Lot: KWG0910694
Units: ng/mL

File ID: \\CASH1\ACQUDATA\GC09\DATA\111409.B\1114F040.D

Column ID: DB-35MS

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Decachlorobiphenyl	100	95	5450	5170	-5	NA	± 15 %	AverageRF
Aroclor 1016 {1}	1000	1100	128	135	5	NA	± 100 %	AverageRF
Aroclor 1016 {2}	1000	990	517	510	-1	NA	± 100 %	AverageRF
Aroclor 1016 {3}	1000	990	297	294	-1	NA	± 100 %	AverageRF
Aroclor 1016 {4}	1000	990	166	164	-1	NA	± 100 %	AverageRF
Aroclor 1016 {5}	1000	1000	139	146	5	NA	± 100 %	AverageRF
Aroclor 1016	1000	1000	NA	NA	NA	1	± 15 %	NA
Aroclor 1260 {1}	1000	930	424	396	-7	NA	± 100 %	AverageRF
Aroclor 1260 {2}	1000	900	230	208	-10	NA	± 100 %	AverageRF
Aroclor 1260 {3}	1000	930	255	238	-7	NA	± 100 %	AverageRF
Aroclor 1260 {4}	1000	920	549	504	-8	NA	± 100 %	AverageRF
Aroclor 1260 {5}	1000	940	377	356	-6	NA	± 100 %	AverageRF
Aroclor 1260	1000	930	NA	NA	NA	-7	± 15 %	NA

Results flagged with an asterisk (*) indicate values outside control criteria.

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0909140
Date Analyzed: 11/15/2009

Continuing Calibration Verification Summary
Polychlorinated Biphenyls (PCBs)

Calibration Type: External Standard
Analysis Method: 8082
CCV Standard ID: PCB5-41P

Calibration Date: 10/15/2009
Calibration ID: CAL8918
Analysis Lot: KWG0910694
Units: ng/mL

File ID: \\CASH1\ACQUDATA\GC09\DATA\111409_R.B\1114R040.D

Column ID: DB-XLB

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Decachlorobiphenyl	100	100	4180	4290	3	NA	± 15 %	AverageRF
Aroclor 1016 {1}	1000	1100	134	141	5	NA	± 100 %	AverageRF
Aroclor 1016 {2}	1000	1000	235	236	0	NA	± 100 %	AverageRF
Aroclor 1016 {3}	1000	1000	106	107	1	NA	± 100 %	AverageRF
Aroclor 1016 {4}	1000	1000	125	127	2	NA	± 100 %	AverageRF
Aroclor 1016 {5}	1000	1100	101	107	6	NA	± 100 %	AverageRF
Aroclor 1016	1000	1000	NA	NA	NA	3	± 15 %	NA
Aroclor 1260 {1}	1000	970	240	233	-3	NA	± 100 %	AverageRF
Aroclor 1260 {2}	1000	1000	308	316	2	NA	± 100 %	AverageRF
Aroclor 1260 {3}	1000	1000	170	170	0	NA	± 100 %	AverageRF
Aroclor 1260 {4}	1000	1100	354	374	6	NA	± 100 %	AverageRF
Aroclor 1260 {5}	1000	1100	239	254	6	NA	± 100 %	AverageRF
Aroclor 1260	1000	1000	NA	NA	NA	2	± 15 %	NA

Results flagged with an asterisk (*) indicate values outside control criteria.

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0909140
Date Analyzed: 11/15/2009

Continuing Calibration Verification Summary
Polychlorinated Biphenyls (PCBs)

Calibration Type: External Standard
Analysis Method: 8082
CCV Standard ID: PCB5-41P

Calibration Date: 10/15/2009
Calibration ID: CAL8918
Analysis Lot: KWG0910694
Units: ng/mL

File ID: \\CASH1\ACQUDATA\GC09\DATA\111409.B\1114F051.D

Column ID: DB-35MS

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Decachlorobiphenyl	100	98	5450	5350	-2	NA	± 15 %	AverageRF
Aroclor 1016 {1}	1000	1100	128	136	6	NA	± 100 %	AverageRF
Aroclor 1016 {2}	1000	990	517	511	-1	NA	± 100 %	AverageRF
Aroclor 1016 {3}	1000	1000	297	297	0	NA	± 100 %	AverageRF
Aroclor 1016 {4}	1000	1000	166	171	3	NA	± 100 %	AverageRF
Aroclor 1016 {5}	1000	1100	139	151	9	NA	± 100 %	AverageRF
Aroclor 1016	1000	1000	NA	NA	NA	3	± 15 %	NA
Aroclor 1260 {1}	1000	970	424	410	-3	NA	± 100 %	AverageRF
Aroclor 1260 {2}	1000	950	230	219	-5	NA	± 100 %	AverageRF
Aroclor 1260 {3}	1000	970	255	247	-3	NA	± 100 %	AverageRF
Aroclor 1260 {4}	1000	950	549	521	-5	NA	± 100 %	AverageRF
Aroclor 1260 {5}	1000	980	377	370	-2	NA	± 100 %	AverageRF
Aroclor 1260	1000	960	NA	NA	NA	-4	± 15 %	NA

Results flagged with an asterisk (*) indicate values outside control criteria.

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0909140
Date Analyzed: 11/15/2009

Continuing Calibration Verification Summary
Polychlorinated Biphenyls (PCBs)

Calibration Type: External Standard
Analysis Method: 8082
CCV Standard ID: PCB5-41P

Calibration Date: 10/15/2009
Calibration ID: CAL8918
Analysis Lot: KWG0910694
Units: ng/mL

File ID: \\CASH1\ACQUDATA\GC09\DATA\111409_R.B\1114R051.D

Column ID: DB-XLB

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Decachlorobiphenyl	100	100	4180	4330	4	NA	± 15 %	AverageRF
Aroclor 1016 {1}	1000	1000	134	140	4	NA	± 100 %	AverageRF
Aroclor 1016 {2}	1000	1000	235	236	0	NA	± 100 %	AverageRF
Aroclor 1016 {3}	1000	1000	106	108	1	NA	± 100 %	AverageRF
Aroclor 1016 {4}	1000	1000	125	130	4	NA	± 100 %	AverageRF
Aroclor 1016 {5}	1000	1100	101	108	7	NA	± 100 %	AverageRF
Aroclor 1016	1000	1000	NA	NA	NA	3	± 15 %	NA
Aroclor 1260 {1}	1000	970	240	233	-3	NA	± 100 %	AverageRF
Aroclor 1260 {2}	1000	1000	308	321	4	NA	± 100 %	AverageRF
Aroclor 1260 {3}	1000	1000	170	174	2	NA	± 100 %	AverageRF
Aroclor 1260 {4}	1000	1100	354	378	7	NA	± 100 %	AverageRF
Aroclor 1260 {5}	1000	1100	239	259	9	NA	± 100 %	AverageRF
Aroclor 1260	1000	1000	NA	NA	NA	4	± 15 %	NA

Results flagged with an asterisk (*) indicate values outside control criteria.

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0909140
Date Analyzed: 11/17/2009

Continuing Calibration Verification Summary
Polychlorinated Biphenyls (PCBs)

Calibration Type: External Standard
Analysis Method: 8082
CCV Standard ID: PCB5-41P

Calibration Date: 10/15/2009
Calibration ID: CAL8918
Analysis Lot: KWG0910773
Units: ng/mL

File ID: \\CASH1\ACQUDATA\GC09\DATA\111609.B\1116F010.D

Column ID: DB-35MS

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Decachlorobiphenyl	100	100	5450	5620	3	NA	± 15 %	AverageRF
Aroclor 1016 {1}	1000	1100	128	147	15	NA	± 100 %	AverageRF
Aroclor 1016 {2}	1000	1000	517	518	0	NA	± 100 %	AverageRF
Aroclor 1016 {3}	1000	1100	297	333	12	NA	± 100 %	AverageRF
Aroclor 1016 {4}	1000	1100	166	184	11	NA	± 100 %	AverageRF
Aroclor 1016 {5}	1000	1200	139	165	19	NA	± 100 %	AverageRF
Aroclor 1016	1000	1100	NA	NA	NA	11	± 15 %	NA
Aroclor 1260 {1}	1000	1100	424	453	7	NA	± 100 %	AverageRF
Aroclor 1260 {2}	1000	1100	230	253	10	NA	± 100 %	AverageRF
Aroclor 1260 {3}	1000	1100	255	276	8	NA	± 100 %	AverageRF
Aroclor 1260 {4}	1000	1000	549	569	4	NA	± 100 %	AverageRF
Aroclor 1260 {5}	1000	1000	377	396	5	NA	± 100 %	AverageRF
Aroclor 1260	1000	1100	NA	NA	NA	7	± 15 %	NA

Results flagged with an asterisk (*) indicate values outside control criteria.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Results

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0909140
Date Analyzed: 11/17/2009

Continuing Calibration Verification Summary
Polychlorinated Biphenyls (PCBs)

Calibration Type: External Standard
Analysis Method: 8082
CCV Standard ID: PCB5-41P

Calibration Date: 10/15/2009
Calibration ID: CAL8918
Analysis Lot: KWG0910773
Units: ng/mL

File ID: \\CASH1\ACQUDATA\GC09\DATA\111609_R.B\1116R010.D

Column ID: DB-XLB

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Decachlorobiphenyl	100	100	4180	4330	4	NA	± 15 %	AverageRF
Aroclor 1016 {1}	1000	1100	134	141	5	NA	± 100 %	AverageRF
Aroclor 1016 {2}	1000	910	235	213	-9	NA	± 100 %	AverageRF
Aroclor 1016 {3}	1000	1000	106	110	4	NA	± 100 %	AverageRF
Aroclor 1016 {4}	1000	1000	125	130	4	NA	± 100 %	AverageRF
Aroclor 1016 {5}	1000	1100	101	108	7	NA	± 100 %	AverageRF
Aroclor 1016	1000	1000	NA	NA	NA	2	± 15 %	NA
Aroclor 1260 {1}	1000	990	240	238	-1	NA	± 100 %	AverageRF
Aroclor 1260 {2}	1000	1000	308	318	3	NA	± 100 %	AverageRF
Aroclor 1260 {3}	1000	1100	170	180	6	NA	± 100 %	AverageRF
Aroclor 1260 {4}	1000	1100	354	375	6	NA	± 100 %	AverageRF
Aroclor 1260 {5}	1000	1100	239	252	6	NA	± 100 %	AverageRF
Aroclor 1260	1000	1000	NA	NA	NA	4	± 15 %	NA

Results flagged with an asterisk (*) indicate values outside control criteria.

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0909140
Date Analyzed: 11/17/2009

Continuing Calibration Verification Summary
Polychlorinated Biphenyls (PCBs)

Calibration Type: External Standard
Analysis Method: 8082
CCV Standard ID: PCB5-41P

Calibration Date: 10/15/2009
Calibration ID: CAL8918
Analysis Lot: KWG0910773
Units: ng/mL

File ID: \\CASH1\ACQUDATA\GC09\DATA\111609.B\1116F019.D

Column ID: DB-35MS

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Decachlorobiphenyl	100	100	5450	5620	3	NA	± 15 %	AverageRF
Aroclor 1016 {1}	1000	1100	128	147	15	NA	± 100 %	AverageRF
Aroclor 1016 {2}	1000	1000	517	530	2	NA	± 100 %	AverageRF
Aroclor 1016 {3}	1000	1100	297	329	11	NA	± 100 %	AverageRF
Aroclor 1016 {4}	1000	1100	166	181	9	NA	± 100 %	AverageRF
Aroclor 1016 {5}	1000	1200	139	161	16	NA	± 100 %	AverageRF
Aroclor 1016	1000	1100	NA	NA	NA	11	± 15 %	NA
Aroclor 1260 {1}	1000	1100	424	447	5	NA	± 100 %	AverageRF
Aroclor 1260 {2}	1000	1100	230	244	6	NA	± 100 %	AverageRF
Aroclor 1260 {3}	1000	1000	255	266	4	NA	± 100 %	AverageRF
Aroclor 1260 {4}	1000	1000	549	557	1	NA	± 100 %	AverageRF
Aroclor 1260 {5}	1000	1000	377	392	4	NA	± 100 %	AverageRF
Aroclor 1260	1000	1000	NA	NA	NA	4	± 15 %	NA

Results flagged with an asterisk (*) indicate values outside control criteria.

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0909140
Date Analyzed: 11/17/2009

Continuing Calibration Verification Summary
Polychlorinated Biphenyls (PCBs)

Calibration Type: External Standard
Analysis Method: 8082
CCV Standard ID: PCB5-41P

Calibration Date: 10/15/2009
Calibration ID: CAL8918
Analysis Lot: KWG0910773
Units: ng/mL

File ID: \\CASH1\ACQUDATA\GC09\DATA\111609_R.B\1116R019.D

Column ID: DB-XLB

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Decachlorobiphenyl	100	110	4180	4410	6	NA	± 15 %	AverageRF
Aroclor 1016 {1}	1000	1000	134	139	4	NA	± 100 %	AverageRF
Aroclor 1016 {2}	1000	920	235	216	-8	NA	± 100 %	AverageRF
Aroclor 1016 {3}	1000	1000	106	106	0	NA	± 100 %	AverageRF
Aroclor 1016 {4}	1000	990	125	124	-1	NA	± 100 %	AverageRF
Aroclor 1016 {5}	1000	1000	101	103	3	NA	± 100 %	AverageRF
Aroclor 1016	1000	1000	NA	NA	NA	0	± 15 %	NA
Aroclor 1260 {1}	1000	990	240	238	-1	NA	± 100 %	AverageRF
Aroclor 1260 {2}	1000	1100	308	325	5	NA	± 100 %	AverageRF
Aroclor 1260 {3}	1000	1000	170	178	5	NA	± 100 %	AverageRF
Aroclor 1260 {4}	1000	1100	354	380	8	NA	± 100 %	AverageRF
Aroclor 1260 {5}	1000	1100	239	257	7	NA	± 100 %	AverageRF
Aroclor 1260	1000	1000	NA	NA	NA	5	± 15 %	NA

Results flagged with an asterisk (*) indicate values outside control criteria.

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0909140

Analysis Run Log
Polychlorinated Biphenyls (PCBs)

Analysis Method: 8082

Analysis Lot: KWG0910694
Instrument ID: GC09.i
Column: DB-35MS

File ID	Sample Name	Lab Code	Date Analysis Started	Start Time	Q	Date Analysis Finished	Finish Time
1113F028.D	Instrument Blank	KWG0910694-1	11/14/2009	07:53		11/14/2009	07:53
1113F029.D	Continuing Calibration Verification	KWG0910694-2	11/14/2009	08:19		11/14/2009	08:19
1114F001.D	ZZZZZZ	ZZZZZZ	11/14/2009	09:12		11/14/2009	09:12
1114F002.D	ZZZZZZ	ZZZZZZ	11/14/2009	09:38		11/14/2009	09:38
1114F003.D	ZZZZZZ	ZZZZZZ	11/14/2009	10:04		11/14/2009	10:04
1114F004.D	ZZZZZZ	ZZZZZZ	11/14/2009	10:31		11/14/2009	10:31
1114F005.D	ZZZZZZ	ZZZZZZ	11/14/2009	10:57		11/14/2009	10:57
1114F006.D	ZZZZZZ	ZZZZZZ	11/14/2009	11:23		11/14/2009	11:23
1114F007.D	ZZZZZZ	ZZZZZZ	11/14/2009	11:50		11/14/2009	11:50
1114F008.D	ZZZZZZ	ZZZZZZ	11/14/2009	12:16		11/14/2009	12:16
1114F009.D	ZZZZZZ	ZZZZZZ	11/14/2009	12:42		11/14/2009	12:42
1114F010.D	ZZZZZZ	ZZZZZZ	11/14/2009	13:08		11/14/2009	13:08
1114F011.D	ZZZZZZ	ZZZZZZ	11/14/2009	13:35		11/14/2009	13:35
1114F012.D	ZZZZZZ	ZZZZZZ	11/14/2009	14:01		11/14/2009	14:01
1114F014.D	Instrument Blank	KWG0910694-3	11/14/2009	14:54		11/14/2009	14:54
1114F015.D	Continuing Calibration Verification	KWG0910694-4	11/14/2009	15:20		11/14/2009	15:20
1114F017.D	Method Blank	KWG0910513-6	11/14/2009	16:13		11/14/2009	16:13
1114F018.D	Lab Control Sample	KWG0910513-5	11/14/2009	16:39		11/14/2009	16:39
1114F019.D	M-4-A	K0909140-001	11/14/2009	17:05		11/14/2009	17:05
1114F020.D	M-4-B	K0909140-002	11/14/2009	17:31		11/14/2009	17:31
1114F021.D	M-4-C	K0909140-003	11/14/2009	17:58		11/14/2009	17:58
1114F022.D	M-1-B	K0909140-004	11/14/2009	18:24		11/14/2009	18:24
1114F023.D	M-2-C	K0909140-005	11/14/2009	18:50		11/14/2009	18:50
1114F024.D	M-2-A	K0909140-006	11/14/2009	19:17		11/14/2009	19:17
1114F025.D	M-2-AMS	KWG0910513-1	11/14/2009	19:43		11/14/2009	19:43
1114F026.D	M-2-ADMS	KWG0910513-2	11/14/2009	20:09		11/14/2009	20:09
1114F028.D	Instrument Blank	KWG0910694-5	11/14/2009	21:02		11/14/2009	21:02
1114F029.D	Continuing Calibration Verification	KWG0910694-6	11/14/2009	21:28		11/14/2009	21:28
1114F031.D	M-3-B	K0909140-007	11/14/2009	22:21		11/14/2009	22:21
1114F035.D	B-1-A	K0909140-011	11/15/2009	00:06		11/15/2009	00:06
1114F036.D	B-1-B	K0909140-012	11/15/2009	00:32		11/15/2009	00:32
1114F037.D	M-3-A	K0909140-013	11/15/2009	00:59		11/15/2009	00:59
1114F039.D	Instrument Blank	KWG0910694-7	11/15/2009	01:51		11/15/2009	01:51
1114F040.D	Continuing Calibration Verification	KWG0910694-8	11/15/2009	02:18		11/15/2009	02:18

Results flagged with an asterisk (*) indicate the holding time was exceeded for the analysis

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0909140

Analysis Run Log
Polychlorinated Biphenyls (PCBs)

Analysis Method: 8082

Analysis Lot: KWG0910694
Instrument ID: GC09.i
Column: DB-35MS

File ID	Sample Name	Lab Code	Date Analysis Started	Start Time	Q	Date Analysis Finished	Finish Time
1114F042.D	M-1-A	K0909140-014	11/15/2009	03:10		11/15/2009	03:10
1114F043.D	M-5-B	K0909140-015	11/15/2009	03:37		11/15/2009	03:37
1114F044.D	M-5-A	K0909140-016	11/15/2009	04:03		11/15/2009	04:03
1114F045.D	M-5-C	K0909140-017	11/15/2009	04:29		11/15/2009	04:29
1114F046.D	M-5-B2	K0909140-018	11/15/2009	04:56		11/15/2009	04:56
1114F047.D	B-1-C	K0909140-019	11/15/2009	05:22		11/15/2009	05:22
1114F048.D	ZZZZZZ	ZZZZZZ	11/15/2009	05:48		11/15/2009	05:48
1114F050.D	Instrument Blank	KWG0910694-9	11/15/2009	06:41		11/15/2009	06:41
1114F051.D	Continuing Calibration Verification	KWG0910694-10	11/15/2009	07:07		11/15/2009	07:07

Results flagged with an asterisk (*) indicate the holding time was exceeded for the analysis

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Results

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0909140

Analysis Run Log
Polychlorinated Biphenyls (PCBs)

Analysis Method: 8082

Analysis Lot: KWG0910773
Instrument ID: GC09.i
Column: DB-35MS

File ID	Sample Name	Lab Code	Date Analysis Started	Start Time	Q	Date Analysis Finished	Finish Time
1116F006.D	Continuing Calibration Verification	KWG0910773-1	11/16/2009	23:03		11/16/2009	23:03
1116F007.D	Instrument Blank	KWG0910773-2	11/16/2009	23:30		11/16/2009	23:30
1116F008.D	ZZZZZZ	ZZZZZZ	11/16/2009	23:56		11/16/2009	23:56
1116F009.D	ZZZZZZ	ZZZZZZ	11/17/2009	00:23		11/17/2009	00:23
1116F010.D	Continuing Calibration Verification	KWG0910773-3	11/17/2009	00:49		11/17/2009	00:49
1116F011.D	Instrument Blank	KWG0910773-4	11/17/2009	01:15		11/17/2009	01:15
1116F012.D	ZZZZZZ	ZZZZZZ	11/17/2009	01:42		11/17/2009	01:42
1116F013.D	ZZZZZZ	ZZZZZZ	11/17/2009	02:08		11/17/2009	02:08
1116F014.D	M-1-C	K0909140-009	11/17/2009	02:34		11/17/2009	02:34
1116F015.D	M-3-C	K0909140-010	11/17/2009	03:01		11/17/2009	03:01
1116F016.D	M-2-B	K0909140-008	11/17/2009	03:27		11/17/2009	03:27
1116F018.D	Instrument Blank	KWG0910773-5	11/17/2009	04:34		11/17/2009	04:34
1116F019.D	Continuing Calibration Verification	KWG0910773-6	11/17/2009	05:01		11/17/2009	05:01

Results flagged with an asterisk (*) indicate the holding time was exceeded for the analysis

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009
Sample Matrix: Sediment

Service Request: K0909140
Date Extracted: 11/10/2009

Extraction Prep Log
Polychlorinated Biphenyls (PCBs)

Extraction Method: EPA 3541
Analysis Method: 8082

Extraction Lot: KWG0910513
Level: Low

Sample Name	Lab Code	Date Collected	Date Received	Sample Amount	Final Volume	% Solids	Note
M-4-A	K0909140-001	09/28/09	09/29/09	21.02g	4ml	97.5	
M-4-B	K0909140-002	09/28/09	09/29/09	20.45g	4ml	97.5	
M-4-C	K0909140-003	09/28/09	09/29/09	20.82g	4ml	97.7	
M-1-B	K0909140-004	10/07/09	10/08/09	20.04g	4ml	95.7	
M-2-C	K0909140-005	10/06/09	10/07/09	20.20g	4ml	92.7	
M-2-A	K0909140-006	10/06/09	10/07/09	20.20g	4ml	97.8	
M-3-B	K0909140-007	10/05/09	10/06/09	20.62g	4ml	98.2	
M-2-B	K0909140-008	10/06/09	10/07/09	20.36g	4ml	89.5	
M-1-C	K0909140-009	10/07/09	10/08/09	20.41g	4ml	90.5	
M-3-C	K0909140-010	10/05/09	10/06/09	18.13g	4ml	95.3	
B-1-A	K0909140-011	10/09/09	10/09/09	20.16g	4ml	94.8	
B-1-B	K0909140-012	10/09/09	10/09/09	20.38g	4ml	98.2	
M-3-A	K0909140-013	10/05/09	10/06/09	20.44g	4ml	93.9	
M-1-A	K0909140-014	10/07/09	10/08/09	20.03g	4ml	97.2	
M-5-B	K0909140-015	09/28/09	09/29/09	20.37g	4ml	97.2	
M-5-A	K0909140-016	09/28/09	09/29/09	20.50g	4ml	99.1	
M-5-C	K0909140-017	09/28/09	09/29/09	20.06g	4ml	99.6	
M-5-B2	K0909140-018	09/28/09	09/29/09	20.01g	4ml	97.5	
B-1-C	K0909140-019	10/09/09	10/09/09	20.29g	4ml	98.3	
Method Blank	KWG0910513-6	NA	NA	40.50g	4ml	NA	
M-2-AMS	KWG0910513-1	10/06/09	10/07/09	20.25g	4ml	97.8	
M-2-ADMS	KWG0910513-2	10/06/09	10/07/09	20.25g	4ml	97.8	
Lab Control Sample	KWG0910513-5	NA	NA	20.00g	4ml	NA	

Results flagged with an asterisk (*) indicate the holding time was exceeded for the analysis

COLUMBIA ANALYTICAL SERVICES, INC.

Confirmation Results

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009
Sample Matrix: Sediment

Service Request: K0909140
Date Collected: 10/07/2009
Date Received: 10/08/2009
Date Extracted: 11/10/2009

Polychlorinated Biphenyls (PCBs)

Sample Name: M-1-B
Lab Code: K0909140-004

Extraction Method: EPA 3541
Analysis Method: 8082

Units: ug/Kg
Basis: Dry
Level: Low

Analyte Name	MRL	MDL	Primary Result	Confirmation Result	RPD	Q	Dilution Factor	Date Analyzed
Aroclor 1254	11	2.2	33	33	0.0		1	11/14/09

COLUMBIA ANALYTICAL SERVICES, INC.

Confirmation Results

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009
Sample Matrix: Sediment

Service Request: K0909140
Date Collected: 10/06/2009
Date Received: 10/07/2009
Date Extracted: 11/10/2009

Polychlorinated Biphenyls (PCBs)

Sample Name: M-2-C
Lab Code: K0909140-005

Extraction Method: EPA 3541
Analysis Method: 8082

Units: ug/Kg
Basis: Dry
Level: Low

Analyte Name	MRL	MDL	Primary Result	Confirmation Result	RPD	Q	Dilution Factor	Date Analyzed
Aroclor 1254	11	2.3	440	390	12.0		1	11/14/09

COLUMBIA ANALYTICAL SERVICES, INC.

Confirmation Results

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009
Sample Matrix: Sediment

Service Request: K0909140
Date Collected: 10/06/2009
Date Received: 10/07/2009
Date Extracted: 11/10/2009

Polychlorinated Biphenyls (PCBs)

Sample Name: M-2-A
Lab Code: K0909140-006

Extraction Method: EPA 3541
Analysis Method: 8082

Units: ug/Kg
Basis: Dry
Level: Low

Analyte Name	MRL	MDL	Primary Result	Confirmation Result	RPD	Q	Dilution Factor	Date Analyzed
Aroclor 1254	11	2.2	450	430	4.5		1	11/14/09

COLUMBIA ANALYTICAL SERVICES, INC.

Confirmation Results

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009
Sample Matrix: Sediment

Service Request: K0909140
Date Collected: 10/05/2009
Date Received: 10/06/2009
Date Extracted: 11/10/2009

Polychlorinated Biphenyls (PCBs)

Sample Name: M-3-B
Lab Code: K0909140-007

Extraction Method: EPA 3541
Analysis Method: 8082

Units: ug/Kg
Basis: Dry
Level: Low

Analyte Name	MRL	MDL	Primary Result	Confirmation Result	RPD	Q	Dilution Factor	Date Analyzed
Aroclor 1254	9.9	2.1	22	22	0.0		1	11/14/09

COLUMBIA ANALYTICAL SERVICES, INC.

Confirmation Results

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009
Sample Matrix: Sediment

Service Request: K0909140
Date Collected: 10/06/2009
Date Received: 10/07/2009
Date Extracted: 11/10/2009

Polychlorinated Biphenyls (PCBs)

Sample Name: M-2-B
Lab Code: K0909140-008

Extraction Method: EPA 3541
Analysis Method: 8082

Units: ug/Kg
Basis: Dry
Level: Low

Analyte Name	MRL	MDL	Primary Result	Confirmation Result	RPD	Q	Dilution Factor	Date Analyzed
Aroclor 1254	110	24	2900	2800	3.5	D	10	11/17/09

COLUMBIA ANALYTICAL SERVICES, INC.

Confirmation Results

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009
Sample Matrix: Sediment

Service Request: K0909140
Date Collected: 10/07/2009
Date Received: 10/08/2009
Date Extracted: 11/10/2009

Polychlorinated Biphenyls (PCBs)

Sample Name: M-1-C
Lab Code: K0909140-009

Extraction Method: EPA 3541
Analysis Method: 8082

Units: ug/Kg
Basis: Dry
Level: Low

Analyte Name	MRL	MDL	Primary Result	Confirmation Result	RPD	Q	Dilution Factor	Date Analyzed
Aroclor 1254	11	2.3	23	41	56.3	P	1	11/17/09

COLUMBIA ANALYTICAL SERVICES, INC.

Confirmation Results

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009
Sample Matrix: Sediment

Service Request: K0909140
Date Collected: 10/05/2009
Date Received: 10/06/2009
Date Extracted: 11/10/2009

Polychlorinated Biphenyls (PCBs)

Sample Name: M-3-C
Lab Code: K0909140-010

Extraction Method: EPA 3541
Analysis Method: 8082

Units: ug/Kg
Basis: Dry
Level: Low

Analyte Name	MRL	MDL	Primary Result	Confirmation Result	RPD	Q	Dilution Factor	Date Analyzed
Aroclor 1254	12	2.5	23	37	46.7	P	1	11/17/09

COLUMBIA ANALYTICAL SERVICES, INC.

Confirmation Results

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009
Sample Matrix: Sediment

Service Request: K0909140
Date Collected: 10/05/2009
Date Received: 10/06/2009
Date Extracted: 11/10/2009

Polychlorinated Biphenyls (PCBs)

Sample Name: M-3-A
Lab Code: K0909140-013

Extraction Method: EPA 3541
Analysis Method: 8082

Units: ug/Kg
Basis: Dry
Level: Low

Analyte Name	MRL	MDL	Primary Result	Confirmation Result	RPD	Q	Dilution Factor	Date Analyzed
Aroclor 1254	11	2.2	48	52	8.0		1	11/15/09

Organic Analysis:
Polychlorinated Biphenyls (PCBs)

Validation Package

Organic Analysis:
Polychlorinated Biphenyls (PCBs)

Validation Package

QC Reports

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009
Sample Matrix: Sediment

Service Request: K0909140

Surrogate Recovery Summary
Polychlorinated Biphenyls (PCBs)

Extraction Method: EPA 3541
Analysis Method: 8082

Units: PERCENT
Level: Low

Sample Name	Lab Code	Sur1
B-1-A	K0909140-011	93
B-1-B	K0909140-012	90
M-3-A	K0909140-013	95
M-1-A	K0909140-014	91
M-5-B	K0909140-015	88
M-5-A	K0909140-016	89
M-5-C	K0909140-017	90
M-5-B2	K0909140-018	92
B-1-C	K0909140-019	92
Method Blank	KWG0910513-6	91
M-2-AMS	KWG0910513-1	96
M-2-ADMS	KWG0910513-2	81
Lab Control Sample	KWG0910513-5	92
M-4-A	K0909140-001	92
M-4-B	K0909140-002	89
M-4-C	K0909140-003	90
M-1-B	K0909140-004	87
M-2-C	K0909140-005	92
M-2-A	K0909140-006	98
M-3-B	K0909140-007	91
M-2-B	K0909140-008	123 D
M-1-C	K0909140-009	96
M-3-C	K0909140-010	90

Surrogate Recovery Control Limits (%)

Sur1 = Decachlorobiphenyl 35-133

Results flagged with an asterisk (*) indicate values outside control criteria.
Results flagged with a pound (#) indicate the control criteria is not applicable.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	URS Corporation	**Service Request:**	K0909140
Project:	Boise St. Helens Pulp and Paper Mill-2009	**Date Extracted:**	11/10/2009
Sample Matrix:	Sediment	**Date Analyzed:**	11/14/2009

Matrix Spike/Duplicate Matrix Spike Summary
Polychlorinated Biphenyls (PCBs)

Sample Name:	M-2-A	**Units:**	ug/Kg
Lab Code:	K0909140-006	**Basis:**	Dry
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8082	**Extraction Lot:**	KWG0910513

Analyte Name	Sample Result	M-2-AMS KWG0910513-1 Matrix Spike			M-2-ADMS KWG0910513-2 Duplicate Matrix Spike			%Rec Limits	RPD	RPD Limit
		Result	Expected	%Rec	Result	Expected	%Rec			
Aroclor 1016	ND	174	202	86	179	202	89	27-174	3	40
Aroclor 1260	ND	235	202	116	227	202	112	20-185	3	40

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009
Sample Matrix: Sediment

Service Request: K0909140
Date Extracted: 11/10/2009
Date Analyzed: 11/14/2009

Lab Control Spike Summary
Polychlorinated Biphenyls (PCBs)

Extraction Method: EPA 3541
Analysis Method: 8082

Units: ug/Kg
Basis: Dry
Level: Low
Extraction Lot: KWG0910513

	Lab Control Sample KWG0910513-5 Lab Control Spike			
Analyte Name	**Result**	**Expected**	**%Rec**	**%Rec Limits**
Aroclor 1016	162	200	81	48-121
Aroclor 1260	177	200	89	53-129

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009
Sample Matrix: Sediment

Service Request: K0909140
Date Extracted: 11/10/2009
Date Analyzed: 11/14/2009
Time Analyzed: 16:13

Method Blank Summary
Polychlorinated Biphenyls (PCBs)

Sample Name: Method Blank
Lab Code: KWG0910513-6

Extraction Method: EPA 3541
Analysis Method: 8082

File ID: J:\GC09\DATA\111409.B\1114F017.D
Instrument ID: GC09.i

Level: Low
Extraction Lot: KWG0910513

This Method Blank applies to the following analyses:

Sample Name	Lab Code	File ID	Date Analyzed	Time Analyzed
Lab Control Sample	KWG0910513-5	J:\GC09\DATA\111409.B\1114F018.D	11/14/09	16:39
M-4-A	K0909140-001	J:\GC09\DATA\111409.B\1114F019.D	11/14/09	17:05
M-4-B	K0909140-002	J:\GC09\DATA\111409.B\1114F020.D	11/14/09	17:31
M-4-C	K0909140-003	J:\GC09\DATA\111409.B\1114F021.D	11/14/09	17:58
M-1-B	K0909140-004	J:\GC09\DATA\111409.B\1114F022.D	11/14/09	18:24
M-2-C	K0909140-005	J:\GC09\DATA\111409.B\1114F023.D	11/14/09	18:50
M-2-A	K0909140-006	J:\GC09\DATA\111409.B\1114F024.D	11/14/09	19:17
M-2-AMS	KWG0910513-1	J:\GC09\DATA\111409.B\1114F025.D	11/14/09	19:43
M-2-ADMS	KWG0910513-2	J:\GC09\DATA\111409.B\1114F026.D	11/14/09	20:09
M-3-B	K0909140-007	J:\GC09\DATA\111409.B\1114F031.D	11/14/09	22:21
B-1-A	K0909140-011	J:\GC09\DATA\111409.B\1114F035.D	11/15/09	00:06
B-1-B	K0909140-012	J:\GC09\DATA\111409.B\1114F036.D	11/15/09	00:32
M-3-A	K0909140-013	J:\GC09\DATA\111409.B\1114F037.D	11/15/09	00:59
M-1-A	K0909140-014	J:\GC09\DATA\111409.B\1114F042.D	11/15/09	03:10
M-5-B	K0909140-015	J:\GC09\DATA\111409.B\1114F043.D	11/15/09	03:37
M-5-A	K0909140-016	J:\GC09\DATA\111409.B\1114F044.D	11/15/09	04:03
M-5-C	K0909140-017	J:\GC09\DATA\111409.B\1114F045.D	11/15/09	04:29
M-5-B2	K0909140-018	J:\GC09\DATA\111409.B\1114F046.D	11/15/09	04:56
B-1-C	K0909140-019	J:\GC09\DATA\111409.B\1114F047.D	11/15/09	05:22
M-1-C	K0909140-009	J:\GC09\DATA\111609.B\1116F014.D	11/17/09	02:34
M-3-C	K0909140-010	J:\GC09\DATA\111609.B\1116F015.D	11/17/09	03:01
M-2-B	K0909140-008	J:\GC09\DATA\111609.B\1116F016.D	11/17/09	03:27

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009
Sample Matrix: Sediment

Service Request: K0909140
Date Extracted: 11/10/2009
Date Analyzed: 11/14/2009
Time Analyzed: 16:39

Lab Control Sample Summary
Polychlorinated Biphenyls (PCBs)

Sample Name: Lab Control Sample
Lab Code: KWG0910513-5

Extraction Method: EPA 3541
Analysis Method: 8082

File ID: J:\GC09\DATA\111409.B\1114F018.D
Instrument ID: GC09.i

Level: Low
Extraction Lot: KWG0910513

This Lab Control Sample applies to the following analyses:

Sample Name	Lab Code	File ID	Date Analyzed	Time Analyzed
Method Blank	KWG0910513-6	J:\GC09\DATA\111409.B\1114F017.D	11/14/09	16:13
M-4-A	K0909140-001	J:\GC09\DATA\111409.B\1114F019.D	11/14/09	17:05
M-4-B	K0909140-002	J:\GC09\DATA\111409.B\1114F020.D	11/14/09	17:31
M-4-C	K0909140-003	J:\GC09\DATA\111409.B\1114F021.D	11/14/09	17:58
M-1-B	K0909140-004	J:\GC09\DATA\111409.B\1114F022.D	11/14/09	18:24
M-2-C	K0909140-005	J:\GC09\DATA\111409.B\1114F023.D	11/14/09	18:50
M-2-A	K0909140-006	J:\GC09\DATA\111409.B\1114F024.D	11/14/09	19:17
M-2-AMS	KWG0910513-1	J:\GC09\DATA\111409.B\1114F025.D	11/14/09	19:43
M-2-ADMS	KWG0910513-2	J:\GC09\DATA\111409.B\1114F026.D	11/14/09	20:09
M-3-B	K0909140-007	J:\GC09\DATA\111409.B\1114F031.D	11/14/09	22:21
B-1-A	K0909140-011	J:\GC09\DATA\111409.B\1114F035.D	11/15/09	00:06
B-1-B	K0909140-012	J:\GC09\DATA\111409.B\1114F036.D	11/15/09	00:32
M-3-A	K0909140-013	J:\GC09\DATA\111409.B\1114F037.D	11/15/09	00:59
M-1-A	K0909140-014	J:\GC09\DATA\111409.B\1114F042.D	11/15/09	03:10
M-5-B	K0909140-015	J:\GC09\DATA\111409.B\1114F043.D	11/15/09	03:37
M-5-A	K0909140-016	J:\GC09\DATA\111409.B\1114F044.D	11/15/09	04:03
M-5-C	K0909140-017	J:\GC09\DATA\111409.B\1114F045.D	11/15/09	04:29
M-5-B2	K0909140-018	J:\GC09\DATA\111409.B\1114F046.D	11/15/09	04:56
B-1-C	K0909140-019	J:\GC09\DATA\111409.B\1114F047.D	11/15/09	05:22
M-1-C	K0909140-009	J:\GC09\DATA\111609.B\1116F014.D	11/17/09	02:34
M-3-C	K0909140-010	J:\GC09\DATA\111609.B\1116F015.D	11/17/09	03:01
M-2-B	K0909140-008	J:\GC09\DATA\111609.B\1116F016.D	11/17/09	03:27

Organic Analysis:
Polychlorinated Biphenyls (PCBs)

Validation Package

Raw Data

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009
Sample Matrix: Sediment

Service Request: K0909140
Date Collected: 09/28/2009
Date Received: 09/29/2009

Polychlorinated Biphenyls (PCBs)

Sample Name: M-4-A
Lab Code: K0909140-001

Extraction Method: EPA 3541
Analysis Method: 8082

Units: ug/Kg
Basis: Dry

Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Aroclor 1016	ND	U	9.8	2.1	1	11/10/09	11/14/09	KWG0910513	
Aroclor 1221	ND	U	20	2.1	1	11/10/09	11/14/09	KWG0910513	
Aroclor 1232	ND	U	9.8	2.1	1	11/10/09	11/14/09	KWG0910513	
Aroclor 1242	ND	U	9.8	2.1	1	11/10/09	11/14/09	KWG0910513	
Aroclor 1248	ND	U	9.8	2.1	1	11/10/09	11/14/09	KWG0910513	
Aroclor 1254	ND	Ui	17	17	1	11/10/09	11/14/09	KWG0910513	
Aroclor 1260	ND	Ui	9.8	5.0	1	11/10/09	11/14/09	KWG0910513	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Decachlorobiphenyl	92	35-133	11/14/09	Acceptable

Comments:

Exception Report

Data File: \\CASH1\ACQUDATA\GC09\DATA\111409.B\1114F019.D
Lab ID: K0909140-001
RunType: SMPL
Matrix: SEDIMENT

Date Acquired: 11/14/2009 17:05
Date Quantitated: 11/16/2009 12:39
Batch ID: KWG0910694
Analysis Method: 8082
MethodJoinID: MJ696

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Analytical Holding Time	NA	NA	NA	x	
Preparation Holding Time	43	NA	14		x
Pre-Preparation Holding Time	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Calibration Verification Ave %D	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA	x	
Calibration Verification Ave %D (Closing)	NA	NA	NA	x	
Continuing Calibration Recovery (Closing)	NA	NA	NA		x
Method Blank	NA	NA	NA	x	
MB Surrogate Recovery	NA	NA	NA	x	
Lab Control Spike	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA		x
Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
Continuing Calibration Recovery (Closing)	Aroclor 1260	-18.0	NA	15	
Analyte Co-elution	Aroclor 1254 {4}	9.043	NA	NA	
	Aroclor 1260 {1}	9.043	NA	NA	

Primary Review:

Secondary Review:

Exception Report

Data File: \\CASH1\ACQUDATA\GC09\DATA\111409_R.B\1114R019.D
Lab ID: K0909140-001
RunType: SMPL
Matrix: SEDIMENT

Date Acquired: 11/14/2009 17:05
Date Quantitated: 11/16/2009 12:41
Batch ID: KWG0910694
Analysis Method: 8082
MethodJoinID: MJ696

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Analytical Holding Time	NA	NA	NA	x	
Preparation Holding Time	43	NA	14		x
Pre-Preparation Holding Time	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Calibration Verification Ave %D	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA	x	
Calibration Verification Ave %D (Closing)	NA	NA	NA	x	
Continuing Calibration Recovery (Closing)	NA	NA	NA	x	
Method Blank	NA	NA	NA	x	
MB Surrogate Recovery	NA	NA	NA	x	
Lab Control Spike	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Primary Review: _____

Secondary Review: _____

Quantitation Report

Bottle ID:		**Tier:**	V	**Matrix:**	SEDIMENT
Prod Code:	8082 PCB_LL	**Collect Date:**	09/28/2009	**Receive Date:**	09/29/2009

Analysis Lot:	KWG0910694	**Prep Lot:**	KWG0910513	**Report Group:**	K0909140
Analysis Method:	8082	**Prep Method:**	EPA 3541		
Prep Ref:	865578	**Prep Date:**	11/10/2009		

Quant Method:	\\CASH1\ACQUDATA\GC09\DATA\111409.B\101409_F.M	**Calibration ID:**	CAL8918
Title:	Polychlorinated Biphenyls (PCBs)	**Report List ID:**	LJ6180
MB Ref:	J:\GC09\DATA\111409.B\1114F017.D	**Method ID:**	MJ696
		Quant based on Report List	

Data File #1:	J:\GC09\DATA\111409.B\1114F019.D			**Instrument:**	GC09.i
Data File #2:	\\cash1\acqudata\GC09\data\111409_r.b\1114R019.D			**Vial:**	36
Acqu Date:	11/14/2009 17:05	**Quant Date:**	11/16/2009 12:39	**Dilution:**	1.0
Run Type:	SMPL			**Soln Conc. Units:**	ng/mL
Lab ID:	K0909140-001				
Signal #1:	DB-35MS	**Signal #2:**	DB-XLB		

Surrogate Compounds

Parameter Name	RT #1	RT #2	Resp #1	Respe #2	ng/mL #1	ng/mL #2			Rpt
Decachlorobiphenyl	15.05 0.00	16.30 0.00	464207	382099	85.17	91.51			92OK
			%Recovery =		85OK	92OK	**Limits =**	35-133	

Target Compounds

Final Conc. Units: ug/Kg Dry Weight

Parameter Name	RT #1	RT #2	Resp #1	Resp #2	ng/mL #1	ng/mL #2	ug/Kg #1	ug/Kg #2	Rpt
Aroclor 1016			0	0	0.0000	0.0000	2.1U	2.1U	2.1U
Aroclor 1016 {1}			0d	0d	0.0000	0.0000	2.1U	2.1U	
Aroclor 1016 {2}			0d	0d	0.0000	0.0000	2.1U	2.1U	
Aroclor 1016 {3}			0d	0d	0.0000	0.0000	2.1U	2.1U	
Aroclor 1016 {4}			0d	0d	0.0000	0.0000	2.1U	2.1U	
Aroclor 1016 {5}			0d	0d	0.0000	0.0000	2.1U	2.1U	
Aroclor 1221			0	0	0.0000	0.0000	2.1U	2.1U	2.1U
Aroclor 1221 {1}			0d	0d	0.0000	0.0000	2.1U	2.1U	
Aroclor 1221 {2}			0d	0d	0.0000	0.0000	2.1U	2.1U	
Aroclor 1221 {3}			0d	0d	0.0000	0.0000	2.1U	2.1U	
Aroclor 1221 {4}			0d	0d	0.0000	0.0000	2.1U	2.1U	
Aroclor 1232			0	0	0.0000	0.0000	2.1U	2.1U	2.1U
Aroclor 1232 {1}			0d	0d	0.0000	0.0000	2.1U	2.1U	
Aroclor 1232 {2}			0d	0d	0.0000	0.0000	2.1U	2.1U	
Aroclor 1232 {3}			0d	0d	0.0000	0.0000	2.1U	2.1U	
Aroclor 1232 {4}			0d	0d	0.0000	0.0000	2.1U	2.1U	
Aroclor 1242			0	0	0.0000	0.0000	2.1U	2.1U	2.1U
Aroclor 1242 {1}			0d	0d	0.0000	0.0000	2.1U	2.1U	
Aroclor 1242 {2}			0d	0d	0.0000	0.0000	2.1U	2.1U	
Aroclor 1242 {3}			0d	0d	0.0000	0.0000	2.1U	2.1U	

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Data File #1:	J:\GC09\DATA\111409.B\1114F019.D			**Instrument:**	GC09.i
Data File #2:	\\cash1\acqudata\GC09\data\111409_r.b\1114R019.D			**Vial:**	36
Acqu Date:	11/14/2009 17:05	**Quant Date:**	11/16/2009 12:39	**Dilution:**	1.0
Run Type:	SMPL			**Soln Conc. Units:**	ng/mL
Lab ID:	K0909140-001				
Signal #1:	DB-35MS	**Signal #2:**	DB-XLB		

Target Compounds

Final Conc. Units: ug/Kg Dry Weight

Parameter Name	RT #1	RT #2	Resp #1	Resp #2	ng/mL #1	ng/mL #2	ug/Kg #1	ug/Kg #2	Rpt
Aroclor 1242 {4}			0d	0d	0.0000	0.0000	2.1U	2.1U	
Aroclor 1242 {5}			0d	0d	0.0000	0.0000	2.1U	2.1U	
Aroclor 1248			0	0	0.0000	0.0000	2.1U	2.1U	2.1U
Aroclor 1248 {1}			0d	0d	0.0000	0.0000	2.1U	2.1U	
Aroclor 1248 {2}			0d	0d	0.0000	0.0000	2.1U	2.1U	
Aroclor 1248 {3}			0d	0d	0.0000	0.0000	2.1U	2.1U	
Aroclor 1248 {4}			0d	0d	0.0000	0.0000	2.1U	2.1U	
Aroclor 1248 {5}			0d	0d	0.0000	0.0000	2.1U	2.1U	
Aroclor 1254			0	0	94.55	86.57	18	17	18
Aroclor 1254 {1}	7.57	7.79	32686m	27386m	113.75	113.83	22	22	
Aroclor 1254 {2}	8.23	8.20	22604m	16338m	111.75	66.98	22	13	
Aroclor 1254 {3}	8.44	8.72	31805m	0m	64.07	0.0000	13	2.1U	
Aroclor 1254 {4}	9.04 c	8.93	23982m	24958m	99.57	95.62	19	19	
Aroclor 1254 {5}	9.79	9.53	28486m	16331m	83.62	69.87	16	14	
Aroclor 1260			0	0	40.55CCV	25.51	7.9J	5.0J	7.9JP
Aroclor 1260 {1}	9.04 0.00 c	9.27 -0.01	23982m	4427m	56.51	18.45	11	3.6J	RPD
Aroclor 1260 {2}	9.55 +0.07	10.37 -0.01	4606m	0m	19.98	0.0000	3.9J	2.1U	
Aroclor 1260 {3}	10.46 -0.01	10.54 0.00	8129m	4661m	31.89	27.48	6.2J	5.4J	
Aroclor 1260 {4}	10.89 -0.01	11.67 -0.01	17297m	10438m	31.50	29.49	6.1J	5.8J	
Aroclor 1260 {5}	11.75 -0.02	12.41 -0.01	23702m	6353m	62.85	26.60	12	5.2J	

The -/+ after Retention Time symbolize the direction of the RT shift

Prep Amount:	21.02 g	**Dilution:**	1.0
Prep Final Vol:	4 ml	**Unit Factor:**	1
Solids:	97.5 %		

Final Concentration = ((Soln Conc x Prep Final Vol x Dilution) / (Prep Amount x Solids)) x Unit Factor

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Data File: \\cash1\acqudata\GC09\data\111409.B\1114F019.D
Report Date: 16-Nov-2009 12:39

Laboratory Name

Sample #1 : \\cash1\acqudata\GC09\data\111409.B\1114F019.D
Sample #2 : \\cash1\acqudata\GC09\data\111409_r.b\1114R019.D
Inj Date : 14-NOV-2009 17:05
Sample Info: K0909140-001 | M-4-A
Misc Info : KELSO\SEMIVOA GC\8082-PCB_LL\09140001.H | F=4
Cal Date : 16-NOV-2009 10:31
Operator : JMSmith
Inst ID : GC09.i
Dil Factor : 1.000000

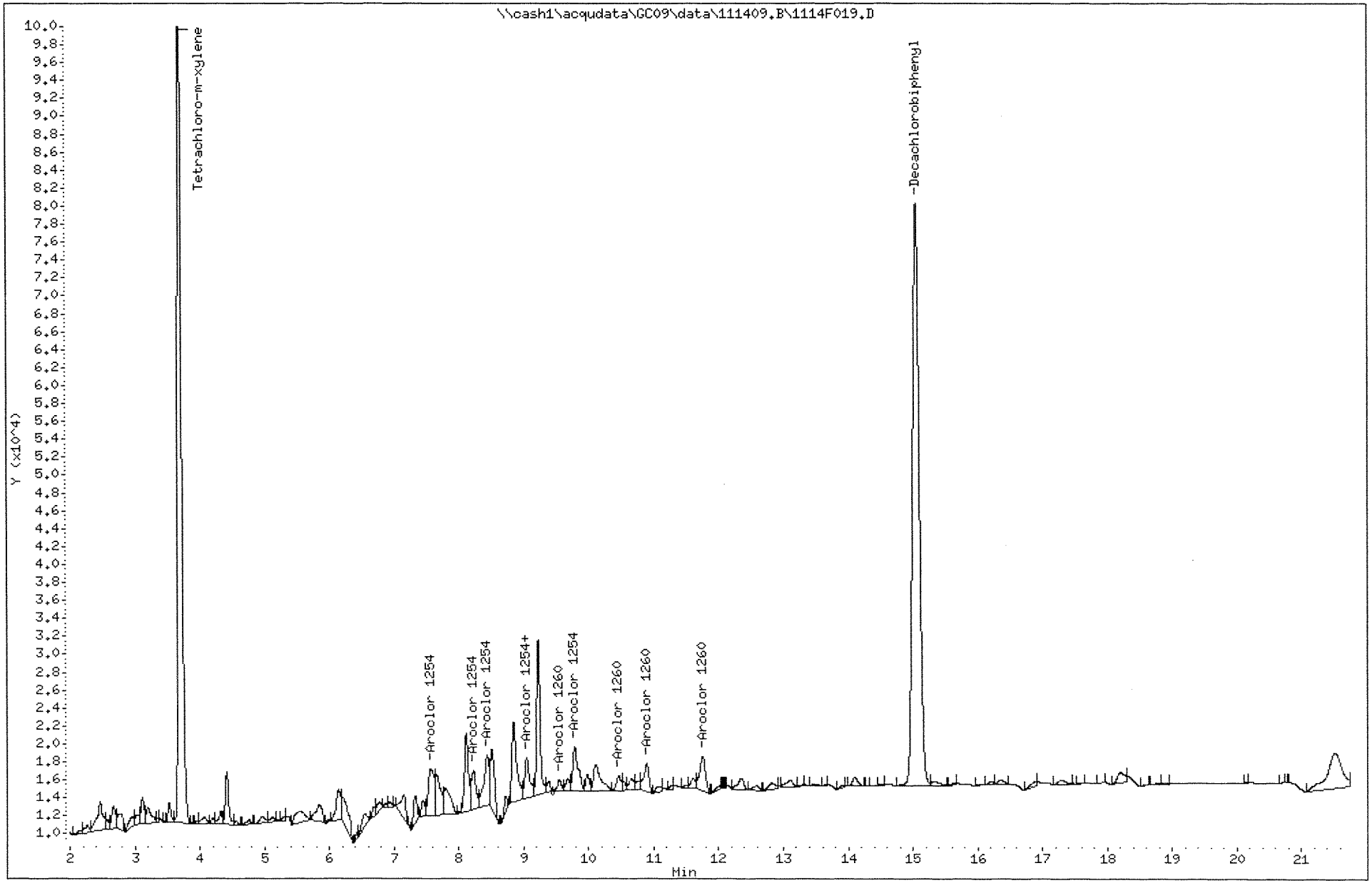
Method #1 : \\cash1\acqudata\GC09\data\111409.B\101409_f.m
Method #2 : \\cash1\acqudata\GC09\data\111409_r.b\101409_r.m
Sub List #1 : ALL.SUB
Sub List #2 : ALL.SUB
Col #1 Phase : DB-35MS
Col #2 Phase : DB-XLB

Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2	Target Range	Ratio
Tetrachloro-m-xylene	3.693	4.287	430500	364859	73.8	88.4		100.00(R)
Aroclor 1254	7.567	7.790	32686	27386	114	114	80.00- 120.00	100.00(M)
	8.227	8.197	22604	16338	112	67.0	56.32- 84.48	69.16(M)
	8.437	8.717	31805		64.1		138.21- 207.32	97.31(M)
	9.043	8.927	23982	24958	99.6	95.6	67.06- 100.59	73.37(M)
	9.787	9.530	28486	16331	83.6	69.9	94.84- 142.26	87.15(M)
			Average of Peak Amounts =		94.7	86.6		
Aroclor 1260	9.043	9.270	23982	4427	56.5	18.4	80.00- 120.00	100.00(M)
	9.550	10.367	4606		20.0		42.74- 64.11	19.21(M)
	10.460	10.543	8129	4661	31.9	27.5	48.22- 72.33	33.90(M)
	10.893	11.670	17297	10438	31.5	29.5	101.77- 152.66	72.13(M)
	11.753	12.410	23702	6353	62.8	26.6	72.29- 108.43	98.83(M)
			Average of Peak Amounts =		40.5	25.5		
Decachlorobiphenyl	15.053	16.303	464207	382099	85.2	91.5		100.00(RH)

QC Flag Legend

R - Spike/Surrogate failed recovery limits.
M - Compound response manually integrated.
H - Operator selected an alternate compound hit.

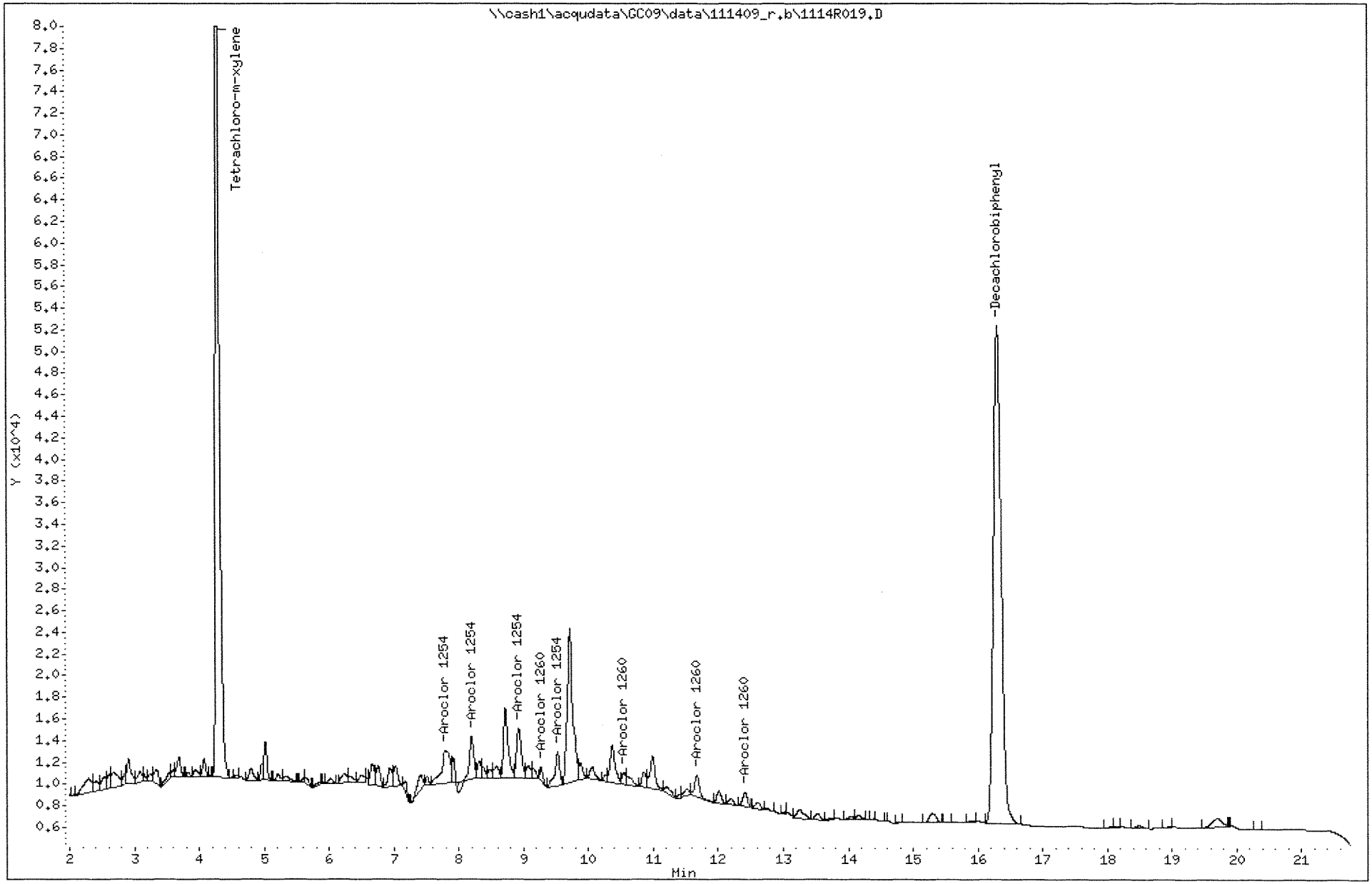
Data File: \\cash1\acqudata\GC09\data\111409.B\1114F019.D
Date : 14-NOV-2009 17:05
Client ID:
Instrument: GC09.i
Sample Info: K0909140-001 | M-4-A
Operator: JMSmith
Column phase: DB-35MS
Column diameter: 0.53

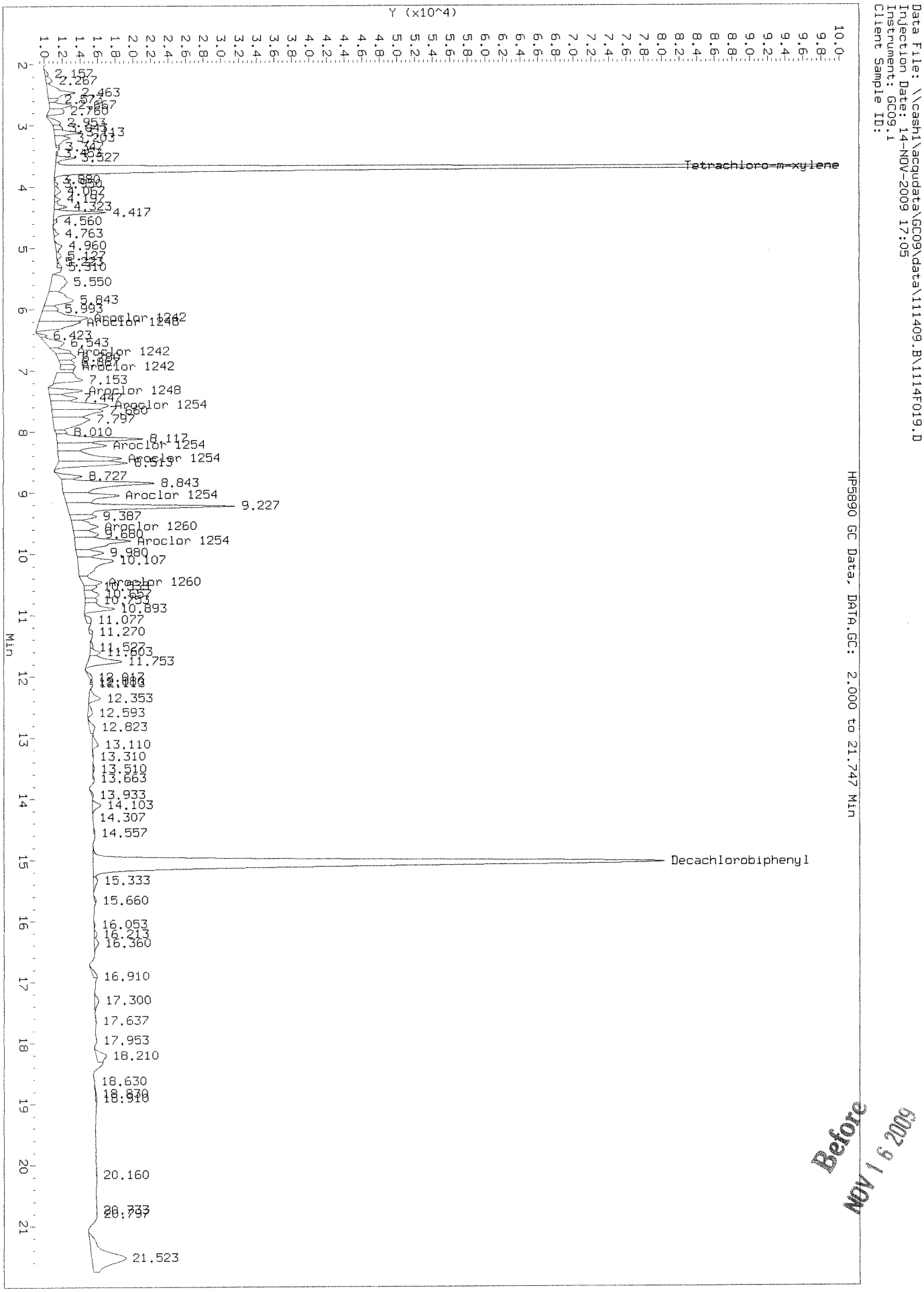


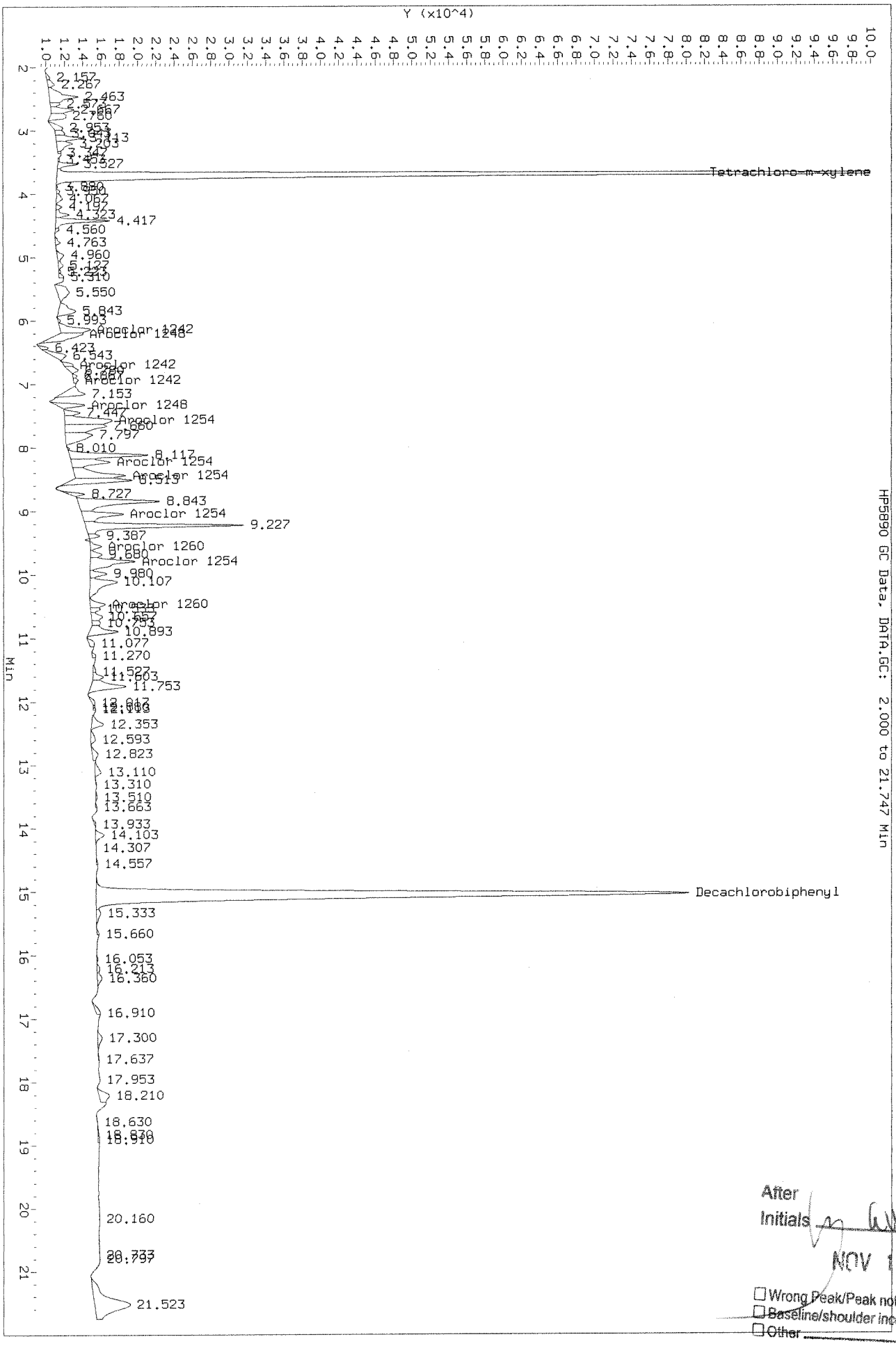
Data File: \\cash1\acqudata\GC09\data\111409_r.b\1114R019.D
Date : 14-NOV-2009 17:05
Client ID:
Sample Info: K0909140-001 | M-4-A

Instrument: GC09.i

Operator: JMSmith
Column phase: DB-XLB
Column diameter: 0.53



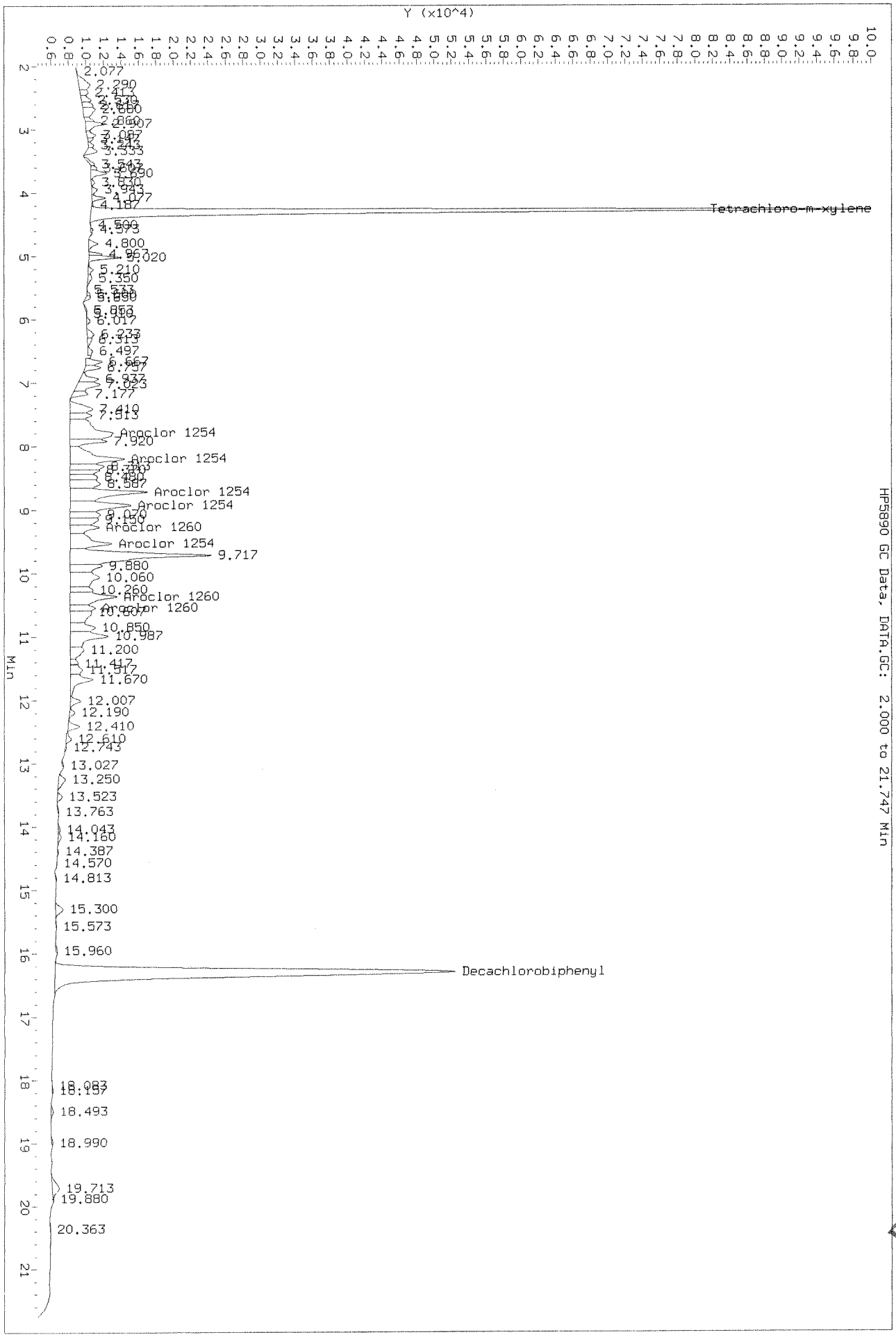

Data File: \\cash1\acqudata\GC09\data\111409.B\1114F019.D
Injection Date: 14-NOV-2009 17:05
Instrument: GC09.i
Client Sample ID:
HP5890 GC Data, DATA.GC: 2.000 to 21.747 Min
Y (x10^4)
Min
Tetrachloro-m-xylene
Decachlorobiphenyl
Aroclor 1242
Aroclor 1248
Aroclor 1254
Aroclor 1260
Before
NOV 16 2009



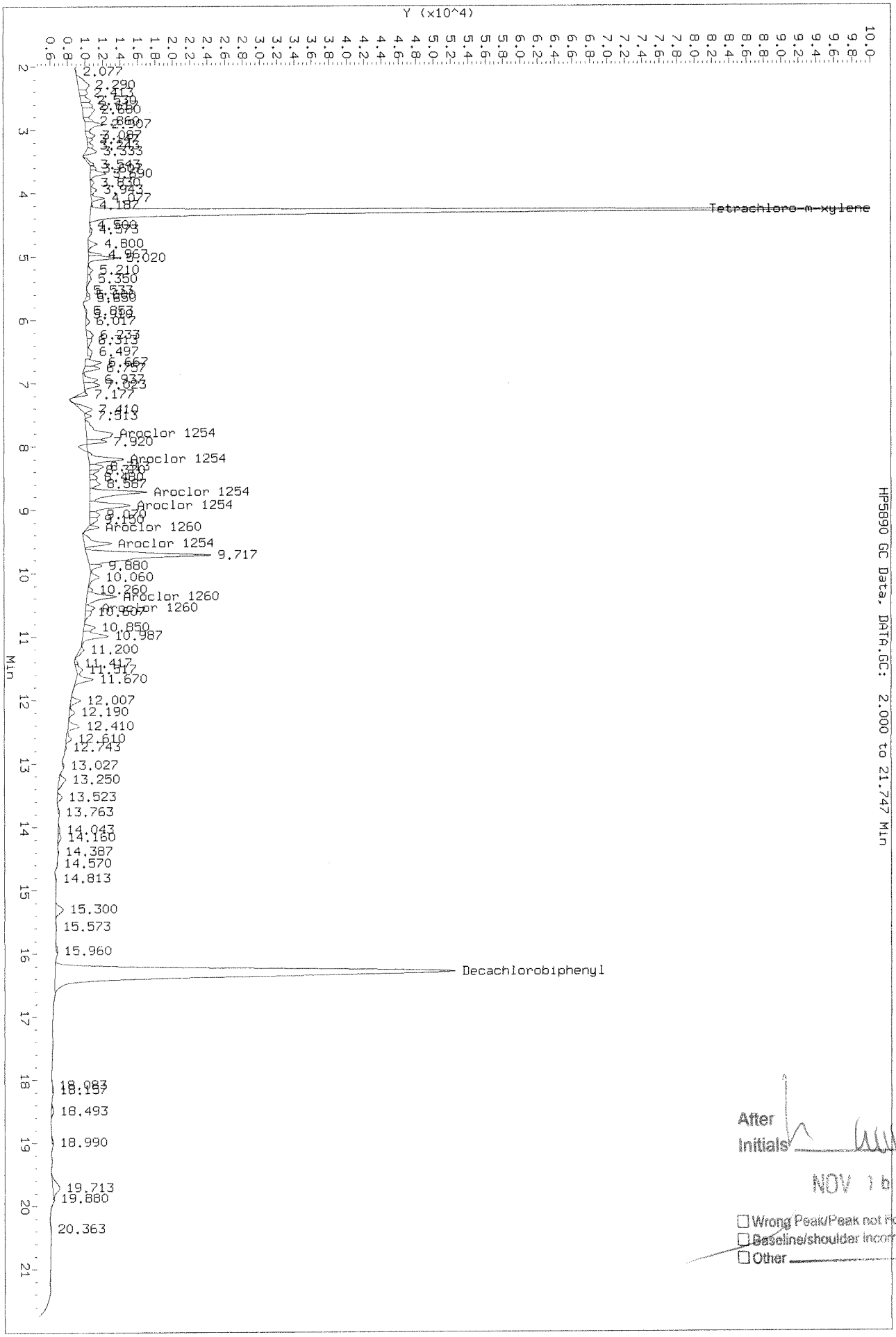
After
Initials

NOV 16 2009

☐ Wrong Peak/Peak not Found
☐ Baseline/shoulder incorrect
☐ Other


Data File: \\cash1\acqudata\GC09\data\111409_r.b\1114R019.D
Injection Date: 14-NOV-2009 17:05
Instrument: GC09.1
Client Sample ID:
HP5890 GC Data, DATA.GC: 2.000 to 21.747 Min
Y (x10^4)
Min
Tetrachloro-m-xylene
Decachlorobiphenyl
Aroclor 1254
Aroclor 1260

Before


Data File: \\cash1\acqudata\GC09\data\111409_r.b\1114R019.D
Injection Date: 14-NOV-2009 17:05
Instrument: GC09.i
Client Sample ID:
HP5890 GC Data, DATA.GC: 2.000 to 21.747 Min
Y (x10^4)
Min
Tetrachloro-m-xylene
Decachlorobiphenyl
Aroclor 1254
Aroclor 1260
After
Initials
NOV 16 2009
Wrong Peak/Peak not Found
Baseline/shoulder incorrect
Other

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009
Sample Matrix: Sediment

Service Request: K0909140
Date Collected: 09/28/2009
Date Received: 09/29/2009

Polychlorinated Biphenyls (PCBs)

Sample Name: M-4-B
Lab Code: K0909140-002

Extraction Method: EPA 3541
Analysis Method: 8082

Units: ug/Kg
Basis: Dry

Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Aroclor 1016	ND	U	11	2.2	1	11/10/09	11/14/09	KWG0910513	
Aroclor 1221	ND	U	21	2.2	1	11/10/09	11/14/09	KWG0910513	
Aroclor 1232	ND	U	11	2.2	1	11/10/09	11/14/09	KWG0910513	
Aroclor 1242	ND	U	11	2.2	1	11/10/09	11/14/09	KWG0910513	
Aroclor 1248	ND	U	11	2.2	1	11/10/09	11/14/09	KWG0910513	
Aroclor 1254	ND	Ui	14	14	1	11/10/09	11/14/09	KWG0910513	
Aroclor 1260	ND	Ui	11	6.4	1	11/10/09	11/14/09	KWG0910513	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Decachlorobiphenyl	89	35-133	11/14/09	Acceptable

Comments:

Exception Report

Data File: \\CASH1\ACQUDATA\GC09\DATA\111409.B\1114F020.D
Lab ID: K0909140-002
RunType: SMPL
Matrix: SEDIMENT

Date Acquired: 11/14/2009 17:31
Date Quantitated: 11/16/2009 12:39
Batch ID: KWG0910694
Analysis Method: 8082
MethodJoinID: MJ696

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Analytical Holding Time	NA	NA	NA	x	
Preparation Holding Time	43	NA	14		x
Pre-Preparation Holding Time	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Calibration Verification Ave %D	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA	x	
Calibration Verification Ave %D (Closing)	NA	NA	NA	x	
Continuing Calibration Recovery (Closing)	NA	NA	NA		x
Method Blank	NA	NA	NA	x	
MB Surrogate Recovery	NA	NA	NA	x	
Lab Control Spike	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA		x
Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
Continuing Calibration Recovery (Closing)	Aroclor 1260	-18.0	NA	15	
Analyte Co-elution	Aroclor 1254 {4}	9.047	NA	NA	
	Aroclor 1260 {1}	9.047	NA	NA	

Primary Review: _____

Secondary Review: _____

Exception Report

Data File: \\CASH1\ACQUDATA\GC09\DATA\111409_R.B\1114R020.D
Lab ID: K0909140-002
RunType: SMPL
Matrix: SEDIMENT

Date Acquired: 11/14/2009 17:31
Date Quantitated: 11/16/2009 12:41
Batch ID: KWG0910694
Analysis Method: 8082
MethodJoinID: MJ696

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Analytical Holding Time	NA	NA	NA	x	
Preparation Holding Time	43	NA	14		x
Pre-Preparation Holding Time	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Calibration Verification Ave %D	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA	x	
Calibration Verification Ave %D (Closing)	NA	NA	NA	x	
Continuing Calibration Recovery (Closing)	NA	NA	NA	x	
Method Blank	NA	NA	NA	x	
MB Surrogate Recovery	NA	NA	NA	x	
Lab Control Spike	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Primary Review: _____

Secondary Review: _____

Quantitation Report

Bottle ID:		**Tier:**	V	**Matrix:**	SEDIMENT
Prod Code:	8082 PCB_LL	**Collect Date:**	09/28/2009	**Receive Date:**	09/29/2009

Analysis Lot:	KWG0910694	**Prep Lot:**	KWG0910513	**Report Group:**	K0909140
Analysis Method:	8082	**Prep Method:**	EPA 3541		
		Prep Date:	11/10/2009		
Prep Ref:	865579				

Quant Method:	\\CASH1\ACQUDATA\GC09\DATA\111409.B\101409_F.M	**Calibration ID:**	CAL8918
Title:	Polychlorinated Biphenyls (PCBs)	**Report List ID:**	LJ6180
MB Ref:	J:\GC09\DATA\111409.B\1114F017.D	**Method ID:**	MJ696
		Quant based on Report List	

Data File #1:	J:\GC09\DATA\111409.B\1114F020.D			**Instrument:**	GC09.i
Data File #2:	\\cash1\acqudata\GC09\data\111409_r.b\1114R020.D			**Vial:**	37
Acqu Date:	11/14/2009 17:31	**Quant Date:**	11/16/2009 12:39	**Dilution:**	1.0
Run Type:	SMPL			**Soln Conc. Units:**	ng/mL
Lab ID:	K0909140-002				
Signal #1:	DB-35MS	**Signal #2:**	DB-XLB		

Surrogate Compounds

Parameter Name	RT #1	RT #2	Resp #1	Respe #2	ng/mL #1	ng/mL #2			Rpt
Decachlorobiphenyl	15.05 0.00	16.30 -0.01	446517	373266	81.93	89.40			89OK
			%Recovery =		82OK	89OK	**Limits =**	35-133	

Target Compounds

Final Conc. Units: ug/Kg Dry Weight

Parameter Name	RT #1	RT #2	Resp #1	Resp #2	ng/mL #1	ng/mL #2	ug/Kg #1	ug/Kg #2	Rpt
Aroclor 1016			0	0	0.0000	0.0000	2.2U	2.2U	2.2U
Aroclor 1016 {1}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1016 {2}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1016 {3}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1016 {4}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1016 {5}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1221			0	0	0.0000	0.0000	2.2U	2.2U	2.2U
Aroclor 1221 {1}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1221 {2}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1221 {3}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1221 {4}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1232			0	0	0.0000	0.0000	2.2U	2.2U	2.2U
Aroclor 1232 {1}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1232 {2}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1232 {3}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1232 {4}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1242			0	0	0.0000	0.0000	2.2U	2.2U	2.2U
Aroclor 1242 {1}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1242 {2}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1242 {3}			0d	0d	0.0000	0.0000	2.2U	2.2U	

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Data File #1:	J:\GC09\DATA\111409.B\1114F020.D			**Instrument:**	GC09.i
Data File #2:	\\cash1\acqudata\GC09\data\111409_r.b\1114R020.D			**Vial:**	37
Acqu Date:	11/14/2009 17:31	**Quant Date:**	11/16/2009 12:39	**Dilution:**	1.0
Run Type:	SMPL			**Soln Conc. Units:**	ng/mL
Lab ID:	K0909140-002				
Signal #1:	DB-35MS	**Signal #2:**	DB-XLB		

Target Compounds **Final Conc. Units:** ug/Kg Dry Weight

Parameter Name	RT #1		RT #2		Resp #1	Resp #2	ng/mL #1	ng/mL #2	ug/Kg #1	ug/Kg #2	Rpt
Aroclor 1242 {4}					0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1242 {5}					0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1248					0	0	0.0000	0.0000	2.2U	2.2U	2.2U
Aroclor 1248 {1}					0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1248 {2}					0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1248 {3}					0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1248 {4}					0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1248 {5}					0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1254					0	0	70.21	68.50	14	14	14
Aroclor 1254 {1}	7.56		7.83		28001	7991m	97.45	33.22	20	6.7J	
Aroclor 1254 {2}	8.23		8.20		18636	23938m	92.13	98.13	18	20	
Aroclor 1254 {3}	8.44		8.72		28307	0m	57.02	0.0000	11	2.2U	
Aroclor 1254 {4}	9.05	c	8.92		20147	19664m	83.65	75.34	17	15	
Aroclor 1254 {5}	9.85		9.53		7097	15732m	20.83	67.31	4.2J	14	RPD
Aroclor 1260					0	0	36.21 CCV	31.44	7.3J	6.3J	7.3J
Aroclor 1260 {1}	9.05	c	9.27	-0.01	20147	7343m	47.48	30.61	9.5J	6.1J	
Aroclor 1260 {2}	9.49	+0.01	10.37	-0.01	1807	0m	7.84	0.0000	2.2U	2.2U	
Aroclor 1260 {3}	10.46	0.00	10.54	-0.01	6544	0m	25.67	0.0000	5.1J	2.2U	
Aroclor 1260 {4}	10.89	-0.01	11.67	-0.01	14755	11891m	26.87	33.60	5.4J	6.7J	
Aroclor 1260 {5}	11.75	-0.02	12.41	-0.01	27610	7191m	73.22	30.10	15	6.0J	

The -/+ after Retention Time symbolize the direction of the RT shift

Prep Amount:	20.45 g	**Dilution:**	1.0
Prep Final Vol:	4 ml	**Unit Factor:**	1
Solids:	97.5 %		

Final Concentration = ((Soln Conc x Prep Final Vol x Dilution) / (Prep Amount x Solids)) x Unit Factor

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Data File: \\cash1\acqudata\GC09\data\111409.B\1114F020.D
Report Date: 16-Nov-2009 12:39

Laboratory Name

Sample #1 : \\cash1\acqudata\GC09\data\111409.B\1114F020.D
Sample #2 : \\cash1\acqudata\GC09\data\111409_r.b\1114R020.D
Inj Date : 14-NOV-2009 17:31
Sample Info: K0909140-002 | M-4-B
Misc Info : KELSO\SEMIVOA GC\8082-PCB_LL\09140002.H | F=4
Cal Date : 16-NOV-2009 10:31
Operator : JMSmith
Inst ID : GC09.i
Dil Factor : 1.000000

Method #1 : \\cash1\acqudata\GC09\data\111409.B\101409_f.m
Method #2 : \\cash1\acqudata\GC09\data\111409_r.b\101409_r.m
Sub List #1 : ALL.SUB
Sub List #2 : ALL.SUB
Col #1 Phase : DB-35MS
Col #2 Phase : DB-XLB

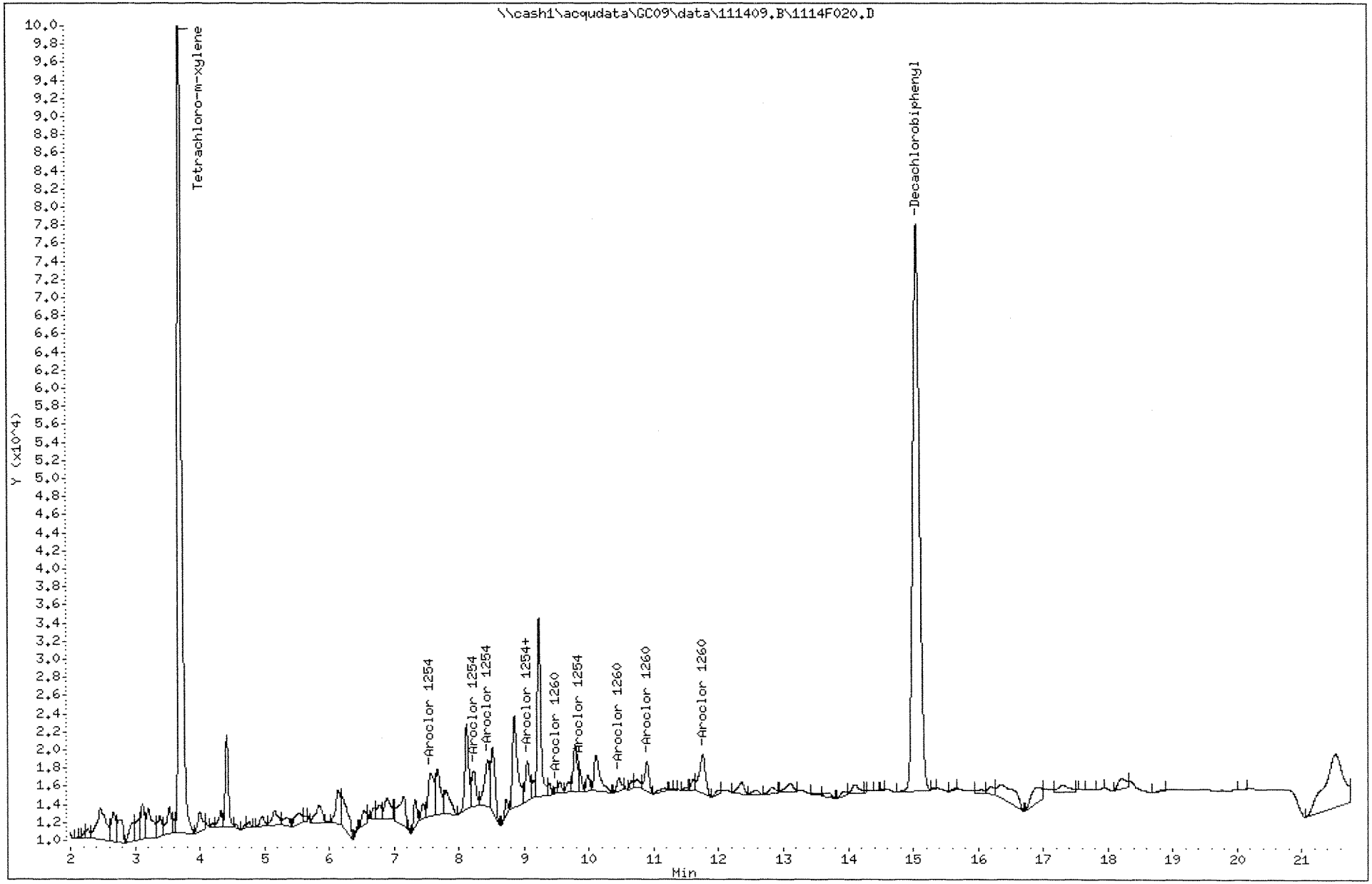
Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2	Target Range	Ratio
Tetrachloro-m-xylene	3.693	4.287	435239	363963	74.6	88.2		100.00(R)
Aroclor 1254	7.560	7.827	28001	7991	97.4	33.2	80.00- 120.00	100.00
	8.227	8.197	18636	23938	92.1	98.1	56.32- 84.48	66.55
	8.437	8.717	28307		57.0		138.21- 207.32	101.09
	9.047	8.923	20147	19664	83.6	75.3	67.06- 100.59	71.95
	9.853	9.530	7097	15732	20.8	67.3	94.84- 142.26	25.35
			Average of Peak Amounts =		70.2	68.5		
Aroclor 1260	9.047	9.270	20147	7343	47.5	30.6	80.00- 120.00	100.00
	9.487	10.367	1807		7.84		42.74- 64.11	8.97
	10.463	10.540	6544		25.7		48.22- 72.33	32.48
	10.893	11.673	14755	11891	26.9	33.6	101.77- 152.66	73.24
	11.753	12.413	27610	7191	73.2	30.1	72.29- 108.43	137.04
			Average of Peak Amounts =		36.2	31.4		
Decachlorobiphenyl	15.053	16.300	446517	373266	81.9	89.4		100.00(R)

QC Flag Legend

R - Spike/Surrogate failed recovery limits.

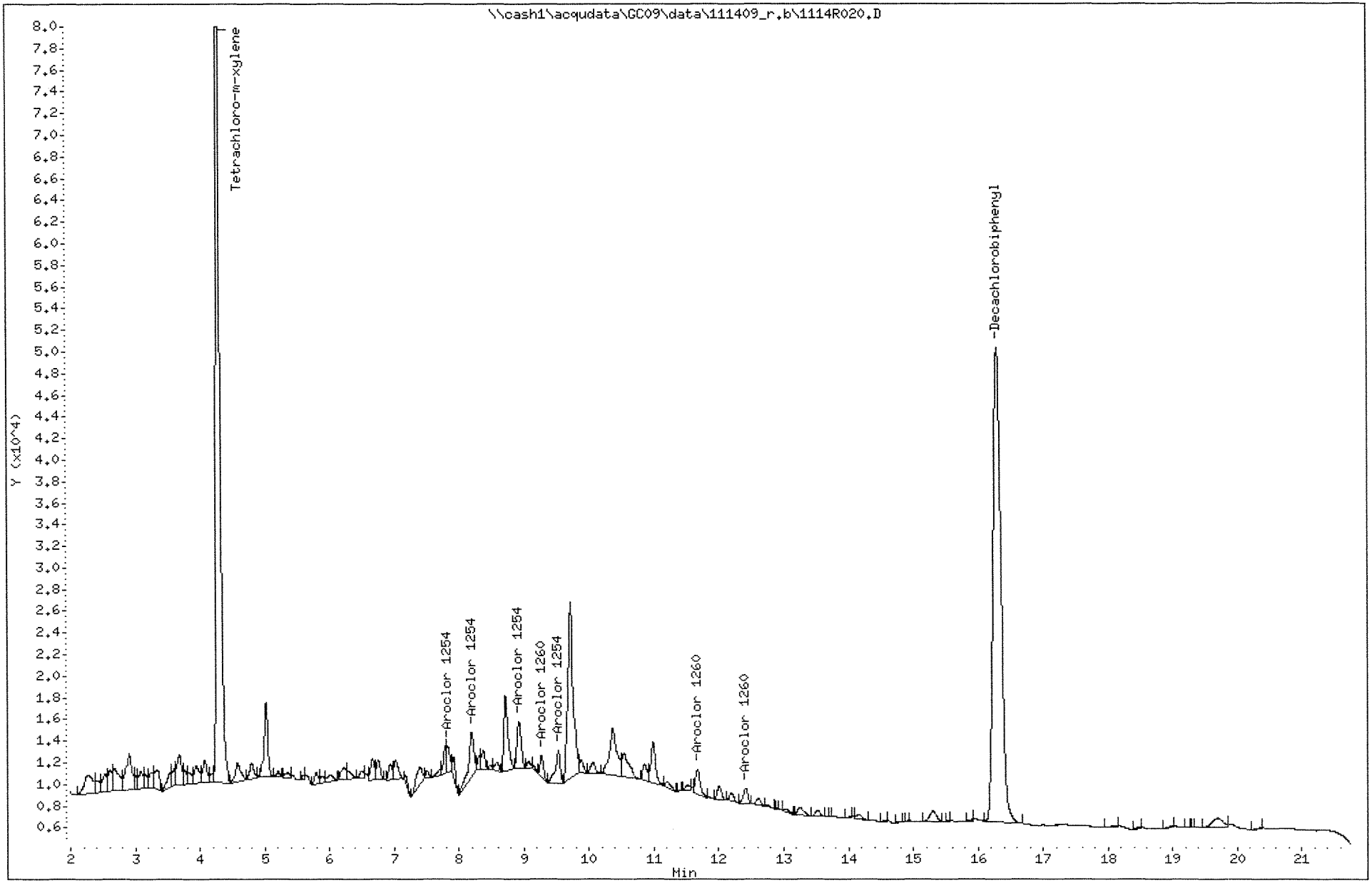
Data File: \\cash1\acqudata\GC09\data\111409.B\1114F020.D
Date : 14-NOV-2009 17:31
Client ID:
Sample Info: K0909140-002 | M-4-B

Instrument: GC09.i
Operator: JMSmith
Column phase: DB-35MS
Column diameter: 0.53



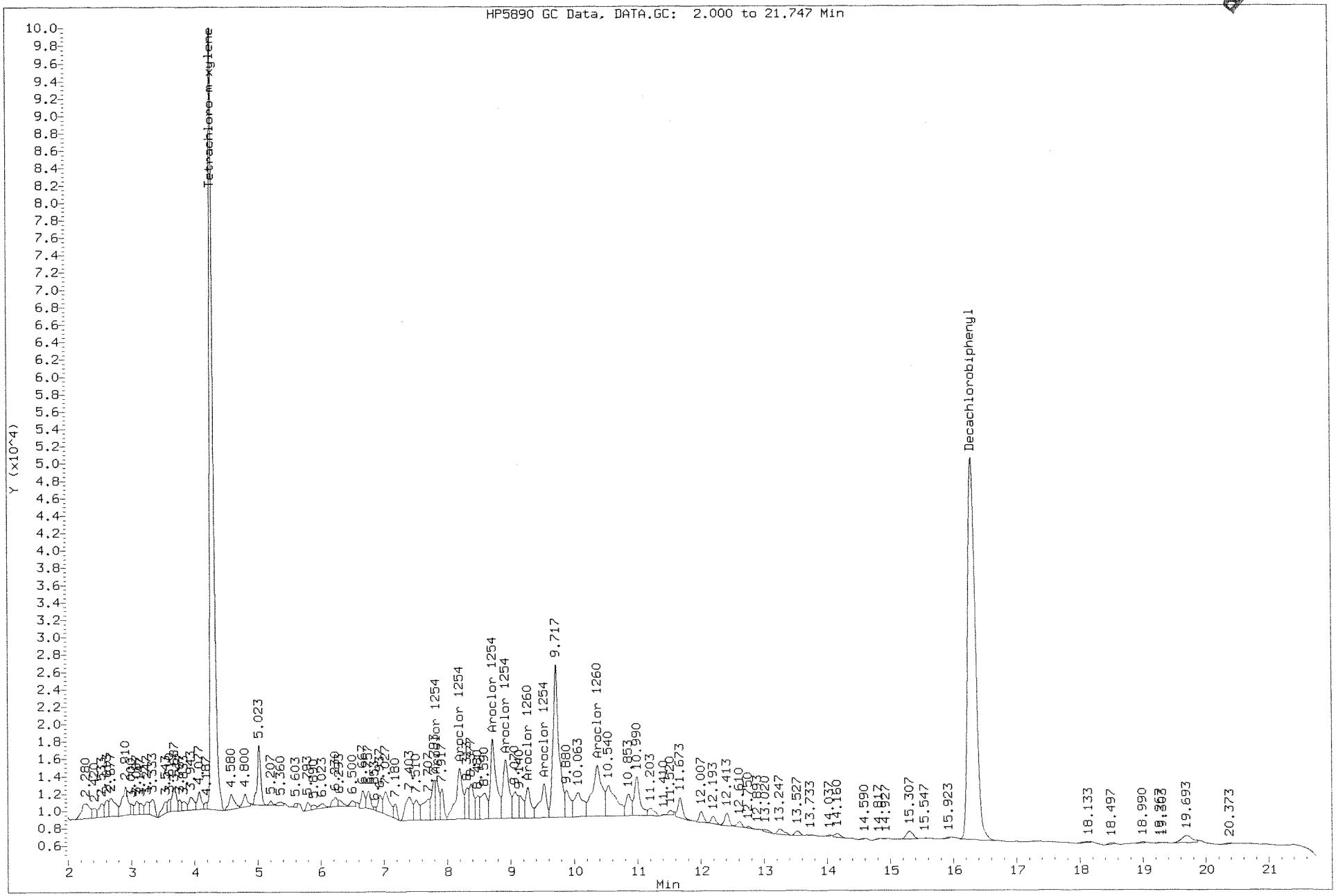
Data File: \\cash1\acqudata\GC09\data\111409_r.b\1114R020.D
Date : 14-NOV-2009 17:31
Client ID:
Sample Info: K0909140-002 | M-4-B

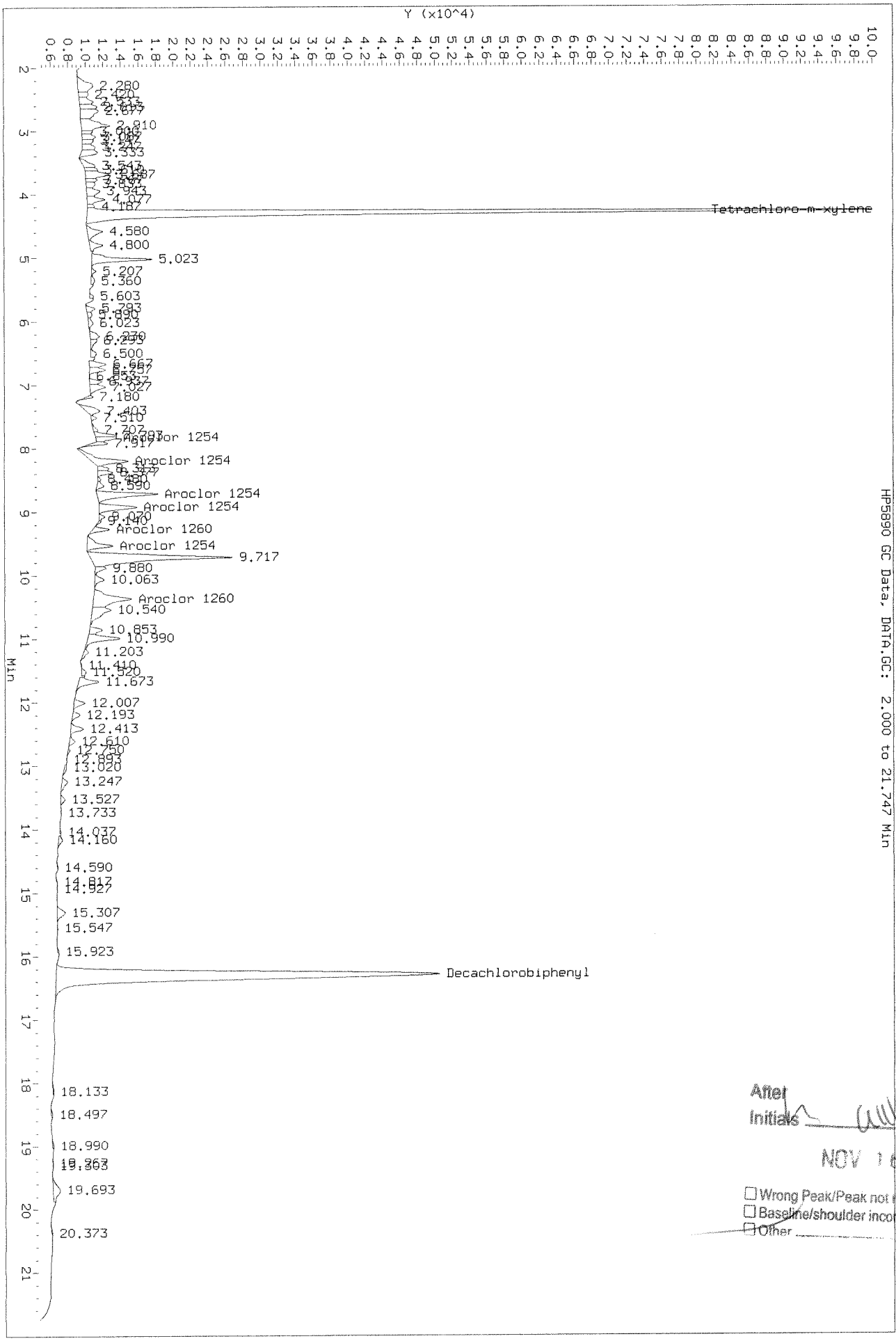
Instrument: GC09.i
Operator: JMSmith
Column phase: DB-XLB
Column diameter: 0.53



Data File: \\cash1\acqudata\GC09\data\111409_r.b\1114R020.D
Injection Date: 14-NOV-2009 17:31
Instrument: GC09.i
Client Sample ID:

Before
NOV 16 2009





After
Initials

NOV 16 2009

☐ Wrong Peak/Peak not found
☐ Baseline/shoulder incorrect
☐ Other

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	URS Corporation	**Service Request:**	K0909140
Project:	Boise St. Helens Pulp and Paper Mill-2009	**Date Collected:**	09/28/2009
Sample Matrix:	Sediment	**Date Received:**	09/29/2009

Polychlorinated Biphenyls (PCBs)

Sample Name:	M-4-C	**Units:**	ug/Kg
Lab Code:	K0909140-003	**Basis:**	Dry
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8082		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Aroclor 1016	ND	U	9.9	2.1	1	11/10/09	11/14/09	KWG0910513	
Aroclor 1221	ND	U	20	2.1	1	11/10/09	11/14/09	KWG0910513	
Aroclor 1232	ND	U	9.9	2.1	1	11/10/09	11/14/09	KWG0910513	
Aroclor 1242	ND	U	9.9	2.1	1	11/10/09	11/14/09	KWG0910513	
Aroclor 1248	ND	U	9.9	2.1	1	11/10/09	11/14/09	KWG0910513	
Aroclor 1254	ND	Ui	22	22	1	11/10/09	11/14/09	KWG0910513	
Aroclor 1260	ND	Ui	9.9	8.0	1	11/10/09	11/14/09	KWG0910513	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Decachlorobiphenyl	90	35-133	11/14/09	Acceptable

Comments:

Exception Report

Data File: \\CASH1\ACQUDATA\GC09\DATA\111409.B\1114F021.D
Lab ID: K0909140-003
RunType: SMPL
Matrix: SEDIMENT

Date Acquired: 11/14/2009 17:58
Date Quantitated: 11/16/2009 12:39
Batch ID: KWG0910694
Analysis Method: 8082
MethodJoinID: MJ696

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Analytical Holding Time	NA	NA	NA	x	
Preparation Holding Time	43	NA	14		x
Pre-Preparation Holding Time	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Calibration Verification Ave %D	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA	x	
Calibration Verification Ave %D (Closing)	NA	NA	NA	x	
Continuing Calibration Recovery (Closing)	NA	NA	NA		x
Method Blank	NA	NA	NA	x	
MB Surrogate Recovery	NA	NA	NA	x	
Lab Control Spike	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA		x
Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
Continuing Calibration Recovery (Closing)	Aroclor 1260	-18.0	NA	15	NA
Analyte Co-elution	Aroclor 1254 {4}	9.05	NA	NA	CalSD
	Aroclor 1260 {1}	9.05	NA	NA	

Primary Review: _____

Secondary Review: _____

Printed: 11/16/2009 13:08:13
u:\Stealth\Crystal.rpt\except2.rpt

Exception Report

Data File: \\CASH1\ACQUDATA\GC09\DATA\111409_R.B\1114R021.D
Lab ID: K0909140-003
RunType: SMPL
Matrix: SEDIMENT

Date Acquired: 11/14/2009 17:58
Date Quantitated: 11/16/2009 12:41
Batch ID: KWG0910694
Analysis Method: 8082
MethodJoinID: MJ696

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Analytical Holding Time	NA	NA	NA	x	
Preparation Holding Time	43	NA	14		x
Pre-Preparation Holding Time	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Calibration Verification Ave %D	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA	x	
Calibration Verification Ave %D (Closing)	NA	NA	NA	x	
Continuing Calibration Recovery (Closing)	NA	NA	NA	x	
Method Blank	NA	NA	NA	x	
MB Surrogate Recovery	NA	NA	NA	x	
Lab Control Spike	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Primary Review: _____

Secondary Review: _____

Quantitation Report

Bottle ID:		**Tier:**	V	**Matrix:**	SEDIMENT
Prod Code:	8082 PCB_LL	**Collect Date:**	09/28/2009	**Receive Date:**	09/29/2009

Analysis Lot:	KWG0910694	**Prep Lot:**	KWG0910513	**Report Group:**	K0909140
Analysis Method:	8082	**Prep Method:**	EPA 3541		
		Prep Date:	11/10/2009		
Prep Ref:	865580				

Quant Method:	\\CASH1\ACQUDATA\GC09\DATA\111409.B\101409_F.M	**Calibration ID:**	CAL8918
Title:	Polychlorinated Biphenyls (PCBs)	**Report List ID:**	LJ6180
MB Ref:	J:\GC09\DATA\111409.B\1114F017.D	**Method ID:**	MJ696
		Quant based on Report List	

Data File #1:	J:\GC09\DATA\111409.B\1114F021.D			**Instrument:**	GC09.i
Data File #2:	\\cash1\acqudata\GC09\data\111409_r.b\1114R021.D			**Vial:**	38
Acqu Date:	11/14/2009 17:58	**Quant Date:**	11/16/2009 12:39	**Dilution:**	1.0
Run Type:	SMPL			**Soln Conc. Units:**	ng/mL
Lab ID:	K0909140-003				
Signal #1:	DB-35MS	**Signal #2:**	DB-XLB		

Surrogate Compounds

Parameter Name	RT #1		RT #2		Resp #1	Respe #2	ng/mL #1	ng/mL #2			Rpt
Decachlorobiphenyl	15.05	0.00	16.30	0.00	451408	374009	82.83	89.57			90OK
						%Recovery =	83OK	90OK	Limits =	35-133	

Target Compounds

Final Conc. Units: ug/Kg Dry Weight

Parameter Name	RT #1	RT #2	Resp #1	Resp #2	ng/mL #1	ng/mL #2	ug/Kg #1	ug/Kg #2	Rpt
Aroclor 1016			0	0	0.0000	0.0000	2.1U	2.1U	2.1U
Aroclor 1016 {1}			0d	0d	0.0000	0.0000	2.1U	2.1U	
Aroclor 1016 {2}			0d	0d	0.0000	0.0000	2.1U	2.1U	
Aroclor 1016 {3}			0d	0d	0.0000	0.0000	2.1U	2.1U	
Aroclor 1016 {4}			0d	0d	0.0000	0.0000	2.1U	2.1U	
Aroclor 1016 {5}			0d	0d	0.0000	0.0000	2.1U	2.1U	
Aroclor 1221			0	0	0.0000	0.0000	2.1U	2.1U	2.1U
Aroclor 1221 {1}			0d	0d	0.0000	0.0000	2.1U	2.1U	
Aroclor 1221 {2}			0d	0d	0.0000	0.0000	2.1U	2.1U	
Aroclor 1221 {3}			0d	0d	0.0000	0.0000	2.1U	2.1U	
Aroclor 1221 {4}			0d	0d	0.0000	0.0000	2.1U	2.1U	
Aroclor 1232			0	0	0.0000	0.0000	2.1U	2.1U	2.1U
Aroclor 1232 {1}			0d	0d	0.0000	0.0000	2.1U	2.1U	
Aroclor 1232 {2}			0d	0d	0.0000	0.0000	2.1U	2.1U	
Aroclor 1232 {3}			0d	0d	0.0000	0.0000	2.1U	2.1U	
Aroclor 1232 {4}			0d	0d	0.0000	0.0000	2.1U	2.1U	
Aroclor 1242			0	0	0.0000	0.0000	2.1U	2.1U	2.1U
Aroclor 1242 {1}			0d	0d	0.0000	0.0000	2.1U	2.1U	
Aroclor 1242 {2}			0d	0d	0.0000	0.0000	2.1U	2.1U	
Aroclor 1242 {3}			0d	0d	0.0000	0.0000	2.1U	2.1U	

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Data File #1:	J:\GC09\DATA\111409.B\1114F021.D			**Instrument:**	GC09.i
Data File #2:	\\cash1\acqudata\GC09\data\111409_r.b\1114R021.D			**Vial:**	38
Acqu Date:	11/14/2009 17:58	**Quant Date:**	11/16/2009 12:39	**Dilution:**	1.0
Run Type:	SMPL			**Soln Conc. Units:**	ng/mL
Lab ID:	K0909140-003				
Signal #1:	DB-35MS	**Signal #2:**	DB-XLB		

Target Compounds

Final Conc. Units: ug/Kg Dry Weight

Parameter Name	RT #1		RT #2		Resp #1	Resp #2	ng/mL #1	ng/mL #2	ug/Kg #1	ug/Kg #2	Rpt
Aroclor 1242 {4}					0d	0d	0.0000	0.0000	2.1U	2.1U	
Aroclor 1242 {5}					0d	0d	0.0000	0.0000	2.1U	2.1U	
Aroclor 1248					0	0	0.0000	0.0000	2.1U	2.1U	2.1U
Aroclor 1248 {1}					0d	0d	0.0000	0.0000	2.1U	2.1U	
Aroclor 1248 {2}					0d	0d	0.0000	0.0000	2.1U	2.1U	
Aroclor 1248 {3}					0d	0d	0.0000	0.0000	2.1U	2.1U	
Aroclor 1248 {4}					0d	0d	0.0000	0.0000	2.1U	2.1U	
Aroclor 1248 {5}					0d	0d	0.0000	0.0000	2.1U	2.1U	
Aroclor 1254					0	0	108.99	116.73	21	23	23
Aroclor 1254 {1}	7.56		7.79		32135	12667	111.83	52.65	22	10	
Aroclor 1254 {2}	8.23		8.20		21308	29843	105.33	122.33	21	24	
Aroclor 1254 {3}	8.44		8.72		32375	31917	65.21	240.63	13	47	RPD
Aroclor 1254 {4}	9.05	c	8.93		32330	26320	134.23	100.83	26	20	
Aroclor 1254 {5}	9.78		9.53		43728	15714	128.36	67.23	25	13	
Aroclor 1260					0	0	49.75[CCV]	40.33	9.8J	7.9J	9.8J
Aroclor 1260 {1}	9.05	+0.00 c	9.27	0.00	32330	5578	76.18	23.25	15	4.6J	RPD
Aroclor 1260 {2}	9.55	+0.07	10.36	-0.02	10047	0	43.59	0.0000	8.6J	2.1U	
Aroclor 1260 {3}	10.46	0.00	10.54	-0.01	8548	14488	33.53	85.42	6.6J	17	
Aroclor 1260 {4}	10.89	-0.01	11.67	-0.01	17955	10733	32.69	30.32	6.4J	6.0J	
Aroclor 1260 {5}	11.75	-0.02	12.41	-0.01	23656	5330	62.73	22.31	12	4.4J	

The -/+ after Retention Time symbolize the direction of the RT shift

Prep Amount:	20.82 g	**Dilution:**	1.0
Prep Final Vol:	4 ml	**Unit Factor:**	1
Solids:	97.7 %		

Final Concentration = ((Soln Conc x Prep Final Vol x Dilution) / (Prep Amount x Solids)) x Unit Factor

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Data File: \\cash1\acqudata\GC09\data\111409.B\1114F021.D
Report Date: 16-Nov-2009 12:39

Laboratory Name

Sample #1 : \\cash1\acqudata\GC09\data\111409.B\1114F021.D
Sample #2 : \\cash1\acqudata\GC09\data\111409_r.b\1114R021.D
Inj Date : 14-NOV-2009 17:58
Sample Info: K0909140-003 | M-4-C
Misc Info : KELSO\SEMIVOA GC\8082-PCB_LL\09140003.H | F=4
Cal Date : 16-NOV-2009 10:31
Operator : JMSmith
Inst ID : GC09.i
Dil Factor : 1.000000

Method #1 : \\cash1\acqudata\GC09\data\111409.B\101409_f.m
Method #2 : \\cash1\acqudata\GC09\data\111409_r.b\101409_r.m
Sub List #1 : ALL.SUB
Sub List #2 : ALL.SUB
Col #1 Phase : DB-35MS
Col #2 Phase : DB-XLB

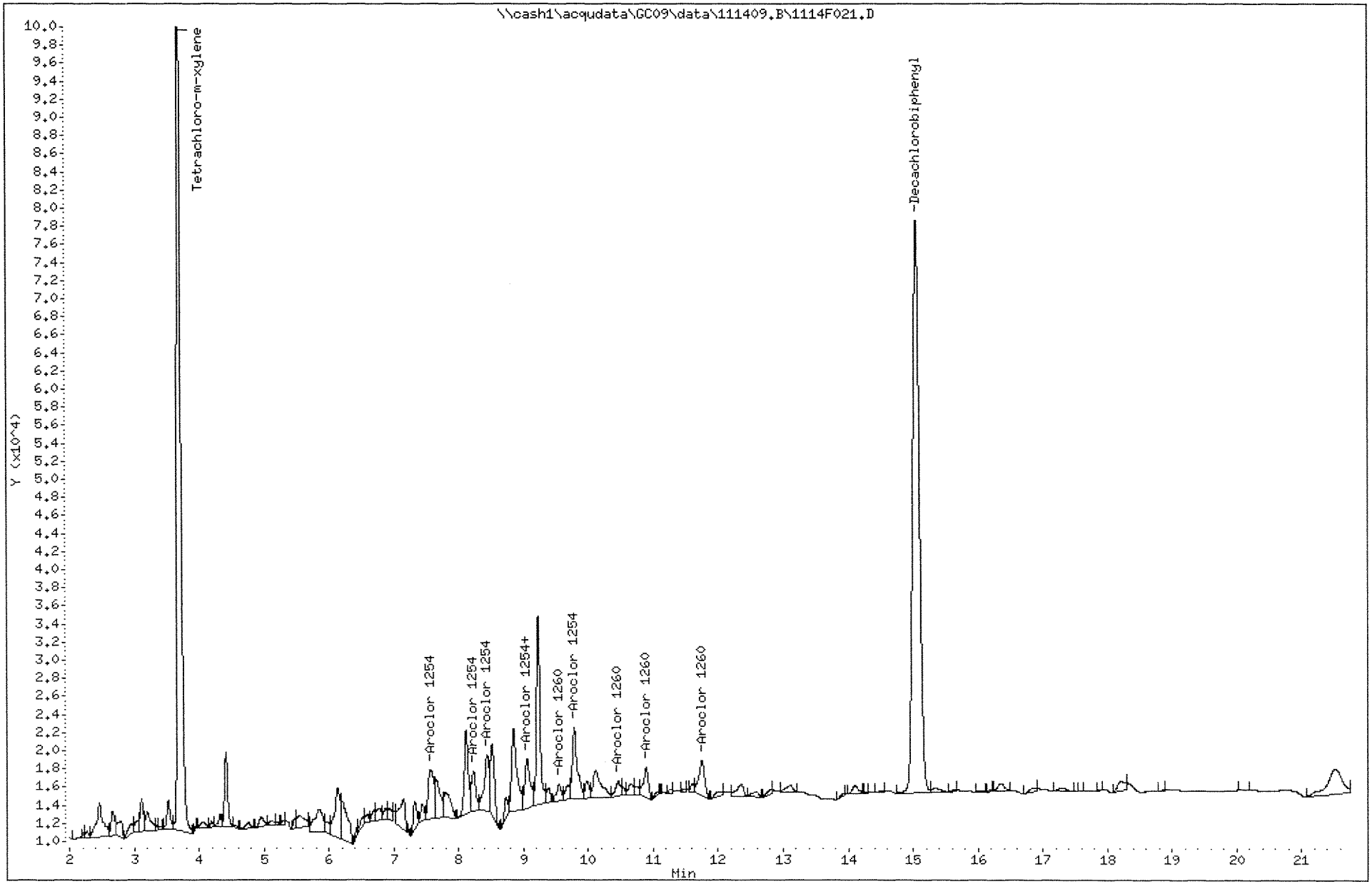
Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2	Target Range	Ratio
Tetrachloro-m-xylene	3.693	4.287	437202	366124	75.0	88.7		100.00(R)
Aroclor 1254	7.563	7.790	32135	12667	112	52.6	80.00- 120.00	100.00
	8.230	8.197	21308	29843	105	122	56.32- 84.48	66.31
	8.437	8.717	32375	31917	65.2	241	138.21- 207.32	100.75
	9.050	8.927	32330	26320	134	101	67.06- 100.59	100.61
	9.783	9.527	43728	15714	128	67.2	94.84- 142.26	136.08
			Average of Peak Amounts =		109	117		
Aroclor 1260	9.050	9.273	32330	5578	76.2	23.2	80.00- 120.00	100.00
	9.547	10.357	10047		43.6		42.74- 64.11	31.08
	10.463	10.540	8548	14488	33.5	85.4	48.22- 72.33	26.44
	10.893	11.670	17955	10733	32.7	30.3	101.77- 152.66	55.54
	11.750	12.413	23656	5330	62.7	22.3	72.29- 108.43	73.17
			Average of Peak Amounts =		49.7	40.3		
Decachlorobiphenyl	15.053	16.303	451408	374009	82.8	89.6		100.00(R)

QC Flag Legend

R - Spike/Surrogate failed recovery limits.

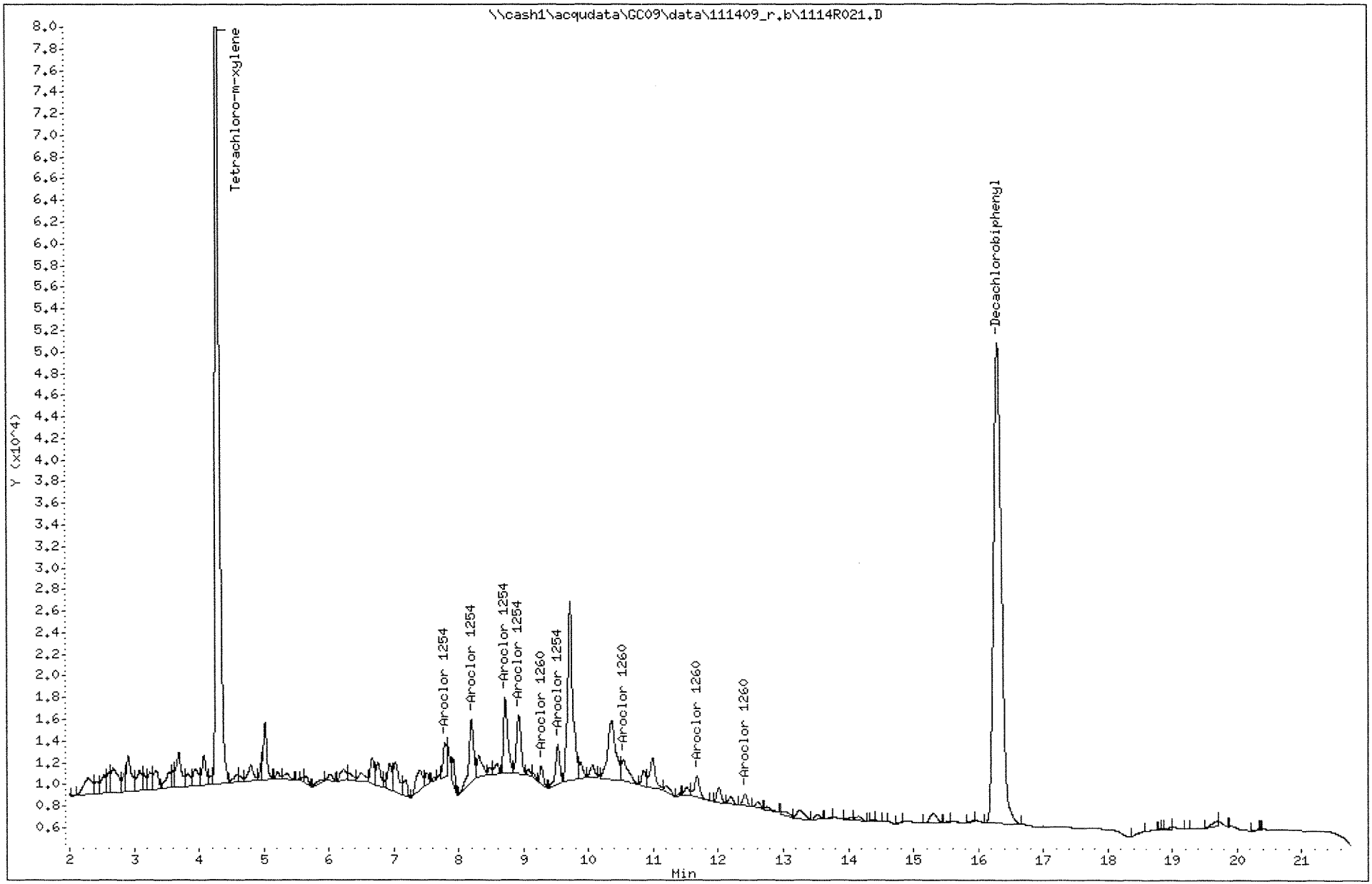
Data File: \\cash1\acqudata\GC09\data\111409.B\1114F021.D
Date : 14-NOV-2009 17:58
Client ID:
Sample Info: K0909140-003 | M-4-C

Instrument: GC09.i
Operator: JMSmith
Column phase: DB-35MS
Column diameter: 0.53



Data File: \\cash1\acqudata\GC09\data\111409_r.b\1114R021.D
Date : 14-NOV-2009 17:58
Client ID:
Sample Info: K0909140-003 | M-4-C

Instrument: GC09.i
Operator: JMSmith
Column phase: DB-XLB
Column diameter: 0.53



COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009
Sample Matrix: Sediment

Service Request: K0909140
Date Collected: 10/07/2009
Date Received: 10/08/2009

Polychlorinated Biphenyls (PCBs)

Sample Name: M-1-B
Lab Code: K0909140-004

Extraction Method: EPA 3541
Analysis Method: 8082

Units: ug/Kg
Basis: Dry
Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Aroclor 1016	ND	U	11	2.2	1	11/10/09	11/14/09	KWG0910513	
Aroclor 1221	ND	U	21	2.2	1	11/10/09	11/14/09	KWG0910513	
Aroclor 1232	ND	U	11	2.2	1	11/10/09	11/14/09	KWG0910513	
Aroclor 1242	ND	U	11	2.2	1	11/10/09	11/14/09	KWG0910513	
Aroclor 1248	ND	U	11	2.2	1	11/10/09	11/14/09	KWG0910513	
Aroclor 1254	**33**		11	2.2	1	11/10/09	11/14/09	KWG0910513	
Aroclor 1260	ND	Ui	12	12	1	11/10/09	11/14/09	KWG0910513	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Decachlorobiphenyl	87	35-133	11/14/09	Acceptable

Comments:

Exception Report

Data File: \\CASH1\ACQUDATA\GC09\DATA\111409.B\1114F022.D
Lab ID: K0909140-004
RunType: SMPL
Matrix: SEDIMENT

Date Acquired: 11/14/2009 18:24
Date Quantitated: 11/16/2009 12:39
Batch ID: KWG0910694
Analysis Method: 8082
MethodJoinID: MJ696

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Analytical Holding Time	NA	NA	NA	x	
Preparation Holding Time	34	NA	14		x
Pre-Preparation Holding Time	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Calibration Verification Ave %D	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA	x	
Calibration Verification Ave %D (Closing)	NA	NA	NA	x	
Continuing Calibration Recovery (Closing)	NA	NA	NA		x
Method Blank	NA	NA	NA	x	
MB Surrogate Recovery	NA	NA	NA	x	
Lab Control Spike	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA		x
Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
Continuing Calibration Recovery (Closing)	Aroclor 1260	-18.0	NA	15	
Analyte Co-elution	Aroclor 1254 {4}	9.043	NA	NA	
	Aroclor 1260 {1}	9.043	NA	NA	

Primary Review: _____

Secondary Review: _____

Exception Report

Data File: \\CASH1\ACQUDATA\GC09\DATA\111409_R.B\1114R022.D
Lab ID: K0909140-004
RunType: SMPL
Matrix: SEDIMENT

Date Acquired: 11/14/2009 18:24
Date Quantitated: 11/16/2009 12:41
Batch ID: KWG0910694
Analysis Method: 8082
MethodJoinID: MJ696

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Analytical Holding Time	NA	NA	NA	x	
Preparation Holding Time	34	NA	14		x
Pre-Preparation Holding Time	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Calibration Verification Ave %D	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA	x	
Calibration Verification Ave %D (Closing)	NA	NA	NA	x	
Continuing Calibration Recovery (Closing)	NA	NA	NA	x	
Method Blank	NA	NA	NA	x	
MB Surrogate Recovery	NA	NA	NA	x	
Lab Control Spike	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Primary Review: _____

Secondary Review: _____

Quantitation Report

Bottle ID:		**Tier:**	V	**Matrix:**	SEDIMENT
Prod Code:	8082 PCB_LL	**Collect Date:**	10/07/2009	**Receive Date:**	10/08/2009

Analysis Lot:	KWG0910694	**Prep Lot:**	KWG0910513	**Report Group:**	K0909140
Analysis Method:	8082	**Prep Method:**	EPA 3541		
		Prep Date:	11/10/2009		
Prep Ref:	865581				

Quant Method:	\\CASH1\ACQUDATA\GC09\DATA\111409.B\101409_F.M	**Calibration ID:**	CAL8918
Title:	Polychlorinated Biphenyls (PCBs)	**Report List ID:**	LJ6180
MB Ref:	J:\GC09\DATA\111409.B\1114F017.D	**Method ID:**	MJ696
		Quant based on Report List	

Data File #1:	J:\GC09\DATA\111409.B\1114F022.D			**Instrument:**	GC09.i
Data File #2:	\\cash1\acqudata\GC09\data\111409_r.b\1114R022.D			**Vial:**	39
Acqu Date:	11/14/2009 18:24	**Quant Date:**	11/16/2009 12:39	**Dilution:**	1.0
Run Type:	SMPL			**Soln Conc. Units:**	ng/mL
Lab ID:	K0909140-004				
Signal #1:	DB-35MS	**Signal #2:**	DB-XLB		

Surrogate Compounds

Parameter Name	RT #1	RT #2	Resp #1	Respe #2	ng/mL #1	ng/mL #2			Rpt
Decachlorobiphenyl	15.05 0.00	16.30 0.00	433612	362439	79.56	86.80			87OK
			%Recovery =		80OK	87OK	**Limits =**	35-133	

Target Compounds

Final Conc. Units: ug/Kg Dry Weight

Parameter Name	RT #1	RT #2	Resp #1	Resp #2	ng/mL #1	ng/mL #2	ug/Kg #1	ug/Kg #2	Rpt
Aroclor 1016			0	0	0.0000	0.0000	2.2U	2.2U	2.2U
Aroclor 1016 {1}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1016 {2}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1016 {3}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1016 {4}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1016 {5}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1221			0	0	0.0000	0.0000	2.2U	2.2U	2.2U
Aroclor 1221 {1}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1221 {2}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1221 {3}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1221 {4}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1232			0	0	0.0000	0.0000	2.2U	2.2U	2.2U
Aroclor 1232 {1}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1232 {2}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1232 {3}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1232 {4}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1242			0	0	0.0000	0.0000	2.2U	2.2U	2.2U
Aroclor 1242 {1}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1242 {2}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1242 {3}			0d	0d	0.0000	0.0000	2.2U	2.2U	

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Data File #1:	J:\GC09\DATA\111409.B\1114F022.D			**Instrument:**	GC09.i
Data File #2:	\\cash1\acqudata\GC09\data\111409_r.b\1114R022.D			**Vial:**	39
Acqu Date:	11/14/2009 18:24	**Quant Date:**	11/16/2009 12:39	**Dilution:**	1.0
Run Type:	SMPL			**Soln Conc. Units:**	ng/mL
Lab ID:	K0909140-004				
Signal #1:	DB-35MS	**Signal #2:**	DB-XLB		

Target Compounds

Final Conc. Units: ug/Kg Dry Weight

Parameter Name	RT #1	RT #2	Resp #1	Resp #2	ng/mL #1	ng/mL #2	ug/Kg #1	ug/Kg #2	Rpt
Aroclor 1242 {4}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1242 {5}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1248			0	0	0.0000	0.0000	2.2U	2.2U	2.2U
Aroclor 1248 {1}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1248 {2}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1248 {3}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1248 {4}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1248 {5}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1254			0	0	157.39	157.53	33	33	33
Aroclor 1254 {1}	7.56	7.79	45694	41088m	159.02	170.78	33	36	
Aroclor 1254 {2}	8.24	8.20	31971	37252m	158.05	152.71	33	32	
Aroclor 1254 {3}	8.51	8.72	32659	0m	65.79	0.0000	14	2.2U	
Aroclor 1254 {4}	9.04 c	8.94	48490	47271m	201.32	181.10	42	38	
Aroclor 1254 {5}	9.79	9.53	69088	29343m	202.81	125.54	42	26	
Aroclor 1260			0	0	64.29^{CCV}	55.73	13	12	13
Aroclor 1260 {1}	9.04 0.00 c	9.27 0.00	48490	14523m	114.26	60.53	24	13	
Aroclor 1260 {2}	9.48	10.37 -0.01	10322	0m	44.78	0.0000	9.3J	2.2U	
Aroclor 1260 {3}	10.46 0.00	10.54 -0.01	9866	10970m	38.70	64.68	8.1J	13	
Aroclor 1260 {4}	10.89 -0.01	11.67 -0.01	28834	18469m	52.50	52.18	11J	11J	
Aroclor 1260 {5}	11.76 -0.02	12.41 -0.01	26852	10875m	71.20	45.53	15	9.5J	

The -/+ after Retention Time symbolize the direction of the RT shift

Prep Amount:	20.04 g	**Dilution:**	1.0
Prep Final Vol:	4 ml	**Unit Factor:**	1
Solids:	95.7 %		

Final Concentration = ((Soln Conc x Prep Final Vol x Dilution) / (Prep Amount x Solids)) x Unit Factor

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Data File: \\cash1\acqudata\GC09\data\111409.B\1114F022.D
Report Date: 16-Nov-2009 12:39

Laboratory Name

Sample #1 : \\cash1\acqudata\GC09\data\111409.B\1114F022.D
Sample #2 : \\cash1\acqudata\GC09\data\111409_r.b\1114R022.D
Inj Date : 14-NOV-2009 18:24
Sample Info: K0909140-004 | M-1-B
Misc Info : KELSO\SEMIVOA GC\8082-PCB_LL\09140004.H | F=4
Cal Date : 16-NOV-2009 10:31
Operator : JMSmith
Inst ID : GC09.i
Dil Factor : 1.000000

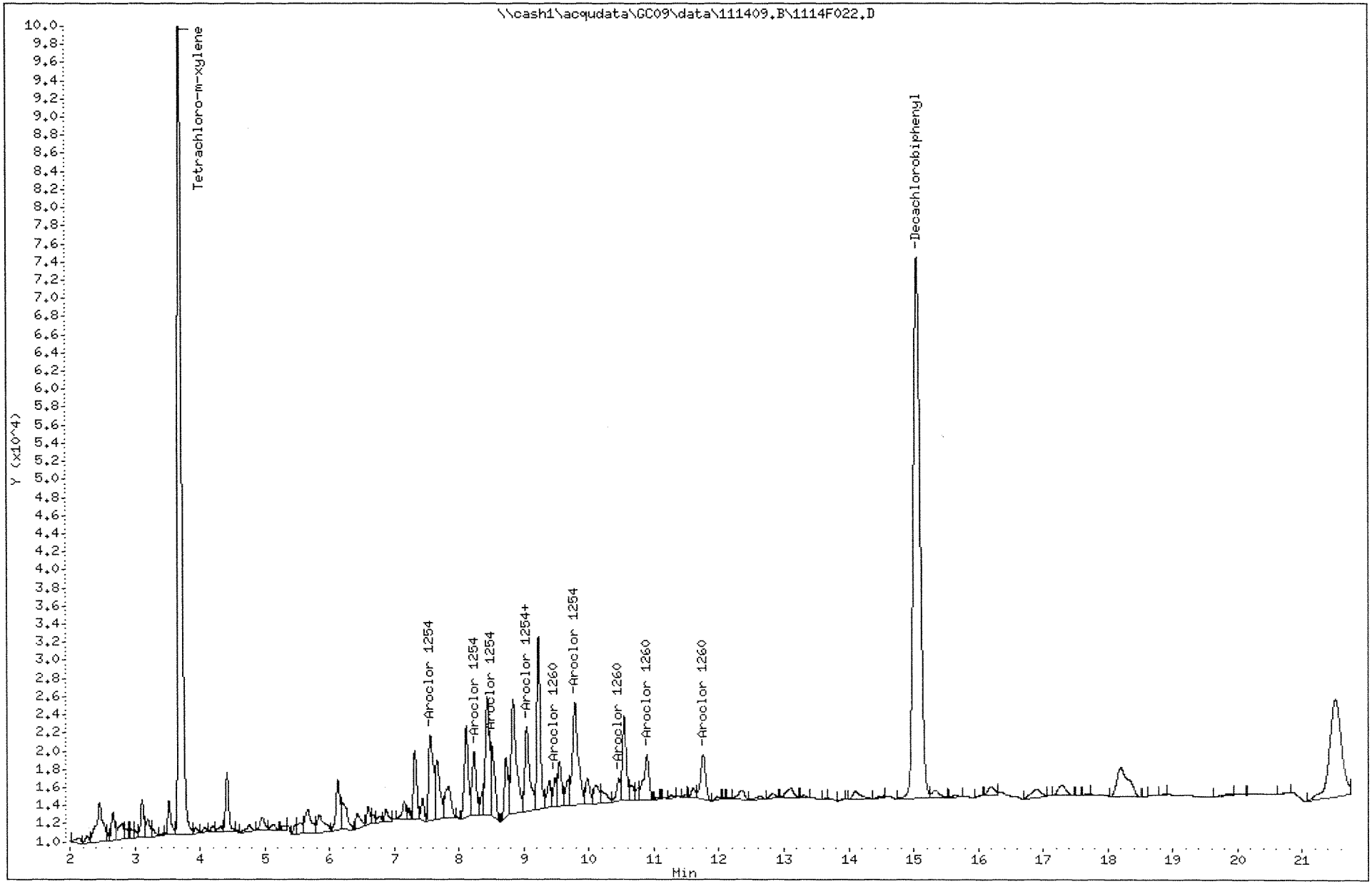
Method #1 : \\cash1\acqudata\GC09\data\111409.B\101409_f.m
Method #2 : \\cash1\acqudata\GC09\data\111409_r.b\101409_r.m
Sub List #1 : ALL.SUB
Sub List #2 : ALL.SUB
Col #1 Phase : DB-35MS
Col #2 Phase : DB-XLB

Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2	Target Range	Ratio
Tetrachloro-m-xylene	3.693	4.287	418545	343264	71.8	83.2		100.00(R)
Aroclor 1254	7.557	7.790	45694	41088	159	171	80.00- 120.00	100.00
	8.237	8.200	31971	37252	158	153	56.32- 84.48	69.97
	8.507	8.723	32659		65.8		138.21- 207.32	71.47
	9.043	8.937	48490	47271	201	181	67.06- 100.59	106.12
	9.787	9.533	69088	29343	203	126	94.84- 142.26	151.20
			Average of Peak Amounts =		157	158		
Aroclor 1260	9.043	9.273	48490	14523	114	60.5	80.00- 120.00	100.00
	9.477	10.367	10322		44.8		42.74- 64.11	21.29
	10.463	10.540	9866	10970	38.7	64.7	48.22- 72.33	20.35
	10.893	11.670	28834	18469	52.5	52.2	101.77- 152.66	59.46
	11.757	12.413	26852	10875	71.2	45.5	72.29- 108.43	55.38
			Average of Peak Amounts =		64.2	55.7		
Decachlorobiphenyl	15.053	16.303	433612	362439	79.6	86.8		100.00(R)

QC Flag Legend

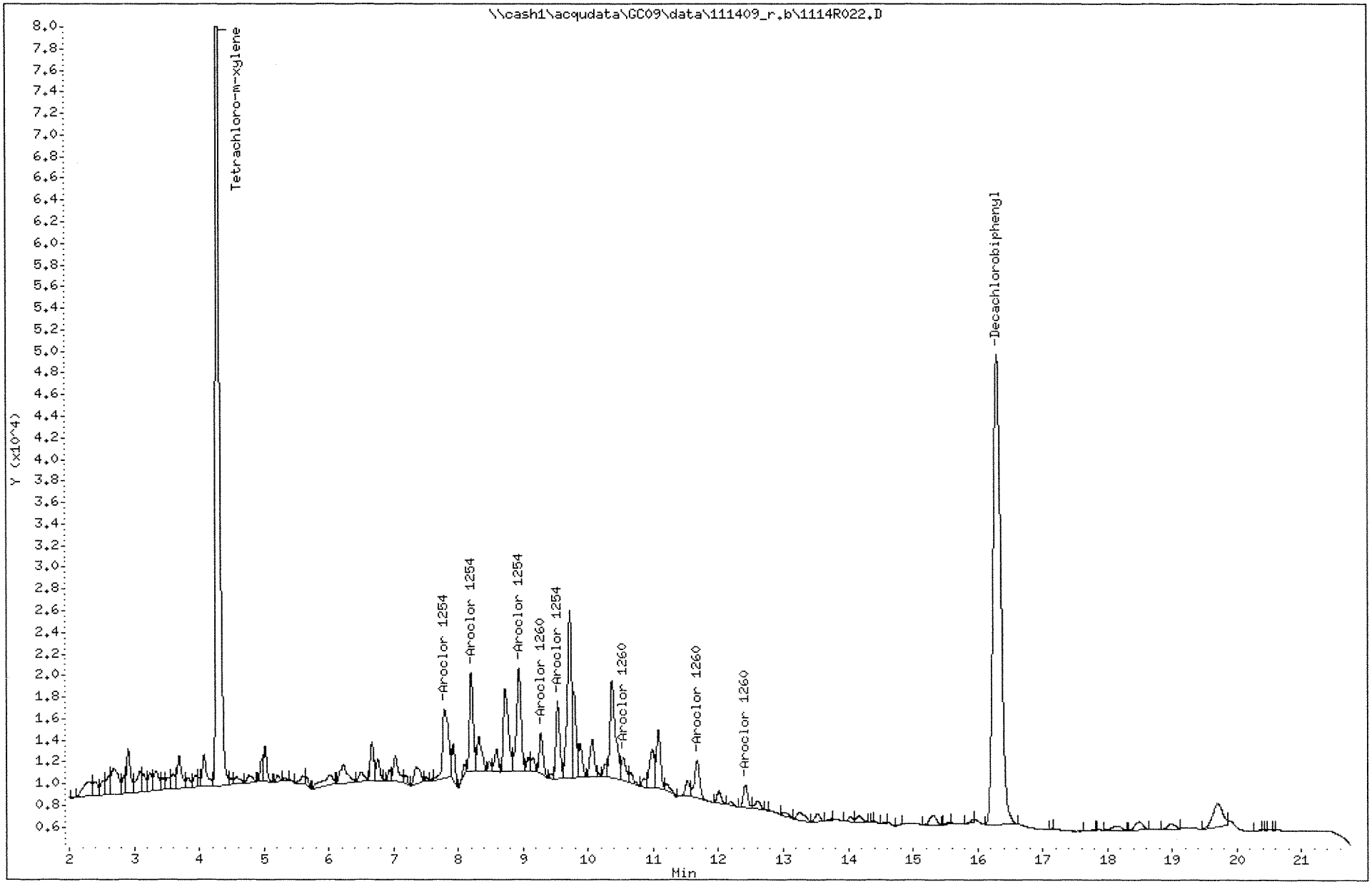
R - Spike/Surrogate failed recovery limits.

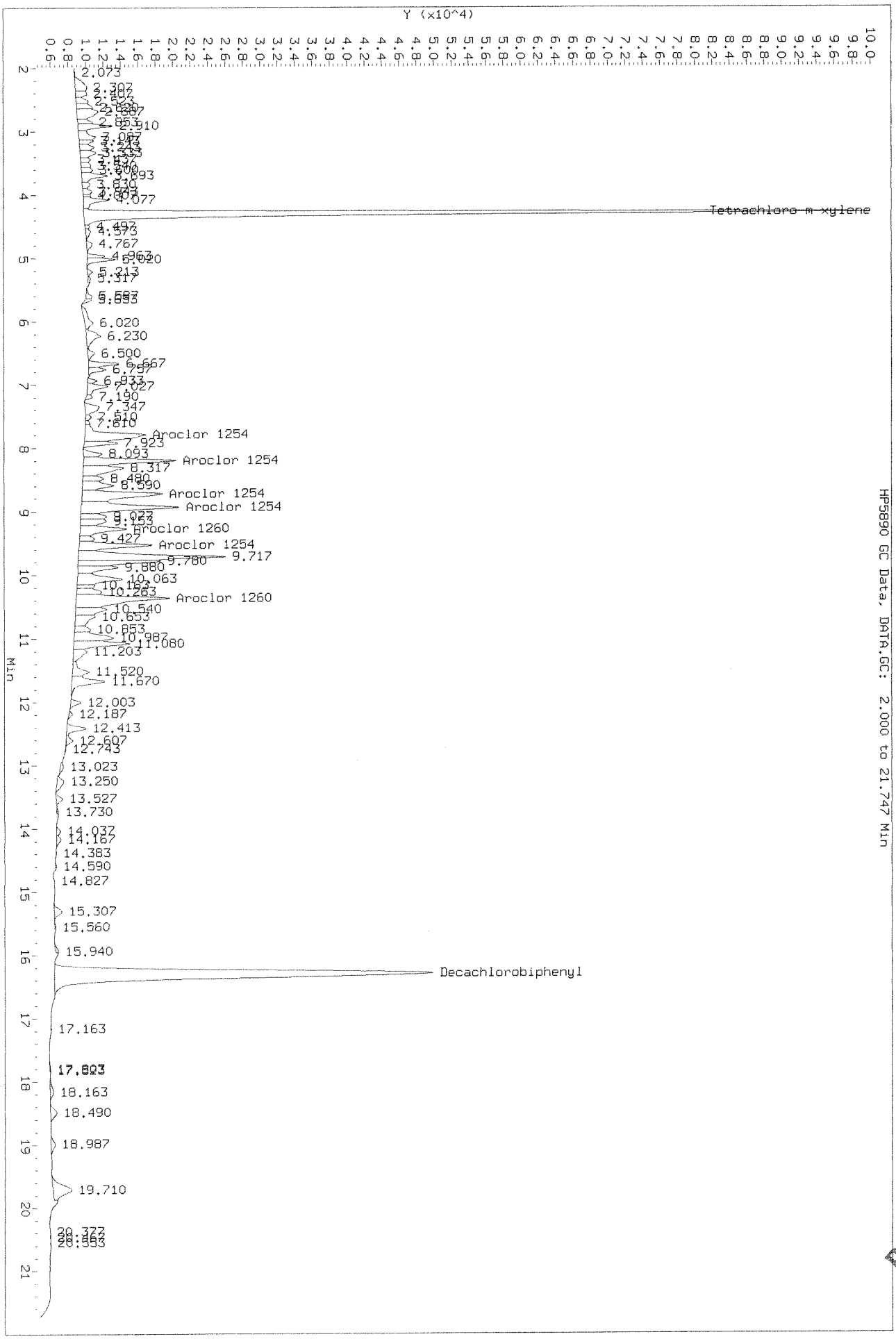
Data File: \\cash1\acqudata\GC09\data\111409.B\1114F022.D
Date : 14-NOV-2009 18:24
Client ID:
Instrument: GC09.i
Sample Info: K0909140-004 | M-1-B
Operator: JMSmith
Column phase: DB-35MS
Column diameter: 0.53



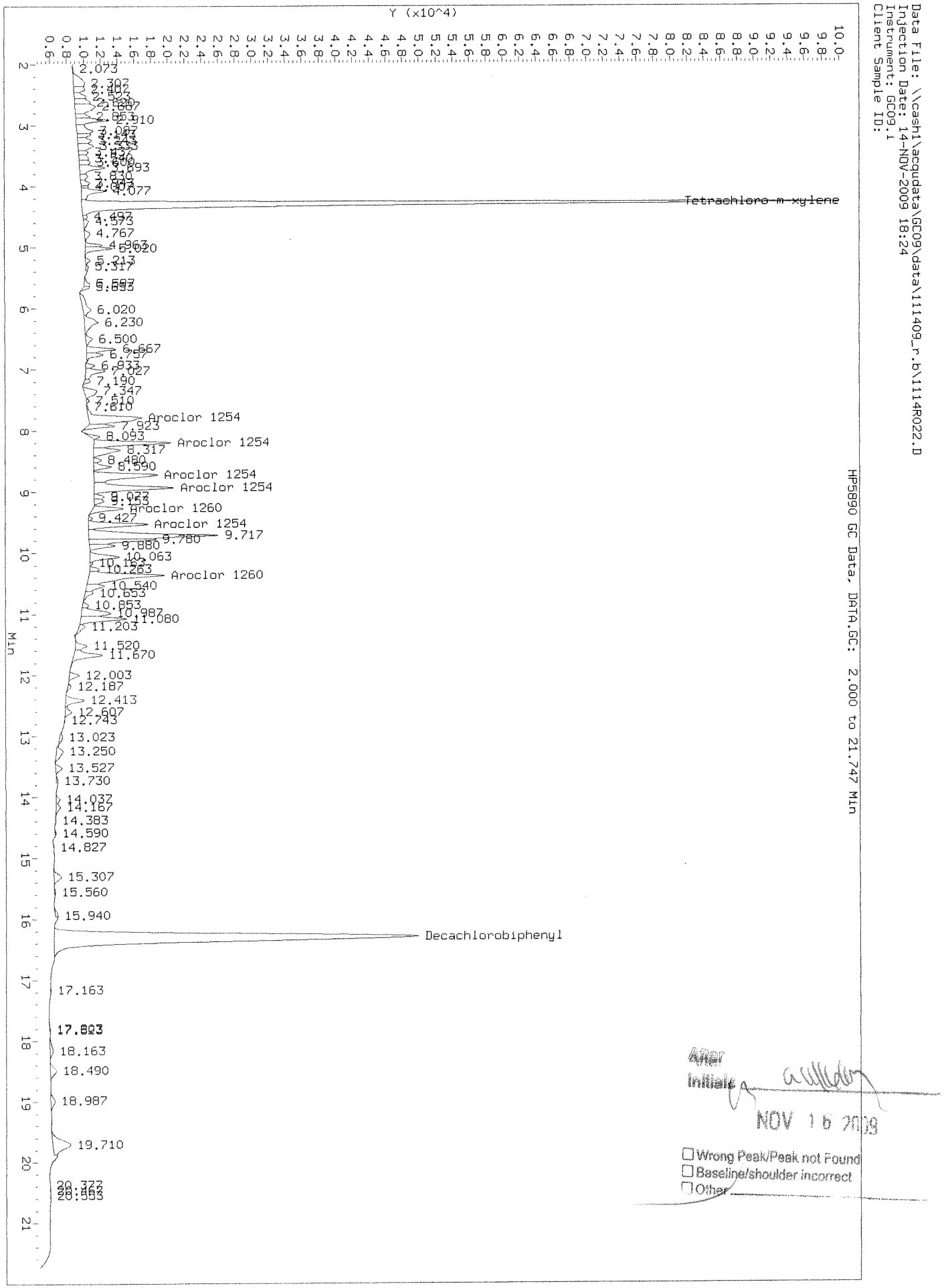
Data File: \\cash1\acqudata\GC09\data\111409_r.b\1114R022.D
Date : 14-NOV-2009 18:24
Client ID:
Sample Info: K0909140-004 | M-1-B

Instrument: GC09.i
Operator: JMSmith
Column phase: DB-XLB
Column diameter: 0.53





Before
NOV 16 2009



After
Initials
NOV 16 2009
☐ Wrong Peak/Peak not Found
☐ Baseline/shoulder incorrect
☐ Other

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009
Sample Matrix: Sediment

Service Request: K0909140
Date Collected: 10/06/2009
Date Received: 10/07/2009

Polychlorinated Biphenyls (PCBs)

Sample Name: M-2-C
Lab Code: K0909140-005

Extraction Method: EPA 3541
Analysis Method: 8082

Units: ug/Kg
Basis: Dry

Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Aroclor 1016	ND	U	11	2.3	1	11/10/09	11/14/09	KWG0910513	
Aroclor 1221	ND	U	22	2.3	1	11/10/09	11/14/09	KWG0910513	
Aroclor 1232	ND	U	11	2.3	1	11/10/09	11/14/09	KWG0910513	
Aroclor 1242	ND	U	11	2.3	1	11/10/09	11/14/09	KWG0910513	
Aroclor 1248	ND	U	11	2.3	1	11/10/09	11/14/09	KWG0910513	
Aroclor 1254	**440**		11	2.3	1	11/10/09	11/14/09	KWG0910513	
Aroclor 1260	ND	U	11	2.3	1	11/10/09	11/14/09	KWG0910513	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Decachlorobiphenyl	92	35-133	11/14/09	Acceptable

Comments:

Exception Report

Data File: \\CASH1\ACQUDATA\GC09\DATA\111409.B\1114F023.D
Lab ID: K0909140-005
RunType: SMPL
Matrix: SEDIMENT

Date Acquired: 11/14/2009 18:50
Date Quantitated: 11/16/2009 12:39
Batch ID: KWG0910694
Analysis Method: 8082
MethodJoinID: MJ696

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Analytical Holding Time	NA	NA	NA	x	
Preparation Holding Time	35	NA	14		x
Pre-Preparation Holding Time	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Calibration Verification Ave %D	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA	x	
Calibration Verification Ave %D (Closing)	NA	NA	NA	x	
Continuing Calibration Recovery (Closing)	NA	NA	NA	x	
Method Blank	NA	NA	NA	x	
MB Surrogate Recovery	NA	NA	NA	x	
Lab Control Spike	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Primary Review: _____

Secondary Review: _____

Exception Report

Data File: \\CASH1\ACQUDATA\GC09\DATA\111409_R.B\1114R023.D
Lab ID: K0909140-005
RunType: SMPL
Matrix: SEDIMENT

Date Acquired: 11/14/2009 18:50
Date Quantitated: 11/16/2009 12:42
Batch ID: KWG0910694
Analysis Method: 8082
MethodJoinID: MJ696

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Analytical Holding Time	NA	NA	NA	x	
Preparation Holding Time	35	NA	14		x
Pre-Preparation Holding Time	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Calibration Verification Ave %D	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA	x	
Calibration Verification Ave %D (Closing)	NA	NA	NA	x	
Continuing Calibration Recovery (Closing)	NA	NA	NA	x	
Method Blank	NA	NA	NA	x	
MB Surrogate Recovery	NA	NA	NA	x	
Lab Control Spike	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Primary Review: _____

Secondary Review: _____

Quantitation Report

Bottle ID:		**Tier:**	V	**Matrix:**	SEDIMENT
Prod Code:	8082 PCB_LL	**Collect Date:**	10/06/2009	**Receive Date:**	10/07/2009

Analysis Lot:	KWG0910694	**Prep Lot:**	KWG0910513	**Report Group:**	K0909140
Analysis Method:	8082	**Prep Method:**	EPA 3541		
Prep Ref:	865582	**Prep Date:**	11/10/2009		

Quant Method:	\\CASH1\ACQUDATA\GC09\DATA\111409.B\101409_F.M	**Calibration ID:**	CAL8918
Title:	Polychlorinated Biphenyls (PCBs)	**Report List ID:**	LJ6180
MB Ref:	J:\GC09\DATA\111409.B\1114F017.D	**Method ID:**	MJ696
		Quant based on Report List	

Data File #1:	J:\GC09\DATA\111409.B\1114F023.D			**Instrument:**	GC09.i
Data File #2:	\\cash1\acqudata\GC09\data\111409_r.b\1114R023.D			**Vial:**	40
Acqu Date:	11/14/2009 18:50	**Quant Date:**	11/16/2009 12:39	**Dilution:**	1.0
Run Type:	SMPL			**Soln Conc. Units:**	ng/mL
Lab ID:	K0909140-005				
Signal #1:	DB-35MS	**Signal #2:**	DB-XLB		

Surrogate Compounds

Parameter Name	RT #1	RT #2	Resp #1	Respe #2	ng/mL #1	ng/mL #2			Rpt
Decachlorobiphenyl	15.05 0.00	16.30 0.00	445337	383936	81.71	91.95			92OK
			%Recovery =		82OK	92OK	Limits =	35-133	

Target Compounds

Final Conc. Units: ug/Kg Dry Weight

Parameter Name	RT #1	RT #2	Resp #1	Resp #2	ng/mL #1	ng/mL #2	ug/Kg #1	ug/Kg #2	Rpt
Aroclor 1016			0	0	0.0000	0.0000	2.3U	2.3U	2.3U
Aroclor 1016 {1}			0d	0d	0.0000	0.0000	2.3U	2.3U	
Aroclor 1016 {2}			0d	0d	0.0000	0.0000	2.3U	2.3U	
Aroclor 1016 {3}			0d	0d	0.0000	0.0000	2.3U	2.3U	
Aroclor 1016 {4}			0d	0d	0.0000	0.0000	2.3U	2.3U	
Aroclor 1016 {5}			0d	0d	0.0000	0.0000	2.3U	2.3U	
Aroclor 1221			0	0	0.0000	0.0000	2.3U	2.3U	2.3U
Aroclor 1221 {1}			0d	0d	0.0000	0.0000	2.3U	2.3U	
Aroclor 1221 {2}			0d	0d	0.0000	0.0000	2.3U	2.3U	
Aroclor 1221 {3}			0d	0d	0.0000	0.0000	2.3U	2.3U	
Aroclor 1221 {4}			0d	0d	0.0000	0.0000	2.3U	2.3U	
Aroclor 1232			0	0	0.0000	0.0000	2.3U	2.3U	2.3U
Aroclor 1232 {1}			0d	0d	0.0000	0.0000	2.3U	2.3U	
Aroclor 1232 {2}			0d	0d	0.0000	0.0000	2.3U	2.3U	
Aroclor 1232 {3}			0d	0d	0.0000	0.0000	2.3U	2.3U	
Aroclor 1232 {4}			0d	0d	0.0000	0.0000	2.3U	2.3U	
Aroclor 1242			0	0	0.0000	0.0000	2.3U	2.3U	2.3U
Aroclor 1242 {1}			0d	0d	0.0000	0.0000	2.3U	2.3U	
Aroclor 1242 {2}			0d	0d	0.0000	0.0000	2.3U	2.3U	
Aroclor 1242 {3}			0d	0d	0.0000	0.0000	2.3U	2.3U	

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Data File #1:	J:\GC09\DATA\111409.B\1114F023.D			**Instrument:**	GC09.i
Data File #2:	\\cash1\acqudata\GC09\data\111409_r.b\1114R023.D			**Vial:**	40
Acqu Date:	11/14/2009 18:50	**Quant Date:**	11/16/2009 12:39	**Dilution:**	1.0
Run Type:	SMPL			**Soln Conc. Units:**	ng/mL
Lab ID:	K0909140-005				
Signal #1:	DB-35MS	**Signal #2:**	DB-XLB		

Target Compounds **Final Conc. Units:** ug/Kg Dry Weight

Parameter Name	RT #1	RT #2	Resp #1	Resp #2	ng/mL #1	ng/mL #2	ug/Kg #1	ug/Kg #2	Rpt
Aroclor 1242 {4}			0d	0d	0.0000	0.0000	2.3U	2.3U	
Aroclor 1242 {5}			0d	0d	0.0000	0.0000	2.3U	2.3U	
Aroclor 1248			0	0	0.0000	0.0000	2.3U	2.3U	2.3U
Aroclor 1248 {1}			0d	0d	0.0000	0.0000	2.3U	2.3U	
Aroclor 1248 {2}			0d	0d	0.0000	0.0000	2.3U	2.3U	
Aroclor 1248 {3}			0d	0d	0.0000	0.0000	2.3U	2.3U	
Aroclor 1248 {4}			0d	0d	0.0000	0.0000	2.3U	2.3U	
Aroclor 1248 {5}			0d	0d	0.0000	0.0000	2.3U	2.3U	
Aroclor 1254			0	0	1,813	2,083	390	440	440
Aroclor 1254 {1}	7.55	7.79	463517	434169m	1,613	1,805	340	390	
Aroclor 1254 {2}	8.24	8.20	321568	511015m	1,590	2,095	340	450	
Aroclor 1254 {3}	8.43	8.76	870888	314880m	1,754	2,374	370	510	
Aroclor 1254 {4}	9.04	8.94	442497	581978m	1,837	2,230	390	480	
Aroclor 1254 {5}	9.79	9.53	773675	447001m	2,271	1,912	490	410	
Aroclor 1260			0	0	0.0000	0.0000	2.3U	2.3U	2.3U
Aroclor 1260 {1}			0d	0d	0.0000	0.0000	2.3U	2.3U	
Aroclor 1260 {2}			0d	0d	0.0000	0.0000	2.3U	2.3U	
Aroclor 1260 {3}			0d	0d	0.0000	0.0000	2.3U	2.3U	
Aroclor 1260 {4}			0d	0d	0.0000	0.0000	2.3U	2.3U	
Aroclor 1260 {5}			0d	0d	0.0000	0.0000	2.3U	2.3U	

The -/+ after Retention Time symbolize the direction of the RT shift

Prep Amount:	20.20 g	**Dilution:**	1.0
Prep Final Vol:	4 ml	**Unit Factor:**	1
Solids:	92.7 %		

Final Concentration = ((Soln Conc x Prep Final Vol x Dilution) / (Prep Amount x Solids)) x Unit Factor

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Data File: \\cash1\acqudata\GC09\data\111409.B\1114F023.D
Report Date: 16-Nov-2009 12:39

Laboratory Name

Sample #1 : \\cash1\acqudata\GC09\data\111409.B\1114F023.D
Sample #2 : \\cash1\acqudata\GC09\data\111409_r.b\1114R023.D
Inj Date : 14-NOV-2009 18:50
Sample Info: K0909140-005 | M-2-C
Misc Info : KELSO\SEMIVOA GC\8082-PCB_LL\09140005.H | F=4
Cal Date : 16-NOV-2009 10:31
Operator : JMSmith
Inst ID : GC09.i
Dil Factor : 1.000000

Method #1 : \\cash1\acqudata\GC09\data\111409.B\101409_f.m
Method #2 : \\cash1\acqudata\GC09\data\111409_r.b\101409_r.m
Sub List #1 : ALL.SUB
Sub List #2 : ALL.SUB
Col #1 Phase : DB-35MS
Col #2 Phase : DB-XLB

Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2	Target Range	Ratio
Tetrachloro-m-xylene	3.693	4.287	375612	318567	64.4	77.2		100.00(R)
Aroclor 1254	7.550	7.787	463517	434169	1610	1800	80.00- 120.00	100.00
	8.240	8.203	321568	511015	1590	2090	56.32- 84.48	69.38
	8.433	8.757	870888	314880	1750	2370	138.21- 207.32	187.89
	9.040	8.940	442497	581978	1840	2230	67.06- 100.59	95.47
	9.787	9.530	773675	447001	2270	1910	94.84- 142.26	166.91
			Average of Peak Amounts =		1810	2080		
Decachlorobiphenyl	15.053	16.303	445337	383936	81.7	92.0		100.00(R)

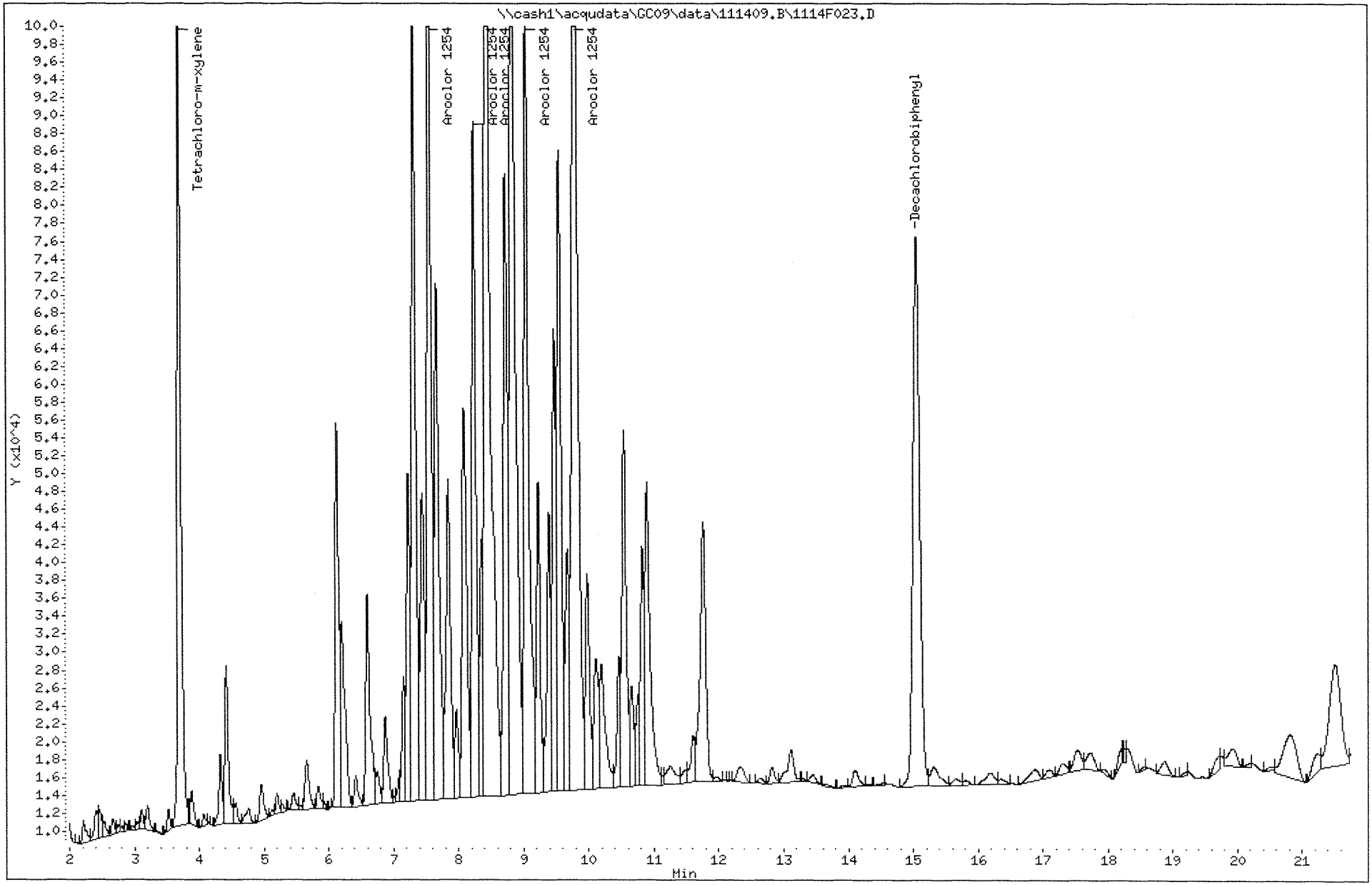
QC Flag Legend

R - Spike/Surrogate failed recovery limits.

Data File: \\cash1\acqudata\GC09\data\111409.B\1114F023.D
Date : 14-NOV-2009 18:50
Client ID:
Sample Info: K0909140-005 | M-2-C

Instrument: GC09.i

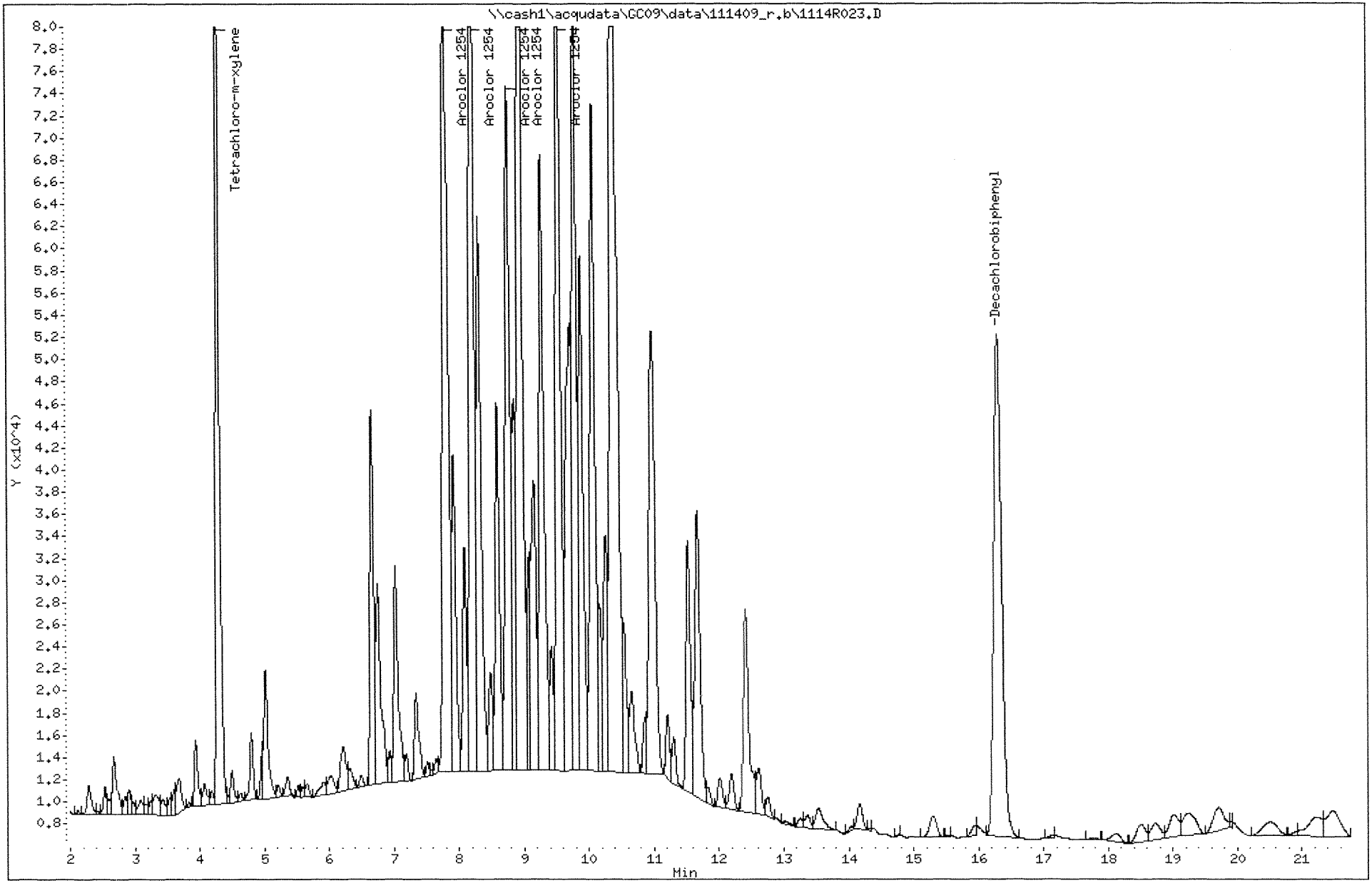
Operator: JMSmith
Column phase: DB-35MS
Column diameter: 0.53

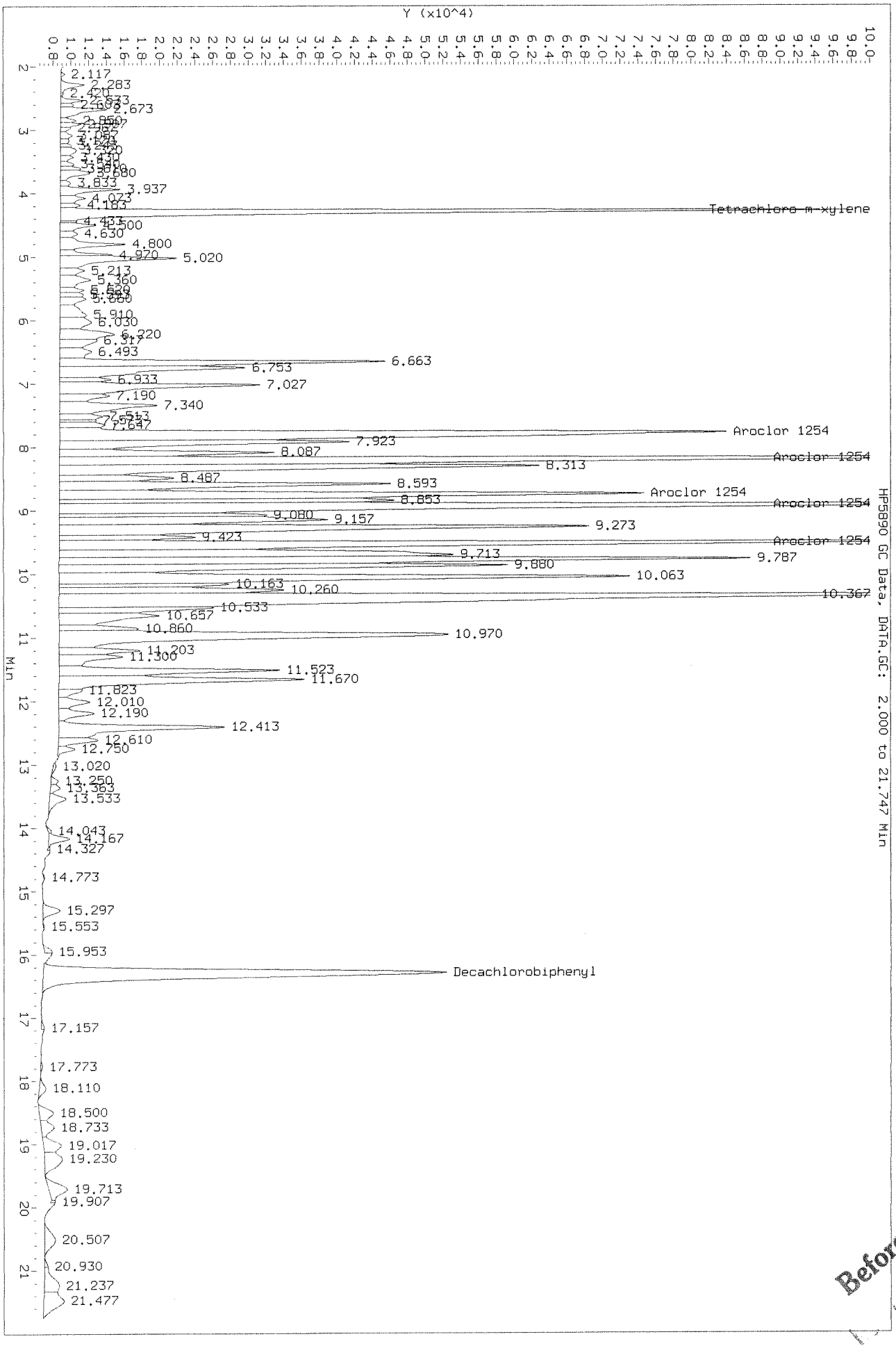


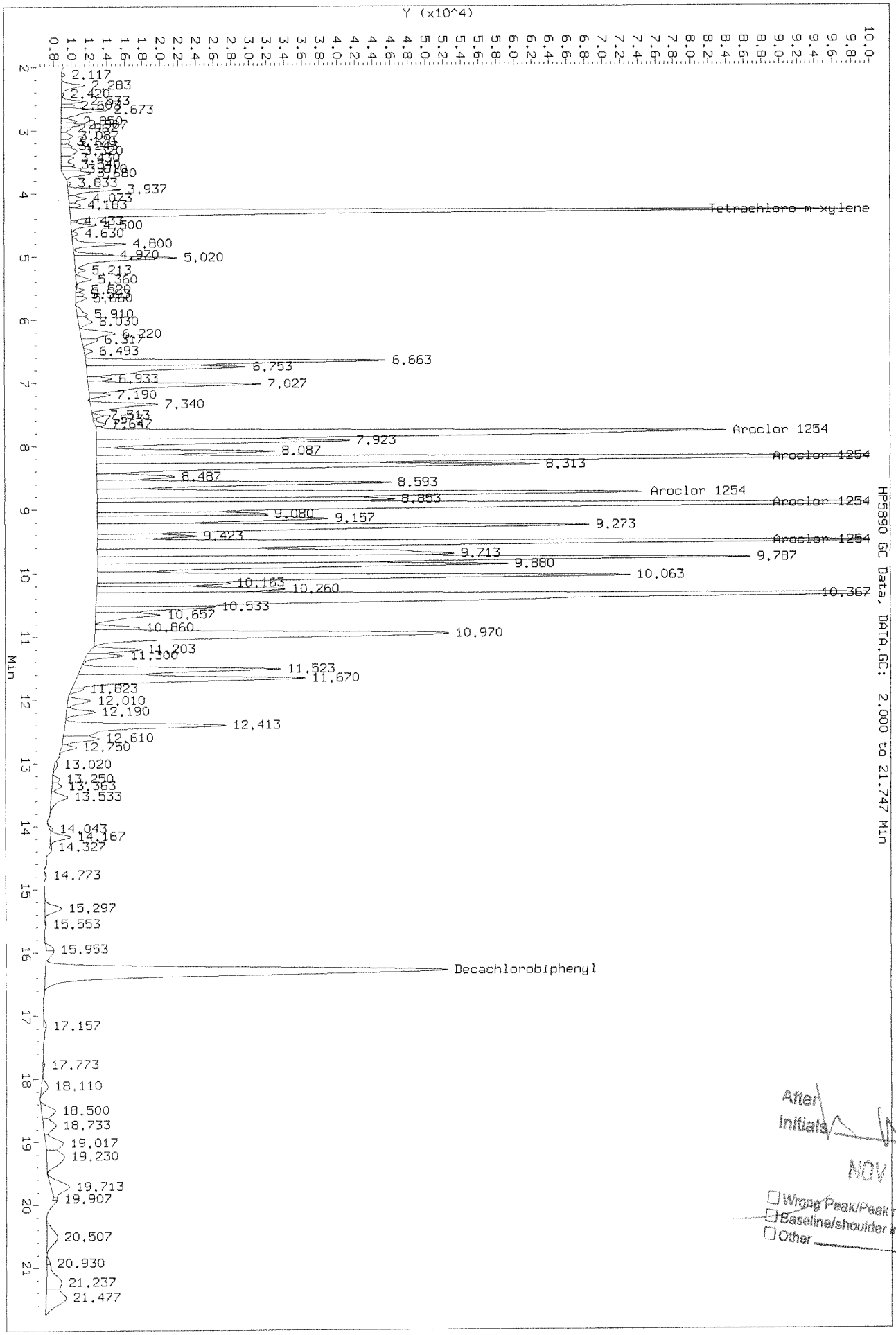
Data File: \\cash1\acqudata\GC09\data\111409_r.b\1114R023.D
Date : 14-NOV-2009 18:50
Client ID:
Sample Info: K0909140-005 | M-2-C

Instrument: GC09.i
Operator: JMSmith
Column diameter: 0.53

Column phase: DB-XLB




Data File: \\cash1\acqudata\GC09\data\111409_r.b\1114R023.D
Injection Date: 14-NOV-2009 18:50
Instrument: GC09.i
Client Sample ID:
HP5890 GC Data, DATA.GC: 2.000 to 21.747 Min
Y (x10^4)
Min
Tetrachloro-m-xylene
Aroclor 1254
Aroclor 1254
Aroclor 1254
Aroclor 1254
Aroclor 1254
Decachlorobiphenyl
Before



After Initials

NOV 16 2009

☐ Wrong Peak/Peak not Found
☐ Baseline/shoulder incorrect
☐ Other

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009
Sample Matrix: Sediment

Service Request: K0909140
Date Collected: 10/06/2009
Date Received: 10/07/2009

Polychlorinated Biphenyls (PCBs)

Sample Name: M-2-A
Lab Code: K0909140-006

Extraction Method: EPA 3541
Analysis Method: 8082

Units: ug/Kg
Basis: Dry

Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Aroclor 1016	ND	U	11	2.2	1	11/10/09	11/14/09	KWG0910513	
Aroclor 1221	ND	U	21	2.2	1	11/10/09	11/14/09	KWG0910513	
Aroclor 1232	ND	U	11	2.2	1	11/10/09	11/14/09	KWG0910513	
Aroclor 1242	ND	U	11	2.2	1	11/10/09	11/14/09	KWG0910513	
Aroclor 1248	ND	U	11	2.2	1	11/10/09	11/14/09	KWG0910513	
Aroclor 1254	**450**		11	2.2	1	11/10/09	11/14/09	KWG0910513	
Aroclor 1260	ND	U	11	2.2	1	11/10/09	11/14/09	KWG0910513	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Decachlorobiphenyl	98	35-133	11/14/09	Acceptable

Comments:

Exception Report

Data File: \\CASH1\ACQUDATA\GC09\DATA\111409.B\1114F024.D
Lab ID: K0909140-006
RunType: SMPL
Matrix: SEDIMENT

Date Acquired: 11/14/2009 19:17
Date Quantitated: 11/16/2009 12:39
Batch ID: KWG0910694
Analysis Method: 8082
MethodJoinID: MJ696

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Analytical Holding Time	NA	NA	NA	x	
Preparation Holding Time	35	NA	14		x
Pre-Preparation Holding Time	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Calibration Verification Ave %D	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA	x	
Calibration Verification Ave %D (Closing)	NA	NA	NA	x	
Continuing Calibration Recovery (Closing)	NA	NA	NA	x	
Method Blank	NA	NA	NA	x	
MB Surrogate Recovery	NA	NA	NA	x	
Lab Control Spike	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Primary Review: _____

Secondary Review: _____

Exception Report

Data File: \\CASH1\ACQUDATA\GC09\DATA\111409_R.B\1114R024.D
Lab ID: K0909140-006
RunType: SMPL
Matrix: SEDIMENT

Date Acquired: 11/14/2009 19:17
Date Quantitated: 11/16/2009 12:42
Batch ID: KWG0910694
Analysis Method: 8082
MethodJoinID: MJ696

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Analytical Holding Time	NA	NA	NA	x	
Preparation Holding Time	35	NA	14		x
Pre-Preparation Holding Time	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Calibration Verification Ave %D	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA	x	
Calibration Verification Ave %D (Closing)	NA	NA	NA	x	
Continuing Calibration Recovery (Closing)	NA	NA	NA	x	
Method Blank	NA	NA	NA	x	
MB Surrogate Recovery	NA	NA	NA	x	
Lab Control Spike	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Primary Review: _____

Secondary Review: _____

Quantitation Report

Bottle ID:		**Tier:**	V	**Matrix:**	SEDIMENT
Prod Code:	8082 PCB_LL	**Collect Date:**	10/06/2009	**Receive Date:**	10/07/2009

Analysis Lot:	KWG0910694	**Prep Lot:**	KWG0910513	**Report Group:**	K0909140
Analysis Method:	8082	**Prep Method:**	EPA 3541		
		Prep Date:	11/10/2009		
Prep Ref:	865583				

Quant Method:	\\CASH1\ACQUDATA\GC09\DATA\111409.B\101409_F.M	**Calibration ID:**	CAL8918
Title:	Polychlorinated Biphenyls (PCBs)	**Report List ID:**	LJ6180
MB Ref:	J:\GC09\DATA\111409.B\1114F017.D	**Method ID:**	MJ696
		Quant based on Report List	

Data File #1:	J:\GC09\DATA\111409.B\1114F024.D			**Instrument:**	GC09.i
Data File #2:	\\cash1\acqudata\GC09\data\111409_r.b\1114R024.D			**Vial:**	41
Acqu Date:	11/14/2009 19:17	**Quant Date:**	11/16/2009 12:39	**Dilution:**	1.0
Run Type:	SMPL			**Soln Conc. Units:**	ng/mL
Lab ID:	K0909140-006				
Signal #1:	DB-35MS	**Signal #2:**	DB-XLB		

Surrogate Compounds

Parameter Name	RT #1		RT #2		Resp #1	Respe #2	ng/mL #1	ng/mL #2			Rpt
Decachlorobiphenyl	15.05	-0.01	16.30	0.00	488518	407473	89.64	97.59			98OK
					%Recovery =		90OK	98OK	Limits =	35-133	

Target Compounds

Final Conc. Units: ug/Kg Dry Weight

Parameter Name	RT #1	RT #2	Resp #1	Resp #2	ng/mL #1	ng/mL #2	ug/Kg #1	ug/Kg #2	Rpt
Aroclor 1016			0	0	0.0000	0.0000	2.2U	2.2U	2.2U
Aroclor 1016 {1}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1016 {2}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1016 {3}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1016 {4}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1016 {5}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1221			0	0	0.0000	0.0000	2.2U	2.2U	2.2U
Aroclor 1221 {1}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1221 {2}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1221 {3}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1221 {4}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1232			0	0	0.0000	0.0000	2.2U	2.2U	2.2U
Aroclor 1232 {1}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1232 {2}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1232 {3}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1232 {4}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1242			0	0	0.0000	0.0000	2.2U	2.2U	2.2U
Aroclor 1242 {1}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1242 {2}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1242 {3}			0d	0d	0.0000	0.0000	2.2U	2.2U	

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Data File #1:	J:\GC09\DATA\111409.B\1114F024.D			**Instrument:**	GC09.i
Data File #2:	\\cash1\acqudata\GC09\data\111409_r.b\1114R024.D			**Vial:**	41
Acqu Date:	11/14/2009 19:17	**Quant Date:**	11/16/2009 12:39	**Dilution:**	1.0
Run Type:	SMPL			**Soln Conc. Units:**	ng/mL
Lab ID:	K0909140-006				
Signal #1:	DB-35MS	**Signal #2:**	DB-XLB		

Target Compounds

Final Conc. Units: ug/Kg Dry Weight

Parameter Name	RT #1	RT #2	Resp #1	Resp #2	ng/mL #1	ng/mL #2	ug/Kg #1	ug/Kg #2	Rpt
Aroclor 1242 {4}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1242 {5}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1248			0	0	0.0000	0.0000	2.2U	2.2U	2.2U
Aroclor 1248 {1}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1248 {2}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1248 {3}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1248 {4}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1248 {5}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1254			0	0	2,100	2,232	430	450	**450**
Aroclor 1254 {1}	7.55	7.79	541227	604320	1,884	2,512	380	510	
Aroclor 1254 {2}	8.24	8.20	401021	637039	1,982	2,611	400	530	
Aroclor 1254 {3}	8.44	8.85	1054409	141973	2,124	1,070	430	220	
Aroclor 1254 {4}	9.04	8.94	472594	715790	1,962	2,742	400	560	
Aroclor 1254 {5}	9.79	9.53	868392	520019	2,549	2,225	520	450	
Aroclor 1260			0	0	0.0000	0.0000	2.2U	2.2U	2.2U
Aroclor 1260 {1}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1260 {2}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1260 {3}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1260 {4}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1260 {5}			0d	0d	0.0000	0.0000	2.2U	2.2U	

The -/+ after Retention Time symbolize the direction of the RT shift

Prep Amount:	20.20 g	**Dilution:**	1.0
Prep Final Vol:	4 ml	**Unit Factor:**	1
Solids:	97.8 %		

Final Concentration = ((Soln Conc x Prep Final Vol x Dilution) / (Prep Amount x Solids)) x Unit Factor

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Data File: \\cash1\acqudata\GC09\data\111409.B\1114F024.D
Report Date: 16-Nov-2009 12:39

Laboratory Name

Sample #1 : \\cash1\acqudata\GC09\data\111409.B\1114F024.D
Sample #2 : \\cash1\acqudata\GC09\data\111409_r.b\1114R024.D
Inj Date : 14-NOV-2009 19:17
Sample Info: K0909140-006 | M-2-A
Misc Info : KELSO\SEMIVOA GC\8082-PCB_LL\09140006.H | F=4
Cal Date : 16-NOV-2009 10:31
Operator : JMSmith
Inst ID : GC09.i
Dil Factor : 1.000000

Method #1 : \\cash1\acqudata\GC09\data\111409.B\101409_f.m
Method #2 : \\cash1\acqudata\GC09\data\111409_r.b\101409_r.m
Sub List #1 : ALL.SUB
Sub List #2 : ALL.SUB
Col #1 Phase : DB-35MS
Col #2 Phase : DB-XLB

Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2	Target Range	Ratio
Tetrachloro-m-xylene	3.693	4.287	383903	314683	65.8	76.3		100.00(R)
Aroclor 1254	7.550	7.787	541227	604320	1880	2510	80.00- 120.00	100.00
	8.240	8.200	401021	637039	1980	2610	56.32- 84.48	74.09
	8.437	8.850	1054409	141973	2120	1070	138.21- 207.32	194.82
	9.040	8.940	472594	715790	1960	2740	67.06- 100.59	87.32
	9.787	9.530	868392	520019	2550	2220	94.84- 142.26	160.45
			Average of Peak Amounts =		2100	2230		
Decachlorobiphenyl	15.050	16.303	488518	407473	89.6	97.6		100.00(R)

QC Flag Legend

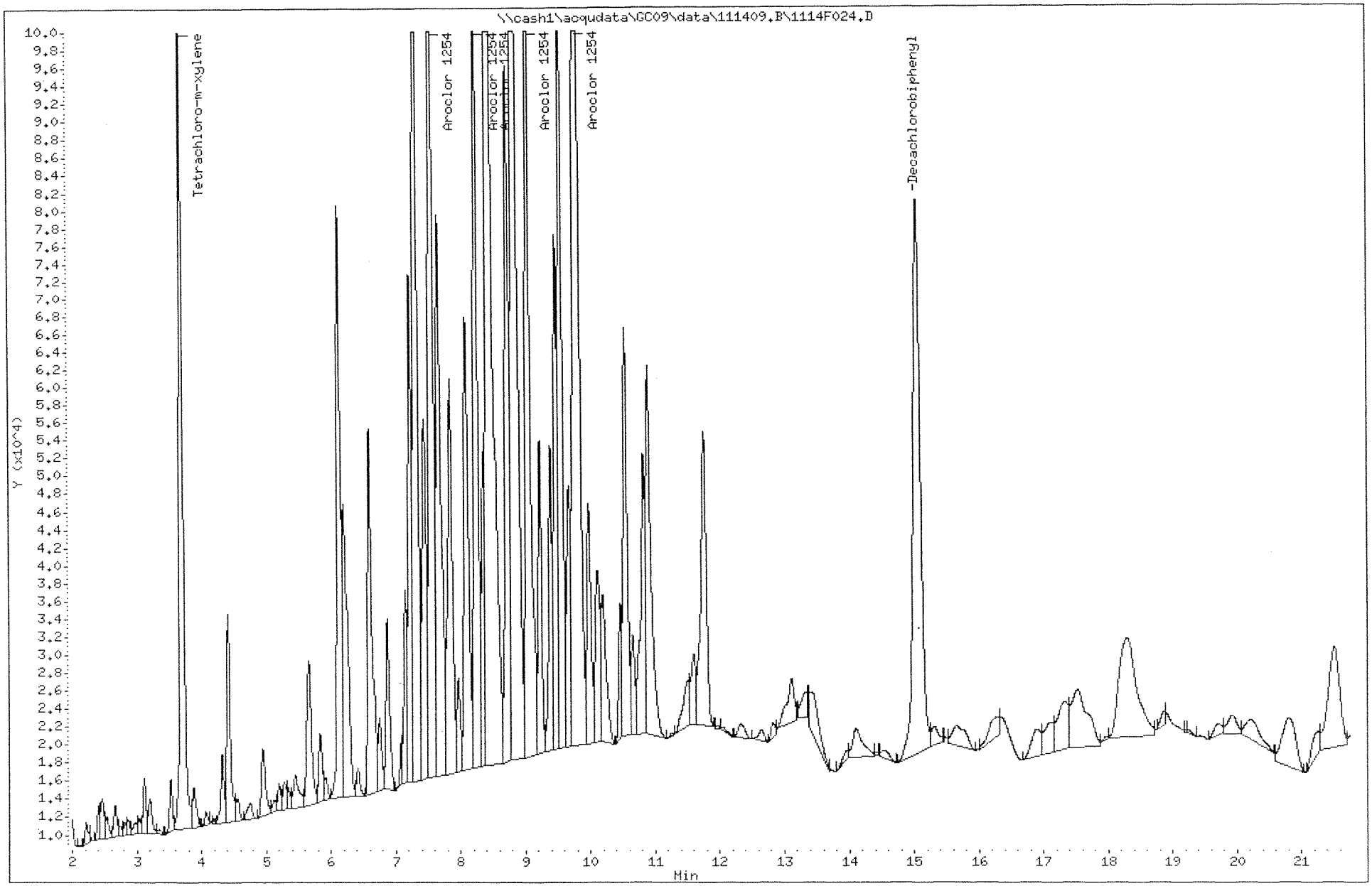
R - Spike/Surrogate failed recovery limits.

Data File: \\cash1\acqudata\GC09\data\111409.B\1114F024.D
Date : 14-NOV-2009 19:17
Client ID:
Sample Info: K0909140-006 | M-2-A

Instrument: GC09.i

Operator: JMSmith
Column diameter: 0.53

Column phase: DB-35MS

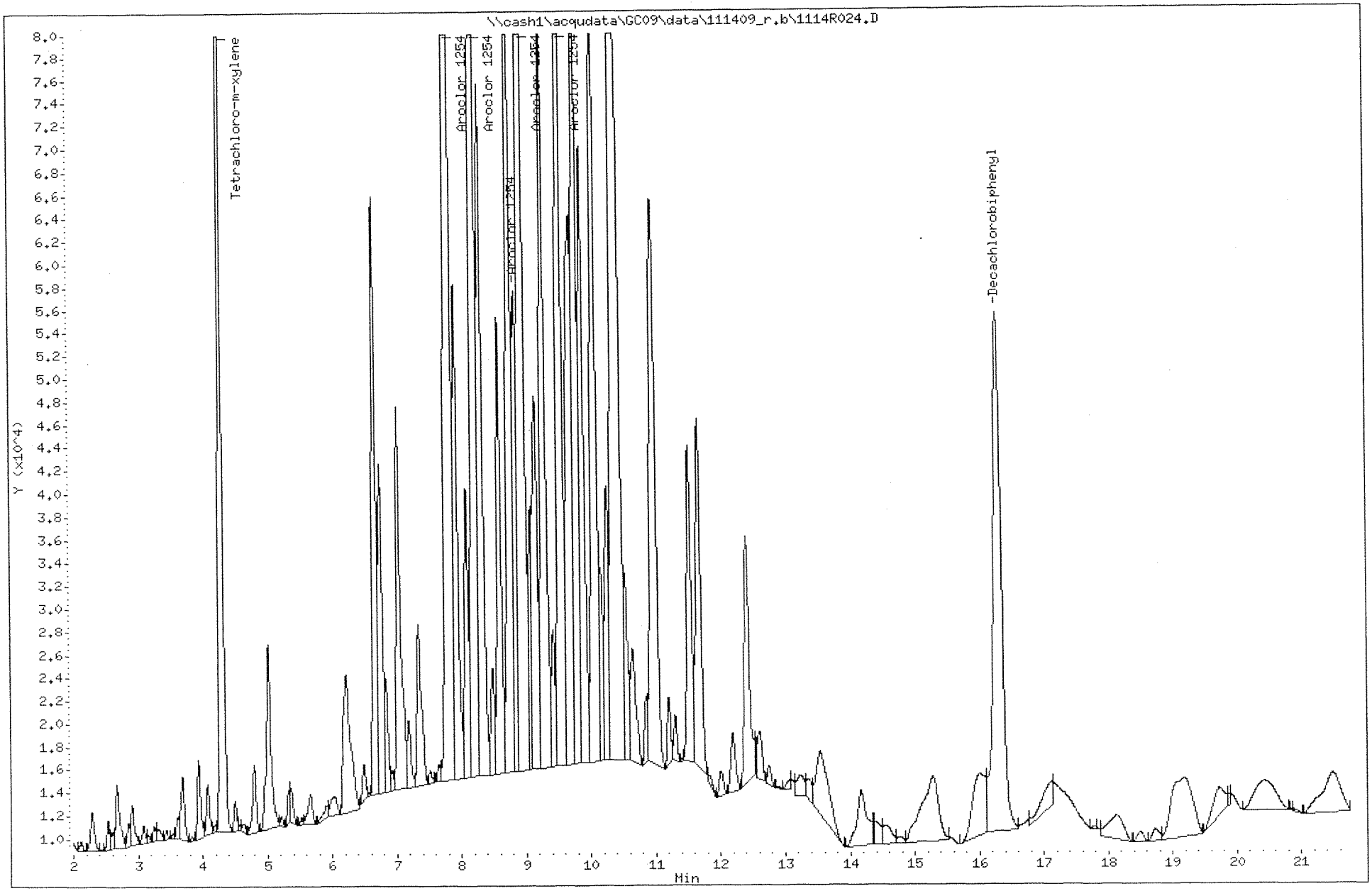


Data File: \\cash1\acqudata\GC09\data\111409_r.b\1114R024.D
Date : 14-NOV-2009 19:17
Client ID:
Sample Info: K0909140-006 | M-2-A

Instrument: GC09.i

Operator: JMSmith
Column diameter: 0.53

Column phase: DB-XLB



COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	URS Corporation	**Service Request:**	K0909140
Project:	Boise St. Helens Pulp and Paper Mill-2009	**Date Collected:**	10/05/2009
Sample Matrix:	Sediment	**Date Received:**	10/06/2009

Polychlorinated Biphenyls (PCBs)

Sample Name:	M-3-B	**Units:**	ug/Kg
Lab Code:	K0909140-007	**Basis:**	Dry
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8082		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Aroclor 1016	ND	U	9.9	2.1	1	11/10/09	11/14/09	KWG0910513	
Aroclor 1221	ND	U	20	2.1	1	11/10/09	11/14/09	KWG0910513	
Aroclor 1232	ND	U	9.9	2.1	1	11/10/09	11/14/09	KWG0910513	
Aroclor 1242	ND	U	9.9	2.1	1	11/10/09	11/14/09	KWG0910513	
Aroclor 1248	ND	U	9.9	2.1	1	11/10/09	11/14/09	KWG0910513	
Aroclor 1254	**22**		9.9	2.1	1	11/10/09	11/14/09	KWG0910513	
Aroclor 1260	ND	Ui	9.9	8.5	1	11/10/09	11/14/09	KWG0910513	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Decachlorobiphenyl	91	35-133	11/14/09	Acceptable

Comments:

Exception Report

Data File: \\CASH1\ACQUDATA\GC09\DATA\111409.B\1114F031.D
Lab ID: K0909140-007
RunType: SMPL
Matrix: SEDIMENT

Date Acquired: 11/14/2009 22:21
Date Quantitated: 11/16/2009 12:40
Batch ID: KWG0910694
Analysis Method: 8082
MethodJoinID: MJ696

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Analytical Holding Time	NA	NA	NA	x	
Preparation Holding Time	36	NA	14		x
Pre-Preparation Holding Time	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Calibration Verification Ave %D	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA		x
Calibration Verification Ave %D (Closing)	NA	NA	NA	x	
Continuing Calibration Recovery (Closing)	NA	NA	NA	x	
Method Blank	NA	NA	NA	x	
MB Surrogate Recovery	NA	NA	NA	x	
Lab Control Spike	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA		x
Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
Continuing Calibration Recovery	Aroclor 1260	-18.0	NA	15	
Analyte Co-elution	Aroclor 1254 {4}	9.043	NA	NA	
	Aroclor 1260 {1}	9.043	NA	NA	

Primary Review: _____

Secondary Review: _____

Exception Report

Data File: \\CASH1\ACQUDATA\GC09\DATA\111409_R.B\1114R031.D
Lab ID: K0909140-007
RunType: SMPL
Matrix: SEDIMENT

Date Acquired: 11/14/2009 22:21
Date Quantitated: 11/16/2009 12:42
Batch ID: KWG0910694
Analysis Method: 8082
MethodJoinID: MJ696

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Analytical Holding Time	NA	NA	NA	x	
Preparation Holding Time	36	NA	14		x
Pre-Preparation Holding Time	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Calibration Verification Ave %D	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA	x	
Calibration Verification Ave %D (Closing)	NA	NA	NA	x	
Continuing Calibration Recovery (Closing)	NA	NA	NA	x	
Method Blank	NA	NA	NA	x	
MB Surrogate Recovery	NA	NA	NA	x	
Lab Control Spike	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Primary Review: _____

Secondary Review: _____

Quantitation Report

Bottle ID:		**Tier:**	V	**Matrix:**	SEDIMENT
Prod Code:	8082 PCB_LL	**Collect Date:**	10/05/2009	**Receive Date:**	10/06/2009

Analysis Lot:	KWG0910694	**Prep Lot:**	KWG0910513	**Report Group:**	K0909140
Analysis Method:	8082	**Prep Method:**	EPA 3541		
Prep Ref:	865584	**Prep Date:**	11/10/2009		

Quant Method:	\\CASH1\ACQUDATA\GC09\DATA\111409.B\101409_F.M	**Calibration ID:**	CAL8918
Title:	Polychlorinated Biphenyls (PCBs)	**Report List ID:**	LJ6180
MB Ref:	J:\GC09\DATA\111409.B\1114F017.D	**Method ID:**	MJ696
		Quant based on Report List	

Data File #1:	J:\GC09\DATA\111409.B\1114F031.D			**Instrument:**	GC09.i
Data File #2:	\\cash1\acqudata\GC09\data\111409_r.b\1114R031.D			**Vial:**	44
Acqu Date:	11/14/2009 22:21	**Quant Date:**	11/16/2009 12:40	**Dilution:**	1.0
Run Type:	SMPL			**Soln Conc. Units:**	ng/mL
Lab ID:	K0909140-007				
Signal #1:	DB-35MS	**Signal #2:**	DB-XLB		

Surrogate Compounds

Parameter Name	RT #1	RT #2	Resp #1	Respe #2	ng/mL #1	ng/mL #2			Rpt
Decachlorobiphenyl	15.05	16.30 0.00	437436	380883	80.26	91.22			91OK
			%Recovery =		80OK	91OK	Limits =	35-133	

Target Compounds

Final Conc. Units: ug/Kg Dry Weight

Parameter Name	RT #1	RT #2	Resp #1	Resp #2	ng/mL #1	ng/mL #2	ug/Kg #1	ug/Kg #2	Rpt
Aroclor 1016			0	0	0.0000	0.0000	2.1U	2.1U	2.1U
Aroclor 1016 {1}			0d	0d	0.0000	0.0000	2.1U	2.1U	
Aroclor 1016 {2}			0d	0d	0.0000	0.0000	2.1U	2.1U	
Aroclor 1016 {3}			0d	0d	0.0000	0.0000	2.1U	2.1U	
Aroclor 1016 {4}			0d	0d	0.0000	0.0000	2.1U	2.1U	
Aroclor 1016 {5}			0d	0d	0.0000	0.0000	2.1U	2.1U	
Aroclor 1221			0	0	0.0000	0.0000	2.1U	2.1U	2.1U
Aroclor 1221 {1}			0d	0d	0.0000	0.0000	2.1U	2.1U	
Aroclor 1221 {2}			0d	0d	0.0000	0.0000	2.1U	2.1U	
Aroclor 1221 {3}			0d	0d	0.0000	0.0000	2.1U	2.1U	
Aroclor 1221 {4}			0d	0d	0.0000	0.0000	2.1U	2.1U	
Aroclor 1232			0	0	0.0000	0.0000	2.1U	2.1U	2.1U
Aroclor 1232 {1}			0d	0d	0.0000	0.0000	2.1U	2.1U	
Aroclor 1232 {2}			0d	0d	0.0000	0.0000	2.1U	2.1U	
Aroclor 1232 {3}			0d	0d	0.0000	0.0000	2.1U	2.1U	
Aroclor 1232 {4}			0d	0d	0.0000	0.0000	2.1U	2.1U	
Aroclor 1242			0	0	0.0000	0.0000	2.1U	2.1U	2.1U
Aroclor 1242 {1}			0d	0d	0.0000	0.0000	2.1U	2.1U	
Aroclor 1242 {2}			0d	0d	0.0000	0.0000	2.1U	2.1U	
Aroclor 1242 {3}			0d	0d	0.0000	0.0000	2.1U	2.1U	

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Data File #1:	J:\GC09\DATA\111409.B\1114F031.D			**Instrument:**	GC09.i
Data File #2:	\\cash1\acqudata\GC09\data\111409_r.b\1114R031.D			**Vial:**	44
Acqu Date:	11/14/2009 22:21	**Quant Date:**	11/16/2009 12:40	**Dilution:**	1.0
Run Type:	SMPL			**Soln Conc. Units:**	ng/mL
Lab ID:	K0909140-007				
Signal #1:	DB-35MS	**Signal #2:**	DB-XLB		

Target Compounds

Final Conc. Units: ug/Kg Dry Weight

Parameter Name	RT #1	RT #2	Resp #1	Resp #2	ng/mL #1	ng/mL #2	ug/Kg #1	ug/Kg #2	Rpt
Aroclor 1242 {4}			0d	0d	0.0000	0.0000	2.1U	2.1U	
Aroclor 1242 {5}			0d	0d	0.0000	0.0000	2.1U	2.1U	
Aroclor 1248			0	0	0.0000	0.0000	2.1U	2.1U	2.1U
Aroclor 1248 {1}			0d	0d	0.0000	0.0000	2.1U	2.1U	
Aroclor 1248 {2}			0d	0d	0.0000	0.0000	2.1U	2.1U	
Aroclor 1248 {3}			0d	0d	0.0000	0.0000	2.1U	2.1U	
Aroclor 1248 {4}			0d	0d	0.0000	0.0000	2.1U	2.1U	
Aroclor 1248 {5}			0d	0d	0.0000	0.0000	2.1U	2.1U	
Aroclor 1254			0	0	108.95	112.43	22	22	22
Aroclor 1254 {1}	7.56	7.79	35479m	25031m	123.47	104.04	24	21	
Aroclor 1254 {2}	8.23	8.20	30819m	31776m	152.36	130.26	30	26	
Aroclor 1254 {3}	8.51	8.72	32770m	0m	66.01	0.0000	13	2.1U	
Aroclor 1254 {4}	9.04 c	8.93	22787m	37486m	94.61	143.61	19	28	
Aroclor 1254 {5}	9.79	9.53	36902m	16785m	108.33	71.81	21	14	
Aroclor 1260			0	0	42.74CCV	44.19	8.4J	8.7J	8.7J
Aroclor 1260 {1}	9.04 0.00 c	9.27 0.00	22787m	11301m	53.70	47.10	11	9.3J	
Aroclor 1260 {2}	9.48	10.37 -0.01	5622m	27482m	24.39	89.12	4.8J	18	RPD
Aroclor 1260 {3}	10.46 0.00	10.54 0.00	7674m	3286m	30.11	19.38	5.9J	3.8J	
Aroclor 1260 {4}	10.89 -0.01	11.67 -0.01	19874m	13077m	36.19	36.95	7.1J	7.3J	
Aroclor 1260 {5}	11.75 -0.02	12.41 -0.01	26132m	6787m	69.30	28.41	14	5.6J	

The -/+ after Retention Time symbolize the direction of the RT shift

Prep Amount:	20.62 g	**Dilution:**	1.0
Prep Final Vol:	4 ml	**Unit Factor:**	1
Solids:	98.2 %		

Final Concentration = ((Soln Conc x Prep Final Vol x Dilution) / (Prep Amount x Solids)) x Unit Factor

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Data File: \\cash1\acqudata\GC09\data\111409.B\1114F031.D
Report Date: 16-Nov-2009 12:40

Laboratory Name

Sample #1 : \\cash1\acqudata\GC09\data\111409.B\1114F031.D
Sample #2 : \\cash1\acqudata\GC09\data\111409_r.b\1114R031.D
Inj Date : 14-NOV-2009 22:21
Sample Info: K0909140-007 | M-3-B
Misc Info : KELSO\SEMIVOA GC\8082-PCB_LL\09140007.H | F=4
Cal Date : 16-NOV-2009 10:32
Operator : JMSmith
Inst ID : GC09.i
Dil Factor : 1.000000

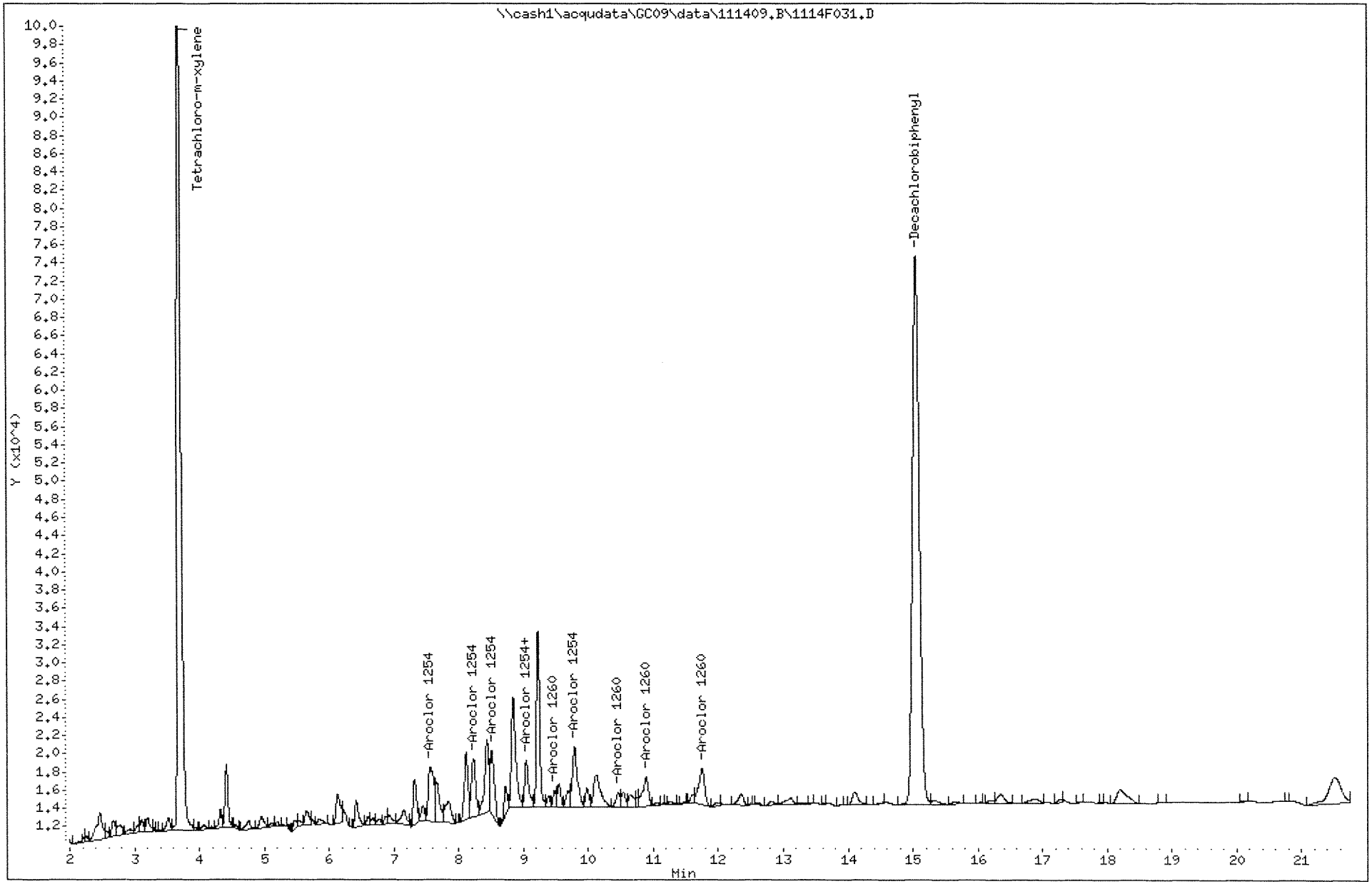
Method #1 : \\cash1\acqudata\GC09\data\111409.B\101409_f.m
Method #2 : \\cash1\acqudata\GC09\data\111409_r.b\101409_r.m
Sub List #1 : ALL.SUB
Sub List #2 : ALL.SUB
Col #1 Phase : DB-35MS
Col #2 Phase : DB-XLB

Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2	Target Range	Ratio
Tetrachloro-m-xylene	3.693	4.287	441587	358466	75.7	86.9		100.00(R)
Aroclor 1254	7.557	7.787	35479	25031	123	104	80.00- 120.00	100.00(M)
	8.227	8.200	30819	31776	152	130	56.32- 84.48	86.87(M)
	8.510	8.723	32770		66.0		138.21- 207.32	92.36(M)
	9.043	8.930	22787	37486	94.6	144	67.06- 100.59	64.23(M)
	9.787	9.530	36902	16785	108	71.8	94.84- 142.26	104.01(M)
			Average of Peak Amounts =		109	112		
Aroclor 1260	9.043	9.270	22787	11301	53.7	47.1	80.00- 120.00	100.00(M)
	9.477	10.367	5622	27482	24.4	89.1	42.74- 64.11	24.68(M)
	10.460	10.543	7674	3286	30.1	19.4	48.22- 72.33	33.68(M)
	10.893	11.670	19874	13077	36.2	36.9	101.77- 152.66	87.22(M)
	11.750	12.410	26132	6787	69.3	28.4	72.29- 108.43	114.68(M)
			Average of Peak Amounts =		42.7	44.2		
Decachlorobiphenyl	15.053	16.303	437436	380883	80.3	91.2		100.00(R)

QC Flag Legend

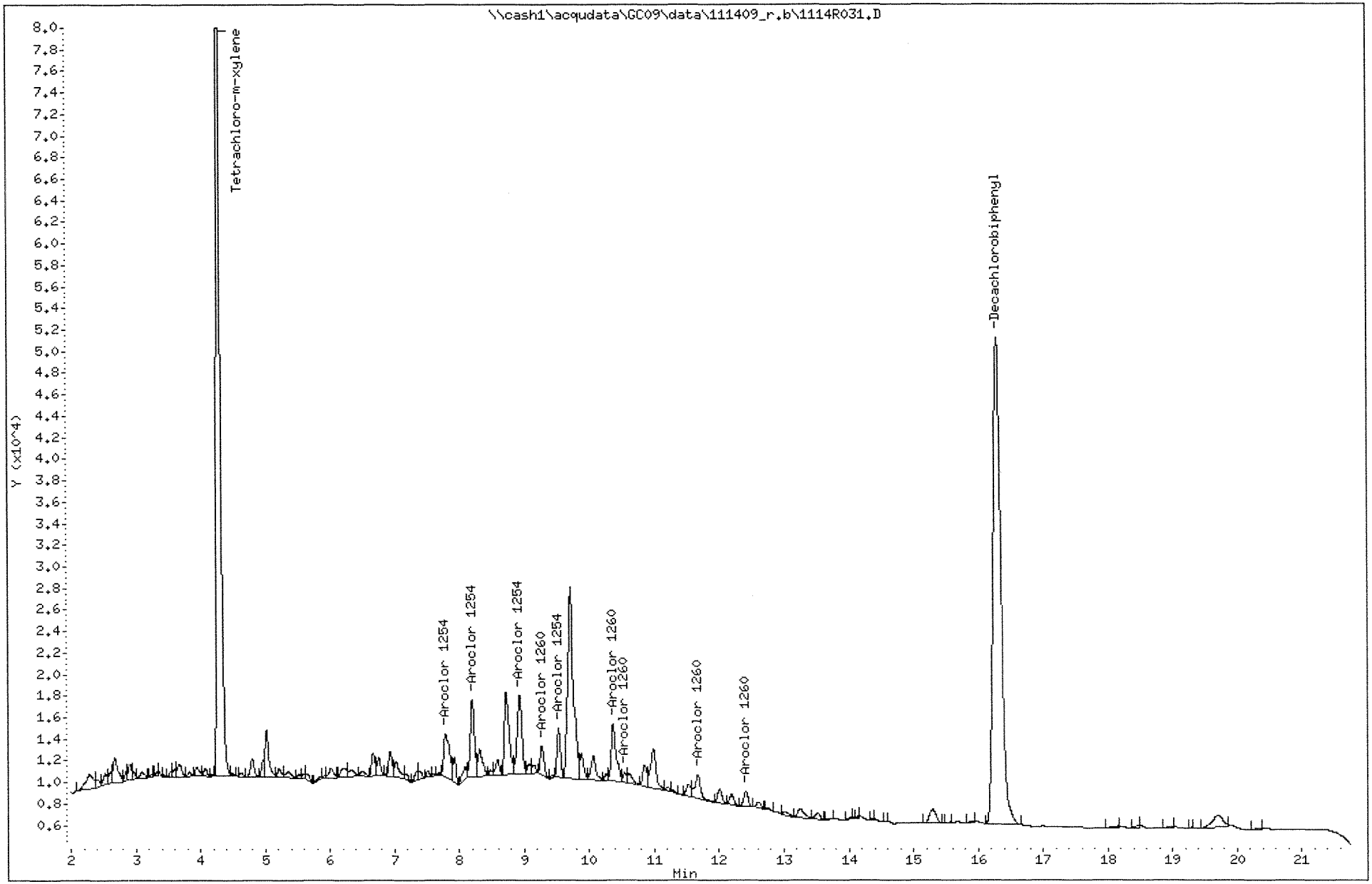
R - Spike/Surrogate failed recovery limits.
M - Compound response manually integrated.

Data File: \\cash1\acqudata\GC09\data\111409.B\1114F031.D
Date : 14-NOV-2009 22:21
Client ID:
Instrument: GC09.i
Sample Info: K0909140-007 | M-3-B
Operator: JMSmith
Column phase: DB-35MS
Column diameter: 0.53



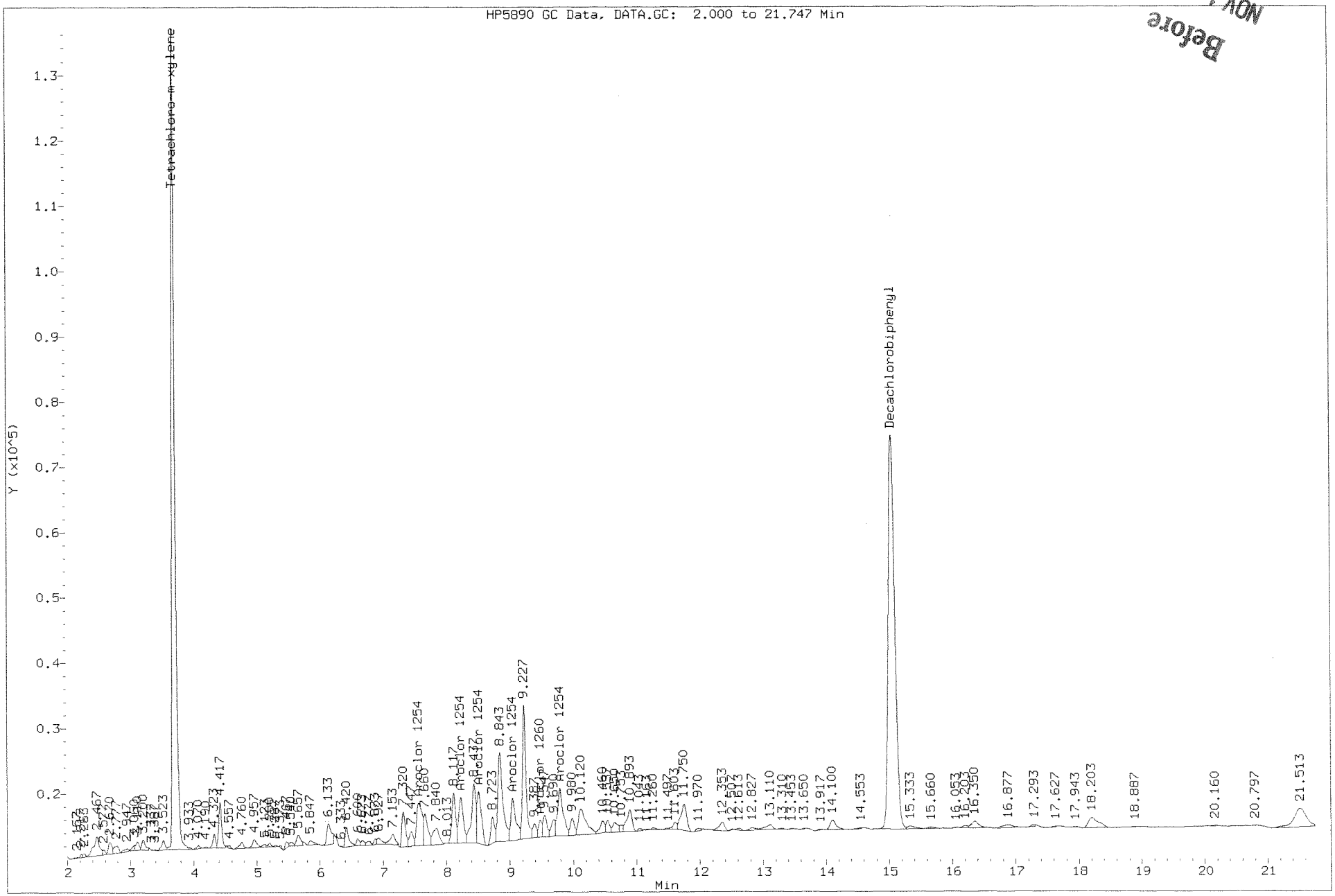
Data File: \\cash1\acqudata\GC09\data\111409_r.b\1114R031.D
Date : 14-NOV-2009 22:21
Client ID:
Sample Info: K0909140-007 | M-3-B

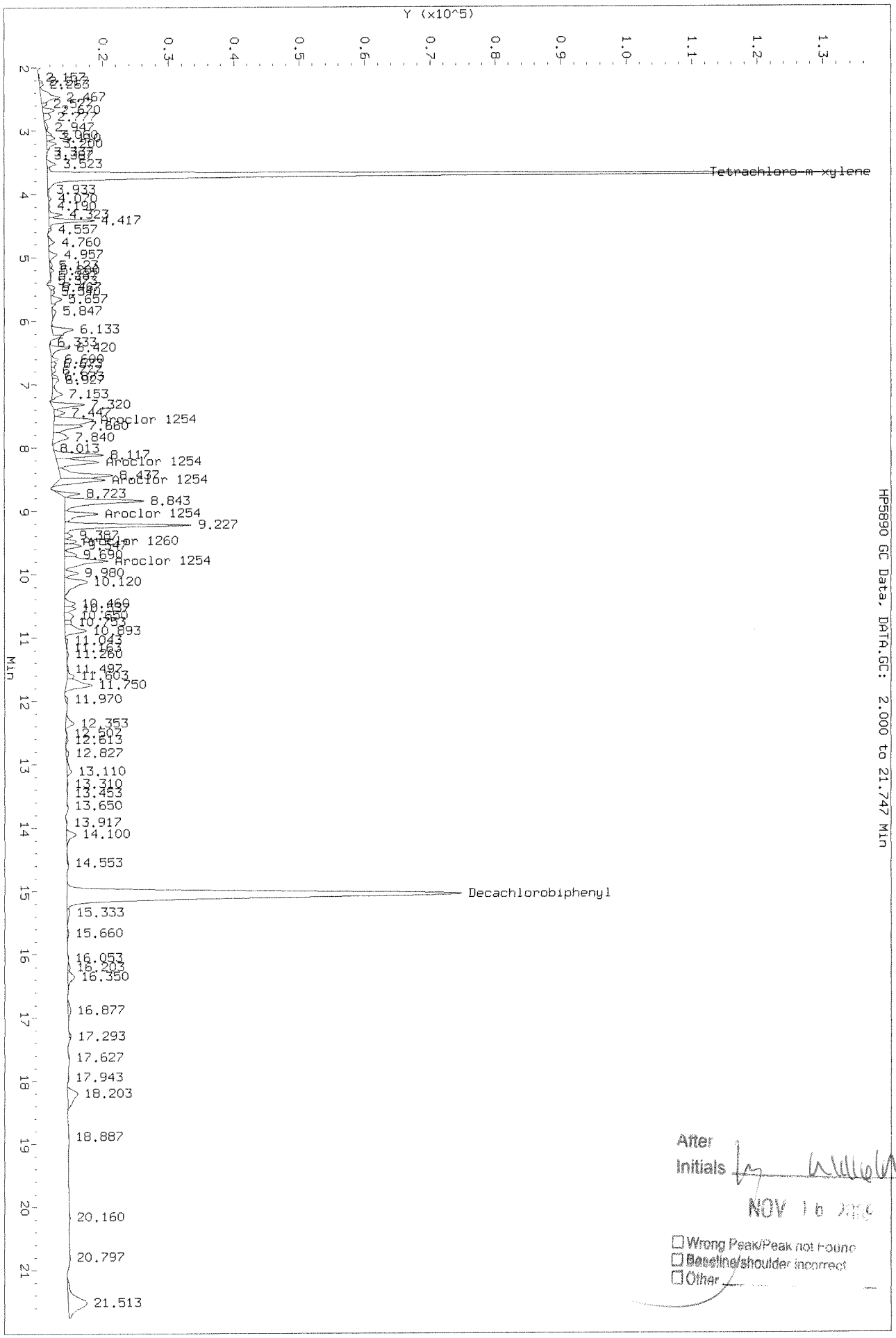
Instrument: GC09.i
Operator: JMSmith
Column phase: DB-XLB
Column diameter: 0.53

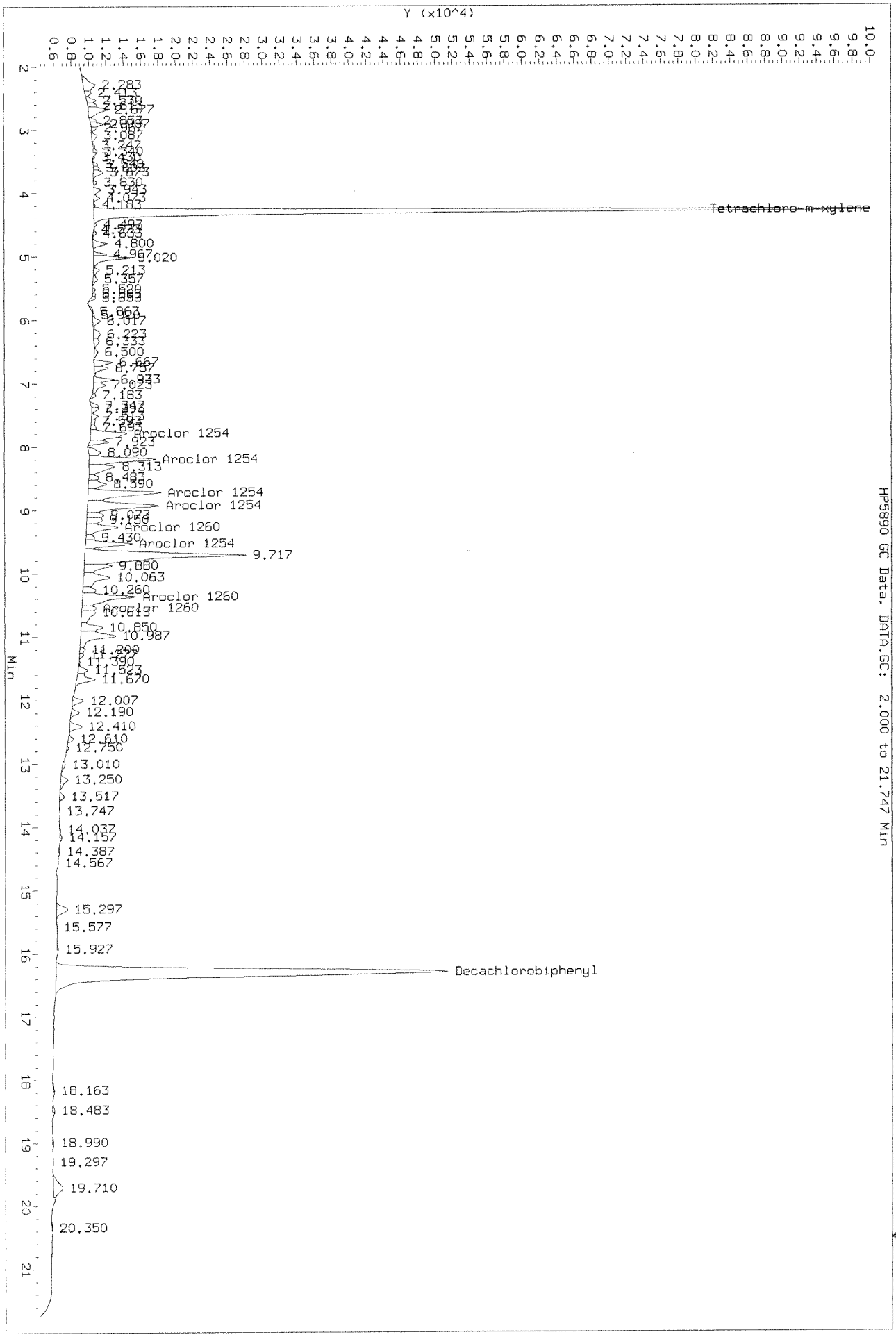


Data File: \\cash1\acqudata\GC09\data\111409.B\1114F031.D
Injection Date: 14-NOV-2009 22:21
Instrument: GC09.i
Client Sample ID:

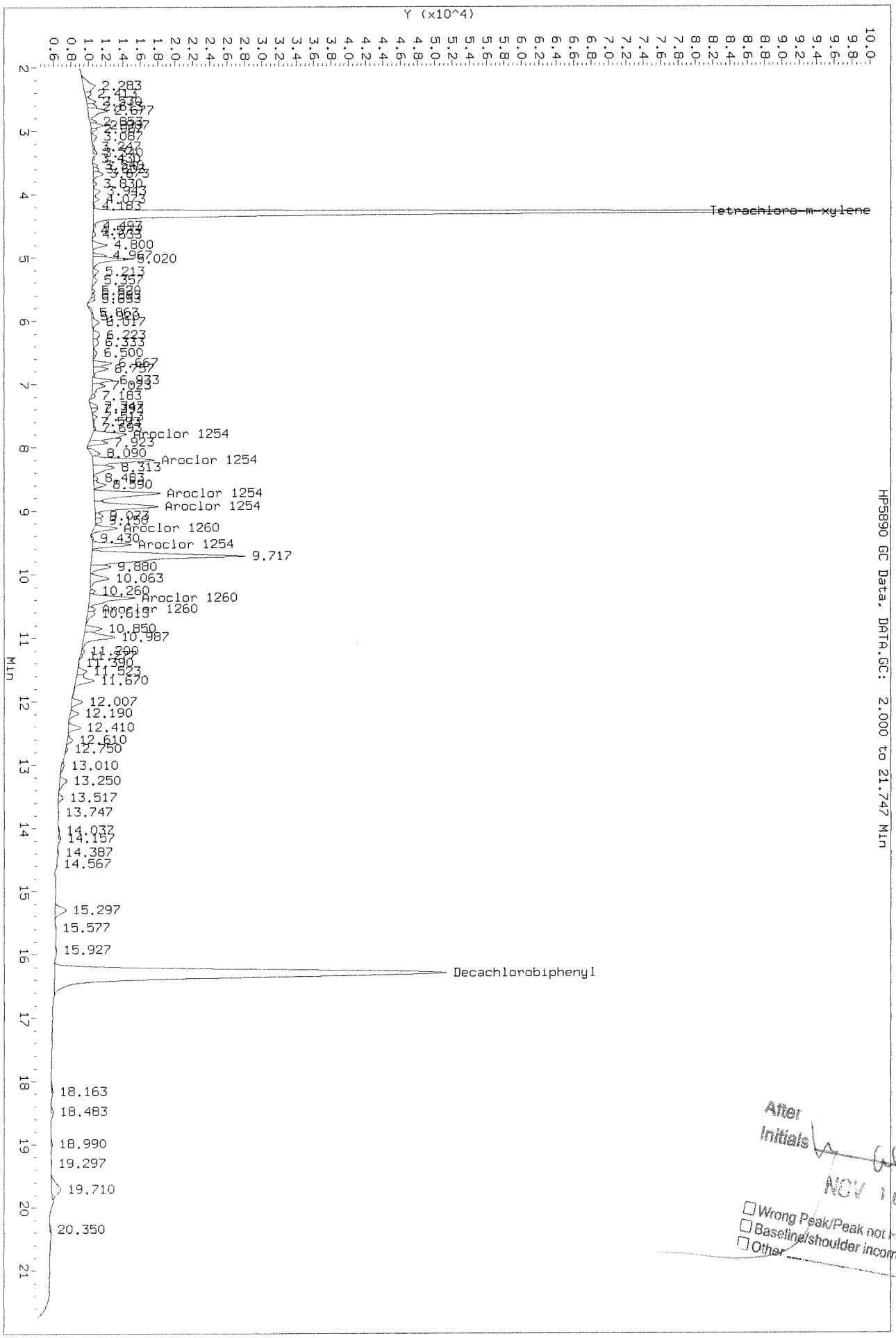
Before
NOV 16 2009




Data File: \\cash1\acqudata\GC09\data\111409.B\1114F031.D
Injection Date: 14-NOV-2009 22:21
Instrument: GC09.i
Client Sample ID:
HP5890 GC Data, DATA.GC: 2.000 to 21.747 Min
Y (x10^5)
Min
Tetrachloro-m-xylene
Decachlorobiphenyl
Aroclor 1254
Aroclor 1254
Aroclor 1254
Aroclor 1260
Aroclor 1254
After
Initials
NOV 16 2009
Wrong Peak/Peak not found
Baseline/shoulder incorrect
Other



Before
NOV 16 2009


Data File: \\cash1\acqudata\GC09\data\111409_r.b\1114R031.D
Injection Date: 14-NOV-2009 22:21
Instrument: GC09.i
Client Sample ID:
HP5890 GC Data, DATA.GC: 2.000 to 21.747 Min
Y (x10^4)
Min
Tetrachloro-m-xylene
Aroclor 1254
Aroclor 1254
Aroclor 1254
Aroclor 1254
Aroclor 1260
Aroclor 1260
Aroclor 1260
9.717
Decachlorobiphenyl
After
Initials
NOV
Wrong Peak/Peak not found
Baseline/shoulder incorrect
Other

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009
Sample Matrix: Sediment

Service Request: K0909140
Date Collected: 10/06/2009
Date Received: 10/07/2009

Polychlorinated Biphenyls (PCBs)

Sample Name: M-2-B
Lab Code: K0909140-008

Extraction Method: EPA 3541
Analysis Method: 8082

Units: ug/Kg
Basis: Dry

Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Aroclor 1016	ND	U	110	24	10	11/10/09	11/17/09	KWG0910513	
Aroclor 1221	ND	U	220	24	10	11/10/09	11/17/09	KWG0910513	
Aroclor 1232	ND	U	110	24	10	11/10/09	11/17/09	KWG0910513	
Aroclor 1242	ND	U	110	24	10	11/10/09	11/17/09	KWG0910513	
Aroclor 1248	ND	U	110	24	10	11/10/09	11/17/09	KWG0910513	
Aroclor 1254	**2900**	D	110	24	10	11/10/09	11/17/09	KWG0910513	
Aroclor 1260	ND	U	110	24	10	11/10/09	11/17/09	KWG0910513	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Decachlorobiphenyl	123	35-133	11/17/09	Acceptable

Comments:

Exception Report

Data File:	\\CASH1\ACQUDATA\GC09\DATA\111609.B\1116F016.D	**Date Acquired:**	11/17/2009 03:27
Lab ID:	K0909140-008	**Date Quantitated:**	11/17/2009 12:04
RunType:	SMPL	**Batch ID:**	KWG0910773
Matrix:	SEDIMENT	**Analysis Method:**	8082
		MethodJoinID:	MJ696

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Analytical Holding Time	NA	NA	NA	x	
Preparation Holding Time	35	NA	14		x
Pre-Preparation Holding Time	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Calibration Verification Ave %D	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA	x	
Calibration Verification Ave %D (Closing)	NA	NA	NA	x	
Continuing Calibration Recovery (Closing)	NA	NA	NA	x	
Method Blank	NA	NA	NA	x	
MB Surrogate Recovery	NA	NA	NA	x	
Lab Control Spike	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	*	NA	NA		x

Primary Review: _____

Secondary Review: _____

Exception Report

Data File: \\CASH1\ACQUDATA\GC09\DATA\111609_R.B\1116R016.D
Lab ID: K0909140-008
RunType: SMPL
Matrix: SEDIMENT

Date Acquired: 11/17/2009 03:27
Date Quantitated: 11/17/2009 12:06
Batch ID: KWG0910773
Analysis Method: 8082
MethodJoinID: MJ696

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Analytical Holding Time	NA	NA	NA	x	
Preparation Holding Time	35	NA	14		x
Pre-Preparation Holding Time	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Calibration Verification Ave %D	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA	x	
Calibration Verification Ave %D (Closing)	NA	NA	NA	x	
Continuing Calibration Recovery (Closing)	NA	NA	NA	x	
Method Blank	NA	NA	NA	x	
MB Surrogate Recovery	NA	NA	NA	x	
Lab Control Spike	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	*	NA	NA		x

Primary Review: [signature]

Secondary Review: [signature] 11/17/09

Quantitation Report

Bottle ID:		**Tier:**	V	**Matrix:**	SEDIMENT
Prod Code:	8082 PCB_LL	**Collect Date:**	10/06/2009	**Receive Date:**	10/07/2009

Analysis Lot:	KWG0910773	**Prep Lot:**	KWG0910513	**Report Group:**	K0909140
Analysis Method:	8082	**Prep Method:**	EPA 3541		
Prep Ref:	865585	**Prep Date:**	11/10/2009		

Quant Method:	\\CASH1\ACQUDATA\GC09\DATA\111609.B\101409_F.M	**Calibration ID:**	CAL8918
Title:	Polychlorinated Biphenyls (PCBs)	**Report List ID:**	LJ6180
MB Ref:	J:\GC09\DATA\111409.B\1114F017.D	**Method ID:**	MJ696
		Quant based on Report List	

Data File #1:	J:\GC09\DATA\111609.B\1116F016.D			**Instrument:**	GC09.i
Data File #2:	\\Cash1\Acqudata\GC09\data\111609_r.b\1116R016.D			**Vial:**	7
Acqu Date:	11/17/2009 03:27	**Quant Date:**	11/17/2009 12:04	**Dilution:**	10.0
Run Type:	SMPL			**Soln Conc. Units:**	ng/mL
Lab ID:	K0909140-008				
Signal #1:	DB-35MS	**Signal #2:**	DB-XLB		

Surrogate Compounds

Parameter Name	RT #1	RT #2	Resp #1	Respe #2	ng/mL #1	ng/mL #2			Rpt
Decachlorobiphenyl	15.05 0.00	16.29 -0.01	58504	51153	10.74	12.25			123OK
			%Recovery =		107OK	123OK	**Limits =**	35-133	

Target Compounds

Final Conc. Units: ug/Kg Dry Weight

Parameter Name	RT #1	RT #2	Resp #1	Resp #2	ng/mL #1	ng/mL #2	ug/Kg #1	ug/Kg #2	Rpt
Aroclor 1016			0	0	0.0000	0.0000	24U	24U	24U
Aroclor 1016 {1}			0d	0d	0.0000	0.0000	24U	24U	
Aroclor 1016 {2}			0d	0d	0.0000	0.0000	24U	24U	
Aroclor 1016 {3}			0d	0d	0.0000	0.0000	24U	24U	
Aroclor 1016 {4}			0d	0d	0.0000	0.0000	24U	24U	
Aroclor 1016 {5}			0d	0d	0.0000	0.0000	24U	24U	
Aroclor 1221			0	0	0.0000	0.0000	24U	24U	24U
Aroclor 1221 {1}			0d	0d	0.0000	0.0000	24U	24U	
Aroclor 1221 {2}			0d	0d	0.0000	0.0000	24U	24U	
Aroclor 1221 {3}			0d	0d	0.0000	0.0000	24U	24U	
Aroclor 1221 {4}			0d	0d	0.0000	0.0000	24U	24U	
Aroclor 1232			0	0	0.0000	0.0000	24U	24U	24U
Aroclor 1232 {1}			0d	0d	0.0000	0.0000	24U	24U	
Aroclor 1232 {2}			0d	0d	0.0000	0.0000	24U	24U	
Aroclor 1232 {3}			0d	0d	0.0000	0.0000	24U	24U	
Aroclor 1232 {4}			0d	0d	0.0000	0.0000	24U	24U	
Aroclor 1242			0	0	0.0000	0.0000	24U	24U	24U
Aroclor 1242 {1}			0d	0d	0.0000	0.0000	24U	24U	
Aroclor 1242 {2}			0d	0d	0.0000	0.0000	24U	24U	
Aroclor 1242 {3}			0d	0d	0.0000	0.0000	24U	24U	

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Data File #1:	J:\GC09\DATA\111609.B\1116F016.D			**Instrument:**	GC09.i
Data File #2:	\\Cash1\Acqudata\GC09\data\111609_r.b\1116R016.D			**Vial:**	7
Acqu Date:	11/17/2009 03:27	**Quant Date:**	11/17/2009 12:04	**Dilution:**	10.0
Run Type:	SMPL			**Soln Conc. Units:**	ng/mL
Lab ID:	K0909140-008				
Signal #1:	DB-35MS	**Signal #2:**	DB-XLB		

Target Compounds **Final Conc. Units:** ug/Kg Dry Weight

Parameter Name	RT #1	RT #2	Resp #1	Resp #2	ng/mL #1	ng/mL #2	ug/Kg #1	ug/Kg #2	Rpt
Aroclor 1242 {4}			0d	0d	0.0000	0.0000	24U	24U	
Aroclor 1242 {5}			0d	0d	0.0000	0.0000	24U	24U	
Aroclor 1248			0	0	0.0000	0.0000	24U	24U	24U
Aroclor 1248 {1}			0d	0d	0.0000	0.0000	24U	24U	
Aroclor 1248 {2}			0d	0d	0.0000	0.0000	24U	24U	
Aroclor 1248 {3}			0d	0d	0.0000	0.0000	24U	24U	
Aroclor 1248 {4}			0d	0d	0.0000	0.0000	24U	24U	
Aroclor 1248 {5}			0d	0d	0.0000	0.0000	24U	24U	
Aroclor 1254			0	0	1,268	1,329	2800D	2900D	**2900**D
Aroclor 1254 {1}	7.55	7.78	355643	318856m	1,238	1,325	2700D	2900D	
Aroclor 1254 {2}	8.24	8.20	251785	338514m	1,245	1,388	2700D	3000D	
Aroclor 1254 {3}	8.43	8.75	537750	183671m	1,083	1,385	2400D	3000D	
Aroclor 1254 {4}	9.04	8.94	306363	358775m	1,272	1,374	2800D	3000D	
Aroclor 1254 {5}	9.79	9.53	512027	274008m	1,503	1,172	3300D	2600D	
Aroclor 1260			0	0	0.0000	0.0000	24U	24U	24U
Aroclor 1260 {1}			0d	0d	0.0000	0.0000	24U	24U	
Aroclor 1260 {2}			0d	0d	0.0000	0.0000	24U	24U	
Aroclor 1260 {3}			0d	0d	0.0000	0.0000	24U	24U	
Aroclor 1260 {4}			0d	0d	0.0000	0.0000	24U	24U	
Aroclor 1260 {5}			0d	0d	0.0000	0.0000	24U	24U	

The -/+ after Retention Time symbolize the direction of the RT shift

Prep Amount:	20.36 g	**Dilution:**	10.0
Prep Final Vol:	4 ml	**Unit Factor:**	1
Solids:	89.5 %		

Final Concentration = ((Soln Conc x Prep Final Vol x Dilution) / (Prep Amount x Solids)) x Unit Factor

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Data File: \\Cash1\Acqudata\GC09\data\111609.B\1116F016.D
Report Date: 17-Nov-2009 12:04

Columbia Analytical Services

Sample #1 : \\Cash1\Acqudata\GC09\data\111609.B\1116F016.D
Sample #2 : \\Cash1\Acqudata\GC09\data\111609_r.b\1116R016.D
Inj Date : 17-NOV-2009 03:27
Sample Info: K0909140-008 @ 10X | M-2-B
Misc Info : KELSO\SEMIVOA GC\8082-PCB_LL\09140008.H | F=4
Cal Date : 17-NOV-2009 08:56
Operator : JMSmith
Inst ID : GC09.i
Dil Factor : 1.000000

Method #1 : \\cash1\acqudata\GC09\data\111609.B\101409_f.m
Method #2 : \\cash1\acqudata\GC09\data\111609_r.b\101409_r.m
Sub List #1 : ALL.SUB
Sub List #2 : ALL.SUB
Col #1 Phase : DB-35MS
Col #2 Phase : DB-XLB

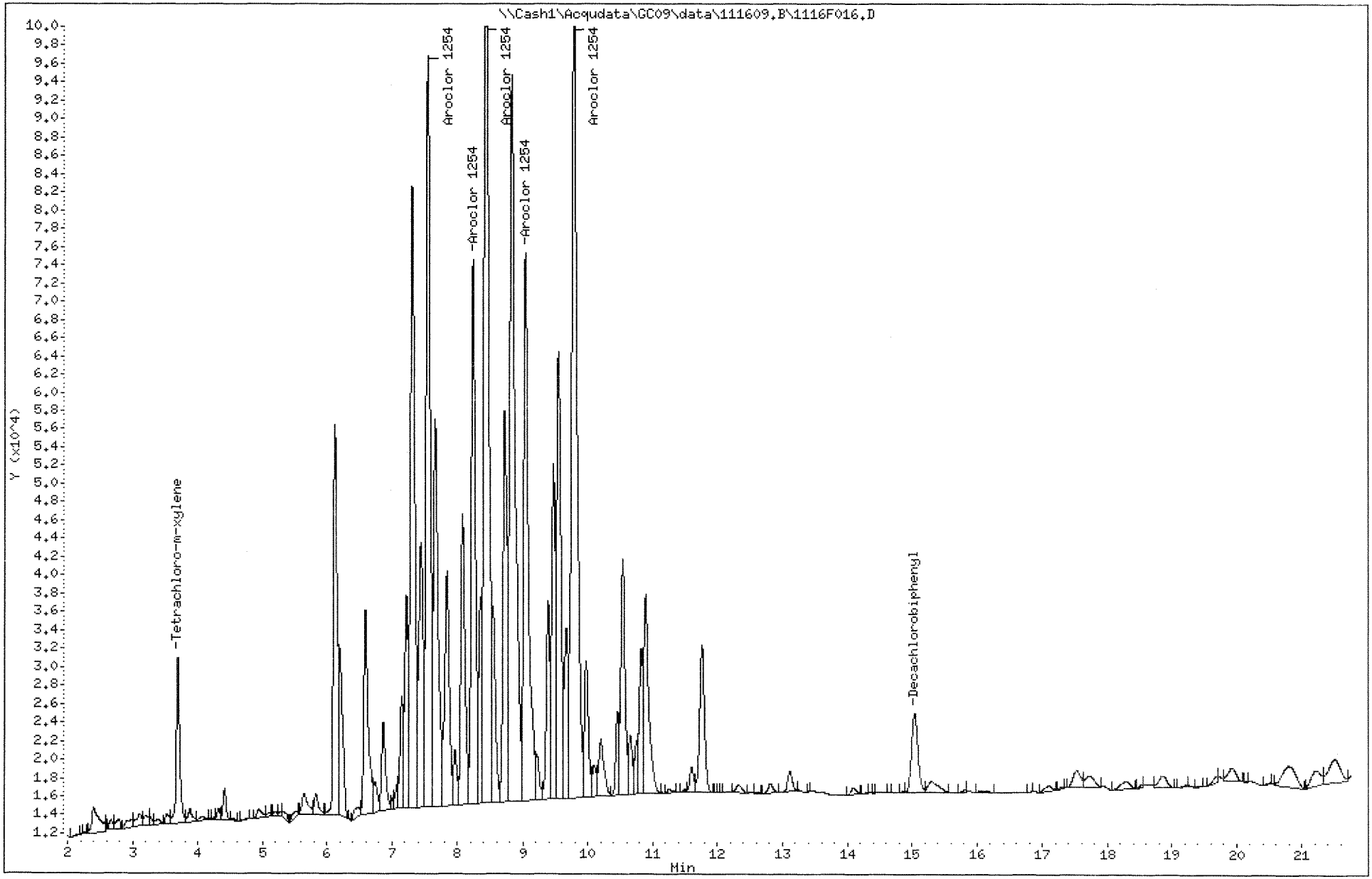
Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2	Target Range	Ratio
Tetrachloro-m-xylene	3.690	4.283	65329	39708	11.2	9.62		100.00(R)
Aroclor 1254	7.550	7.780	355643	318856	1240	1320	80.00- 120.00	100.00
	8.240	8.200	251785	338514	1240	1390	56.32- 84.48	70.80
	8.433	8.753	537750	183671	1080	1380	138.21- 207.32	151.21
	9.040	8.937	306363	358775	1270	1370	67.06- 100.59	86.14
	9.787	9.527	512027	274008	1500	1170	94.84- 142.26	143.97
			Average of Peak Amounts =		1270	1330		
Decachlorobiphenyl	15.047	16.293	58504	51153	10.7	12.2		100.00(R)

QC Flag Legend

R - Spike/Surrogate failed recovery limits.

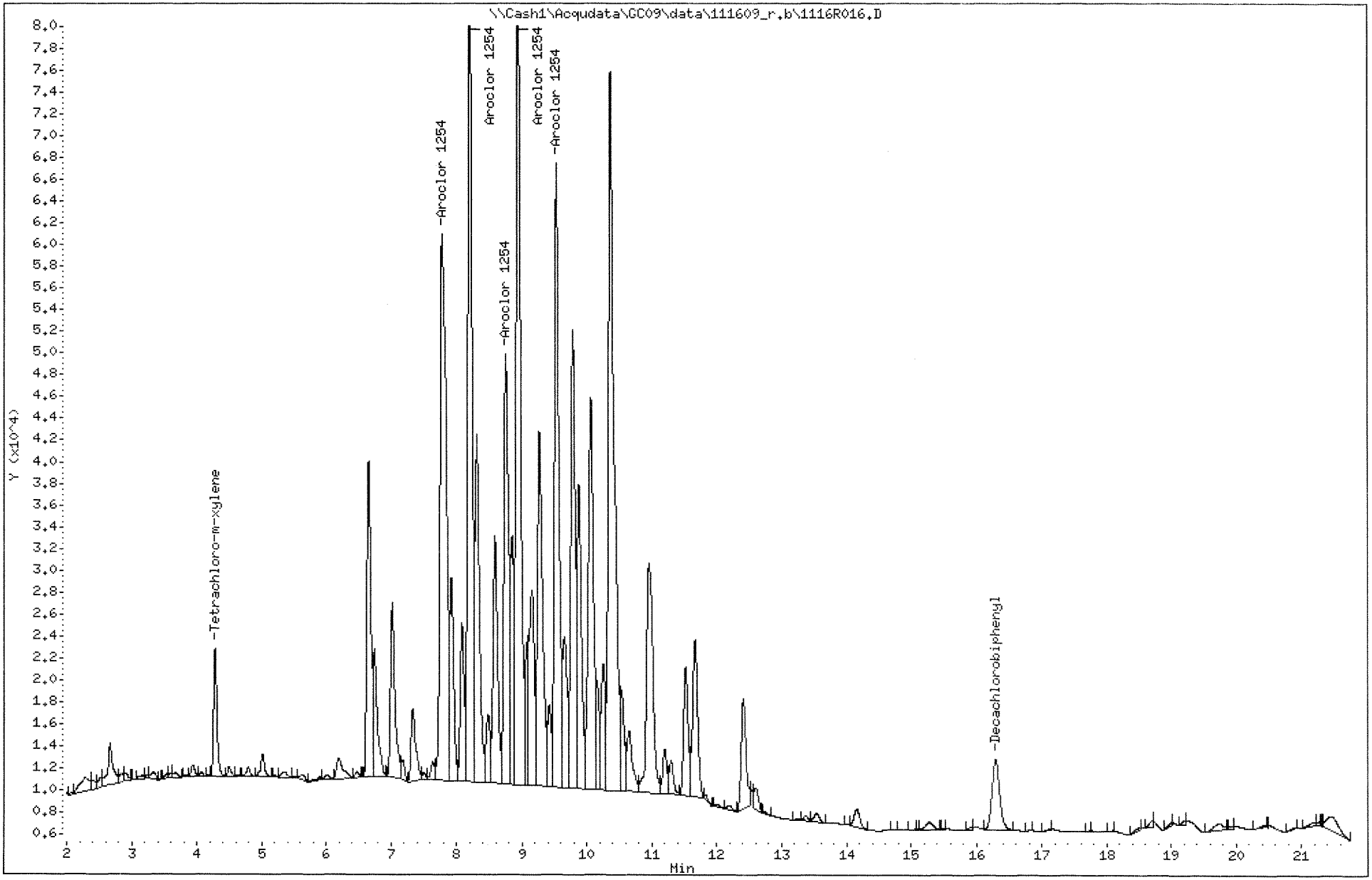
Data File: \\Cash1\Acqudata\GC09\data\111609.B\1116F016.D
Date : 17-NOV-2009 03:27
Client ID:
Sample Info: K0909140-008 @ 10X | M-2-B

Instrument: GC09.i
Operator: JMSmith
Column phase: DB-35MS
Column diameter: 0.53



Data File: \\Cash1\Acqudata\GC09\data\111609_r.b\1116R016.D
Date : 17-NOV-2009 03:27
Client ID:
Sample Info: K0909140-008 @ 10X | M-2-B

Instrument: GC09.i
Operator: JMSmith
Column phase: DB-XLB
Column diameter: 0.53



Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009
Sample Matrix: Sediment

Service Request: K0909140
Date Collected: 10/07/2009
Date Received: 10/08/2009

Polychlorinated Biphenyls (PCBs)

Sample Name: M-1-C
Lab Code: K0909140-009

Extraction Method: EPA 3541
Analysis Method: 8082

Units: ug/Kg
Basis: Dry
Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Aroclor 1016	ND	U	11	2.3	1	11/10/09	11/17/09	KWG0910513	
Aroclor 1221	ND	U	22	2.3	1	11/10/09	11/17/09	KWG0910513	
Aroclor 1232	ND	U	11	2.3	1	11/10/09	11/17/09	KWG0910513	
Aroclor 1242	ND	U	11	2.3	1	11/10/09	11/17/09	KWG0910513	
Aroclor 1248	ND	U	11	2.3	1	11/10/09	11/17/09	KWG0910513	
Aroclor 1254	**23**	P	11	2.3	1	11/10/09	11/17/09	KWG0910513	
Aroclor 1260	ND	Ui	14	14	1	11/10/09	11/17/09	KWG0910513	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Decachlorobiphenyl	96	35-133	11/17/09	Acceptable

Comments:

Exception Report

Data File: \\CASH1\ACQUDATA\GC09\DATA\111609.B\1116F014.D
Lab ID: K0909140-009
RunType: SMPL
Matrix: SEDIMENT

Date Acquired: 11/17/2009 02:34
Date Quantitated: 11/17/2009 12:03
Batch ID: KWG0910773
Analysis Method: 8082
MethodJoinID: MJ696

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Analytical Holding Time	NA	NA	NA	x	
Preparation Holding Time	34	NA	14		x
Pre-Preparation Holding Time	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Calibration Verification Ave %D	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA	x	
Calibration Verification Ave %D (Closing)	NA	NA	NA	x	
Continuing Calibration Recovery (Closing)	NA	NA	NA	x	
Method Blank	NA	NA	NA	x	
MB Surrogate Recovery	NA	NA	NA	x	
Lab Control Spike	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA		x
Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
Analyte Co-elution	Aroclor 1254 {4}	9.04	NA	NA	
	Aroclor 1260 {1}	9.04	NA	NA	

Primary Review: _____

Secondary Review: _____

Exception Report

Data File: \\CASH1\ACQUDATA\GC09\DATA\111609_R.B\1116R014.D
Lab ID: K0909140-009
RunType: SMPL
Matrix: SEDIMENT

Date Acquired: 11/17/2009 02:34
Date Quantitated: 11/17/2009 12:05
Batch ID: KWG0910773
Analysis Method: 8082
MethodJoinID: MJ696

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Analytical Holding Time	NA	NA	NA	x	
Preparation Holding Time	34	NA	14		x
Pre-Preparation Holding Time	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Calibration Verification Ave %D	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA	x	
Calibration Verification Ave %D (Closing)	NA	NA	NA	x	
Continuing Calibration Recovery (Closing)	NA	NA	NA	x	
Method Blank	NA	NA	NA	x	
MB Surrogate Recovery	NA	NA	NA	x	
Lab Control Spike	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Envroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Primary Review: _____

Secondary Review: _____

Quantitation Report

Bottle ID:		**Tier:**	V	**Matrix:**	SEDIMENT
Prod Code:	8082 PCB_LL	**Collect Date:**	10/07/2009	**Receive Date:**	10/08/2009

Analysis Lot:	KWG0910773	**Prep Lot:**	KWG0910513	**Report Group:**	K0909140
Analysis Method:	8082	**Prep Method:**	EPA 3541		
Prep Ref:	865586	**Prep Date:**	11/10/2009		

Quant Method:	\\CASH1\ACQUDATA\GC09\DATA\111609.B\101409_F.M	**Calibration ID:**	CAL8918
Title:	Polychlorinated Biphenyls (PCBs)	**Report List ID:**	LJ6180
MB Ref:	J:\GC09\DATA\111409.B\1114F017.D	**Method ID:**	MJ696
		Quant based on Report List	

Data File #1:	J:\GC09\DATA\111609.B\1116F014.D			**Instrument:**	GC09.i
Data File #2:	\\Cash1\Acqudata\GC09\data\111609_r.b\1116R014.D			**Vial:**	5
Acqu Date:	11/17/2009 02:34	**Quant Date:**	11/17/2009 12:03	**Dilution:**	1.0
Run Type:	SMPL			**Soln Conc. Units:**	ng/mL
Lab ID:	K0909140-009				
Signal #1:	DB-35MS	**Signal #2:**	DB-XLB		

Surrogate Compounds

Parameter Name	RT #1		RT #2		Resp #1	Respe #2	ng/mL #1	ng/mL #2			Rpt
Decachlorobiphenyl	15.04	-0.01	16.29	-0.01	442861	399107	81.26	95.59			96OK
					%Recovery =		81OK	96OK	Limits =	35-133	

Target Compounds

Final Conc. Units: ug/Kg Dry Weight

Parameter Name	RT #1	RT #2	Resp #1	Resp #2	ng/mL #1	ng/mL #2	ug/Kg #1	ug/Kg #2	Rpt
Aroclor 1016			0	0	0.0000	0.0000	2.3U	2.3U	2.3U
Aroclor 1016 {1}			0d	0d	0.0000	0.0000	2.3U	2.3U	
Aroclor 1016 {2}			0d	0d	0.0000	0.0000	2.3U	2.3U	
Aroclor 1016 {3}			0d	0d	0.0000	0.0000	2.3U	2.3U	
Aroclor 1016 {4}			0d	0d	0.0000	0.0000	2.3U	2.3U	
Aroclor 1016 {5}			0d	0d	0.0000	0.0000	2.3U	2.3U	
Aroclor 1221			0	0	0.0000	0.0000	2.3U	2.3U	2.3U
Aroclor 1221 {1}			0d	0d	0.0000	0.0000	2.3U	2.3U	
Aroclor 1221 {2}			0d	0d	0.0000	0.0000	2.3U	2.3U	
Aroclor 1221 {3}			0d	0d	0.0000	0.0000	2.3U	2.3U	
Aroclor 1221 {4}			0d	0d	0.0000	0.0000	2.3U	2.3U	
Aroclor 1232			0	0	0.0000	0.0000	2.3U	2.3U	2.3U
Aroclor 1232 {1}			0d	0d	0.0000	0.0000	2.3U	2.3U	
Aroclor 1232 {2}			0d	0d	0.0000	0.0000	2.3U	2.3U	
Aroclor 1232 {3}			0d	0d	0.0000	0.0000	2.3U	2.3U	
Aroclor 1232 {4}			0d	0d	0.0000	0.0000	2.3U	2.3U	
Aroclor 1242			0	0	0.0000	0.0000	2.3U	2.3U	2.3U
Aroclor 1242 {1}			0d	0d	0.0000	0.0000	2.3U	2.3U	
Aroclor 1242 {2}			0d	0d	0.0000	0.0000	2.3U	2.3U	
Aroclor 1242 {3}			0d	0d	0.0000	0.0000	2.3U	2.3U	

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Data File #1:	J:\GC09\DATA\111609.B\1116F014.D			**Instrument:**	GC09.i
Data File #2:	\\Cash1\Acqudata\GC09\data\111609_r.b\1116R014.D			**Vial:**	5
Acqu Date:	11/17/2009 02:34	**Quant Date:**	11/17/2009 12:03	**Dilution:**	1.0
Run Type:	SMPL			**Soln Conc. Units:**	ng/mL
Lab ID:	K0909140-009				
Signal #1:	DB-35MS	**Signal #2:**	DB-XLB		

Target Compounds **Final Conc. Units:** ug/Kg Dry Weight

Parameter Name	RT #1		RT #2		Resp #1	Resp #2	ng/mL #1	ng/mL #2	ug/Kg #1	ug/Kg #2	Rpt
Aroclor 1242 {4}					0d	0d	0.0000	0.0000	2.3U	2.3U	
Aroclor 1242 {5}					0d	0d	0.0000	0.0000	2.3U	2.3U	
Aroclor 1248					0	0	0.0000	0.0000	2.3U	2.3U	2.3U
Aroclor 1248 {1}					0d	0d	0.0000	0.0000	2.3U	2.3U	
Aroclor 1248 {2}					0d	0d	0.0000	0.0000	2.3U	2.3U	
Aroclor 1248 {3}					0d	0d	0.0000	0.0000	2.3U	2.3U	
Aroclor 1248 {4}					0d	0d	0.0000	0.0000	2.3U	2.3U	
Aroclor 1248 {5}					0d	0d	0.0000	0.0000	2.3U	2.3U	
Aroclor 1254					0	0	104.19	187.36	23	41	**41**P
Aroclor 1254 {1}	7.55		7.78		33162	28954	115.41	120.34	25	26	
Aroclor 1254 {2}	8.23		8.19		21998	37145	108.75	152.27	24	33	
Aroclor 1254 {3}	8.51		8.71		31259	49144	62.97	370.51	14	80	RPD
Aroclor 1254 {4}	9.04	c	8.93		27362	49690	113.60	190.37	25	41	
Aroclor 1254 {5}	9.78		9.52		40964	24149	120.25	103.31	26	22	
Aroclor 1260					0	0	60.86	87.67	13	19	**19**
Aroclor 1260 {1}	9.04	-0.01 c	9.26	-0.01	27362	31053	64.48	129.43	14	28	
Aroclor 1260 {2}	9.48		10.36	-0.01	3516	38991	15.25	126.44	3.3J	27	RPD
Aroclor 1260 {3}	10.46	0.00	10.54	0.00	20003	11371	78.47	67.04	17	15	
Aroclor 1260 {4}	10.89	-0.01	11.66	-0.01	34238	22641	62.34	63.97	13	14	
Aroclor 1260 {5}	11.75	-0.02	12.41	-0.01	31585	12294	83.76	51.47	18	11	

The -/+ after Retention Time symbolize the direction of the RT shift

Prep Amount:	20.41 g	**Dilution:**	1.0
Prep Final Vol:	4 ml	**Unit Factor:**	1
Solids:	90.5 %		

Final Concentration = ((Soln Conc x Prep Final Vol x Dilution) / (Prep Amount x Solids)) x Unit Factor

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Data File: \\Cash1\Acqudata\GC09\data\111609.B\1116F014.D
Report Date: 17-Nov-2009 12:03

Columbia Analytical Services

Sample #1 : \\Cash1\Acqudata\GC09\data\111609.B\1116F014.D
Sample #2 : \\Cash1\Acqudata\GC09\data\111609_r.b\1116R014.D
Inj Date : 17-NOV-2009 02:34
Sample Info: K0909140-009 | M-1-C
Misc Info : KELSO\SEMIVOA GC\8082-PCB_LL\09140009.H | F=4
Cal Date : 17-NOV-2009 08:56
Operator : JMSmith
Inst ID : GC09.i
Dil Factor : 1.000000

Method #1 : \\cash1\acqudata\GC09\data\111609.B\101409_f.m
Method #2 : \\cash1\acqudata\GC09\data\111609_r.b\101409_r.m
Sub List #1 : ALL.SUB
Sub List #2 : ALL.SUB
Col #1 Phase : DB-35MS
Col #2 Phase : DB-XLB

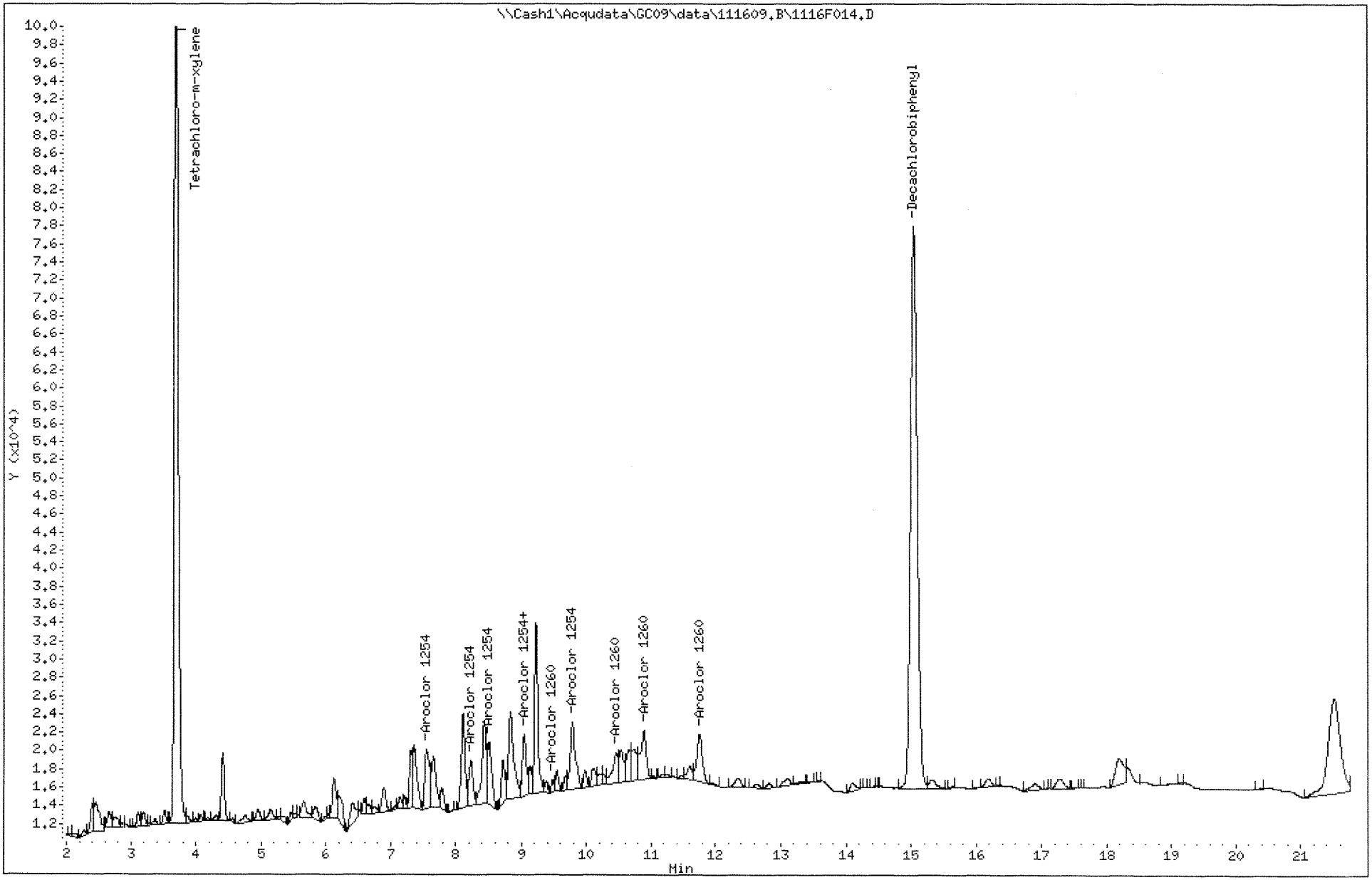
Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2	Target Range	Ratio
Tetrachloro-m-xylene	3.690	4.283	447546	362402	76.7	87.8		100.00(R)
Aroclor 1254	7.553	7.783	33162	28954	115	120	80.00- 120.00	100.00
	8.230	8.193	21998	37145	109	152	56.32- 84.48	66.33
	8.507	8.713	31259	49144	63.0	370	138.21- 207.32	94.26
	9.040	8.927	27362	49690	114	190	67.06- 100.59	82.51
	9.783	9.523	40964	24149	120	103	94.84- 142.26	123.53
			Average of Peak Amounts =		104	187		
Aroclor 1260	9.040	9.263	27362	31053	64.5	129	80.00- 120.00	100.00
	9.477	10.360	3516	38991	15.2	126	43.64- 65.47	12.85
	10.460	10.540	20003	11371	78.5	67.0	47.65- 71.48	73.11
	10.890	11.663	34238	22641	62.3	64.0	99.70- 149.56	125.13
	11.753	12.407	31585	12294	83.8	51.5	70.16- 105.24	115.43
			Average of Peak Amounts =		60.9	87.5		
Decachlorobiphenyl	15.043	16.293	442861	399107	81.2	95.6		100.00(R)

QC Flag Legend

R - Spike/Surrogate failed recovery limits.

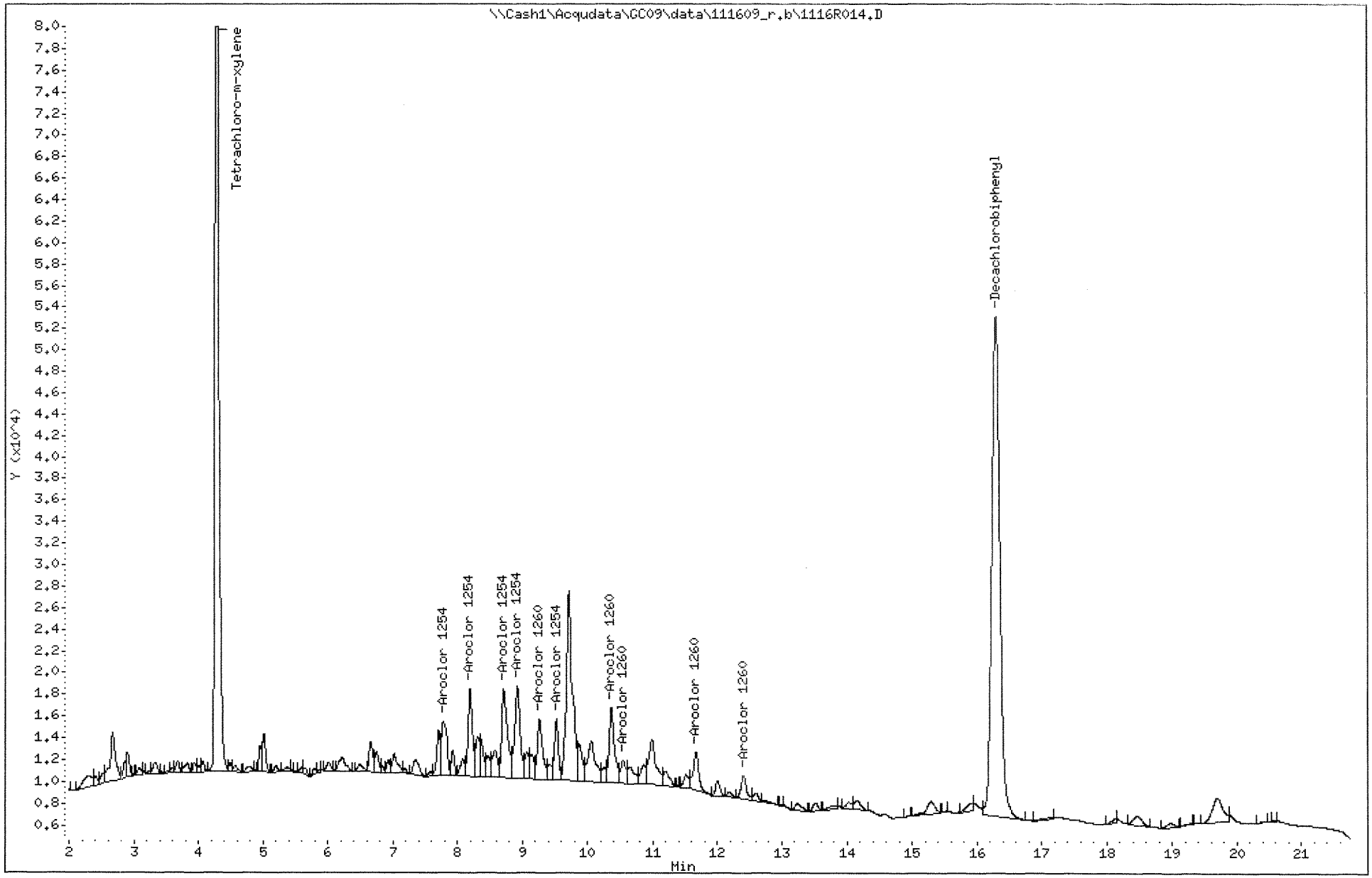
Data File: \\Cash1\Acqudata\GC09\data\111609.B\1116F014.D
Date : 17-NOV-2009 02:34
Client ID:
Sample Info: K0909140-009 | M-1-C

Instrument: GC09.i
Operator: JMSmith
Column phase: DB-35MS
Column diameter: 0.53



Data File: \\Cash1\Acqudata\GC09\data\111609_r.b\1116R014.D
Date : 17-NOV-2009 02:34
Client ID:
Sample Info: K0909140-009 | M-1-C

Instrument: GC09.i
Operator: JMSmith
Column phase: DB-XLB
Column diameter: 0.53



COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	URS Corporation	**Service Request:**	K0909140
Project:	Boise St. Helens Pulp and Paper Mill-2009	**Date Collected:**	10/05/2009
Sample Matrix:	Sediment	**Date Received:**	10/06/2009

Polychlorinated Biphenyls (PCBs)

Sample Name:	M-3-C	**Units:**	ug/Kg
Lab Code:	K0909140-010	**Basis:**	Dry
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8082		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Aroclor 1016	ND	U	12	2.5	1	11/10/09	11/17/09	KWG0910513	
Aroclor 1221	ND	U	24	2.5	1	11/10/09	11/17/09	KWG0910513	
Aroclor 1232	ND	U	12	2.5	1	11/10/09	11/17/09	KWG0910513	
Aroclor 1242	ND	U	12	2.5	1	11/10/09	11/17/09	KWG0910513	
Aroclor 1248	ND	U	12	2.5	1	11/10/09	11/17/09	KWG0910513	
Aroclor 1254	**23**	P	12	2.5	1	11/10/09	11/17/09	KWG0910513	
Aroclor 1260	ND	Ui	16	16	1	11/10/09	11/17/09	KWG0910513	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Decachlorobiphenyl	90	35-133	11/17/09	Acceptable

Comments:

Exception Report

Data File:	\\CASH1\ACQUDATA\GC09\DATA\111609.B\1116F015.D	**Date Acquired:**	11/17/2009 03:01
Lab ID:	K0909140-010	**Date Quantitated:**	11/17/2009 12:04
RunType:	SMPL	**Batch ID:**	KWG0910773
Matrix:	SEDIMENT	**Analysis Method:**	8082
		MethodJoinID:	MJ696

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Analytical Holding Time	NA	NA	NA	x	
Preparation Holding Time	36	NA	14		x
Pre-Preparation Holding Time	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Calibration Verification Ave %D	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA	x	
Calibration Verification Ave %D (Closing)	NA	NA	NA	x	
Continuing Calibration Recovery (Closing)	NA	NA	NA	x	
Method Blank	NA	NA	NA	x	
MB Surrogate Recovery	NA	NA	NA	x	
Lab Control Spike	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA		x
Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
Analyte Co-elution	Aroclor 1254 {4}	9.04	NA	NA	
	Aroclor 1260 {1}	9.04	NA	NA	

Primary Review: _____

Secondary Review: _____

Exception Report

Data File: \\CASH1\ACQUDATA\GC09\DATA\111609_R.B\1116R015.D
Lab ID: K0909140-010
RunType: SMPL
Matrix: SEDIMENT

Date Acquired: 11/17/2009 03:01
Date Quantitated: 11/17/2009 12:06
Batch ID: KWG0910773
Analysis Method: 8082
MethodJoinID: MJ696

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Analytical Holding Time	NA	NA	NA	x	
Preparation Holding Time	36	NA	14		x
Pre-Preparation Holding Time	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Calibration Verification Ave %D	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA	x	
Calibration Verification Ave %D (Closing)	NA	NA	NA	x	
Continuing Calibration Recovery (Closing)	NA	NA	NA	x	
Method Blank	NA	NA	NA	x	
MB Surrogate Recovery	NA	NA	NA	x	
Lab Control Spike	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Primary Review: _____

Secondary Review: _____

Quantitation Report

Bottle ID:		**Tier:**	V	**Matrix:**	SEDIMENT
Prod Code:	8082 PCB_LL	**Collect Date:**	10/05/2009	**Receive Date:**	10/06/2009

Analysis Lot:	KWG0910773	**Prep Lot:**	KWG0910513	**Report Group:**	K0909140
Analysis Method:	8082	**Prep Method:**	EPA 3541		
Prep Ref:	865587	**Prep Date:**	11/10/2009		

Quant Method:	\\CASH1\ACQUDATA\GC09\DATA\111609.B\101409_F.M	**Calibration ID:**	CAL8918
Title:	Polychlorinated Biphenyls (PCBs)	**Report List ID:**	LJ6180
MB Ref:	J:\GC09\DATA\111409.B\1114F017.D	**Method ID:**	MJ696
		Quant based on Report List	

Data File #1:	J:\GC09\DATA\111609.B\1116F015.D			**Instrument:**	GC09.i
Data File #2:	\\Cash1\Acqudata\GC09\data\111609_r.b\1116R015.D			**Vial:**	6
Acqu Date:	11/17/2009 03:01	**Quant Date:**	11/17/2009 12:04	**Dilution:**	1.0
Run Type:	SMPL			**Soln Conc. Units:**	ng/mL
Lab ID:	K0909140-010				
Signal #1:	DB-35MS	**Signal #2:**	DB-XLB		

Surrogate Compounds

Parameter Name	RT #1	RT #2	Resp #1	Respe #2	ng/mL #1	ng/mL #2			Rpt
Decachlorobiphenyl	15.05 0.00	16.29 -0.01	446552	377546	81.94	90.42			90OK
			%Recovery =		82OK	90OK	Limits =	35-133	

Target Compounds

Final Conc. Units: ug/Kg Dry Weight

Parameter Name	RT #1	RT #2	Resp #1	Resp #2	ng/mL #1	ng/mL #2	ug/Kg #1	ug/Kg #2	Rpt
Aroclor 1016			0	0	0.0000	0.0000	2.5U	2.5U	2.5U
Aroclor 1016 {1}			0d	0d	0.0000	0.0000	2.5U	2.5U	
Aroclor 1016 {2}			0d	0d	0.0000	0.0000	2.5U	2.5U	
Aroclor 1016 {3}			0d	0d	0.0000	0.0000	2.5U	2.5U	
Aroclor 1016 {4}			0d	0d	0.0000	0.0000	2.5U	2.5U	
Aroclor 1016 {5}			0d	0d	0.0000	0.0000	2.5U	2.5U	
Aroclor 1221			0	0	0.0000	0.0000	2.5U	2.5U	2.5U
Aroclor 1221 {1}			0d	0d	0.0000	0.0000	2.5U	2.5U	
Aroclor 1221 {2}			0d	0d	0.0000	0.0000	2.5U	2.5U	
Aroclor 1221 {3}			0d	0d	0.0000	0.0000	2.5U	2.5U	
Aroclor 1221 {4}			0d	0d	0.0000	0.0000	2.5U	2.5U	
Aroclor 1232			0	0	0.0000	0.0000	2.5U	2.5U	2.5U
Aroclor 1232 {1}			0d	0d	0.0000	0.0000	2.5U	2.5U	
Aroclor 1232 {2}			0d	0d	0.0000	0.0000	2.5U	2.5U	
Aroclor 1232 {3}			0d	0d	0.0000	0.0000	2.5U	2.5U	
Aroclor 1232 {4}			0d	0d	0.0000	0.0000	2.5U	2.5U	
Aroclor 1242			0	0	0.0000	0.0000	2.5U	2.5U	2.5U
Aroclor 1242 {1}			0d	0d	0.0000	0.0000	2.5U	2.5U	
Aroclor 1242 {2}			0d	0d	0.0000	0.0000	2.5U	2.5U	
Aroclor 1242 {3}			0d	0d	0.0000	0.0000	2.5U	2.5U	

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Data File #1:	J:\GC09\DATA\111609.B\1116F015.D			**Instrument:**	GC09.i
Data File #2:	\\Cash1\Acqudata\GC09\data\111609_r.b\1116R015.D			**Vial:**	6
Acqu Date:	11/17/2009 03:01	**Quant Date:**	11/17/2009 12:04	**Dilution:**	1.0
Run Type:	SMPL			**Soln Conc. Units:**	ng/mL
Lab ID:	K0909140-010				
Signal #1:	DB-35MS	**Signal #2:**	DB-XLB		

Target Compounds **Final Conc. Units:** ug/Kg Dry Weight

Parameter Name	RT #1	RT #2	Resp #1	Resp #2	ng/mL #1	ng/mL #2	ug/Kg #1	ug/Kg #2	Rpt
Aroclor 1242 {4}			0d	0d	0.0000	0.0000	2.5U	2.5U	
Aroclor 1242 {5}			0d	0d	0.0000	0.0000	2.5U	2.5U	
Aroclor 1248			0	0	0.0000	0.0000	2.5U	2.5U	2.5U
Aroclor 1248 {1}			0d	0d	0.0000	0.0000	2.5U	2.5U	
Aroclor 1248 {2}			0d	0d	0.0000	0.0000	2.5U	2.5U	
Aroclor 1248 {3}			0d	0d	0.0000	0.0000	2.5U	2.5U	
Aroclor 1248 {4}			0d	0d	0.0000	0.0000	2.5U	2.5U	
Aroclor 1248 {5}			0d	0d	0.0000	0.0000	2.5U	2.5U	
Aroclor 1254			0	0	97.42	158.36	23	37	**37**P
Aroclor 1254 {1}	7.59	7.78	12513	21454	43.55	89.17	10J	21	
Aroclor 1254 {2}	8.22	8.19	24424	32814	120.74	134.51	28	31	
Aroclor 1254 {3}	8.51	8.71	31518	41745	63.49	314.72	15	73	RPD
Aroclor 1254 {4}	9.04 c	8.93	35073	45288	145.61	173.50	34	40	
Aroclor 1254 {5}	9.78	9.52	38741	18678	113.72	79.91	26	18	
Aroclor 1260			0	0	64.92	80.31	15	19	**19**
Aroclor 1260 {1}	9.04 -0.01 c	9.27 0.00	35073	24723	82.65	103.04	19	24	
Aroclor 1260 {2}	9.47 0.00	10.36 -0.01	10102	42209	43.83	136.88	10J	32	RPD
Aroclor 1260 {3}	10.46 0.00	10.61 +0.06	13502	0	52.97	0.0000	12	2.5U	
Aroclor 1260 {4}	10.89 -0.01	11.66 -0.01	24450	18087	44.52	51.10	10J	12J	
Aroclor 1260 {5}	11.74 -0.03	12.40 -0.01	37952	7219	100.64	30.22	23	7.0J	RPD

The -/+ after Retention Time symbolize the direction of the RT shift

Prep Amount:	18.13 g	**Dilution:**	1.0
Prep Final Vol:	4 ml	**Unit Factor:**	1
Solids:	95.3 %		

Final Concentration = ((Soln Conc x Prep Final Vol x Dilution) / (Prep Amount x Solids)) x Unit Factor

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Data File: \\Cash1\Acqudata\GC09\data\111609.B\1116F015.D
Report Date: 17-Nov-2009 12:04

Columbia Analytical Services

Sample #1 : \\Cash1\Acqudata\GC09\data\111609.B\1116F015.D
Sample #2 : \\Cash1\Acqudata\GC09\data\111609_r.b\1116R015.D
Inj Date : 17-NOV-2009 03:01
Sample Info: K0909140-010 | M-3-C
Misc Info : KELSO\SEMIVOA GC\8082-PCB_LL\09140010.H | F=4
Cal Date : 17-NOV-2009 08:56
Operator : JMSmith
Inst ID : GC09.i
Dil Factor : 1.000000

Method #1 : \\cash1\acqudata\GC09\data\111609.B\101409_f.m
Method #2 : \\cash1\acqudata\GC09\data\111609_r.b\101409_r.m
Sub List #1 : ALL.SUB
Sub List #2 : ALL.SUB
Col #1 Phase : DB-35MS
Col #2 Phase : DB-XLB

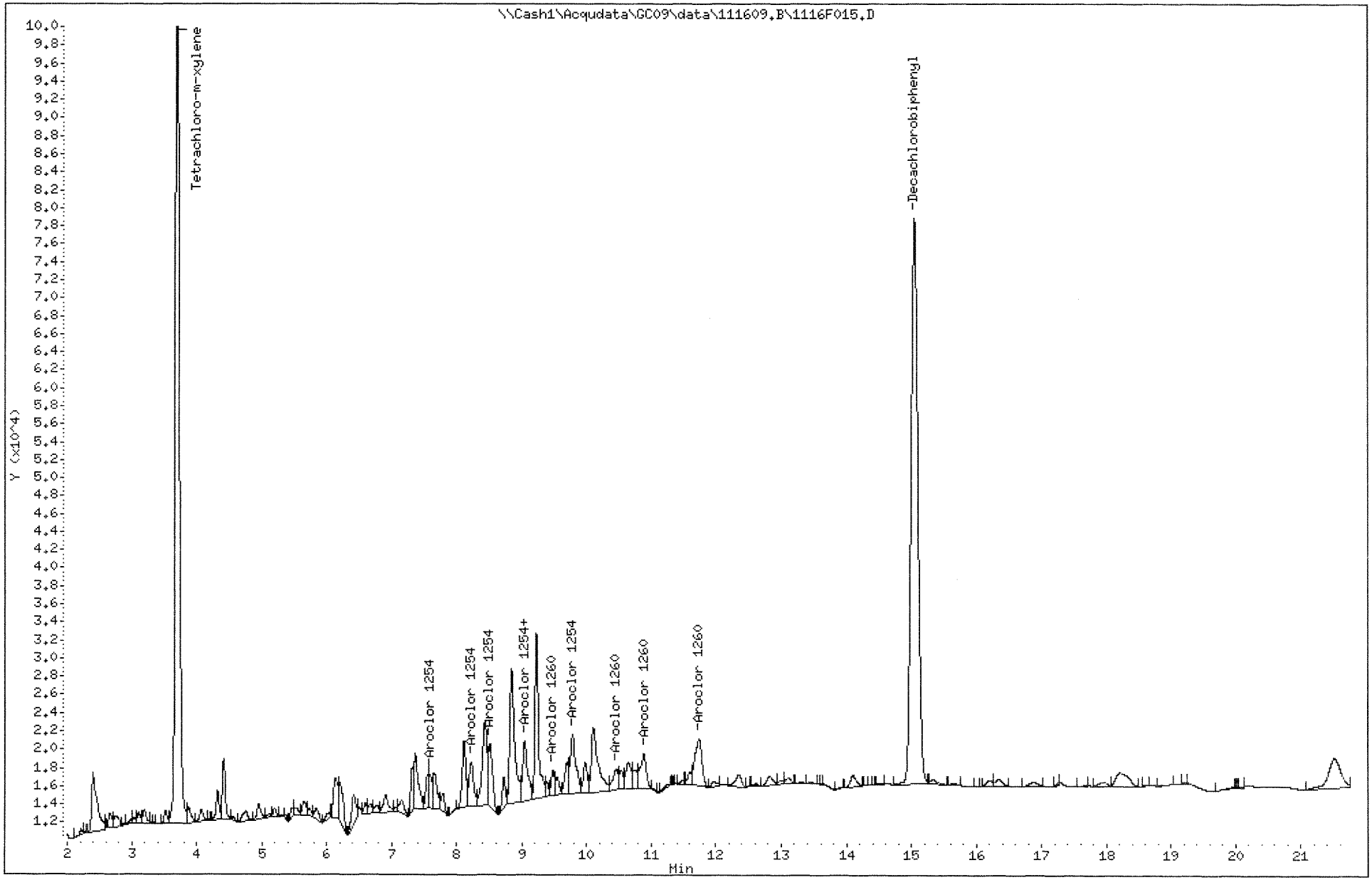
Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2	Target Range	Ratio
Tetrachloro-m-xylene	3.690	4.283	446535	365608	76.6	88.6		100.00(R)
Aroclor 1254	7.587	7.780	12513	21454	43.5	89.2	80.00- 120.00	100.00
	8.220	8.193	24424	32814	121	134	56.32- 84.48	195.19
	8.507	8.713	31518	41745	63.5	315	138.21- 207.32	251.88
	9.040	8.927	35073	45288	146	174	67.06- 100.59	280.29
	9.783	9.523	38741	18678	114	79.9	94.84- 142.26	309.61
			Average of Peak Amounts =		97.6	158		
Aroclor 1260	9.040	9.267	35073	24723	82.6	103	80.00- 120.00	100.00
	9.473	10.363	10102	42209	43.8	137	43.64- 65.47	28.80
	10.460	10.607	13502		53.0		47.65- 71.48	38.50
	10.887	11.663	24450	18087	44.5	51.1	99.70- 149.56	69.71
	11.740	12.403	37952	7219	101	30.2	70.16- 105.24	108.21
			Average of Peak Amounts =		65.0	80.3		
Decachlorobiphenyl	15.047	16.290	446552	377546	81.9	90.4		100.00(R)

QC Flag Legend

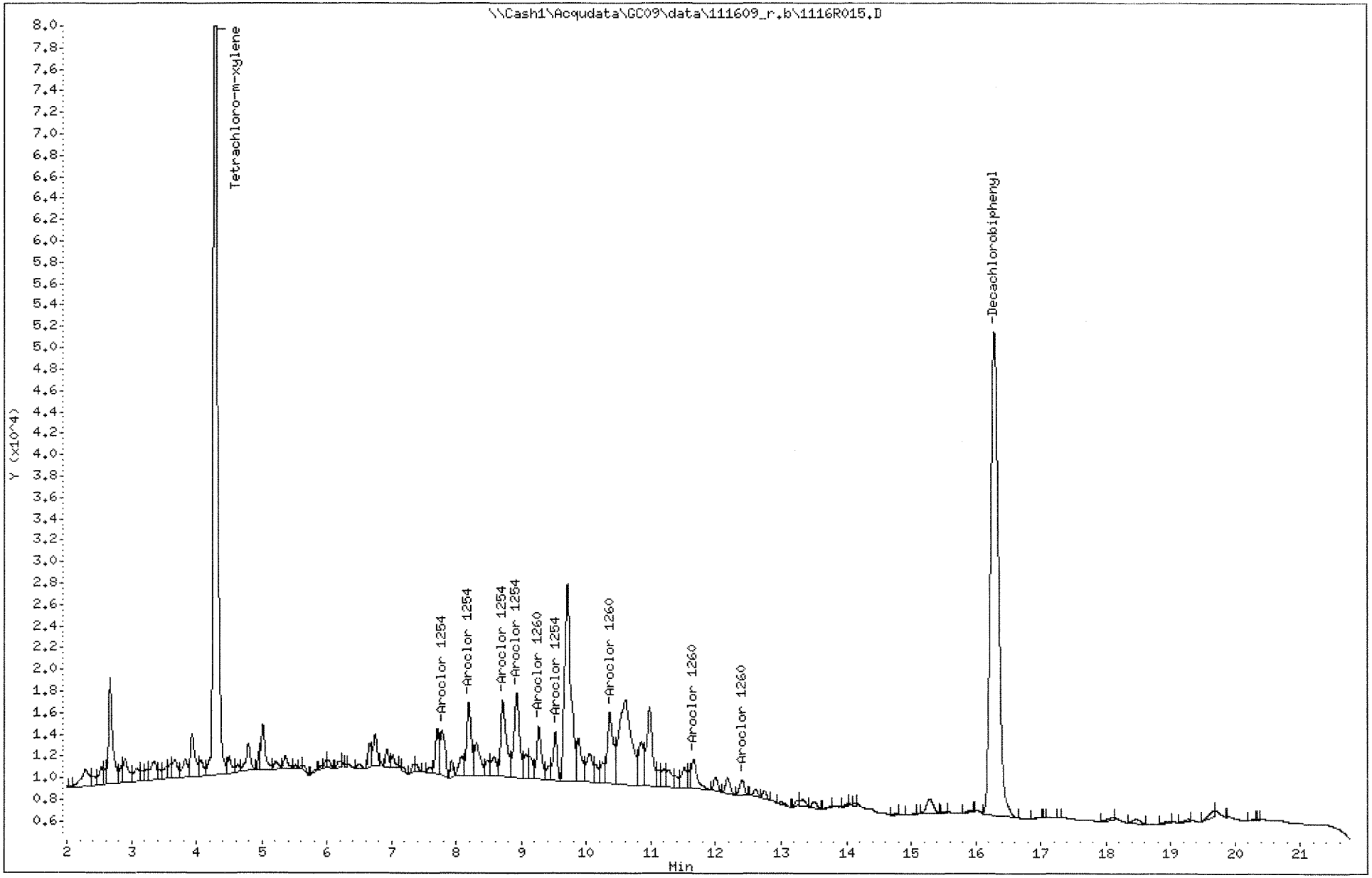
R - Spike/Surrogate failed recovery limits.

Data File: \\Cash1\Acqudata\GC09\data\111609.B\1116F015.D
Date : 17-NOV-2009 03:01
Client ID:
Sample Info: K0909140-010 | M-3-C

Instrument: GC09.i
Operator: JMSmith
Column phase: DB-35MS
Column diameter: 0.53



Data File: \\Cash1\Acqudata\GC09\data\111609_r.b\1116R015.D
Date : 17-NOV-2009 03:01
Client ID:
Instrument: GC09.i
Sample Info: K0909140-010 | M-3-C
Operator: JMSmith
Column phase: DB-XLB
Column diameter: 0.53



Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009
Sample Matrix: Sediment

Service Request: K0909140
Date Collected: 10/09/2009
Date Received: 10/09/2009

Polychlorinated Biphenyls (PCBs)

Sample Name: B-1-A
Lab Code: K0909140-011

Extraction Method: EPA 3541
Analysis Method: 8082

Units: ug/Kg
Basis: Dry

Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Aroclor 1016	ND	U	11	2.2	1	11/10/09	11/15/09	KWG0910513	
Aroclor 1221	ND	U	21	2.2	1	11/10/09	11/15/09	KWG0910513	
Aroclor 1232	ND	U	11	2.2	1	11/10/09	11/15/09	KWG0910513	
Aroclor 1242	ND	U	11	2.2	1	11/10/09	11/15/09	KWG0910513	
Aroclor 1248	ND	U	11	2.2	1	11/10/09	11/15/09	KWG0910513	
Aroclor 1254	ND	U	11	2.2	1	11/10/09	11/15/09	KWG0910513	
Aroclor 1260	ND	U	11	2.2	1	11/10/09	11/15/09	KWG0910513	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Decachlorobiphenyl	93	35-133	11/15/09	Acceptable

Comments:

Exception Report

Data File: \\CASH1\ACQUDATA\GC09\DATA\111409.B\1114F035.D
Lab ID: K0909140-011
RunType: SMPL
Matrix: SEDIMENT

Date Acquired: 11/15/2009 00:06
Date Quantitated: 11/16/2009 12:40
Batch ID: KWG0910694
Analysis Method: 8082
MethodJoinID: MJ696

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Analytical Holding Time	NA	NA	NA	x	
Preparation Holding Time	32	NA	14		x
Pre-Preparation Holding Time	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Calibration Verification Ave %D	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA	x	
Calibration Verification Ave %D (Closing)	NA	NA	NA	x	
Continuing Calibration Recovery (Closing)	NA	NA	NA	x	
Method Blank	NA	NA	NA	x	
MB Surrogate Recovery	NA	NA	NA	x	
Lab Control Spike	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Primary Review: _____

Secondary Review: _____

Exception Report

Data File: \\CASH1\ACQUDATA\GC09\DATA\111409_R.B\1114R035.D
Lab ID: K0909140-011
RunType: SMPL
Matrix: SEDIMENT

Date Acquired: 11/15/2009 00:06
Date Quantitated: 11/16/2009 12:42
Batch ID: KWG0910694
Analysis Method: 8082
MethodJoinID: MJ696

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Analytical Holding Time	NA	NA	NA	x	
Preparation Holding Time	32	NA	14		x
Pre-Preparation Holding Time	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Calibration Verification Ave %D	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA	x	
Calibration Verification Ave %D (Closing)	NA	NA	NA	x	
Continuing Calibration Recovery (Closing)	NA	NA	NA	x	
Method Blank	NA	NA	NA	x	
MB Surrogate Recovery	NA	NA	NA	x	
Lab Control Spike	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Primary Review: 11/16/09

Secondary Review:

Quantitation Report

Bottle ID:		**Tier:**	V	**Matrix:**	SEDIMENT
Prod Code:	8082 PCB_LL	**Collect Date:**	10/09/2009	**Receive Date:**	10/09/2009

Analysis Lot:	KWG0910694	**Prep Lot:**	KWG0910513	**Report Group:**	K0909140
Analysis Method:	8082	**Prep Method:**	EPA 3541		
Prep Ref:	865588	**Prep Date:**	11/10/2009		

Quant Method:	\\CASH1\ACQUDATA\GC09\DATA\111409.B\101409_F.M	**Calibration ID:**	CAL8918
Title:	Polychlorinated Biphenyls (PCBs)	**Report List ID:**	LJ6180
MB Ref:	J:\GC09\DATA\111409.B\1114F017.D	**Method ID:**	MJ696
		Quant based on Report List	

Data File #1:	J:\GC09\DATA\111409.B\1114F035.D			**Instrument:**	GC09.i
Data File #2:	\\cash1\acqudata\GC09\data\111409_r.b\1114R035.D			**Vial:**	48
Acqu Date:	11/15/2009 00:06	**Quant Date:**	11/16/2009 12:40	**Dilution:**	1.0
Run Type:	SMPL			**Soln Conc. Units:**	ng/mL
Lab ID:	K0909140-011				
Signal #1:	DB-35MS	**Signal #2:**	DB-XLB		

Surrogate Compounds

Parameter Name	RT #1	RT #2	Resp #1	Respe #2	ng/mL #1	ng/mL #2			Rpt
Decachlorobiphenyl	15.05 0.00	16.30 -0.01	428697m	389563	78.66	93.30			93OK
			%Recovery =		79OK	93OK	**Limits =**	35-133	

Target Compounds

Final Conc. Units: ug/Kg Dry Weight

Parameter Name	RT #1	RT #2	Resp #1	Resp #2	ng/mL #1	ng/mL #2	ug/Kg #1	ug/Kg #2	Rpt
Aroclor 1016			0	0	0.0000	0.0000	2.2U	2.2U	2.2U
Aroclor 1016 {1}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1016 {2}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1016 {3}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1016 {4}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1016 {5}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1221			0	0	0.0000	0.0000	2.2U	2.2U	2.2U
Aroclor 1221 {1}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1221 {2}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1221 {3}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1221 {4}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1232			0	0	0.0000	0.0000	2.2U	2.2U	2.2U
Aroclor 1232 {1}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1232 {2}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1232 {3}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1232 {4}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1242			0	0	0.0000	0.0000	2.2U	2.2U	2.2U
Aroclor 1242 {1}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1242 {2}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1242 {3}			0d	0d	0.0000	0.0000	2.2U	2.2U	

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Data File #1:	J:\GC09\DATA\111409.B\1114F035.D			**Instrument:**	GC09.i
Data File #2:	\\cash1\acqudata\GC09\data\111409_r.b\1114R035.D			**Vial:**	48
Acqu Date:	11/15/2009 00:06	**Quant Date:**	11/16/2009 12:40	**Dilution:**	1.0
Run Type:	SMPL			**Soln Conc. Units:**	ng/mL
Lab ID:	K0909140-011				
Signal #1:	DB-35MS	**Signal #2:**	DB-XLB		

Target Compounds **Final Conc. Units:** ug/Kg Dry Weight

Parameter Name	RT #1	RT #2	Resp #1	Resp #2	ng/mL #1	ng/mL #2	ug/Kg #1	ug/Kg #2	Rpt
Aroclor 1242 {4}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1242 {5}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1248			0	0	0.0000	0.0000	2.2U	2.2U	2.2U
Aroclor 1248 {1}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1248 {2}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1248 {3}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1248 {4}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1248 {5}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1254			0	0	0.0000	0.0000	2.2U	2.2U	2.2U
Aroclor 1254 {1}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1254 {2}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1254 {3}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1254 {4}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1254 {5}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1260			0	0	0.0000	0.0000	2.2U	2.2U	2.2U
Aroclor 1260 {1}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1260 {2}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1260 {3}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1260 {4}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1260 {5}			0d	0d	0.0000	0.0000	2.2U	2.2U	

The -/+ after Retention Time symbolize the direction of the RT shift

Prep Amount:	20.16 g	**Dilution:**	1.0
Prep Final Vol:	4 ml	**Unit Factor:**	1
Solids:	94.8 %		

Final Concentration = ((Soln Conc x Prep Final Vol x Dilution) / (Prep Amount x Solids)) x Unit Factor

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Data File: \\cash1\acqudata\GC09\data\111409.B\1114F035.D
Report Date: 16-Nov-2009 12:40

Laboratory Name

Sample #1 : \\cash1\acqudata\GC09\data\111409.B\1114F035.D
Sample #2 : \\cash1\acqudata\GC09\data\111409_r.b\1114R035.D
Inj Date : 15-NOV-2009 00:06
Sample Info: K0909140-011 | B-1-A
Misc Info : KELSO\SEMIVOA GC\8082-PCB_LL\09140011.H | F=4
Cal Date : 16-NOV-2009 10:32
Operator : JMSmith
Inst ID : GC09.i
Dil Factor : 1.000000

Method #1 : \\cash1\acqudata\GC09\data\111409.B\101409_f.m
Method #2 : \\cash1\acqudata\GC09\data\111409_r.b\101409_r.m
Sub List #1 : ALL.SUB
Sub List #2 : ALL.SUB
Col #1 Phase : DB-35MS
Col #2 Phase : DB-XLB

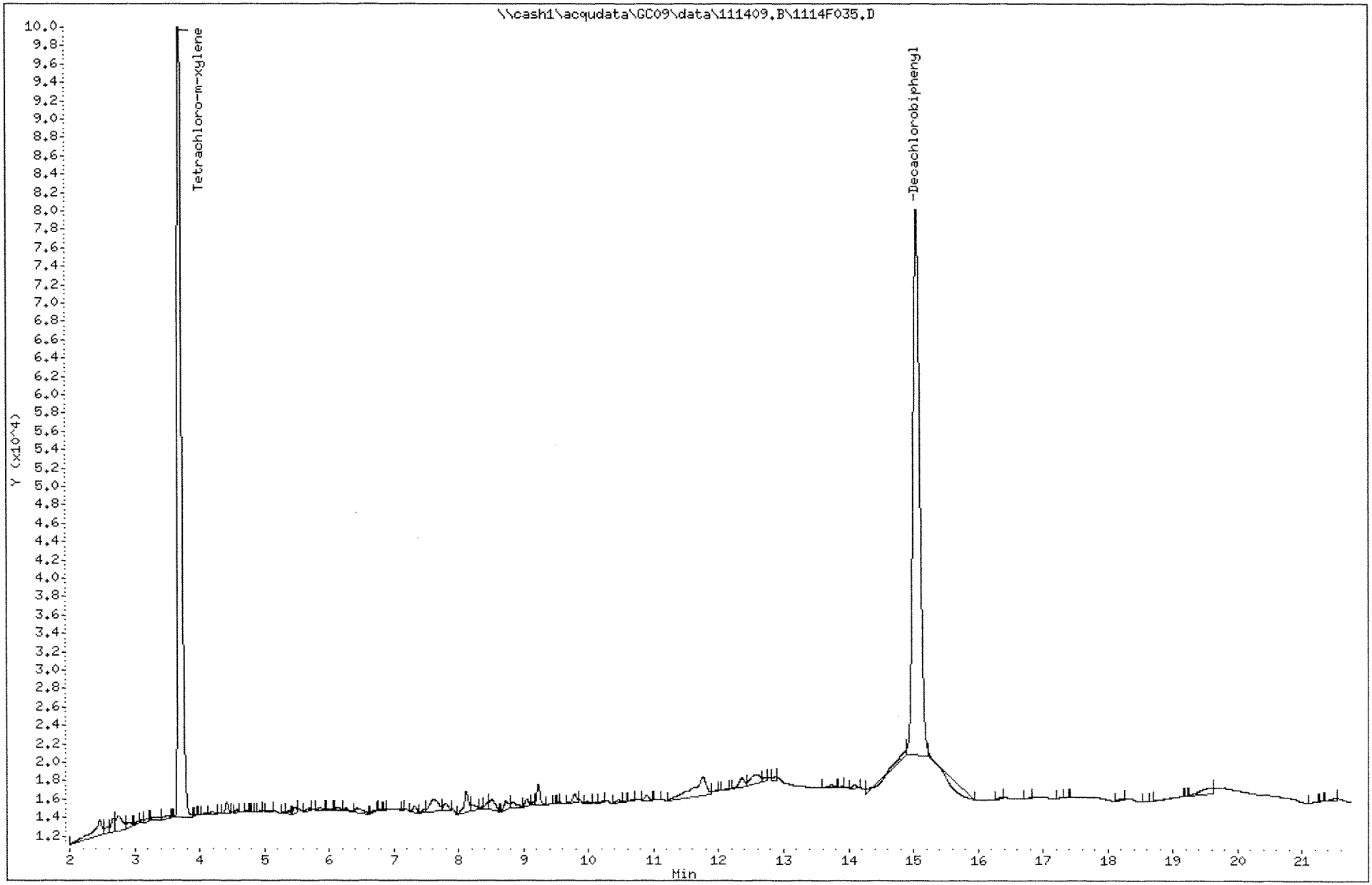
Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2	Target Range	Ratio
Tetrachloro-m-xylene	3.693	4.287	445283	342947	76.3	83.1		100.00(R)
Decachlorobiphenyl	15.050	16.300	428697	389563	78.6	93.3		100.00(RM)

QC Flag Legend

R - Spike/Surrogate failed recovery limits.
M - Compound response manually integrated.

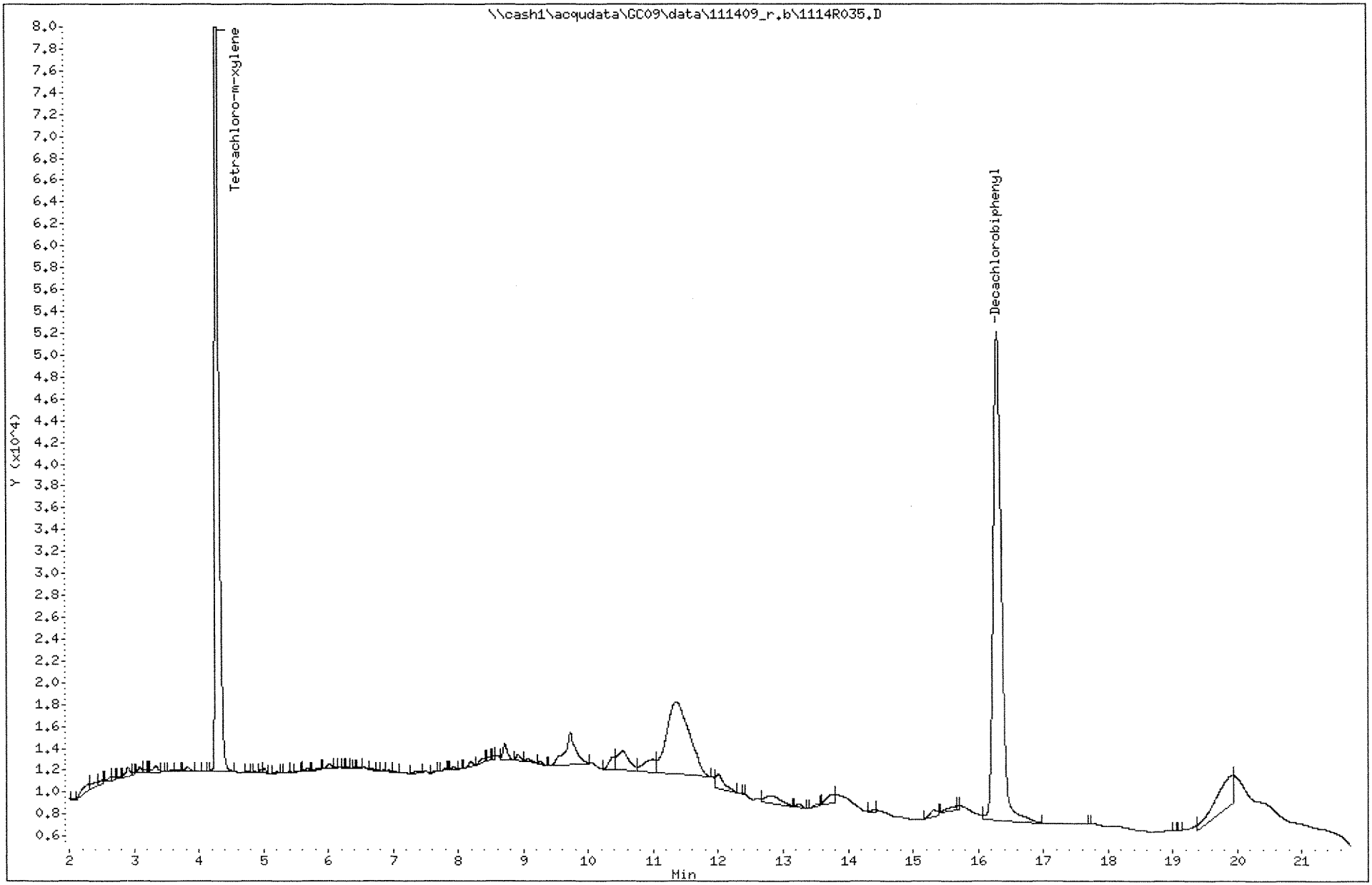
Data File: \\cash1\acqudata\GC09\data\111409.B\1114F035.D
Date : 15-NOV-2009 00:06
Client ID:
Sample Info: K0909140-011 | B-1-A

Instrument: GC09.i
Operator: JMSmith
Column phase: DB-35MS
Column diameter: 0.53



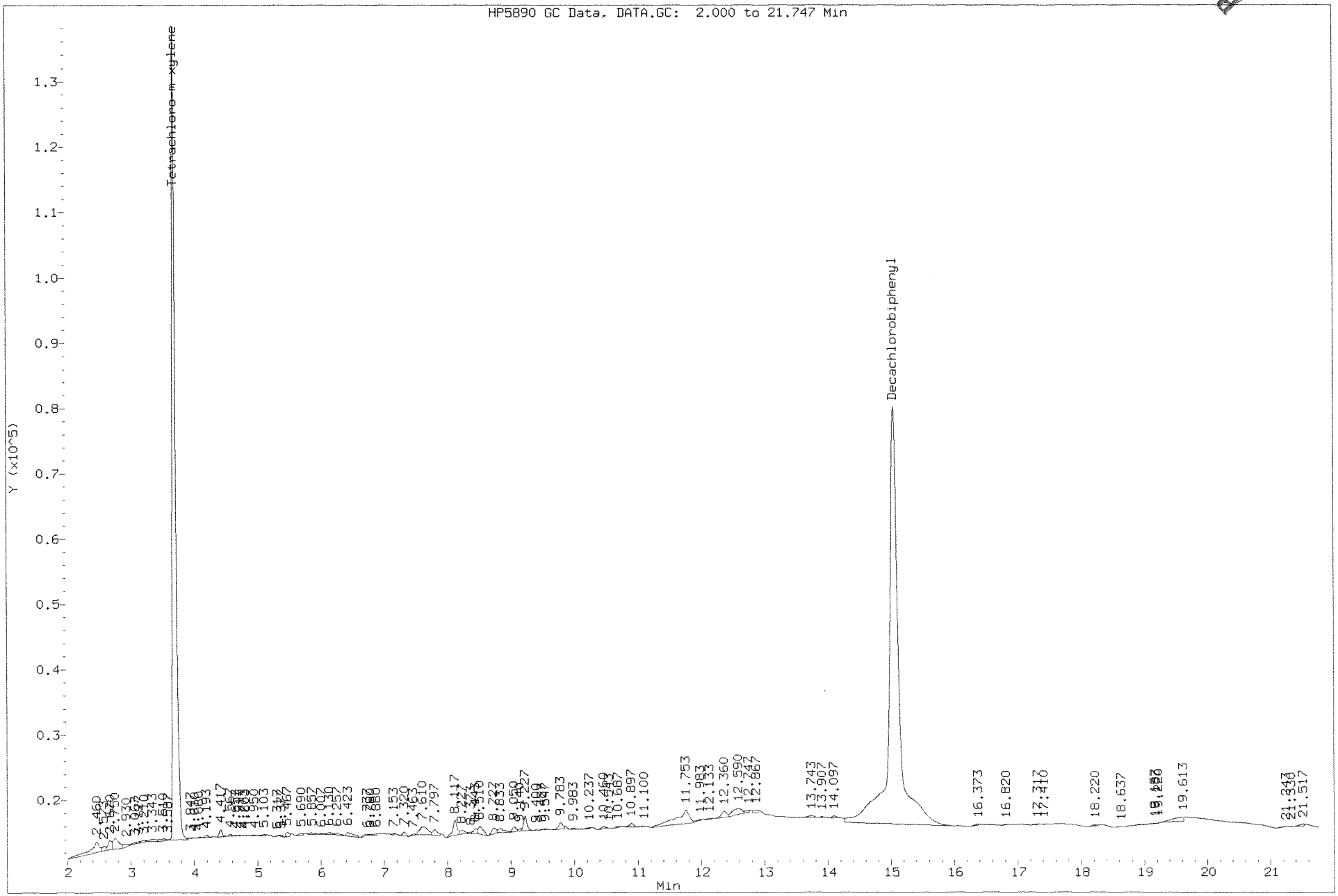
Data File: \\cash1\acqudata\GC09\data\111409_r.b\1114R035.D
Date : 15-NOV-2009 00:06
Client ID:
Sample Info: K0909140-011 | B-1-A

Instrument: GC09.i
Operator: JMSmith
Column phase: DB-XLB
Column diameter: 0.53

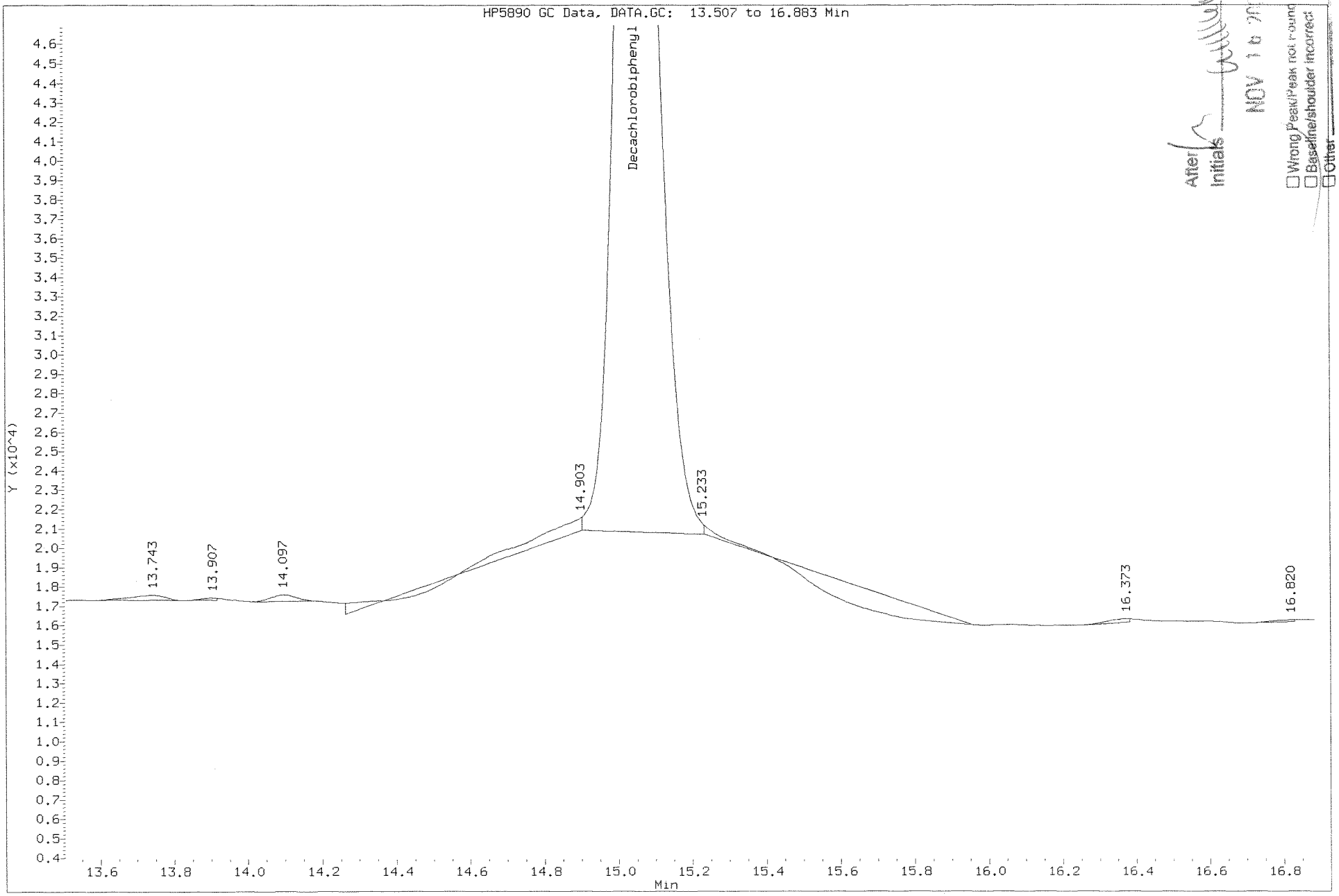


Data File: \\cash1\acqudata\GC09\data\111409.B\1114F035.D
Injection Date: 15-NOV-2009 00:06
Instrument: GC09.i
Client Sample ID:

Before
NOV 16 2009



Data File: \\cash1\acqudata\GC09\data\111409.B\1114F035.D
Injection Date: 15-NOV-2009 00:06
Instrument: GC09.i
Client Sample ID:



COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009
Sample Matrix: Sediment

Service Request: K0909140
Date Collected: 10/09/2009
Date Received: 10/09/2009

Polychlorinated Biphenyls (PCBs)

Sample Name: B-1-B
Lab Code: K0909140-012

Extraction Method: EPA 3541
Analysis Method: 8082

Units: ug/Kg
Basis: Dry

Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Aroclor 1016	ND	U	10	2.1	1	11/10/09	11/15/09	KWG0910513	
Aroclor 1221	ND	U	20	2.1	1	11/10/09	11/15/09	KWG0910513	
Aroclor 1232	ND	U	10	2.1	1	11/10/09	11/15/09	KWG0910513	
Aroclor 1242	ND	U	10	2.1	1	11/10/09	11/15/09	KWG0910513	
Aroclor 1248	ND	U	10	2.1	1	11/10/09	11/15/09	KWG0910513	
Aroclor 1254	ND	U	10	2.1	1	11/10/09	11/15/09	KWG0910513	
Aroclor 1260	ND	U	10	2.1	1	11/10/09	11/15/09	KWG0910513	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Decachlorobiphenyl	90	35-133	11/15/09	Acceptable

Comments:

Exception Report

Data File: \\CASH1\ACQUDATA\GC09\DATA\111409.B\1114F036.D
Lab ID: K0909140-012
RunType: SMPL
Matrix: SEDIMENT

Date Acquired: 11/15/2009 00:32
Date Quantitated: 11/16/2009 12:40
Batch ID: KWG0910694
Analysis Method: 8082
MethodJoinID: MJ696

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Analytical Holding Time	NA	NA	NA	x	
Preparation Holding Time	32	NA	14		x
Pre-Preparation Holding Time	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Calibration Verification Ave %D	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA	x	
Calibration Verification Ave %D (Closing)	NA	NA	NA	x	
Continuing Calibration Recovery (Closing)	NA	NA	NA	x	
Method Blank	NA	NA	NA	x	
MB Surrogate Recovery	NA	NA	NA	x	
Lab Control Spike	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Primary Review: _____

Secondary Review: _____

Exception Report

Data File: \\CASH1\ACQUDATA\GC09\DATA\111409_R.B\1114R036.D
Lab ID: K0909140-012
RunType: SMPL
Matrix: SEDIMENT

Date Acquired: 11/15/2009 00:32
Date Quantitated: 11/16/2009 12:42
Batch ID: KWG0910694
Analysis Method: 8082
MethodJoinID: MJ696

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Analytical Holding Time	NA	NA	NA	x	
Preparation Holding Time	32	NA	14		x
Pre-Preparation Holding Time	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Calibration Verification Ave %D	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA	x	
Calibration Verification Ave %D (Closing)	NA	NA	NA	x	
Continuing Calibration Recovery (Closing)	NA	NA	NA	x	
Method Blank	NA	NA	NA	x	
MB Surrogate Recovery	NA	NA	NA	x	
Lab Control Spike	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Primary Review: _____

Secondary Review: _____

Quantitation Report

Bottle ID:		**Tier:**	V	**Matrix:**	SEDIMENT
Prod Code:	8082 PCB_LL	**Collect Date:**	10/09/2009	**Receive Date:**	10/09/2009

Analysis Lot:	KWG0910694	**Prep Lot:**	KWG0910513	**Report Group:**	K0909140
Analysis Method:	8082	**Prep Method:**	EPA 3541		
Prep Ref:	865589	**Prep Date:**	11/10/2009		

Quant Method:	\\CASH1\ACQUDATA\GC09\DATA\111409.B\101409_F.M	**Calibration ID:**	CAL8918
Title:	Polychlorinated Biphenyls (PCBs)	**Report List ID:**	LJ6180
MB Ref:	J:\GC09\DATA\111409.B\1114F017.D	**Method ID:**	MJ696
		Quant based on Report List	

Data File #1:	J:\GC09\DATA\111409.B\1114F036.D			**Instrument:**	GC09.i
Data File #2:	\\cash1\acqudata\GC09\data\111409_r.b\1114R036.D			**Vial:**	49
Acqu Date:	11/15/2009 00:32	**Quant Date:**	11/16/2009 12:40	**Dilution:**	1.0
Run Type:	SMPL			**Soln Conc. Units:**	ng/mL
Lab ID:	K0909140-012				
Signal #1:	DB-35MS	**Signal #2:**	DB-XLB		

Surrogate Compounds

Parameter Name	RT #1	RT #2	Resp #1	Respe #2	ng/mL #1	ng/mL #2			Rpt
Decachlorobiphenyl	15.05 0.00	16.30 0.00	441308	377767	80.97	90.47			90OK
			%Recovery =		81OK	90OK	**Limits =**	35-133	

Target Compounds

Final Conc. Units: ug/Kg Dry Weight

Parameter Name	RT #1	RT #2	Resp #1	Resp #2	ng/mL #1	ng/mL #2	ug/Kg #1	ug/Kg #2	Rpt
Aroclor 1016			0	0	0.0000	0.0000	2.1U	2.1U	2.1U
Aroclor 1016 {1}			0d	0d	0.0000	0.0000	2.1U	2.1U	
Aroclor 1016 {2}			0d	0d	0.0000	0.0000	2.1U	2.1U	
Aroclor 1016 {3}			0d	0d	0.0000	0.0000	2.1U	2.1U	
Aroclor 1016 {4}			0d	0d	0.0000	0.0000	2.1U	2.1U	
Aroclor 1016 {5}			0d	0d	0.0000	0.0000	2.1U	2.1U	
Aroclor 1221			0	0	0.0000	0.0000	2.1U	2.1U	2.1U
Aroclor 1221 {1}			0d	0d	0.0000	0.0000	2.1U	2.1U	
Aroclor 1221 {2}			0d	0d	0.0000	0.0000	2.1U	2.1U	
Aroclor 1221 {3}			0d	0d	0.0000	0.0000	2.1U	2.1U	
Aroclor 1221 {4}			0d	0d	0.0000	0.0000	2.1U	2.1U	
Aroclor 1232			0	0	0.0000	0.0000	2.1U	2.1U	2.1U
Aroclor 1232 {1}			0d	0d	0.0000	0.0000	2.1U	2.1U	
Aroclor 1232 {2}			0d	0d	0.0000	0.0000	2.1U	2.1U	
Aroclor 1232 {3}			0d	0d	0.0000	0.0000	2.1U	2.1U	
Aroclor 1232 {4}			0d	0d	0.0000	0.0000	2.1U	2.1U	
Aroclor 1242			0	0	0.0000	0.0000	2.1U	2.1U	2.1U
Aroclor 1242 {1}			0d	0d	0.0000	0.0000	2.1U	2.1U	
Aroclor 1242 {2}			0d	0d	0.0000	0.0000	2.1U	2.1U	
Aroclor 1242 {3}			0d	0d	0.0000	0.0000	2.1U	2.1U	

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Data File #1:	J:\GC09\DATA\111409.B\1114F036.D			**Instrument:**	GC09.i
Data File #2:	\\cash1\acqudata\GC09\data\111409_r.b\1114R036.D			**Vial:**	49
Acqu Date:	11/15/2009 00:32	**Quant Date:**	11/16/2009 12:40	**Dilution:**	1.0
Run Type:	SMPL			**Soln Conc. Units:**	ng/mL
Lab ID:	K0909140-012				
Signal #1:	DB-35MS	**Signal #2:**	DB-XLB		

Target Compounds

Final Conc. Units: ug/Kg Dry Weight

Parameter Name	RT #1	RT #2	Resp #1	Resp #2	ng/mL #1	ng/mL #2	ug/Kg #1	ug/Kg #2	Rpt
Aroclor 1242 {4}			0d	0d	0.0000	0.0000	2.1U	2.1U	
Aroclor 1242 {5}			0d	0d	0.0000	0.0000	2.1U	2.1U	
Aroclor 1248			0	0	0.0000	0.0000	2.1U	2.1U	2.1U
Aroclor 1248 {1}			0d	0d	0.0000	0.0000	2.1U	2.1U	
Aroclor 1248 {2}			0d	0d	0.0000	0.0000	2.1U	2.1U	
Aroclor 1248 {3}			0d	0d	0.0000	0.0000	2.1U	2.1U	
Aroclor 1248 {4}			0d	0d	0.0000	0.0000	2.1U	2.1U	
Aroclor 1248 {5}			0d	0d	0.0000	0.0000	2.1U	2.1U	
Aroclor 1254			0	0	0.0000	0.0000	2.1U	2.1U	2.1U
Aroclor 1254 {1}			0d	0d	0.0000	0.0000	2.1U	2.1U	
Aroclor 1254 {2}			0d	0d	0.0000	0.0000	2.1U	2.1U	
Aroclor 1254 {3}			0d	0d	0.0000	0.0000	2.1U	2.1U	
Aroclor 1254 {4}			0d	0d	0.0000	0.0000	2.1U	2.1U	
Aroclor 1254 {5}			0d	0d	0.0000	0.0000	2.1U	2.1U	
Aroclor 1260			0	0	0.0000	0.0000	2.1U	2.1U	2.1U
Aroclor 1260 {1}			0d	0d	0.0000	0.0000	2.1U	2.1U	
Aroclor 1260 {2}			0d	0d	0.0000	0.0000	2.1U	2.1U	
Aroclor 1260 {3}			0d	0d	0.0000	0.0000	2.1U	2.1U	
Aroclor 1260 {4}			0d	0d	0.0000	0.0000	2.1U	2.1U	
Aroclor 1260 {5}			0d	0d	0.0000	0.0000	2.1U	2.1U	

The -/+ after Retention Time symbolize the direction of the RT shift

Prep Amount:	20.38 g	**Dilution:**	1.0
Prep Final Vol:	4 ml	**Unit Factor:**	1
Solids:	98.2 %		

Final Concentration = ((Soln Conc x Prep Final Vol x Dilution) / (Prep Amount x Solids)) x Unit Factor

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Data File: \\cash1\acqudata\GC09\data\111409.B\1114F036.D
Report Date: 16-Nov-2009 12:40

Laboratory Name

Sample #1 : \\cash1\acqudata\GC09\data\111409.B\1114F036.D
Sample #2 : \\cash1\acqudata\GC09\data\111409_r.b\1114R036.D
Inj Date : 15-NOV-2009 00:32
Sample Info: K0909140-012 | B-1-B
Misc Info : KELSO\SEMIVOA GC\8082-PCB_LL\09140012.H | F=4
Cal Date : 16-NOV-2009 10:32
Operator : JMSmith
Inst ID : GC09.i
Dil Factor : 1.000000

Method #1 : \\cash1\acqudata\GC09\data\111409.B\101409_f.m
Method #2 : \\cash1\acqudata\GC09\data\111409_r.b\101409_r.m
Sub List #1 : ALL.SUB
Sub List #2 : ALL.SUB
Col #1 Phase : DB-35MS
Col #2 Phase : DB-XLB

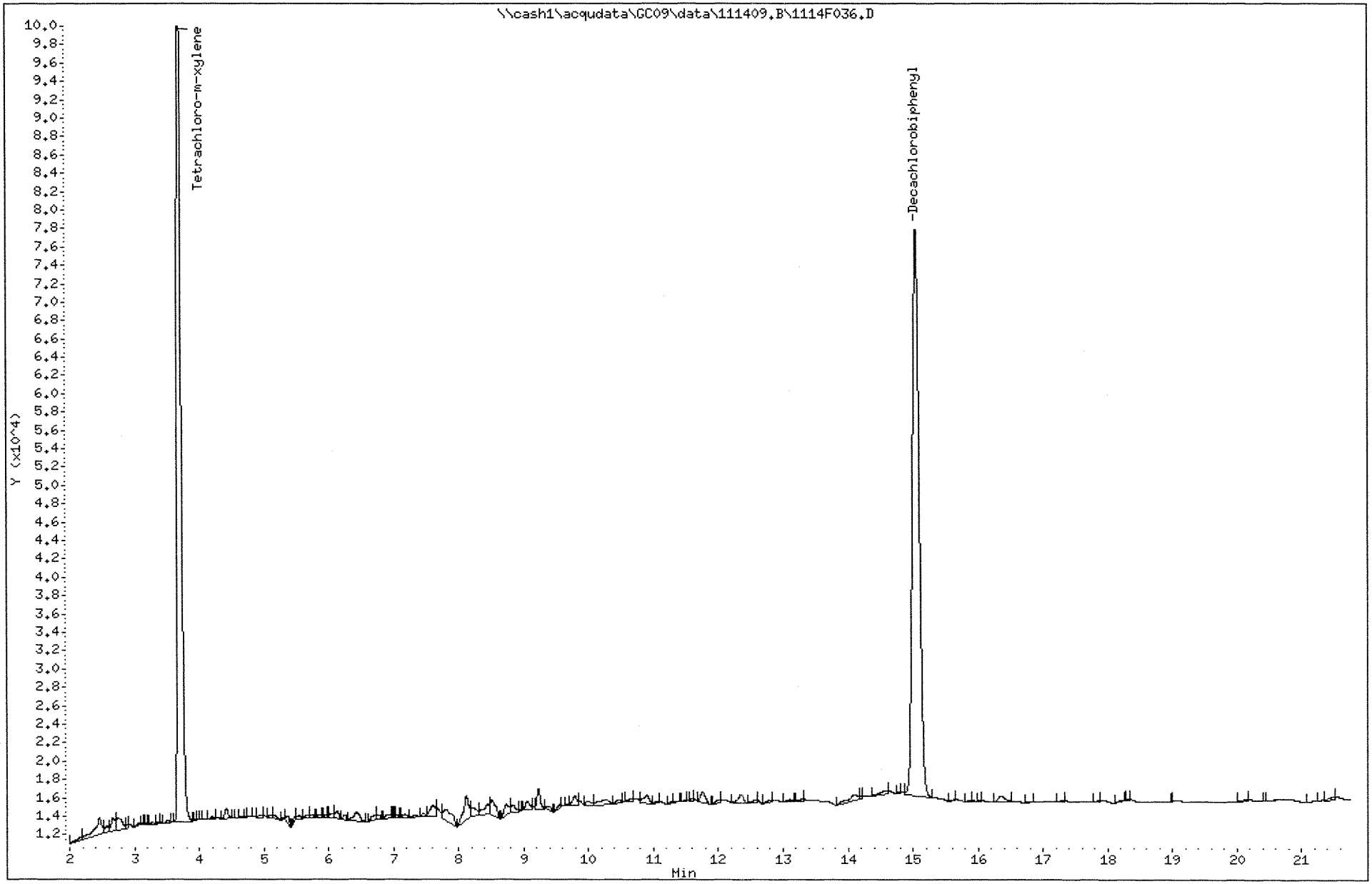
Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2	Target Range	Ratio
Tetrachloro-m-xylene	3.693	4.287	480725	371352	82.4	90.0		100.00(R)
Decachlorobiphenyl	15.050	16.303	441308	377767	81.0	90.5		100.00(R)

QC Flag Legend

R - Spike/Surrogate failed recovery limits.

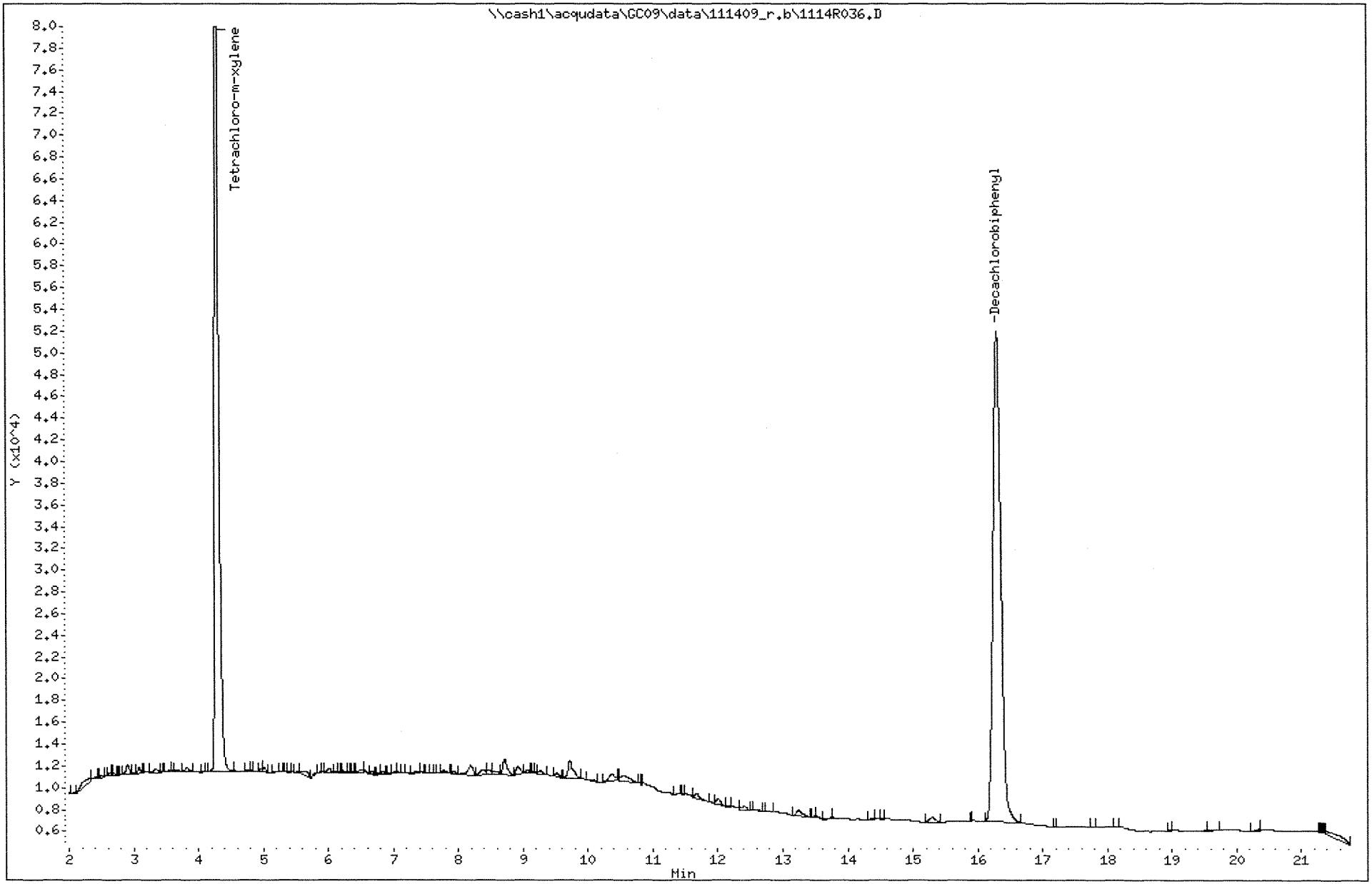
Data File: \\cash1\acqudata\GC09\data\111409.B\1114F036.D
Date : 15-NOV-2009 00:32
Client ID:
Sample Info: K0909140-012 | B-1-B

Instrument: GC09.i
Operator: JMSmith
Column phase: DB-35MS
Column diameter: 0.53



Data File: \\cash1\acqudata\GC09\data\111409_r.b\1114R036.D
Date : 15-NOV-2009 00:32
Client ID:
Sample Info: K0909140-012 | B-1-B

Instrument: GC09.i
Operator: JMSmith
Column phase: DB-XLB
Column diameter: 0.53



COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009
Sample Matrix: Sediment

Service Request: K0909140
Date Collected: 10/05/2009
Date Received: 10/06/2009

Polychlorinated Biphenyls (PCBs)

Sample Name: M-3-A
Lab Code: K0909140-013

Extraction Method: EPA 3541
Analysis Method: 8082

Units: ug/Kg
Basis: Dry

Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Aroclor 1016	ND	U	11	2.2	1	11/10/09	11/15/09	KWG0910513	
Aroclor 1221	ND	U	21	2.2	1	11/10/09	11/15/09	KWG0910513	
Aroclor 1232	ND	U	11	2.2	1	11/10/09	11/15/09	KWG0910513	
Aroclor 1242	ND	U	11	2.2	1	11/10/09	11/15/09	KWG0910513	
Aroclor 1248	ND	U	11	2.2	1	11/10/09	11/15/09	KWG0910513	
Aroclor 1254	**48**		11	2.2	1	11/10/09	11/15/09	KWG0910513	
Aroclor 1260	ND	Ui	20	20	1	11/10/09	11/15/09	KWG0910513	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Decachlorobiphenyl	95	35-133	11/15/09	Acceptable

Comments:

Exception Report

Data File: \\CASH1\ACQUDATA\GC09\DATA\111409.B\1114F037.D
Lab ID: K0909140-013
RunType: SMPL
Matrix: SEDIMENT

Date Acquired: 11/15/2009 00:59
Date Quantitated: 11/16/2009 12:40
Batch ID: KWG0910694
Analysis Method: 8082
MethodJoinID: MJ696

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Analytical Holding Time	NA	NA	NA	x	
Preparation Holding Time	36	NA	14		x
Pre-Preparation Holding Time	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Calibration Verification Ave %D	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA		x
Calibration Verification Ave %D (Closing)	NA	NA	NA	x	
Continuing Calibration Recovery (Closing)	NA	NA	NA	x	
Method Blank	NA	NA	NA	x	
MB Surrogate Recovery	NA	NA	NA	x	
Lab Control Spike	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA		x
Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
Continuing Calibration Recovery	Aroclor 1260	-18.0	NA	15	
Analyte Co-elution	Aroclor 1254 {4}	9.043	NA	NA	
	Aroclor 1260 {1}	9.043	NA	NA	

Primary Review: 11/17/09

Secondary Review:

Printed: 11/16/2009 13:09:19
u:\Stealth\Crystal.rpt\except2.rpt

Exception Report

Data File: \\CASH1\ACQUDATA\GC09\DATA\111409_R.B\1114R037.D
Lab ID: K0909140-013
RunType: SMPL
Matrix: SEDIMENT

Date Acquired: 11/15/2009 00:59
Date Quantitated: 11/16/2009 12:42
Batch ID: KWG0910694
Analysis Method: 8082
MethodJoinID: MJ696

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Analytical Holding Time	NA	NA	NA	x	
Preparation Holding Time	36	NA	14		x
Pre-Preparation Holding Time	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Calibration Verification Ave %D	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA	x	
Calibration Verification Ave %D (Closing)	NA	NA	NA	x	
Continuing Calibration Recovery (Closing)	NA	NA	NA	x	
Method Blank	NA	NA	NA	x	
MB Surrogate Recovery	NA	NA	NA	x	
Lab Control Spike	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Primary Review: _____

Secondary Review: _____

Quantitation Report

Bottle ID:		**Tier:**	V	**Matrix:**	SEDIMENT
Prod Code:	8082 PCB_LL	**Collect Date:**	10/05/2009	**Receive Date:**	10/06/2009

Analysis Lot:	KWG0910694	**Prep Lot:**	KWG0910513	**Report Group:**	K0909140
Analysis Method:	8082	**Prep Method:**	EPA 3541		
Prep Ref:	865590	**Prep Date:**	11/10/2009		

Quant Method:	\\CASH1\ACQUDATA\GC09\DATA\111409.B\101409_F.M	**Calibration ID:**	CAL8918
Title:	Polychlorinated Biphenyls (PCBs)	**Report List ID:**	LJ6180
MB Ref:	J:\GC09\DATA\111409.B\1114F017.D	**Method ID:**	MJ696
		Quant based on Report List	

Data File #1:	J:\GC09\DATA\111409.B\1114F037.D			**Instrument:**	GC09.i
Data File #2:	\\cash1\acqudata\GC09\data\111409_r.b\1114R037.D			**Vial:**	50
Acqu Date:	11/15/2009 00:59	**Quant Date:**	11/16/2009 12:40	**Dilution:**	1.0
Run Type:	SMPL			**Soln Conc. Units:**	ng/mL
Lab ID:	K0909140-013				
Signal #1:	DB-35MS	**Signal #2:**	DB-XLB		

Surrogate Compounds

Parameter Name	RT #1	RT #2		Resp #1	Respe #2	ng/mL #1	ng/mL #2			Rpt
Decachlorobiphenyl	15.05	16.30	0.00	447743	394971	82.15	94.60			95OK
				%Recovery =		82OK	95OK	**Limits =**	35-133	

Target Compounds

Final Conc. Units: ug/Kg Dry Weight

Parameter Name	RT #1	RT #2	Resp #1	Resp #2	ng/mL #1	ng/mL #2	ug/Kg #1	ug/Kg #2	Rpt
Aroclor 1016			0	0	0.0000	0.0000	2.2U	2.2U	2.2U
Aroclor 1016 {1}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1016 {2}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1016 {3}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1016 {4}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1016 {5}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1221			0	0	0.0000	0.0000	2.2U	2.2U	2.2U
Aroclor 1221 {1}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1221 {2}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1221 {3}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1221 {4}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1232			0	0	0.0000	0.0000	2.2U	2.2U	2.2U
Aroclor 1232 {1}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1232 {2}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1232 {3}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1232 {4}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1242			0	0	0.0000	0.0000	2.2U	2.2U	2.2U
Aroclor 1242 {1}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1242 {2}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1242 {3}			0d	0d	0.0000	0.0000	2.2U	2.2U	

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Data File #1:	J:\GC09\DATA\111409.B\1114F037.D			**Instrument:**	GC09.i
Data File #2:	\\cash1\acqudata\GC09\data\111409_r.b\1114R037.D			**Vial:**	50
Acqu Date:	11/15/2009 00:59	**Quant Date:**	11/16/2009 12:40	**Dilution:**	1.0
Run Type:	SMPL			**Soln Conc. Units:**	ng/mL
Lab ID:	K0909140-013				
Signal #1:	DB-35MS	**Signal #2:**	DB-XLB		

Target Compounds

Final Conc. Units: ug/Kg Dry Weight

Parameter Name	RT #1	RT #2	Resp #1	Resp #2	ng/mL #1	ng/mL #2	ug/Kg #1	ug/Kg #2	Rpt
Aroclor 1242 {4}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1242 {5}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1248			0	0	0.0000	0.0000	2.2U	2.2U	2.2U
Aroclor 1248 {1}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1248 {2}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1248 {3}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1248 {4}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1248 {5}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1254			0	0	247.19	228.94	52	48	**52**
Aroclor 1254 {1}	7.56	7.79	72474	49646	252.22	206.35	53	43	
Aroclor 1254 {2}	8.23	8.20	69973	64346	345.90	263.77	72	55	
Aroclor 1254 {3}	8.51	8.73	52625	0	106.00	0.0000	22	2.2U	
Aroclor 1254 {4}	9.04 c	8.93	62798	77471	260.72	296.80	54	62	
Aroclor 1254 {5}	9.79	9.53	92362	34789	271.13	148.83	57	31	
Aroclor 1260			0	0	94.67[CCV]	94.49	20	20	**20**
Aroclor 1260 {1}	9.04 0.00 c	9.27 0.00	62798	29491m	147.98	122.92	31	26	
Aroclor 1260 {2}	9.48	10.37 -0.01	23037	52632m	99.95	170.68	21	36	
Aroclor 1260 {3}	10.46 0.00	10.54 0.00	13033	8500m	51.13	50.11	11J	10J	
Aroclor 1260 {4}	10.89 -0.01	11.67 -0.01	40174	24848m	73.15	70.20	15	15	
Aroclor 1260 {5}	11.76 -0.01	12.41 -0.01	38148	13986m	101.16	58.55	21	12	

The -/+ after Retention Time symbolize the direction of the RT shift

Prep Amount:	20.44 g	**Dilution:**	1.0
Prep Final Vol:	4 ml	**Unit Factor:**	1
Solids:	93.9 %		

Final Concentration = ((Soln Conc x Prep Final Vol x Dilution) / (Prep Amount x Solids)) x Unit Factor

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Data File: \\cash1\acqudata\GC09\data\111409.B\1114F037.D
Report Date: 16-Nov-2009 12:40

Laboratory Name

Sample #1 : \\cash1\acqudata\GC09\data\111409.B\1114F037.D
Sample #2 : \\cash1\acqudata\GC09\data\111409_r.b\1114R037.D
Inj Date : 15-NOV-2009 00:59
Sample Info: K0909140-013 | M-3-A
Misc Info : KELSO\SEMIVOA GC\8082-PCB_LL\09140013.H | F=4
Cal Date : 16-NOV-2009 10:32
Operator : JMSmith
Inst ID : GC09.i
Dil Factor : 1.000000

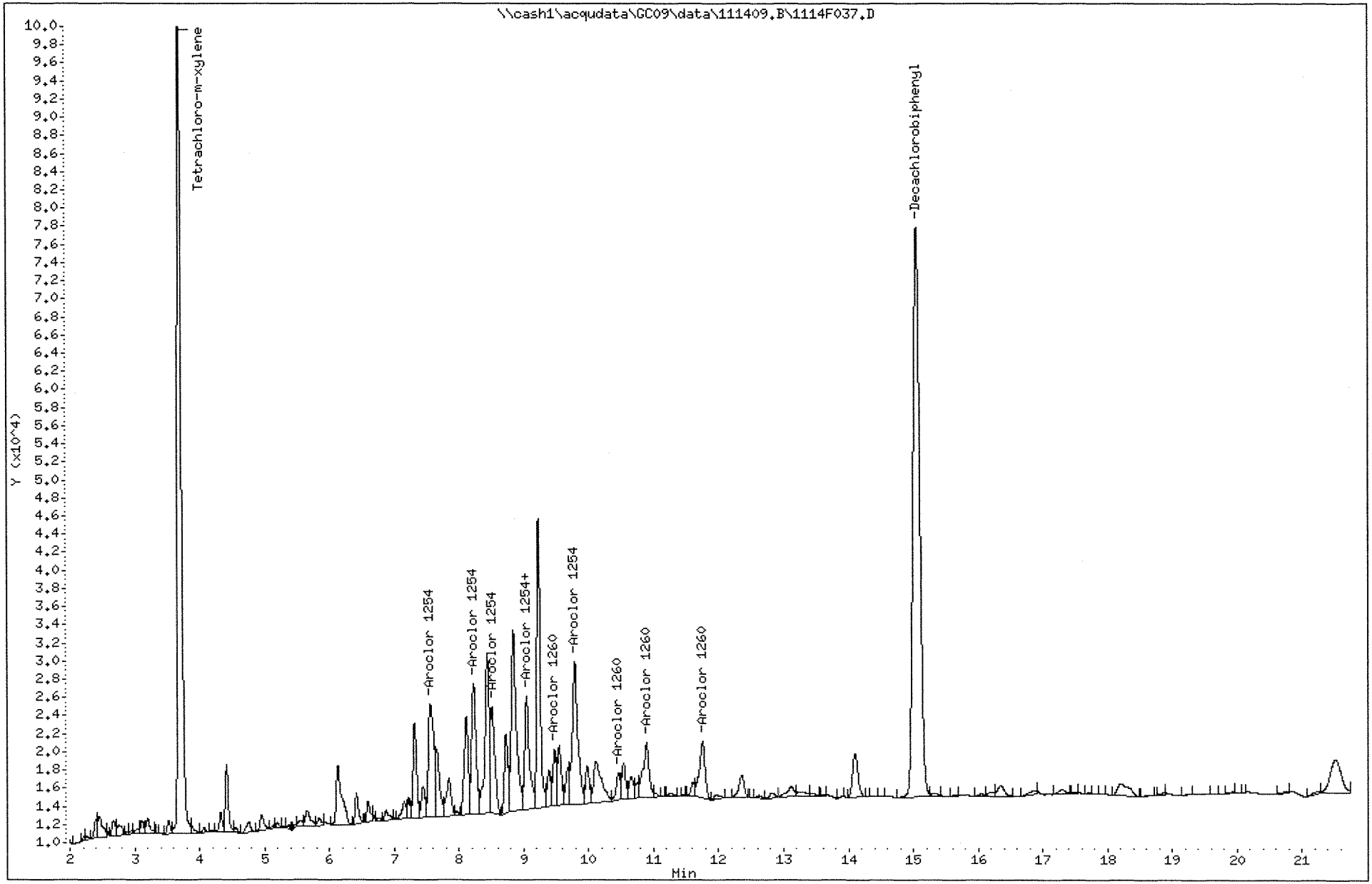
Method #1 : \\cash1\acqudata\GC09\data\111409.B\101409_f.m
Method #2 : \\cash1\acqudata\GC09\data\111409_r.b\101409_r.m
Sub List #1 : ALL.SUB
Sub List #2 : ALL.SUB
Col #1 Phase : DB-35MS
Col #2 Phase : DB-XLB

Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2	Target Range	Ratio
Tetrachloro-m-xylene	3.693	4.287	414082	345500	71.0	83.7		100.00(R)
Aroclor 1254	7.557	7.787	72474	49646	252	206	80.00- 120.00	100.00
	8.227	8.200	69973	64346	346	264	56.32- 84.48	96.55
	8.510	8.727	52625		106		138.21- 207.32	72.61
	9.043	8.933	62798	77471	261	297	67.06- 100.59	86.65
	9.787	9.530	92362	34789	271	149	94.84- 142.26	127.44
			Average of Peak Amounts =		247	229		
Aroclor 1260	9.043	9.270	62798	29491	148	123	80.00- 120.00	100.00
	9.477	10.367	23037	52632	99.9	171	42.74- 64.11	36.68
	10.460	10.543	13033	8500	51.1	50.1	48.22- 72.33	20.75
	10.893	11.670	40174	24848	73.1	70.2	101.77- 152.66	63.97
	11.757	12.413	38148	13986	101	58.5	72.29- 108.43	60.75
			Average of Peak Amounts =		94.6	94.6		
Decachlorobiphenyl	15.053	16.303	447743	394971	82.2	94.6		100.00(R)

QC Flag Legend

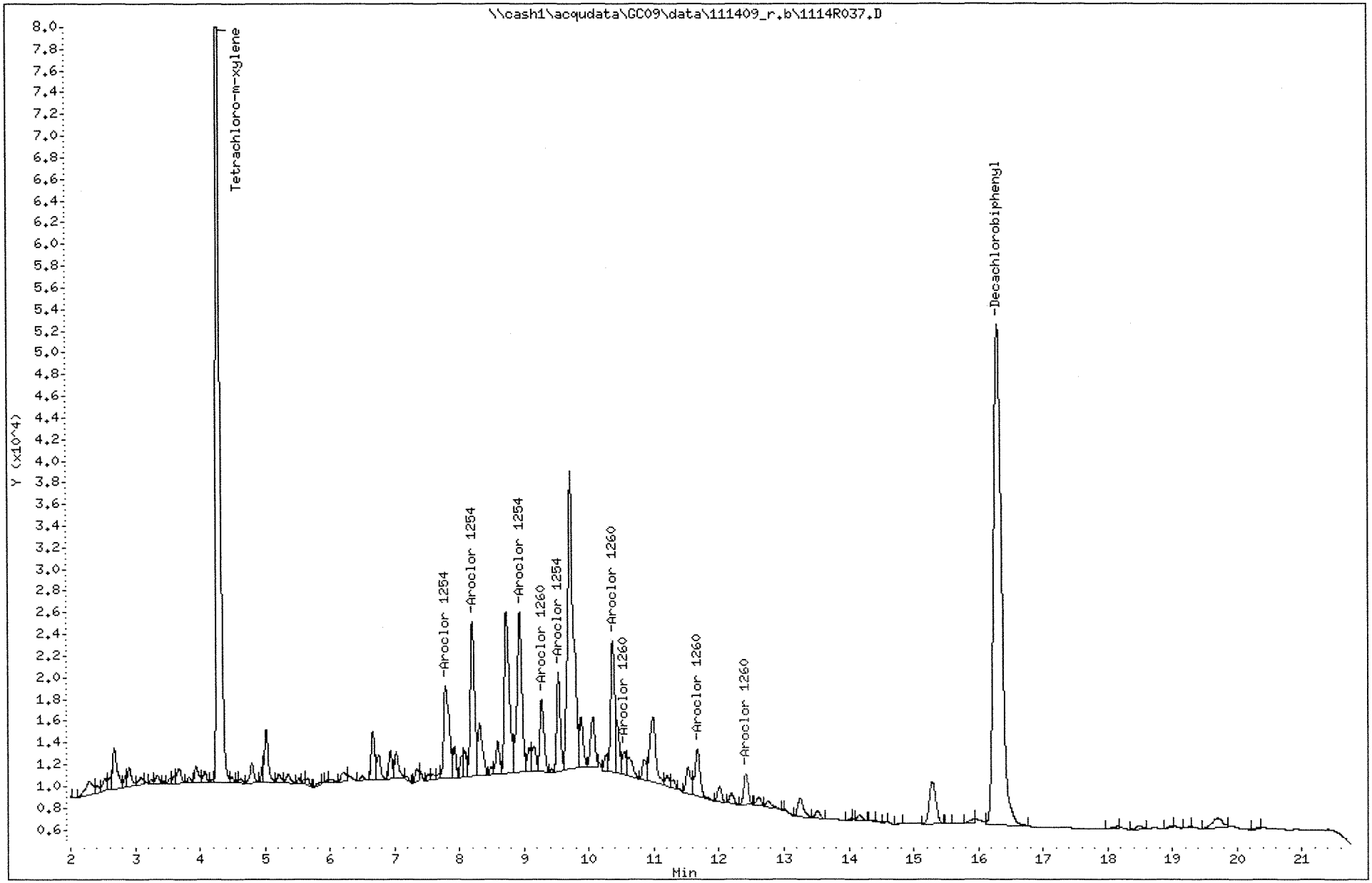
R - Spike/Surrogate failed recovery limits.

Data File: \\cash1\acqudata\GC09\data\111409.B\1114F037.D
Date : 15-NOV-2009 00:59
Client ID:
Instrument: GC09.i
Sample Info: K0909140-013 | M-3-A
Operator: JMSmith
Column phase: DB-35MS
Column diameter: 0.53



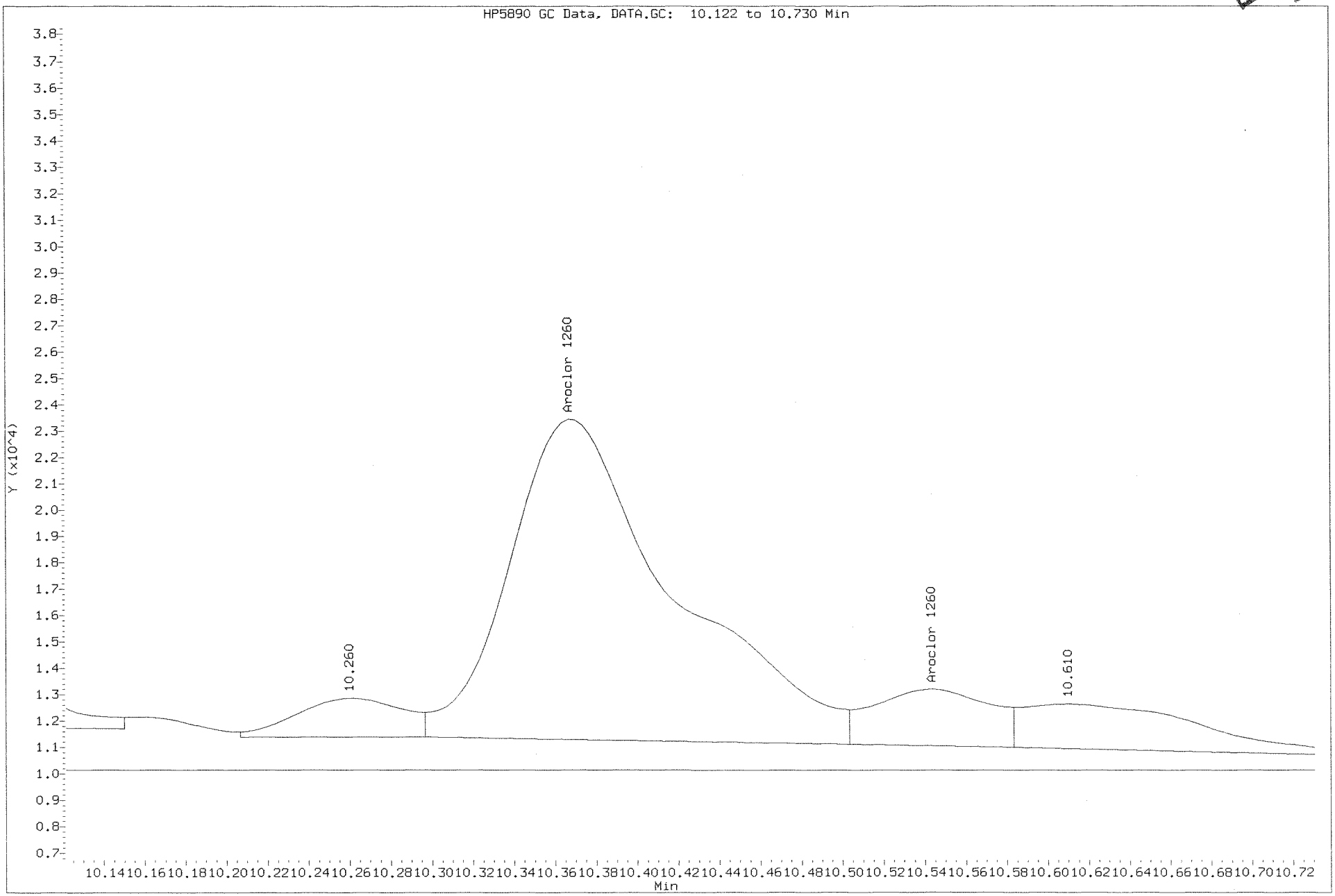
Data File: \\cash1\acqudata\GC09\data\111409_r.b\1114R037.D
Date : 15-NOV-2009 00:59
Client ID:
Sample Info: K0909140-013 | M-3-A

Instrument: GC09.i
Operator: JMSmith
Column phase: DB-XLB
Column diameter: 0.53

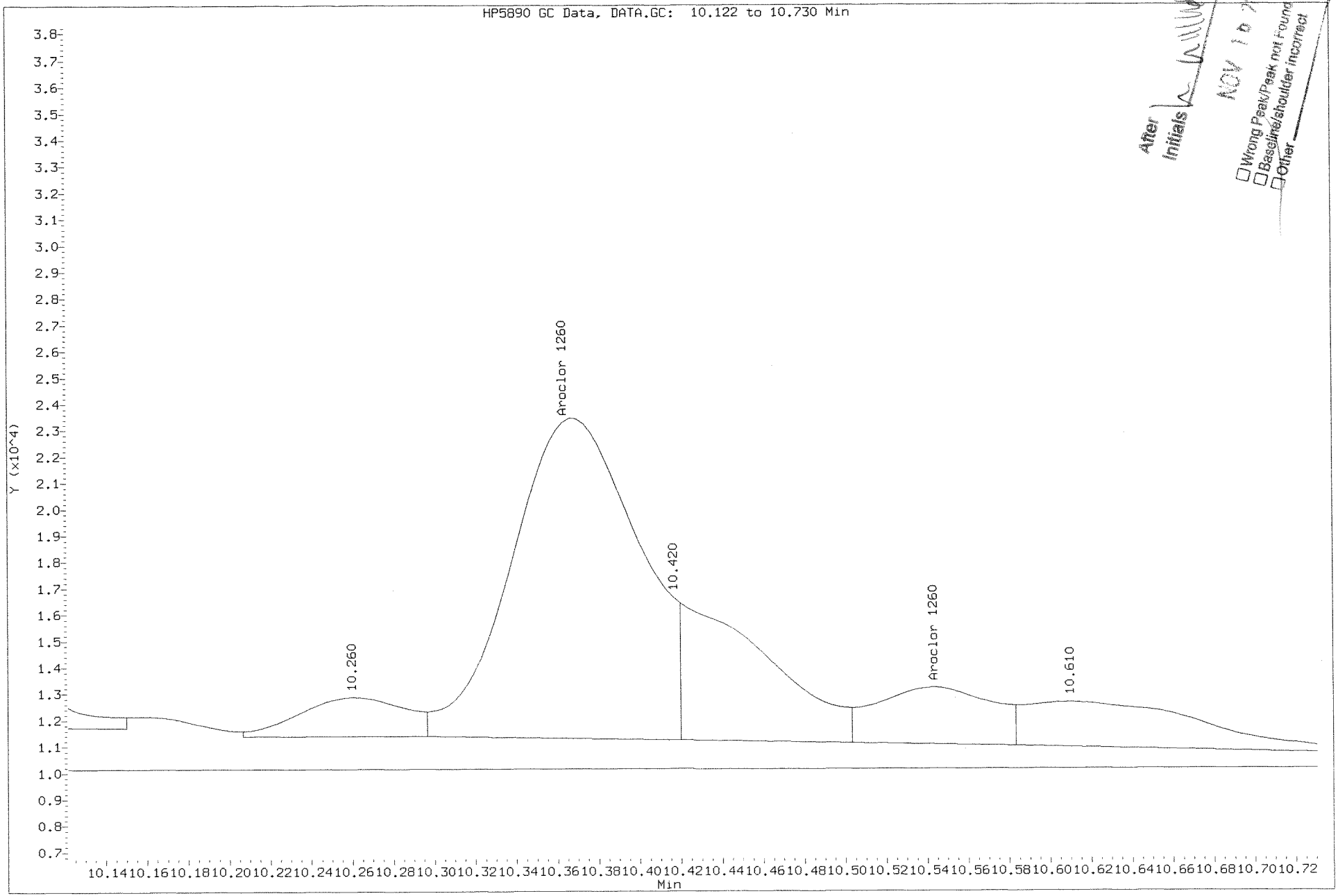


Data File: \\cash1\acqudata\GC09\data\111409_r.b\1114R037.D
Injection Date: 15-NOV-2009 00:59
Instrument: GC09.i
Client Sample ID:

Before
NOV 16 2009



Data File: \\cash1\acqudata\GC09\data\111409_r.b\1114R037.D
Injection Date: 15-NOV-2009 00:59
Instrument: GC09.i
Client Sample ID:



After Initials
NOV 16 2009
☐ Wrong Peak/Peak not Found
☐ Baseline/shoulder incorrect
☐ Other

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009
Sample Matrix: Sediment

Service Request: K0909140
Date Collected: 10/07/2009
Date Received: 10/08/2009

Polychlorinated Biphenyls (PCBs)

Sample Name: M-1-A
Lab Code: K0909140-014

Extraction Method: EPA 3541
Analysis Method: 8082

Units: ug/Kg
Basis: Dry

Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Aroclor 1016	ND	U	11	2.2	1	11/10/09	11/15/09	KWG0910513	
Aroclor 1221	ND	U	21	2.2	1	11/10/09	11/15/09	KWG0910513	
Aroclor 1232	ND	U	11	2.2	1	11/10/09	11/15/09	KWG0910513	
Aroclor 1242	ND	U	11	2.2	1	11/10/09	11/15/09	KWG0910513	
Aroclor 1248	ND	U	11	2.2	1	11/10/09	11/15/09	KWG0910513	
Aroclor 1254	ND	Ui	17	17	1	11/10/09	11/15/09	KWG0910513	
Aroclor 1260	ND	Ui	11	9.0	1	11/10/09	11/15/09	KWG0910513	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Decachlorobiphenyl	91	35-133	11/15/09	Acceptable

Comments:

Exception Report

Data File: \\CASH1\ACQUDATA\GC09\DATA\111409.B\1114F042.D
Lab ID: K0909140-014
RunType: SMPL
Matrix: SEDIMENT

Date Acquired: 11/15/2009 03:10
Date Quantitated: 11/16/2009 12:40
Batch ID: KWG0910694
Analysis Method: 8082
MethodJoinID: MJ696

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Analytical Holding Time	NA	NA	NA	x	
Preparation Holding Time	34	NA	14		x
Pre-Preparation Holding Time	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Calibration Verification Ave %D	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA	x	
Calibration Verification Ave %D (Closing)	NA	NA	NA	x	
Continuing Calibration Recovery (Closing)	NA	NA	NA	x	
Method Blank	NA	NA	NA	x	
MB Surrogate Recovery	NA	NA	NA	x	
Lab Control Spike	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA		x
Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
Analyte Co-elution	Aroclor 1254 {4}	9.047	NA	NA	Cy/SD
	Aroclor 1260 {1}	9.047	NA	NA	

Primary Review:

Secondary Review:

Exception Report

Data File: \\CASH1\ACQUDATA\GC09\DATA\111409_R.B\1114R042.D
Lab ID: K0909140-014
RunType: SMPL
Matrix: SEDIMENT

Date Acquired: 11/15/2009 03:10
Date Quantitated: 11/16/2009 12:42
Batch ID: KWG0910694
Analysis Method: 8082
MethodJoinID: MJ696

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Analytical Holding Time	NA	NA	NA	x	
Preparation Holding Time	34	NA	14		x
Pre-Preparation Holding Time	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Calibration Verification Ave %D	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA	x	
Calibration Verification Ave %D (Closing)	NA	NA	NA	x	
Continuing Calibration Recovery (Closing)	NA	NA	NA	x	
Method Blank	NA	NA	NA	x	
MB Surrogate Recovery	NA	NA	NA	x	
Lab Control Spike	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Primary Review: _____

Secondary Review: _____

Quantitation Report

Bottle ID:		**Tier:**	V	**Matrix:**	SEDIMENT
Prod Code:	8082 PCB_LL	**Collect Date:**	10/07/2009	**Receive Date:**	10/08/2009

Analysis Lot:	KWG0910694	**Prep Lot:**	KWG0910513	**Report Group:**	K0909140
Analysis Method:	8082	**Prep Method:**	EPA 3541		
Prep Ref:	865591	**Prep Date:**	11/10/2009		

Quant Method:	\\CASH1\ACQUDATA\GC09\DATA\111409.B\101409_F.M	**Calibration ID:**	CAL8918
Title:	Polychlorinated Biphenyls (PCBs)	**Report List ID:**	LJ6180
MB Ref:	J:\GC09\DATA\111409.B\1114F017.D	**Method ID:**	MJ696
		Quant based on Report List	

Data File #1:	J:\GC09\DATA\111409.B\1114F042.D			**Instrument:**	GC09.i
Data File #2:	\\cash1\acqudata\GC09\data\111409_r.b\1114R042.D			**Vial:**	51
Acqu Date:	11/15/2009 03:10	**Quant Date:**	11/16/2009 12:40	**Dilution:**	1.0
Run Type:	SMPL			**Soln Conc. Units:**	ng/mL
Lab ID:	K0909140-014				
Signal #1:	DB-35MS	**Signal #2:**	DB-XLB		

Surrogate Compounds

Parameter Name	RT #1	RT #2	Resp #1	Respe #2	ng/mL #1	ng/mL #2			Rpt
Decachlorobiphenyl	15.05 0.00	16.30 0.00	456934	380163	83.84	91.05			91OK
			%Recovery =		84OK	91OK	**Limits =**	35-133	

Target Compounds

Final Conc. Units: ug/Kg Dry Weight

Parameter Name	RT #1	RT #2	Resp #1	Resp #2	ng/mL #1	ng/mL #2	ug/Kg #1	ug/Kg #2	Rpt
Aroclor 1016			0	0	0.0000	0.0000	2.2U	2.2U	2.2U
Aroclor 1016 {1}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1016 {2}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1016 {3}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1016 {4}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1016 {5}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1221			0	0	0.0000	0.0000	2.2U	2.2U	2.2U
Aroclor 1221 {1}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1221 {2}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1221 {3}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1221 {4}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1232			0	0	0.0000	0.0000	2.2U	2.2U	2.2U
Aroclor 1232 {1}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1232 {2}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1232 {3}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1232 {4}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1242			0	0	0.0000	0.0000	2.2U	2.2U	2.2U
Aroclor 1242 {1}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1242 {2}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1242 {3}			0d	0d	0.0000	0.0000	2.2U	2.2U	

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Data File #1:	J:\GC09\DATA\111409.B\1114F042.D			**Instrument:**	GC09.i
Data File #2:	\\cash1\acqudata\GC09\data\111409_r.b\1114R042.D			**Vial:**	51
Acqu Date:	11/15/2009 03:10	**Quant Date:**	11/16/2009 12:40	**Dilution:**	1.0
Run Type:	SMPL			**Soln Conc. Units:**	ng/mL
Lab ID:	K0909140-014				
Signal #1:	DB-35MS	**Signal #2:**	DB-XLB		

Target Compounds

Final Conc. Units: ug/Kg Dry Weight

Parameter Name	RT #1	RT #2	Resp #1	Resp #2	ng/mL #1	ng/mL #2	ug/Kg #1	ug/Kg #2	Rpt
Aroclor 1242 {4}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1242 {5}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1248			0	0	0.0000	0.0000	2.2U	2.2U	2.2U
Aroclor 1248 {1}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1248 {2}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1248 {3}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1248 {4}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1248 {5}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1254			0	0	109.55	81.19	23	17	23
Aroclor 1254 {1}	7.60	7.83	35091	12695	122.12	52.77	25	11J	
Aroclor 1254 {2}	8.23	8.20	21102	24644	104.32	101.02	21	21	
Aroclor 1254 {3}	8.44	8.72	30857	0	62.16	0.0000	13	2.2U	
Aroclor 1254 {4}	9.05 c	8.93	30778	29806	127.78	114.19	26	23	
Aroclor 1254 {5}	9.78	9.53	44753	13275	131.37	56.79	27	12	
Aroclor 1260			0	0	43.52	49.05	8.9J	10J	10J
Aroclor 1260 {1}	9.05 0.00 c	9.27 0.00	30778	10686	72.53	44.54	15	9.2J	
Aroclor 1260 {2}	9.48 +0.00	10.36 -0.02	2099	0	9.11	0.0000	2.2U	2.2U	
Aroclor 1260 {3}	10.46 0.00	10.54 0.00	8066	10663	31.64	62.86	6.5J	13	
Aroclor 1260 {4}	10.89 -0.01	11.67 -0.01	21471	19099	39.09	53.96	8.0J	11	
Aroclor 1260 {5}	11.75 -0.02	12.41 -0.01	24605	8319	65.25	34.83	13	7.2J	

The -/+ after Retention Time symbolize the direction of the RT shift

Prep Amount:	20.03 g	**Dilution:**	1.0
Prep Final Vol:	4 ml	**Unit Factor:**	1
Solids:	97.2 %		

Final Concentration = ((Soln Conc x Prep Final Vol x Dilution) / (Prep Amount x Solids)) x Unit Factor

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Data File: \\cash1\acqudata\GC09\data\111409.B\1114F042.D
Report Date: 16-Nov-2009 12:40

Laboratory Name

Sample #1 : \\cash1\acqudata\GC09\data\111409.B\1114F042.D
Sample #2 : \\cash1\acqudata\GC09\data\111409_r.b\1114R042.D
Inj Date : 15-NOV-2009 03:10
Sample Info: K0909140-014 | M-1-A
Misc Info : KELSO\SEMIVOA GC\8082-PCB_LL\09140014.H | F=4
Cal Date : 16-NOV-2009 10:33
Operator : JMSmith
Inst ID : GC09.i
Dil Factor : 1.000000

Method #1 : \\cash1\acqudata\GC09\data\111409.B\101409_f.m
Method #2 : \\cash1\acqudata\GC09\data\111409_r.b\101409_r.m
Sub List #1 : ALL.SUB
Sub List #2 : ALL.SUB
Col #1 Phase : DB-35MS
Col #2 Phase : DB-XLB

Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2	Target Range	Ratio
Tetrachloro-m-xylene	3.693	4.287	439327	355209	75.3	86.1		100.00(R)
Aroclor 1254	7.597	7.830	35091	12695	122	52.8	80.00- 120.00	100.00
	8.227	8.197	21102	24644	104	101	56.32- 84.48	60.14
	8.440	8.717	30857		62.2		138.21- 207.32	87.93
	9.047	8.927	30778	29806	128	114	67.06- 100.59	87.71
	9.783	9.530	44753	13275	131	56.8	94.84- 142.26	127.53
			Average of Peak Amounts =		109	81.2		
Aroclor 1260	9.047	9.270	30778	10686	72.5	44.5	80.00- 120.00	100.00
	9.483	10.360	2099		9.11		42.74- 64.11	6.82
	10.463	10.543	8066	10663	31.6	62.9	48.22- 72.33	26.21
	10.893	11.673	21471	19099	39.1	54.0	101.77- 152.66	69.76
	11.753	12.413	24605	8319	65.2	34.8	72.29- 108.43	79.94
			Average of Peak Amounts =		43.5	49.0		
Decachlorobiphenyl	15.053	16.303	456934	380163	83.8	91.0		100.00(R)

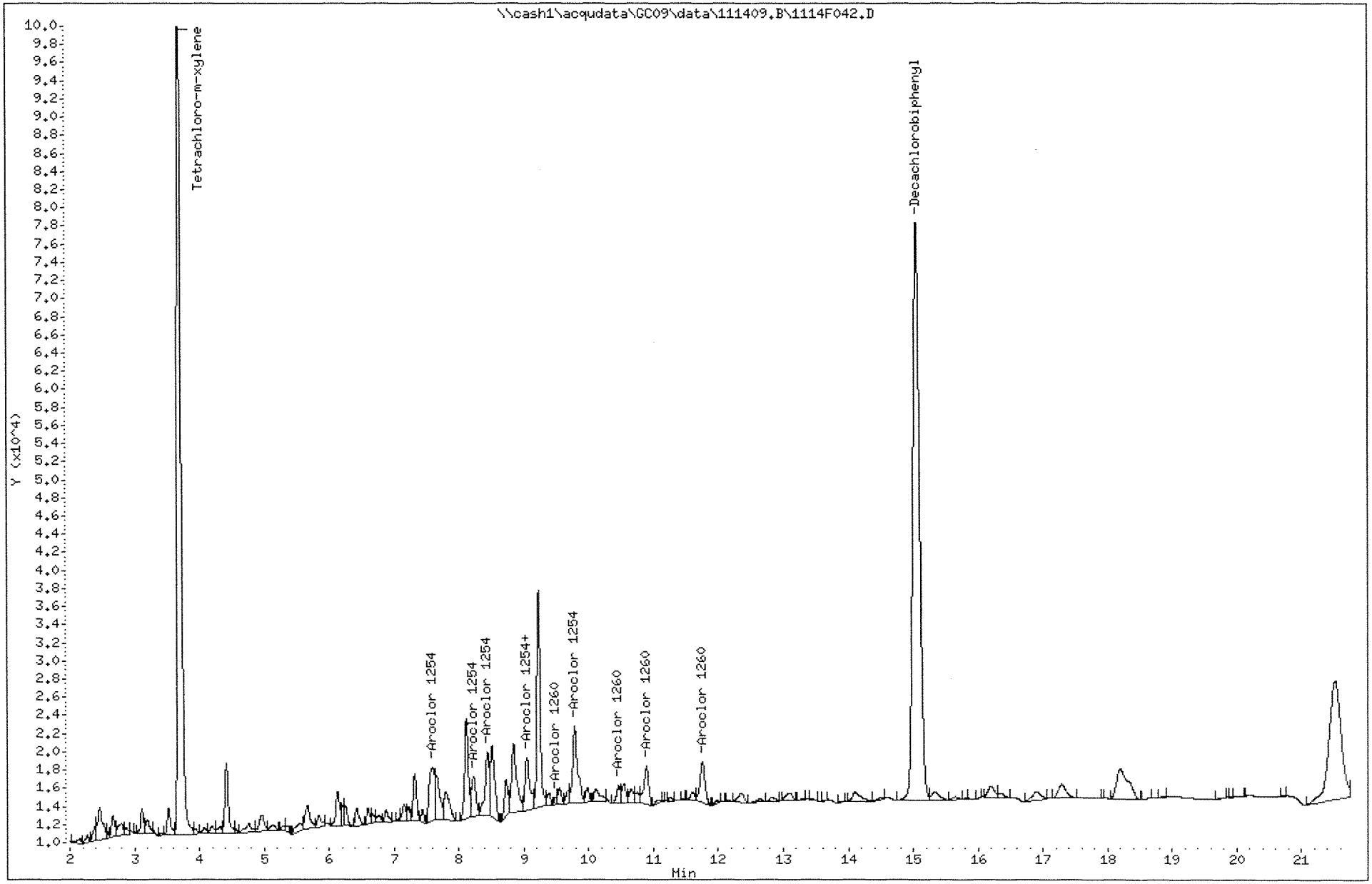
QC Flag Legend

R - Spike/Surrogate failed recovery limits.

Data File: \\cash1\acqudata\GC09\data\111409.B\1114F042.D
Date : 15-NOV-2009 03:10
Client ID:
Sample Info: K0909140-014 | M-1-A

Instrument: GC09.i

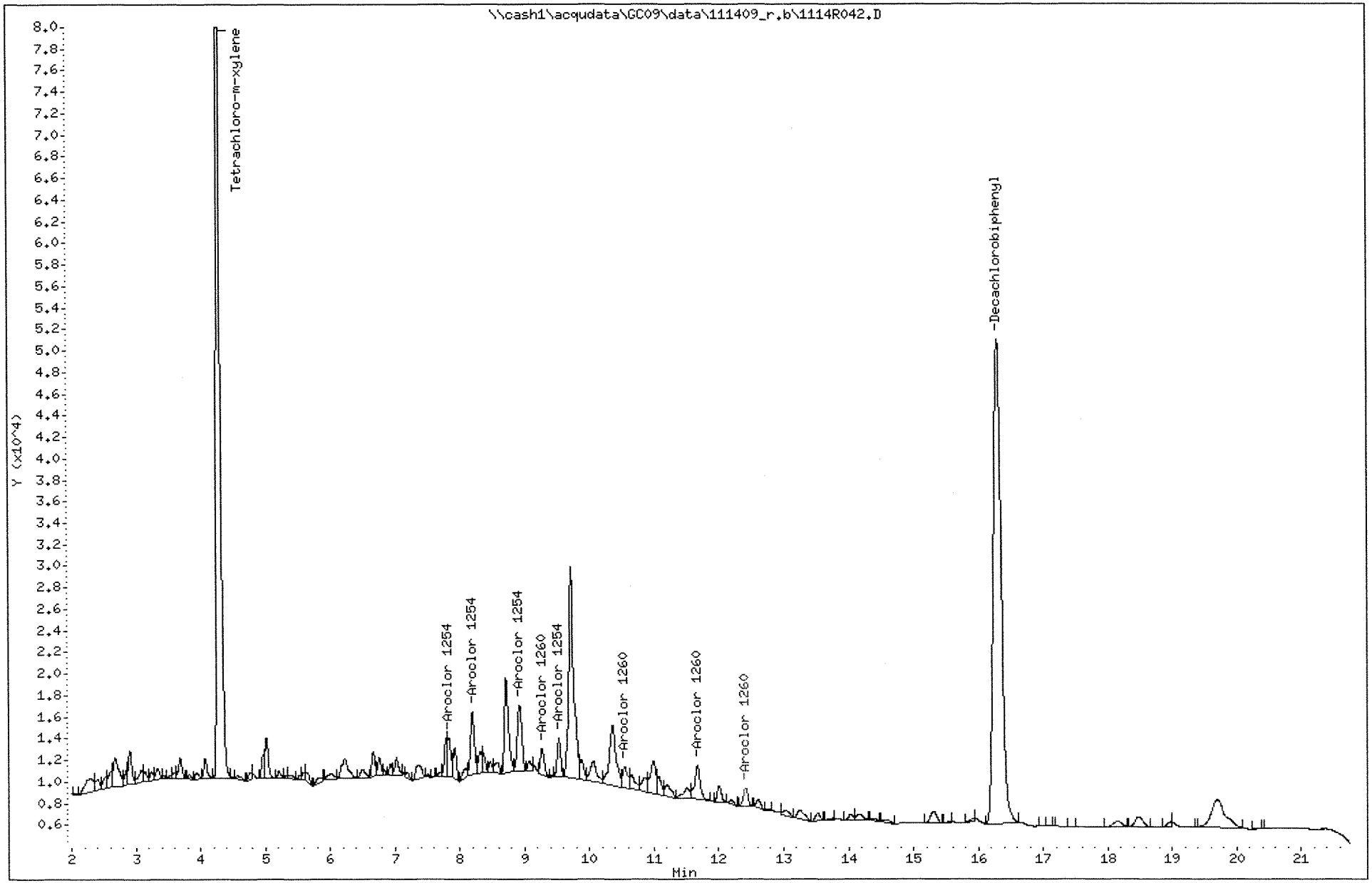
Operator: JMSmith
Column phase: DB-35MS
Column diameter: 0.53



Data File: \\cash1\acqudata\GC09\data\111409_r.b\1114R042.D
Date : 15-NOV-2009 03:10
Client ID:
Sample Info: K0909140-014 | M-1-A

Instrument: GC09.i

Operator: JMSmith
Column phase: DB-XLB
Column diameter: 0.53



COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	URS Corporation	**Service Request:**	K0909140
Project:	Boise St. Helens Pulp and Paper Mill-2009	**Date Collected:**	09/28/2009
Sample Matrix:	Sediment	**Date Received:**	09/29/2009

Polychlorinated Biphenyls (PCBs)

Sample Name:	M-5-B	**Units:**	ug/Kg
Lab Code:	K0909140-015	**Basis:**	Dry
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8082		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Aroclor 1016	ND	U	11	2.2	1	11/10/09	11/15/09	KWG0910513	
Aroclor 1221	ND	U	21	2.2	1	11/10/09	11/15/09	KWG0910513	
Aroclor 1232	ND	U	11	2.2	1	11/10/09	11/15/09	KWG0910513	
Aroclor 1242	ND	U	11	2.2	1	11/10/09	11/15/09	KWG0910513	
Aroclor 1248	ND	U	11	2.2	1	11/10/09	11/15/09	KWG0910513	
Aroclor 1254	ND	Ui	11	11	1	11/10/09	11/15/09	KWG0910513	
Aroclor 1260	ND	Ui	11	3.0	1	11/10/09	11/15/09	KWG0910513	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Decachlorobiphenyl	88	35-133	11/15/09	Acceptable

Comments:

Exception Report

Data File: \\CASH1\ACQUDATA\GC09\DATA\111409.B\1114F043.D
Lab ID: K0909140-015
RunType: SMPL
Matrix: SEDIMENT

Date Acquired: 11/15/2009 03:37
Date Quantitated: 11/16/2009 12:40
Batch ID: KWG0910694
Analysis Method: 8082
MethodJoinID: MJ696

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Analytical Holding Time	NA	NA	NA	x	
Preparation Holding Time	43	NA	14		x
Pre-Preparation Holding Time	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Calibration Verification Ave %D	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA	x	
Calibration Verification Ave %D (Closing)	NA	NA	NA	x	
Continuing Calibration Recovery (Closing)	NA	NA	NA	x	
Method Blank	NA	NA	NA	x	
MB Surrogate Recovery	NA	NA	NA	x	
Lab Control Spike	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA		x
Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
Analyte Co-elution	Aroclor 1254 {4}	9.047	NA	NA	
	Aroclor 1260 {1}	9.047	NA	NA	

Primary Review: 11/16/09

Secondary Review:

Exception Report

Data File: \\CASH1\ACQUDATA\GC09\DATA\111409_R.B\1114R043.D
Lab ID: K0909140-015
RunType: SMPL
Matrix: SEDIMENT

Date Acquired: 11/15/2009 03:37
Date Quantitated: 11/16/2009 12:42
Batch ID: KWG0910694
Analysis Method: 8082
MethodJoinID: MJ696

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Analytical Holding Time	NA	NA	NA	x	
Preparation Holding Time	43	NA	14		x
Pre-Preparation Holding Time	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Calibration Verification Ave %D	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA	x	
Calibration Verification Ave %D (Closing)	NA	NA	NA	x	
Continuing Calibration Recovery (Closing)	NA	NA	NA	x	
Method Blank	NA	NA	NA	x	
MB Surrogate Recovery	NA	NA	NA	x	
Lab Control Spike	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Primary Review: 11/16/09

Secondary Review:

Quantitation Report

Bottle ID:		**Tier:**	V	**Matrix:**	SEDIMENT
Prod Code:	8082 PCB_LL	**Collect Date:**	09/28/2009	**Receive Date:**	09/29/2009

Analysis Lot:	KWG0910694	**Prep Lot:**	KWG0910513	**Report Group:**	K0909140
Analysis Method:	8082	**Prep Method:**	EPA 3541		
Prep Ref:	865592	**Prep Date:**	11/10/2009		

Quant Method:	\\CASH1\ACQUDATA\GC09\DATA\111409.B\101409_F.M	**Calibration ID:**	CAL8918
Title:	Polychlorinated Biphenyls (PCBs)	**Report List ID:**	LJ6180
MB Ref:	J:\GC09\DATA\111409.B\1114F017.D	**Method ID:**	MJ696
		Quant based on Report List	

Data File #1:	J:\GC09\DATA\111409.B\1114F043.D			**Instrument:**	GC09.i
Data File #2:	\\cash1\acqudata\GC09\data\111409_r.b\1114R043.D			**Vial:**	52
Acqu Date:	11/15/2009 03:37	**Quant Date:**	11/16/2009 12:40	**Dilution:**	1.0
Run Type:	SMPL			**Soln Conc. Units:**	ng/mL
Lab ID:	K0909140-015				
Signal #1:	DB-35MS	**Signal #2:**	DB-XLB		

Surrogate Compounds

Parameter Name	RT #1	RT #2	Resp #1	Respe #2	ng/mL #1	ng/mL #2			Rpt
Decachlorobiphenyl	15.05 -0.01	16.30 -0.01	448918	366933	82.37	87.88			88OK
			%Recovery =		82OK	88OK	**Limits =**	35-133	

Target Compounds

Final Conc. Units: ug/Kg Dry Weight

Parameter Name	RT #1	RT #2	Resp #1	Resp #2	ng/mL #1	ng/mL #2	ug/Kg #1	ug/Kg #2	Rpt
Aroclor 1016			0	0	0.0000	0.0000	2.2U	2.2U	2.2U
Aroclor 1016 {1}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1016 {2}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1016 {3}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1016 {4}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1016 {5}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1221			0	0	0.0000	0.0000	2.2U	2.2U	2.2U
Aroclor 1221 {1}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1221 {2}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1221 {3}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1221 {4}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1232			0	0	0.0000	0.0000	2.2U	2.2U	2.2U
Aroclor 1232 {1}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1232 {2}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1232 {3}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1232 {4}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1242			0	0	0.0000	0.0000	2.2U	2.2U	2.2U
Aroclor 1242 {1}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1242 {2}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1242 {3}			0d	0d	0.0000	0.0000	2.2U	2.2U	

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Data File #1:	J:\GC09\DATA\111409.B\1114F043.D			**Instrument:**	GC09.i
Data File #2:	\\cash1\acqudata\GC09\data\111409_r.b\1114R043.D			**Vial:**	52
Acqu Date:	11/15/2009 03:37	**Quant Date:**	11/16/2009 12:40	**Dilution:**	1.0
Run Type:	SMPL			**Soln Conc. Units:**	ng/mL
Lab ID:	K0909140-015				
Signal #1:	DB-35MS	**Signal #2:**	DB-XLB		

Target Compounds

Final Conc. Units: ug/Kg Dry Weight

Parameter Name	RT #1	RT #2	Resp #1	Resp #2	ng/mL #1	ng/mL #2	ug/Kg #1	ug/Kg #2	Rpt
Aroclor 1242 {4}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1242 {5}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1248			0	0	0.0000	0.0000	2.2U	2.2U	2.2U
Aroclor 1248 {1}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1248 {2}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1248 {3}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1248 {4}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1248 {5}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1254			0	0	57.68	52.86	12	11J	**12**
Aroclor 1254 {1}	7.56	7.79	19931	10485	69.36	43.58	14	8.8J	
Aroclor 1254 {2}	8.22	8.19	12428	15996	61.44	65.57	12	13	
Aroclor 1254 {3}	8.44	8.72	19965	0	40.22	0.0000	8.1J	2.2U	
Aroclor 1254 {4}	9.05 c	8.93	15751	13557	65.39	51.94	13	10J	
Aroclor 1254 {5}	9.78	9.53	17712	11771	51.99	50.36	11J	10J	
Aroclor 1260			0	0	30.65	14.84	6.2J	3.0J	**6.2**JP
Aroclor 1260 {1}	9.05 0.00 c	9.27 0.00	15751	1823	37.12	7.60	7.5J	2.2U	
Aroclor 1260 {2}	9.55 +0.07	10.37 0.00	6250	0	27.12	0.0000	5.5J	2.2U	
Aroclor 1260 {3}	10.46 -0.01	10.53 -0.02	4724	0	18.53	0.0000	3.7J	2.2U	
Aroclor 1260 {4}	10.89 -0.01	11.67 -0.01	11442	6712	20.83	18.96	4.2J	3.8J	
Aroclor 1260 {5}	11.75 -0.02	12.41 -0.01	18722	4289	49.65	17.96	10J	3.6J	

The -/+ after Retention Time symbolize the direction of the RT shift

Prep Amount:	20.37 g	**Dilution:**	1.0
Prep Final Vol:	4 ml	**Unit Factor:**	1
Solids:	97.2 %		

Final Concentration = ((Soln Conc x Prep Final Vol x Dilution) / (Prep Amount x Solids)) x Unit Factor

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Data File: \\cash1\acqudata\GC09\data\111409.B\1114F043.D
Report Date: 16-Nov-2009 12:40

Laboratory Name

Sample #1 : \\cash1\acqudata\GC09\data\111409.B\1114F043.D
Sample #2 : \\cash1\acqudata\GC09\data\111409_r.b\1114R043.D
Inj Date : 15-NOV-2009 03:37
Sample Info: K0909140-015 | M-5-B
Misc Info : KELSO\SEMIVOA GC\8082-PCB_LL\09140015.H | F=4
Cal Date : 16-NOV-2009 10:33
Operator : JMSmith
Inst ID : GC09.i
Dil Factor : 1.000000

Method #1 : \\cash1\acqudata\GC09\data\111409.B\101409_f.m
Method #2 : \\cash1\acqudata\GC09\data\111409_r.b\101409_r.m
Sub List #1 : ALL.SUB
Sub List #2 : ALL.SUB
Col #1 Phase : DB-35MS
Col #2 Phase : DB-XLB

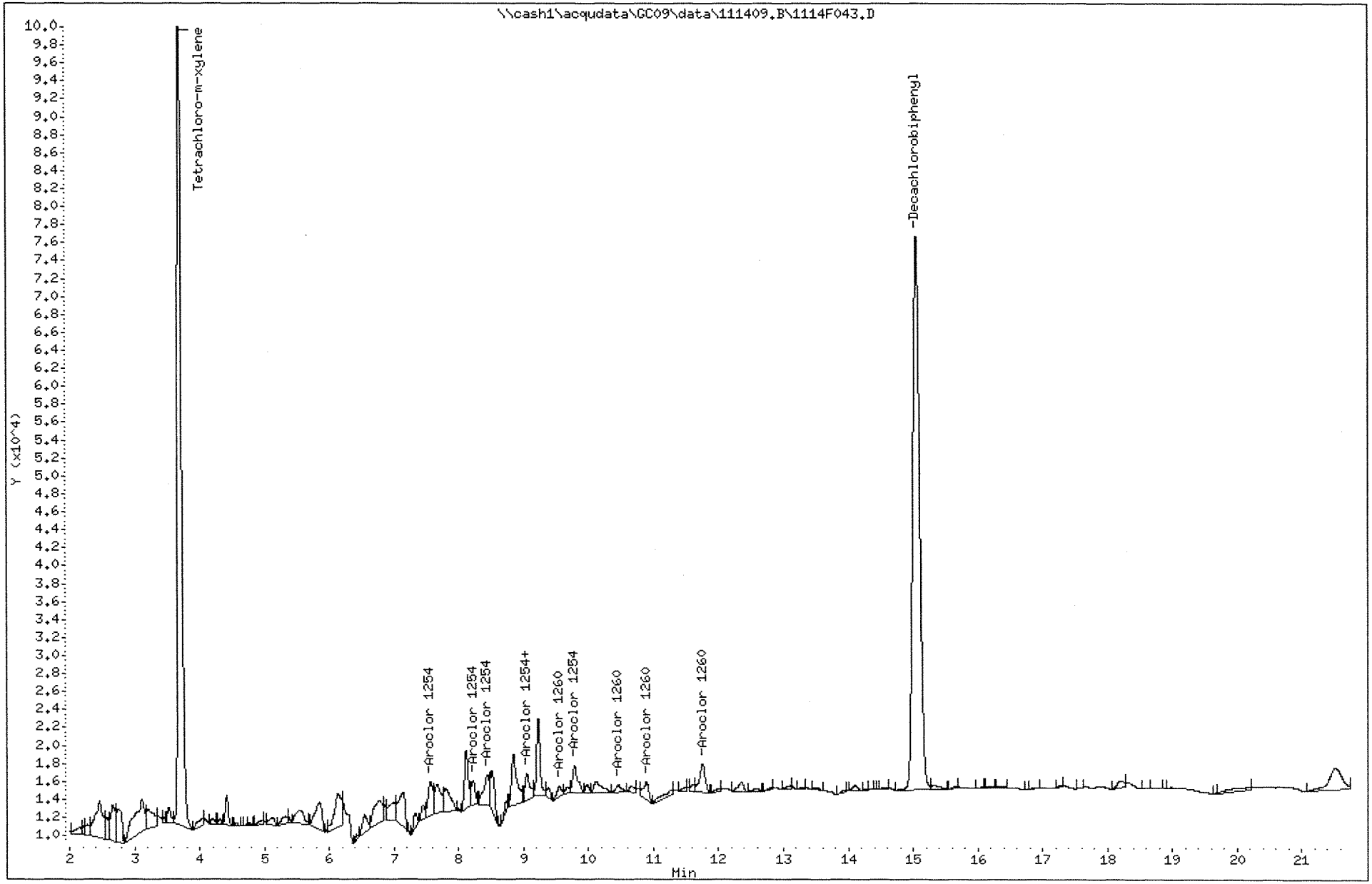
Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2	Target Range	Ratio
Tetrachloro-m-xylene	3.693	4.287	436849	386638	74.9	93.7		100.00(R)
Aroclor 1254	7.560	7.790	19931	10485	69.4	43.6	80.00- 120.00	100.00
	8.223	8.193	12428	15996	61.4	65.6	56.32- 84.48	62.36
	8.440	8.717	19965		40.2		138.21- 207.32	100.17
	9.047	8.927	15751	13557	65.4	51.9	67.06- 100.59	79.03
	9.783	9.530	17712	11771	52.0	50.4	94.84- 142.26	88.87
			Average of Peak Amounts =		57.7	52.9		
Aroclor 1260	9.047	9.270	15751	1823	37.1	7.60	80.00- 120.00	100.00
	9.550	10.373	6250		27.1		42.74- 64.11	39.68
	10.460	10.530	4724		18.5		48.22- 72.33	29.99
	10.890	11.670	11442	6712	20.8	19.0	101.77- 152.66	72.64
	11.753	12.410	18722	4289	49.6	18.0	72.29- 108.43	118.86
			Average of Peak Amounts =		30.6	14.9		
Decachlorobiphenyl	15.050	16.300	448918	366933	82.4	87.9		100.00(R)

QC Flag Legend

R - Spike/Surrogate failed recovery limits.

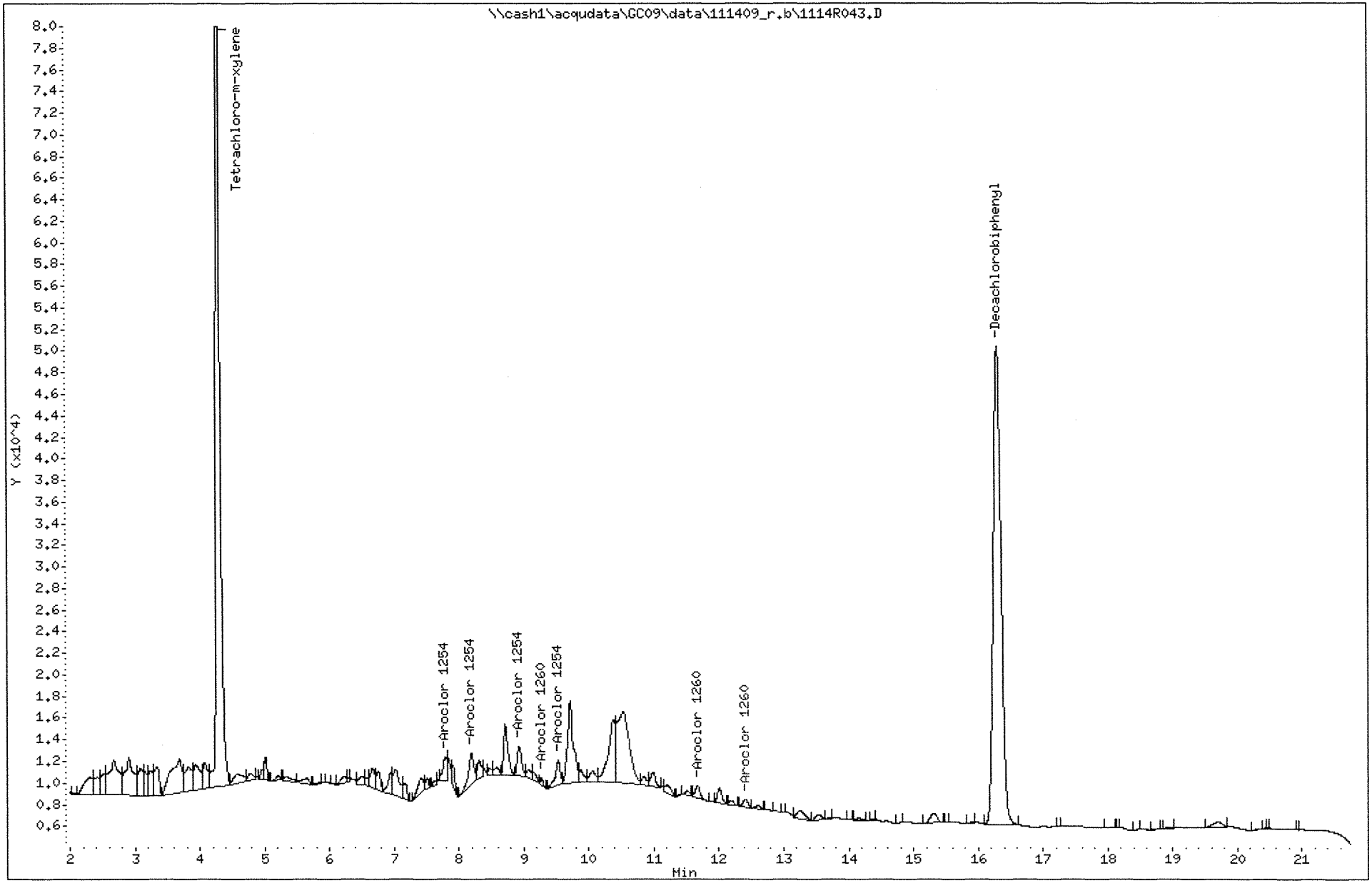
Data File: \\cash1\acqudata\GC09\data\111409.B\1114F043.D
Date : 15-NOV-2009 03:37
Client ID:
Sample Info: K0909140-015 | M-5-B

Instrument: GC09.i
Operator: JMSmith
Column phase: DB-35MS
Column diameter: 0.53



Data File: \\cash1\acqudata\GC09\data\111409_r.b\1114R043.D
Date : 15-NOV-2009 03:37
Client ID:
Sample Info: K0909140-015 | M-5-B

Instrument: GC09.i
Operator: JMSmith
Column phase: DB-XLB
Column diameter: 0.53



COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	URS Corporation	**Service Request:**	K0909140
Project:	Boise St. Helens Pulp and Paper Mill-2009	**Date Collected:**	09/28/2009
Sample Matrix:	Sediment	**Date Received:**	09/29/2009

Polychlorinated Biphenyls (PCBs)

Sample Name:	M-5-A	**Units:**	ug/Kg
Lab Code:	K0909140-016	**Basis:**	Dry
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8082		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Aroclor 1016	ND	U	9.9	2.1	1	11/10/09	11/15/09	KWG0910513	
Aroclor 1221	ND	U	20	2.1	1	11/10/09	11/15/09	KWG0910513	
Aroclor 1232	ND	U	9.9	2.1	1	11/10/09	11/15/09	KWG0910513	
Aroclor 1242	ND	U	9.9	2.1	1	11/10/09	11/15/09	KWG0910513	
Aroclor 1248	ND	U	9.9	2.1	1	11/10/09	11/15/09	KWG0910513	
Aroclor 1254	ND	Ui	11	11	1	11/10/09	11/15/09	KWG0910513	
Aroclor 1260	ND	Ui	9.9	5.7	1	11/10/09	11/15/09	KWG0910513	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Decachlorobiphenyl	89	35-133	11/15/09	Acceptable

Comments:

Exception Report

Data File: \\CASH1\ACQUDATA\GC09\DATA\111409.B\1114F044.D
Lab ID: K0909140-016
RunType: SMPL
Matrix: SEDIMENT

Date Acquired: 11/15/2009 04:03
Date Quantitated: 11/16/2009 12:40
Batch ID: KWG0910694
Analysis Method: 8082
MethodJoinID: MJ696

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Analytical Holding Time	NA	NA	NA	x	
Preparation Holding Time	43	NA	14		x
Pre-Preparation Holding Time	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Calibration Verification Ave %D	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA	x	
Calibration Verification Ave %D (Closing)	NA	NA	NA	x	
Continuing Calibration Recovery (Closing)	NA	NA	NA	x	
Method Blank	NA	NA	NA	x	
MB Surrogate Recovery	NA	NA	NA	x	
Lab Control Spike	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA		x
Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
Analyte Co-elution	Aroclor 1254 {4}	9.047	NA	NA	C/C50
	Aroclor 1260 {1}	9.047	NA	NA	

Primary Review: 11/16/09

Secondary Review:

Exception Report

Data File: \\CASH1\ACQUDATA\GC09\DATA\111409_R.B\1114R044.D
Lab ID: K0909140-016
RunType: SMPL
Matrix: SEDIMENT

Date Acquired: 11/15/2009 04:03
Date Quantitated: 11/16/2009 12:42
Batch ID: KWG0910694
Analysis Method: 8082
MethodJoinID: MJ696

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Analytical Holding Time	NA	NA	NA	x	
Preparation Holding Time	43	NA	14		x
Pre-Preparation Holding Time	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Calibration Verification Ave %D	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA	x	
Calibration Verification Ave %D (Closing)	NA	NA	NA	x	
Continuing Calibration Recovery (Closing)	NA	NA	NA	x	
Method Blank	NA	NA	NA	x	
MB Surrogate Recovery	NA	NA	NA	x	
Lab Control Spike	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Primary Review: _____

Secondary Review: _____

Quantitation Report

Bottle ID:		**Tier:**	V	**Matrix:**	SEDIMENT
Prod Code:	8082 PCB_LL	**Collect Date:**	09/28/2009	**Receive Date:**	09/29/2009

Analysis Lot:	KWG0910694	**Prep Lot:**	KWG0910513	**Report Group:**	K0909140
Analysis Method:	8082	**Prep Method:**	EPA 3541		
Prep Ref:	865593	**Prep Date:**	11/10/2009		

Quant Method:	\\CASH1\ACQUDATA\GC09\DATA\111409.B\101409_F.M	**Calibration ID:**	CAL8918
Title:	Polychlorinated Biphenyls (PCBs)	**Report List ID:**	LJ6180
MB Ref:	J:\GC09\DATA\111409.B\1114F017.D	**Method ID:**	MJ696
		Quant based on Report List	

Data File #1:	J:\GC09\DATA\111409.B\1114F044.D			**Instrument:**	GC09.i
Data File #2:	\\cash1\acqudata\GC09\data\111409_r.b\1114R044.D			**Vial:**	53
Acqu Date:	11/15/2009 04:03	**Quant Date:**	11/16/2009 12:40	**Dilution:**	1.0
Run Type:	SMPL			**Soln Conc. Units:**	ng/mL
Lab ID:	K0909140-016				
Signal #1:	DB-35MS	**Signal #2:**	DB-XLB		

Surrogate Compounds

Parameter Name	RT #1	RT #2	Resp #1	Respe #2	ng/mL #1	ng/mL #2			Rpt
Decachlorobiphenyl	15.05 -0.01	16.30 -0.01	445376	371614	81.72	89.00			89OK
			%Recovery =		82OK	89OK	**Limits =**	35-133	

Target Compounds

Final Conc. Units: ug/Kg Dry Weight

Parameter Name	RT #1	RT #2	Resp #1	Resp #2	ng/mL #1	ng/mL #2	ug/Kg #1	ug/Kg #2	Rpt
Aroclor 1016			0	0	0.0000	0.0000	2.1U	2.1U	2.1U
Aroclor 1016 {1}			0d	0d	0.0000	0.0000	2.1U	2.1U	
Aroclor 1016 {2}			0d	0d	0.0000	0.0000	2.1U	2.1U	
Aroclor 1016 {3}			0d	0d	0.0000	0.0000	2.1U	2.1U	
Aroclor 1016 {4}			0d	0d	0.0000	0.0000	2.1U	2.1U	
Aroclor 1016 {5}			0d	0d	0.0000	0.0000	2.1U	2.1U	
Aroclor 1221			0	0	0.0000	0.0000	2.1U	2.1U	2.1U
Aroclor 1221 {1}			0d	0d	0.0000	0.0000	2.1U	2.1U	
Aroclor 1221 {2}			0d	0d	0.0000	0.0000	2.1U	2.1U	
Aroclor 1221 {3}			0d	0d	0.0000	0.0000	2.1U	2.1U	
Aroclor 1221 {4}			0d	0d	0.0000	0.0000	2.1U	2.1U	
Aroclor 1232			0	0	0.0000	0.0000	2.1U	2.1U	2.1U
Aroclor 1232 {1}			0d	0d	0.0000	0.0000	2.1U	2.1U	
Aroclor 1232 {2}			0d	0d	0.0000	0.0000	2.1U	2.1U	
Aroclor 1232 {3}			0d	0d	0.0000	0.0000	2.1U	2.1U	
Aroclor 1232 {4}			0d	0d	0.0000	0.0000	2.1U	2.1U	
Aroclor 1242			0	0	0.0000	0.0000	2.1U	2.1U	2.1U
Aroclor 1242 {1}			0d	0d	0.0000	0.0000	2.1U	2.1U	
Aroclor 1242 {2}			0d	0d	0.0000	0.0000	2.1U	2.1U	
Aroclor 1242 {3}			0d	0d	0.0000	0.0000	2.1U	2.1U	

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Data File #1:	J:\GC09\DATA\111409.B\1114F044.D			**Instrument:**	GC09.i
Data File #2:	\\cash1\acqudata\GC09\data\111409_r.b\1114R044.D			**Vial:**	53
Acqu Date:	11/15/2009 04:03	**Quant Date:**	11/16/2009 12:40	**Dilution:**	1.0
Run Type:	SMPL			**Soln Conc. Units:**	ng/mL
Lab ID:	K0909140-016				
Signal #1:	DB-35MS	**Signal #2:**	DB-XLB		

Target Compounds

Final Conc. Units: ug/Kg Dry Weight

Parameter Name	RT #1	RT #2	Resp #1	Resp #2	ng/mL #1	ng/mL #2	ug/Kg #1	ug/Kg #2	Rpt
Aroclor 1242 {4}			0d	0d	0.0000	0.0000	2.1U	2.1U	
Aroclor 1242 {5}			0d	0d	0.0000	0.0000	2.1U	2.1U	
Aroclor 1248			0	0	0.0000	0.0000	2.1U	2.1U	2.1U
Aroclor 1248 {1}			0d	0d	0.0000	0.0000	2.1U	2.1U	
Aroclor 1248 {2}			0d	0d	0.0000	0.0000	2.1U	2.1U	
Aroclor 1248 {3}			0d	0d	0.0000	0.0000	2.1U	2.1U	
Aroclor 1248 {4}			0d	0d	0.0000	0.0000	2.1U	2.1U	
Aroclor 1248 {5}			0d	0d	0.0000	0.0000	2.1U	2.1U	
Aroclor 1254			0	0	53.92	59.66	11	12	**12**
Aroclor 1254 {1}	7.56	7.83	21092	10724	73.40	44.57	14	8.8J	
Aroclor 1254 {2}	8.22	8.20	10963	20024	54.19	82.08	11	16	
Aroclor 1254 {3}	8.44	8.72	17331	0	34.91	0.0000	6.9J	2.1U	
Aroclor 1254 {4}	9.05 c	8.93	15175	13680	63.00	52.41	12	10	
Aroclor 1254 {5}	9.78	9.53	15026	13922	44.11	59.56	8.7J	12	
Aroclor 1260			0	0	28.77	30.24	5.7J	6.0J	**6.0J**
Aroclor 1260 {1}	9.05 0.00 c	9.27 0.00	15175	1855m	35.76	7.73	7.0J	2.1U	
Aroclor 1260 {2}	9.55 +0.07	10.36 -0.01	5998	15744m	26.02	51.06	5.1J	10	
Aroclor 1260 {3}	10.46 0.00	10.54 -0.01	3781	9373m	14.83	55.26	2.9J	11	RPD
Aroclor 1260 {4}	10.89 -0.01	11.67 -0.01	10748	7163m	19.57	20.24	3.9J	4.0J	
Aroclor 1260 {5}	11.75 -0.02	12.41 -0.01	17981	4037m	47.68	16.90	9.4J	3.3J	

The -/+ after Retention Time symbolize the direction of the RT shift

Prep Amount:	20.50 g	**Dilution:**	1.0
Prep Final Vol:	4 ml	**Unit Factor:**	1
Solids:	99.1 %		

Final Concentration = ((Soln Conc x Prep Final Vol x Dilution) / (Prep Amount x Solids)) x Unit Factor

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Data File: \\cash1\acqudata\GC09\data\111409.B\1114F044.D
Report Date: 16-Nov-2009 12:40

Laboratory Name

Sample #1 : \\cash1\acqudata\GC09\data\111409.B\1114F044.D
Sample #2 : \\cash1\acqudata\GC09\data\111409_r.b\1114R044.D
Inj Date : 15-NOV-2009 04:03
Sample Info: K0909140-016 | M-5-A
Misc Info : KELSO\SEMIVOA GC\8082-PCB_LL\09140016.H | F=4
Cal Date : 16-NOV-2009 10:33
Operator : JMSmith
Inst ID : GC09.i
Dil Factor : 1.000000

Method #1 : \\cash1\acqudata\GC09\data\111409.B\101409_f.m
Method #2 : \\cash1\acqudata\GC09\data\111409_r.b\101409_r.m
Sub List #1 : ALL.SUB
Sub List #2 : ALL.SUB
Col #1 Phase : DB-35MS
Col #2 Phase : DB-XLB

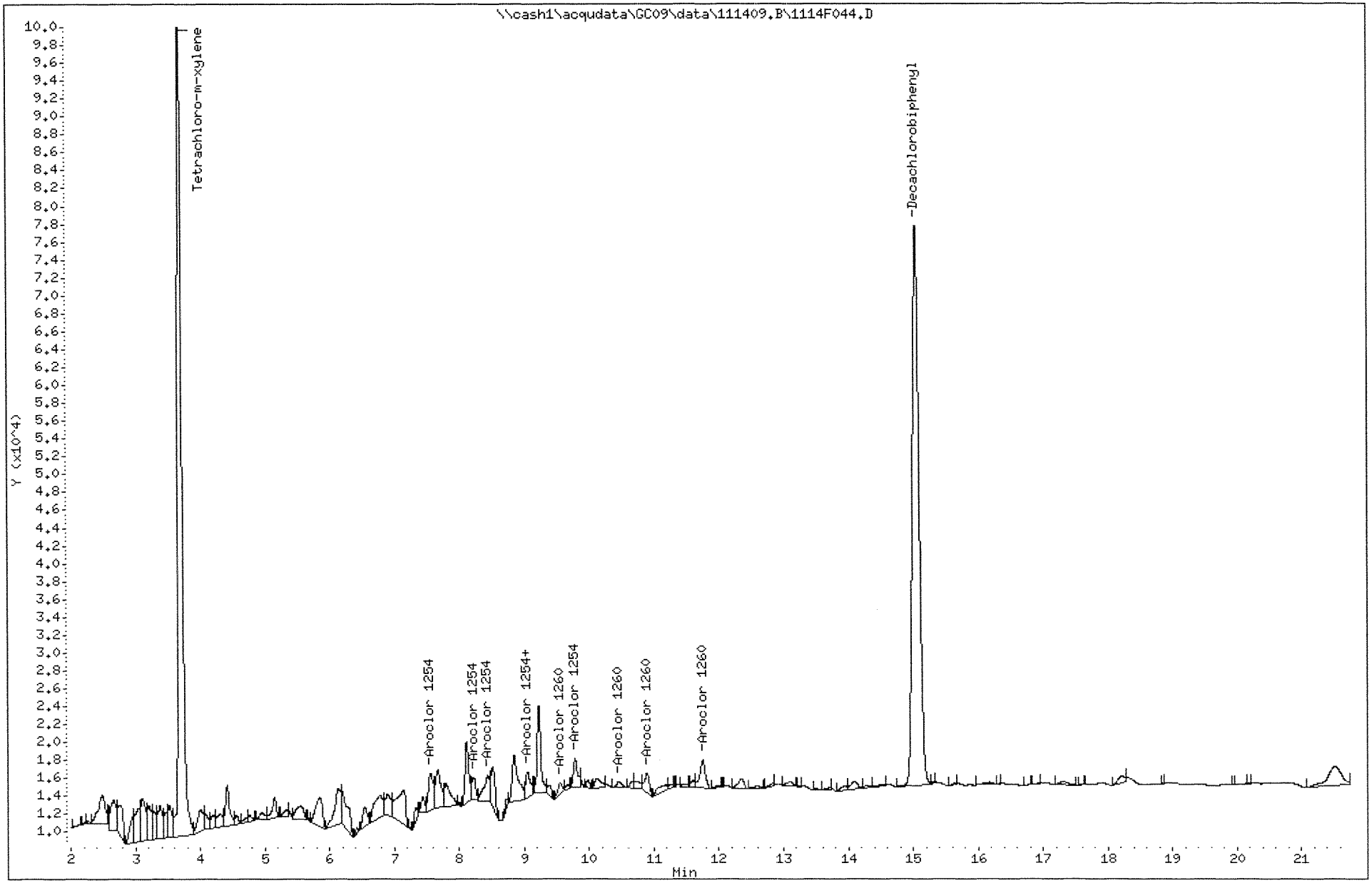
Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2	Target Range	Ratio
Tetrachloro-m-xylene	3.693	4.287	462165	398977	79.2	96.7		100.00(R)
Aroclor 1254	7.557	7.827	21092	10724	73.4	44.6	80.00- 120.00	100.00
	8.223	8.197	10963	20024	54.2	82.1	56.32- 84.48	51.98
	8.440	8.717	17331		34.9		138.21- 207.32	82.17
	9.047	8.930	15175	13680	63.0	52.4	67.06- 100.59	71.95
	9.783	9.530	15026	13922	44.1	59.6	94.84- 142.26	71.24
			Average of Peak Amounts =		53.9	59.7		
Aroclor 1260	9.047	9.270	15175	1855	35.8	7.73	80.00- 120.00	100.00
	9.550	10.363	5998	15744	26.0	51.0	42.74- 64.11	39.53
	10.463	10.540	3781	9373	14.8	55.3	48.22- 72.33	24.92
	10.893	11.670	10748	7163	19.6	20.2	101.77- 152.66	70.83
	11.750	12.410	17981	4037	47.7	16.9	72.29- 108.43	118.49
			Average of Peak Amounts =		28.8	30.2		
Decachlorobiphenyl	15.050	16.300	445376	371614	81.7	89.0		100.00(R)

QC Flag Legend

R - Spike/Surrogate failed recovery limits.

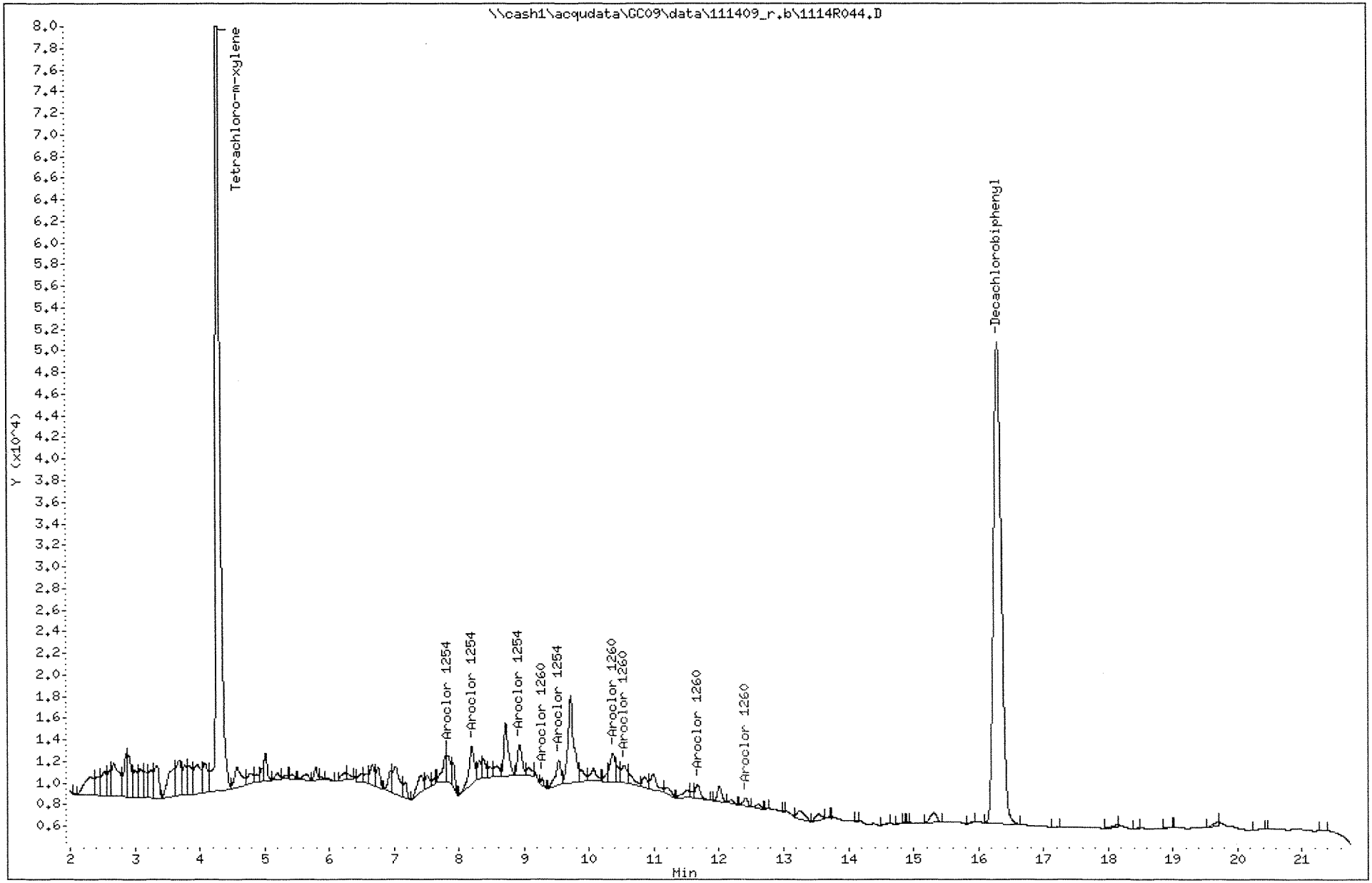
Data File: \\cash1\acqudata\GC09\data\111409.B\1114F044.D
Date : 15-NOV-2009 04:03
Client ID:
Sample Info: K0909140-016 | M-5-A

Instrument: GC09.i
Operator: JMSmith
Column phase: DB-35MS
Column diameter: 0.53



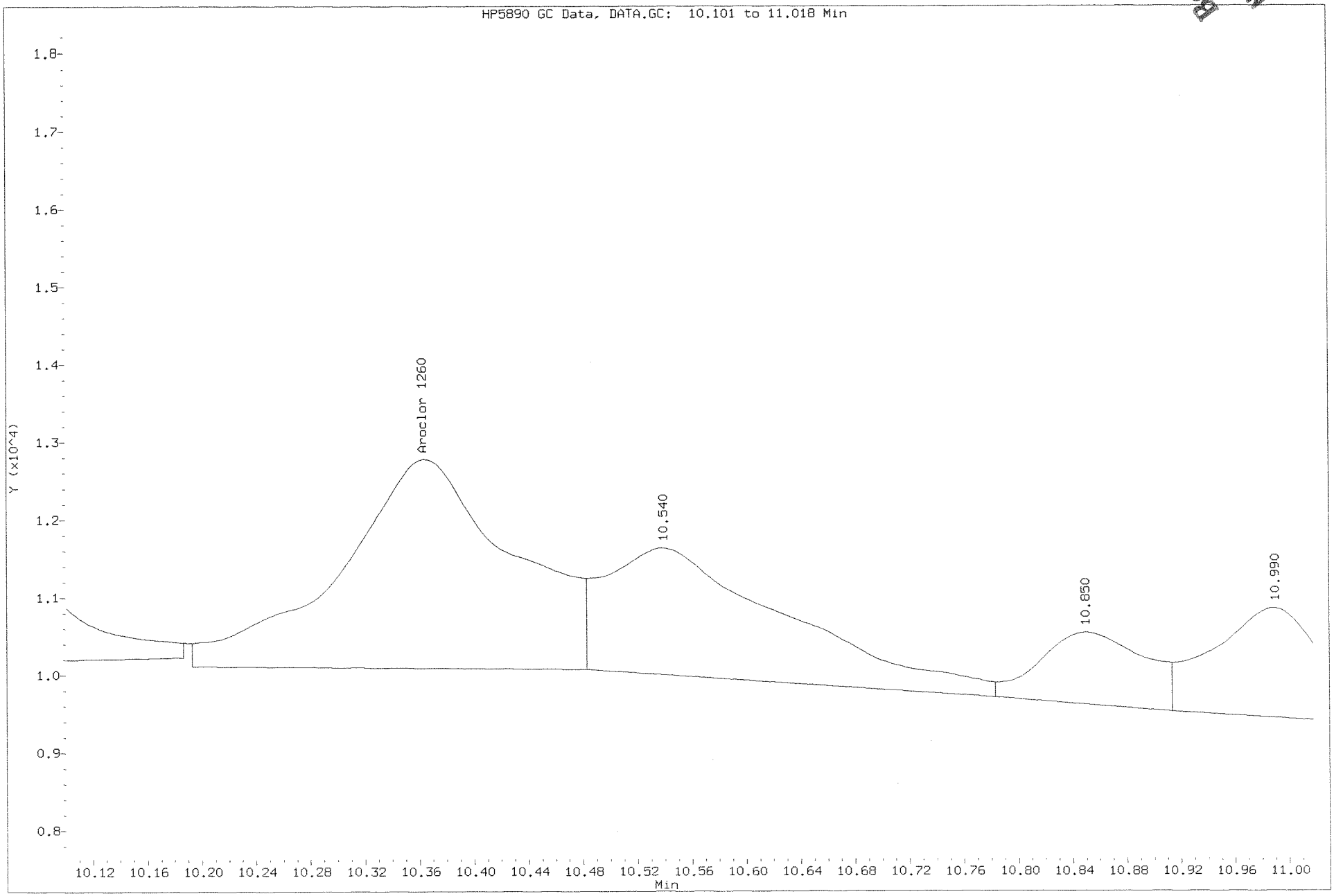
Data File: \\cash1\acqudata\GC09\data\111409_r.b\1114R044.D
Date : 15-NOV-2009 04:03
Client ID:
Sample Info: K0909140-016 | M-5-A

Instrument: GC09.i
Operator: JMSmith
Column phase: DB-XLB
Column diameter: 0.53

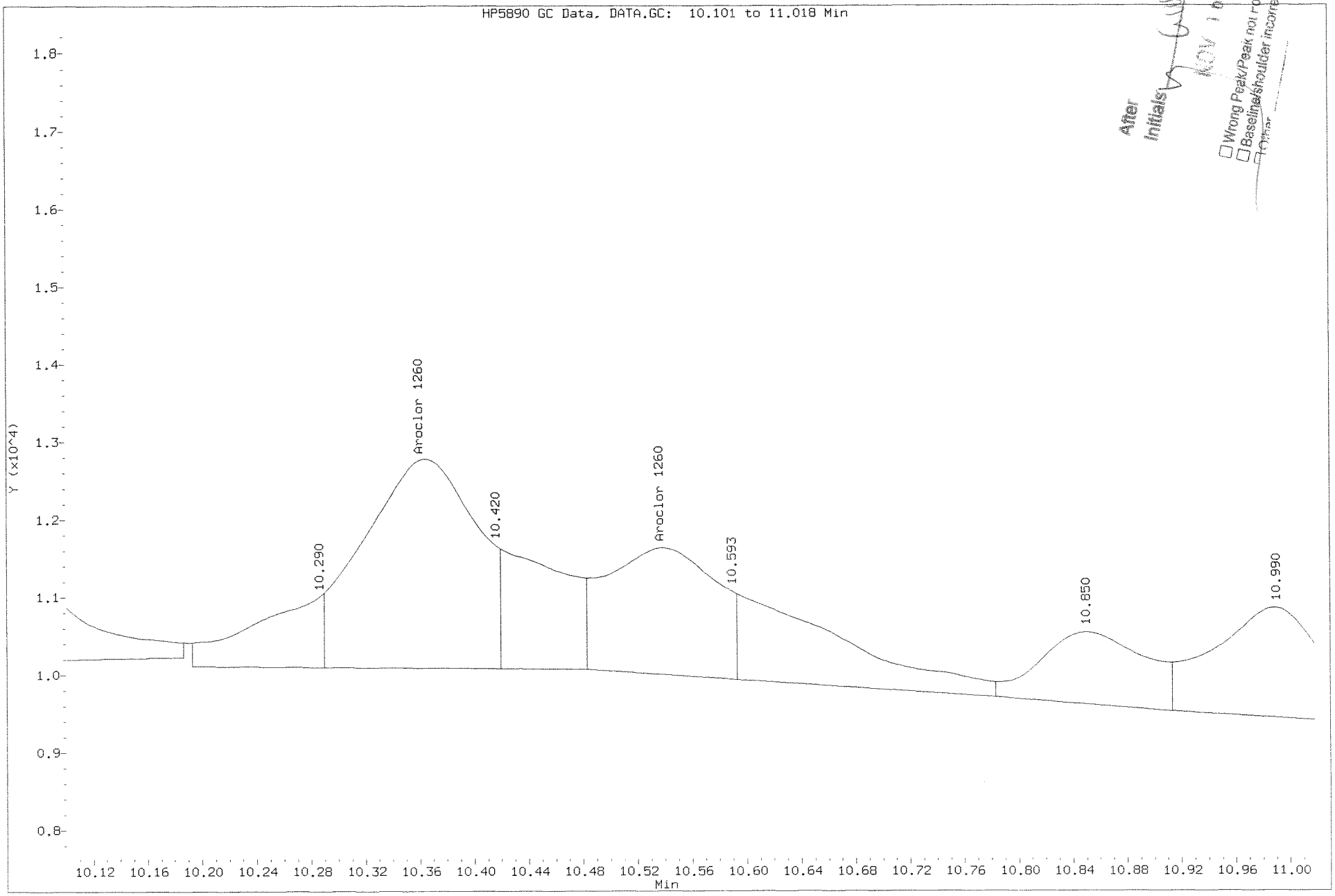


Data File: \\cash1\acqudata\GC09\data\111409_r.b\1114R044.D
Injection Date: 15-NOV-2009 04:03
Instrument: GC09.i
Client Sample ID:

Before
NOV 16 2009



Data File: \\cash1\acqudata\GC09\data\111409_r.b\1114R044.D
Injection Date: 15-NOV-2009 04:03
Instrument: GC09.i
Client Sample ID:



After Initials

☐ Wrong Peak/Peak not found
☐ Baseline/shoulder incorrect

741

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009
Sample Matrix: Sediment

Service Request: K0909140
Date Collected: 09/28/2009
Date Received: 09/29/2009

Polychlorinated Biphenyls (PCBs)

Sample Name: M-5-C
Lab Code: K0909140-017

Extraction Method: EPA 3541
Analysis Method: 8082

Units: ug/Kg
Basis: Dry

Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Aroclor 1016	ND	U	11	2.2	1	11/10/09	11/15/09	KWG0910513	
Aroclor 1221	ND	U	21	2.2	1	11/10/09	11/15/09	KWG0910513	
Aroclor 1232	ND	U	11	2.2	1	11/10/09	11/15/09	KWG0910513	
Aroclor 1242	ND	U	11	2.2	1	11/10/09	11/15/09	KWG0910513	
Aroclor 1248	ND	U	11	2.2	1	11/10/09	11/15/09	KWG0910513	
Aroclor 1254	ND	Ui	11	7.7	1	11/10/09	11/15/09	KWG0910513	
Aroclor 1260	ND	Ui	11	3.7	1	11/10/09	11/15/09	KWG0910513	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Decachlorobiphenyl	90	35-133	11/15/09	Acceptable

Comments:

Exception Report

Data File: \\CASH1\ACQUDATA\GC09\DATA\111409.B\1114F045.D
Lab ID: K0909140-017
RunType: SMPL
Matrix: SEDIMENT

Date Acquired: 11/15/2009 04:29
Date Quantitated: 11/16/2009 12:40
Batch ID: KWG0910694
Analysis Method: 8082
MethodJoinID: MJ696

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Analytical Holding Time	NA	NA	NA	x	
Preparation Holding Time	43	NA	14		x
Pre-Preparation Holding Time	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Calibration Verification Ave %D	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA	x	
Calibration Verification Ave %D (Closing)	NA	NA	NA	x	
Continuing Calibration Recovery (Closing)	NA	NA	NA	x	
Method Blank	NA	NA	NA	x	
MB Surrogate Recovery	NA	NA	NA	x	
Lab Control Spike	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA		x
Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
Analyte Co-elution	Aroclor 1254 {4}	9.047	NA	NA	
	Aroclor 1260 {1}	9.047	NA	NA	

Primary Review: [signature]

Secondary Review: [signature]

Exception Report

Data File: \\CASH1\ACQUDATA\GC09\DATA\111409_R.B\1114R045.D
Lab ID: K0909140-017
RunType: SMPL
Matrix: SEDIMENT

Date Acquired: 11/15/2009 04:29
Date Quantitated: 11/16/2009 12:42
Batch ID: KWG0910694
Analysis Method: 8082
MethodJoinID: MJ696

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Analytical Holding Time	NA	NA	NA	x	
Preparation Holding Time	43	NA	14		x
Pre-Preparation Holding Time	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Calibration Verification Ave %D	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA	x	
Calibration Verification Ave %D (Closing)	NA	NA	NA	x	
Continuing Calibration Recovery (Closing)	NA	NA	NA	x	
Method Blank	NA	NA	NA	x	
MB Surrogate Recovery	NA	NA	NA	x	
Lab Control Spike	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Primary Review: [signature]

Secondary Review: [signature]

Quantitation Report

Bottle ID:		**Tier:**	V	**Matrix:**	SEDIMENT
Prod Code:	8082 PCB_LL	**Collect Date:**	09/28/2009	**Receive Date:**	09/29/2009

Analysis Lot:	KWG0910694	**Prep Lot:**	KWG0910513	**Report Group:**	K0909140
Analysis Method:	8082	**Prep Method:**	EPA 3541		
Prep Ref:	865594	**Prep Date:**	11/10/2009		

Quant Method:	\\CASH1\ACQUDATA\GC09\DATA\111409.B\101409_F.M	**Calibration ID:**	CAL8918
Title:	Polychlorinated Biphenyls (PCBs)	**Report List ID:**	LJ6180
MB Ref:	J:\GC09\DATA\111409.B\1114F017.D	**Method ID:**	MJ696
		Quant based on Report List	

Data File #1:	J:\GC09\DATA\111409.B\1114F045.D			**Instrument:**	GC09.i
Data File #2:	\\cash1\acqudata\GC09\data\111409_r.b\1114R045.D			**Vial:**	54
Acqu Date:	11/15/2009 04:29	**Quant Date:**	11/16/2009 12:40	**Dilution:**	1.0
Run Type:	SMPL			**Soln Conc. Units:**	ng/mL
Lab ID:	K0909140-017				
Signal #1:	DB-35MS	**Signal #2:**	DB-XLB		

Surrogate Compounds

Parameter Name	RT #1	RT #2	Resp #1	Respe #2	ng/mL #1	ng/mL #2			Rpt
Decachlorobiphenyl	15.05 0.00	16.30 -0.01	455587	375262	83.59	89.88			90OK
			%Recovery =		84OK	90OK	Limits =	35-133	

Target Compounds

Final Conc. Units: ug/Kg Dry Weight

Parameter Name	RT #1	RT #2	Resp #1	Resp #2	ng/mL #1	ng/mL #2	ug/Kg #1	ug/Kg #2	Rpt
Aroclor 1016			0	0	0.0000	0.0000	2.2U	2.2U	2.2U
Aroclor 1016 {1}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1016 {2}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1016 {3}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1016 {4}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1016 {5}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1221			0	0	0.0000	0.0000	2.2U	2.2U	2.2U
Aroclor 1221 {1}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1221 {2}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1221 {3}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1221 {4}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1232			0	0	0.0000	0.0000	2.2U	2.2U	2.2U
Aroclor 1232 {1}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1232 {2}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1232 {3}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1232 {4}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1242			0	0	0.0000	0.0000	2.2U	2.2U	2.2U
Aroclor 1242 {1}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1242 {2}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1242 {3}			0d	0d	0.0000	0.0000	2.2U	2.2U	

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Data File #1:	J:\GC09\DATA\111409.B\1114F045.D			**Instrument:**	GC09.i
Data File #2:	\\cash1\acqudata\GC09\data\111409_r.b\1114R045.D			**Vial:**	54
Acqu Date:	11/15/2009 04:29	**Quant Date:**	11/16/2009 12:40	**Dilution:**	1.0
Run Type:	SMPL			**Soln Conc. Units:**	ng/mL
Lab ID:	K0909140-017				
Signal #1:	DB-35MS	**Signal #2:**	DB-XLB		

Target Compounds **Final Conc. Units:** ug/Kg Dry Weight

Parameter Name	RT #1	RT #2	Resp #1	Resp #2	ng/mL #1	ng/mL #2	ug/Kg #1	ug/Kg #2	Rpt
Aroclor 1242 {4}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1242 {5}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1248			0	0	0.0000	0.0000	2.2U	2.2U	2.2U
Aroclor 1248 {1}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1248 {2}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1248 {3}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1248 {4}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1248 {5}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1254			0	0	38.11	41.16	7.6J	8.2J	**8.2**J
Aroclor 1254 {1}	7.56	7.83	16336m	5060m	56.85	21.03	11	4.2J	
Aroclor 1254 {2}	8.22	8.19	10361m	12475m	51.22	51.14	10J	10J	
Aroclor 1254 {3}	8.44	8.72	7684m	0m	15.48	0.0000	3.1J	2.2U	
Aroclor 1254 {4}	9.05 c	8.93	7142m	12667m	29.66	48.53	5.9J	9.7J	
Aroclor 1254 {5}	9.78	9.53	12715m	10273m	37.33	43.95	7.5J	8.8J	
Aroclor 1260			0	0	18.09	28.02	3.6J	5.6J	**5.6**JP
Aroclor 1260 {1}	9.05 0.00 c	9.27 0.00	7142m	1520m	16.83	6.34	3.4J	2.2U	
Aroclor 1260 {2}	9.55 +0.07	10.37 -0.01	3874m	13619m	16.81	44.17	3.4J	8.8J	
Aroclor 1260 {3}	10.46 -0.01	10.54 -0.01	5020m	8727m	19.69	51.45	3.9J	10J	
Aroclor 1260 {4}	10.89 -0.01	11.67 -0.01	10440m	7477m	19.01	21.13	3.8J	4.2J	
Aroclor 1260 {5}	11.75 -0.02	12.41 -0.01	0m	4065m	0.0000	17.02	2.2U	3.4J	

The -/+ after Retention Time symbolize the direction of the RT shift

Prep Amount:	20.06 g	**Dilution:**	1.0
Prep Final Vol:	4 ml	**Unit Factor:**	1
Solids:	99.6 %		

Final Concentration = ((Soln Conc x Prep Final Vol x Dilution) / (Prep Amount x Solids)) x Unit Factor

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Data File: \\cash1\acqudata\GC09\data\111409.B\1114F045.D
Report Date: 16-Nov-2009 12:40

Laboratory Name

Sample #1 : \\cash1\acqudata\GC09\data\111409.B\1114F045.D
Sample #2 : \\cash1\acqudata\GC09\data\111409_r.b\1114R045.D
Inj Date : 15-NOV-2009 04:29
Sample Info: K0909140-017 | M-5-C
Misc Info : KELSO\SEMIVOA GC\8082-PCB_LL\09140017.H | F=4
Cal Date : 16-NOV-2009 10:33
Operator : JMSmith
Inst ID : GC09.i
Dil Factor : 1.000000

Method #1 : \\cash1\acqudata\GC09\data\111409.B\101409_f.m
Method #2 : \\cash1\acqudata\GC09\data\111409_r.b\101409_r.m
Sub List #1 : ALL.SUB
Sub List #2 : ALL.SUB
Col #1 Phase : DB-35MS
Col #2 Phase : DB-XLB

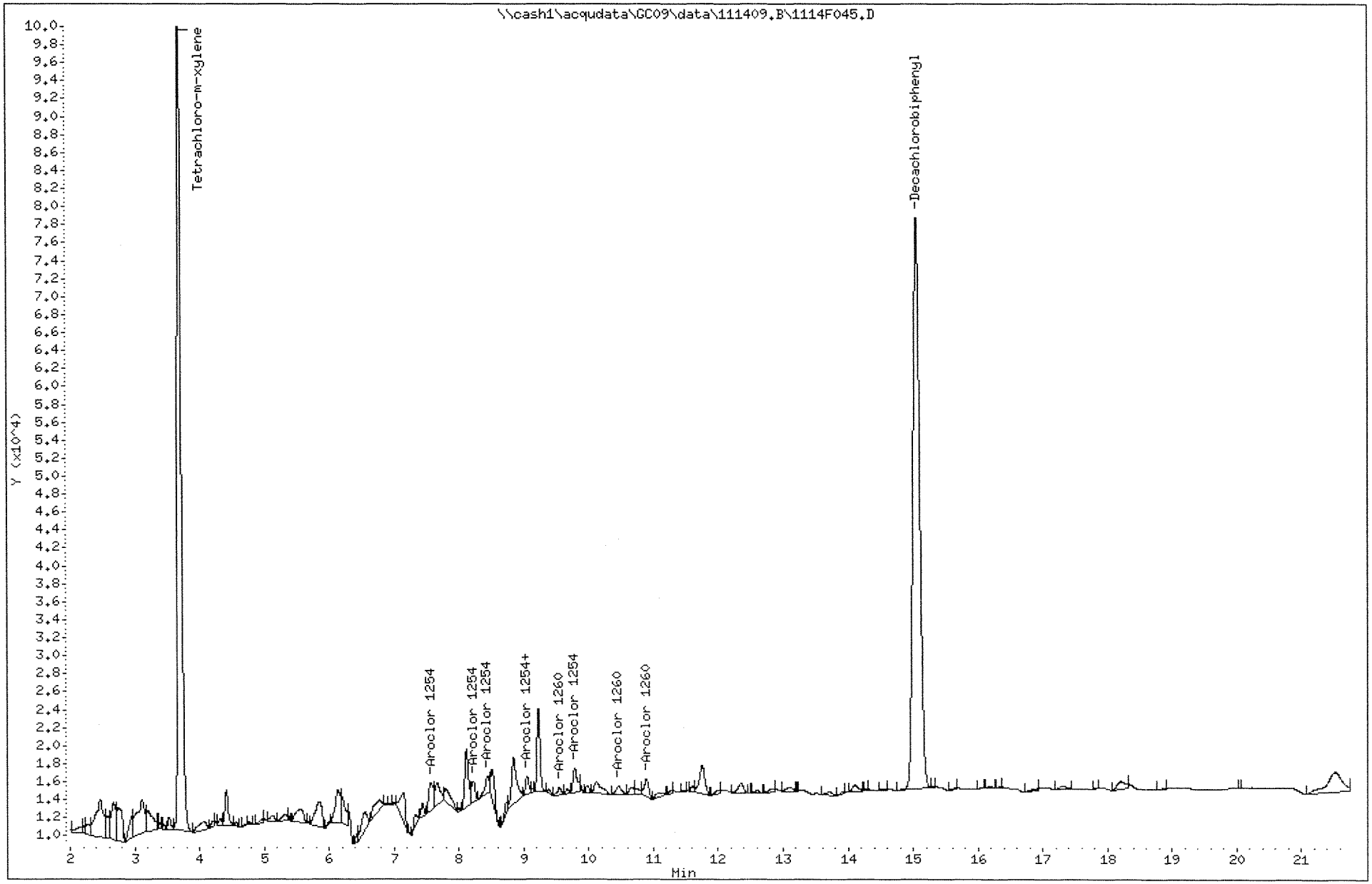
Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2	Target Range	Ratio
Tetrachloro-m-xylene	3.693	4.287	416155	388942	71.4	94.3		100.00(R)
Aroclor 1254	7.563	7.827	16336	5060	56.8	21.0	80.00- 120.00	100.00(M)
	8.223	8.193	10361	12475	51.2	51.1	56.32- 84.48	63.43(M)
	8.437	8.717	7684		15.5		138.21- 207.32	47.04(M)
	9.047	8.927	7142	12667	29.6	48.5	67.06- 100.59	43.72(M)
	9.783	9.530	12715	10273	37.3	44.0	94.84- 142.26	77.83(M)
			Average of Peak Amounts =		38.1	41.2		
Aroclor 1260	9.047	9.270	7142	1520	16.8	6.34	80.00- 120.00	100.00(M)
	9.547	10.367	3874	13619	16.8	44.2	42.74- 64.11	54.24(M)
	10.460	10.540	5020	8727	19.7	51.4	48.22- 72.33	70.28(M)
	10.893	11.670	10440	7477	19.0	21.1	101.77- 152.66	146.16(M)
	11.753	12.410		4065		17.0	89.17- 133.75	267.43(M)
			Average of Peak Amounts =		18.1	28.0		
Decachlorobiphenyl	15.053	16.300	455587	375262	83.6	89.9		100.00(R)

QC Flag Legend

R - Spike/Surrogate failed recovery limits.
M - Compound response manually integrated.

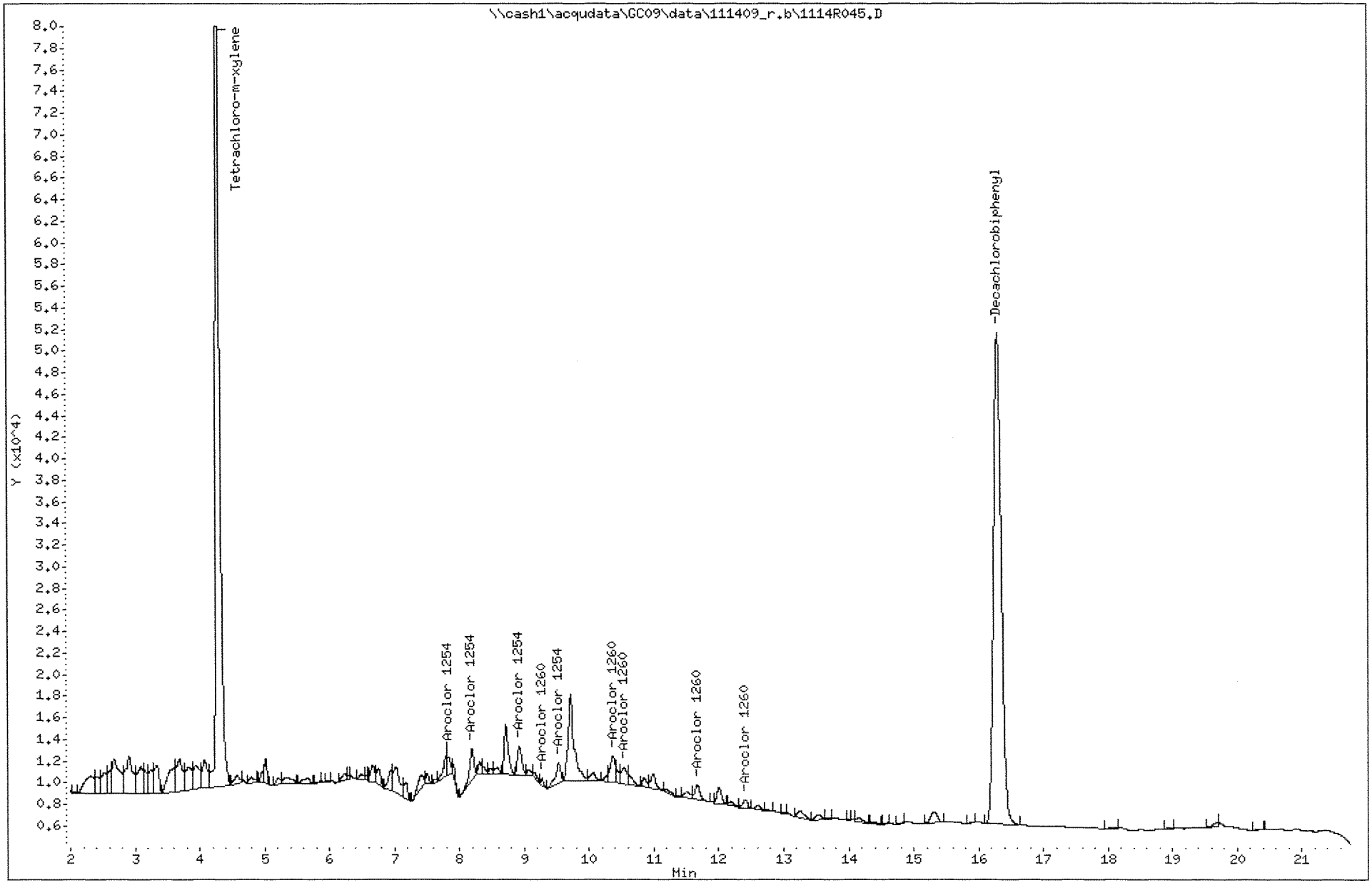
Data File: \\cash1\acqudata\GC09\data\111409.B\1114F045.D
Date : 15-NOV-2009 04:29
Client ID:
Sample Info: K0909140-017 | M-5-C

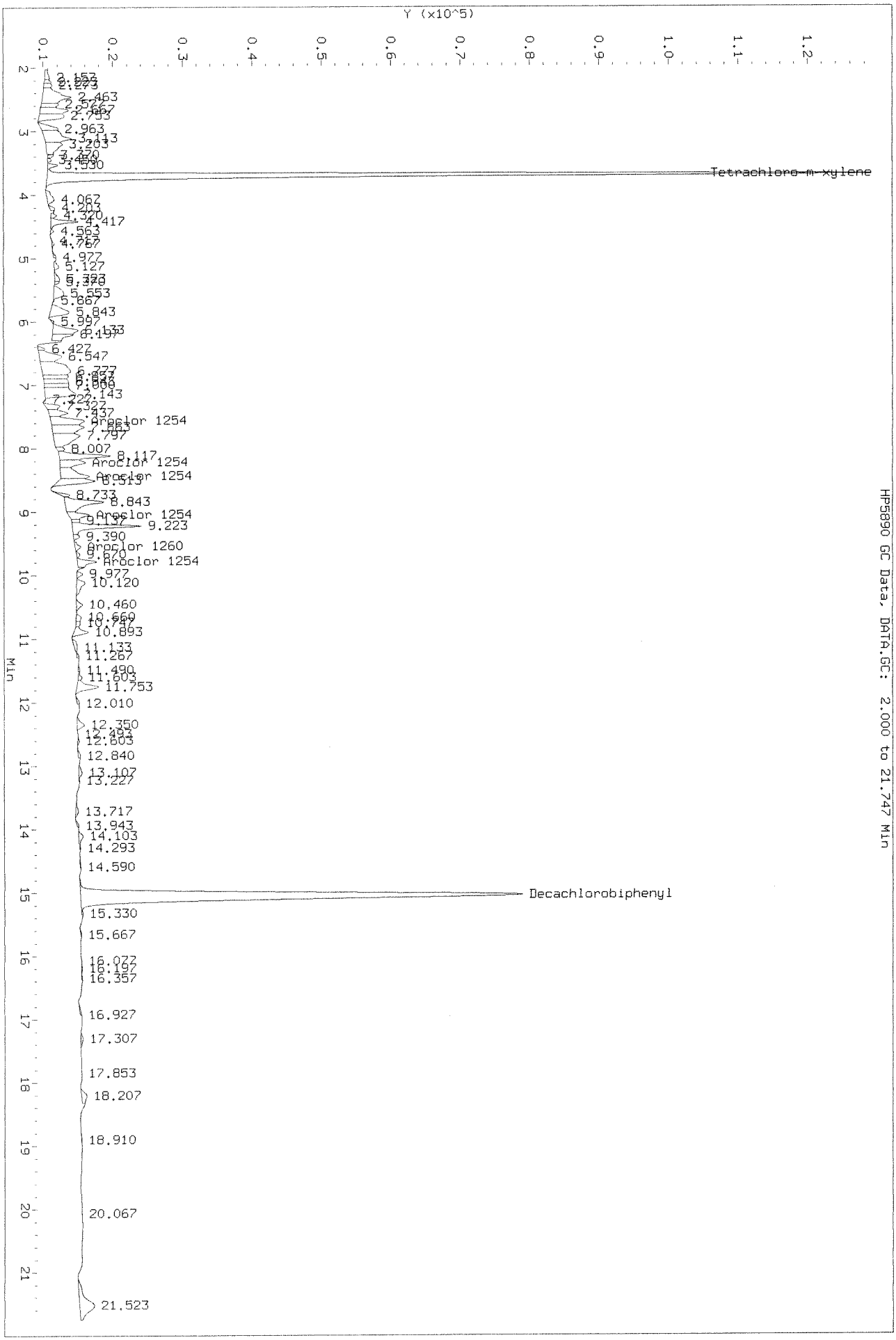
Instrument: GC09.i
Operator: JMSmith
Column phase: DB-35MS
Column diameter: 0.53



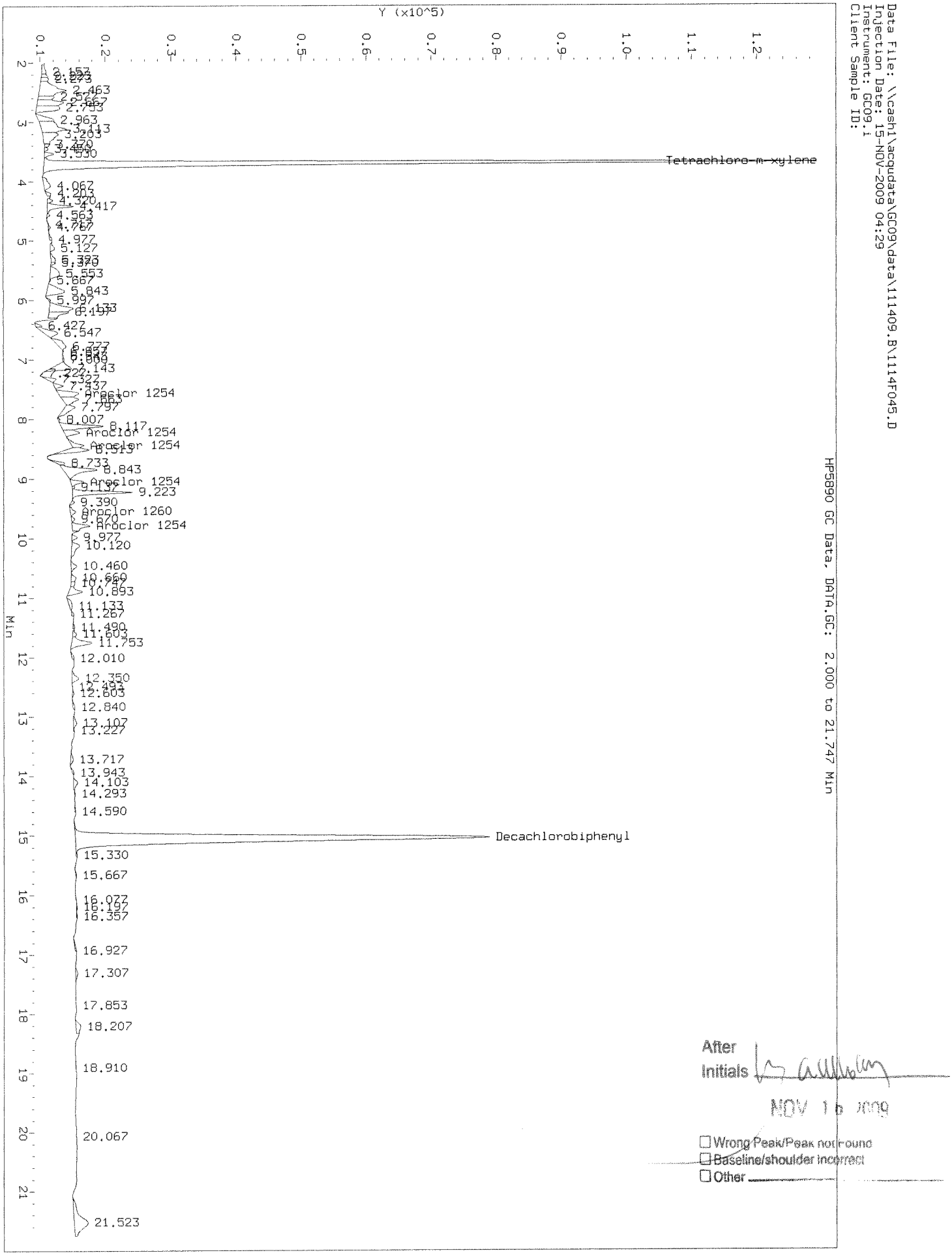
Data File: \\cash1\acqudata\GC09\data\111409_r.b\1114R045.D
Date : 15-NOV-2009 04:29
Client ID:
Sample Info: K0909140-017 | M-5-C

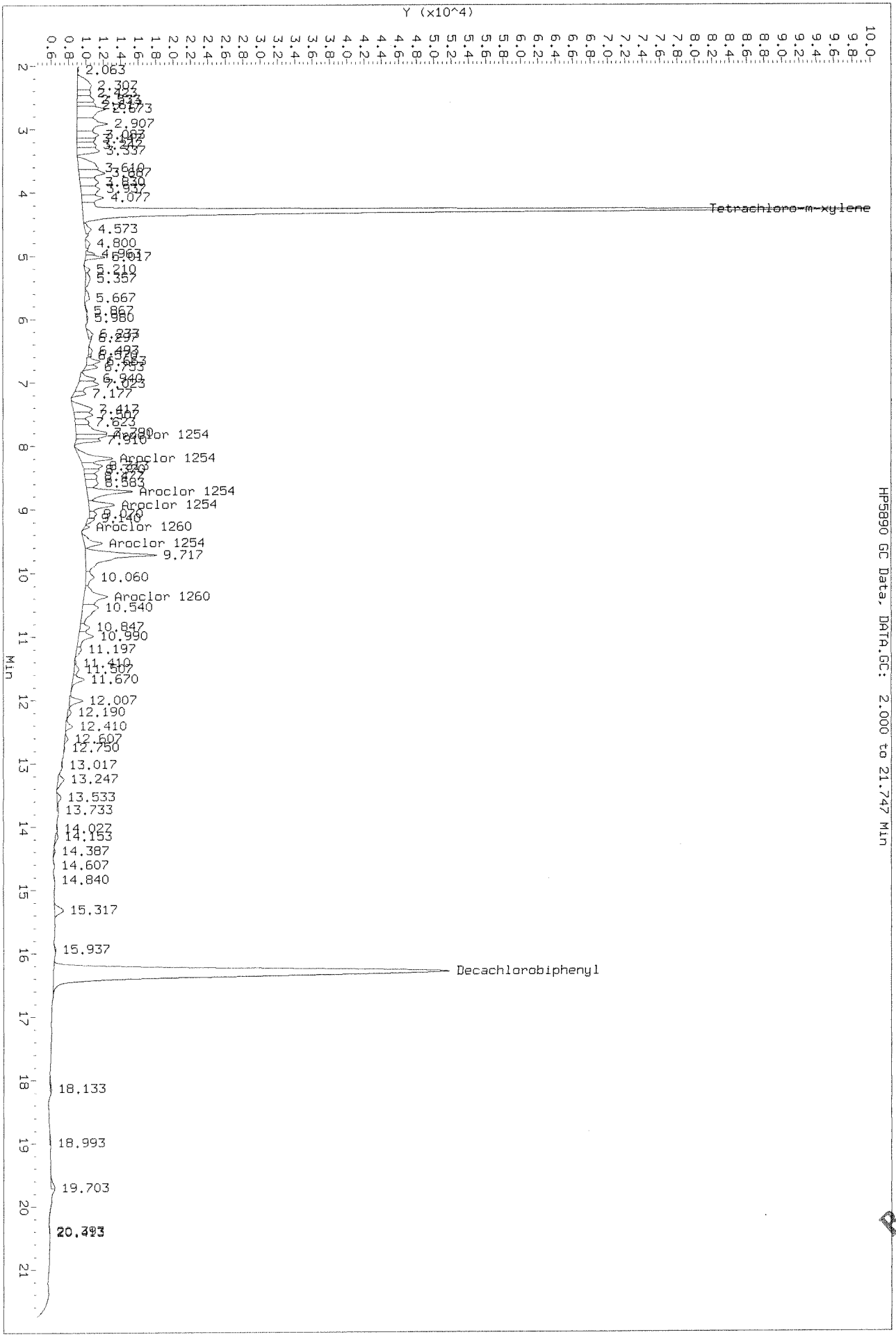
Instrument: GC09.i
Operator: JMSmith
Column phase: DB-XLB
Column diameter: 0.53



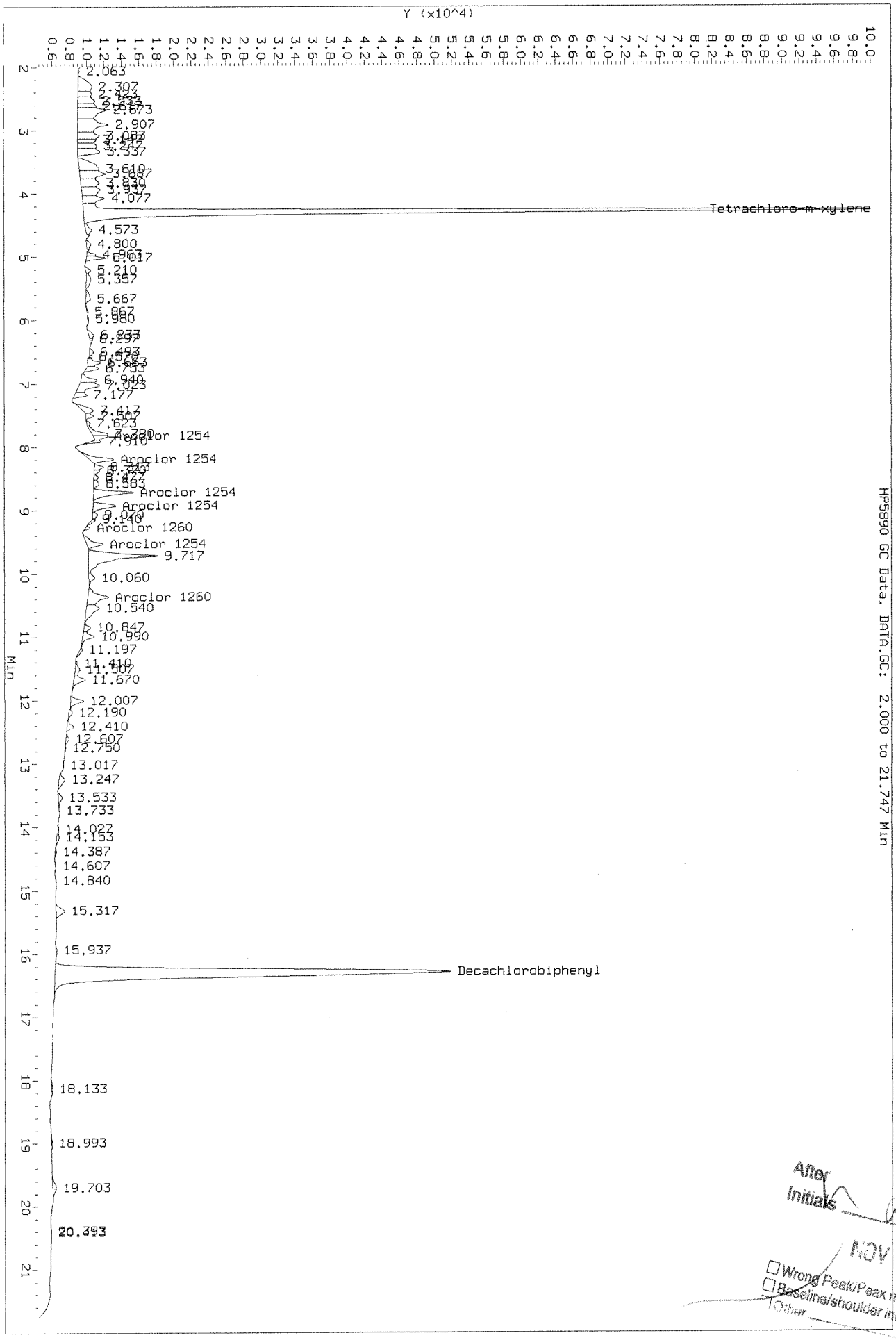


Before
NOV 16 2009


Data File: \\cash1\acqudata\GC09\data\111409.B\1114F045.D
Injection Date: 15-NOV-2009 04:29
Instrument: GC09.i
Client Sample ID:
HP5890 GC Data, DATA.GC: 2.000 to 21.747 Min
Y (x10^5)
Min
Tetrachloro-m-xylene
Decachlorobiphenyl
Aroclor 1254
Aroclor 1260
After
Initials
NOV 16 2009
Wrong Peak/Peak not found
Baseline/shoulder incorrect
Other



Before
NOV 16 2009



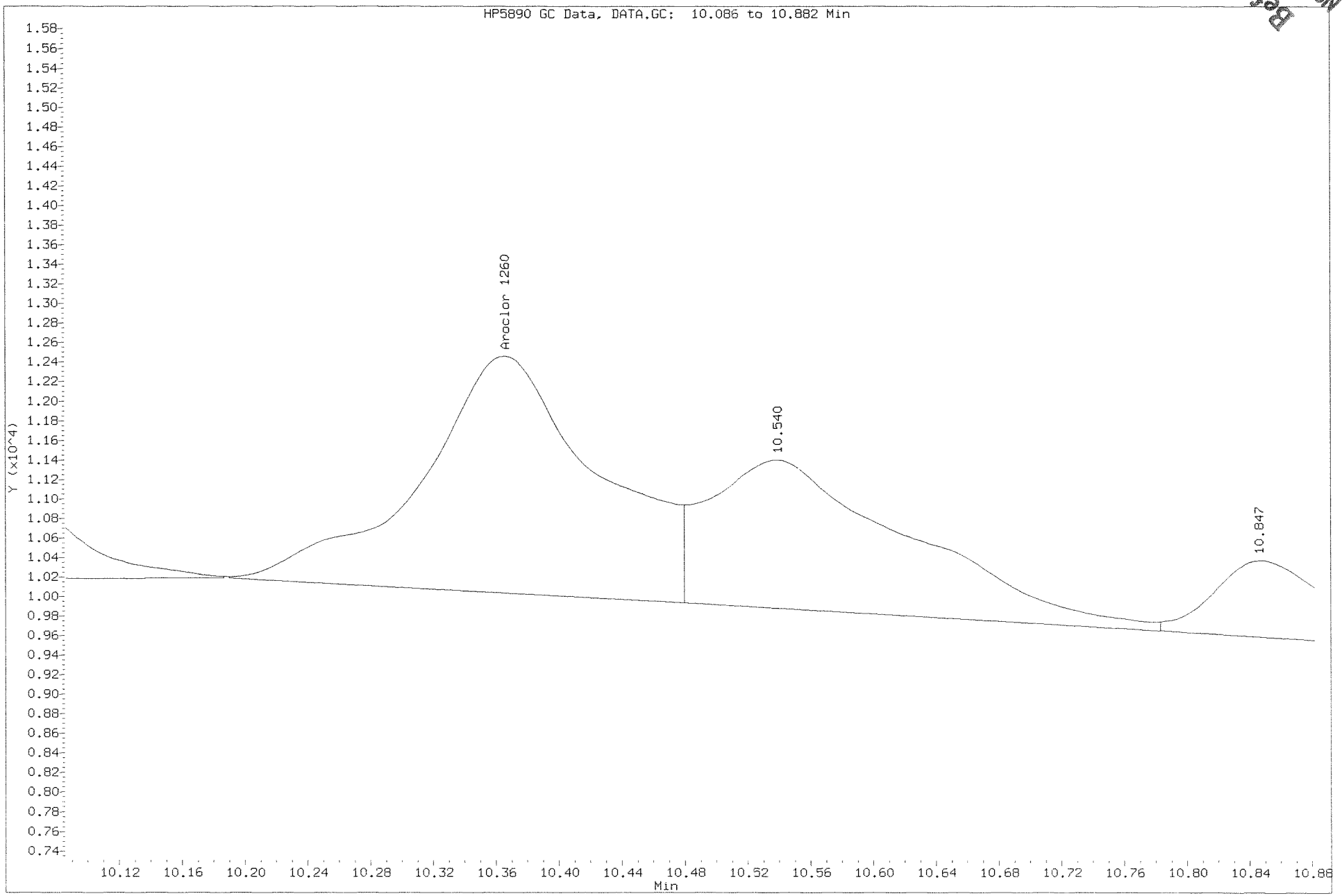
After Initials

NOV 16 2009

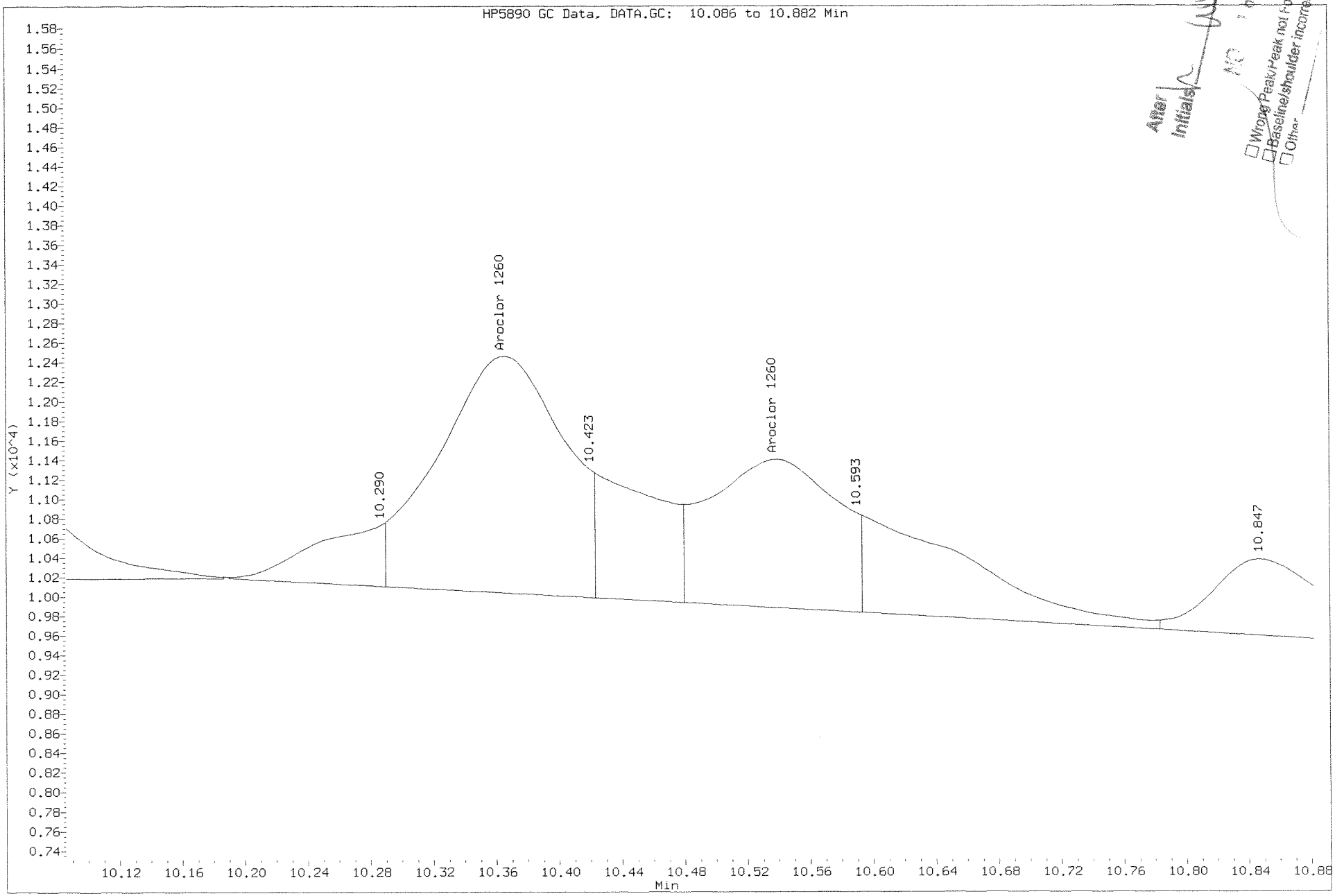
☐ Wrong Peak/Peak not found
☐ Baseline/shoulder incorrect
☐ Other

Data File: \\cash1\acqudata\GC09\data\111409_r.b\1114R045.D
Injection Date: 15-NOV-2009 04:29
Instrument: GC09.i
Client Sample ID:

Before
NOV 16 2009



Data File: \\cash1\acqudata\GC09\data\111409_r.b\1114R045.D
Injection Date: 15-NOV-2009 04:29
Instrument: GC09.i
Client Sample ID:



After Initials

☐ Wrong Peak/Peak not found
☐ Baseline/shoulder incorrect
☐ Other

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	URS Corporation	**Service Request:**	K0909140
Project:	Boise St. Helens Pulp and Paper Mill-2009	**Date Collected:**	09/28/2009
Sample Matrix:	Sediment	**Date Received:**	09/29/2009

Polychlorinated Biphenyls (PCBs)

Sample Name:	M-5-B2	**Units:**	ug/Kg
Lab Code:	K0909140-018	**Basis:**	Dry
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8082		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Aroclor 1016	ND	U	11	2.2	1	11/10/09	11/15/09	KWG0910513	
Aroclor 1221	ND	U	21	2.2	1	11/10/09	11/15/09	KWG0910513	
Aroclor 1232	ND	U	11	2.2	1	11/10/09	11/15/09	KWG0910513	
Aroclor 1242	ND	U	11	2.2	1	11/10/09	11/15/09	KWG0910513	
Aroclor 1248	ND	U	11	2.2	1	11/10/09	11/15/09	KWG0910513	
Aroclor 1254	ND	Ui	11	8.1	1	11/10/09	11/15/09	KWG0910513	
Aroclor 1260	ND	Ui	11	3.8	1	11/10/09	11/15/09	KWG0910513	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Decachlorobiphenyl	92	35-133	11/15/09	Acceptable

Comments:

Exception Report

Data File: \\CASH1\ACQUDATA\GC09\DATA\111409.B\1114F046.D
Lab ID: K0909140-018
RunType: SMPL
Matrix: SEDIMENT

Date Acquired: 11/15/2009 04:56
Date Quantitated: 11/16/2009 12:40
Batch ID: KWG0910694
Analysis Method: 8082
MethodJoinID: MJ696

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Analytical Holding Time	NA	NA	NA	x	
Preparation Holding Time	43	NA	14		x
Pre-Preparation Holding Time	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Calibration Verification Ave %D	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA	x	
Calibration Verification Ave %D (Closing)	NA	NA	NA	x	
Continuing Calibration Recovery (Closing)	NA	NA	NA	x	
Method Blank	NA	NA	NA	x	
MB Surrogate Recovery	NA	NA	NA	x	
Lab Control Spike	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA		x
Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
Analyte Co-elution	Aroclor 1254 {4}	9.047	NA	NA	Q) SSP
	Aroclor 1260 {1}	9.047	NA	NA	

Primary Review: 11/16/09

Secondary Review:

Exception Report

Data File: \\CASH1\ACQUDATA\GC09\DATA\111409_R.B\1114R046.D
Lab ID: K0909140-018
RunType: SMPL
Matrix: SEDIMENT

Date Acquired: 11/15/2009 04:56
Date Quantitated: 11/16/2009 12:42
Batch ID: KWG0910694
Analysis Method: 8082
MethodJoinID: MJ696

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Analytical Holding Time	NA	NA	NA	x	
Preparation Holding Time	43	NA	14		x
Pre-Preparation Holding Time	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Calibration Verification Ave %D	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA	x	
Calibration Verification Ave %D (Closing)	NA	NA	NA	x	
Continuing Calibration Recovery (Closing)	NA	NA	NA	x	
Method Blank	NA	NA	NA	x	
MB Surrogate Recovery	NA	NA	NA	x	
Lab Control Spike	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Primary Review: _____

Secondary Review: _____

Quantitation Report

Bottle ID:		**Tier:**	V	**Matrix:**	SEDIMENT
Prod Code:	8082 PCB_LL	**Collect Date:**	09/28/2009	**Receive Date:**	09/29/2009

Analysis Lot:	KWG0910694	**Prep Lot:**	KWG0910513	**Report Group:**	K0909140
Analysis Method:	8082	**Prep Method:**	EPA 3541		
Prep Ref:	865595	**Prep Date:**	11/10/2009		

Quant Method:	\\CASH1\ACQUDATA\GC09\DATA\111409.B\101409_F.M	**Calibration ID:**	CAL8918
Title:	Polychlorinated Biphenyls (PCBs)	**Report List ID:**	LJ6180
MB Ref:	J:\GC09\DATA\111409.B\1114F017.D	**Method ID:**	MJ696
		Quant based on Report List	

Data File #1:	J:\GC09\DATA\111409.B\1114F046.D			**Instrument:**	GC09.i
Data File #2:	\\cash1\acqudata\GC09\data\111409_r.b\1114R046.D			**Vial:**	55
Acqu Date:	11/15/2009 04:56	**Quant Date:**	11/16/2009 12:40	**Dilution:**	1.0
Run Type:	SMPL			**Soln Conc. Units:**	ng/mL
Lab ID:	K0909140-018				
Signal #1:	DB-35MS	**Signal #2:**	DB-XLB		

Surrogate Compounds

Parameter Name	RT #1		RT #2		Resp #1	Respe #2	ng/mL #1	ng/mL #2			Rpt
Decachlorobiphenyl	15.05	0.00	16.30	-0.01	471543	384166	86.52	92.01			92OK
					%Recovery =		87OK	92OK	**Limits =**	35-133	

Target Compounds

Final Conc. Units: ug/Kg Dry Weight

Parameter Name	RT #1	RT #2	Resp #1	Resp #2	ng/mL #1	ng/mL #2	ug/Kg #1	ug/Kg #2	Rpt
Aroclor 1016			0	0	0.0000	0.0000	2.2U	2.2U	2.2U
Aroclor 1016 {1}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1016 {2}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1016 {3}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1016 {4}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1016 {5}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1221			0	0	0.0000	0.0000	2.2U	2.2U	2.2U
Aroclor 1221 {1}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1221 {2}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1221 {3}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1221 {4}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1232			0	0	0.0000	0.0000	2.2U	2.2U	2.2U
Aroclor 1232 {1}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1232 {2}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1232 {3}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1232 {4}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1242			0	0	0.0000	0.0000	2.2U	2.2U	2.2U
Aroclor 1242 {1}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1242 {2}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1242 {3}			0d	0d	0.0000	0.0000	2.2U	2.2U	

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Data File #1:	J:\GC09\DATA\111409.B\1114F046.D			**Instrument:**	GC09.i
Data File #2:	\\cash1\acqudata\GC09\data\111409_r.b\1114R046.D			**Vial:**	55
Acqu Date:	11/15/2009 04:56	**Quant Date:**	11/16/2009 12:40	**Dilution:**	1.0
Run Type:	SMPL			**Soln Conc. Units:**	ng/mL
Lab ID:	K0909140-018				
Signal #1:	DB-35MS	**Signal #2:**	DB-XLB		

Target Compounds

Final Conc. Units: ug/Kg Dry Weight

Parameter Name	RT #1	RT #2	Resp #1	Resp #2	ng/mL #1	ng/mL #2	ug/Kg #1	ug/Kg #2	Rpt
Aroclor 1242 {4}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1242 {5}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1248			0	0	0.0000	0.0000	2.2U	2.2U	2.2U
Aroclor 1248 {1}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1248 {2}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1248 {3}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1248 {4}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1248 {5}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1254			0	0	41.42	39.16	8.5J	8.0J	**8.5**J
Aroclor 1254 {1}	7.57	7.83	17462m	6531m	60.77	27.15	12	5.6J	
Aroclor 1254 {2}	8.22	8.19	11631m	8481m	57.50	34.77	12	7.1J	
Aroclor 1254 {3}	8.44	8.72	9358m	0m	18.85	0.0000	3.9J	2.2U	
Aroclor 1254 {4}	9.05 c	8.93	5535m	12902m	22.98	49.43	4.7J	10J	
Aroclor 1254 {5}	9.78	9.53	16004m	10585m	46.98	45.29	9.6J	9.3J	
Aroclor 1260			0	0	19.22	18.49	3.9J	3.8J	**3.9**J
Aroclor 1260 {1}	9.05 0.00 c	9.27 0.00	5535m	2365m	13.04	9.86	2.7J	2.2U	
Aroclor 1260 {2}	9.55 +0.07	10.37 -0.01	5529m	7246m	23.99	23.50	4.9J	4.8J	
Aroclor 1260 {3}	10.46 -0.01	10.54 -0.01	4817m	3503m	18.90	20.66	3.9J	4.2J	
Aroclor 1260 {4}	10.89 -0.01	11.67 -0.01	11516m	7201m	20.97	20.35	4.3J	4.2J	
Aroclor 1260 {5}	11.75 -0.02	12.41 -0.01	0m	4326m	0.0000	18.11	2.2U	3.7J	

The -/+ after Retention Time symbolize the direction of the RT shift

Prep Amount:	20.01 g	**Dilution:**	1.0
Prep Final Vol:	4 ml	**Unit Factor:**	1
Solids:	97.5 %		

Final Concentration = ((Soln Conc x Prep Final Vol x Dilution) / (Prep Amount x Solids)) x Unit Factor

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Data File: \\cash1\acqudata\GC09\data\111409.B\1114F046.D
Report Date: 16-Nov-2009 12:40

Laboratory Name

Sample #1 : \\cash1\acqudata\GC09\data\111409.B\1114F046.D
Sample #2 : \\cash1\acqudata\GC09\data\111409_r.b\1114R046.D
Inj Date : 15-NOV-2009 04:56
Sample Info: K0909140-018 | M-5-B2
Misc Info : KELSO\SEMIVOA GC\8082-PCB_LL\09140018.H | F=4
Cal Date : 16-NOV-2009 10:33
Operator : JMSmith
Inst ID : GC09.i
Dil Factor : 1.000000

Method #1 : \\cash1\acqudata\GC09\data\111409.B\101409_f.m
Method #2 : \\cash1\acqudata\GC09\data\111409_r.b\101409_r.m
Sub List #1 : ALL.SUB
Sub List #2 : ALL.SUB
Col #1 Phase : DB-35MS
Col #2 Phase : DB-XLB

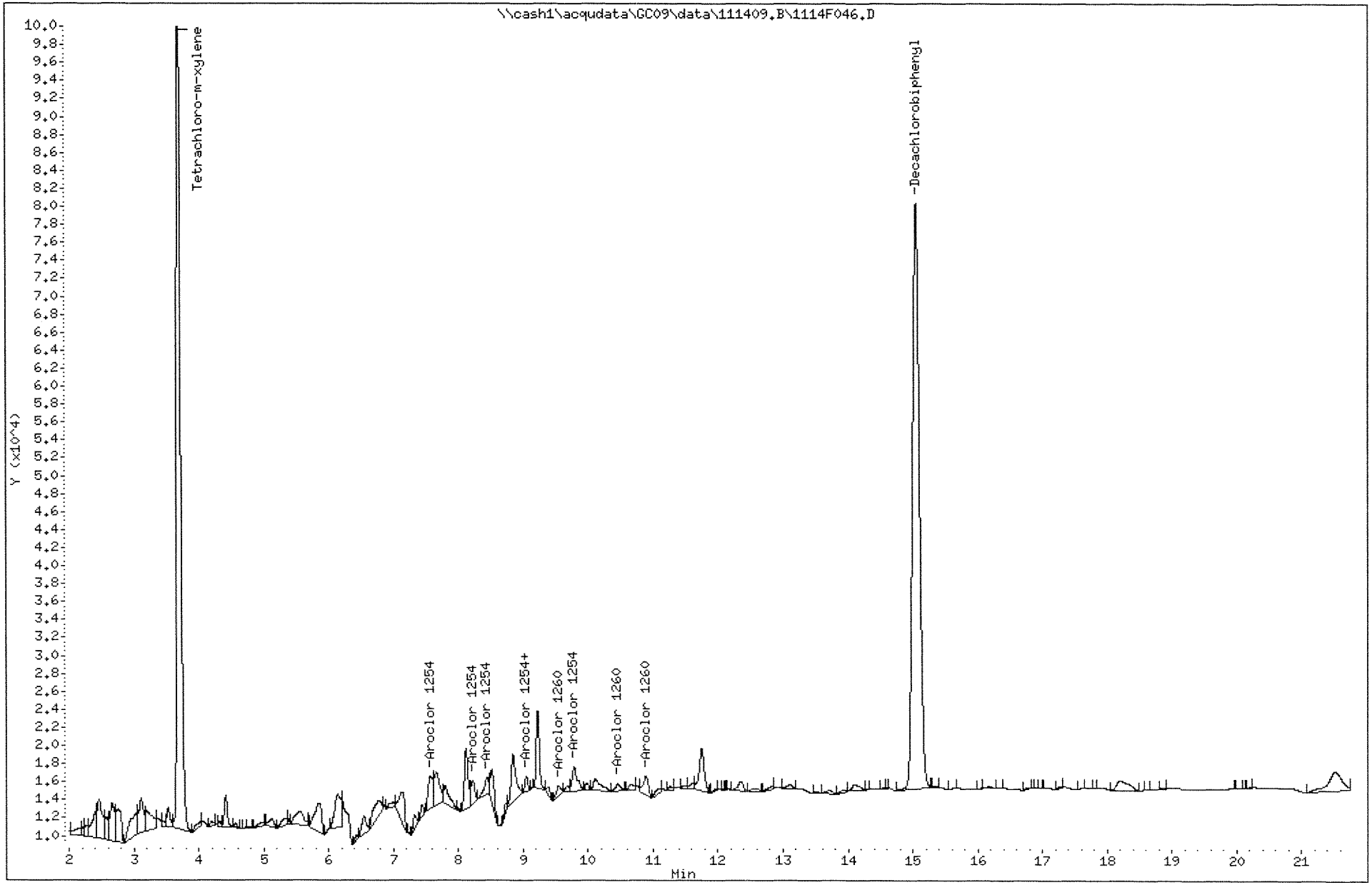
Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2	Target Range	Ratio
Tetrachloro-m-xylene	3.693	4.287	450776	402879	77.3	97.6		100.00(R)
Aroclor 1254	7.570	7.833	17462	6531	60.8	27.1	80.00- 120.00	100.00(M)
	8.223	8.193	11631	8481	57.5	34.8	56.32- 84.48	66.61(M)
	8.440	8.717	9358		18.8		138.21- 207.32	53.59(M)
	9.047	8.927	5535	12902	23.0	49.4	67.06- 100.59	31.70(M)
	9.783	9.530	16004	10585	47.0	45.3	94.84- 142.26	91.65(M)
			Average of Peak Amounts =		41.4	39.2		
Aroclor 1260	9.047	9.270	5535	2365	13.0	9.86	80.00- 120.00	100.00(M)
	9.547	10.367	5529	7246	24.0	23.5	42.74- 64.11	99.89(M)
	10.460	10.537	4817	3503	18.9	20.6	48.22- 72.33	87.02(M)
	10.893	11.670	11516	7201	21.0	20.3	101.77- 152.66	208.05(M)
	11.750	12.413		4326		18.1	89.17- 133.75	182.92(M)
			Average of Peak Amounts =		19.2	18.5		
Decachlorobiphenyl	15.053	16.300	471543	384166	86.5	92.0		100.00(R)

QC Flag Legend

R - Spike/Surrogate failed recovery limits.
M - Compound response manually integrated.

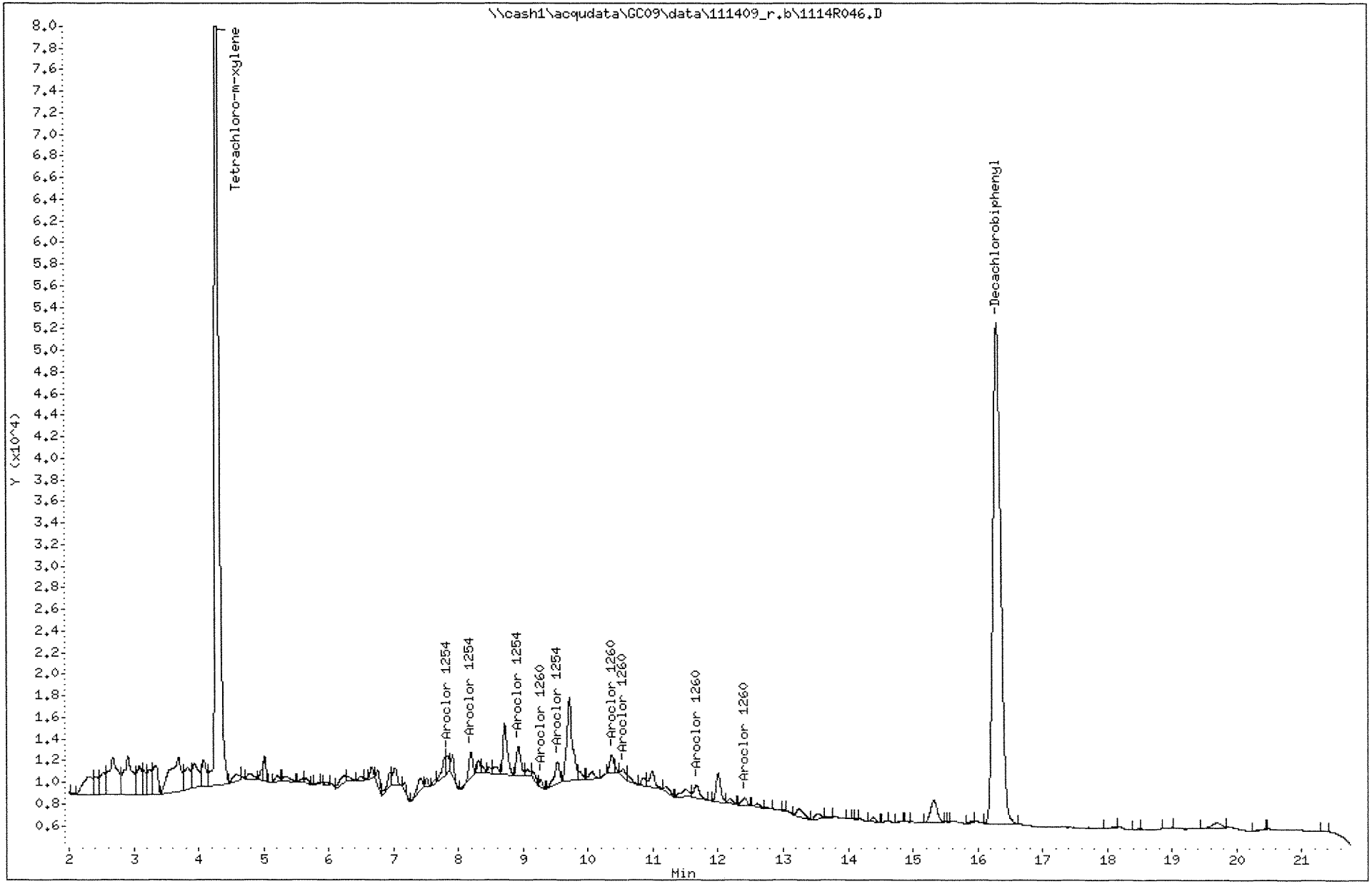
Data File: \\cash1\acqudata\GC09\data\111409.B\1114F046.D
Date : 15-NOV-2009 04:56
Client ID:
Sample Info: K0909140-018 | M-5-B2

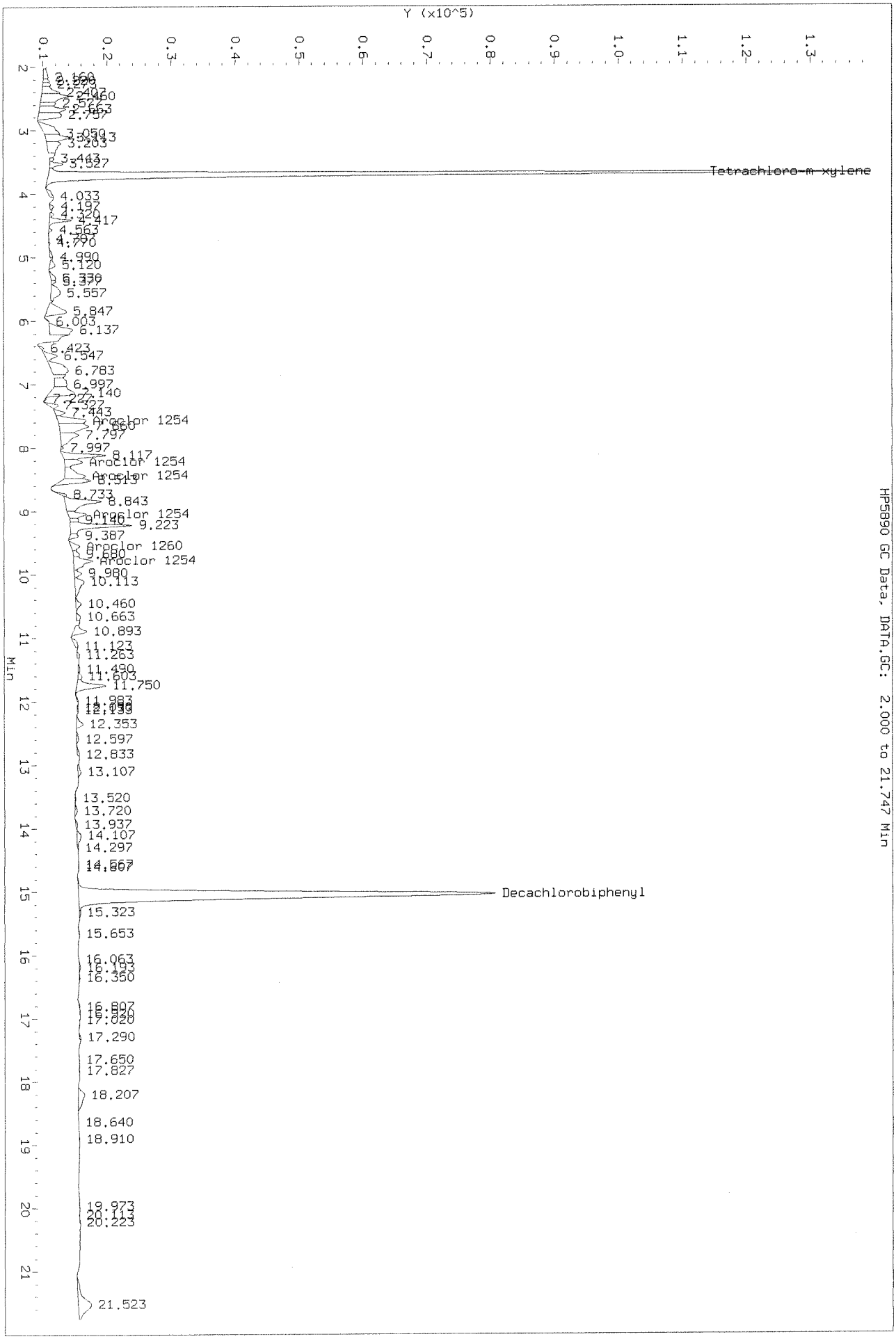
Instrument: GC09.i
Operator: JMSmith
Column phase: DB-35MS
Column diameter: 0.53



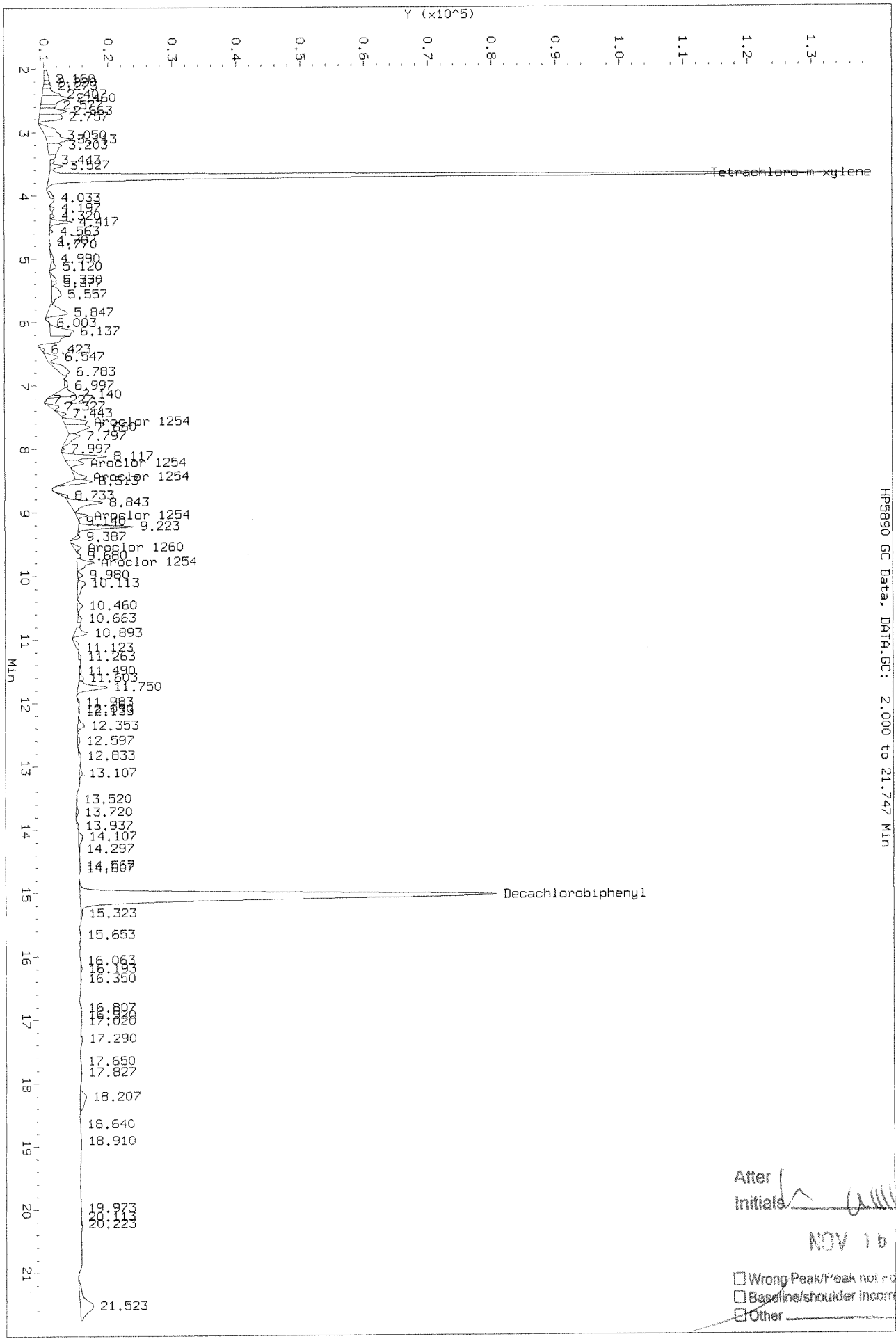
Data File: \\cash1\acqudata\GC09\data\111409_r.b\1114R046.D
Date : 15-NOV-2009 04:56
Client ID:
Sample Info: K0909140-018 | M-5-B2

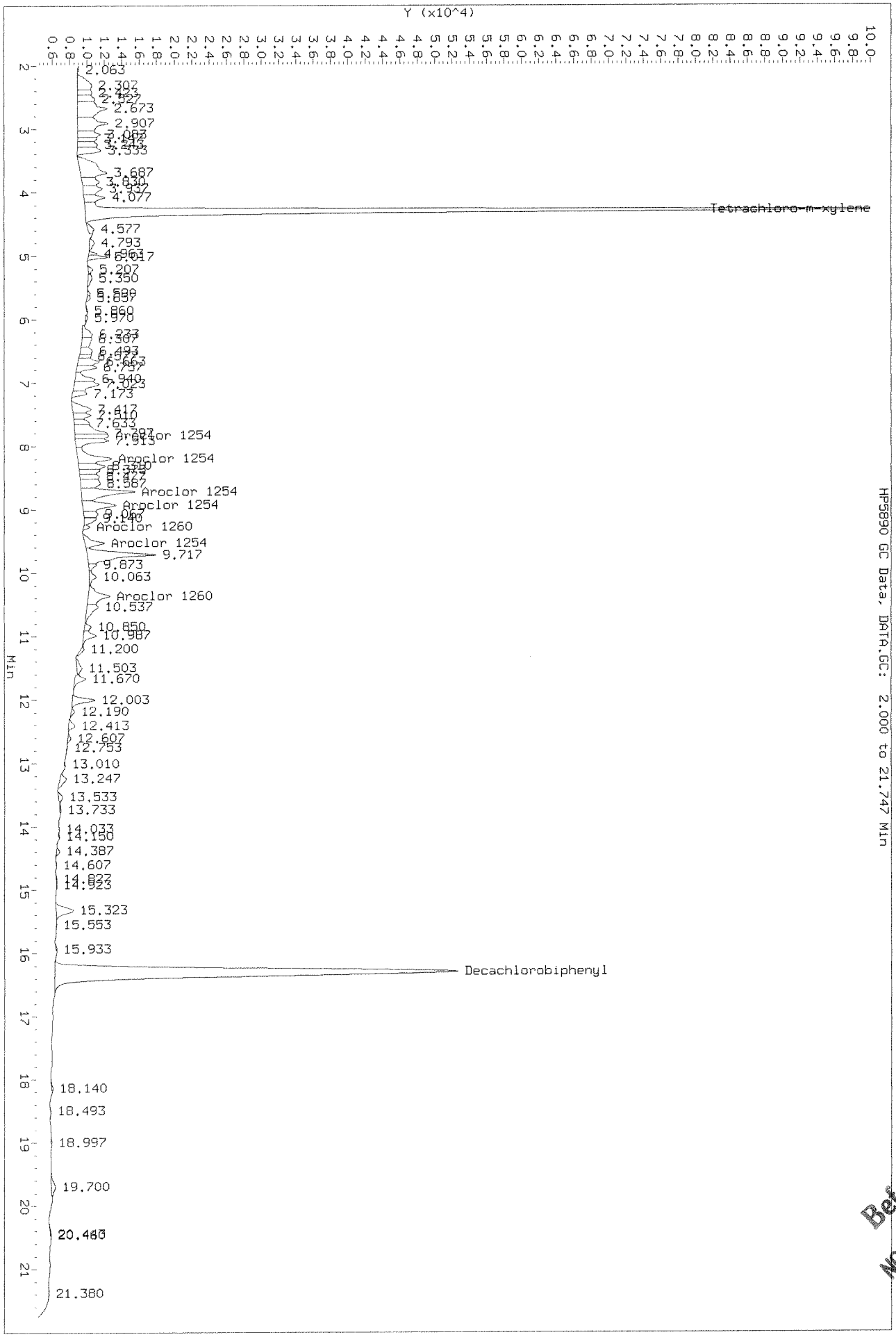
Instrument: GC09.i
Operator: JMSmith
Column phase: DB-XLB
Column diameter: 0.53



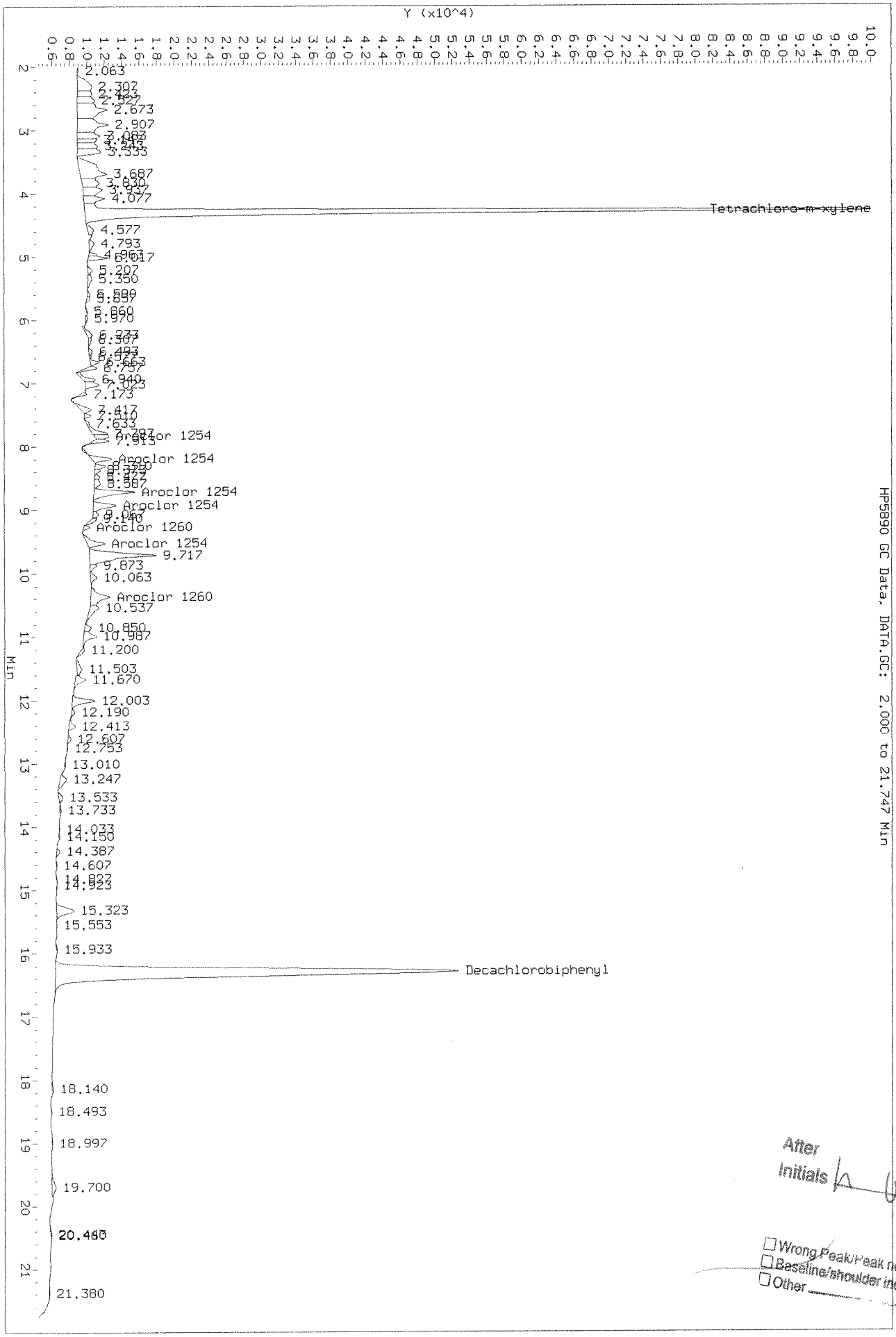


Before
NOV 16 2009


Data File: \\cash1\acqudata\GC09\data\111409.B\1114F046.D
Injection Date: 15-NOV-2009 04:56
Instrument: GC09.i
Client Sample ID:
HP5890 GC Data, DATA.GC: 2.000 to 21.747 Min
Y (x10^5)
Min
Tetrachloro-m-xylene
Decachlorobiphenyl
Aroclor 1254
Aroclor 1260
After
Initials
NOV 16 2009
Wrong Peak/Peak not found
Baseline/shoulder incorrect
Other



Before
NOV 16 2009

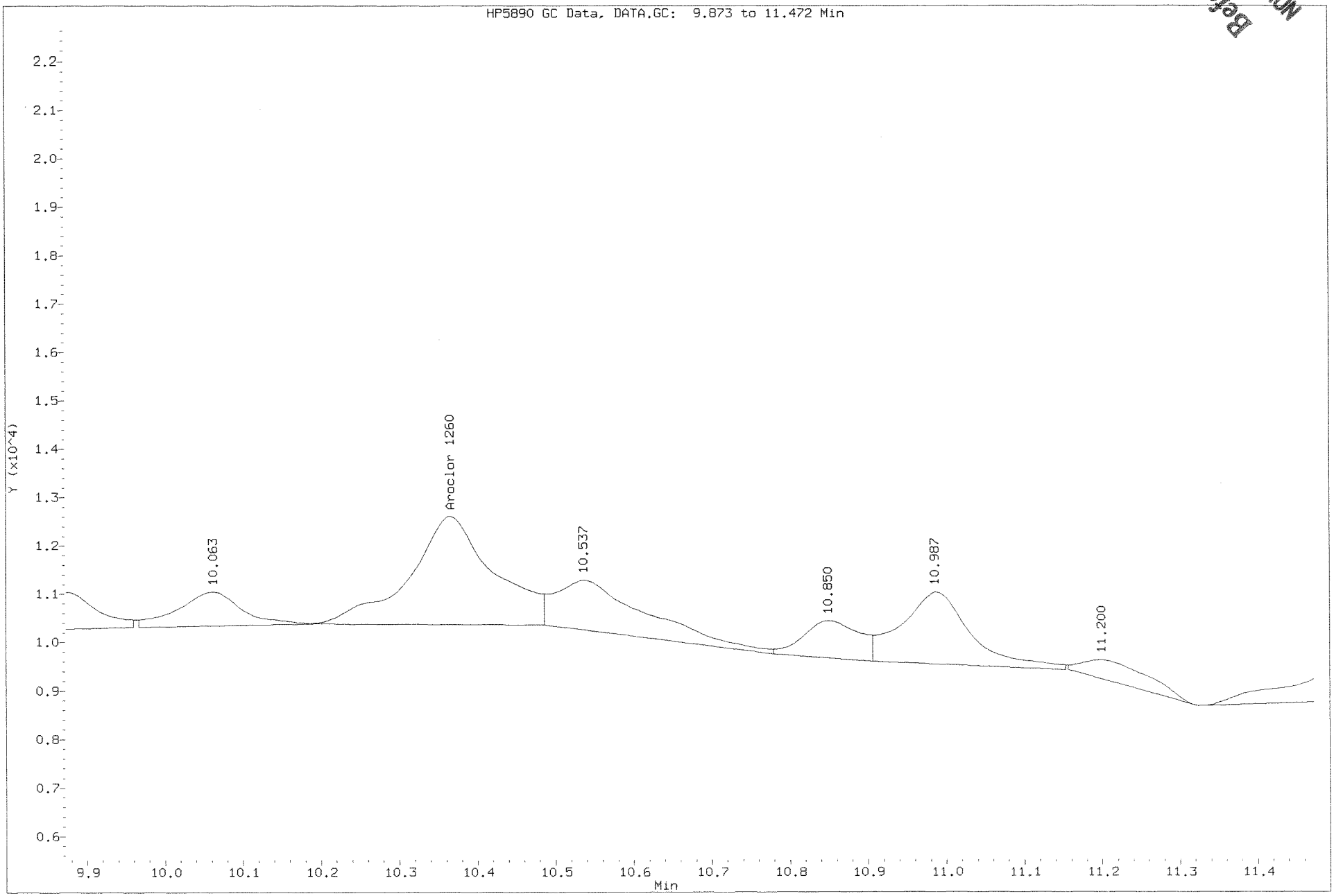


After
Initials

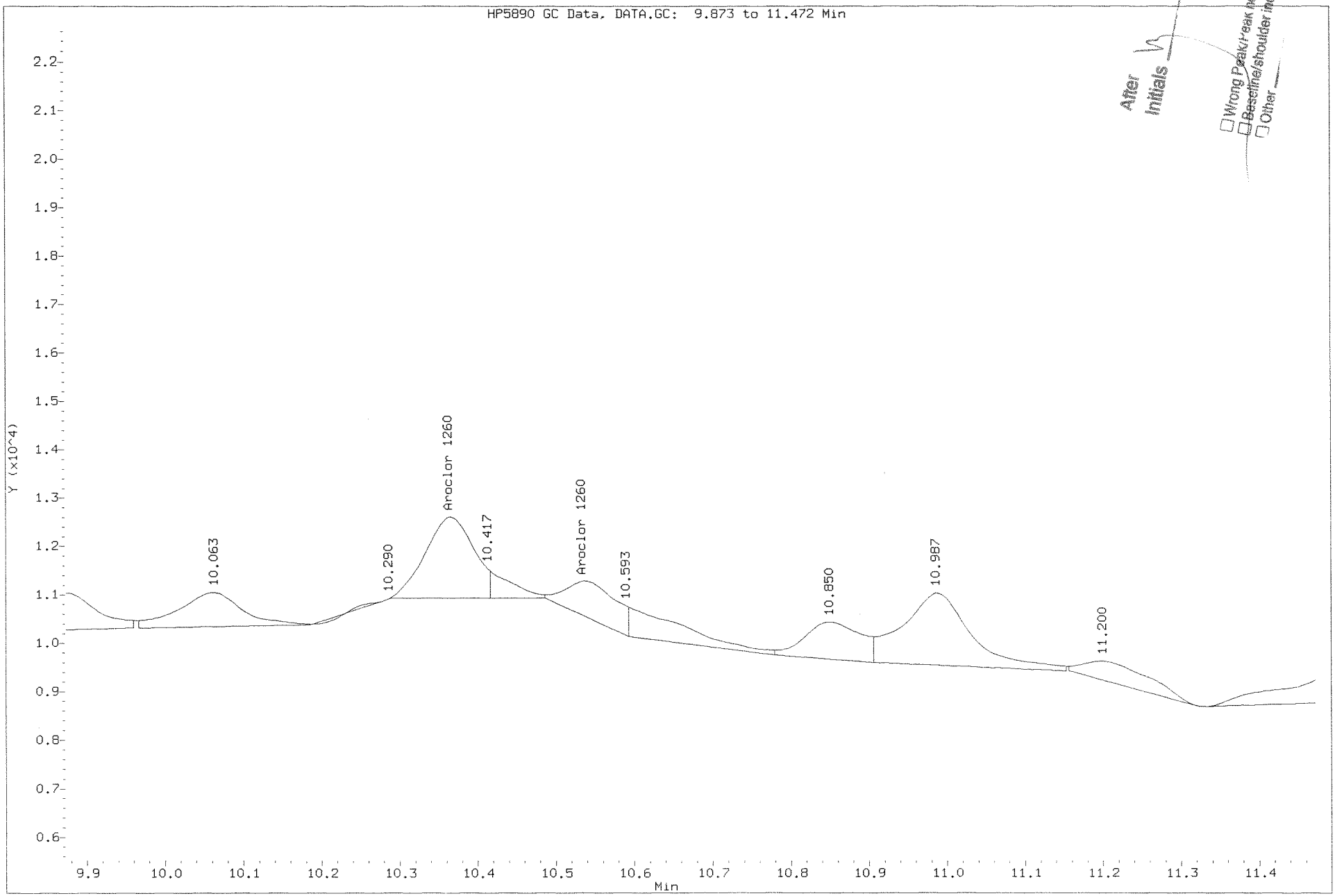
☐ Wrong Peak/Peak not Found
☐ Baseline/shoulder incorrect
☐ Other

Data File: \\cash1\acqudata\GC09\data\111409_r.b\1114R046.D
Injection Date: 15-NOV-2009 04:56
Instrument: GC09.i
Client Sample ID:

Before
NOV 16 2009



Data File: \\cash1\acqudata\GC09\data\111409_r.b\1114R046.D
Injection Date: 15-NOV-2009 04:56
Instrument: GC09.i
Client Sample ID:



After Initials

☐ Wrong Peak/Peak not found
☐ Baseline/shoulder incorrect
☐ Other

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009
Sample Matrix: Sediment

Service Request: K0909140
Date Collected: 10/09/2009
Date Received: 10/09/2009

Polychlorinated Biphenyls (PCBs)

Sample Name: B-1-C
Lab Code: K0909140-019

Extraction Method: EPA 3541
Analysis Method: 8082

Units: ug/Kg
Basis: Dry

Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Aroclor 1016	ND	U	11	2.2	1	11/10/09	11/15/09	KWG0910513	
Aroclor 1221	ND	U	21	2.2	1	11/10/09	11/15/09	KWG0910513	
Aroclor 1232	ND	U	11	2.2	1	11/10/09	11/15/09	KWG0910513	
Aroclor 1242	ND	U	11	2.2	1	11/10/09	11/15/09	KWG0910513	
Aroclor 1248	ND	U	11	2.2	1	11/10/09	11/15/09	KWG0910513	
Aroclor 1254	ND	U	11	2.2	1	11/10/09	11/15/09	KWG0910513	
Aroclor 1260	ND	U	11	2.2	1	11/10/09	11/15/09	KWG0910513	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Decachlorobiphenyl	92	35-133	11/15/09	Acceptable

Comments:

Exception Report

Data File: \\CASH1\ACQUDATA\GC09\DATA\111409.B\1114F047.D
Lab ID: K0909140-019
RunType: SMPL
Matrix: SEDIMENT

Date Acquired: 11/15/2009 05:22
Date Quantitated: 11/16/2009 12:40
Batch ID: KWG0910694
Analysis Method: 8082
MethodJoinID: MJ696

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Analytical Holding Time	NA	NA	NA	x	
Preparation Holding Time	32	NA	14		x
Pre-Preparation Holding Time	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Calibration Verification Ave %D	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA	x	
Calibration Verification Ave %D (Closing)	NA	NA	NA	x	
Continuing Calibration Recovery (Closing)	NA	NA	NA	x	
Method Blank	NA	NA	NA	x	
MB Surrogate Recovery	NA	NA	NA	x	
Lab Control Spike	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Primary Review: 11/16/09

Secondary Review:

Exception Report

Data File: \\CASH1\ACQUDATA\GC09\DATA\111409_R.B\1114R047.D
Lab ID: K0909140-019
RunType: SMPL
Matrix: SEDIMENT

Date Acquired: 11/15/2009 05:22
Date Quantitated: 11/16/2009 12:42
Batch ID: KWG0910694
Analysis Method: 8082
MethodJoinID: MJ696

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Analytical Holding Time	NA	NA	NA	x	
Preparation Holding Time	32	NA	14		x
Pre-Preparation Holding Time	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Calibration Verification Ave %D	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA	x	
Calibration Verification Ave %D (Closing)	NA	NA	NA	x	
Continuing Calibration Recovery (Closing)	NA	NA	NA	x	
Method Blank	NA	NA	NA	x	
MB Surrogate Recovery	NA	NA	NA	x	
Lab Control Spike	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Primary Review: _____

Secondary Review: _____

Quantitation Report

Bottle ID:		**Tier:**	V	**Matrix:**	SEDIMENT
Prod Code:	8082 PCB_LL	**Collect Date:**	10/09/2009	**Receive Date:**	10/09/2009

Analysis Lot:	KWG0910694	**Prep Lot:**	KWG0910513	**Report Group:**	K0909140
Analysis Method:	8082	**Prep Method:**	EPA 3541		
Prep Ref:	865577	**Prep Date:**	11/10/2009		

Quant Method:	\\CASH1\ACQUDATA\GC09\DATA\111409.B\101409_F.M	**Calibration ID:**	CAL8918
Title:	Polychlorinated Biphenyls (PCBs)	**Report List ID:**	LJ6180
MB Ref:	J:\GC09\DATA\111409.B\1114F017.D	**Method ID:**	MJ696
		Quant based on Report List	

Data File #1:	J:\GC09\DATA\111409.B\1114F047.D			**Instrument:**	GC09.i
Data File #2:	\\cash1\acqudata\GC09\data\111409_r.b\1114R047.D			**Vial:**	56
Acqu Date:	11/15/2009 05:22	**Quant Date:**	11/16/2009 12:40	**Dilution:**	1.0
Run Type:	SMPL			**Soln Conc. Units:**	ng/mL
Lab ID:	K0909140-019				
Signal #1:	DB-35MS	**Signal #2:**	DB-XLB		

Surrogate Compounds

Parameter Name	RT #1	RT #2	Resp #1	Respe #2	ng/mL #1	ng/mL #2			Rpt
Decachlorobiphenyl	15.05 0.00	16.30 0.00	461657	384757	84.71	92.15			92OK
			%Recovery =		85OK	92OK	**Limits =**	35-133	

Target Compounds

Final Conc. Units: ug/Kg Dry Weight

Parameter Name	RT #1	RT #2	Resp #1	Resp #2	ng/mL #1	ng/mL #2	ug/Kg #1	ug/Kg #2	Rpt
Aroclor 1016			0	0	0.0000	0.0000	2.2U	2.2U	2.2U
Aroclor 1016 {1}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1016 {2}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1016 {3}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1016 {4}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1016 {5}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1221			0	0	0.0000	0.0000	2.2U	2.2U	2.2U
Aroclor 1221 {1}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1221 {2}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1221 {3}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1221 {4}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1232			0	0	0.0000	0.0000	2.2U	2.2U	2.2U
Aroclor 1232 {1}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1232 {2}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1232 {3}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1232 {4}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1242			0	0	0.0000	0.0000	2.2U	2.2U	2.2U
Aroclor 1242 {1}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1242 {2}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1242 {3}			0d	0d	0.0000	0.0000	2.2U	2.2U	

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Data File #1:	J:\GC09\DATA\111409.B\1114F047.D			**Instrument:**	GC09.i
Data File #2:	\\cash1\acqudata\GC09\data\111409_r.b\1114R047.D			**Vial:**	56
Acqu Date:	11/15/2009 05:22	**Quant Date:**	11/16/2009 12:40	**Dilution:**	1.0
Run Type:	SMPL			**Soln Conc. Units:**	ng/mL
Lab ID:	K0909140-019				
Signal #1:	DB-35MS	**Signal #2:**	DB-XLB		

Target Compounds

Final Conc. Units: ug/Kg Dry Weight

Parameter Name	RT #1	RT #2	Resp #1	Resp #2	ng/mL #1	ng/mL #2	ug/Kg #1	ug/Kg #2	Rpt
Aroclor 1242 {4}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1242 {5}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1248			0	0	0.0000	0.0000	2.2U	2.2U	2.2U
Aroclor 1248 {1}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1248 {2}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1248 {3}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1248 {4}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1248 {5}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1254			0	0	0.0000	0.0000	2.2U	2.2U	2.2U
Aroclor 1254 {1}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1254 {2}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1254 {3}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1254 {4}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1254 {5}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1260			0	0	0.0000	0.0000	2.2U	2.2U	2.2U
Aroclor 1260 {1}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1260 {2}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1260 {3}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1260 {4}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1260 {5}			0d	0d	0.0000	0.0000	2.2U	2.2U	

The -/+ after Retention Time symbolize the direction of the RT shift

Prep Amount:	20.29 g	**Dilution:**	1.0
Prep Final Vol:	4 ml	**Unit Factor:**	1
Solids:	98.3 %		

Final Concentration = ((Soln Conc x Prep Final Vol x Dilution) / (Prep Amount x Solids)) x Unit Factor

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Data File: \\cash1\acqudata\GC09\data\111409.B\1114F047.D
Report Date: 16-Nov-2009 12:40

Laboratory Name

Sample #1 : \\cash1\acqudata\GC09\data\111409.B\1114F047.D
Sample #2 : \\cash1\acqudata\GC09\data\111409_r.b\1114R047.D
Inj Date : 15-NOV-2009 05:22
Sample Info: K0909140-019 | B-1-C
Misc Info : KELSO\SEMIVOA GC\8082-PCB_LL\09140019.H | F=4
Cal Date : 16-NOV-2009 10:33
Operator : JMSmith
Inst ID : GC09.i
Dil Factor : 1.000000

Method #1 : \\cash1\acqudata\GC09\data\111409.B\101409_f.m
Method #2 : \\cash1\acqudata\GC09\data\111409_r.b\101409_r.m
Sub List #1 : ALL.SUB
Sub List #2 : ALL.SUB
Col #1 Phase : DB-35MS
Col #2 Phase : DB-XLB

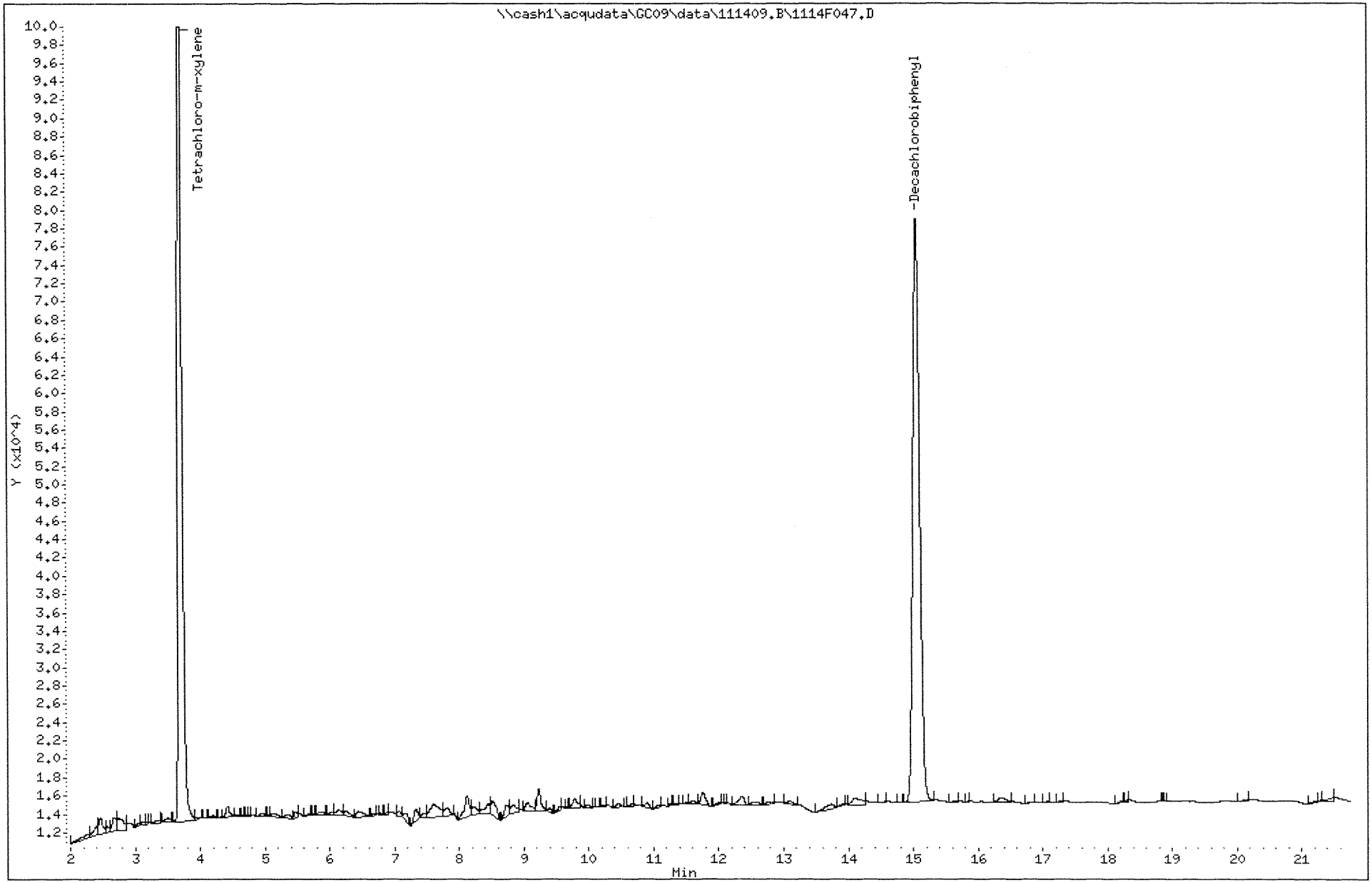
Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2	Target Range	Ratio
Tetrachloro-m-xylene	3.693	4.287	498720	378099	85.5	91.6		100.00(R)
Decachlorobiphenyl	15.053	16.303	461657	384757	84.7	92.1		100.00(R)

QC Flag Legend

R - Spike/Surrogate failed recovery limits.

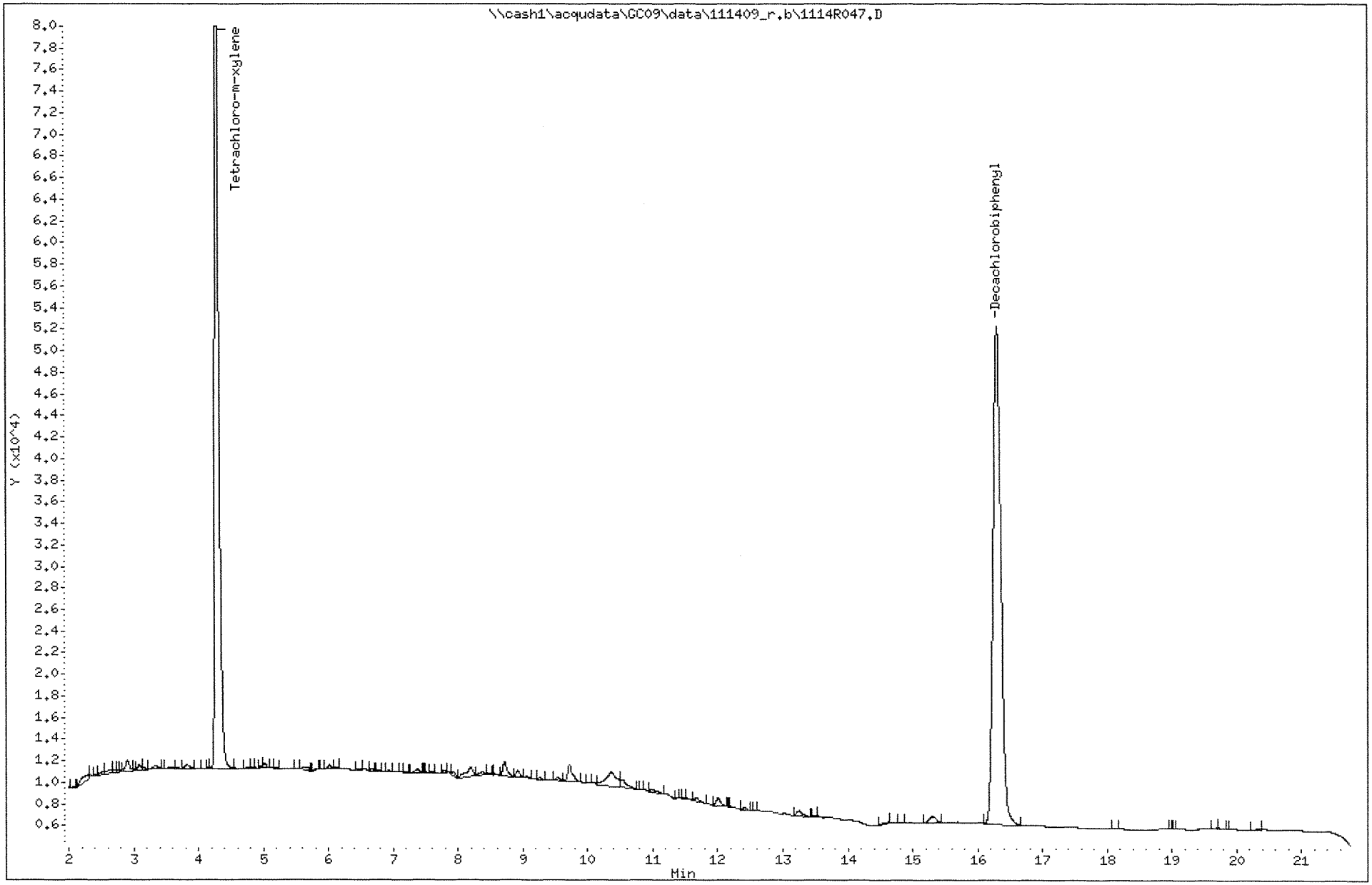
Data File: \\cash1\acqudata\GC09\data\111409.B\1114F047.D
Date : 15-NOV-2009 05:22
Client ID:
Sample Info: K0909140-019 | B-1-C

Instrument: GC09.i
Operator: JMSmith
Column phase: DB-35MS
Column diameter: 0.53



Data File: \\cash1\acqudata\GC09\data\111409_r.b\1114R047.D
Date : 15-NOV-2009 05:22
Client ID:
Sample Info: K0909140-019 | B-1-C

Instrument: GC09.i
Operator: JMSmith
Column phase: DB-XLB
Column diameter: 0.53



COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	URS Corporation	**Service Request:**	K0909140
Project:	Boise St. Helens Pulp and Paper Mill-2009	**Date Collected:**	NA
Sample Matrix:	Sediment	**Date Received:**	NA

Polychlorinated Biphenyls (PCBs)

Sample Name:	Method Blank	**Units:**	ug/Kg
Lab Code:	KWG0910513-6	**Basis:**	Dry
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8082		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Aroclor 1016	ND	U	5.0	2.1	1	11/10/09	11/14/09	KWG0910513	
Aroclor 1221	ND	U	9.9	2.1	1	11/10/09	11/14/09	KWG0910513	
Aroclor 1232	ND	U	5.0	2.1	1	11/10/09	11/14/09	KWG0910513	
Aroclor 1242	ND	U	5.0	2.1	1	11/10/09	11/14/09	KWG0910513	
Aroclor 1248	ND	U	5.0	2.1	1	11/10/09	11/14/09	KWG0910513	
Aroclor 1254	ND	U	5.0	2.1	1	11/10/09	11/14/09	KWG0910513	
Aroclor 1260	ND	U	5.0	2.1	1	11/10/09	11/14/09	KWG0910513	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Decachlorobiphenyl	91	35-133	11/14/09	Acceptable

Comments:

Exception Report

Data File: \\CASH1\ACQUDATA\GC09\DATA\111409.B\1114F017.D
Lab ID: KWG0910513-6
RunType: MB
Matrix: SEDIMENT

Date Acquired: 11/14/2009 16:13
Date Quantitated: 11/16/2009 12:39
Batch ID: KWG0910694
Analysis Method: 8082
MethodJoinID: MJ696

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Analytical Holding Time	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Calibration Verification Ave %D	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA	x	
Calibration Verification Ave %D (Closing)	NA	NA	NA	x	
Continuing Calibration Recovery (Closing)	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Primary Review: _____

Secondary Review: _____

Exception Report

Data File: \\CASH1\ACQUDATA\GC09\DATA\111409_R.B\1114R017.D
Lab ID: KWG0910513-6
RunType: MB
Matrix: SEDIMENT

Date Acquired: 11/14/2009 16:13
Date Quantitated: 11/16/2009 12:41
Batch ID: KWG0910694
Analysis Method: 8082
MethodJoinID: MJ696

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Analytical Holding Time	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Calibration Verification Ave %D	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA	x	
Calibration Verification Ave %D (Closing)	NA	NA	NA	x	
Continuing Calibration Recovery (Closing)	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Primary Review: _____

Secondary Review: _____

Quantitation Report

Bottle ID:		**Tier:**		**Matrix:**	SEDIMENT
Prod Code:	8082 PCB_LL	**Collect Date:**		**Receive Date:**	11/12/2009

Analysis Lot:	KWG0910694	**Prep Lot:**	KWG0910513	**Report Group:**	
Analysis Method:	8082	**Prep Method:**	EPA 3541		
Prep Ref:	865781	**Prep Date:**	11/10/2009		

Quant Method:	\\CASH1\ACQUDATA\GC09\DATA\111409.B\101409_F.M	**Calibration ID:**	CAL8918
Title:			
MB Ref:		**Method ID:**	MJ696
		Quant based on Method	

Data File #1:	J:\GC09\DATA\111409.B\1114F017.D			**Instrument:**	GC09.i
Data File #2:	\\cash1\acqudata\GC09\data\111409_r.b\1114R017.D			**Vial:**	34
Acqu Date:	11/14/2009 16:13	**Quant Date:**	11/16/2009 12:39	**Dilution:**	1.0
Run Type:	MB			**Soln Conc. Units:**	ng/mL
Lab ID:	KWG0910513-6				
Signal #1:	DB-35MS	**Signal #2:**	DB-XLB		

Surrogate Compounds

Parameter Name	RT #1	RT #2	Resp #1	Respe #2	ng/mL #1	ng/mL #2			Rpt
Tetrachloro-m-xylene	3.69	4.29	512454	372294	87.87	90.23			90OK
				%Recovery =	88OK	90OK	Limits =	10-135	
Decachlorobiphenyl	15.06	16.31	471782	381242	86.56	91.31			91OK
				%Recovery =	87OK	91OK	Limits =	35-133	

Target Compounds

Final Conc. Units: ug/Kg Wet Weight

Parameter Name	RT #1	RT #2	Resp #1	Resp #2	ng/mL #1	ng/mL #2	ug/Kg #1	ug/Kg #2	Rpt
Aroclor 1016			0	0	0.0000	0.0000	2.1U	2.1U	2.1U
Aroclor 1016 {1}			0	0	0.0000	0.0000	2.1U	2.1U	
Aroclor 1016 {2}			0	0	0.0000	0.0000	2.1U	2.1U	
Aroclor 1016 {3}			0	0	0.0000	0.0000	2.1U	2.1U	
Aroclor 1016 {4}			0	0	0.0000	0.0000	2.1U	2.1U	
Aroclor 1016 {5}			0	0	0.0000	0.0000	2.1U	2.1U	
Aroclor 1221			0	0	0.0000	0.0000	2.1U	2.1U	2.1U
Aroclor 1221 {1}			0d	0	0.0000	0.0000	2.1U	2.1U	
Aroclor 1221 {2}			0d	0	0.0000	0.0000	2.1U	2.1U	
Aroclor 1221 {3}			0d	0	0.0000	0.0000	2.1U	2.1U	
Aroclor 1221 {4}			0d	0	0.0000	0.0000	2.1U	2.1U	
Aroclor 1232			0	0	0.0000	0.0000	2.1U	2.1U	2.1U
Aroclor 1232 {1}			0d	0	0.0000	0.0000	2.1U	2.1U	
Aroclor 1232 {2}			0d	0	0.0000	0.0000	2.1U	2.1U	
Aroclor 1232 {3}			0d	0	0.0000	0.0000	2.1U	2.1U	
Aroclor 1232 {4}			0d	0	0.0000	0.0000	2.1U	2.1U	
Aroclor 1242			0	0	0.0000	0.0000	2.1U	2.1U	2.1U
Aroclor 1242 {1}			0	0	0.0000	0.0000	2.1U	2.1U	

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Data File #1:	J:\GC09\DATA\111409.B\1114F017.D			**Instrument:**	GC09.i
Data File #2:	\\cash1\acqudata\GC09\data\111409_r.b\1114R017.D			**Vial:**	34
Acqu Date:	11/14/2009 16:13	**Quant Date:**	11/16/2009 12:39	**Dilution:**	1.0
Run Type:	MB			**Soln Conc. Units:**	ng/mL
Lab ID:	KWG0910513-6				
Signal #1:	DB-35MS	**Signal #2:**	DB-XLB		

Target Compounds **Final Conc. Units:** ug/Kg Wet Weight

Parameter Name	RT #1	RT #2	Resp #1	Resp #2	ng/mL #1	ng/mL #2	ug/Kg #1	ug/Kg #2	Rpt
Aroclor 1242 {2}			0	0	0.0000	0.0000	2.1U	2.1U	
Aroclor 1242 {3}			0	0	0.0000	0.0000	2.1U	2.1U	
Aroclor 1242 {4}			0	0	0.0000	0.0000	2.1U	2.1U	
Aroclor 1242 {5}			0	0	0.0000	0.0000	2.1U	2.1U	
Aroclor 1248			0	0	0.0000	0.0000	2.1U	2.1U	2.1U
Aroclor 1248 {1}			0d	0	0.0000	0.0000	2.1U	2.1U	
Aroclor 1248 {2}			0d	0	0.0000	0.0000	2.1U	2.1U	
Aroclor 1248 {3}			0d	0	0.0000	0.0000	2.1U	2.1U	
Aroclor 1248 {4}			0d	0	0.0000	0.0000	2.1U	2.1U	
Aroclor 1248 {5}			0d	0	0.0000	0.0000	2.1U	2.1U	
Aroclor 1254			0	0	0.0000	0.0000	2.1U	2.1U	2.1U
Aroclor 1254 {1}			0d	0	0.0000	0.0000	2.1U	2.1U	
Aroclor 1254 {2}			0d	0	0.0000	0.0000	2.1U	2.1U	
Aroclor 1254 {3}			0d	0	0.0000	0.0000	2.1U	2.1U	
Aroclor 1254 {4}			0d	0	0.0000	0.0000	2.1U	2.1U	
Aroclor 1254 {5}			0d	0	0.0000	0.0000	2.1U	2.1U	
Aroclor 1260			0	0	0.0000	0.0000	2.1U	2.1U	2.1U
Aroclor 1260 {1}			0	0	0.0000	0.0000	2.1U	2.1U	
Aroclor 1260 {2}			0	0	0.0000	0.0000	2.1U	2.1U	
Aroclor 1260 {3}			0	0	0.0000	0.0000	2.1U	2.1U	
Aroclor 1260 {4}			0	0	0.0000	0.0000	2.1U	2.1U	
Aroclor 1260 {5}			0	0	0.0000	0.0000	2.1U	2.1U	
Aroclor 1262			0	0	0.0000	0.0000	2.1U	2.1U	2.1U
Aroclor 1262 {1}			0	0	0.0000	0.0000	2.1U	2.1U	
Aroclor 1262 {2}			0	0	0.0000	0.0000	2.1U	2.1U	
Aroclor 1262 {3}			0	0	0.0000	0.0000	2.1U	2.1U	
Aroclor 1262 {4}			0	0	0.0000	0.0000	2.1U	2.1U	
Aroclor 1262 {5}			0	0	0.0000	0.0000	2.1U	2.1U	
Aroclor 1268			0	0	0.0000	0.0000	2.1U	2.1U	2.1U
Aroclor 1268 {1}			0	0	0.0000	0.0000	2.1U	2.1U	
Aroclor 1268 {2}			0	0	0.0000	0.0000	2.1U	2.1U	
Aroclor 1268 {3}			0	0	0.0000	0.0000	2.1U	2.1U	
Aroclor 1268 {4}			0	0	0.0000	0.0000	2.1U	2.1U	
Aroclor 1268 {5}			0	0	0.0000	0.0000	2.1U	2.1U	

The -/+ after Retention Time symbolize the direction of the RT shift

Prep Amount:	40.50 g	**Dilution:**	1.0
Prep Final Vol:	4 ml	**Unit Factor:**	1
Solids:	%		

Final Concentration = ((Soln Conc x Prep Final Vol x Dilution) / (Prep Amount x Solids)) x Unit Factor

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Data File: \\cash1\acqudata\GC09\data\111409.B\1114F017.D
Report Date: 16-Nov-2009 12:39

Laboratory Name

Sample #1 : \\cash1\acqudata\GC09\data\111409.B\1114F017.D
Sample #2 : \\cash1\acqudata\GC09\data\111409_r.b\1114R017.D
Inj Date : 14-NOV-2009 16:13
Sample Info: KWG0910513-6 | MB | 8082 PCB_LL | SEDIMENT
Misc Info : SEMIVOA GC\W0910513\6-MB.H | F=4 D=1 A=40.50
Cal Date : 16-NOV-2009 10:31
Operator : JMSmith
Inst ID : GC09.i
Dil Factor : 1.000000

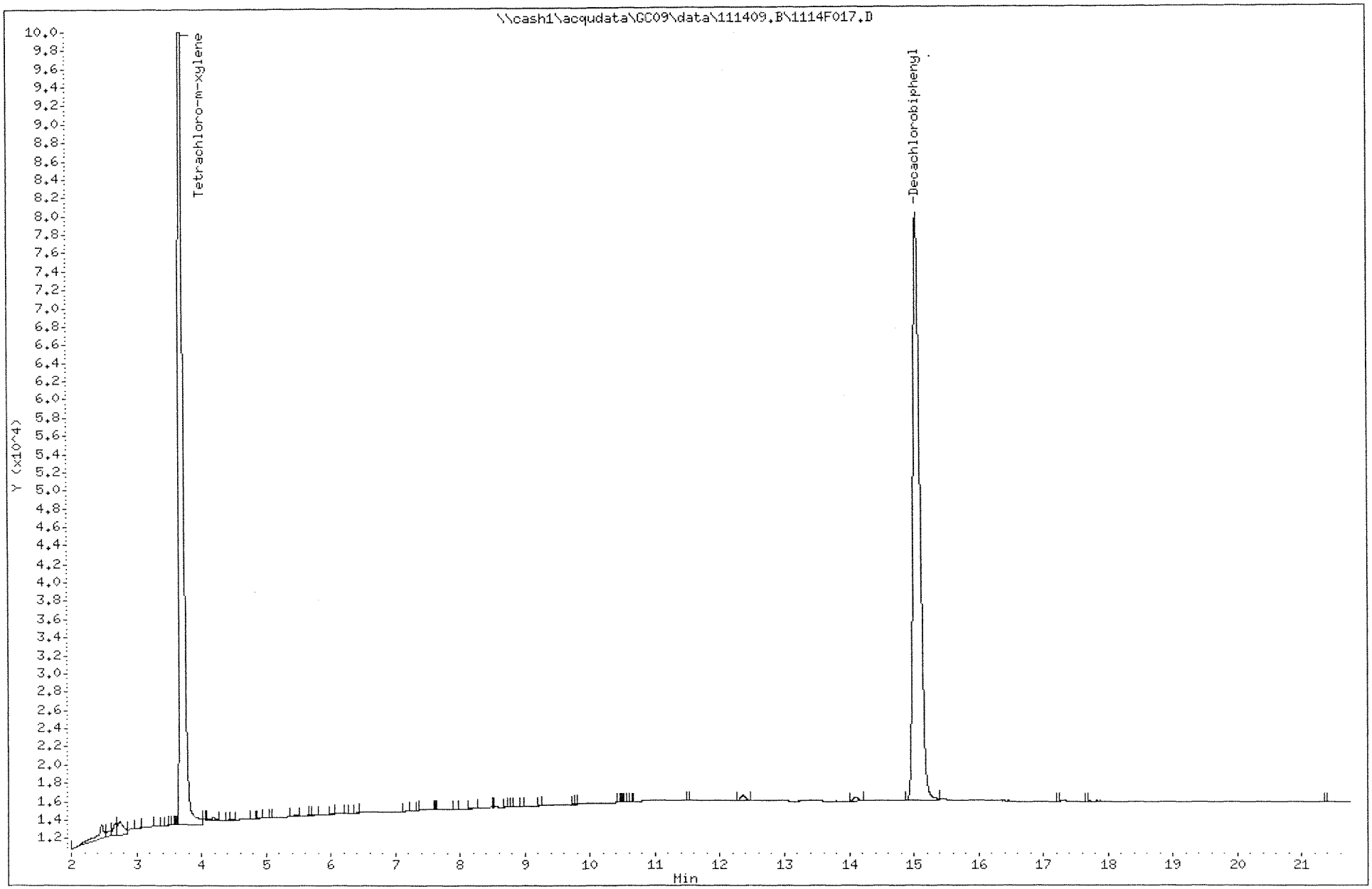
Method #1 : \\cash1\acqudata\GC09\data\111409.B\101409_f.m
Method #2 : \\cash1\acqudata\GC09\data\111409_r.b\101409_r.m
Sub List #1 : ALL.SUB
Sub List #2 : ALL.SUB
Col #1 Phase : DB-35MS
Col #2 Phase : DB-XLB

Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2	Target Range	Ratio
Tetrachloro-m-xylene	3.693	4.290	512454	372294	87.9	90.2		100.00(R)
Decachlorobiphenyl	15.057	16.307	471782	381242	86.6	91.3		100.00(R)

QC Flag Legend

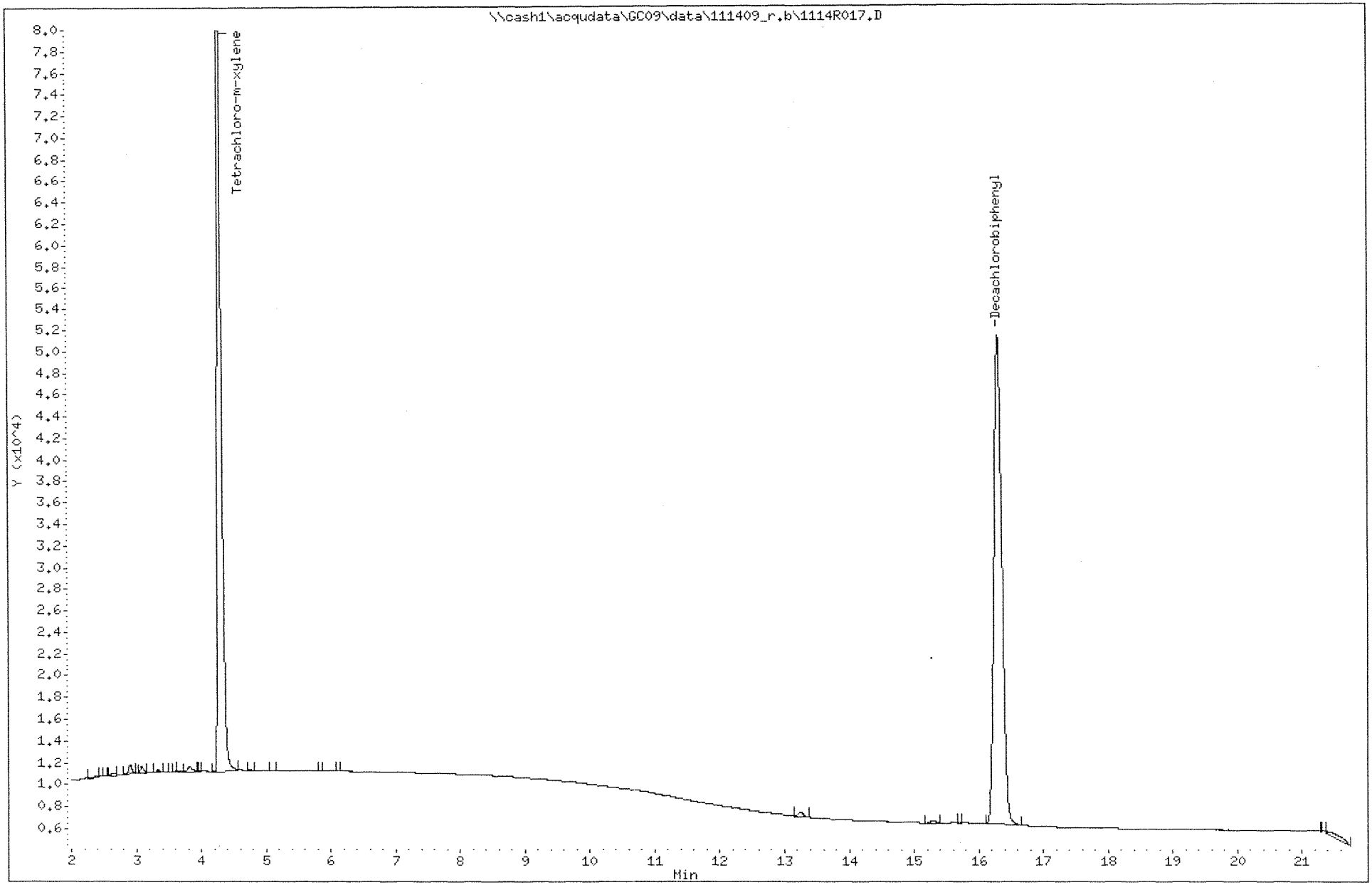
R - Spike/Surrogate failed recovery limits.

Data File: \\cash1\acqudata\GC09\data\111409.B\1114F017.D
Date : 14-NOV-2009 16:13
Client ID:
Instrument: GC09.i
Sample Info: KWG0910513-6 | MB | 8082 PCB_LL | SEDIMENT
Operator: JMSmith
Column phase: DB-35MS
Column diameter: 0.53



Data File: \\cash1\acqudata\GC09\data\111409_r.b\1114R017.D
Date : 14-NOV-2009 16:13
Client ID:
Sample Info: KWG0910513-6 | MB | 8082 PCB_LL | SEDIMENT

Instrument: GC09.i
Operator: JMSmith
Column phase: DB-XLB
Column diameter: 0.53



COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009
Sample Matrix: Sediment

Service Request: K0909140
Date Collected: 10/06/2009
Date Received: 10/07/2009

Polychlorinated Biphenyls (PCBs)

Sample Name: M-2-AMS
Lab Code: KWG0910513-1

Extraction Method: EPA 3541
Analysis Method: 8082

Units: ug/Kg
Basis: Dry
Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Aroclor 1016	**174**		11	2.2	1	11/10/09	11/14/09	KWG0910513	
Aroclor 1221	ND	U	21	2.2	1	11/10/09	11/14/09	KWG0910513	
Aroclor 1232	ND	U	11	2.2	1	11/10/09	11/14/09	KWG0910513	
Aroclor 1242	ND	U	11	2.2	1	11/10/09	11/14/09	KWG0910513	
Aroclor 1248	ND	U	11	2.2	1	11/10/09	11/14/09	KWG0910513	
Aroclor 1254	**140**		11	2.2	1	11/10/09	11/14/09	KWG0910513	
Aroclor 1260	**235**		11	2.2	1	11/10/09	11/14/09	KWG0910513	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Decachlorobiphenyl	96	35-133	11/14/09	Acceptable

Comments:

Exception Report

Data File: \\CASH1\ACQUDATA\GC09\DATA\111409.B\1114F025.D
Lab ID: KWG0910513-1 -- K0909140-006MS
RunType: MS
Matrix: SEDIMENT

Date Acquired: 11/14/2009 19:43
Date Quantitated: 11/16/2009 12:40
Batch ID: KWG0910694
Analysis Method: 8082
MethodJoinID: MJ696

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Analytical Holding Time	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Calibration Verification Ave %D	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA	x	
Calibration Verification Ave %D (Closing)	NA	NA	NA	x	
Continuing Calibration Recovery (Closing)	NA	NA	NA		x
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA		x
Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
Continuing Calibration Recovery (Closing)	Aroclor 1260	-18.0	NA	15	NC
Analyte Co-elution	Aroclor 1254 {4}	9.043	NA	NA	CofSP
	Aroclor 1260 {1}	9.043	NA	NA	

Primary Review: _____

Secondary Review: _____

Exception Report

Data File: \\CASH1\ACQUDATA\GC09\DATA\111409_R.B\1114R025.D
Lab ID: KWG0910513-1 -- K0909140-006MS
RunType: MS
Matrix: SEDIMENT

Date Acquired: 11/14/2009 19:43
Date Quantitated: 11/16/2009 12:42
Batch ID: KWG0910694
Analysis Method: 8082
MethodJoinID: MJ696

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Analytical Holding Time	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Calibration Verification Ave %D	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA	x	
Calibration Verification Ave %D (Closing)	NA	NA	NA	x	
Continuing Calibration Recovery (Closing)	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Primary Review: _____

Secondary Review: _____

Quantitation Report

Bottle ID:		**Tier:**		**Matrix:**	SEDIMENT
Prod Code:	8082 PCB_LL	**Collect Date:**		**Receive Date:**	11/12/2009

Analysis Lot:	KWG0910694	**Prep Lot:**	KWG0910513	**Report Group:**	
Analysis Method:	8082	**Prep Method:**	EPA 3541		
		Prep Date:	11/10/2009		
Prep Ref:	865596				

Quant Method:	\\CASH1\ACQUDATA\GC09\DATA\111409.B\101409_F.M	**Calibration ID:**	CAL8918
Title:			
MB Ref:	J:\GC09\DATA\111409.B\1114F017.D	**Method ID:**	MJ696
		Quant based on Method	

Data File #1:	J:\GC09\DATA\111409.B\1114F025.D			**Instrument:**	GC09.i
Data File #2:	\\cash1\acqudata\GC09\data\111409_r.b\1114R025.D			**Vial:**	42
Acqu Date:	11/14/2009 19:43	**Quant Date:**	11/16/2009 12:40	**Dilution:**	1.0
Run Type:	MS			**Soln Conc. Units:**	ng/mL
Lab ID:	KWG0910513-1 -- K0909140-006MS				
Signal #1:	DB-35MS	**Signal #2:**	DB-XLB		

Surrogate Compounds

Parameter Name	RT #1	RT #2	Resp #1	Respe #2	ng/mL #1	ng/mL #2			Rpt
Tetrachloro-m-xylene	3.69	4.29 0.00	391829	313047	67.18	75.87			76OK
			%Recovery =		67OK	76OK	Limits =	10-135	
Decachlorobiphenyl	15.05 0.00	16.30 -0.01	524682	392389m	96.27	93.98			96OK
			%Recovery =		96OK	94OK	Limits =	35-133	

Target Compounds

Final Conc. Units: ug/Kg Dry Weight

Parameter Name	RT #1	RT #2	Resp #1	Resp #2	ng/mL #1	ng/mL #2	ug/Kg #1	ug/Kg #2	Rpt
Aroclor 1016			0	0	621.44	859.33	126	174	174
Aroclor 1016 {1}	5.33	5.65 0.00	72959m	91043m	569.53	678.87	115	137	
Aroclor 1016 {2}	5.67 0.00	6.23 0.00	345503m	201276m	668.09	855.98	135	173	
Aroclor 1016 {3}	5.84	6.66 0.00	150061m	100656m	505.80	947.05	102	191	
Aroclor 1016 {4}	6.60 0.00	6.76 0.00	116002m	109620m	700.79	878.32	142	177	
Aroclor 1016 {5}	6.87 0.00	7.03 0.00	92093m	94228m	662.98	936.44	134	189	
Aroclor 1221			0	0	0.0000	0.0000	2.2U	2.2U	2.2U
Aroclor 1221 {1}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1221 {2}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1221 {3}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1221 {4}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1232			0	0	0.0000	0.0000	2.2U	2.2U	2.2U
Aroclor 1232 {1}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1232 {2}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1232 {3}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1232 {4}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1242			0	0	0.0000	0.0000	2.2U	2.2U	2.2U
Aroclor 1242 {1}			0d	0d	0.0000	0.0000	2.2U	2.2U	

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Data File #1:	J:\GC09\DATA\111409.B\1114F025.D			**Instrument:**	GC09.i
Data File #2:	\\cash1\acqudata\GC09\data\111409_r.b\1114R025.D			**Vial:**	42
Acqu Date:	11/14/2009 19:43	**Quant Date:**	11/16/2009 12:40	**Dilution:**	1.0
Run Type:	MS			**Soln Conc. Units:**	ng/mL
Lab ID:	KWG0910513-1 -- K0909140-006MS				
Signal #1:	DB-35MS	**Signal #2:**	DB-XLB		

Target Compounds — **Final Conc. Units:** ug/Kg Dry Weight

Parameter Name	RT #1		RT #2		Resp #1	Resp #2	ng/mL #1	ng/mL #2	ug/Kg #1	ug/Kg #2	Rpt
Aroclor 1242 {2}					0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1242 {3}					0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1242 {4}					0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1242 {5}					0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1248					0	0	0.0000	0.0000	2.2U	2.2U	2.2U
Aroclor 1248 {1}					0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1248 {2}					0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1248 {3}					0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1248 {4}					0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1248 {5}					0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1254					0	0	705.07	590.18	140	120	**140**
Aroclor 1254 {1}	7.55		7.79		170857m	175453m	594.60	729.24	120	147	
Aroclor 1254 {2}	8.24		8.20		87469m	189107m	432.40	775.20	87.3	157	
Aroclor 1254 {3}	8.44		8.84		343685m	50778m	692.29	382.83	140	77.3	
Aroclor 1254 {4}	9.04	c	8.94		296676m	167932m	1,232	643.36	249	130	
Aroclor 1254 {5}	9.85		9.53		195654m	98228m	574.34	420.24	116	84.9	
Aroclor 1260					0	0	874.52[CCV]	1,162	177	235	**235**
Aroclor 1260 {1}	9.04	0.00 c	9.27	0.00	296676m	218217m	699.10	909.52	141	184	
Aroclor 1260 {2}	9.48		10.37	-0.01	212542m	507977m	922.11	1,647	186	333	
Aroclor 1260 {3}	10.46	-0.01	10.54	0.00	227974m	188383m	894.30	1,111	181	224	
Aroclor 1260 {4}	10.89	-0.01	11.67	-0.01	495265m	370946m	901.76	1,048	182	212	
Aroclor 1260 {5}	11.76	-0.01	12.42	-0.01	360260m	261223m	955.32	1,094	193	221	
Aroclor 1262					0	0	0.0000	0.0000	2.2U	2.2U	2.2U
Aroclor 1262 {1}					0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1262 {2}					0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1262 {3}					0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1262 {4}					0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1262 {5}					0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1268					0	0	0.0000	0.0000	2.2U	2.2U	2.2U
Aroclor 1268 {1}					0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1268 {2}					0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1268 {3}					0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1268 {4}					0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1268 {5}					0d	0d	0.0000	0.0000	2.2U	2.2U	

The -/+ after Retention Time symbolize the direction of the RT shift

Prep Amount:	20.25 g	**Dilution:**	1.0
Prep Final Vol:	4 ml	**Unit Factor:**	1
Solids:	97.8 %		

Final Concentration = ((Soln Conc x Prep Final Vol x Dilution) / (Prep Amount x Solids)) x Unit Factor

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Data File: \\cash1\acqudata\GC09\data\111409.B\1114F025.D
Report Date: 16-Nov-2009 12:40

Laboratory Name

Sample #1 : \\cash1\acqudata\GC09\data\111409.B\1114F025.D
Sample #2 : \\cash1\acqudata\GC09\data\111409_r.b\1114R025.D
Inj Date : 14-NOV-2009 19:43
Sample Info: KWG0910513-1 | K0909140-006MS | 8082 PCB_LL
Misc Info : SEMIVOA GC\W0910513\1-MS.H | F=4 D=1 A=20.25
Cal Date : 16-NOV-2009 10:31
Operator : JMSmith
Inst ID : GC09.i
Dil Factor : 1.000000

Method #1 : \\cash1\acqudata\GC09\data\111409.B\101409_f.m
Method #2 : \\cash1\acqudata\GC09\data\111409_r.b\101409_r.m
Sub List #1 : ALL.SUB
Sub List #2 : ALL.SUB
Col #1 Phase : DB-35MS
Col #2 Phase : DB-XLB

Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2	Target Range	Ratio
Tetrachloro-m-xylene	3.693	4.287	391829	313047	67.2	75.9		100.00(R)
Aroclor 1016	5.333	5.653	72959	91043	570	679	80.00- 120.00	100.00(M)
	5.667	6.227	345503	201276	668	856	301.24- 451.85	473.55(M)
	5.837	6.663	150061	100656	506	947	175.42- 263.13	205.68(M)
	6.597	6.757	116002	109620	701	878	101.03- 151.55	159.00(M)
	6.873	7.027	92093	94228	663	936	88.95- 133.42	126.23(M)
			Average of Peak Amounts =		622	859		
Aroclor 1254	7.553	7.787	170857	175453	595	729	80.00- 120.00	100.00(M)
	8.240	8.200	87469	189107	432	775	56.32- 84.48	51.19(M)
	8.443	8.837	343685	50778	692	383	138.21- 207.32	201.15(M)
	9.043	8.937	296676	167932	1230	643	67.06- 100.59	173.64(M)
	9.850	9.530	195654	98228	574	420	94.84- 142.26	114.51(M)
			Average of Peak Amounts =		705	590		
Aroclor 1260	9.043	9.273	296676	218217	699	910	80.00- 120.00	100.00(M)
	9.477	10.367	212542	507977	922	1650	42.74- 64.11	71.64(M)
	10.460	10.543	227974	188383	894	1110	48.22- 72.33	76.84(M)
	10.893	11.673	495265	370946	902	1050	101.77- 152.66	166.94(M)
	11.763	12.417	360260	261223	955	1090	72.29- 108.43	121.43(M)
			Average of Peak Amounts =		874	1160		
Decachlorobiphenyl	15.053	16.300	524682	392389	96.3	94.0		100.00(R)

QC Flag Legend

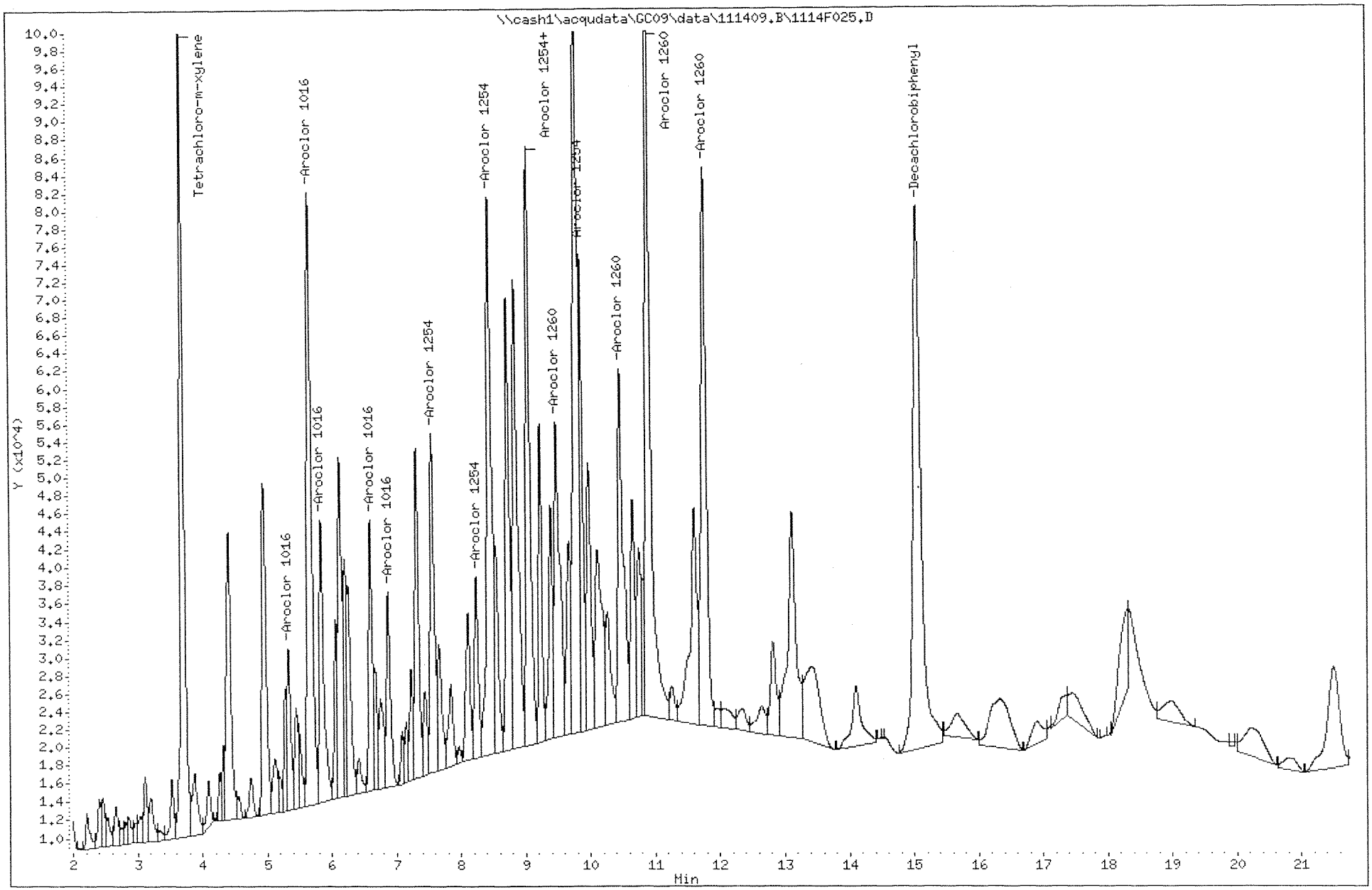
R - Spike/Surrogate failed recovery limits.
M - Compound response manually integrated.

Data File: \\cash1\acqudata\GC09\data\111409.B\1114F025.D
Date : 14-NOV-2009 19:43
Client ID:
Sample Info: KWG0910513-1 | K0909140-006MS | 8082 PCB_LL

Instrument: GC09.i

Operator: JMSmith
Column diameter: 0.53

Column phase: DB-35MS

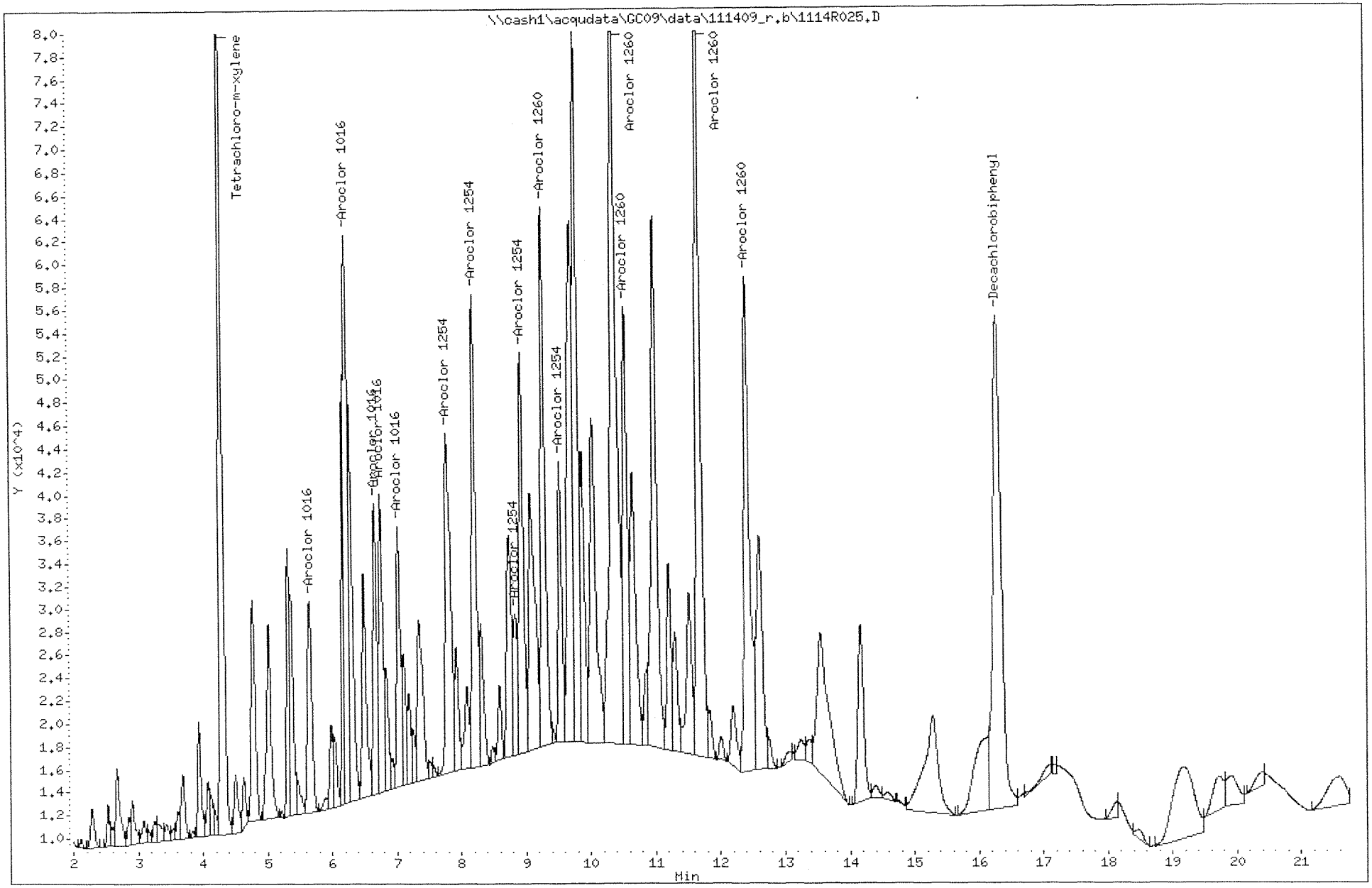


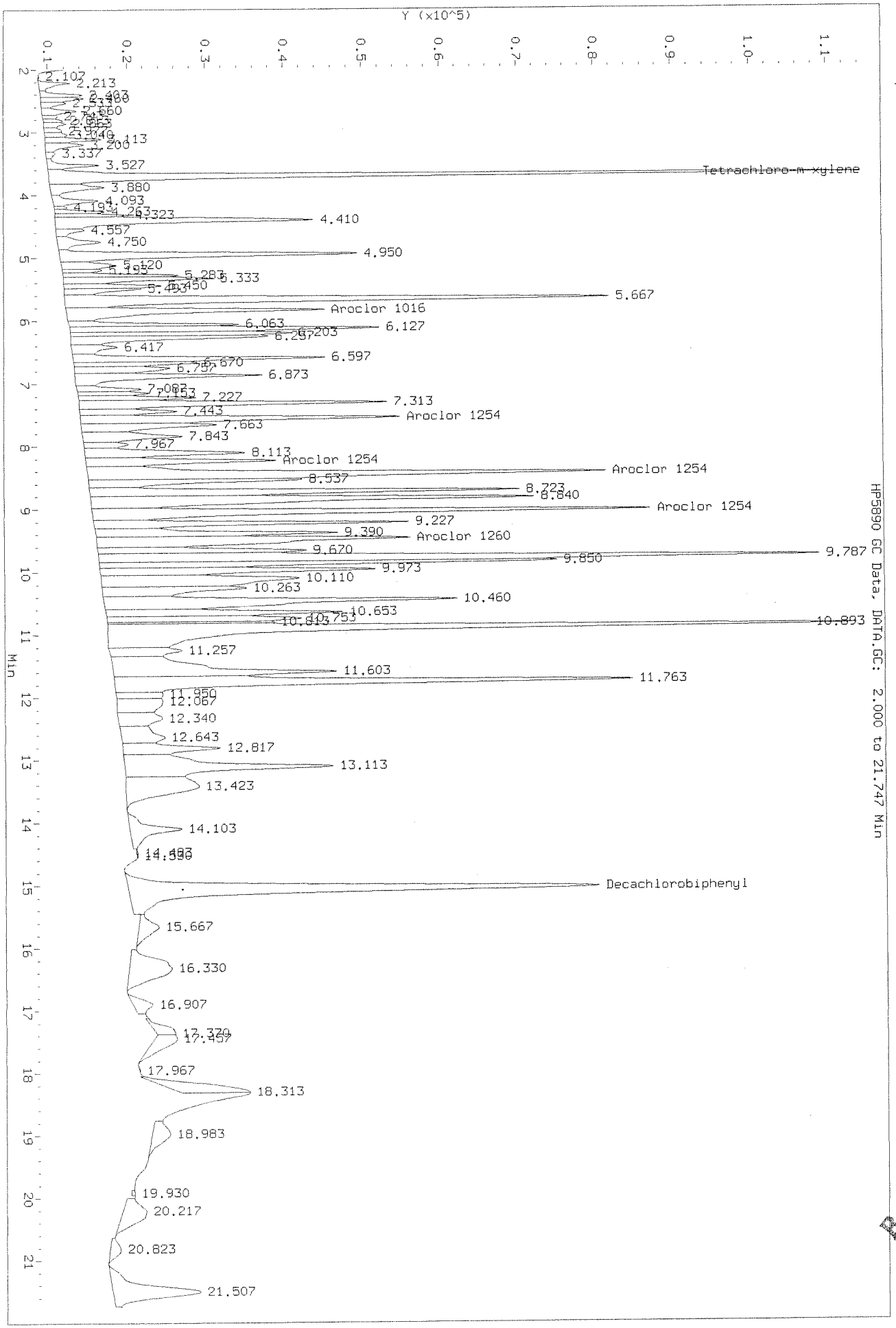
Data File: \\cash1\acqudata\GC09\data\111409_r.b\1114R025.D
Date : 14-NOV-2009 19:43
Client ID:
Sample Info: KWG0910513-1 | K0909140-006MS | 8082 PCB_LL

Instrument: GC09.i

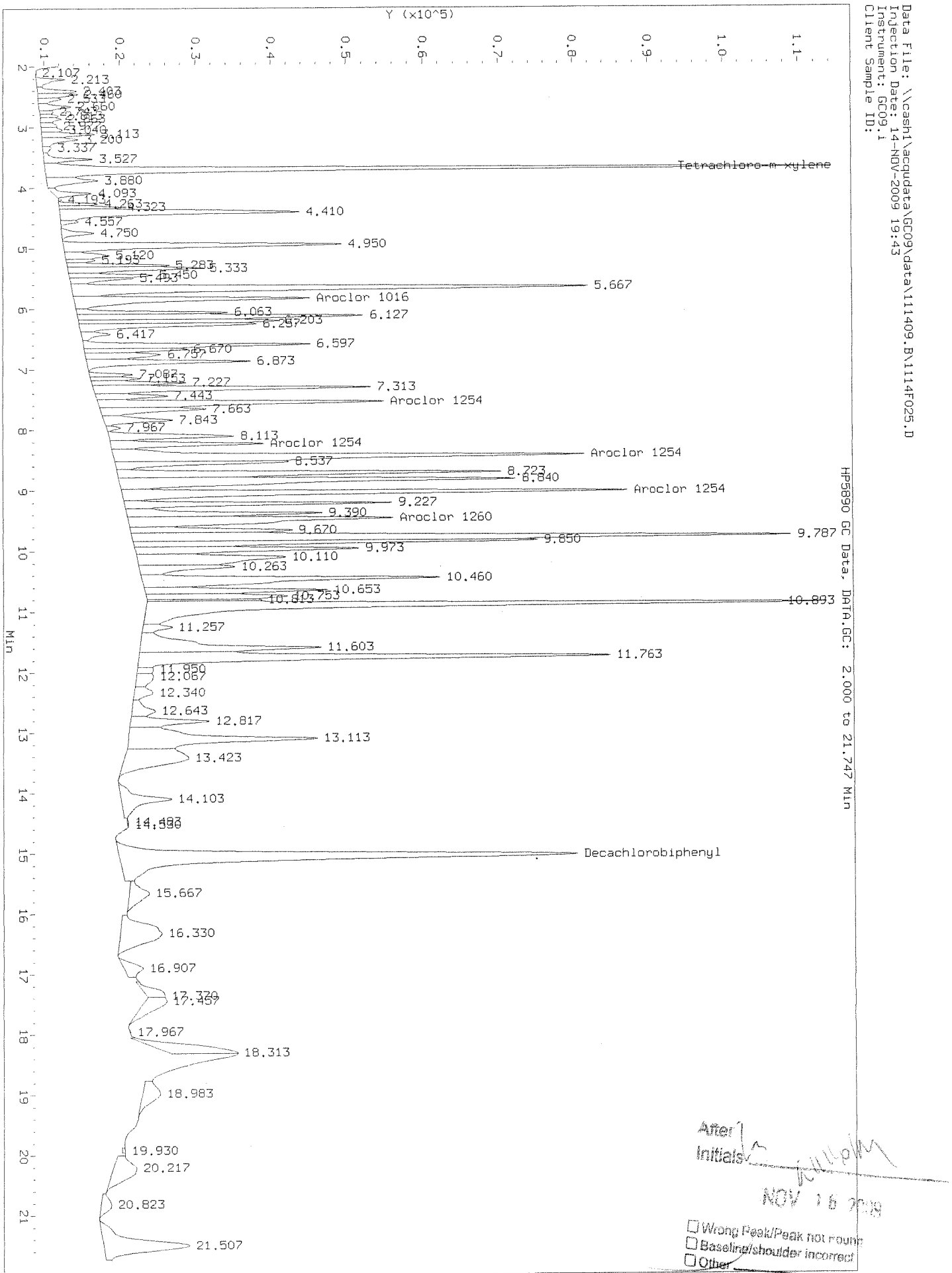
Operator: JMSmith
Column diameter: 0.53

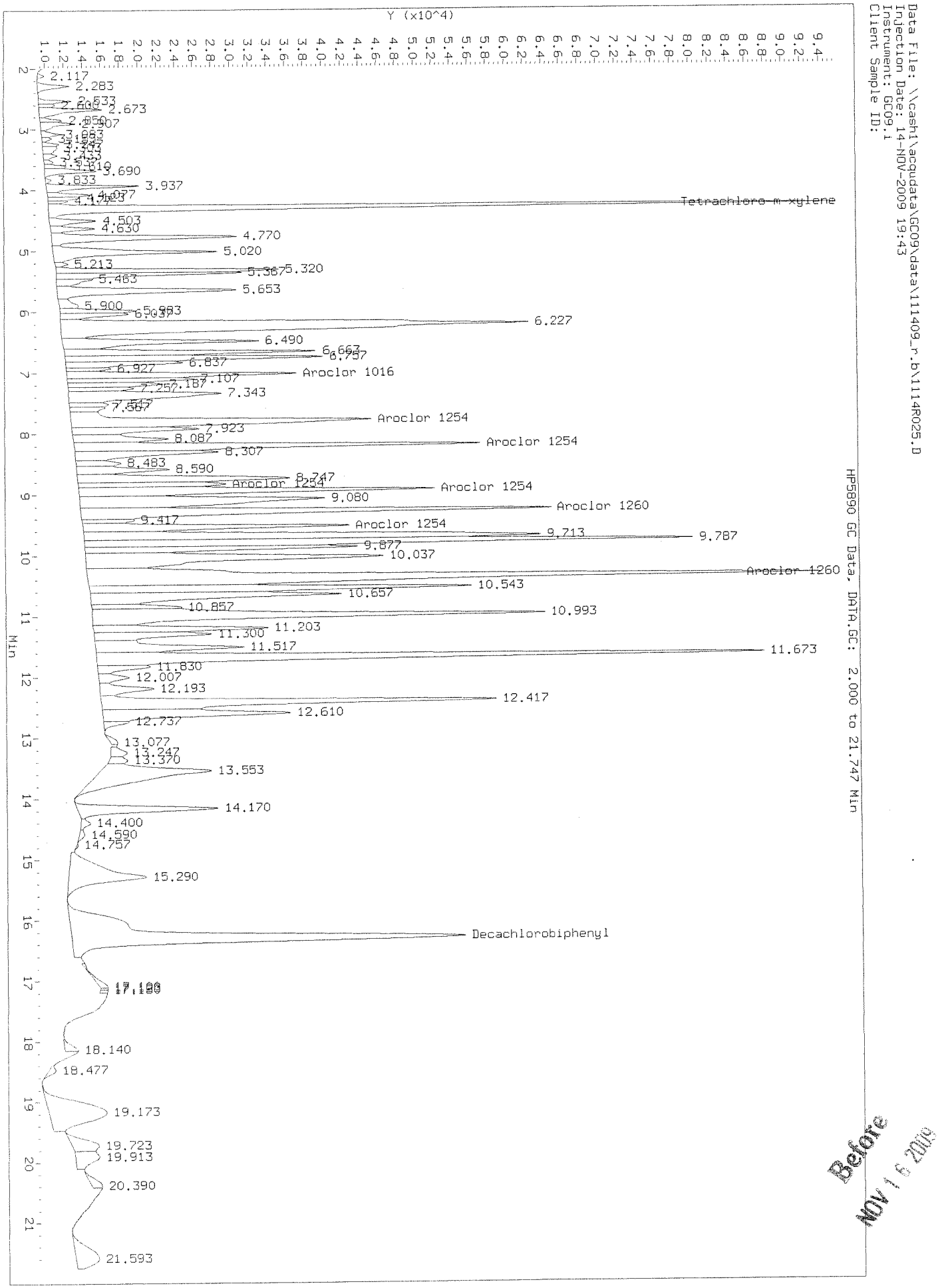
Column phase: DB-XLB

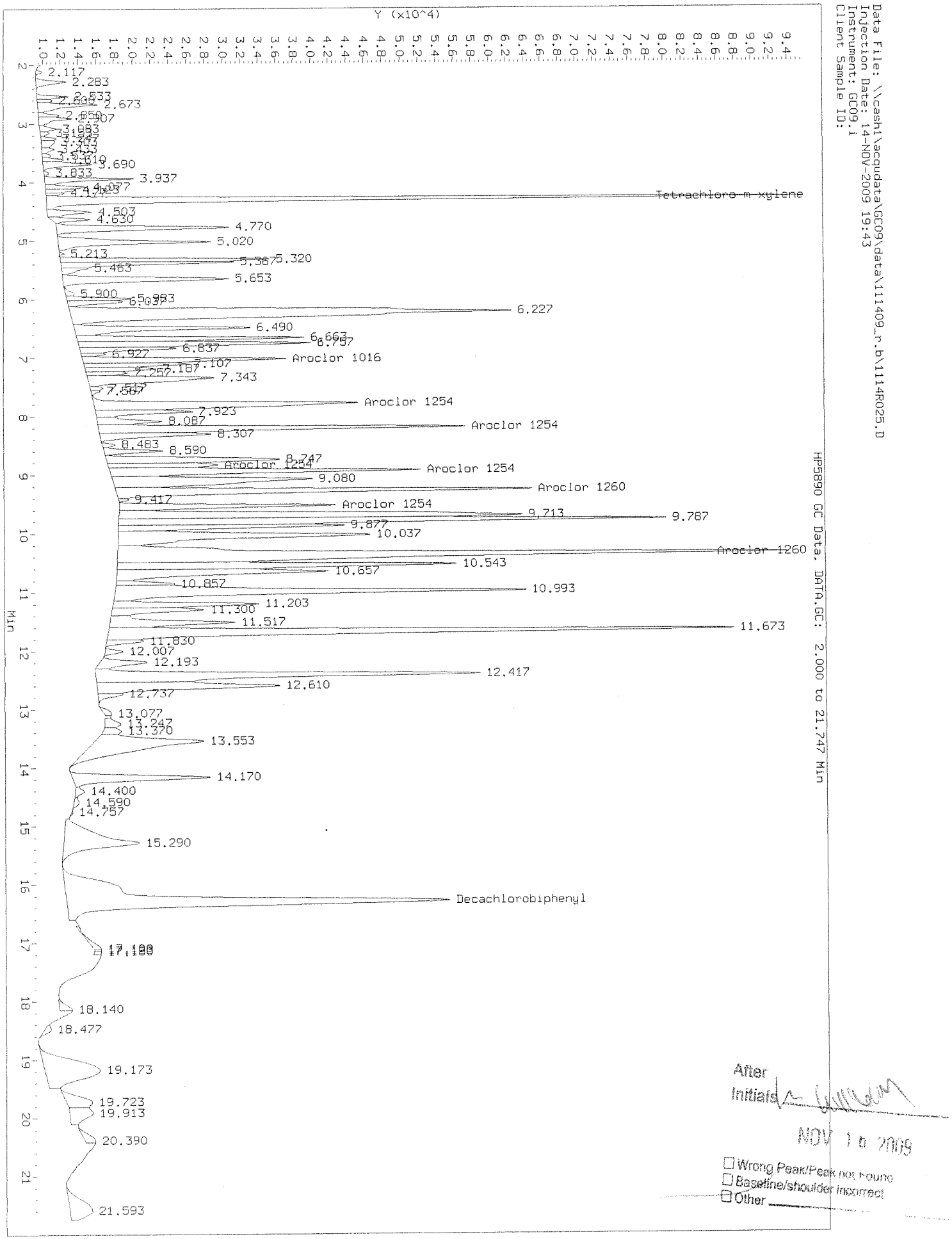




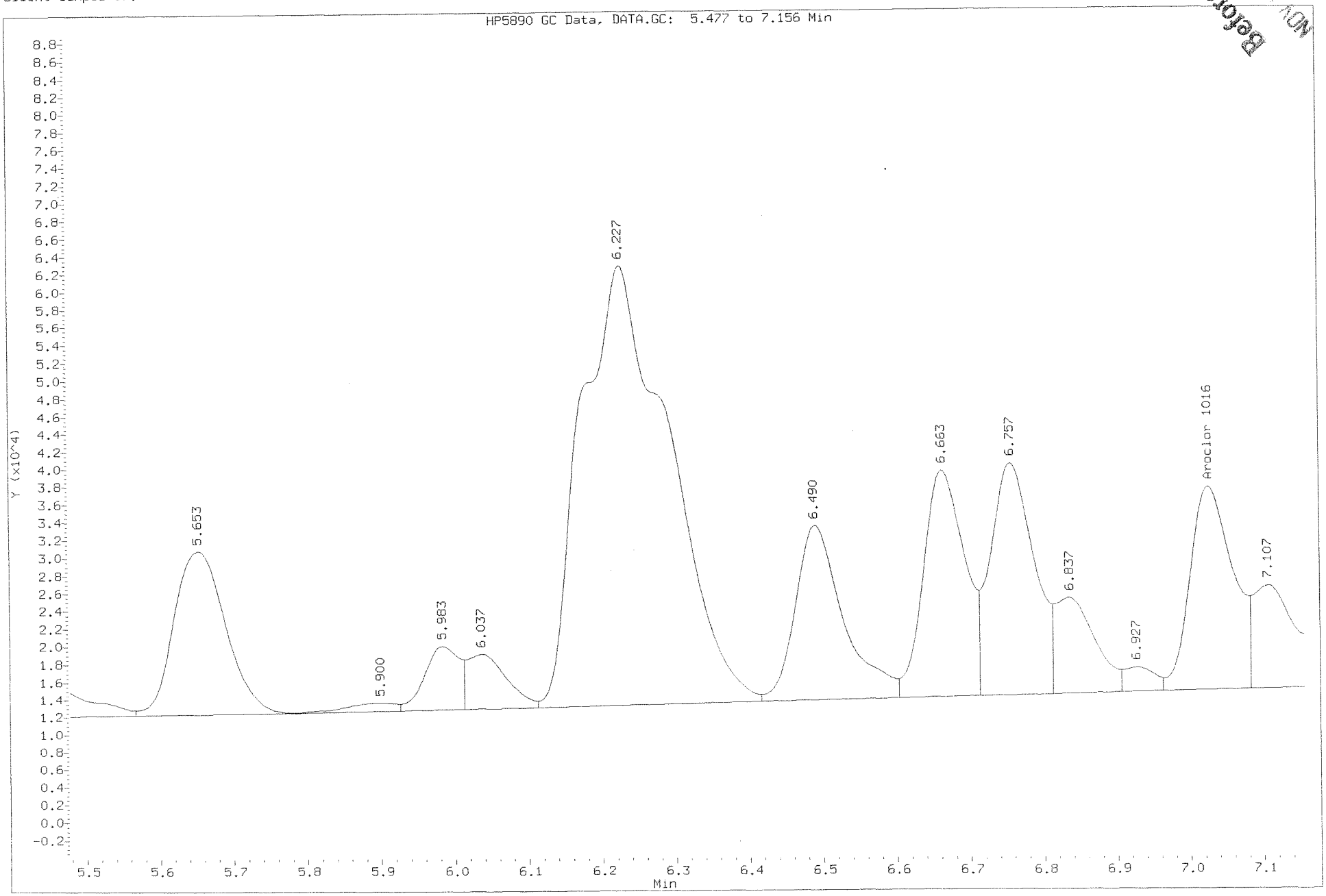
Before
NOV 16 2009


Data File: \\cash1\acqudata\GC09\data\111409.B\1114F025.D
Injection Date: 14-NOV-2009 19:43
Instrument: GC09.i
Client Sample ID:
Y (x10^5)
Min
HP5890 GC Data, DATA.GC: 2.000 to 21.747 Min
Tetrachloro-m-xylene
Aroclor 1016
Aroclor 1254
Aroclor 1254
Aroclor 1254
Aroclor 1260
Decachlorobiphenyl
After
Initials
NOV 16
Wrong Peak/Peak not found
Baseline/shoulder incorrect
Other


Data File: \\cash1\acqudata\GC09\data\111409_r.b\1114R025.D
Injection Date: 14-NOV-2009 19:43
Instrument: GC09.i
Client Sample ID:
HP5890 GC Data, DATA.GC; 2.000 to 21.747 Min
Y (x10^4)
Min
Tetrachloro-m-xylene
Aroclor 1016
Aroclor 1254
Aroclor 1260
Decachlorobiphenyl
Before
NOV 16 2009

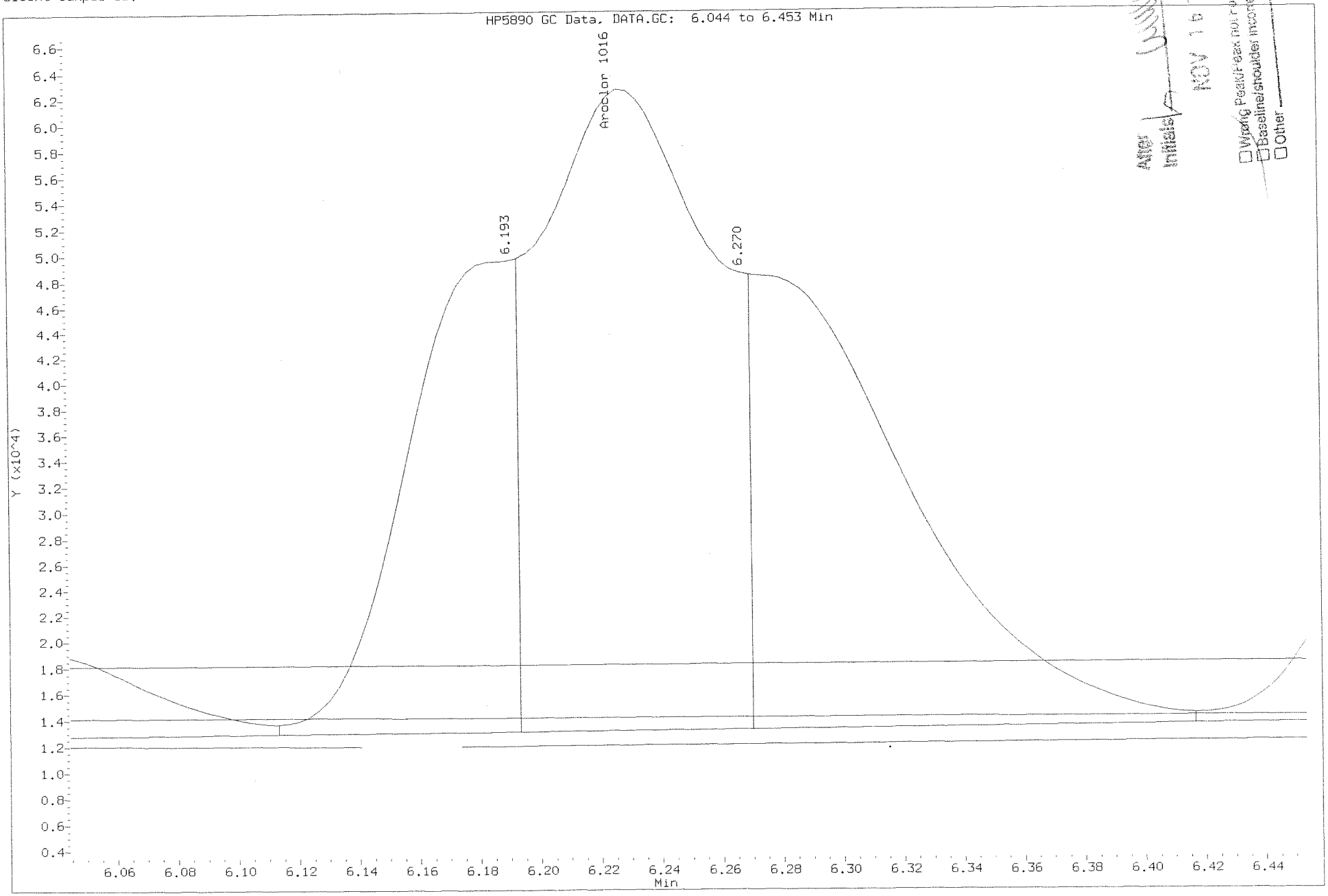

Data File: \\cash1\acqudata\GC09\data\111409_r.b\1114R025.D
Injection Date: 14-NOV-2009 19:43
Instrument: GC09.i
Client Sample ID:
HP5890 GC Data, DATA.GC; 2.000 to 21.747 Min
Y (x10^4)
Min
Tetrachloro-m-xylene
Aroclor 1016
Aroclor 1254
Aroclor 1260
Decachlorobiphenyl
After
Initials
NOV 16 2009
Wrong Peak/Peak not found
Baseline/shoulder incorrect
Other

Data File: \\cash1\acqudata\GC09\data\111409_r.b\1114R025.D
Injection Date: 14-NOV-2009 19:43
Instrument: GC09.i
Client Sample ID:



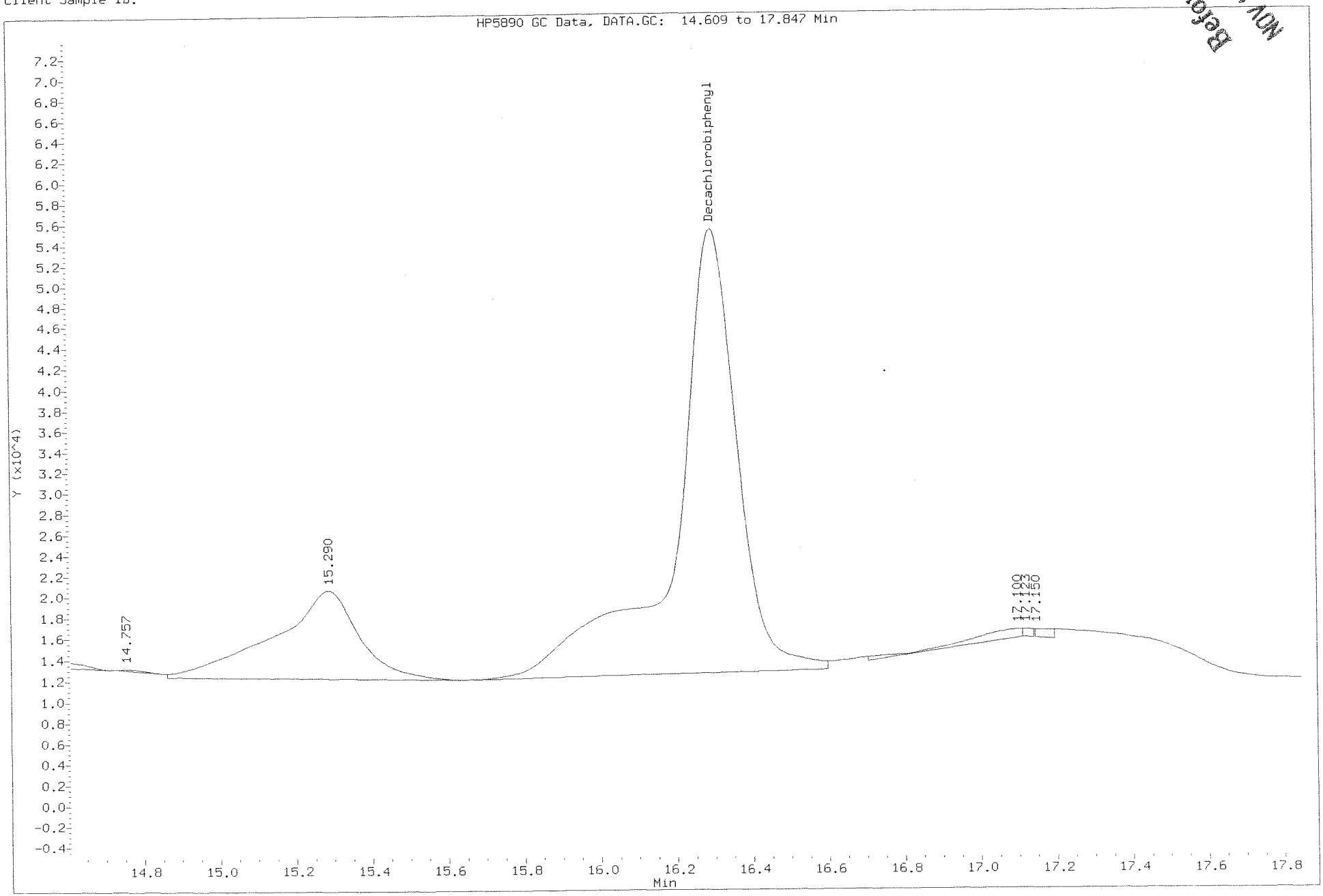
Before NOV

Data File: \\cash1\acqudata\GC09\data\111409_r.b\1114R025.D
Injection Date: 14-NOV-2009 19:43
Instrument: GC09.i
Client Sample ID:



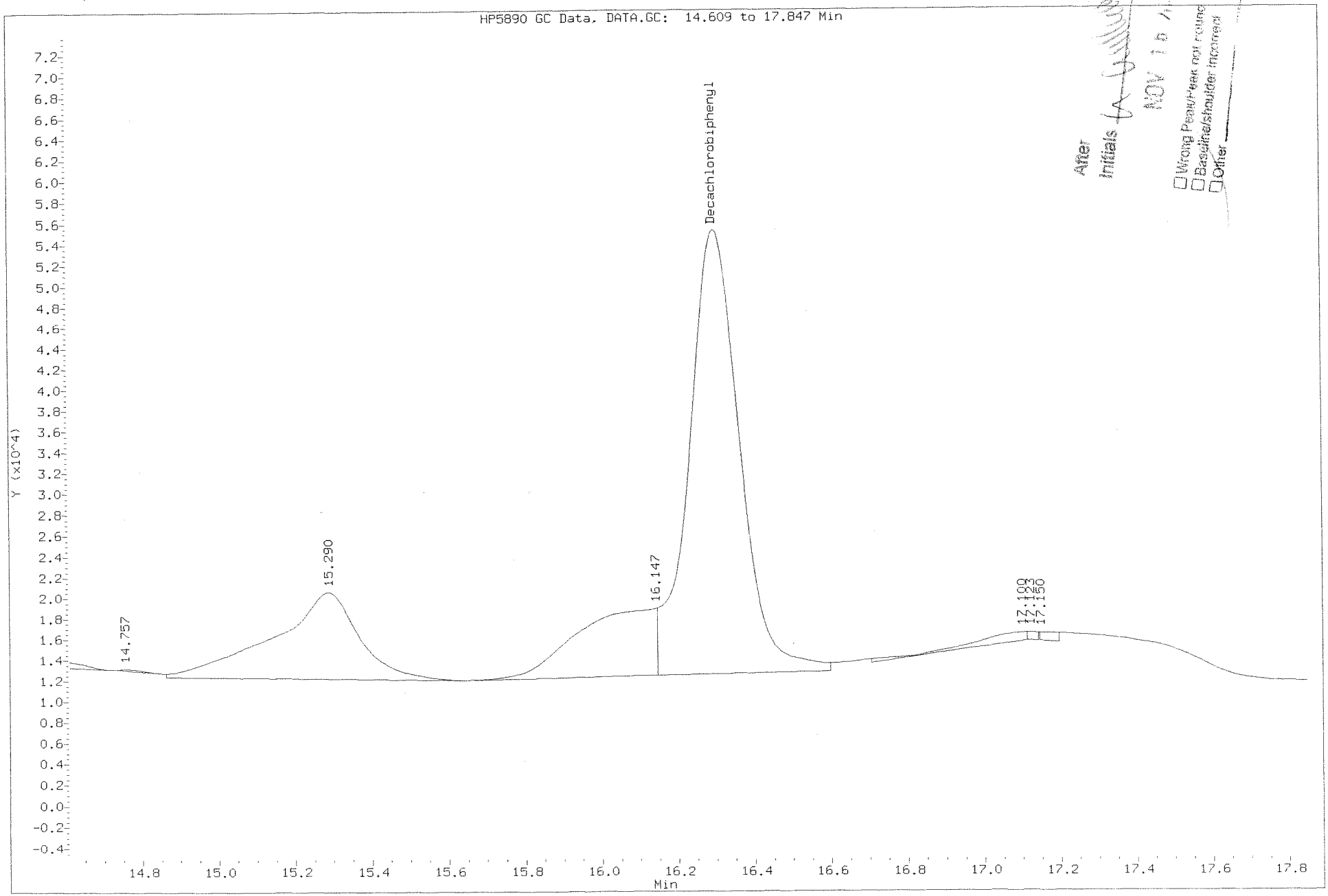
Analyst Initials
NOV 16 09
Wrong Peak/Peak not found
Baseline/shoulder incorrect
Other

Data File: \\cash1\acqudata\GC09\data\111409_r.b\1114R025.D
Injection Date: 14-NOV-2009 19:43
Instrument: GC09.i
Client Sample ID:



Before
NOV 5 2009

Data File: \\cash1\acqudata\GC09\data\111409_r.b\1114R025.D
Injection Date: 14-NOV-2009 19:43
Instrument: GC09.i
Client Sample ID:



COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	URS Corporation	**Service Request:**	K0909140
Project:	Boise St. Helens Pulp and Paper Mill-2009	**Date Collected:**	10/06/2009
Sample Matrix:	Sediment	**Date Received:**	10/07/2009

Polychlorinated Biphenyls (PCBs)

Sample Name:	M-2-ADMS	**Units:**	ug/Kg
Lab Code:	KWG0910513-2	**Basis:**	Dry
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8082		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Aroclor 1016	**179**		11	2.2	1	11/10/09	11/14/09	KWG0910513	
Aroclor 1221	ND	U	21	2.2	1	11/10/09	11/14/09	KWG0910513	
Aroclor 1232	ND	U	11	2.2	1	11/10/09	11/14/09	KWG0910513	
Aroclor 1242	ND	U	11	2.2	1	11/10/09	11/14/09	KWG0910513	
Aroclor 1248	ND	U	11	2.2	1	11/10/09	11/14/09	KWG0910513	
Aroclor 1254	**160**		11	2.2	1	11/10/09	11/14/09	KWG0910513	
Aroclor 1260	**227**		11	2.2	1	11/10/09	11/14/09	KWG0910513	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Decachlorobiphenyl	81	35-133	11/14/09	Acceptable

Comments:

Exception Report

Data File: \\CASH1\ACQUDATA\GC09\DATA\111409.B\1114F026.D
Lab ID: KWG0910513-2 -- K0909140-006DMS
RunType: DMS
Matrix: SEDIMENT

Date Acquired: 11/14/2009 20:09
Date Quantitated: 11/16/2009 12:40
Batch ID: KWG0910694
Analysis Method: 8082
MethodJoinID: MJ696

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Analytical Holding Time	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Calibration Verification Ave %D	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA	x	
Calibration Verification Ave %D (Closing)	NA	NA	NA	x	
Continuing Calibration Recovery (Closing)	NA	NA	NA		x
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA		x
Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
Continuing Calibration Recovery (Closing)	Aroclor 1260	-18.0	NA	15	NA
Analyte Co-elution	Aroclor 1254 {4}	9.04	NA	NA	CWSP
	Aroclor 1260 {1}	9.04	NA	NA	LJ

Primary Review: [signature]

Secondary Review: [signature]

Exception Report

Data File: \\CASH1\ACQUDATA\GC09\DATA\111409_R.B\1114R026.D
Lab ID: KWG0910513-2 -- K0909140-006DMS
RunType: DMS
Matrix: SEDIMENT

Date Acquired: 11/14/2009 20:09
Date Quantitated: 11/16/2009 12:42
Batch ID: KWG0910694
Analysis Method: 8082
MethodJoinID: MJ696

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Analytical Holding Time	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Calibration Verification Ave %D	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA	x	
Calibration Verification Ave %D (Closing)	NA	NA	NA	x	
Continuing Calibration Recovery (Closing)	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Primary Review: _____

Secondary Review: _____

Quantitation Report

Bottle ID:		**Tier:**		**Matrix:**	SEDIMENT
Prod Code:	8082 PCB_LL	**Collect Date:**		**Receive Date:**	11/12/2009

Analysis Lot:	KWG0910694	**Prep Lot:**	KWG0910513	**Report Group:**	
Analysis Method:	8082	**Prep Method:**	EPA 3541		
Prep Ref:	865597	**Prep Date:**	11/10/2009		

Quant Method:	\\CASH1\ACQUDATA\GC09\DATA\111409.B\101409_F.M	**Calibration ID:**	CAL8918
Title:			
MB Ref:	J:\GC09\DATA\111409.B\1114F017.D	**Method ID:**	MJ696
		Quant based on Method	

Data File #1:	J:\GC09\DATA\111409.B\1114F026.D			**Instrument:**	GC09.i
Data File #2:	\\Cash1\Acqudata\GC09\data\111409_r.b\1114R026.D			**Vial:**	43
Acqu Date:	11/14/2009 20:09	**Quant Date:**	11/16/2009 15:27	**Dilution:**	1.0
Run Type:	DMS			**Soln Conc. Units:**	ng/mL
Lab ID:	KWG0910513-2 -- K0909140-006DMS				
Signal #1:	DB-35MS	**Signal #2:**	DB-XLB		

Surrogate Compounds

Parameter Name	RT #1	RT #2	Resp #1	Respe #2	ng/mL #1	ng/mL #2			Rpt
Tetrachloro-m-xylene	3.69	4.29 0.00	356841	300390	61.19	72.80			73OK
			%Recovery =		61OK	73OK	Limits =	10-135	
Decachlorobiphenyl	15.05 0.00	16.30 0.00	410713	337281	75.36	80.78			81OK
			%Recovery =		75OK	81OK	Limits =	35-133	

Target Compounds

Final Conc. Units: ug/Kg Dry Weight

Parameter Name	RT #1	RT #2	Resp #1	Resp #2	ng/mL #1	ng/mL #2	ug/Kg #1	ug/Kg #2	Rpt
Aroclor 1016			0	0	639.57	887.21	129	179	179
Aroclor 1016 {1}	5.33	5.65 0.00	72326m	88804m	564.58	662.17	114	134	
Aroclor 1016 {2}	5.67 0.00	6.23 0.00	351151m	207049m	679.01	880.53	137	178	
Aroclor 1016 {3}	5.83 0.00	6.66 0.00	148501m	107802m	500.55	1,014	101	205	
Aroclor 1016 {4}	6.60 0.00	6.76 0.00	124421m	111385m	751.64	892.45	152	180	
Aroclor 1016 {5}	6.87 0.00	7.03 0.00	97525m	99280m	702.08	986.64	142	199	
Aroclor 1221			0	0	0.0000	0.0000	2.2U	2.2U	2.2U
Aroclor 1221 {1}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1221 {2}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1221 {3}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1221 {4}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1232			0	0	0.0000	0.0000	2.2U	2.2U	2.2U
Aroclor 1232 {1}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1232 {2}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1232 {3}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1232 {4}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1242			0	0	0.0000	0.0000	2.2U	2.2U	2.2U
Aroclor 1242 {1}			0d	0d	0.0000	0.0000	2.2U	2.2U	

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Data File #1:	J:\GC09\DATA\111409.B\1114F026.D			**Instrument:**	GC09.i
Data File #2:	\\Cash1\Acqudata\GC09\data\111409_r.b\1114R026.D			**Vial:**	43
Acqu Date:	11/14/2009 20:09	**Quant Date:**	11/16/2009 15:27	**Dilution:**	1.0
Run Type:	DMS			**Soln Conc. Units:**	ng/mL
Lab ID:	KWG0910513-2 -- K0909140-006DMS				
Signal #1:	DB-35MS	**Signal #2:**	DB-XLB		

Target Compounds

Final Conc. Units: ug/Kg Dry Weight

Parameter Name	RT #1	RT #2	Resp #1	Resp #2	ng/mL #1	ng/mL #2	ug/Kg #1	ug/Kg #2	Rpt
Aroclor 1242 {2}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1242 {3}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1242 {4}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1242 {5}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1248			0	0	0.0000	0.0000	2.2U	2.2U	2.2U
Aroclor 1248 {1}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1248 {2}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1248 {3}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1248 {4}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1248 {5}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1254			0	0	785.94	658.03	160	130	**160**
Aroclor 1254 {1}	7.55	7.79	196054m	196165m	682.29	815.33	138	165	
Aroclor 1254 {2}	8.24	8.20	97180m	203439m	480.40	833.95	97.0	168	
Aroclor 1254 {3}	8.44	8.84	397893m	54723m	801.48	412.57	162	83.3	
Aroclor 1254 {4}	9.04 c	8.94	318521m	192989m	1,322	739.36	267	149	
Aroclor 1254 {5}	9.85	9.53	219085m	114290m	643.12	488.96	130	98.8	
Aroclor 1260			0	0	862.40[CCV]	1,124	174	227	**227**
Aroclor 1260 {1}	9.04 -0.01 c	9.27 0.00	318521m	231330m	750.57	964.17	152	195	
Aroclor 1260 {2}	9.47 0.00	10.37 -0.01	161287m	430299m	699.74	1,395	141	282	
Aroclor 1260 {3}	10.46 -0.01	10.54 0.00	241859m	182888m	948.77	1,078	192	218	
Aroclor 1260 {4}	10.89 -0.01	11.67 -0.01	535511m	376411m	975.04	1,063	197	215	
Aroclor 1260 {5}	11.76 -0.01	12.41 -0.01	353691m	267180m	937.90	1,118	189	226	
Aroclor 1262			0	0	0.0000	0.0000	2.2U	2.2U	2.2U
Aroclor 1262 {1}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1262 {2}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1262 {3}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1262 {4}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1262 {5}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1268			0	0	0.0000	0.0000	2.2U	2.2U	2.2U
Aroclor 1268 {1}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1268 {2}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1268 {3}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1268 {4}			0d	0d	0.0000	0.0000	2.2U	2.2U	
Aroclor 1268 {5}			0d	0d	0.0000	0.0000	2.2U	2.2U	

The -/+ after Retention Time symbolize the direction of the RT shift

Prep Amount:	20.25 g	**Dilution:**	1.0
Prep Final Vol:	4 ml	**Unit Factor:**	1
Solids:	97.8 %		

Final Concentration = ((Soln Conc x Prep Final Vol x Dilution) / (Prep Amount x Solids)) x Unit Factor

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Data File: \\Cash1\Acqudata\GC09\data\111409.B\1114F026.D
Report Date: 16-Nov-2009 15:27

Columbia Analytical Services

Sample #1 : \\Cash1\Acqudata\GC09\data\111409.B\1114F026.D
Sample #2 : \\Cash1\Acqudata\GC09\data\111409_r.b\1114R026.D
Inj Date : 14-NOV-2009 20:09
Sample Info: KWG0910513-2 | K0909140-006DMS | 8082 PCB_LL
Misc Info : SEMIVOA GC\W0910513\2-DMS.H | F=4 D=1 A=20.25
Cal Date : 16-NOV-2009 10:34
Operator : JMSmith
Inst ID : GC09.i
Dil Factor : 1.000000

Method #1 : \\cash1\acqudata\GC09\data\111409.B\101409_f.m
Method #2 : \\cash1\acqudata\GC09\data\111409_r.b\101409_r.m
Sub List #1 : ALL.SUB
Sub List #2 : ALL.SUB
Col #1 Phase : DB-35MS
Col #2 Phase : DB-XLB

Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2	Target Range	Ratio
Tetrachloro-m-xylene	3.693	4.287	356841	300390	61.2	72.8		100.00(R)
Aroclor 1016	5.333	5.653	72326	88804	564	662	80.00- 120.00	100.00(M)
	5.667	6.227	351151	207049	679	880	301.24- 451.85	485.51(M)
	5.833	6.663	148501	107802	500	1010	175.42- 263.13	205.32(M)
	6.597	6.757	124421	111385	752	892	101.03- 151.55	172.03(M)
	6.873	7.027	97525	99280	702	987	88.95- 133.42	134.84(M)
			Average of Peak Amounts =		639	886		
Aroclor 1254	7.550	7.787	196054	196165	682	815	80.00- 120.00	100.00(M)
	8.240	8.203	97180	203439	480	834	56.32- 84.48	49.57(M)
	8.443	8.837	397893	54723	801	412	138.21- 207.32	202.95(M)
	9.040	8.937	318521	192989	1320	739	67.06- 100.59	162.47(M)
	9.850	9.530	219085	114290	643	489	94.84- 142.26	111.75(M)
			Average of Peak Amounts =		785	658		
Aroclor 1260	9.040	9.273	318521	231330	750	964	80.00- 120.00	100.00(M)
	9.473	10.367	161287	430299	700	1400	42.74- 64.11	50.64(M)
	10.460	10.543	241859	182888	949	1080	48.22- 72.33	75.93(M)
	10.893	11.673	535511	376411	975	1060	101.77- 152.66	168.12(M)
	11.760	12.413	353691	267180	938	1120	72.29- 108.43	111.04(M)
			Average of Peak Amounts =		862	1120		
Decachlorobiphenyl	15.053	16.303	410713	337281	75.4	80.8		100.00(R)

QC Flag Legend

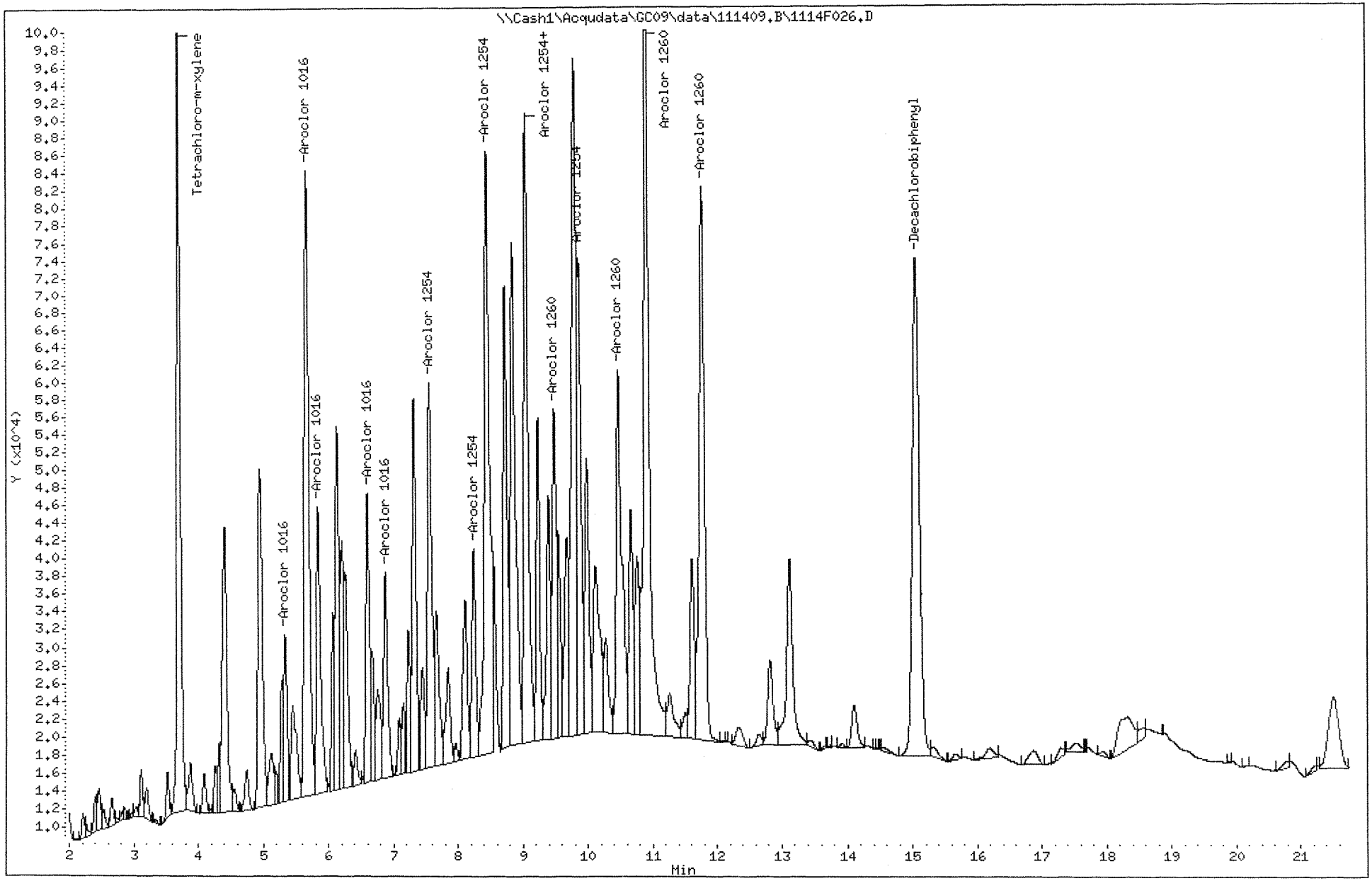
R - Spike/Surrogate failed recovery limits.
M - Compound response manually integrated.

Data File: \\Cash1\Acqudata\GC09\data\111409.B\1114F026.D
Date : 14-NOV-2009 20:09
Client ID:
Sample Info: KWG0910513-2 | K0909140-006DMS | 8082 PCB_LL

Instrument: GC09.i

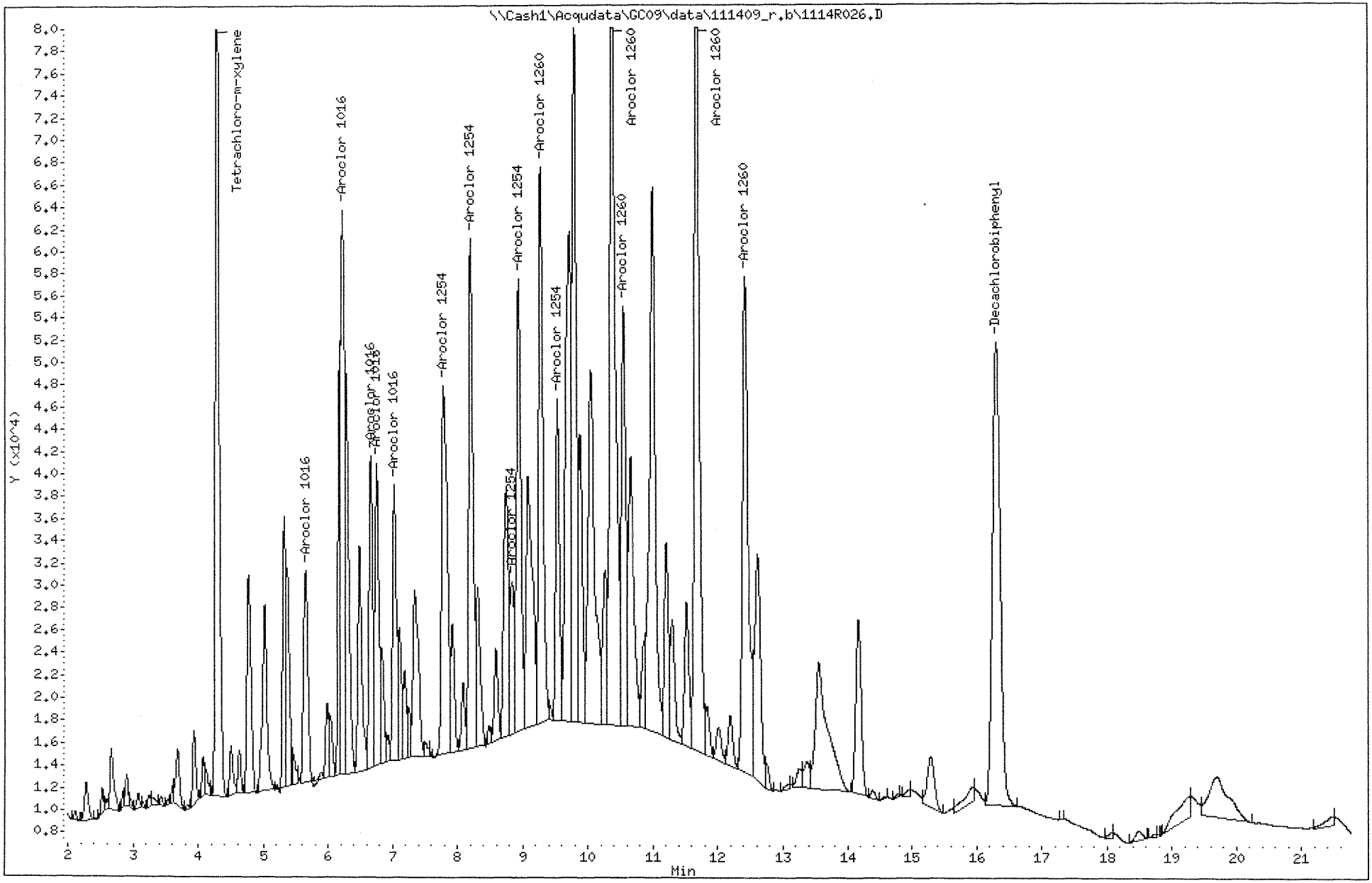
Operator: JMSmith
Column diameter: 0.53

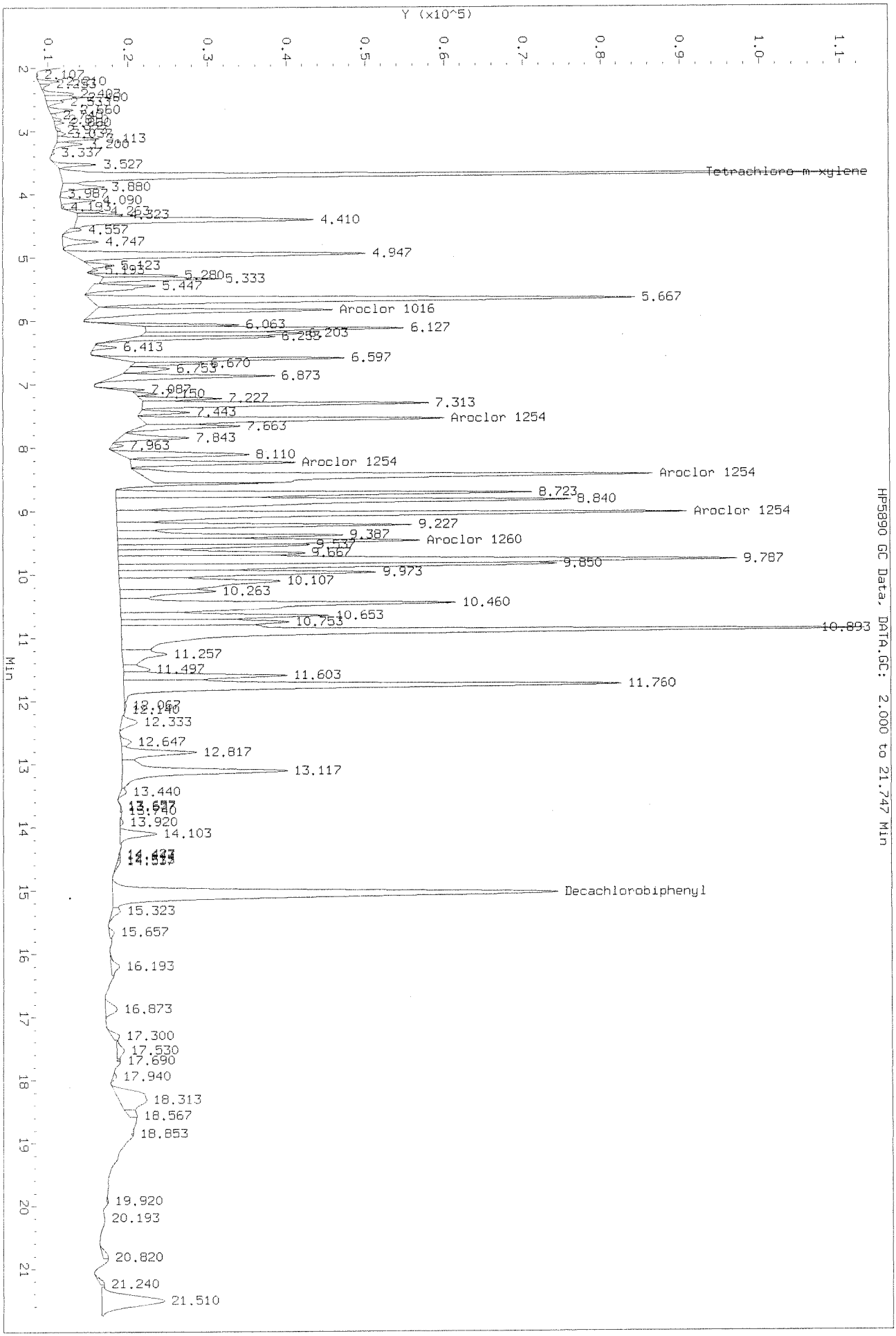
Column phase: DB-35MS



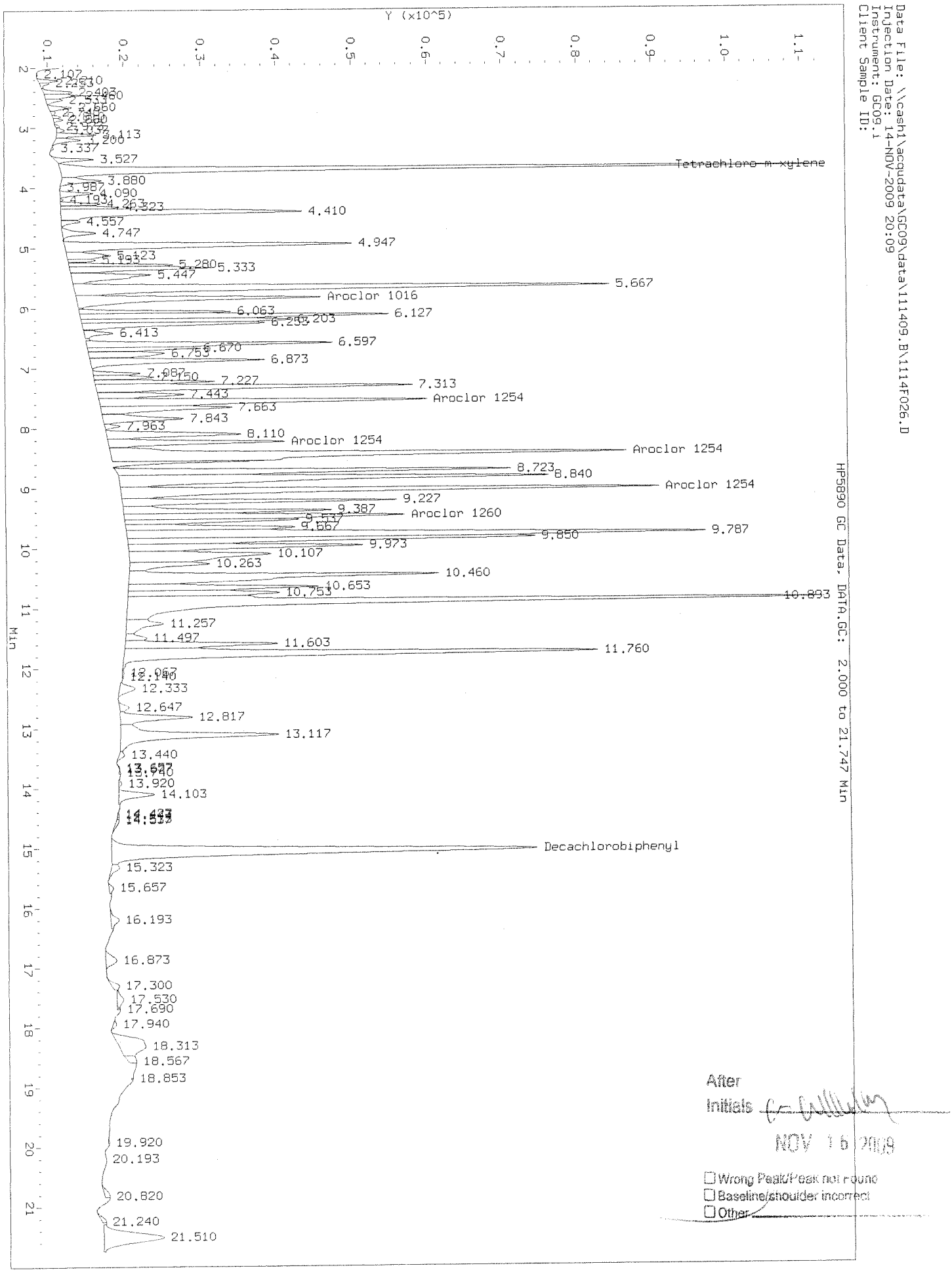
Data File: \\Cash1\Acqudata\GC09\data\111409_r.b\1114R026.D
Date : 14-NOV-2009 20:09
Client ID:
Sample Info: KWG0910513-2 | K0909140-006DMS | 8082 PCB_LL

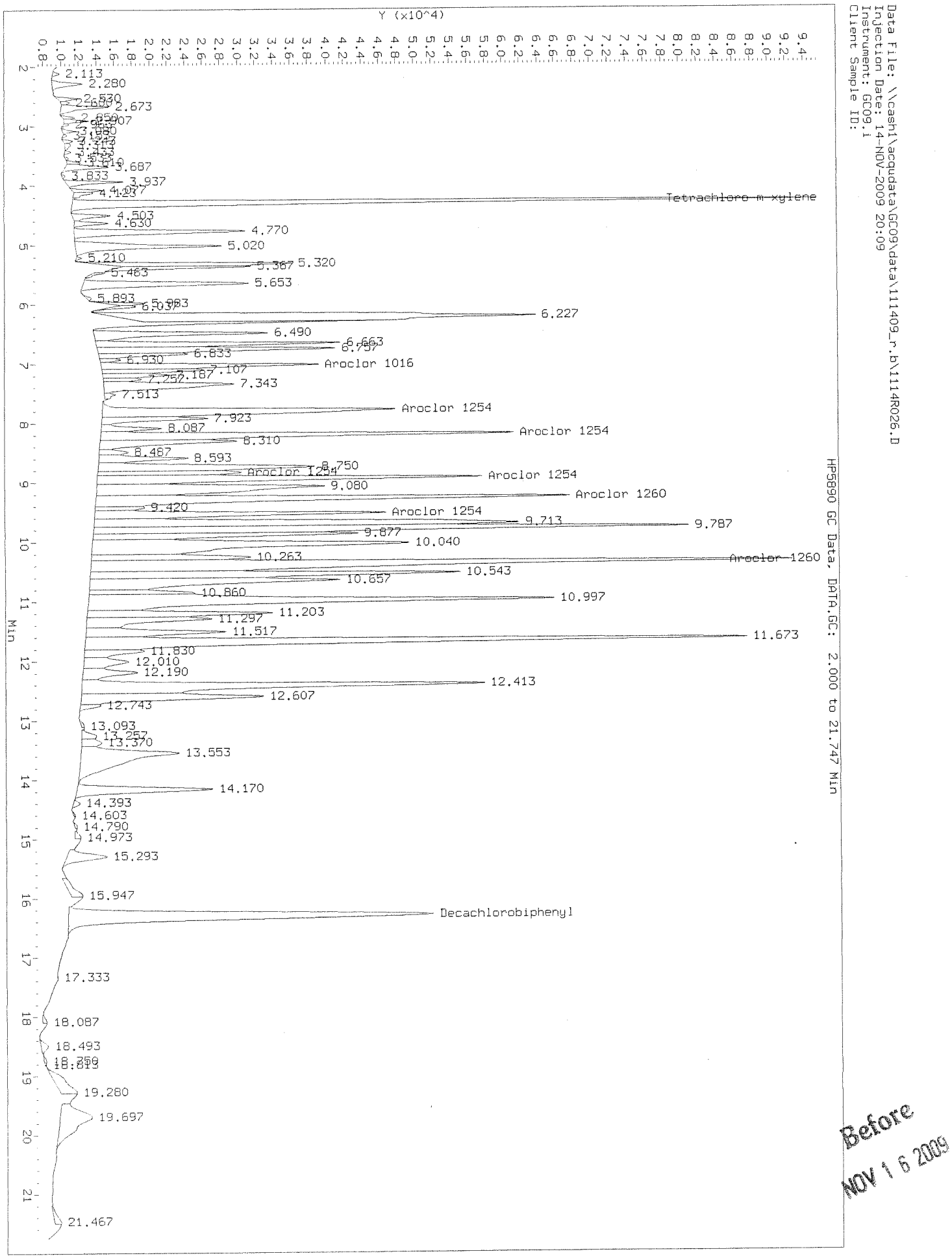
Instrument: GC09.i
Operator: JMSmith
Column phase: DB-XLB
Column diameter: 0.53



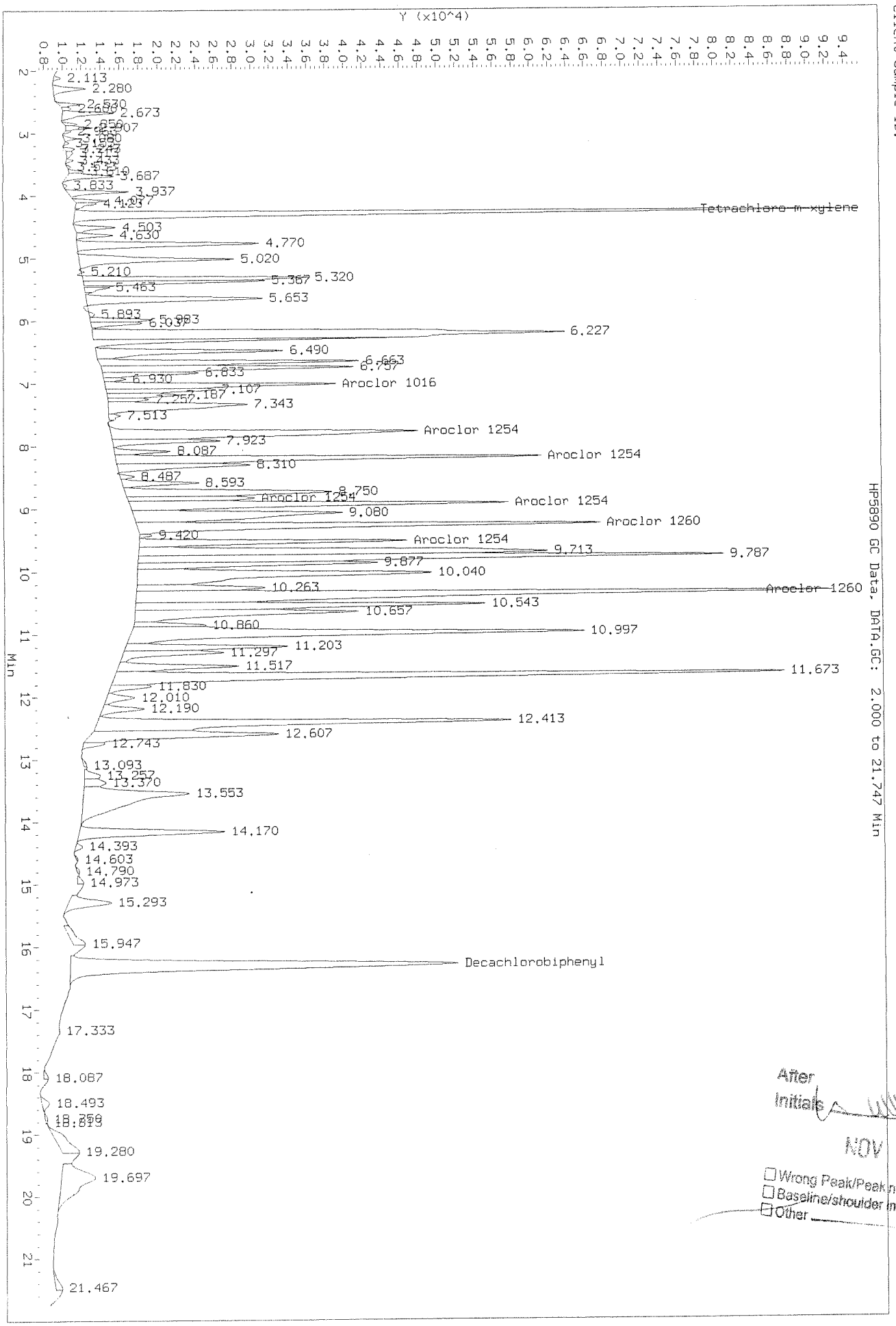


Before
NOV 16 2009


Data File: \\cash1\acqudata\GC09\data\111409.B\1114F026.D
Injection Date: 14-NOV-2009 20:09
Instrument: GC09.i
Client Sample ID:
Y (x10^5)
Min
HP5890 GC Data, DATA.GC; 2.000 to 21.747 Min
Tetrachloro-m-xylene
Aroclor 1016
Aroclor 1254
Aroclor 1254
Aroclor 1254
Aroclor 1260
Decachlorobiphenyl
After
Initials
NOV 16 2009
Wrong Peak/Peak not found
Baseline/shoulder incorrect
Other

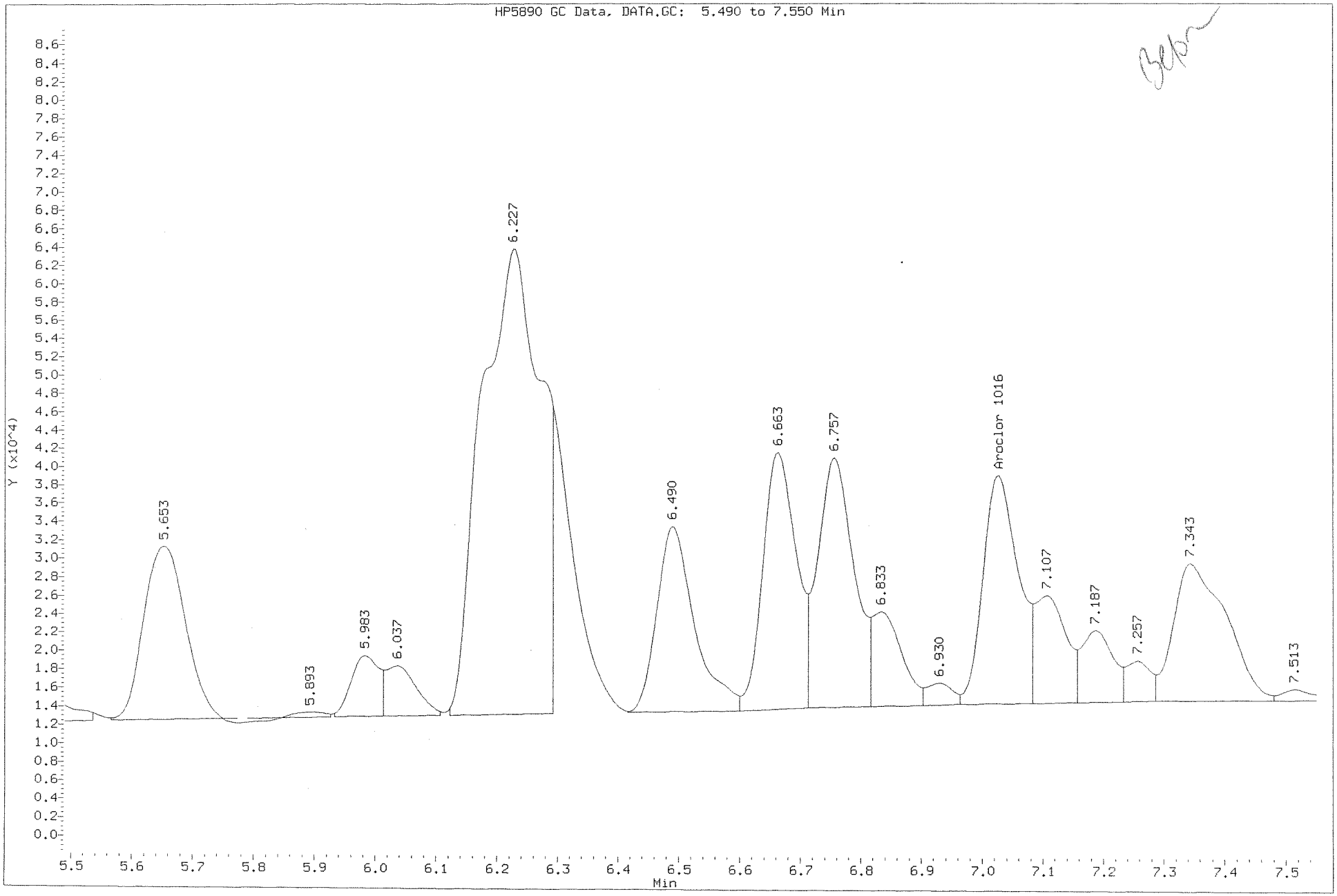


Before
NOV 16 2009

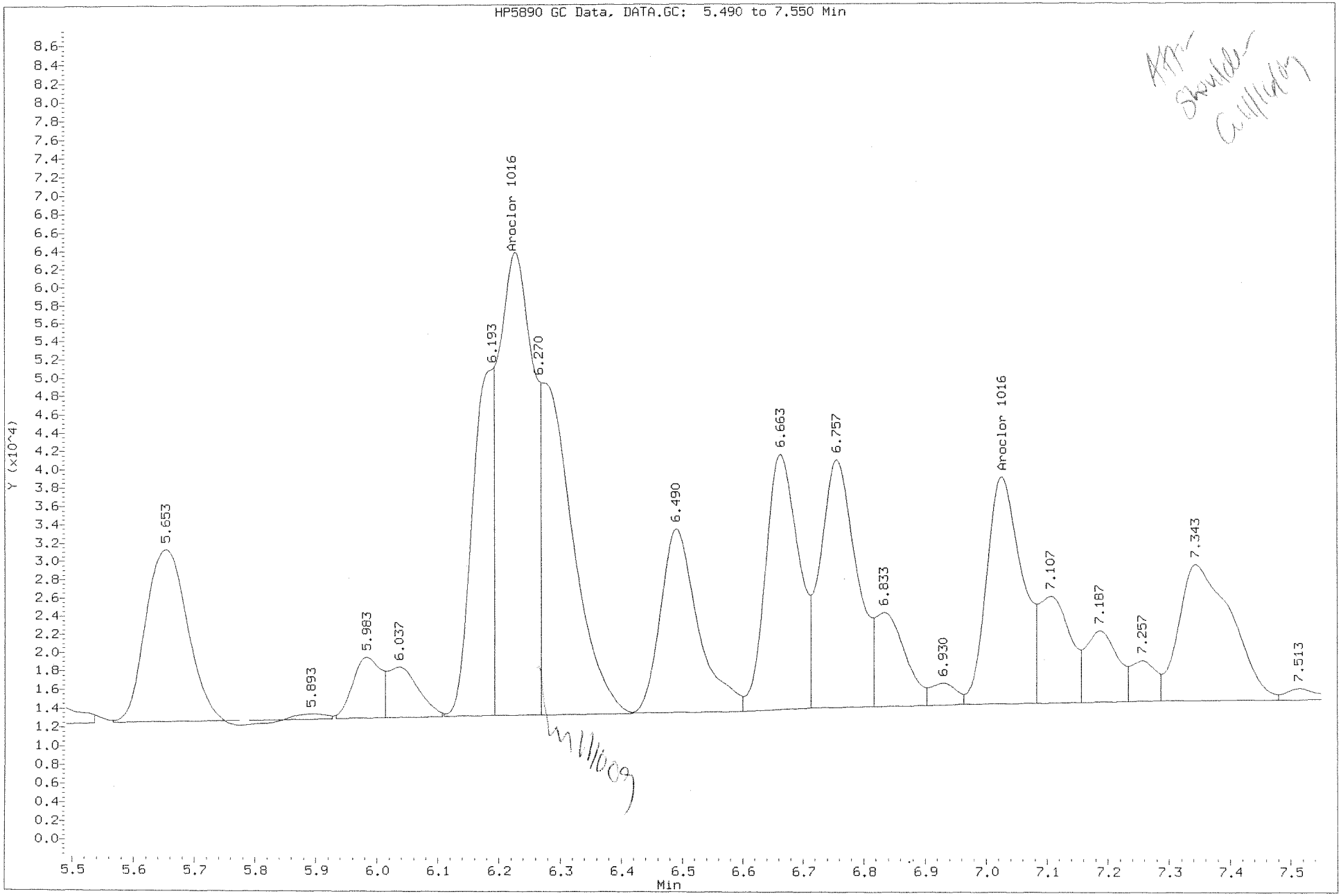


After
Initials
NOV 16 2009
☐ Wrong Peak/Peak not Found
☐ Baseline/shoulder incorrect
☐ Other

Data File: \\Cash1\Acqudata\GC09\data\111409_r.b\1114R026.D
Injection Date: 14-NOV-2009 20:09
Instrument: GC09.i
Client Sample ID:



Data File: \\Cash1\Acqudata\GC09\data\111409_r.b\1114R026.D
Injection Date: 14-NOV-2009 20:09
Instrument: GC09.i
Client Sample ID:



COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009
Sample Matrix: Sediment

Service Request: K0909140
Date Collected: NA
Date Received: NA

Polychlorinated Biphenyls (PCBs)

Sample Name: Lab Control Sample
Lab Code: KWG0910513-5

Extraction Method: EPA 3541
Analysis Method: 8082

Units: ug/Kg
Basis: Dry

Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Aroclor 1016	**162**		10	2.1	1	11/10/09	11/14/09	KWG0910513	
Aroclor 1221	ND	U	20	2.1	1	11/10/09	11/14/09	KWG0910513	
Aroclor 1232	ND	U	10	2.1	1	11/10/09	11/14/09	KWG0910513	
Aroclor 1242	ND	U	10	2.1	1	11/10/09	11/14/09	KWG0910513	
Aroclor 1248	ND	U	10	2.1	1	11/10/09	11/14/09	KWG0910513	
Aroclor 1254	ND	U	10	2.1	1	11/10/09	11/14/09	KWG0910513	
Aroclor 1260	**177**		10	2.1	1	11/10/09	11/14/09	KWG0910513	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Decachlorobiphenyl	92	35-133	11/14/09	Acceptable

Comments:

Exception Report

Data File: \\CASH1\ACQUDATA\GC09\DATA\111409.B\1114F018.D
Lab ID: KWG0910513-5
RunType: LCS
Matrix: SEDIMENT

Date Acquired: 11/14/2009 16:39
Date Quantitated: 11/16/2009 12:39
Batch ID: KWG0910694
Analysis Method: 8082
MethodJoinID: MJ696

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Analytical Holding Time	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Calibration Verification Ave %D	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA	x	
Calibration Verification Ave %D (Closing)	NA	NA	NA	x	
Continuing Calibration Recovery (Closing)	NA	NA	NA		x
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
Continuing Calibration Recovery (Closing)	Aroclor 1260	-18.0	NA	15	

Primary Review: 11/16/09

Secondary Review:

Exception Report

Data File: \\CASH1\ACQUDATA\GC09\DATA\111409_R.B\1114R018.D
Lab ID: KWG0910513-5
RunType: LCS
Matrix: SEDIMENT

Date Acquired: 11/14/2009 16:39
Date Quantitated: 11/16/2009 12:41
Batch ID: KWG0910694
Analysis Method: 8082
MethodJoinID: MJ696

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Analytical Holding Time	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Calibration Verification Ave %D	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA	x	
Calibration Verification Ave %D (Closing)	NA	NA	NA	x	
Continuing Calibration Recovery (Closing)	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Primary Review: _____

Secondary Review: _____

Quantitation Report

Bottle ID:		**Tier:**		**Matrix:**	SEDIMENT
Prod Code:	8082 PCB_LL	**Collect Date:**		**Receive Date:**	11/12/2009

Analysis Lot:	KWG0910694	**Prep Lot:**	KWG0910513	**Report Group:**	
Analysis Method:	8082	**Prep Method:**	EPA 3541		
Prep Ref:	865780	**Prep Date:**	11/10/2009		

Quant Method:	\\CASH1\ACQUDATA\GC09\DATA\111409.B\101409_F.M	**Calibration ID:**	CAL8918
Title:			
MB Ref:	J:\GC09\DATA\111409.B\1114F017.D	**Method ID:**	MJ696
		Quant based on Method	

Data File #1:	J:\GC09\DATA\111409.B\1114F018.D			**Instrument:**	GC09.i
Data File #2:	\\Cash1\Acqudata\GC09\data\111409_r.b\1114R018.D			**Vial:**	35
Acqu Date:	11/14/2009 16:39	**Quant Date:**	11/16/2009 15:06	**Dilution:**	1.0
Run Type:	LCS			**Soln Conc. Units:**	ng/mL
Lab ID:	KWG0910513-5				
Signal #1:	DB-35MS	**Signal #2:**	DB-XLB		

Surrogate Compounds

Parameter Name	RT #1	RT #2	Resp #1	Respe #2	ng/mL #1	ng/mL #2			Rpt
Tetrachloro-m-xylene	3.69	4.29	503727	374782	86.37	90.83			91OK
				%Recovery =	86OK	91OK	Limits =	10-135	
Decachlorobiphenyl	15.06	16.31 +0.00	474479	382111	87.06	91.52			92OK
				%Recovery =	87OK	92OK	Limits =	35-133	

Target Compounds

Final Conc. Units: ug/Kg Wet Weight

Parameter Name	RT #1	RT #2	Resp #1	Resp #2	ng/mL #1	ng/mL #2	ug/Kg #1	ug/Kg #2	Rpt
Aroclor 1016			0	0	823.36	810.80	165	162	**162**
Aroclor 1016 {1}	5.33	5.66	108067m	113387m	843.58	845.47	169	169	
Aroclor 1016 {2}	5.67	6.23	388809m	173984m	751.83	739.92	150	148	
Aroclor 1016 {3}	5.84	6.67	243556m	85755m	820.94	806.84	164	161	
Aroclor 1016 {4}	6.60 +0.00	6.76	131416m	103173m	793.90	826.65	159	165	
Aroclor 1016 {5}	6.88	7.03	125925m	84032m	906.53	835.11	181	167	
Aroclor 1221			0	0	0.0000	0.0000	2.1U	2.1U	2.1U
Aroclor 1221 {1}			0d	0d	0.0000	0.0000	2.1U	2.1U	
Aroclor 1221 {2}			0d	0d	0.0000	0.0000	2.1U	2.1U	
Aroclor 1221 {3}			0d	0d	0.0000	0.0000	2.1U	2.1U	
Aroclor 1221 {4}			0d	0d	0.0000	0.0000	2.1U	2.1U	
Aroclor 1232			0	0	0.0000	0.0000	2.1U	2.1U	2.1U
Aroclor 1232 {1}			0d	0d	0.0000	0.0000	2.1U	2.1U	
Aroclor 1232 {2}			0d	0d	0.0000	0.0000	2.1U	2.1U	
Aroclor 1232 {3}			0d	0d	0.0000	0.0000	2.1U	2.1U	
Aroclor 1232 {4}			0d	0d	0.0000	0.0000	2.1U	2.1U	
Aroclor 1242			0	0	0.0000	0.0000	2.1U	2.1U	2.1U
Aroclor 1242 {1}			0d	0d	0.0000	0.0000	2.1U	2.1U	

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Data File #1:	J:\GC09\DATA\111409.B\1114F018.D			**Instrument:**	GC09.i
Data File #2:	\\Cash1\Acqudata\GC09\data\111409_r.b\1114R018.D			**Vial:**	35
Acqu Date:	11/14/2009 16:39	**Quant Date:**	11/16/2009 15:06	**Dilution:**	1.0
Run Type:	LCS			**Soln Conc. Units:**	ng/mL
Lab ID:	KWG0910513-5				
Signal #1:	DB-35MS	**Signal #2:**	DB-XLB		

Target Compounds **Final Conc. Units:** ug/Kg Wet Weight

Parameter Name	RT #1	RT #2	Resp #1	Resp #2	ng/mL #1	ng/mL #2	ug/Kg #1	ug/Kg #2	Rpt
Aroclor 1242 {2}			0d	0d	0.0000	0.0000	2.1U	2.1U	
Aroclor 1242 {3}			0d	0d	0.0000	0.0000	2.1U	2.1U	
Aroclor 1242 {4}			0d	0d	0.0000	0.0000	2.1U	2.1U	
Aroclor 1242 {5}			0d	0d	0.0000	0.0000	2.1U	2.1U	
Aroclor 1248			0	0	0.0000	0.0000	2.1U	2.1U	2.1U
Aroclor 1248 {1}			0d	0d	0.0000	0.0000	2.1U	2.1U	
Aroclor 1248 {2}			0d	0d	0.0000	0.0000	2.1U	2.1U	
Aroclor 1248 {3}			0d	0d	0.0000	0.0000	2.1U	2.1U	
Aroclor 1248 {4}			0d	0d	0.0000	0.0000	2.1U	2.1U	
Aroclor 1248 {5}			0d	0d	0.0000	0.0000	2.1U	2.1U	
Aroclor 1254			0	0	0.0000	0.0000	2.1U	2.1U	2.1U
Aroclor 1254 {1}			0d	0d	0.0000	0.0000	2.1U	2.1U	
Aroclor 1254 {2}			0d	0d	0.0000	0.0000	2.1U	2.1U	
Aroclor 1254 {3}			0d	0d	0.0000	0.0000	2.1U	2.1U	
Aroclor 1254 {4}			0d	0d	0.0000	0.0000	2.1U	2.1U	
Aroclor 1254 {5}			0d	0d	0.0000	0.0000	2.1U	2.1U	
Aroclor 1260			0	0	842.17 CCV	886.40	168	177	**177**
Aroclor 1260 {1}	9.05 +0.00	9.28	334237	189627	787.61	790.35	158	158	
Aroclor 1260 {2}	9.48 +0.00	10.38	178124	232318	772.79	753.38	155	151	
Aroclor 1260 {3}	10.47	10.55	224799	163866	881.84	966.08	176	193	
Aroclor 1260 {4}	10.90	11.68 0.00	481278	346865	876.29	980.00	175	196	
Aroclor 1260 {5}	11.77	12.42	336509	225067	892.33	942.18	178	188	
Aroclor 1262			0	0	0.0000	0.0000	2.1U	2.1U	2.1U
Aroclor 1262 {1}			0d	0d	0.0000	0.0000	2.1U	2.1U	
Aroclor 1262 {2}			0d	0d	0.0000	0.0000	2.1U	2.1U	
Aroclor 1262 {3}			0d	0d	0.0000	0.0000	2.1U	2.1U	
Aroclor 1262 {4}			0d	0d	0.0000	0.0000	2.1U	2.1U	
Aroclor 1262 {5}			0d	0d	0.0000	0.0000	2.1U	2.1U	
Aroclor 1268			0	0	0.0000	0.0000	2.1U	2.1U	2.1U
Aroclor 1268 {1}			0d	0d	0.0000	0.0000	2.1U	2.1U	
Aroclor 1268 {2}			0d	0d	0.0000	0.0000	2.1U	2.1U	
Aroclor 1268 {3}			0d	0d	0.0000	0.0000	2.1U	2.1U	
Aroclor 1268 {4}			0d	0d	0.0000	0.0000	2.1U	2.1U	
Aroclor 1268 {5}			0d	0d	0.0000	0.0000	2.1U	2.1U	

The -/+ after Retention Time symbolize the direction of the RT shift

Prep Amount:	20.00 g	**Dilution:**	1.0
Prep Final Vol:	4 ml	**Unit Factor:**	1
Solids:	%		

Final Concentration = ((Soln Conc x Prep Final Vol x Dilution) / (Prep Amount x Solids)) x Unit Factor

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Data File: \\Cash1\Acqudata\GC09\data\111409.B\1114F018.D
Report Date: 16-Nov-2009 15:06

Columbia Analytical Services

Sample #1 : \\Cash1\Acqudata\GC09\data\111409.B\1114F018.D
Sample #2 : \\Cash1\Acqudata\GC09\data\111409_r.b\1114R018.D
Inj Date : 14-NOV-2009 16:39
Sample Info: KWG0910513-5 | LCS | 8082 PCB_LL | SEDIMENT
Misc Info : SEMIVOA GC\W0910513\5-LCS.H | F=4 D=1 A=20.00
Cal Date : 16-NOV-2009 10:34
Operator : JMSmith
Inst ID : GC09.i
Dil Factor : 1.000000

Method #1 : \\cash1\acqudata\GC09\data\111409.B\101409_f.m
Method #2 : \\cash1\acqudata\GC09\data\111409_r.b\101409_r.m
Sub List #1 : ALL.SUB
Sub List #2 : ALL.SUB
Col #1 Phase : DB-35MS
Col #2 Phase : DB-XLB

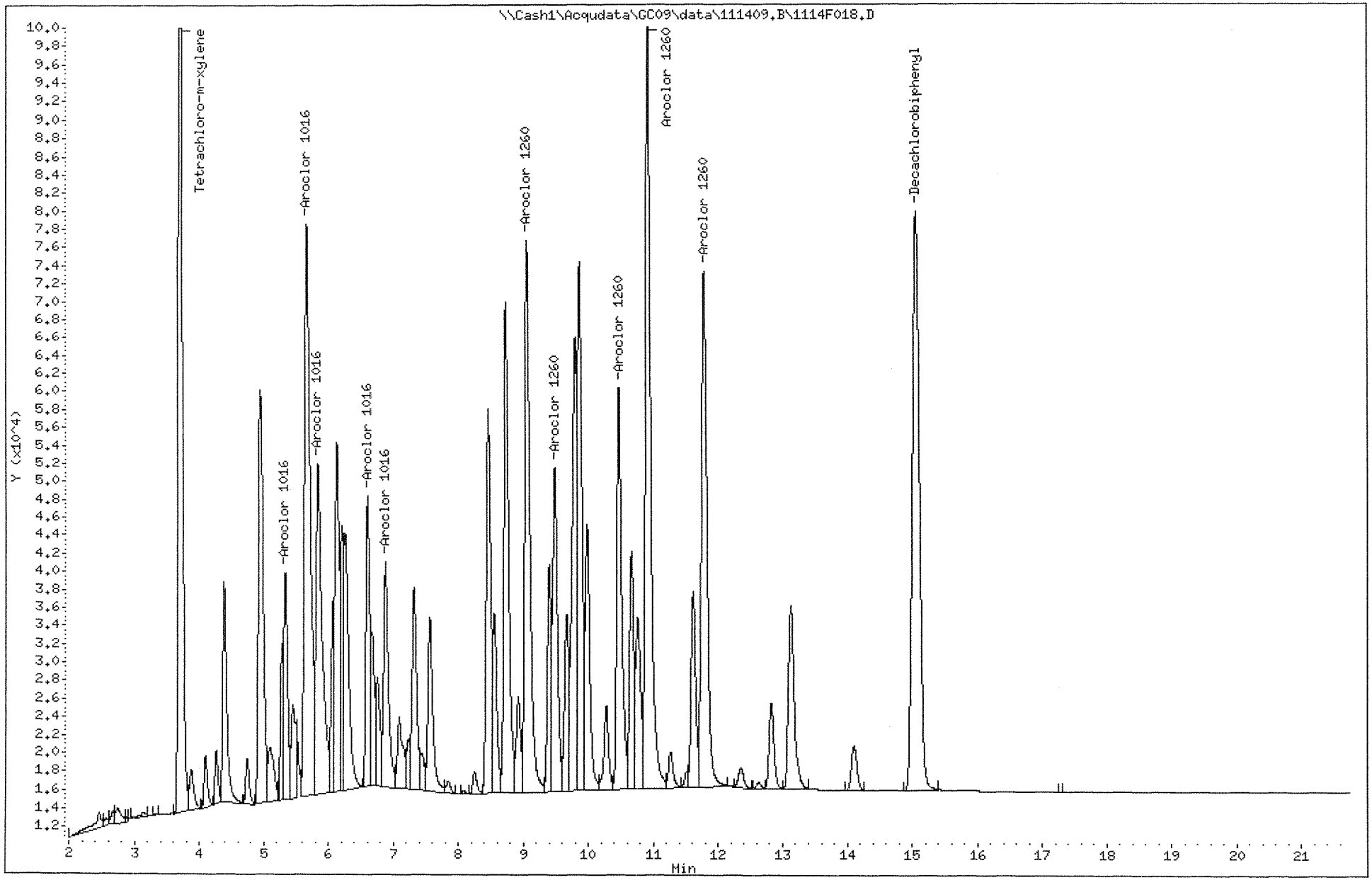
Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2	Target Range	Ratio
Tetrachloro-m-xylene	3.693	4.290	503727	374782	86.4	90.8		100.00(R)
Aroclor 1016	5.333	5.657	108067	113387	844	845	80.00- 120.00	100.00(M)
	5.670	6.230	388809	173984	752	740	301.24- 451.85	359.79(M)
	5.837	6.667	243556	85755	821	807	175.42- 263.13	225.37(M)
	6.603	6.760	131416	103173	794	827	101.03- 151.55	121.61(M)
	6.877	7.030	125925	84032	906	835	88.95- 133.42	116.52(M)
			Average of Peak Amounts =		823	811		
Aroclor 1260	9.050	9.277	334237	189627	788	790	80.00- 120.00	100.00
	9.480	10.377	178124	232318	773	753	42.74- 64.11	53.29
	10.467	10.547	224799	163866	882	966	48.22- 72.33	67.26
	10.903	11.680	481278	346865	876	980	101.77- 152.66	143.99
	11.773	12.423	336509	225067	892	942	72.29- 108.43	100.68
			Average of Peak Amounts =		842	886		
Decachlorobiphenyl	15.057	16.310	474479	382111	87.0	91.5		100.00(R)

QC Flag Legend

R - Spike/Surrogate failed recovery limits.
M - Compound response manually integrated.

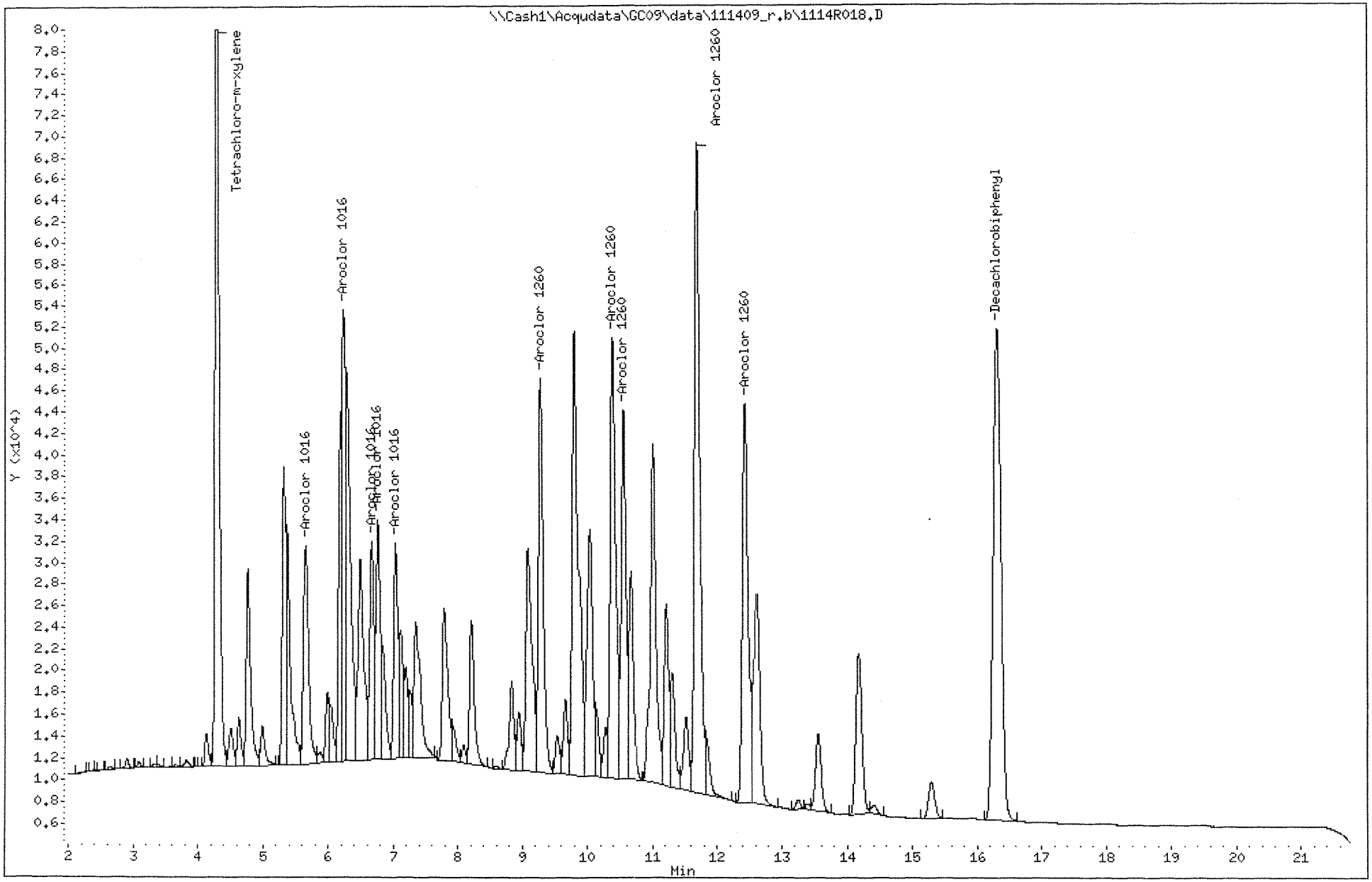
Data File: \\Cash1\Acqudata\GC09\data\111409.B\1114F018.D
Date : 14-NOV-2009 16:39
Client ID:
Sample Info: KWG0910513-5 | LCS | 8082 PCB_LL | SEDIMENT

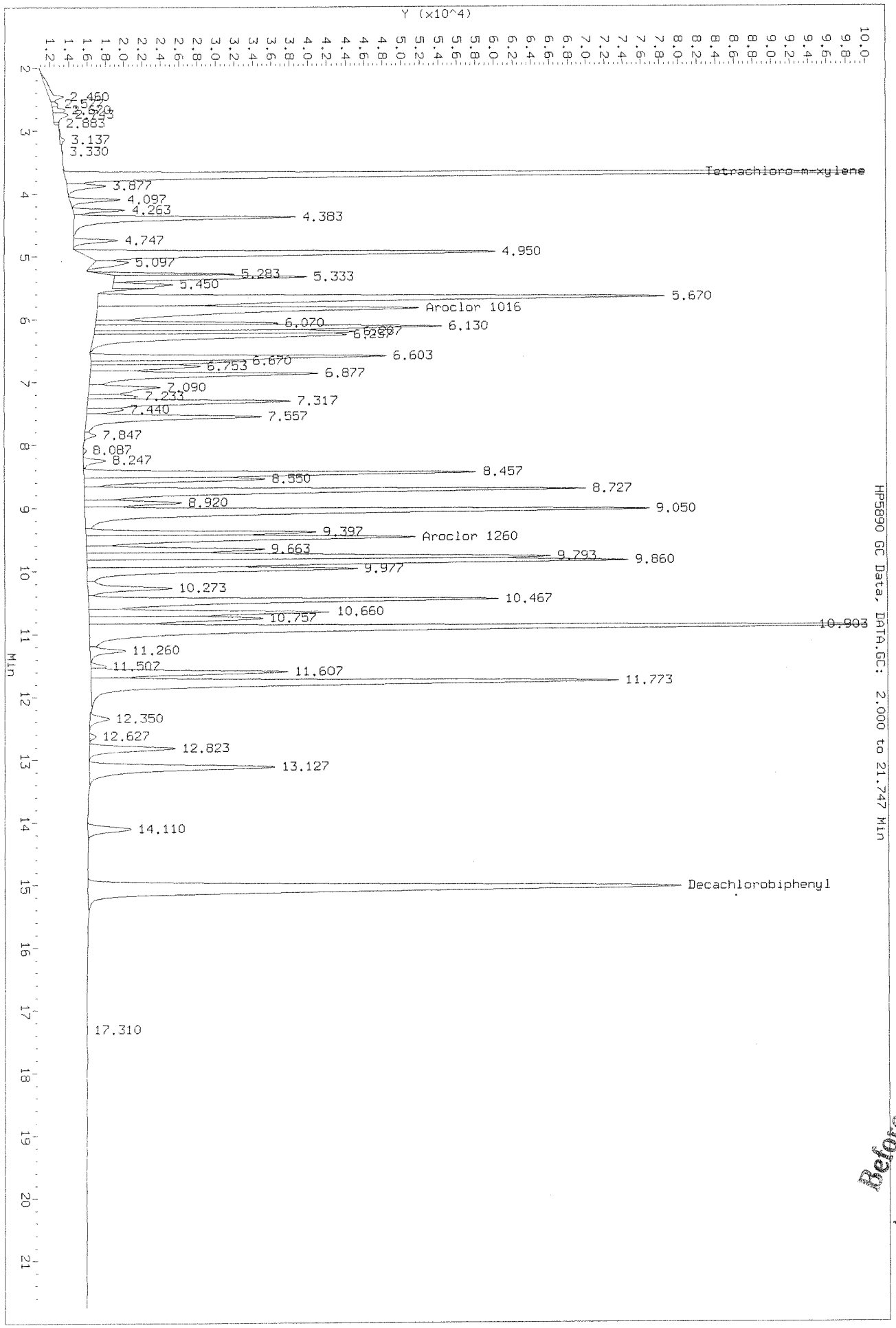
Instrument: GC09.i
Operator: JMSmith
Column phase: DB-35MS
Column diameter: 0.53



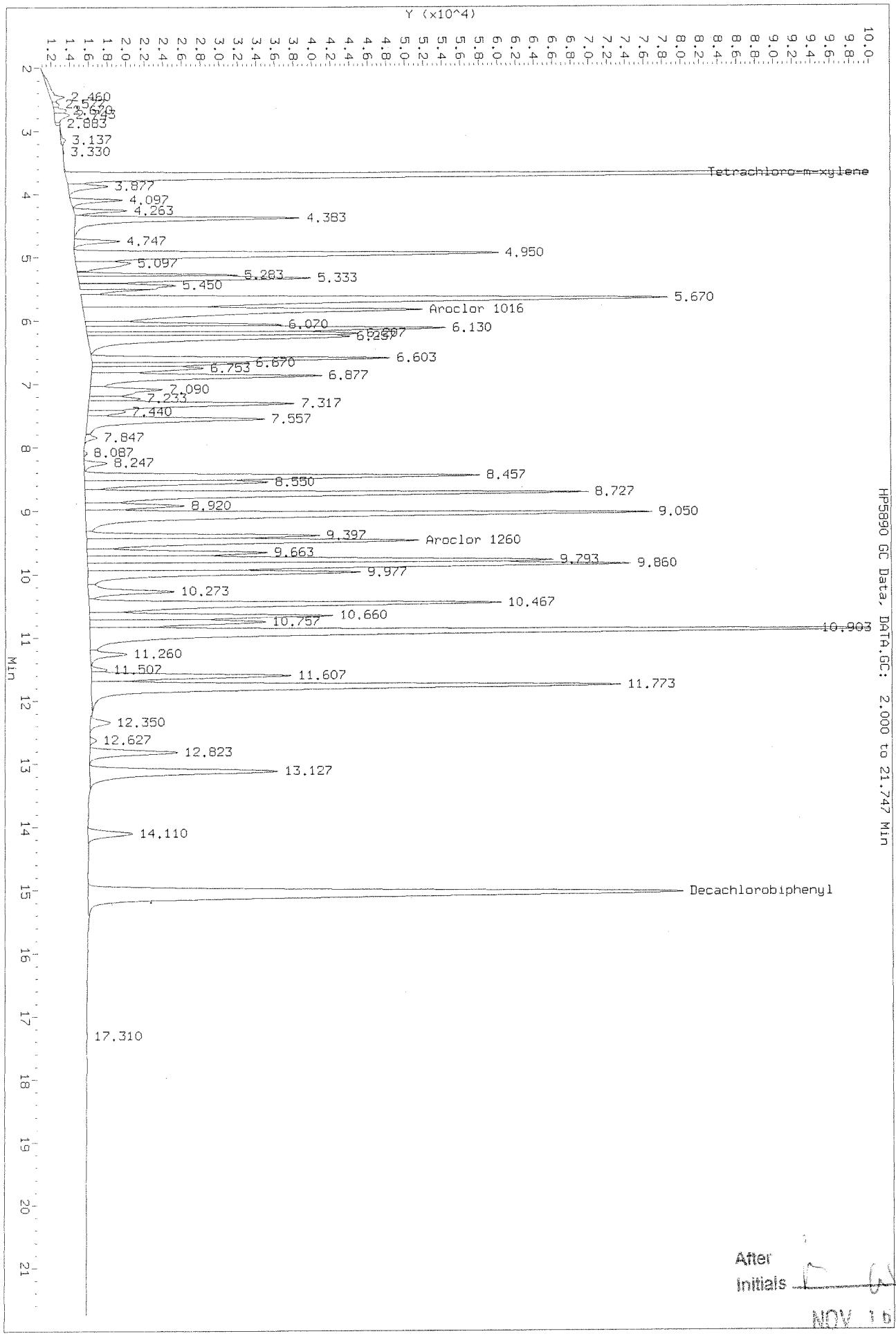
Data File: \\Cash1\Acqudata\GC09\data\111409_r.b\1114R018.D
Date : 14-NOV-2009 16:39
Client ID:
Sample Info: KWG0910513-5 | LCS | 8082 PCB_LL | SEDIMENT

Instrument: GC09.i
Operator: JMSmith
Column phase: DB-XLB
Column diameter: 0.53





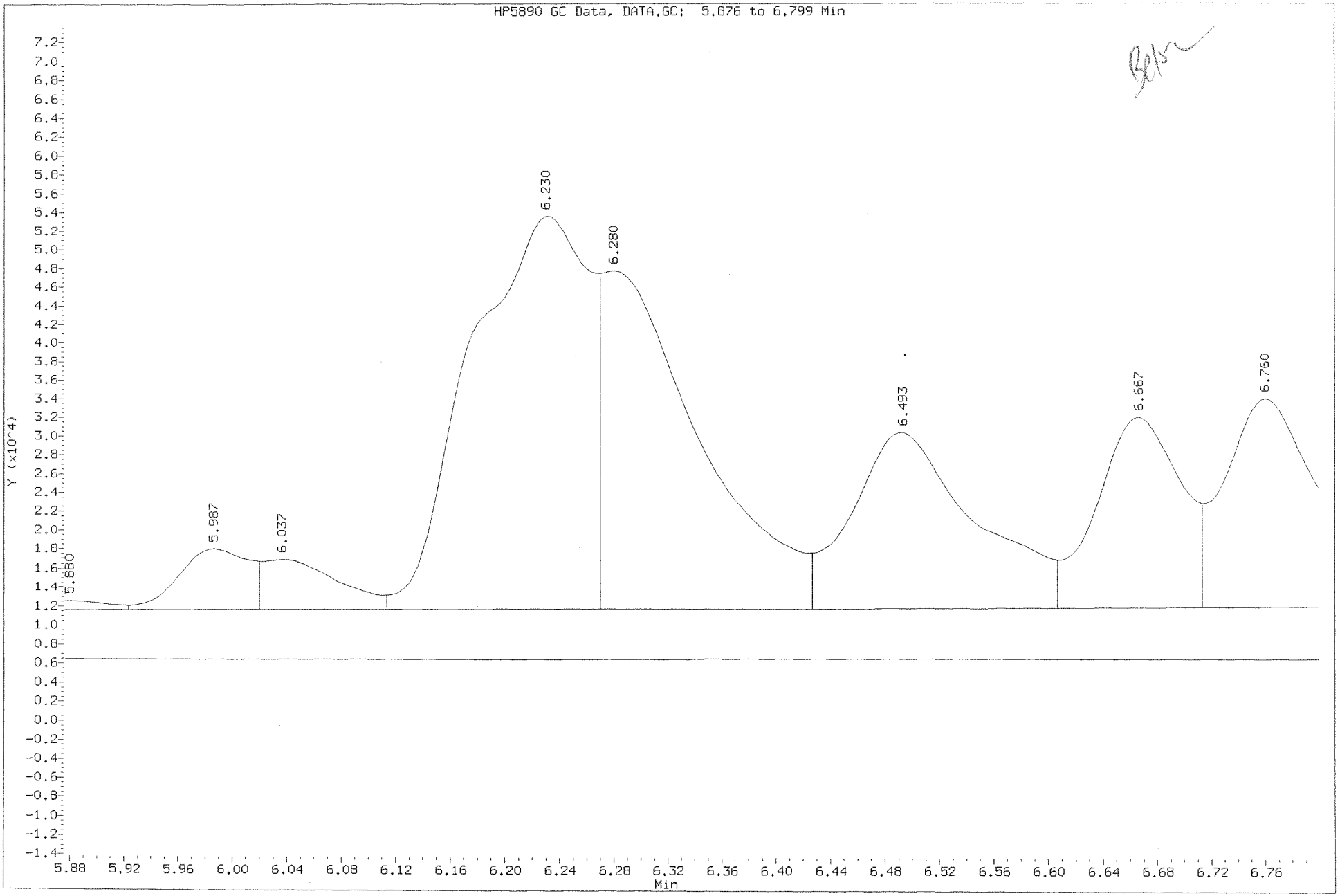
Before
NOV 16 2009



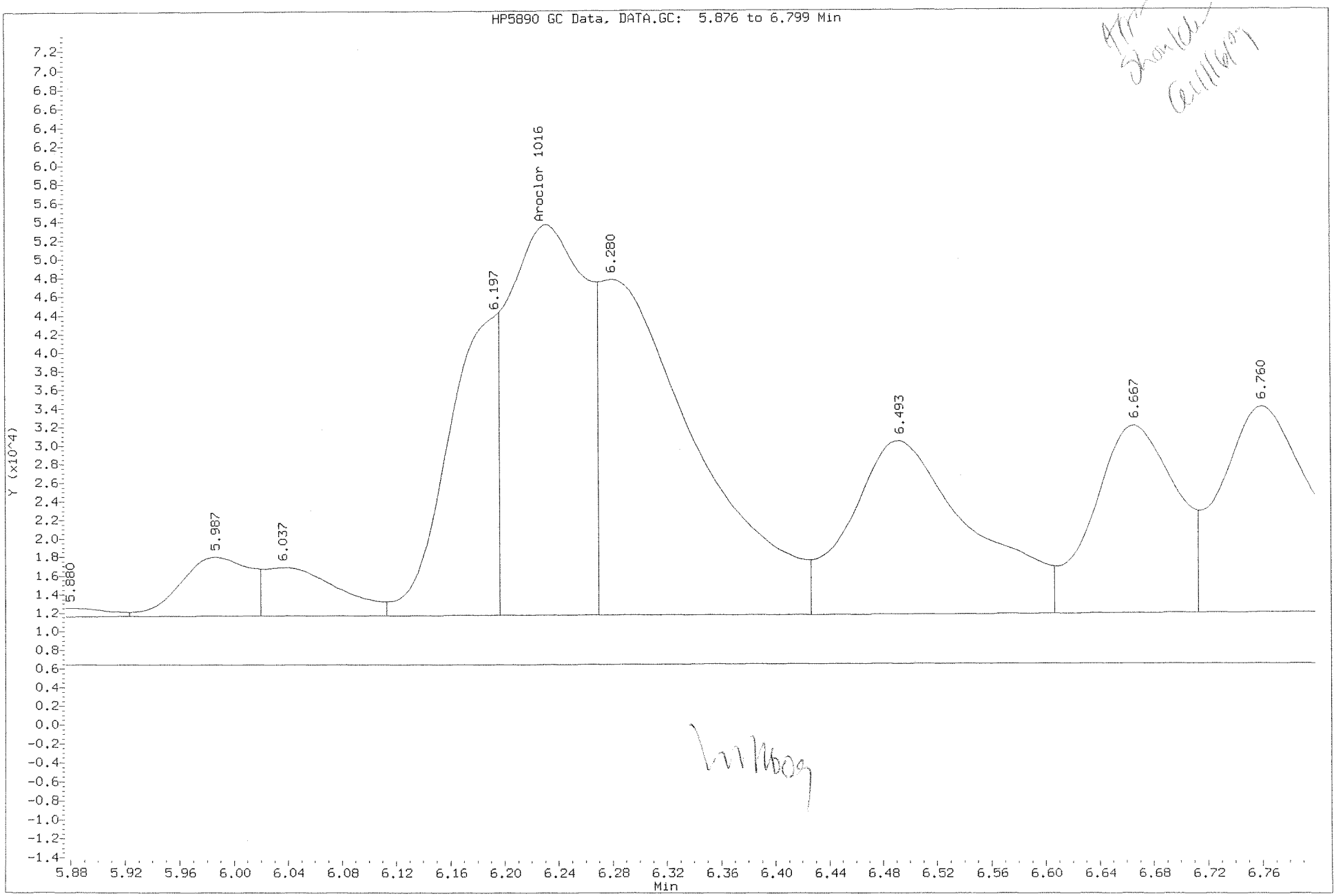
After
Initials
NOV 16 2009

☐ Wrong Peak/Peak not Found
☐ Baseline/shoulder incorrect
☐ Other

Data File: \\Cash1\Acqudata\GC09\data\111409_r.b\1114R018.D
Injection Date: 14-NOV-2009 16:39
Instrument: GC09.i
Client Sample ID:



Data File: \\Cash1\Acqudata\GC09\data\111409_r.b\1114R018.D
Injection Date: 14-NOV-2009 16:39
Instrument: GC09.i
Client Sample ID:



Organic Analysis:
Polychlorinated Biphenyls (PCBs)

Validation Package

Standards Data

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Results

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0909140
Calibration Date: 10/15/2009

Initial Calibration Summary
Polychlorinated Biphenyls (PCBs)

Calibration ID: CAL8918
Instrument ID: GC09.i

Column: DB-35MS

Level ID	File ID
A	\\cash1\acqudata\GC09\data\101409.b\1014F003.D
B	\\cash1\acqudata\GC09\data\101409.b\1014F004.D
C	\\cash1\acqudata\GC09\data\101409.b\1014F005.D
D	\\cash1\acqudata\GC09\data\101409.b\1014F006.D
E	\\cash1\acqudata\GC09\data\101409.b\1014F007.D
F	\\cash1\acqudata\GC09\data\101409.b\1014F008.D
G	\\cash1\acqudata\GC09\data\101409.b\1014F009.D
H	\\cash1\acqudata\GC09\data\101409.b\1014F010.D
I	\\cash1\acqudata\GC09\data\101409.b\1014F011.D
J	\\cash1\acqudata\GC09\data\101409.b\1014F012.D
K	\\cash1\acqudata\GC09\data\101409.b\1014F013.D
L	\\cash1\acqudata\GC09\data\101409.b\1014F014.D
M	\\cash1\acqudata\GC09\data\101409.b\1014F015.D

Analyte Name	Level ID	Amt	RF	Level ID	Amt	RF	Level ID	Amt	RF	Level ID	Amt	RF	Level ID	Amt	RF
Decachlorobiphenyl							H	2.5	6530	I	5.0	6390	J	50	5740
	K	100	5230	L	200	4710	M	500	4090						
Aroclor 1016 {1}							H	25	138	I	50	141	J	500	144
	K	1000	130	L	2000	116	M	5000	100						
Aroclor 1016 {2}							H	25	617	I	50	601	J	500	548
	K	1000	505	L	2000	447	M	5000	385						
Aroclor 1016 {3}							H	25	349	I	50	350	J	500	324
	K	1000	291	L	2000	255	M	5000	211						
Aroclor 1016 {4}							H	25	188	I	50	184	J	500	180
	K	1000	166	L	2000	146	M	5000	130						
Aroclor 1016 {5}							H	25	136	I	50	138	J	500	156
	K	1000	146	L	2000	136	M	5000	122						
Aroclor 1260 {1}							H	25	510	I	50	502	J	500	448
	K	1000	407	L	2000	366	M	5000	313						
Aroclor 1260 {2}							H	25	281	I	50	270	J	500	241
	K	1000	221	L	2000	199	M	5000	171						
Aroclor 1260 {3}							H	25	300	I	50	284	J	500	263
	K	1000	247	L	2000	231	M	5000	204						
Aroclor 1260 {4}							H	25	683	I	50	611	J	500	555
	K	1000	524	L	2000	488	M	5000	434						
Aroclor 1260 {5}							H	25	429	I	50	398	J	500	387
	K	1000	374	L	2000	357	M	5000	318						

Results flagged with an asterisk (*) indicate values outside control criteria.

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0909140
Calibration Date: 10/15/2009

Initial Calibration Summary
Polychlorinated Biphenyls (PCBs)

Calibration ID: CAL8918
Instrument ID: GC09.i

Column: DB-35MS

Analyte Name	Compound Type	Calibration Evaluation				
		Fit Type	Eval.	Eval. Result	Q	Control Criteria
Decachlorobiphenyl	SURR	AverageRF	% RSD	17.5		≤ 20
Aroclor 1016 {1}	MULTI	AverageRF	% RSD	13.2		≤ 20
Aroclor 1016 {2}	MULTI	AverageRF	% RSD	17.4		≤ 20
Aroclor 1016 {3}	MULTI	AverageRF	% RSD	18.7		≤ 20
Aroclor 1016 {4}	MULTI	AverageRF	% RSD	14.0		≤ 20
Aroclor 1016 {5}	MULTI	AverageRF	% RSD	8.3		≤ 20
Aroclor 1260 {1}	MULTI	AverageRF	% RSD	18.3		≤ 20
Aroclor 1260 {2}	MULTI	AverageRF	% RSD	18.2		≤ 20
Aroclor 1260 {3}	MULTI	AverageRF	% RSD	13.7		≤ 20
Aroclor 1260 {4}	MULTI	AverageRF	% RSD	16.1		≤ 20
Aroclor 1260 {5}	MULTI	AverageRF	% RSD	10.0		≤ 20

Results flagged with an asterisk (*) indicate values outside control criteria.

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0909140
Calibration Date: 10/15/2009
Date Analyzed: 10/15/2009

Second Source Calibration Verification
Polychlorinated Biphenyls (PCBs)

Calibration Type: External Standard
Analysis Method: 8082

Calibration ID: CAL8918
Units: ng/mL

File ID:
\\cash1\acqudata\GC09\data\101409.b\1014F016.D
\\cash1\acqudata\GC09\data\101409.b\1014F017.D
\\cash1\acqudata\GC09\data\101409.b\1014F018.D
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\\cash1\acqudata\GC09\data\101409.b\1014F023.D
\\cash1\acqudata\GC09\data\101409.b\1014F024.D

Column ID: DB-35MS

Analyte Name	Expected	Result	Average RF	SSV RF	%D	%Drift	Criteria	Curve Fit
Aroclor 1016 {1}	1000	990	128	126	-1	NA	± 100 %	AverageRF
Aroclor 1016 {2}	1000	920	517	477	-8	NA	± 100 %	AverageRF
Aroclor 1016 {3}	1000	970	297	289	-3	NA	± 100 %	AverageRF
Aroclor 1016 {4}	1000	940	166	156	-6	NA	± 100 %	AverageRF
Aroclor 1016 {5}	1000	1200	139	163	17	NA	± 100 %	AverageRF
Aroclor 1016	1000	1000	NA	NA	NA	0	± 15 %	NA
Aroclor 1260 {1}	1000	900	424	381	-10	NA	± 100 %	AverageRF
Aroclor 1260 {2}	1000	890	230	206	-11	NA	± 100 %	AverageRF
Aroclor 1260 {3}	1000	990	255	253	-1	NA	± 100 %	AverageRF
Aroclor 1260 {4}	1000	990	549	545	-1	NA	± 100 %	AverageRF
Aroclor 1260 {5}	1000	1000	377	385	2	NA	± 100 %	AverageRF
Aroclor 1260	1000	960	NA	NA	NA	4	± 15 %	NA

Results flagged with an asterisk (*) indicate values outside control criteria.

† **SPCC Compound** ‡ **CCC Compound**

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Results

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0909140
Calibration Date: 10/15/2009

Initial Calibration Summary
Polychlorinated Biphenyls (PCBs)

Calibration ID: CAL8918
Instrument ID: GC09.i

Column: DB-XLB

Level ID	File ID
A	\\cash1\acqudata\GC09\data\101409_r.b\1014R003.D
B	\\cash1\acqudata\GC09\data\101409_r.b\1014R004.D
C	\\cash1\acqudata\GC09\data\101409_r.b\1014R005.D
D	\\cash1\acqudata\GC09\data\101409_r.b\1014R006.D
E	\\cash1\acqudata\GC09\data\101409_r.b\1014R007.D
F	\\cash1\acqudata\GC09\data\101409_r.b\1014R008.D
G	\\cash1\acqudata\GC09\data\101409_r.b\1014R009.D
H	\\cash1\acqudata\GC09\data\101409_r.b\1014R010.D
I	\\cash1\acqudata\GC09\data\101409_r.b\1014R011.D
J	\\cash1\acqudata\GC09\data\101409_r.b\1014R012.D
K	\\cash1\acqudata\GC09\data\101409_r.b\1014R013.D
L	\\cash1\acqudata\GC09\data\101409_r.b\1014R014.D
M	\\cash1\acqudata\GC09\data\101409_r.b\1014R015.D

Analyte Name	Level ID	Amt	RF	Level ID	Amt	RF	Level ID	Amt	RF	Level ID	Amt	RF	Level ID	Amt	RF
Decachlorobiphenyl							H	2.5	4690	I	5.0	4690	J	50	4450
	K	100	4170	L	200	3790	M	500	3260						
Aroclor 1016 {1}							H	25	143	I	50	147	J	500	143
	K	1000	136	L	2000	124	M	5000	111						
Aroclor 1016 {2}							H	25	269	I	50	281	J	500	257
	K	1000	233	L	2000	204	M	5000	168						
Aroclor 1016 {3}							H	25	131	I	50	127	J	500	109
	K	1000	101	L	2000	91.1	M	5000	78.4						
Aroclor 1016 {4}							H	25	149	I	50	141	J	500	132
	K	1000	120	L	2000	110	M	5000	97.5						
Aroclor 1016 {5}							H	25	112	I	50	107	J	500	107
	K	1000	101	L	2000	91.8	M	5000	84.5						
Aroclor 1260 {1}							H	25	301	I	50	283	J	500	248
	K	1000	226	L	2000	204	M	5000	178						
Aroclor 1260 {2}							H	25	345	I	50	337	J	500	321
	K	1000	304	L	2000	286	M	5000	257						
Aroclor 1260 {3}							H	25	193	I	50	194	J	500	178
	K	1000	164	L	2000	154	M	5000	133						
Aroclor 1260 {4}							H	25	374	I	50	376	J	500	374
	K	1000	359	L	2000	336	M	5000	305						
Aroclor 1260 {5}							H	25	254	I	50	242	J	500	252
	K	1000	243	L	2000	230	M	5000	212						

Results flagged with an asterisk (*) indicate values outside control criteria.

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0909140
Calibration Date: 10/15/2009

Initial Calibration Summary
Polychlorinated Biphenyls (PCBs)

Calibration ID: CAL8918
Instrument ID: GC09.i

Column: DB-XLB

Analyte Name	Compound Type	Calibration Evaluation				
		Fit Type	Eval.	Eval. Result	Q	Control Criteria
Decachlorobiphenyl	SURR	AverageRF	% RSD	13.5		≤ 20
Aroclor 1016 {1}	MULTI	AverageRF	% RSD	10.2		≤ 20
Aroclor 1016 {2}	MULTI	AverageRF	% RSD	18.2		≤ 20
Aroclor 1016 {3}	MULTI	AverageRF	% RSD	19.3		≤ 20
Aroclor 1016 {4}	MULTI	AverageRF	% RSD	15.5		≤ 20
Aroclor 1016 {5}	MULTI	AverageRF	% RSD	10.4		≤ 20
Aroclor 1260 {1}	MULTI	AverageRF	% RSD	19.5		≤ 20
Aroclor 1260 {2}	MULTI	AverageRF	% RSD	10.7		≤ 20
Aroclor 1260 {3}	MULTI	AverageRF	% RSD	14.1		≤ 20
Aroclor 1260 {4}	MULTI	AverageRF	% RSD	8.1		≤ 20
Aroclor 1260 {5}	MULTI	AverageRF	% RSD	6.5		≤ 20

Results flagged with an asterisk (*) indicate values outside control criteria.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Results

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0909140
Calibration Date: 10/15/2009
Date Analyzed: 10/15/2009

Second Source Calibration Verification
Polychlorinated Biphenyls (PCBs)

Calibration Type: External Standard
Analysis Method: 8082

Calibration ID: CAL8918
Units: ng/mL

File ID:
\\cash1\acqudata\GC09\data\101409_r.b\1014R016.D
\\cash1\acqudata\GC09\data\101409_r.b\1014R017.D
\\cash1\acqudata\GC09\data\101409_r.b\1014R018.D
\\cash1\acqudata\GC09\data\101409_r.b\1014R019.D
\\cash1\acqudata\GC09\data\101409_r.b\1014R020.D
\\cash1\acqudata\GC09\data\101409_r.b\1014R021.D
\\cash1\acqudata\GC09\data\101409_r.b\1014R022.D
\\cash1\acqudata\GC09\data\101409_r.b\1014R023.D
\\cash1\acqudata\GC09\data\101409_r.b\1014R024.D

Column ID: DB-XLB

Analyte Name	Expected	Result	Average RF	SSV RF	%D	%Drift	Criteria	Curve Fit
Aroclor 1016 {1}	1000	960	134	129	-4	NA	± 100 %	AverageRF
Aroclor 1016 {2}	1000	890	235	209	-11	NA	± 100 %	AverageRF
Aroclor 1016 {3}	1000	860	106	91.1	-14	NA	± 100 %	AverageRF
Aroclor 1016 {4}	1000	920	125	114	-8	NA	± 100 %	AverageRF
Aroclor 1016 {5}	1000	950	101	95.9	-5	NA	± 100 %	AverageRF
Aroclor 1016	1000	920	NA	NA	NA	8	± 15 %	NA
Aroclor 1260 {1}	1000	860	240	206	-14	NA	± 100 %	AverageRF
Aroclor 1260 {2}	1000	800	308	248	-20	NA	± 100 %	AverageRF
Aroclor 1260 {3}	1000	1000	170	176	4	NA	± 100 %	AverageRF
Aroclor 1260 {4}	1000	1000	354	363	2	NA	± 100 %	AverageRF
Aroclor 1260 {5}	1000	990	239	237	-1	NA	± 100 %	AverageRF
Aroclor 1260	1000	940	NA	NA	NA	6	± 15 %	NA

Results flagged with an asterisk (*) indicate values outside control criteria.

† **SPCC Compound** ‡ **CCC Compound**

Sequence Name: D:\GC09\SEQUENCE\101409.S
Comment:
Operator: JMSmith
Data Path: D:\GC09\DATA\101409.B\
Pre-Seq Cmd:
Post-Seq Cmd:

ICAL 5918

Method Sections To Run
(X) Full Method
( ) Reprocessing Only

On A Barcode Mismatch
(X) Inject Anyway
( ) Don't Inject

Line	Type	Vial	DataFile	Method	Sample Name
1	DeleteGC				
2	MaskName -	----r---			
3	Comment -	PCB Aroclors by EPA 8082			
4	IB	86	1014FP01	PCB1	IB
5	IB	86	1014FP02	PCB1	IB
6	IB	86	1014FP03	PCB1	IB
7	IB	86	1014FP04	PCB1	IB
8	IB	86	1014FP05	PCB1	IB
9	IB	86	1014FP06	PCB1	IB
10	IB	86	1014FP07	PCB1	IB
11	IB	86	1014FP08	PCB1	IB
12	IB	86	1014FP09	PCB1	IB
13	IB	86	1014FP10	PCB1	IB
14	IB	86	1014F001	PCB1	IB
15	IB	87	1014F002	PCB1	IB | 8082 PCB
16	ICAL	1	1014F003	PCB1	1221 @ 1000ppb | PCB5-35P
17	ICAL	2	1014F004	PCB1	1232 @ 1000ppb | PCB5-35Q
18	ICAL	3	1014F005	PCB1	1242 @ 1000ppb | PCB5-35R
19	ICAL	4	1014F006	PCB1	1248 @ 1000ppb | PCB5-35S
20	ICAL	5	1014F007	PCB1	1254 @ 1000ppb | PCB5-35T
21	ICAL	6	1014F008	PCB1	1262 @ 1000ppb | PCB5-35U
22	ICAL	7	1014F009	PCB1	1268 @ 1000ppb | PCB5-36A
23	ICAL	8	1014F010	PCB1	1660 @ 25ppb | PCB5-34C
24	ICAL	9	1014F011	PCB1	1660 @ 50ppb | PCB5-34D
25	ICAL	10	1014F012	PCB1	1660 @ 500ppb | PCB5-34E
26	ICAL	11	1014F013	PCB1	1660 @ 1000ppb | PCB5-41P
27	ICAL	12	1014F014	PCB1	1660 @ 2000ppb | PCB5-34G
28	ICAL	13	1014F015	PCB1	1660 @ 5000ppb | PCB5-34H
29	ICV	14	1014F016	PCB1	1016 @ 1000ppb | PCB5-34J
30	ICV	15	1014F017	PCB1	1221 @ 1000ppb | PCB5-43O
31	ICV	16	1014F018	PCB1	1232 @ 1000ppb | PCB5-34L
32	ICV	17	1014F019	PCB1	1242 @ 1000ppb | PCB5-34M
33	ICV	18	1014F020	PCB1	1248 @ 1000ppb | PCB5-34N
34	ICV	19	1014F021	PCB1	1254 @ 1000ppb | PCB5-44A
35	ICV	20	1014F022	PCB1	1260 @ 1000ppb | PCB5-34P
36	ICV	21	1014F023	PCB1	1262 @ 1000ppb | PCB5-34Q
37	ICV	22	1014F024	PCB1	1268 @ 1000ppb | PCB5-34R

Data File: \\cash1\acqudata\GC09\data\101409.b\1014F002.D
Report Date: 15-Oct-2009 16:41

Laboratory Name

Sample #1 : \\cash1\acqudata\GC09\data\101409.b\1014F002.D
Sample #2 : \\cash1\acqudata\GC09\data\101409_r.b\1014R002.D
Inj Date : 14-OCT-2009 23:51
Sample Info: IB | 8082 PCB
Misc Info : SEMIVOA GC\W0900671\3-ICAL.H
Cal Date : 15-OCT-2009 13:27
Operator : JMSmith
Inst ID : GC09.i
Dil Factor : 1.000000

Method #1 : \\cash1\acqudata\GC09\data\101409.b\101409_f.m
Method #2 : \\cash1\acqudata\GC09\data\101409_r.b\101409_r.m
Sub List #1 : ALL.SUB
Sub List #2 : ALL.SUB
Col #1 Phase : DB-35MS
Col #2 Phase : DB-XLB

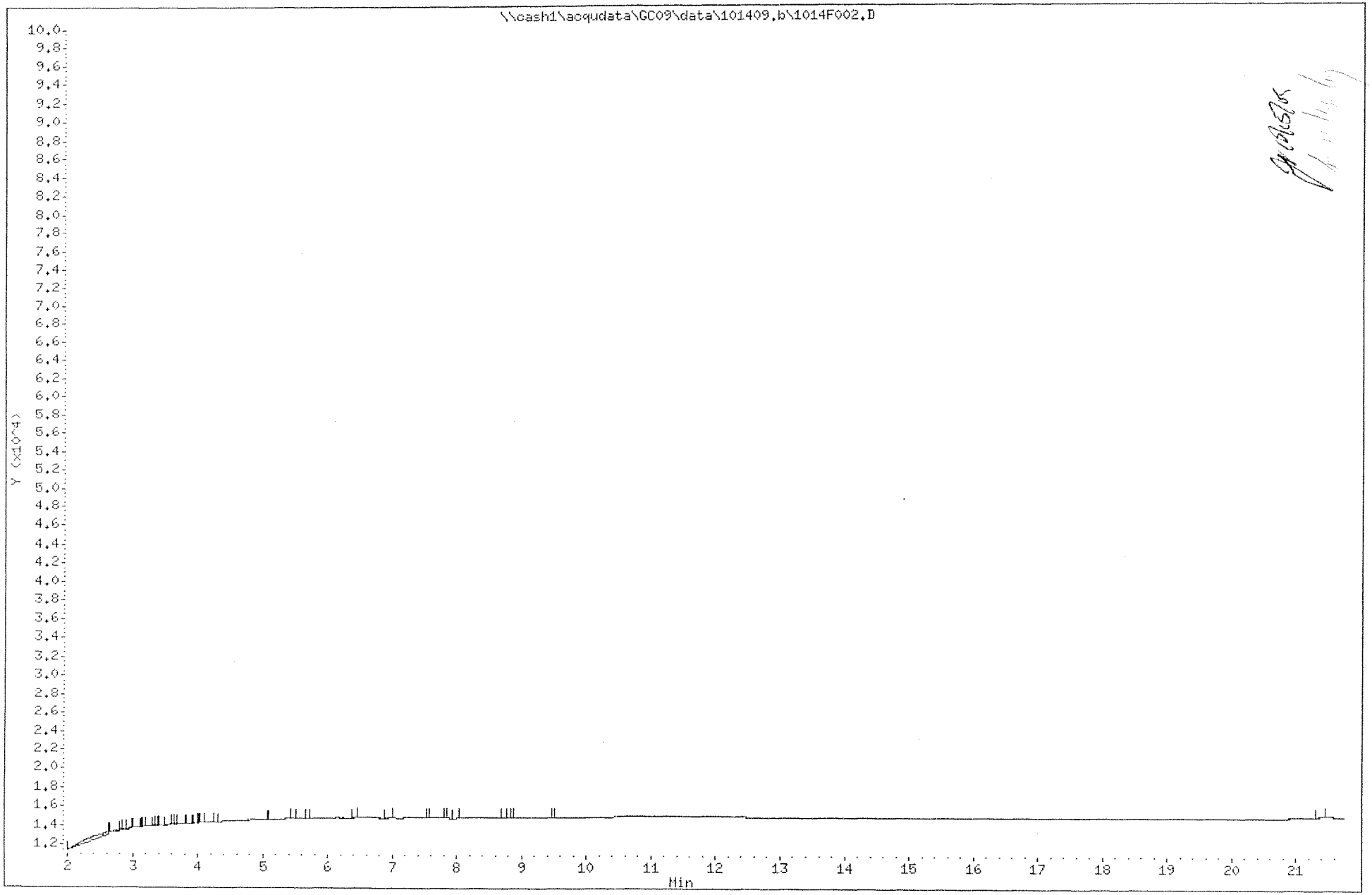
Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2	Target Range	Ratio

Data File: \\cash1\acqudata\GC09\data\101409.b\1014F002.D
Date : 14-OCT-2009 23:51
Client ID:
Sample Info: IB | 8082 PCB

Column phase: DB-35MS

Instrument: GC09.i

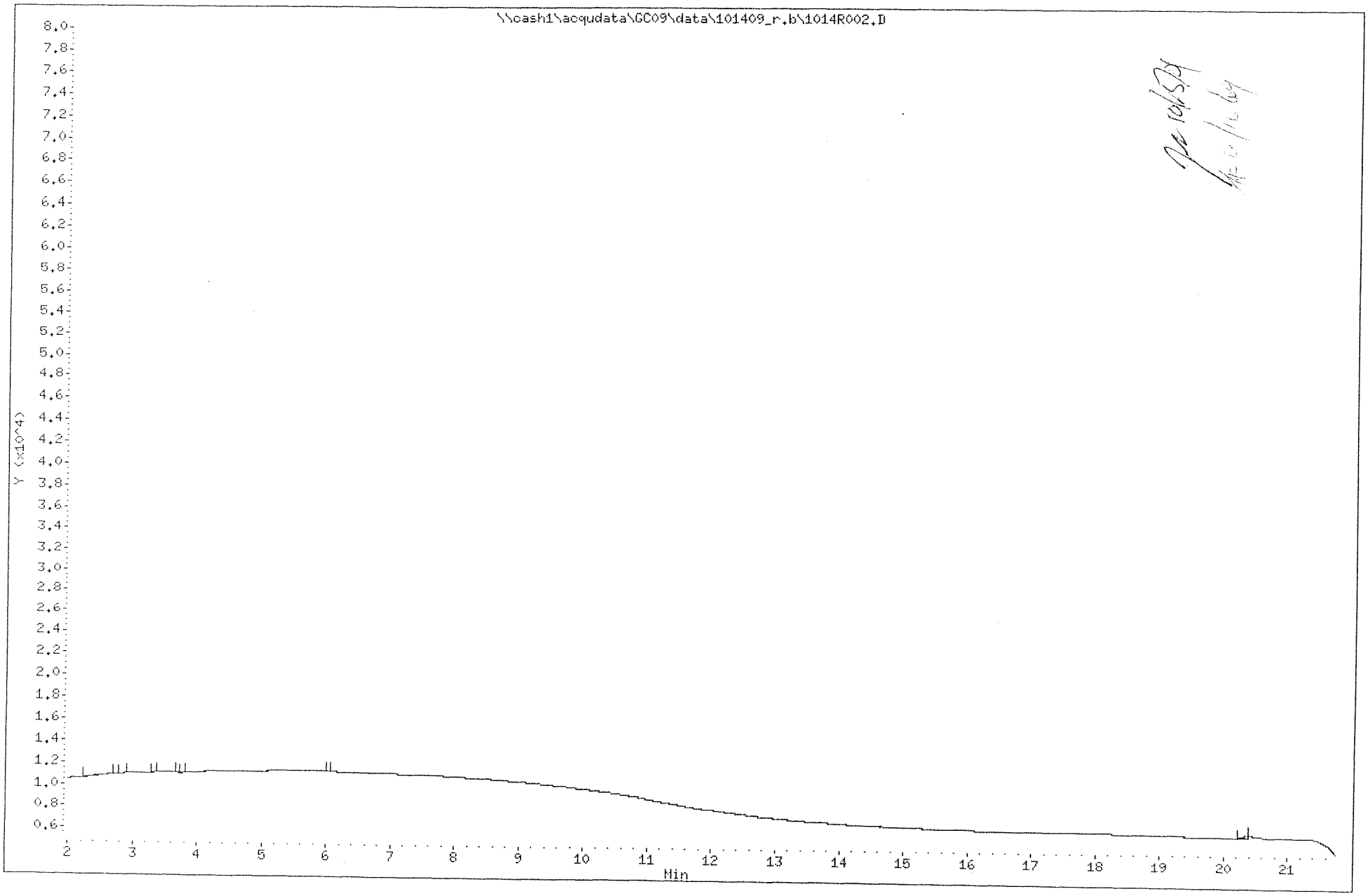
Operator: JHSmith
Column diameter: 0.53



Data File: \\cash1\acqudata\GC09\data\101409_r.b\1014R002.D
Date : 14-OCT-2009 23:51
Client ID:
Sample Info: IB | 8082 PCB

Instrument: GC09.i

Operator: JMSmith
Column phase: DB-XLB
Column diameter: 0.53



Data File: \\cash1\acqudata\GC09\data\101409.b\1014F003.D
Report Date: 15-Oct-2009 16:41

Laboratory Name

Sample #1 : \\cash1\acqudata\GC09\data\101409.b\1014F003.D
Sample #2 : \\cash1\acqudata\GC09\data\101409_r.b\1014R003.D
Inj Date : 15-OCT-2009 00:17
Sample Info: 1221 @ 1000ppb | PCB5-35P
Misc Info : SEMIVOA GC\W0900671\3-ICAL.H
Cal Date : 15-OCT-2009 11:56
Operator : JMSmith
Inst ID : GC09.i
Dil Factor : 1.000000

Method #1 : \\cash1\acqudata\GC09\data\101409.b\101409_f.m
Method #2 : \\cash1\acqudata\GC09\data\101409_r.b\101409_r.m
Sub List #1 : AR1221.SUB
Sub List #2 : AR1221.SUB
Col #1 Phase : DB-35MS
Col #2 Phase : DB-XLB

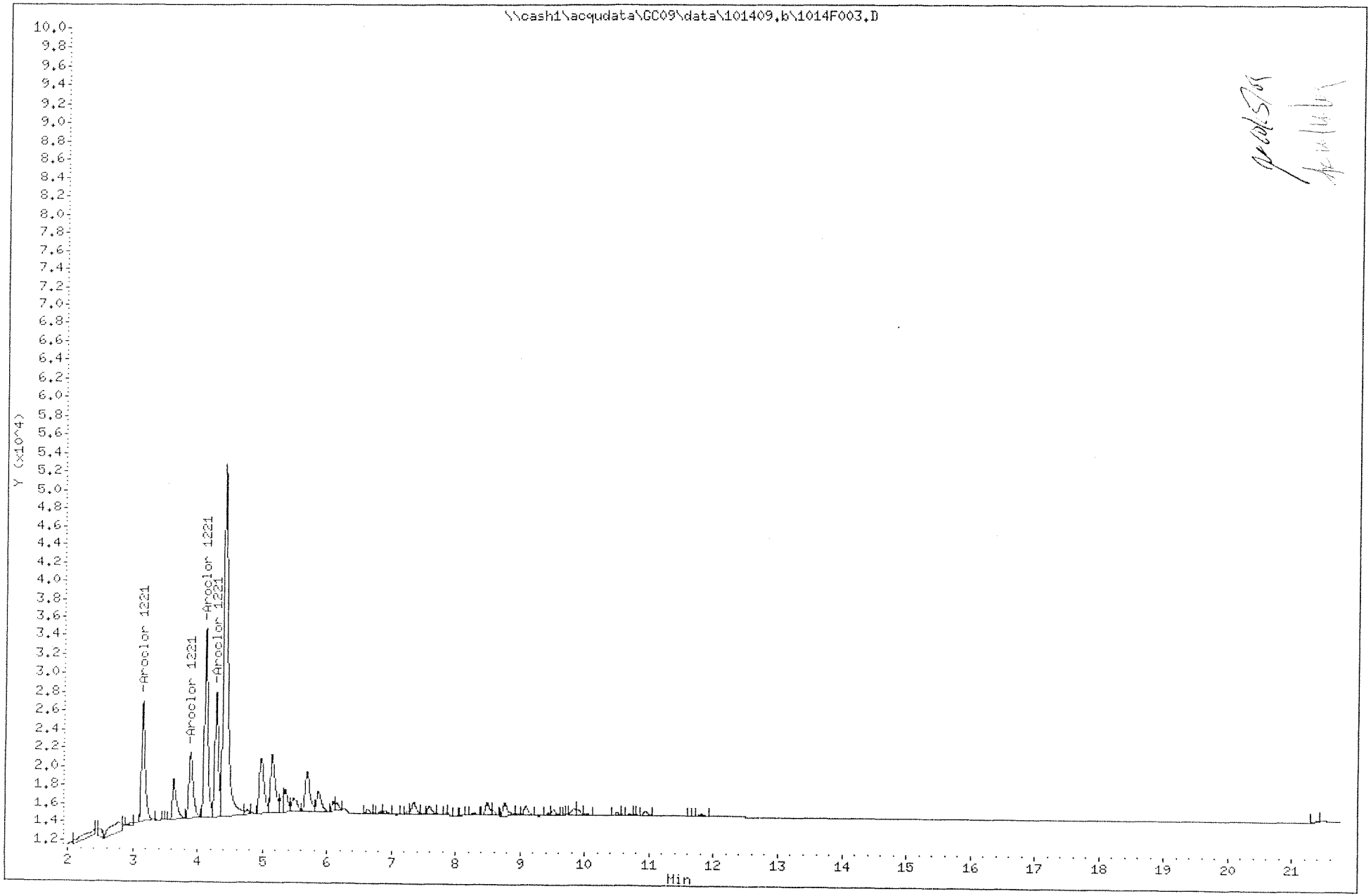
Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2	Target Range	Ratio
Aroclor 1221	3.150	3.413	51166	44844	1000	1000	80.00- 120.00	100.00(M)
	3.890	4.160	33848	25299	1000	1000	52.92- 79.38	66.15(M)
	4.117	4.543	76422	52262	1000	1000	119.49- 179.23	149.36(M)
	4.283	4.660	50041	37879	1000	1000	78.24- 117.36	97.80(M)
			Average of Peak Amounts =		1000	1000		

QC Flag Legend

M - Compound response manually integrated.

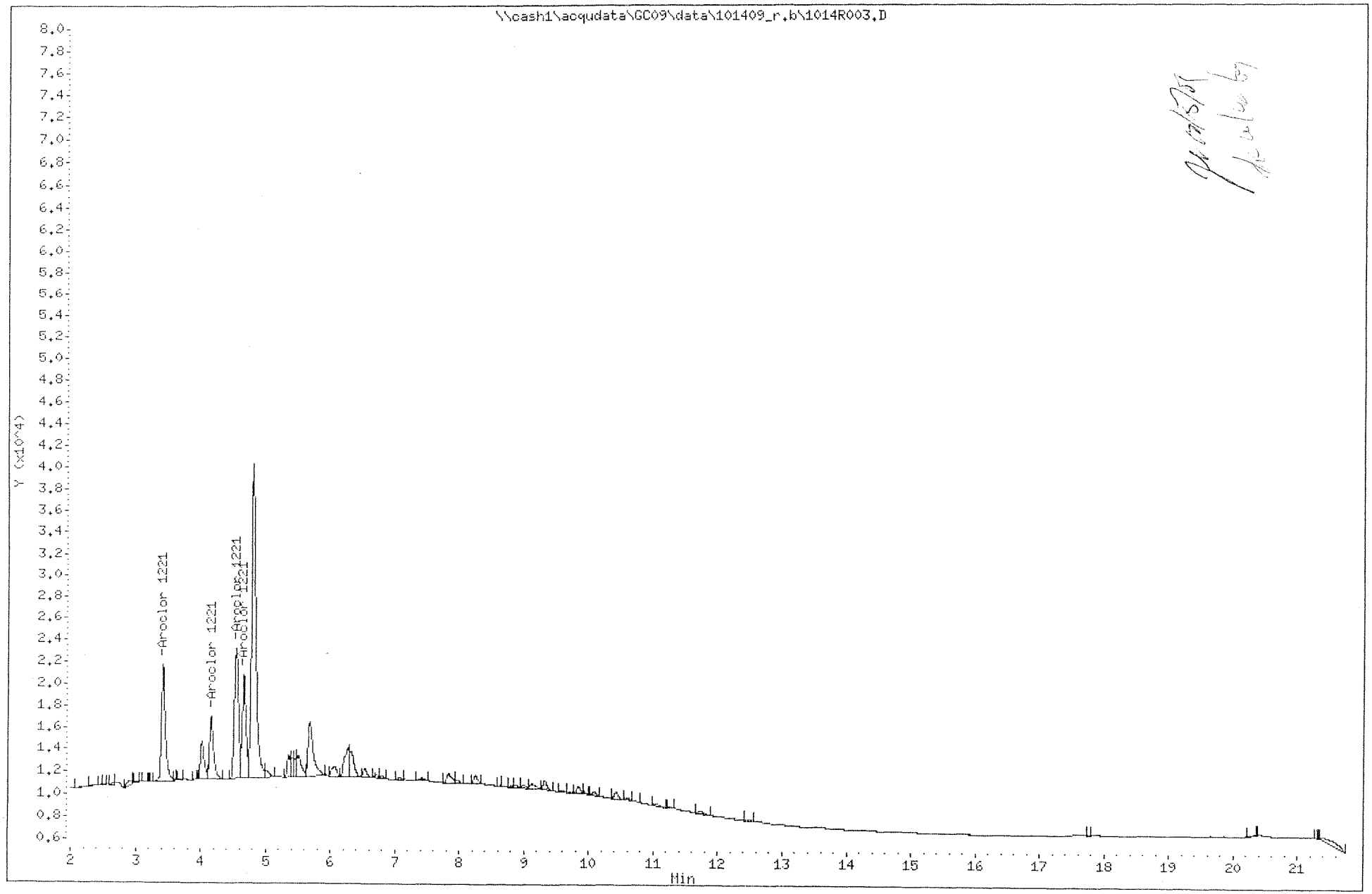
Data File: \\cash1\acqudata\GC09\data\101409,b\1014F003.D
Date : 15-OCT-2009 00:17
Client ID:
Sample Info: 1221 @ 1000ppb | PCB5-35P

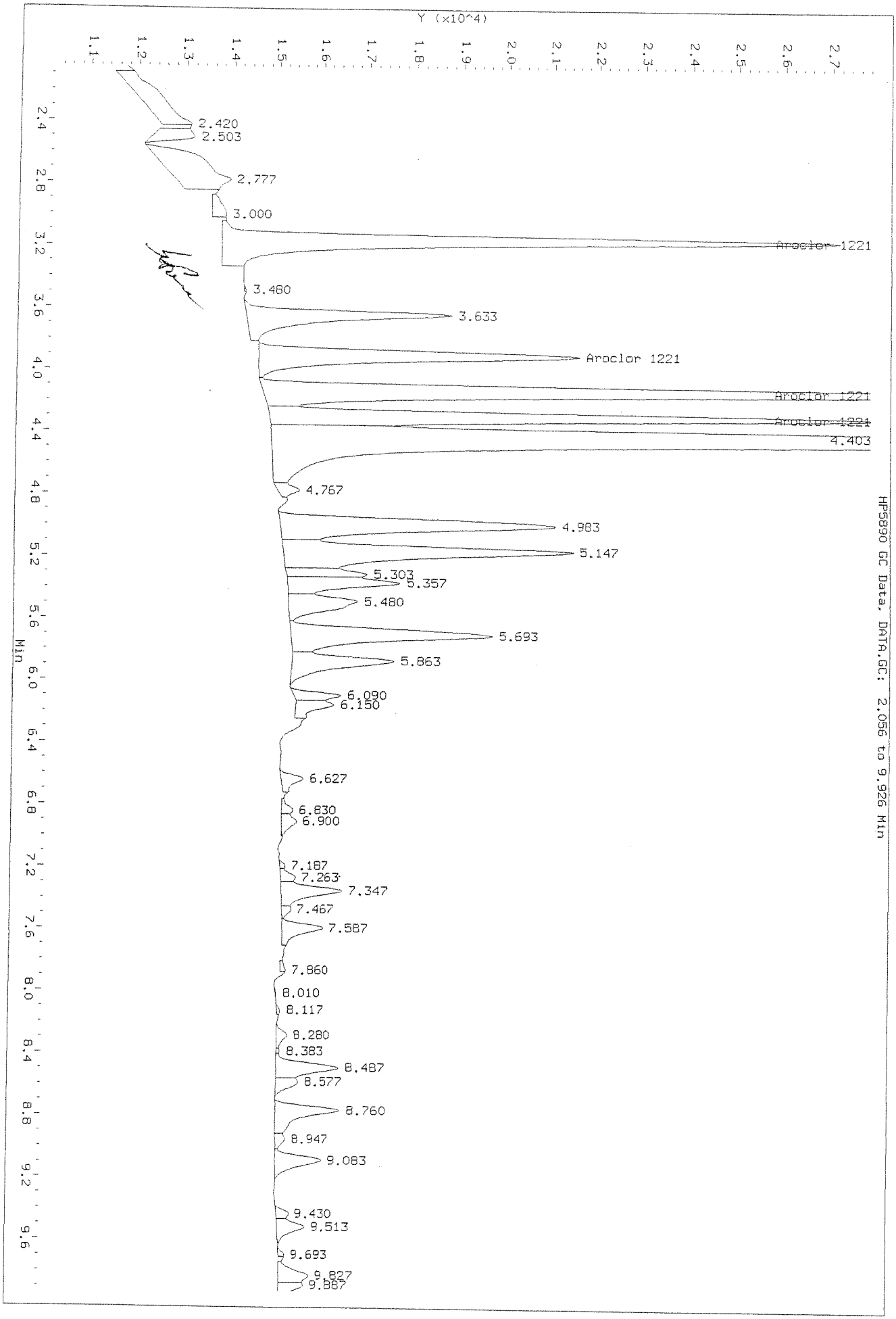
Instrument: GC09.i
Operator: JMSmith
Column phase: DB-35MS
Column diameter: 0.53

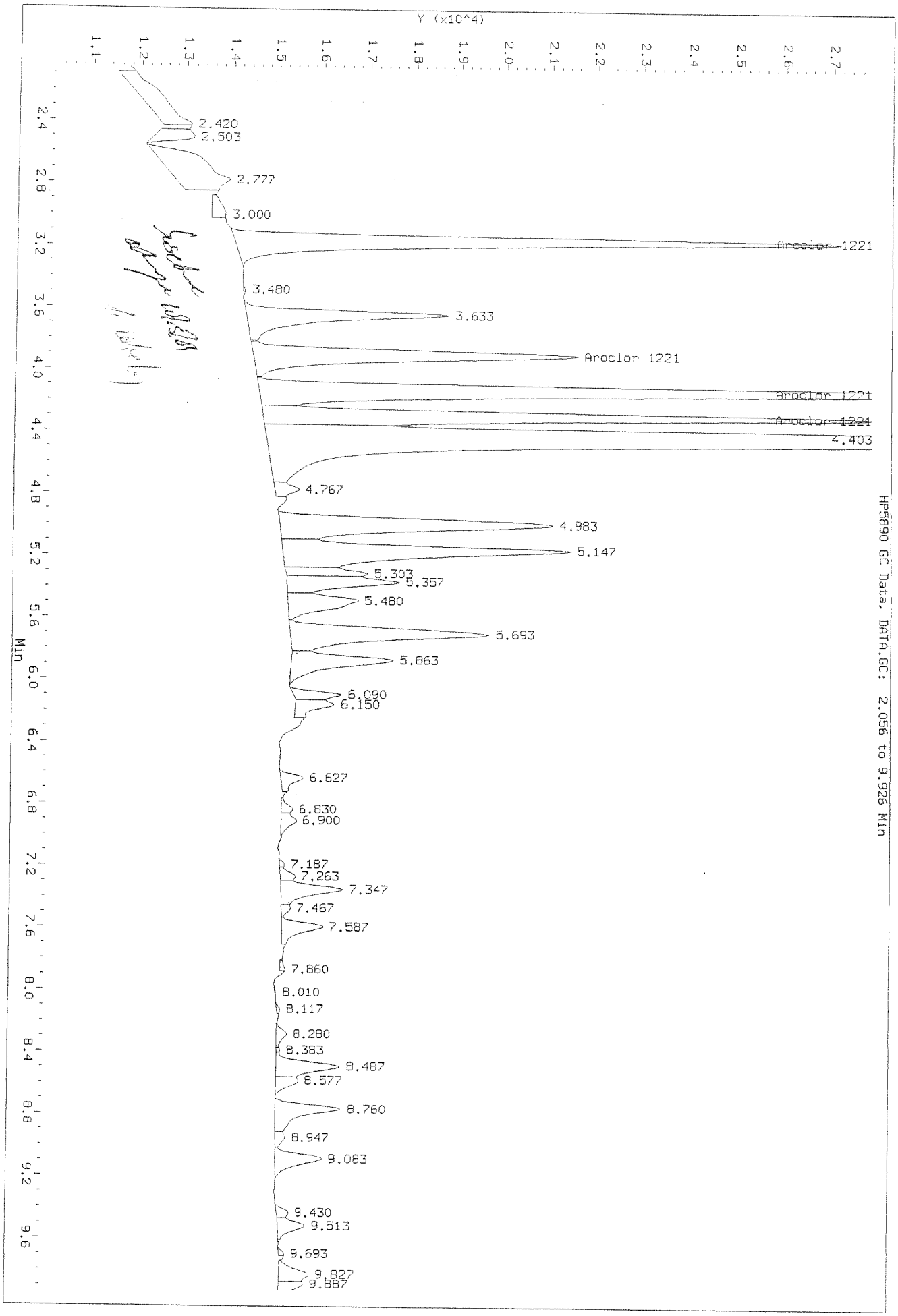


Data File: \\cash1\acqudata\GC09\data\101409_r,b\1014R003,D
Date : 15-OCT-2009 00:17
Client ID:
Sample Info: 1221 @ 1000ppb | PCB5-35P

Instrument: GC09,i
Operator: JHSmith
Column phase: DB-XLB
Column diameter: 0.53




Data File: \\cash1\acqudata\GC09\data\101409.b\1014F003.D
Injection Date: 15-OCT-2009 00:17
Instrument: GC09.i
Client Sample ID:
Y (x10^4)
1.1
1.2
1.3
1.4
1.5
1.6
1.7
1.8
1.9
2.0
2.1
2.2
2.3
2.4
2.5
2.6
2.7
Min
2.4
2.8
3.2
3.6
4.0
4.4
4.8
5.2
5.6
6.0
6.4
6.8
7.2
7.6
8.0
8.4
8.8
9.2
9.6
2.420
2.503
2.777
3.000
Aroclor 1221
3.480
3.633
Aroclor 1221
Aroclor 1221
Aroclor 1221
4.403
4.767
4.983
5.147
5.303
5.357
5.480
5.693
5.863
6.090
6.150
6.627
6.830
6.900
7.187
7.263
7.347
7.467
7.587
7.860
8.010
8.117
8.280
8.383
8.487
8.577
8.760
8.947
9.083
9.430
9.513
9.693
9.827
9.887
HP5890 GC Data, DATA.GC; 2.056 to 9.926 Min


Data File: \\cash1\acqudata\GC09\data\101409.b\1014F003.D
Injection Date: 15-OCT-2009 00:17
Instrument: GC09.i
Client Sample ID:
Y (x10^4)
Min
HP5890 GC Data, DATA.GC; 2.056 to 9.926 Min
2.420
2.503
2.777
3.000
Aroclor 1221
3.480
3.633
Aroclor 1221
Aroclor 1221
Aroclor 1221
4.403
4.767
4.983
5.147
5.303
5.357
5.480
5.693
5.863
6.090
6.150
6.627
6.830
6.900
7.187
7.263
7.347
7.467
7.587
7.860
8.010
8.117
8.280
8.383
8.487
8.577
8.760
8.947
9.083
9.430
9.513
9.693
9.827
9.887

Data File: \\cash1\acqudata\GC09\data\101409.b\1014F004.D
Report Date: 15-Oct-2009 16:41

Laboratory Name

Sample #1 : \\cash1\acqudata\GC09\data\101409.b\1014F004.D
Sample #2 : \\cash1\acqudata\GC09\data\101409_r.b\1014R004.D
Inj Date : 15-OCT-2009 00:44
Sample Info: 1232 @ 1000ppb | PCB5-35Q
Misc Info : SEMIVOA GC\W0900671\4-ICAL.H
Cal Date : 15-OCT-2009 11:57
Operator : JMSmith
Inst ID : GC09.i
Dil Factor : 1.000000

Method #1 : \\cash1\acqudata\GC09\data\101409.b\101409_f.m
Method #2 : \\cash1\acqudata\GC09\data\101409_r.b\101409_r.m
Sub List #1 : AR1232.SUB
Sub List #2 : AR1232.SUB
Col #1 Phase : DB-35MS
Col #2 Phase : DB-XLB

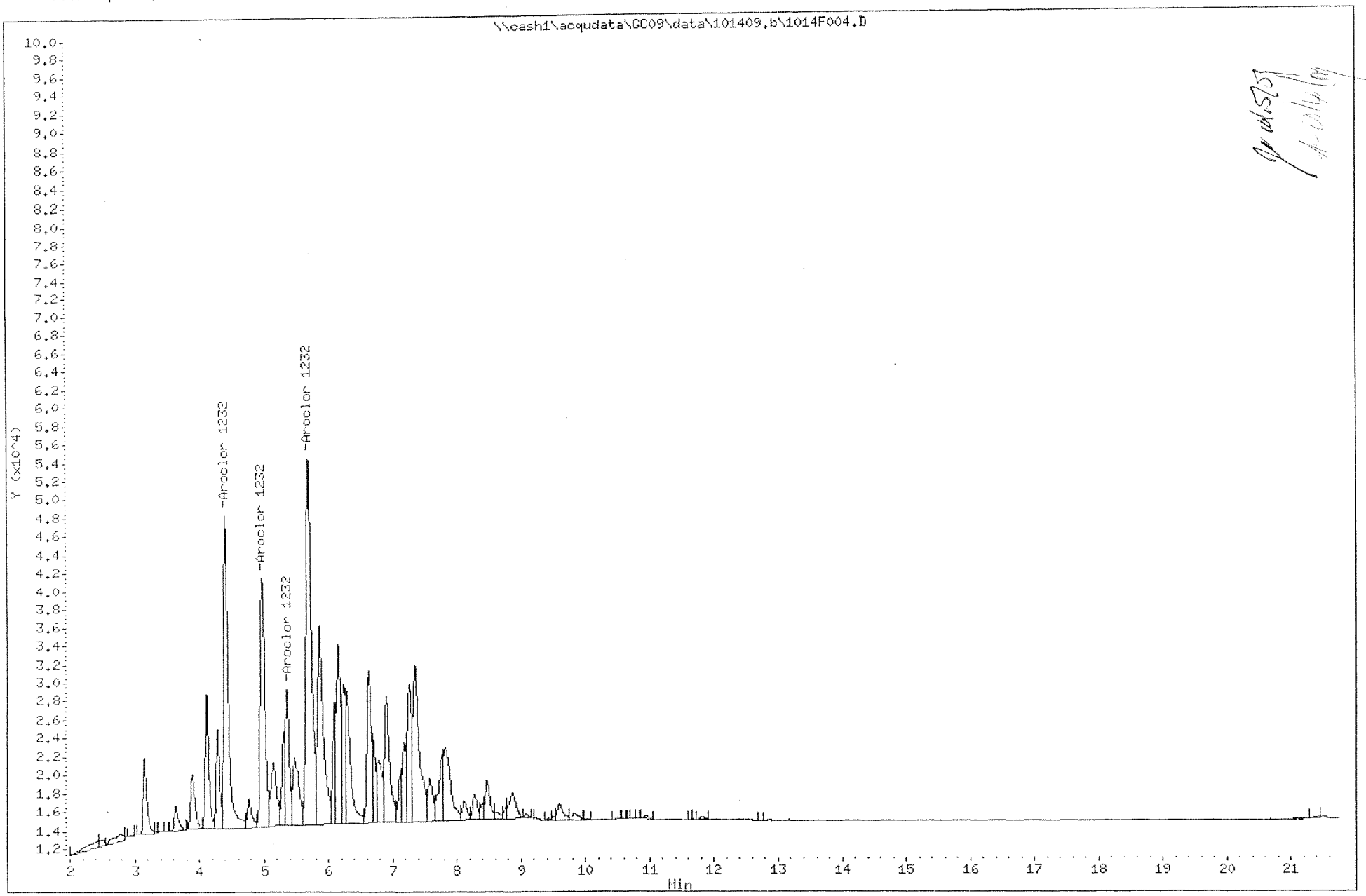
Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2	Target Range	Ratio
Aroclor 1232	4.400	4.797	163944	112766	1000	1000	80.00- 120.00	100.00
	4.970	5.350	140663	52524	1000	1000	68.64- 102.96	85.80
	5.357	5.683	62314	71533	1000	1000	30.41- 45.61	38.01
	5.690	6.227	237771	47843	1000	1000	116.03- 174.04	145.03
			Average of Peak Amounts =		1000	1000		

Data File: \\cash1\acqudata\GC09\data\101409.b\1014F004.D
Date : 15-OCT-2009 00:44
Client ID:
Sample Info: 1232 @ 1000ppb | PCB5-35Q

Instrument: GC09.i

Operator: JHSmith
Column diameter: 0.53

Column phase: DB-35MS

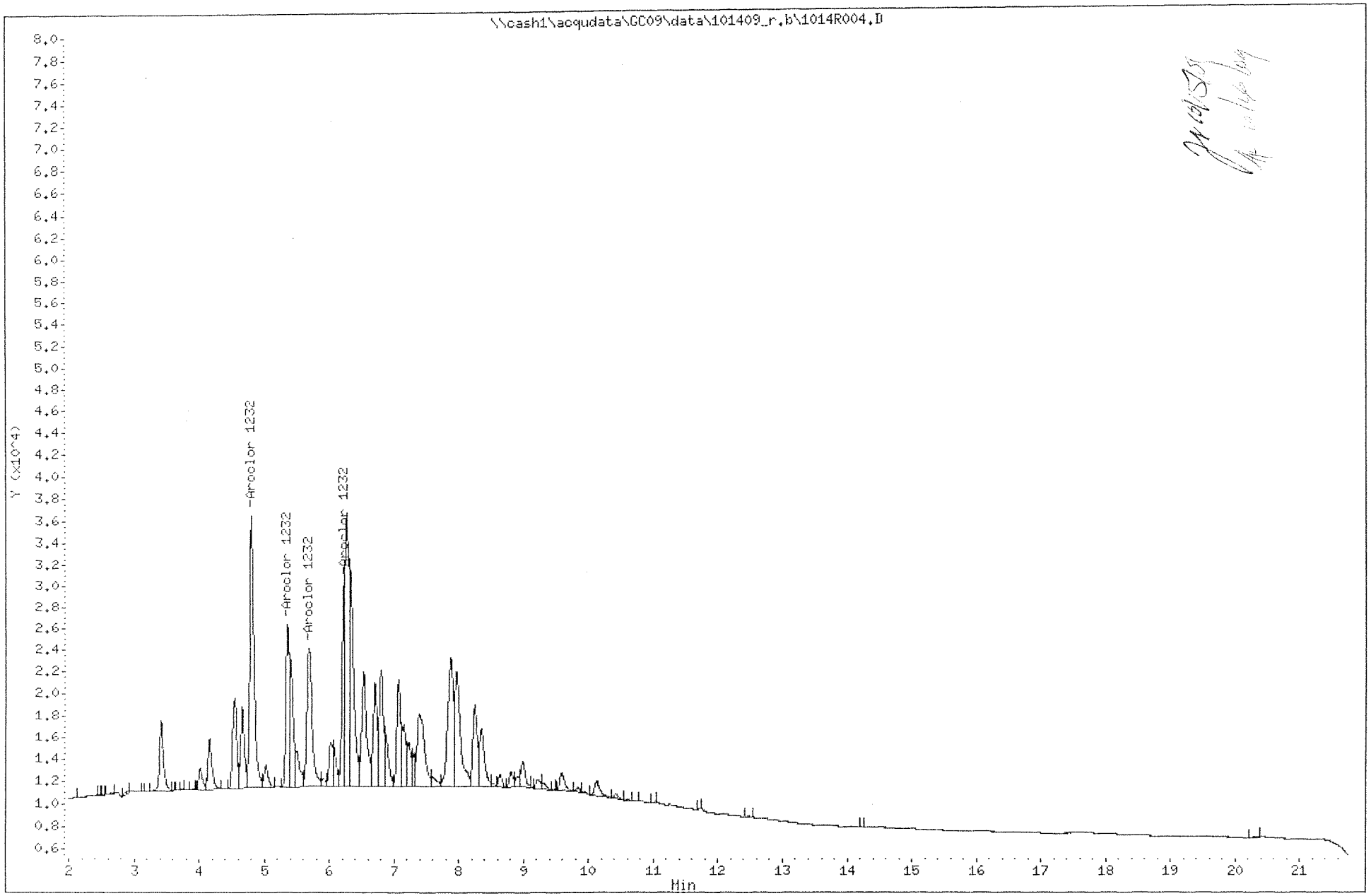


Data File: \\cash1\acqudata\GC09\data\101409_r.b\1014R004.D
Date : 15-OCT-2009 00:44
Client ID:
Sample Info: 1232 @ 1000ppb | PCB5-35Q

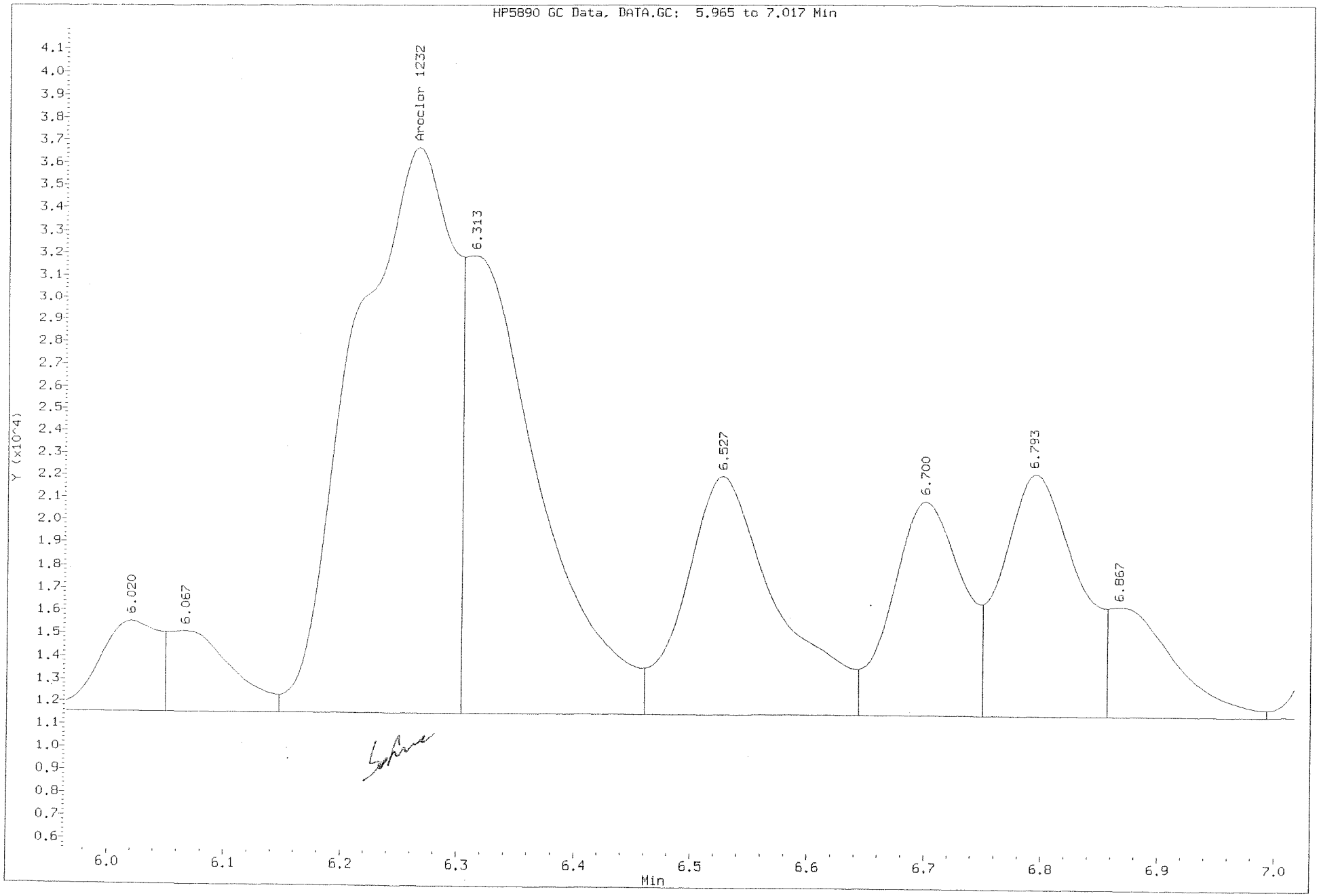
Instrument: GC09.i

Operator: JHSmith
Column diameter: 0.53

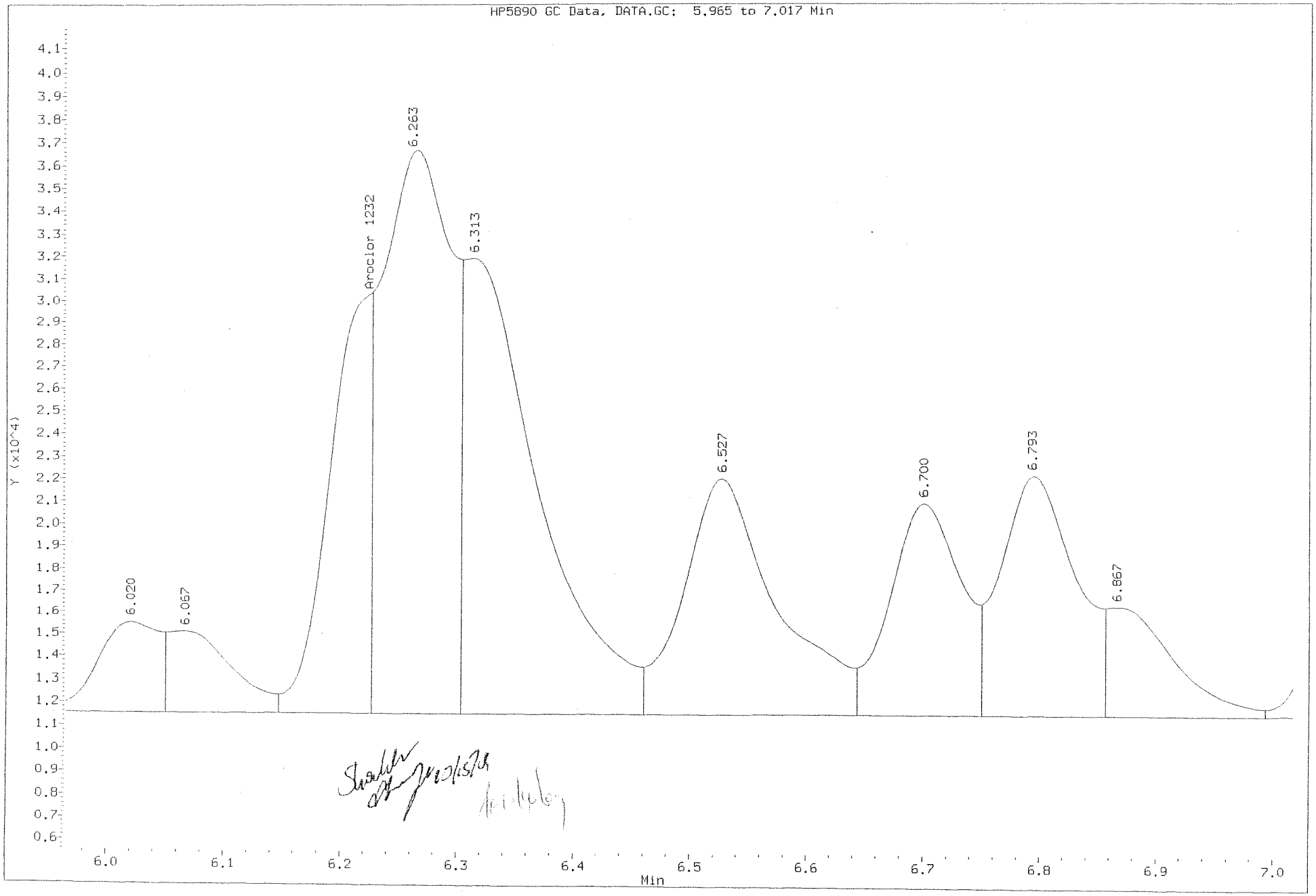
Column phase: DB-XLB



Data File: \\cash1\acqudata\GC09\data\101409_r.b\1014R004.D
Injection Date: 15-OCT-2009 00:44
Instrument: GC09.i
Client Sample ID:



Data File: \\cash1\acqudata\GC09\data\101409_r.b\1014R004.D
Injection Date: 15-OCT-2009 00:44
Instrument: GC09.i
Client Sample ID:



Data File: \\cash1\acqudata\GC09\data\101409.b\1014F005.D
Report Date: 15-Oct-2009 16:42

Laboratory Name

Sample #1 : \\cash1\acqudata\GC09\data\101409.b\1014F005.D
Sample #2 : \\cash1\acqudata\GC09\data\101409_r.b\1014R005.D
Inj Date : 15-OCT-2009 01:10
Sample Info: 1242 @ 1000ppb | PCB5-35R
Misc Info : SEMIVOA GC\W0900671\5-ICAL.H
Cal Date : 15-OCT-2009 12:43
Operator : JMSmith
Inst ID : GC09.i
Dil Factor : 1.000000

Method #1 : \\cash1\acqudata\GC09\data\101409.b\101409_f.m
Method #2 : \\cash1\acqudata\GC09\data\101409_r.b\101409_r.m
Sub List #1 : AR1242.SUB
Sub List #2 : AR1242.SUB
Col #1 Phase : DB-35MS
Col #2 Phase : DB-XLB

Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2	Target Range	Ratio
Aroclor 1242	4.970	5.353	227523	91241	1000	1000	80.00- 120.00	100.00
	5.690	5.687	407129	108584	1000	1000	143.15- 214.73	178.94
	6.153	6.313	157581	153112	1000	1000	55.41- 83.11	69.26
	6.627	6.527	133993	106144	1000	1000	47.11- 70.67	58.89
	6.903	6.797	152176	94251	1000	1000	53.51- 80.26	66.88
			Average of Peak Amounts =		1000	1000		

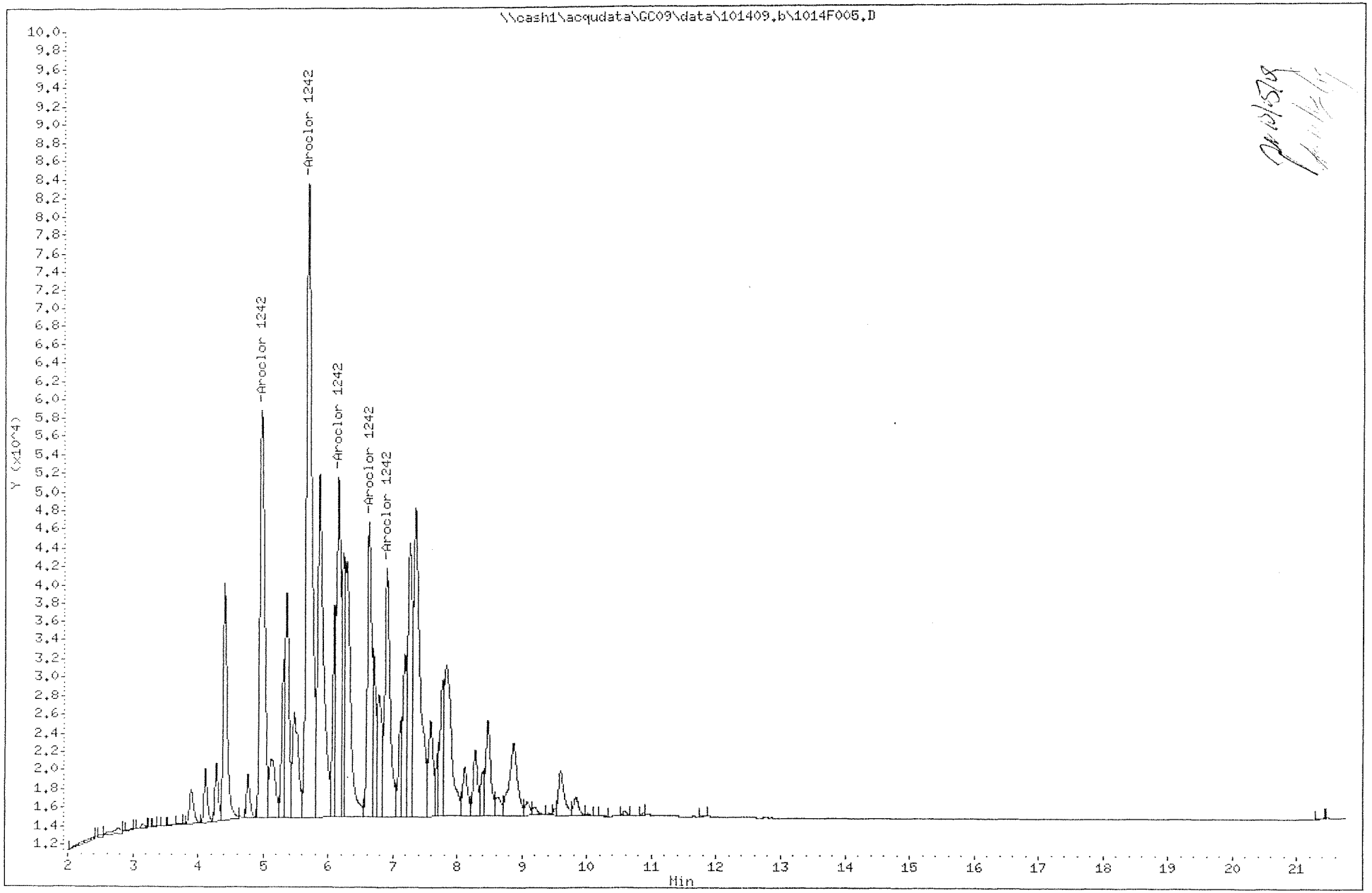
JR 10/15/09
the is the long

Data File: \\cash1\acqudata\GC09\data\101409.b\1014F005.D
Date : 15-OCT-2009 01:10
Client ID:
Sample Info: 1242 @ 1000ppb | PCB5-35R

Column phase: DB-35MS

Instrument: GC09.i

Operator: JMSmith
Column diameter: 0.53



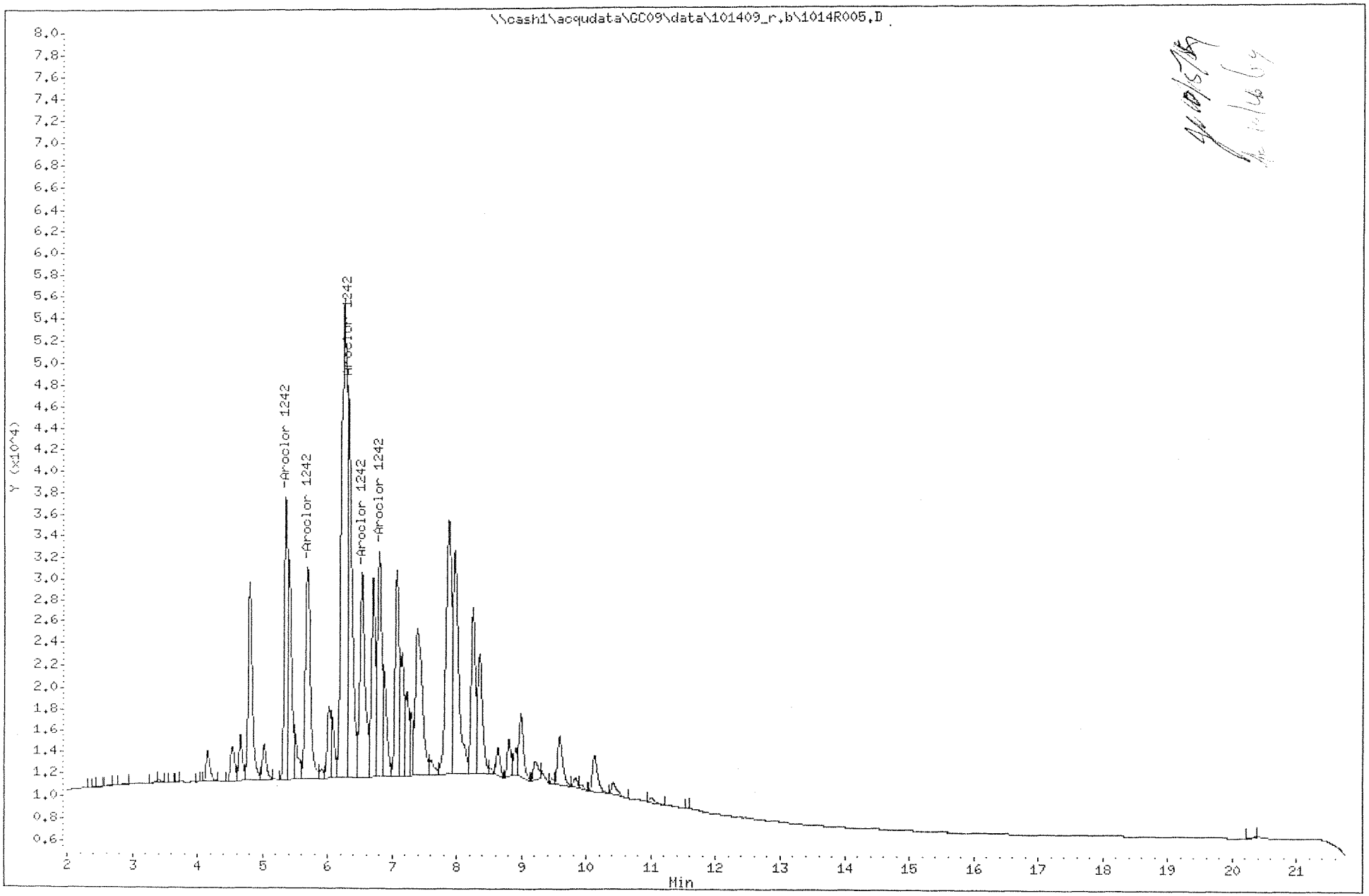
850

Data File: \\cash1\acqudata\GC09\data\101409_r,b\1014R005.D
Date : 15-OCT-2009 01:10
Client ID:
Sample Info: 1242 @ 1000ppb | PCB5-35R

Instrument: GC09.i

Operator: JMSmith
Column diameter: 0.53

Column phase: DB-XLB



Data File: \\cash1\acqudata\GC09\data\101409.b\1014F006.D
Report Date: 15-Oct-2009 16:42

Laboratory Name

Sample #1 : \\cash1\acqudata\GC09\data\101409.b\1014F006.D
Sample #2 : \\cash1\acqudata\GC09\data\101409_r.b\1014R006.D
Inj Date : 15-OCT-2009 01:36
Sample Info: 1248 @ 1000ppb | PCB5-35S
Misc Info : SEMIVOA GC\W0900671\6-ICAL.H
Cal Date : 15-OCT-2009 12:43
Operator : JMSmith
Inst ID : GC09.i
Dil Factor : 1.000000

Method #1 : \\cash1\acqudata\GC09\data\101409.b\101409_f.m
Method #2 : \\cash1\acqudata\GC09\data\101409_r.b\101409_r.m
Sub List #1 : AR1248.SUB
Sub List #2 : AR1248.SUB
Col #1 Phase : DB-35MS
Col #2 Phase : DB-XLB

Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2	Target Range	Ratio
Aroclor 1248	6.233	6.700	150408	129844	1000	1000	80.00- 120.00	100.00(M)
	6.627	6.793	212345	141711	1000	1000	112.94- 169.41	141.18(M)
	6.903	7.067	201379	142353	1000	1000	107.11- 160.67	133.89(M)
	7.260	7.383	229936	151066	1000	1000	122.30- 183.45	152.87(M)
	7.347	7.877	353152	264054	1000	1000	187.84- 281.75	234.79(M)
			Average of Peak Amounts =		1000	1000		

QC Flag Legend

M - Compound response manually integrated.

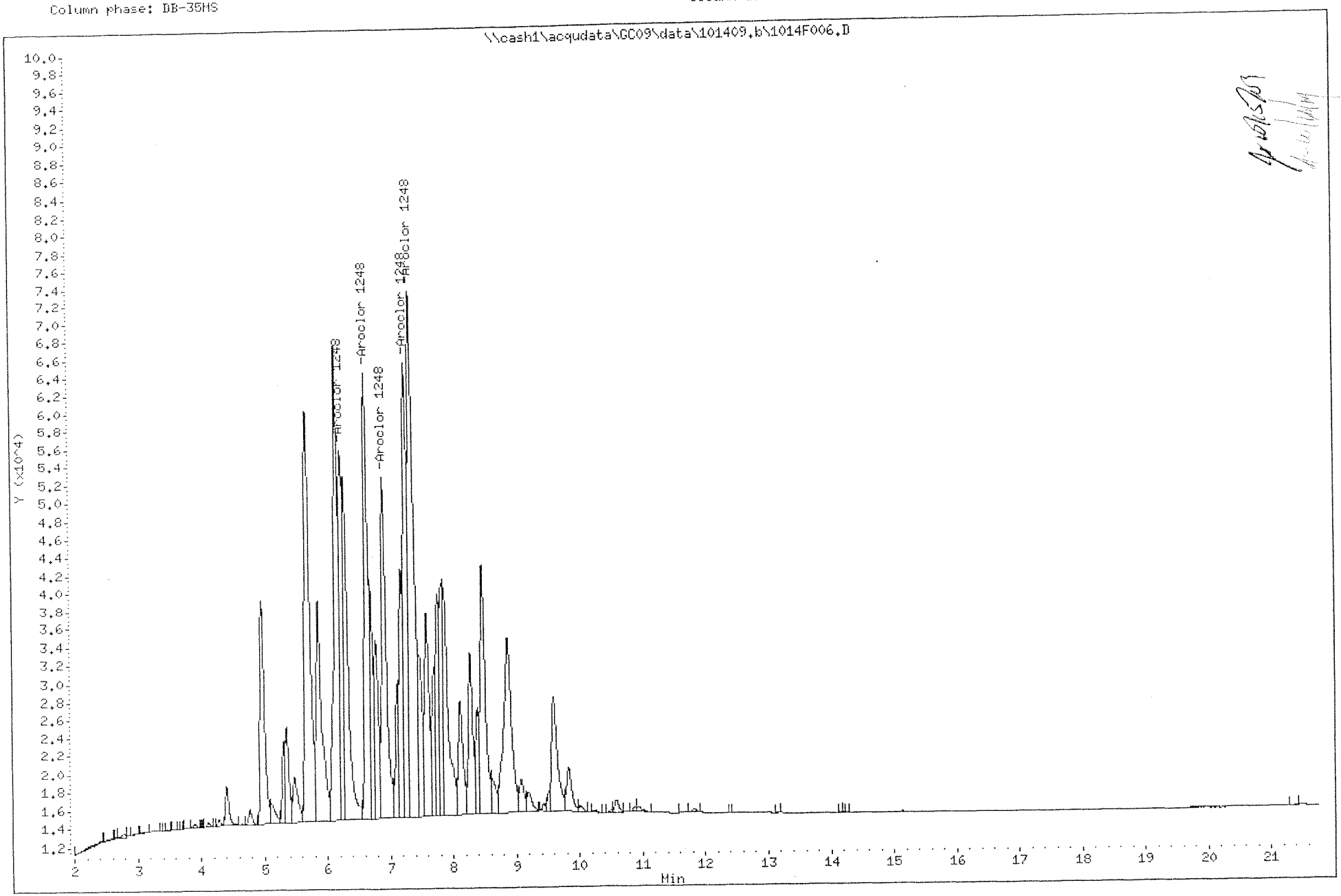
10/15/09

Data File: \\cash1\acqudata\GC09\data\101409,b\1014F006,D
Date : 15-OCT-2009 01:36
Client ID:
Sample Info: 1248 @ 1000ppb | PCB5-35S

Instrument: GC09,i

Operator: JMSmith
Column diameter: 0.53

Column phase: DB-35MS



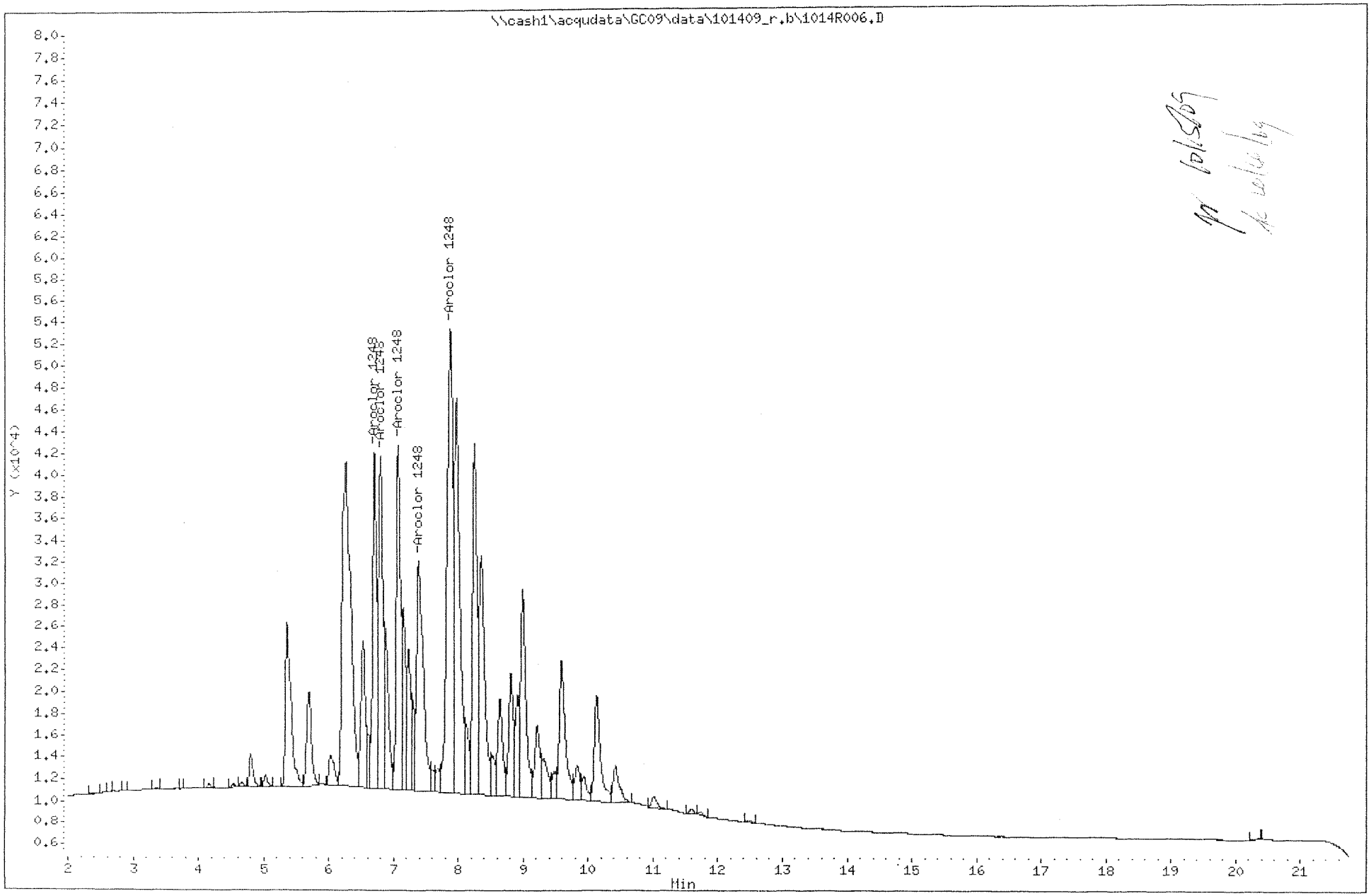
853

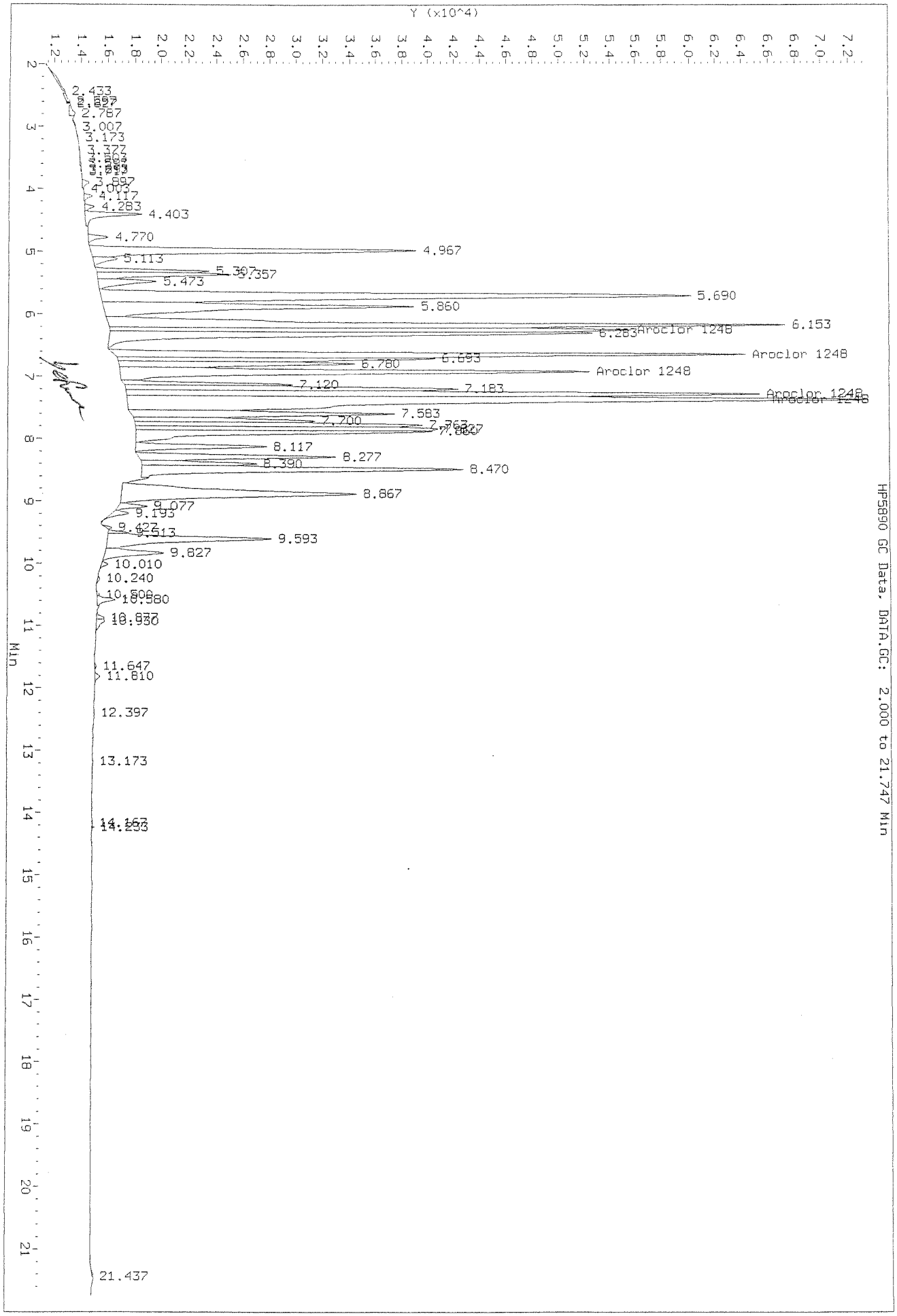
Data File: \\cash1\acqudata\GC09\data\101409_r.b\1014R006.D
Date : 15-OCT-2009 01:36
Client ID:
Sample Info: 1248 @ 1000ppb | PCB5-35S

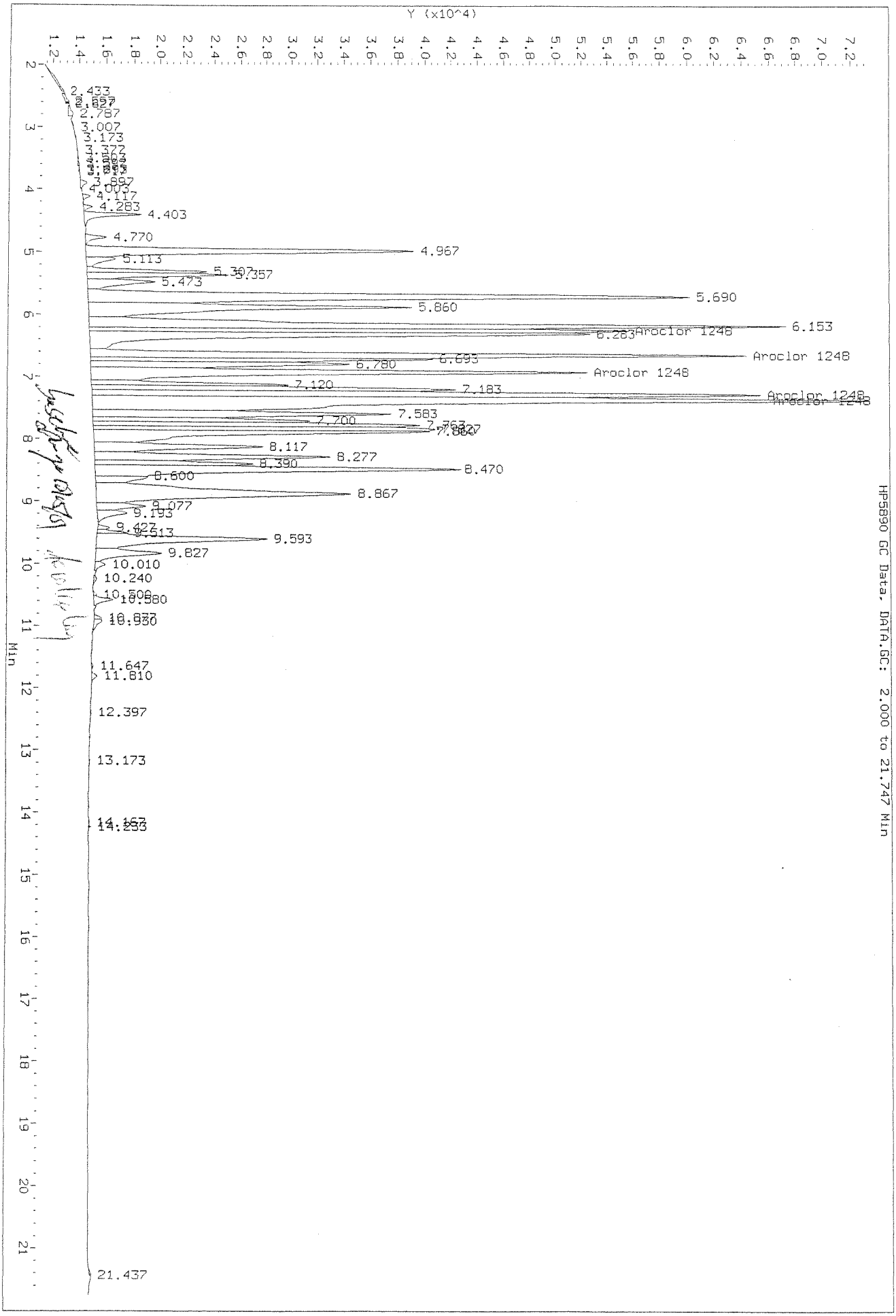
Instrument: GC09.i

Operator: JHSmith
Column diameter: 0.53

Column phase: DB-XLB




Data File: \\cash1\acqudata\GC09\data\101409.b\1014F006.D
Injection Date: 15-OCT-2009 01:36
Instrument: GC09.1
Client Sample ID:
Y (x10^4)
Min
HP5890 GC Data, DATA.GC: 2.000 to 21.747 Min
2.433
2.767
3.007
3.173
4.117
4.283
4.403
4.770
4.967
5.113
5.357
5.473
5.690
5.860
6.153
6.283
Aroclor 1248
Aroclor 1248
6.780
6.893
Aroclor 1248
7.120
7.183
Aroclor 1248
7.583
7.200
8.117
8.277
8.390
8.470
8.867
9.077
9.193
9.593
9.827
10.010
10.240
10.580
11.647
11.810
12.397
13.173
21.437


Data File: \\cash1\acqudata\GC09\data\101409.b\1014F006.D
Injection Date: 15-OCT-2009 01:36
Instrument: GC09.i
Client Sample ID:
Y (x10^4)
Min
HP5890 GC Data, DATA.GC: 2.000 to 21.747 Min
2.433
2.787
3.007
3.173
4.117
4.283
4.403
4.770
4.967
5.113
5.357
5.473
5.690
5.860
6.153
Aroclor 1248
6.283
6.693
Aroclor 1248
6.780
Aroclor 1248
7.120
7.183
7.583
7.700
8.117
8.277
8.390
8.470
8.600
8.867
9.077
9.193
9.427
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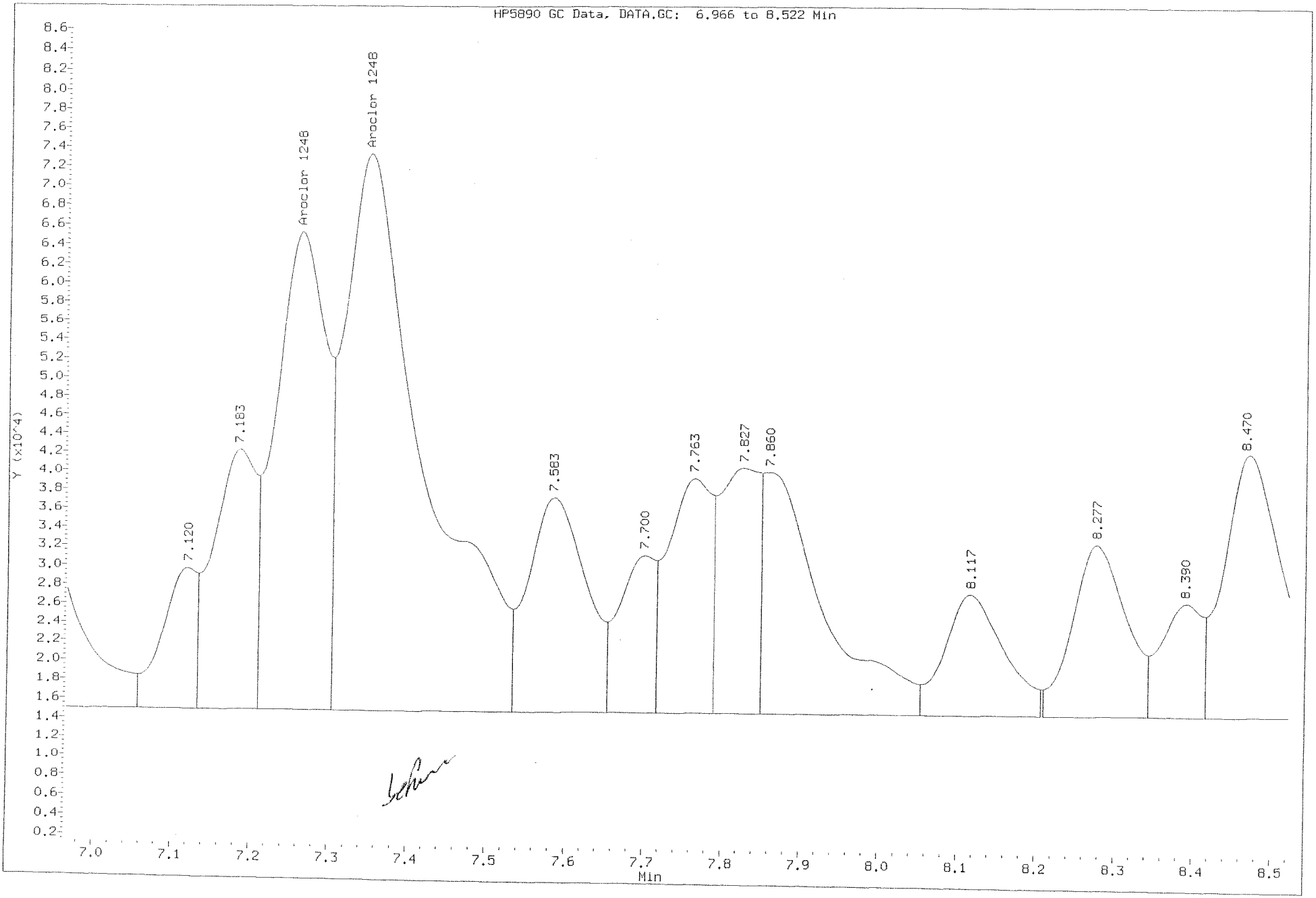
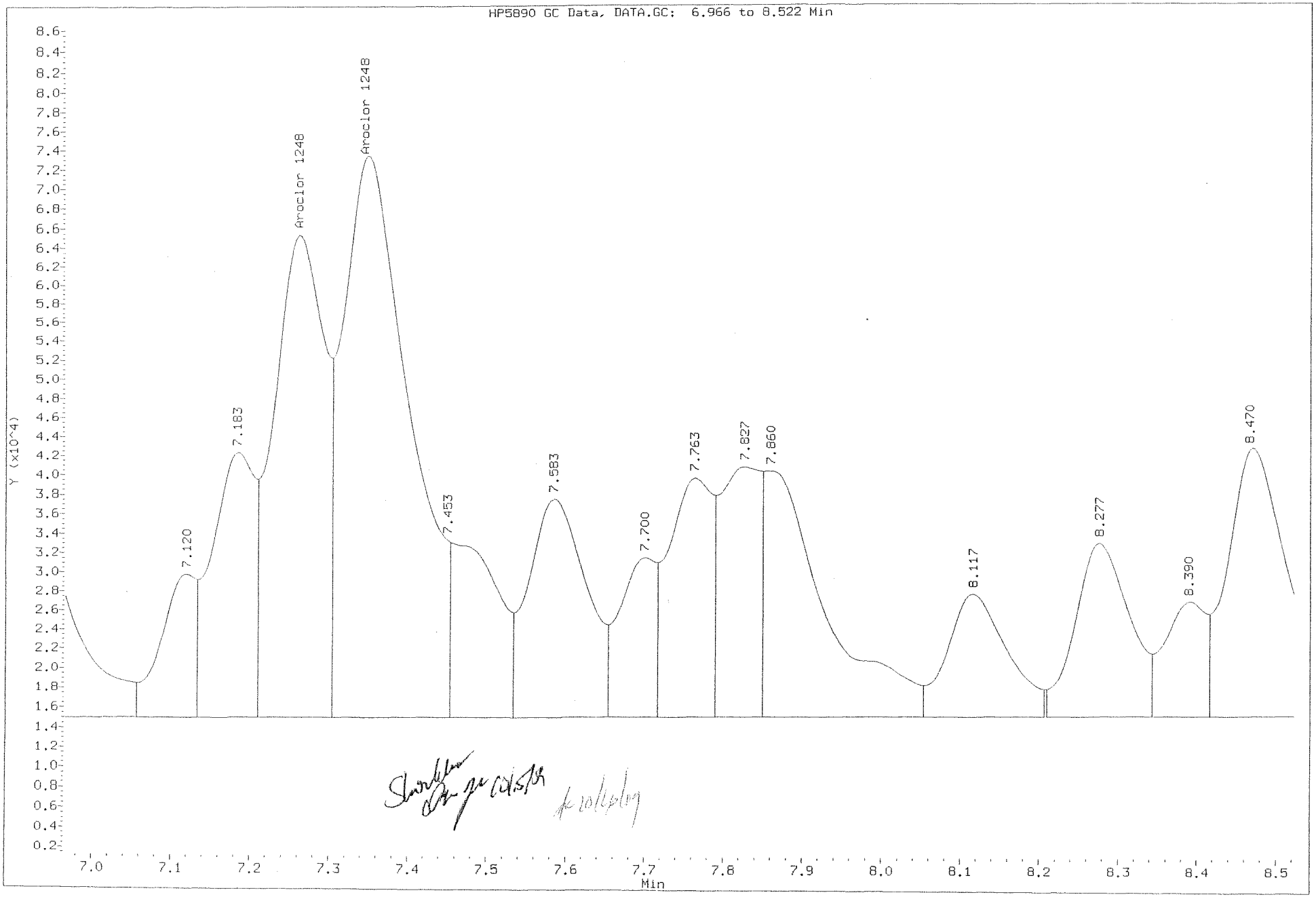
9.827
10.010
10.240
10.580
11.647
11.810
12.397
13.173
21.437

Data File: \\cash1\acqudata\GC09\data\101409.b\1014F006.D
Injection Date: 15-OCT-2009 01:36
Instrument: GC09.i
Client Sample ID:



Data File: \\cash1\acqudata\GC09\data\101409.b\1014F006.D
Injection Date: 15-OCT-2009 01:36
Instrument: GC09.i
Client Sample ID:



Data File: \\cash1\acqudata\GC09\data\101409.b\1014F007.D
Report Date: 15-Oct-2009 16:42

Laboratory Name

Sample #1 : \\cash1\acqudata\GC09\data\101409.b\1014F007.D
Sample #2 : \\cash1\acqudata\GC09\data\101409_r.b\1014R007.D
Inj Date : 15-OCT-2009 02:03
Sample Info: 1254 @ 1000ppb | PCB5-35T
Misc Info : SEMIVOA GC\W0900671\7-ICAL.H
Cal Date : 15-OCT-2009 11:57
Operator : JMSmith
Inst ID : GC09.i
Dil Factor : 1.000000

Method #1 : \\cash1\acqudata\GC09\data\101409.b\101409_f.m
Method #2 : \\cash1\acqudata\GC09\data\101409_r.b\101409_r.m
Sub List #1 : AR1254.SUB
Sub List #2 : AR1254.SUB
Col #1 Phase : DB-35MS
Col #2 Phase : DB-XLB

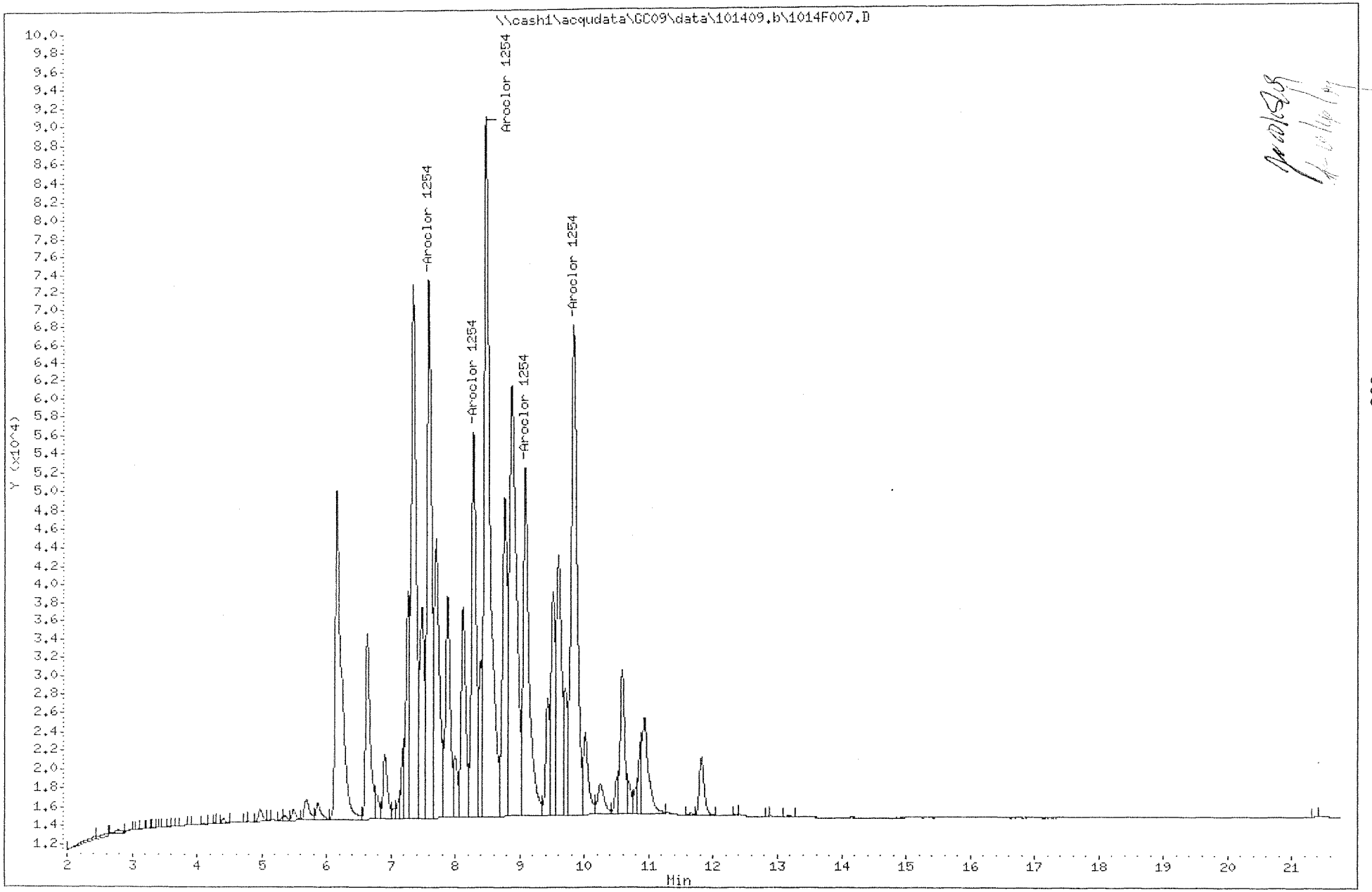
Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2	Target Range	Ratio
Aroclor 1254	7.583	7.827	287348	240597	1000	1000	80.00- 120.00	100.00
	8.277	8.247	202290	243946	1000	1000	56.32- 84.48	70.40
	8.473	8.803	496447	132640	1000	1000	138.21- 207.32	172.77
	9.077	8.987	240863	261023	1000	1000	67.06- 100.59	83.82
	9.827	9.583	340660	233743	1000	1000	94.84- 142.26	118.55
			Average of Peak Amounts =		1000	1000		

Data File: \\cash1\acqudata\GC09\data\101409.b\1014F007.D
Date : 15-OCT-2009 02:03
Client ID:
Sample Info: 1254 @ 1000ppb | PCB5-35T

Instrument: GC09.i

Operator: JMSmith
Column diameter: 0.53

Column phase: DB-35MS



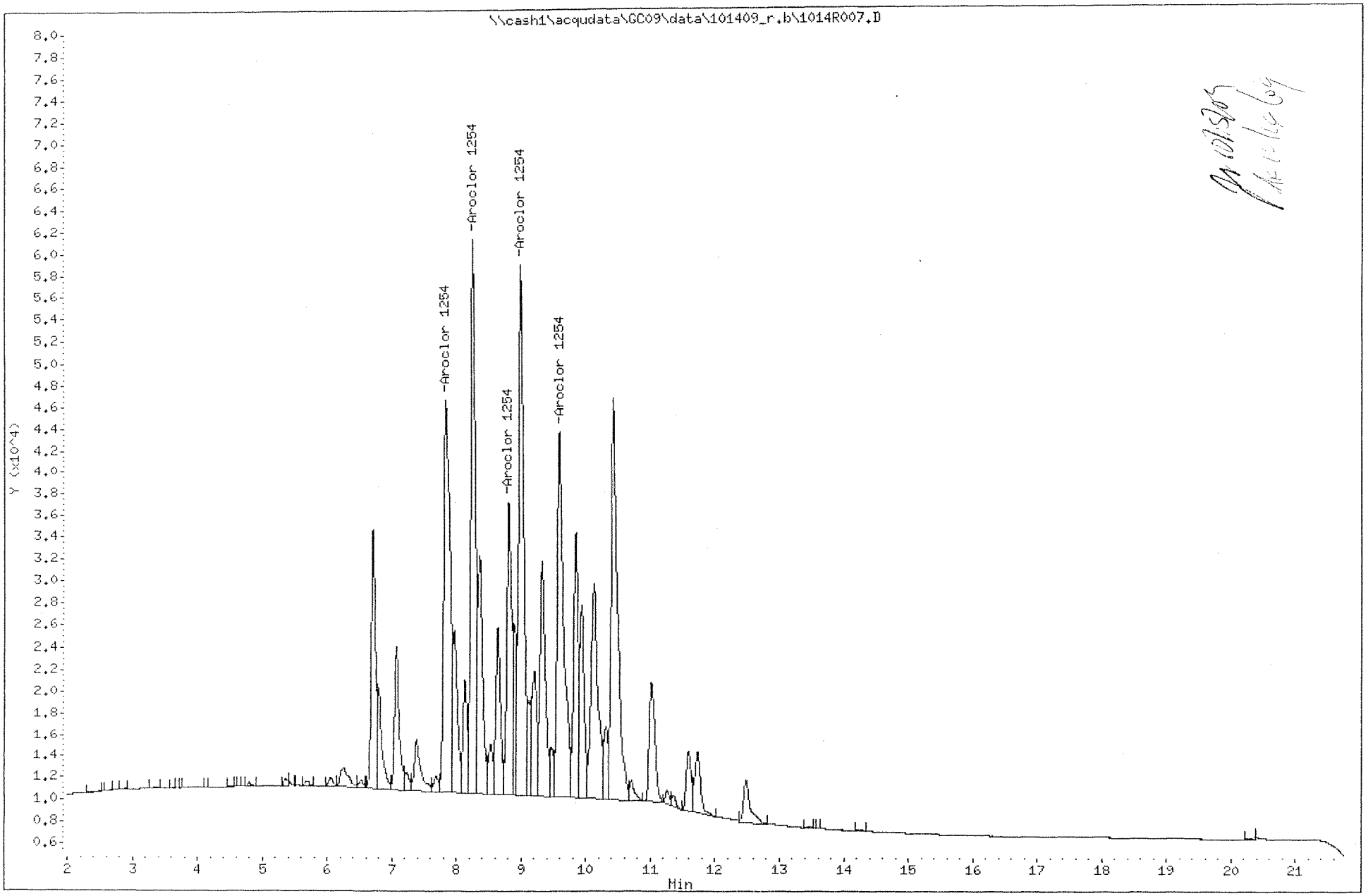
860

Data File: \\cash1\acqudata\GC09\data\101409_r.b\1014R007.D
Date : 15-OCT-2009 02:03
Client ID:
Sample Info: 1254 @ 1000ppb | PCB5-35T

Instrument: GC09.i

Operator: JMSmith
Column diameter: 0.53

Column phase: DB-XLB



Data File: \\cash1\acqudata\GC09\data\101409.b\1014F008.D
Report Date: 15-Oct-2009 16:42

Laboratory Name

Sample #1 : \\cash1\acqudata\GC09\data\101409.b\1014F008.D
Sample #2 : \\cash1\acqudata\GC09\data\101409_r.b\1014R008.D
Inj Date : 15-OCT-2009 02:29
Sample Info: 1262 @ 1000ppb | PCB5-35U
Misc Info : SEMIVOA GC\W0900671\8-ICAL.H
Cal Date : 15-OCT-2009 11:57
Operator : JMSmith
Inst ID : GC09.i
Dil Factor : 1.000000

Method #1 : \\cash1\acqudata\GC09\data\101409.b\101409_f.m
Method #2 : \\cash1\acqudata\GC09\data\101409_r.b\101409_r.m
Sub List #1 : AR1262.SUB
Sub List #2 : AR1262.SUB
Col #1 Phase : DB-35MS
Col #2 Phase : DB-XLB

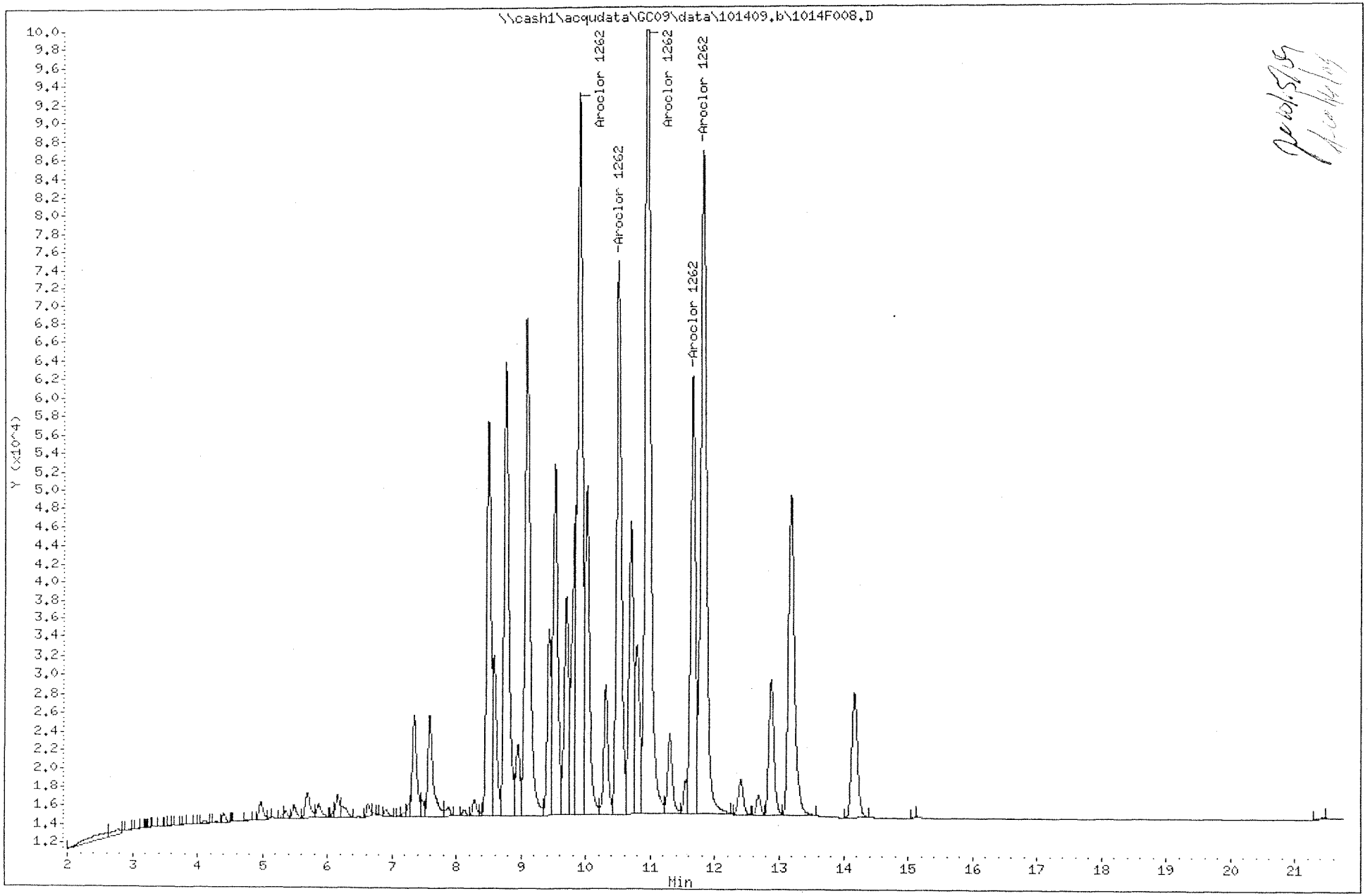
Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2	Target Range	Ratio
Aroclor 1262	9.893	10.590	398567	243508	1000	1000	80.00- 120.00	100.00
	10.497	11.050	300491	196890	1000	1000	60.31- 90.47	75.39
	10.937	11.733	579373	410531	1000	1000	116.29- 174.44	145.36
	11.647	12.483	236333	300197	1000	1000	47.44- 71.15	59.30
	11.807	12.677	438939	228564	1000	1000	88.10- 132.16	110.13
			Average of Peak Amounts =		1000	1000		

Data File: \\cash1\acqudata\GC09\data\101409.b\1014F008.D
Date : 15-OCT-2009 02:29
Client ID:
Sample Info: 1262 @ 1000ppb | PCB5-35U

Instrument: GC09.i

Operator: JMSmith
Column diameter: 0.53

Column phase: DB-35MS

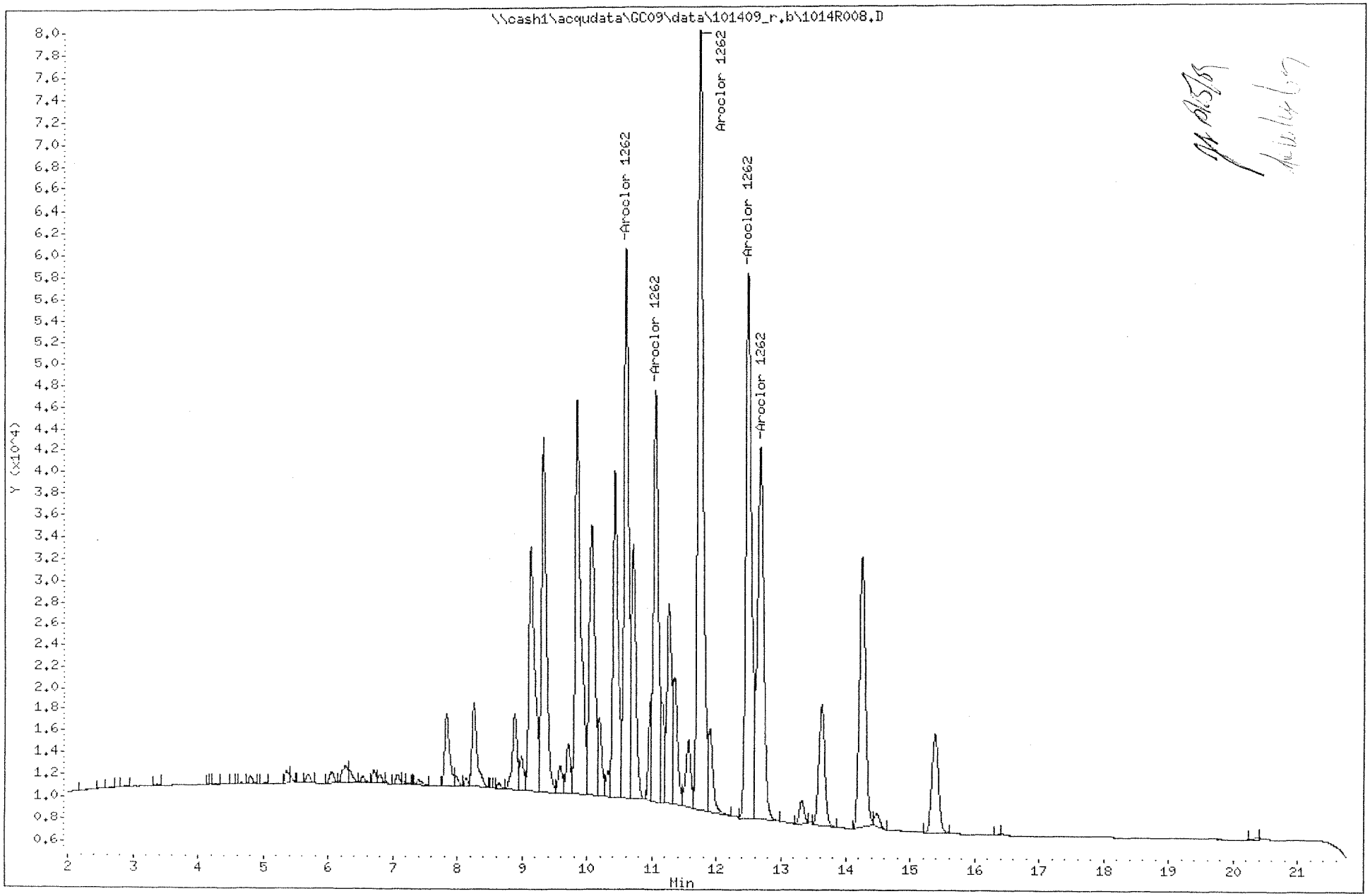


Data File: \\cash1\acqudata\GC09\data\101409_r.b\1014R008.D
Date : 15-OCT-2009 02:29
Client ID:
Sample Info: 1262 @ 1000ppb | PCB5-35U

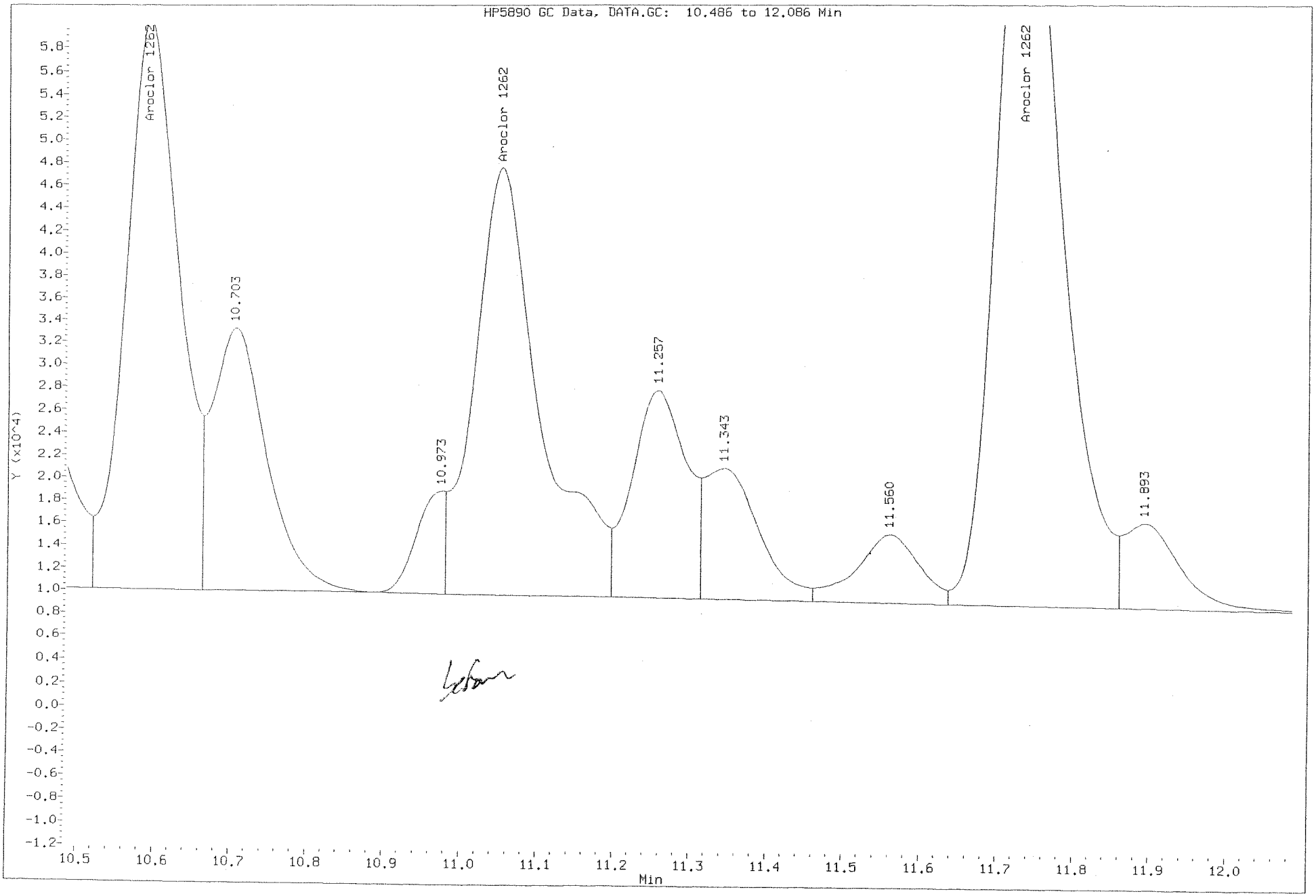
Instrument: GC09.i

Operator: JMSmith
Column diameter: 0.53

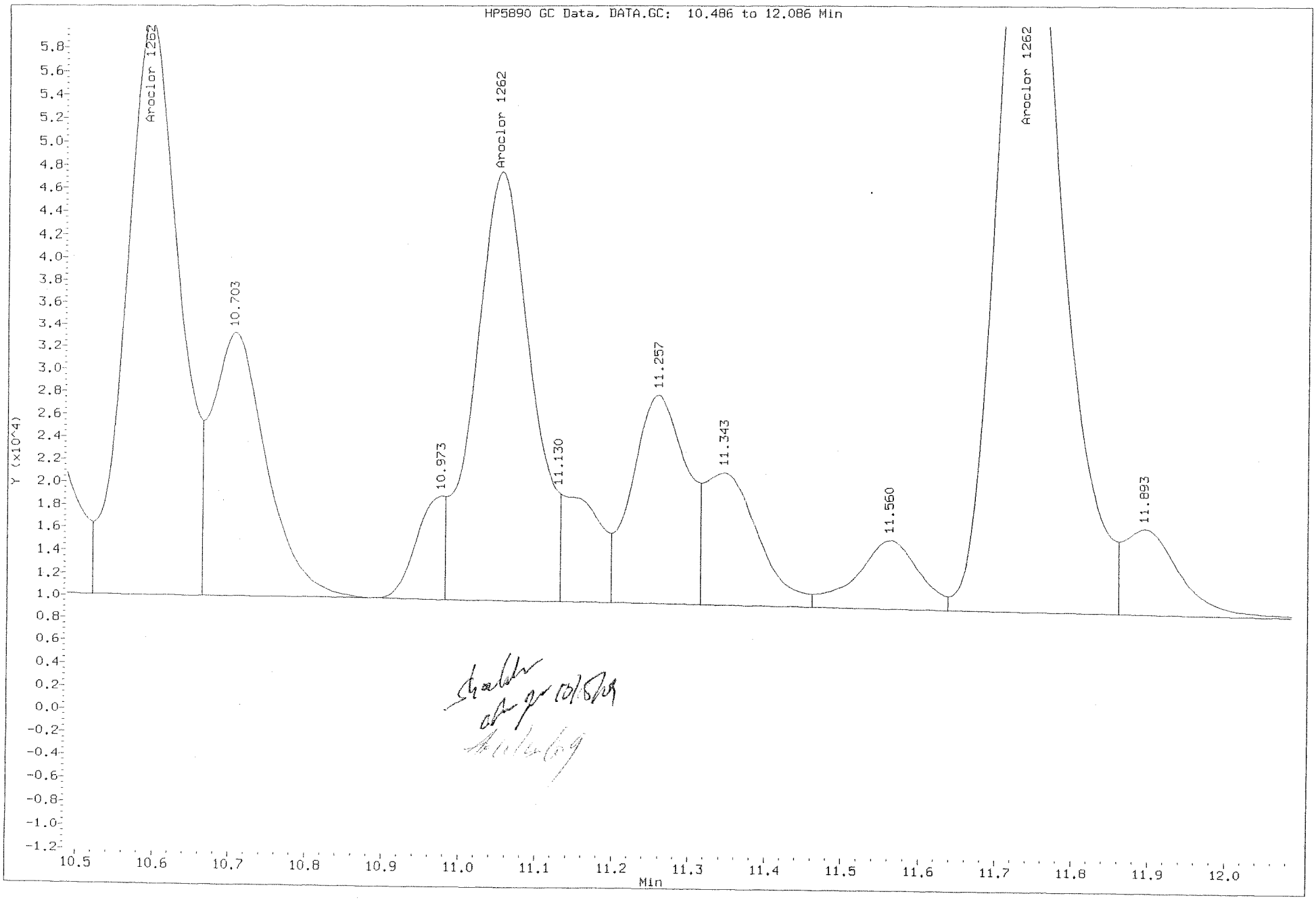
Column phase: DB-XLB



Data File: \\cash1\acqudata\GC09\data\101409_r.b\1014R008.D
Injection Date: 15-OCT-2009 02:29
Instrument: GC09.i
Client Sample ID:



Data File: \\cash1\acqudata\GC09\data\101409_r.b\1014R008.D
Injection Date: 15-OCT-2009 02:29
Instrument: GC09.i
Client Sample ID:



Data File: \\cash1\acqudata\GC09\data\101409.b\1014F009.D
Report Date: 15-Oct-2009 16:42

Laboratory Name

Sample #1 : \\cash1\acqudata\GC09\data\101409.b\1014F009.D
Sample #2 : \\cash1\acqudata\GC09\data\101409_r.b\1014R009.D
Inj Date : 15-OCT-2009 02:55
Sample Info: 1268 @ 1000ppb | PCB5-36A
Misc Info : SEMIVOA GC\W0900671\9-ICAL.H
Cal Date : 15-OCT-2009 11:57
Operator : JMSmith
Inst ID : GC09.i
Dil Factor : 1.000000

Method #1 : \\cash1\acqudata\GC09\data\101409.b\101409_f.m
Method #2 : \\cash1\acqudata\GC09\data\101409_r.b\101409_r.m
Sub List #1 : AR1268.SUB
Sub List #2 : AR1268.SUB
Col #1 Phase : DB-35MS
Col #2 Phase : DB-XLB

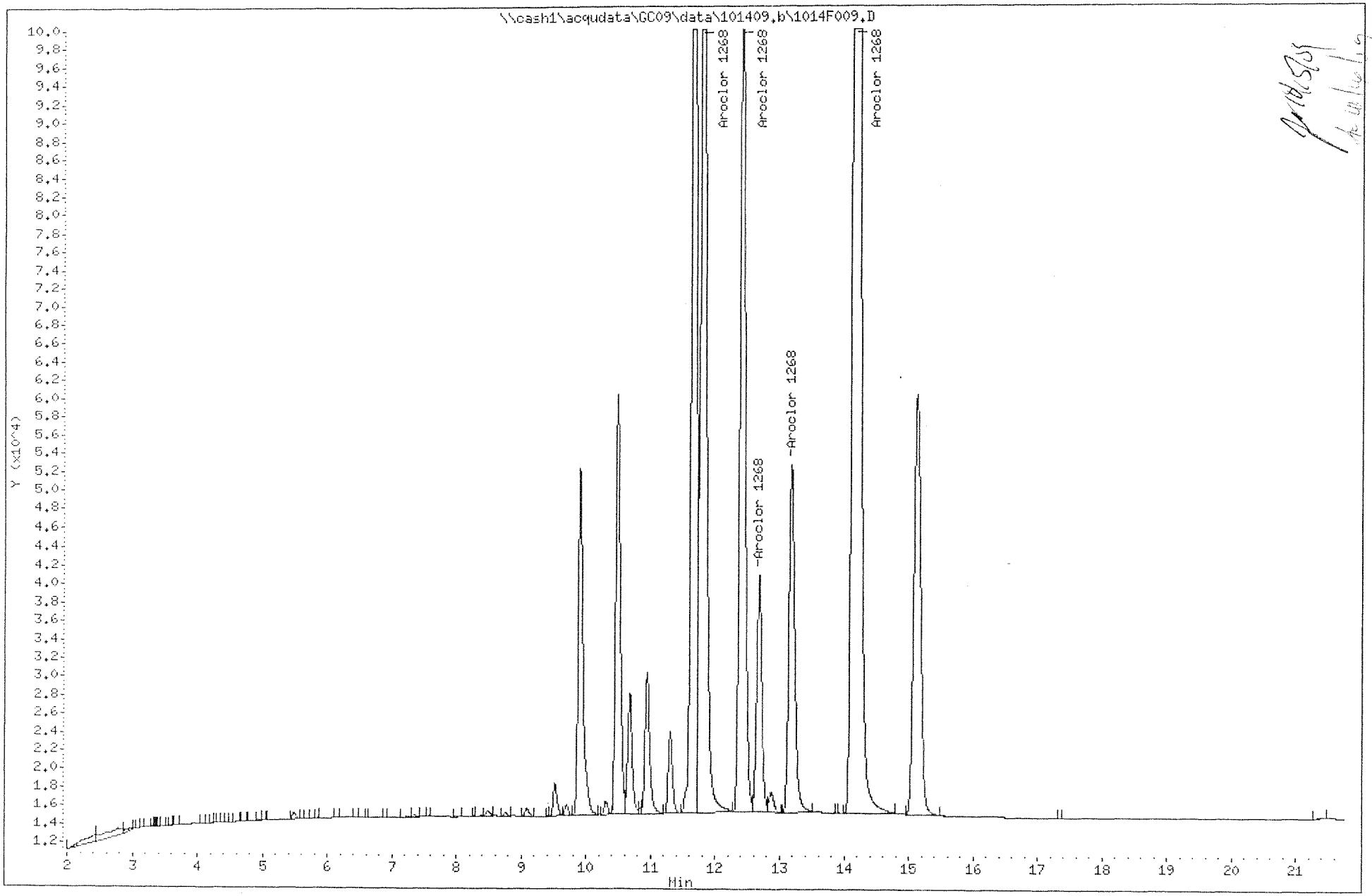
Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2	Target Range	Ratio
Aroclor 1268	11.790	12.683	703074	537562	1000	1000	80.00- 120.00	100.00
	12.400	13.320	530164	421571	1000	1000	60.33- 90.49	75.41
	12.673	13.583	140560	119104	1000	1000	15.99- 23.99	19.99
	13.173	14.253	235517	184601	1000	1000	26.80- 40.20	33.50
	14.167	15.383	1521915	1238216	1000	1000	173.17- 259.76	216.47
			Average of Peak Amounts =		1000	1000		

Data File: \\cash1\acqudata\GC09\data\101409.b\1014F009.D
Date : 15-OCT-2009 02:55
Client ID:
Sample Info: 1268 @ 1000ppb | PCB5-36A

Instrument: GC09.i

Operator: JHSmith
Column diameter: 0.53

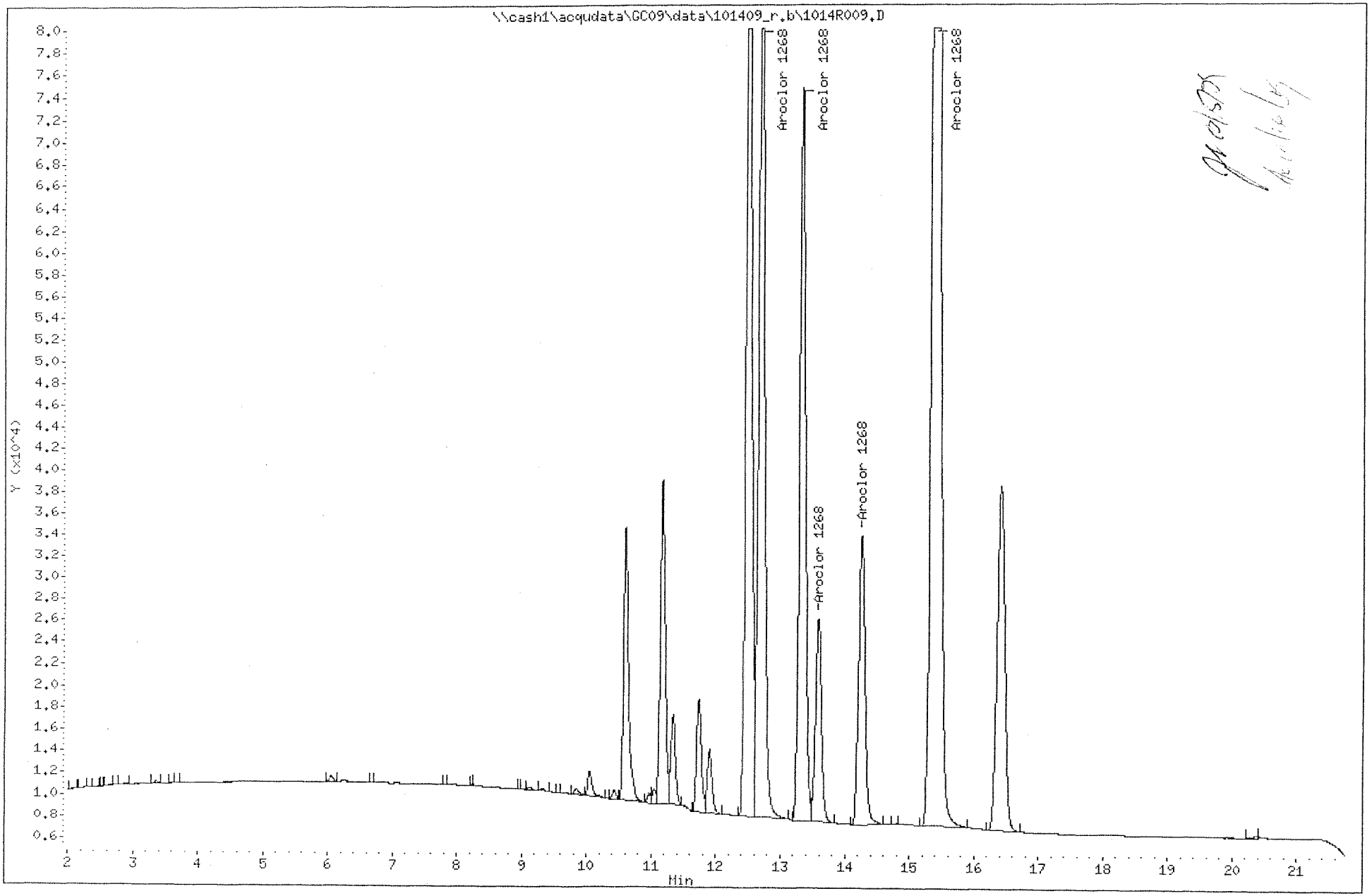
Column phase: DB-35MS



868

Data File: \\cash1\acqudata\GC09\data\101409_r.b\1014R009.D
Date : 15-OCT-2009 02:55
Client ID:
Sample Info: 1268 @ 1000ppb | PCB5-36A

Instrument: GC09.i
Operator: JMSmith
Column phase: DB-XLB
Column diameter: 0.53



Data File: \\cash1\acqudata\GC09\data\101409.b\1014F010.D
Report Date: 15-Oct-2009 16:42

Laboratory Name

Sample #1 : \\cash1\acqudata\GC09\data\101409.b\1014F010.D
Sample #2 : \\cash1\acqudata\GC09\data\101409_r.b\1014R010.D
Inj Date : 15-OCT-2009 03:22
Sample Info: 1660 @ 25ppb | PCB5-34C
Misc Info : SEMIVOA GC\W0900671\10-ICAL.H
Cal Date : 15-OCT-2009 12:43
Operator : JMSmith
Inst ID : GC09.i
Dil Factor : 1.000000

Method #1 : \\cash1\acqudata\GC09\data\101409.b\101409_f.m
Method #2 : \\cash1\acqudata\GC09\data\101409_r.b\101409_r.m
Sub List #1 : AR1660.SUB
Sub List #2 : AR1660.SUB
Col #1 Phase : DB-35MS
Col #2 Phase : DB-XLB

Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2	Target Range	Ratio
Tetrachloro-m-xylene	3.713	4.317	16283	10786	2.79	2.61		100.00
Aroclor 1016	5.357	5.687	3440	3578	26.8	28.7	80.00- 120.00	100.00(M)
	5.693	6.267	15426	6713	29.8	28.6	307.70- 461.55	448.35(M)
	5.860	6.703	8720	3280	47.0	30.9	168.92- 253.38	253.44(M)
	6.630	6.797	4688	3722	28.3	29.8	103.85- 155.77	136.28(M)
	6.903	7.067	3393	2797	24.4	27.8	97.28- 145.93	98.63(M)
			Average of Peak Amounts =		31.3	29.2		
Aroclor 1260	9.083	9.320	12755	7525	30.0	31.4	80.00- 120.00	100.00(M)
	9.513	10.420	7020	8615	30.4	32.2	43.75- 65.63	55.04(M)
	10.500	10.593	7488	4837	29.4	18.6	52.29- 78.43	58.71(M)
	10.940	11.733	17066	9354	31.1	40.3	111.09- 166.63	133.80(M)
	11.813	12.483	10720	6341	28.4	20.2	81.28- 121.92	84.05(M)
			Average of Peak Amounts =		29.9	28.5		
Decachlorobiphenyl	15.120	16.410	16336	11735	3.00	2.81		100.00

QC Flag Legend

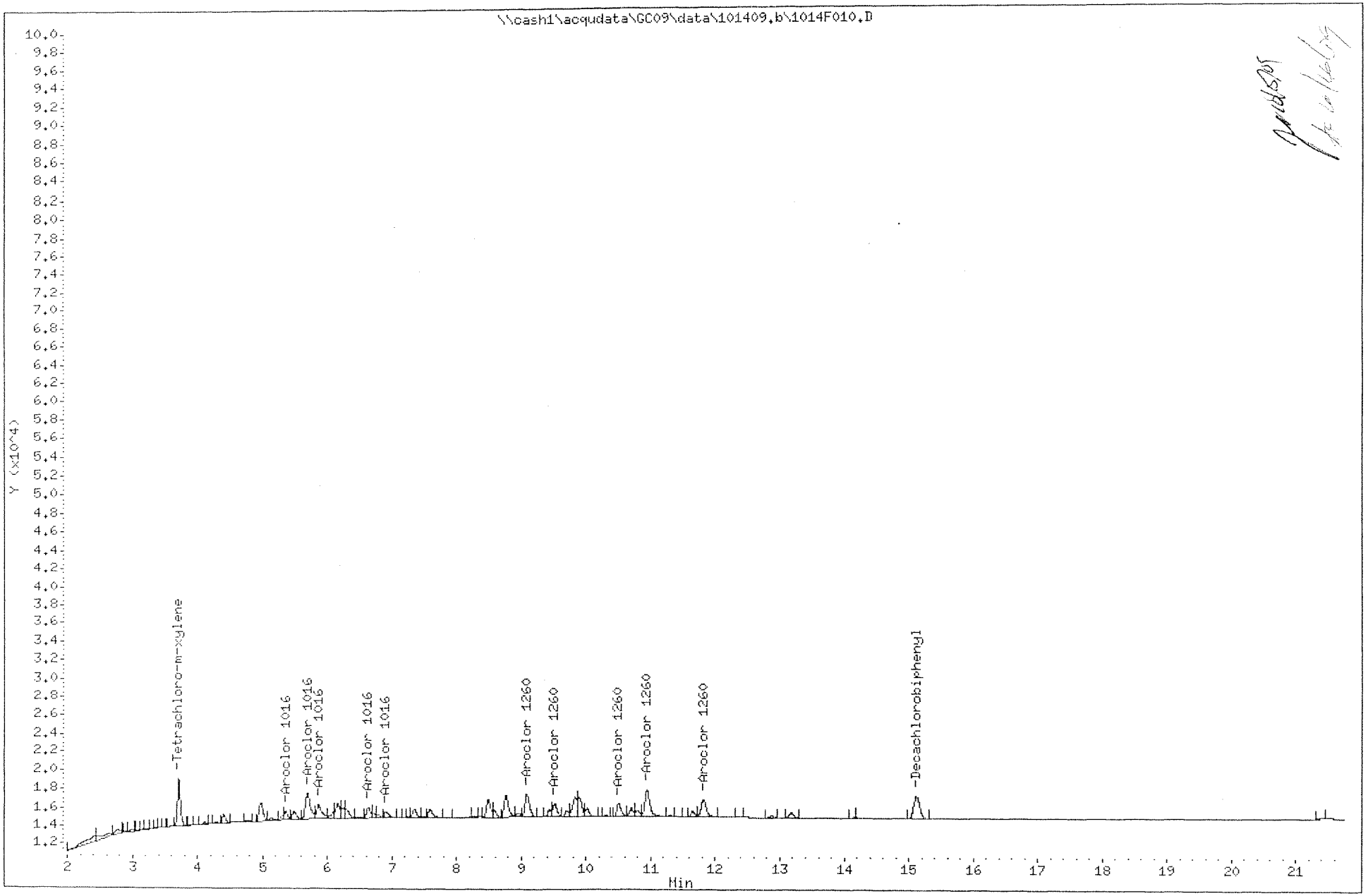
M - Compound response manually integrated.

Data File: \\cash1\acqudata\GC09\data\101409.b\1014F010.D
Date : 15-OCT-2009 03:22
Client ID:
Sample Info: 1660 @ 25ppb | PCB5-34C

Instrument: GC09.i

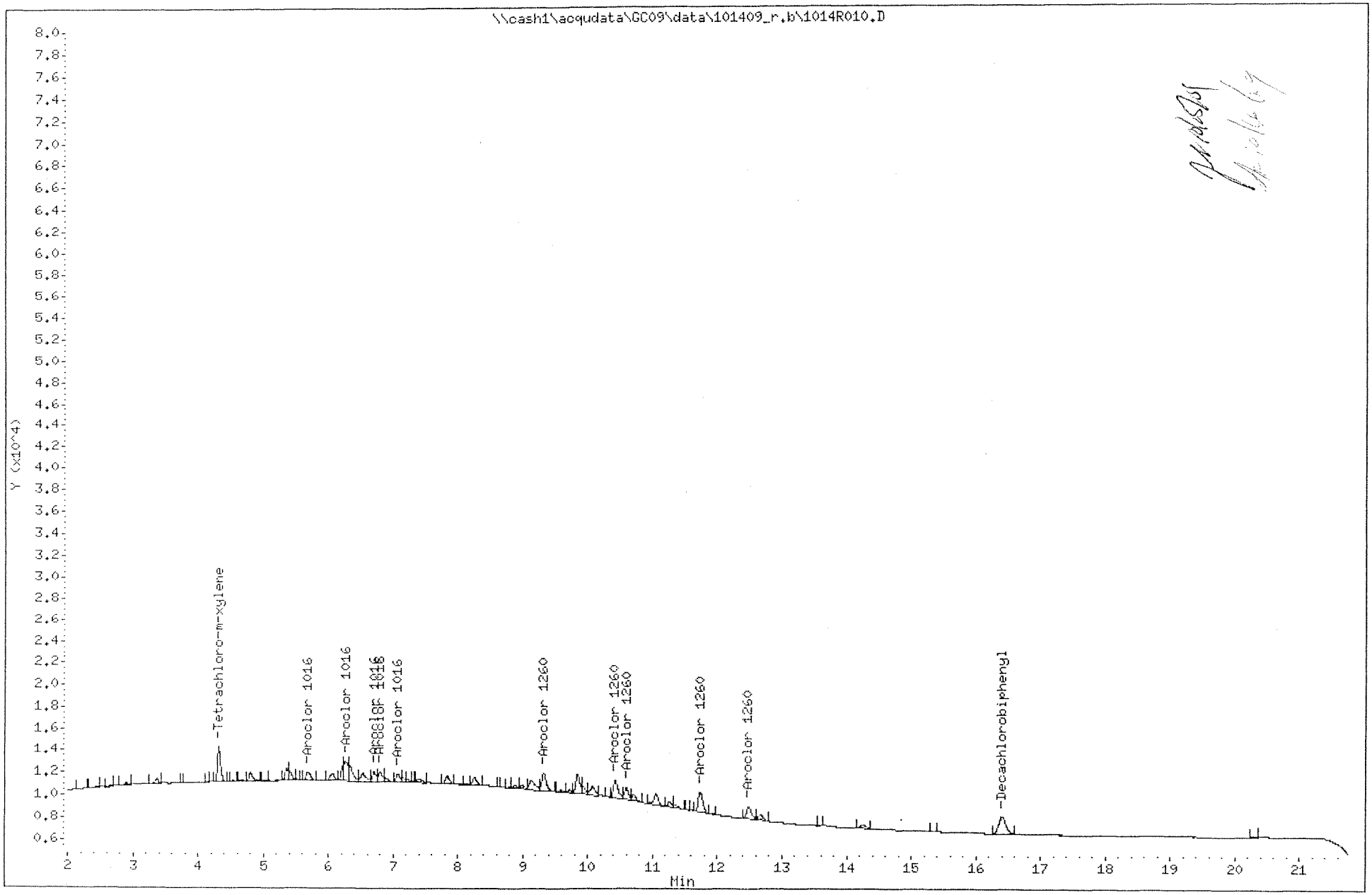
Operator: JHSmith
Column diameter: 0.53

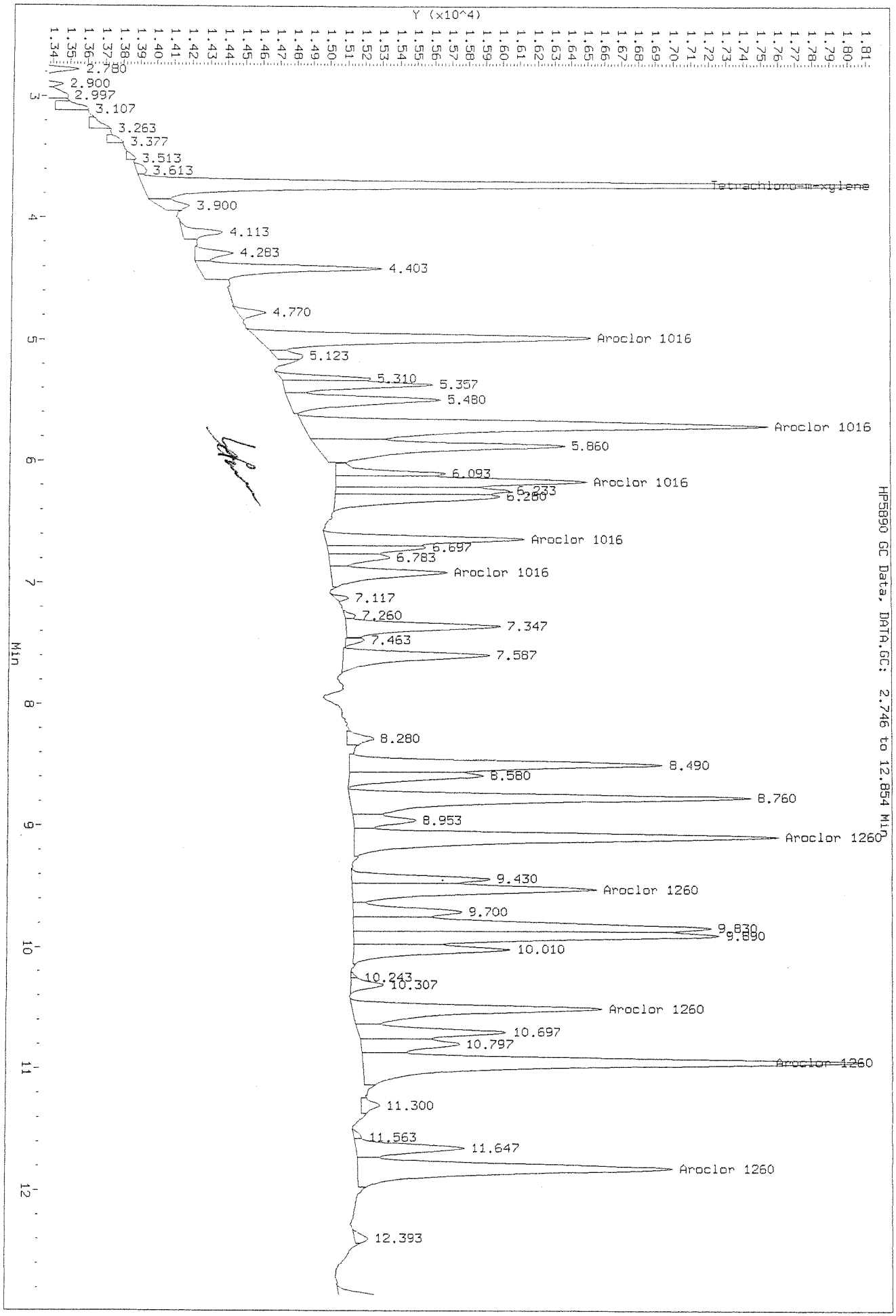
Column phase: DB-35MS



Data File: \\cash1\acqudata\GC09\data\101409_r.b\1014R010.D
Date : 15-OCT-2009 03:22
Client ID:
Sample Info: 1660 @ 25ppb | PCB5-34C

Instrument: GC09.i
Operator: JMSmith
Column phase: DB-XLB
Column diameter: 0.53




Data File: \\cash1\acqudata\GC09\data\101409.b\1014F010.D
Injection Date: 15-OCT-2009 03:22
Instrument: GC09.i
Client Sample ID:
Y (x10^4)
HP5890 GC Data, DATA.GC: 2.746 to 12.854 Min
Min
2.780
2.900
2.997
3.107
3.263
3.377
3.513
3.613
Tetrachloro-m-xylene
3.900
4.113
4.283
4.403
4.770
Aroclor 1016
5.123
5.310
5.357
5.480
Aroclor 1016
5.860
6.093
Aroclor 1016
6.233
6.280
Aroclor 1016
6.697
6.783
Aroclor 1016
7.117
7.260
7.347
7.463
7.587
8.280
8.490
8.580
8.760
8.953
Aroclor 1260
9.430
Aroclor 1260
9.700
9.830
9.890
10.010
10.243
10.307
Aroclor 1260
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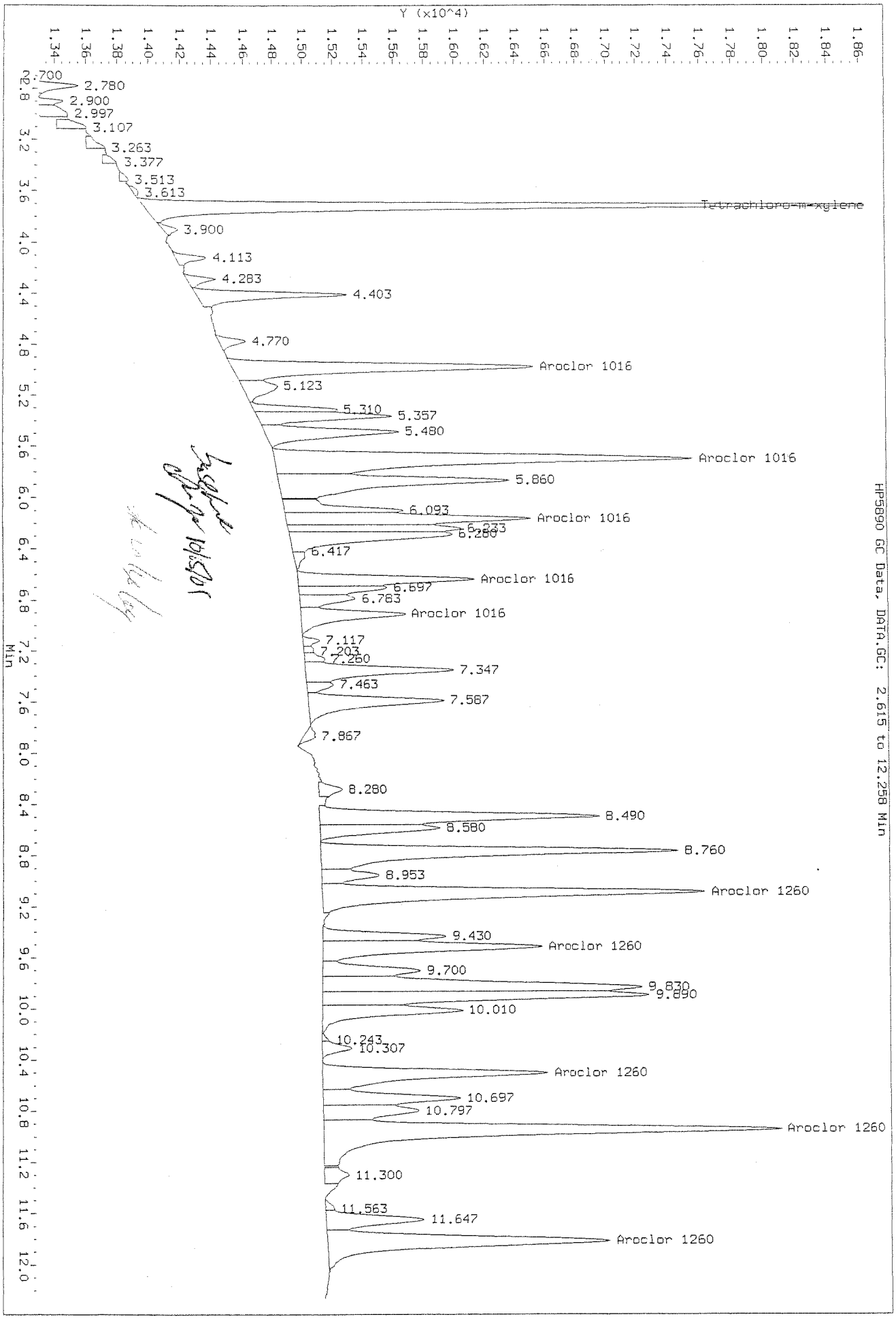
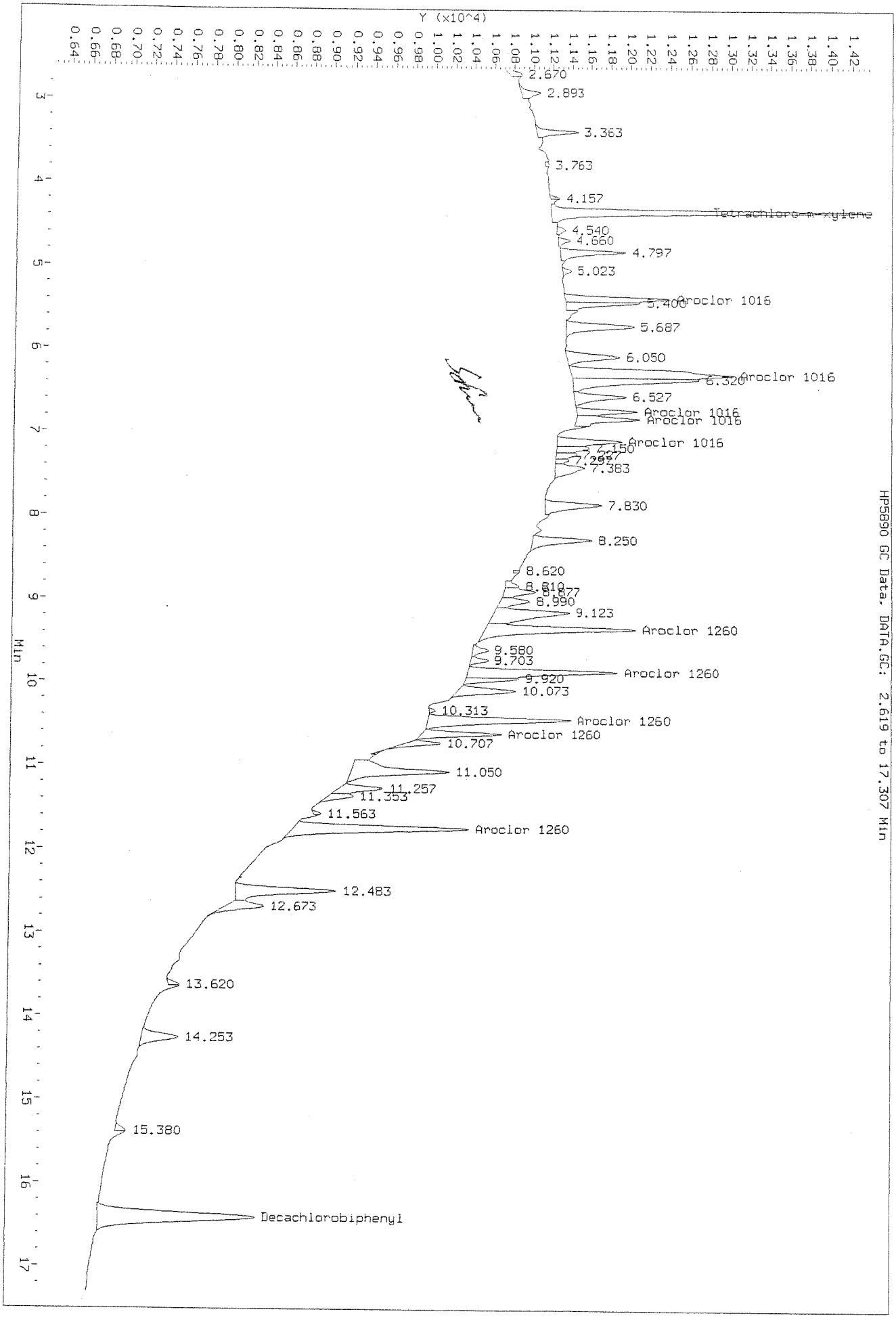
10.797
Aroclor 1260
11.300
11.563
11.647
Aroclor 1260
12.393


Data File: \\cash1\acqudata\GC09\data\101409_b\1014F010.D
Injection Date: 15-OCT-2009 03:22
Instrument: GC09.1
Client Sample ID:
HP5890 GC Data, DATA.GC: 2.615 to 12.258 Min
Y (x10^4)
Min
2.700
2.780
2.900
2.997
3.107
3.263
3.377
3.513
3.613
Tetrachloro-m-xylene
3.900
4.113
4.283
4.403
4.770
Aroclor 1016
5.123
5.310
5.357
5.480
Aroclor 1016
5.860
6.093
Aroclor 1016
6.280
6.417
Aroclor 1016
6.697
6.783
Aroclor 1016
7.117
7.203
7.260
7.347
7.463
7.587
7.867
8.280
8.490
8.580
8.760
8.953
Aroclor 1260
9.430
Aroclor 1260
9.700
9.830
9.890
10.010
10.243
10.307
Aroclor 1260
10.697
10.797
Aroclor 1260
11.300
11.563
11.647
Aroclor 1260


Data File: \\cash1\acqudata\GC09\data\101409_r.b\1014R010.D
Injection Date: 15-OCT-2009 03:22
Instrument: GC09.i
Client Sample ID:
HP5890 GC Data, DATA.GC: 2.619 to 17.307 Min
Y (x10^4)
Min
2.670
2.893
3.363
3.763
4.157
Tetrachloro-m-xylene
4.540
4.660
4.797
5.023
5.400
Aroclor 1016
5.687
6.050
6.320
Aroclor 1016
6.527
Aroclor 1016
Aroclor 1016
Aroclor 1016
7.150
7.257
7.383
7.830
8.250
8.620
8.810
8.877
8.990
9.123
Aroclor 1260
9.580
9.703
Aroclor 1260
9.920
10.073
10.313
Aroclor 1260
Aroclor 1260
10.707
11.050
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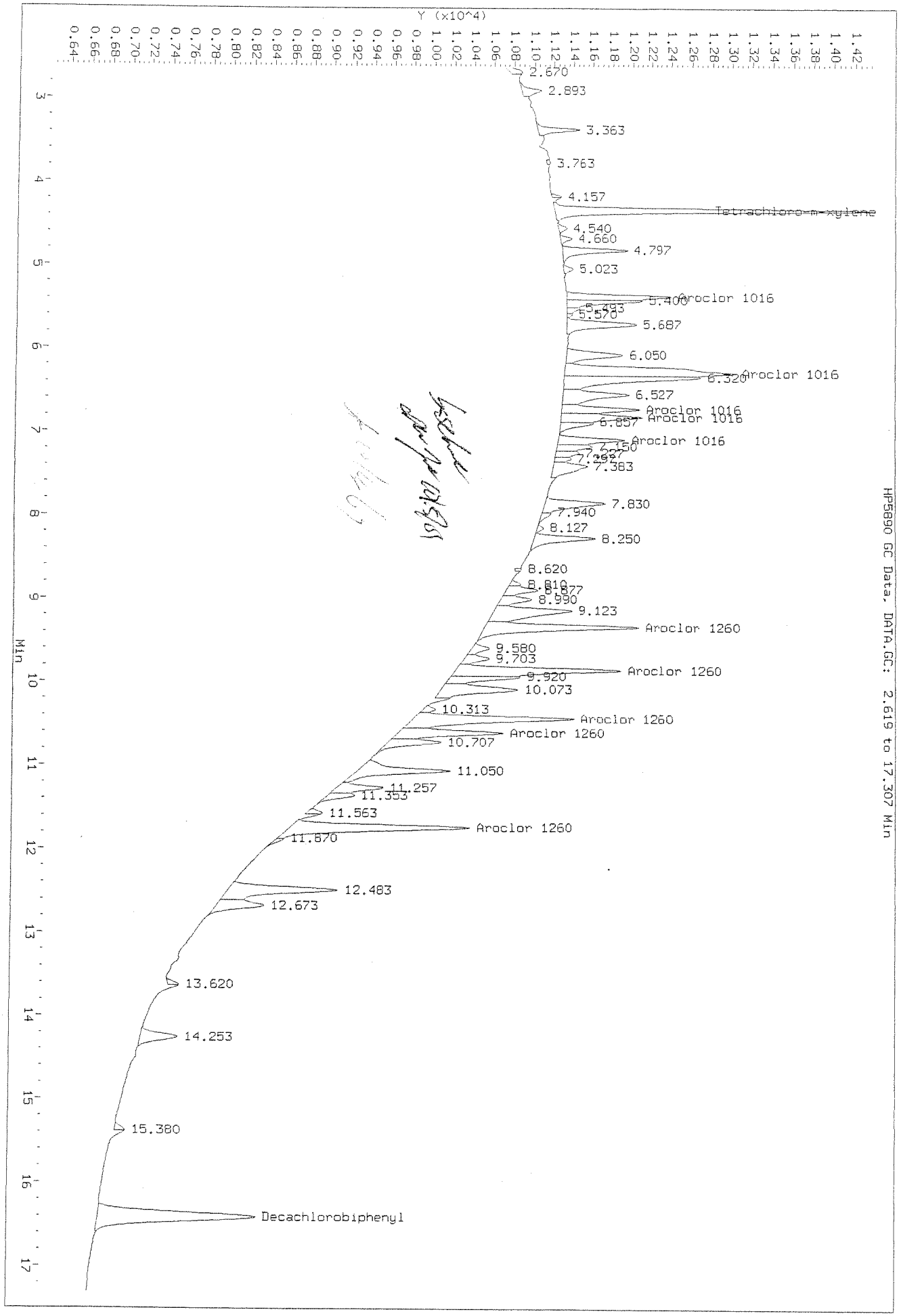
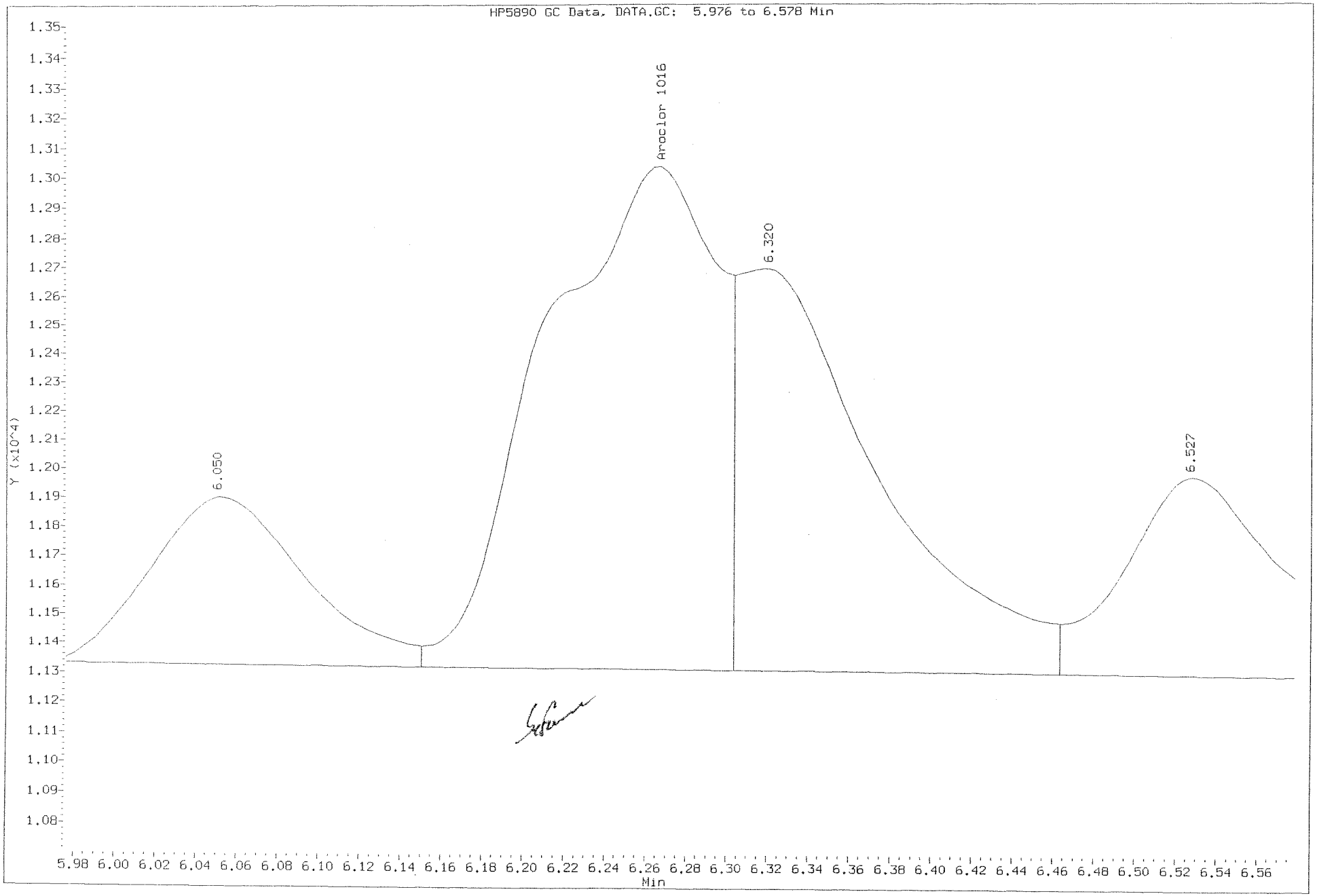
11.353
11.563
Aroclor 1260
12.483
12.673
13.620
14.253
15.380
Decachlorobiphenyl


Data File: \\cash1\acqudata\GC09\data\101409_r.b\1014R010.D
Injection Date: 15-OCT-2009 03:22
Instrument: GC09.i
Client Sample ID:
HP5890 GC Data, DATA.GC: 2.619 to 17.307 Min
Y (x10^4)
Min
2.670
2.893
3.363
3.763
4.157
Tetrachloro-m-xylene
4.540
4.660
4.797
5.023
5.400
Aroclor 1016
5.493
5.570
5.687
6.050
6.320
Aroclor 1016
6.527
Aroclor 1016
Aroclor 1016
6.857
Aroclor 1016
7.150
7.227
7.383
7.830
7.940
8.127
8.250
8.620
8.810
8.877
8.990
9.123
Aroclor 1260
9.580
9.703
Aroclor 1260
9.920
10.073
10.313
Aroclor 1260
Aroclor 1260
10.707
11.050
11.257
11.353
11.563
Aroclor 1260
11.870
12.483
12.673
13.620
14.253
15.380
Decachlorobiphenyl

Data File: \\cash1\acqudata\GC09\data\101409_r.b\1014R010.D
Injection Date: 15-OCT-2009 03:22
Instrument: GC09.i
Client Sample ID:



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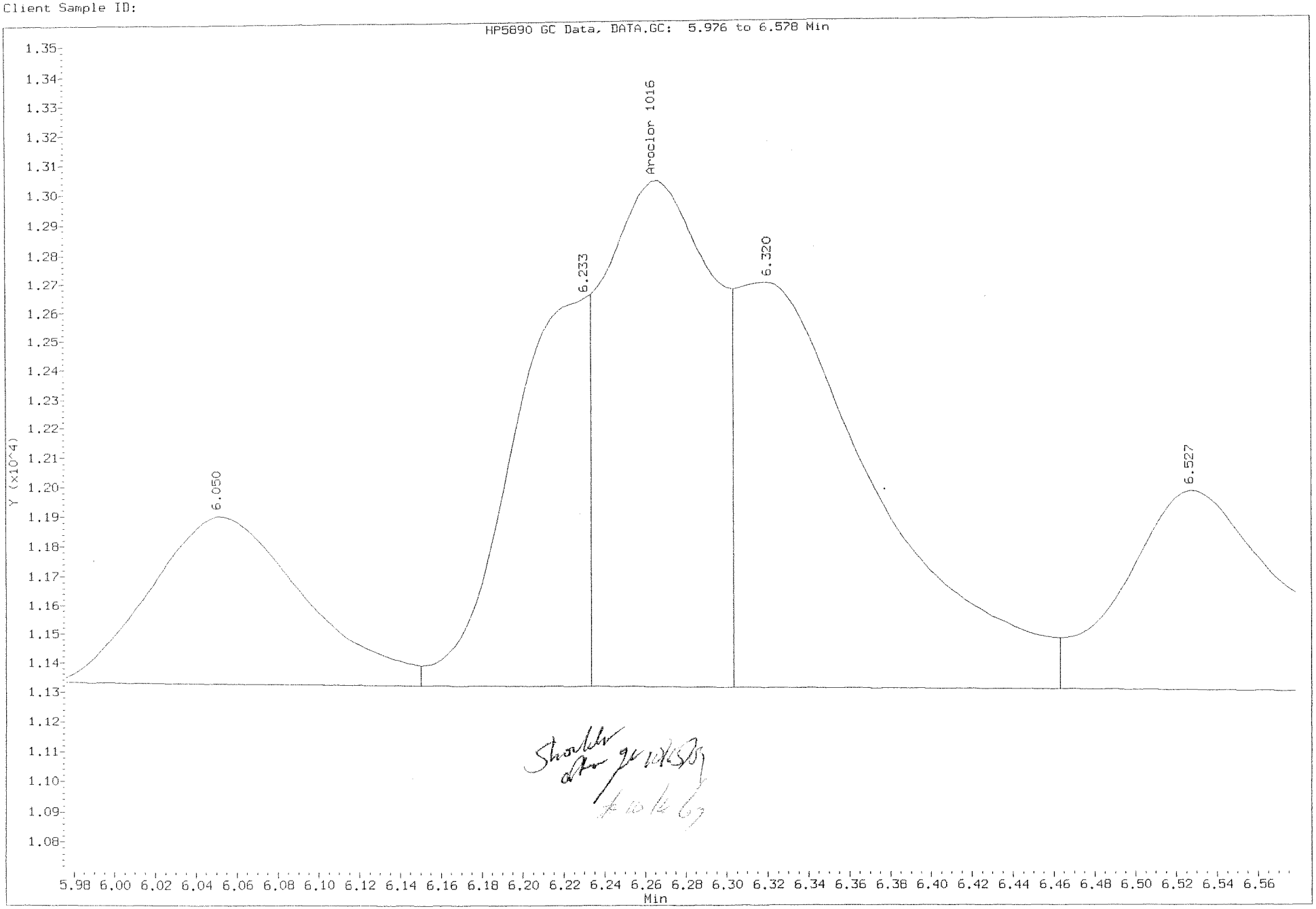
Injection Date: 15-OCT-2009 03:22
Instrument: GC09.i
Client Sample ID:



878

Data File: \\cash1\acqudata\GC09\data\101409.b\1014F011.D
Report Date: 15-Oct-2009 16:42

Laboratory Name

Sample #1 : \\cash1\acqudata\GC09\data\101409.b\1014F011.D
Sample #2 : \\cash1\acqudata\GC09\data\101409_r.b\1014R011.D
Inj Date : 15-OCT-2009 03:48
Sample Info: 1660 @ 50ppb | PCB5-34D
Misc Info : SEMIVOA GC\W0900671\11-ICAL.H
Cal Date : 15-OCT-2009 12:43
Operator : JMSmith
Inst ID : GC09.i
Dil Factor : 1.000000

Method #1 : \\cash1\acqudata\GC09\data\101409.b\101409_f.m
Method #2 : \\cash1\acqudata\GC09\data\101409_r.b\101409_r.m
Sub List #1 : AR1660.SUB
Sub List #2 : AR1660.SUB
Col #1 Phase : DB-35MS
Col #2 Phase : DB-XLB

Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2	Target Range	Ratio
Tetrachloro-m-xylene	3.713	4.317	32278	21392	5.53	5.18		100.00
Aroclor 1016	5.357	5.687	7062	7336	55.1	59.0	80.00- 120.00	100.00
	5.693	6.267	30043	14036	58.1	59.7	307.70- 461.55	425.41
	5.863	6.703	17488	6355	79.9	59.8	168.92- 253.38	247.63
	6.630	6.797	9221	7042	55.7	56.4	103.85- 155.77	130.57
	6.903	7.067	6902	5358	49.7	53.2	97.28- 145.93	97.74
			Average of Peak Amounts =		59.7	57.6		
Aroclor 1260	9.083	9.320	25095	14144	59.1	59.0	80.00- 120.00	100.00
	9.513	10.423	13496	16867	58.6	61.6	43.75- 65.63	53.78
	10.500	10.593	14215	9723	55.8	41.2	52.29- 78.43	56.64
	10.940	11.733	30559	18818	55.6	71.7	111.09- 166.63	121.77
	11.813	12.487	19908	12104	52.8	41.4	81.28- 121.92	79.33
			Average of Peak Amounts =		56.4	55.0		
Decachlorobiphenyl	15.123	16.410	31937	23471	5.86	5.62		100.00

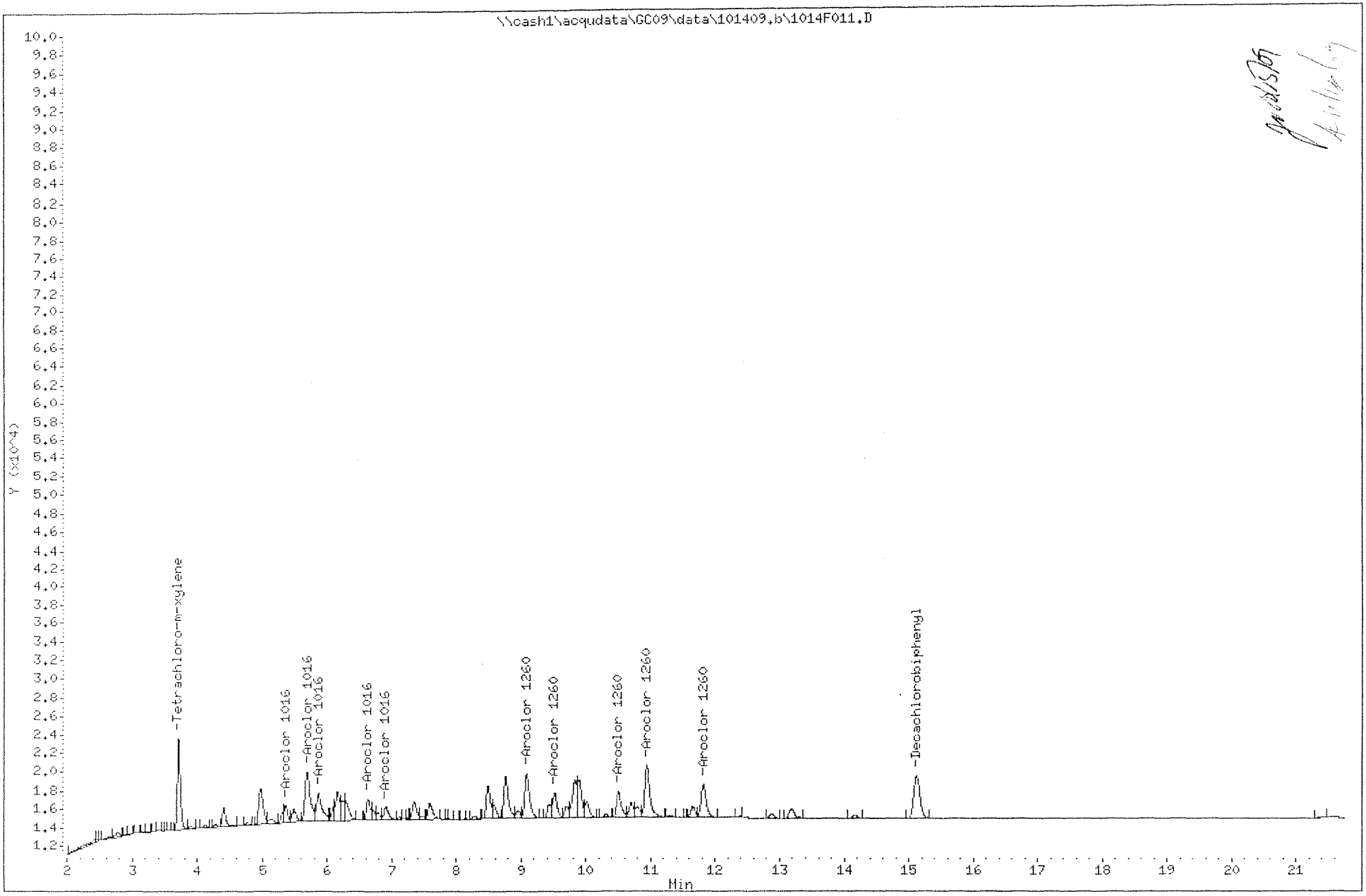
10/15/09

Data File: \\cash1\acqudata\GC09\data\101409,b\1014F011,D
Date : 15-OCT-2009 03:48
Client ID:
Sample Info: 1660 @ 50ppb | PCB5-34D

Instrument: GC09,i

Operator: JHSmith
Column diameter: 0,53

Column phase: DB-35MS

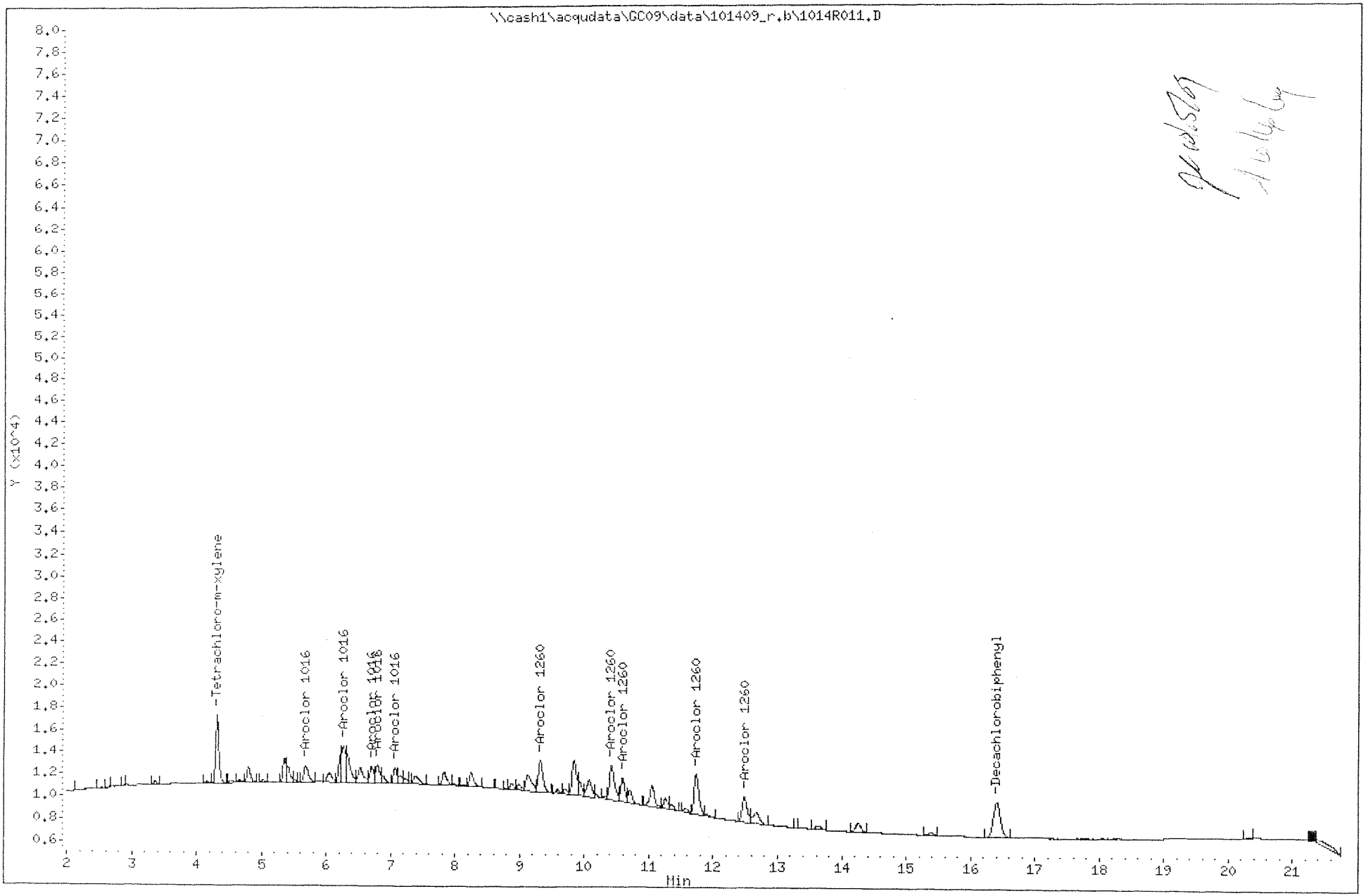


Data File: \\cash1\acqudata\GC09\data\101409_r.b\1014R011.D
Date : 15-OCT-2009 03:48
Client ID:
Sample Info: 1660 @ 50ppb | PCB5-34D

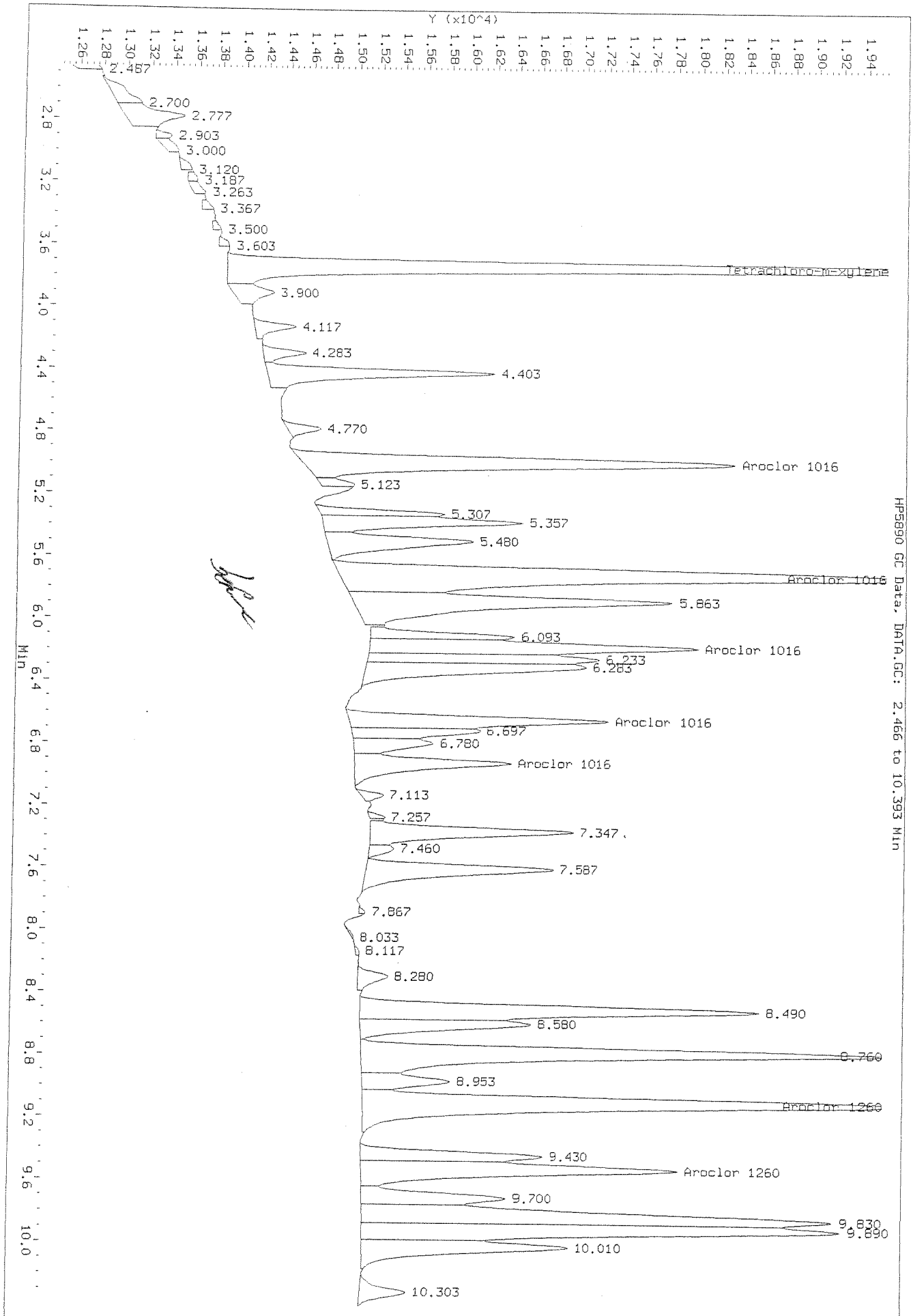
Column phase: DB-XLB

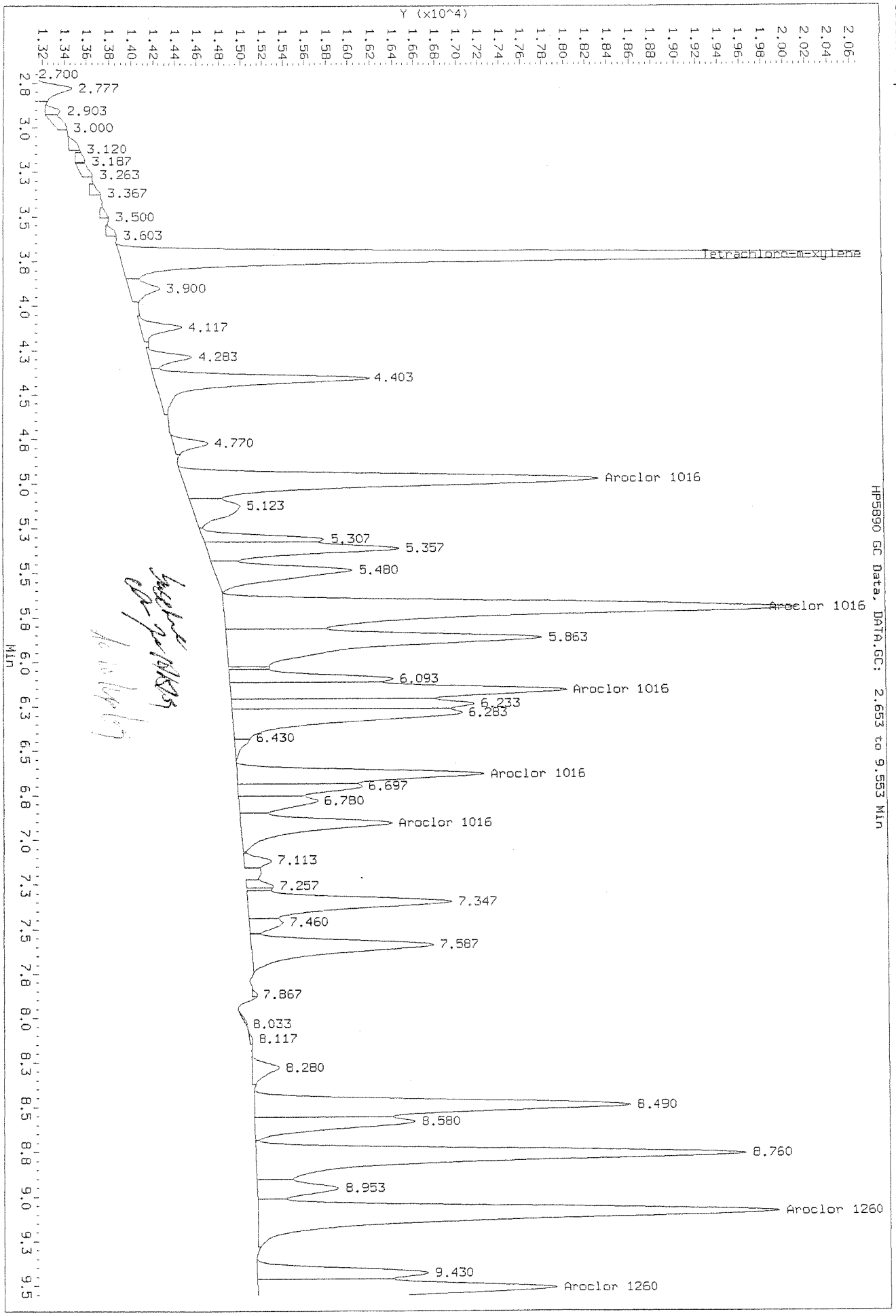
Instrument: GC09.i

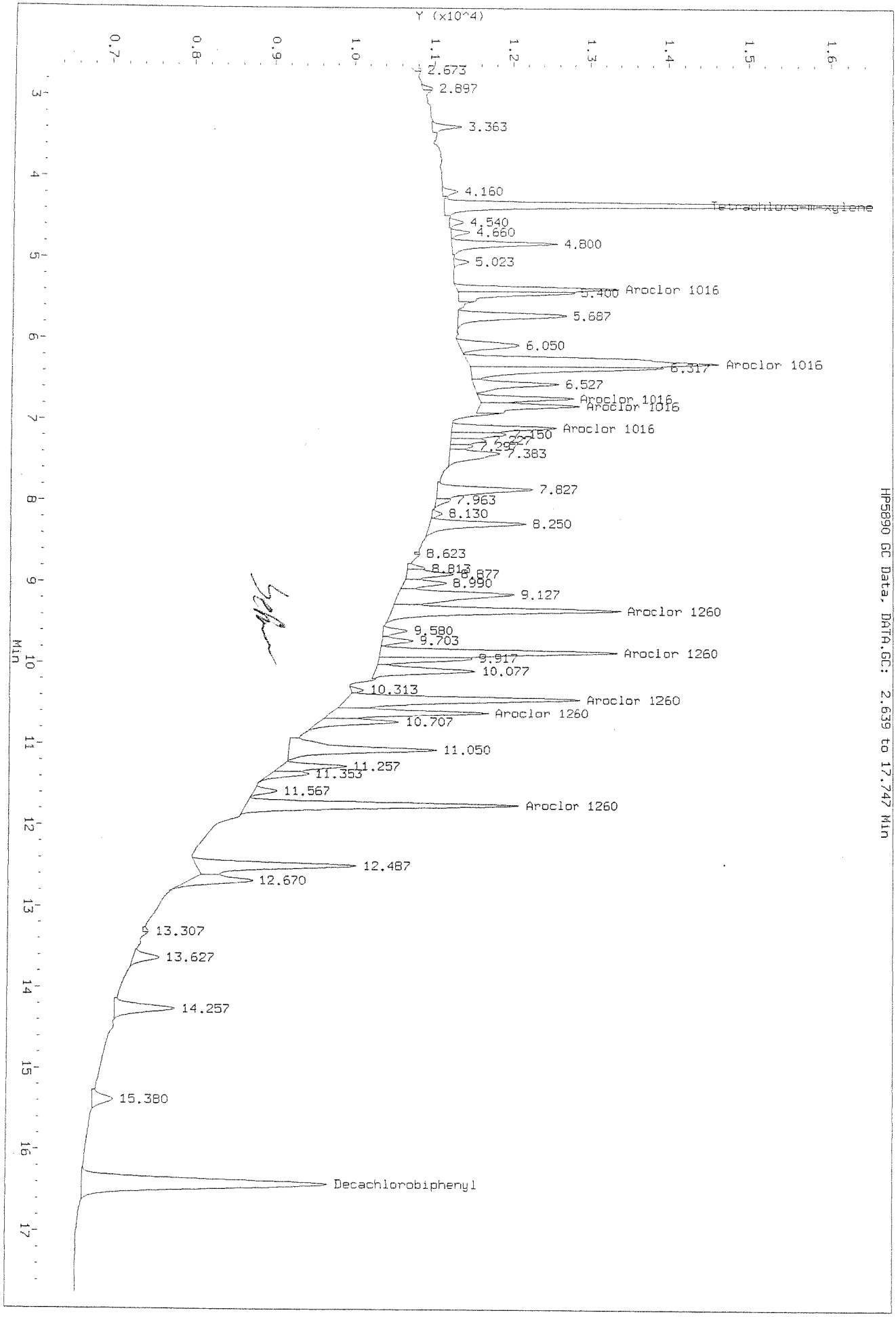
Operator: JHSmith
Column diameter: 0.53

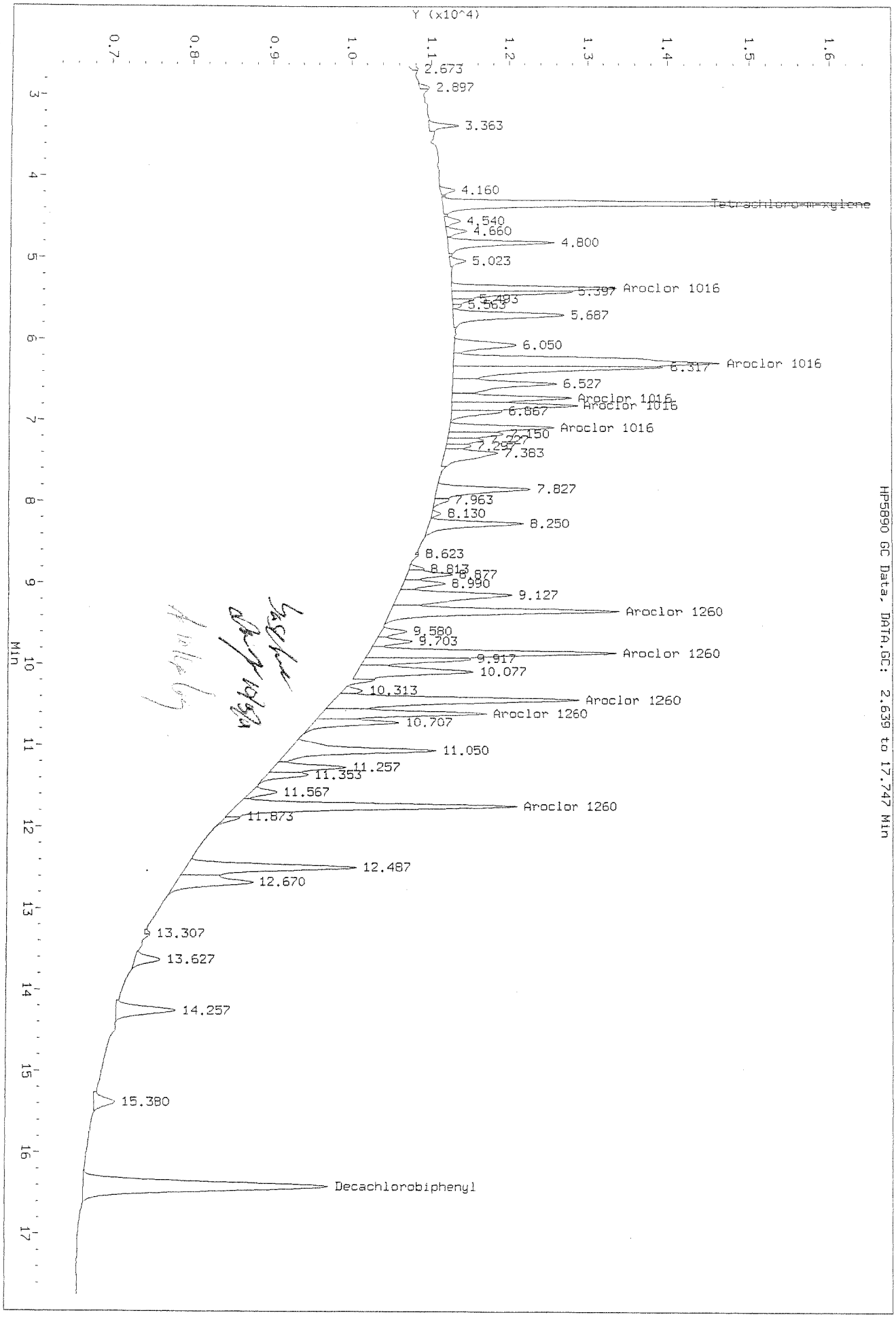


881

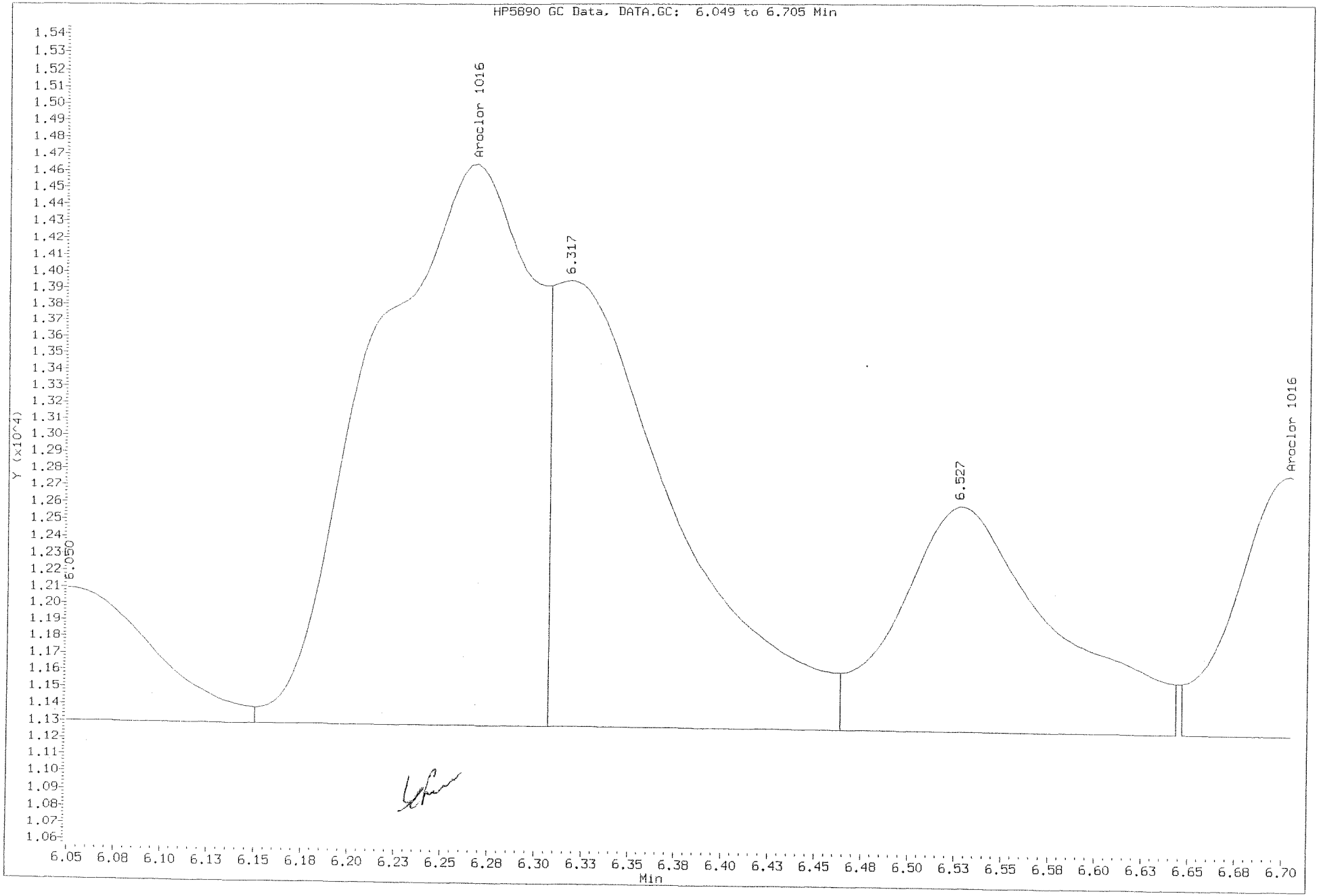

Data File: \\cash1\acqudata\GC09\data\101409.b\1014F011.D
Injection Date: 15-OCT-2009 03:48
Instrument: GC09.i
Client Sample ID:
Y (x10^4)
Min
2.467
2.700
2.777
2.903
3.000
3.120
3.187
3.263
3.367
3.500
3.603
Tetrachloro-m-xylene
3.900
4.117
4.283
4.403
4.770
Aroclor 1016
5.123
5.307
5.357
5.480
Aroclor 1016
5.863
6.093
Aroclor 1016
6.233
6.283
Aroclor 1016
6.697
6.780
Aroclor 1016
7.113
7.257
7.347
7.460
7.587
7.867
8.033
8.117
8.280
8.490
8.580
8.760
8.953
Aroclor 1260
9.430
Aroclor 1260
9.700
9.830
9.890
10.010
10.303
HP5890 GC Data, DATA.GC: 2.466 to 10.393 Min


Data File: \\cash1\acqudata\GC09\data\101409.b\1014F011.D
Injection Date: 15-OCT-2009 03:48
Instrument: GC09.i
Client Sample ID:
HP5890 GC Data. DATA.GC: 2.653 to 9.553 Min
Y (x10^4)
Min
2.700
2.777
2.903
3.000
3.120
3.187
3.263
3.367
3.500
3.603
Tetrachloro-m-xylene
3.900
4.117
4.283
4.403
4.770
Aroclor 1016
5.123
5.307
5.357
5.480
Aroclor 1016
5.863
6.093
Aroclor 1016
6.233
6.283
6.430
Aroclor 1016
6.697
6.780
Aroclor 1016
7.113
7.257
7.347
7.460
7.587
7.867
8.033
8.117
8.280
8.490
8.580
8.760
8.953
Aroclor 1260
9.430
Aroclor 1260


Data File: \\cash1\acqudata\GC09\data\101409_r.b\1014R011.D
Injection Date: 15-OCT-2009 03:48
Instrument: GC09.i
Client Sample ID:
HP5890 GC Data, DATA.GC: 2.639 to 17.747 Min
Y (x10^4)
Min
2.673
2.897
3.363
4.160
Tetrachloro-m-xylene
4.540
4.660
4.800
5.023
5.400
Aroclor 1016
5.687
6.050
6.317
Aroclor 1016
6.527
Aroclor 1016
Aroclor 1016
Aroclor 1016
7.150
7.383
7.827
7.963
8.130
8.250
8.623
8.990
9.127
Aroclor 1260
9.580
9.703
Aroclor 1260
9.917
10.077
10.313
Aroclor 1260
Aroclor 1260
10.707
11.050
11.257
11.353
11.567
Aroclor 1260
12.487
12.670
13.307
13.627
14.257
15.380
Decachlorobiphenyl


Data File: \\cash1\acqudata\GC09\data\101409_r.b\1014R011.D
Injection Date: 15-OCT-2009 03:48
Instrument: GC09.i
Client Sample ID:
HP5890 GC Data, DATA.GC: 2.639 to 17.747 Min
Y (x10^4)
Min
2.673
2.897
3.363
4.160
Tetrachloro-m-xylene
4.540
4.660
4.800
5.023
5.397
Aroclor 1016
5.493
5.563
5.687
6.050
6.317
Aroclor 1016
6.527
Aroclor 1016
Aroclor 1016
6.867
Aroclor 1016
7.150
7.227
7.297
7.383
7.827
7.963
8.130
8.250
8.623
8.677
8.990
9.127
Aroclor 1260
9.580
9.703
Aroclor 1260
9.817
10.077
10.313
Aroclor 1260
Aroclor 1260
10.707
11.050
11.257
11.353
11.567
Aroclor 1260
11.873
12.487
12.670
13.307
13.627
14.257
15.380
Decachlorobiphenyl

Data File: \\cash1\acqudata\GC09\data\101409_r.b\1014R011.D
Injection Date: 15-OCT-2009 03:48
Instrument: GC09.i
Client Sample ID:



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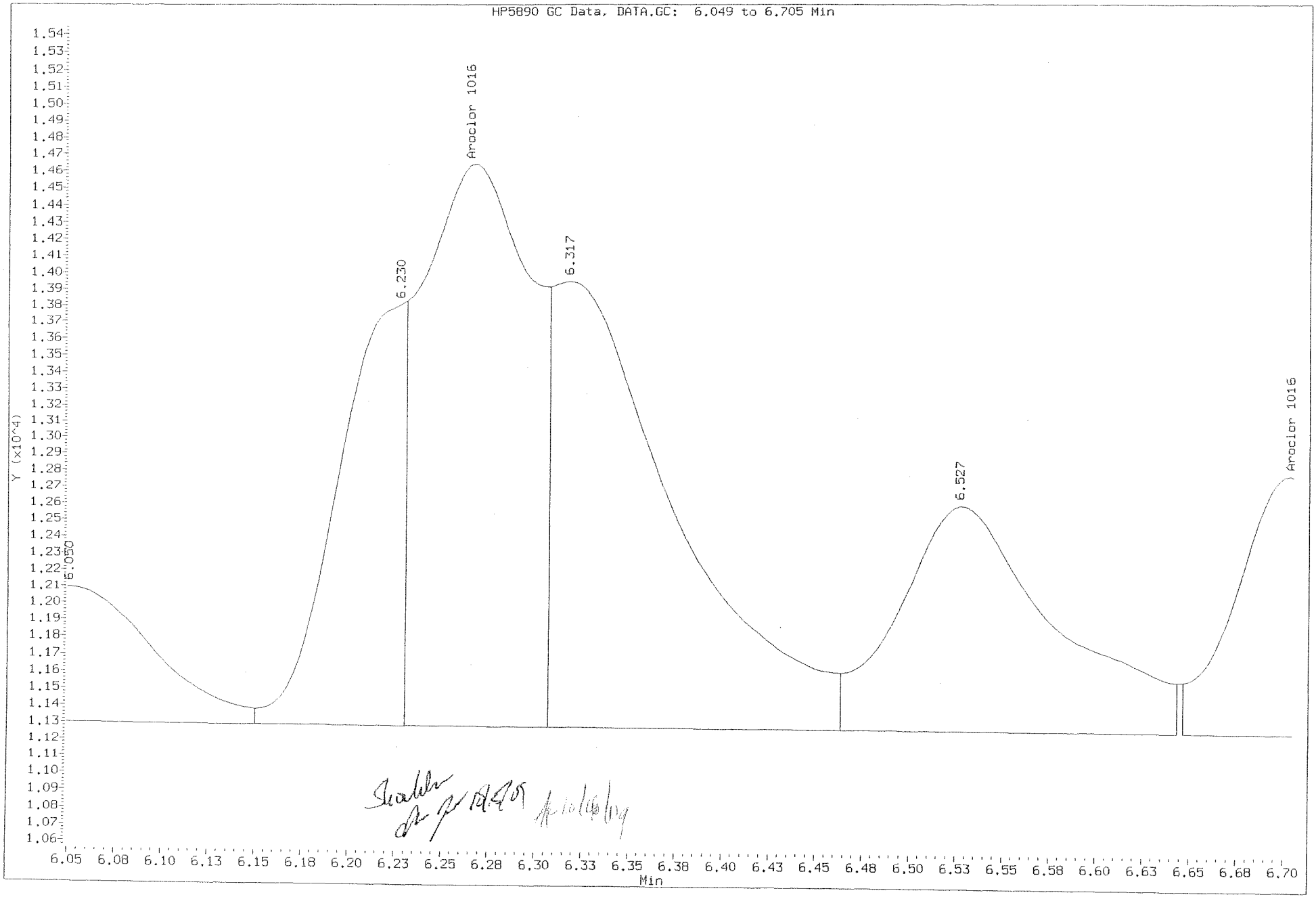
Injection Date: 15-OCT-2009 03:48
Instrument: GC09.i
Client Sample ID:



Data File: \\cash1\acqudata\GC09\data\101409.b\1014F012.D
Report Date: 15-Oct-2009 16:42

Laboratory Name

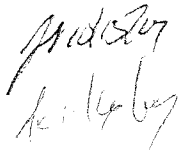
Sample #1 : \\cash1\acqudata\GC09\data\101409.b\1014F012.D
Sample #2 : \\cash1\acqudata\GC09\data\101409_r.b\1014R012.D
Inj Date : 15-OCT-2009 04:14
Sample Info: 1660 @ 500ppb | PCB5-34E
Misc Info : SEMIVOA GC\W0900671\12-ICAL.H
Cal Date : 15-OCT-2009 12:43
Operator : JMSmith
Inst ID : GC09.i
Dil Factor : 1.000000

Method #1 : \\cash1\acqudata\GC09\data\101409.b\101409_f.m
Method #2 : \\cash1\acqudata\GC09\data\101409_r.b\101409_r.m
Sub List #1 : AR1660.SUB
Sub List #2 : AR1660.SUB
Col #1 Phase : DB-35MS
Col #2 Phase : DB-XLB

Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2	Target Range	Ratio
Tetrachloro-m-xylene	3.713	4.317	306597	217017	52.6	52.6		100.00(M)
Aroclor 1016	5.357	5.687	71783	71454	560	562	80.00- 120.00	100.00
	5.693	6.267	274184	128317	530	546	307.70- 461.55	381.96
	5.863	6.703	161964	54623	646	514	168.92- 253.38	225.63
	6.630	6.797	89781	65752	542	527	103.85- 155.77	125.07
	6.907	7.067	78161	53523	563	532	97.28- 145.93	108.89
			Average of Peak Amounts =		568	536		
Aroclor 1260	9.080	9.320	224150	123777	528	516	80.00- 120.00	100.00
	9.513	10.420	120661	160682	523	565	43.75- 65.63	53.83
	10.500	10.593	131525	89116	516	420	52.29- 78.43	58.68
	10.940	11.733	277292	186926	505	634	111.09- 166.63	123.71
	11.813	12.487	193612	126054	513	464	81.28- 121.92	86.38
			Average of Peak Amounts =		517	520		
Decachlorobiphenyl	15.123	16.413	286958	222269	52.6	53.2		100.00

QC Flag Legend

M - Compound response manually integrated.



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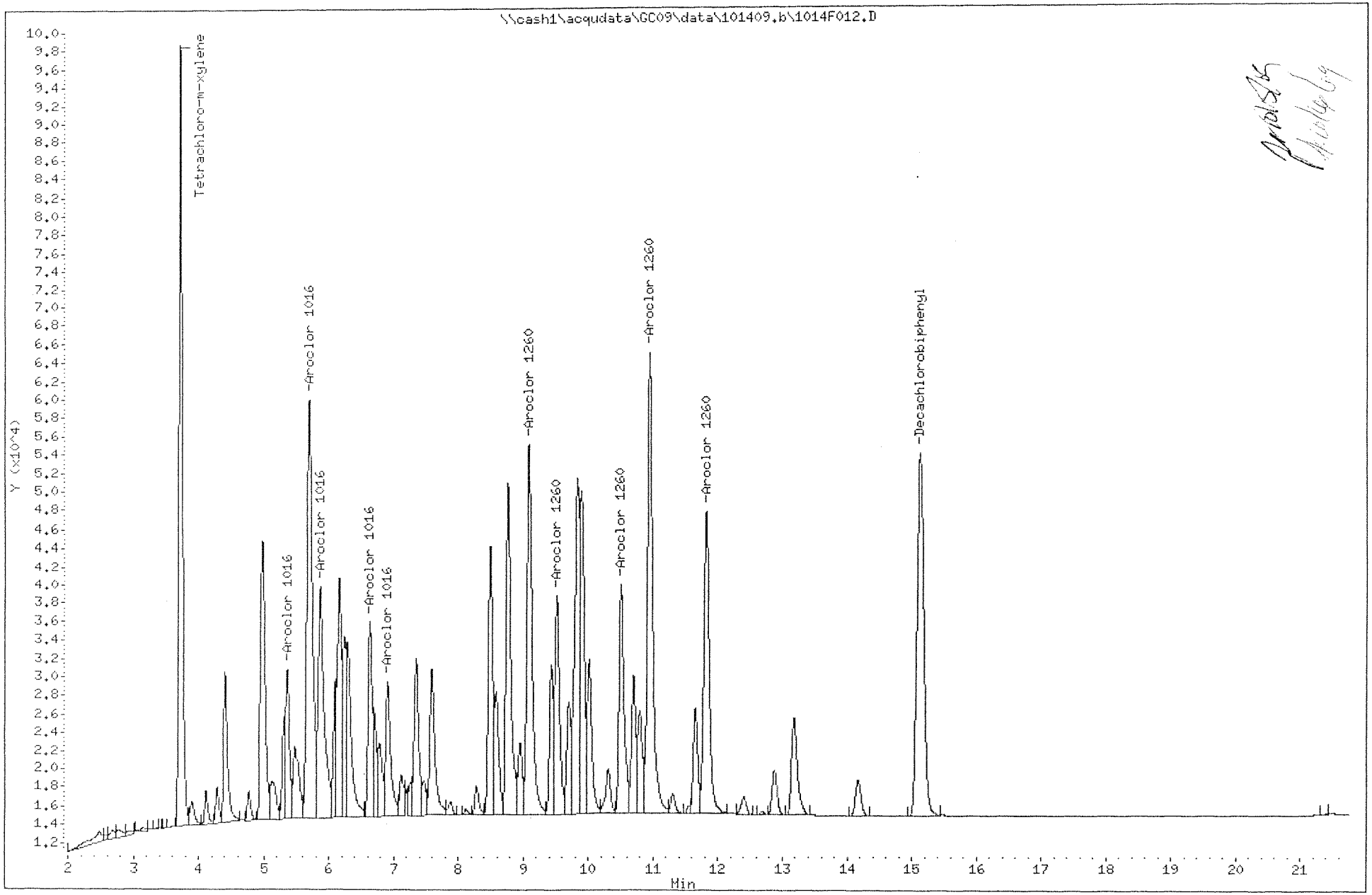
Date : 15-OCT-2009 04:14
Client ID:
Sample Info: 1660 @ 500ppb | PCB5-34E

Instrument: GC09.i

Operator: JHSmith
Column diameter: 0.53

Column phase: DB-35MS

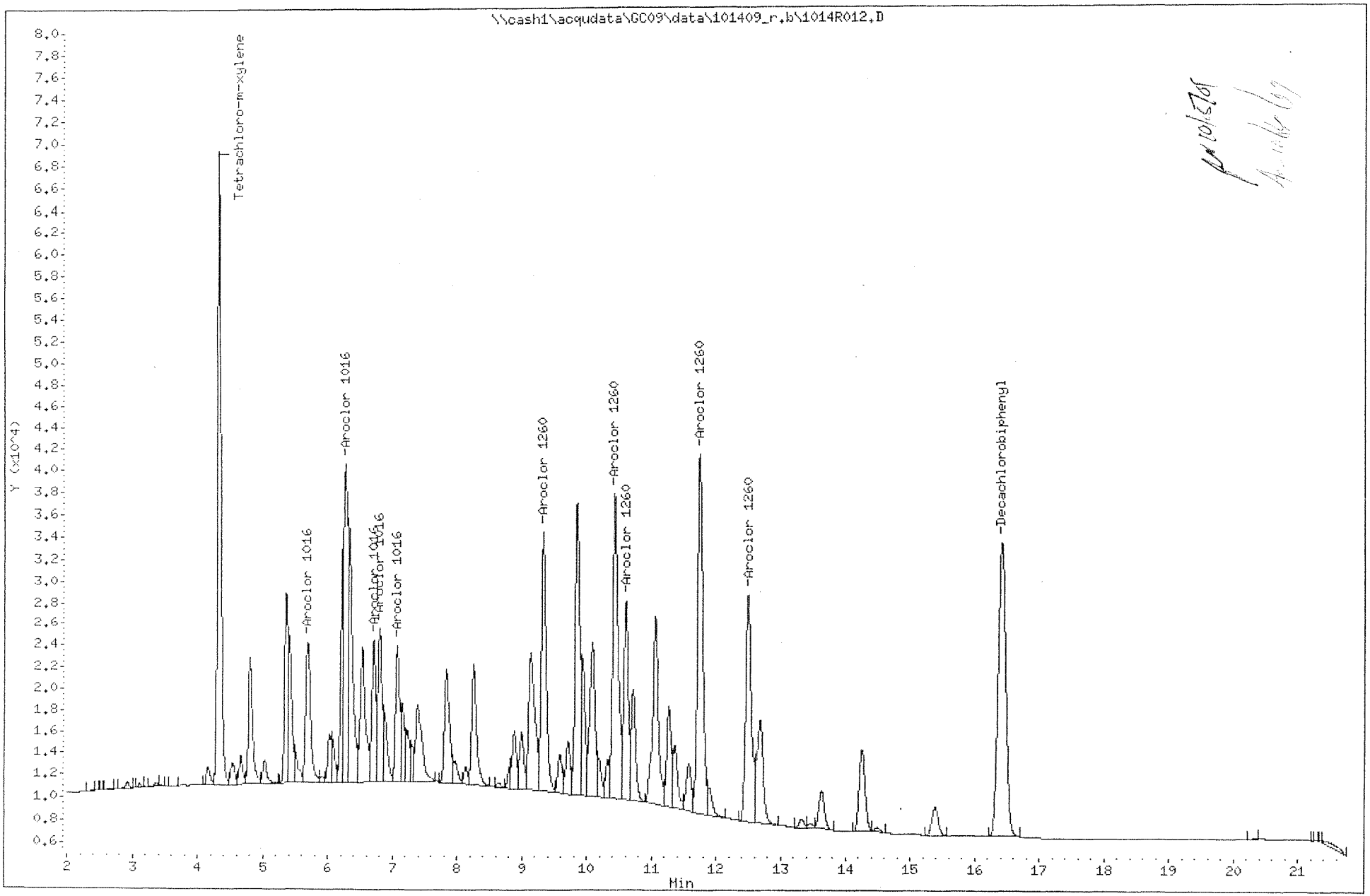


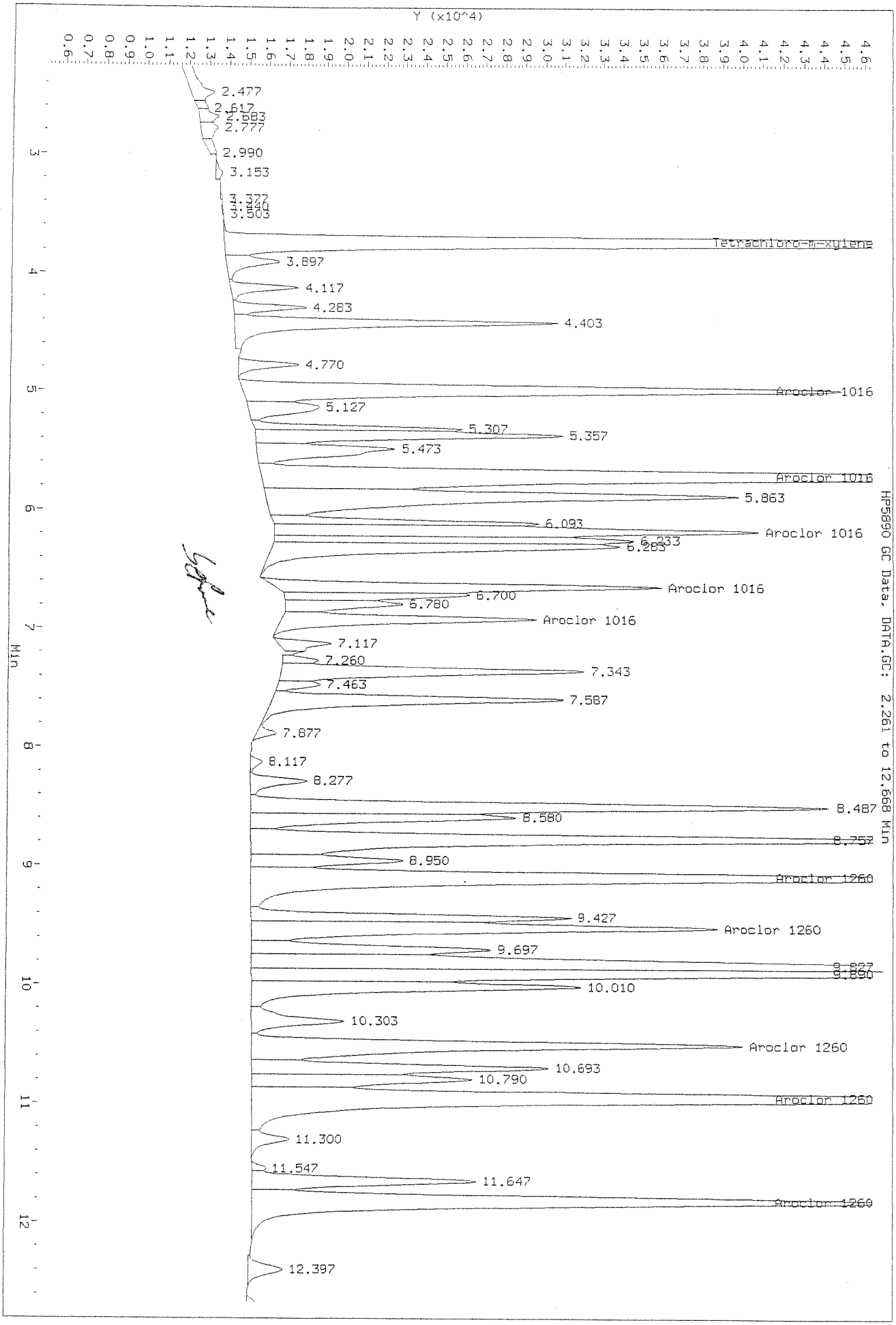
Data File: \\cash1\acqudata\GC09\data\101409_r,b\1014R012,D
Date : 15-OCT-2009 04:14
Client ID:
Sample Info: 1660 @ 500ppb | PCB5-34E

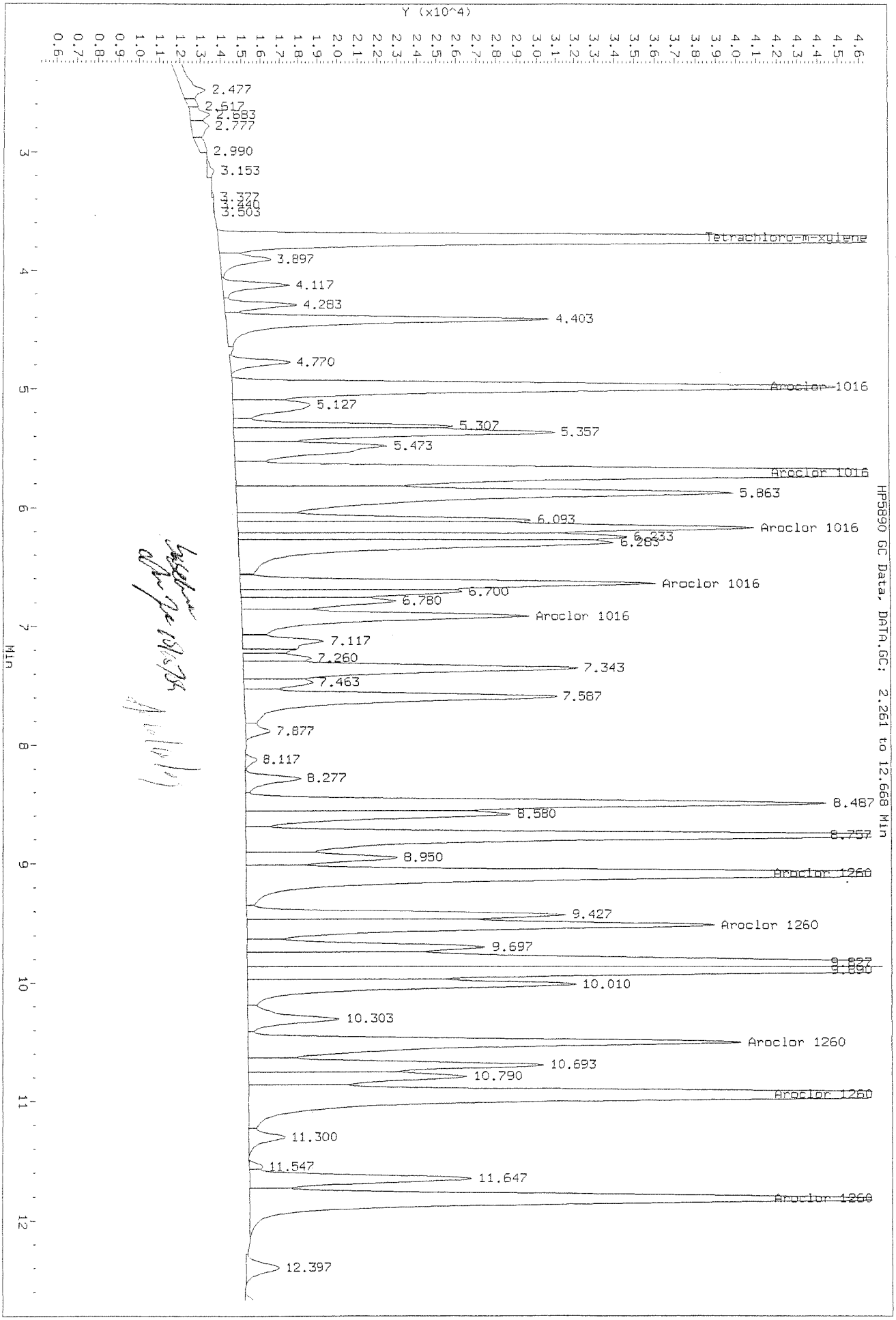
Column phase: DB-XLB

Instrument: GC09,i

Operator: JMSmith
Column diameter: 0.53




Data File: \\cashl\acqudata\GC09\data\101409.b\1014F012.D
Injection Date: 15-OCT-2009 04:14
Instrument: GC09.i
Client Sample ID:
Y (x10^4)
Min
HP5890 GC Data, DATA.GC: 2.261 to 12.668 Min
2.477
2.617
2.683
2.777
2.990
3.153
3.377
3.503
Tetrachloro-m-xylene
3.897
4.117
4.283
4.403
4.770
Aroclor 1016
5.127
5.307
5.357
5.473
Aroclor 1016
5.863
6.093
Aroclor 1016
6.233
6.285
Aroclor 1016
6.700
6.780
Aroclor 1016
7.117
7.260
7.343
7.463
7.587
7.877
8.117
8.277
8.487
8.580
8.752
8.950
Aroclor 1260
9.427
Aroclor 1260
9.697
9.827
9.890
10.010
10.303
Aroclor 1260
10.693
10.790
Aroclor 1260
11.300
11.547
11.647
Aroclor 1260
12.397


Data File: \\cash1\acqudata\GC09\data\101409.b\1014F012.D
Injection Date: 15-OCT-2009 04:14
Instrument: GC09.i
Client Sample ID:
HP5890 GC Data, DATA.GC; 2.261 to 12.668 Min
Y (x10^4)
Min
2.477
2.617
2.777
2.990
3.153
3.503
Tetrachloro-m-xylene
3.897
4.117
4.283
4.403
4.770
Aroclor 1016
5.127
5.307
5.357
5.473
Aroclor 1016
5.863
6.093
Aroclor 1016
6.233
6.283
Aroclor 1016
6.700
6.780
Aroclor 1016
7.117
7.260
7.343
7.463
7.587
7.877
8.117
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8.487
8.580
8.757
8.950
Aroclor 1260
9.427
Aroclor 1260
9.697
9.827
9.890
10.010
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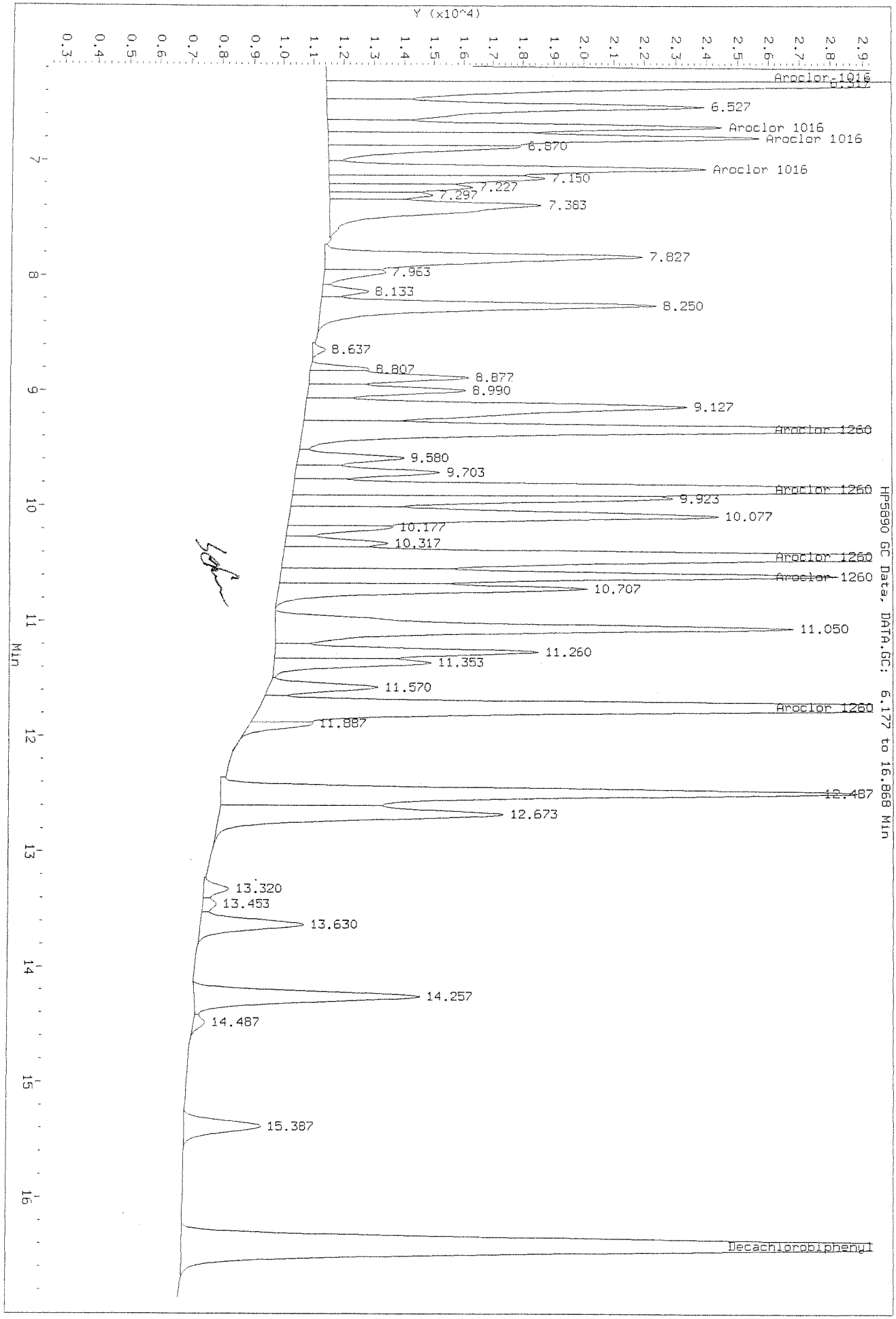
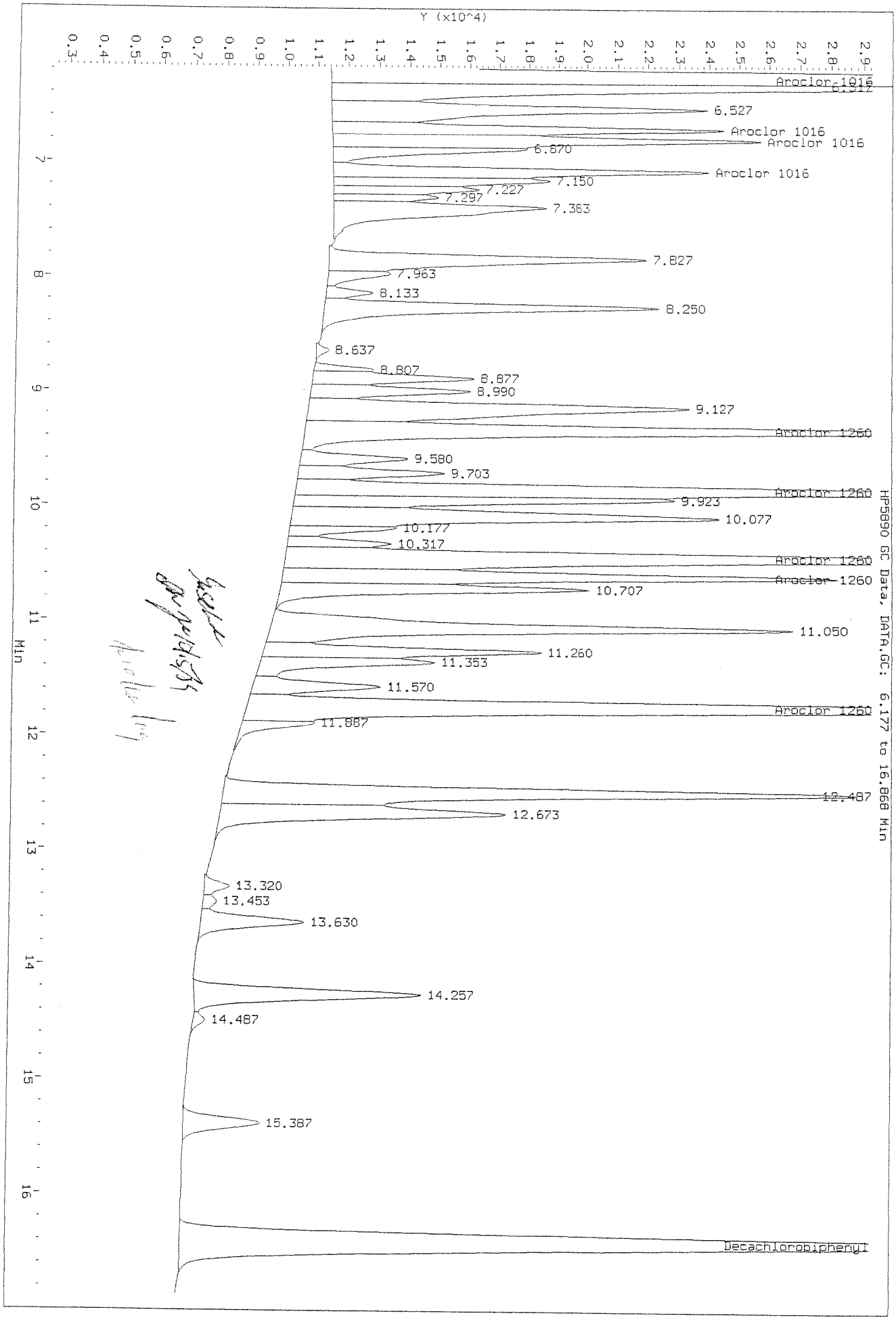
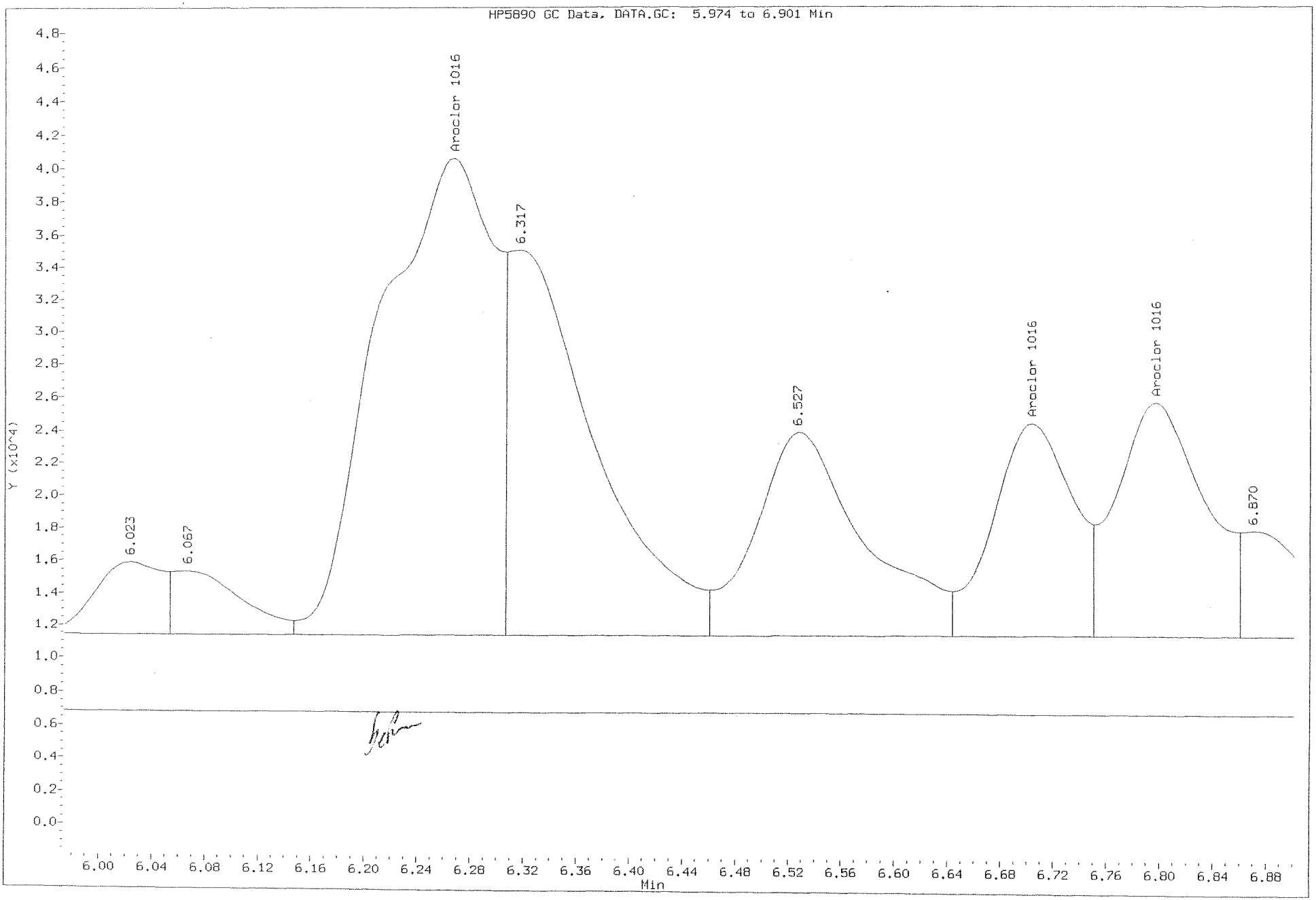
10.693
10.790
Aroclor 1260
11.300
11.547
11.647
Aroclor 1260
12.397


Data File: \\cash1\acqudata\GC09\data\101409_r.b\1014R012.D
Injection Date: 15-OCT-2009 04:14
Instrument: GC09.i
Client Sample ID:
Y (x10^4)
Min
HP5890 GC Data, DATA.GC; 6.177 to 16.868 Min
Aroclor 1016
6.527
Aroclor 1016
Aroclor 1016
6.870
Aroclor 1016
7.150
7.227
7.297
7.383
7.827
7.963
8.133
8.250
8.637
8.807
8.877
8.990
9.127
Aroclor 1260
9.580
9.703
Aroclor 1260
9.923
10.077
10.177
10.317
Aroclor 1260
Aroclor 1260
10.707
11.050
11.260
11.353
11.570
Aroclor 1260
11.887
12.487
12.673
13.320
13.453
13.630
14.257
14.487
15.387
Decachlorobiphenyl


Data File: \\cash1\acqudata\GC09\data\101409_r.b\1014R012.D
Injection Date: 15-OCT-2009 04:14
Instrument: GC09.i
Client Sample ID:
Y (x10^4)
Aroclor 1016
6.527
Aroclor 1016
Aroclor 1016
6.870
Aroclor 1016
7.150
7.227
7.297
7.383
7.827
7.963
8.133
8.250
8.637
8.807
8.877
8.990
9.127
Aroclor 1260
9.580
9.703
Aroclor 1260
9.923
10.077
10.177
10.317
Aroclor 1260
Aroclor 1260
10.707
11.050
11.260
11.353
11.570
Aroclor 1260
11.887
12.487
12.673
13.320
13.453
13.630
14.257
14.487
15.387
Decachlorobiphenyl
Min
HP5890 GC Data, DATA.GC; 6.177 to 16.868 Min

Data File: \\cash1\acqudata\GC09\data\101409_r.b\1014R012.D
Injection Date: 15-OCT-2009 04:14
Instrument: GC09.i
Client Sample ID:



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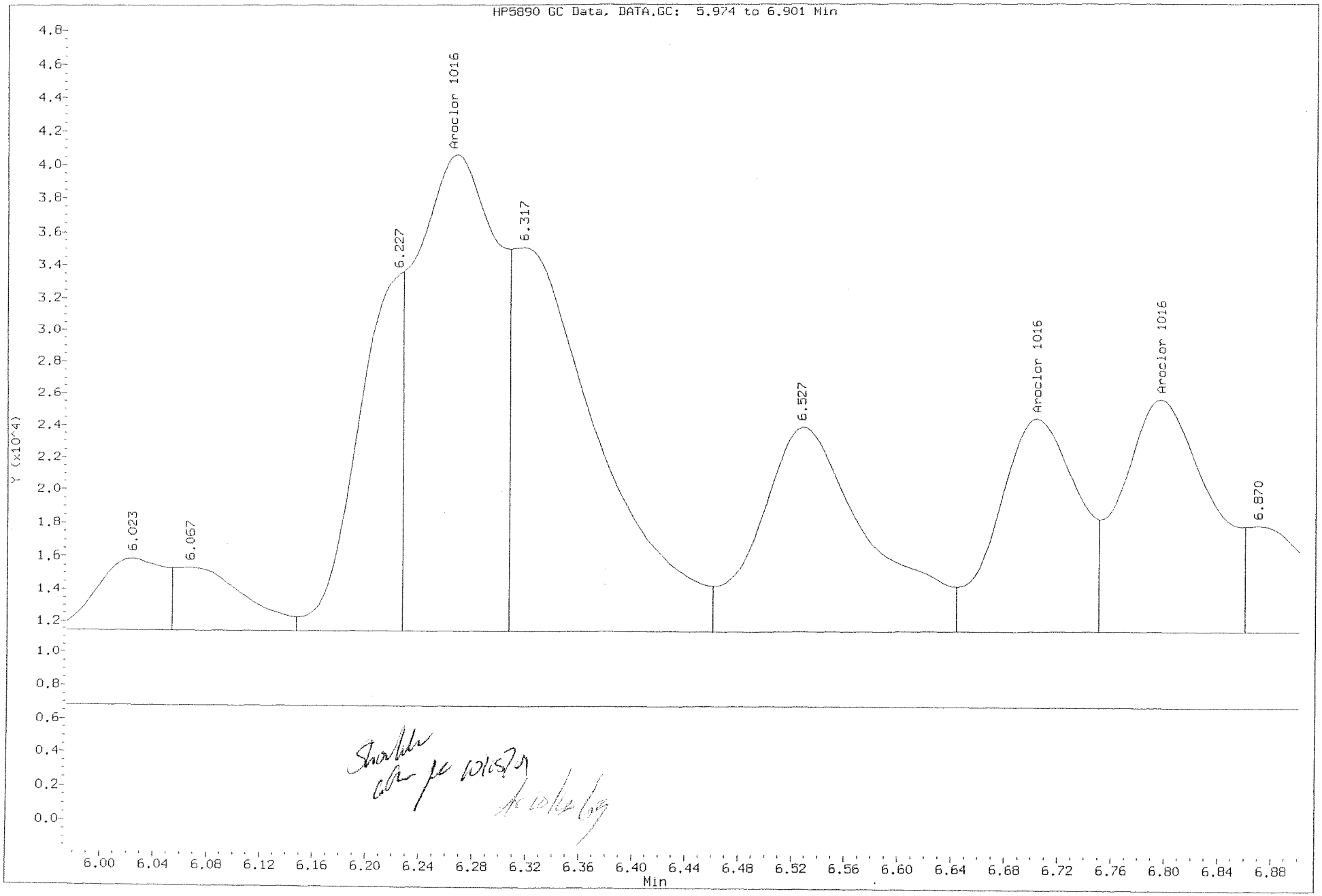
Injection Date: 15-OCT-2009 04:14
Instrument: GC09.i
Client Sample ID:



Data File: \\cash1\acqudata\GC09\data\101409.b\1014F013.D
Report Date: 15-Oct-2009 16:42

Laboratory Name

Sample #1 : \\cash1\acqudata\GC09\data\101409.b\1014F013.D
Sample #2 : \\cash1\acqudata\GC09\data\101409_r.b\1014R013.D
Inj Date : 15-OCT-2009 04:41
Sample Info: 1660 @ 1000ppb | PCB5-41P
Misc Info : SEMIVOA GC\W0900671\13-ICAL.H
Cal Date : 15-OCT-2009 12:43
Operator : JMSmith
Inst ID : GC09.i
Dil Factor : 1.000000

Method #1 : \\cash1\acqudata\GC09\data\101409.b\101409_f.m
Method #2 : \\cash1\acqudata\GC09\data\101409_r.b\101409_r.m
Sub List #1 : AR1660.SUB
Sub List #2 : AR1660.SUB
Col #1 Phase : DB-35MS
Col #2 Phase : DB-XLB

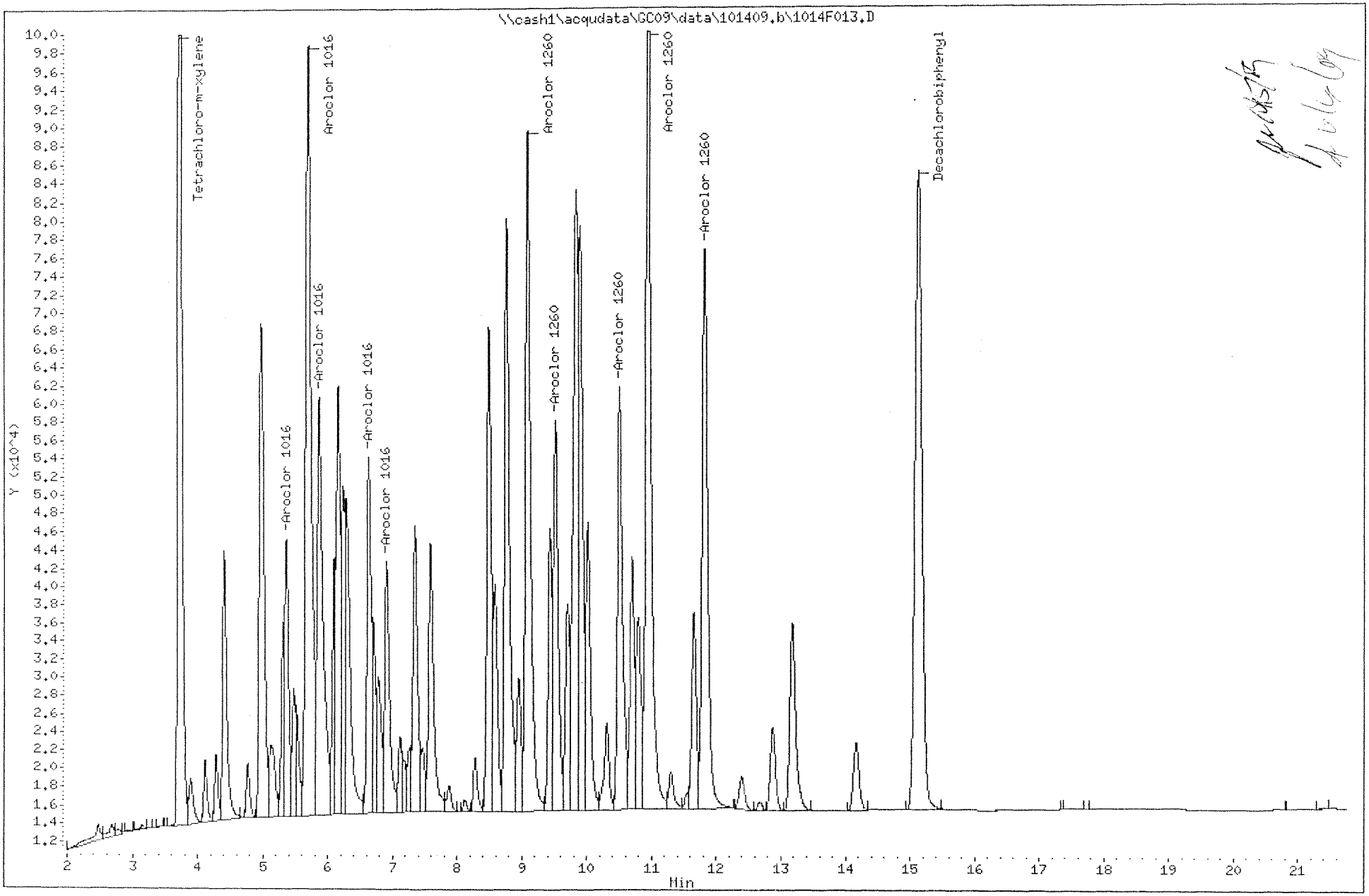
Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2	Target Range	Ratio
Tetrachloro-m-xylene	3.713	4.317	588794	426510	101	103		100.00
Aroclor 1016	5.357	5.690	129955	136494	1010	1080	80.00- 120.00	100.00
	5.693	6.267	505206	233236	977	992	307.70- 461.55	388.75
	5.863	6.703	290917	100708	1160	948	168.92- 253.38	223.86
	6.627	6.797	165549	119954	1000	961	103.85- 155.77	127.39
	6.903	7.067	145505	101297	1050	1010	97.28- 145.93	111.97
			Average of Peak Amounts =		1040	998		
Aroclor 1260	9.080	9.317	406858	226219	959	943	80.00- 120.00	100.00
	9.510	10.420	220630	303865	957	1150	43.75- 65.63	54.23
	10.500	10.593	247317	164430	970	577	52.29- 78.43	60.79
	10.937	11.733	523976	358815	954	1780	111.09- 166.63	128.79
	11.813	12.483	373685	243210	991	727	81.28- 121.92	91.85
			Average of Peak Amounts =		966	1040		
Decachlorobiphenyl	15.123	16.413	523229	417001	96.0	99.9		100.00

Data File: \\cash1\acqudata\GC09\data\101409.b\1014F013.D
Date : 15-OCT-2009 04:41
Client ID:
Sample Info: 1660 @ 1000ppb | PCB5-41P

Instrument: GC09.i

Operator: JHSmith
Column diameter: 0.53

Column phase: DB-35MS



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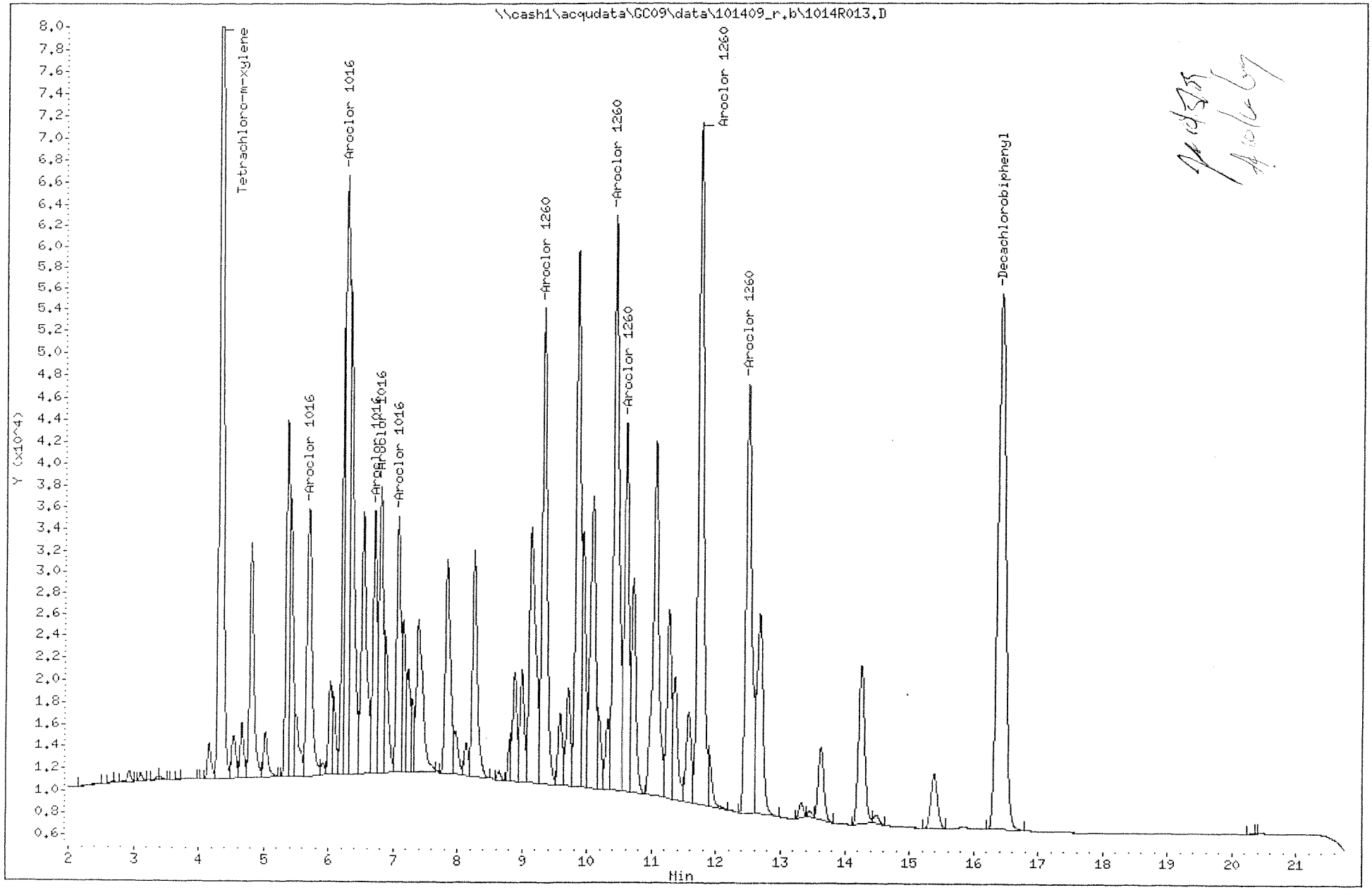
Date : 15-OCT-2009 04:41
Client ID:
Sample Info: 1660 @ 1000ppb | PCB5-41P

Instrument: GC09.i
Operator: JHSmith
Column phase: DB-XLB
Column diameter: 0.53



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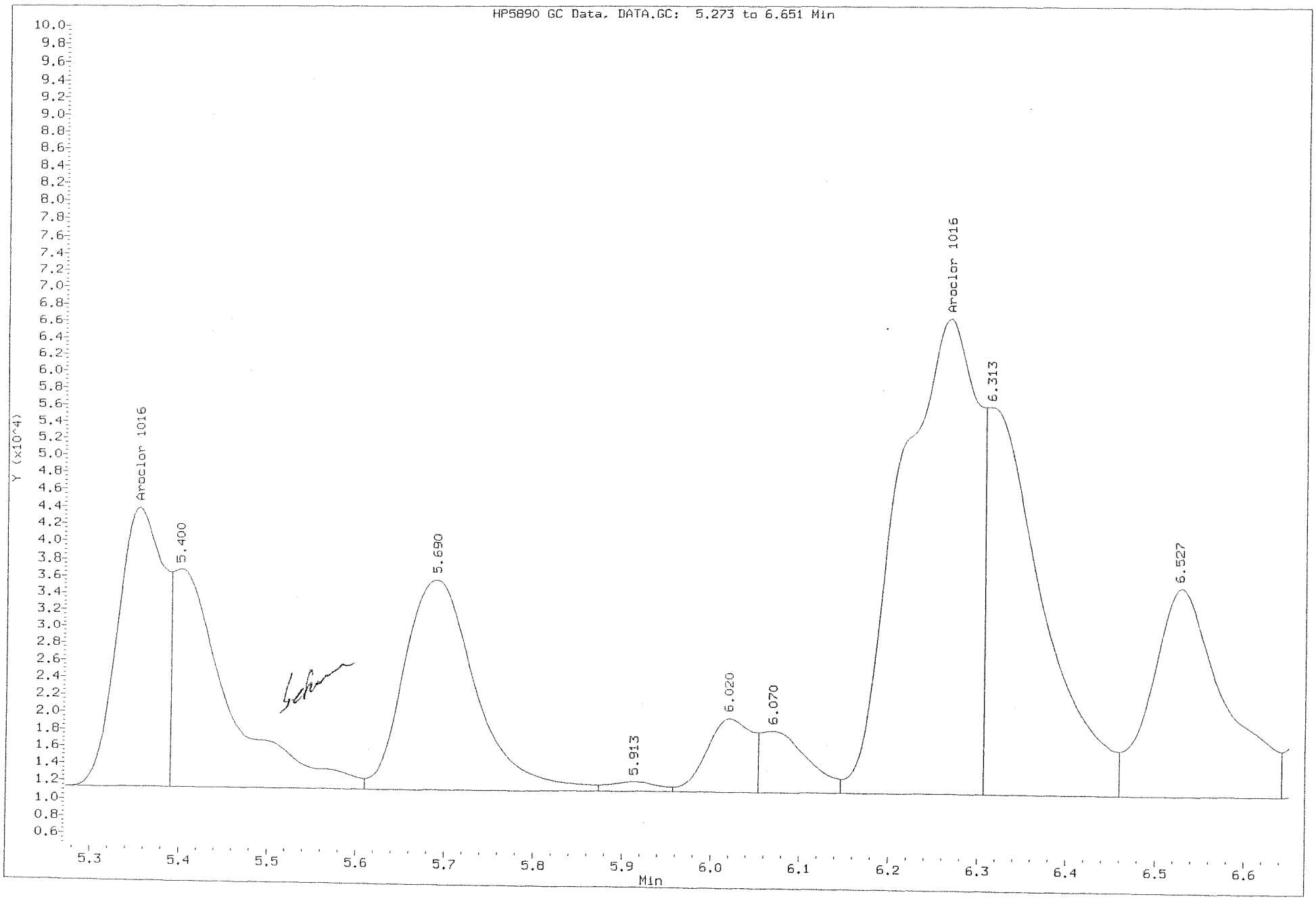
Injection Date: 15-OCT-2009 04:41
Instrument: GC09.i
Client Sample ID:



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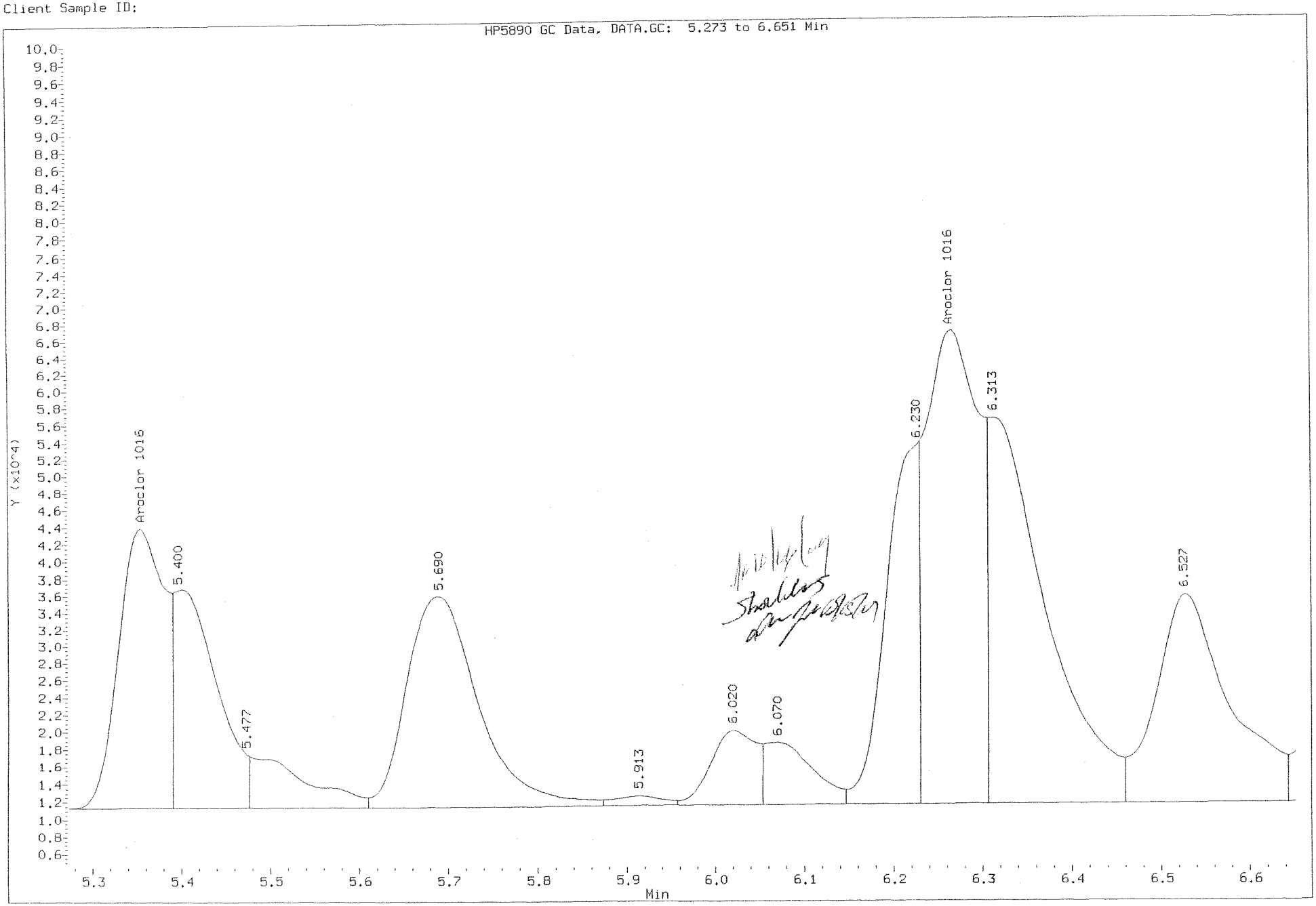
Instrument: GC09.i
Client Sample ID:



Data File: \\cash1\acqudata\GC09\data\101409.b\1014F014.D
Report Date: 15-Oct-2009 16:42

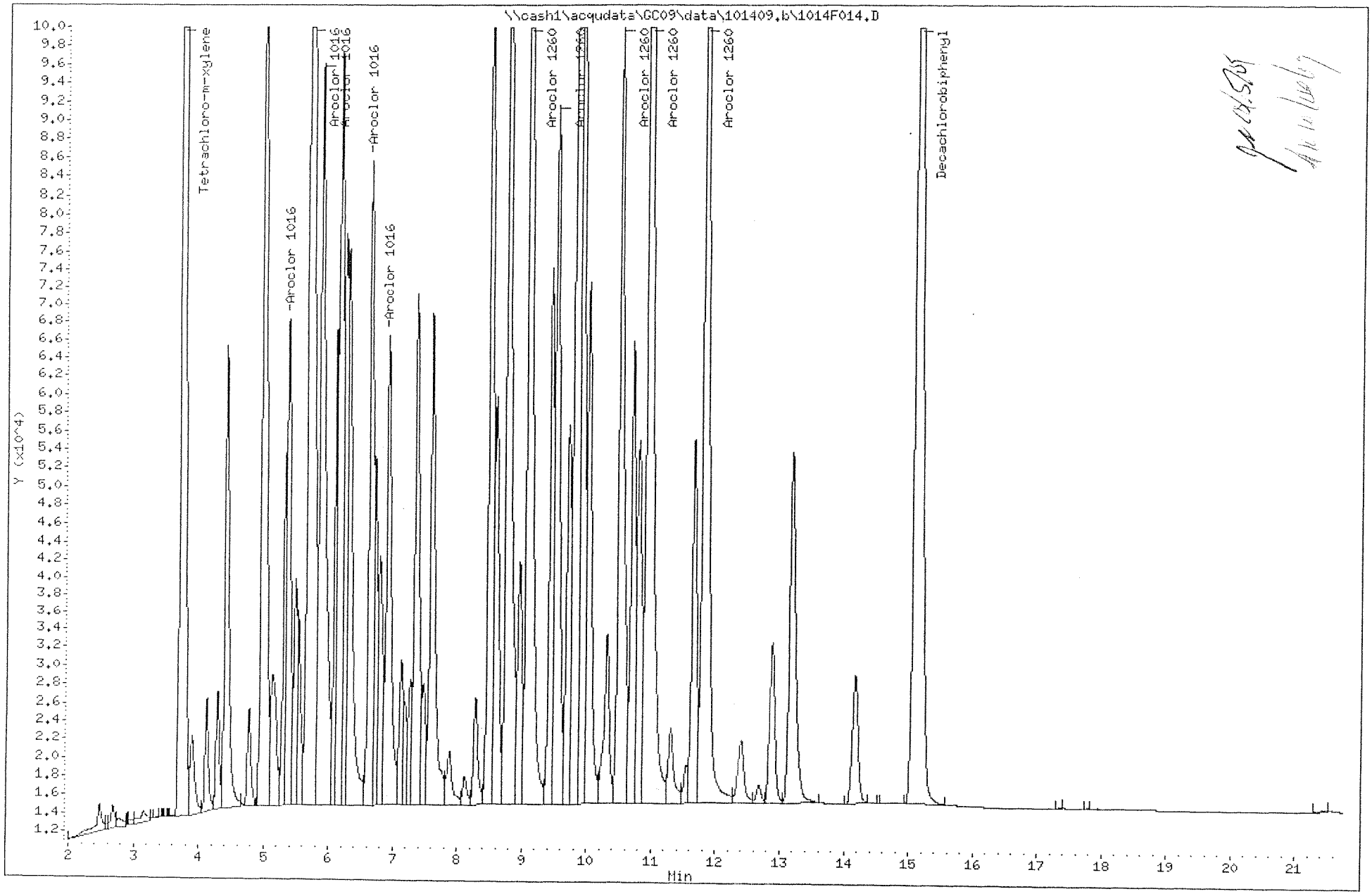
Laboratory Name

Sample #1 : \\cash1\acqudata\GC09\data\101409.b\1014F014.D
Sample #2 : \\cash1\acqudata\GC09\data\101409_r.b\1014R014.D
Inj Date : 15-OCT-2009 05:07
Sample Info: 1660 @ 2000ppb | PCB5-34G
Misc Info : SEMIVOA GC\W0900671\14-ICAL.H
Cal Date : 15-OCT-2009 12:43
Operator : JMSmith
Inst ID : GC09.i
Dil Factor : 1.000000

Method #1 : \\cash1\acqudata\GC09\data\101409.b\101409_f.m
Method #2 : \\cash1\acqudata\GC09\data\101409_r.b\101409_r.m
Sub List #1 : AR1660.SUB
Sub List #2 : AR1660.SUB
Col #1 Phase : DB-35MS
Col #2 Phase : DB-XLB

Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2	Target Range	Ratio
Tetrachloro-m-xylene	3.713	4.317	1069289	794449	183	192		100.00
Aroclor 1016	5.357	5.690	232452	248150	1810	1900	80.00- 120.00	100.00
	5.693	6.267	893222	407199	1730	1730	307.70- 461.55	384.26
	5.860	6.703	510823	182126	1850	1710	168.92- 253.38	219.75
	6.627	6.797	292532	220429	1770	1770	103.85- 155.77	125.85
	6.903	7.067	272415	183635	1960	1820	97.28- 145.93	117.19
			Average of Peak Amounts =		1820	1790		
Aroclor 1260	9.077	9.317	732186	408115	1720	1700	80.00- 120.00	100.00
	9.510	10.420	398352	571473	1730	1930	43.75- 65.63	54.41
	10.497	10.590	461675	307323	1810	1620	52.29- 78.43	63.05
	10.933	11.730	976982	671882	1780	2060	111.09- 166.63	133.43
	11.810	12.483	713816	459668	1890	1810	81.28- 121.92	97.49
			Average of Peak Amounts =		1790	1820		
Decachlorobiphenyl	15.123	16.413	942892	757316	173	181		100.00

Data File: \\cash1\acqudata\GC09\data\101409.b\1014F014.D
Date : 15-OCT-2009 05:07
Client ID:
Instrument: GC09.i
Sample Info: 1660 @ 2000ppb | PCB5-34G
Operator: JMSmith
Column phase: DB-35MS
Column diameter: 0.53

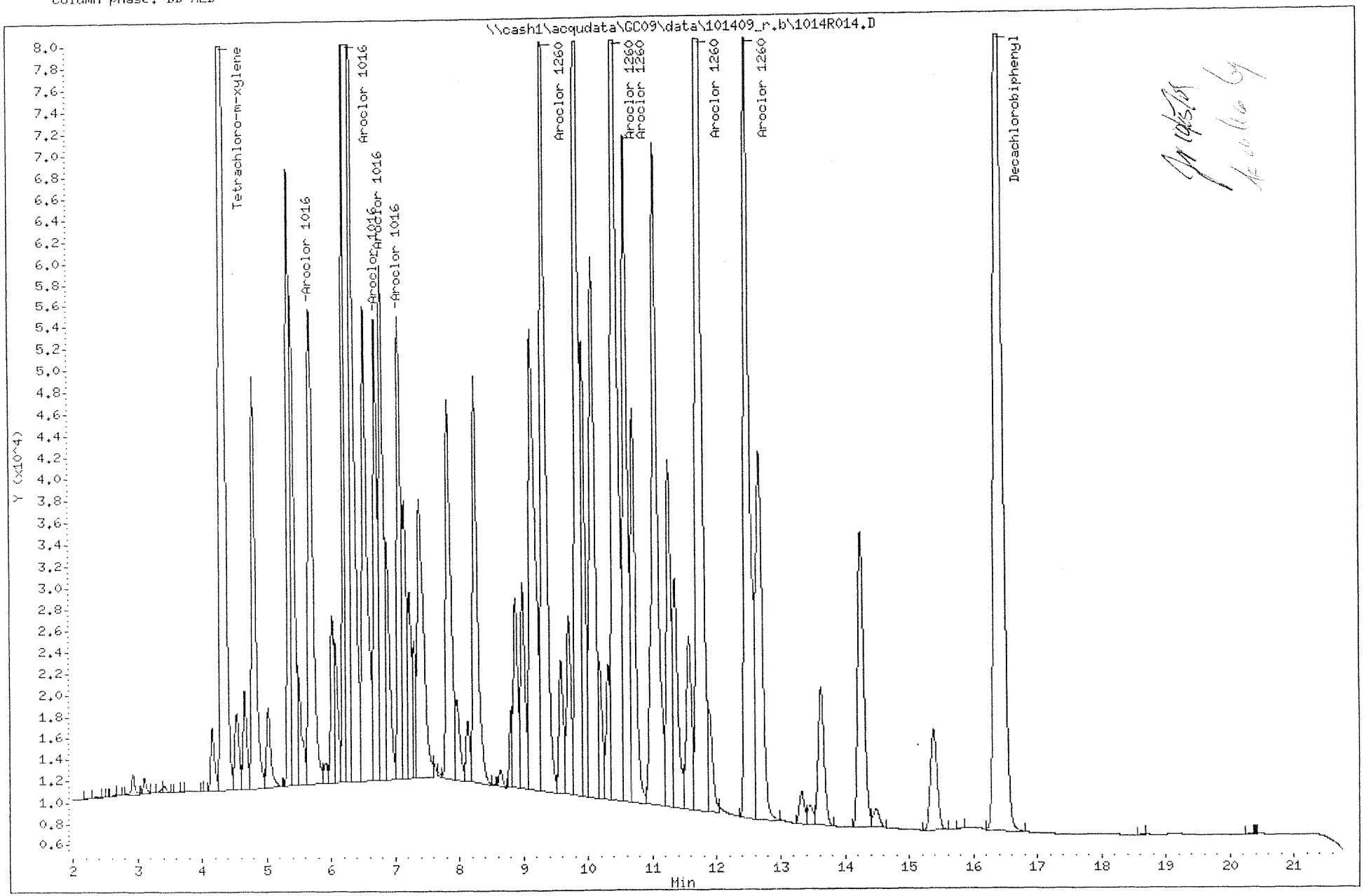


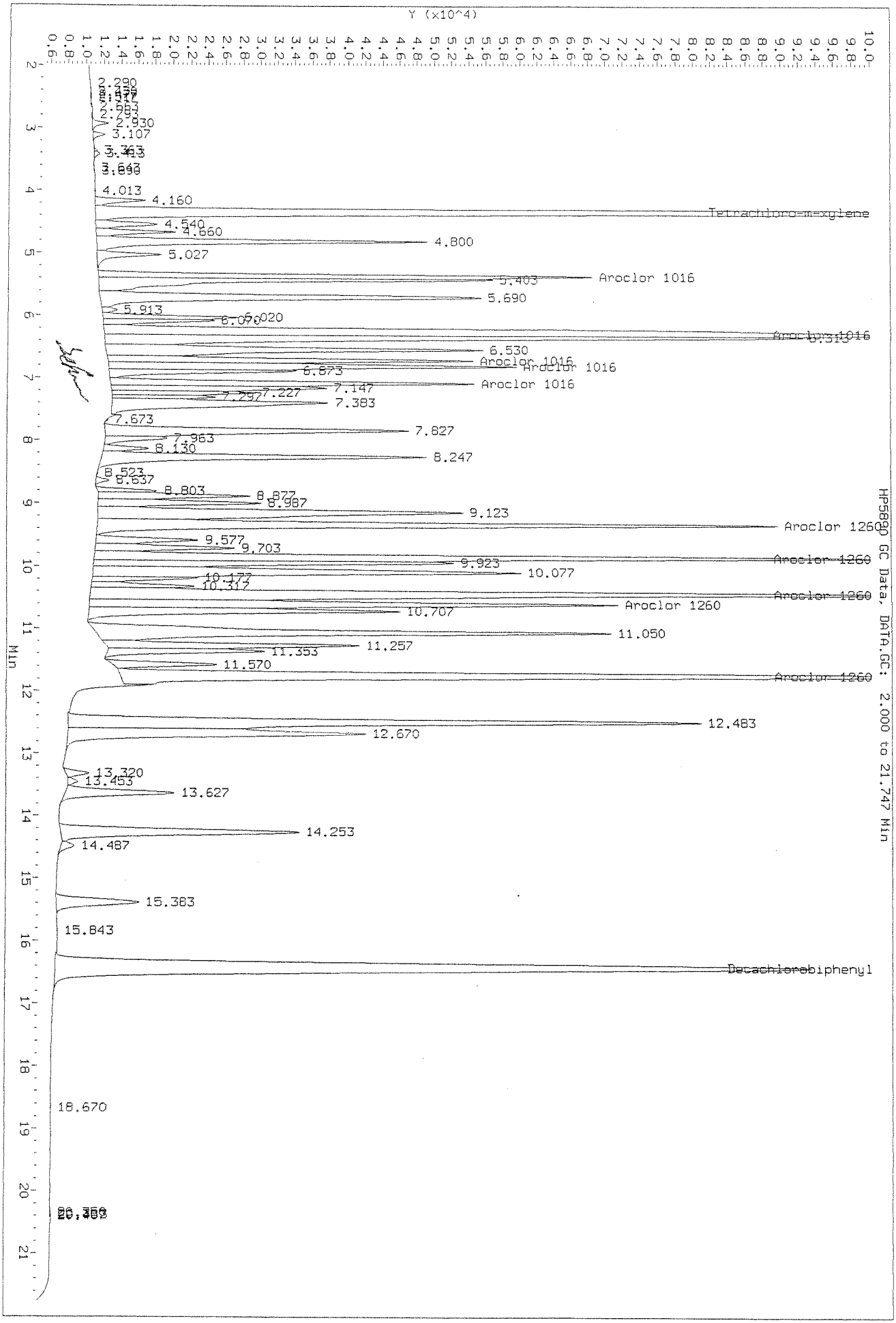
Data File: \\cash1\acqudata\GC09\data\101409_r.b\1014R014.D
Date : 15-OCT-2009 05:07
Client ID:
Sample Info: 1660 @ 2000ppb | PCB5-34G

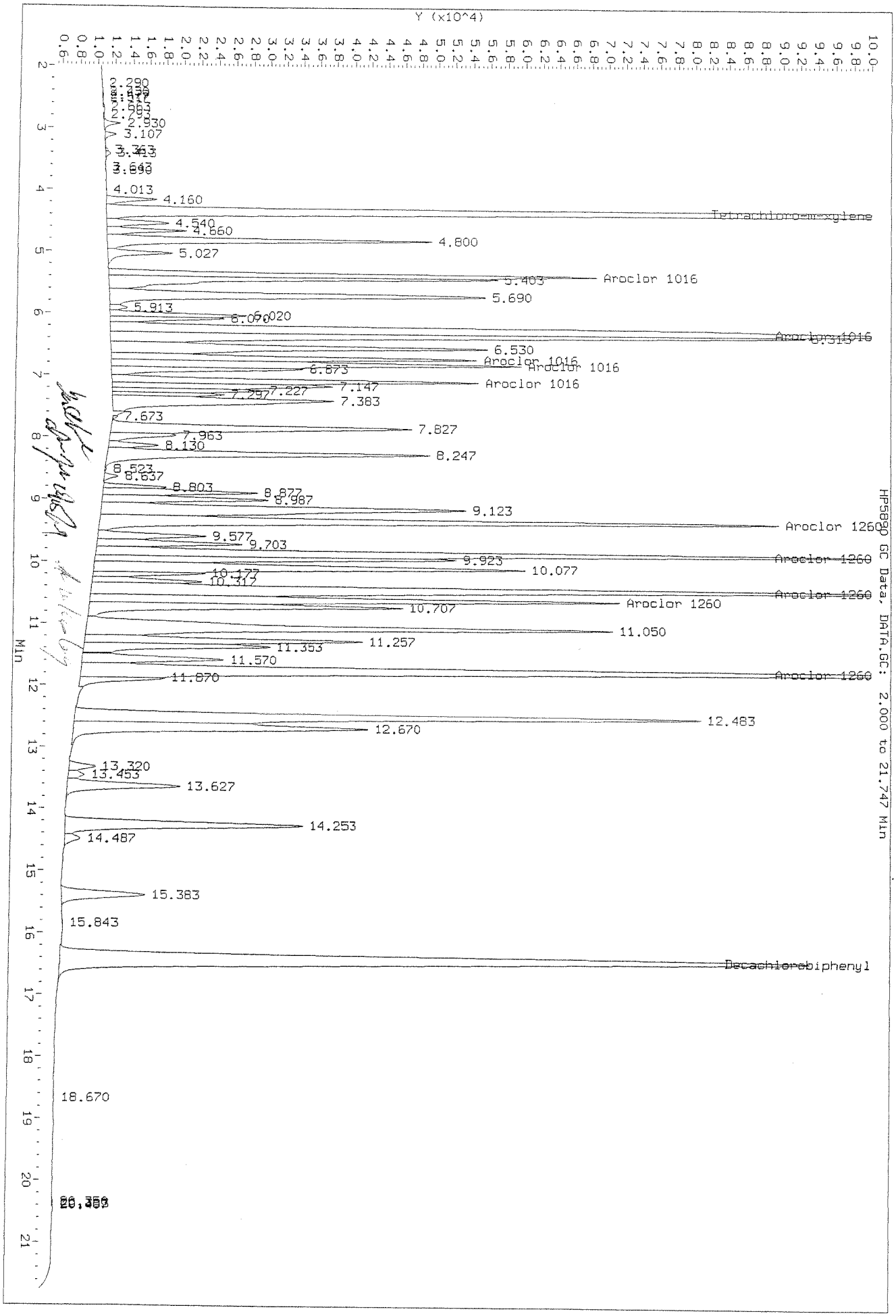
Instrument: GC09.i

Operator: JHSmith
Column diameter: 0.53

Column phase: DB-XLB




Data File: \\cash1\acqudata\GC09\data\101409_r.b\1014R014.D
Injection Date: 15-OCT-2009 05:07
Instrument: GC09.i
Client Sample ID:
Y (x10^4)
Min
HP5890 GC Data, DATA.GC: 2.000 to 21.747 Min
2.290
2.930
3.107
4.013
4.160
Tetrachloro-m-xylene
4.540
4.660
4.800
5.027
5.403
Aroclor 1016
5.690
5.913
6.530
Aroclor 1016
6.873
Aroclor 1016
7.147
Aroclor 1016
7.227
7.383
7.673
7.827
7.963
8.130
8.247
8.523
8.637
8.803
8.987
9.123
Aroclor 1260
9.577
9.703
9.923
10.077
10.317
Aroclor 1260
10.707
Aroclor 1260
11.050
11.257
11.353
11.570
Aroclor 1260
12.483
12.670
13.320
13.453
13.627
14.253
14.487
15.383
15.843
Decachlorobiphenyl
18.670


Data File: \\cash1\acqudata\GC09\data\101409_r.b\1014R014.D
Injection Date: 15-OCT-2009 05:07
Instrument: GC09.i
Client Sample ID:
Y (x10^4)
Min
HP5890 GC Data, DATA.GC: 2.000 to 21.747 Min
Tetrachloro-m-xylene
Aroclor 1016
Aroclor 1260
Decachlorobiphenyl
4.013
4.160
4.540
4.660
4.800
5.027
5.690
6.530
6.873
7.147
7.227
7.383
7.673
7.827
7.963
8.130
8.247
8.523
8.637
8.803
8.877
8.987
9.123
9.577
9.703
9.923
10.077
10.177
10.317
10.707
11.050
11.257
11.353
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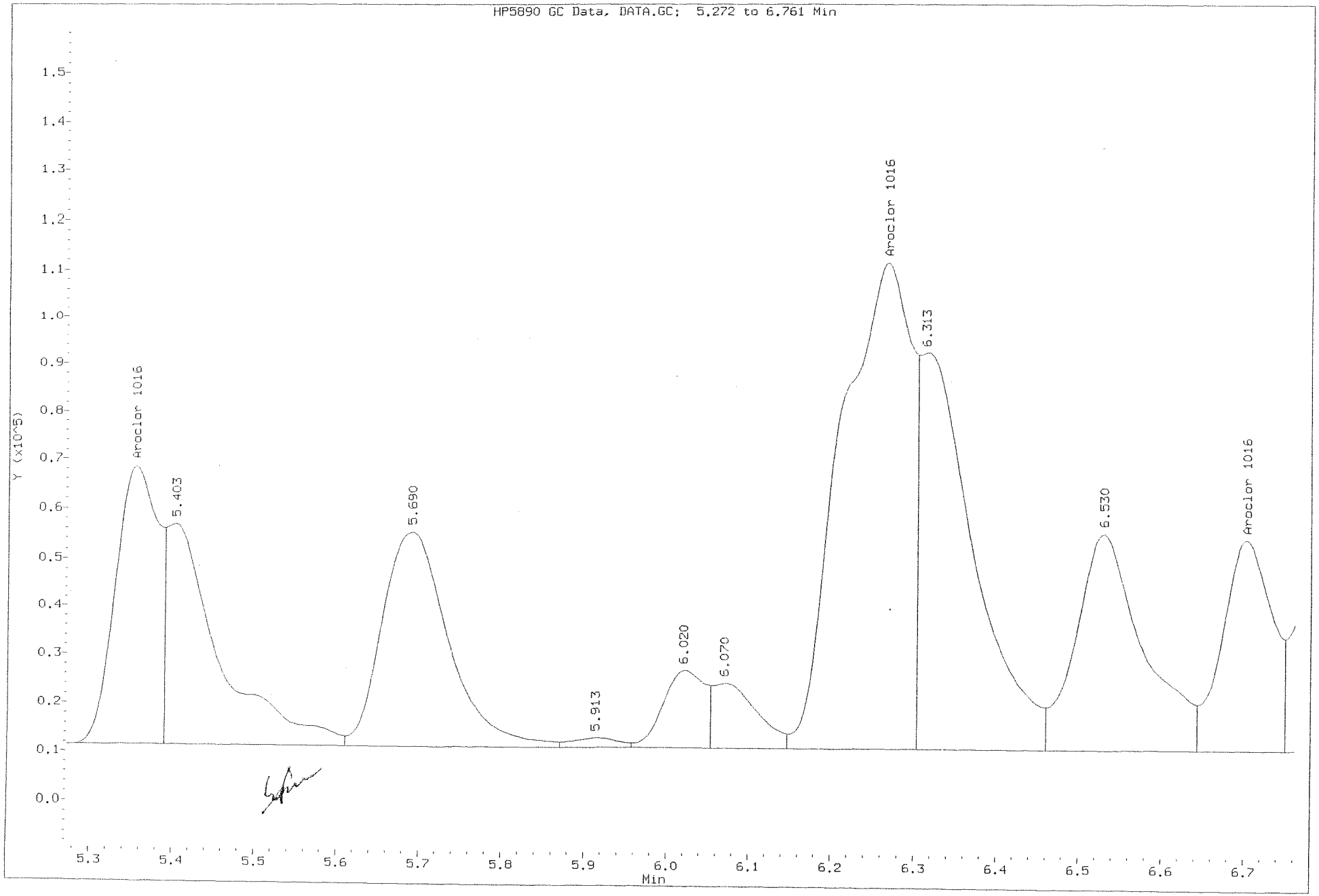
12.670
13.320
13.453
13.627
14.253
14.487
15.383
15.843
18.670

Data File: \\cash1\acqudata\GC09\data\101409_r.b\1014R014.D
Injection Date: 15-OCT-2009 05:07
Instrument: GC09.i
Client Sample ID:



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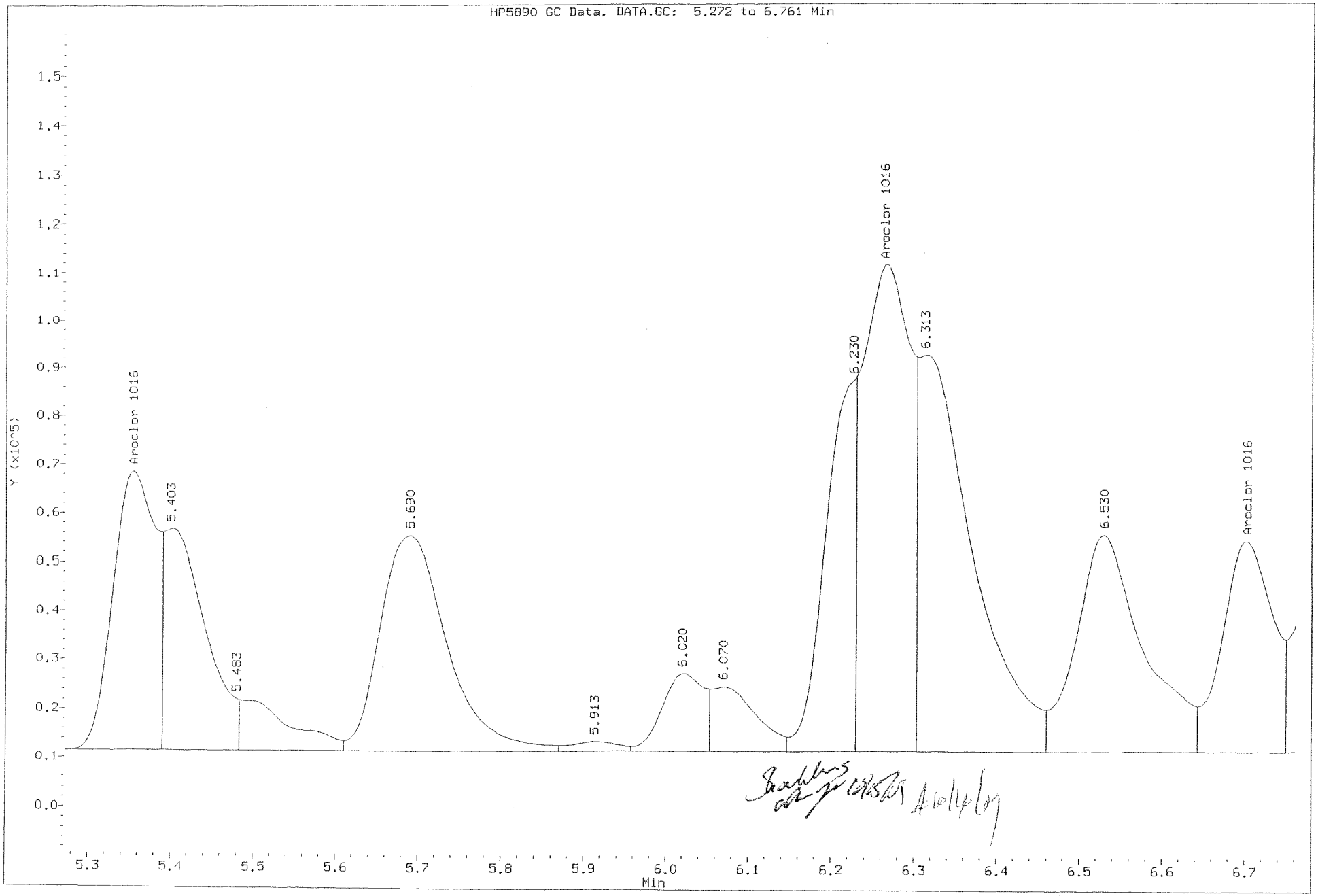
Injection Date: 15-OCT-2009 05:07
Instrument: GC09.i
Client Sample ID:



Data File: \\cash1\acqudata\GC09\data\101409.b\1014F015.D
Report Date: 15-Oct-2009 16:42

Laboratory Name

Sample #1 : \\cash1\acqudata\GC09\data\101409.b\1014F015.D
Sample #2 : \\cash1\acqudata\GC09\data\101409_r.b\1014R015.D
Inj Date : 15-OCT-2009 05:33
Sample Info: 1660 @ 5000ppb | PCB5-34H
Misc Info : SEMIVOA GC\W0900671\15-ICAL.H
Cal Date : 15-OCT-2009 12:43
Operator : JMSmith
Inst ID : GC09.i
Dil Factor : 1.000000

Method #1 : \\cash1\acqudata\GC09\data\101409.b\101409_f.m
Method #2 : \\cash1\acqudata\GC09\data\101409_r.b\101409_r.m
Sub List #1 : AR1660.SUB
Sub List #2 : AR1660.SUB
Col #1 Phase : DB-35MS
Col #2 Phase : DB-XLB

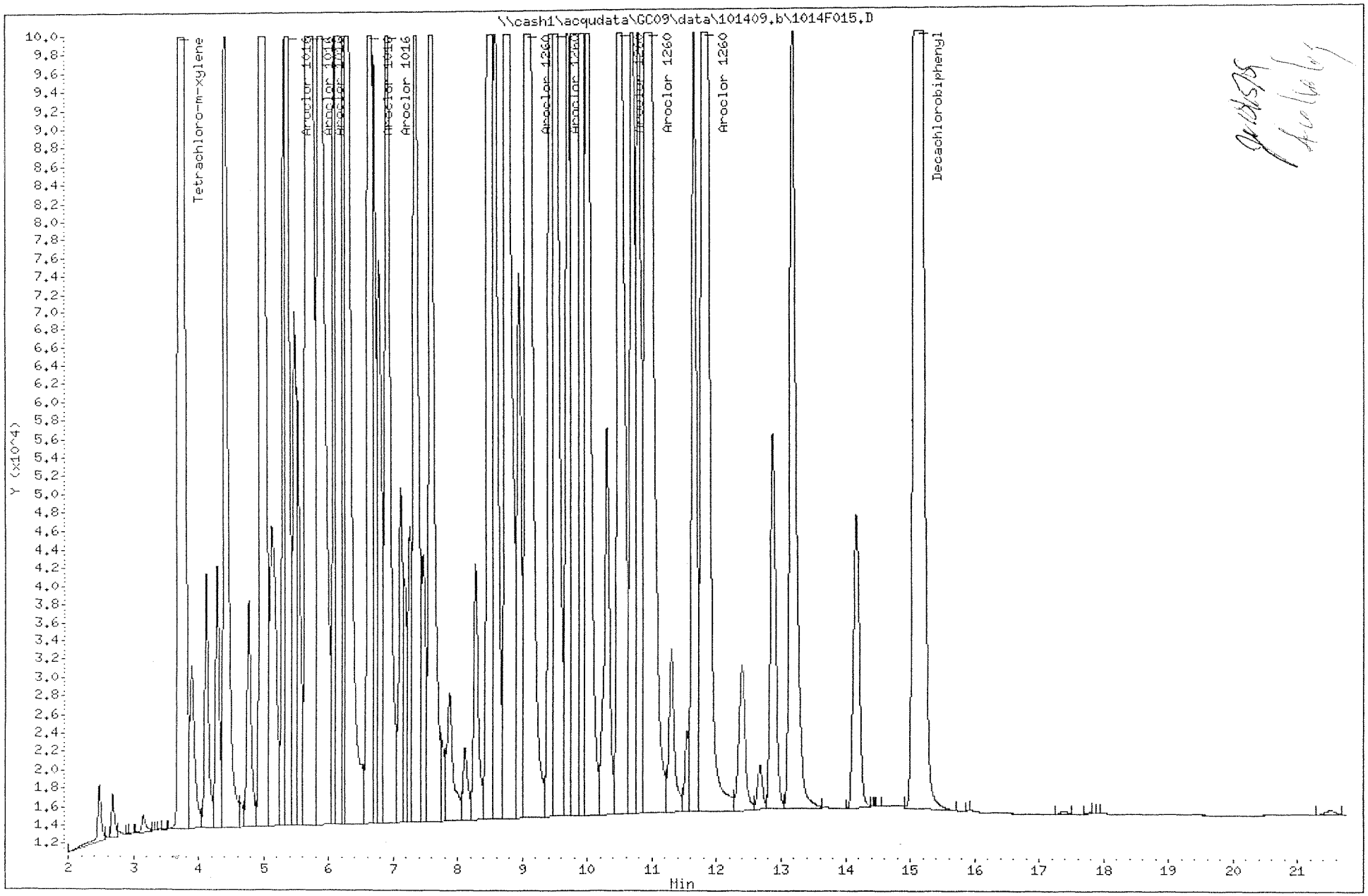
Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2	Target Range	Ratio
Tetrachloro-m-xylene	3.713	4.317	2328961	1793255	399	435		100.00
Aroclor 1016	5.357	5.687	500242	556745	3900	4150	80.00- 120.00	100.00
	5.693	6.263	1924037	840680	3720	3580	307.70- 461.55	384.62
	5.860	6.700	1056254	391962	3560	3690	168.92- 253.38	211.15
	6.627	6.793	649375	487284	3920	3900	103.85- 155.77	129.81
	6.903	7.063	608316	422731	4380	4200	97.28- 145.93	121.60
			Average of Peak Amounts =		3900	3900		
Aroclor 1260	9.073	9.317	1564364	889273	3690	3710	80.00- 120.00	100.00
	9.507	10.417	855599	1286498	3710	4170	43.75- 65.63	54.69
	10.493	10.590	1022462	667278	4010	3930	52.29- 78.43	65.36
	10.930	11.730	2172240	1522727	3960	4300	111.09- 166.63	138.86
	11.807	12.480	1589446	1062027	4210	4440	81.28- 121.92	101.60
			Average of Peak Amounts =		3920	4110		
Decachlorobiphenyl	15.120	16.410	2046413	1631111	375	391		100.00

Data File: \\cash1\acqudata\GC09\data\101409.b\1014F015.D
Date : 15-OCT-2009 05:33
Client ID:
Sample Info: 1660 @ 5000ppb | PCB5-34H

Instrument: GC09.i

Operator: JMSmith
Column diameter: 0.53

Column phase: DB-35MS



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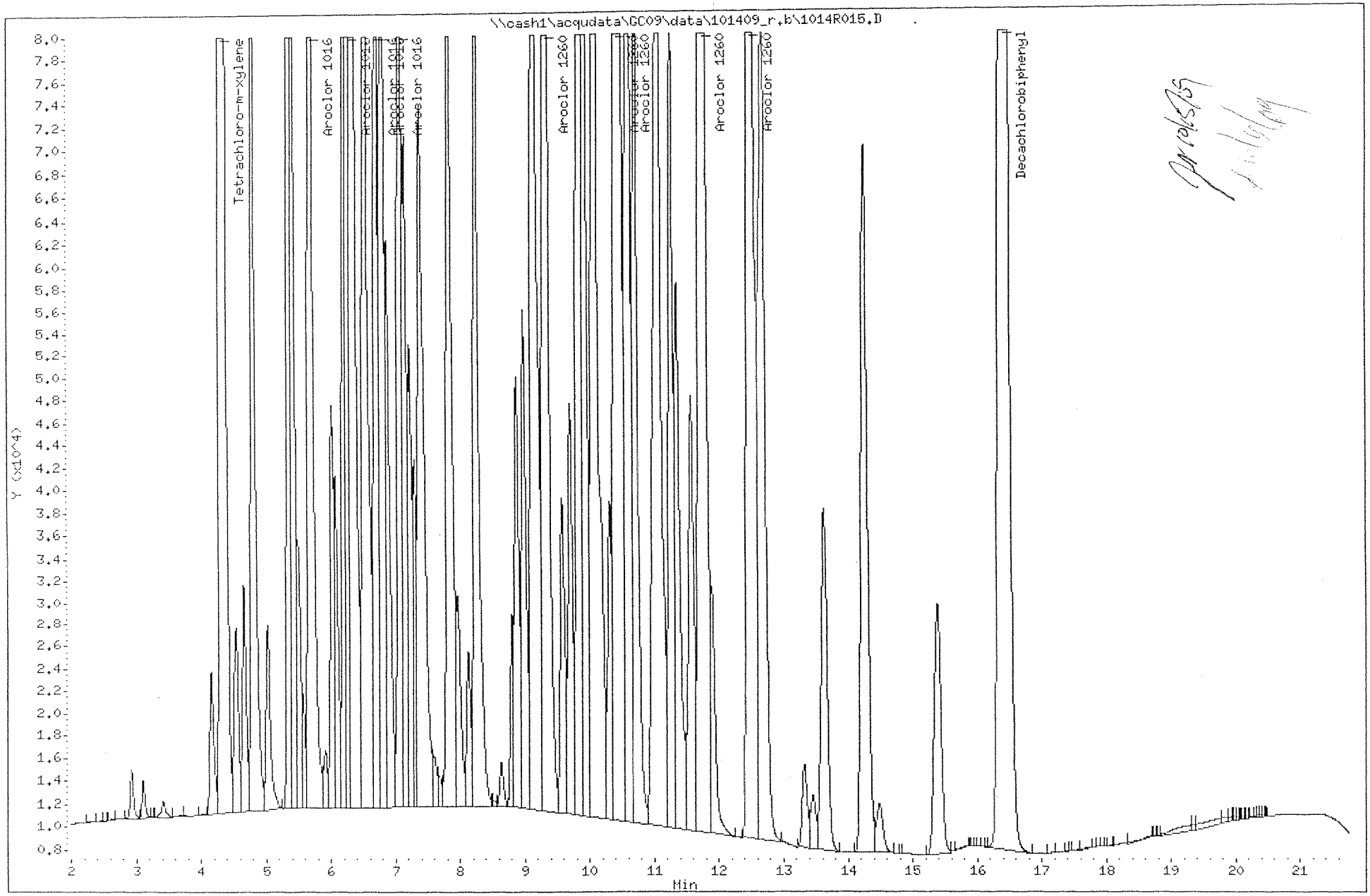
Date : 15-OCT-2009 05:33
Client ID:
Sample Info: 1660 @ 5000ppb | PCB5-34H

Instrument: GC09.i

Operator: JMSmith
Column diameter: 0.53

Column phase: DB-XLB



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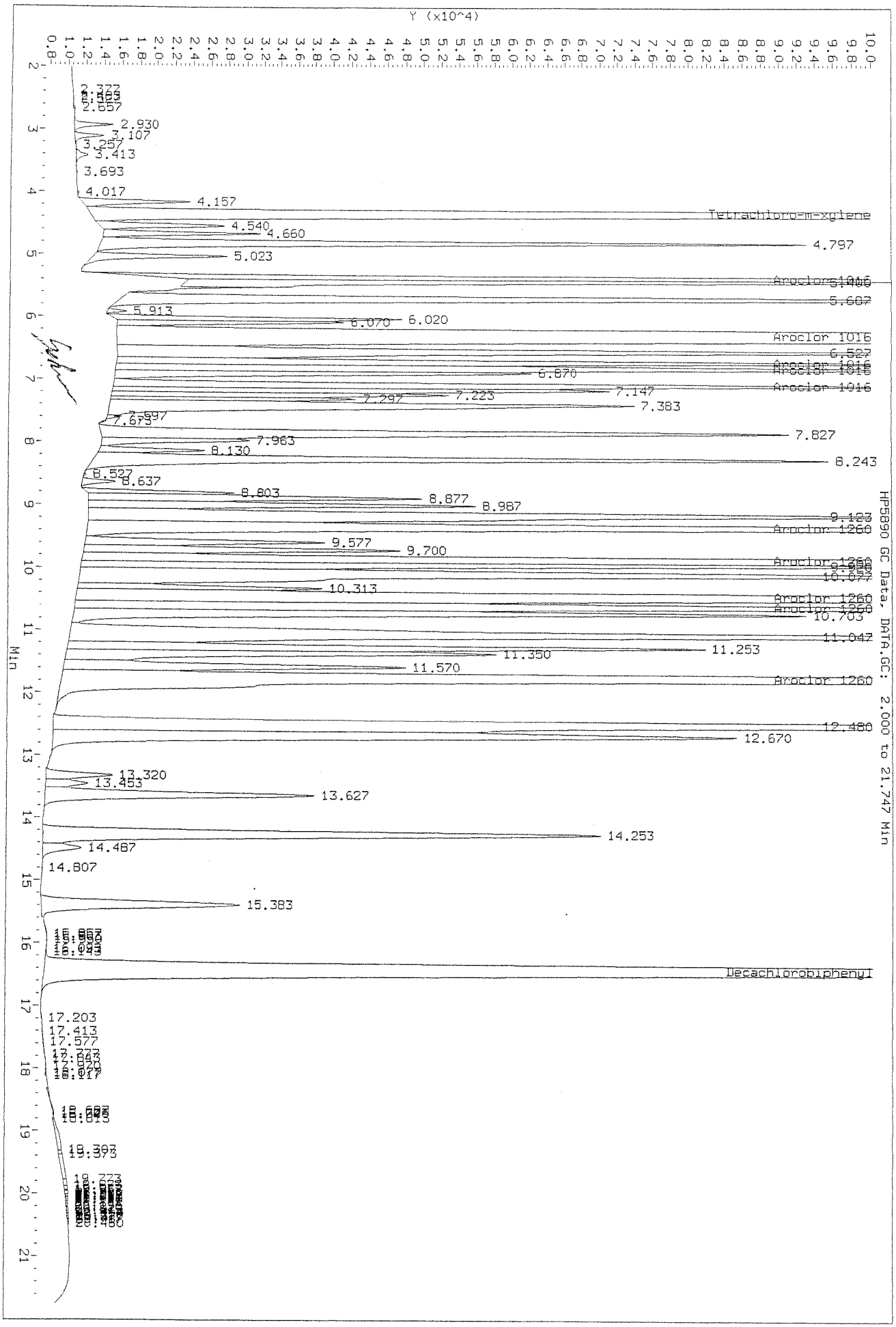
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Injection Date: 15-OCT-2009 05:33
Instrument: GC09.i
Client Sample ID:
Y (x10^4)
Min
HP5890 GC Data, DATA.GC: 2.000 to 21.747 Min
2.657
2.930
3.107
3.257
3.413
3.693
4.017
4.157
Tetrachloro-m-xylene
4.540
4.660
4.797
5.023
Aroclor 1016
5.913
6.070
6.020
Aroclor 1016
6.870
Aroclor 1016
7.297
7.223
7.147
Aroclor 1016
7.383
7.673
7.827
7.963
8.130
8.243
8.527
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8.803
8.877
8.987
Aroclor 1260
9.577
9.700
Aroclor 1260
10.313
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Aroclor 1260
10.703
11.253
11.350
11.570
Aroclor 1260
12.480
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Decachlorobiphenyl
17.203
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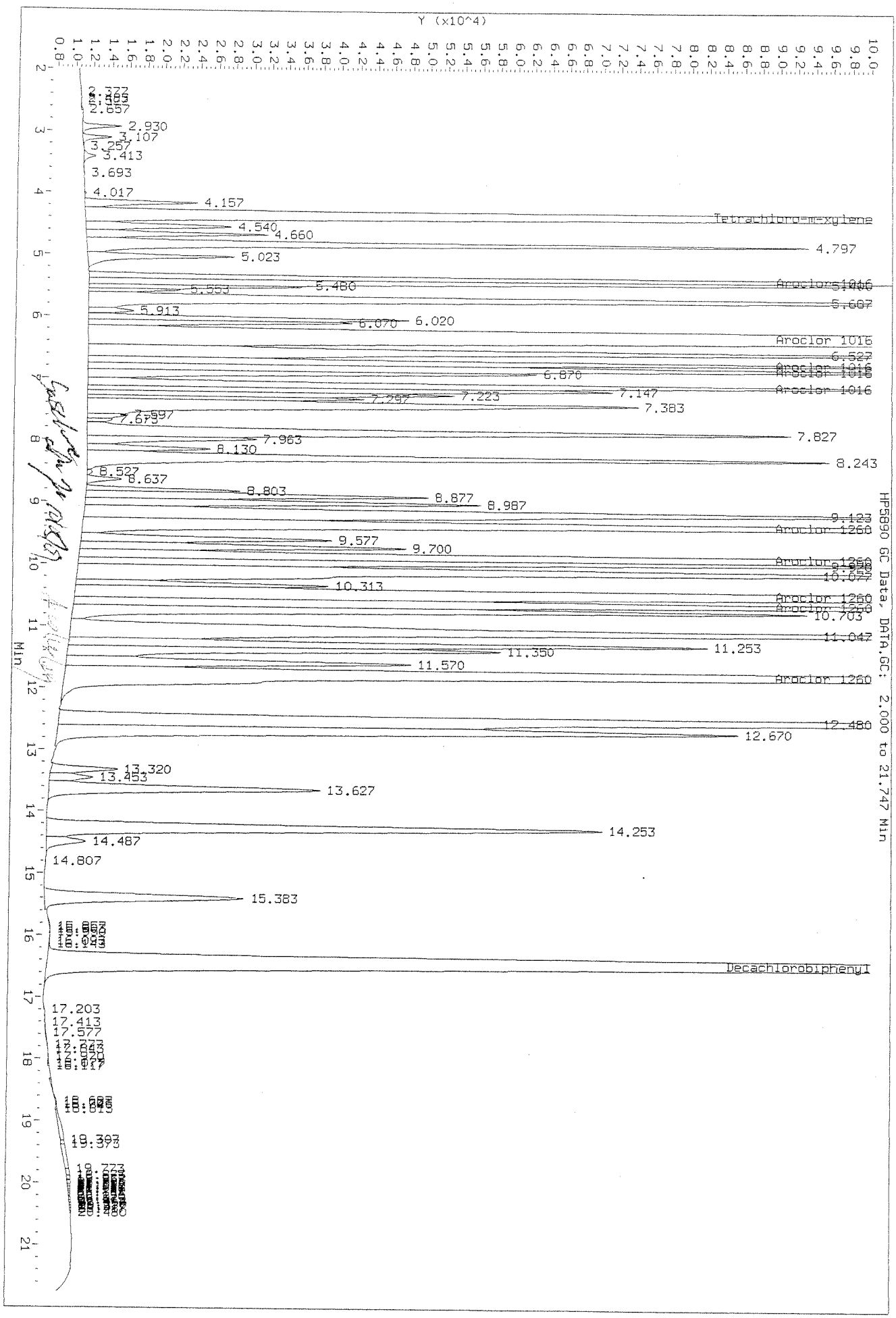

Data File: \\cash1\acqudata\GC09\data\101409_r.b\1014R015.D
Injection Date: 15-OCT-2009 05:33
Instrument: GC09.i
Client Sample ID:

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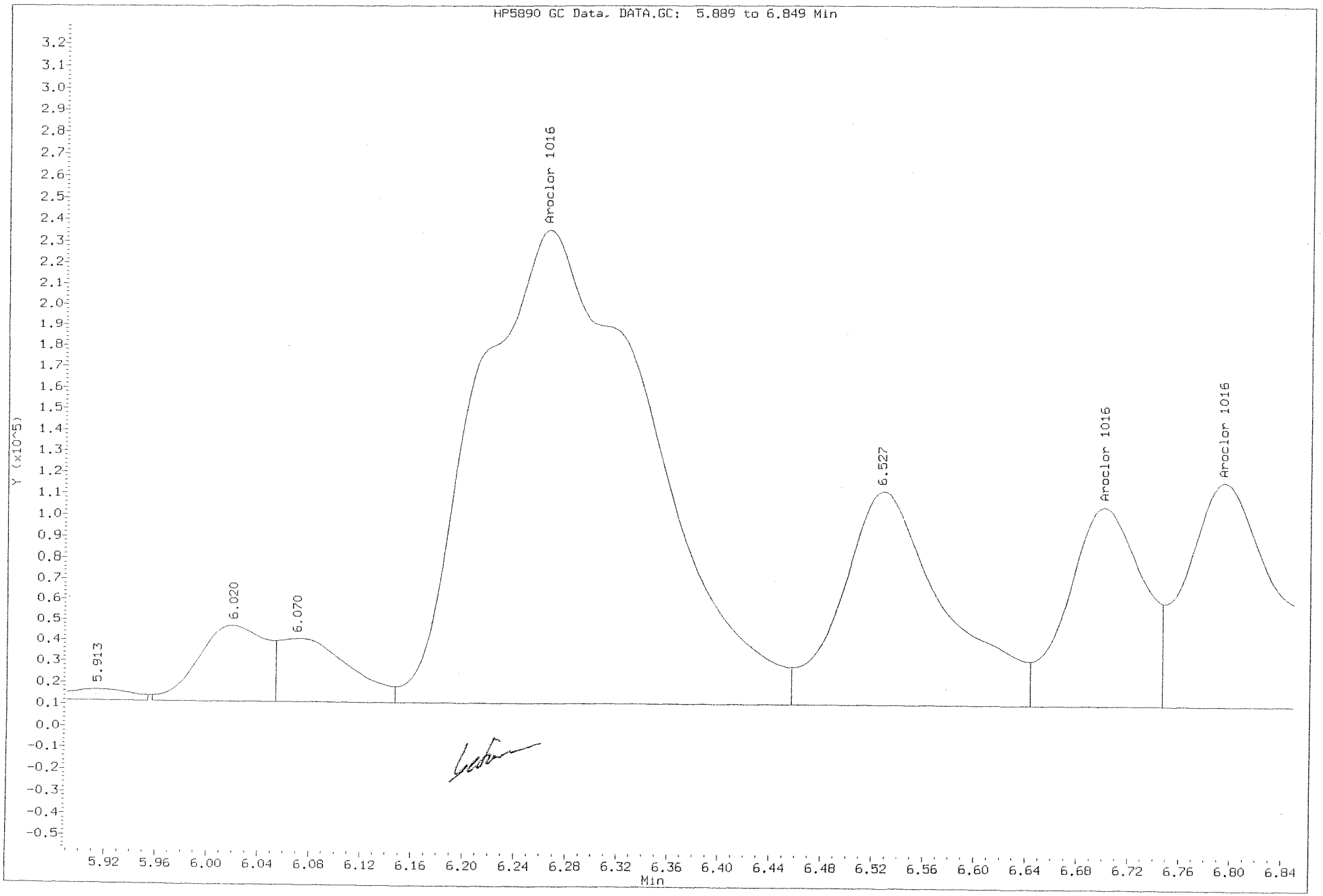
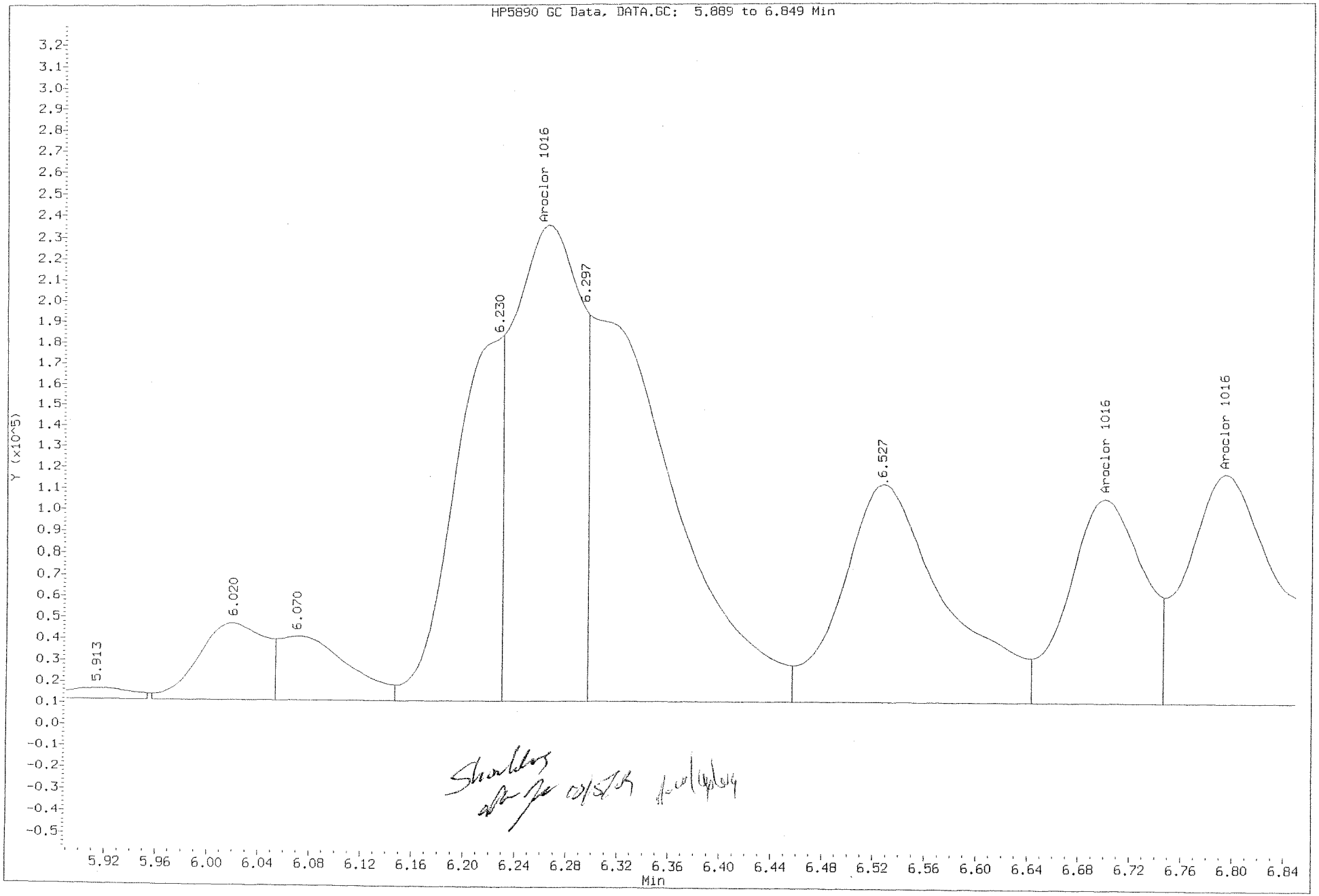
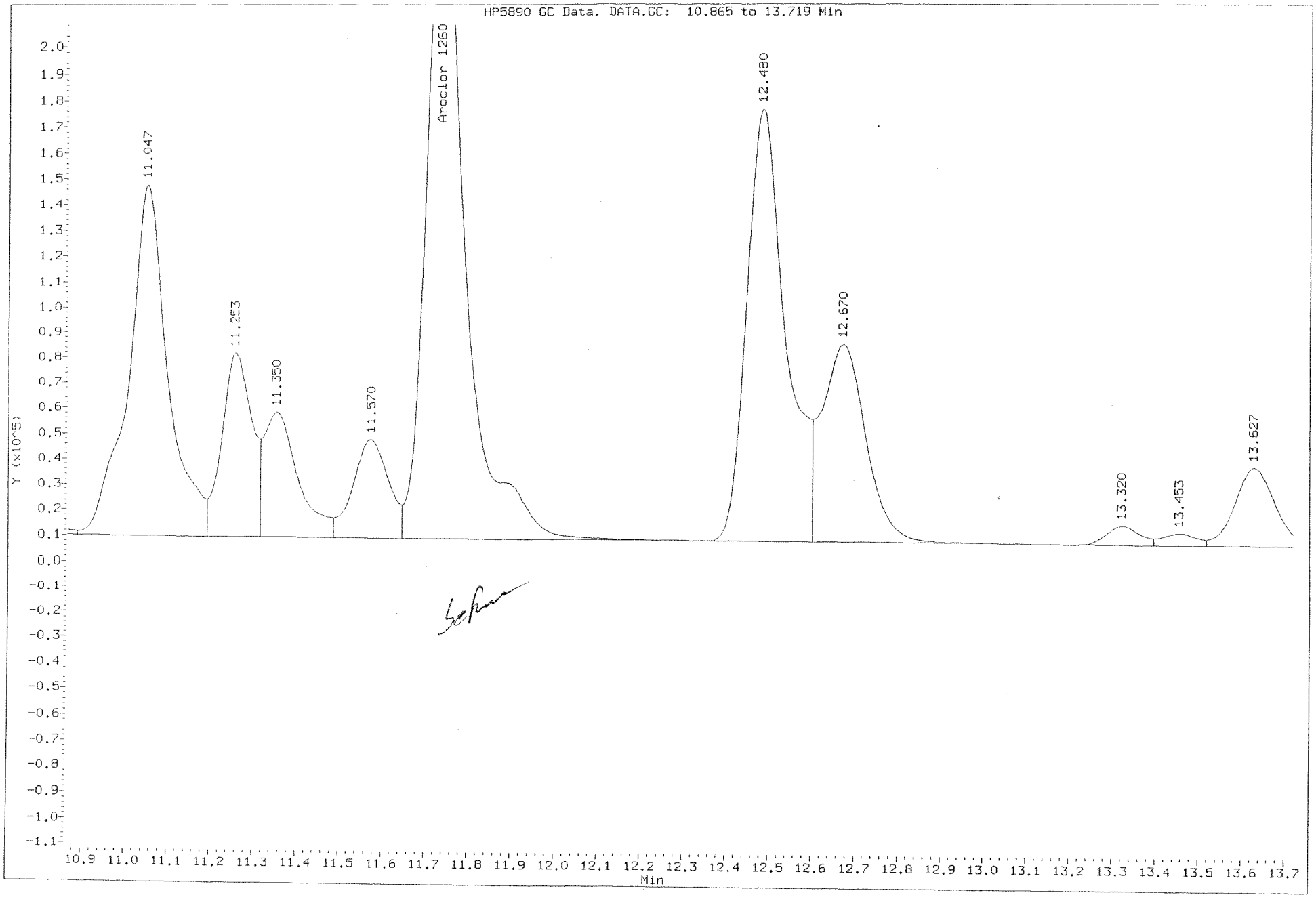
Injection Date: 15-OCT-2009 05:33
Instrument: GC09.i
Client Sample ID:



Data File: \\cash1\acqudata\GC09\data\101409_r.b\1014R015.D
Injection Date: 15-OCT-2009 05:33
Instrument: GC09.i
Client Sample ID:



Data File: \\cash1\acqudata\GC09\data\101409_r.b\1014R015.D
Injection Date: 15-OCT-2009 05:33
Instrument: GC09.i
Client Sample ID:



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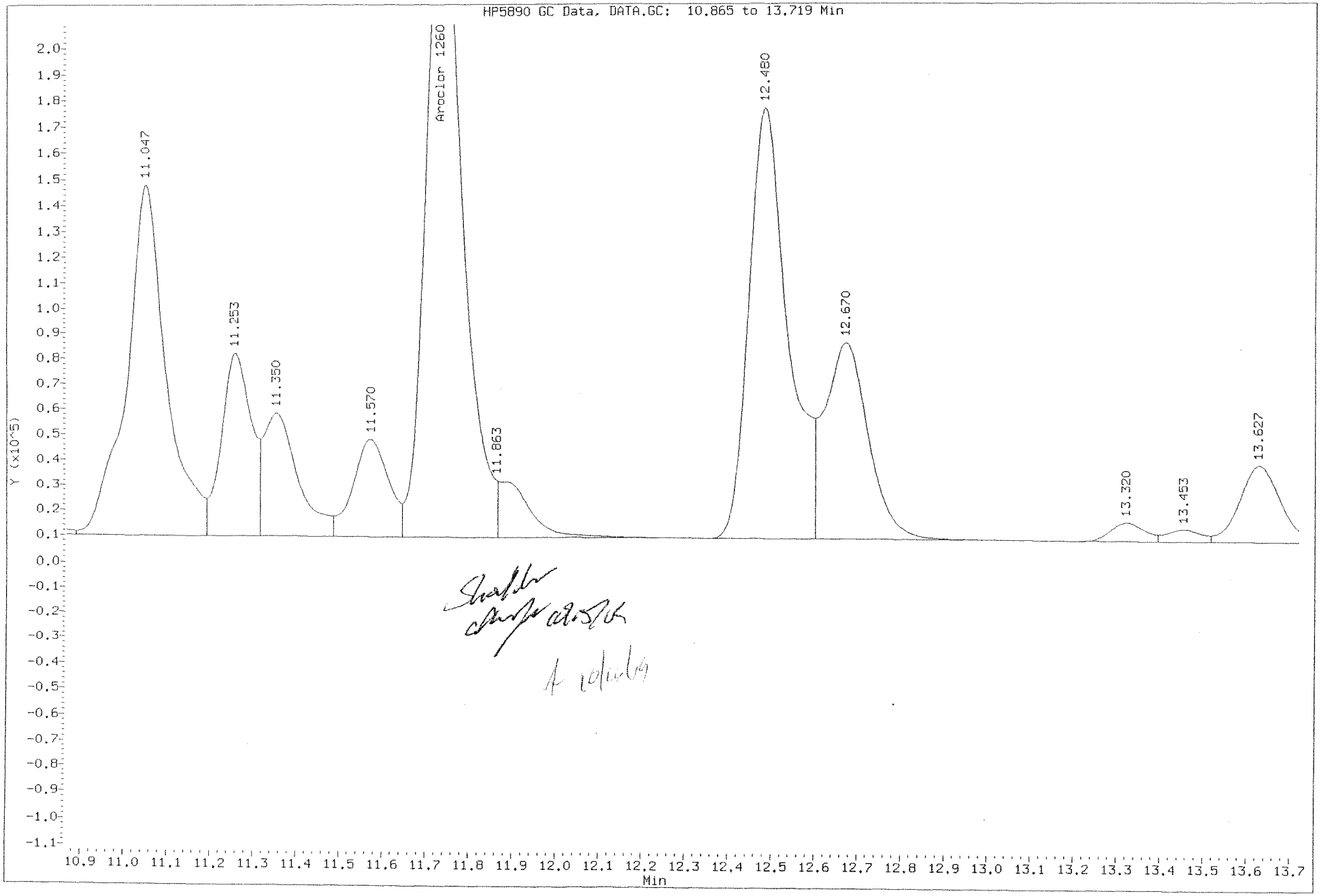
Injection Date: 15-OCT-2009 05:33
Instrument: GC09.i
Client Sample ID:



Data File: \\cash1\acqudata\GC09\data\101409.b\1014F016.D
Report Date: 15-Oct-2009 16:42

Laboratory Name

Sample #1 : \\cash1\acqudata\GC09\data\101409.b\1014F016.D
Sample #2 : \\cash1\acqudata\GC09\data\101409_r.b\1014R016.D
Inj Date : 15-OCT-2009 06:00
Sample Info: 1016 @ 1000ppb | PCB5-34J
Misc Info : SEMIVOA GC\W0900671\16-ICV.H
Cal Date : 15-OCT-2009 13:27
Operator : JMSmith
Inst ID : GC09.i
Dil Factor : 1.000000

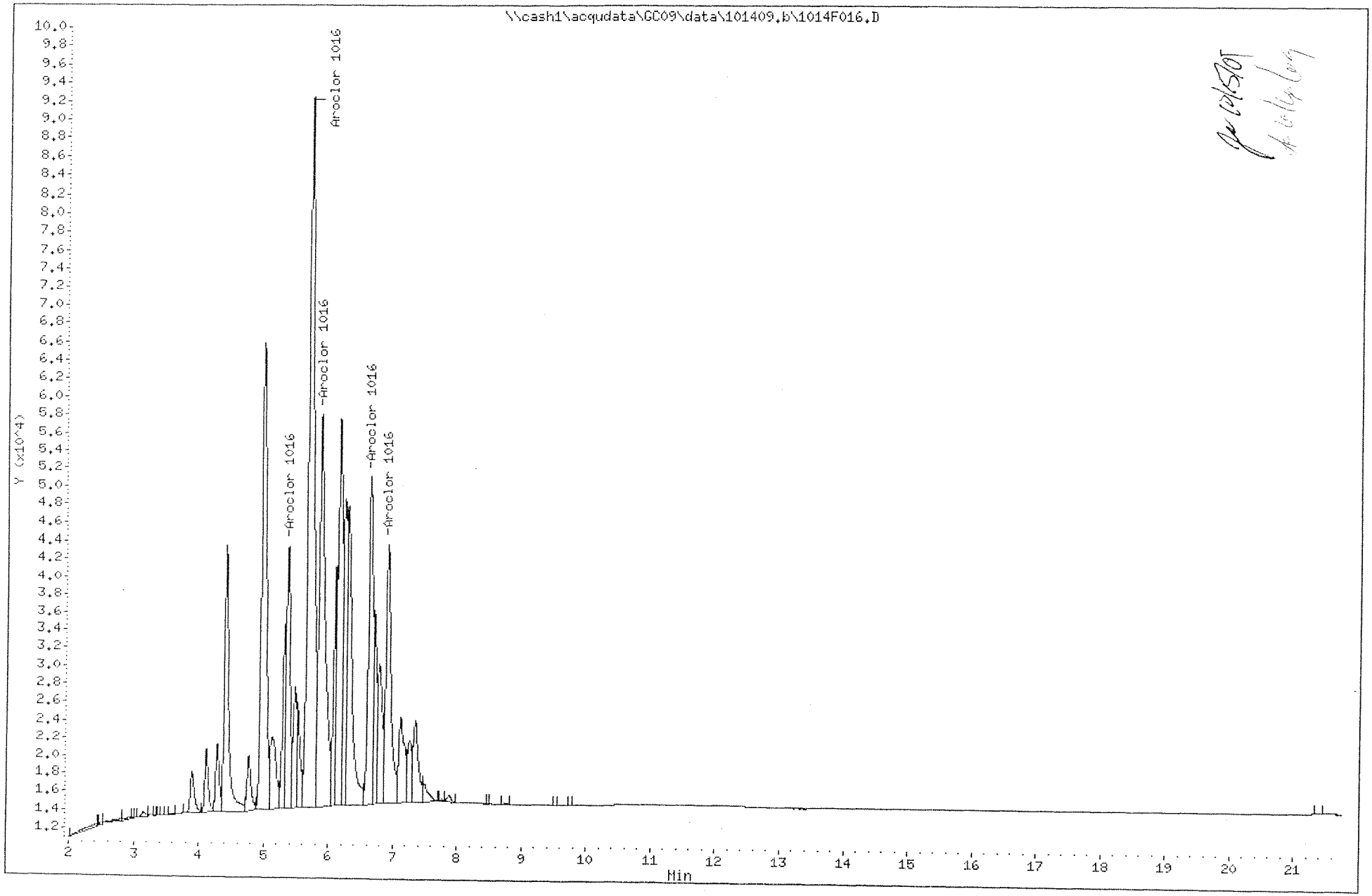
Method #1 : \\cash1\acqudata\GC09\data\101409.b\101409_f.m
Method #2 : \\cash1\acqudata\GC09\data\101409_r.b\101409_r.m
Sub List #1 : AR1016.sub
Sub List #2 : AR1016.sub
Col #1 Phase : DB-35MS
Col #2 Phase : DB-XLB

Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2	Target Range	Ratio
Aroclor 1016	5.357	5.690	126356	129311	986	964	80.00- 120.00	100.00
	5.693	6.267	476605	208515	922	887	307.70- 461.55	377.19
	5.860	6.703	289031	91116	974	857	168.92- 253.38	228.74
	6.627	6.797	155569	114409	940	917	103.85- 155.77	123.12
	6.903	7.067	163208	95921	1170	953	97.28- 145.93	129.17
			Average of Peak Amounts =		998	916		

Data File: \\cash1\acqudata\GC09\data\101409.b\1014F016.D
Date : 15-OCT-2009 06:00
Client ID:
Sample Info: 1016 @ 1000ppb | PCB5-34J

Instrument: GC09.i

Operator: JMSmith
Column phase: DB-35MS
Column diameter: 0.53

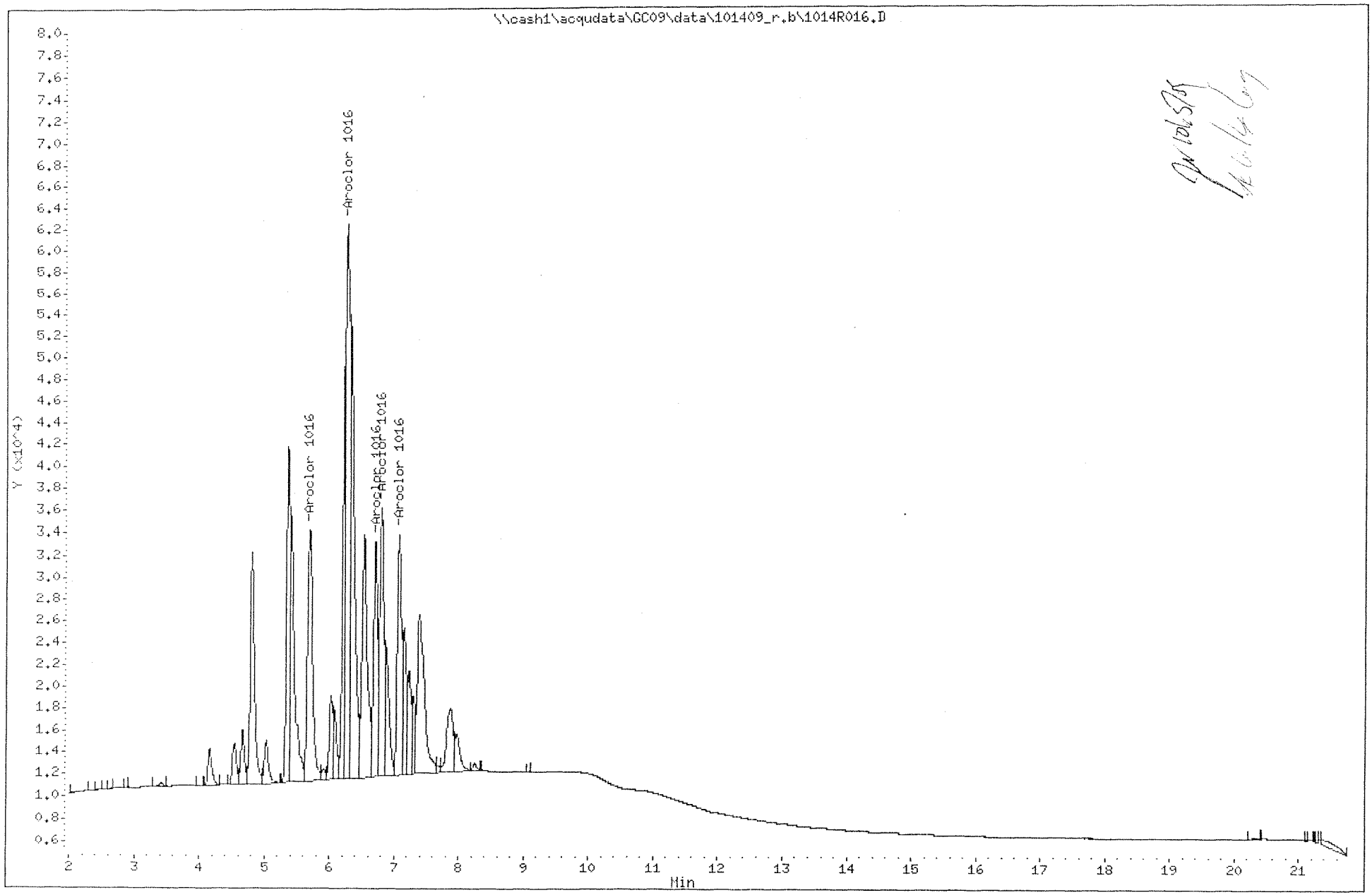


Data File: \\cash1\acqudata\GC09\data\101409_r.b\1014R016.D
Date : 15-OCT-2009 06:00
Client ID:
Sample Info: 1016 @ 1000ppb | PCB5-34J

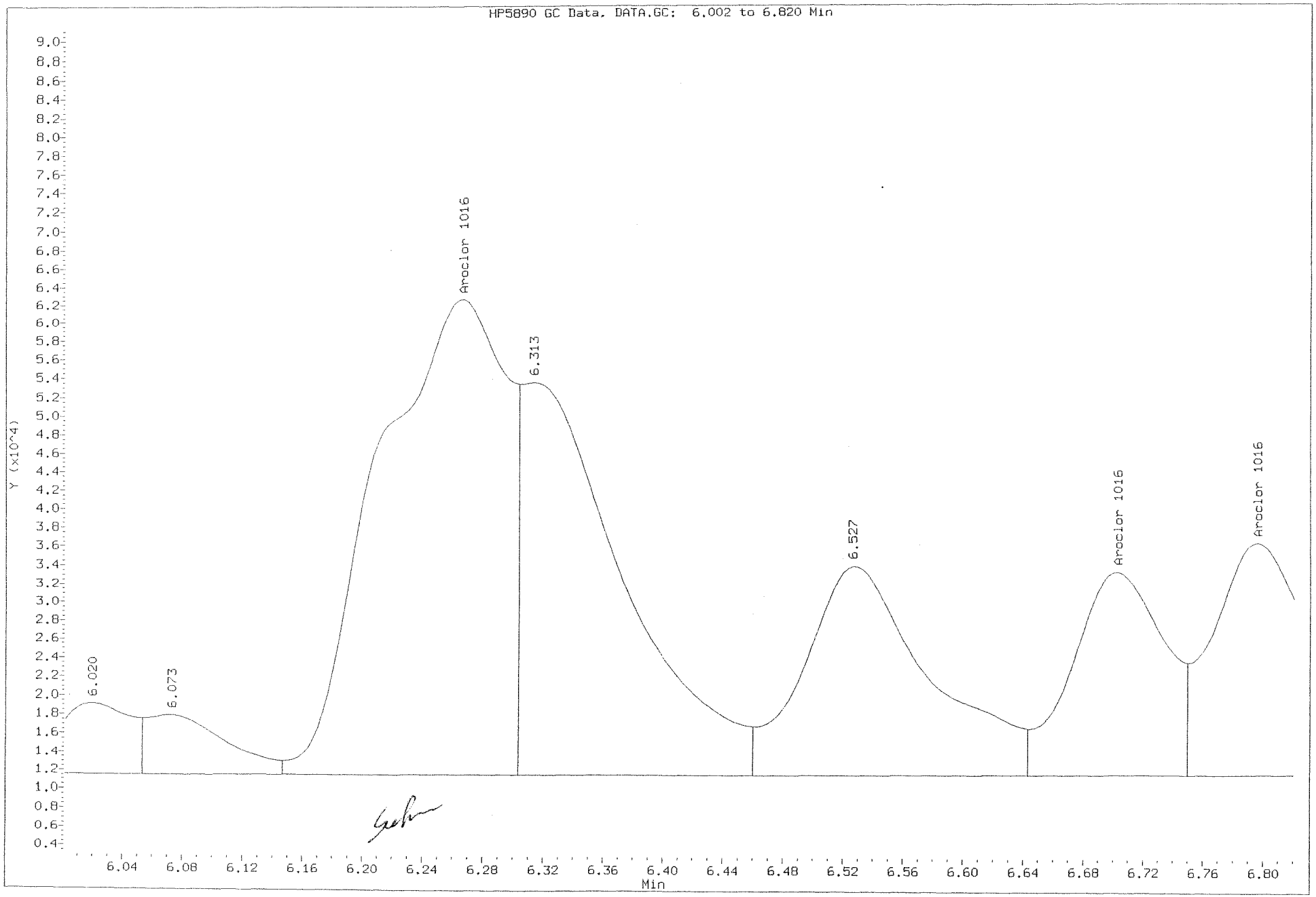
Column phase: DB-XLB

Instrument: GC09.i

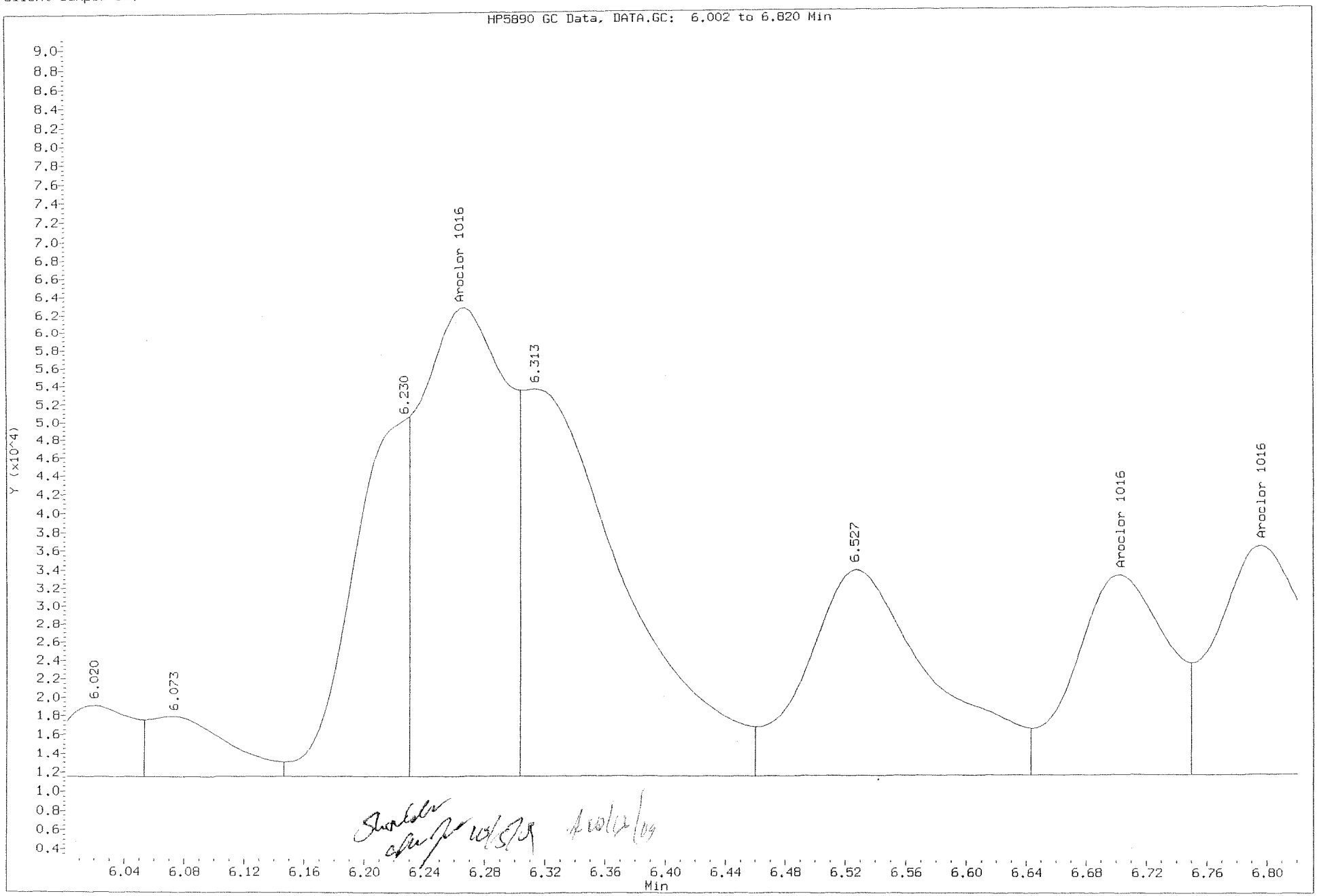
Operator: JHSmith
Column diameter: 0.53



Data File: \\cash1\acqudata\GC09\data\101409_r,b\1014R016.D
Injection Date: 15-OCT-2009 06:00
Instrument: GC09.i
Client Sample ID:



Data File: \\cash1\acqudata\GC09\data\101409_r.b\1014R016.D
Injection Date: 15-OCT-2009 06:00
Instrument: GC09.i
Client Sample ID:



Data File: \\cash1\acqudata\GC09\data\101409.b\1014F017.D
Report Date: 15-Oct-2009 16:42

Laboratory Name

Sample #1 : \\cash1\acqudata\GC09\data\101409.b\1014F017.D
Sample #2 : \\cash1\acqudata\GC09\data\101409_r.b\1014R017.D
Inj Date : 15-OCT-2009 06:26
Sample Info: 1221 @ 1000ppb | PCB5-43O
Misc Info : SEMIVOA GC\W0900671\17-ICV.H
Cal Date : 15-OCT-2009 13:27
Operator : JMSmith
Inst ID : GC09.i
Dil Factor : 1.000000

Method #1 : \\cash1\acqudata\GC09\data\101409.b\101409_f.m
Method #2 : \\cash1\acqudata\GC09\data\101409_r.b\101409_r.m
Sub List #1 : AR1221.SUB
Sub List #2 : AR1221.SUB
Col #1 Phase : DB-35MS
Col #2 Phase : DB-XLB

Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2	Target Range	Ratio
Aroclor 1221	3.150	3.413	50483	43487	987	970	80.00- 120.00	100.00(M)
	3.893	4.160	32832	24878	970	983	52.92- 79.38	65.21(M)
	4.117	4.543	73023	49698	956	951	119.49- 179.23	145.04(M)
	4.280	4.660	48476	36527	969	964	78.24- 117.36	96.28(M)
			Average of Peak Amounts =		970	967		

QC Flag Legend

M - Compound response manually integrated.

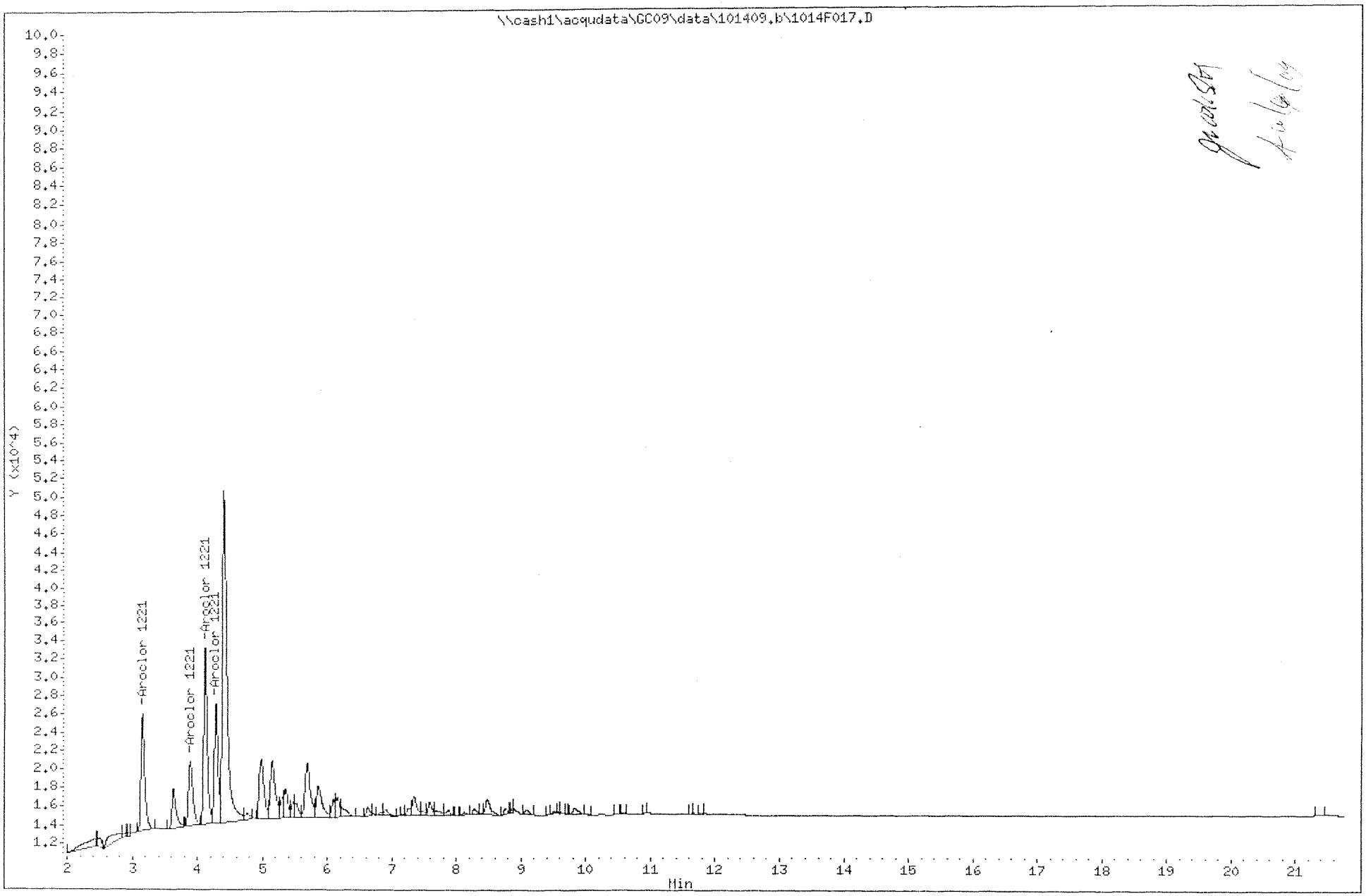
10/15/09

Data File: \\cash1\acqudata\GC09\data\101409.b\1014F017.D
Date : 15-OCT-2009 06:26
Client ID:
Sample Info: 1221 @ 1000ppb | PCB5-430

Instrument: GC09.i

Operator: JMSmith
Column diameter: 0.53

Column phase: DB-35MS

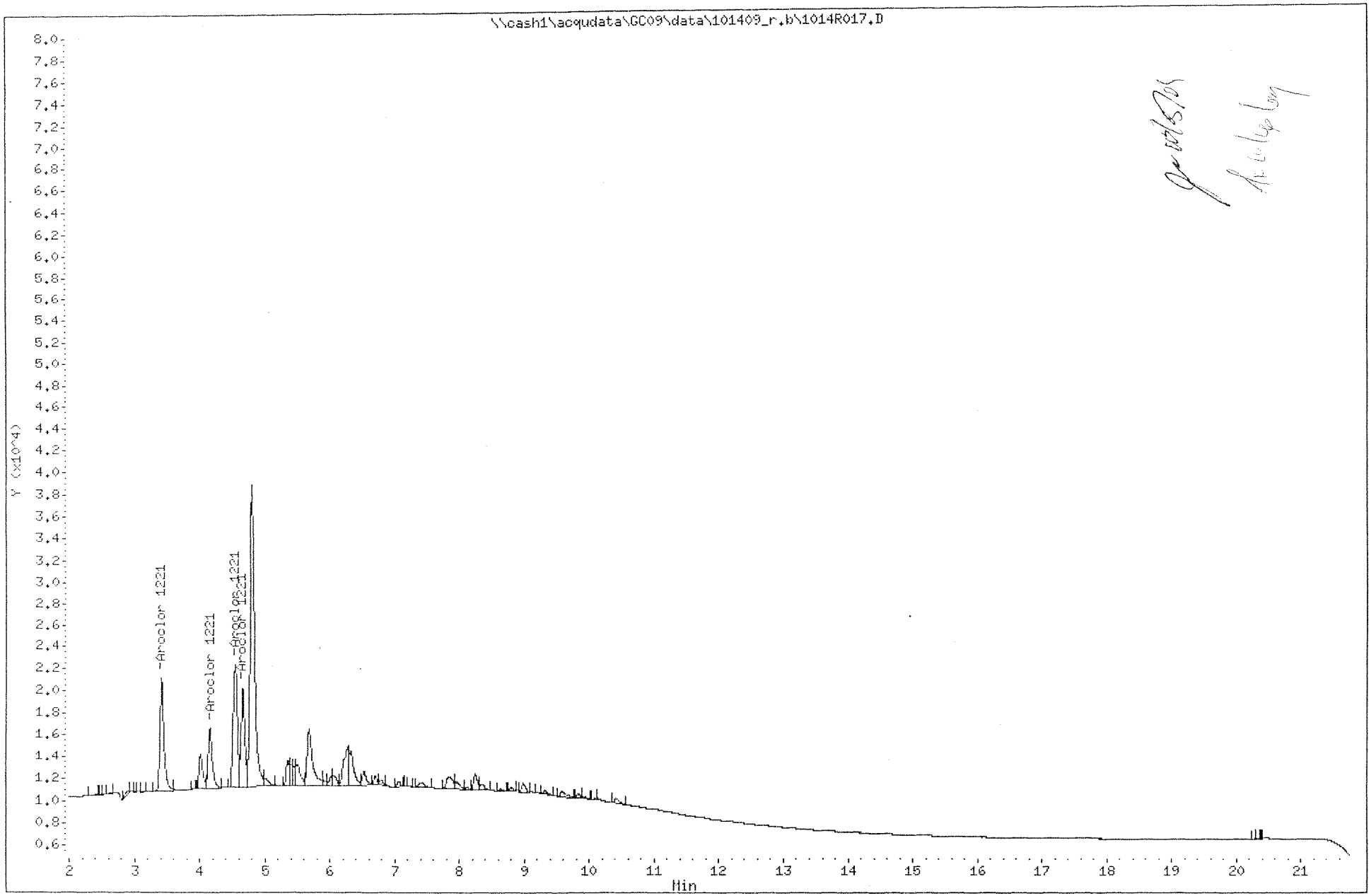


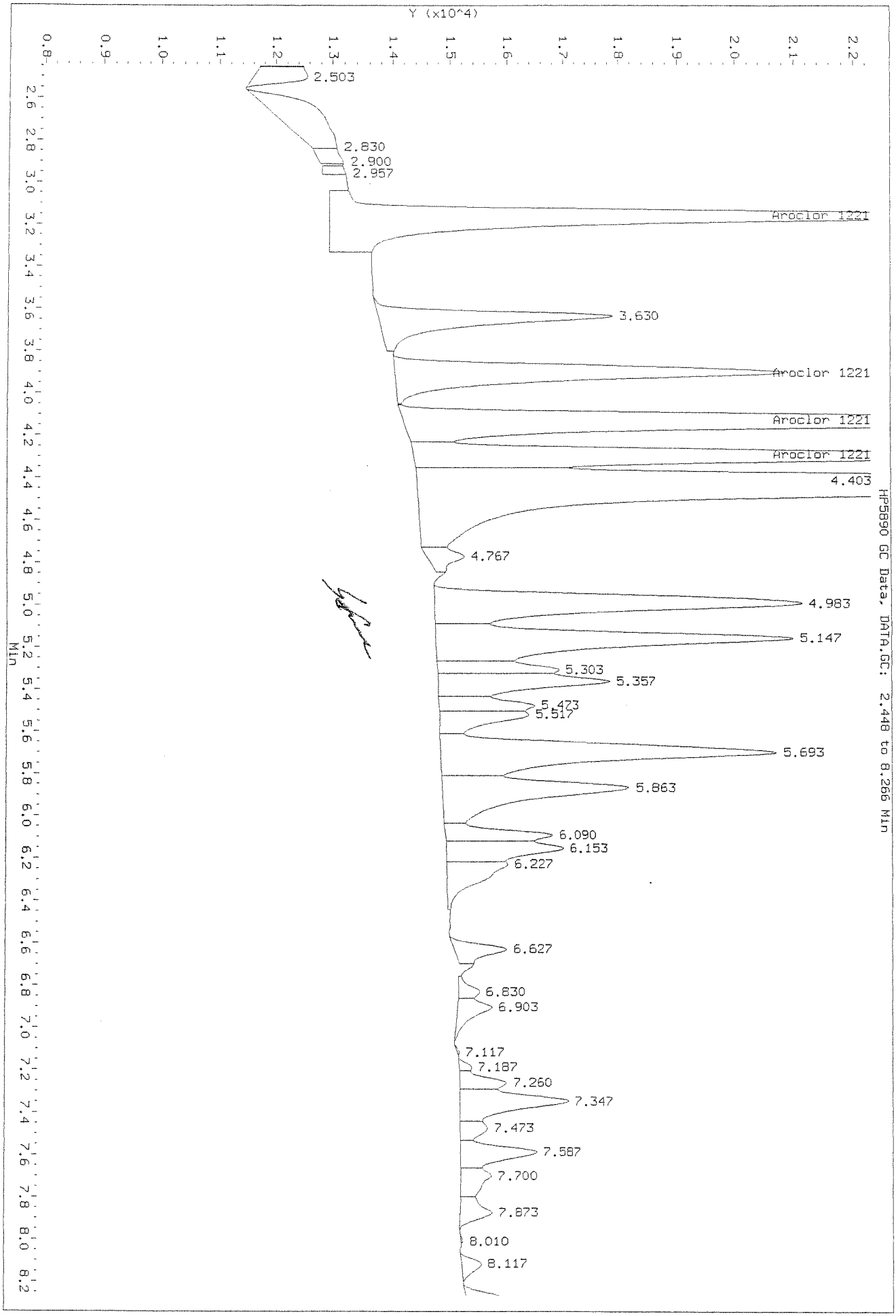
Data File: \\cash1\acqudata\GC09\data\101409_r.b\1014R017.D
Date : 15-OCT-2009 06:26
Client ID:
Sample Info: 1221 @ 1000ppb | PCB5-430

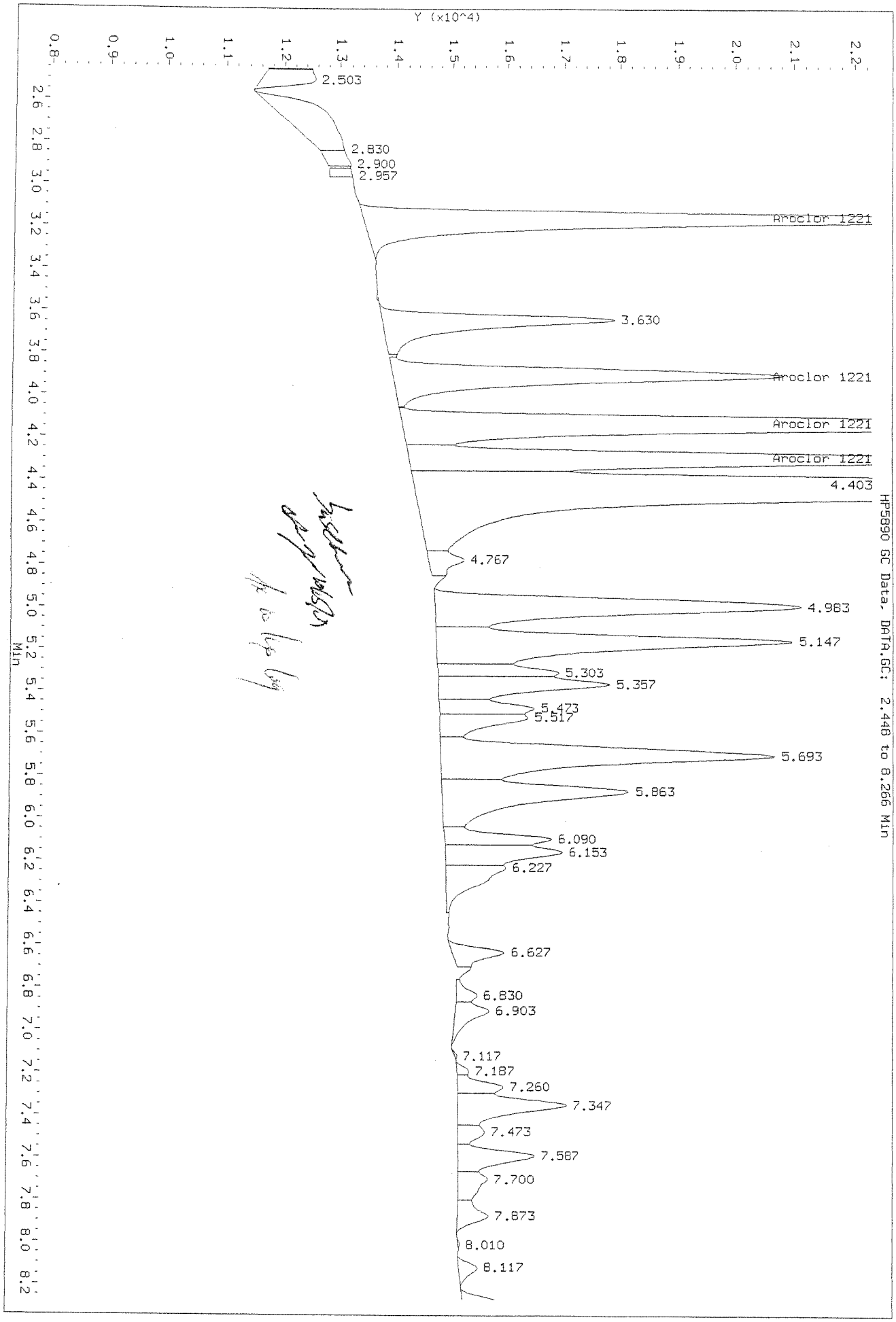
Instrument: GC09.i

Operator: JHSmith
Column diameter: 0.53

Column phase: DB-XLB




Data File: \\cash\acqudata\GC09\data\101409.b\1014F017.D
Injection Date: 15-OCT-2009 06:26
Instrument: GC09.1
Client Sample ID:
Y (x10^4)
Min
HP5890 GC Data, DATA.GC: 2.448 to 8.266 Min
2.503
2.830
2.900
2.957
Aroclor 1221
3.630
Aroclor 1221
Aroclor 1221
Aroclor 1221
4.403
4.767
4.983
5.147
5.303
5.357
5.423
5.517
5.693
5.863
6.090
6.153
6.227
6.627
6.830
6.903
7.117
7.187
7.260
7.347
7.473
7.587
7.700
7.873
8.010
8.117


Data File: \\cash1\acqudata\GC09\data\101409.b\1014F017.D
Injection Date: 15-OCT-2009 06:26
Instrument: GC09.i
Client Sample ID:
Y (x10^4)
2.503
2.830
2.900
2.957
Aroclor 1221
3.630
Aroclor 1221
Aroclor 1221
Aroclor 1221
4.403
4.767
4.983
5.147
5.303
5.357
5.473
5.517
5.693
5.863
6.090
6.153
6.227
6.627
6.830
6.903
7.117
7.187
7.260
7.347
7.473
7.587
7.700
7.873
8.010
8.117
HP5890 GC Data, DATA.GC; 2.448 to 8.266 Min
Min

Data File: \\cash1\acqudata\GC09\data\101409.b\1014F018.D
Report Date: 15-Oct-2009 16:42

Laboratory Name

Sample #1 : \\cash1\acqudata\GC09\data\101409.b\1014F018.D
Sample #2 : \\cash1\acqudata\GC09\data\101409_r.b\1014R018.D
Inj Date : 15-OCT-2009 06:52
Sample Info: 1232 @ 1000ppb | PCB5-34L
Misc Info : SEMIVOA GC\W0900671\18-ICV.H
Cal Date : 15-OCT-2009 13:27
Operator : JMSmith
Inst ID : GC09.i
Dil Factor : 1.000000

Method #1 : \\cash1\acqudata\GC09\data\101409.b\101409_f.m
Method #2 : \\cash1\acqudata\GC09\data\101409_r.b\101409_r.m
Sub List #1 : AR1232.SUB
Sub List #2 : AR1232.SUB
Col #1 Phase : DB-35MS
Col #2 Phase : DB-XLB

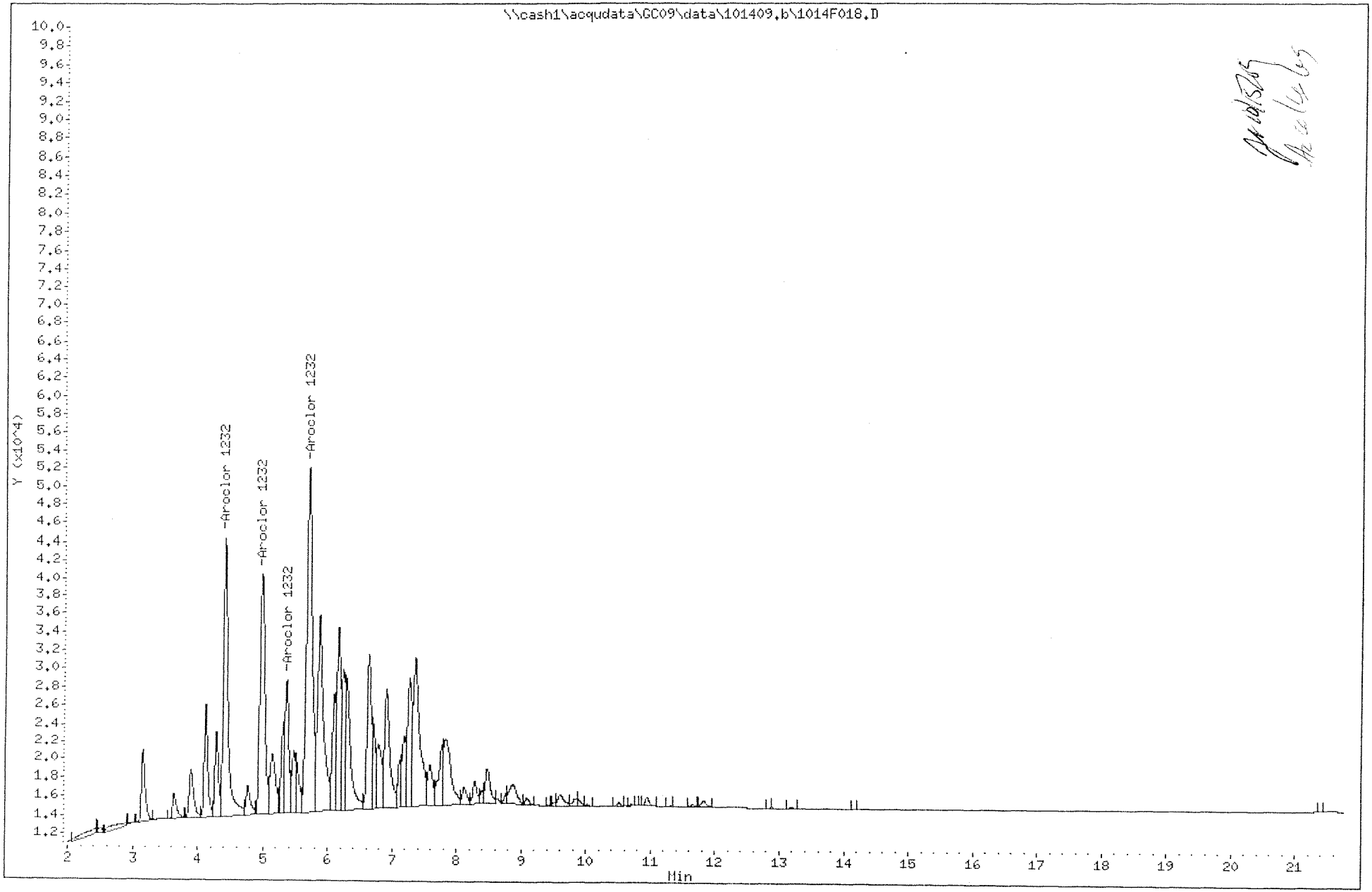
Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2	Target Range	Ratio
Aroclor 1232	4.403	4.797	152083	101711	928	902	80.00- 120.00	100.00(M)
	4.970	5.353	140347	53080	998	1010	68.64- 102.96	92.28(M)
	5.357	5.687	64705	70377	1040	984	30.41- 45.61	42.55(M)
	5.693	6.230	231449	47948	973	1000	116.03- 174.04	152.19(M)
			Average of Peak Amounts =		985	974		

QC Flag Legend

M - Compound response manually integrated.

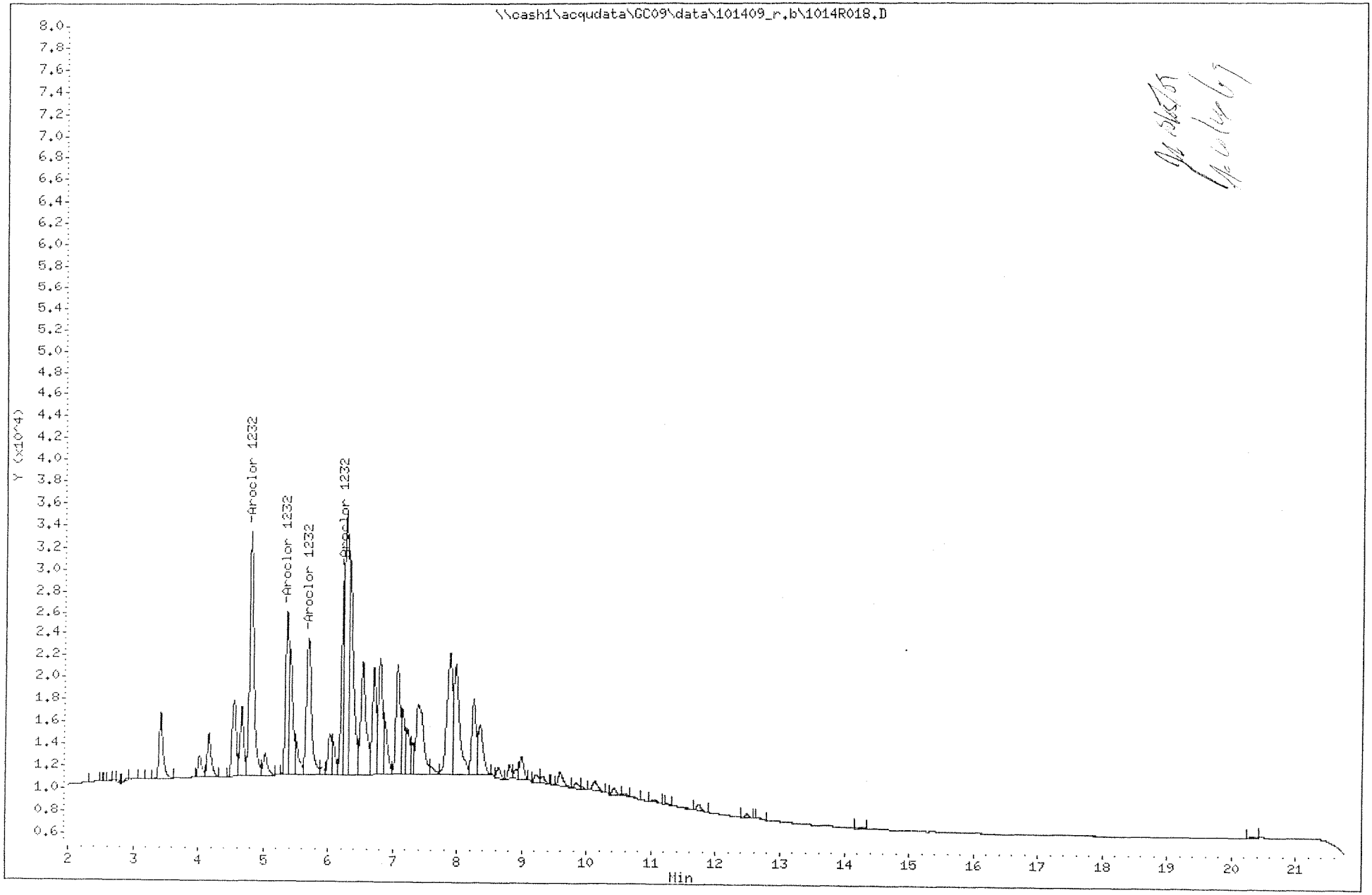
Data File: \\cash1\acqudata\GC09\data\101409.b\1014F018.D
Date : 15-OCT-2009 06:52
Client ID:
Sample Info: 1232 @ 1000ppb | PCB5-34L

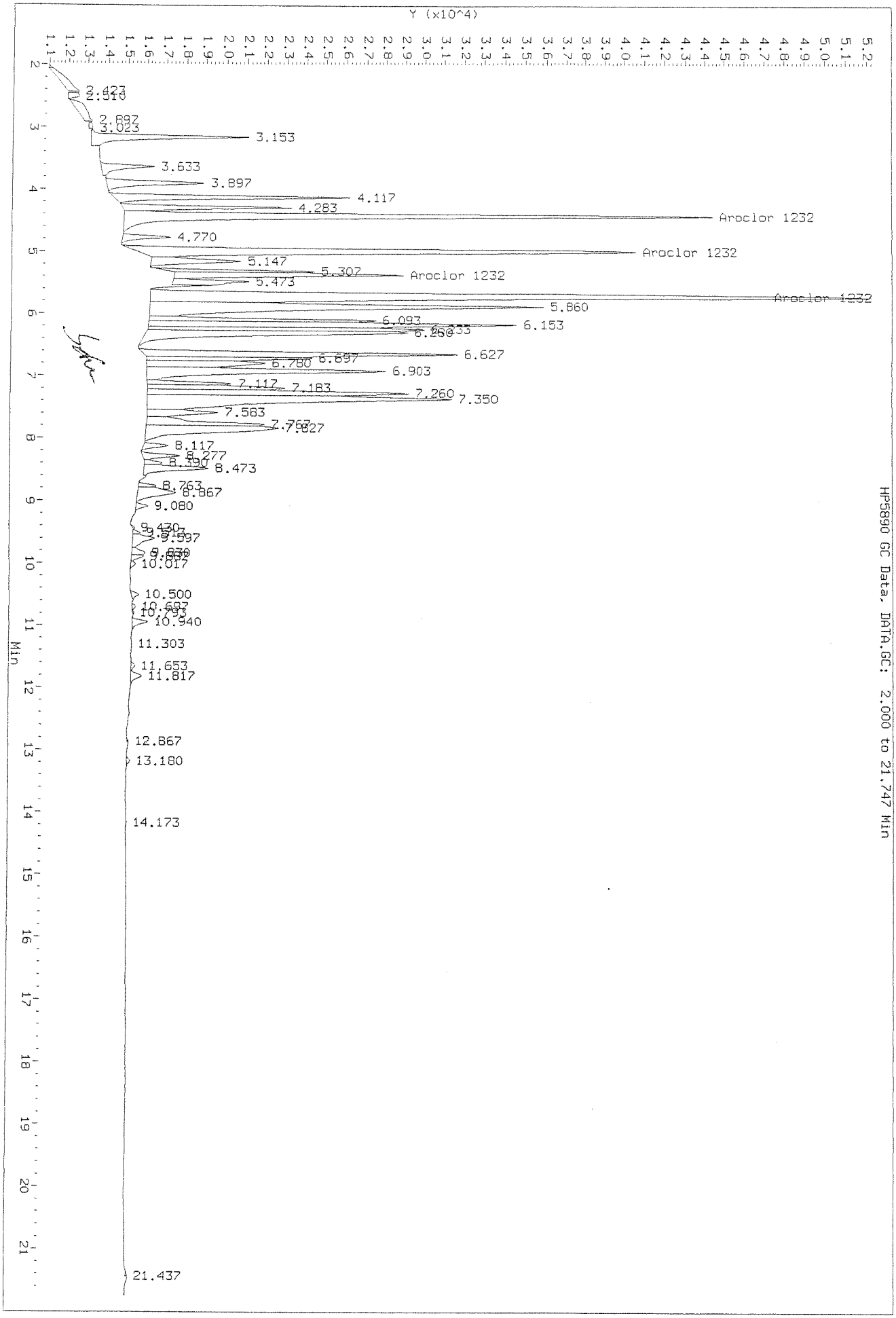
Instrument: GC09.i
Operator: JMSmith
Column phase: DB-35MS
Column diameter: 0.53

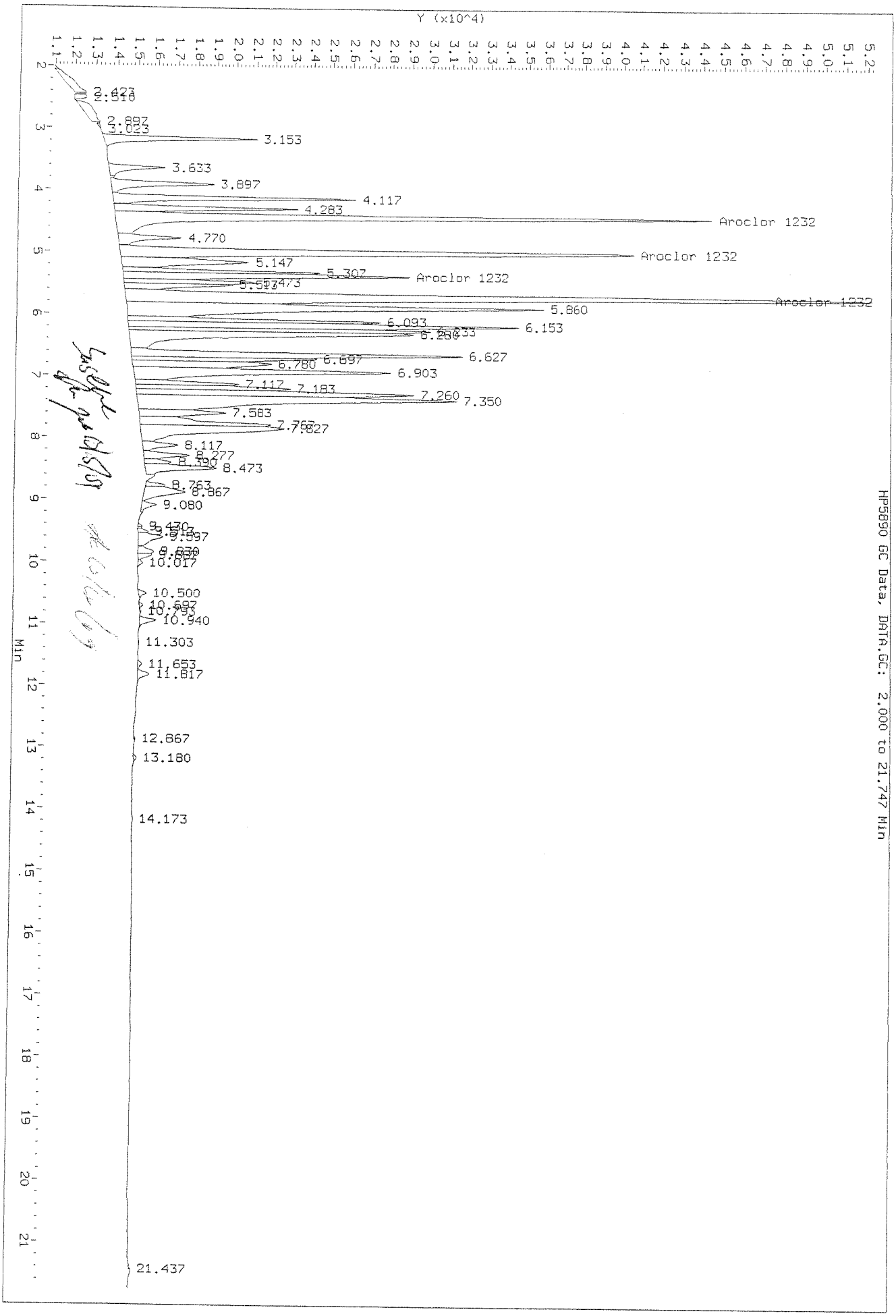


Data File: \\cash1\acqudata\GC09\data\101409_r.b\1014R018.D
Date : 15-OCT-2009 06:52
Client ID:
Sample Info: 1232 @ 1000ppb | PCB5-34L

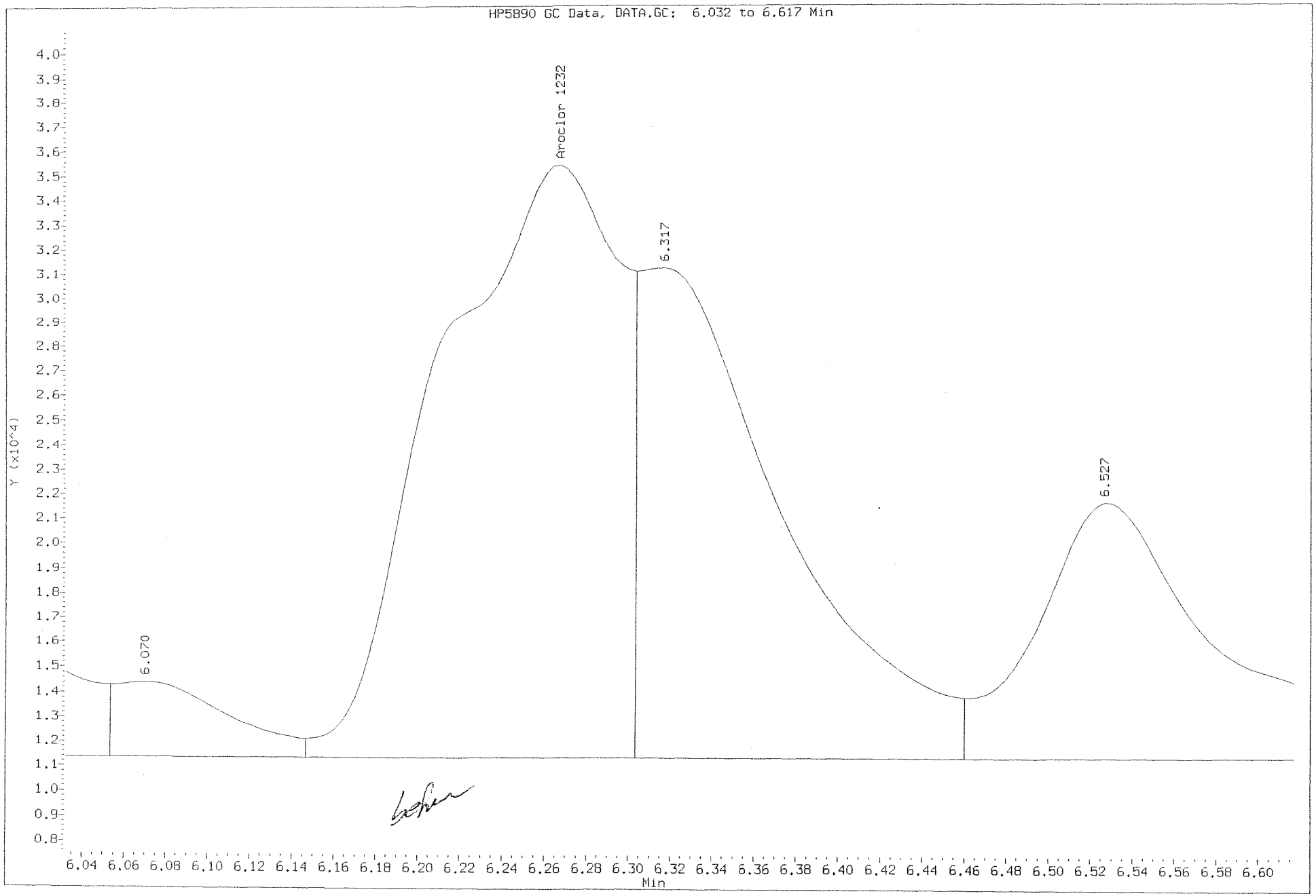
Instrument: GC09.i
Operator: JHSmith
Column phase: DB-XLB
Column diameter: 0.53



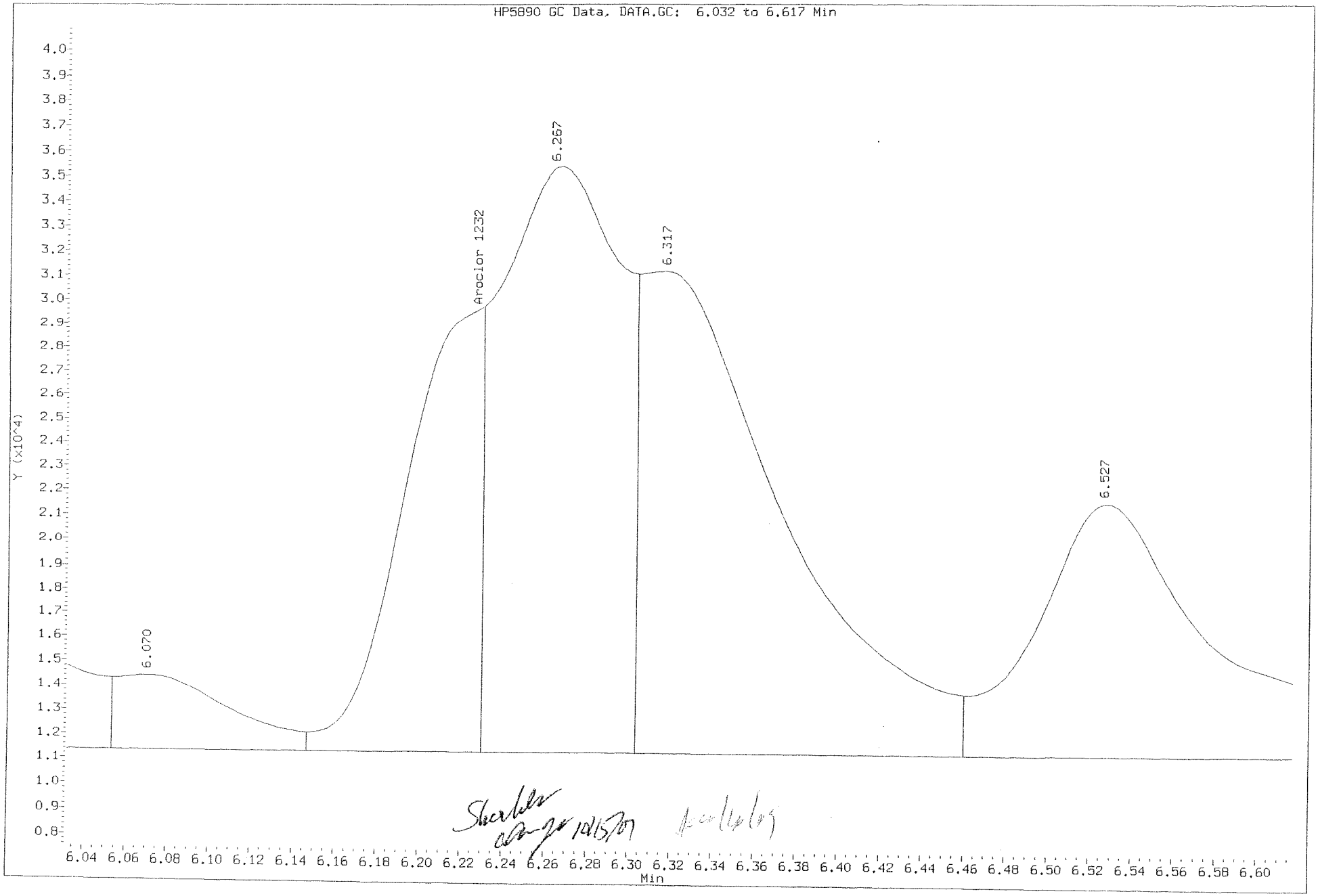

Data File: \\cash1\acqudata\GC09\data\101409.b\1014F018.D
Injection Date: 15-OCT-2009 06:52
Instrument: GC09.1
Client Sample ID:
Y (x10^4)
Min
2.423
2.510
2.897
3.023
3.153
3.633
3.897
4.117
4.283
Aroclor 1232
4.770
Aroclor 1232
5.147
5.307
Aroclor 1232
5.473
Aroclor 1232
5.860
6.093
6.153
6.627
6.780
6.897
6.903
7.117
7.183
7.260
7.350
7.583
7.767
7.827
8.117
8.277
8.390
8.473
8.763
8.867
9.080
9.430
9.597
10.017
10.500
10.940
11.303
11.653
11.817
12.867
13.180
14.173
21.437
HP5890 GC Data, DATA.GC: 2.000 to 21.747 Min


Data File: \\cash1\acqudata\GC09\data\101409.b\1014F018.D
Injection Date: 15-OCT-2009 06:52
Instrument: GC09.i
Client Sample ID:
HP5890 GC Data, DATA.GC: 2.000 to 21.747 Min
Y (x10^4)
Min
2.423
2.897
3.023
3.153
3.633
3.897
4.117
4.283
Aroclor 1232
4.770
Aroclor 1232
5.147
5.307
Aroclor 1232
5.860
6.093
6.153
6.627
6.780
6.897
6.903
7.117
7.183
7.260
7.350
7.583
7.827
8.117
8.277
8.390
8.473
8.763
8.867
9.080
10.017
10.500
10.940
11.303
11.653
11.817
12.867
13.180
14.173
21.437

Data File: \\cash1\acqudata\GC09\data\101409_r.b\1014R018.D
Injection Date: 15-OCT-2009 06:52
Instrument: GC09.i
Client Sample ID:



Data File: \\cash1\acqudata\GC09\data\101409_r.b\1014R018.D
Injection Date: 15-OCT-2009 06:52
Instrument: GC09.i
Client Sample ID:



Data File: \\cash1\acqudata\GC09\data\101409.b\1014F019.D
Report Date: 15-Oct-2009 16:43

Laboratory Name

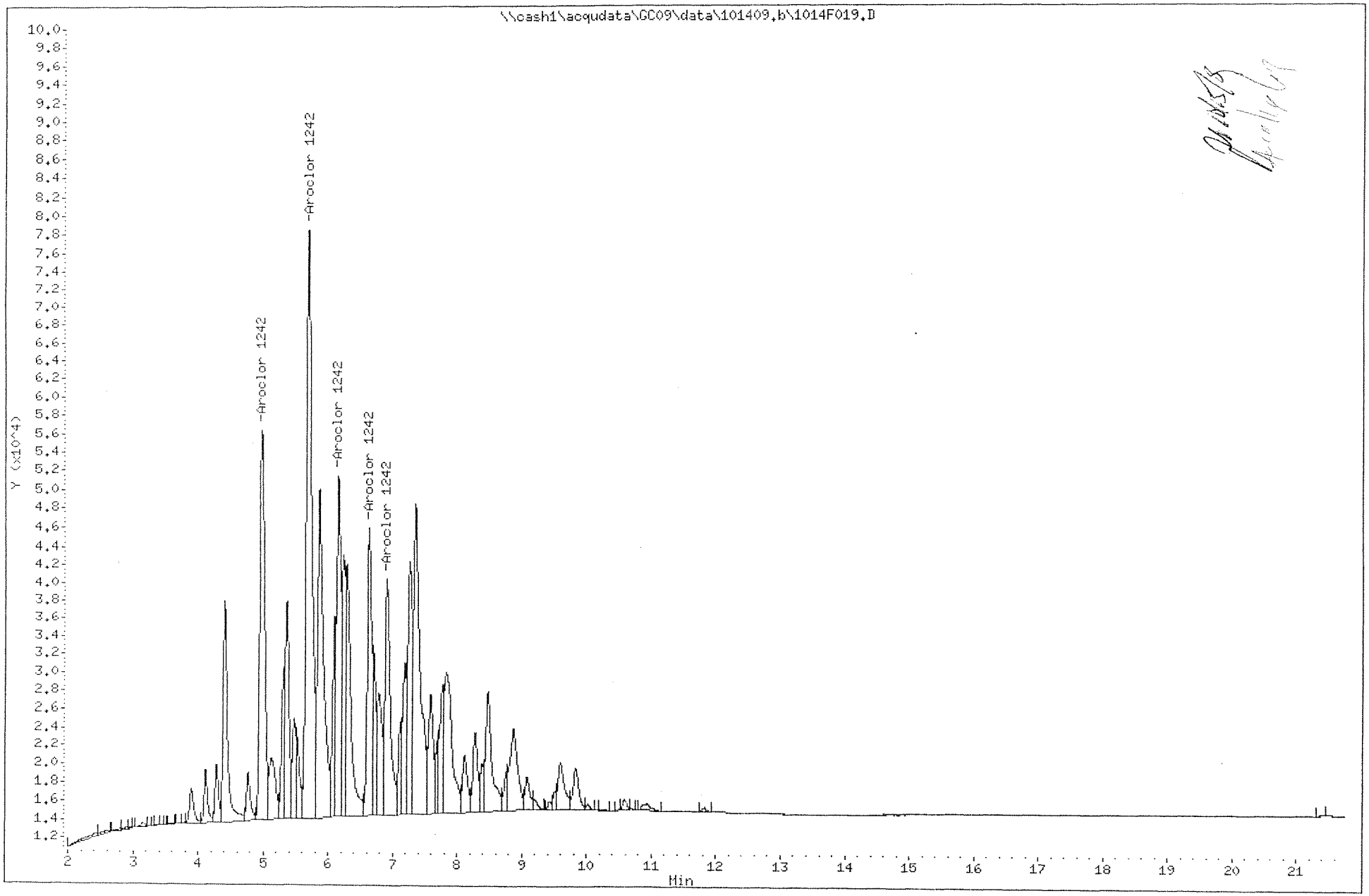
Sample #1 : \\cash1\acqudata\GC09\data\101409.b\1014F019.D
Sample #2 : \\cash1\acqudata\GC09\data\101409_r.b\1014R019.D
Inj Date : 15-OCT-2009 07:19
Sample Info: 1242 @ 1000ppb | PCB5-34M
Misc Info : SEMIVOA GC\W0900671\19-ICV.H
Cal Date : 15-OCT-2009 13:27
Operator : JMSmith
Inst ID : GC09.i
Dil Factor : 1.000000

Method #1 : \\cash1\acqudata\GC09\data\101409.b\101409_f.m
Method #2 : \\cash1\acqudata\GC09\data\101409_r.b\101409_r.m
Sub List #1 : AR1242.SUB
Sub List #2 : AR1242.SUB
Col #1 Phase : DB-35MS
Col #2 Phase : DB-XLB

Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2	Target Range	Ratio
Aroclor 1242	4.970	5.353	224043	92058	985	1010	80.00- 120.00	100.00
	5.693	5.687	389359	105273	956	970	143.15- 214.73	173.79
	6.153	6.313	159621	163213	1010	1060	55.41- 83.11	71.25
	6.627	6.527	134528	107351	1000	1010	47.11- 70.67	60.05
	6.903	6.797	151001	98400	992	1040	53.51- 80.26	67.40
			Average of Peak Amounts =		989	1020		

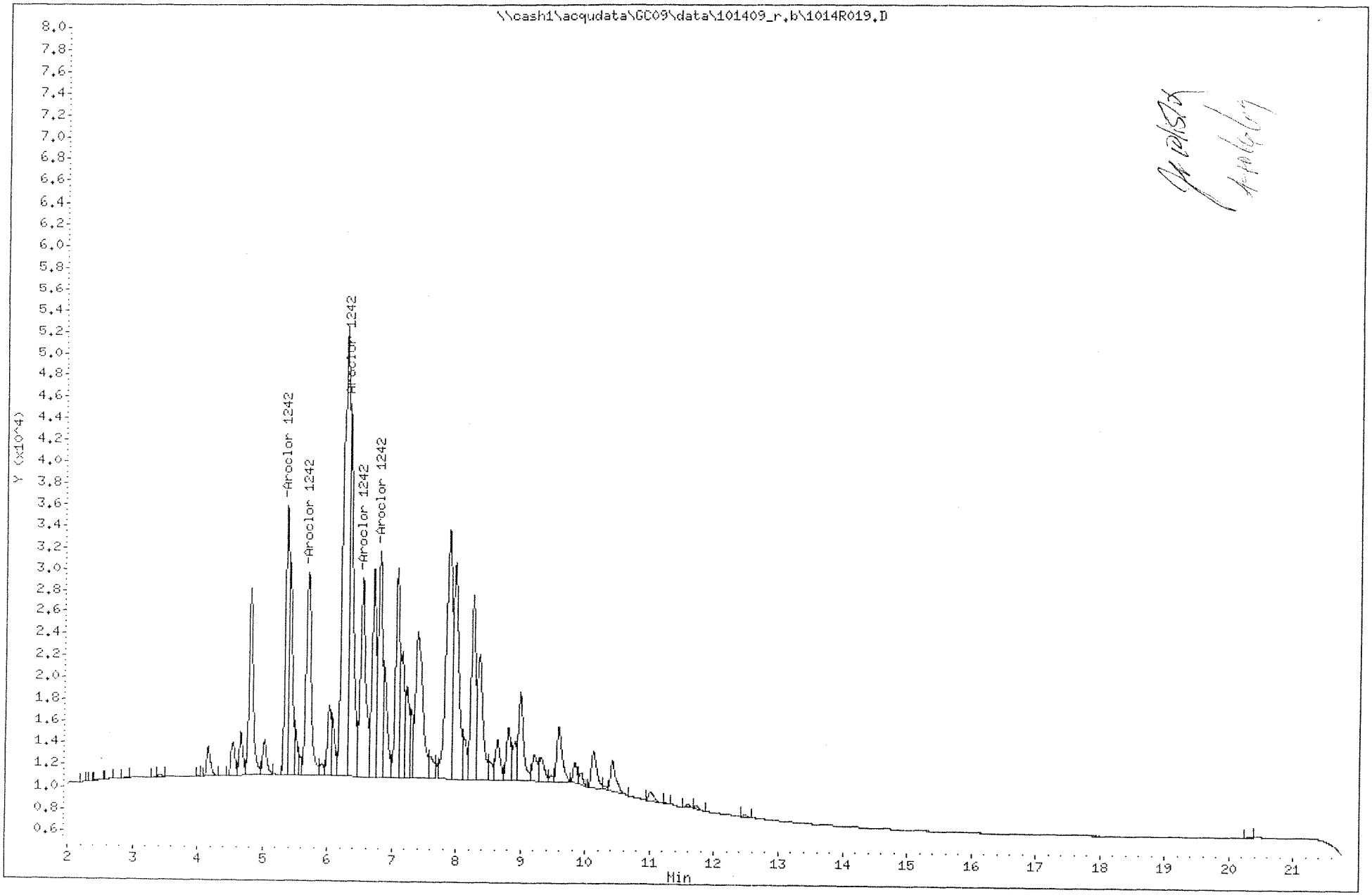
Data File: \\cash1\acqudata\GC09\data\101409.b\1014F019.D
Date : 15-OCT-2009 07:19
Client ID:
Sample Info: 1242 @ 1000ppb | PCB5-34M

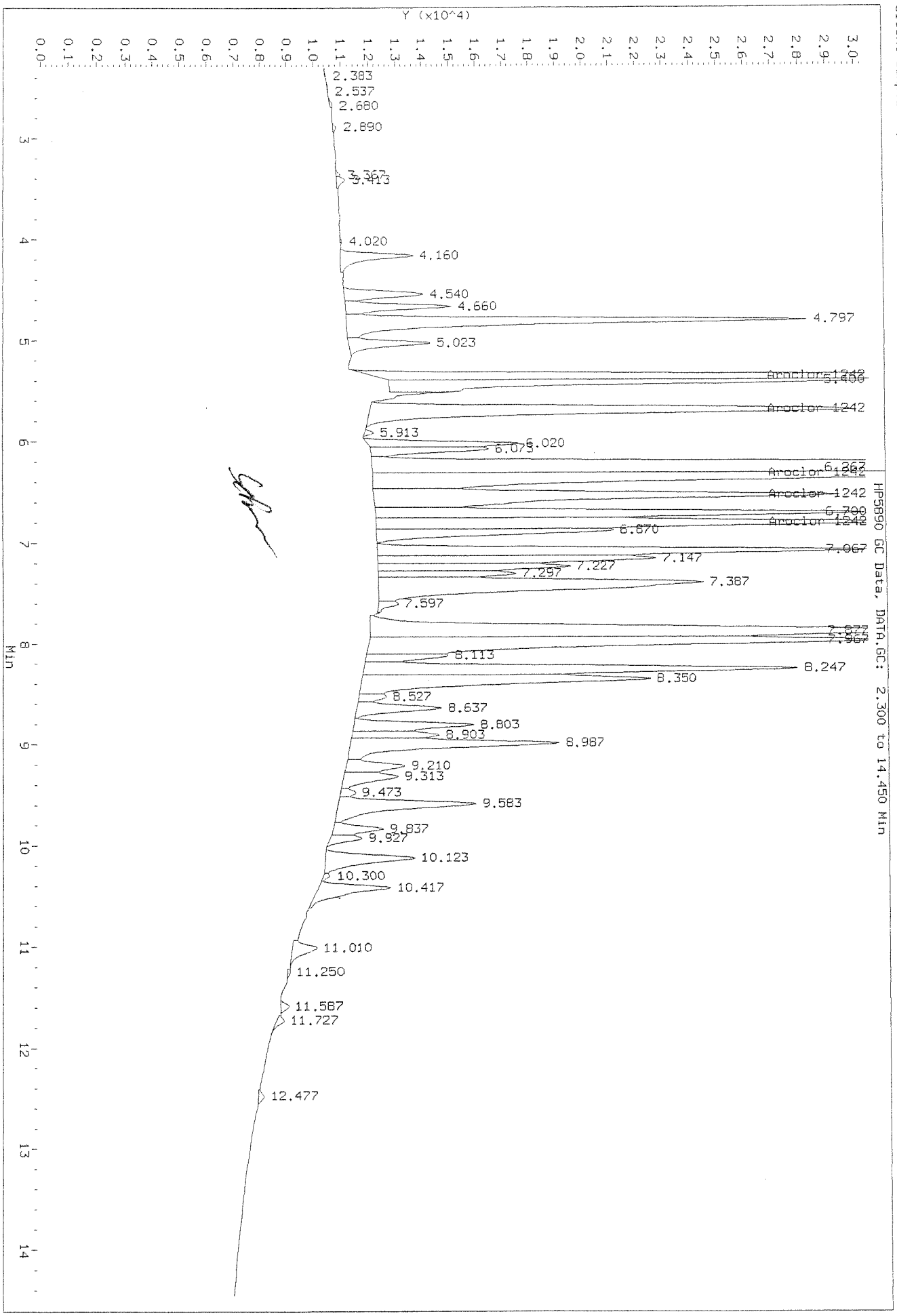
Instrument: GC09.i
Operator: JMSmith
Column phase: DB-35MS
Column diameter: 0.53

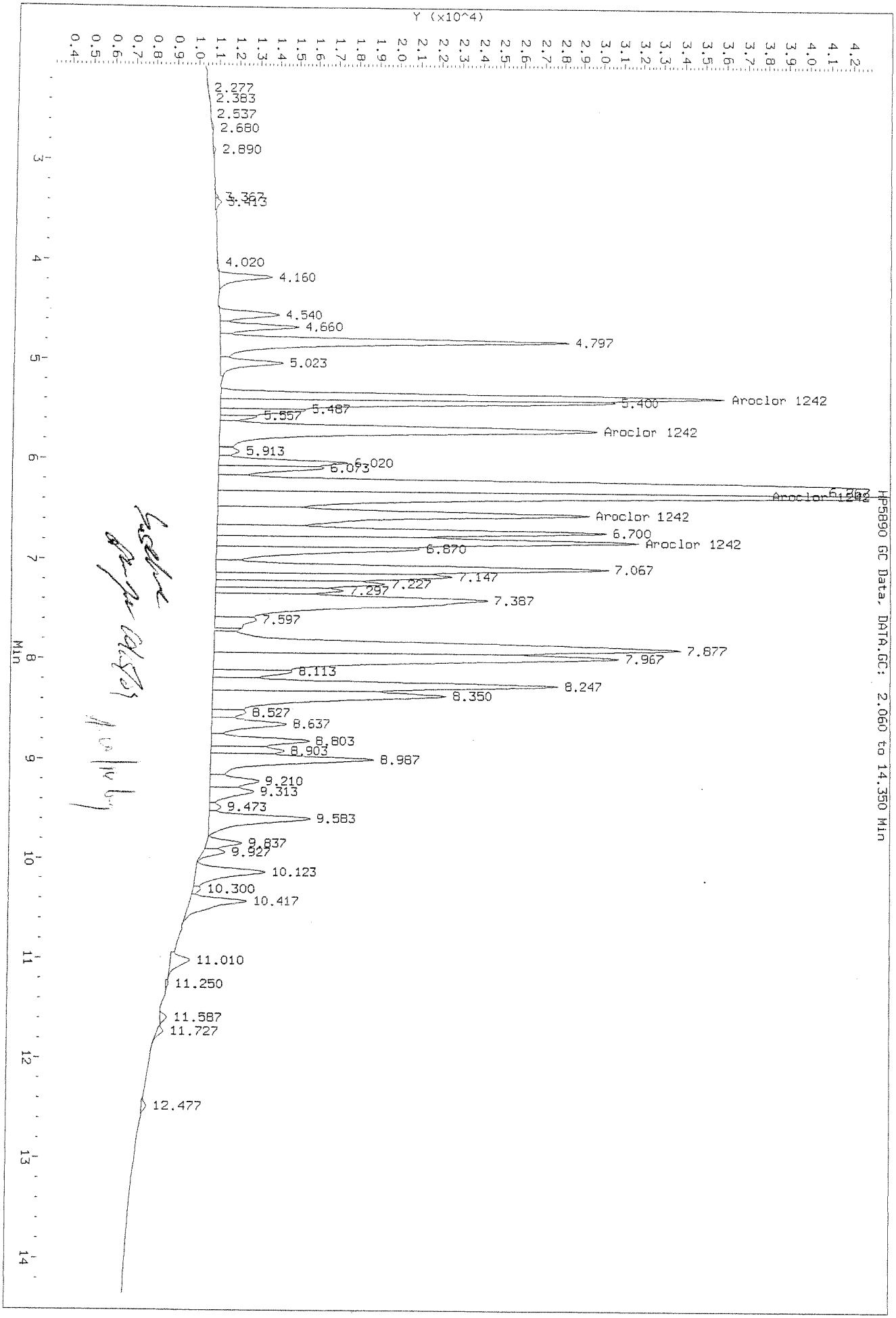


Data File: \\cash1\acqudata\GC09\data\101409_r.b\1014R019.D
Date : 15-OCT-2009 07:19
Client ID:
Sample Info: 1242 @ 1000ppb | PCB5-34M

Instrument: GC09.i
Operator: JHSmith
Column phase: DB-XLB
Column diameter: 0.53




Data File: \\cash1\acqudata\GC09\data\101409_r,b\1014R019.D
Injection Date: 15-OCT-2009 07:19
Instrument: GC09.i
Client Sample ID:
HP5890 GC Data, DATA.GC: 2.300 to 14.450 Min
Y (x10^4)
Min
2.383
2.537
2.680
2.890
3.367
3.413
4.020
4.160
4.540
4.660
4.797
5.023
Aroclor 1242
5.400
Aroclor 1242
5.913
6.020
6.075
Aroclor 1242
Aroclor 1242
Aroclor 1242
6.670
7.067
7.147
7.227
7.297
7.387
7.597
8.113
8.247
8.350
8.527
8.637
8.803
8.903
8.987
9.210
9.313
9.473
9.583
9.837
9.927
10.123
10.300
10.417
11.010
11.250
11.587
11.727
12.477


Data File: \\cash1\acqudata\GC09\data\101409_r.b\1014R019.D
Injection Date: 15-OCT-2009 07:19
Instrument: GC09.i
Client Sample ID:
HP5890 GC Data, DATA.GC: 2.060 to 14.350 Min
Y (x10^4)
Min
2.277
2.383
2.537
2.680
2.890
3.367
3.413
4.020
4.160
4.540
4.660
4.797
5.023
5.400
Aroclor 1242
5.487
5.557
Aroclor 1242
5.913
6.020
6.073
Aroclor 1242
Aroclor 1242
6.700
Aroclor 1242
6.870
7.067
7.147
7.227
7.297
7.387
7.597
7.877
7.967
8.113
8.247
8.350
8.527
8.637
8.803
8.903
8.987
9.210
9.313
9.473
9.583
9.837
9.927
10.123
10.300
10.417
11.010
11.250
11.587
11.727
12.477

Data File: \\cash1\acqudata\GC09\data\101409.b\1014F020.D
Report Date: 15-Oct-2009 16:43

Laboratory Name

Sample #1 : \\cash1\acqudata\GC09\data\101409.b\1014F020.D
Sample #2 : \\cash1\acqudata\GC09\data\101409_r.b\1014R020.D
Inj Date : 15-OCT-2009 07:45
Sample Info: 1248 @ 1000ppb | PCB5-34N
Misc Info : SEMIVOA GC\W0900671\20-ICV.H
Cal Date : 15-OCT-2009 13:27
Operator : JMSmith
Inst ID : GC09.i
Dil Factor : 1.000000

Method #1 : \\cash1\acqudata\GC09\data\101409.b\101409_f.m
Method #2 : \\cash1\acqudata\GC09\data\101409_r.b\101409_r.m
Sub List #1 : AR1248.SUB
Sub List #2 : AR1248.SUB
Col #1 Phase : DB-35MS
Col #2 Phase : DB-XLB

Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2	Target Range	Ratio
Aroclor 1248	6.233	6.703	144845	133123	963	1020	80.00- 120.00	100.00(M)
	6.627	6.797	209105	141240	985	997	112.94- 169.41	204.29(M)
	6.903	7.067	203990	141936	1010	997	107.11- 160.67	140.83(M)
	7.260	7.383	213228	151064	927	1000	122.30- 183.45	147.21(M)
	7.347	7.877	344332	250843	975	950	187.84- 281.75	290.65(M)
			Average of Peak Amounts =		972	993		

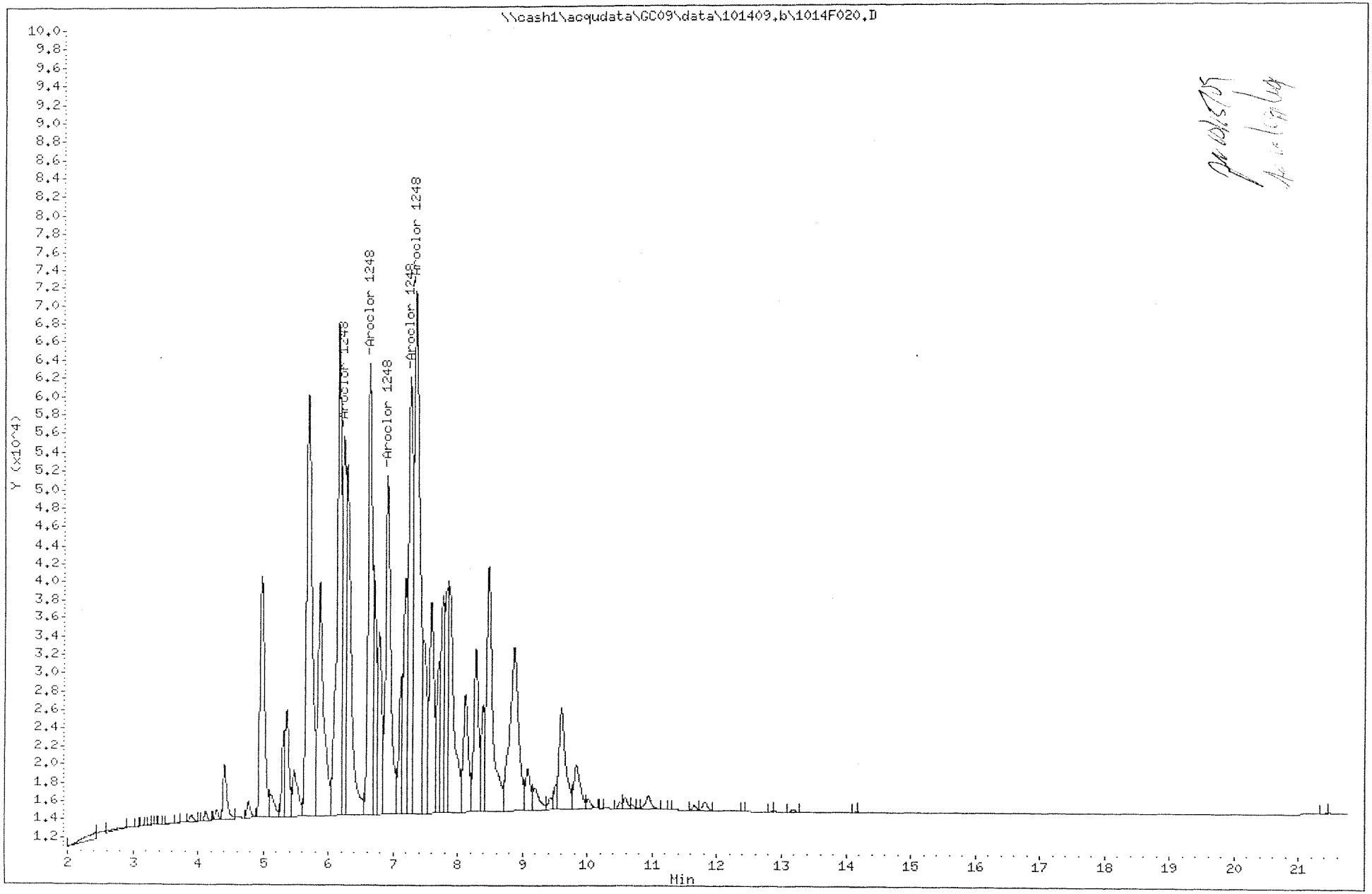
QC Flag Legend

M - Compound response manually integrated.

Data File: \\cash1\acqudata\GC09\data\101409.b\1014F020.D
Date : 15-OCT-2009 07:45
Client ID:
Sample Info: 1248 @ 1000ppb | PCB5-34N

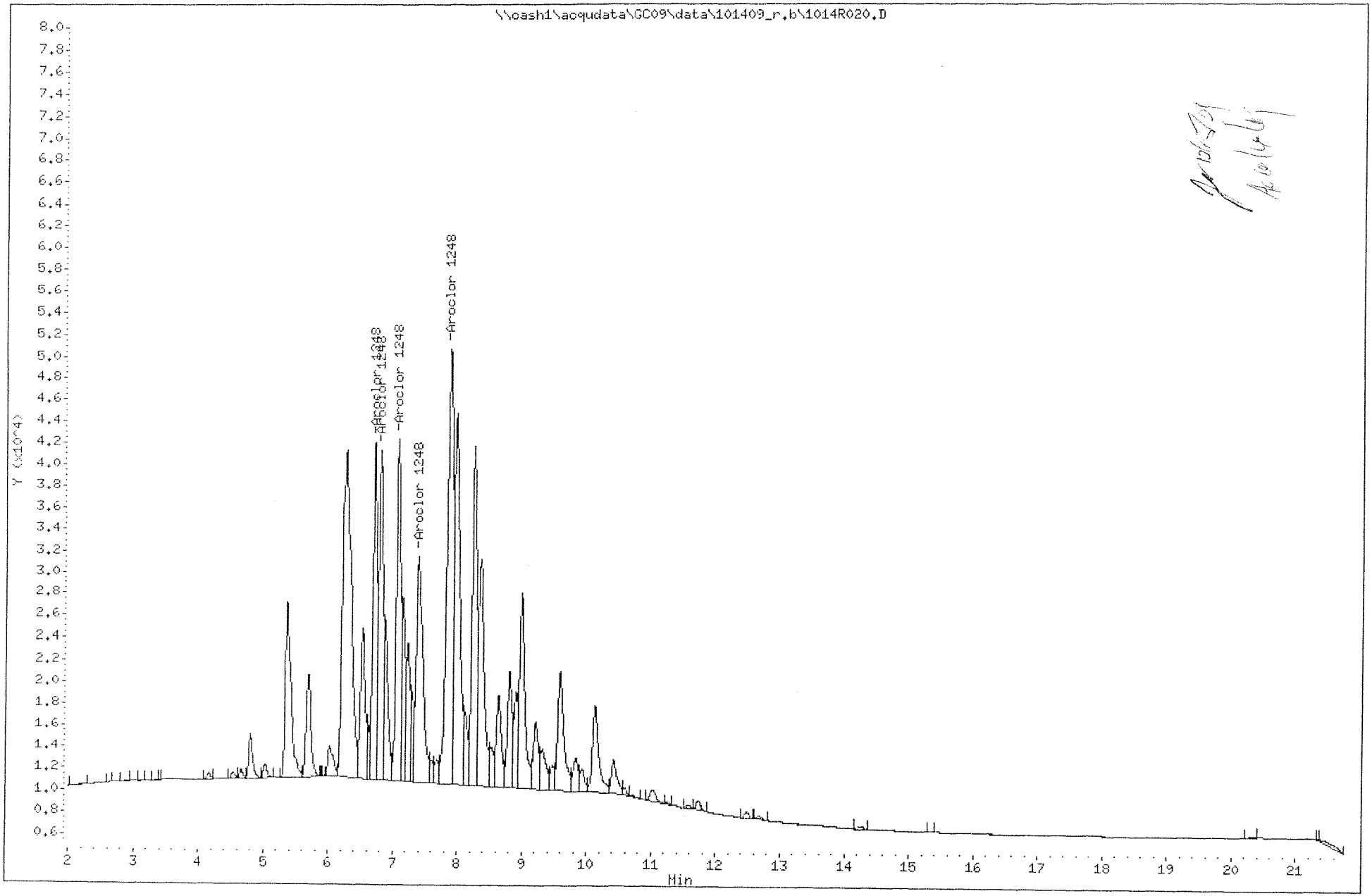
Instrument: GC09.i

Operator: JMSmith
Column phase: DB-35MS
Column diameter: 0.53

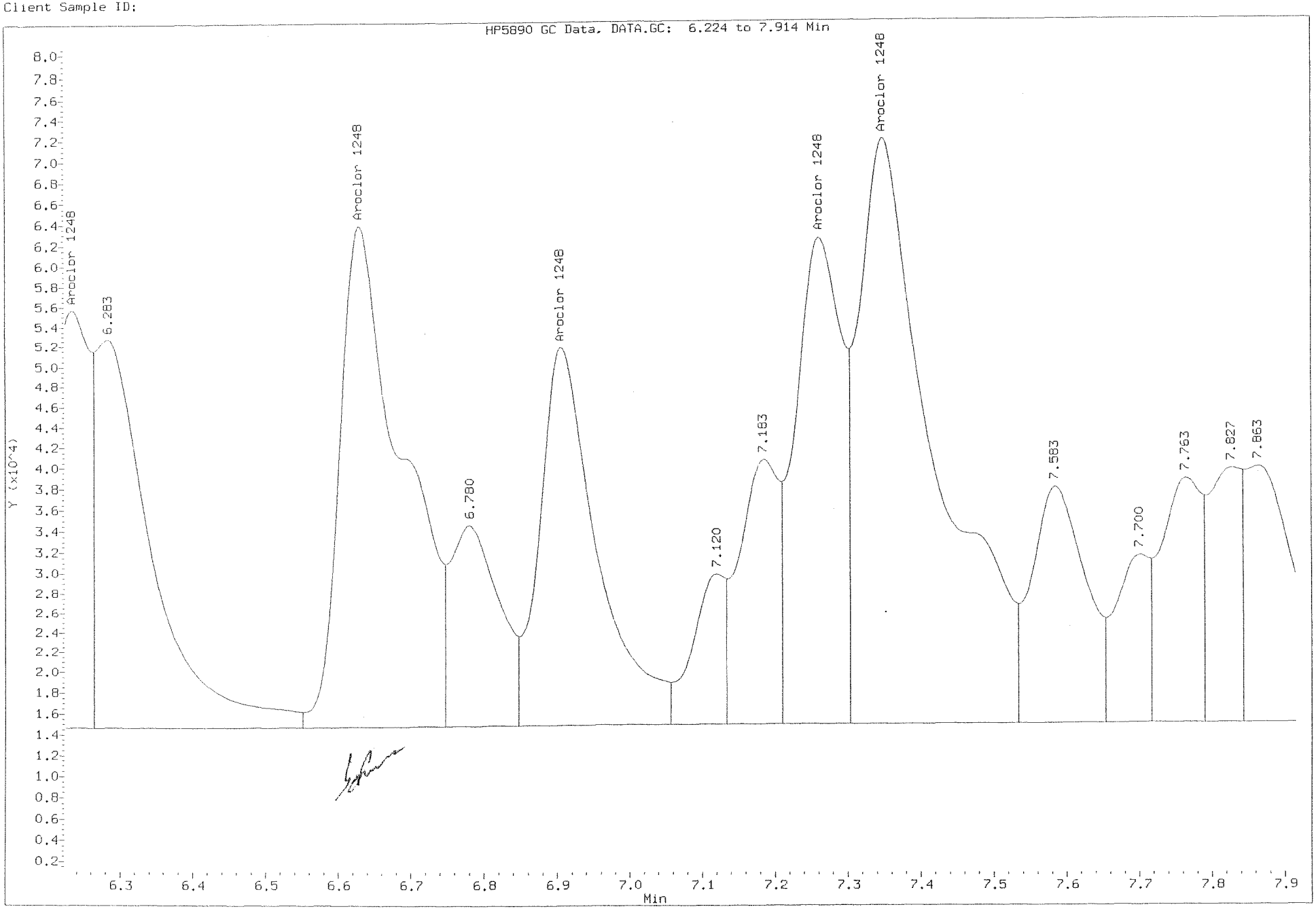


Data File: \\cash1\acqudata\GC09\data\101409_r.b\1014R020.D
Date : 15-OCT-2009 07:45
Client ID:
Sample Info: 1248 @ 1000ppb | PCB5-34N

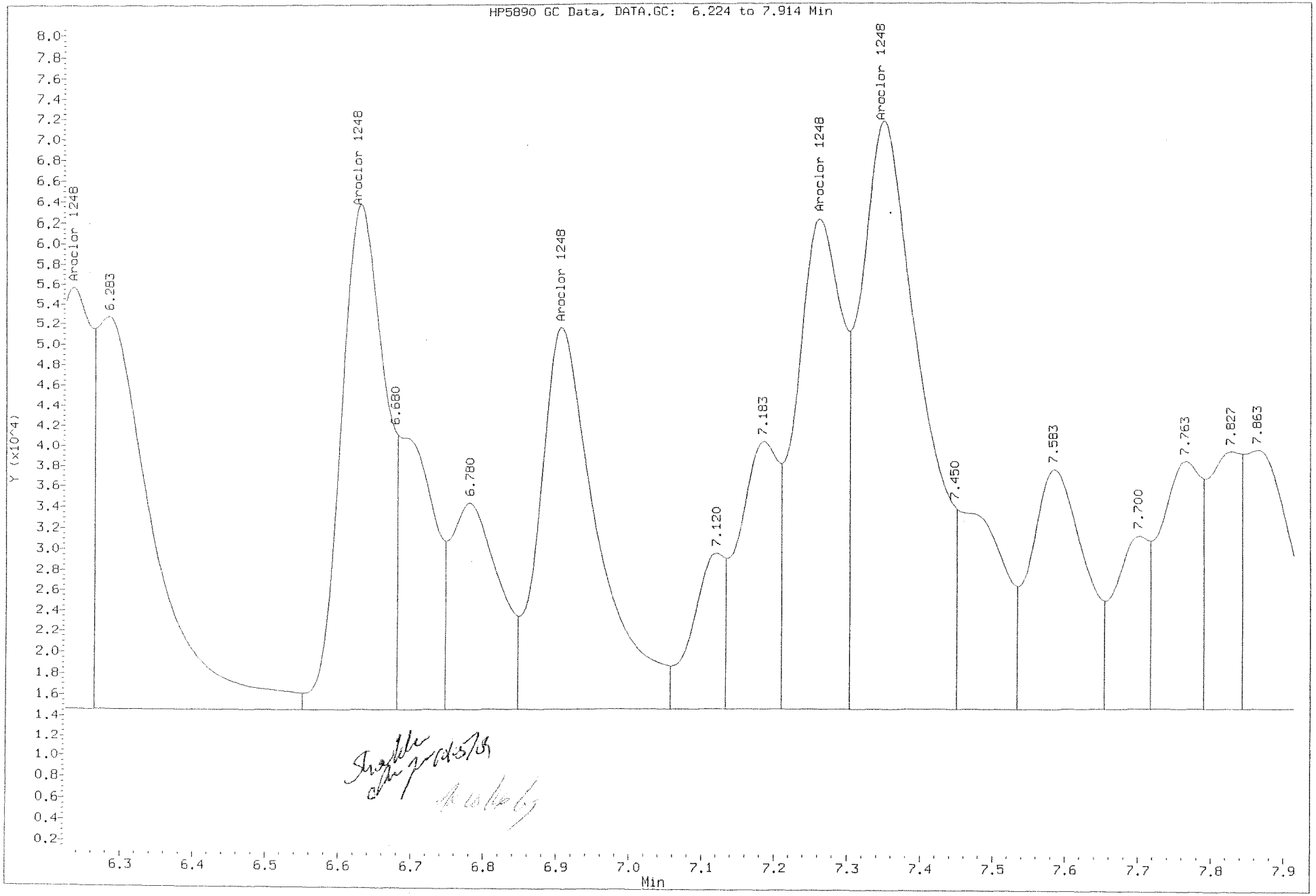
Instrument: GC09.i
Operator: JMSmith
Column phase: DB-XLB
Column diameter: 0.53



Data File: \\cash1\acqudata\GC09\data\101409.b\1014F020.D
Injection Date: 15-OCT-2009 07:45
Instrument: GC09.i
Client Sample ID:



Data File: \\cash1\acqudata\GC09\data\101409.b\1014F020.D
Injection Date: 15-OCT-2009 07:45
Instrument: GC09.i
Client Sample ID:



Data File: \\cash1\acqudata\GC09\data\101409.b\1014F021.D
Report Date: 15-Oct-2009 16:43

Laboratory Name

Sample #1 : \\cash1\acqudata\GC09\data\101409.b\1014F021.D
Sample #2 : \\cash1\acqudata\GC09\data\101409_r.b\1014R021.D
Inj Date : 15-OCT-2009 08:11
Sample Info: 1254 @ 1000ppb | PCB5-44A
Misc Info : SEMIVOA GC\W0900671\21-ICV.H
Cal Date : 15-OCT-2009 13:27
Operator : JMSmith
Inst ID : GC09.i
Dil Factor : 1.000000

Method #1 : \\cash1\acqudata\GC09\data\101409.b\101409_f.m
Method #2 : \\cash1\acqudata\GC09\data\101409_r.b\101409_r.m
Sub List #1 : AR1254.SUB
Sub List #2 : AR1254.SUB
Col #1 Phase : DB-35MS
Col #2 Phase : DB-XLB

Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2	Target Range	Ratio
Aroclor 1254	7.587	7.830	283796	222756	988	926	80.00- 120.00	100.00
	8.277	8.250	194513	235304	962	964	56.32- 84.48	68.54
	8.477	8.807	493025	123300	993	930	138.21- 207.32	173.73
	9.080	8.990	268985	242153	1120	928	67.06- 100.59	94.78
	9.830	9.587	383574	223264	1120	955	94.84- 142.26	135.16
			Average of Peak Amounts =		1040	941		

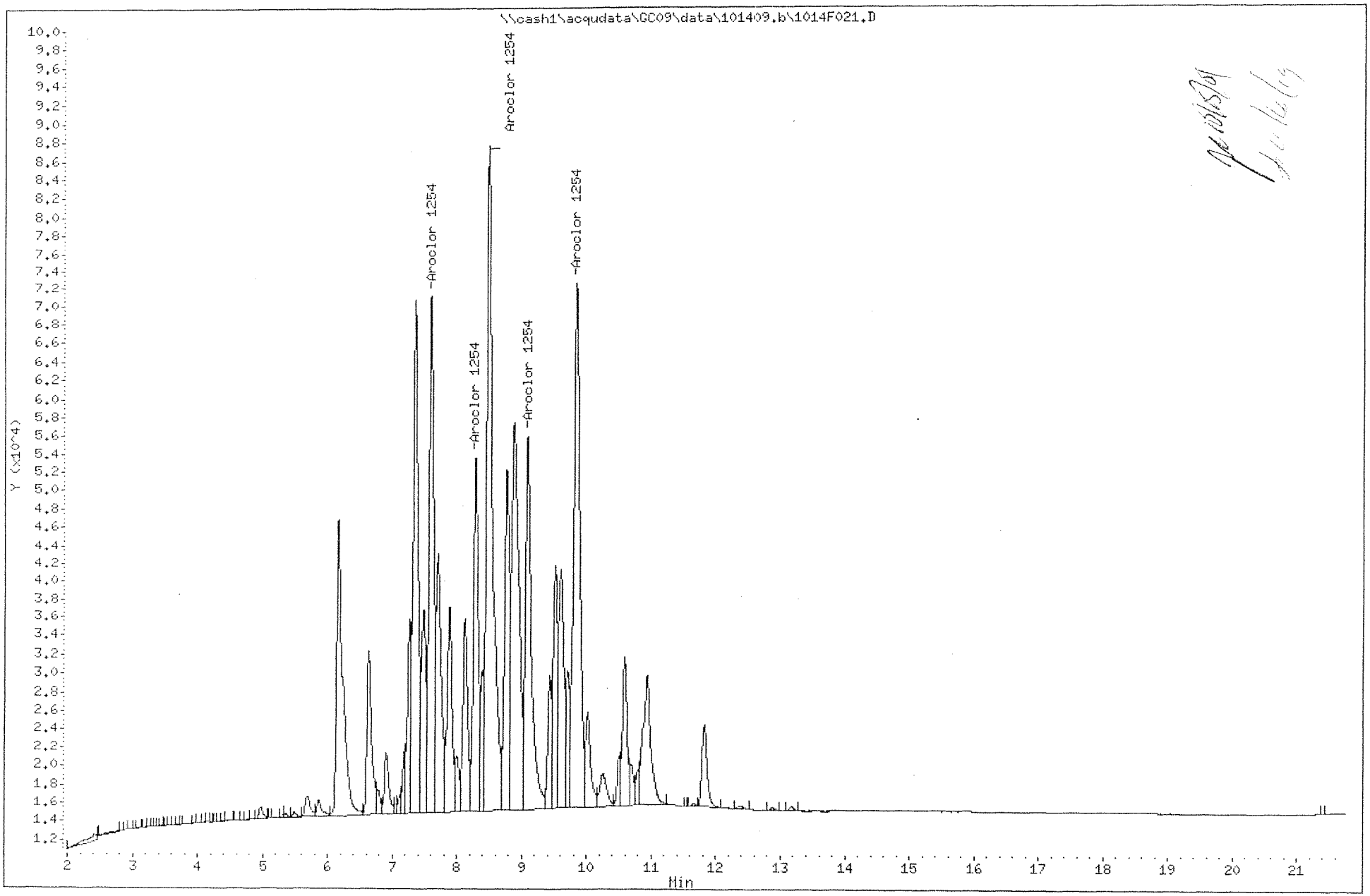
10/16/2009

Data File: \\cash1\acqudata\GC09\data\101409.b\1014F021.D
Date : 15-OCT-2009 08:11
Client ID:
Sample Info: 1254 @ 1000ppb | PCB5-44A

Column phase: DB-35MS

Instrument: GC09.i

Operator: JHSmith
Column diameter: 0.53

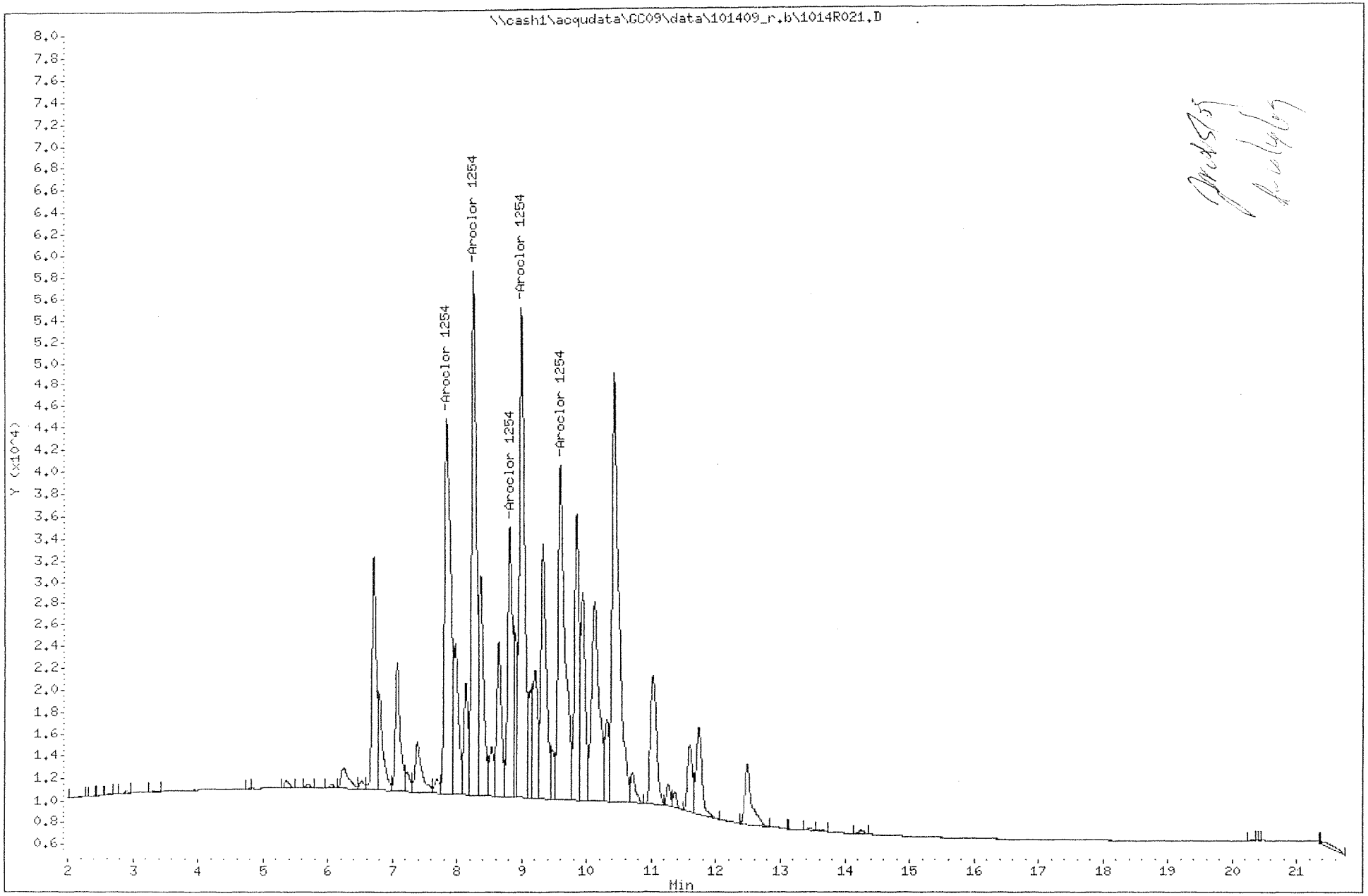


Data File: \\cash1\acqudata\GC09\data\101409_r,b\1014R021.D
Date : 15-OCT-2009 08:11
Client ID:
Sample Info: 1254 @ 1000ppb | PCB5-44A

Column phase: DB-XLB

Instrument: GC09,i

Operator: JHSmith
Column diameter: 0.53



Data File: \\cash1\acqudata\GC09\data\101409.b\1014F022.D
Report Date: 15-Oct-2009 16:43

Laboratory Name

Sample #1 : \\cash1\acqudata\GC09\data\101409.b\1014F022.D
Sample #2 : \\cash1\acqudata\GC09\data\101409_r.b\1014R022.D
Inj Date : 15-OCT-2009 08:37
Sample Info: 1260 @ 1000ppb | PCB5-34P
Misc Info : SEMIVOA GC\W0900671\22-ICV.H
Cal Date : 15-OCT-2009 13:27
Operator : JMSmith
Inst ID : GC09.i
Dil Factor : 1.000000

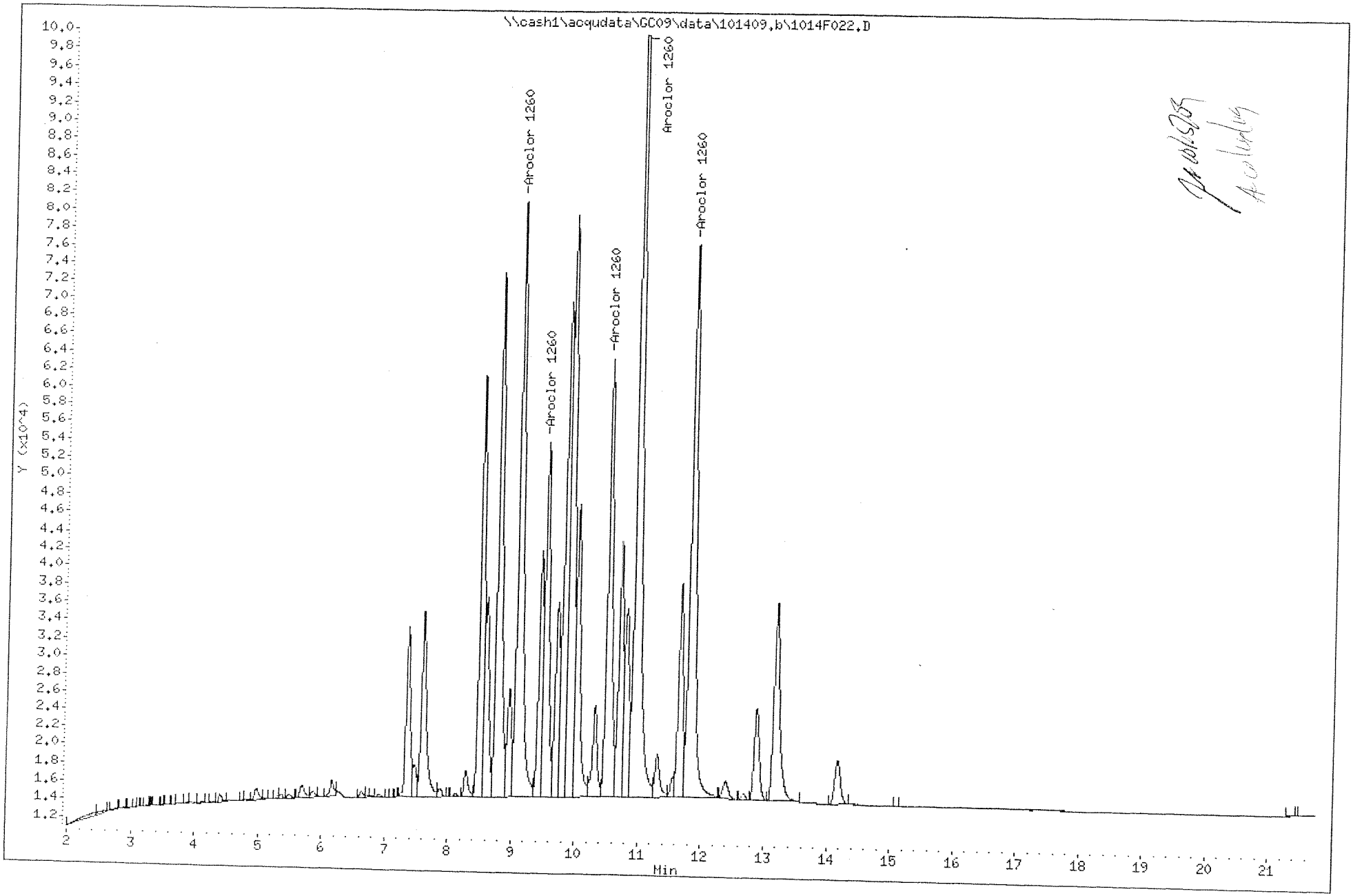
Method #1 : \\cash1\acqudata\GC09\data\101409.b\101409_f.m
Method #2 : \\cash1\acqudata\GC09\data\101409_r.b\101409_r.m
Sub List #1 : AR1260.sub
Sub List #2 : AR1260.sub
Col #1 Phase : DB-35MS
Col #2 Phase : DB-XLB

Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2	Target Range	Ratio
Aroclor 1260	9.080	9.320	380517	206294	897	860	80.00- 120.00	100.00
	9.513	10.423	206129	247973	894	804	43.75- 65.63	54.17
	10.500	10.593	253025	176379	992	1040	52.29- 78.43	66.50
	10.937	11.733	544890	362659	992	1020	111.09- 166.63	143.20
	11.813	12.487	385220	237041	1020	992	81.28- 121.92	101.24
			Average of Peak Amounts =		959	943		

Data File: \\cash1\acqudata\GC09\data\101409.b\1014F022.D
Date : 15-OCT-2009 08:37
Client ID:
Sample Info: 1260 @ 1000ppb | PCB5-34P

Instrument: GC09.i

Operator: JHSmith
Column phase: DB-35MS
Column diameter: 0.53

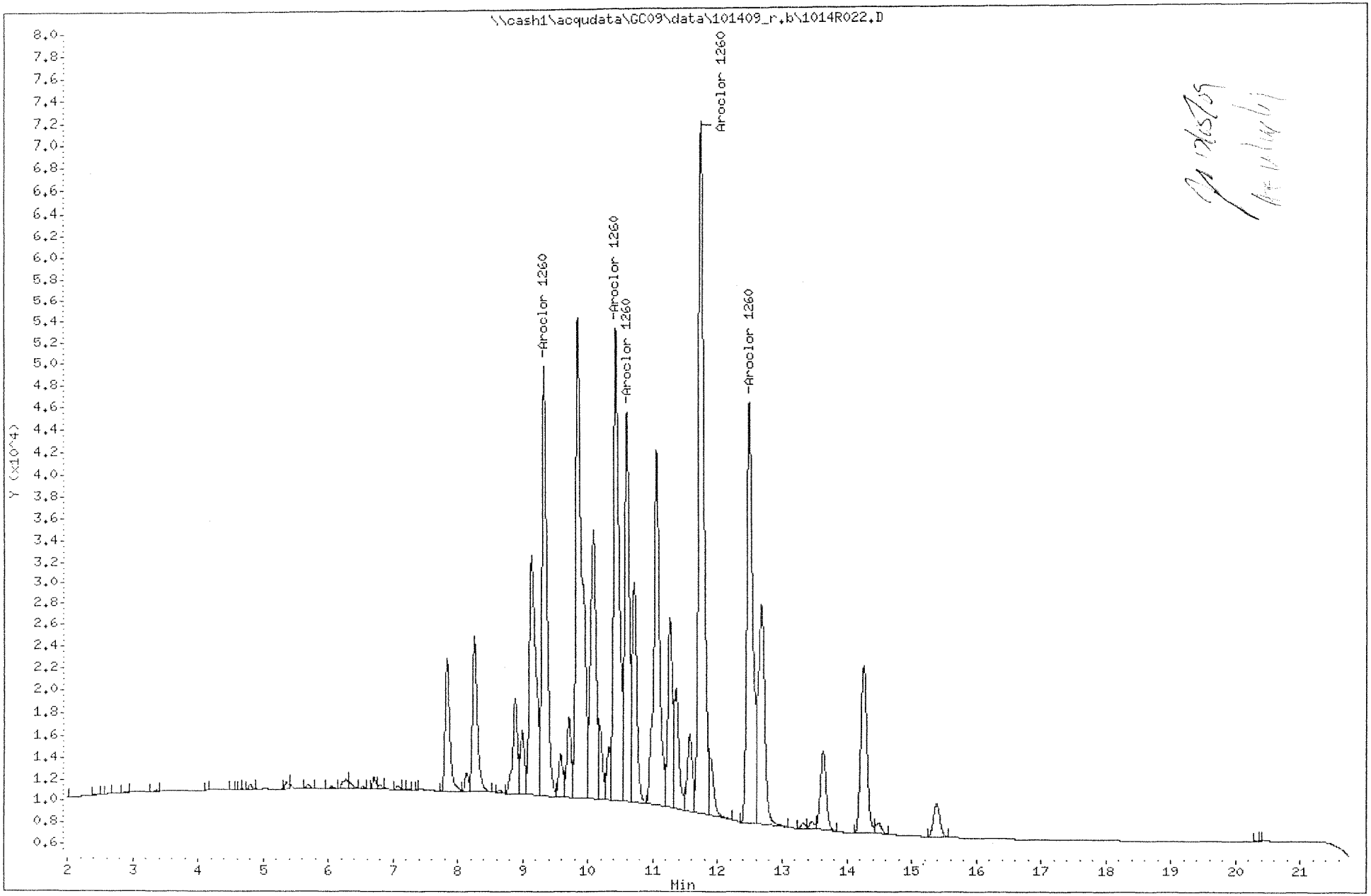


Data File: \\cash1\acqudata\GC09\data\101409_r.b\1014R022.D
Date : 15-OCT-2009 08:37
Client ID:
Sample Info: 1260 @ 1000ppb | PCB5-34P

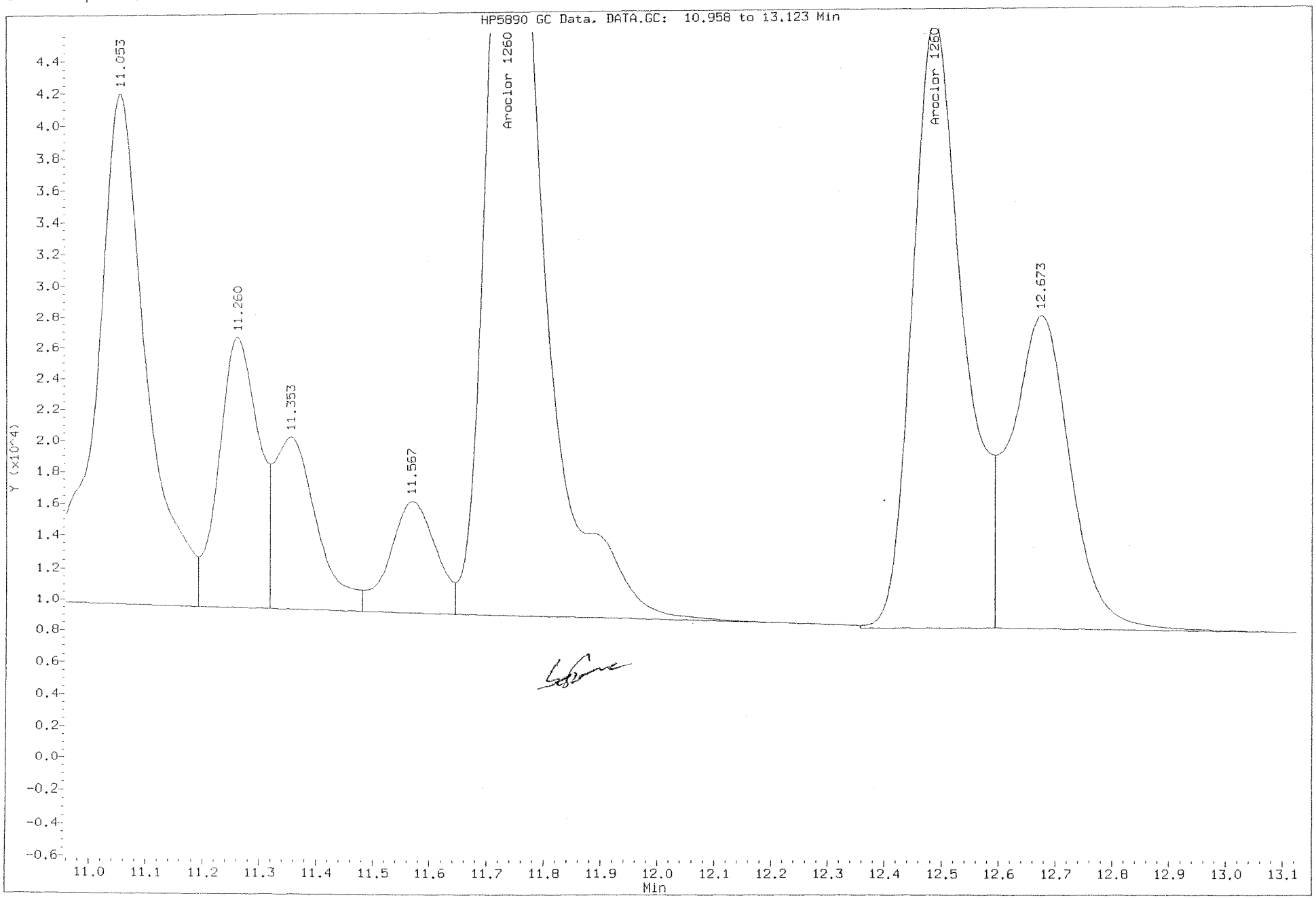
Instrument: GC09.i

Operator: JMSmith
Column diameter: 0.53

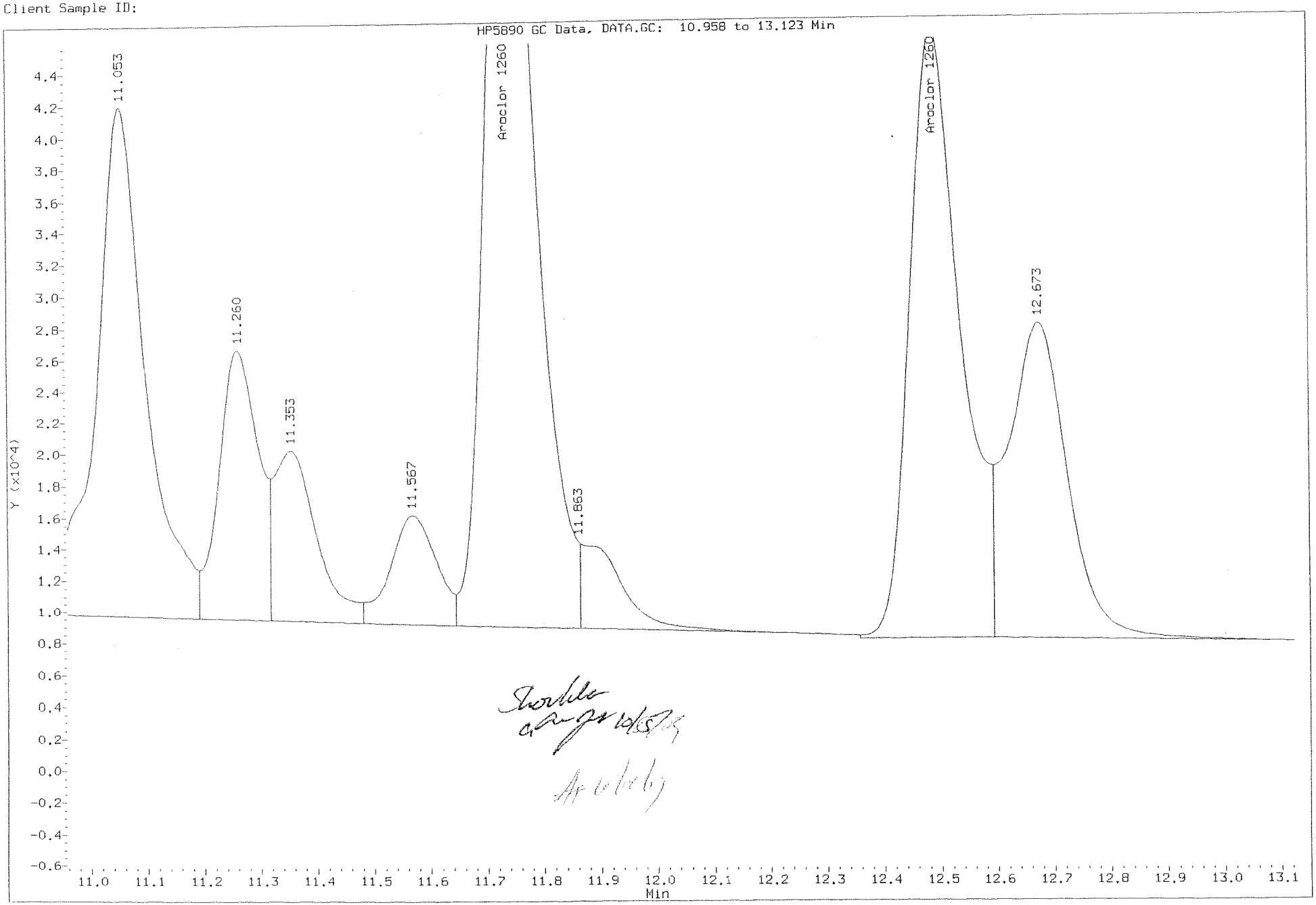
Column phase: DB-XLB



Data File: \\cash1\acqudata\GC09\data\101409_r.b\1014R022.D
Injection Date: 15-OCT-2009 08:37
Instrument: GC09.i
Client Sample ID:



Data File: \\cash1\acqudata\GC09\data\101409_r.b\1014R022.D
Injection Date: 15-OCT-2009 08:37
Instrument: GC09.i
Client Sample ID:



Data File: \\cash1\acqudata\GC09\data\101409.b\1014F023.D
Report Date: 15-Oct-2009 16:43

Laboratory Name

Sample #1 : \\cash1\acqudata\GC09\data\101409.b\1014F023.D
Sample #2 : \\cash1\acqudata\GC09\data\101409_r.b\1014R023.D
Inj Date : 15-OCT-2009 09:04
Sample Info: 1262 @ 1000ppb | PCB5-34Q
Misc Info : SEMIVOA GC\W0900671\23-ICV.H
Cal Date : 15-OCT-2009 13:27
Operator : JMSmith
Inst ID : GC09.i
Dil Factor : 1.000000

Method #1 : \\cash1\acqudata\GC09\data\101409.b\101409_f.m
Method #2 : \\cash1\acqudata\GC09\data\101409_r.b\101409_r.m
Sub List #1 : AR1262.SUB
Sub List #2 : AR1262.SUB
Col #1 Phase : DB-35MS
Col #2 Phase : DB-XLB

Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2	Target Range	Ratio
Aroclor 1262	9.893	10.593	402248	238597	1010	980	80.00- 120.00	100.00(M)
	10.497	11.050	300334	186562	999	948	60.31- 90.47	74.66(M)
	10.937	11.733	575730	394720	994	961	116.29- 174.44	143.13(M)
	11.647	12.487	233907	290501	990	968	47.44- 71.15	58.15(M)
	11.807	12.677	437480	222921	997	975	88.10- 132.16	108.76(M)
			Average of Peak Amounts =		998	966		

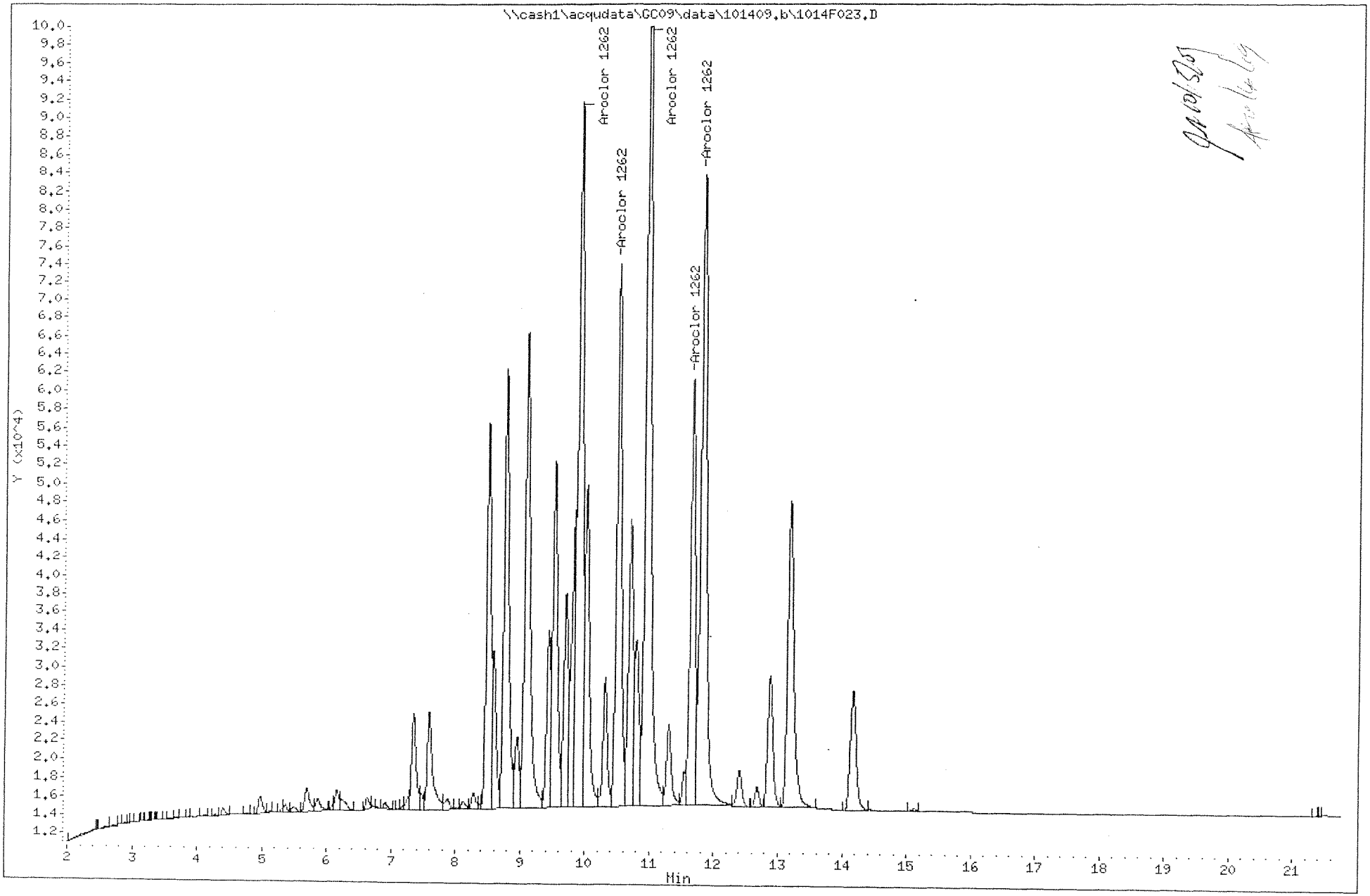
QC Flag Legend

M - Compound response manually integrated.

10/15/09
10/16/09

Data File: \\cash1\acqudata\GC09\data\101409.b\1014F023.D
Date : 15-OCT-2009 09:04
Client ID:
Sample Info: 1262 @ 1000ppb | PCB5-34Q

Instrument: GC09.i
Operator: JMSmith
Column phase: DB-35MS
Column diameter: 0.53

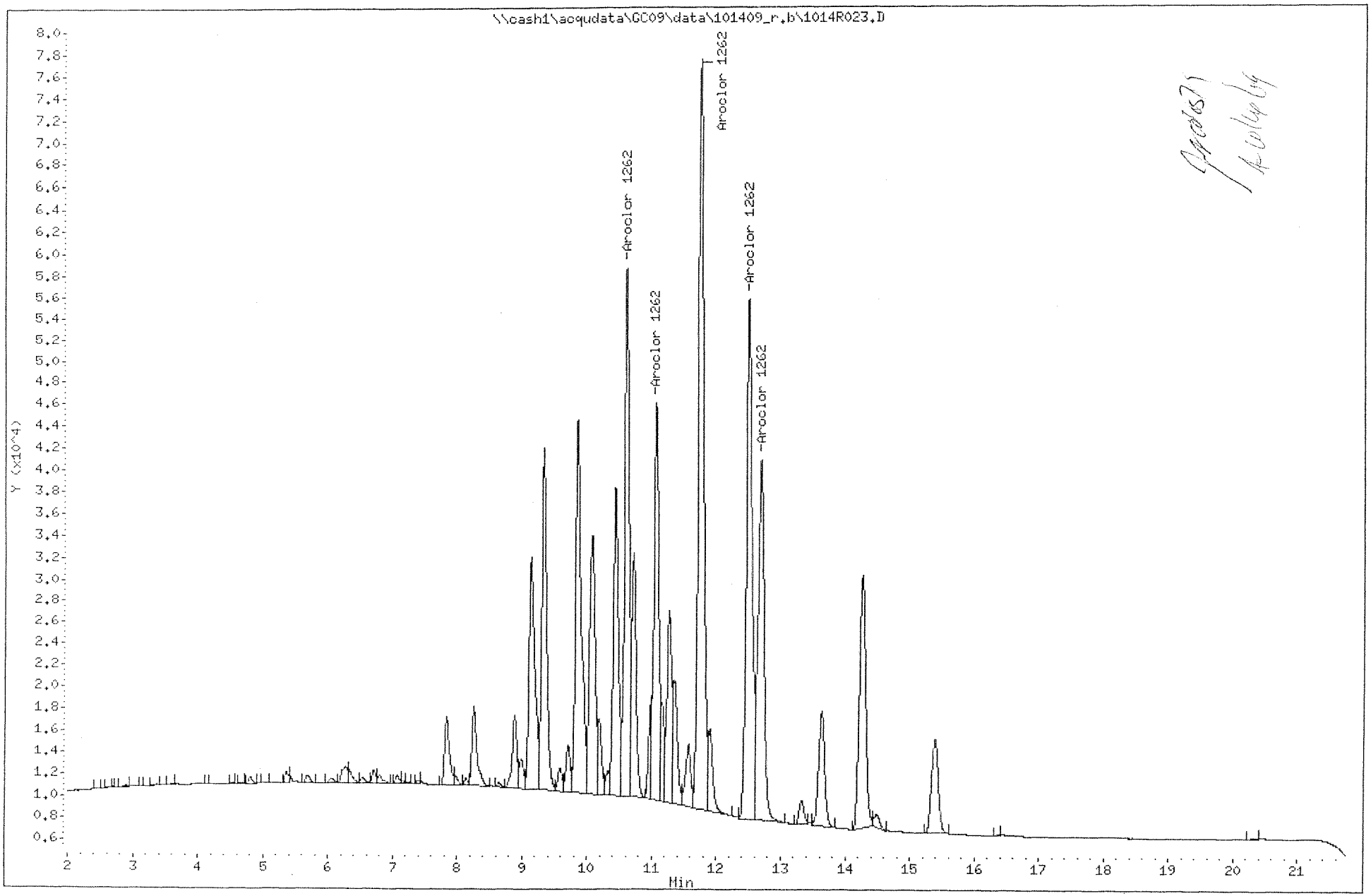


Data File: \\cash1\acqudata\GC09\data\101409_r,b\1014R023,D
Date : 15-OCT-2009 09:04
Client ID:
Sample Info: 1262 @ 1000ppb | PCB5-34Q

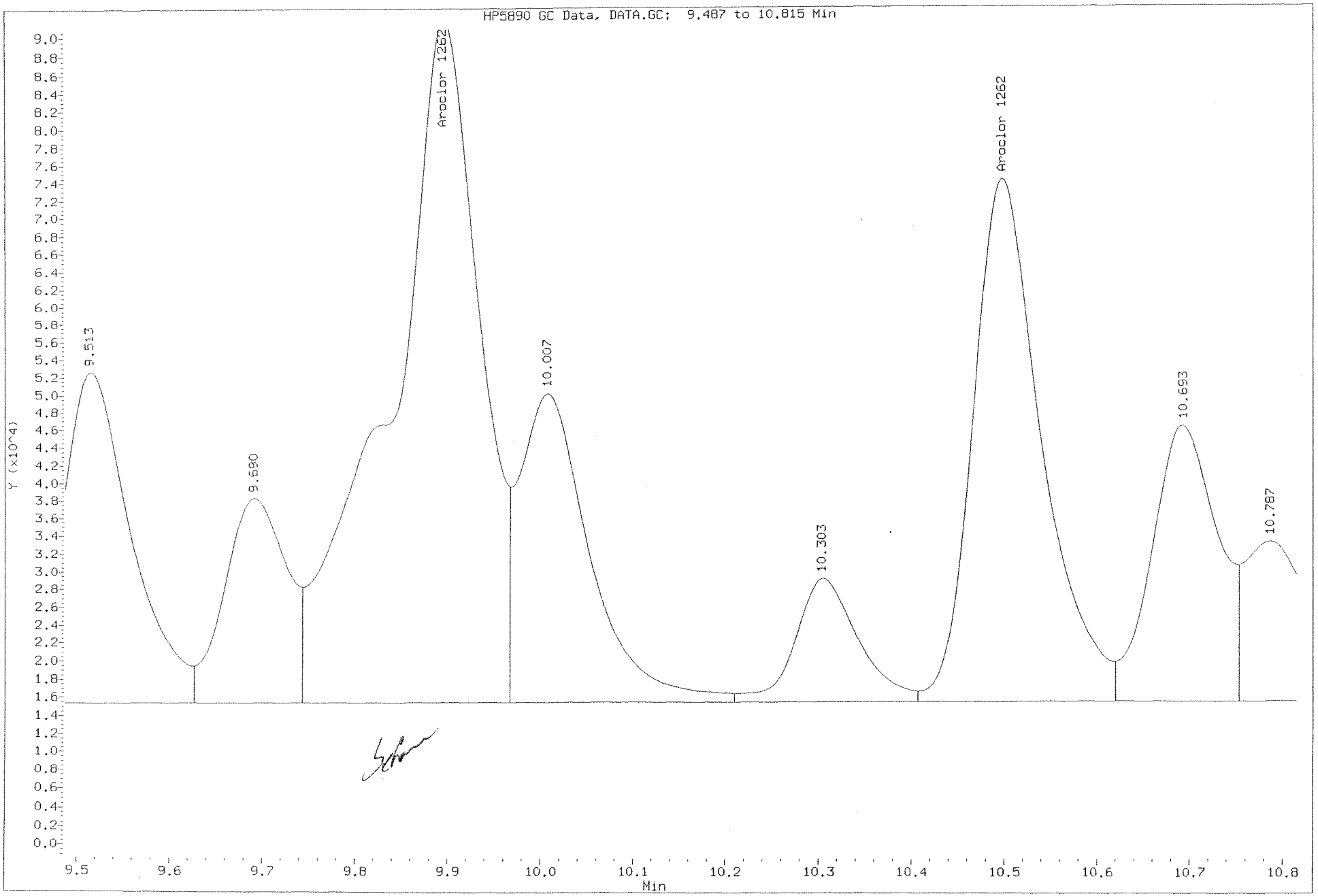
Column phase: DB-XLB

Instrument: GC09.i

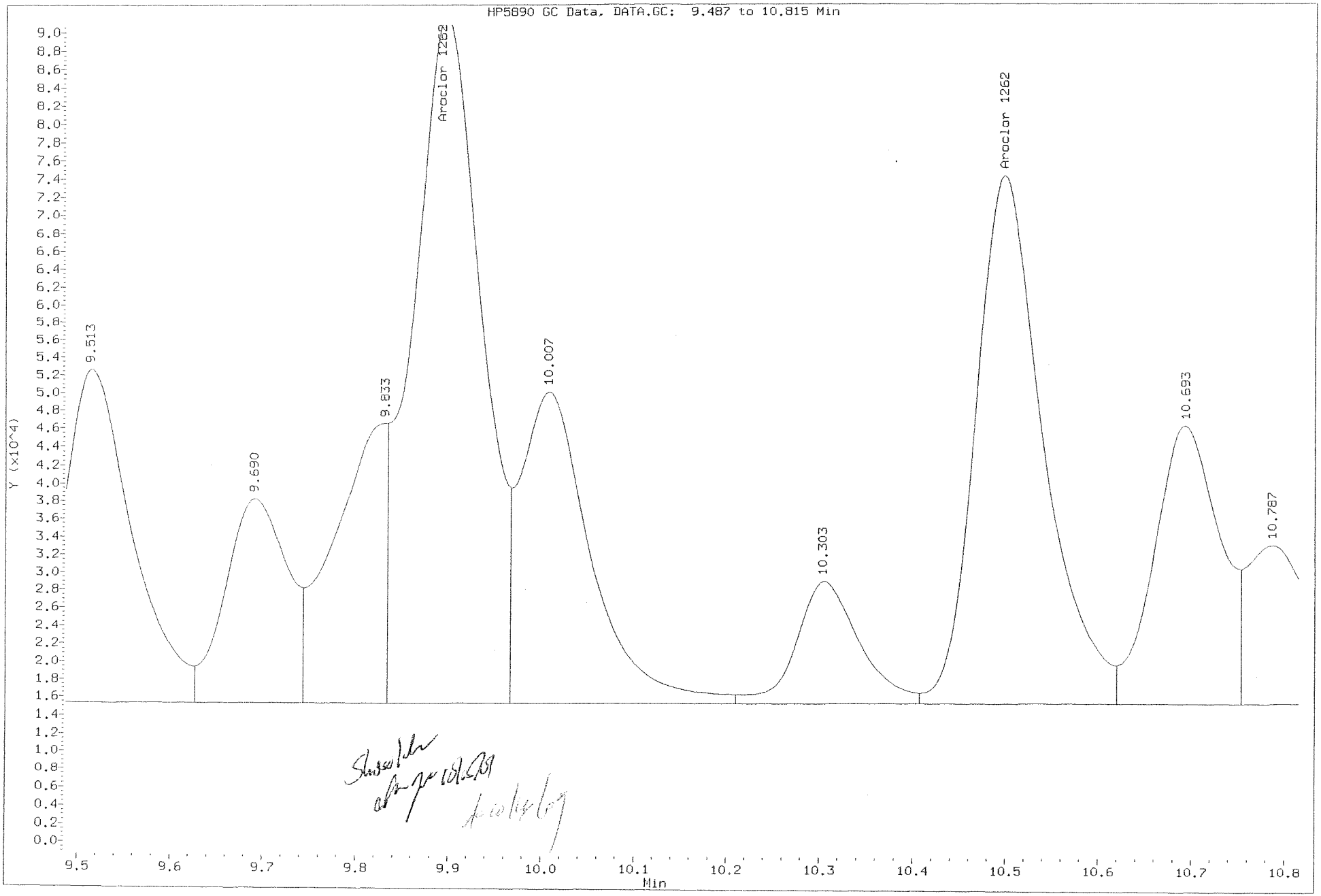
Operator: JHSmith
Column diameter: 0.53



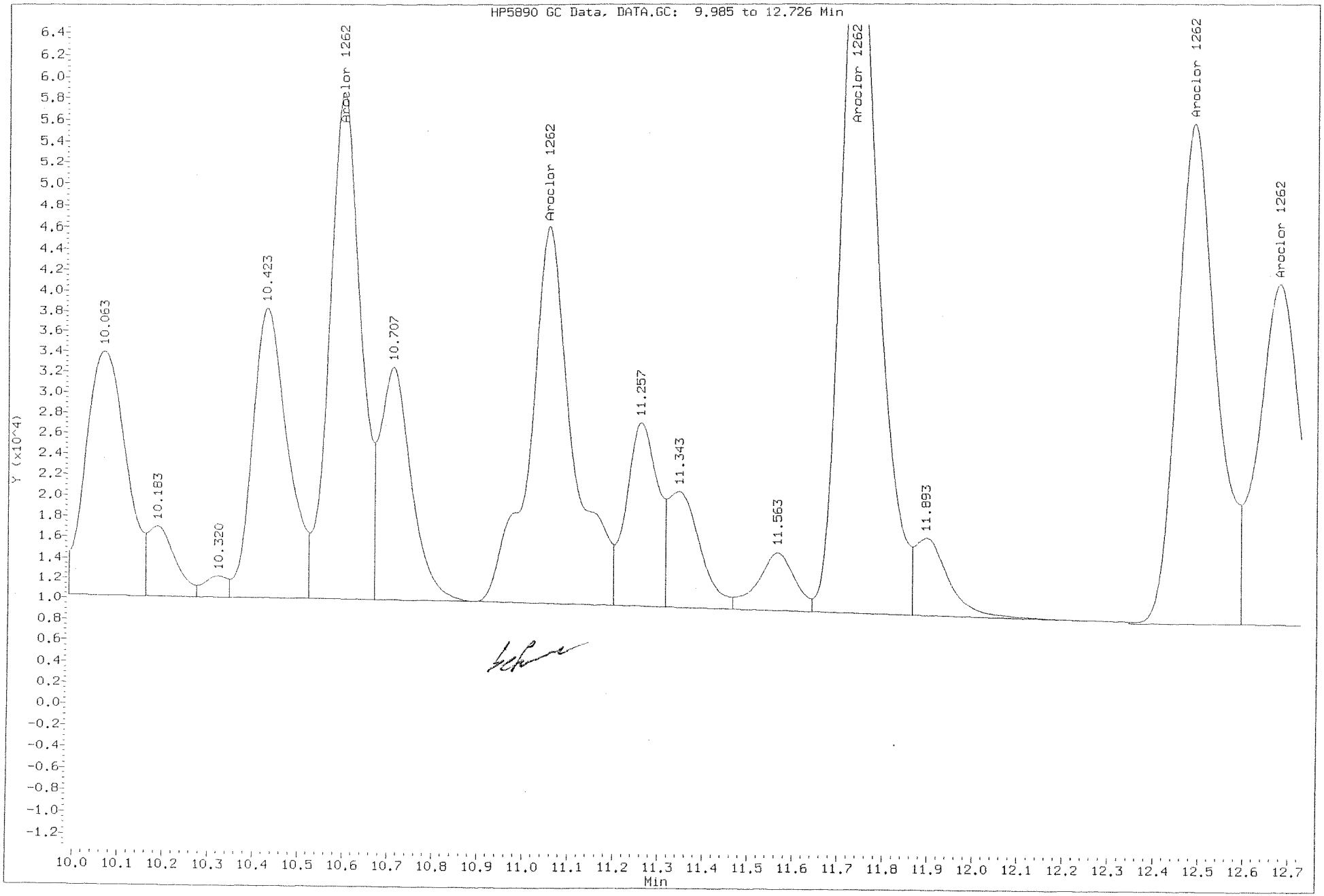
Data File: \\cash1\acqudata\GC09\data\101409.b\1014F023.D
Injection Date: 15-OCT-2009 09:04
Instrument: GC09.i
Client Sample ID:



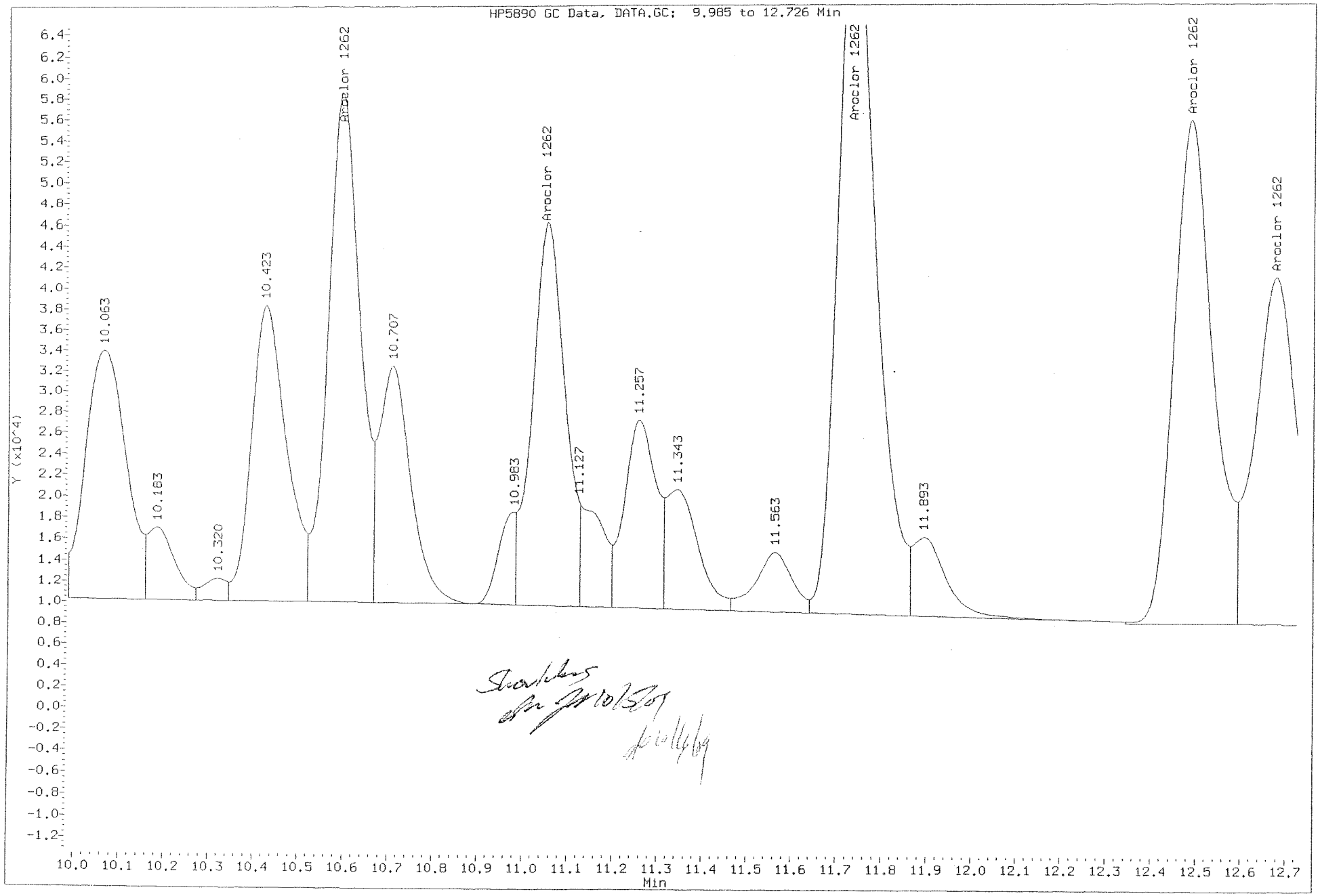
Data File: \\cash1\acqudata\GC09\data\101409.b\1014F023.D
Injection Date: 15-OCT-2009 09:04
Instrument: GC09.i
Client Sample ID:



Data File: \\cash1\acqudata\GC09\data\101409_r.b\1014R023.D
Injection Date: 15-OCT-2009 09:04
Instrument: GC09.i
Client Sample ID:



Data File: \\cash1\acqudata\GC09\data\101409_r.b\1014R023.D
Injection Date: 15-OCT-2009 09:04
Instrument: GC09.i
Client Sample ID:



Data File: \\cash1\acqudata\GC09\data\101409.b\1014F024.D
Report Date: 15-Oct-2009 16:43

Laboratory Name

Sample #1 : \\cash1\acqudata\GC09\data\101409.b\1014F024.D
Sample #2 : \\cash1\acqudata\GC09\data\101409_r.b\1014R024.D
Inj Date : 15-OCT-2009 09:30
Sample Info: 1268 @ 1000ppb | PCB5-34R
Misc Info : SEMIVOA GC\W0900671\24-ICV.H
Cal Date : 15-OCT-2009 13:27
Operator : JMSmith
Inst ID : GC09.i
Dil Factor : 1.000000

Method #1 : \\cash1\acqudata\GC09\data\101409.b\101409_f.m
Method #2 : \\cash1\acqudata\GC09\data\101409_r.b\101409_r.m
Sub List #1 : AR1268.SUB
Sub List #2 : AR1268.SUB
Col #1 Phase : DB-35MS
Col #2 Phase : DB-XLB

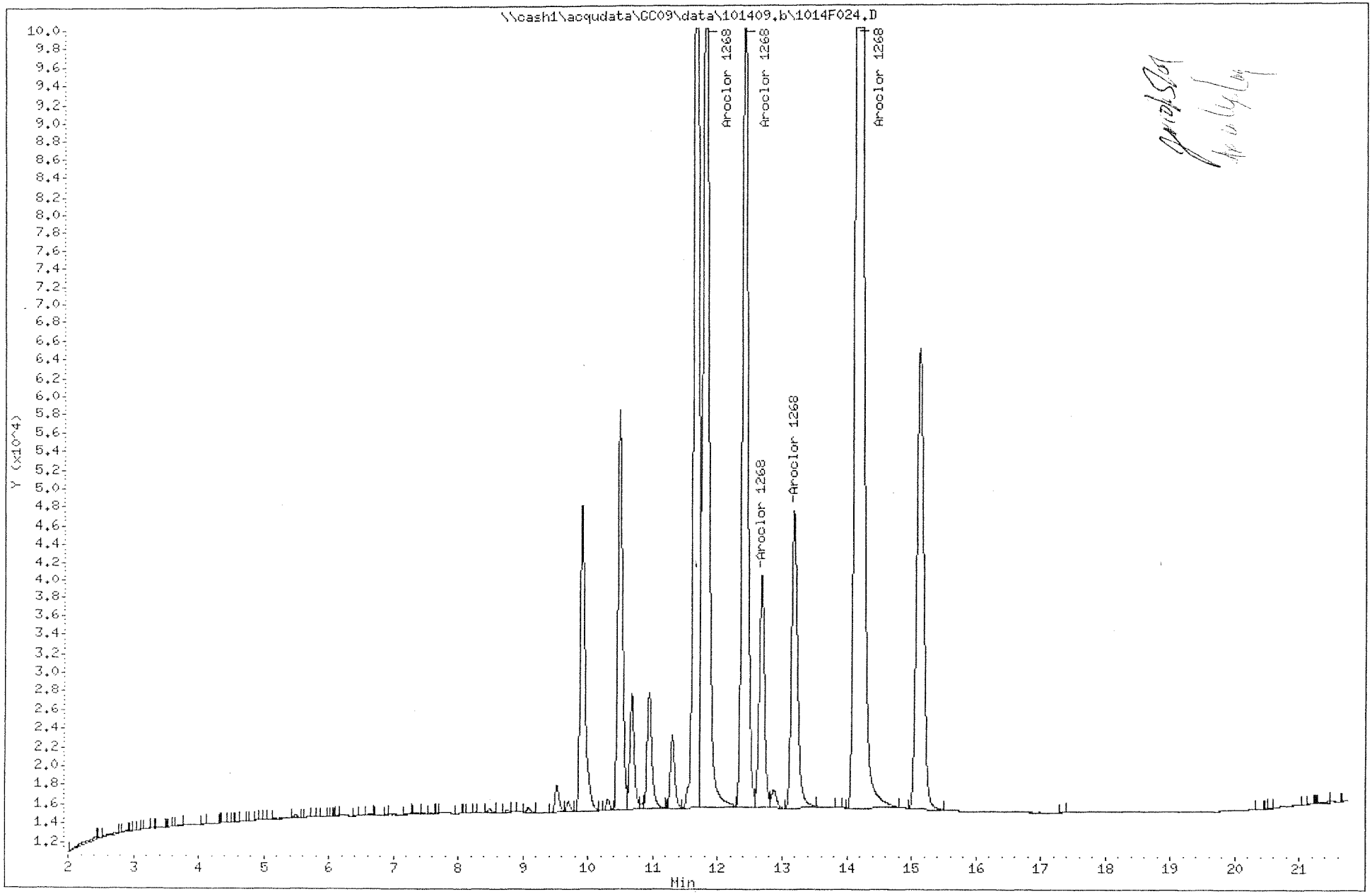
Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2	Target Range	Ratio
Aroclor 1268	11.793	12.683	654273	481638	930	896	80.00- 120.00	100.00
	12.400	13.323	536588	417321	1010	990	60.33- 90.49	82.01
	12.673	13.583	137984	112987	982	949	15.99- 23.99	21.09
	13.173	14.257	204964	156765	870	849	26.80- 40.20	31.33
	14.167	15.387	1471665	1172055	967	946	173.17- 259.76	224.93
			Average of Peak Amounts =		952	926		

Data File: \\cash1\acqudata\GC09\data\101409.b\1014F024.D
Date : 15-OCT-2009 09:30
Client ID:
Sample Info: 1268 @ 1000ppb | PCB5-34R

Instrument: GC09.i

Operator: JHSmith
Column diameter: 0.53

Column phase: DB-35MS

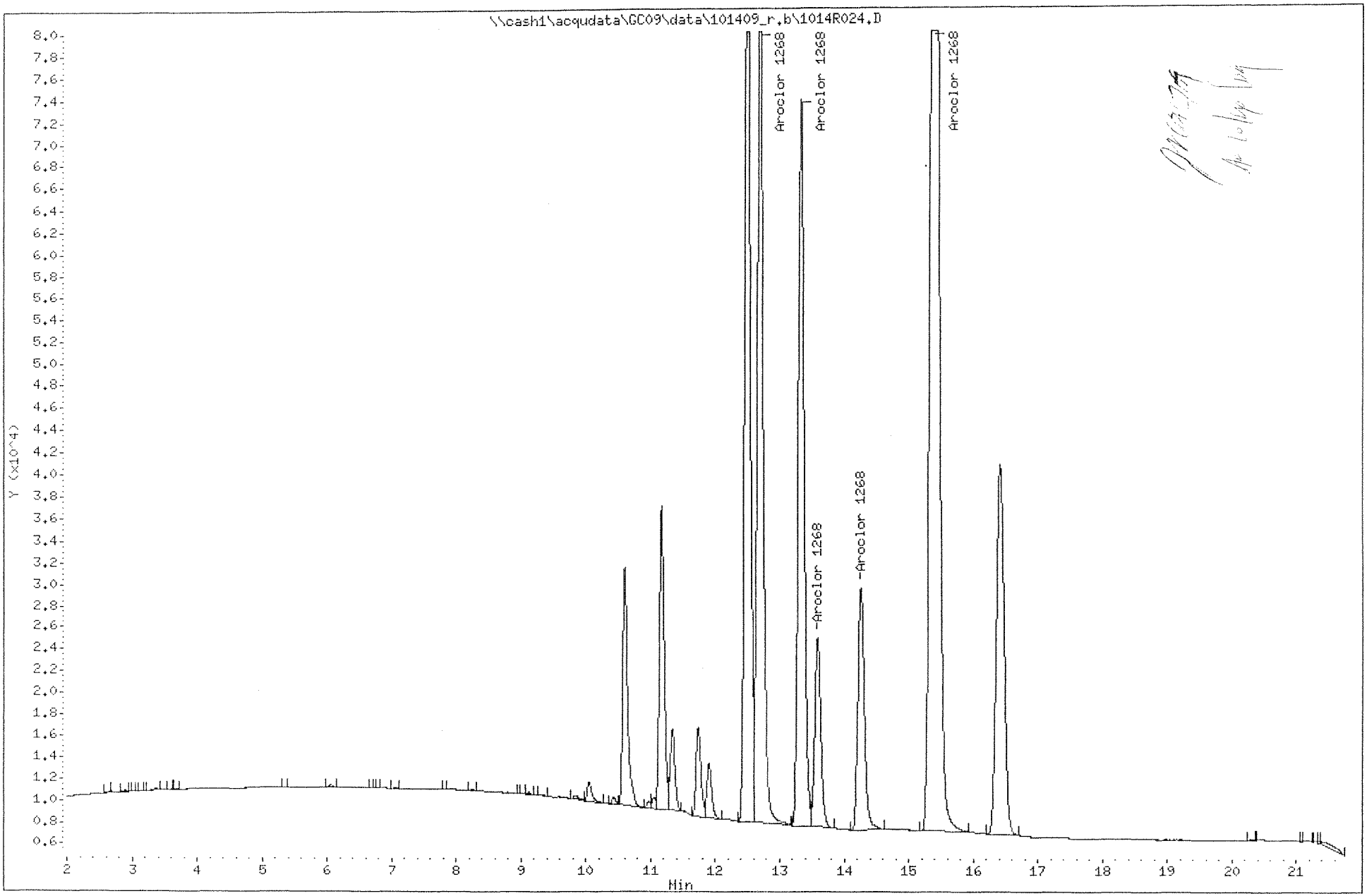


Data File: \\cash1\acqudata\GC09\data\101409_r.b\1014R024.D
Date : 15-OCT-2009 09:30
Client ID:
Sample Info: 1268 @ 1000ppb | PCB5-34R

Instrument: GC09.i

Operator: JMSmith
Column diameter: 0.53

Column phase: DB-XLB



Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0909140
Date Analyzed: 11/14/2009

Continuing Calibration Verification Summary
Polychlorinated Biphenyls (PCBs)

Calibration Type: External Standard
Analysis Method: 8082
CCV Standard ID: PCB5-41P

Calibration Date: 10/15/2009
Calibration ID: CAL8918
Analysis Lot: KWG0910694
Units: ng/mL

File ID: \\CASH1\ACQUDATA\GC09\DATA\111409.B\1114F015.D

Column ID: DB-35MS

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Decachlorobiphenyl	100	96	5450	5240	-4	NA	± 15 %	AverageRF
Aroclor 1016 {1}	1000	1000	128	129	1	NA	± 100 %	AverageRF
Aroclor 1016 {2}	1000	920	517	473	-8	NA	± 100 %	AverageRF
Aroclor 1016 {3}	1000	1000	297	299	1	NA	± 100 %	AverageRF
Aroclor 1016 {4}	1000	1000	166	166	0	NA	± 100 %	AverageRF
Aroclor 1016 {5}	1000	1100	139	146	5	NA	± 100 %	AverageRF
Aroclor 1016	1000	1000	NA	NA	NA	0	± 15 %	NA
Aroclor 1260 {1}	1000	960	424	408	-4	NA	± 100 %	AverageRF
Aroclor 1260 {2}	1000	970	230	224	-3	NA	± 100 %	AverageRF
Aroclor 1260 {3}	1000	970	255	248	-3	NA	± 100 %	AverageRF
Aroclor 1260 {4}	1000	940	549	518	-6	NA	± 100 %	AverageRF
Aroclor 1260 {5}	1000	970	377	366	-3	NA	± 100 %	AverageRF
Aroclor 1260	1000	960	NA	NA	NA	-4	± 15 %	NA

Results flagged with an asterisk (*) indicate values outside control criteria.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Results

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0909140
Date Analyzed: 11/14/2009

Continuing Calibration Verification Summary
Polychlorinated Biphenyls (PCBs)

Calibration Type: External Standard
Analysis Method: 8082
CCV Standard ID: PCB5-41P

Calibration Date: 10/15/2009
Calibration ID: CAL8918
Analysis Lot: KWG0910694
Units: ng/mL

File ID: \\CASH1\ACQUDATA\GC09\DATA\111409_R.B\1114R015.D

Column ID: DB-XLB

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Decachlorobiphenyl	100	100	4180	4280	2	NA	± 15 %	AverageRF
Aroclor 1016 {1}	1000	1000	134	136	2	NA	± 100 %	AverageRF
Aroclor 1016 {2}	1000	920	235	217	-8	NA	± 100 %	AverageRF
Aroclor 1016 {3}	1000	1000	106	107	1	NA	± 100 %	AverageRF
Aroclor 1016 {4}	1000	1000	125	128	2	NA	± 100 %	AverageRF
Aroclor 1016 {5}	1000	1100	101	106	6	NA	± 100 %	AverageRF
Aroclor 1016	1000	1000	NA	NA	NA	0	± 15 %	NA
Aroclor 1260 {1}	1000	970	240	232	-3	NA	± 100 %	AverageRF
Aroclor 1260 {2}	1000	1000	308	311	1	NA	± 100 %	AverageRF
Aroclor 1260 {3}	1000	1000	170	173	2	NA	± 100 %	AverageRF
Aroclor 1260 {4}	1000	1000	354	369	4	NA	± 100 %	AverageRF
Aroclor 1260 {5}	1000	1000	239	249	4	NA	± 100 %	AverageRF
Aroclor 1260	1000	1000	NA	NA	NA	2	± 15 %	NA

Results flagged with an asterisk (*) indicate values outside control criteria.

Exception Report

Data File: \\CASH1\ACQUDATA\GC09\DATA\111409.B\1114F015.D
Lab ID: KWG0910694-4
RunType: CCV
Matrix: LIQUID

Date Acquired: 11/14/2009 15:20
Date Quantitated: 11/16/2009 12:39
Batch ID: KWG0910694
Analysis Method: 8082
MethodJoinID: MJ696

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	

Primary Review: _____

Secondary Review: _____

Exception Report

Data File: \\CASH1\ACQUDATA\GC09\DATA\111409_R.B\1114R015.D
Lab ID: KWG0910694-4
RunType: CCV
Matrix: LIQUID

Date Acquired: 11/14/2009 15:20
Date Quantitated: 11/16/2009 12:41
Batch ID: KWG0910694
Analysis Method: 8082
MethodJoinID: MJ696

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	

Primary Review: _____

Secondary Review: _____

Quantitation Report

Bottle ID:		**Tier:**		**Matrix:**	LIQUID
Prod Code:	8082 PCB	**Collect Date:**		**Receive Date:**	11/13/2009

Analysis Lot:	KWG0910694	**Prep Lot:**		**Report Group:**	
Analysis Method:	8082	**Prep Method:**			
Prep Ref:		**Prep Date:**			

Quant Method:	\\CASH1\ACQUDATA\GC09\DATA\111409.B\101409_F.M	**Calibration ID:**	CAL8918
Title:			
MB Ref:		**Method ID:**	MJ696
		Quant based on Method	

Data File #1:	J:\GC09\DATA\111409.B\1114F015.D			**Instrument:**	GC09.i
Data File #2:	\\cash1\acqudata\GC09\data\111409_r.b\1114R015.D			**Vial:**	97
Acqu Date:	11/14/2009 15:20	**Quant Date:**	11/16/2009 12:39	**Dilution:**	1.0
Run Type:	CCV			**Soln Conc. Units:**	ng/mL
Lab ID:	KWG0910694-4				
Signal #1:	DB-35MS	**Signal #2:**	DB-XLB		

Surrogate Compounds

Parameter Name	RT #1	RT #2	Resp #1	Respe #2	ng/mL #1	ng/mL #2			Rpt
Tetrachloro-m-xylene	3.69	4.29	580143	427508	99.47	103.61			NA
				%Recovery =	NA	NA	Limits =	10-135	
Decachlorobiphenyl	15.06	16.31	523915	427507	96.13	102.39			NA
				%Recovery =	NA	NA	Limits =	35-133	

Target Compounds

Final Conc. Units:

Parameter Name	RT #1	RT #2	Resp #1	Resp #2	ng/mL #1	ng/mL #2	ug/Kg #1	ug/Kg #2	Rpt
Aroclor 1016			0	0	997.53	1,004			
Aroclor 1016 {1}	5.33	5.66	129362	136459m	1,010	1,018			
Aroclor 1016 {2}	5.67	6.23	473269	216601m	915.15	921.16			
Aroclor 1016 {3}	5.84	6.67	298575	106858m	1,006	1,005			
Aroclor 1016 {4}	6.60	6.76	166055	127504m	1,003	1,022			
Aroclor 1016 {5}	6.88	7.03	146293	106342m	1,053	1,057			
Aroclor 1260			0	0	964.35	1,016			
Aroclor 1260 {1}	9.05	9.28	408325	231996m	962.19	966.94			
Aroclor 1260 {2}	9.48	10.38	224446	311418m	973.76	1,010			
Aroclor 1260 {3}	10.47	10.55	247520	172519m	970.97	1,017			
Aroclor 1260 {4}	10.90	11.68	518009	369040m	943.17	1,043			
Aroclor 1260 {5}	11.77	12.42	366416	249116m	971.64	1,043			

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Calibration Verification Report

Calibration ID: CAL8918
Method ID: MJ696
DataFile: \\CASH1\ACQUDATA\GC09\DATA\111409.B\1114F015.D

Parameter Name	Type	PARM Type	Curve Fit	Method Criteria	Min RF	ICAL RF	CCV RF	%Diff	Sol'n Conc.	True Value	% Drift
Aroclor 1016		MS	NA	15					997.5	1,000	-0.2
Aroclor 1260		MS	NA	15					964.3	1,000	-3.6
Tetrachloro-m-xylene		SURR	AverageRF	15		5.8E+3	5.8E+3	-0.5			
Aroclor 1016 {1}		MULTI	AverageRF	100		1.3E+2	1.3E+2	1.0			
Aroclor 1016 {2}		MULTI	AverageRF	100		5.2E+2	4.7E+2	-8.5			
Aroclor 1016 {3}		MULTI	AverageRF	100		3.0E+2	3.0E+2	0.6			
Aroclor 1016 {4}		MULTI	AverageRF	100		1.7E+2	1.7E+2	0.3			
Aroclor 1016 {5}		MULTI	AverageRF	100		1.4E+2	1.5E+2	5.3			
Aroclor 1260 {1}		MULTI	AverageRF	100		4.2E+2	4.1E+2	-3.8			
Aroclor 1260 {2}		MULTI	AverageRF	100		2.3E+2	2.2E+2	-2.6			
Aroclor 1260 {3}		MULTI	AverageRF	100		2.5E+2	2.5E+2	-2.9			
Aroclor 1260 {4}		MULTI	AverageRF	100		5.5E+2	5.2E+2	-5.7			
Aroclor 1260 {5}		MULTI	AverageRF	100		3.8E+2	3.7E+2	-2.8			
Decachlorobiphenyl		SURR	AverageRF	15		5.5E+3	5.2E+3	-3.9			

Alternate Calibration Evaluation Summary

Maximum Allowable Average %D =	15.0
Calculated Average %D =	3.2

Calibration Verification Report

Calibration ID: CAL8918
Method ID: MJ696
DataFile: \\CASH1\ACQUDATA\GC09\DATA\111409_R.B\1114R015.D

Parameter Name	Type	PARM Type	Curve Fit	Method Criteria	Min RF	ICAL RF	CCV RF	%Diff	Sol'n Conc.	True Value	% Drift
Aroclor 1016		MS	NA	15					1,004	1,000	0.4
Aroclor 1260		MS	NA	15					1,016	1,000	1.6
Tetrachloro-m-xylene		SURR	AverageRF	15		4.1E+3	4.3E+3	3.6			
Aroclor 1016 {1}		MULTI	AverageRF	100		1.3E+2	1.4E+2	1.8			
Aroclor 1016 {2}		MULTI	AverageRF	100		2.4E+2	2.2E+2	-7.9			
Aroclor 1016 {3}		MULTI	AverageRF	100		1.1E+2	1.1E+2	0.5			
Aroclor 1016 {4}		MULTI	AverageRF	100		1.2E+2	1.3E+2	2.2			
Aroclor 1016 {5}		MULTI	AverageRF	100		1.0E+2	1.1E+2	5.7			
Aroclor 1260 {1}		MULTI	AverageRF	100		2.4E+2	2.3E+2	-3.3			
Aroclor 1260 {2}		MULTI	AverageRF	100		3.1E+2	3.1E+2	1.0			
Aroclor 1260 {3}		MULTI	AverageRF	100		1.7E+2	1.7E+2	1.7			
Aroclor 1260 {4}		MULTI	AverageRF	100		3.5E+2	3.7E+2	4.3			
Aroclor 1260 {5}		MULTI	AverageRF	100		2.4E+2	2.5E+2	4.3			
Decachlorobiphenyl		SURR	AverageRF	15		4.2E+3	4.3E+3	2.4			

Alternate Calibration Evaluation Summary

Maximum Allowable Average %D =	15.0
Calculated Average %D =	3.2

Data File: \\cash1\acqudata\GC09\data\111409.B\1114F015.D
Report Date: 16-Nov-2009 12:39

Laboratory Name

Sample #1 : \\cash1\acqudata\GC09\data\111409.B\1114F015.D
Sample #2 : \\cash1\acqudata\GC09\data\111409_r.b\1114R015.D
Inj Date : 14-NOV-2009 15:20
Sample Info: 1660 @ 1000ppb | PCB5-41P | KWG0910694-4
Misc Info : SEMIVOA GC\W0910694\4-CCV.H
Cal Date : 16-NOV-2009 10:31
Operator : JMSmith
Inst ID : GC09.i
Dil Factor : 1.000000

Method #1 : \\cash1\acqudata\GC09\data\111409.B\101409_f.m
Method #2 : \\cash1\acqudata\GC09\data\111409_r.b\101409_r.m
Sub List #1 : AR1660.SUB
Sub List #2 : AR1660.SUB
Col #1 Phase : DB-35MS
Col #2 Phase : DB-XLB

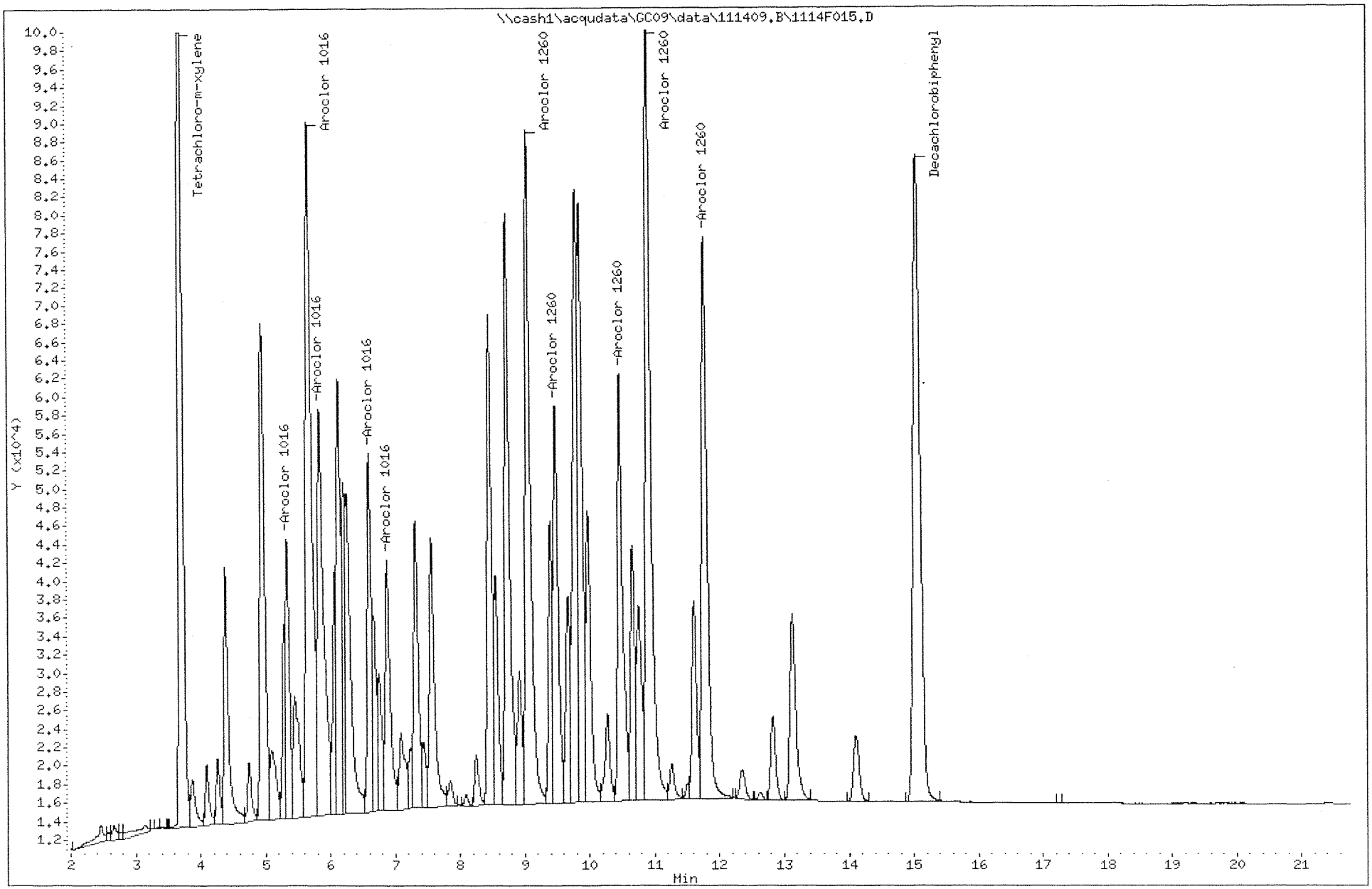
Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2	Target Range	Ratio
Tetrachloro-m-xylene	3.693	4.290	580143	427508	99.5	104		100.00
Aroclor 1016	5.333	5.657	129362	136459	1010	1020	80.00- 120.00	100.00
	5.670	6.230	473269	216601	915	921	301.24- 451.85	365.85
	5.837	6.667	298575	106858	1010	1000	175.42- 263.13	230.81
	6.600	6.760	166055	127504	1000	1020	101.03- 151.55	128.36
	6.877	7.030	146293	106342	1050	1060	88.95- 133.42	113.09
			Average of Peak Amounts =		997	1000		
Aroclor 1260	9.047	9.277	408325	231996	962	967	80.00- 120.00	100.00
	9.477	10.377	224446	311418	974	1010	42.74- 64.11	54.97
	10.467	10.547	247520	172519	971	1020	48.22- 72.33	60.62
	10.903	11.683	518009	369040	943	1040	101.77- 152.66	126.86
	11.773	12.423	366416	249116	972	1040	72.29- 108.43	89.74
			Average of Peak Amounts =		964	1020		
Decachlorobiphenyl	15.057	16.307	523915	427507	96.1	102		100.00

Data File: \\cash1\acqudata\GC09\data\111409.B\1114F015.D
Date : 14-NOV-2009 15:20
Client ID:
Sample Info: 1660 @ 1000ppb | PCB5-41P | KWG0910694-4

Instrument: GC09.i

Operator: JMSmith
Column diameter: 0.53

Column phase: DB-35MS

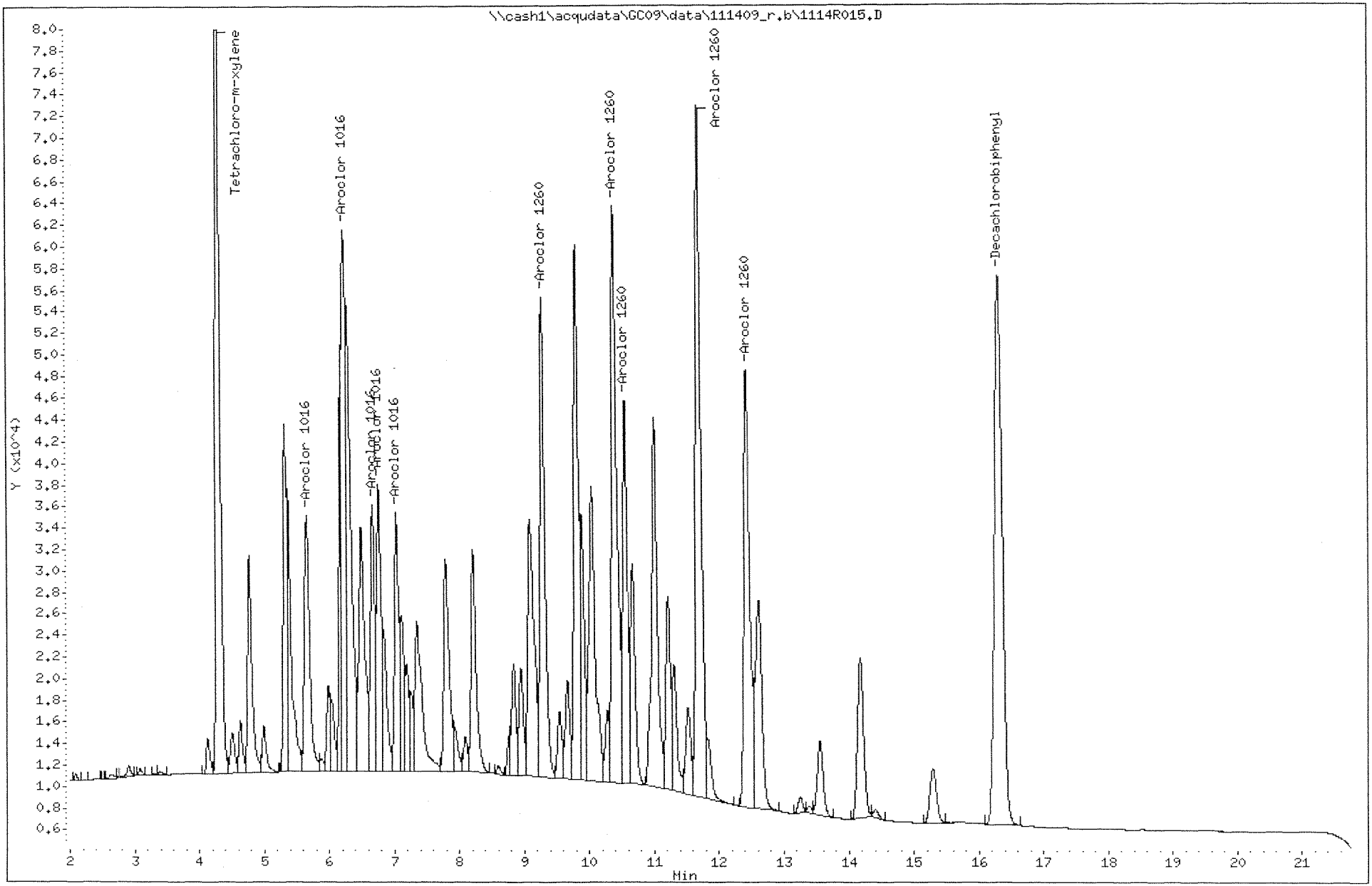


Data File: \\cash1\acqudata\GC09\data\111409_r.b\1114R015.D
Date : 14-NOV-2009 15:20
Client ID:
Sample Info: 1660 @ 1000ppb | PCB5-41P | KWG0910694-4

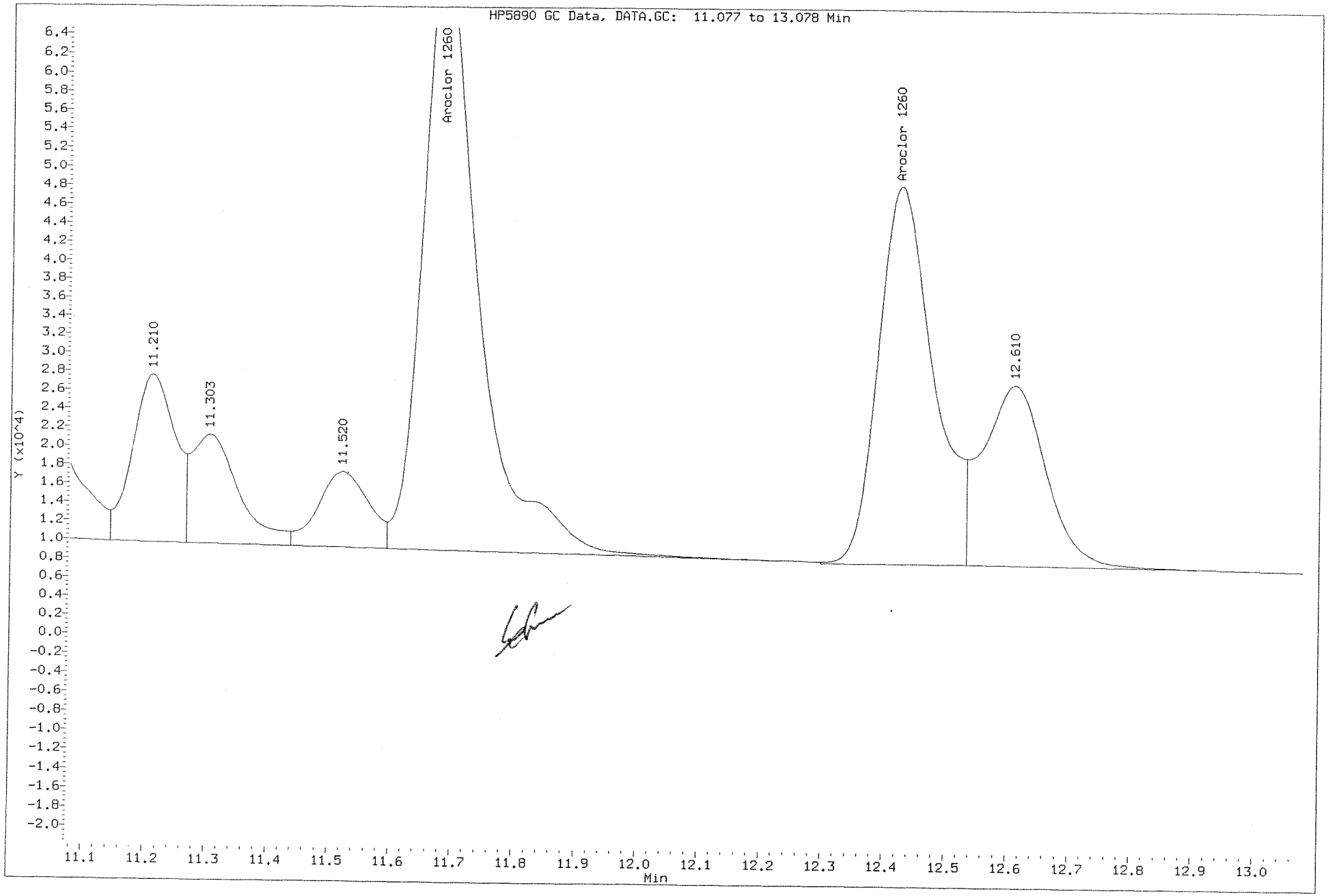
Instrument: GC09.i

Operator: JMSmith
Column diameter: 0.53

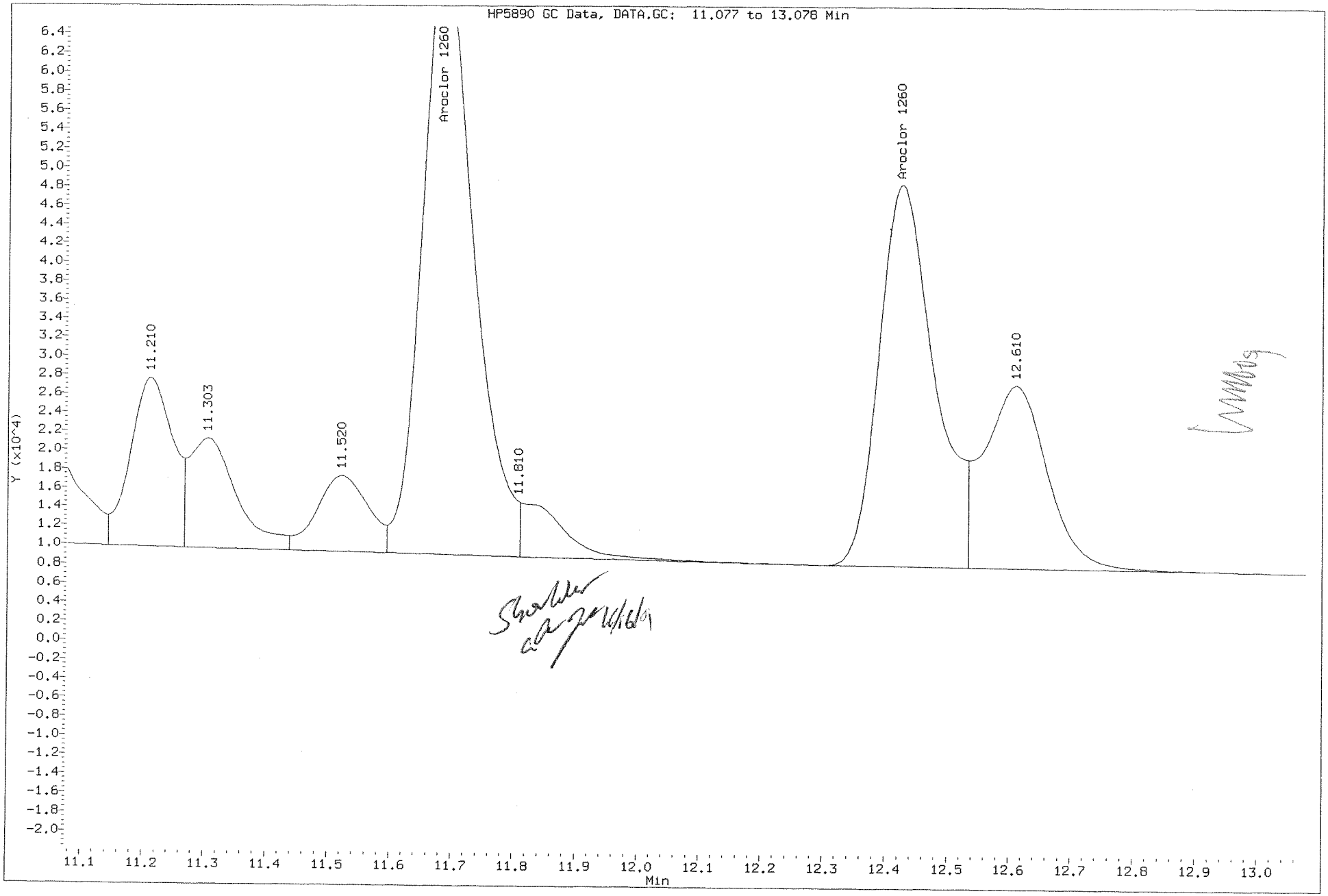
Column phase: DB-XLB



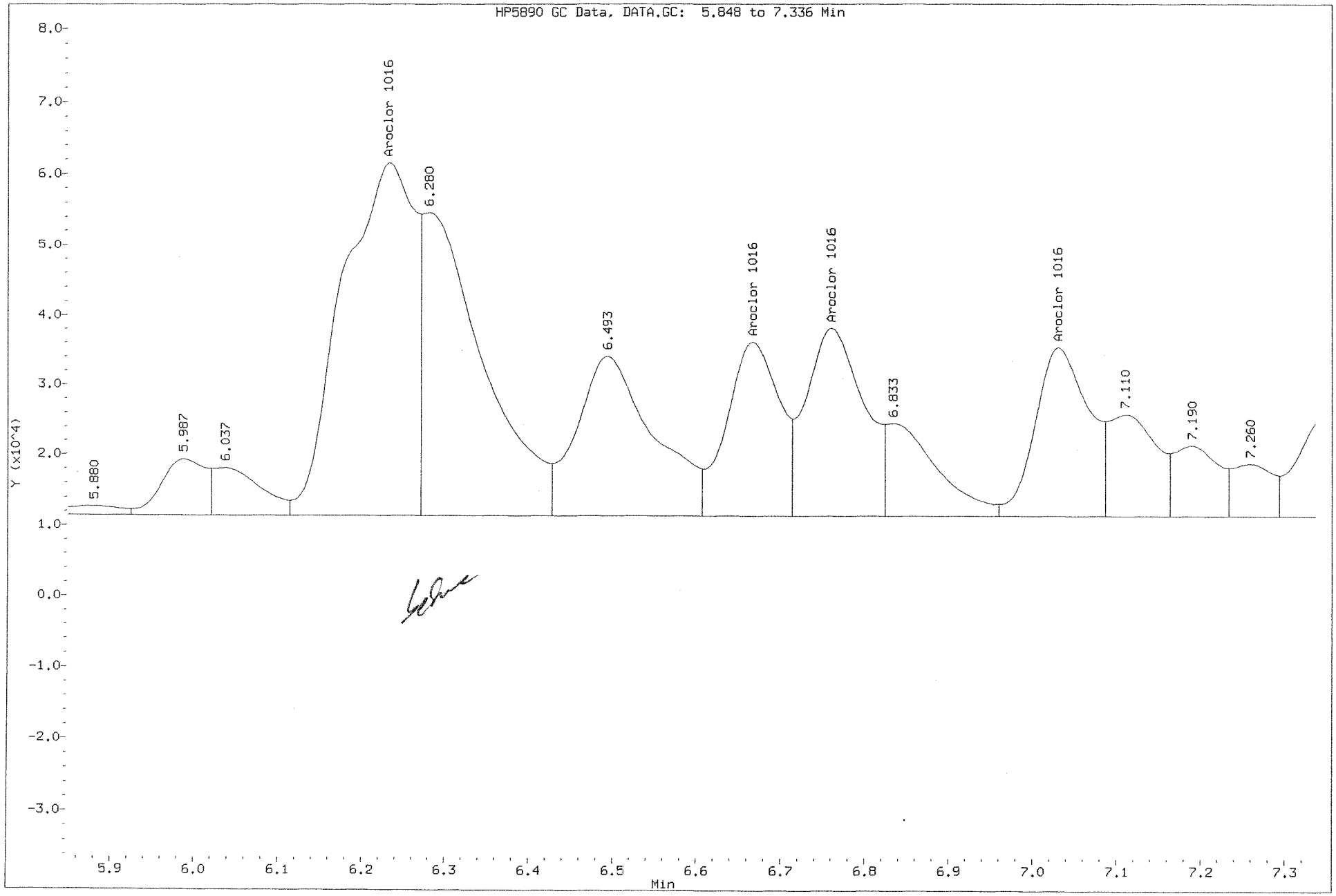
Data File: \\cash1\acqudata\GC09\data\111409_r.b\1114R015.D
Injection Date: 14-NOV-2009 15:20
Instrument: GC09.i
Client Sample ID:



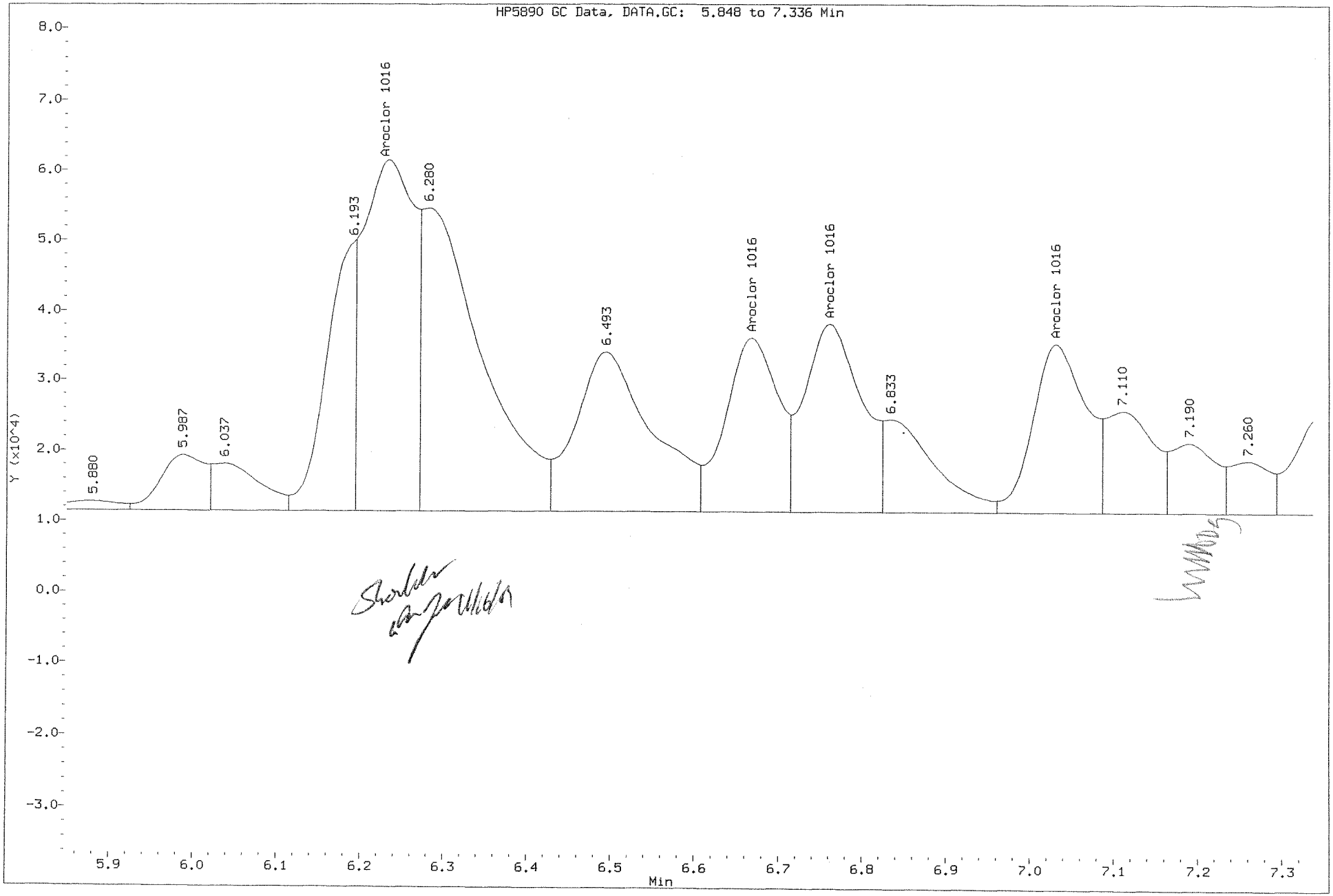
Data File: \\cash1\acqudata\GC09\data\111409_r.b\1114R015.D
Injection Date: 14-NOV-2009 15:20
Instrument: GC09.i
Client Sample ID:



Data File: \\cash1\acqudata\GC09\data\111409_r.b\1114R015.D
Injection Date: 14-NOV-2009 15:20
Instrument: GC09.i
Client Sample ID:



Data File: \\cash1\acqudata\GC09\data\111409_r.b\1114R015.D
Injection Date: 14-NOV-2009 15:20
Instrument: GC09.i
Client Sample ID:



COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Results

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0909140
Date Analyzed: 11/14/2009

Continuing Calibration Verification Summary
Polychlorinated Biphenyls (PCBs)

Calibration Type: External Standard
Analysis Method: 8082
CCV Standard ID: PCB5-41P

Calibration Date: 10/15/2009
Calibration ID: CAL8918
Analysis Lot: KWG0910694
Units: ng/mL

File ID: \\CASH1\ACQUDATA\GC09\DATA\111409.B\1114F029.D

Column ID: DB-35MS

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift		Criteria	Curve Fit
Decachlorobiphenyl	100	86	5450	4710	-14	NA		± 15 %	AverageRF
Aroclor 1016 {1}	1000	950	128	122	-5	NA		± 100 %	AverageRF
Aroclor 1016 {2}	1000	900	517	466	-10	NA		± 100 %	AverageRF
Aroclor 1016 {3}	1000	900	297	268	-10	NA		± 100 %	AverageRF
Aroclor 1016 {4}	1000	910	166	150	-9	NA		± 100 %	AverageRF
Aroclor 1016 {5}	1000	950	139	132	-5	NA		± 100 %	AverageRF
Aroclor 1016	1000	920	NA	NA	NA	-8		± 15 %	NA
Aroclor 1260 {1}	1000	820	424	348	-18	NA		± 100 %	AverageRF
Aroclor 1260 {2}	1000	810	230	186	-19	NA		± 100 %	AverageRF
Aroclor 1260 {3}	1000	820	255	208	-18	NA		± 100 %	AverageRF
Aroclor 1260 {4}	1000	810	549	444	-19	NA		± 100 %	AverageRF
Aroclor 1260 {5}	1000	850	377	321	-15	NA		± 100 %	AverageRF
Aroclor 1260	1000	820	NA	NA	NA	-18	*	± 15 %	NA

Results flagged with an asterisk (*) indicate values outside control criteria.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Results

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0909140
Date Analyzed: 11/14/2009

Continuing Calibration Verification Summary
Polychlorinated Biphenyls (PCBs)

Calibration Type: External Standard
Analysis Method: 8082
CCV Standard ID: PCB5-41P

Calibration Date: 10/15/2009
Calibration ID: CAL8918
Analysis Lot: KWG0910694
Units: ng/mL

File ID: \\CASH1\ACQUDATA\GC09\DATA\111409_R.B\1114R029.D

Column ID: DB-XLB

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Decachlorobiphenyl	100	99	4180	4140	-1	NA	± 15 %	AverageRF
Aroclor 1016 {1}	1000	1000	134	134	0	NA	± 100 %	AverageRF
Aroclor 1016 {2}	1000	960	235	226	-4	NA	± 100 %	AverageRF
Aroclor 1016 {3}	1000	970	106	104	-3	NA	± 100 %	AverageRF
Aroclor 1016 {4}	1000	980	125	122	-2	NA	± 100 %	AverageRF
Aroclor 1016 {5}	1000	1000	101	103	2	NA	± 100 %	AverageRF
Aroclor 1016	1000	990	NA	NA	NA	-1	± 15 %	NA
Aroclor 1260 {1}	1000	930	240	223	-7	NA	± 100 %	AverageRF
Aroclor 1260 {2}	1000	990	308	306	-1	NA	± 100 %	AverageRF
Aroclor 1260 {3}	1000	960	170	163	-4	NA	± 100 %	AverageRF
Aroclor 1260 {4}	1000	1000	354	361	2	NA	± 100 %	AverageRF
Aroclor 1260 {5}	1000	1000	239	244	2	NA	± 100 %	AverageRF
Aroclor 1260	1000	990	NA	NA	NA	-1	± 15 %	NA

Results flagged with an asterisk (*) indicate values outside control criteria.

Exception Report

Data File: \\CASH1\ACQUDATA\GC09\DATA\111409.B\1114F029.D
Lab ID: KWG0910694-6
RunType: CCV
Matrix: LIQUID

Date Acquired: 11/14/2009 21:28
Date Quantitated: 11/16/2009 12:40
Batch ID: KWG0910694
Analysis Method: 8082
MethodJoinID: MJ696

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	

Primary Review: [signature]

Secondary Review: [signature]

Exception Report

Data File:	\\CASH1\ACQUDATA\GC09\DATA\111409_R.B\1114R029.D	**Date Acquired:**	11/14/2009 21:28
Lab ID:	KWG0910694-6	**Date Quantitated:**	11/16/2009 12:42
RunType:	CCV	**Batch ID:**	KWG0910694
Matrix:	LIQUID	**Analysis Method:**	8082
		MethodJoinID:	MJ696

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	

Primary Review: 11/16/09

Secondary Review:

Quantitation Report

Bottle ID:		**Tier:**		**Matrix:**	LIQUID
Prod Code:	8082 PCB	**Collect Date:**		**Receive Date:**	11/13/2009

Analysis Lot:	KWG0910694	**Prep Lot:**		**Report Group:**	
Analysis Method:	8082	**Prep Method:**			
Prep Ref:		**Prep Date:**			

Quant Method:	\\CASH1\ACQUDATA\GC09\DATA\111409.B\101409_F.M			**Calibration ID:**	CAL8918
Title:					
MB Ref:				**Method ID:**	MJ696
				Quant based on Method	

Data File #1:	J:\GC09\DATA\111409.B\1114F029.D			**Instrument:**	GC09.i
Data File #2:	\\cash1\acqudata\GC09\data\111409_r.b\1114R029.D			**Vial:**	98
Acqu Date:	11/14/2009 21:28	**Quant Date:**	11/16/2009 12:40	**Dilution:**	1.0
Run Type:	CCV			**Soln Conc. Units:**	ng/mL
Lab ID:	KWG0910694-6				
Signal #1:	DB-35MS	**Signal #2:**	DB-XLB		

Surrogate Compounds

Parameter Name	RT #1	RT #2	Resp #1	Respe #2	ng/mL #1	ng/mL #2			Rpt
Tetrachloro-m-xylene	3.69	4.29	559116m	415642	95.87	100.73			NA
			%Recovery =		NA	NA	**Limits =**	10-135	
Decachlorobiphenyl	15.05	16.31	470607m	413733	86.35	99.09			NA
			%Recovery =		NA	NA	**Limits =**	35-133	

Target Compounds

Final Conc. Units:

Parameter Name	RT #1	RT #2	Resp #1	Resp #2	ng/mL #1	ng/mL #2	ug/Kg #1	ug/Kg #2	Rpt
Aroclor 1016			0	0	923.94	987.01			
Aroclor 1016 {1}	5.33	5.65	122218m	134321m	954.04	1,002			
Aroclor 1016 {2}	5.67	6.23	465963m	225977m	901.02	961.03			
Aroclor 1016 {3}	5.84	6.66	267999m	103515m	903.33	973.94			
Aroclor 1016 {4}	6.60	6.76	150464m	121997m	908.97	977.48			
Aroclor 1016 {5}	6.88	7.03	132286m	102738m	952.32	1,021			
Aroclor 1260			0	0	820.17	985.54			
Aroclor 1260 {1}	9.05	9.27	347583	222653m	819.06	928.01			
Aroclor 1260 {2}	9.48	10.38	185920	306286m	806.61	993.25			
Aroclor 1260 {3}	10.46	10.55	207941	163432m	815.71	963.52			
Aroclor 1260 {4}	10.90	11.68	443693	360832m	807.86	1,019			
Aroclor 1260 {5}	11.77	12.42	321152	244486m	851.61	1,023			

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Calibration Verification Report

Calibration ID: CAL8918
Method ID: MJ696
DataFile: \\CASH1\ACQUDATA\GC09\DATA\111409.B\1114F029.D

Parameter Name	Type	PARM Type	Curve Fit	Method Criteria	Min RF	ICAL RF	CCV RF	%Diff	Sol'n Conc.	True Value	% Drift
Aroclor 1016		MS	NA	15					923.9	1,000	-7.6
Aroclor 1260		MS	NA	15					820.2	1,000	-18.0 *
Tetrachloro-m-xylene		SURR	AverageRF	15		5.8E+3	5.6E+3	-4.1			
Aroclor 1016 {1}		MULTI	AverageRF	100		1.3E+2	1.2E+2	-4.6			
Aroclor 1016 {2}		MULTI	AverageRF	100		5.2E+2	4.7E+2	-9.9			
Aroclor 1016 {3}		MULTI	AverageRF	100		3.0E+2	2.7E+2	-9.7			
Aroclor 1016 {4}		MULTI	AverageRF	100		1.7E+2	1.5E+2	-9.1			
Aroclor 1016 {5}		MULTI	AverageRF	100		1.4E+2	1.3E+2	-4.8			
Aroclor 1260 {1}		MULTI	AverageRF	100		4.2E+2	3.5E+2	-18.1			
Aroclor 1260 {2}		MULTI	AverageRF	100		2.3E+2	1.9E+2	-19.3			
Aroclor 1260 {3}		MULTI	AverageRF	100		2.5E+2	2.1E+2	-18.4			
Aroclor 1260 {4}		MULTI	AverageRF	100		5.5E+2	4.4E+2	-19.2			
Aroclor 1260 {5}		MULTI	AverageRF	100		3.8E+2	3.2E+2	-14.8			
Decachlorobiphenyl		SURR	AverageRF	15		5.5E+3	4.7E+3	-13.7			

Alternate Calibration Evaluation Summary

Maximum Allowable Average %D =	15.0
Calculated Average %D =	12.1

Calibration Verification Report

Calibration ID: CAL8918
Method ID: MJ696
DataFile: \\CASH1\ACQUDATA\GC09\DATA\111409_R.B\1114R029.D

Parameter Name	Type	PARM Type	Curve Fit	Method Criteria	Min RF	ICAL RF	CCV RF	%Diff	Sol'n Conc.	True Value	% Drift
Aroclor 1016		MS	NA	15					987.0	1,000	-1.3
Aroclor 1260		MS	NA	15					985.5	1,000	-1.4
Tetrachloro-m-xylene		SURR	AverageRF	15		4.1E+3	4.2E+3	0.7			
Aroclor 1016 {1}		MULTI	AverageRF	100		1.3E+2	1.3E+2	0.2			
Aroclor 1016 {2}		MULTI	AverageRF	100		2.4E+2	2.3E+2	-3.9			
Aroclor 1016 {3}		MULTI	AverageRF	100		1.1E+2	1.0E+2	-2.6			
Aroclor 1016 {4}		MULTI	AverageRF	100		1.2E+2	1.2E+2	-2.3			
Aroclor 1016 {5}		MULTI	AverageRF	100		1.0E+2	1.0E+2	2.1			
Aroclor 1260 {1}		MULTI	AverageRF	100		2.4E+2	2.2E+2	-7.2			
Aroclor 1260 {2}		MULTI	AverageRF	100		3.1E+2	3.1E+2	-0.7			
Aroclor 1260 {3}		MULTI	AverageRF	100		1.7E+2	1.6E+2	-3.6			
Aroclor 1260 {4}		MULTI	AverageRF	100		3.5E+2	3.6E+2	1.9			
Aroclor 1260 {5}		MULTI	AverageRF	100		2.4E+2	2.4E+2	2.3			
Decachlorobiphenyl		SURR	AverageRF	15		4.2E+3	4.1E+3	-0.9			

Alternate Calibration Evaluation Summary

Maximum Allowable Average %D =	15.0
Calculated Average %D =	2.4

Data File: \\cash1\acqudata\GC09\data\111409.B\1114F029.D
Report Date: 16-Nov-2009 12:40

Laboratory Name

Sample #1 : \\cash1\acqudata\GC09\data\111409.B\1114F029.D
Sample #2 : \\cash1\acqudata\GC09\data\111409_r.b\1114R029.D
Inj Date : 14-NOV-2009 21:28
Sample Info: 1660 @ 1000ppb | PCB5-41P | KWG0910694-6
Misc Info : SEMIVOA GC\W0910694\6-CCV.H
Cal Date : 16-NOV-2009 10:32
Operator : JMSmith
Inst ID : GC09.i
Dil Factor : 1.000000

Method #1 : \\cash1\acqudata\GC09\data\111409.B\101409_f.m
Method #2 : \\cash1\acqudata\GC09\data\111409_r.b\101409_r.m
Sub List #1 : AR1660.SUB
Sub List #2 : AR1660.SUB
Col #1 Phase : DB-35MS
Col #2 Phase : DB-XLB

Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2	Target Range	Ratio
Tetrachloro-m-xylene	3.693	4.287	559116	415642	95.9	101		100.00(M)
Aroclor 1016	5.333	5.653	122218	134321	954	1000	80.00- 120.00	100.00(M)
	5.670	6.230	465963	225977	901	961	301.24- 451.85	381.25(M)
	5.837	6.663	267999	103515	903	974	175.42- 263.13	219.28(M)
	6.600	6.757	150464	121997	909	977	101.03- 151.55	123.11(M)
	6.877	7.027	132286	102738	952	1020	88.95- 133.42	108.24(M)
			Average of Peak Amounts =		924	986		
Aroclor 1260	9.047	9.273	347583	222653	819	928	80.00- 120.00	100.00
	9.477	10.377	185920	306286	807	993	42.74- 64.11	53.49
	10.463	10.547	207941	163432	816	964	48.22- 72.33	59.82
	10.900	11.680	443693	360832	808	1020	101.77- 152.66	127.65
	11.770	12.423	321152	244486	852	1020	72.29- 108.43	92.40
			Average of Peak Amounts =		820	985		
Decachlorobiphenyl	15.053	16.307	470607	413733	86.3	99.1		100.00(M)

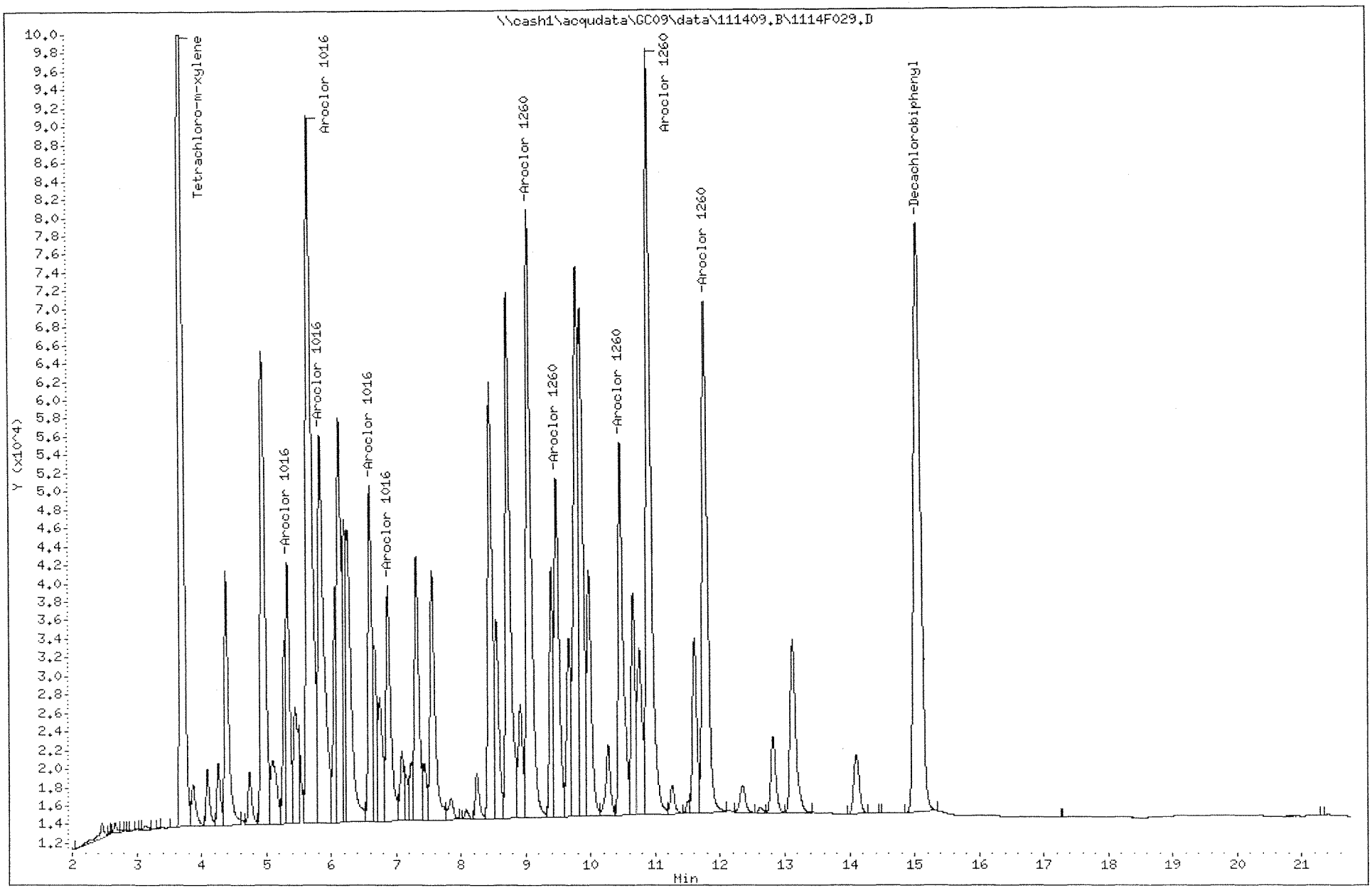
QC Flag Legend

M - Compound response manually integrated.

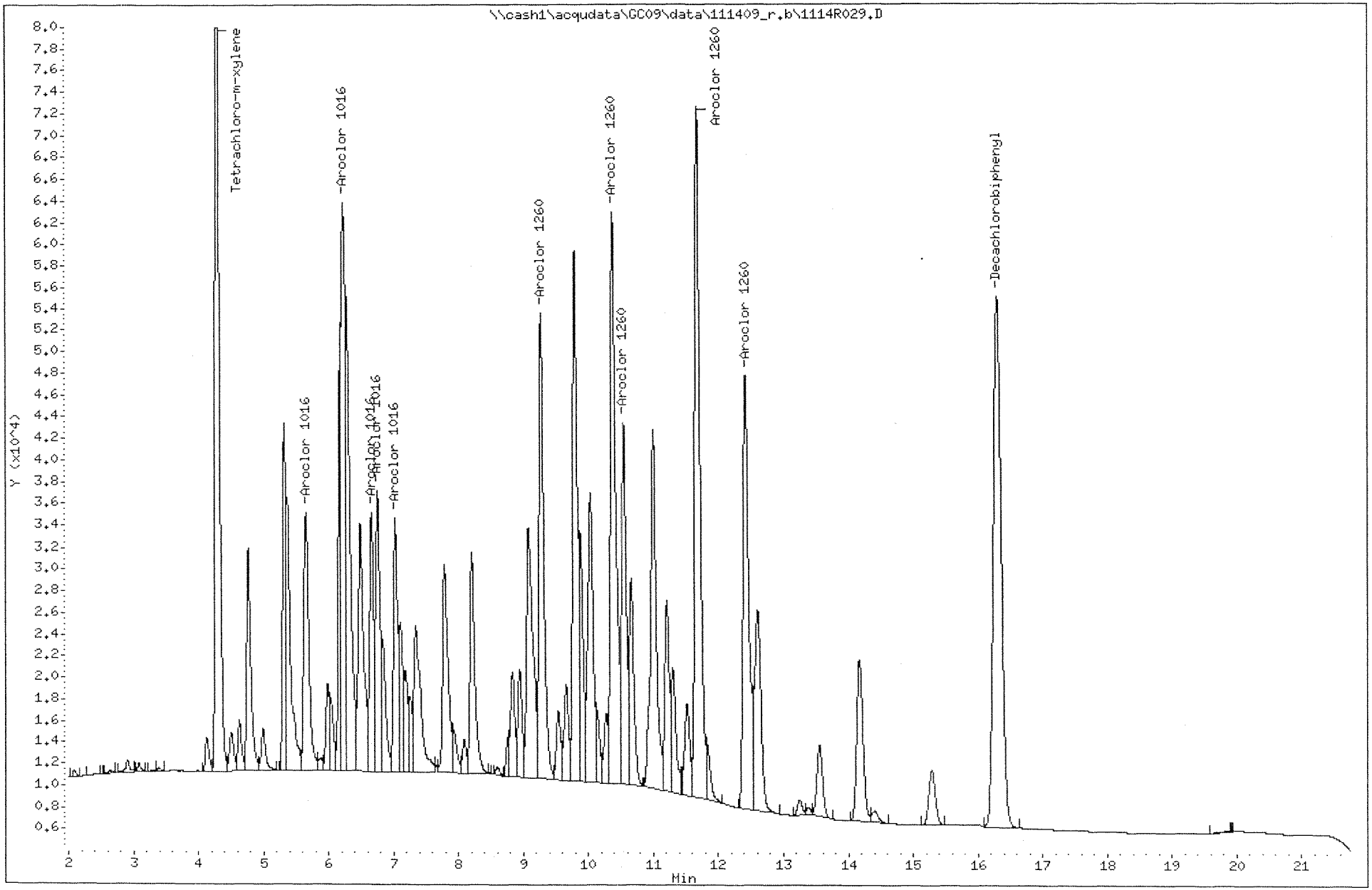
Data File: \\cash1\acqudata\GC09\data\111409.B\1114F029.D
Date : 14-NOV-2009 21:28
Client ID:
Sample Info: 1660 @ 1000ppb | PCB5-41P | KWG0910694-6

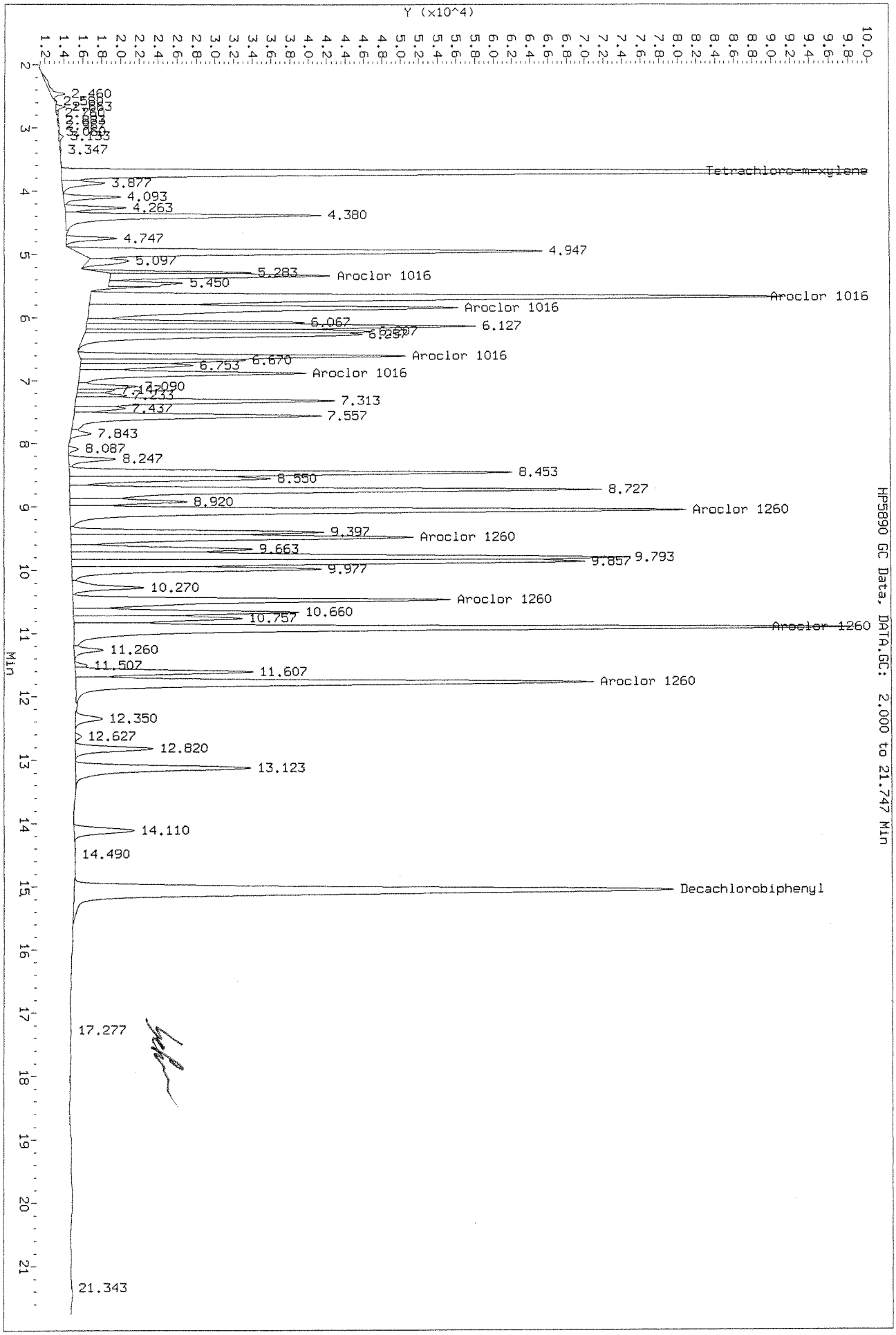
Instrument: GC09.i
Operator: JMSmith
Column diameter: 0.53

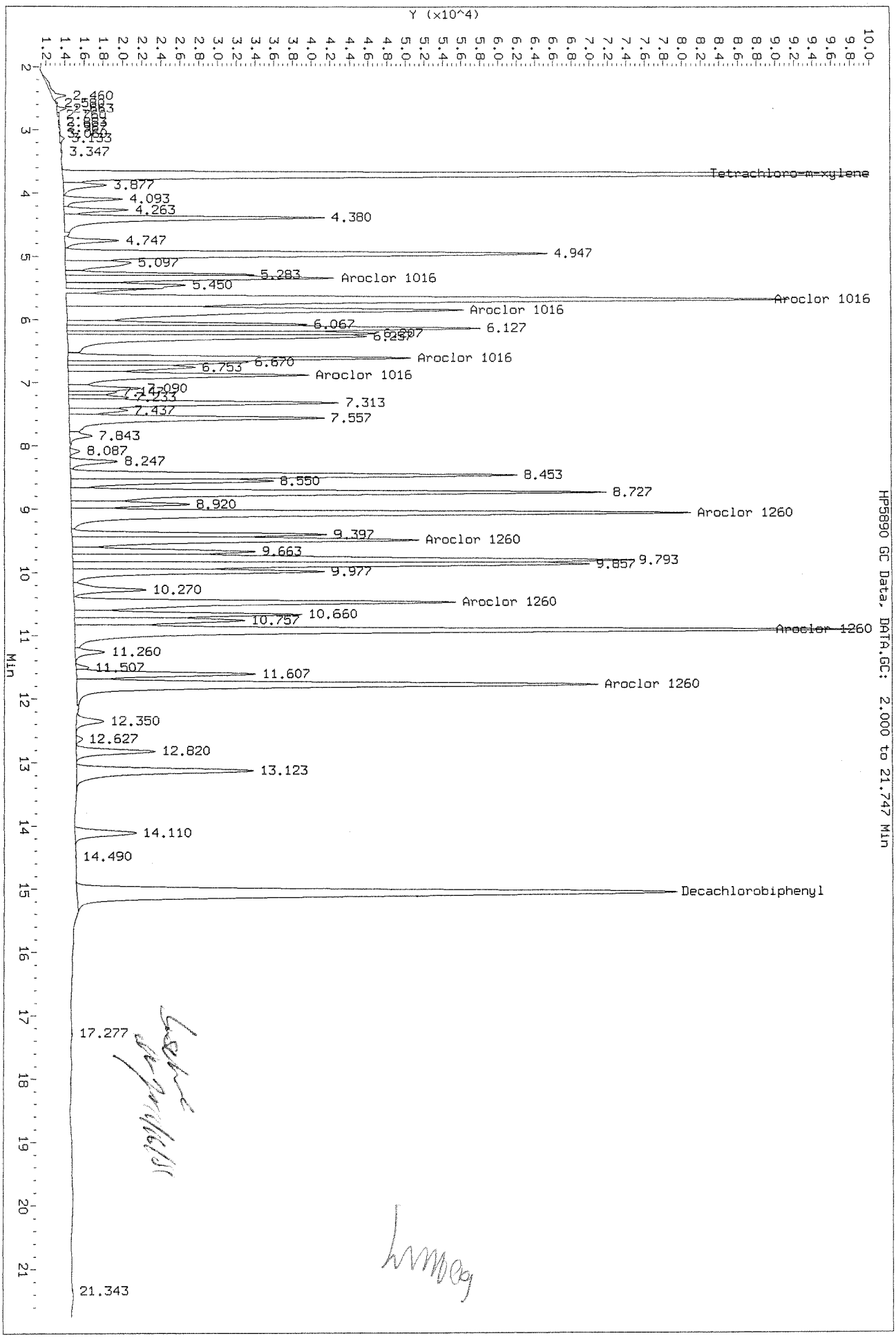
Column phase: DB-35MS

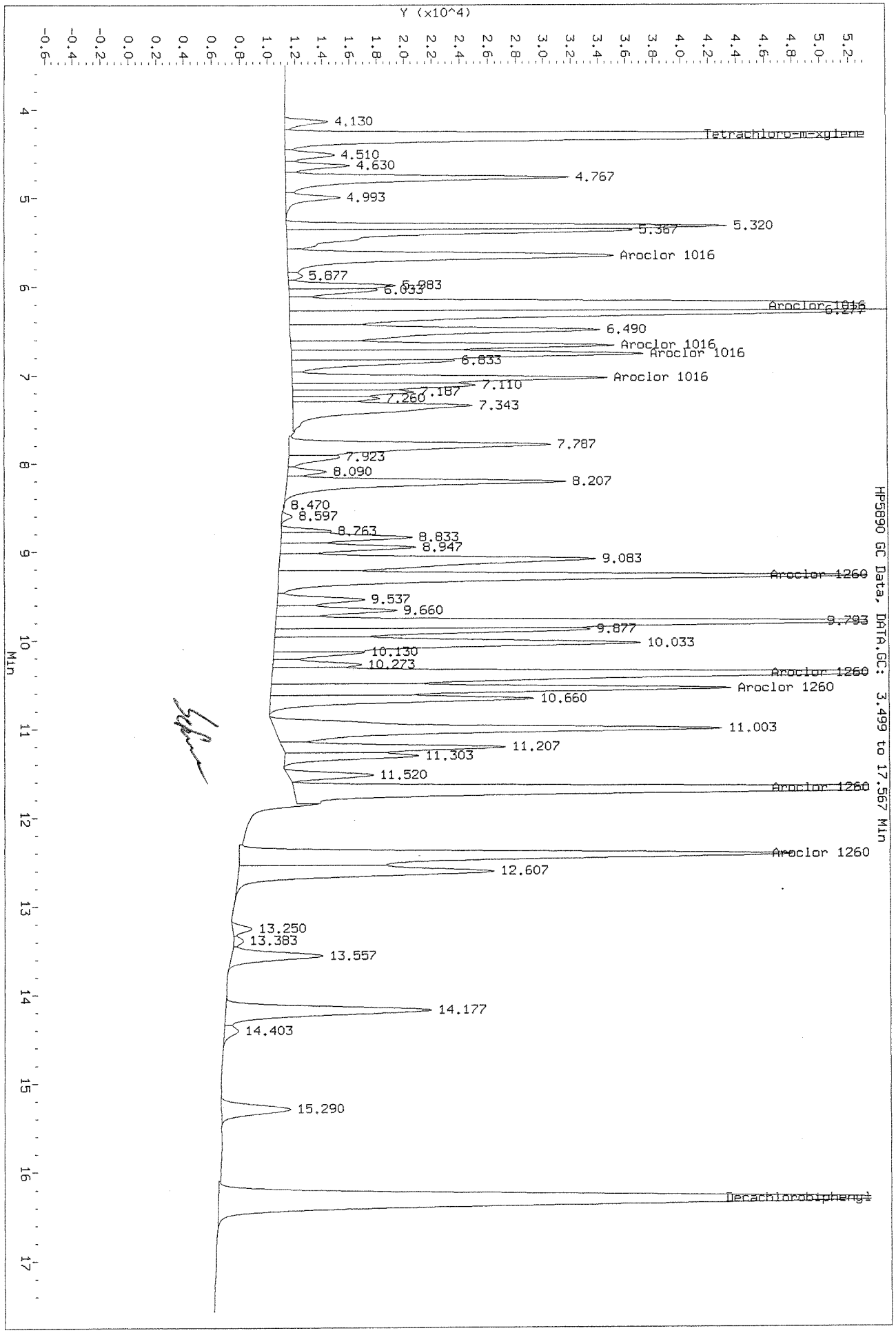


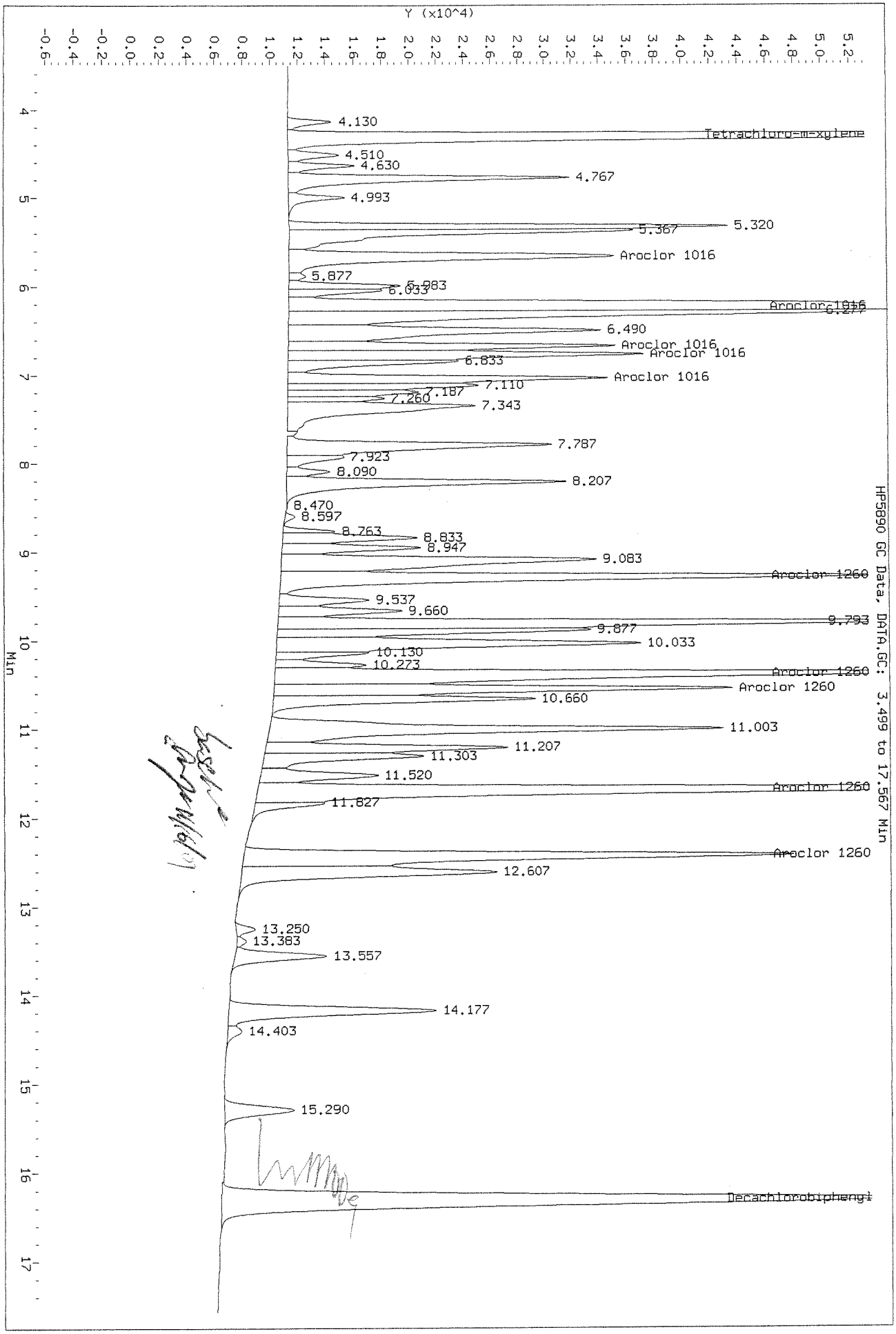
Data File: \\cash1\acqudata\GC09\data\111409_r.b\1114R029.D
Date : 14-NOV-2009 21:28
Client ID:
Instrument: GC09.i
Sample Info: 1660 @ 1000ppb | PCB5-41P | KWG0910694-6
Operator: JMSmith
Column phase: DB-XLB
Column diameter: 0.53



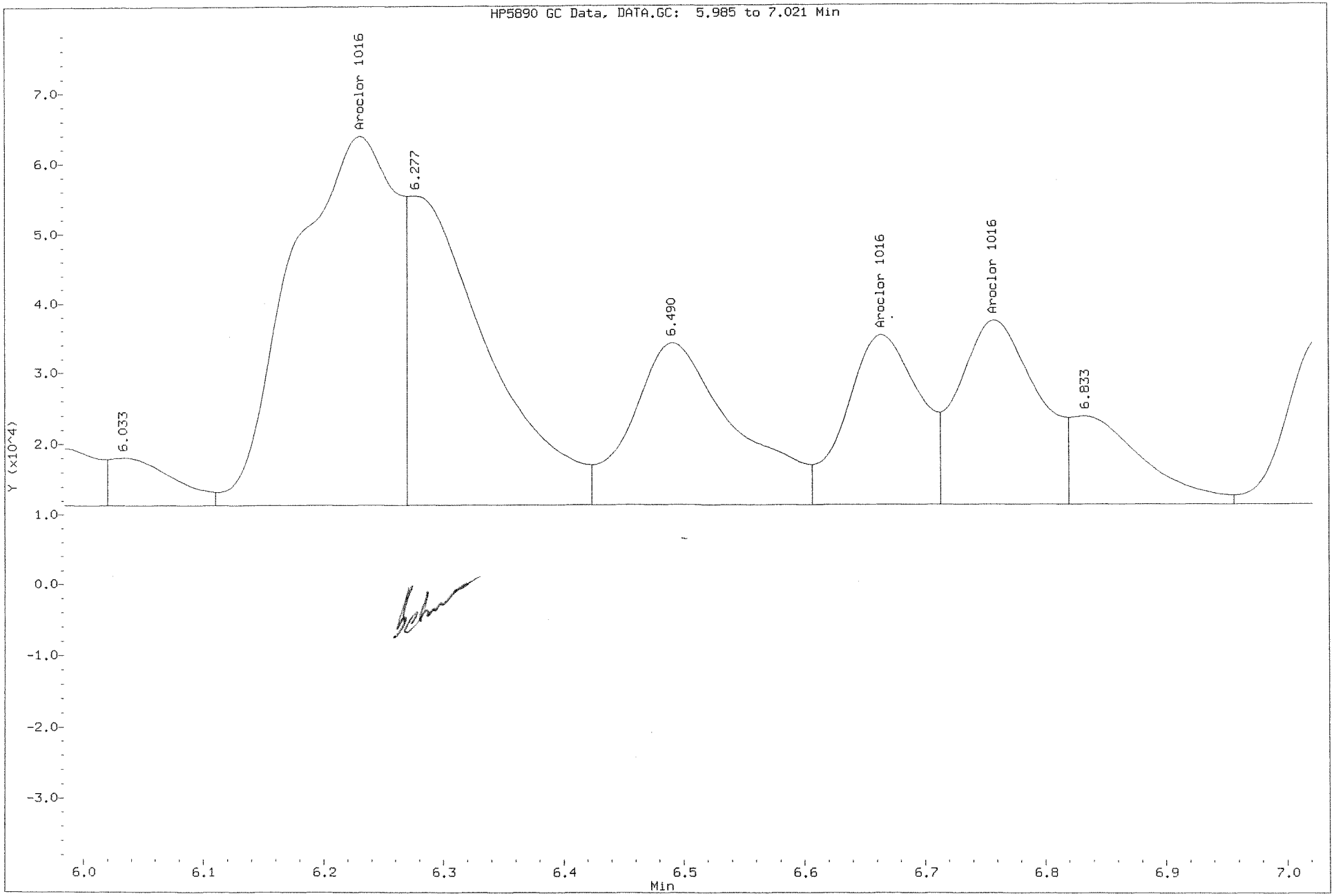

Data File: \\cash1\acqudata\GC09\data\111409.B\1114F029.D
Injection Date: 14-NOV-2009 21:28
Instrument: GC09.i
Client Sample ID:
HP5890 GC Data, DATA.GC: 2.000 to 21.747 Min
Y (x10^4)
Min
2.460
3.347
Tetrachloro-m-xylene
3.877
4.093
4.263
4.380
4.747
4.947
5.097
5.283
Aroclor 1016
5.450
Aroclor 1016
Aroclor 1016
6.067
6.127
Aroclor 1016
6.753
6.870
Aroclor 1016
7.090
7.233
7.313
7.437
7.557
7.843
8.087
8.247
8.453
8.550
8.727
8.920
Aroclor 1260
9.397
Aroclor 1260
9.663
9.857
9.793
9.977
10.270
Aroclor 1260
10.660
10.757
Aroclor 1260
11.260
11.507
11.607
Aroclor 1260
12.350
12.627
12.820
13.123
14.110
14.490
Decachlorobiphenyl
17.277
21.343


Data File: \\cash1\acqudata\GC09\data\111409.B\1114F029.D
Injection Date: 14-NOV-2009 21:28
Instrument: GC09.i
Client Sample ID:
Y (x10^4)
Min
HP5890 GC Data, DATA.GC: 2.000 to 21.747 Min
2.460
3.347
Tetrachloro-m-xylene
3.877
4.093
4.263
4.380
4.747
4.947
5.097
5.283
Aroclor 1016
5.450
Aroclor 1016
Aroclor 1016
6.067
6.127
Aroclor 1016
6.753
6.870
Aroclor 1016
7.090
7.313
7.437
7.557
7.843
8.087
8.247
8.453
8.550
8.727
8.920
Aroclor 1260
9.397
Aroclor 1260
9.663
9.857
9.793
9.977
10.270
Aroclor 1260
10.757
10.660
Aroclor 1260
11.260
11.507
11.607
Aroclor 1260
12.350
12.627
12.820
13.123
14.110
14.490
Decachlorobiphenyl
17.277
21.343

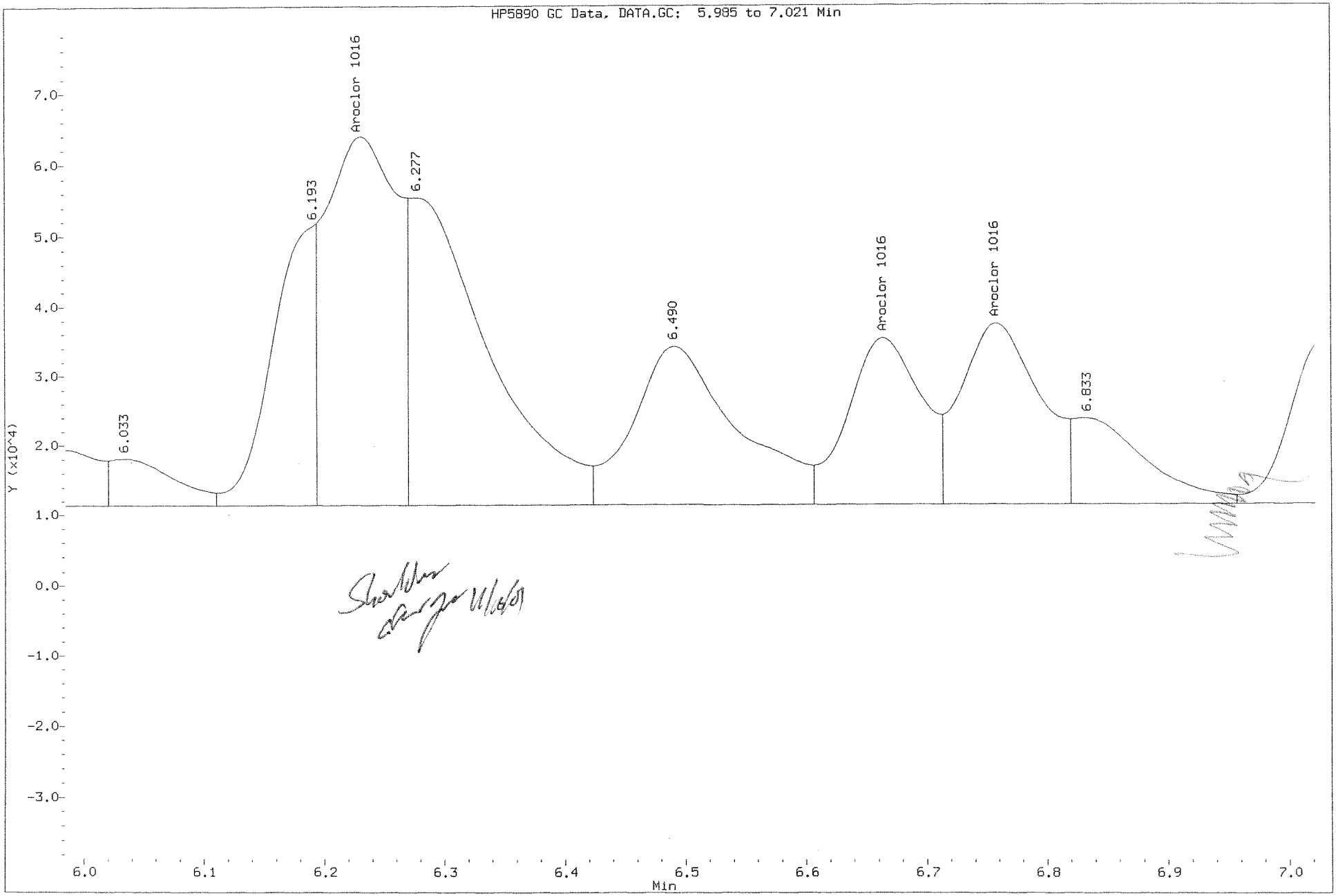

Data File: \\cash1\acqudata\GC09\data\111409_r.b\1114R029.D
Injection Date: 14-NOV-2009 21:28
Instrument: GC09.i
Client Sample ID:
Y (x10^4)
Min
HP5890 GC Data, DATA.GC: 3.499 to 17.567 Min
4.130
Tetrachloro-m-xylene
4.510
4.630
4.767
4.993
5.320
5.367
Aroclor 1016
5.877
6.033
6.277
Aroclor 1016
6.490
Aroclor 1016
Aroclor 1016
6.833
Aroclor 1016
7.110
7.260
7.343
7.787
7.923
8.090
8.207
8.470
8.597
8.763
8.833
8.947
9.083
Aroclor 1260
9.537
9.660
9.793
9.877
10.033
10.130
10.273
Aroclor 1260
Aroclor 1260
10.660
11.003
11.207
11.303
11.520
Aroclor 1260
Aroclor 1260
12.607
13.250
13.383
13.557
14.177
14.403
15.290
Decachlorobiphenyl


Data File: \\cash1\acqudata\GC09\data\111409_r.b\1114R029.D
Injection Date: 14-NOV-2009 21:28
Instrument: GC09.i
Client Sample ID:
Y (x10^4)
Min
HP5890 GC Data, DATA.GC: 3.499 to 17.567 Min
4.130
Tetrachloro-m-xylene
4.510
4.630
4.767
4.993
5.320
5.367
Aroclor 1016
5.877
6.033
6.490
Aroclor 1016
Aroclor 1016
6.833
Aroclor 1016
7.110
7.187
7.260
7.343
7.787
7.923
8.090
8.207
8.470
8.597
8.763
8.833
8.947
9.083
Aroclor 1260
9.537
9.660
9.793
9.877
10.033
10.130
10.273
Aroclor 1260
Aroclor 1260
10.660
11.003
11.207
11.303
11.520
Aroclor 1260
11.827
Aroclor 1260
12.607
13.250
13.383
13.557
14.177
14.403
15.290
Decachlorobiphenyl

Data File: \\cash1\acqudata\GC09\data\111409_r.b\1114R029.D
Injection Date: 14-NOV-2009 21:28
Instrument: GC09.i
Client Sample ID:



Data File: \\cash1\acqudata\GC09\data\111409_r.b\1114R029.D
Injection Date: 14-NOV-2009 21:28
Instrument: GC09.i
Client Sample ID:



COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Results

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0909140
Date Analyzed: 11/15/2009

Continuing Calibration Verification Summary
Polychlorinated Biphenyls (PCBs)

Calibration Type: External Standard
Analysis Method: 8082
CCV Standard ID: PCB5-41P

Calibration Date: 10/15/2009
Calibration ID: CAL8918
Analysis Lot: KWG0910694
Units: ng/mL

File ID: \\CASH1\ACQUDATA\GC09\DATA\111409.B\1114F040.D

Column ID: DB-35MS

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Decachlorobiphenyl	100	95	5450	5170	-5	NA	± 15 %	AverageRF
Aroclor 1016 {1}	1000	1100	128	135	5	NA	± 100 %	AverageRF
Aroclor 1016 {2}	1000	990	517	510	-1	NA	± 100 %	AverageRF
Aroclor 1016 {3}	1000	990	297	294	-1	NA	± 100 %	AverageRF
Aroclor 1016 {4}	1000	990	166	164	-1	NA	± 100 %	AverageRF
Aroclor 1016 {5}	1000	1000	139	146	5	NA	± 100 %	AverageRF
Aroclor 1016	1000	1000	NA	NA	NA	1	± 15 %	NA
Aroclor 1260 {1}	1000	930	424	396	-7	NA	± 100 %	AverageRF
Aroclor 1260 {2}	1000	900	230	208	-10	NA	± 100 %	AverageRF
Aroclor 1260 {3}	1000	930	255	238	-7	NA	± 100 %	AverageRF
Aroclor 1260 {4}	1000	920	549	504	-8	NA	± 100 %	AverageRF
Aroclor 1260 {5}	1000	940	377	356	-6	NA	± 100 %	AverageRF
Aroclor 1260	1000	930	NA	NA	NA	-7	± 15 %	NA

Results flagged with an asterisk (*) indicate values outside control criteria.

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0909140
Date Analyzed: 11/15/2009

Continuing Calibration Verification Summary
Polychlorinated Biphenyls (PCBs)

Calibration Type: External Standard
Analysis Method: 8082
CCV Standard ID: PCB5-41P

Calibration Date: 10/15/2009
Calibration ID: CAL8918
Analysis Lot: KWG0910694
Units: ng/mL

File ID: \\CASH1\ACQUDATA\GC09\DATA\111409_R.B\1114R040.D

Column ID: DB-XLB

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Decachlorobiphenyl	100	100	4180	4290	3	NA	± 15 %	AverageRF
Aroclor 1016 {1}	1000	1100	134	141	5	NA	± 100 %	AverageRF
Aroclor 1016 {2}	1000	1000	235	236	0	NA	± 100 %	AverageRF
Aroclor 1016 {3}	1000	1000	106	107	1	NA	± 100 %	AverageRF
Aroclor 1016 {4}	1000	1000	125	127	2	NA	± 100 %	AverageRF
Aroclor 1016 {5}	1000	1100	101	107	6	NA	± 100 %	AverageRF
Aroclor 1016	1000	1000	NA	NA	NA	3	± 15 %	NA
Aroclor 1260 {1}	1000	970	240	233	-3	NA	± 100 %	AverageRF
Aroclor 1260 {2}	1000	1000	308	316	2	NA	± 100 %	AverageRF
Aroclor 1260 {3}	1000	1000	170	170	0	NA	± 100 %	AverageRF
Aroclor 1260 {4}	1000	1100	354	374	6	NA	± 100 %	AverageRF
Aroclor 1260 {5}	1000	1100	239	254	6	NA	± 100 %	AverageRF
Aroclor 1260	1000	1000	NA	NA	NA	2	± 15 %	NA

Results flagged with an asterisk (*) indicate values outside control criteria.

Exception Report

Data File: \\CASH1\ACQUDATA\GC09\DATA\111409.B\1114F040.D
Lab ID: KWG0910694-8
RunType: CCV
Matrix: LIQUID

Date Acquired: 11/15/2009 02:18
Date Quantitated: 11/16/2009 12:40
Batch ID: KWG0910694
Analysis Method: 8082
MethodJoinID: MJ696

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	

Primary Review: 11/16/09

Secondary Review:

Exception Report

Data File: \\CASH1\ACQUDATA\GC09\DATA\111409_R.B\1114R040.D
Lab ID: KWG0910694-8
RunType: CCV
Matrix: LIQUID

Date Acquired: 11/15/2009 02:18
Date Quantitated: 11/16/2009 12:42
Batch ID: KWG0910694
Analysis Method: 8082
MethodJoinID: MJ696

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	

Primary Review: _____

Secondary Review: _____

Quantitation Report

Bottle ID:		**Tier:**		**Matrix:**	LIQUID
Prod Code:	8082 PCB	**Collect Date:**		**Receive Date:**	11/13/2009

Analysis Lot:	KWG0910694	**Prep Lot:**		**Report Group:**	
Analysis Method:	8082	**Prep Method:**			
Prep Ref:		**Prep Date:**			

Quant Method:	\\CASH1\ACQUDATA\GC09\DATA\111409.B\101409_F.M	**Calibration ID:**	CAL8918
Title:			
MB Ref:		**Method ID:**	MJ696
		Quant based on Method	

Data File #1:	J:\GC09\DATA\111409.B\1114F040.D			**Instrument:**	GC09.i
Data File #2:	\\cash1\acqudata\GC09\data\111409_r.b\1114R040.D			**Vial:**	98
Acqu Date:	11/15/2009 02:18	**Quant Date:**	11/16/2009 12:40	**Dilution:**	1.0
Run Type:	CCV			**Soln Conc. Units:**	ng/mL
Lab ID:	KWG0910694-8				
Signal #1:	DB-35MS	**Signal #2:**	DB-XLB		

Surrogate Compounds

Parameter Name	RT #1	RT #2	Resp #1	Respe #2	ng/mL #1	ng/mL #2			Rpt
Tetrachloro-m-xylene	3.69	4.29	585187m	433858	100.34	105.15			NA
				%Recovery =	NA	NA	Limits =	10-135	
Decachlorobiphenyl	15.06	16.31	516734	429458	94.81	102.85			NA
				%Recovery =	NA	NA	Limits =	35-133	

Target Compounds

Final Conc. Units:

Parameter Name	RT #1	RT #2	Resp #1	Resp #2	ng/mL #1	ng/mL #2	ug/Kg #1	ug/Kg #2	Rpt
Aroclor 1016			0	0	1,014	1,030			
Aroclor 1016 {1}	5.33	5.66	134631m	141138m	1,051	1,052			
Aroclor 1016 {2}	5.67	6.23	510288m	236061m	986.73	1,004			
Aroclor 1016 {3}	5.84	6.66	293714m	107385m	990.01	1,010			
Aroclor 1016 {4}	6.60	6.76	164423m	127217m	993.30	1,019			
Aroclor 1016 {5}	6.88	7.03	145697m	107060m	1,049	1,064			
Aroclor 1260			0	0	925.77	1,023			
Aroclor 1260 {1}	9.05	9.27	395553	232983m	932.09	971.06			
Aroclor 1260 {2}	9.48	10.38	207837	316063m	901.70	1,025			
Aroclor 1260 {3}	10.47	10.55	238105	169769m	934.04	1,001			
Aroclor 1260 {4}	10.90	11.68	503655	373526m	917.04	1,055			
Aroclor 1260 {5}	11.77	12.42	355982	254208m	943.97	1,064			

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Calibration Verification Report

Calibration ID: CAL8918
Method ID: MJ696
DataFile: \\CASH1\ACQUDATA\GC09\DATA\111409.B\1114F040.D

Parameter Name	Type	PARM Type	Curve Fit	Method Criteria	Min RF	ICAL RF	CCV RF	%Diff	Sol'n Conc.	True Value	% Drift
Aroclor 1016		MS	NA	15					1,014	1,000	1.4
Aroclor 1260		MS	NA	15					925.8	1,000	-7.4
Tetrachloro-m-xylene		SURR	AverageRF	15		5.8E+3	5.9E+3	0.3			
Aroclor 1016 {1}		MULTI	AverageRF	100		1.3E+2	1.3E+2	5.1			
Aroclor 1016 {2}		MULTI	AverageRF	100		5.2E+2	5.1E+2	-1.3			
Aroclor 1016 {3}		MULTI	AverageRF	100		3.0E+2	2.9E+2	-1.0			
Aroclor 1016 {4}		MULTI	AverageRF	100		1.7E+2	1.6E+2	-0.7			
Aroclor 1016 {5}		MULTI	AverageRF	100		1.4E+2	1.5E+2	4.9			
Aroclor 1260 {1}		MULTI	AverageRF	100		4.2E+2	4.0E+2	-6.8			
Aroclor 1260 {2}		MULTI	AverageRF	100		2.3E+2	2.1E+2	-9.8			
Aroclor 1260 {3}		MULTI	AverageRF	100		2.5E+2	2.4E+2	-6.6			
Aroclor 1260 {4}		MULTI	AverageRF	100		5.5E+2	5.0E+2	-8.3			
Aroclor 1260 {5}		MULTI	AverageRF	100		3.8E+2	3.6E+2	-5.6			
Decachlorobiphenyl		SURR	AverageRF	15		5.5E+3	5.2E+3	-5.2			

Alternate Calibration Evaluation Summary

Maximum Allowable Average %D =	15.0
Calculated Average %D =	4.6

Calibration Verification Report

Calibration ID: CAL8918
Method ID: MJ696
DataFile: \\CASH1\ACQUDATA\GC09\DATA\111409_R.B\1114R040.D

Parameter Name	Type	PARM Type	Curve Fit	Method Criteria	Min RF	ICAL RF	CCV RF	%Diff	Sol'n Conc.	True Value	% Drift
Aroclor 1016		MS	NA	15					1,030	1,000	3.0
Aroclor 1260		MS	NA	15					1,023	1,000	2.3
Tetrachloro-m-xylene		SURR	AverageRF	15		4.1E+3	4.3E+3	5.1			
Aroclor 1016 {1}		MULTI	AverageRF	100		1.3E+2	1.4E+2	5.2			
Aroclor 1016 {2}		MULTI	AverageRF	100		2.4E+2	2.4E+2	0.4			
Aroclor 1016 {3}		MULTI	AverageRF	100		1.1E+2	1.1E+2	1.0			
Aroclor 1016 {4}		MULTI	AverageRF	100		1.2E+2	1.3E+2	1.9			
Aroclor 1016 {5}		MULTI	AverageRF	100		1.0E+2	1.1E+2	6.4			
Aroclor 1260 {1}		MULTI	AverageRF	100		2.4E+2	2.3E+2	-2.9			
Aroclor 1260 {2}		MULTI	AverageRF	100		3.1E+2	3.2E+2	2.5			
Aroclor 1260 {3}		MULTI	AverageRF	100		1.7E+2	1.7E+2	0.1			
Aroclor 1260 {4}		MULTI	AverageRF	100		3.5E+2	3.7E+2	5.5			
Aroclor 1260 {5}		MULTI	AverageRF	100		2.4E+2	2.5E+2	6.4			
Decachlorobiphenyl		SURR	AverageRF	15		4.2E+3	4.3E+3	2.9			

Alternate Calibration Evaluation Summary

Maximum Allowable Average %D =	15.0
Calculated Average %D =	3.4

Data File: \\cash1\acqudata\GC09\data\111409.B\1114F040.D
Report Date: 16-Nov-2009 12:40

Laboratory Name

Sample #1 : \\cash1\acqudata\GC09\data\111409.B\1114F040.D
Sample #2 : \\cash1\acqudata\GC09\data\111409_r.b\1114R040.D
Inj Date : 15-NOV-2009 02:18
Sample Info: 1660 @ 1000ppb | PCB5-41P | KWG0910694-8
Misc Info : SEMIVOA GC\W0910694\8-CCV.H
Cal Date : 16-NOV-2009 10:33
Operator : JMSmith
Inst ID : GC09.i
Dil Factor : 1.000000

Method #1 : \\cash1\acqudata\GC09\data\111409.B\101409_f.m
Method #2 : \\cash1\acqudata\GC09\data\111409_r.b\101409_r.m
Sub List #1 : AR1660.SUB
Sub List #2 : AR1660.SUB
Col #1 Phase : DB-35MS
Col #2 Phase : DB-XLB

Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2	Target Range	Ratio
Tetrachloro-m-xylene	3.693	4.287	585187	433858	100	105		100.00(M)
Aroclor 1016	5.333	5.657	134631	141138	1050	1050	80.00- 120.00	100.00(M)
	5.670	6.230	510288	236061	987	1000	301.24- 451.85	379.03(M)
	5.837	6.663	293714	107385	990	1010	175.42- 263.13	218.16(M)
	6.600	6.760	164423	127217	993	1020	101.03- 151.55	122.13(M)
	6.877	7.027	145697	107060	1050	1060	88.95- 133.42	108.22(M)
		Average of Peak Amounts =			1010	1030		
Aroclor 1260	9.050	9.273	395553	232983	932	971	80.00- 120.00	100.00
	9.480	10.377	207837	316063	902	1020	42.74- 64.11	52.54
	10.467	10.547	238105	169769	934	1000	48.22- 72.33	60.20
	10.903	11.680	503655	373526	917	1060	101.77- 152.66	127.33
	11.770	12.420	355982	254208	944	1060	72.29- 108.43	90.00
		Average of Peak Amounts =			926	1020		
Decachlorobiphenyl	15.057	16.307	516734	429458	94.8	103		100.00

QC Flag Legend

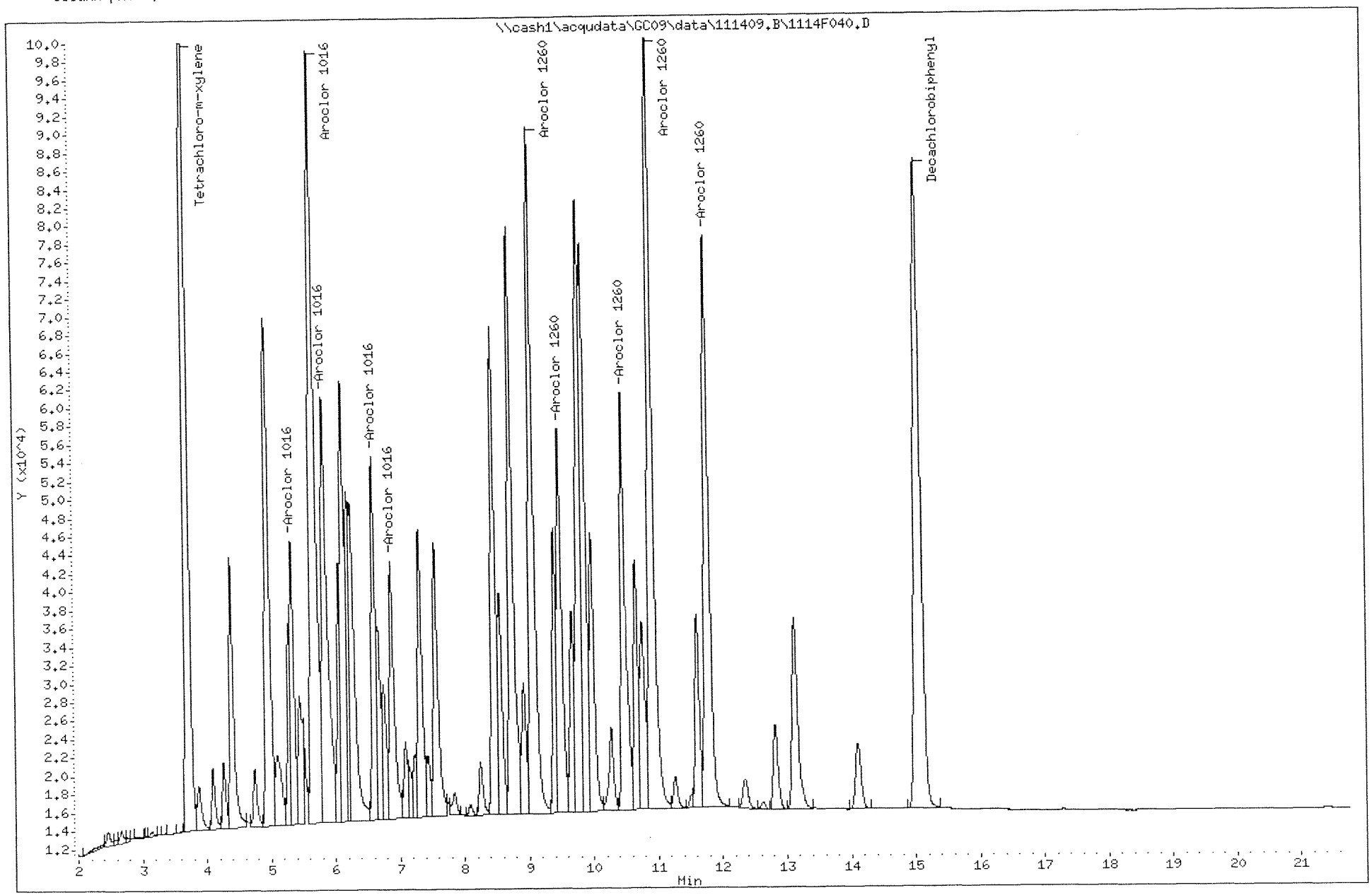
M - Compound response manually integrated.

Data File: \\cash1\acqudata\GC09\data\111409.B\1114F040.D
Date : 15-NOV-2009 02:18
Client ID:
Sample Info: 1660 @ 1000ppb | PCB5-41P | KWG0910694-8

Instrument: GC09.i

Operator: JMSmith
Column diameter: 0.53

Column phase: DB-35MS

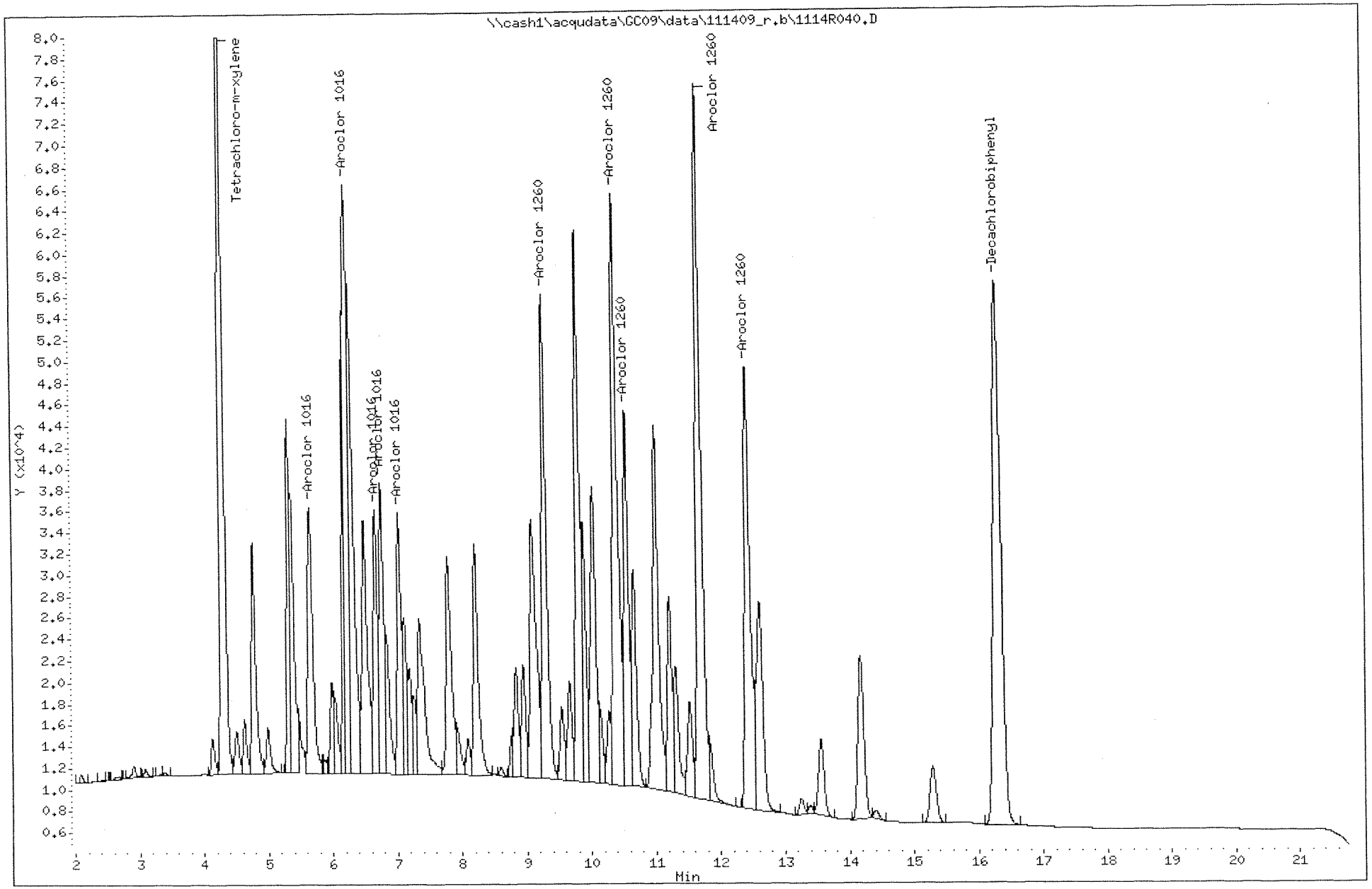


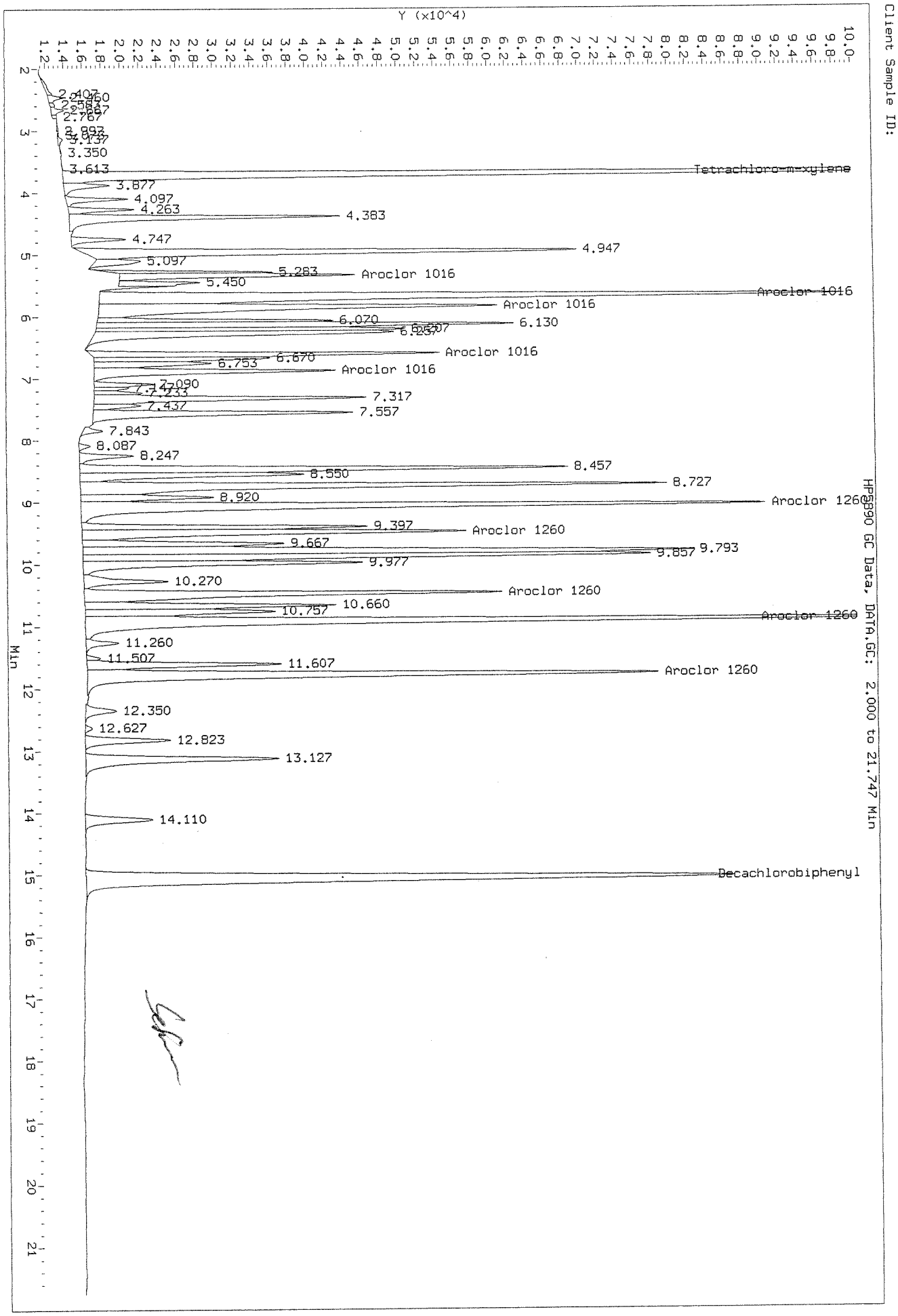
Data File: \\cash1\acqudata\GC09\data\111409_r.b\1114R040.D
Date : 15-NOV-2009 02:18
Client ID:
Sample Info: 1660 @ 1000ppb | PCB5-41P | KWG0910694-8

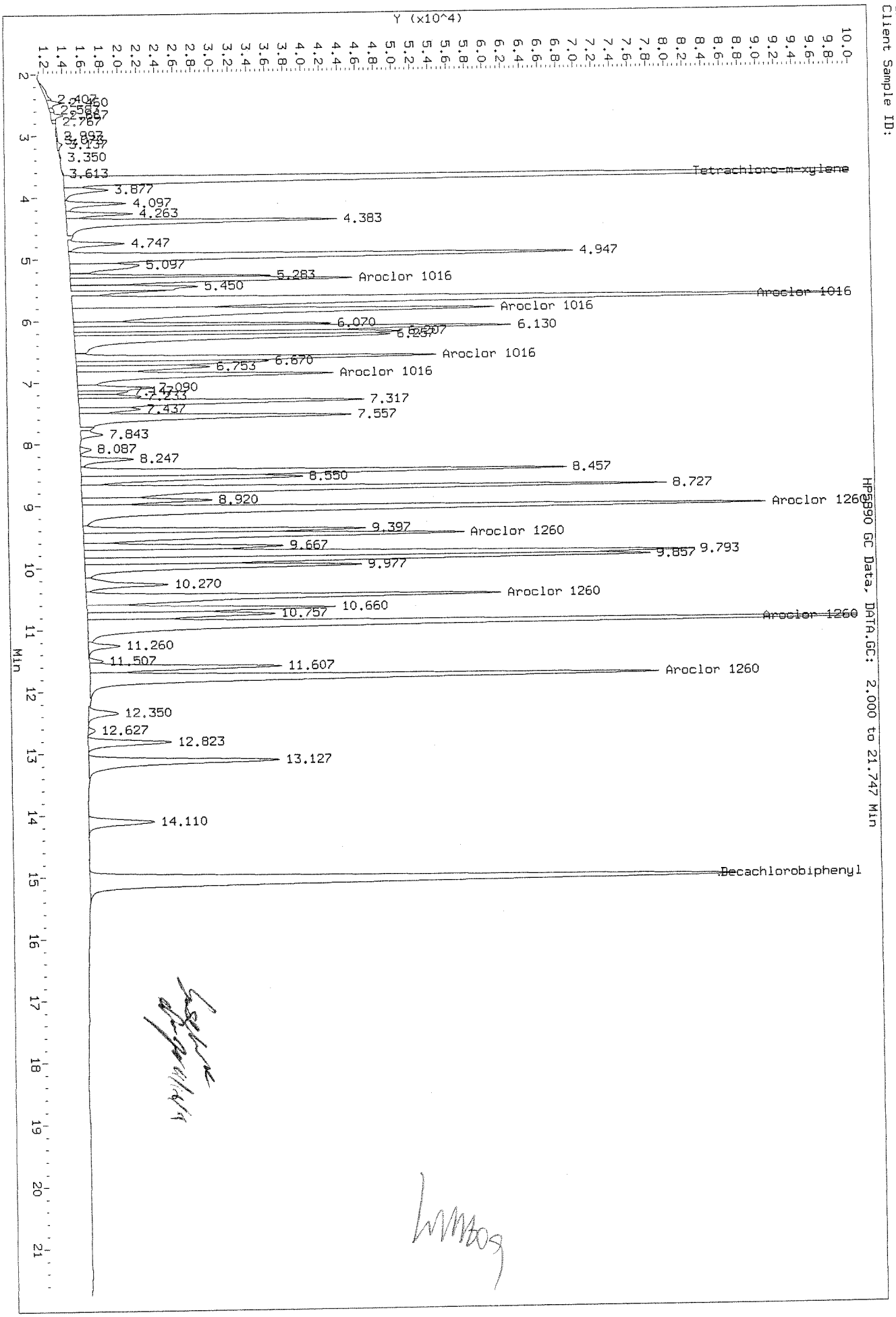
Instrument: GC09.i

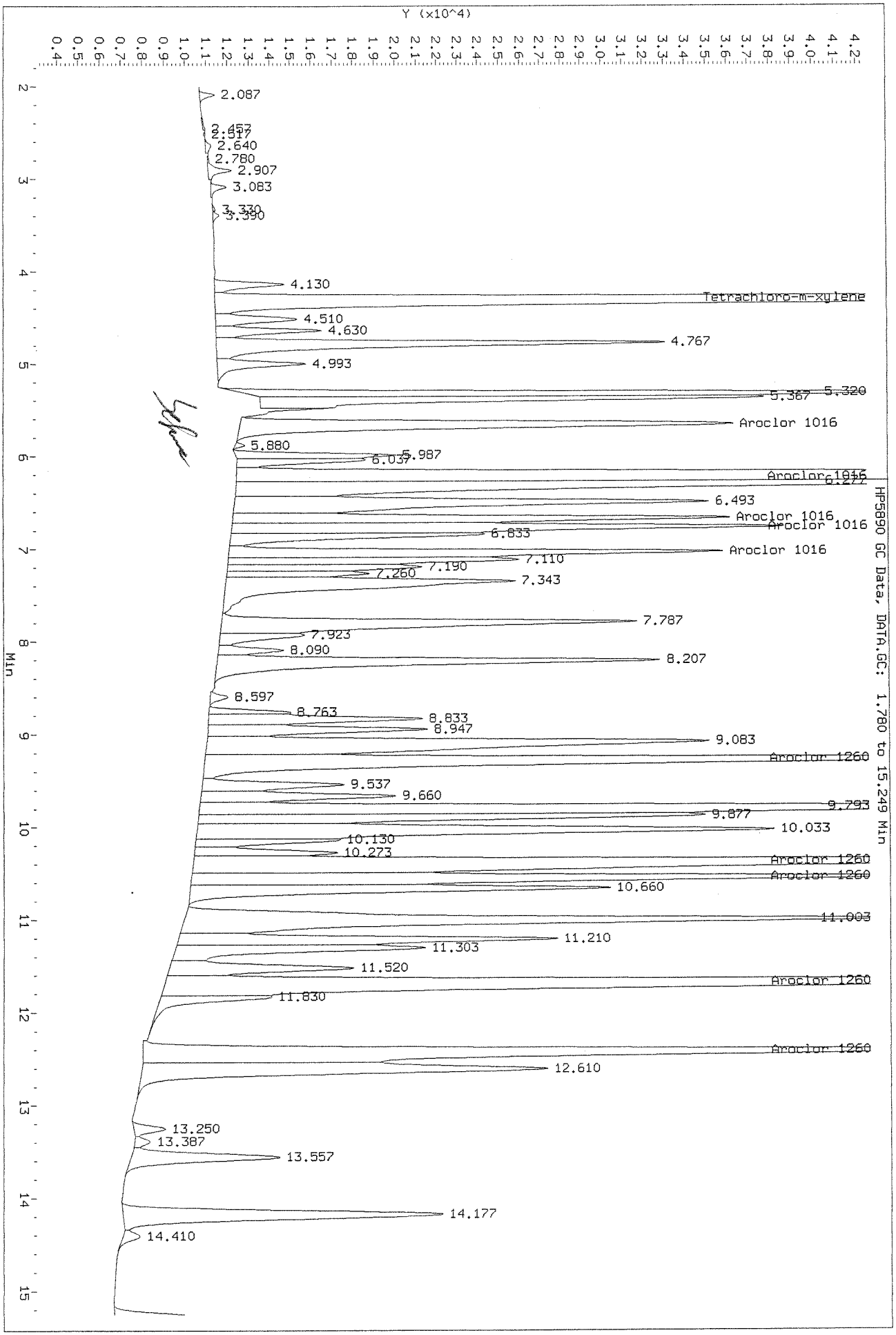
Operator: JMSmith
Column diameter: 0.53

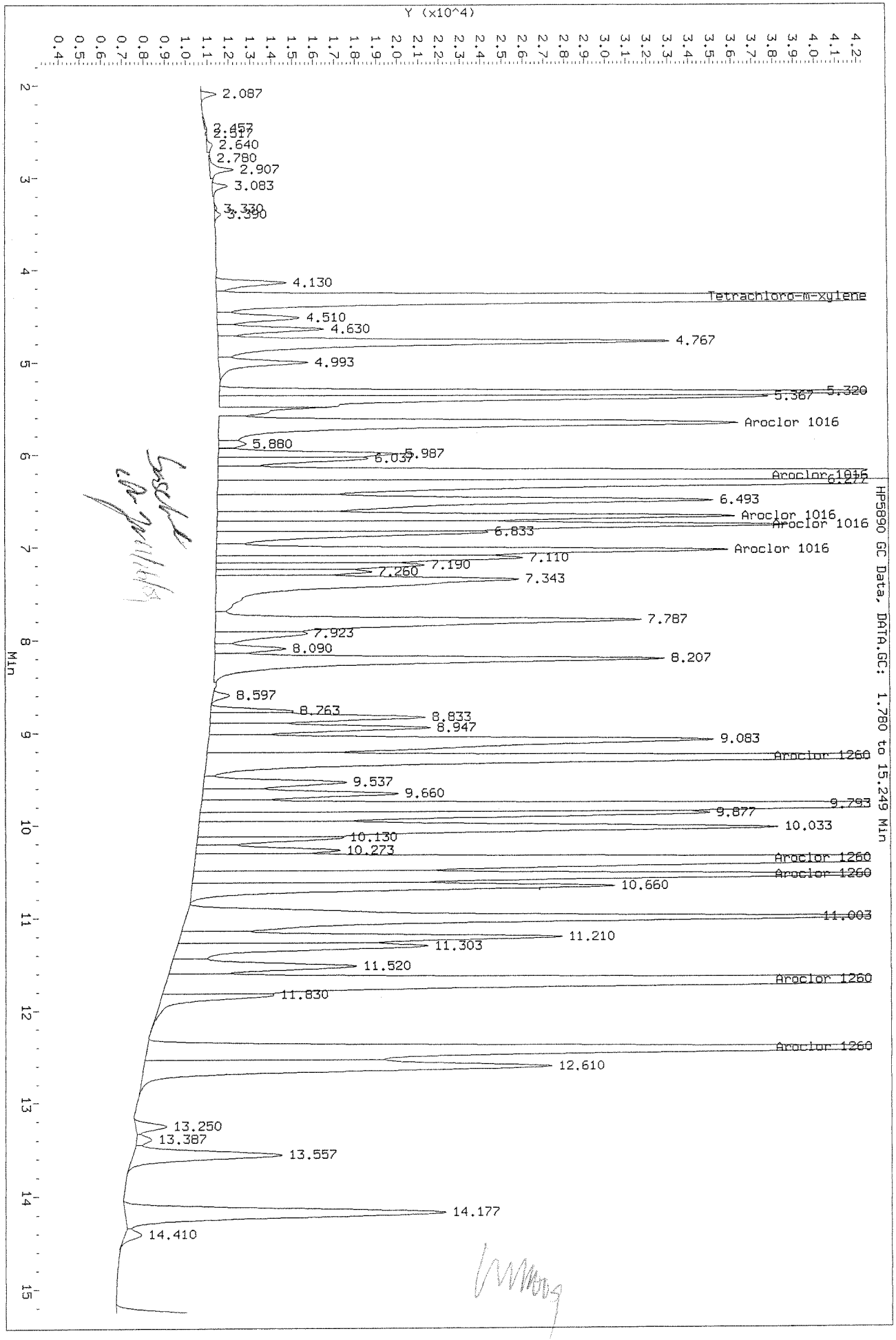
Column phase: DB-XLB



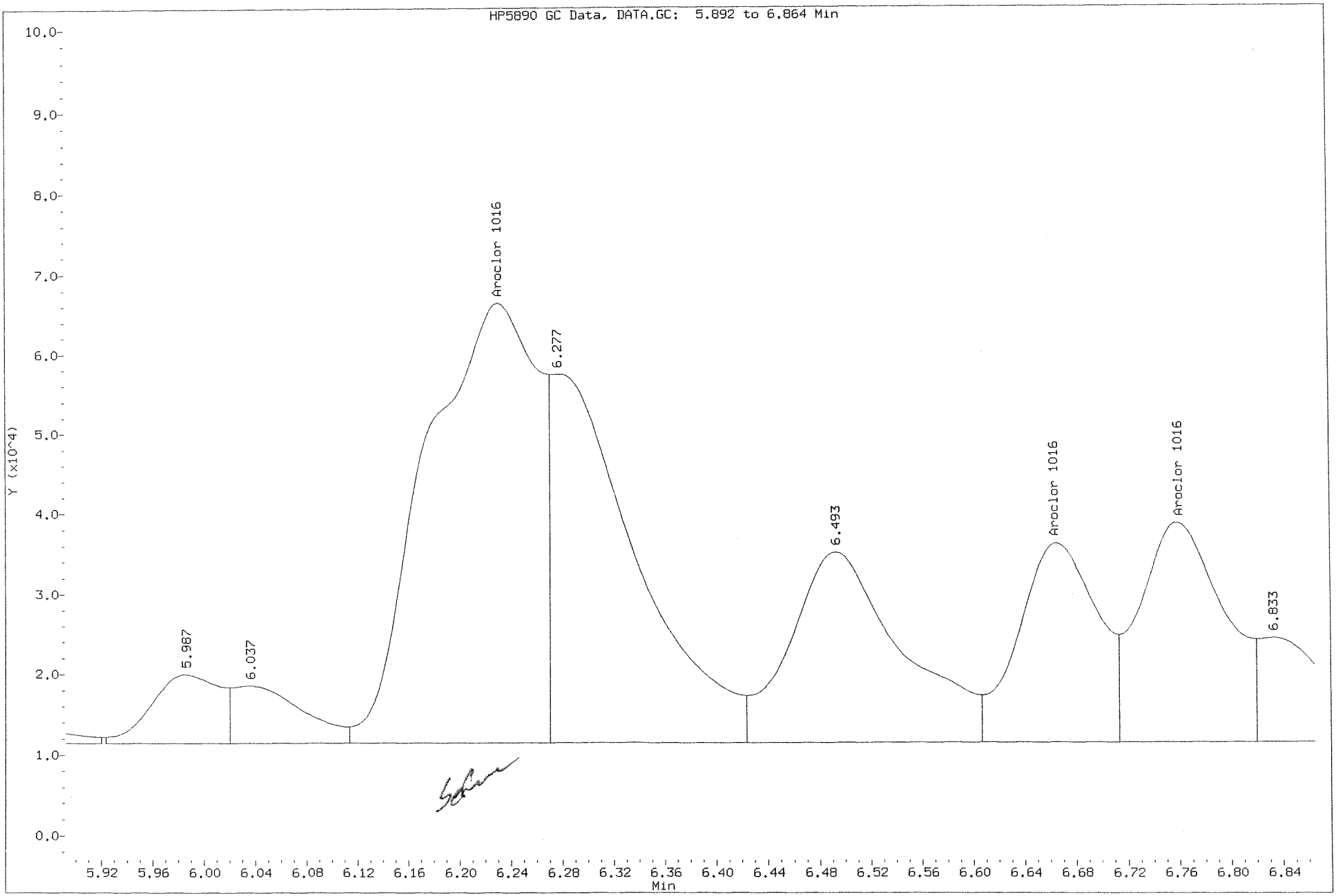

Data File: \\cash1\acqudata\GC09\data\111409.B\1114F040.D
Injection Date: 15-NOV-2009 02:18
Instrument: GC09.I
Client Sample ID:
Y (x10^4)
Min
Tetrachloro-m-xylene
Aroclor 1016
Aroclor 1260
Decachlorobiphenyl
HP5890 GC Data, DATA.GC; 2.000 to 21.747 Min


Data File: \\cash1\acqudata\GC09\data\111409.B\1114F040.D
Injection Date: 15-NOV-2009 02:18
Instrument: GC09.i
Client Sample ID:
Y (x10^4)
Min
HP5890 GC Data, DATA.GC: 2.000 to 21.747 Min
Tetrachloro-m-xylene
Aroclor 1016
Aroclor 1260
Decachlorobiphenyl


Data File: \\cash1\acqudata\GC09\data\111409_r.b\1114R040.D
Injection Date: 15-NOV-2009 02:18
Instrument: GC09.i
Client Sample ID:
Y (x10^4)
Min
HP5890 GC Data, DATA.GC: 1.780 to 15.249 Min
2.087
2.457
2.517
2.640
2.780
2.907
3.083
3.330
3.390
4.130
Tetrachloro-m-xylene
4.510
4.630
4.767
4.993
5.320
5.367
Aroclor 1016
5.880
5.987
6.037
Aroclor 1016
6.275
6.493
Aroclor 1016
Aroclor 1016
6.833
Aroclor 1016
7.110
7.190
7.260
7.343
7.787
7.923
8.090
8.207
8.597
8.763
8.833
8.947
9.083
Aroclor 1260
9.537
9.660
9.793
9.877
10.033
10.130
10.273
Aroclor 1260
Aroclor 1260
10.660
11.003
11.210
11.303
11.520
Aroclor 1260
11.830
Aroclor 1260
12.610
13.250
13.387
13.557
14.177
14.410

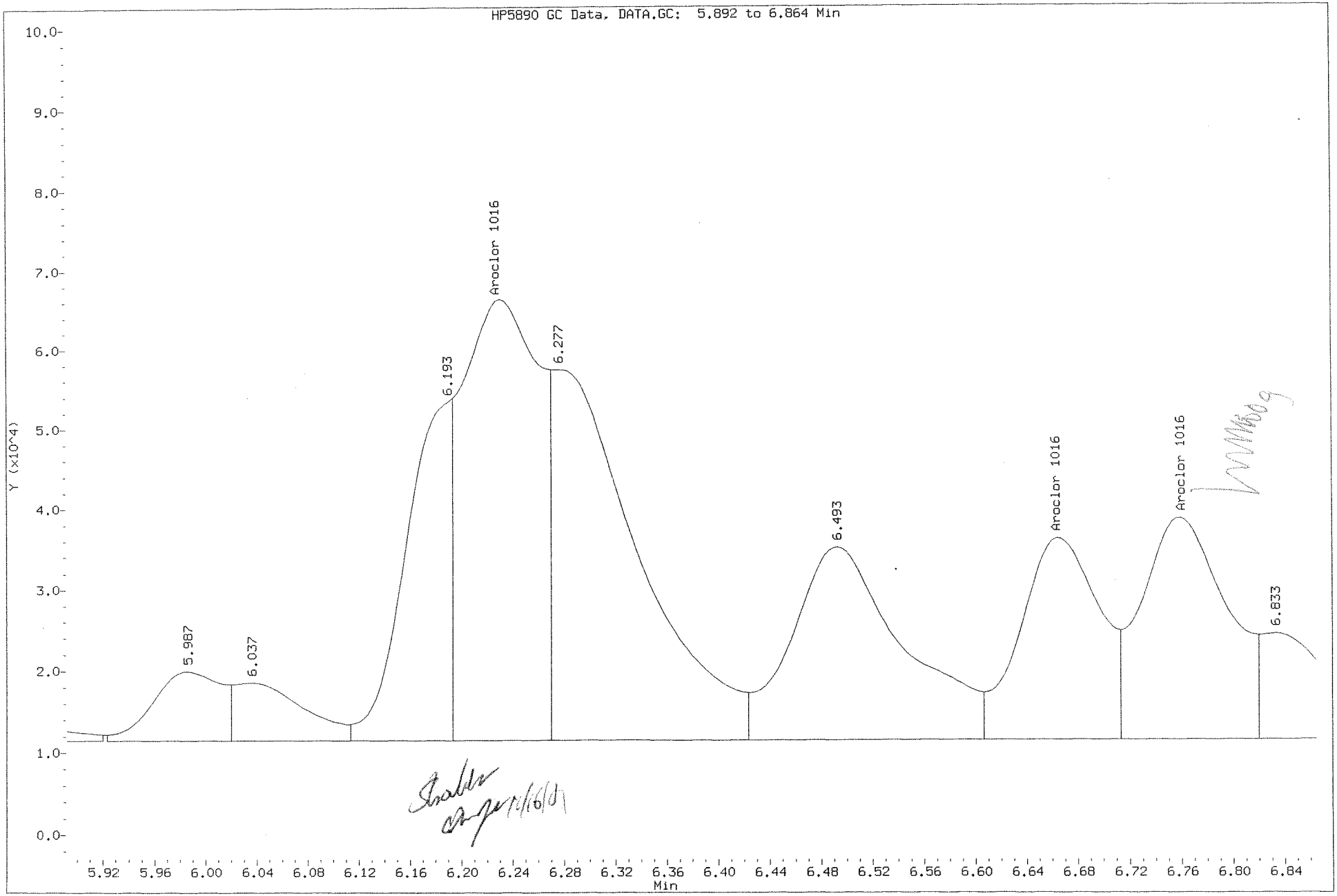

Data File: \\cash1\acqudata\GC09\data\111409_r.b\1114R040.D
Injection Date: 15-NOV-2009 02:18
Instrument: GC09.i
Client Sample ID:
HP5890 GC Data, DATA.GC: 1.780 to 15.249 Min
Y (x10^4)
Min
2.087
2.457
2.517
2.640
2.780
2.907
3.083
3.330
3.390
4.130
Tetrachloro-m-xylene
4.510
4.630
4.767
4.993
5.320
5.367
Aroclor 1016
5.880
5.987
6.037
Aroclor 1016
6.277
6.493
Aroclor 1016
Aroclor 1016
6.833
Aroclor 1016
7.110
7.190
7.260
7.343
7.787
7.923
8.090
8.207
8.597
8.763
8.833
8.947
9.083
Aroclor 1260
9.537
9.660
9.793
9.877
10.033
10.130
10.273
Aroclor 1260
Aroclor 1260
10.660
11.003
11.210
11.303
11.520
Aroclor 1260
11.830
Aroclor 1260
12.610
13.250
13.387
13.557
14.177
14.410

Data File: \\cash1\acqudata\GC09\data\111409_r.b\1114R040.D
Injection Date: 15-NOV-2009 02:18
Instrument: GC09.i
Client Sample ID:



1007

Data File: \\cash1\acqudata\GC09\data\111409_r.b\1114R040.D
Injection Date: 15-NOV-2009 02:18
Instrument: GC09.i
Client Sample ID:



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COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Results

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0909140
Date Analyzed: 11/15/2009

Continuing Calibration Verification Summary
Polychlorinated Biphenyls (PCBs)

Calibration Type: External Standard
Analysis Method: 8082
CCV Standard ID: PCB5-41P

Calibration Date: 10/15/2009
Calibration ID: CAL8918
Analysis Lot: KWG0910694
Units: ng/mL

File ID: \\CASH1\ACQUDATA\GC09\DATA\111409.B\1114F051.D

Column ID: DB-35MS

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Decachlorobiphenyl	100	98	5450	5350	-2	NA	± 15 %	AverageRF
Aroclor 1016 {1}	1000	1100	128	136	6	NA	± 100 %	AverageRF
Aroclor 1016 {2}	1000	990	517	511	-1	NA	± 100 %	AverageRF
Aroclor 1016 {3}	1000	1000	297	297	0	NA	± 100 %	AverageRF
Aroclor 1016 {4}	1000	1000	166	171	3	NA	± 100 %	AverageRF
Aroclor 1016 {5}	1000	1100	139	151	9	NA	± 100 %	AverageRF
Aroclor 1016	1000	1000	NA	NA	NA	3	± 15 %	NA
Aroclor 1260 {1}	1000	970	424	410	-3	NA	± 100 %	AverageRF
Aroclor 1260 {2}	1000	950	230	219	-5	NA	± 100 %	AverageRF
Aroclor 1260 {3}	1000	970	255	247	-3	NA	± 100 %	AverageRF
Aroclor 1260 {4}	1000	950	549	521	-5	NA	± 100 %	AverageRF
Aroclor 1260 {5}	1000	980	377	370	-2	NA	± 100 %	AverageRF
Aroclor 1260	1000	960	NA	NA	NA	-4	± 15 %	NA

Results flagged with an asterisk (*) indicate values outside control criteria.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Results

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0909140
Date Analyzed: 11/15/2009

Continuing Calibration Verification Summary
Polychlorinated Biphenyls (PCBs)

Calibration Type: External Standard
Analysis Method: 8082
CCV Standard ID: PCB5-41P

Calibration Date: 10/15/2009
Calibration ID: CAL8918
Analysis Lot: KWG0910694
Units: ng/mL

File ID: \\CASH1\ACQUDATA\GC09\DATA\111409_R.B\1114R051.D

Column ID: DB-XLB

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Decachlorobiphenyl	100	100	4180	4330	4	NA	± 15 %	AverageRF
Aroclor 1016 {1}	1000	1000	134	140	4	NA	± 100 %	AverageRF
Aroclor 1016 {2}	1000	1000	235	236	0	NA	± 100 %	AverageRF
Aroclor 1016 {3}	1000	1000	106	108	1	NA	± 100 %	AverageRF
Aroclor 1016 {4}	1000	1000	125	130	4	NA	± 100 %	AverageRF
Aroclor 1016 {5}	1000	1100	101	108	7	NA	± 100 %	AverageRF
Aroclor 1016	1000	1000	NA	NA	NA	3	± 15 %	NA
Aroclor 1260 {1}	1000	970	240	233	-3	NA	± 100 %	AverageRF
Aroclor 1260 {2}	1000	1000	308	321	4	NA	± 100 %	AverageRF
Aroclor 1260 {3}	1000	1000	170	174	2	NA	± 100 %	AverageRF
Aroclor 1260 {4}	1000	1100	354	378	7	NA	± 100 %	AverageRF
Aroclor 1260 {5}	1000	1100	239	259	9	NA	± 100 %	AverageRF
Aroclor 1260	1000	1000	NA	NA	NA	4	± 15 %	NA

Results flagged with an asterisk (*) indicate values outside control criteria.

Exception Report

Data File: \\CASH1\ACQUDATA\GC09\DATA\111409.B\1114F051.D
Lab ID: KWG0910694-10
RunType: CCV
Matrix: LIQUID

Date Acquired: 11/15/2009 07:07
Date Quantitated: 11/16/2009 12:40
Batch ID: KWG0910694
Analysis Method: 8082
MethodJoinID: MJ696

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	

Primary Review: _____

Secondary Review: _____

Exception Report

Data File: \\CASH1\ACQUDATA\GC09\DATA\111409_R.B\1114R051.D
Lab ID: KWG0910694-10
RunType: CCV
Matrix: LIQUID

Date Acquired: 11/15/2009 07:07
Date Quantitated: 11/16/2009 12:42
Batch ID: KWG0910694
Analysis Method: 8082
MethodJoinID: MJ696

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	

Primary Review: [signature]

Secondary Review: [signature]

Quantitation Report

Bottle ID:		**Tier:**		**Matrix:**	LIQUID
Prod Code:	8082 PCB	**Collect Date:**		**Receive Date:**	11/13/2009

Analysis Lot:	KWG0910694	**Prep Lot:**		**Report Group:**	
Analysis Method:	8082	**Prep Method:**			
Prep Ref:		**Prep Date:**			

Quant Method:	\\CASH1\ACQUDATA\GC09\DATA\111409.B\101409_F.M	**Calibration ID:**	CAL8918
Title:			
MB Ref:		**Method ID:**	MJ696
		Quant based on Method	

Data File #1:	J:\GC09\DATA\111409.B\1114F051.D			**Instrument:**	GC09.i
Data File #2:	\\cash1\acqudata\GC09\data\111409_r.b\1114R051.D			**Vial:**	99
Acqu Date:	11/15/2009 07:07	**Quant Date:**	11/16/2009 12:40	**Dilution:**	1.0
Run Type:	CCV			**Soln Conc. Units:**	ng/mL
Lab ID:	KWG0910694-10				
Signal #1:	DB-35MS	**Signal #2:**	DB-XLB		

Surrogate Compounds

Parameter Name	RT #1	RT #2	Resp #1	Respe #2	ng/mL #1	ng/mL #2			Rpt
Tetrachloro-m-xylene	3.70	4.29	588514m	433752	100.91	105.12			NA
			%Recovery =		NA	NA	Limits =	10-135	
Decachlorobiphenyl	15.06	16.31	534574	432864	98.09	103.67			NA
			%Recovery =		NA	NA	Limits =	35-133	

Target Compounds

Final Conc. Units:

Parameter Name	RT #1	RT #2	Resp #1	Resp #2	ng/mL #1	ng/mL #2	ug/Kg #1	ug/Kg #2	Rpt
Aroclor 1016			0	0	1,034	1,034			
Aroclor 1016 {1}	5.33	5.65	135620m	139743m	1,059	1,042			
Aroclor 1016 {2}	5.67	6.23	510670m	235914m	987.47	1,003			
Aroclor 1016 {3}	5.84	6.66	297380m	107794m	1,002	1,014			
Aroclor 1016 {4}	6.60	6.76	171277m	130184m	1,035	1,043			
Aroclor 1016 {5}	6.88	7.03	150789m	107530m	1,086	1,069			
Aroclor 1260			0	0	963.00	1,038			
Aroclor 1260 {1}	9.05	9.27	409742m	232712m	965.53	969.93			
Aroclor 1260 {2}	9.48	10.38	218912m	321199m	949.75	1,042			
Aroclor 1260 {3}	10.46	10.55	246975m	173673m	968.84	1,024			
Aroclor 1260 {4}	10.90	11.68	521254m	377518m	949.08	1,067			
Aroclor 1260 {5}	11.77	12.42	370251m	259380m	981.81	1,086			

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Calibration Verification Report

Calibration ID: CAL8918
Method ID: MJ696
DataFile: \\CASH1\ACQUDATA\GC09\DATA\111409.B\1114F051.D

Parameter Name	Type	PARM Type	Curve Fit	Method Criteria	Min RF	ICAL RF	CCV RF	%Diff	Sol'n Conc.	True Value	% Drift
Aroclor 1016		MS	NA	15					1,034	1,000	3.4
Aroclor 1260		MS	NA	15					963.0	1,000	-3.7
Tetrachloro-m-xylene		SURR	AverageRF	15		5.8E+3	5.9E+3	0.9			
Aroclor 1016 {1}		MULTI	AverageRF	100		1.3E+2	1.4E+2	5.9			
Aroclor 1016 {2}		MULTI	AverageRF	100		5.2E+2	5.1E+2	-1.3			
Aroclor 1016 {3}		MULTI	AverageRF	100		3.0E+2	3.0E+2	0.2			
Aroclor 1016 {4}		MULTI	AverageRF	100		1.7E+2	1.7E+2	3.5			
Aroclor 1016 {5}		MULTI	AverageRF	100		1.4E+2	1.5E+2	8.6			
Aroclor 1260 {1}		MULTI	AverageRF	100		4.2E+2	4.1E+2	-3.4			
Aroclor 1260 {2}		MULTI	AverageRF	100		2.3E+2	2.2E+2	-5.0			
Aroclor 1260 {3}		MULTI	AverageRF	100		2.5E+2	2.5E+2	-3.1			
Aroclor 1260 {4}		MULTI	AverageRF	100		5.5E+2	5.2E+2	-5.1			
Aroclor 1260 {5}		MULTI	AverageRF	100		3.8E+2	3.7E+2	-1.8			
Decachlorobiphenyl		SURR	AverageRF	15		5.5E+3	5.3E+3	-1.9			

Alternate Calibration Evaluation Summary

Maximum Allowable Average %D =	15.0
Calculated Average %D =	3.4

Calibration Verification Report

Calibration ID: CAL8918
Method ID: MJ696
DataFile: \\CASH1\ACQUDATA\GC09\DATA\111409_R.B\1114R051.D

Parameter Name	Type	PARM Type	Curve Fit	Method Criteria	Min RF	ICAL RF	CCV RF	%Diff	Sol'n Conc.	True Value	% Drift
Aroclor 1016		MS	NA	15					1,034	1,000	3.4
Aroclor 1260		MS	NA	15					1,038	1,000	3.8
Tetrachloro-m-xylene		SURR	AverageRF	15		4.1E+3	4.3E+3	5.1			
Aroclor 1016 {1}		MULTI	AverageRF	100		1.3E+2	1.4E+2	4.2			
Aroclor 1016 {2}		MULTI	AverageRF	100		2.4E+2	2.4E+2	0.3			
Aroclor 1016 {3}		MULTI	AverageRF	100		1.1E+2	1.1E+2	1.4			
Aroclor 1016 {4}		MULTI	AverageRF	100		1.2E+2	1.3E+2	4.3			
Aroclor 1016 {5}		MULTI	AverageRF	100		1.0E+2	1.1E+2	6.9			
Aroclor 1260 {1}		MULTI	AverageRF	100		2.4E+2	2.3E+2	-3.0			
Aroclor 1260 {2}		MULTI	AverageRF	100		3.1E+2	3.2E+2	4.2			
Aroclor 1260 {3}		MULTI	AverageRF	100		1.7E+2	1.7E+2	2.4			
Aroclor 1260 {4}		MULTI	AverageRF	100		3.5E+2	3.8E+2	6.7			
Aroclor 1260 {5}		MULTI	AverageRF	100		2.4E+2	2.6E+2	8.6			
Decachlorobiphenyl		SURR	AverageRF	15		4.2E+3	4.3E+3	3.7			

Alternate Calibration Evaluation Summary

Maximum Allowable Average %D =	15.0
Calculated Average %D =	4.2

Data File: \\cash1\acqudata\GC09\data\111409.B\1114F051.D
Report Date: 16-Nov-2009 12:40

Laboratory Name

Sample #1 : \\cash1\acqudata\GC09\data\111409.B\1114F051.D
Sample #2 : \\cash1\acqudata\GC09\data\111409_r.b\1114R051.D
Inj Date : 15-NOV-2009 07:07
Sample Info: 1660 @ 1000ppb | PCB5-41P | KWG0910694-10
Misc Info : SEMIVOA GC\W0910694\10-CCV.H
Cal Date : 16-NOV-2009 10:34
Operator : JMSmith
Inst ID : GC09.i
Dil Factor : 1.000000

Method #1 : \\cash1\acqudata\GC09\data\111409.B\101409_f.m
Method #2 : \\cash1\acqudata\GC09\data\111409_r.b\101409_r.m
Sub List #1 : AR1660.SUB
Sub List #2 : AR1660.SUB
Col #1 Phase : DB-35MS
Col #2 Phase : DB-XLB

Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2	Target Range	Ratio
Tetrachloro-m-xylene	3.697	4.290	588514	433752	101	105		100.00(M)
Aroclor 1016	5.333	5.653	135620	139743	1060	1040	80.00- 120.00	100.00(M)
	5.670	6.230	510670	235914	987	1000	301.24- 451.85	376.55(M)
	5.837	6.663	297380	107794	1000	1010	175.42- 263.13	219.28(M)
	6.600	6.757	171277	130184	1030	1040	101.03- 151.55	126.29(M)
	6.877	7.027	150789	107530	1080	1070	88.95- 133.42	111.19(M)
			Average of Peak Amounts =		1030	1030		
Aroclor 1260	9.047	9.273	409742	232712	966	970	80.00- 120.00	100.00(M)
	9.477	10.377	218912	321199	950	1040	42.74- 64.11	53.43(M)
	10.463	10.547	246975	173673	969	1020	48.22- 72.33	60.28(M)
	10.903	11.680	521254	377518	949	1070	101.77- 152.66	127.22(M)
	11.770	12.423	370251	259380	982	1080	72.29- 108.43	90.36(M)
			Average of Peak Amounts =		963	1040		
Decachlorobiphenyl	15.057	16.307	534574	432864	98.1	104		100.00

QC Flag Legend

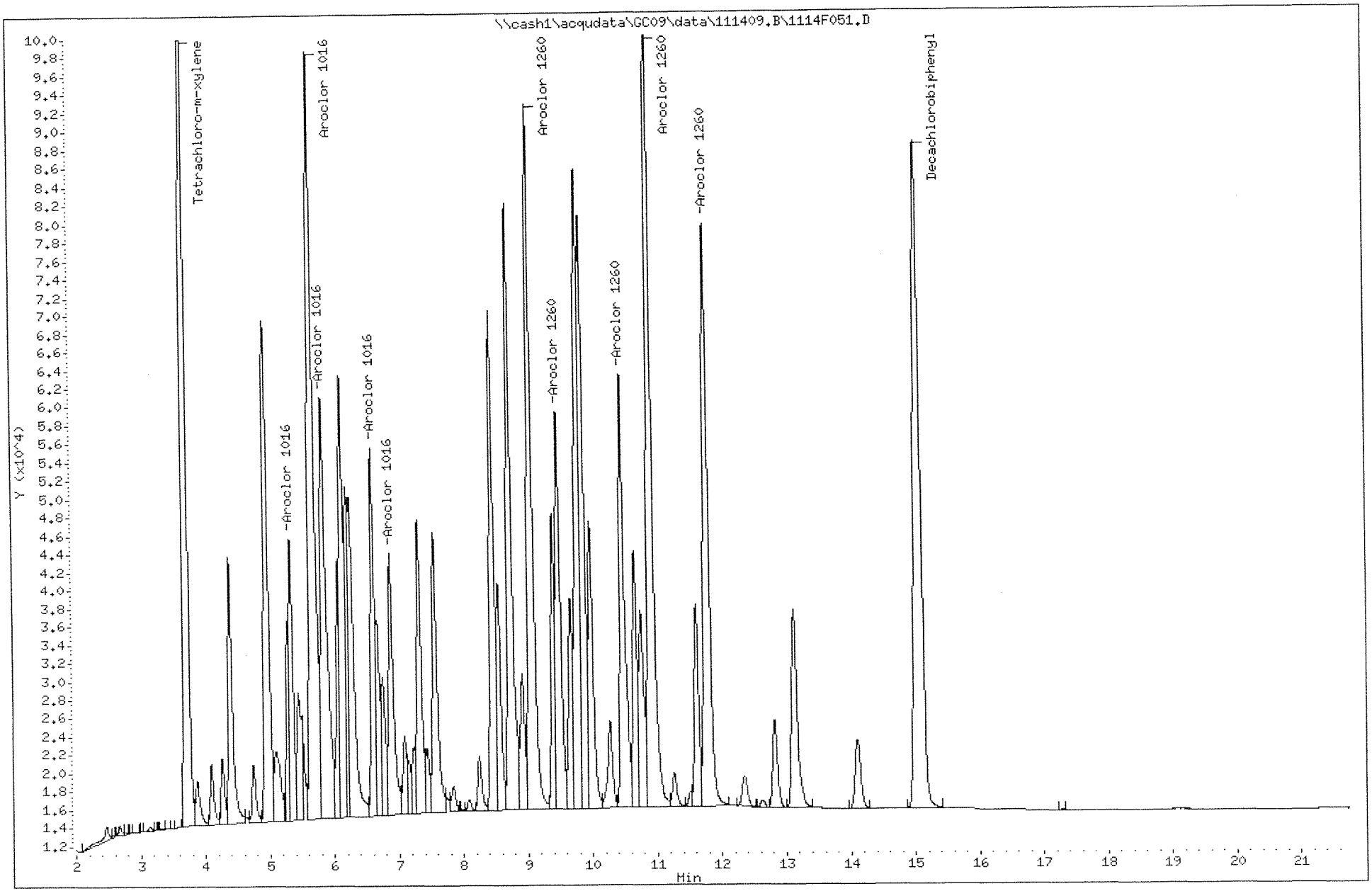
M - Compound response manually integrated.

Data File: \\cash1\acqudata\GC09\data\111409.B\1114F051.D
Date : 15-NOV-2009 07:07
Client ID:
Sample Info: 1660 @ 1000ppb | PCB5-41P | KWG0910694-10

Instrument: GC09.i

Operator: JMSmith
Column diameter: 0.53

Column phase: DB-35MS



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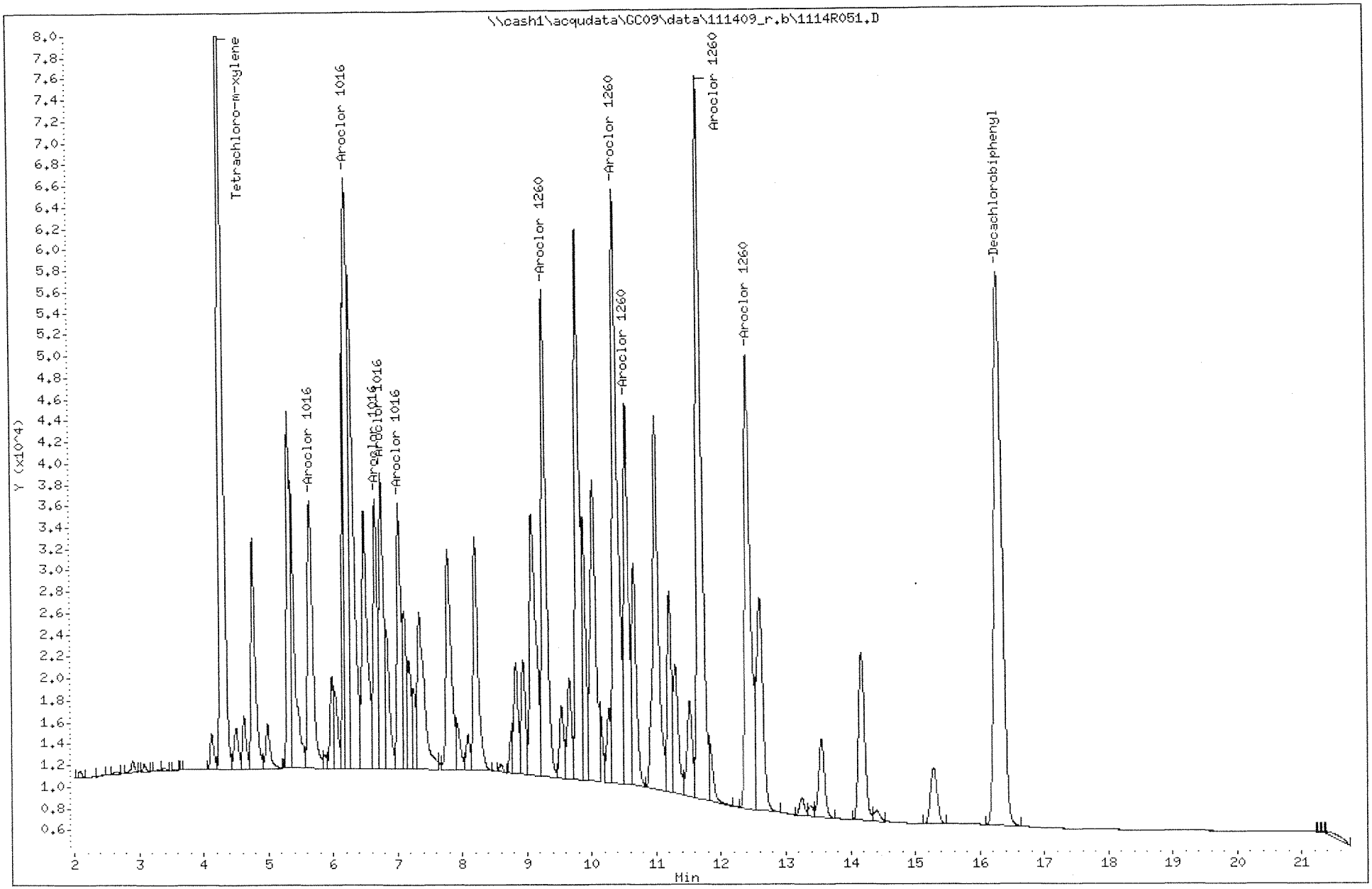
Date : 15-NOV-2009 07:07
Client ID:
Sample Info: 1660 @ 1000ppb | PCB5-41P | KWG0910694-10

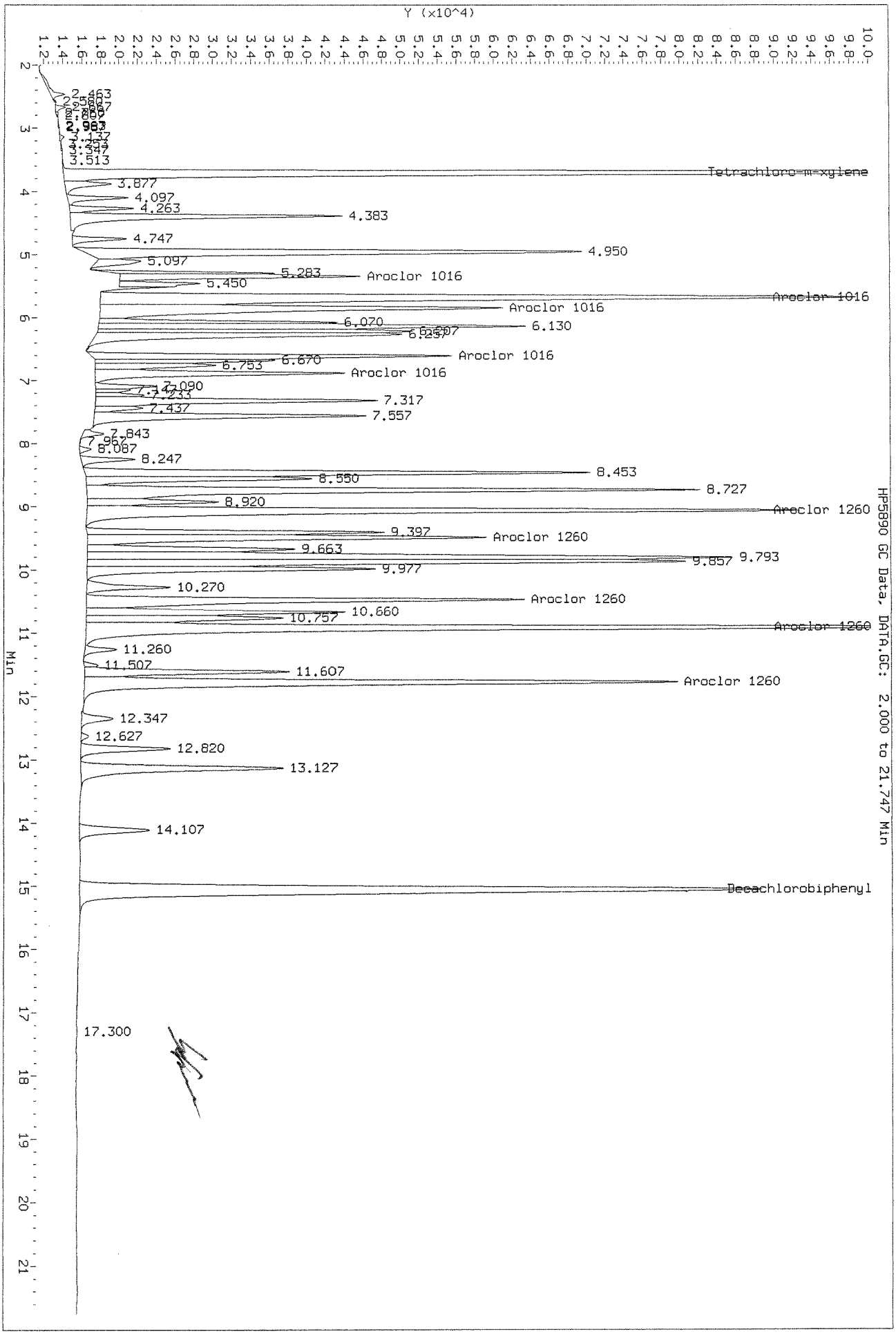
Instrument: GC09.i

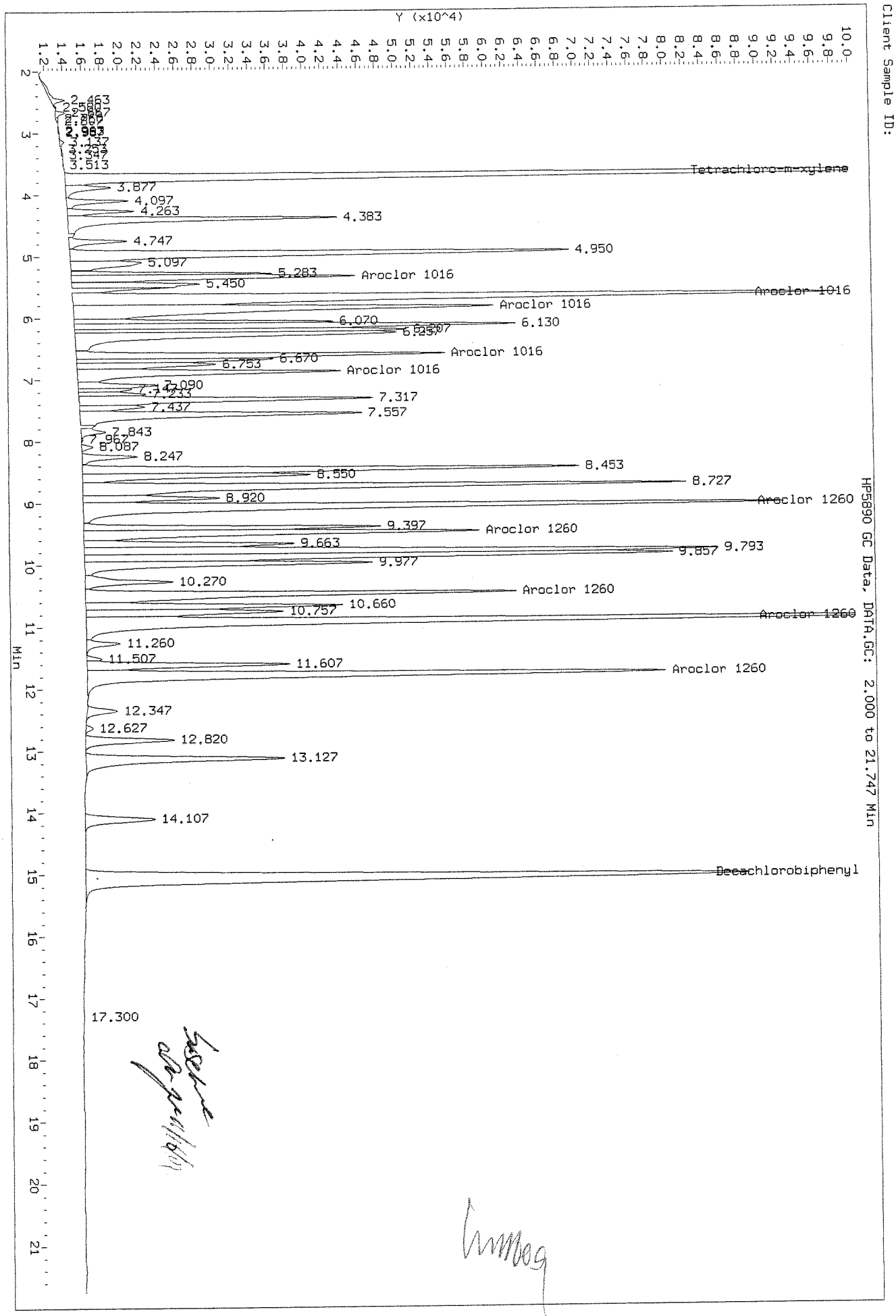
Operator: JMSmith
Column diameter: 0.53

Column phase: DB-XLB



1018


Data File: \\cash1\acqudata\GC09\data\111409.B\1114F051.D
Injection Date: 15-NOV-2009 07:07
Instrument: GC09.i
Client Sample ID:
Y (x10^4)
Min
HP5890 GC Data, DATA.GC: 2.000 to 21.747 Min
Tetrachloro-m-xylene
Aroclor 1016
Aroclor 1260
Decachlorobiphenyl
3.877
4.097
4.263
4.383
4.747
4.950
5.097
5.283
5.450
6.070
6.130
6.257
6.670
6.753
7.090
7.233
7.317
7.437
7.557
7.843
7.962
8.087
8.247
8.453
8.550
8.727
8.920
9.397
9.663
9.793
9.857
9.977
10.270
10.660
10.757
11.260
11.507
11.607
12.347
12.627
12.820
13.127
14.107
17.300


Data File: \\cash1\acqudata\GC09\data\111409.B\1114F051.D
Injection Date: 15-NOV-2009 07:07
Instrument: GC09.i
Client Sample ID:
HP5890 GC Data, DATA.GC: 2.000 to 21.747 Min
Y (x10^4)
Min
Tetrachloro-m-xylene
Aroclor 1016
Aroclor 1260
Decachlorobiphenyl
2.463
2.963
3.137
3.513
3.877
4.097
4.263
4.383
4.747
4.950
5.097
5.283
5.450
6.070
6.130
6.257
6.670
6.753
7.090
7.233
7.317
7.437
7.557
7.843
8.087
8.247
8.453
8.550
8.727
8.920
9.397
9.663
9.793
9.857
9.977
10.270
10.660
10.757
11.260
11.507
11.607
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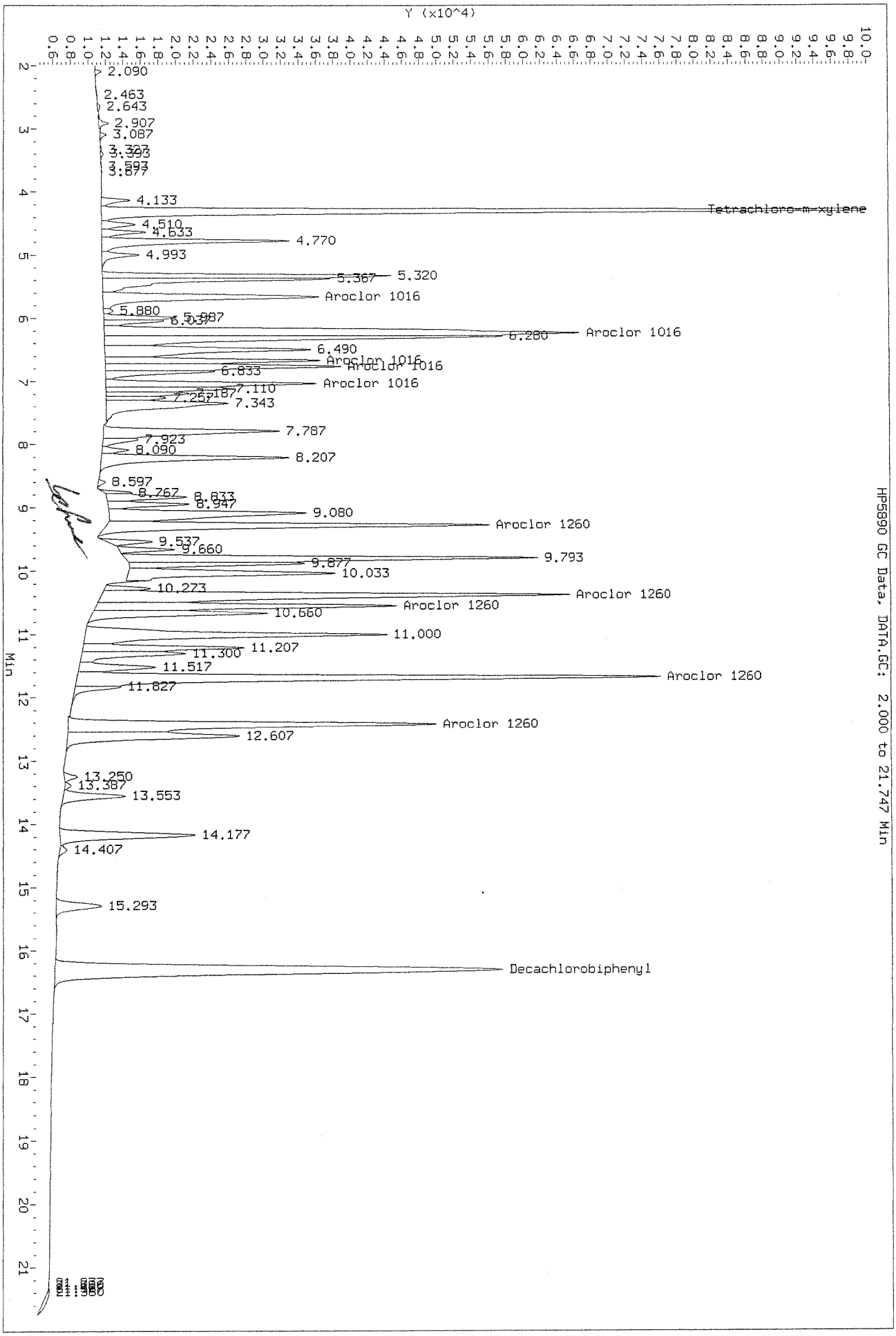
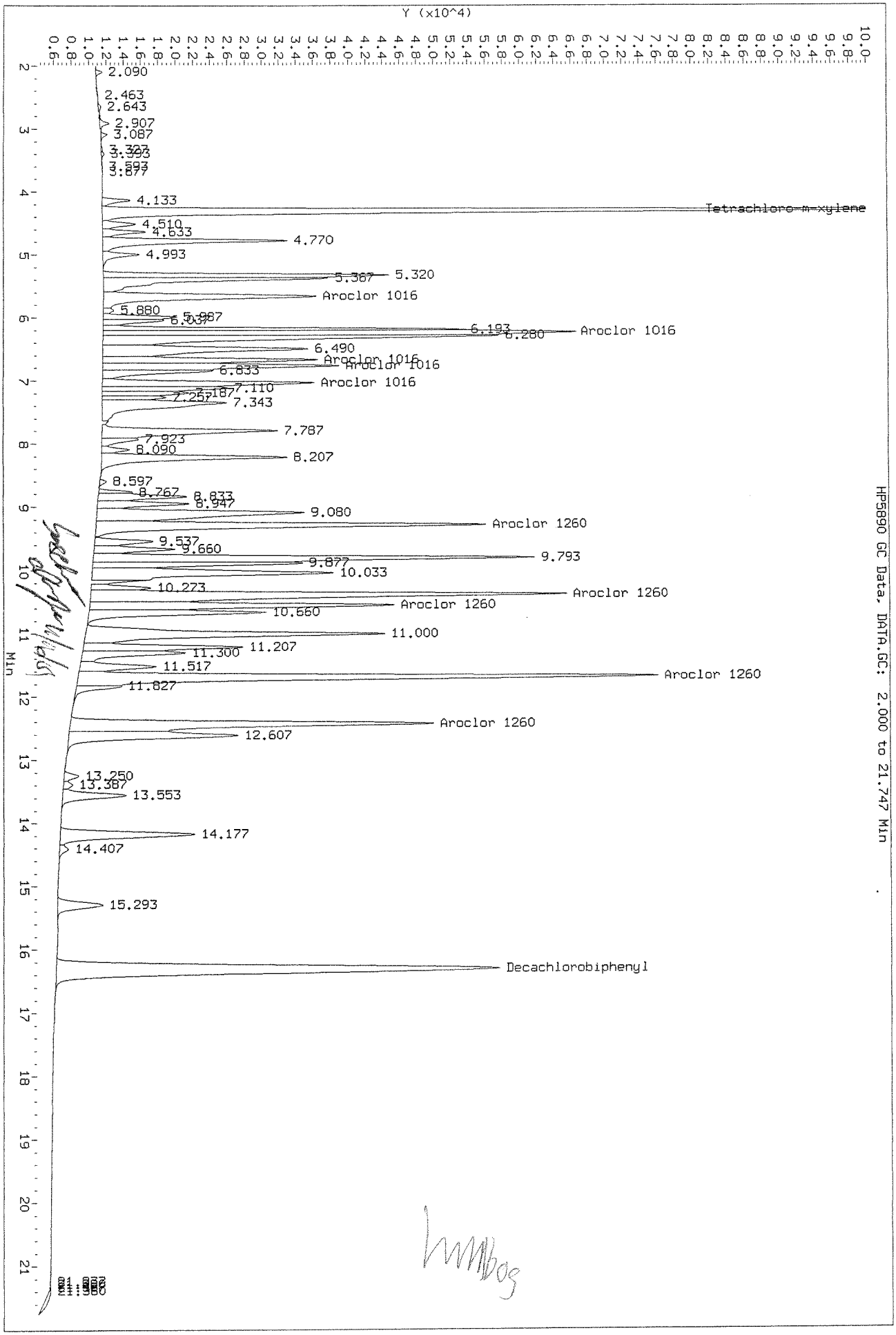
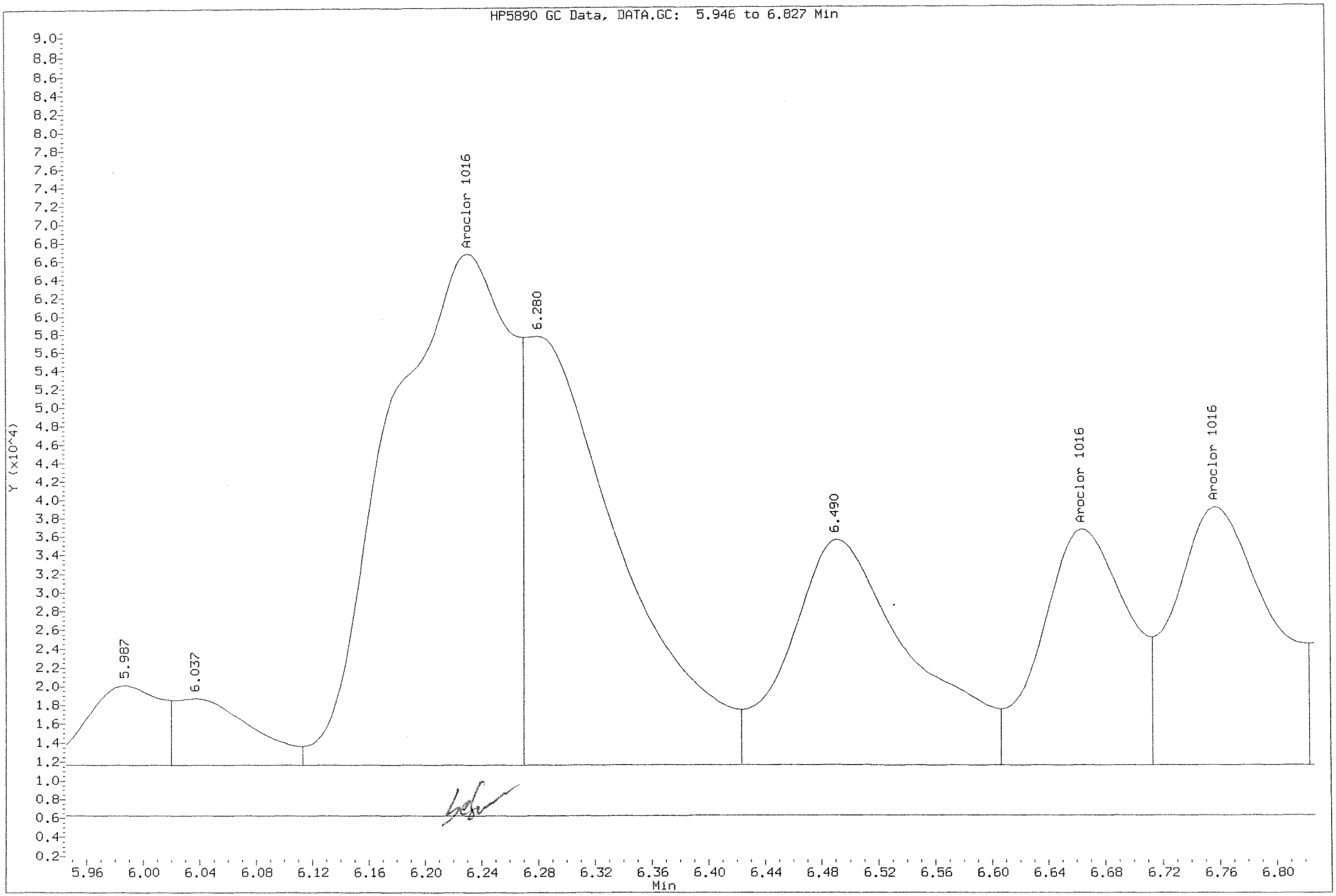
13.127
14.107
17.300


Data File: \\cash1\acqudata\GC09\data\111409_r.b\1114R051.D
Injection Date: 15-NOV-2009 07:07
Instrument: GC09.i
Client Sample ID:
HP5890 GC Data, DATA.GC: 2.000 to 21.747 Min
Y (x10^4)
Min
2.090
2.463
2.643
2.907
3.087
3.877
4.133
Tetrachloro-m-xylene
4.510
4.633
4.770
4.993
5.320
Aroclor 1016
5.880
6.280
Aroclor 1016
6.490
Aroclor 1016
6.833
Aroclor 1016
7.110
7.343
7.787
7.923
8.090
8.207
8.597
8.767
8.833
8.947
9.080
Aroclor 1260
9.537
9.660
9.793
9.877
10.033
10.273
Aroclor 1260
Aroclor 1260
10.660
11.000
11.207
11.300
11.517
Aroclor 1260
11.827
Aroclor 1260
12.607
13.250
13.387
13.553
14.177
14.407
15.293
Decachlorobiphenyl

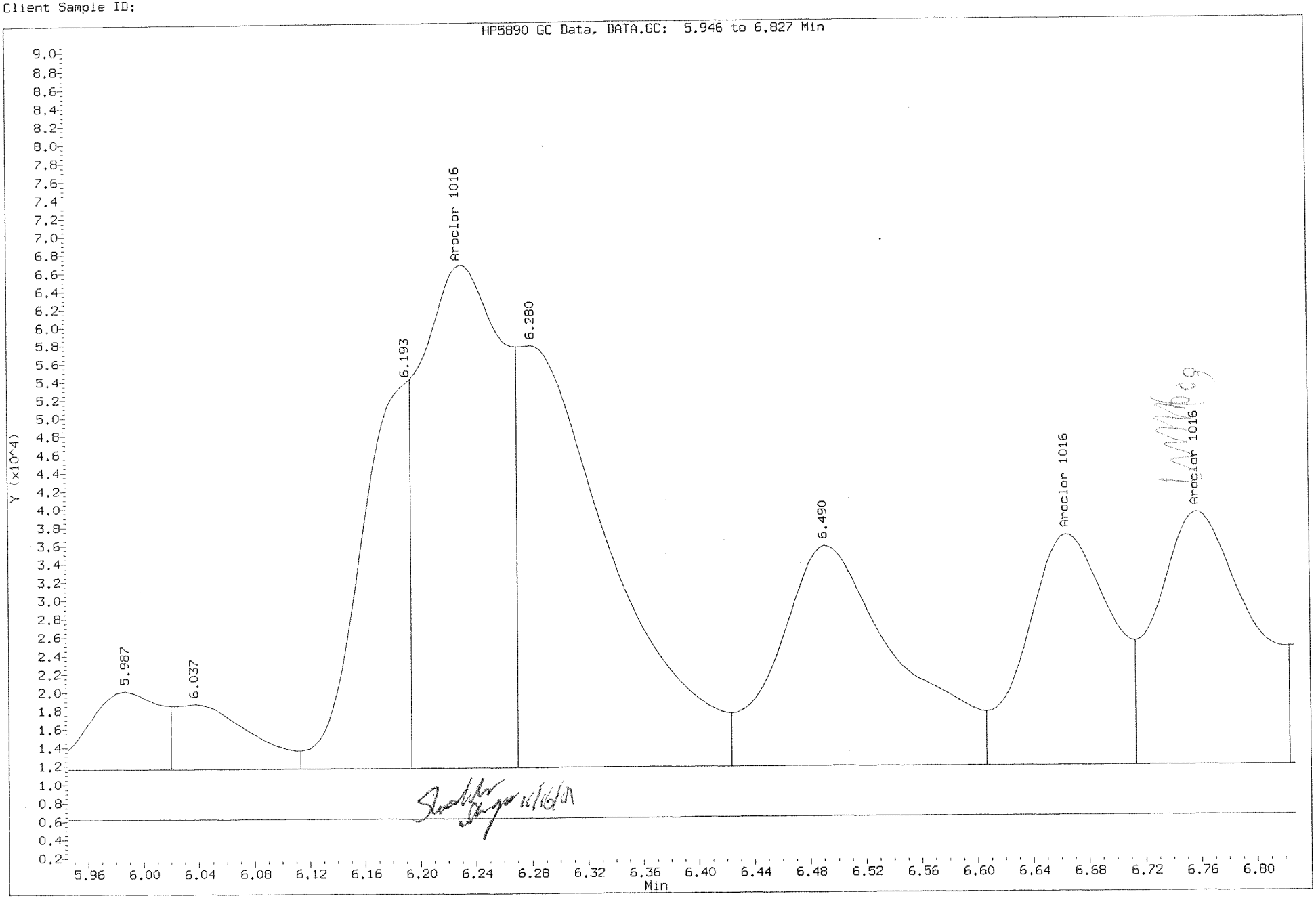

Data File: \\cash1\acqudata\GC09\data\111409_r.b\1114R051.D
Injection Date: 15-NOV-2009 07:07
Instrument: GC09.i
Client Sample ID:
HP5890 GC Data, DATA.GC: 2.000 to 21.747 Min
Y (x10^4)
Min
2.090
2.463
2.643
2.907
3.087
4.133
Tetrachloro-m-xylene
4.510
4.633
4.770
4.993
5.320
Aroclor 1016
5.880
6.193
6.280
Aroclor 1016
6.490
Aroclor 1016
6.833
Aroclor 1016
7.110
7.343
7.787
7.923
8.090
8.207
8.597
8.767
8.833
8.947
9.080
Aroclor 1260
9.537
9.660
9.793
9.877
10.033
10.273
Aroclor 1260
Aroclor 1260
10.660
11.000
11.207
11.300
11.517
Aroclor 1260
11.827
Aroclor 1260
12.607
13.250
13.387
13.553
14.177
14.407
15.293
Decachlorobiphenyl

Data File: \\cash1\acqudata\GC09\data\111409_r.b\1114R051.D
Injection Date: 15-NOV-2009 07:07
Instrument: GC09.i
Client Sample ID:



1023

Data File: \\cash1\acqudata\GC09\data\111409_r.b\1114R051.D
Injection Date: 15-NOV-2009 07:07
Instrument: GC09.i
Client Sample ID:



COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Results

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0909140
Date Analyzed: 11/17/2009

Continuing Calibration Verification Summary
Polychlorinated Biphenyls (PCBs)

Calibration Type: External Standard
Analysis Method: 8082
CCV Standard ID: PCB5-41P

Calibration Date: 10/15/2009
Calibration ID: CAL8918
Analysis Lot: KWG0910773
Units: ng/mL

File ID: \\CASH1\ACQUDATA\GC09\DATA\111609.B\1116F010.D

Column ID: DB-35MS

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Decachlorobiphenyl	100	100	5450	5620	3	NA	± 15 %	AverageRF
Aroclor 1016 {1}	1000	1100	128	147	15	NA	± 100 %	AverageRF
Aroclor 1016 {2}	1000	1000	517	518	0	NA	± 100 %	AverageRF
Aroclor 1016 {3}	1000	1100	297	333	12	NA	± 100 %	AverageRF
Aroclor 1016 {4}	1000	1100	166	184	11	NA	± 100 %	AverageRF
Aroclor 1016 {5}	1000	1200	139	165	19	NA	± 100 %	AverageRF
Aroclor 1016	1000	1100	NA	NA	NA	11	± 15 %	NA
Aroclor 1260 {1}	1000	1100	424	453	7	NA	± 100 %	AverageRF
Aroclor 1260 {2}	1000	1100	230	253	10	NA	± 100 %	AverageRF
Aroclor 1260 {3}	1000	1100	255	276	8	NA	± 100 %	AverageRF
Aroclor 1260 {4}	1000	1000	549	569	4	NA	± 100 %	AverageRF
Aroclor 1260 {5}	1000	1000	377	396	5	NA	± 100 %	AverageRF
Aroclor 1260	1000	1100	NA	NA	NA	7	± 15 %	NA

Results flagged with an asterisk (*) indicate values outside control criteria.

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0909140
Date Analyzed: 11/17/2009

Continuing Calibration Verification Summary
Polychlorinated Biphenyls (PCBs)

Calibration Type: External Standard
Analysis Method: 8082
CCV Standard ID: PCB5-41P

Calibration Date: 10/15/2009
Calibration ID: CAL8918
Analysis Lot: KWG0910773
Units: ng/mL

File ID: \\CASH1\ACQUDATA\GC09\DATA\111609_R.B\1116R010.D

Column ID: DB-XLB

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Decachlorobiphenyl	100	100	4180	4330	4	NA	± 15 %	AverageRF
Aroclor 1016 {1}	1000	1100	134	141	5	NA	± 100 %	AverageRF
Aroclor 1016 {2}	1000	910	235	213	-9	NA	± 100 %	AverageRF
Aroclor 1016 {3}	1000	1000	106	110	4	NA	± 100 %	AverageRF
Aroclor 1016 {4}	1000	1000	125	130	4	NA	± 100 %	AverageRF
Aroclor 1016 {5}	1000	1100	101	108	7	NA	± 100 %	AverageRF
Aroclor 1016	1000	1000	NA	NA	NA	2	± 15 %	NA
Aroclor 1260 {1}	1000	990	240	238	-1	NA	± 100 %	AverageRF
Aroclor 1260 {2}	1000	1000	308	318	3	NA	± 100 %	AverageRF
Aroclor 1260 {3}	1000	1100	170	180	6	NA	± 100 %	AverageRF
Aroclor 1260 {4}	1000	1100	354	375	6	NA	± 100 %	AverageRF
Aroclor 1260 {5}	1000	1100	239	252	6	NA	± 100 %	AverageRF
Aroclor 1260	1000	1000	NA	NA	NA	4	± 15 %	NA

Results flagged with an asterisk (*) indicate values outside control criteria.

Exception Report

Data File:	\\CASH1\ACQUDATA\GC09\DATA\111609.B\1116F010.D	**Date Acquired:**	11/17/2009 00:49
Lab ID:	KWG0910773-3	**Date Quantitated:**	11/17/2009 12:03
RunType:	CCV	**Batch ID:**	KWG0910773
Matrix:	LIQUID	**Analysis Method:**	8082
		MethodJoinID:	MJ696

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	

Primary Review: _____

Secondary Review: _____

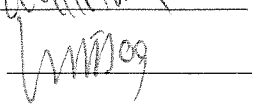
Exception Report

Data File:	\\CASH1\ACQUDATA\GC09\DATA\111609_R.B\1116R010.D	**Date Acquired:**	11/17/2009 00:49
Lab ID:	KWG0910773-3	**Date Quantitated:**	11/17/2009 12:05
RunType:	CCV	**Batch ID:**	KWG0910773
Matrix:	LIQUID	**Analysis Method:**	8082
		MethodJoinID:	MJ696

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	

Primary Review:

Secondary Review: 

Quantitation Report

Bottle ID:		**Tier:**		**Matrix:**	LIQUID
Prod Code:	8082 PCB	**Collect Date:**		**Receive Date:**	11/16/2009

Analysis Lot:	KWG0910773	**Prep Lot:**		**Report Group:**	
Analysis Method:	8082	**Prep Method:**			
Prep Ref:		**Prep Date:**			

Quant Method:	\\CASH1\ACQUDATA\GC09\DATA\111609.B\101409_F.M	**Calibration ID:**	CAL8918
Title:			
MB Ref:		**Method ID:**	MJ696
		Quant based on Method	

Data File #1:	J:\GC09\DATA\111609.B\1116F010.D			**Instrument:**	GC09.i
Data File #2:	\\Cash1\Acqudata\GC09\data\111609_r.b\1116R010.D			**Vial:**	96
Acqu Date:	11/17/2009 00:49	**Quant Date:**	11/17/2009 12:03	**Dilution:**	1.0
Run Type:	CCV			**Soln Conc. Units:**	ng/mL
Lab ID:	KWG0910773-3				
Signal #1:	DB-35MS	**Signal #2:**	DB-XLB		

Surrogate Compounds

Parameter Name	RT #1	RT #2	Resp #1	Respe #2	ng/mL #1	ng/mL #2			Rpt
Tetrachloro-m-xylene	3.69	4.28	633860m	445687	108.68	108.02			NA
			%Recovery =		NA	NA	Limits =	10-135	
Decachlorobiphenyl	15.05	16.30	561547	433067	103.03	103.72			NA
			%Recovery =		NA	NA	Limits =	35-133	

Target Compounds

Final Conc. Units:

Parameter Name	RT #1	RT #2	Resp #1	Resp #2	ng/mL #1	ng/mL #2	ug/Kg #1	ug/Kg #2	Rpt
Aroclor 1016			0	0	1,115	1,022			
Aroclor 1016 {1}	5.33	5.65	147126m	141356m	1,148	1,054			
Aroclor 1016 {2}	5.67	6.23	517860m	213109m	1,001	906.31			
Aroclor 1016 {3}	5.83	6.66	333191m	110074m	1,123	1,036			
Aroclor 1016 {4}	6.60	6.75	184179m	130208m	1,113	1,043			
Aroclor 1016 {5}	6.87	7.02	165154m	107891m	1,189	1,072			
Aroclor 1260			0	0	1,067	1,040			
Aroclor 1260 {1}	9.05	9.27	453377m	237921m	1,068	991.64			
Aroclor 1260 {2}	9.48	10.37	253404m	317733m	1,099	1,030			
Aroclor 1260 {3}	10.46	10.54	275716m	179811m	1,082	1,060			
Aroclor 1260 {4}	10.90	11.68	568759m	375226m	1,036	1,060			
Aroclor 1260 {5}	11.77	12.42	395748m	252437m	1,049	1,057			

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Calibration Verification Report

Calibration ID: CAL8918
Method ID: MJ696
DataFile: \\CASH1\ACQUDATA\GC09\DATA\111609.B\1116F010.D

Parameter Name	Type	PARM Type	Curve Fit	Method Criteria	Min RF	ICAL RF	CCV RF	%Diff	Sol'n Conc.	True Value	% Drift
Aroclor 1016		MS	NA	15					1,115	1,000	11.5
Aroclor 1260		MS	NA	15					1,067	1,000	6.7
Tetrachloro-m-xylene		SURR	AverageRF	15		5.8E+3	6.3E+3	8.7			
Aroclor 1016 {1}		MULTI	AverageRF	100		1.3E+2	1.5E+2	14.8			
Aroclor 1016 {2}		MULTI	AverageRF	100		5.2E+2	5.2E+2	0.1			
Aroclor 1016 {3}		MULTI	AverageRF	100		3.0E+2	3.3E+2	12.3			
Aroclor 1016 {4}		MULTI	AverageRF	100		1.7E+2	1.8E+2	11.3			
Aroclor 1016 {5}		MULTI	AverageRF	100		1.4E+2	1.7E+2	18.9			
Aroclor 1260 {1}		MULTI	AverageRF	100		4.2E+2	4.5E+2	6.8			
Aroclor 1260 {2}		MULTI	AverageRF	100		2.3E+2	2.5E+2	9.9			
Aroclor 1260 {3}		MULTI	AverageRF	100		2.5E+2	2.8E+2	8.2			
Aroclor 1260 {4}		MULTI	AverageRF	100		5.5E+2	5.7E+2	3.6			
Aroclor 1260 {5}		MULTI	AverageRF	100		3.8E+2	4.0E+2	4.9			
Decachlorobiphenyl		SURR	AverageRF	15		5.5E+3	5.6E+3	3.0			

Alternate Calibration Evaluation Summary

Maximum Allowable Average %D =	15.0
Calculated Average %D =	8.5

Calibration Verification Report

Calibration ID: CAL8918
Method ID: MJ696
DataFile: \\CASH1\ACQUDATA\GC09\DATA\111609_R.B\1116R010.D

Parameter Name	Type	PARM Type	Curve Fit	Method Criteria	Min RF	ICAL RF	CCV RF	%Diff	Sol'n Conc.	True Value	% Drift
Aroclor 1016		MS	NA	15					1,022	1,000	2.2
Aroclor 1260		MS	NA	15					1,040	1,000	4.0
Tetrachloro-m-xylene		SURR	AverageRF	15		4.1E+3	4.5E+3	8.0			
Aroclor 1016 {1}		MULTI	AverageRF	100		1.3E+2	1.4E+2	5.4			
Aroclor 1016 {2}		MULTI	AverageRF	100		2.4E+2	2.1E+2	-9.4			
Aroclor 1016 {3}		MULTI	AverageRF	100		1.1E+2	1.1E+2	3.6			
Aroclor 1016 {4}		MULTI	AverageRF	100		1.2E+2	1.3E+2	4.3			
Aroclor 1016 {5}		MULTI	AverageRF	100		1.0E+2	1.1E+2	7.2			
Aroclor 1260 {1}		MULTI	AverageRF	100		2.4E+2	2.4E+2	-0.8			
Aroclor 1260 {2}		MULTI	AverageRF	100		3.1E+2	3.2E+2	3.0			
Aroclor 1260 {3}		MULTI	AverageRF	100		1.7E+2	1.8E+2	6.0			
Aroclor 1260 {4}		MULTI	AverageRF	100		3.5E+2	3.8E+2	6.0			
Aroclor 1260 {5}		MULTI	AverageRF	100		2.4E+2	2.5E+2	5.7			
Decachlorobiphenyl		SURR	AverageRF	15		4.2E+3	4.3E+3	3.7			

Alternate Calibration Evaluation Summary

Maximum Allowable Average %D =	15.0
Calculated Average %D =	5.3

Data File: \\Cash1\Acqudata\GC09\data\111609.B\1116F010.D
Report Date: 17-Nov-2009 12:03

Columbia Analytical Services

Sample #1 : \\Cash1\Acqudata\GC09\data\111609.B\1116F010.D
Sample #2 : \\Cash1\Acqudata\GC09\data\111609_r.b\1116R010.D
Inj Date : 17-NOV-2009 00:49
Sample Info: 1660 @ 1000ppb | PCB5-41P | KWG0910773-3
Misc Info : SEMIVOA GC\W0910773\3-CCV.H
Cal Date : 17-NOV-2009 08:56
Operator : JMSmith
Inst ID : GC09.i
Dil Factor : 1.000000

Method #1 : \\cash1\acqudata\GC09\data\111609.B\101409_f.m
Method #2 : \\cash1\acqudata\GC09\data\111609_r.b\101409_r.m
Sub List #1 : AR1660.SUB
Sub List #2 : AR1660.SUB
Col #1 Phase : DB-35MS
Col #2 Phase : DB-XLB

Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2	Target Range	Ratio
Tetrachloro-m-xylene	3.693	4.283	633860	445687	109	108		100.00(M)
Aroclor 1016	5.330	5.653	147126	141356	1150	1050	80.00- 120.00	100.00(M)
	5.667	6.227	517860	213109	1000	906	288.97- 433.45	351.98(M)
	5.833	6.660	333191	110074	1120	1040	179.16- 268.74	226.47(M)
	6.597	6.753	184179	130208	1110	1040	98.59- 147.89	125.18(M)
	6.873	7.023	165154	107891	1190	1070	87.64- 131.46	112.25(M)
			Average of Peak Amounts =		1110	1020		
Aroclor 1260	9.047	9.270	453377	237921	1070	992	80.00- 120.00	100.00(M)
	9.477	10.373	253404	317733	1100	1030	43.64- 65.47	55.89(M)
	10.463	10.543	275716	179811	1080	1060	47.65- 71.48	60.81(M)
	10.900	11.677	568759	375226	1040	1060	99.70- 149.56	125.45(M)
	11.770	12.417	395748	252437	1050	1060	70.16- 105.24	87.29(M)
			Average of Peak Amounts =		1070	1040		
Decachlorobiphenyl	15.050	16.300	561547	433067	103	104		100.00

QC Flag Legend

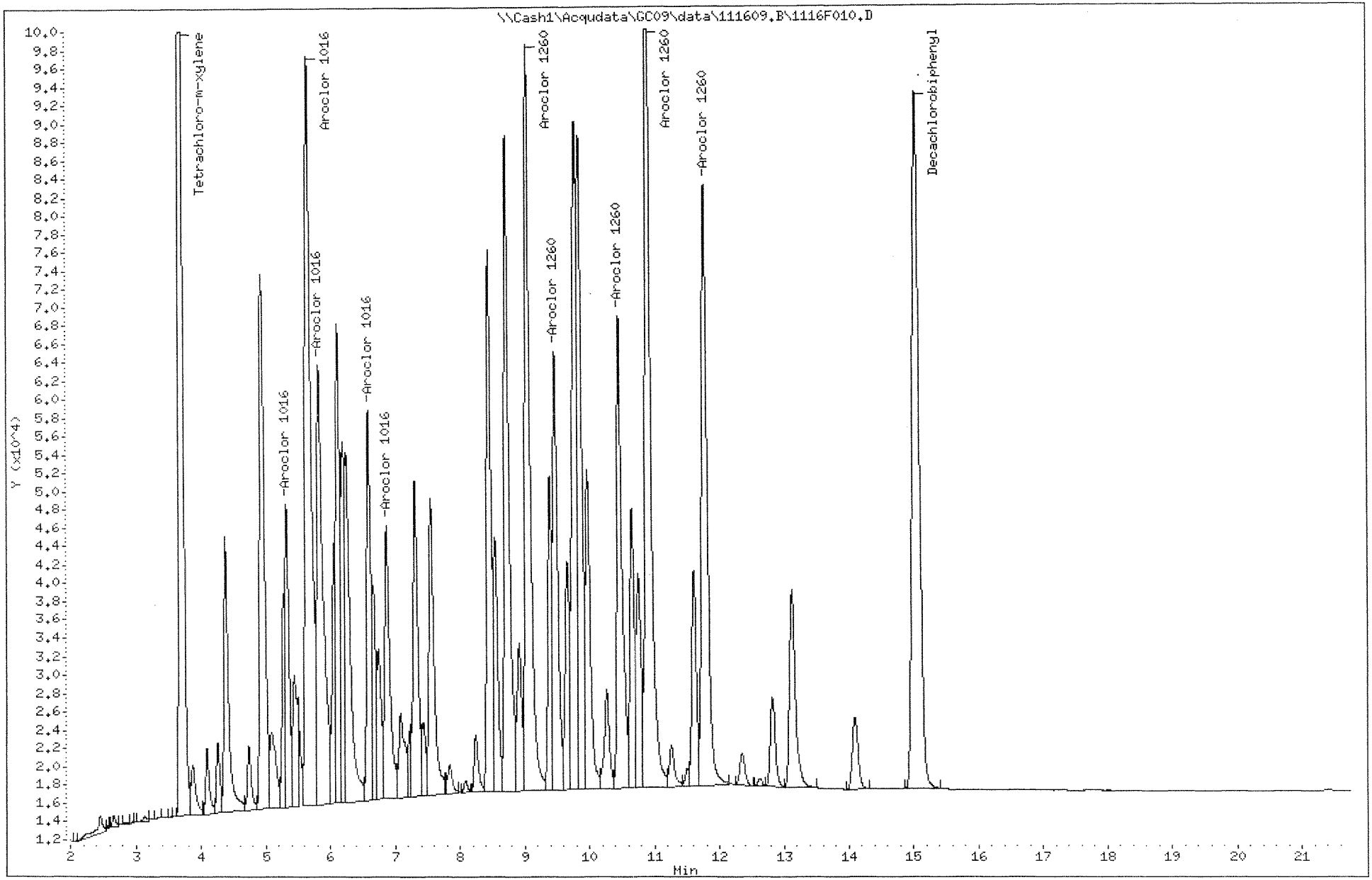
M - Compound response manually integrated.

Data File: \\Cash1\Acqudata\GC09\data\111609.B\1116F010.D
Date : 17-NOV-2009 00:49
Client ID:
Sample Info: 1660 @ 1000ppb | PCB5-41P | KWG0910773-3

Instrument: GC09.i

Operator: JMSmith
Column diameter: 0.53

Column phase: DB-35MS

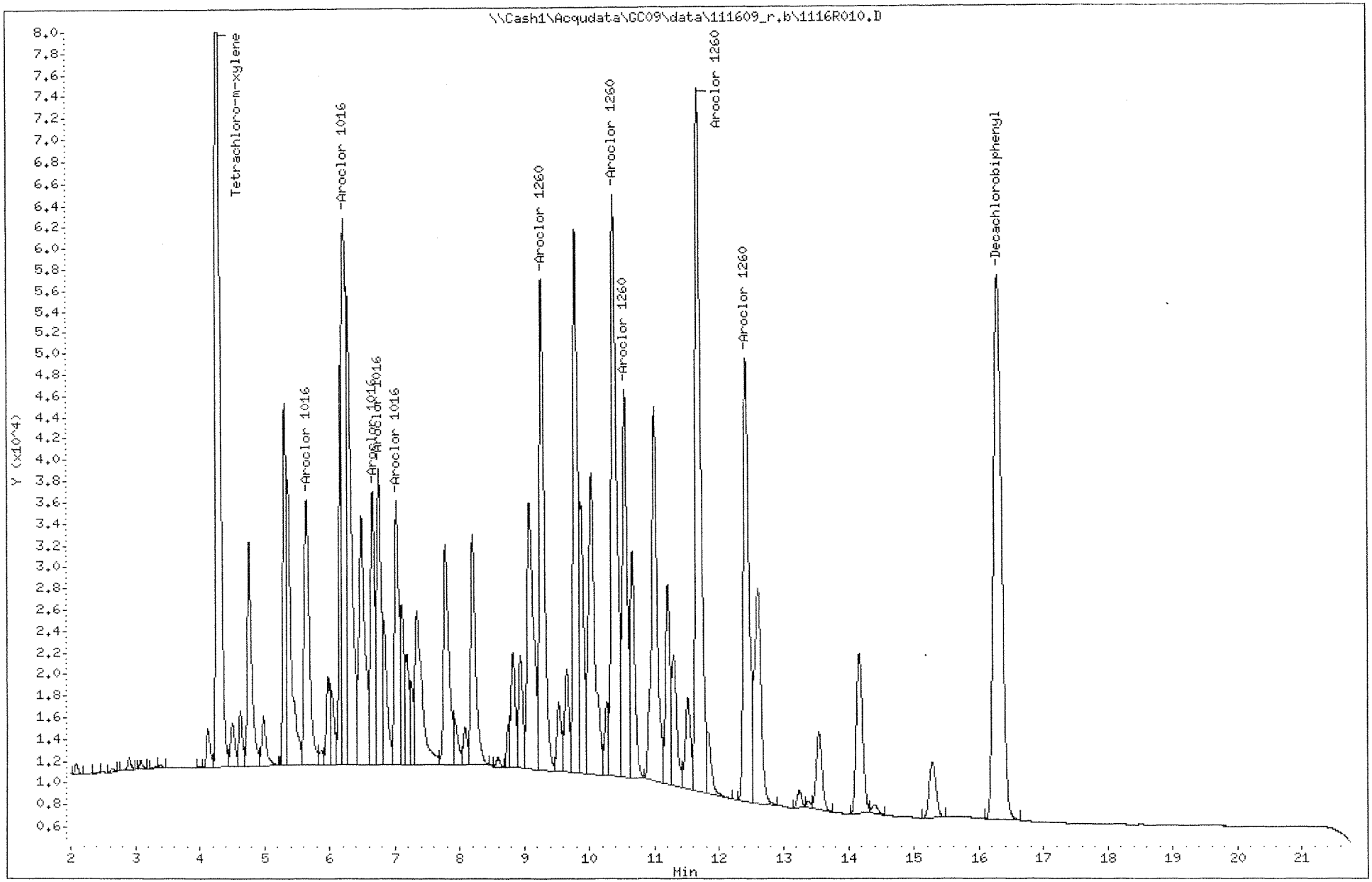


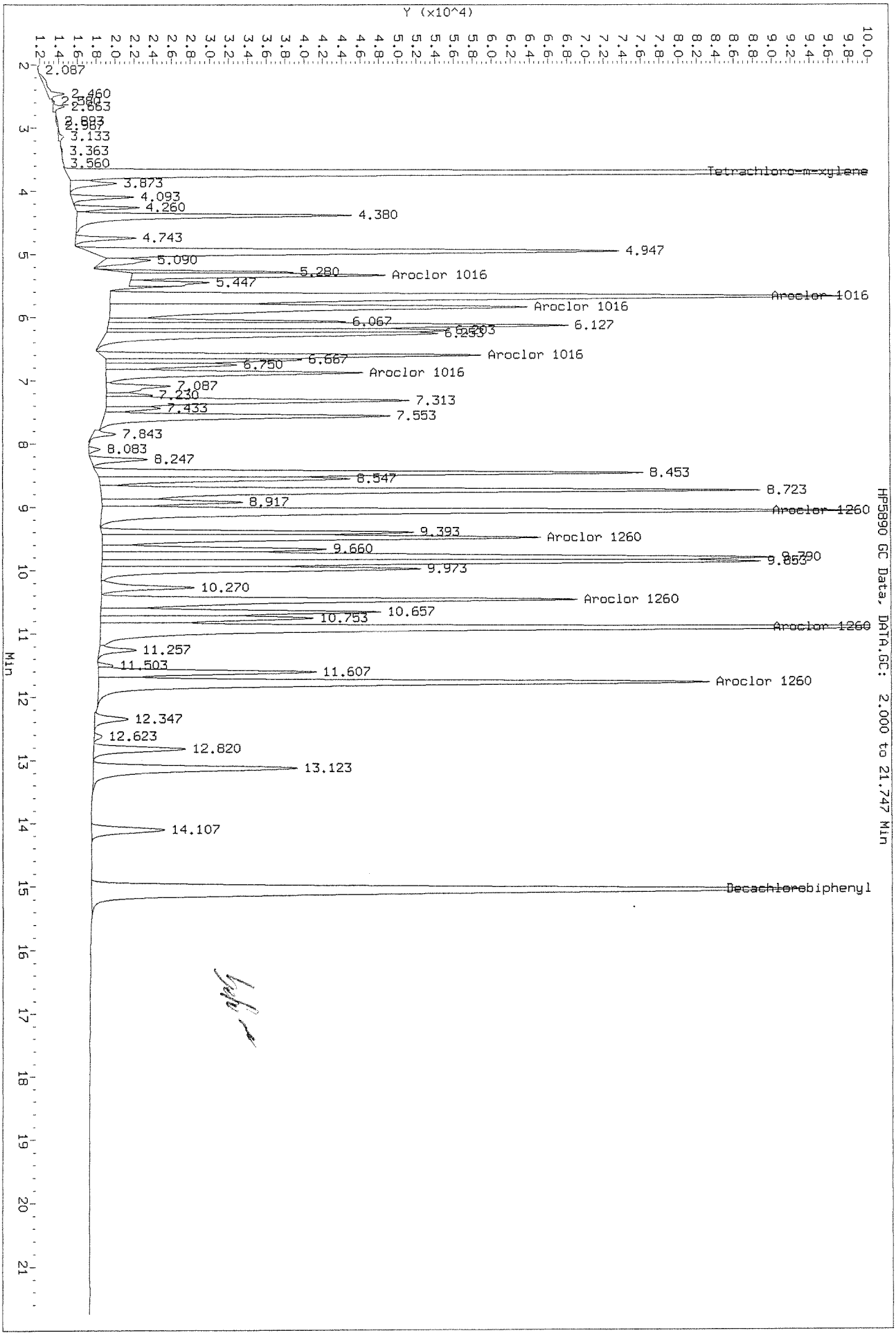
Data File: \\Cash1\Acqudata\GC09\data\111609_r.b\1116R010.D
Date : 17-NOV-2009 00:49
Client ID:
Sample Info: 1660 @ 1000ppb | PCB5-41P | KWG0910773-3

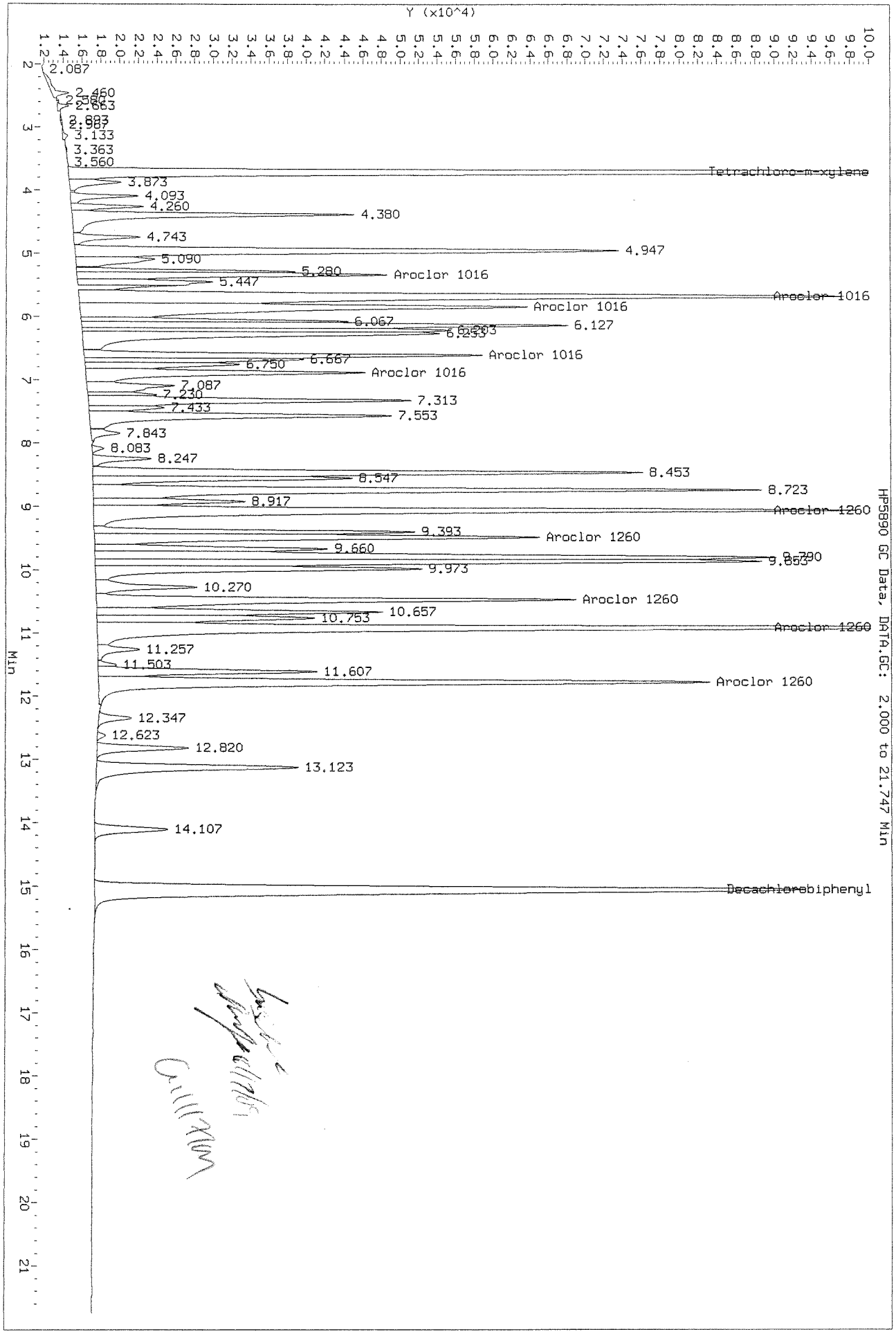
Instrument: GC09.i

Operator: JMSmith
Column diameter: 0.53

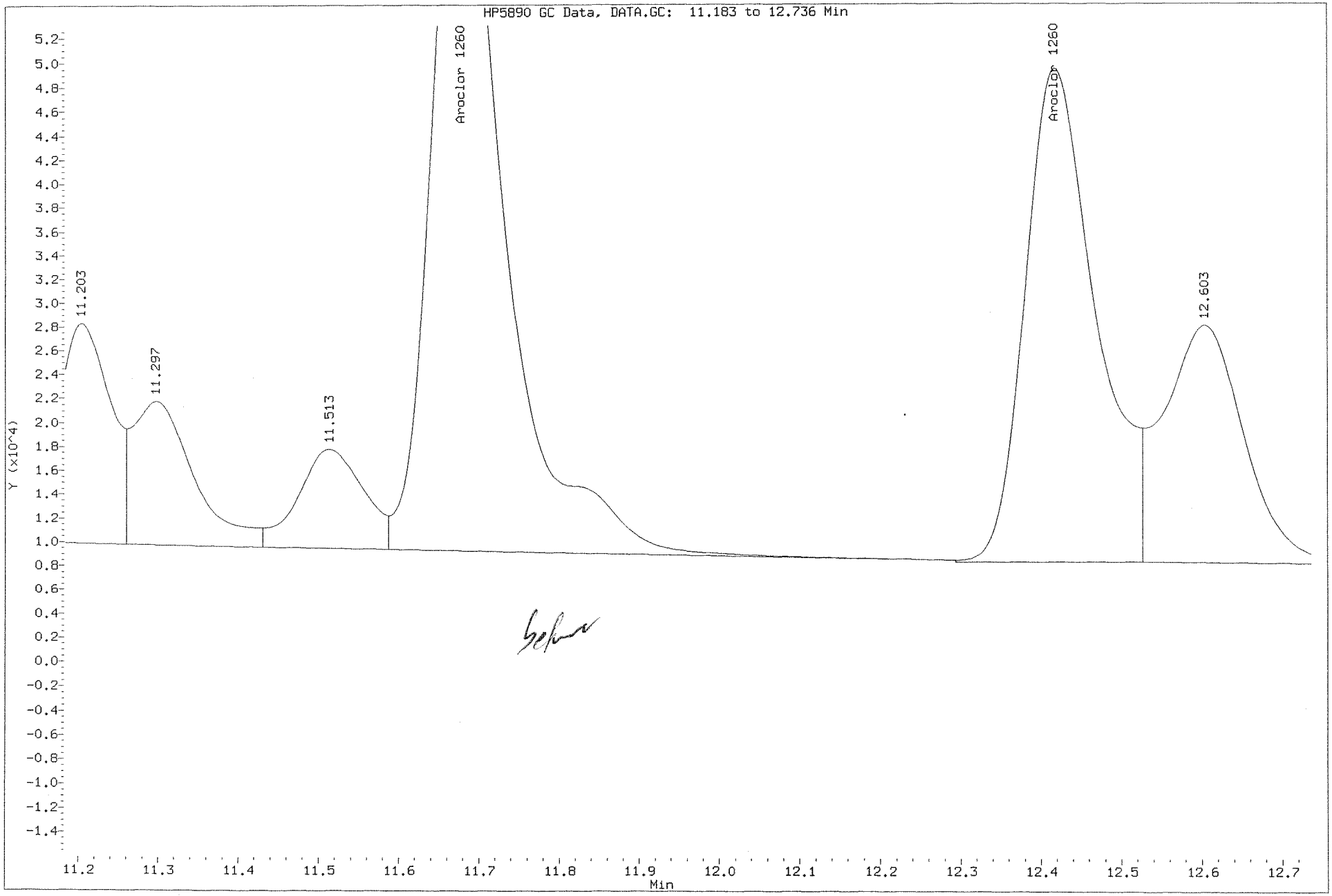
Column phase: DB-XLB




Data File: \\cash1\acqudata\GC09\data\111609.B\1116F010.D
Injection Date: 17-NOV-2009 00:49
Instrument: GC09.i
Client Sample ID:
Y (x10^4)
HP5890 GC Data, DATA.GC: 2.000 to 21.747 Min
Min
2.087
2.460
2.663
3.133
3.363
3.560
Tetrachloro-m-xylene
3.873
4.093
4.260
4.380
4.743
4.947
5.090
5.280
Aroclor 1016
5.447
Aroclor 1016
Aroclor 1016
6.067
6.127
Aroclor 1016
6.750
6.667
Aroclor 1016
7.087
7.230
7.313
7.433
7.553
7.843
8.083
8.247
8.453
8.547
8.723
8.917
Aroclor 1260
9.393
Aroclor 1260
9.660
9.790
9.853
9.973
10.270
Aroclor 1260
10.657
10.753
Aroclor 1260
11.257
11.503
11.607
Aroclor 1260
12.347
12.623
12.820
13.123
14.107
Decachlorobiphenyl

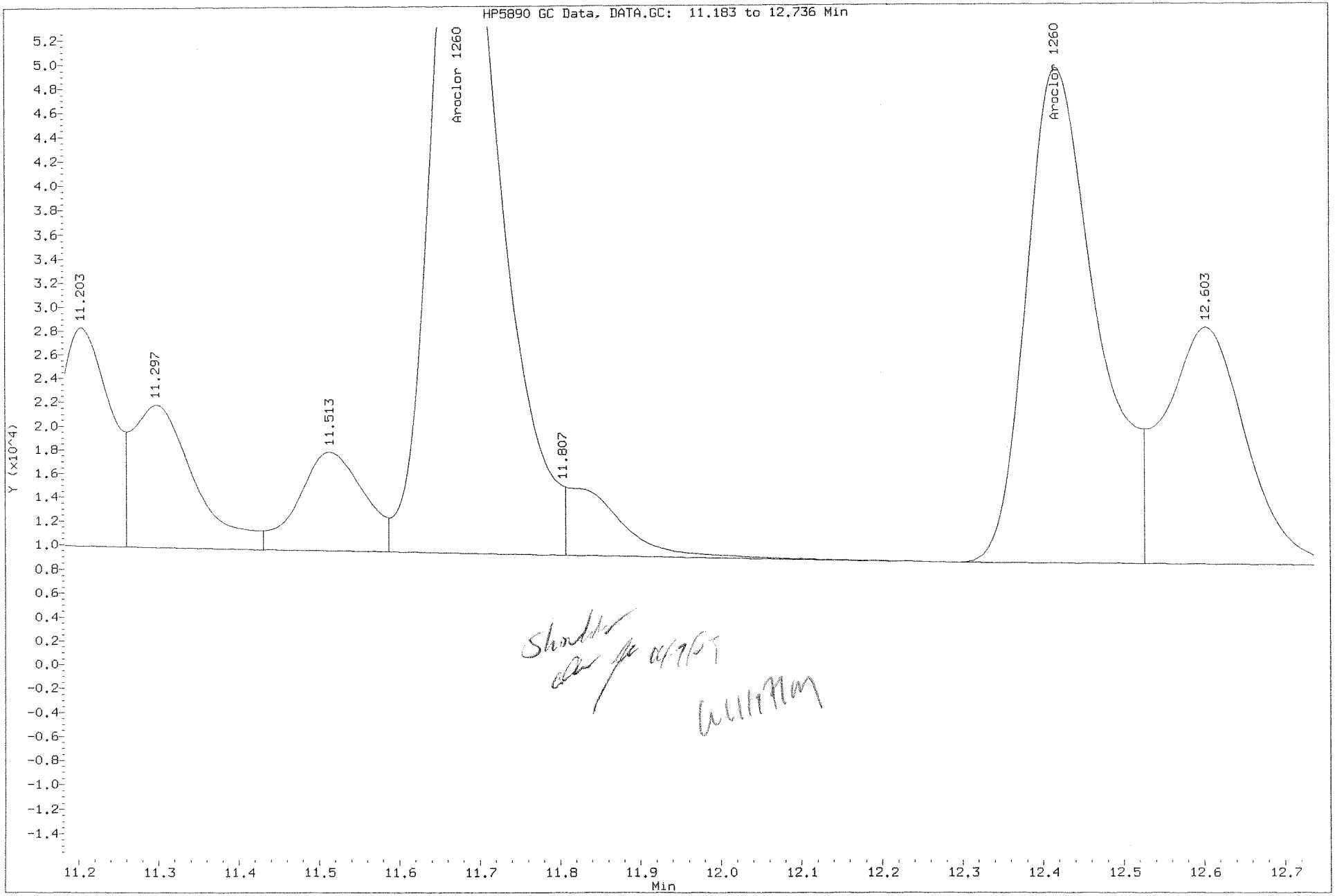

Data File: \\cash1\acqudata\GC09\data\111609.B\1116F010.D
Injection Date: 17-NOV-2009 00:49
Instrument: GC09.i
Client Sample ID:
Y (x10^4)
Min
HP5890 GC Data, DATA.GC: 2.000 to 21.747 Min
2.087
2.460
2.663
3.133
3.363
3.560
Tetrachloro-m-xylene
3.873
4.093
4.260
4.380
4.743
4.947
5.090
5.280
Aroclor 1016
5.447
Aroclor 1016
Aroclor 1016
6.067
6.127
Aroclor 1016
6.667
6.750
Aroclor 1016
7.087
7.230
7.313
7.433
7.553
7.843
8.083
8.247
8.453
8.547
8.723
8.917
Aroclor 1260
9.393
Aroclor 1260
9.660
9.790
9.853
9.973
10.270
Aroclor 1260
10.657
10.753
Aroclor 1260
11.257
11.503
11.607
Aroclor 1260
12.347
12.623
12.820
13.123
14.107
Decachlorobiphenyl

Data File: \\cash1\acqudata\GC09\data\111609_r.b\1116R010.D
Injection Date: 17-NOV-2009 00:49
Instrument: GC09.i
Client Sample ID:

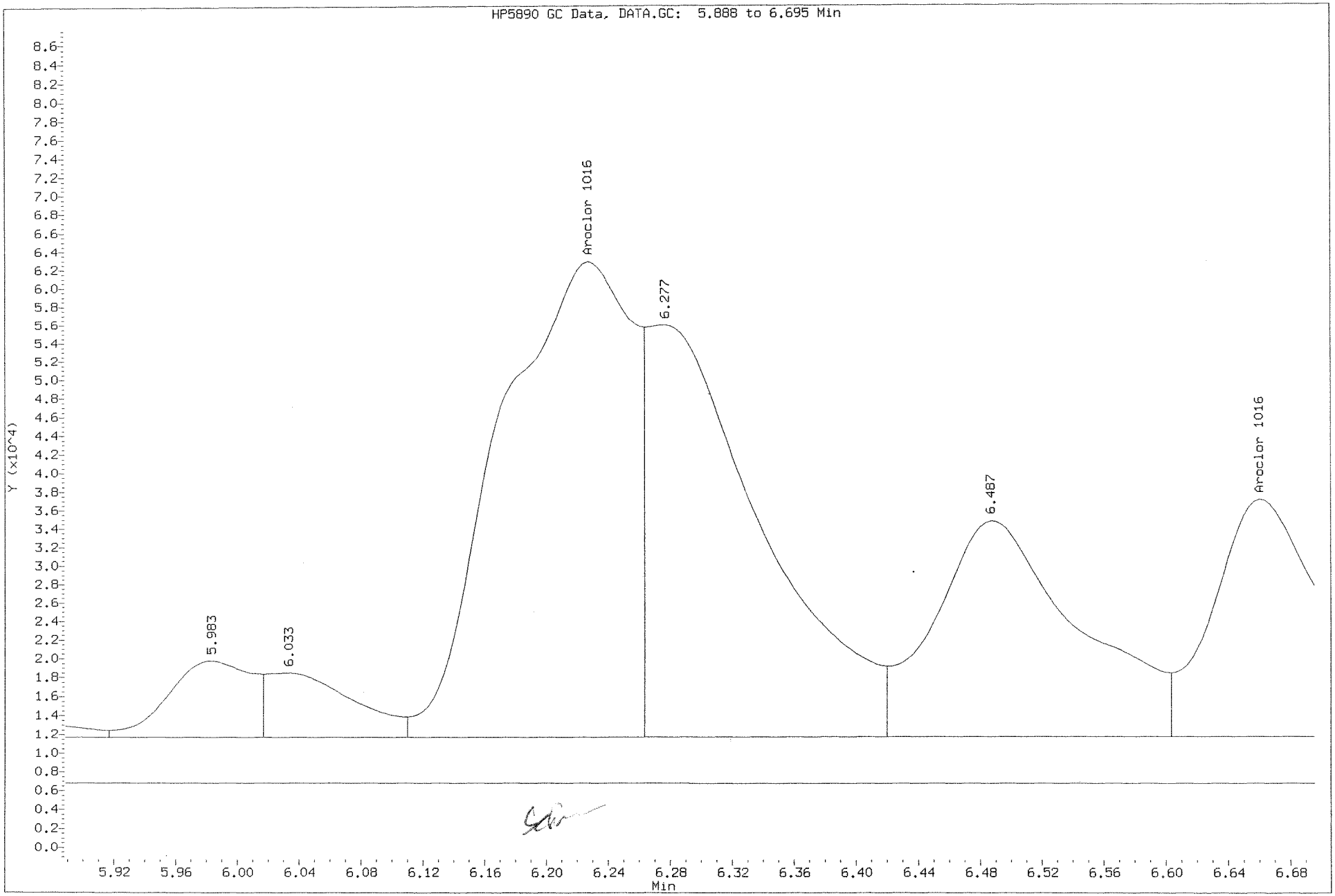


1037

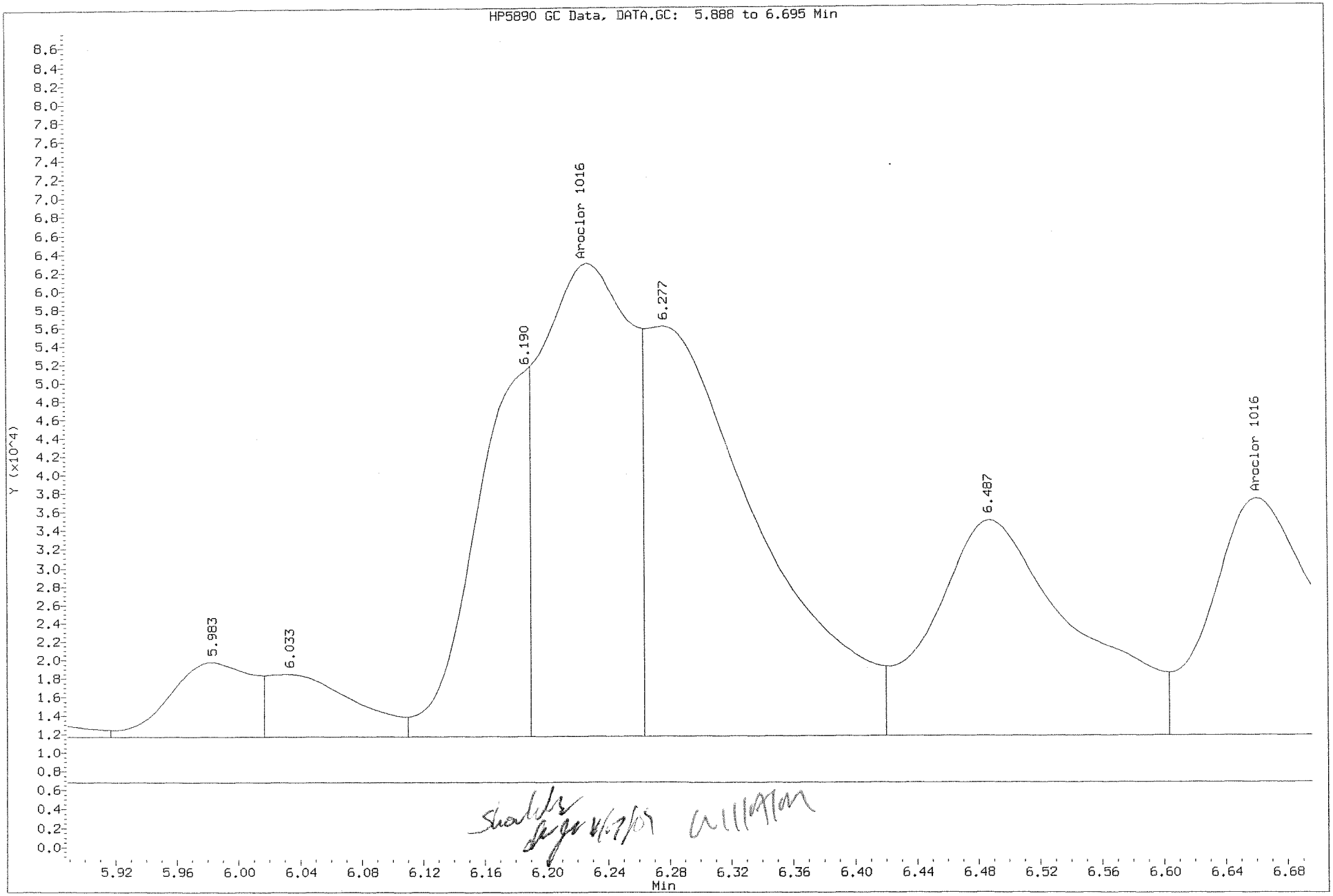
Data File: \\cash1\acqudata\GC09\data\111609_r.b\1116R010.D
Injection Date: 17-NOV-2009 00:49
Instrument: GC09.i
Client Sample ID:



Data File: \\cash1\acqudata\GC09\data\111609_r.b\1116R010.D
Injection Date: 17-NOV-2009 00:49
Instrument: GC09.i
Client Sample ID:



Data File: \\cash1\acqudata\GC09\data\111609_r.b\1116R010.D
Injection Date: 17-NOV-2009 00:49
Instrument: GC09.i
Client Sample ID:



1040

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0909140
Date Analyzed: 11/17/2009

Continuing Calibration Verification Summary
Polychlorinated Biphenyls (PCBs)

Calibration Type: External Standard
Analysis Method: 8082
CCV Standard ID: PCB5-41P

Calibration Date: 10/15/2009
Calibration ID: CAL8918
Analysis Lot: KWG0910773
Units: ng/mL

File ID: \\CASH1\ACQUDATA\GC09\DATA\111609.B\1116F019.D

Column ID: DB-35MS

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Decachlorobiphenyl	100	100	5450	5620	3	NA	± 15 %	AverageRF
Aroclor 1016 {1}	1000	1100	128	147	15	NA	± 100 %	AverageRF
Aroclor 1016 {2}	1000	1000	517	530	2	NA	± 100 %	AverageRF
Aroclor 1016 {3}	1000	1100	297	329	11	NA	± 100 %	AverageRF
Aroclor 1016 {4}	1000	1100	166	181	9	NA	± 100 %	AverageRF
Aroclor 1016 {5}	1000	1200	139	161	16	NA	± 100 %	AverageRF
Aroclor 1016	1000	1100	NA	NA	NA	11	± 15 %	NA
Aroclor 1260 {1}	1000	1100	424	447	5	NA	± 100 %	AverageRF
Aroclor 1260 {2}	1000	1100	230	244	6	NA	± 100 %	AverageRF
Aroclor 1260 {3}	1000	1000	255	266	4	NA	± 100 %	AverageRF
Aroclor 1260 {4}	1000	1000	549	557	1	NA	± 100 %	AverageRF
Aroclor 1260 {5}	1000	1000	377	392	4	NA	± 100 %	AverageRF
Aroclor 1260	1000	1000	NA	NA	NA	4	± 15 %	NA

Results flagged with an asterisk (*) indicate values outside control criteria.

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0909140
Date Analyzed: 11/17/2009

Continuing Calibration Verification Summary
Polychlorinated Biphenyls (PCBs)

Calibration Type: External Standard
Analysis Method: 8082
CCV Standard ID: PCB5-41P

Calibration Date: 10/15/2009
Calibration ID: CAL8918
Analysis Lot: KWG0910773
Units: ng/mL

File ID: \\CASH1\ACQUDATA\GC09\DATA\111609_R.B\1116R019.D

Column ID: DB-XLB

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Decachlorobiphenyl	100	110	4180	4410	6	NA	± 15 %	AverageRF
Aroclor 1016 {1}	1000	1000	134	139	4	NA	± 100 %	AverageRF
Aroclor 1016 {2}	1000	920	235	216	-8	NA	± 100 %	AverageRF
Aroclor 1016 {3}	1000	1000	106	106	0	NA	± 100 %	AverageRF
Aroclor 1016 {4}	1000	990	125	124	-1	NA	± 100 %	AverageRF
Aroclor 1016 {5}	1000	1000	101	103	3	NA	± 100 %	AverageRF
Aroclor 1016	1000	1000	NA	NA	NA	0	± 15 %	NA
Aroclor 1260 {1}	1000	990	240	238	-1	NA	± 100 %	AverageRF
Aroclor 1260 {2}	1000	1100	308	325	5	NA	± 100 %	AverageRF
Aroclor 1260 {3}	1000	1000	170	178	5	NA	± 100 %	AverageRF
Aroclor 1260 {4}	1000	1100	354	380	8	NA	± 100 %	AverageRF
Aroclor 1260 {5}	1000	1100	239	257	7	NA	± 100 %	AverageRF
Aroclor 1260	1000	1000	NA	NA	NA	5	± 15 %	NA

Results flagged with an asterisk (*) indicate values outside control criteria.

Exception Report

Data File:	\\CASH1\ACQUDATA\GC09\DATA\111609.B\1116F019.D	**Date Acquired:**	11/17/2009 05:01
Lab ID:	KWG0910773-6	**Date Quantitated:**	11/17/2009 12:04
RunType:	CCV	**Batch ID:**	KWG0910773
Matrix:	LIQUID	**Analysis Method:**	8082
		MethodJoinID:	MJ696

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	

Primary Review: _____

Secondary Review: _____

Exception Report

Data File: \\CASH1\ACQUDATA\GC09\DATA\111609_R.B\1116R019.D
Lab ID: KWG0910773-6
RunType: CCV
Matrix: LIQUID

Date Acquired: 11/17/2009 05:01
Date Quantitated: 11/17/2009 12:06
Batch ID: KWG0910773
Analysis Method: 8082
MethodJoinID: MJ696

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	

Primary Review: _____

Secondary Review: _____

Quantitation Report

Bottle ID:		**Tier:**		**Matrix:**	LIQUID
Prod Code:	8082 PCB	**Collect Date:**		**Receive Date:**	11/16/2009

Analysis Lot:	KWG0910773	**Prep Lot:**		**Report Group:**	
Analysis Method:	8082	**Prep Method:**			
Prep Ref:		**Prep Date:**			

Quant Method:	\\CASH1\ACQUDATA\GC09\DATA\111609.B\101409_F.M	**Calibration ID:**	CAL8918
Title:			
MB Ref:		**Method ID:**	MJ696
		Quant based on Method	

Data File #1:	J:\GC09\DATA\111609.B\1116F019.D			**Instrument:**	GC09.i
Data File #2:	\\Cash1\Acqudata\GC09\data\111609_r.b\1116R019.D			**Vial:**	96
Acqu Date:	11/17/2009 05:01	**Quant Date:**	11/17/2009 12:04	**Dilution:**	1.0
Run Type:	CCV			**Soln Conc. Units:**	ng/mL
Lab ID:	KWG0910773-6				
Signal #1:	DB-35MS	**Signal #2:**	DB-XLB		

Surrogate Compounds

Parameter Name	RT #1	RT #2	Resp #1	Respe #2	ng/mL #1	ng/mL #2			Rpt
Tetrachloro-m-xylene	3.69	4.29	641369m	447217	109.97	108.39			NA
				%Recovery =	NA	NA	Limits =	10-135	
Decachlorobiphenyl	15.05	16.30	562045	441001	103.13	105.62			NA
				%Recovery =	NA	NA	Limits =	35-133	

Target Compounds

Final Conc. Units:

Parameter Name	RT #1	RT #2	Resp #1	Resp #2	ng/mL #1	ng/mL #2	ug/Kg #1	ug/Kg #2	Rpt
Aroclor 1016			0	0	1,105	995.38			
Aroclor 1016 {1}	5.33	5.65	146711m	139193m	1,145	1,038			
Aroclor 1016 {2}	5.67	6.23	529931m	216066m	1,025	918.88			
Aroclor 1016 {3}	5.83	6.66	328559m	106310m	1,107	1,000			
Aroclor 1016 {4}	6.60	6.75	180805m	123998m	1,092	993.51			
Aroclor 1016 {5}	6.87	7.02	160722m	103278m	1,157	1,026			
Aroclor 1260			0	0	1,041	1,049			
Aroclor 1260 {1}	9.05	9.27	446538	238112m	1,052	992.43			
Aroclor 1260 {2}	9.47	10.37	243613	324879m	1,057	1,054			
Aroclor 1260 {3}	10.46	10.54	265982	178010m	1,043	1,049			
Aroclor 1260 {4}	10.90	11.68	556521	380493m	1,013	1,075			
Aroclor 1260 {5}	11.77	12.42	391603	256641m	1,038	1,074			

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Calibration Verification Report

Calibration ID: CAL8918
Method ID: MJ696
DataFile: \\CASH1\ACQUDATA\GC09\DATA\111609.B\1116F019.D

Parameter Name	Type	PARM Type	Curve Fit	Method Criteria	Min RF	ICAL RF	CCV RF	%Diff	Sol'n Conc.	True Value	% Drift
Aroclor 1016		MS	NA	15					1,105	1,000	10.5
Aroclor 1260		MS	NA	15					1,041	1,000	4.1
Tetrachloro-m-xylene		SURR	AverageRF	15		5.8E+3	6.4E+3	10.0			
Aroclor 1016 {1}		MULTI	AverageRF	100		1.3E+2	1.5E+2	14.5			
Aroclor 1016 {2}		MULTI	AverageRF	100		5.2E+2	5.3E+2	2.5			
Aroclor 1016 {3}		MULTI	AverageRF	100		3.0E+2	3.3E+2	10.7			
Aroclor 1016 {4}		MULTI	AverageRF	100		1.7E+2	1.8E+2	9.2			
Aroclor 1016 {5}		MULTI	AverageRF	100		1.4E+2	1.6E+2	15.7			
Aroclor 1260 {1}		MULTI	AverageRF	100		4.2E+2	4.5E+2	5.2			
Aroclor 1260 {2}		MULTI	AverageRF	100		2.3E+2	2.4E+2	5.7			
Aroclor 1260 {3}		MULTI	AverageRF	100		2.5E+2	2.7E+2	4.3			
Aroclor 1260 {4}		MULTI	AverageRF	100		5.5E+2	5.6E+2	1.3			
Aroclor 1260 {5}		MULTI	AverageRF	100		3.8E+2	3.9E+2	3.8			
Decachlorobiphenyl		SURR	AverageRF	15		5.5E+3	5.6E+3	3.1			

Alternate Calibration Evaluation Summary

Maximum Allowable Average %D =	15.0
Calculated Average %D =	7.2

Calibration Verification Report

Calibration ID: CAL8918
Method ID: MJ696
DataFile: \\CASH1\ACQUDATA\GC09\DATA\111609_R.B\1116R019.D

Parameter Name	Type	PARM Type	Curve Fit	Method Criteria	Min RF	ICAL RF	CCV RF	%Diff	Sol'n Conc.	True Value	% Drift
Aroclor 1016		MS	NA	15					995.4	1,000	-0.5
Aroclor 1260		MS	NA	15					1,049	1,000	4.9
Tetrachloro-m-xylene		SURR	AverageRF	15		4.1E+3	4.5E+3	8.4			
Aroclor 1016 {1}		MULTI	AverageRF	100		1.3E+2	1.4E+2	3.8			
Aroclor 1016 {2}		MULTI	AverageRF	100		2.4E+2	2.2E+2	-8.1			
Aroclor 1016 {3}		MULTI	AverageRF	100		1.1E+2	1.1E+2	0.0			
Aroclor 1016 {4}		MULTI	AverageRF	100		1.2E+2	1.2E+2	-0.6			
Aroclor 1016 {5}		MULTI	AverageRF	100		1.0E+2	1.0E+2	2.6			
Aroclor 1260 {1}		MULTI	AverageRF	100		2.4E+2	2.4E+2	-0.8			
Aroclor 1260 {2}		MULTI	AverageRF	100		3.1E+2	3.2E+2	5.4			
Aroclor 1260 {3}		MULTI	AverageRF	100		1.7E+2	1.8E+2	4.9			
Aroclor 1260 {4}		MULTI	AverageRF	100		3.5E+2	3.8E+2	7.5			
Aroclor 1260 {5}		MULTI	AverageRF	100		2.4E+2	2.6E+2	7.4			
Decachlorobiphenyl		SURR	AverageRF	15		4.2E+3	4.4E+3	5.6			

Alternate Calibration Evaluation Summary

Maximum Allowable Average %D =	15.0
Calculated Average %D =	4.6

Data File: \\Cash1\Acqudata\GC09\data\111609.B\1116F019.D
Report Date: 17-Nov-2009 12:04

Columbia Analytical Services

Sample #1 : \\Cash1\Acqudata\GC09\data\111609.B\1116F019.D
Sample #2 : \\Cash1\Acqudata\GC09\data\111609_r.b\1116R019.D
Inj Date : 17-NOV-2009 05:01
Sample Info: 1660 @ 1000ppb | PCB5-41P | KWG0910773-6
Misc Info : SEMIVOA GC\W0910773\6-CCV.H
Cal Date : 17-NOV-2009 08:56
Operator : JMSmith
Inst ID : GC09.i
Dil Factor : 1.000000

Method #1 : \\cash1\acqudata\GC09\data\111609.B\101409_f.m
Method #2 : \\cash1\acqudata\GC09\data\111609_r.b\101409_r.m
Sub List #1 : AR1660.SUB
Sub List #2 : AR1660.SUB
Col #1 Phase : DB-35MS
Col #2 Phase : DB-XLB

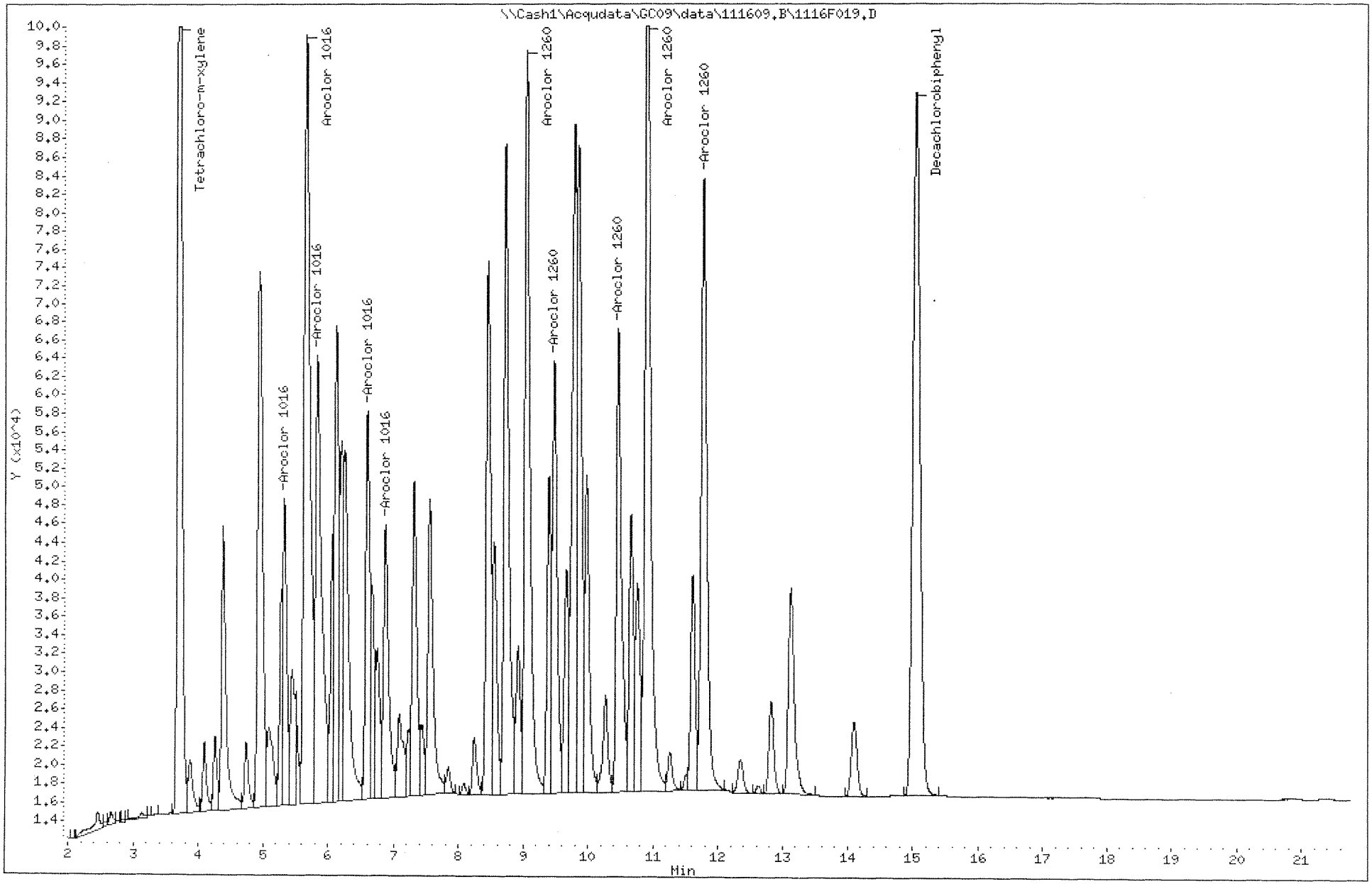
Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2	Target Range	Ratio
Tetrachloro-m-xylene	3.693	4.287	641369	447217	110	108		100.00(M)
Aroclor 1016	5.330	5.650	146711	139193	1140	1040	80.00- 120.00	100.00(M)
	5.667	6.227	529931	216066	1020	919	288.97- 433.45	361.21(M)
	5.833	6.660	328559	106310	1110	1000	179.16- 268.74	223.95(M)
	6.600	6.753	180805	123998	1090	994	98.59- 147.89	123.24(M)
	6.873	7.023	160722	103278	1160	1030	87.64- 131.46	109.55(M)
			Average of Peak Amounts =		1100	997		
Aroclor 1260	9.047	9.270	446538	238112	1050	992	80.00- 120.00	100.00
	9.473	10.373	243613	324879	1060	1050	43.64- 65.47	54.56
	10.463	10.543	265982	178010	1040	1050	47.65- 71.48	59.57
	10.900	11.677	556521	380493	1010	1080	99.70- 149.56	124.63
	11.770	12.420	391603	256641	1040	1070	70.16- 105.24	87.70
			Average of Peak Amounts =		1040	1050		
Decachlorobiphenyl	15.050	16.300	562045	441001	103	106		100.00

QC Flag Legend

M - Compound response manually integrated.

Data File: \\Cash1\Acqudata\GC09\data\111609.B\1116F019.D
Date : 17-NOV-2009 05:01
Client ID:
Sample Info: 1660 @ 1000ppb | PCB5-41P | KWG0910773-6

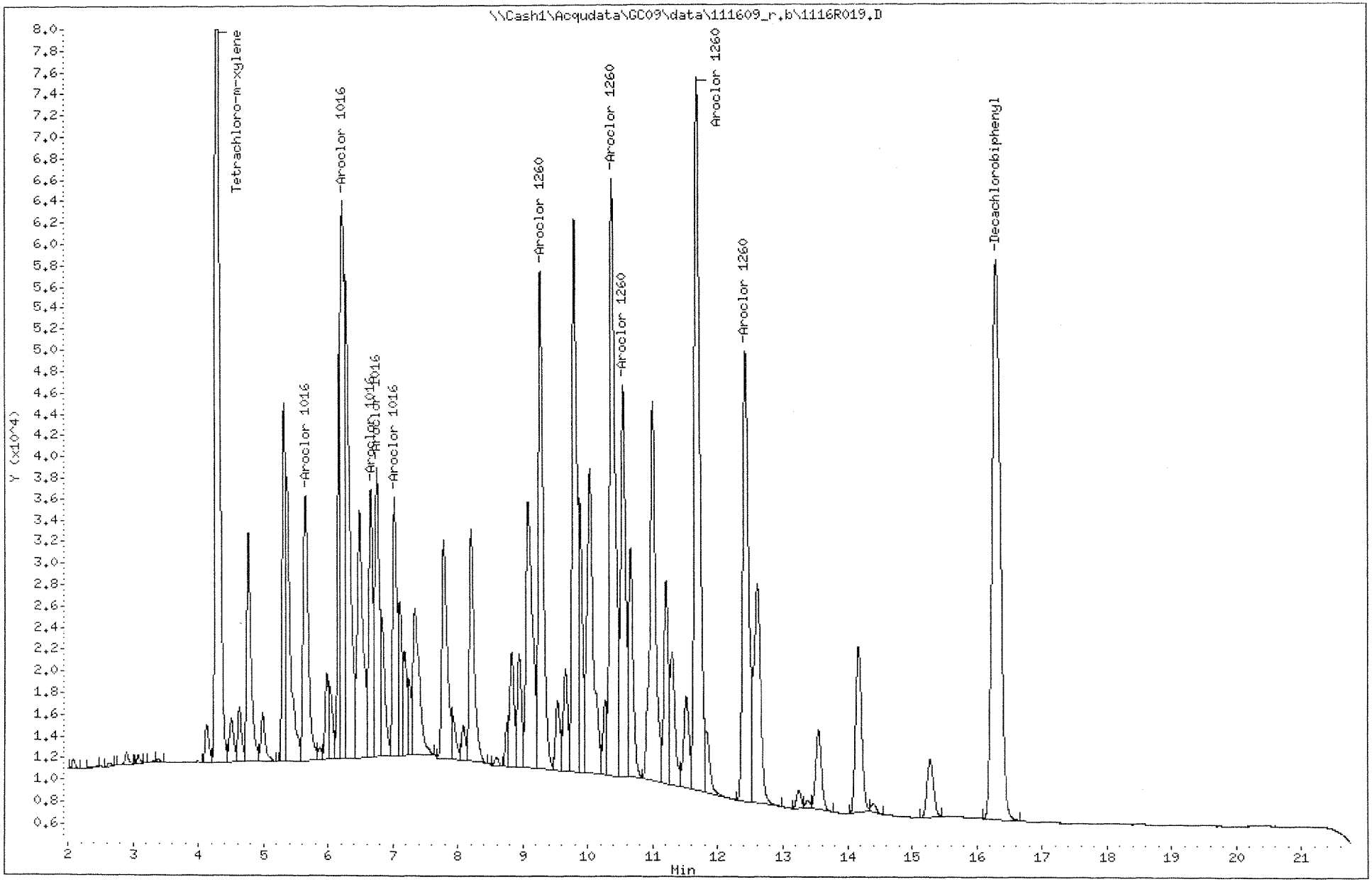
Instrument: GC09.i
Operator: JMSmith
Column phase: DB-35MS
Column diameter: 0.53

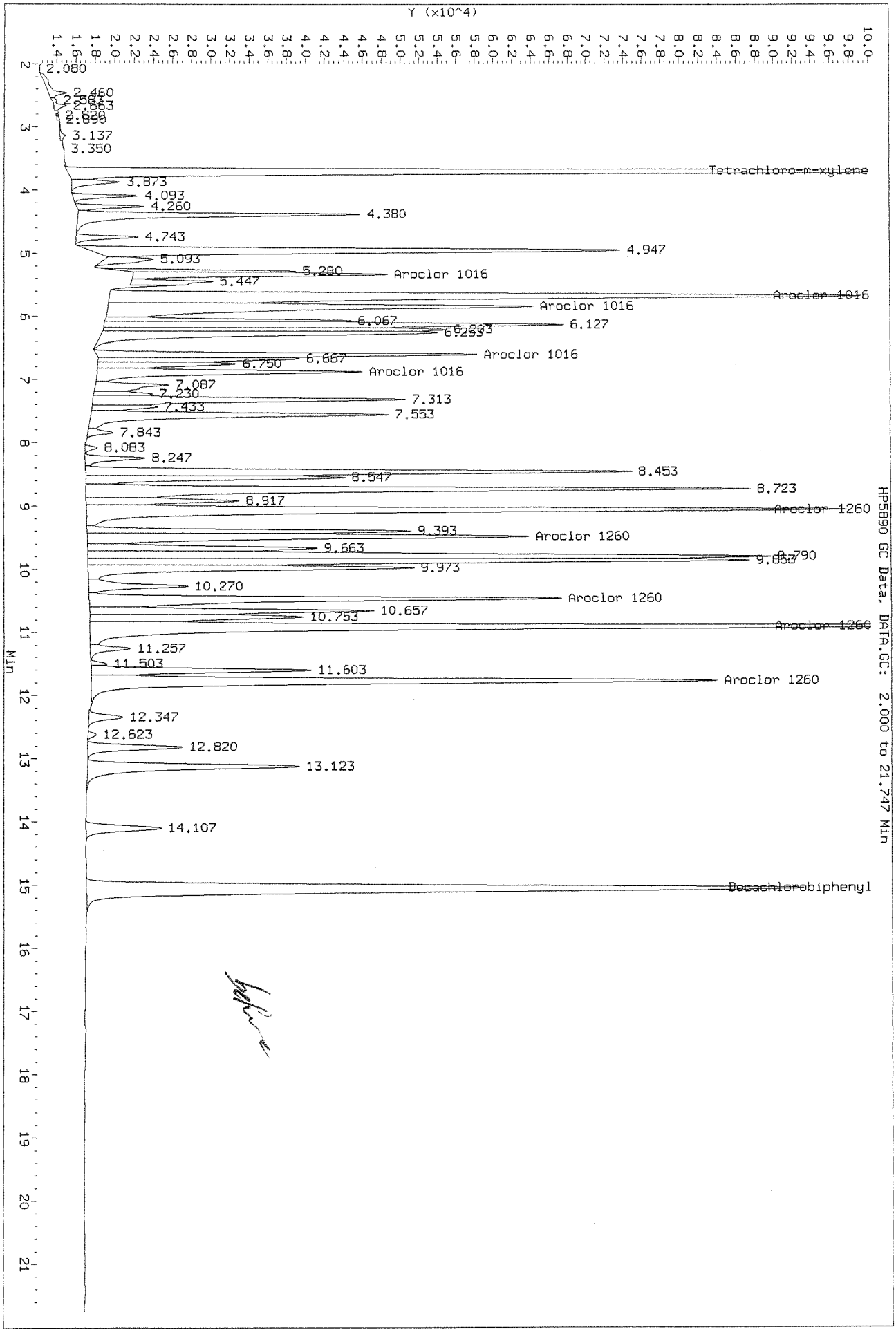


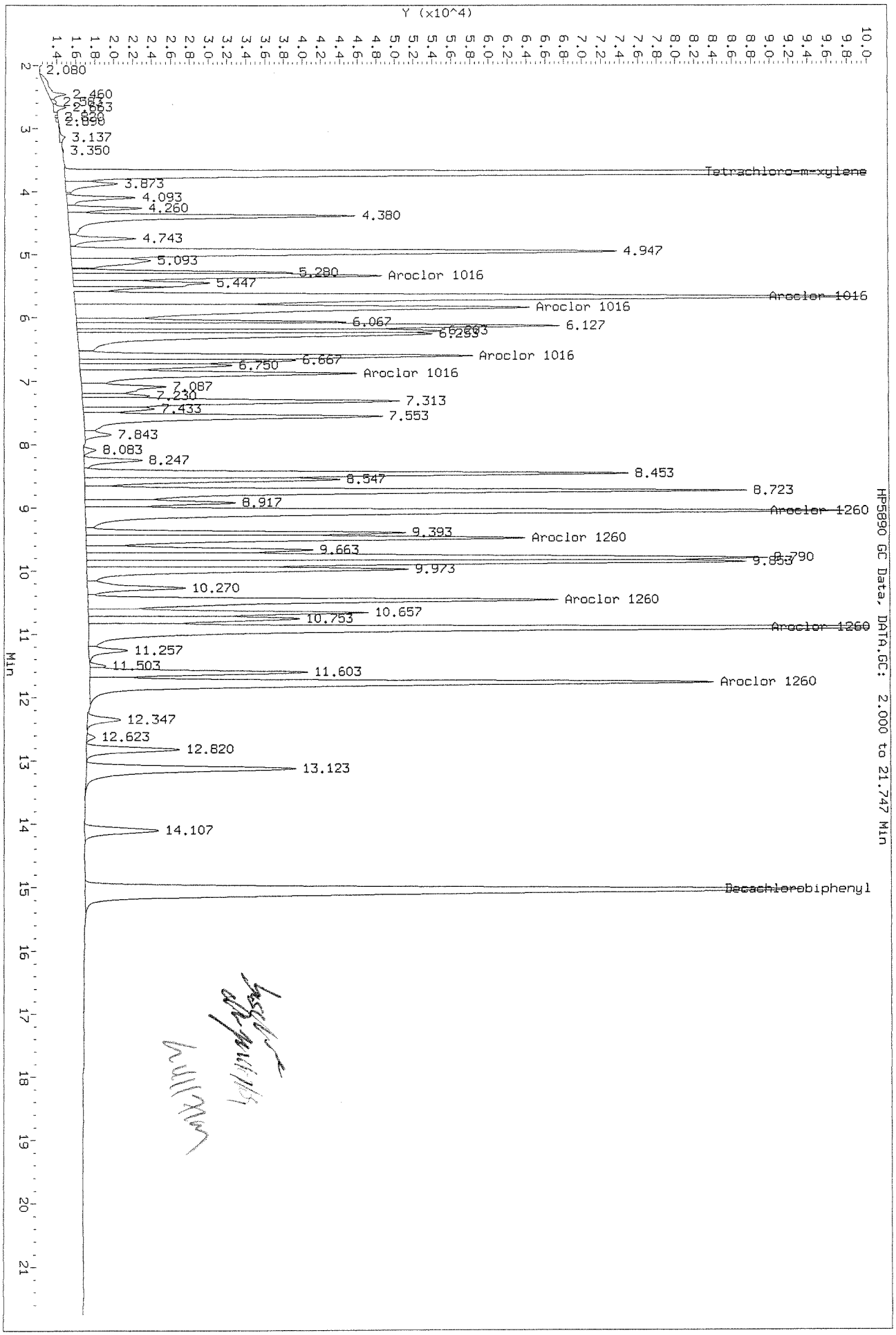
Data File: \\Cash1\Acqudata\GC09\data\111609_r.b\1116R019.D
Date : 17-NOV-2009 05:01
Client ID:
Sample Info: 1660 @ 1000ppb | PCB5-41P | KWG0910773-6

Instrument: GC09.i
Operator: JMSmith
Column diameter: 0.53

Column phase: DB-XLB




Data File: \\cash1\acqudata\GC09\data\111609.B\1116F019.D
Injection Date: 17-NOV-2009 05:01
Instrument: GC09.i
Client Sample ID:
Y (x10^4)
Min
HP5890 GC Data, DATA.GC: 2.000 to 21.747 Min
2.080
2.460
3.137
3.350
Tetrachloro-m-xylene
3.873
4.093
4.260
4.380
4.743
4.947
5.093
5.280
Aroclor 1016
5.447
Aroclor 1016
Aroclor 1016
6.067
6.127
Aroclor 1016
6.667
6.750
Aroclor 1016
7.087
7.230
7.313
7.433
7.553
7.843
8.083
8.247
8.453
8.547
8.723
8.917
Aroclor 1260
9.393
Aroclor 1260
9.663
9.790
9.973
10.270
Aroclor 1260
10.657
10.753
Aroclor 1260
11.257
11.503
11.603
Aroclor 1260
12.347
12.623
12.820
13.123
14.107
Decachlorobiphenyl


Data File: \\cash1\acqudata\GC09\data\111609.B\1116F019.D
Injection Date: 17-NOV-2009 05:01
Instrument: GC09.i
Client Sample ID:
Y (x10^4)
Min
HP5890 GC Data, DATA.GC: 2.000 to 21.747 Min
2.080
2.460
2.890
3.137
3.350
Tetrachloro-m-xylene
3.873
4.093
4.260
4.380
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4.947
5.093
5.280
Aroclor 1016
5.447
Aroclor 1016
Aroclor 1016
6.067
6.127
Aroclor 1016
6.750
6.667
Aroclor 1016
7.087
7.230
7.313
7.433
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7.843
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8.453
8.547
8.723
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Aroclor 1260
9.393
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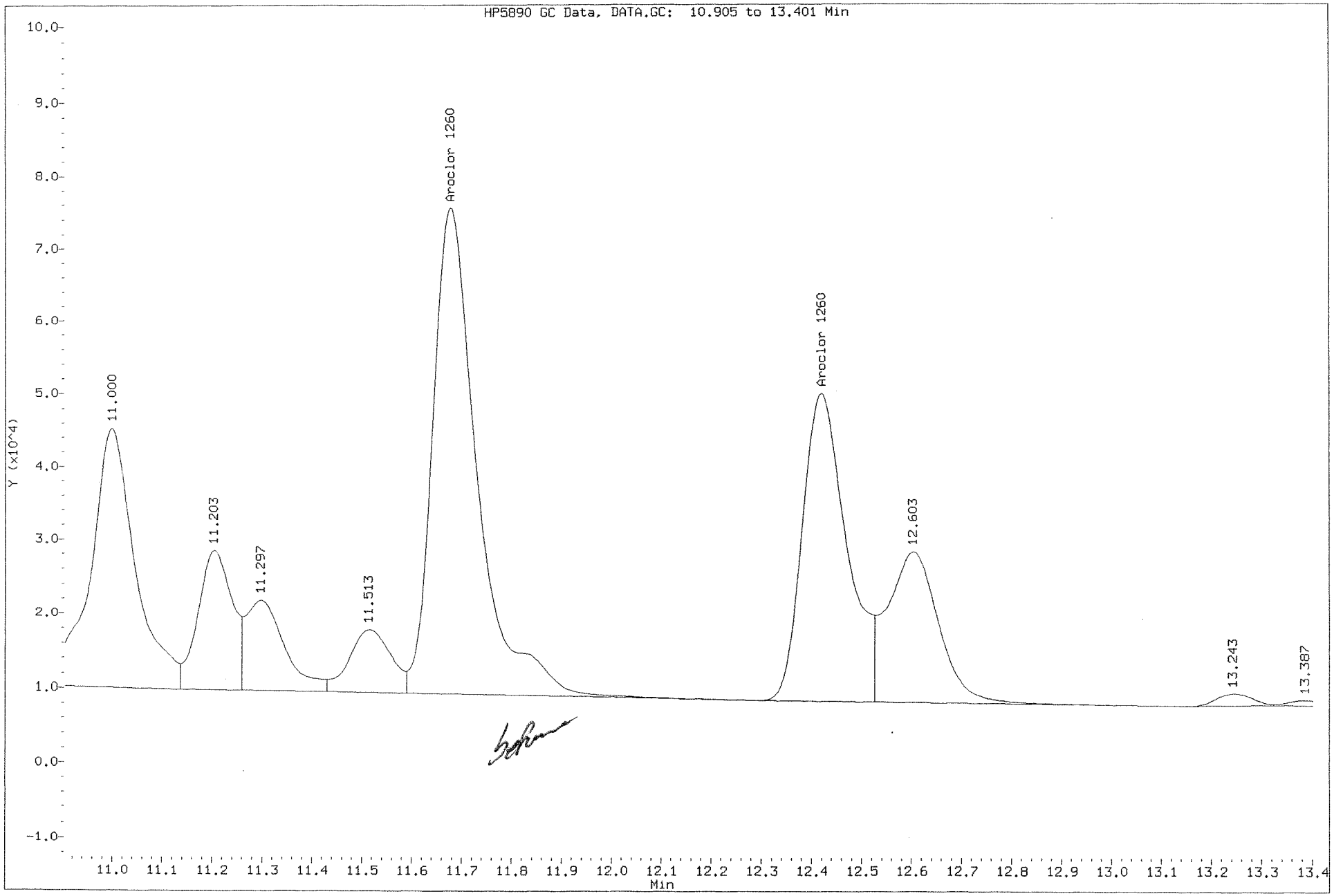
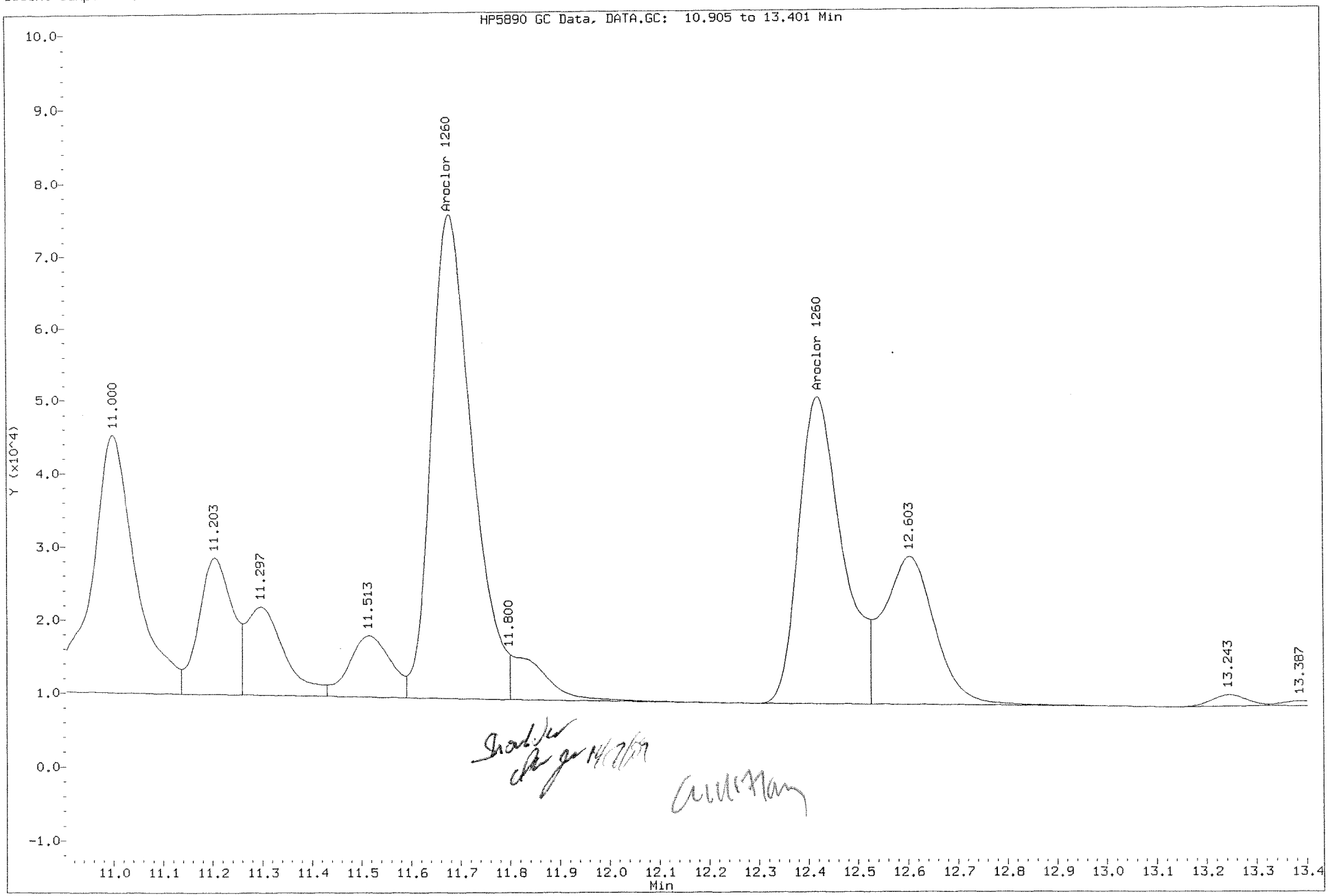
9.663
9.790
9.973
10.270
Aroclor 1260
10.657
10.753
Aroclor 1260
11.257
11.503
11.603
Aroclor 1260
12.347
12.623
12.820
13.123
14.107
Decachlorobiphenyl

Data File: \\cash1\acqudata\GC09\data\111609_r.b\1116R019.D
Injection Date: 17-NOV-2009 05:01
Instrument: GC09.i
Client Sample ID:

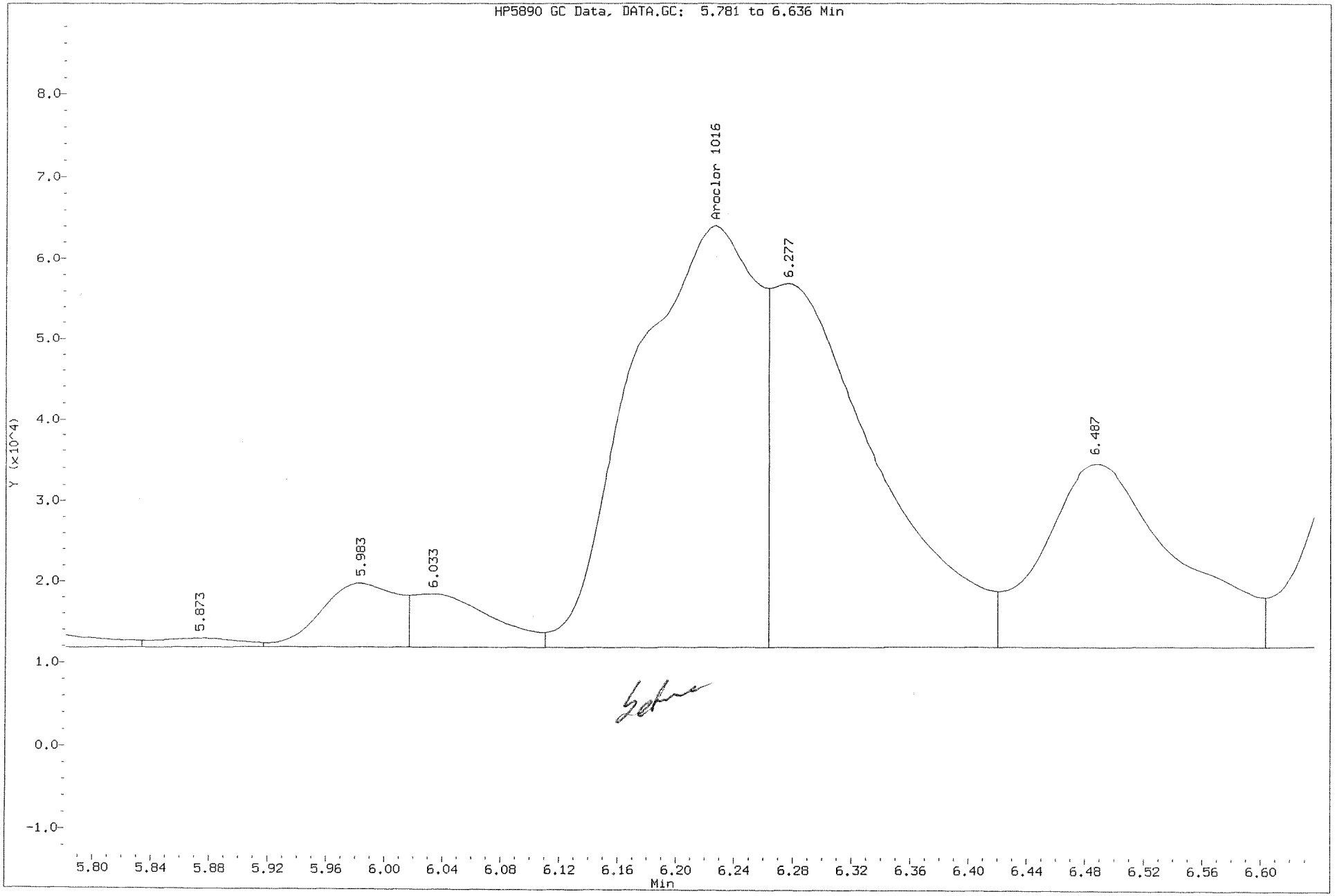


Data File: \\cash1\acqudata\GC09\data\111609_r.b\1116R019.D
Injection Date: 17-NOV-2009 05:01
Instrument: GC09.i
Client Sample ID:



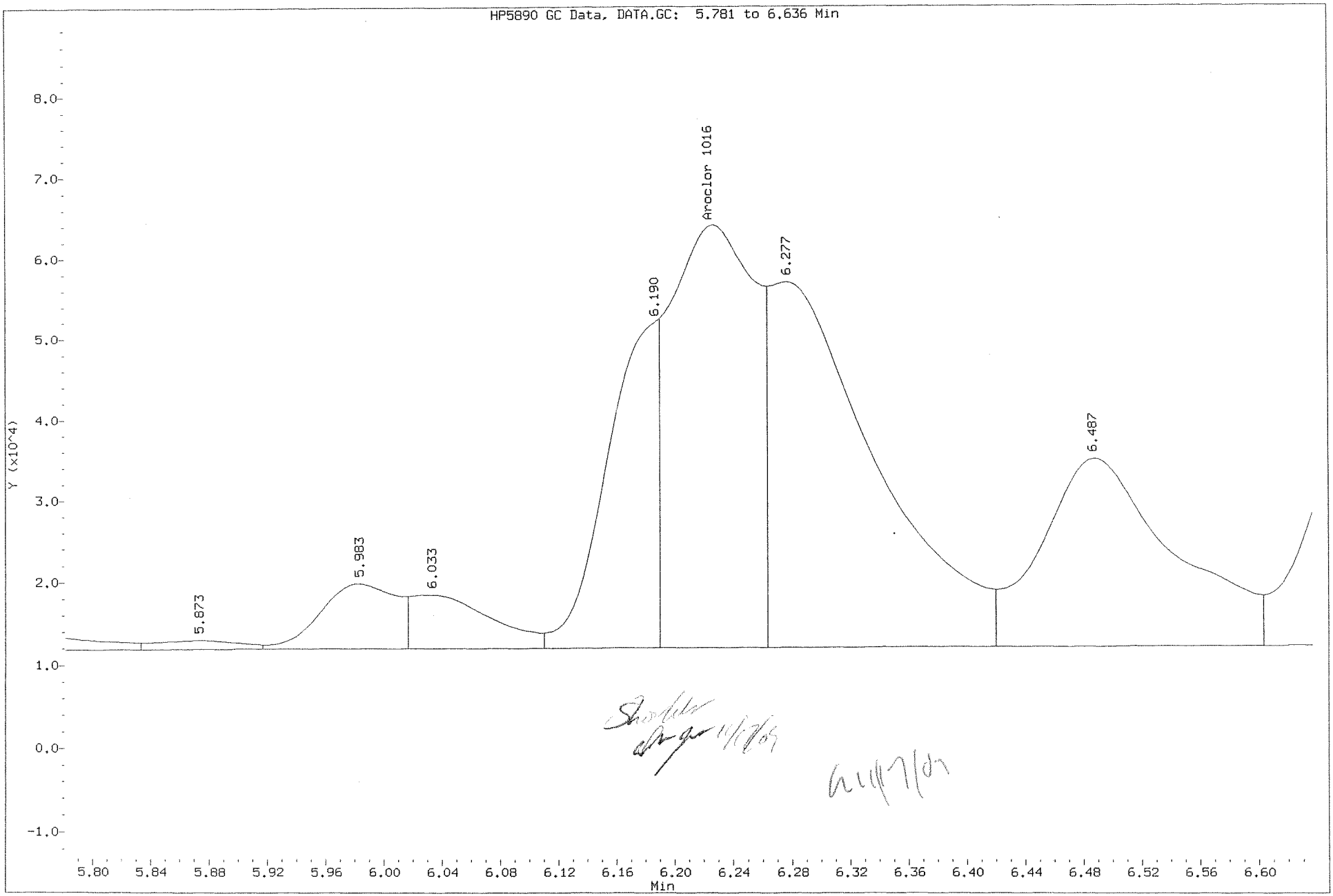
1054

Data File: \\cash1\acqudata\GC09\data\111609_r.b\1116R019.D
Injection Date: 17-NOV-2009 05:01
Instrument: GC09.i
Client Sample ID:



1055

Data File: \\cash1\acqudata\GC09\data\111609_r.b\1116R019.D
Injection Date: 17-NOV-2009 05:01
Instrument: GC09.i
Client Sample ID:



1056

Organic Analysis:
Polychlorinated Biphenyls (PCBs)

Validation Package

Sample Prep and Screen Data

Due 11/06
GCMS

DILUTION LOG

LAB ID.	ALIQUOT	FINAL VOLUME	DILUTION FACTOR	DATE	By:	Solvent Lot #	COMMENTS / **Ext. Date**
K0509140-008	100 ml	1000 ml	10x	11/16/05	JH	hex/acetone	target 11/16/05

Preparation Information

Group ID:	KWG0910513	**Prep Method:**	EPA 3541	**Prep Date:**	11/10/09 00:00
Department:	Semivoa GC				

Lab Code	Client ID	Product	Matrix	Amt. Ext.	Final Vol.	Solids
K0909140-001	M-4-A	8082 PCB_LL	SEDIMENT	21.02g	4ml	
K0909140-002	M-4-B	8082 PCB_LL	SEDIMENT	20.45g	4ml	
K0909140-003	M-4-C	8082 PCB_LL	SEDIMENT	20.82g	4ml	
K0909140-004	M-1-B	8082 PCB_LL	SEDIMENT	20.04g	4ml	
K0909140-005	M-2-C	8082 PCB_LL	SEDIMENT	20.20g	4ml	
K0909140-006	M-2-A	8082 PCB_LL	SEDIMENT	20.20g	4ml	
K0909140-007	M-3-B	8082 PCB_LL	SEDIMENT	20.62g	4ml	
K0909140-008	M-2-B	8082 PCB_LL	SEDIMENT	20.36g	4ml	
K0909140-009	M-1-C	8082 PCB_LL	SEDIMENT	20.41g	4ml	
K0909140-010	M-3-C	8082 PCB_LL	SEDIMENT	18.13g	4ml	
K0909140-011	B-1-A	8082 PCB_LL	SEDIMENT	20.16g	4ml	
K0909140-012	B-1-B	8082 PCB_LL	SEDIMENT	20.38g	4ml	
K0909140-013	M-3-A	8082 PCB_LL	SEDIMENT	20.44g	4ml	
K0909140-014	M-1-A	8082 PCB_LL	SEDIMENT	20.03g	4ml	
K0909140-015	M-5-B	8082 PCB_LL	SEDIMENT	20.37g	4ml	
K0909140-016	M-5-A	8082 PCB_LL	SEDIMENT	20.50g	4ml	
K0909140-017	M-5-C	8082 PCB_LL	SEDIMENT	20.06g	4ml	
K0909140-018	M-5-B2	8082 PCB_LL	SEDIMENT	20.01g	4ml	
K0909140-019	B-1-C	8082 PCB_LL	SEDIMENT	20.29g	4ml	
K0910843-001	WF-SD-C	8082 PCB_LL	SOIL	40.50g	4ml	
KWG0910513-1	Matrix Spike	8082 PCB_LL	SEDIMENT	20.25g	4ml	
KWG0910513-2	Duplicate Matrix Spike	8082 PCB_LL	SEDIMENT	20.25g	4ml	
KWG0910513-5	Lab Control Sample	8082 PCB_LL	SEDIMENT	20.00g	4ml	
KWG0910513-6	Method Blank	8082 PCB_LL	SEDIMENT	40.50g	4ml	

Lab Code	Parent Lab Code	Comments
KWG0910513-1	K0909140-006	
KWG0910513-2	K0909140-006	

Lab Code	Prep Event ID	Surrogate Solution ID	Amount Added	Spike Solution ID	Amount Added	Witness
K0909140-001	865578	PCB5-44E	200uL			SHeflin
K0909140-002	865579	PCB5-44E	200uL			SHeflin
K0909140-003	865580	PCB5-44E	200uL			SHeflin
K0909140-004	865581	PCB5-44E	200uL			SHeflin
K0909140-005	865582	PCB5-44E	200uL			SHeflin

Comments:

Started By: DWood Assisted By:

Completed By: KMiller Assisted By:

Reviewed By: Date: Storage:

Training: Yes / No (circled: No)

Yes / No

Chain of Custody

Relinquished By: Date: 11-12-9

Received By: Date: 11/13/09

Extracts Examined: Yes (circled) / No

Group ID:	KWG0910513	**Prep Method:**	EPA 3541	**Prep Date:**	11/10/09 00:00
Department:	Semivoa GC				

Lab Code	Prep Event ID	Surrogate Solution ID	Amount Added	Spike Solution ID	Amount Added	Witness
K0909140-006	865583	PCB5-44E	200uL			SHeflin
K0909140-007	865584	PCB5-44E	200uL			SHeflin
K0909140-008	865585	PCB5-44E	200uL			SHeflin
K0909140-009	865586	PCB5-44E	200uL			SHeflin
K0909140-010	865587	PCB5-44E	200uL			SHeflin
K0909140-011	865588	PCB5-44E	200uL			SHeflin
K0909140-012	865589	PCB5-44E	200uL			SHeflin
K0909140-013	865590	PCB5-44E	200uL			SHeflin
K0909140-014	865591	PCB5-44E	200uL			SHeflin
K0909140-015	865592	PCB5-44E	200uL			SHeflin
K0909140-016	865593	PCB5-44E	200uL			SHeflin
K0909140-017	865594	PCB5-44E	200uL			SHeflin
K0909140-018	865595	PCB5-44E	200uL			SHeflin
K0909140-019	865577	PCB5-44E	200uL			SHeflin
K0910843-001	865779	PCB5-44E	200uL			SHeflin
KWG0910513-1	865596	PCB5-44E	200uL	PCB5-43A	100uL	SHeflin
KWG0910513-2	865597	PCB5-44E	200uL	PCB5-43A	100uL	SHeflin
KWG0910513-5	865780	PCB5-44E	200uL	PCB5-43A	100uL	SHeflin
KWG0910513-6	865781	PCB5-44E	200uL			SHeflin

Comments:

Started By: DWood Assisted By: Training Yes No

Completed By: KMiller Assisted By: Yes No

Reviewed By: Date: Storage:

Chain of Custody

Relinquished By: Date: 11-12-09

Received By: Date: 11/13/09 Extracts Examined Yes No

Preparation Information

1017

Group ID:	KWG0910513	**Prep Method:**		**Prep Date:**	11-10-09
Department:	Semivoa GC				

#	Lab Code	Client ID	B#	√	Product	Matrix	Amt. Ext. g	pH	Int. Vol.	Final Vol.	Surr. Added	Spike Added
1	K0909140-001	M-4-A	NA	✓	8082 PCB_LL	SEDIMENT	21.02	NA	NA	4ml	200ul	NA
2	K0909140-002	M-4-B		✓	8082 PCB_LL	SEDIMENT	20.45					
3	K0909140-003	M-4-C		✓	8082 PCB_LL	SEDIMENT	20.82					
4	K0909140-004	M-1-B		✓	8082 PCB_LL	SEDIMENT	20.04					
5	K0909140-005	M-2-C		✓	8082 PCB_LL	SEDIMENT	20.20					
6	K0909140-006	M-2-A		✓	8082 PCB_LL	SEDIMENT	20.20					
7	K0909140-007	M-3-B		✓	8082 PCB_LL	SEDIMENT	20.62					
8	K0909140-008	M-2-B		✓	8082 PCB_LL	SEDIMENT	20.36					
9	K0909140-009	M-1-C		✓	8082 PCB_LL	SEDIMENT	20.41					
10	K0909140-010	M-3-C		✓	8082 PCB_LL	SEDIMENT	18.13					
11	K0909140-011	B-1-A		✓	8082 PCB_LL	SEDIMENT	20.16					
12	K0909140-012	B-1-B		✓	8082 PCB_LL	SEDIMENT	20.38					
13	K0909140-013	M-3-A		✓	8082 PCB_LL	SEDIMENT	20.44					
14	K0909140-014	M-1-A		✓	8082 PCB_LL	SEDIMENT	20.08					
15	K0909140-015	M-5-B		✓	8082 PCB_LL	SEDIMENT	20.37					
16	K0909140-016	M-5-A		✓	8082 PCB_LL	SEDIMENT	20.50					
17	K0909140-017	M-5-C		✓	8082 PCB_LL	SEDIMENT	20.06					

Comments: 100472

Surrogate ID: PCBS-44E 2.0ppm 200ul exp 4-13-10

Spike ID: PCBS-43A 40ug/ml 100ul exp 3-23-10

Witness: SH 11-10-09

Started By: DWood Assisted By:

Completed By: Assisted By:

Group ID:	KWG0910513	**Prep Method:**	**Prep Date:** 11-10-09
Department:	Semivoa GC		

#	Lab Code	Client ID	B#	√	Product	Matrix	Amt. Ext. g	pH	Int. Vol.	Final Vol.	Surr. Added	Spike Added
18	K0909140-018	M-5-B2	NA	✓	8082 PCB_LL	SEDIMENT	20.01	NA	NA	4 ml	200 ul	NA
19	K0909140-019	B-1-C	↓	✓	8082 PCB_LL	SEDIMENT	20.29	↓	↓	↓	↓	↓
20	K0910843-001	WF-SD-C	↓	✓	8082 PCB_LL	SOIL	40.50	↓	↓	↓	↓	↓
21	KWG0910513-1	Matrix Spike 9140-6	↓	✓	8082 PCB_LL	SEDIMENT	20.25	↓	↓	↓	↓	100 ul
22	KWG0910513-2	Duplicate Matrix Spike 9140-6	↓	✓	8082 PCB_LL	SEDIMENT	20.25	↓	↓	↓	↓	↓
23	KWG0910513-3	Matrix Spike	↓		8082 PCB_LL	SEDIMENT		↓	↓	↓	↓	↓
24	KWG0910513-4	Duplicate Matrix Spike	↓		8082 PCB_LL	SEDIMENT		↓	↓	↓	↓	↓
25	KWG0910513-5	Lab Control Sample	↓	-	8082 PCB_LL	SEDIMENT	20.00	↓	NA	4 ml	↓	↓
26	KWG0910513-6	Method Blank	↓	-	8082 PCB_LL	SEDIMENT	40.50	↓	↓	↓	↓	NA

DPW 11-11-09

Comments:

Surrogate ID: See pg 1

Spike ID:

Witness: SH 11-10-09

Started By: DWood

Assisted By:

Completed By:

Assisted By:

Additional Prep Information for Pest/PCB in Soil by EPA 3541

Service Request # K0909140 Work Group # Pest: _____

PCB: KWG0910513

Extraction (3541):

Sulfate Lot # 48223846 Matrix Sand Lot # 0219

DCM Lot # C7828

Soxtherm Start (Time/Date/Initial): 11:55pm / 11-10-09 / SHAW

Soxtherm Stop (Time/Date/Initial): 6:20am / 11-11-09 / SHAW

Clean-ups:

GPC Clean-up (3640): — (Initial/Date)

Solvent Exchanged To Hexane (Initial/Date): 11-9-9 EE S-Evap Temp: —

Hexane Lot # 49175 N-Evap Temp: 35

Carbon Clean-up: — 4:1 Hexane/DCM Lot # —

Florisil Clean-up (3620): — Florisil Lot # —

1:1 Hexane/Acetone Lot # — 9:1 Hexane/Acetone Lot # —

Sulfuric Acid Clean-up (3665): 11-12-9 K Sulfuric Acid Lot # 47264

Sulfur Clean-up (3660M): 11-12-9 K Mercury Lot # 4821950

Pesticide Vials: — Vial Storage: _____

PCB Vials: Green Vial Storage: Ludwig B1-D4

Archived Extract Storage: Archived

Comments/Observations: _____

Bench Sheet Review Check List
☐ Hold Times Met (if no, Reason: _____)
☐ Prep date, dept, method, product code correct in stealth
☐ Spike Information correct
☐ Weights/Volumes and units correct on raw and final bench sheets
☐ Sample IDs have been checked—Bottle numbers appended if required
☐ Names present for: Started by, Completed by, relinquished by, and witnessed by.
☐ Training has been circled
☐ Extract Storage recorded
☐ Additional Prep Sheet completely filled out (NA or line out Blanks)
☐ All clean-ups have been noted on additional prep sheet
☐ Signed service request with Form V, if applicable, has been attached

Sequence Name: D:\GC09\SEQUENCE\111409.S
Comment:
Operator: JMSmith
Data Path: D:\GC09\DATA\111409.B\
Pre-Seq Cmd:
Post-Seq Cmd:

Method Sections To Run
(X) Full Method
( ) Reprocessing Only

On A Barcode Mismatch
(X) Inject Anyway
( ) Don't Inject

CAL 8918
Run # 111948

Line	Type	Vial	DataFile	Method	Sample Name
1	DeleteGC				
2	MaskName - ----r---				
3	Comment - PCB Aroclors by EPA 8082				
4	Comment - USE 111309A.B\1113F028,029 FOR OPENING IB,CCV				
5	MB	22	1114F001	PCB1	KWG0910291-4 | MB | 8082 PCB_LL | SED
6	LCS	23	1114F002	PCB1	KWG0910291-3 | LCS | 8082 PCB_LL | SE
7	SMPL	24	1114F003	PCB1	K0910481-001 | OU2-SS42-C-10-50
8	MS	25	1114F004	PCB1	KWG0910291-1 | K0910481-001MS | 8082
9	DMS	26	1114F005	PCB1	KWG0910291-2 | K0910481-001DMS | 8082
10	SMPL	27	1114F006	PCB1	K0910481-002 | OU2-SS42-C-50-90
11	SMPL	28	1114F007	PCB1	K0910481-003 | OU2-SS15-C-10-50
12	SMPL	29	1114F008	PCB1	K0910481-004 | OU2-SS15-C-50-90
13	SMPL	30	1114F009	PCB1	K0910481-005 | OU2-SS16-C-10-50
14	SMPL	31	1114F010	PCB1	K0910481-006 | OU2-SS16-C-50-90
15	SMPL	32	1114F011	PCB1	K0910481-007 | OU2-SS17-C-10-50
16	SMPL	33	1114F012	PCB1	K0910481-008 | OU2-SS17-C-50-90
17	IB	86	1114F013	PCB1	IB
18	IB	87	1114F014	PCB1	KWG0910694-3 | IB | 8082 PCB
19	CCV	97	1114F015	PCB1	1660 @ 1000ppb | PCB5-41P | KWG091069
20	IB	86	1114F016	PCB1	IB
21	MB	34	1114F017	PCB1	KWG0910513-6 | MB | 8082 PCB_LL | SED
22	LCS	35	1114F018	PCB1	KWG0910513-5 | LCS | 8082 PCB_LL | SE
23	SMPL	36	1114F019	PCB1	K0909140-001 | M-4-A
24	SMPL	37	1114F020	PCB1	K0909140-002 | M-4-B
25	SMPL	38	1114F021	PCB1	K0909140-003 | M-4-C
26	SMPL	39	1114F022	PCB1	K0909140-004 | M-1-B
27	SMPL	40	1114F023	PCB1	K0909140-005 | M-2-C
28	SMPL	41	1114F024	PCB1	K0909140-006 | M-2-A
29	MS	42	1114F025	PCB1	KWG0910513-1 | K0909140-006MS | 8082
30	DMS	43	1114F026	PCB1	KWG0910513-2 | K0909140-006DMS | 8082
31	IB	86	1114F027	PCB1	IB
32	IB	87	1114F028	PCB1	KWG0910694-5 | IB | 8082 PCB
33	CCV	98	1114F029	PCB1	1660 @ 1000ppb | PCB5-41P | KWG091069
34	IB	86	1114F030	PCB1	IB
35	SMPL	44	1114F031	PCB1	K0909140-007 | M-3-B
36	SMPL	45	1114F032	PCB1	K0909140-008 | M-2-B re/10x
37	SMPL	46	1114F033	PCB1	K0909140-009 | M-1-C
38	SMPL	47	1114F034	PCB1	K0909140-010 | M-3-C
39	SMPL	48	1114F035	PCB1	K0909140-011 | B-1-A
40	SMPL	49	1114F036	PCB1	K0909140-012 | B-1-B
41	SMPL	50	1114F037	PCB1	K0909140-013 | M-3-A
42	IB	86	1114F038	PCB1	IB
43	IB	87	1114F039	PCB1	KWG0910694-7 | IB | 8082 PCB

Last Modified: Fri Nov 13 19:42:30 2009 Page: 1

Sequence Name: D:\GC09\SEQUENCE\111409.S

	Line	Type	Vial	DataFile	Method	Sample Name
OK, OK	44	CCV	98	1114F040	PCB1	1660 @ 1000ppb | PCB5-41P | KWG091069
	45	IB	86	1114F041	PCB1	IB
	46	SMPL	51	1114F042	PCB1	K0909140-014 | M-1-A
	47	SMPL	52	1114F043	PCB1	K0909140-015 | M-5-B
	48	SMPL	53	1114F044	PCB1	K0909140-016 | M-5-A
	49	SMPL	54	1114F045	PCB1	K0909140-017 | M-5-C
	50	SMPL	55	1114F046	PCB1	K0909140-018 | M-5-B2
	51	SMPL	56	1114F047	PCB1	K0909140-019 | B-1-C
	52	SMPL	57	1114F048	PCB1	K0910843-001 | WF-SD-C
	53	IB	86	1114F049	PCB1	IB
	54	IB	87	1114F050	PCB1	KWG0910694-9 | IB | 8082 PCB
OK, OK	55	CCV	99	1114F051	PCB1	1660 @ 1000ppb | PCB5-41P | KWG091069
	56	IB	86	1114F052	PCB1	IB

Exception Report

Data File:	\\CASH1\ACQUDATA\GC09\DATA\111409.B\1114F014.D	**Date Acquired:**	11/14/2009 14:54
Lab ID:	KWG0910694-3	**Date Quantitated:**	11/16/2009 12:39
RunType:	IB	**Batch ID:**	KWG0910694
Matrix:	LIQUID	**Analysis Method:**	8082
		MethodJoinID:	MJ696

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	

Primary Review: _____

Secondary Review: _____

Exception Report

Data File: \\CASH1\ACQUDATA\GC09\DATA\111409_R.B\1114R014.D
Lab ID: KWG0910694-3
RunType: IB
Matrix: LIQUID

Date Acquired: 11/14/2009 14:54
Date Quantitated: 11/16/2009 12:41
Batch ID: KWG0910694
Analysis Method: 8082
MethodJoinID: MJ696

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	

Primary Review: _____

Secondary Review: _____

Quantitation Report

Bottle ID:		**Tier:**		**Matrix:**	LIQUID
Prod Code:	8082 PCB	**Collect Date:**		**Receive Date:**	11/13/2009

Analysis Lot:	KWG0910694	**Prep Lot:**		**Report Group:**	
Analysis Method:	8082	**Prep Method:**			
Prep Ref:		**Prep Date:**			

Quant Method:	\\CASH1\ACQUDATA\GC09\DATA\111409.B\101409_F.M	**Calibration ID:**	CAL8918
Title:			
MB Ref:		**Method ID:**	MJ696
		Quant based on Method	

Data File #1:	J:\GC09\DATA\111409.B\1114F014.D			**Instrument:**	GC09.i
Data File #2:	\\cash1\acqudata\GC09\data\111409_r.b\1114R014.D			**Vial:**	87
Acqu Date:	11/14/2009 14:54	**Quant Date:**	11/16/2009 12:39	**Dilution:**	1.0
Run Type:	IB			**Soln Conc. Units:**	ng/mL
Lab ID:	KWG0910694-3				
Signal #1:	DB-35MS	**Signal #2:**	DB-XLB		

Surrogate Compounds

Parameter Name	RT #1	RT #2	Resp #1	Respe #2	ng/mL #1	ng/mL #2			Rpt
Tetrachloro-m-xylene	0.00		0d	0d	0.0000				NA
			%Recovery =		NA	NA	Limits =	10-135	
Decachlorobiphenyl	0.00		0	0	0.0000				NA
			%Recovery =		NA	NA	Limits =	35-133	

Target Compounds

Final Conc. Units:

Parameter Name	RT #1	RT #2	Resp #1	Resp #2	ng/mL #1	ng/mL #2	ug/Kg #1	ug/Kg #2	Rpt
Aroclor 1016			0	0	0.0000	0.0000			
Aroclor 1016 {1}			0d	0	0.0000	0.0000			
Aroclor 1016 {2}			0d	0	0.0000	0.0000			
Aroclor 1016 {3}			0d	0	0.0000	0.0000			
Aroclor 1016 {4}			0d	0	0.0000	0.0000			
Aroclor 1016 {5}			0d	0	0.0000	0.0000			
Aroclor 1221			0	0	0.0000	0.0000			
Aroclor 1221 {1}			0d	0	0.0000	0.0000			
Aroclor 1221 {2}			0d	0	0.0000	0.0000			
Aroclor 1221 {3}			0d	0	0.0000	0.0000			
Aroclor 1221 {4}			0d	0	0.0000	0.0000			
Aroclor 1232			0	0	0.0000	0.0000			
Aroclor 1232 {1}			0d	0	0.0000	0.0000			
Aroclor 1232 {2}			0d	0	0.0000	0.0000			
Aroclor 1232 {3}			0d	0	0.0000	0.0000			
Aroclor 1232 {4}			0d	0	0.0000	0.0000			
Aroclor 1242			0	0	0.0000	0.0000			
Aroclor 1242 {1}			0d	0	0.0000	0.0000			

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Data File #1:	J:\GC09\DATA\111409.B\1114F014.D			**Instrument:**	GC09.i
Data File #2:	\\cash1\acqudata\GC09\data\111409_r.b\1114R014.D			**Vial:**	87
Acqu Date:	11/14/2009 14:54	**Quant Date:**	11/16/2009 12:39	**Dilution:**	1.0
Run Type:	IB			**Soln Conc. Units:**	ng/mL
Lab ID:	KWG0910694-3				
Signal #1:	DB-35MS	**Signal #2:**	DB-XLB		

Target Compounds **Final Conc. Units:**

Parameter Name	RT #1	RT #2	Resp #1	Resp #2	ng/mL #1	ng/mL #2	ug/Kg #1	ug/Kg #2	Rpt
Aroclor 1242 {2}			0d	0	0.0000	0.0000			
Aroclor 1242 {3}			0d	0	0.0000	0.0000			
Aroclor 1242 {4}			0d	0	0.0000	0.0000			
Aroclor 1242 {5}			0d	0	0.0000	0.0000			
Aroclor 1248			0	0	0.0000	0.0000			
Aroclor 1248 {1}			0d	0	0.0000	0.0000			
Aroclor 1248 {2}			0d	0	0.0000	0.0000			
Aroclor 1248 {3}			0d	0	0.0000	0.0000			
Aroclor 1248 {4}			0d	0	0.0000	0.0000			
Aroclor 1248 {5}			0d	0	0.0000	0.0000			
Aroclor 1254			0	0	0.0000	0.0000			
Aroclor 1254 {1}			0d	0	0.0000	0.0000			
Aroclor 1254 {2}			0d	0	0.0000	0.0000			
Aroclor 1254 {3}			0d	0	0.0000	0.0000			
Aroclor 1254 {4}			0d	0	0.0000	0.0000			
Aroclor 1254 {5}			0d	0	0.0000	0.0000			
Aroclor 1260			0	0	0.0000	0.0000			
Aroclor 1260 {1}			0	0	0.0000	0.0000			
Aroclor 1260 {2}			0	0	0.0000	0.0000			
Aroclor 1260 {3}			0	0	0.0000	0.0000			
Aroclor 1260 {4}			0	0	0.0000	0.0000			
Aroclor 1260 {5}			0	0	0.0000	0.0000			
Aroclor 1262			0	0	0.0000	0.0000			
Aroclor 1262 {1}			0	0	0.0000	0.0000			
Aroclor 1262 {2}			0	0	0.0000	0.0000			
Aroclor 1262 {3}			0	0	0.0000	0.0000			
Aroclor 1262 {4}			0	0	.0.0000	0.0000			
Aroclor 1262 {5}			0	0	0.0000	0.0000			
Aroclor 1268			0	0	0.0000	0.0000			
Aroclor 1268 {1}			0	0	0.0000	0.0000			
Aroclor 1268 {2}			0	0	0.0000	0.0000			
Aroclor 1268 {3}			0	0	0.0000	0.0000			
Aroclor 1268 {4}			0	0	0.0000	0.0000			
Aroclor 1268 {5}			0	0	0.0000	0.0000			

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Data File: \\cash1\acqudata\GC09\data\111409.B\1114F014.D
Report Date: 16-Nov-2009 12:39

Laboratory Name

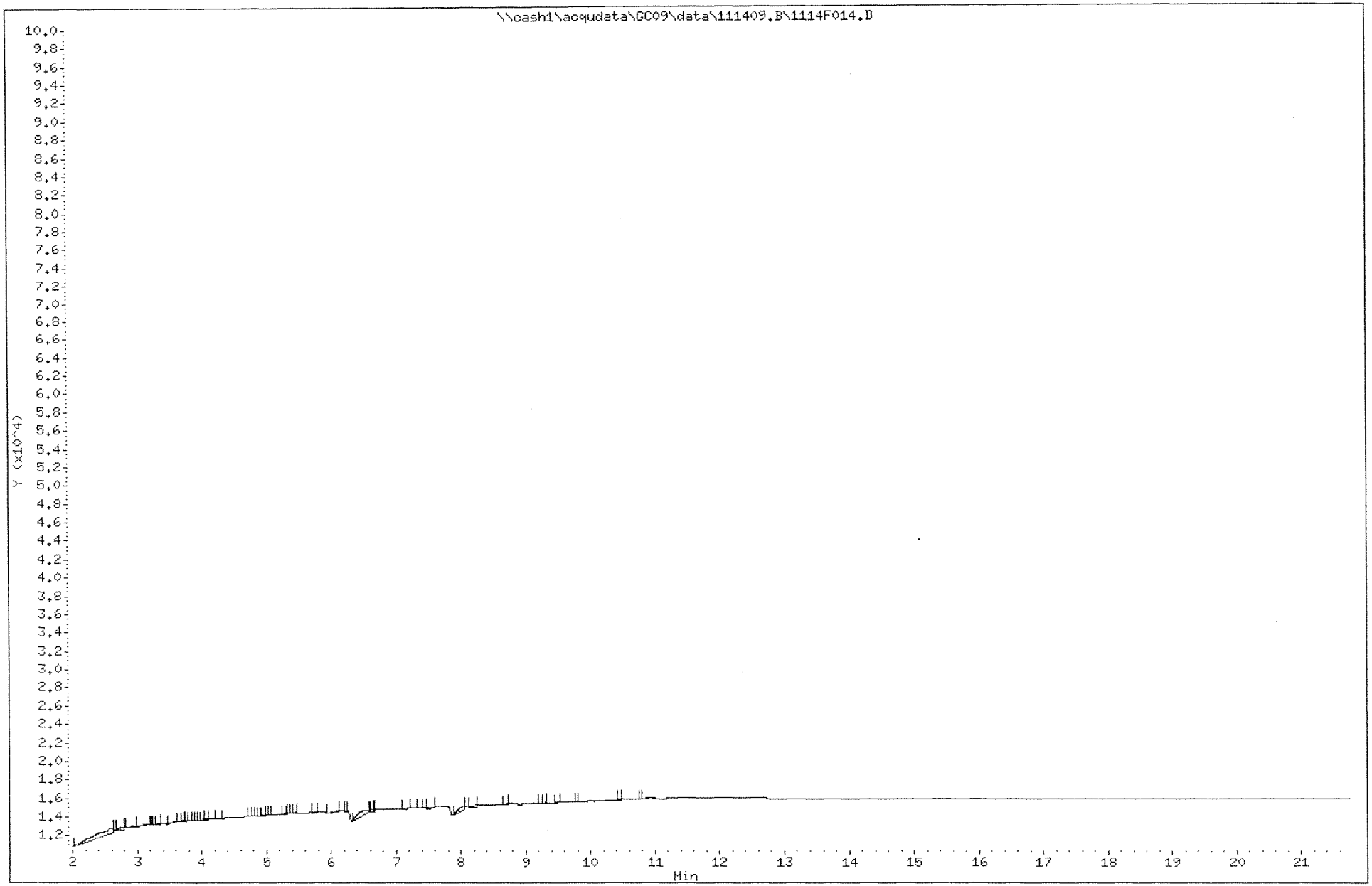
Sample #1 : \\cash1\acqudata\GC09\data\111409.B\1114F014.D
Sample #2 : \\cash1\acqudata\GC09\data\111409_r.b\1114R014.D
Inj Date : 14-NOV-2009 14:54
Sample Info: KWG0910694-3 | IB | 8082 PCB
Misc Info : SEMIVOA GC\W0910694\3-IB.H
Cal Date : 16-NOV-2009 10:30
Operator : JMSmith
Inst ID : GC09.i
Dil Factor : 1.000000

Method #1 : \\cash1\acqudata\GC09\data\111409.B\101409_f.m
Method #2 : \\cash1\acqudata\GC09\data\111409_r.b\101409_r.m
Sub List #1 : ALL.SUB
Sub List #2 : ALL.SUB
Col #1 Phase : DB-35MS
Col #2 Phase : DB-XLB

Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2	Target Range	Ratio

Data File: \\cash1\acqudata\GC09\data\111409.B\1114F014.D
Date : 14-NOV-2009 14:54
Client ID:
Sample Info: KWG0910694-3 | IB | 8082 PCB

Instrument: GC09.i
Operator: JMSmith
Column phase: DB-35MS
Column diameter: 0.53

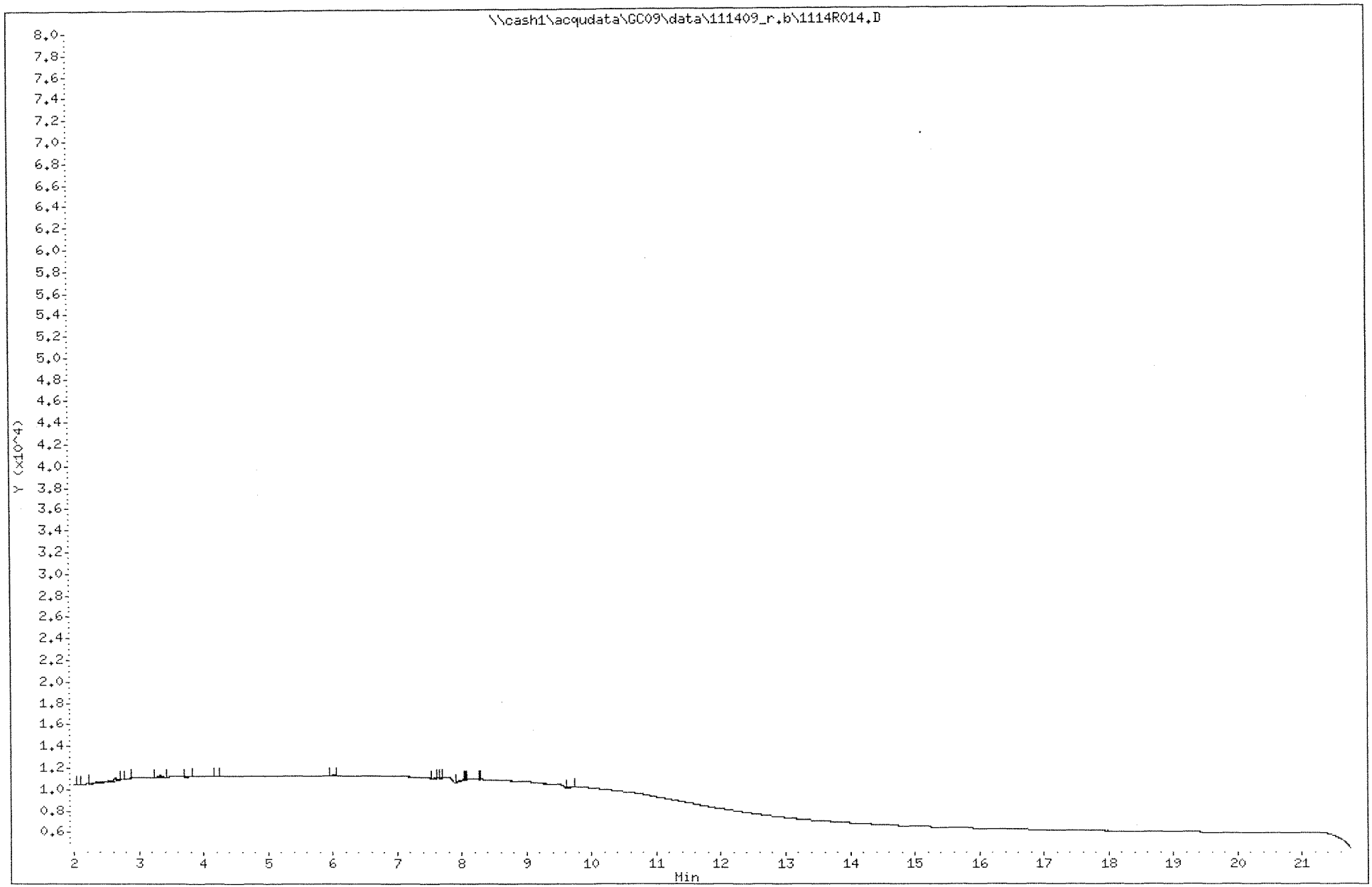


Data File: \\cash1\acqudata\GC09\data\111409_r.b\1114R014.D
Date : 14-NOV-2009 14:54
Client ID:
Sample Info: KWG0910694-3 | IB | 8082 PCB

Instrument: GC09.i

Operator: JMSmith
Column diameter: 0.53

Column phase: DB-XLB



Exception Report

Data File: \\CASH1\ACQUDATA\GC09\DATA\111409.B\1114F028.D
Lab ID: KWG0910694-5
RunType: IB
Matrix: LIQUID

Date Acquired: 11/14/2009 21:02
Date Quantitated: 11/16/2009 12:40
Batch ID: KWG0910694
Analysis Method: 8082
MethodJoinID: MJ696

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	

Primary Review: [signature]

Secondary Review: [signature]

Exception Report

Data File: \\CASH1\ACQUDATA\GC09\DATA\111409_R.B\1114R028.D
Lab ID: KWG0910694-5
RunType: IB
Matrix: LIQUID

Date Acquired: 11/14/2009 21:02
Date Quantitated: 11/16/2009 12:42
Batch ID: KWG0910694
Analysis Method: 8082
MethodJoinID: MJ696

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	

Primary Review: _____

Secondary Review: _____

Quantitation Report

Bottle ID:		**Tier:**		**Matrix:**	LIQUID
Prod Code:	8082 PCB	**Collect Date:**		**Receive Date:**	11/13/2009

Analysis Lot:	KWG0910694	**Prep Lot:**		**Report Group:**	
Analysis Method:	8082	**Prep Method:**			
Prep Ref:		**Prep Date:**			

Quant Method:	\\CASH1\ACQUDATA\GC09\DATA\111409.B\101409_F.M	**Calibration ID:**	CAL8918
Title:			
MB Ref:		**Method ID:**	MJ696
		Quant based on Method	

Data File #1:	J:\GC09\DATA\111409.B\1114F028.D			**Instrument:**	GC09.i
Data File #2:	\\cash1\acqudata\GC09\data\111409_r.b\1114R028.D			**Vial:**	87
Acqu Date:	11/14/2009 21:02	**Quant Date:**	11/16/2009 12:40	**Dilution:**	1.0
Run Type:	IB			**Soln Conc. Units:**	ng/mL
Lab ID:	KWG0910694-5				
Signal #1:	DB-35MS	**Signal #2:**	DB-XLB		

Surrogate Compounds

Parameter Name	RT #1	RT #2	Resp #1	Resp #2	ng/mL #1	ng/mL #2			Rpt
Tetrachloro-m-xylene	0.00		0d	0d	0.0000				NA
			%Recovery =		NA	NA	Limits =	10-135	
Decachlorobiphenyl	0.00		0	0d	0.0000				NA
			%Recovery =		NA	NA	Limits =	35-133	

Target Compounds

Final Conc. Units:

Parameter Name	RT #1	RT #2	Resp #1	Resp #2	ng/mL #1	ng/mL #2	ug/Kg #1	ug/Kg #2	Rpt
Aroclor 1016			0	0	0.0000	0.0000			
Aroclor 1016 {1}			0d	0d	0.0000	0.0000			
Aroclor 1016 {2}			0d	0d	0.0000	0.0000			
Aroclor 1016 {3}			0d	0d	0.0000	0.0000			
Aroclor 1016 {4}			0d	0d	0.0000	0.0000			
Aroclor 1016 {5}			0d	0d	0.0000	0.0000			
Aroclor 1221			0	0	0.0000	0.0000			
Aroclor 1221 {1}			0d	0d	0.0000	0.0000			
Aroclor 1221 {2}			0d	0d	0.0000	0.0000			
Aroclor 1221 {3}			0d	0d	0.0000	0.0000			
Aroclor 1221 {4}			0d	0d	0.0000	0.0000			
Aroclor 1232			0	0	0.0000	0.0000			
Aroclor 1232 {1}			0d	0d	0.0000	0.0000			
Aroclor 1232 {2}			0d	0d	0.0000	0.0000			
Aroclor 1232 {3}			0d	0d	0.0000	0.0000			
Aroclor 1232 {4}			0d	0d	0.0000	0.0000			
Aroclor 1242			0	0	0.0000	0.0000			
Aroclor 1242 {1}			0d	0d	0.0000	0.0000			

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Data File #1:	J:\GC09\DATA\111409.B\1114F028.D			**Instrument:**	GC09.i
Data File #2:	\\cash1\acqudata\GC09\data\111409_r.b\1114R028.D			**Vial:**	87
Acqu Date:	11/14/2009 21:02	**Quant Date:**	11/16/2009 12:40	**Dilution:**	1.0
Run Type:	IB			**Soln Conc. Units:**	ng/mL
Lab ID:	KWG0910694-5				
Signal #1:	DB-35MS	**Signal #2:**	DB-XLB		

Target Compounds — **Final Conc. Units:**

Parameter Name	RT #1	RT #2	Resp #1	Resp #2	ng/mL #1	ng/mL #2	ug/Kg #1	ug/Kg #2	Rpt
Aroclor 1242 {2}			0d	0d	0.0000	0.0000			
Aroclor 1242 {3}			0d	0d	0.0000	0.0000			
Aroclor 1242 {4}			0d	0d	0.0000	0.0000			
Aroclor 1242 {5}			0d	0d	0.0000	0.0000			
Aroclor 1248			0	0	0.0000	0.0000			
Aroclor 1248 {1}			0d	0d	0.0000	0.0000			
Aroclor 1248 {2}			0d	0d	0.0000	0.0000			
Aroclor 1248 {3}			0d	0d	0.0000	0.0000			
Aroclor 1248 {4}			0d	0d	0.0000	0.0000			
Aroclor 1248 {5}			0d	0d	0.0000	0.0000			
Aroclor 1254			0	0	0.0000	0.0000			
Aroclor 1254 {1}			0d	0d	0.0000	0.0000			
Aroclor 1254 {2}			0d	0d	0.0000	0.0000			
Aroclor 1254 {3}			0d	0d	0.0000	0.0000			
Aroclor 1254 {4}			0d	0d	0.0000	0.0000			
Aroclor 1254 {5}			0d	0d	0.0000	0.0000			
Aroclor 1260			0	0	0.0000	0.0000			
Aroclor 1260 {1}			0	0	0.0000	0.0000			
Aroclor 1260 {2}			0	0	0.0000	0.0000			
Aroclor 1260 {3}			0	0	0.0000	0.0000			
Aroclor 1260 {4}			0	0	0.0000	0.0000			
Aroclor 1260 {5}			0	0	0.0000	0.0000			
Aroclor 1262			0	0	0.0000	0.0000			
Aroclor 1262 {1}			0	0	0.0000	0.0000			
Aroclor 1262 {2}			0	0	0.0000	0.0000			
Aroclor 1262 {3}			0	0	0.0000	0.0000			
Aroclor 1262 {4}			0	0	0.0000	0.0000			
Aroclor 1262 {5}			0	0	0.0000	0.0000			
Aroclor 1268			0	0	0.0000	0.0000			
Aroclor 1268 {1}			0d	0	0.0000	0.0000			
Aroclor 1268 {2}			0d	0	0.0000	0.0000			
Aroclor 1268 {3}			0d	0	0.0000	0.0000			
Aroclor 1268 {4}			0d	0	0.0000	0.0000			
Aroclor 1268 {5}			0d	0	0.0000	0.0000			

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Data File: \\cash1\acqudata\GC09\data\111409.B\1114F028.D
Report Date: 16-Nov-2009 12:40

Laboratory Name

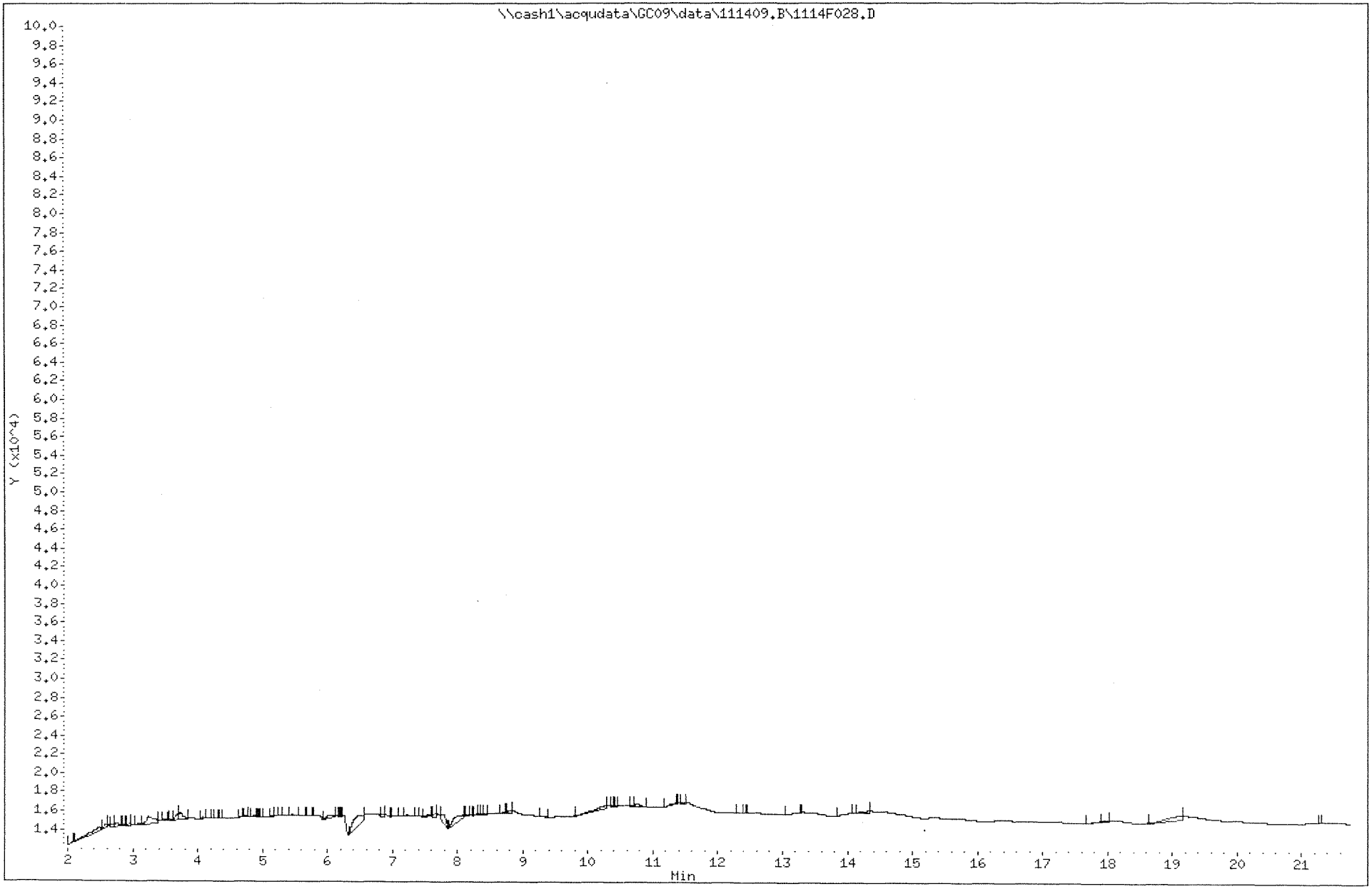
Sample #1 : \\cash1\acqudata\GC09\data\111409.B\1114F028.D
Sample #2 : \\cash1\acqudata\GC09\data\111409_r.b\1114R028.D
Inj Date : 14-NOV-2009 21:02
Sample Info: KWG0910694-5 | IB | 8082 PCB
Misc Info : SEMIVOA GC\W0910694\5-IB.H
Cal Date : 16-NOV-2009 10:31
Operator : JMSmith
Inst ID : GC09.i
Dil Factor : 1.000000

Method #1 : \\cash1\acqudata\GC09\data\111409.B\101409_f.m
Method #2 : \\cash1\acqudata\GC09\data\111409_r.b\101409_r.m
Sub List #1 : ALL.SUB
Sub List #2 : ALL.SUB
Col #1 Phase : DB-35MS
Col #2 Phase : DB-XLB

Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2	Target Range	Ratio

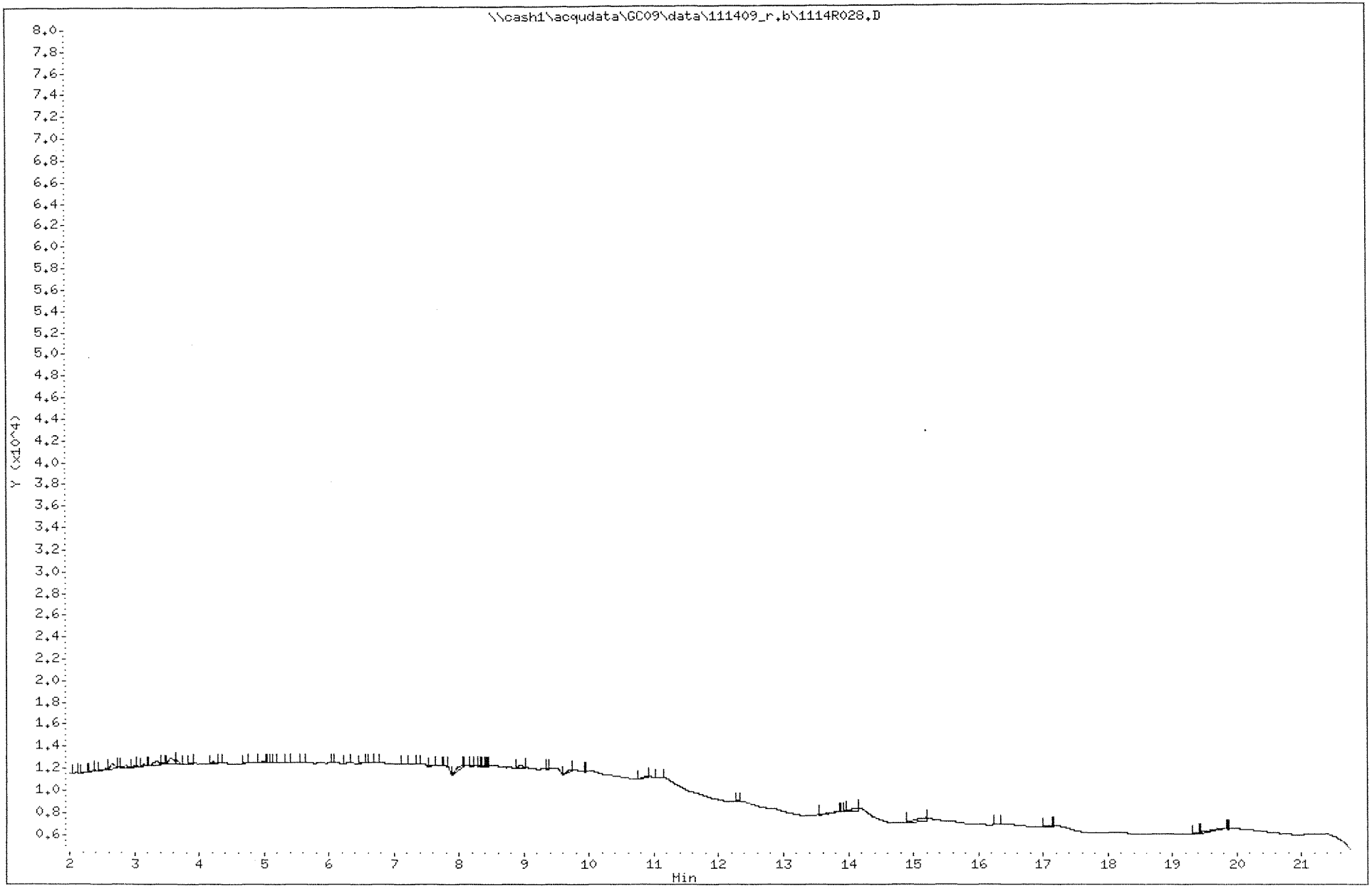
Data File: \\cash1\acqudata\GC09\data\111409.B\1114F028.D
Date : 14-NOV-2009 21:02
Client ID:
Sample Info: KWG0910694-5 | IB | 8082 PCB

Instrument: GC09.i
Operator: JMSmith
Column phase: DB-35MS
Column diameter: 0.53



Data File: \\cash1\acqudata\GC09\data\111409_r.b\1114R028.D
Date : 14-NOV-2009 21:02
Client ID:
Sample Info: KWG0910694-5 | IB | 8082 PCB

Instrument: GC09.i
Operator: JMSmith
Column phase: DB-XLB
Column diameter: 0.53



Exception Report

Data File: \\CASH1\ACQUDATA\GC09\DATA\111409.B\1114F039.D
Lab ID: KWG0910694-7
RunType: IB
Matrix: LIQUID

Date Acquired: 11/15/2009 01:51
Date Quantitated: 11/16/2009 12:40
Batch ID: KWG0910694
Analysis Method: 8082
MethodJoinID: MJ696

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	

Primary Review: 11/16/09

Secondary Review:

Exception Report

Data File: \\CASH1\ACQUDATA\GC09\DATA\111409_R.B\1114R039.D
Lab ID: KWG0910694-7
RunType: IB
Matrix: LIQUID

Date Acquired: 11/15/2009 01:51
Date Quantitated: 11/16/2009 12:42
Batch ID: KWG0910694
Analysis Method: 8082
MethodJoinID: MJ696

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	

Primary Review: 11/17/09

Secondary Review:

Quantitation Report

Bottle ID:		**Tier:**		**Matrix:**	LIQUID
Prod Code:	8082 PCB	**Collect Date:**		**Receive Date:**	11/13/2009

Analysis Lot:	KWG0910694	**Prep Lot:**		**Report Group:**	
Analysis Method:	8082	**Prep Method:**			
Prep Ref:		**Prep Date:**			

Quant Method:	\\CASH1\ACQUDATA\GC09\DATA\111409.B\101409_F.M	**Calibration ID:**	CAL8918
Title:			
MB Ref:		**Method ID:**	MJ696
		Quant based on Method	

Data File #1:	J:\GC09\DATA\111409.B\1114F039.D			**Instrument:**	GC09.i
Data File #2:	\\cash1\acqudata\GC09\data\111409_r.b\1114R039.D			**Vial:**	87
Acqu Date:	11/15/2009 01:51	**Quant Date:**	11/16/2009 12:40	**Dilution:**	1.0
Run Type:	IB			**Soln Conc. Units:**	ng/mL
Lab ID:	KWG0910694-7				
Signal #1:	DB-35MS	**Signal #2:**	DB-XLB		

Surrogate Compounds

Parameter Name	RT #1	RT #2	Resp #1	Respe #2	ng/mL #1	ng/mL #2			Rpt
Tetrachloro-m-xylene	0.00		0d	0d		0.0000			NA
			%Recovery =		NA	NA	Limits =	10-135	
Decachlorobiphenyl	0.00		0	0		0.0000			NA
			%Recovery =		NA	NA	Limits =	35-133	

Target Compounds

Final Conc. Units:

Parameter Name	RT #1	RT #2	Resp #1	Resp #2	ng/mL #1	ng/mL #2	ug/Kg #1	ug/Kg #2	Rpt
Aroclor 1016			0	0	0.0000	0.0000			
Aroclor 1016 {1}			0d	0	0.0000	0.0000			
Aroclor 1016 {2}			0d	0	0.0000	0.0000			
Aroclor 1016 {3}			0d	0	0.0000	0.0000			
Aroclor 1016 {4}			0d	0	0.0000	0.0000			
Aroclor 1016 {5}			0d	0	0.0000	0.0000			
Aroclor 1221			0	0	0.0000	0.0000			
Aroclor 1221 {1}			0d	0	0.0000	0.0000			
Aroclor 1221 {2}			0d	0	0.0000	0.0000			
Aroclor 1221 {3}			0d	0	0.0000	0.0000			
Aroclor 1221 {4}			0d	0	0.0000	0.0000			
Aroclor 1232			0	0	0.0000	0.0000			
Aroclor 1232 {1}			0d	0	0.0000	0.0000			
Aroclor 1232 {2}			0d	0	0.0000	0.0000			
Aroclor 1232 {3}			0d	0	0.0000	0.0000			
Aroclor 1232 {4}			0d	0	0.0000	0.0000			
Aroclor 1242			0	0	0.0000	0.0000			
Aroclor 1242 {1}			0d	0	0.0000	0.0000			

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Data File #1:	J:\GC09\DATA\111409.B\1114F039.D			**Instrument:**	GC09.i
Data File #2:	\\cash1\acqudata\GC09\data\111409_r.b\1114R039.D			**Vial:**	87
Acqu Date:	11/15/2009 01:51	**Quant Date:**	11/16/2009 12:40	**Dilution:**	1.0
Run Type:	IB			**Soln Conc. Units:**	ng/mL
Lab ID:	KWG0910694-7				
Signal #1:	DB-35MS	**Signal #2:**	DB-XLB		

Target Compounds — **Final Conc. Units:**

Parameter Name	RT #1	RT #2	Resp #1	Resp #2	ng/mL #1	ng/mL #2	ug/Kg #1	ug/Kg #2	Rpt
Aroclor 1242 {2}			0d	0	0.0000	0.0000			
Aroclor 1242 {3}			0d	0	0.0000	0.0000			
Aroclor 1242 {4}			0d	0	0.0000	0.0000			
Aroclor 1242 {5}			0d	0	0.0000	0.0000			
Aroclor 1248			0	0	0.0000	0.0000			
Aroclor 1248 {1}			0d	0	0.0000	0.0000			
Aroclor 1248 {2}			0d	0	0.0000	0.0000			
Aroclor 1248 {3}			0d	0	0.0000	0.0000			
Aroclor 1248 {4}			0d	0	0.0000	0.0000			
Aroclor 1248 {5}			0d	0	0.0000	0.0000			
Aroclor 1254			0	0	0.0000	0.0000			
Aroclor 1254 {1}			0d	0	0.0000	0.0000			
Aroclor 1254 {2}			0d	0	0.0000	0.0000			
Aroclor 1254 {3}			0d	0	0.0000	0.0000			
Aroclor 1254 {4}			0d	0	0.0000	0.0000			
Aroclor 1254 {5}			0d	0	0.0000	0.0000			
Aroclor 1260			0	0	0.0000	0.0000			
Aroclor 1260 {1}			0	0	0.0000	0.0000			
Aroclor 1260 {2}			0	0	0.0000	0.0000			
Aroclor 1260 {3}			0	0	0.0000	0.0000			
Aroclor 1260 {4}			0	0	0.0000	0.0000			
Aroclor 1260 {5}			0	0	0.0000	0.0000			
Aroclor 1262			0	0	0.0000	0.0000			
Aroclor 1262 {1}			0	0	0.0000	0.0000			
Aroclor 1262 {2}			0	0	0.0000	0.0000			
Aroclor 1262 {3}			0	0	0.0000	0.0000			
Aroclor 1262 {4}			0	0	0.0000	0.0000			
Aroclor 1262 {5}			0	0	0.0000	0.0000			
Aroclor 1268			0	0	0.0000	0.0000			
Aroclor 1268 {1}			0	0	0.0000	0.0000			
Aroclor 1268 {2}			0	0	0.0000	0.0000			
Aroclor 1268 {3}			0	0	0.0000	0.0000			
Aroclor 1268 {4}			0	0	0.0000	0.0000			
Aroclor 1268 {5}			0	0	0.0000	0.0000			

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Data File: \\cash1\acqudata\GC09\data\111409.B\1114F039.D
Report Date: 16-Nov-2009 12:40

Laboratory Name

Sample #1 : \\cash1\acqudata\GC09\data\111409.B\1114F039.D
Sample #2 : \\cash1\acqudata\GC09\data\111409_r.b\1114R039.D
Inj Date : 15-NOV-2009 01:51
Sample Info: KWG0910694-7 | IB | 8082 PCB
Misc Info : SEMIVOA GC\W0910694\7-IB.H
Cal Date : 16-NOV-2009 10:32
Operator : JMSmith
Inst ID : GC09.i
Dil Factor : 1.000000

Method #1 : \\cash1\acqudata\GC09\data\111409.B\101409_f.m
Method #2 : \\cash1\acqudata\GC09\data\111409_r.b\101409_r.m
Sub List #1 : ALL.SUB
Sub List #2 : ALL.SUB
Col #1 Phase : DB-35MS
Col #2 Phase : DB-XLB

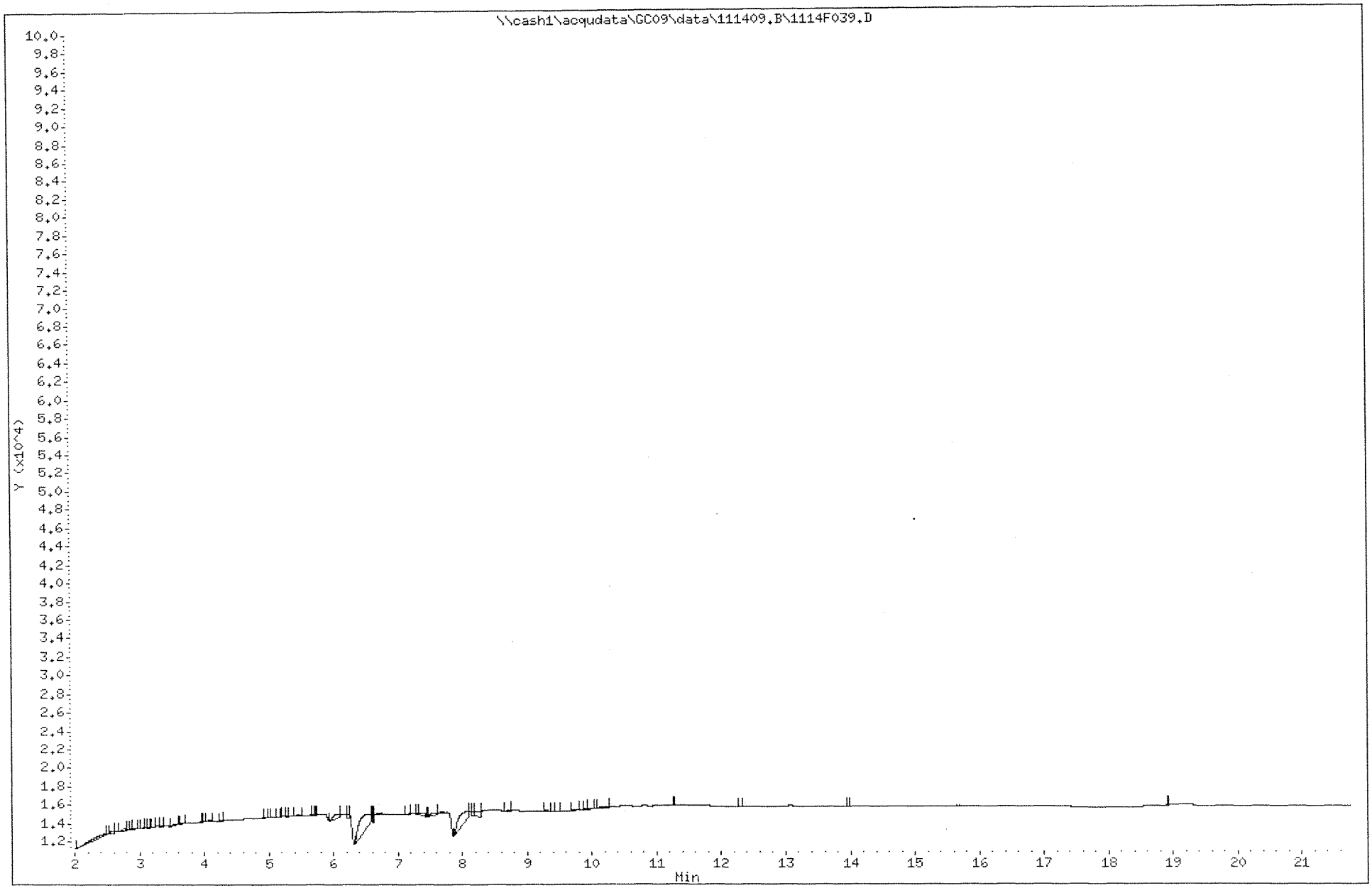
Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2	Target Range	Ratio

Data File: \\cash1\acqudata\GC09\data\111409.B\1114F039.D
Date : 15-NOV-2009 01:51
Client ID:
Sample Info: KWG0910694-7 | IB | 8082 PCB

Instrument: GC09.i

Operator: JMSmith
Column diameter: 0.53

Column phase: DB-35MS

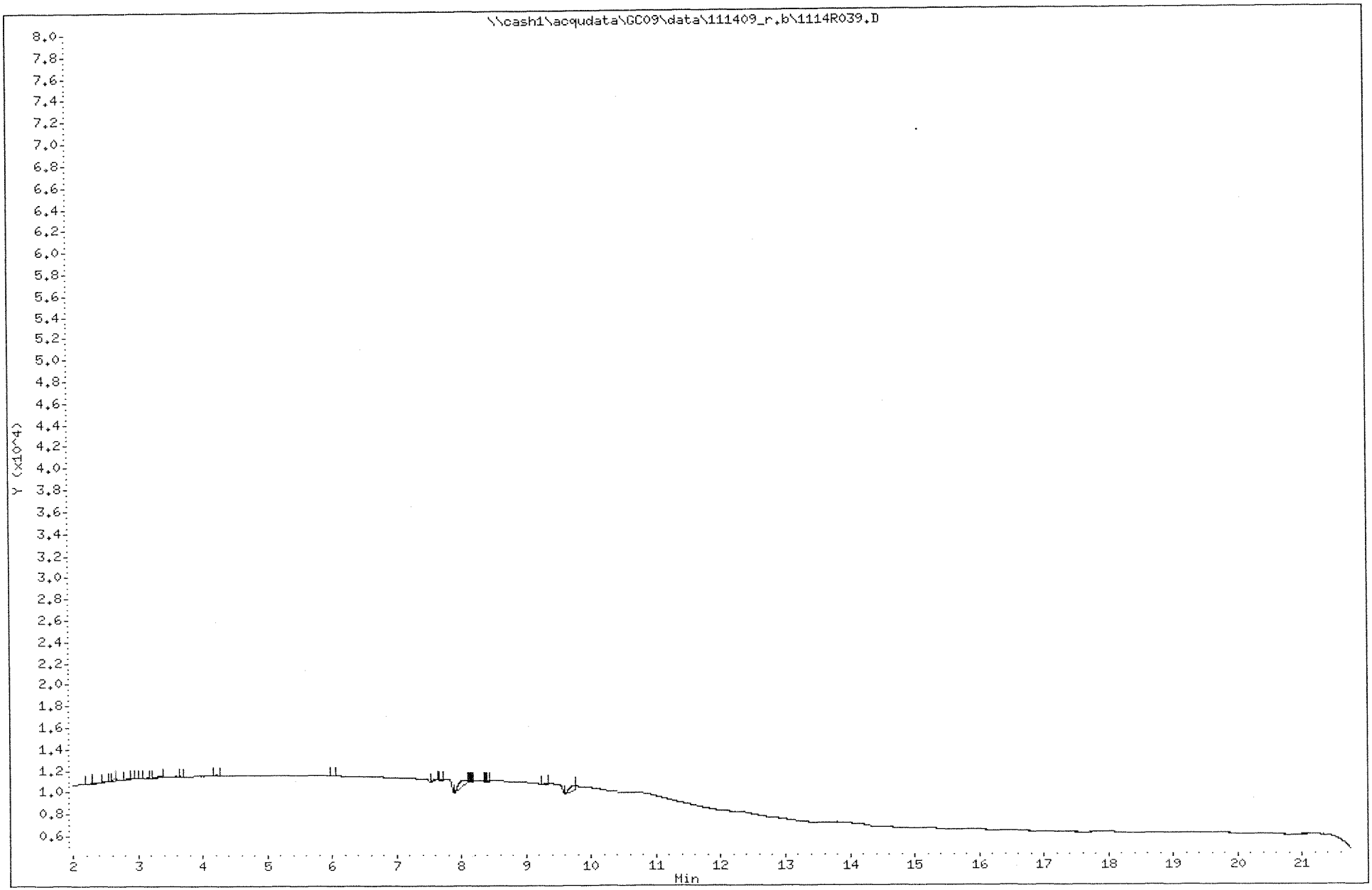


Data File: \\cash1\acqudata\GC09\data\111409_r.b\1114R039.D
Date : 15-NOV-2009 01:51
Client ID:
Sample Info: KWG0910694-7 | IB | 8082 PCB

Column phase: DB-XLB

Instrument: GC09.i

Operator: JMSmith
Column diameter: 0.53



Exception Report

Data File: \\CASH1\ACQUDATA\GC09\DATA\111409.B\1114F050.D
Lab ID: KWG0910694-9
RunType: IB
Matrix: LIQUID

Date Acquired: 11/15/2009 06:41
Date Quantitated: 11/16/2009 12:40
Batch ID: KWG0910694
Analysis Method: 8082
MethodJoinID: MJ696

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	

Primary Review: 11/16/09

Secondary Review:

Exception Report

Data File: \\CASH1\ACQUDATA\GC09\DATA\111409_R.B\1114R050.D
Lab ID: KWG0910694-9
RunType: IB
Matrix: LIQUID

Date Acquired: 11/15/2009 06:41
Date Quantitated: 11/16/2009 12:42
Batch ID: KWG0910694
Analysis Method: 8082
MethodJoinID: MJ696

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	

Primary Review: [signature]

Secondary Review: [signature]

Printed: 11/16/2009 13:10:22
u:\Stealth\Crystal.rpt\except2.rpt

Quantitation Report

Bottle ID:		**Tier:**		**Matrix:**	LIQUID
Prod Code:	8082 PCB	**Collect Date:**		**Receive Date:**	11/13/2009

Analysis Lot:	KWG0910694	**Prep Lot:**		**Report Group:**	
Analysis Method:	8082	**Prep Method:**			
Prep Ref:		**Prep Date:**			

Quant Method:	\\CASH1\ACQUDATA\GC09\DATA\111409.B\101409_F.M	**Calibration ID:**	CAL8918
Title:			
MB Ref:		**Method ID:**	MJ696
		Quant based on Method	

Data File #1:	J:\GC09\DATA\111409.B\1114F050.D			**Instrument:**	GC09.i
Data File #2:	\\cash1\acqudata\GC09\data\111409_r.b\1114R050.D			**Vial:**	87
Acqu Date:	11/15/2009 06:41	**Quant Date:**	11/16/2009 12:40	**Dilution:**	1.0
Run Type:	IB			**Soln Conc. Units:**	ng/mL
Lab ID:	KWG0910694-9				
Signal #1:	DB-35MS	**Signal #2:**	DB-XLB		

Surrogate Compounds

Parameter Name	RT #1	RT #2	Resp #1	Respe #2	ng/mL #1	ng/mL #2			Rpt
Tetrachloro-m-xylene	0.00		0d	0d		0.0000			NA
			%Recovery =		NA	NA	Limits =	10-135	
Decachlorobiphenyl	0.00		0	0		0.0000			NA
			%Recovery =		NA	NA	Limits =	35-133	

Target Compounds

Final Conc. Units:

Parameter Name	RT #1	RT #2	Resp #1	Resp #2	ng/mL #1	ng/mL #2	ug/Kg #1	ug/Kg #2	Rpt
Aroclor 1016			0	0	0.0000	0.0000			
Aroclor 1016 {1}			0d	0	0.0000	0.0000			
Aroclor 1016 {2}			0d	0	0.0000	0.0000			
Aroclor 1016 {3}			0d	0	0.0000	0.0000			
Aroclor 1016 {4}			0d	0	0.0000	0.0000			
Aroclor 1016 {5}			0d	0	0.0000	0.0000			
Aroclor 1221			0	0	0.0000	0.0000			
Aroclor 1221 {1}			0d	0	0.0000	0.0000			
Aroclor 1221 {2}			0d	0	0.0000	0.0000			
Aroclor 1221 {3}			0d	0	0.0000	0.0000			
Aroclor 1221 {4}			0d	0	0.0000	0.0000			
Aroclor 1232			0	0	0.0000	0.0000			
Aroclor 1232 {1}			0d	0	0.0000	0.0000			
Aroclor 1232 {2}			0d	0	0.0000	0.0000			
Aroclor 1232 {3}			0d	0	0.0000	0.0000			
Aroclor 1232 {4}			0d	0	0.0000	0.0000			
Aroclor 1242			0	0	0.0000	0.0000			
Aroclor 1242 {1}			0d	0	0.0000	0.0000			

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Data File #1:	J:\GC09\DATA\111409.B\1114F050.D			**Instrument:**	GC09.i
Data File #2:	\\cash1\acqudata\GC09\data\111409_r.b\1114R050.D			**Vial:**	87
Acqu Date:	11/15/2009 06:41	**Quant Date:**	11/16/2009 12:40	**Dilution:**	1.0
Run Type:	IB			**Soln Conc. Units:**	ng/mL
Lab ID:	KWG0910694-9				
Signal #1:	DB-35MS	**Signal #2:**	DB-XLB		

Target Compounds — **Final Conc. Units:**

Parameter Name	RT #1	RT #2	Resp #1	Resp #2	ng/mL #1	ng/mL #2	ug/Kg #1	ug/Kg #2	Rpt
Aroclor 1242 {2}			0d	0	0.0000	0.0000			
Aroclor 1242 {3}			0d	0	0.0000	0.0000			
Aroclor 1242 {4}			0d	0	0.0000	0.0000			
Aroclor 1242 {5}			0d	0	0.0000	0.0000			
Aroclor 1248			0	0	0.0000	0.0000			
Aroclor 1248 {1}			0d	0	0.0000	0.0000			
Aroclor 1248 {2}			0d	0	0.0000	0.0000			
Aroclor 1248 {3}			0d	0	0.0000	0.0000			
Aroclor 1248 {4}			0d	0	0.0000	0.0000			
Aroclor 1248 {5}			0d	0	0.0000	0.0000			
Aroclor 1254			0	0	0.0000	0.0000			
Aroclor 1254 {1}			0d	0	0.0000	0.0000			
Aroclor 1254 {2}			0d	0	0.0000	0.0000			
Aroclor 1254 {3}			0d	0	0.0000	0.0000			
Aroclor 1254 {4}			0d	0	0.0000	0.0000			
Aroclor 1254 {5}			0d	0	0.0000	0.0000			
Aroclor 1260			0	0	0.0000	0.0000			
Aroclor 1260 {1}			0d	0	0.0000	0.0000			
Aroclor 1260 {2}			0d	0	0.0000	0.0000			
Aroclor 1260 {3}			0d	0	0.0000	0.0000			
Aroclor 1260 {4}			0d	0	0.0000	0.0000			
Aroclor 1260 {5}			0d	0	0.0000	0.0000			
Aroclor 1262			0	0	0.0000	0.0000			
Aroclor 1262 {1}			0	0	0.0000	0.0000			
Aroclor 1262 {2}			0	0	0.0000	0.0000			
Aroclor 1262 {3}			0	0	0.0000	0.0000			
Aroclor 1262 {4}			0	0	0.0000	0.0000			
Aroclor 1262 {5}			0	0	0.0000	0.0000			
Aroclor 1268			0	0	0.0000	0.0000			
Aroclor 1268 {1}			0	0	0.0000	0.0000			
Aroclor 1268 {2}			0	0	0.0000	0.0000			
Aroclor 1268 {3}			0	0	0.0000	0.0000			
Aroclor 1268 {4}			0	0	0.0000	0.0000			
Aroclor 1268 {5}			0	0	0.0000	0.0000			

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Data File: \\cash1\acqudata\GC09\data\111409.B\1114F050.D
Report Date: 16-Nov-2009 12:40

Laboratory Name

Sample #1 : \\cash1\acqudata\GC09\data\111409.B\1114F050.D
Sample #2 : \\cash1\acqudata\GC09\data\111409_r.b\1114R050.D
Inj Date : 15-NOV-2009 06:41
Sample Info: KWG0910694-9 | IB | 8082 PCB
Misc Info : SEMIVOA GC\W0910694\9-IB.H
Cal Date : 16-NOV-2009 10:33
Operator : JMSmith
Inst ID : GC09.i
Dil Factor : 1.000000

Method #1 : \\cash1\acqudata\GC09\data\111409.B\101409_f.m
Method #2 : \\cash1\acqudata\GC09\data\111409_r.b\101409_r.m
Sub List #1 : ALL.SUB
Sub List #2 : ALL.SUB
Col #1 Phase : DB-35MS
Col #2 Phase : DB-XLB

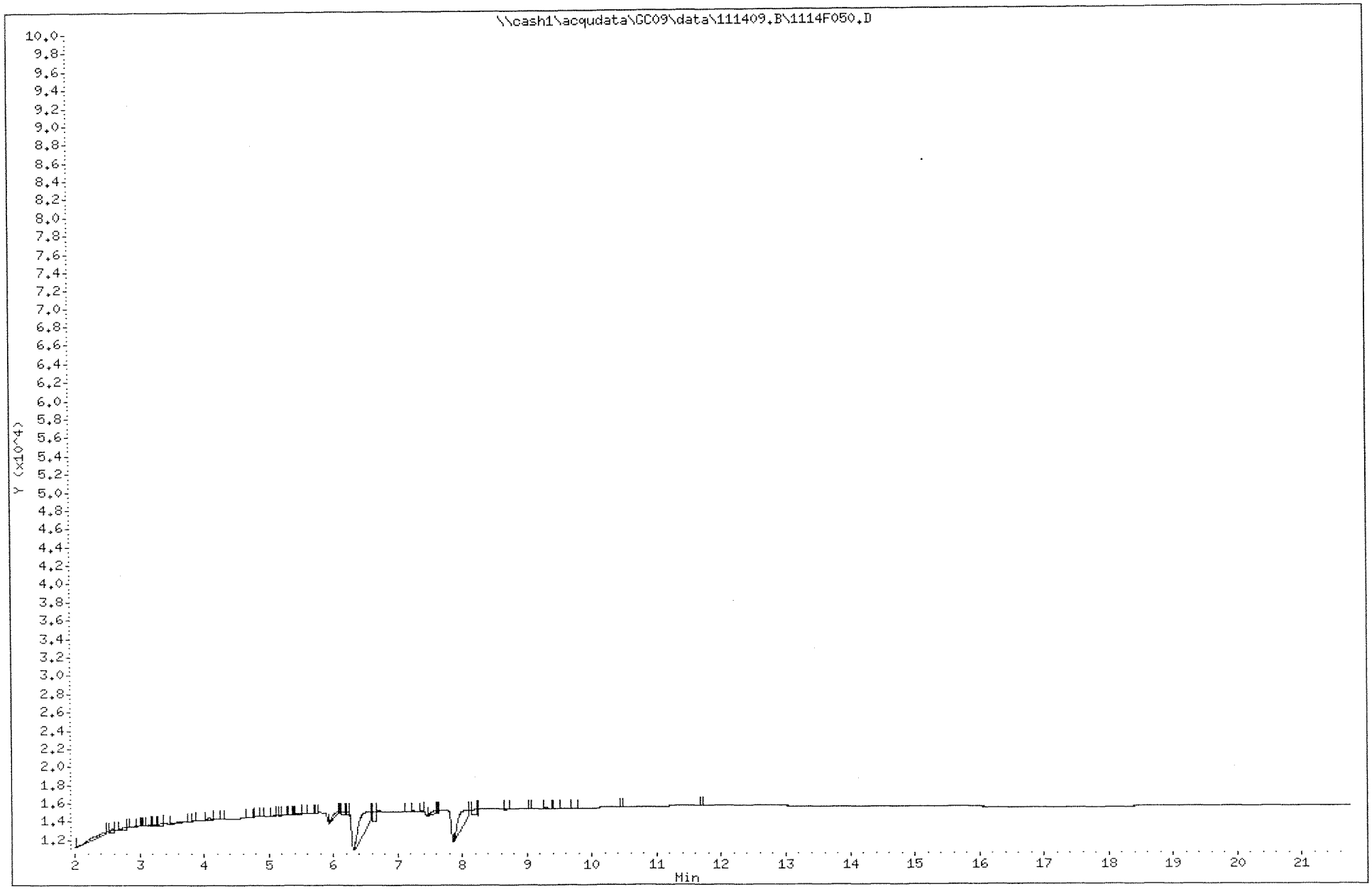
Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2	Target Range	Ratio

Data File: \\cash1\acqudata\GC09\data\111409.B\1114F050.D
Date : 15-NOV-2009 06:41
Client ID:
Sample Info: KWG0910694-9 | IB | 8082 PCB

Instrument: GC09.i

Operator: JMSmith
Column diameter: 0.53

Column phase: DB-35MS

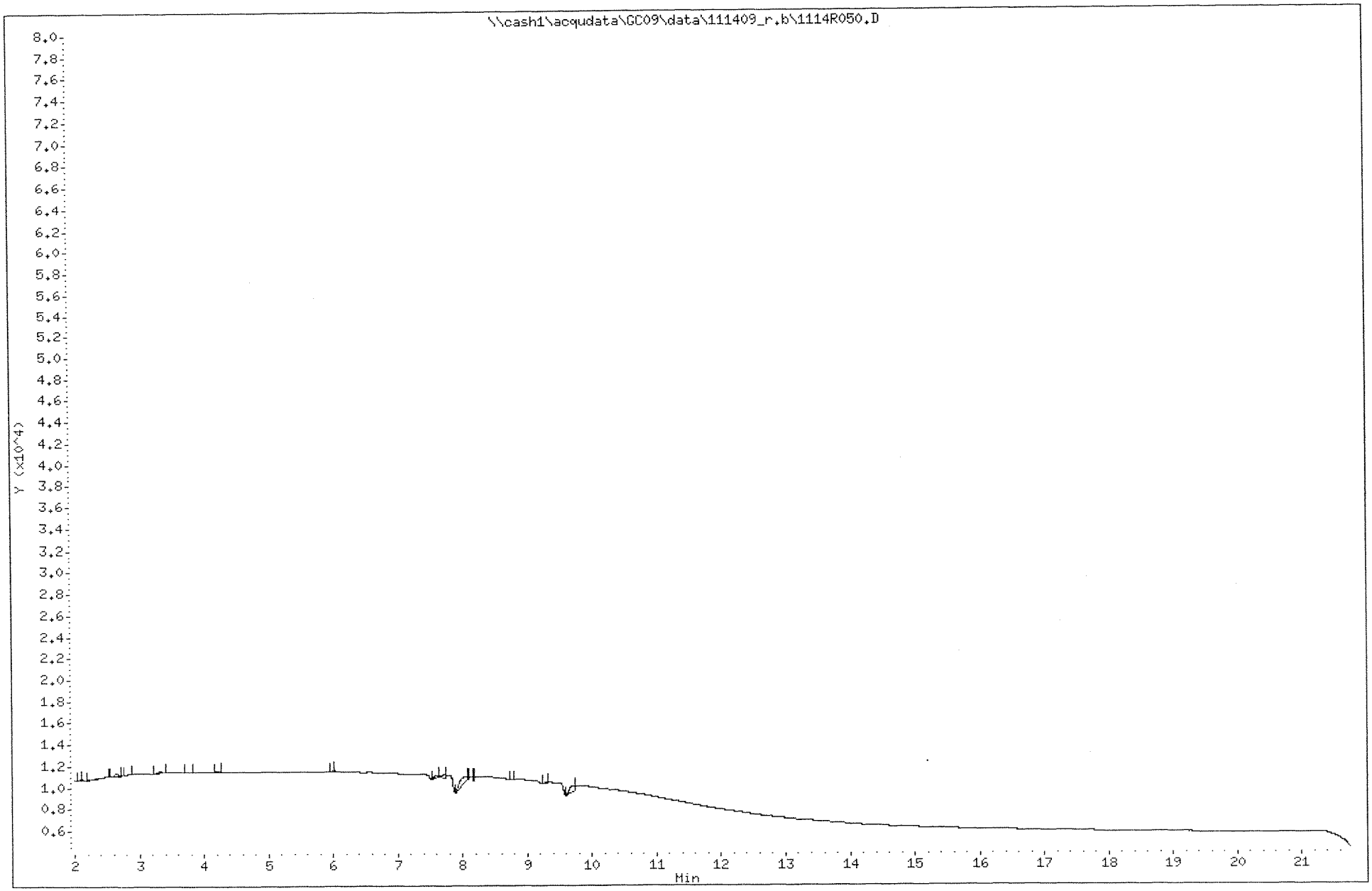


Data File: \\cash1\acqudata\GC09\data\111409_r.b\1114R050.D
Date : 15-NOV-2009 06:41
Client ID:
Sample Info: KWG0910694-9 | IB | 8082 PCB

Instrument: GC09.i

Operator: JMSmith
Column diameter: 0.53

Column phase: DB-XLB



Sequence Name: D:\GC09\SEQUENCE\111609.S
Comment:
Operator: JMSmith
Data Path: D:\GC09\DATA\111609.B\
Pre-Seq Cmd:
Post-Seq Cmd:

Method Sections To Run
(X) Full Method
( ) Reprocessing Only

On A Barcode Mismatch
(X) Inject Anyway
( ) Don't Inject

CAL 8718
Rev #17677

Line	Type	Vial	DataFile	Method	Sample Name
1	DeleteGC				
2	MaskName - ----r---				
3	Comment - PCB Aroclors by EPA 8082				
4	IB	86	1116F001	PCB1	IB
5	IB	86	1116F002	PCB1	IB
6	IB	86	1116F003	PCB1	IB
7	IB	86	1116F004	PCB1	IB
8	IB	86	1116F005	PCB1	IB
9	CCV	96	1116F006	PCB1	1660 @ 1000ppb | PCB5-41P | KWG091077
10	IB	87	1116F007	PCB1	KWG0910773-2 | IB | 8082 PCB
11	SMPL	1	1116F008	PCB1	K0910822-002 | LPP027
12	SMPL	2	1116F009	PCB1	K0910822-003 | LPP038
13	CCV	96	1116F010	PCB1	1660 @ 1000ppb | PCB5-41P | KWG091077
14	IB	87	1116F011	PCB1	KWG0910773-4 | IB | 8082 PCB
15	SMPL	3	1116F012	PCB1	K0910299-001 | PBU-1-Upper-102009
16	SMPL	4	1116F013	PCB1	K0910299-002 @ 5X | PBU-1-Lower-10200
17	SMPL	5	1116F014	PCB1	K0909140-009 | M-1-C
18	SMPL	6	1116F015	PCB1	K0909140-010 | M-3-C
19	SMPL	7	1116F016	PCB1	K0909140-008 @ 10X | M-2-B
20	IB	86	1116F017	BAKE	BAKE
21	IB	87	1116F018	PCB1	KWG0910773-5 | IB | 8082 PCB
22	CCV	96	1116F019	PCB1	1660 @ 1000ppb | PCB5-41P | KWG091077
23	IB	86	1116F020	PCB1	IB

Last Modified: Mon Nov 16 20:49:22 2009 Page: 1

Exception Report

Data File: \\CASH1\ACQUDATA\GC09\DATA\111609.B\1116F011.D
Lab ID: KWG0910773-4
RunType: IB
Matrix: LIQUID

Date Acquired: 11/17/2009 01:15
Date Quantitated: 11/17/2009 12:03
Batch ID: KWG0910773
Analysis Method: 8082
MethodJoinID: MJ696

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	

Primary Review: 11/17/09

Secondary Review: 11/17/09

Exception Report

Data File: \\CASH1\ACQUDATA\GC09\DATA\111609_R.B\1116R011.D
Lab ID: KWG0910773-4
RunType: IB
Matrix: LIQUID

Date Acquired: 11/17/2009 01:15
Date Quantitated: 11/17/2009 12:05
Batch ID: KWG0910773
Analysis Method: 8082
MethodJoinID: MJ696

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	

Primary Review: _____

Secondary Review: _____

Quantitation Report

Bottle ID:		**Tier:**		**Matrix:**	LIQUID
Prod Code:	8082 PCB	**Collect Date:**		**Receive Date:**	11/16/2009

Analysis Lot:	KWG0910773	**Prep Lot:**		**Report Group:**	
Analysis Method:	8082	**Prep Method:**			
Prep Ref:		**Prep Date:**			

Quant Method:	\\CASH1\ACQUDATA\GC09\DATA\111609.B\101409_F.M	**Calibration ID:**	CAL8918
Title:			
MB Ref:		**Method ID:**	MJ696
		Quant based on Method	

Data File #1:	J:\GC09\DATA\111609.B\1116F011.D			**Instrument:**	GC09.i
Data File #2:	\\Cash1\Acqudata\GC09\data\111609_r.b\1116R011.D			**Vial:**	87
Acqu Date:	11/17/2009 01:15	**Quant Date:**	11/17/2009 12:03	**Dilution:**	1.0
Run Type:	IB			**Soln Conc. Units:**	ng/mL
Lab ID:	KWG0910773-4				
Signal #1:	DB-35MS	**Signal #2:**	DB-XLB		

Surrogate Compounds

Parameter Name	RT #1	RT #2	Resp #1	Respe #2	ng/mL #1	ng/mL #2			Rpt
Tetrachloro-m-xylene	0.00		0d	0		0.0000			NA
			%Recovery =		NA	NA	Limits =	10-135	
Decachlorobiphenyl	0.00		0	0		0.0000			NA
			%Recovery =		NA	NA	Limits =	35-133	

Target Compounds

Final Conc. Units:

Parameter Name	RT #1	RT #2	Resp #1	Resp #2	ng/mL #1	ng/mL #2	ug/Kg #1	ug/Kg #2	Rpt
Aroclor 1016			0	0	0.0000	0.0000			
Aroclor 1016 {1}			0d	0	0.0000	0.0000			
Aroclor 1016 {2}			0d	0	0.0000	0.0000			
Aroclor 1016 {3}			0d	0	0.0000	0.0000			
Aroclor 1016 {4}			0d	0	0.0000	0.0000			
Aroclor 1016 {5}			0d	0	0.0000	0.0000			
Aroclor 1221			0	0	0.0000	0.0000			
Aroclor 1221 {1}			0d	0	0.0000	0.0000			
Aroclor 1221 {2}			0d	0	0.0000	0.0000			
Aroclor 1221 {3}			0d	0	0.0000	0.0000			
Aroclor 1221 {4}			0d	0	0.0000	0.0000			
Aroclor 1232			0	0	0.0000	0.0000			
Aroclor 1232 {1}			0	0	0.0000	0.0000			
Aroclor 1232 {2}			0	0	0.0000	0.0000			
Aroclor 1232 {3}			0	0	0.0000	0.0000			
Aroclor 1232 {4}			0	0	0.0000	0.0000			
Aroclor 1242			0	0	0.0000	0.0000			
Aroclor 1242 {1}			0d	0	0.0000	0.0000			

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Data File #1:	J:\GC09\DATA\111609.B\1116F011.D			**Instrument:**	GC09.i
Data File #2:	\\Cash1\Acqudata\GC09\data\111609_r.b\1116R011.D			**Vial:**	87
Acqu Date:	11/17/2009 01:15	**Quant Date:**	11/17/2009 12:03	**Dilution:**	1.0
Run Type:	IB			**Soln Conc. Units:**	ng/mL
Lab ID:	KWG0910773-4				
Signal #1:	DB-35MS	**Signal #2:**	DB-XLB		

Target Compounds

Final Conc. Units:

Parameter Name	RT #1	RT #2	Resp #1	Resp #2	ng/mL #1	ng/mL #2	ug/Kg #1	ug/Kg #2	Rpt
Aroclor 1242 {2}			0d	0	0.0000	0.0000			
Aroclor 1242 {3}			0d	0	0.0000	0.0000			
Aroclor 1242 {4}			0d	0	0.0000	0.0000			
Aroclor 1242 {5}			0d	0	0.0000	0.0000			
Aroclor 1248			0	0	0.0000	0.0000			
Aroclor 1248 {1}			0d	0	0.0000	0.0000			
Aroclor 1248 {2}			0d	0	0.0000	0.0000			
Aroclor 1248 {3}			0d	0	0.0000	0.0000			
Aroclor 1248 {4}			0d	0	0.0000	0.0000			
Aroclor 1248 {5}			0d	0	0.0000	0.0000			
Aroclor 1254			0	0	0.0000	0.0000			
Aroclor 1254 {1}			0d	0	0.0000	0.0000			
Aroclor 1254 {2}			0d	0	0.0000	0.0000			
Aroclor 1254 {3}			0d	0	0.0000	0.0000			
Aroclor 1254 {4}			0d	0	0.0000	0.0000			
Aroclor 1254 {5}			0d	0	0.0000	0.0000			
Aroclor 1260			0	0	0.0000	0.0000			
Aroclor 1260 {1}			0d	0	0.0000	0.0000			
Aroclor 1260 {2}			0d	0	0.0000	0.0000			
Aroclor 1260 {3}			0d	0	0.0000	0.0000			
Aroclor 1260 {4}			0d	0	0.0000	0.0000			
Aroclor 1260 {5}			0d	0	0.0000	0.0000			
Aroclor 1262			0	0	0.0000	0.0000			
Aroclor 1262 {1}			0	0	0.0000	0.0000			
Aroclor 1262 {2}			0	0	0.0000	0.0000			
Aroclor 1262 {3}			0	0	0.0000	0.0000			
Aroclor 1262 {4}			0	0	0.0000	0.0000			
Aroclor 1262 {5}			0	0	0.0000	0.0000			
Aroclor 1268			0	0	0.0000	0.0000			
Aroclor 1268 {1}			0	0	0.0000	0.0000			
Aroclor 1268 {2}			0	0	0.0000	0.0000			
Aroclor 1268 {3}			0	0	0.0000	0.0000			
Aroclor 1268 {4}			0	0	0.0000	0.0000			
Aroclor 1268 {5}			0	0	0.0000	0.0000			

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Data File: \\Cash1\Acqudata\GC09\data\111609.B\1116F011.D
Report Date: 17-Nov-2009 12:03

Columbia Analytical Services

Sample #1 : \\Cash1\Acqudata\GC09\data\111609.B\1116F011.D
Sample #2 : \\Cash1\Acqudata\GC09\data\111609_r.b\1116R011.D
Inj Date : 17-NOV-2009 01:15
Sample Info: KWG0910773-4 | IB | 8082 PCB
Misc Info : SEMIVOA GC\W0910773\4-IB.H
Cal Date : 17-NOV-2009 08:56
Operator : JMSmith
Inst ID : GC09.i
Dil Factor : 1.000000

Method #1 : \\cash1\acqudata\GC09\data\111609.B\101409_f.m
Method #2 : \\cash1\acqudata\GC09\data\111609_r.b\101409_r.m
Sub List #1 : ALL.SUB
Sub List #2 : ALL.SUB
Col #1 Phase : DB-35MS
Col #2 Phase : DB-XLB

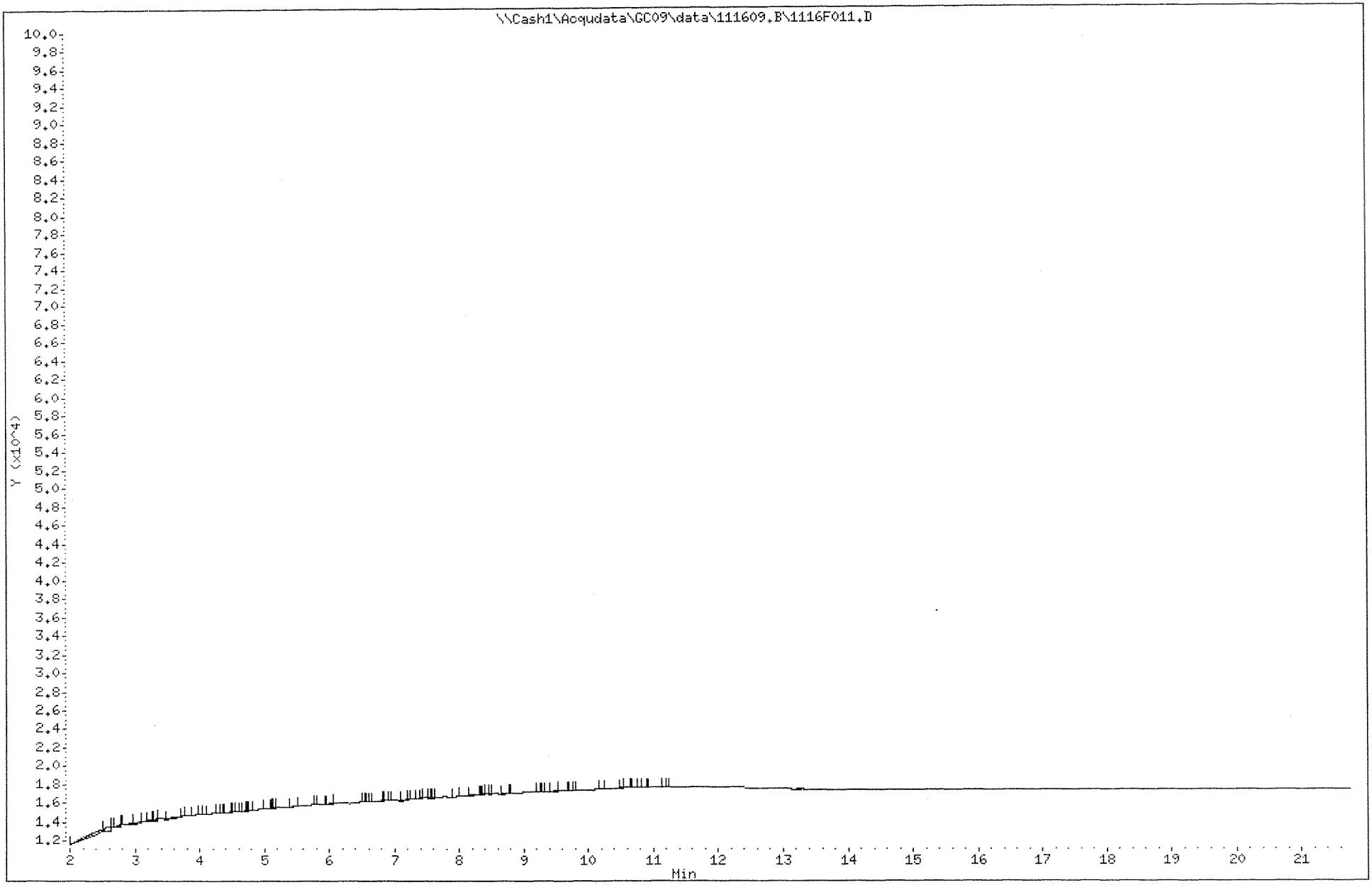
Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2	Target Range	Ratio

Data File: \\Cash1\Acqudata\GC09\data\111609.B\1116F011.D
Date : 17-NOV-2009 01:15
Client ID:
Sample Info: KWG0910773-4 | IB | 8082 PCB

Instrument: GC09.i

Operator: JMSmith
Column diameter: 0.53

Column phase: DB-35MS

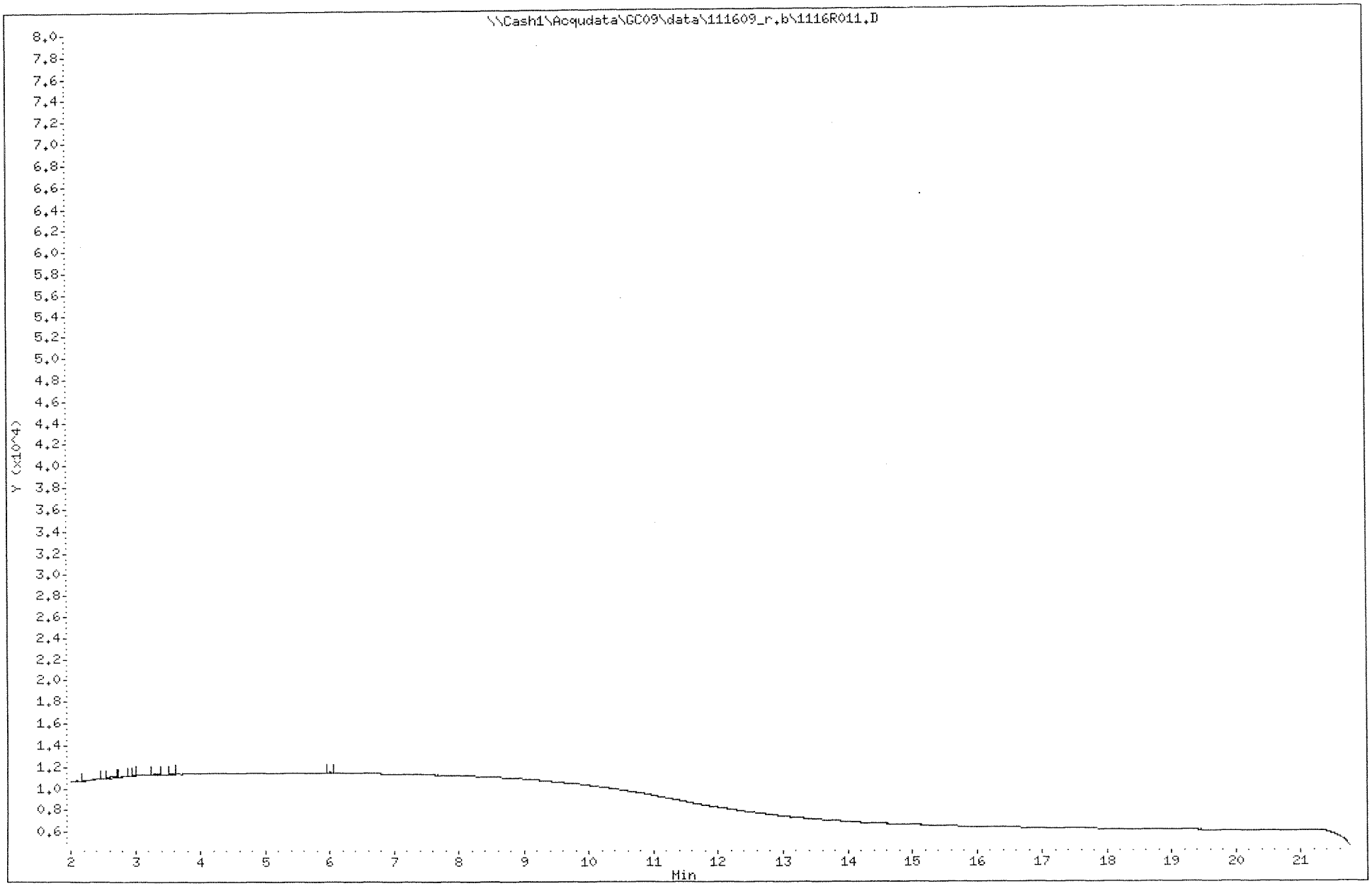


Data File: \\Cash1\Acqudata\GC09\data\111609_r.b\1116R011.D
Date : 17-NOV-2009 01:15
Client ID:
Sample Info: KWG0910773-4 | IB | 8082 PCB

Instrument: GC09.i

Operator: JMSmith
Column diameter: 0.53

Column phase: DB-XLB



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Exception Report

Data File: \\CASH1\ACQUDATA\GC09\DATA\111609.B\1116F018.D
Lab ID: KWG0910773-5
RunType: IB
Matrix: LIQUID

Date Acquired: 11/17/2009 04:34
Date Quantitated: 11/17/2009 12:04
Batch ID: KWG0910773
Analysis Method: 8082
MethodJoinID: MJ696

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	

Primary Review: [signature]

Secondary Review: [signature] 11/20/09

Exception Report

Data File:	\\CASH1\ACQUDATA\GC09\DATA\111609_R.B\1116R018.D	**Date Acquired:**	11/17/2009 04:34
Lab ID:	KWG0910773-5	**Date Quantitated:**	11/17/2009 12:06
RunType:	IB	**Batch ID:**	KWG0910773
Matrix:	LIQUID	**Analysis Method:**	8082
		MethodJoinID:	MJ696

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	

Primary Review: _____

Secondary Review: _____

Quantitation Report

Bottle ID:		**Tier:**		**Matrix:**	LIQUID
Prod Code:	8082 PCB	**Collect Date:**		**Receive Date:**	11/16/2009

Analysis Lot:	KWG0910773	**Prep Lot:**		**Report Group:**	
Analysis Method:	8082	**Prep Method:**			
Prep Ref:		**Prep Date:**			

Quant Method:	\\CASH1\ACQUDATA\GC09\DATA\111609.B\101409_F.M	**Calibration ID:**	CAL8918
Title:			
MB Ref:		**Method ID:**	MJ696
		Quant based on Method	

Data File #1:	J:\GC09\DATA\111609.B\1116F018.D			**Instrument:**	GC09.i
Data File #2:	\\Cash1\Acqudata\GC09\data\111609_r.b\1116R018.D			**Vial:**	87
Acqu Date:	11/17/2009 04:34	**Quant Date:**	11/17/2009 12:04	**Dilution:**	1.0
Run Type:	IB			**Soln Conc. Units:**	ng/mL
Lab ID:	KWG0910773-5				
Signal #1:	DB-35MS	**Signal #2:**	DB-XLB		

Surrogate Compounds

Parameter Name	RT #1	RT #2	Resp #1	Respe #2	ng/mL #1	ng/mL #2			Rpt
Tetrachloro-m-xylene	0.00		0d	0		0.0000			NA
			%Recovery =		NA	NA	Limits =	10-135	
Decachlorobiphenyl	0.00		0	0d		0.0000			NA
			%Recovery =		NA	NA	Limits =	35-133	

Target Compounds

Final Conc. Units:

Parameter Name	RT #1	RT #2	Resp #1	Resp #2	ng/mL #1	ng/mL #2	ug/Kg #1	ug/Kg #2	Rpt
Aroclor 1016			0	0	0.0000	0.0000			
Aroclor 1016 {1}			0d	0	0.0000	0.0000			
Aroclor 1016 {2}			0d	0	0.0000	0.0000			
Aroclor 1016 {3}			0d	0	0.0000	0.0000			
Aroclor 1016 {4}			0d	0	0.0000	0.0000			
Aroclor 1016 {5}			0d	0	0.0000	0.0000			
Aroclor 1221			0	0	0.0000	0.0000			
Aroclor 1221 {1}			0d	0	0.0000	0.0000			
Aroclor 1221 {2}			0d	0	0.0000	0.0000			
Aroclor 1221 {3}			0d	0	0.0000	0.0000			
Aroclor 1221 {4}			0d	0	0.0000	0.0000			
Aroclor 1232			0	0	0.0000	0.0000			
Aroclor 1232 {1}			0d	0	0.0000	0.0000			
Aroclor 1232 {2}			0d	0	0.0000	0.0000			
Aroclor 1232 {3}			0d	0	0.0000	0.0000			
Aroclor 1232 {4}			0d	0	0.0000	0.0000			
Aroclor 1242			0	0	0.0000	0.0000			
Aroclor 1242 {1}			0d	0	0.0000	0.0000			

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Data File #1:	J:\GC09\DATA\111609.B\1116F018.D			**Instrument:**	GC09.i
Data File #2:	\\Cash1\Acqudata\GC09\data\111609_r.b\1116R018.D			**Vial:**	87
Acqu Date:	11/17/2009 04:34	**Quant Date:**	11/17/2009 12:04	**Dilution:**	1.0
Run Type:	IB			**Soln Conc. Units:**	ng/mL
Lab ID:	KWG0910773-5				
Signal #1:	DB-35MS	**Signal #2:**	DB-XLB		

Target Compounds **Final Conc. Units:**

Parameter Name	RT #1	RT #2	Resp #1	Resp #2	ng/mL #1	ng/mL #2	ug/Kg #1	ug/Kg #2	Rpt
Aroclor 1242 {2}			0d	0	0.0000	0.0000			
Aroclor 1242 {3}			0d	0	0.0000	0.0000			
Aroclor 1242 {4}			0d	0	0.0000	0.0000			
Aroclor 1242 {5}			0d	0	0.0000	0.0000			
Aroclor 1248			0	0	0.0000	0.0000			
Aroclor 1248 {1}			0d	0	0.0000	0.0000			
Aroclor 1248 {2}			0d	0	0.0000	0.0000			
Aroclor 1248 {3}			0d	0	0.0000	0.0000			
Aroclor 1248 {4}			0d	0	0.0000	0.0000			
Aroclor 1248 {5}			0d	0	0.0000	0.0000			
Aroclor 1254			0	0	0.0000	0.0000			
Aroclor 1254 {1}			0d	0	0.0000	0.0000			
Aroclor 1254 {2}			0d	0	0.0000	0.0000			
Aroclor 1254 {3}			0d	0	0.0000	0.0000			
Aroclor 1254 {4}			0d	0	0.0000	0.0000			
Aroclor 1254 {5}			0d	0	0.0000	0.0000			
Aroclor 1260			0	0	0.0000	0.0000			
Aroclor 1260 {1}			0	0	0.0000	0.0000			
Aroclor 1260 {2}			0	0	0.0000	0.0000			
Aroclor 1260 {3}			0	0	0.0000	0.0000			
Aroclor 1260 {4}			0	0	0.0000	0.0000			
Aroclor 1260 {5}			0	0	0.0000	0.0000			
Aroclor 1262			0	0	0.0000	0.0000			
Aroclor 1262 {1}			0	0	0.0000	0.0000			
Aroclor 1262 {2}			0	0	0.0000	0.0000			
Aroclor 1262 {3}			0	0	0.0000	0.0000			
Aroclor 1262 {4}			0	0	0.0000	0.0000			
Aroclor 1262 {5}			0	0	0.0000	0.0000			
Aroclor 1268			0	0	0.0000	0.0000			
Aroclor 1268 {1}			0	0	0.0000	0.0000			
Aroclor 1268 {2}			0	0	0.0000	0.0000			
Aroclor 1268 {3}			0	0	0.0000	0.0000			
Aroclor 1268 {4}			0	0	0.0000	0.0000			
Aroclor 1268 {5}			0	0	0.0000	0.0000			

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Data File: \\Cash1\Acqudata\GC09\data\111609.B\1116F018.D
Report Date: 17-Nov-2009 12:04

Columbia Analytical Services

Sample #1 : \\Cash1\Acqudata\GC09\data\111609.B\1116F018.D
Sample #2 : \\Cash1\Acqudata\GC09\data\111609_r.b\1116R018.D
Inj Date : 17-NOV-2009 04:34
Sample Info: KWG0910773-5 | IB | 8082 PCB
Misc Info : SEMIVOA GC\W0910773\5-IB.H
Cal Date : 17-NOV-2009 08:56
Operator : JMSmith
Inst ID : GC09.i
Dil Factor : 1.000000

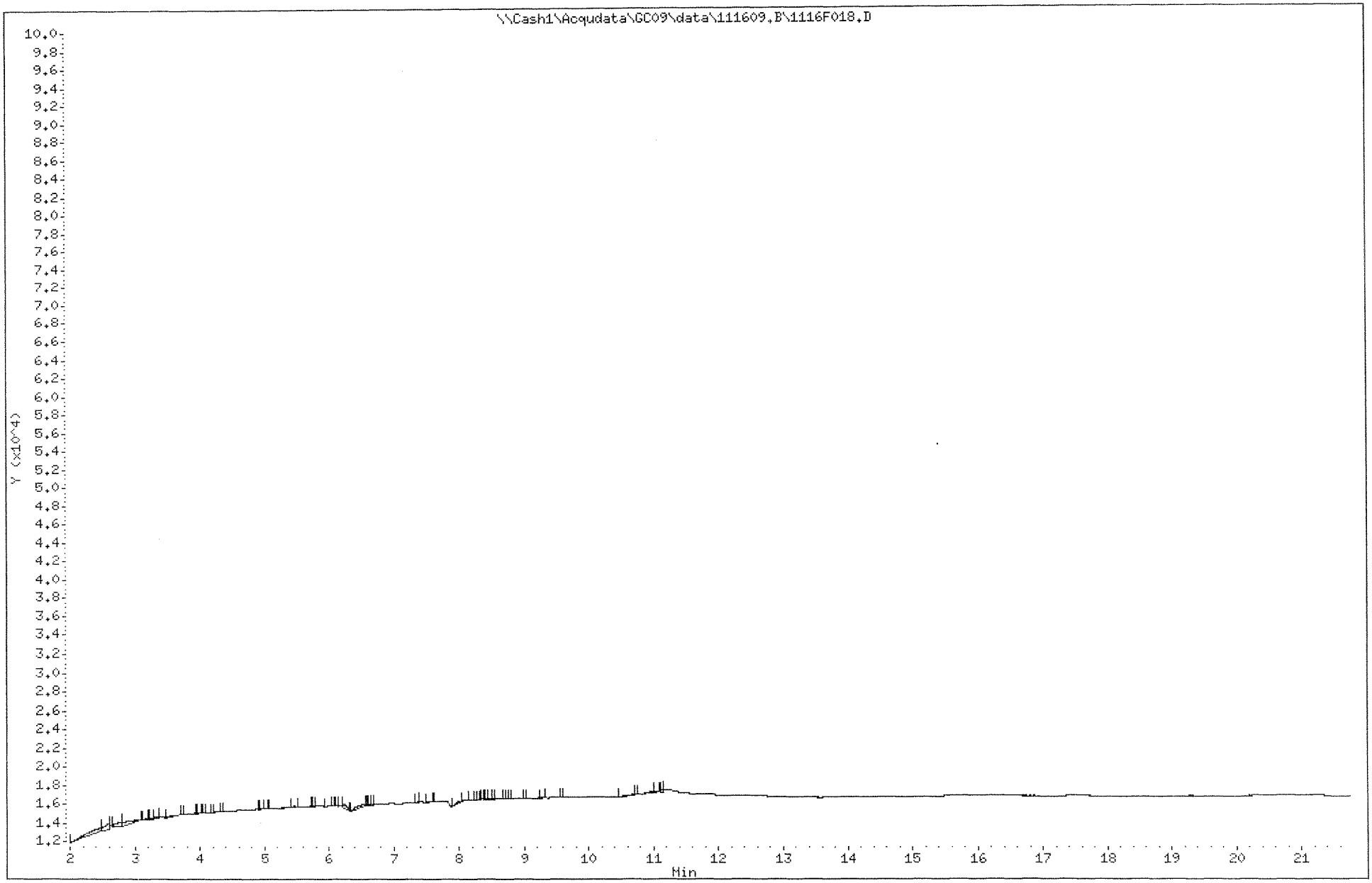
Method #1 : \\cash1\acqudata\GC09\data\111609.B\101409_f.m
Method #2 : \\cash1\acqudata\GC09\data\111609_r.b\101409_r.m
Sub List #1 : ALL.SUB
Sub List #2 : ALL.SUB
Col #1 Phase : DB-35MS
Col #2 Phase : DB-XLB

Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2	Target Range	Ratio

Data File: \\Cash1\Acqudata\GC09\data\111609.B\1116F018.D
Date : 17-NOV-2009 04:34
Client ID:
Sample Info: KWG0910773-5 | IB | 8082 PCB

Instrument: GC09.i
Operator: JMSmith
Column diameter: 0.53

Column phase: DB-35MS



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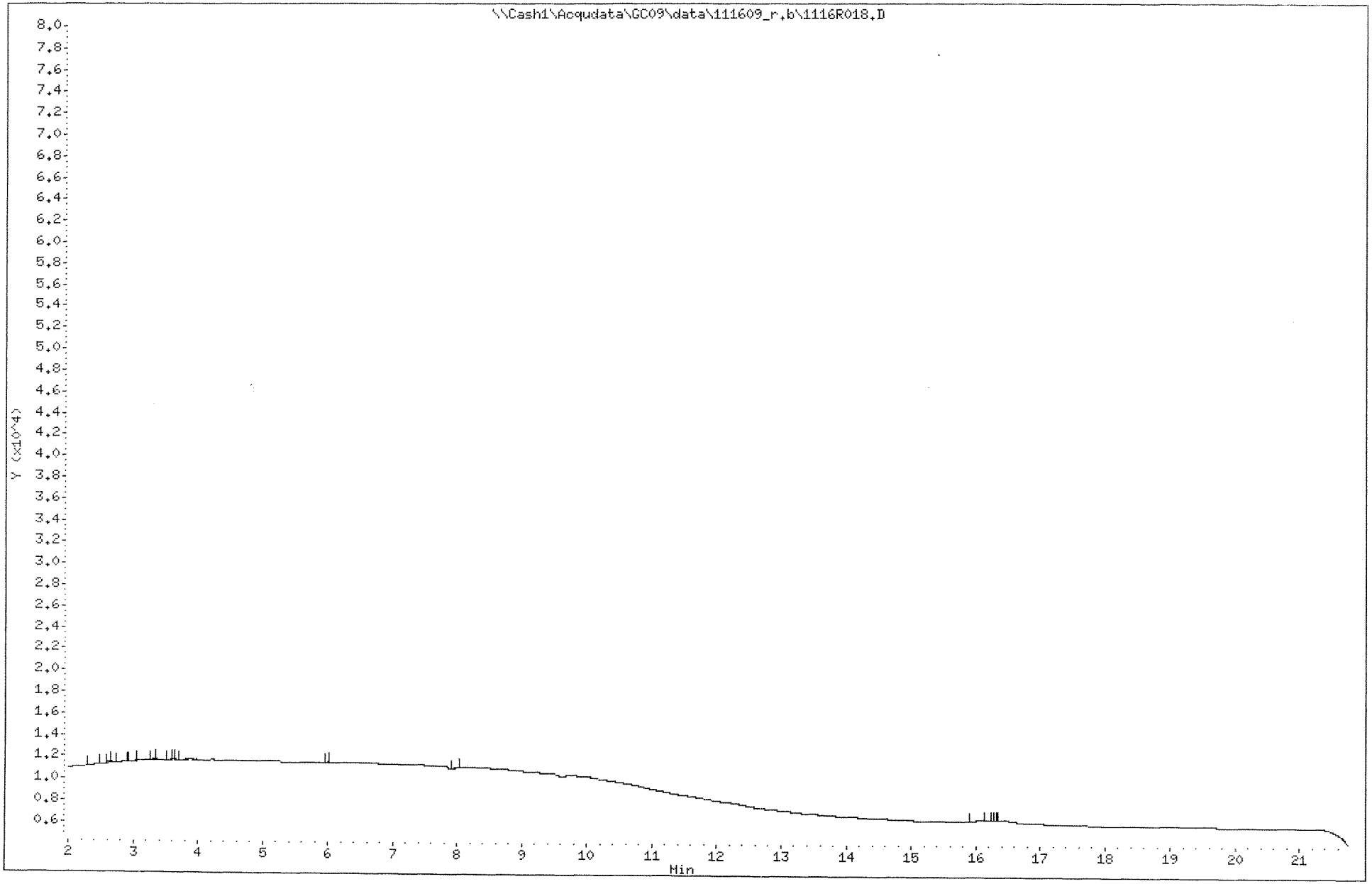
Data File: \\Cash1\Acqudata\GC09\data\111609_r.b\1116R018.D
Date : 17-NOV-2009 04:34
Client ID:
Instrument: GC09.i
Sample Info: KWG0910773-5 | IB | 8082 PCB
Operator: JMSmith
Column phase: DB-XLB
Column diameter: 0.53



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Polynuclear Aromatic Hydrocarbons
EPA Method 8270C SIM

Organic Analysis:
Polynuclear Aromatic Hydrocarbons

Summary Package

Sample and QC Results

Client: URS Corporation **Service Request:** K0909140
Project: Boise St. Helens Pulp and Paper Mill-2009

Cover Page - Organic Analysis Data Package
Polynuclear Aromatic Hydrocarbons

Sample Name	Lab Code	Date Collected	Date Received
M-4-A	K0909140-001	09/28/2009	09/29/2009
M-4-B	K0909140-002	09/28/2009	09/29/2009
M-4-C	K0909140-003	09/28/2009	09/29/2009
M-1-B	K0909140-004	10/07/2009	10/08/2009
M-2-C	K0909140-005	10/06/2009	10/07/2009
M-2-A	K0909140-006	10/06/2009	10/07/2009
M-3-B	K0909140-007	10/05/2009	10/06/2009
M-2-B	K0909140-008	10/06/2009	10/07/2009
M-1-C	K0909140-009	10/07/2009	10/08/2009
M-3-C	K0909140-010	10/05/2009	10/06/2009
B-1-A	K0909140-011	10/09/2009	10/09/2009
B-1-B	K0909140-012	10/09/2009	10/09/2009
M-3-A	K0909140-013	10/05/2009	10/06/2009
M-1-A	K0909140-014	10/07/2009	10/08/2009
M-5-B	K0909140-015	09/28/2009	09/29/2009
M-5-A	K0909140-016	09/28/2009	09/29/2009
M-5-C	K0909140-017	09/28/2009	09/29/2009
M-5-B2	K0909140-018	09/28/2009	09/29/2009
B-1-C	K0909140-019	10/09/2009	10/09/2009
M-2-AMS	KWG0910535-1	10/06/2009	10/07/2009
M-2-ADMS	KWG0910535-2	10/06/2009	10/07/2009

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed in the case narrative. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on floppy diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Signature: _____ Name: Carl Dyson

Date: 11/25/09 Title: Sup Specialist

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009
Sample Matrix: Sediment

Service Request: K0909140
Date Collected: 09/28/2009
Date Received: 09/29/2009

Polynuclear Aromatic Hydrocarbons

Sample Name: M-4-A
Lab Code: K0909140-001

Units: ug/Kg
Basis: Dry

Extraction Method: EPA 3541
Analysis Method: 8270C SIM

Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Naphthalene	**180**		2.6	0.60	1	11/10/09	11/20/09	KWG0910535	
2-Methylnaphthalene	**35**		2.6	0.46	1	11/10/09	11/20/09	KWG0910535	
Acenaphthylene	**52**		2.6	0.56	1	11/10/09	11/20/09	KWG0910535	
Acenaphthene	**25**		2.6	0.50	1	11/10/09	11/20/09	KWG0910535	
Fluorene	**29**		2.6	0.61	1	11/10/09	11/20/09	KWG0910535	
Dibenzofuran	**27**		2.6	0.63	1	11/10/09	11/20/09	KWG0910535	
Phenanthrene	**230**		2.6	1.4	1	11/10/09	11/20/09	KWG0910535	
Anthracene	**45**		2.6	0.55	1	11/10/09	11/20/09	KWG0910535	
Fluoranthene	**350**		2.6	0.98	1	11/10/09	11/20/09	KWG0910535	
Pyrene	**300**		2.6	0.76	1	11/10/09	11/20/09	KWG0910535	
Benz(a)anthracene	**120**		2.6	0.72	1	11/10/09	11/20/09	KWG0910535	
Chrysene	**170**		2.6	0.80	1	11/10/09	11/20/09	KWG0910535	
Benzo(b)fluoranthene	**200**		2.6	0.92	1	11/10/09	11/20/09	KWG0910535	
Benzo(k)fluoranthene	**62**		2.6	0.87	1	11/10/09	11/20/09	KWG0910535	
Benzo(a)pyrene	**180**		2.6	0.76	1	11/10/09	11/20/09	KWG0910535	
Indeno(1,2,3-cd)pyrene	**160**		2.6	0.87	1	11/10/09	11/20/09	KWG0910535	
Dibenz(a,h)anthracene	**21**		2.6	0.80	1	11/10/09	11/20/09	KWG0910535	
Benzo(g,h,i)perylene	**200**		2.6	0.85	1	11/10/09	11/20/09	KWG0910535	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	59	17-104	11/20/09	Acceptable
Fluoranthene-d10	61	27-106	11/20/09	Acceptable
Terphenyl-d14	55	35-109	11/20/09	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	URS Corporation	**Service Request:**	K0909140
Project:	Boise St. Helens Pulp and Paper Mill-2009	**Date Collected:**	09/28/2009
Sample Matrix:	Sediment	**Date Received:**	09/29/2009

Polynuclear Aromatic Hydrocarbons

Sample Name:	M-4-B	**Units:**	ug/Kg
Lab Code:	K0909140-002	**Basis:**	Dry
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270C SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Naphthalene	**180**		2.6	0.60	1	11/10/09	11/20/09	KWG0910535	
2-Methylnaphthalene	**38**		2.6	0.46	1	11/10/09	11/20/09	KWG0910535	
Acenaphthylene	**61**		2.6	0.56	1	11/10/09	11/20/09	KWG0910535	
Acenaphthene	**32**		2.6	0.50	1	11/10/09	11/20/09	KWG0910535	
Fluorene	**36**		2.6	0.61	1	11/10/09	11/20/09	KWG0910535	
Dibenzofuran	**28**		2.6	0.63	1	11/10/09	11/20/09	KWG0910535	
Phenanthrene	**250**		2.6	1.4	1	11/10/09	11/20/09	KWG0910535	
Anthracene	**52**		2.6	0.55	1	11/10/09	11/20/09	KWG0910535	
Fluoranthene	**350**		2.6	0.98	1	11/10/09	11/20/09	KWG0910535	
Pyrene	**330**		2.6	0.76	1	11/10/09	11/20/09	KWG0910535	
Benz(a)anthracene	**130**		2.6	0.72	1	11/10/09	11/20/09	KWG0910535	
Chrysene	**170**		2.6	0.80	1	11/10/09	11/20/09	KWG0910535	
Benzo(b)fluoranthene	**200**		2.6	0.92	1	11/10/09	11/20/09	KWG0910535	
Benzo(k)fluoranthene	**63**		2.6	0.87	1	11/10/09	11/20/09	KWG0910535	
Benzo(a)pyrene	**190**		2.6	0.76	1	11/10/09	11/20/09	KWG0910535	
Indeno(1,2,3-cd)pyrene	**180**		2.6	0.87	1	11/10/09	11/20/09	KWG0910535	
Dibenz(a,h)anthracene	**25**		2.6	0.80	1	11/10/09	11/20/09	KWG0910535	
Benzo(g,h,i)perylene	**230**		2.6	0.85	1	11/10/09	11/20/09	KWG0910535	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	70	17-104	11/20/09	Acceptable
Fluoranthene-d10	69	27-106	11/20/09	Acceptable
Terphenyl-d14	65	35-109	11/20/09	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	URS Corporation	**Service Request:**	K0909140
Project:	Boise St. Helens Pulp and Paper Mill-2009	**Date Collected:**	09/28/2009
Sample Matrix:	Sediment	**Date Received:**	09/29/2009

Polynuclear Aromatic Hydrocarbons

Sample Name:	M-4-C	**Units:**	ug/Kg
Lab Code:	K0909140-003	**Basis:**	Dry
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270C SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Naphthalene	**150**		2.6	0.60	1	11/10/09	11/20/09	KWG0910535	
2-Methylnaphthalene	**41**		2.6	0.46	1	11/10/09	11/20/09	KWG0910535	
Acenaphthylene	**42**		2.6	0.56	1	11/10/09	11/20/09	KWG0910535	
Acenaphthene	**35**		2.6	0.50	1	11/10/09	11/20/09	KWG0910535	
Fluorene	**36**		2.6	0.61	1	11/10/09	11/20/09	KWG0910535	
Dibenzofuran	**26**		2.6	0.63	1	11/10/09	11/20/09	KWG0910535	
Phenanthrene	**240**		2.6	1.4	1	11/10/09	11/20/09	KWG0910535	
Anthracene	**44**		2.6	0.55	1	11/10/09	11/20/09	KWG0910535	
Fluoranthene	**340**		2.6	0.98	1	11/10/09	11/20/09	KWG0910535	
Pyrene	**330**		2.6	0.76	1	11/10/09	11/20/09	KWG0910535	
Benz(a)anthracene	**120**		2.6	0.72	1	11/10/09	11/20/09	KWG0910535	
Chrysene	**180**		2.6	0.80	1	11/10/09	11/20/09	KWG0910535	
Benzo(b)fluoranthene	**200**		2.6	0.92	1	11/10/09	11/20/09	KWG0910535	
Benzo(k)fluoranthene	**61**		2.6	0.87	1	11/10/09	11/20/09	KWG0910535	
Benzo(a)pyrene	**190**		2.6	0.76	1	11/10/09	11/20/09	KWG0910535	
Indeno(1,2,3-cd)pyrene	**170**		2.6	0.87	1	11/10/09	11/20/09	KWG0910535	
Dibenz(a,h)anthracene	**25**		2.6	0.80	1	11/10/09	11/20/09	KWG0910535	
Benzo(g,h,i)perylene	**210**		2.6	0.85	1	11/10/09	11/20/09	KWG0910535	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	57	17-104	11/20/09	Acceptable
Fluoranthene-d10	56	27-106	11/20/09	Acceptable
Terphenyl-d14	52	35-109	11/20/09	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	URS Corporation	**Service Request:**	K0909140
Project:	Boise St. Helens Pulp and Paper Mill-2009	**Date Collected:**	10/07/2009
Sample Matrix:	Sediment	**Date Received:**	10/08/2009

Polynuclear Aromatic Hydrocarbons

Sample Name:	M-1-B	**Units:**	ug/Kg
Lab Code:	K0909140-004	**Basis:**	Dry
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270C SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Naphthalene	**490**		2.6	0.60	1	11/10/09	11/20/09	KWG0910535	
2-Methylnaphthalene	**160**		2.6	0.46	1	11/10/09	11/20/09	KWG0910535	
Acenaphthylene	**52**		2.6	0.56	1	11/10/09	11/20/09	KWG0910535	
Acenaphthene	**110**		2.6	0.50	1	11/10/09	11/20/09	KWG0910535	
Fluorene	**130**		2.6	0.61	1	11/10/09	11/20/09	KWG0910535	
Dibenzofuran	**160**		2.6	0.63	1	11/10/09	11/20/09	KWG0910535	
Phenanthrene	**620**		2.6	1.4	1	11/10/09	11/20/09	KWG0910535	
Anthracene	**120**		2.6	0.55	1	11/10/09	11/20/09	KWG0910535	
Fluoranthene	**730**		2.6	0.98	1	11/10/09	11/20/09	KWG0910535	
Pyrene	**480**		2.6	0.76	1	11/10/09	11/20/09	KWG0910535	
Benz(a)anthracene	**190**		2.6	0.72	1	11/10/09	11/20/09	KWG0910535	
Chrysene	**280**		2.6	0.80	1	11/10/09	11/20/09	KWG0910535	
Benzo(b)fluoranthene	**290**		2.6	0.92	1	11/10/09	11/20/09	KWG0910535	
Benzo(k)fluoranthene	**96**		2.6	0.87	1	11/10/09	11/20/09	KWG0910535	
Benzo(a)pyrene	**220**		2.6	0.76	1	11/10/09	11/20/09	KWG0910535	
Indeno(1,2,3-cd)pyrene	**180**		2.6	0.87	1	11/10/09	11/20/09	KWG0910535	
Dibenz(a,h)anthracene	**31**		2.6	0.80	1	11/10/09	11/20/09	KWG0910535	
Benzo(g,h,i)perylene	**200**		2.6	0.85	1	11/10/09	11/20/09	KWG0910535	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	66	17-104	11/20/09	Acceptable
Fluoranthene-d10	69	27-106	11/20/09	Acceptable
Terphenyl-d14	56	35-109	11/20/09	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	URS Corporation	**Service Request:**	K0909140
Project:	Boise St. Helens Pulp and Paper Mill-2009	**Date Collected:**	10/06/2009
Sample Matrix:	Sediment	**Date Received:**	10/07/2009

Polynuclear Aromatic Hydrocarbons

Sample Name:	M-2-C	**Units:**	ug/Kg
Lab Code:	K0909140-005	**Basis:**	Dry
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270C SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Naphthalene	**440**		2.7	0.60	1	11/10/09	11/21/09	KWG0910535	
2-Methylnaphthalene	**270**		2.7	0.46	1	11/10/09	11/21/09	KWG0910535	
Acenaphthylene	**130**		2.7	0.56	1	11/10/09	11/21/09	KWG0910535	
Acenaphthene	**130**		2.7	0.50	1	11/10/09	11/21/09	KWG0910535	
Fluorene	**170**		2.7	0.61	1	11/10/09	11/21/09	KWG0910535	
Dibenzofuran	**84**		2.7	0.63	1	11/10/09	11/21/09	KWG0910535	
Phenanthrene	**720**		2.7	1.4	1	11/10/09	11/21/09	KWG0910535	
Anthracene	**96**		2.7	0.55	1	11/10/09	11/21/09	KWG0910535	
Fluoranthene	**520**		2.7	0.98	1	11/10/09	11/21/09	KWG0910535	
Pyrene	**530**		2.7	0.76	1	11/10/09	11/21/09	KWG0910535	
Benz(a)anthracene	**120**		2.7	0.72	1	11/10/09	11/21/09	KWG0910535	
Chrysene	**140**		2.7	0.80	1	11/10/09	11/21/09	KWG0910535	
Benzo(b)fluoranthene	**130**		2.7	0.92	1	11/10/09	11/21/09	KWG0910535	
Benzo(k)fluoranthene	**35**		2.7	0.87	1	11/10/09	11/21/09	KWG0910535	
Benzo(a)pyrene	**100**		2.7	0.76	1	11/10/09	11/21/09	KWG0910535	
Indeno(1,2,3-cd)pyrene	**65**		2.7	0.87	1	11/10/09	11/21/09	KWG0910535	
Dibenz(a,h)anthracene	**14**		2.7	0.80	1	11/10/09	11/21/09	KWG0910535	
Benzo(g,h,i)perylene	**97**		2.7	0.85	1	11/10/09	11/21/09	KWG0910535	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	37	17-104	11/21/09	Acceptable
Fluoranthene-d10	28	27-106	11/21/09	Acceptable
Terphenyl-d14	28	35-109	11/21/09	Outside Control Limits

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	URS Corporation	**Service Request:**	K0909140
Project:	Boise St. Helens Pulp and Paper Mill-2009	**Date Collected:**	10/06/2009
Sample Matrix:	Sediment	**Date Received:**	10/07/2009

Polynuclear Aromatic Hydrocarbons

Sample Name:	M-2-A	**Units:**	ug/Kg
Lab Code:	K0909140-006	**Basis:**	Dry
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270C SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Naphthalene	**790**		2.6	0.60	1	11/10/09	11/16/09	KWG0910535	
2-Methylnaphthalene	**590**		2.6	0.46	1	11/10/09	11/16/09	KWG0910535	
Acenaphthylene	**220**		2.6	0.56	1	11/10/09	11/16/09	KWG0910535	
Acenaphthene	**170**		2.6	0.50	1	11/10/09	11/16/09	KWG0910535	
Fluorene	**250**		2.6	0.61	1	11/10/09	11/16/09	KWG0910535	
Dibenzofuran	**140**		2.6	0.63	1	11/10/09	11/16/09	KWG0910535	
Phenanthrene	**1400**	D	26	14	10	11/10/09	11/17/09	KWG0910535	
Anthracene	**200**		2.6	0.55	1	11/10/09	11/16/09	KWG0910535	
Fluoranthene	**750**		2.6	0.98	1	11/10/09	11/16/09	KWG0910535	
Pyrene	**990**	D	26	7.6	10	11/10/09	11/17/09	KWG0910535	
Benz(a)anthracene	**220**		2.6	0.72	1	11/10/09	11/16/09	KWG0910535	
Chrysene	**320**		2.6	0.80	1	11/10/09	11/16/09	KWG0910535	
Benzo(b)fluoranthene	**220**		2.6	0.92	1	11/10/09	11/16/09	KWG0910535	
Benzo(k)fluoranthene	**71**		2.6	0.87	1	11/10/09	11/16/09	KWG0910535	
Benzo(a)pyrene	**190**		2.6	0.76	1	11/10/09	11/16/09	KWG0910535	
Indeno(1,2,3-cd)pyrene	**110**		2.6	0.87	1	11/10/09	11/16/09	KWG0910535	
Dibenz(a,h)anthracene	**22**		2.6	0.80	1	11/10/09	11/16/09	KWG0910535	
Benzo(g,h,i)perylene	**170**		2.6	0.85	1	11/10/09	11/16/09	KWG0910535	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	64	17-104	11/16/09	Acceptable
Fluoranthene-d10	70	27-106	11/16/09	Acceptable
Terphenyl-d14	44	35-109	11/16/09	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	URS Corporation	**Service Request:**	K0909140
Project:	Boise St. Helens Pulp and Paper Mill-2009	**Date Collected:**	10/05/2009
Sample Matrix:	Sediment	**Date Received:**	10/06/2009

Polynuclear Aromatic Hydrocarbons

Sample Name:	M-3-B	**Units:**	ug/Kg
Lab Code:	K0909140-007	**Basis:**	Dry
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270C SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Naphthalene	**320**		2.5	0.60	1	11/10/09	11/21/09	KWG0910535	
2-Methylnaphthalene	**69**		2.5	0.46	1	11/10/09	11/21/09	KWG0910535	
Acenaphthylene	**77**		2.5	0.56	1	11/10/09	11/21/09	KWG0910535	
Acenaphthene	**54**		2.5	0.50	1	11/10/09	11/21/09	KWG0910535	
Fluorene	**58**		2.5	0.61	1	11/10/09	11/21/09	KWG0910535	
Dibenzofuran	**44**		2.5	0.63	1	11/10/09	11/21/09	KWG0910535	
Phenanthrene	**410**		2.5	1.4	1	11/10/09	11/21/09	KWG0910535	
Anthracene	**77**		2.5	0.55	1	11/10/09	11/21/09	KWG0910535	
Fluoranthene	**560**		2.5	0.98	1	11/10/09	11/21/09	KWG0910535	
Pyrene	**480**		2.5	0.76	1	11/10/09	11/21/09	KWG0910535	
Benz(a)anthracene	**160**		2.5	0.72	1	11/10/09	11/21/09	KWG0910535	
Chrysene	**220**		2.5	0.80	1	11/10/09	11/21/09	KWG0910535	
Benzo(b)fluoranthene	**250**		2.5	0.92	1	11/10/09	11/21/09	KWG0910535	
Benzo(k)fluoranthene	**83**		2.5	0.87	1	11/10/09	11/21/09	KWG0910535	
Benzo(a)pyrene	**240**		2.5	0.76	1	11/10/09	11/21/09	KWG0910535	
Indeno(1,2,3-cd)pyrene	**200**		2.5	0.87	1	11/10/09	11/21/09	KWG0910535	
Dibenz(a,h)anthracene	**29**		2.5	0.80	1	11/10/09	11/21/09	KWG0910535	
Benzo(g,h,i)perylene	**240**		2.5	0.85	1	11/10/09	11/21/09	KWG0910535	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	72	17-104	11/21/09	Acceptable
Fluoranthene-d10	75	27-106	11/21/09	Acceptable
Terphenyl-d14	65	35-109	11/21/09	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	URS Corporation	**Service Request:**	K0909140
Project:	Boise St. Helens Pulp and Paper Mill-2009	**Date Collected:**	10/06/2009
Sample Matrix:	Sediment	**Date Received:**	10/07/2009

Polynuclear Aromatic Hydrocarbons

Sample Name:	M-2-B	**Units:**	ug/Kg
Lab Code:	K0909140-008	**Basis:**	Dry
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270C SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Naphthalene	**770**		2.8	0.60	1	11/10/09	11/21/09	KWG0910535	
2-Methylnaphthalene	**240**		2.8	0.46	1	11/10/09	11/21/09	KWG0910535	
Acenaphthylene	**250**		2.8	0.56	1	11/10/09	11/21/09	KWG0910535	
Acenaphthene	**110**		2.8	0.50	1	11/10/09	11/21/09	KWG0910535	
Fluorene	**130**		2.8	0.61	1	11/10/09	11/21/09	KWG0910535	
Dibenzofuran	**110**		2.8	0.63	1	11/10/09	11/21/09	KWG0910535	
Phenanthrene	**640**		2.8	1.4	1	11/10/09	11/21/09	KWG0910535	
Anthracene	**120**		2.8	0.55	1	11/10/09	11/21/09	KWG0910535	
Fluoranthene	**760**		2.8	0.98	1	11/10/09	11/21/09	KWG0910535	
Pyrene	**570**		2.8	0.76	1	11/10/09	11/21/09	KWG0910535	
Benz(a)anthracene	**140**		2.8	0.72	1	11/10/09	11/21/09	KWG0910535	
Chrysene	**250**		2.8	0.80	1	11/10/09	11/21/09	KWG0910535	
Benzo(b)fluoranthene	**220**		2.8	0.92	1	11/10/09	11/21/09	KWG0910535	
Benzo(k)fluoranthene	**70**		2.8	0.87	1	11/10/09	11/21/09	KWG0910535	
Benzo(a)pyrene	**150**		2.8	0.76	1	11/10/09	11/21/09	KWG0910535	
Indeno(1,2,3-cd)pyrene	**120**		2.8	0.87	1	11/10/09	11/21/09	KWG0910535	
Dibenz(a,h)anthracene	**25**		2.8	0.80	1	11/10/09	11/21/09	KWG0910535	
Benzo(g,h,i)perylene	**160**		2.8	0.85	1	11/10/09	11/21/09	KWG0910535	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	58	17-104	11/21/09	Acceptable
Fluoranthene-d10	63	27-106	11/21/09	Acceptable
Terphenyl-d14	58	35-109	11/21/09	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	URS Corporation	**Service Request:**	K0909140
Project:	Boise St. Helens Pulp and Paper Mill-2009	**Date Collected:**	10/07/2009
Sample Matrix:	Sediment	**Date Received:**	10/08/2009

Polynuclear Aromatic Hydrocarbons

Sample Name:	M-1-C	**Units:**	ug/Kg
Lab Code:	K0909140-009	**Basis:**	Dry
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270C SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Naphthalene	**550**		2.8	0.60	1	11/10/09	11/21/09	KWG0910535	
2-Methylnaphthalene	**140**		2.8	0.46	1	11/10/09	11/21/09	KWG0910535	
Acenaphthylene	**54**		2.8	0.56	1	11/10/09	11/21/09	KWG0910535	
Acenaphthene	**120**		2.8	0.50	1	11/10/09	11/21/09	KWG0910535	
Fluorene	**140**		2.8	0.61	1	11/10/09	11/21/09	KWG0910535	
Dibenzofuran	**150**		2.8	0.63	1	11/10/09	11/21/09	KWG0910535	
Phenanthrene	**600**		2.8	1.4	1	11/10/09	11/21/09	KWG0910535	
Anthracene	**130**		2.8	0.55	1	11/10/09	11/21/09	KWG0910535	
Fluoranthene	**680**		2.8	0.98	1	11/10/09	11/21/09	KWG0910535	
Pyrene	**420**		2.8	0.76	1	11/10/09	11/21/09	KWG0910535	
Benz(a)anthracene	**140**		2.8	0.72	1	11/10/09	11/21/09	KWG0910535	
Chrysene	**210**		2.8	0.80	1	11/10/09	11/21/09	KWG0910535	
Benzo(b)fluoranthene	**190**		2.8	0.92	1	11/10/09	11/21/09	KWG0910535	
Benzo(k)fluoranthene	**62**		2.8	0.87	1	11/10/09	11/21/09	KWG0910535	
Benzo(a)pyrene	**140**		2.8	0.76	1	11/10/09	11/21/09	KWG0910535	
Indeno(1,2,3-cd)pyrene	**120**		2.8	0.87	1	11/10/09	11/21/09	KWG0910535	
Dibenz(a,h)anthracene	**22**		2.8	0.80	1	11/10/09	11/21/09	KWG0910535	
Benzo(g,h,i)perylene	**140**		2.8	0.85	1	11/10/09	11/21/09	KWG0910535	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	62	17-104	11/21/09	Acceptable
Fluoranthene-d10	68	27-106	11/21/09	Acceptable
Terphenyl-d14	54	35-109	11/21/09	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	URS Corporation	**Service Request:**	K0909140
Project:	Boise St. Helens Pulp and Paper Mill-2009	**Date Collected:**	10/05/2009
Sample Matrix:	Sediment	**Date Received:**	10/06/2009

Polynuclear Aromatic Hydrocarbons

Sample Name:	M-3-C	**Units:**	ug/Kg
Lab Code:	K0909140-010	**Basis:**	Dry
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270C SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Naphthalene	**490**		2.6	0.60	1	11/10/09	11/21/09	KWG0910535	
2-Methylnaphthalene	**100**		2.6	0.46	1	11/10/09	11/21/09	KWG0910535	
Acenaphthylene	**160**		2.6	0.56	1	11/10/09	11/21/09	KWG0910535	
Acenaphthene	**81**		2.6	0.50	1	11/10/09	11/21/09	KWG0910535	
Fluorene	**90**		2.6	0.61	1	11/10/09	11/21/09	KWG0910535	
Dibenzofuran	**74**		2.6	0.63	1	11/10/09	11/21/09	KWG0910535	
Phenanthrene	**570**		2.6	1.4	1	11/10/09	11/21/09	KWG0910535	
Anthracene	**120**		2.6	0.55	1	11/10/09	11/21/09	KWG0910535	
Fluoranthene	**830**		2.6	0.98	1	11/10/09	11/21/09	KWG0910535	
Pyrene	**680**		2.6	0.76	1	11/10/09	11/21/09	KWG0910535	
Benz(a)anthracene	**240**		2.6	0.72	1	11/10/09	11/21/09	KWG0910535	
Chrysene	**310**		2.6	0.80	1	11/10/09	11/21/09	KWG0910535	
Benzo(b)fluoranthene	**360**		2.6	0.92	1	11/10/09	11/21/09	KWG0910535	
Benzo(k)fluoranthene	**110**		2.6	0.87	1	11/10/09	11/21/09	KWG0910535	
Benzo(a)pyrene	**350**		2.6	0.76	1	11/10/09	11/21/09	KWG0910535	
Indeno(1,2,3-cd)pyrene	**270**		2.6	0.87	1	11/10/09	11/21/09	KWG0910535	
Dibenz(a,h)anthracene	**38**		2.6	0.80	1	11/10/09	11/21/09	KWG0910535	
Benzo(g,h,i)perylene	**340**		2.6	0.85	1	11/10/09	11/21/09	KWG0910535	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	68	17-104	11/21/09	Acceptable
Fluoranthene-d10	70	27-106	11/21/09	Acceptable
Terphenyl-d14	58	35-109	11/21/09	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	URS Corporation	**Service Request:**	K0909140
Project:	Boise St. Helens Pulp and Paper Mill-2009	**Date Collected:**	10/09/2009
Sample Matrix:	Sediment	**Date Received:**	10/09/2009

Polynuclear Aromatic Hydrocarbons

Sample Name:	B-1-A	**Units:**	ug/Kg
Lab Code:	K0909140-011	**Basis:**	Dry
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270C SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Naphthalene	**12**		2.7	0.60	1	11/10/09	11/21/09	KWG0910535	
2-Methylnaphthalene	**4.8**		2.7	0.46	1	11/10/09	11/21/09	KWG0910535	
Acenaphthylene	**4.9**		2.7	0.56	1	11/10/09	11/21/09	KWG0910535	
Acenaphthene	**3.0**		2.7	0.50	1	11/10/09	11/21/09	KWG0910535	
Fluorene	**3.6**		2.7	0.61	1	11/10/09	11/21/09	KWG0910535	
Dibenzofuran	**1.8**	J	2.7	0.63	1	11/10/09	11/21/09	KWG0910535	
Phenanthrene	**33**		2.7	1.4	1	11/10/09	11/21/09	KWG0910535	
Anthracene	**8.8**		2.7	0.55	1	11/10/09	11/21/09	KWG0910535	
Fluoranthene	**69**		2.7	0.98	1	11/10/09	11/21/09	KWG0910535	
Pyrene	**64**		2.7	0.76	1	11/10/09	11/21/09	KWG0910535	
Benz(a)anthracene	**34**		2.7	0.72	1	11/10/09	11/21/09	KWG0910535	
Chrysene	**45**		2.7	0.80	1	11/10/09	11/21/09	KWG0910535	
Benzo(b)fluoranthene	**59**		2.7	0.92	1	11/10/09	11/21/09	KWG0910535	
Benzo(k)fluoranthene	**20**		2.7	0.87	1	11/10/09	11/21/09	KWG0910535	
Benzo(a)pyrene	**55**		2.7	0.76	1	11/10/09	11/21/09	KWG0910535	
Indeno(1,2,3-cd)pyrene	**56**		2.7	0.87	1	11/10/09	11/21/09	KWG0910535	
Dibenz(a,h)anthracene	**7.9**		2.7	0.80	1	11/10/09	11/21/09	KWG0910535	
Benzo(g,h,i)perylene	**66**		2.7	0.85	1	11/10/09	11/21/09	KWG0910535	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	62	17-104	11/21/09	Acceptable
Fluoranthene-d10	64	27-106	11/21/09	Acceptable
Terphenyl-d14	55	35-109	11/21/09	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	URS Corporation	**Service Request:**	K0909140
Project:	Boise St. Helens Pulp and Paper Mill-2009	**Date Collected:**	10/09/2009
Sample Matrix:	Sediment	**Date Received:**	10/09/2009

Polynuclear Aromatic Hydrocarbons

Sample Name:	B-1-B	**Units:**	ug/Kg
Lab Code:	K0909140-012	**Basis:**	Dry
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270C SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Naphthalene	**8.7**		2.5	0.60	1	11/10/09	11/21/09	KWG0910535	
2-Methylnaphthalene	**4.9**		2.5	0.46	1	11/10/09	11/21/09	KWG0910535	
Acenaphthylene	**7.8**		2.5	0.56	1	11/10/09	11/21/09	KWG0910535	
Acenaphthene	**4.6**		2.5	0.50	1	11/10/09	11/21/09	KWG0910535	
Fluorene	**2.5**	J	2.5	0.61	1	11/10/09	11/21/09	KWG0910535	
Dibenzofuran	**3.2**		2.5	0.63	1	11/10/09	11/21/09	KWG0910535	
Phenanthrene	**58**		2.5	1.4	1	11/10/09	11/21/09	KWG0910535	
Anthracene	**6.8**		2.5	0.55	1	11/10/09	11/21/09	KWG0910535	
Fluoranthene	**73**		2.5	0.98	1	11/10/09	11/21/09	KWG0910535	
Pyrene	**76**		2.5	0.76	1	11/10/09	11/21/09	KWG0910535	
Benz(a)anthracene	**48**		2.5	0.72	1	11/10/09	11/21/09	KWG0910535	
Chrysene	**61**		2.5	0.80	1	11/10/09	11/21/09	KWG0910535	
Benzo(b)fluoranthene	**87**		2.5	0.92	1	11/10/09	11/21/09	KWG0910535	
Benzo(k)fluoranthene	**31**		2.5	0.87	1	11/10/09	11/21/09	KWG0910535	
Benzo(a)pyrene	**89**		2.5	0.76	1	11/10/09	11/21/09	KWG0910535	
Indeno(1,2,3-cd)pyrene	**89**		2.5	0.87	1	11/10/09	11/21/09	KWG0910535	
Dibenz(a,h)anthracene	**12**		2.5	0.80	1	11/10/09	11/21/09	KWG0910535	
Benzo(g,h,i)perylene	**110**		2.5	0.85	1	11/10/09	11/21/09	KWG0910535	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	65	17-104	11/21/09	Acceptable
Fluoranthene-d10	68	27-106	11/21/09	Acceptable
Terphenyl-d14	62	35-109	11/21/09	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	URS Corporation	**Service Request:**	K0909140
Project:	Boise St. Helens Pulp and Paper Mill-2009	**Date Collected:**	10/05/2009
Sample Matrix:	Sediment	**Date Received:**	10/06/2009

Polynuclear Aromatic Hydrocarbons

Sample Name:	M-3-A	**Units:**	ug/Kg
Lab Code:	K0909140-013	**Basis:**	Dry
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270C SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Naphthalene	**410**		2.7	0.60	1	11/10/09	11/21/09	KWG0910535	
2-Methylnaphthalene	**110**		2.7	0.46	1	11/10/09	11/21/09	KWG0910535	
Acenaphthylene	**110**		2.7	0.56	1	11/10/09	11/21/09	KWG0910535	
Acenaphthene	**90**		2.7	0.50	1	11/10/09	11/21/09	KWG0910535	
Fluorene	**96**		2.7	0.61	1	11/10/09	11/21/09	KWG0910535	
Dibenzofuran	**67**		2.7	0.63	1	11/10/09	11/21/09	KWG0910535	
Phenanthrene	**670**		2.7	1.4	1	11/10/09	11/21/09	KWG0910535	
Anthracene	**140**		2.7	0.55	1	11/10/09	11/21/09	KWG0910535	
Fluoranthene	**950**		2.7	0.98	1	11/10/09	11/21/09	KWG0910535	
Pyrene	**780**		2.7	0.76	1	11/10/09	11/21/09	KWG0910535	
Benz(a)anthracene	**310**		2.7	0.72	1	11/10/09	11/21/09	KWG0910535	
Chrysene	**430**		2.7	0.80	1	11/10/09	11/21/09	KWG0910535	
Benzo(b)fluoranthene	**480**		2.7	0.92	1	11/10/09	11/21/09	KWG0910535	
Benzo(k)fluoranthene	**160**		2.7	0.87	1	11/10/09	11/21/09	KWG0910535	
Benzo(a)pyrene	**480**		2.7	0.76	1	11/10/09	11/21/09	KWG0910535	
Indeno(1,2,3-cd)pyrene	**390**		2.7	0.87	1	11/10/09	11/21/09	KWG0910535	
Dibenz(a,h)anthracene	**55**		2.7	0.80	1	11/10/09	11/21/09	KWG0910535	
Benzo(g,h,i)perylene	**460**		2.7	0.85	1	11/10/09	11/21/09	KWG0910535	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	78	17-104	11/21/09	Acceptable
Fluoranthene-d10	82	27-106	11/21/09	Acceptable
Terphenyl-d14	68	35-109	11/21/09	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	URS Corporation	**Service Request:**	K0909140
Project:	Boise St. Helens Pulp and Paper Mill-2009	**Date Collected:**	10/07/2009
Sample Matrix:	Sediment	**Date Received:**	10/08/2009

Polynuclear Aromatic Hydrocarbons

Sample Name:	M-1-A	**Units:**	ug/Kg
Lab Code:	K0909140-014	**Basis:**	Dry
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270C SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Naphthalene	**380**		2.9	0.60	1	11/10/09	11/21/09	KWG0910535	
2-Methylnaphthalene	**150**		2.9	0.46	1	11/10/09	11/21/09	KWG0910535	
Acenaphthylene	**44**		2.9	0.56	1	11/10/09	11/21/09	KWG0910535	
Acenaphthene	**120**		2.9	0.50	1	11/10/09	11/21/09	KWG0910535	
Fluorene	**150**		2.9	0.61	1	11/10/09	11/21/09	KWG0910535	
Dibenzofuran	**160**		2.9	0.63	1	11/10/09	11/21/09	KWG0910535	
Phenanthrene	**640**		2.9	1.4	1	11/10/09	11/21/09	KWG0910535	
Anthracene	**150**		2.9	0.55	1	11/10/09	11/21/09	KWG0910535	
Fluoranthene	**750**		2.9	0.98	1	11/10/09	11/21/09	KWG0910535	
Pyrene	**490**		2.9	0.76	1	11/10/09	11/21/09	KWG0910535	
Benz(a)anthracene	**180**		2.9	0.72	1	11/10/09	11/21/09	KWG0910535	
Chrysene	**270**		2.9	0.80	1	11/10/09	11/21/09	KWG0910535	
Benzo(b)fluoranthene	**240**		2.9	0.92	1	11/10/09	11/21/09	KWG0910535	
Benzo(k)fluoranthene	**82**		2.9	0.87	1	11/10/09	11/21/09	KWG0910535	
Benzo(a)pyrene	**170**		2.9	0.76	1	11/10/09	11/21/09	KWG0910535	
Indeno(1,2,3-cd)pyrene	**150**		2.9	0.87	1	11/10/09	11/21/09	KWG0910535	
Dibenz(a,h)anthracene	**26**		2.9	0.80	1	11/10/09	11/21/09	KWG0910535	
Benzo(g,h,i)perylene	**170**		2.9	0.85	1	11/10/09	11/21/09	KWG0910535	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	58	17-104	11/21/09	Acceptable
Fluoranthene-d10	62	27-106	11/21/09	Acceptable
Terphenyl-d14	53	35-109	11/21/09	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009
Sample Matrix: Sediment

Service Request: K0909140
Date Collected: 09/28/2009
Date Received: 09/29/2009

Polynuclear Aromatic Hydrocarbons

Sample Name: M-5-B
Lab Code: K0909140-015

Units: ug/Kg
Basis: Dry

Extraction Method: EPA 3541
Analysis Method: 8270C SIM

Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Naphthalene	**92**		2.5	0.60	1	11/10/09	11/16/09	KWG0910535	
2-Methylnaphthalene	**25**		2.5	0.46	1	11/10/09	11/16/09	KWG0910535	
Acenaphthylene	**27**		2.5	0.56	1	11/10/09	11/16/09	KWG0910535	
Acenaphthene	**25**		2.5	0.50	1	11/10/09	11/16/09	KWG0910535	
Fluorene	**28**		2.5	0.61	1	11/10/09	11/16/09	KWG0910535	
Dibenzofuran	**19**		2.5	0.63	1	11/10/09	11/16/09	KWG0910535	
Phenanthrene	**120**		2.5	1.4	1	11/10/09	11/16/09	KWG0910535	
Anthracene	**23**		2.5	0.55	1	11/10/09	11/16/09	KWG0910535	
Fluoranthene	**190**		2.5	0.98	1	11/10/09	11/16/09	KWG0910535	
Pyrene	**170**		2.5	0.76	1	11/10/09	11/16/09	KWG0910535	
Benz(a)anthracene	**74**		2.5	0.72	1	11/10/09	11/16/09	KWG0910535	
Chrysene	**95**		2.5	0.80	1	11/10/09	11/16/09	KWG0910535	
Benzo(b)fluoranthene	**130**		2.5	0.92	1	11/10/09	11/16/09	KWG0910535	
Benzo(k)fluoranthene	**42**		2.5	0.87	1	11/10/09	11/16/09	KWG0910535	
Benzo(a)pyrene	**120**		2.5	0.76	1	11/10/09	11/16/09	KWG0910535	
Indeno(1,2,3-cd)pyrene	**110**		2.5	0.87	1	11/10/09	11/16/09	KWG0910535	
Dibenz(a,h)anthracene	**13**		2.5	0.80	1	11/10/09	11/16/09	KWG0910535	
Benzo(g,h,i)perylene	**120**		2.5	0.85	1	11/10/09	11/16/09	KWG0910535	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	76	17-104	11/16/09	Acceptable
Fluoranthene-d10	73	27-106	11/16/09	Acceptable
Terphenyl-d14	61	35-109	11/16/09	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	URS Corporation	**Service Request:**	K0909140
Project:	Boise St. Helens Pulp and Paper Mill-2009	**Date Collected:**	09/28/2009
Sample Matrix:	Sediment	**Date Received:**	09/29/2009

Polynuclear Aromatic Hydrocarbons

Sample Name:	M-5-A	**Units:**	ug/Kg
Lab Code:	K0909140-016	**Basis:**	Dry
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270C SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Naphthalene	**100**		2.5	0.60	1	11/10/09	11/16/09	KWG0910535	
2-Methylnaphthalene	**28**		2.5	0.46	1	11/10/09	11/16/09	KWG0910535	
Acenaphthylene	**29**		2.5	0.56	1	11/10/09	11/16/09	KWG0910535	
Acenaphthene	**22**		2.5	0.50	1	11/10/09	11/16/09	KWG0910535	
Fluorene	**30**		2.5	0.61	1	11/10/09	11/16/09	KWG0910535	
Dibenzofuran	**20**		2.5	0.63	1	11/10/09	11/16/09	KWG0910535	
Phenanthrene	**170**		2.5	1.4	1	11/10/09	11/16/09	KWG0910535	
Anthracene	**38**		2.5	0.55	1	11/10/09	11/16/09	KWG0910535	
Fluoranthene	**260**		2.5	0.98	1	11/10/09	11/16/09	KWG0910535	
Pyrene	**220**		2.5	0.76	1	11/10/09	11/16/09	KWG0910535	
Benz(a)anthracene	**96**		2.5	0.72	1	11/10/09	11/16/09	KWG0910535	
Chrysene	**120**		2.5	0.80	1	11/10/09	11/16/09	KWG0910535	
Benzo(b)fluoranthene	**170**		2.5	0.92	1	11/10/09	11/16/09	KWG0910535	
Benzo(k)fluoranthene	**51**		2.5	0.87	1	11/10/09	11/16/09	KWG0910535	
Benzo(a)pyrene	**150**		2.5	0.76	1	11/10/09	11/16/09	KWG0910535	
Indeno(1,2,3-cd)pyrene	**140**		2.5	0.87	1	11/10/09	11/16/09	KWG0910535	
Dibenz(a,h)anthracene	**17**		2.5	0.80	1	11/10/09	11/16/09	KWG0910535	
Benzo(g,h,i)perylene	**160**		2.5	0.85	1	11/10/09	11/16/09	KWG0910535	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	81	17-104	11/16/09	Acceptable
Fluoranthene-d10	81	27-106	11/16/09	Acceptable
Terphenyl-d14	66	35-109	11/16/09	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	URS Corporation	**Service Request:**	K0909140
Project:	Boise St. Helens Pulp and Paper Mill-2009	**Date Collected:**	09/28/2009
Sample Matrix:	Sediment	**Date Received:**	09/29/2009

Polynuclear Aromatic Hydrocarbons

Sample Name:	M-5-C	**Units:**	ug/Kg
Lab Code:	K0909140-017	**Basis:**	Dry
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270C SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Naphthalene	**110**		2.5	0.60	1	11/10/09	11/17/09	KWG0910535	
2-Methylnaphthalene	**35**		2.5	0.46	1	11/10/09	11/17/09	KWG0910535	
Acenaphthylene	**32**		2.5	0.56	1	11/10/09	11/17/09	KWG0910535	
Acenaphthene	**23**		2.5	0.50	1	11/10/09	11/17/09	KWG0910535	
Fluorene	**30**		2.5	0.61	1	11/10/09	11/17/09	KWG0910535	
Dibenzofuran	**20**		2.5	0.63	1	11/10/09	11/17/09	KWG0910535	
Phenanthrene	**170**		2.5	1.4	1	11/10/09	11/17/09	KWG0910535	
Anthracene	**35**		2.5	0.55	1	11/10/09	11/17/09	KWG0910535	
Fluoranthene	**270**		2.5	0.98	1	11/10/09	11/17/09	KWG0910535	
Pyrene	**220**		2.5	0.76	1	11/10/09	11/17/09	KWG0910535	
Benz(a)anthracene	**110**		2.5	0.72	1	11/10/09	11/17/09	KWG0910535	
Chrysene	**130**		2.5	0.80	1	11/10/09	11/17/09	KWG0910535	
Benzo(b)fluoranthene	**180**		2.5	0.92	1	11/10/09	11/17/09	KWG0910535	
Benzo(k)fluoranthene	**61**		2.5	0.87	1	11/10/09	11/17/09	KWG0910535	
Benzo(a)pyrene	**170**		2.5	0.76	1	11/10/09	11/17/09	KWG0910535	
Indeno(1,2,3-cd)pyrene	**140**		2.5	0.87	1	11/10/09	11/17/09	KWG0910535	
Dibenz(a,h)anthracene	**18**		2.5	0.80	1	11/10/09	11/17/09	KWG0910535	
Benzo(g,h,i)perylene	**160**		2.5	0.85	1	11/10/09	11/17/09	KWG0910535	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	82	17-104	11/17/09	Acceptable
Fluoranthene-d10	84	27-106	11/17/09	Acceptable
Terphenyl-d14	68	35-109	11/17/09	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	URS Corporation	**Service Request:**	K0909140
Project:	Boise St. Helens Pulp and Paper Mill-2009	**Date Collected:**	09/28/2009
Sample Matrix:	Sediment	**Date Received:**	09/29/2009

Polynuclear Aromatic Hydrocarbons

Sample Name:	M-5-B2	**Units:**	ug/Kg
Lab Code:	K0909140-018	**Basis:**	Dry
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270C SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Naphthalene	**110**		2.6	0.60	1	11/10/09	11/17/09	KWG0910535	
2-Methylnaphthalene	**26**		2.6	0.46	1	11/10/09	11/17/09	KWG0910535	
Acenaphthylene	**26**		2.6	0.56	1	11/10/09	11/17/09	KWG0910535	
Acenaphthene	**28**		2.6	0.50	1	11/10/09	11/17/09	KWG0910535	
Fluorene	**28**		2.6	0.61	1	11/10/09	11/17/09	KWG0910535	
Dibenzofuran	**18**		2.6	0.63	1	11/10/09	11/17/09	KWG0910535	
Phenanthrene	**160**		2.6	1.4	1	11/10/09	11/17/09	KWG0910535	
Anthracene	**31**		2.6	0.55	1	11/10/09	11/17/09	KWG0910535	
Fluoranthene	**250**		2.6	0.98	1	11/10/09	11/17/09	KWG0910535	
Pyrene	**210**		2.6	0.76	1	11/10/09	11/17/09	KWG0910535	
Benz(a)anthracene	**87**		2.6	0.72	1	11/10/09	11/17/09	KWG0910535	
Chrysene	**110**		2.6	0.80	1	11/10/09	11/17/09	KWG0910535	
Benzo(b)fluoranthene	**150**		2.6	0.92	1	11/10/09	11/17/09	KWG0910535	
Benzo(k)fluoranthene	**47**		2.6	0.87	1	11/10/09	11/17/09	KWG0910535	
Benzo(a)pyrene	**140**		2.6	0.76	1	11/10/09	11/17/09	KWG0910535	
Indeno(1,2,3-cd)pyrene	**120**		2.6	0.87	1	11/10/09	11/17/09	KWG0910535	
Dibenz(a,h)anthracene	**14**		2.6	0.80	1	11/10/09	11/17/09	KWG0910535	
Benzo(g,h,i)perylene	**140**		2.6	0.85	1	11/10/09	11/17/09	KWG0910535	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	72	17-104	11/17/09	Acceptable
Fluoranthene-d10	69	27-106	11/17/09	Acceptable
Terphenyl-d14	58	35-109	11/17/09	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	URS Corporation	**Service Request:**	K0909140
Project:	Boise St. Helens Pulp and Paper Mill-2009	**Date Collected:**	10/09/2009
Sample Matrix:	Sediment	**Date Received:**	10/09/2009

Polynuclear Aromatic Hydrocarbons

Sample Name:	B-1-C	**Units:**	ug/Kg
Lab Code:	K0909140-019	**Basis:**	Dry
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270C SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Naphthalene	**8.1**		2.9	0.60	1	11/10/09	11/17/09	KWG0910535	
2-Methylnaphthalene	**2.9**	J	2.9	0.46	1	11/10/09	11/17/09	KWG0910535	
Acenaphthylene	**4.6**		2.9	0.56	1	11/10/09	11/17/09	KWG0910535	
Acenaphthene	**2.2**	J	2.9	0.50	1	11/10/09	11/17/09	KWG0910535	
Fluorene	**2.1**	J	2.9	0.61	1	11/10/09	11/17/09	KWG0910535	
Dibenzofuran	**1.2**	J	2.9	0.63	1	11/10/09	11/17/09	KWG0910535	
Phenanthrene	**25**		2.9	1.4	1	11/10/09	11/17/09	KWG0910535	
Anthracene	**5.6**		2.9	0.55	1	11/10/09	11/17/09	KWG0910535	
Fluoranthene	**73**		2.9	0.98	1	11/10/09	11/17/09	KWG0910535	
Pyrene	**78**		2.9	0.76	1	11/10/09	11/17/09	KWG0910535	
Benz(a)anthracene	**36**		2.9	0.72	1	11/10/09	11/17/09	KWG0910535	
Chrysene	**46**		2.9	0.80	1	11/10/09	11/17/09	KWG0910535	
Benzo(b)fluoranthene	**69**		2.9	0.92	1	11/10/09	11/17/09	KWG0910535	
Benzo(k)fluoranthene	**20**		2.9	0.87	1	11/10/09	11/17/09	KWG0910535	
Benzo(a)pyrene	**64**		2.9	0.76	1	11/10/09	11/17/09	KWG0910535	
Indeno(1,2,3-cd)pyrene	**57**		2.9	0.87	1	11/10/09	11/17/09	KWG0910535	
Dibenz(a,h)anthracene	**6.4**		2.9	0.80	1	11/10/09	11/17/09	KWG0910535	
Benzo(g,h,i)perylene	**69**		2.9	0.85	1	11/10/09	11/17/09	KWG0910535	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	79	17-104	11/17/09	Acceptable
Fluoranthene-d10	75	27-106	11/17/09	Acceptable
Terphenyl-d14	66	35-109	11/17/09	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	URS Corporation	**Service Request:**	K0909140
Project:	Boise St. Helens Pulp and Paper Mill-2009	**Date Collected:**	NA
Sample Matrix:	Sediment	**Date Received:**	NA

Polynuclear Aromatic Hydrocarbons

Sample Name:	Method Blank	**Units:**	ug/Kg
Lab Code:	KWG0910535-7	**Basis:**	Dry
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270C SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Naphthalene	**0.65**	J	2.5	0.60	1	11/10/09	11/16/09	KWG0910535	
2-Methylnaphthalene	ND	U	2.5	0.46	1	11/10/09	11/16/09	KWG0910535	
Acenaphthylene	ND	U	2.5	0.56	1	11/10/09	11/16/09	KWG0910535	
Acenaphthene	ND	U	2.5	0.50	1	11/10/09	11/16/09	KWG0910535	
Fluorene	ND	U	2.5	0.61	1	11/10/09	11/16/09	KWG0910535	
Dibenzofuran	ND	U	2.5	0.63	1	11/10/09	11/16/09	KWG0910535	
Phenanthrene	ND	U	2.5	1.4	1	11/10/09	11/16/09	KWG0910535	
Anthracene	ND	U	2.5	0.55	1	11/10/09	11/16/09	KWG0910535	
Fluoranthene	**1.7**	J	2.5	0.98	1	11/10/09	11/16/09	KWG0910535	
Pyrene	**1.7**	J	2.5	0.76	1	11/10/09	11/19/09	KWG0910535	
Benz(a)anthracene	ND	U	2.5	0.72	1	11/10/09	11/16/09	KWG0910535	
Chrysene	**0.94**	J	2.5	0.80	1	11/10/09	11/16/09	KWG0910535	
Benzo(b)fluoranthene	**0.92**	J	2.5	0.92	1	11/10/09	11/16/09	KWG0910535	
Benzo(k)fluoranthene	ND	U	2.5	0.87	1	11/10/09	11/16/09	KWG0910535	
Benzo(a)pyrene	ND	U	2.5	0.76	1	11/10/09	11/16/09	KWG0910535	
Indeno(1,2,3-cd)pyrene	ND	U	2.5	0.87	1	11/10/09	11/16/09	KWG0910535	
Dibenz(a,h)anthracene	ND	U	2.5	0.80	1	11/10/09	11/16/09	KWG0910535	
Benzo(g,h,i)perylene	ND	U	2.5	0.85	1	11/10/09	11/16/09	KWG0910535	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	66	17-104	11/16/09	Acceptable
Fluoranthene-d10	62	27-106	11/16/09	Acceptable
Terphenyl-d14	57	35-109	11/16/09	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009
Sample Matrix: Sediment

Service Request: K0909140

Surrogate Recovery Summary
Polynuclear Aromatic Hydrocarbons

Extraction Method: EPA 3541
Analysis Method: 8270C SIM

Units: PERCENT
Level: Low

Sample Name	Lab Code	Sur1	Sur2	Sur3	
M-2-C	K0909140-005	37	28	28	*
M-2-A	K0909140-006	64	70	44	
M-3-B	K0909140-007	72	75	65	
M-2-B	K0909140-008	58	63	58	
M-1-C	K0909140-009	62	68	54	
M-3-C	K0909140-010	68	70	58	
B-1-A	K0909140-011	62	64	55	
B-1-B	K0909140-012	65	68	62	
M-5-C	K0909140-017	82	84	68	
M-5-B2	K0909140-018	72	69	58	
B-1-C	K0909140-019	79	75	66	
Method Blank	KWG0910535-7	66	62	57	
M-3-A	K0909140-013	78	82	68	
M-1-A	K0909140-014	58	62	53	
M-5-B	K0909140-015	76	73	61	
M-5-A	K0909140-016	81	81	66	
M-2-AMS	KWG0910535-1	84	96	55	
M-2-ADMS	KWG0910535-2	84	99	53	
Lab Control Sample	KWG0910535-5	59	57	55	
Duplicate Lab Control Sample	KWG0910535-6	68	70	66	
M-4-A	K0909140-001	59	61	55	
M-4-B	K0909140-002	70	69	65	
M-4-C	K0909140-003	57	56	52	
M-1-B	K0909140-004	66	69	56	

Surrogate Recovery Control Limits (%)

Sur1	= Fluorene-d10	17-104
Sur2	= Fluoranthene-d10	27-106
Sur3	= Terphenyl-d14	35-109

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	URS Corporation	**Service Request:**	K0909140
Project:	Boise St. Helens Pulp and Paper Mill-2009	**Date Analyzed:**	11/16/2009
		Time Analyzed:	07:37

Internal Standard Area and RT Summary
Polynuclear Aromatic Hydrocarbons

File ID:	J:\MS11\DATA\111609\1116F002.D	**Lab Code:**	KWG0910827-2
Instrument ID:	MS11	**Analysis Lot:**	KWG0910827
Analysis Method:	8270C SIM		

		Naphthalene-d8		Acenaphthene-d10		Phenanthrene-d10	
		Area	**RT**	**Area**	**RT**	**Area**	**RT**
	Results ==>	214,680	4.62	109,189	6.04	210,353	7.26
	Upper Limit ==>	429,360	5.12	218,378	6.54	420,706	7.76
	Lower Limit ==>	107,340	4.12	54,595	5.54	105,177	6.76
	ICAL Result ==>	287,363	4.67	143,632	6.10	187,662	7.32
Associated Analyses							
Method Blank	KWG0910535-7	175,332	4.63	91,543	6.04	173,595	7.26
M-2-A	K0909140-006	182,034	4.63	104,004	6.04	181,539	7.26

Results flagged with an asterisk (*) indicate values outside control criteria.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	URS Corporation	**Service Request:**	K0909140
Project:	Boise St. Helens Pulp and Paper Mill-2009	**Date Analyzed:**	11/16/2009
		Time Analyzed:	07:37

Internal Standard Area and RT Summary
Polynuclear Aromatic Hydrocarbons

File ID:	J:\MS11\DATA\111609\1116F002.D	**Lab Code:**	KWG0910827-2
Instrument ID:	MS11	**Analysis Lot:**	KWG0910827
Analysis Method:	8270C SIM		

		Chrysene-d12		Perylene-d12			
		Area	**RT**	**Area**	**RT**	**Area**	**RT**
	Results ==>	323,783	9.75	332,002	12.75		
	Upper Limit ==>	647,566	10.25	664,004	13.25		
	Lower Limit ==>	161,892	9.25	166,001	12.25		
	ICAL Result ==>	216,839	9.84	240,902	12.92		
Associated Analyses							
Method Blank	KWG0910535-7	252,761	9.75	230,868	12.76		
M-2-A	K0909140-006	273,722	9.76	302,982	12.78		

Results flagged with an asterisk (*) indicate values outside control criteria.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0909140
Date Analyzed: 11/16/2009
Time Analyzed: 21:21

Internal Standard Area and RT Summary
Polynuclear Aromatic Hydrocarbons

File ID: J:\MS11\DATA\111609\1116F033.D
Instrument ID: MS11
Analysis Method: 8270C SIM

Lab Code: KWG0910855-2
Analysis Lot: KWG0910855

		Naphthalene-d8		Acenaphthene-d10		Phenanthrene-d10	
		Area	**RT**	**Area**	**RT**	**Area**	**RT**
	Results ==>	212,089	4.63	110,867	6.05	212,845	7.27
	Upper Limit ==>	424,178	5.13	221,734	6.55	425,690	7.77
	Lower Limit ==>	106,045	4.13	55,434	5.55	106,423	6.77
	ICAL Result ==>	287,363	4.67	143,632	6.10	187,662	7.32
Associated Analyses							
M-5-B	K0909140-015	174,457	4.63	97,076	6.05	171,838	7.27
M-5-A	K0909140-016	184,738	4.63	99,421	6.05	172,884	7.27
M-5-C	K0909140-017	178,552	4.63	99,436	6.05	163,724	7.27
M-5-B2	K0909140-018	180,839	4.63	99,837	6.05	173,965	7.26
B-1-C	K0909140-019	164,204	4.63	91,027	6.05	167,589	7.27
M-2-AMS	KWG0910535-1	138,732	4.62	70,766	6.04	132,263	7.26
M-2-ADMS	KWG0910535-2	155,307	4.62	77,297	6.04	143,742	7.26
M-2-ADL	K0909140-006	156,946	4.62	80,795	6.04	158,590	7.26

Results flagged with an asterisk (*) indicate values outside control criteria.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0909140
Date Analyzed: 11/16/2009
Time Analyzed: 21:21

Internal Standard Area and RT Summary
Polynuclear Aromatic Hydrocarbons

File ID: J:\MS11\DATA\111609\1116F033.D
Instrument ID: MS11
Analysis Method: 8270C SIM

Lab Code: KWG0910855-2
Analysis Lot: KWG0910855

		Chrysene-d12		Perylene-d12			
		Area	**RT**	**Area**	**RT**	**Area**	**RT**
	Results ==>	312,581	9.76	318,519	12.78		
	Upper Limit ==>	625,162	10.26	637,038	13.28		
	Lower Limit ==>	156,291	9.26	159,260	12.28		
	ICAL Result ==>	216,839	9.84	240,902	12.92		
Associated Analyses							
M-5-B	K0909140-015	276,696	9.76	317,266	12.78		
M-5-A	K0909140-016	279,376	9.76	316,616	12.78		
M-5-C	K0909140-017	283,303	9.76	324,903	12.77		
M-5-B2	K0909140-018	295,465	9.76	339,252	12.76		
B-1-C	K0909140-019	247,415	9.76	275,418	12.77		
M-2-AMS	KWG0910535-1	239,950	9.77	248,946	12.79		
M-2-ADMS	KWG0910535-2	263,231	9.77	270,780	12.79		
M-2-ADL	K0909140-006	255,111	9.75	254,558	12.76		

Results flagged with an asterisk (*) indicate values outside control criteria.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0909140
Date Analyzed: 11/19/2009
Time Analyzed: 22:34

Internal Standard Area and RT Summary
Polynuclear Aromatic Hydrocarbons

File ID: J:\MS11\DATA\111909\1119F039.D
Instrument ID: MS11
Analysis Method: 8270C SIM

Lab Code: KWG0910976-2
Analysis Lot: KWG0910976

		Naphthalene-d8		Acenaphthene-d10		Phenanthrene-d10	
		Area	**RT**	**Area**	**RT**	**Area**	**RT**
	Results ==>	141,988	4.88	76,868	6.30	146,729	7.54
	Upper Limit ==>	283,976	5.38	153,736	6.80	293,458	8.04
	Lower Limit ==>	70,994	4.38	38,434	5.80	73,365	7.04
	ICAL Result ==>	167,130	4.88	93,826	6.30	169,262	7.53
Associated Analyses							
Method Blank	KWG0910535-7	144,862	4.88	81,589	6.30	158,799	7.54
Lab Control Sample	KWG0910535-5	134,262	4.88	74,336	6.30	149,193	7.54
Duplicate Lab Control Sample	KWG0910535-6	141,912	4.88	78,201	6.30	152,157	7.54
M-4-A	K0909140-001	141,347	4.87	80,727	6.30	157,868	7.53
M-4-B	K0909140-002	140,670	4.88	80,459	6.30	160,383	7.53
M-4-C	K0909140-003	142,265	4.88	79,570	6.30	155,659	7.53
M-1-B	K0909140-004	146,349	4.88	83,463	6.30	160,777	7.54

Results flagged with an asterisk (*) indicate values outside control criteria.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0909140
Date Analyzed: 11/19/2009
Time Analyzed: 22:34

Internal Standard Area and RT Summary
Polynuclear Aromatic Hydrocarbons

File ID: J:\MS11\DATA\111909\1119F039.D
Instrument ID: MS11
Analysis Method: 8270C SIM

Lab Code: KWG0910976-2
Analysis Lot: KWG0910976

		Chrysene-d12		Perylene-d12			
		Area	**RT**	**Area**	**RT**	**Area**	**RT**
	Results ==>	209,498	10.27	199,973	13.86		
	Upper Limit ==>	418,996	10.77	399,946	14.36		
	Lower Limit ==>	104,749	9.77	99,987	13.36		
	ICAL Result ==>	225,410	10.26	242,714	13.85		
Associated Analyses							
Method Blank	KWG0910535-7	198,433	10.26	191,436	13.86		
Lab Control Sample	KWG0910535-5	216,776	10.27	212,846	13.87		
Duplicate Lab Control Sample	KWG0910535-6	231,625	10.27	231,102	13.86		
M-4-A	K0909140-001	257,095	10.27	289,217	13.86		
M-4-B	K0909140-002	238,044	10.27	279,876	13.86		
M-4-C	K0909140-003	235,776	10.27	271,932	13.86		
M-1-B	K0909140-004	269,522	10.27	315,722	13.87		

Results flagged with an asterisk (*) indicate values outside control criteria.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0909140
Date Analyzed: 11/20/2009
Time Analyzed: 23:26

Internal Standard Area and RT Summary
Polynuclear Aromatic Hydrocarbons

File ID: J:\MS11\DATA\112009\1120F031.D
Instrument ID: MS11
Analysis Method: 8270C SIM

Lab Code: KWG0911040-2
Analysis Lot: KWG0911040

		Naphthalene-d8		Acenaphthene-d10		Phenanthrene-d10	
		Area	**RT**	**Area**	**RT**	**Area**	**RT**
	Results ==>	181,996	4.87	94,961	6.29	169,321	7.52
	Upper Limit ==>	363,992	5.37	189,922	6.79	338,642	8.02
	Lower Limit ==>	90,998	4.37	47,481	5.79	84,661	7.02
	ICAL Result ==>	167,130	4.88	93,826	6.30	169,262	7.53
Associated Analyses							
M-2-C	K0909140-005	172,578	4.87	99,155	6.29	194,970	7.53
M-3-B	K0909140-007	157,091	4.86	88,205	6.29	178,607	7.52
M-2-B	K0909140-008	158,935	4.87	90,951	6.29	184,759	7.52
M-1-C	K0909140-009	145,202	4.87	81,042	6.29	164,786	7.52
M-3-C	K0909140-010	154,311	4.87	85,972	6.29	180,412	7.52
B-1-A	K0909140-011	162,367	4.86	89,585	6.29	177,508	7.52
B-1-B	K0909140-012	151,107	4.86	82,900	6.29	169,900	7.52
M-3-A	K0909140-013	152,013	4.87	84,935	6.29	171,613	7.52
M-1-A	K0909140-014	159,982	4.86	88,560	6.29	180,346	7.52

Results flagged with an asterisk (*) indicate values outside control criteria.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	URS Corporation	**Service Request:**	K0909140
Project:	Boise St. Helens Pulp and Paper Mill-2009	**Date Analyzed:**	11/20/2009
		Time Analyzed:	23:26

Internal Standard Area and RT Summary
Polynuclear Aromatic Hydrocarbons

File ID:	J:\MS11\DATA\112009\1120F031.D	**Lab Code:**	KWG0911040-2
Instrument ID:	MS11	**Analysis Lot:**	KWG0911040
Analysis Method:	8270C SIM		

		Chrysene-d12		Perylene-d12			
		Area	**RT**	**Area**	**RT**	**Area**	**RT**
	Results ==>	235,199	10.25	251,477	13.82		
	Upper Limit ==>	470,398	10.75	502,954	14.32		
	Lower Limit ==>	117,600	9.75	125,739	13.32		
	ICAL Result ==>	225,410	10.26	242,714	13.85		
Associated Analyses							
M-2-C	K0909140-005	287,442	10.26	319,971	13.84		
M-3-B	K0909140-007	293,029	10.25	344,117	13.83		
M-2-B	K0909140-008	323,764	10.26	365,986	13.83		
M-1-C	K0909140-009	292,465	10.25	352,887	13.83		
M-3-C	K0909140-010	329,359	10.26	373,649	13.84		
B-1-A	K0909140-011	302,123	10.25	355,752	13.82		
B-1-B	K0909140-012	258,052	10.25	294,113	13.81		
M-3-A	K0909140-013	302,020	10.26	349,424	13.84		
M-1-A	K0909140-014	296,874	10.25	345,790	13.83		

Results flagged with an asterisk (*) indicate values outside control criteria.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	URS Corporation	**Service Request:**	K0909140
Project:	Boise St. Helens Pulp and Paper Mill-2009	**Date Extracted:**	11/10/2009
Sample Matrix:	Sediment	**Date Analyzed:**	11/17/2009

Matrix Spike/Duplicate Matrix Spike Summary
Polynuclear Aromatic Hydrocarbons

Sample Name:	M-2-A	**Units:**	ug/Kg
Lab Code:	K0909140-006	**Basis:**	Dry
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270C SIM	**Extraction Lot:**	KWG0910535

Analyte Name	Sample Result	M-2-AMS KWG0910535-1 Matrix Spike			M-2-ADMS KWG0910535-2 Duplicate Matrix Spike			%Rec Limits	RPD	RPD Limit
		Result	Expected	%Rec	Result	Expected	%Rec			
Naphthalene	790	1050E	253	103	1080E	253	116	11-119	3	40
2-Methylnaphthalene	590	818	253	92	816	253	91	17-123	0	40
Acenaphthylene	220	436	253	86	434	253	85	32-106	0	40
Acenaphthene	170	386	253	85	386	253	85	29-110	0	40
Fluorene	250	526	253	111	541	253	117	29-117	3	40
Dibenzofuran	140	357	253	86	356	253	85	31-110	0	40
Phenanthrene	1400	1520E	253	59 #	1480E	253	44 #	19-128	3	40
Anthracene	200	363	253	64	351	253	60	31-115	3	40
Fluoranthene	750	1350E	253	235 *	1200E	253	178 *	22-138	11	40
Pyrene	990	1120E	253	53	1040E	253	21	11-148	7	40
Benz(a)anthracene	220	346	253	50	329	253	44	25-128	5	40
Chrysene	320	484	253	67	487	253	68	25-132	1	40
Benzo(b)fluoranthene	220	364	253	55	353	253	51	15-136	3	40
Benzo(k)fluoranthene	71	142	253	28 *	140	253	27 *	29-126	2	40
Benzo(a)pyrene	190	282	253	37	264	253	30	24-131	7	40
Indeno(1,2,3-cd)pyrene	110	155	253	18 *	150	253	16 *	20-136	3	40
Dibenz(a,h)anthracene	22	61.5	253	15 *	64.1	253	16 *	29-124	4	40
Benzo(g,h,i)perylene	170	226	253	23 *	210	253	17 *	24-127	7	40

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	URS Corporation	**Service Request:**	K0909140
Project:	Boise St. Helens Pulp and Paper Mill-2009	**Date Extracted:**	11/10/2009
Sample Matrix:	Sediment	**Date Analyzed:**	11/20/2009

Lab Control Spike/Duplicate Lab Control Spike Summary
Polynuclear Aromatic Hydrocarbons

Extraction Method:	EPA 3541	**Units:**	ug/Kg
Analysis Method:	8270C SIM	**Basis:**	Dry
		Level:	Low
		Extraction Lot:	KWG0910535

	Lab Control Sample KWG0910535-5 Lab Control Spike			Duplicate Lab Control Sample KWG0910535-6 Duplicate Lab Control Spike					
Analyte Name	**Result**	**Expected**	**%Rec**	**Result**	**Expected**	**%Rec**	**%Rec Limits**	**RPD**	**RPD Limit**
Naphthalene	302	500	60	365	500	73	43-99	19	40
2-Methylnaphthalene	273	500	55	334	500	67	44-111	20	40
Acenaphthylene	321	500	64	398	500	80	41-110	21	40
Acenaphthene	326	500	65	404	500	81	44-104	21	40
Fluorene	334	500	67	413	500	83	49-105	21	40
Dibenzofuran	331	500	66	408	500	82	43-113	21	40
Phenanthrene	299	500	60	372	500	74	47-104	22	40
Anthracene	313	500	63	408	500	82	47-112	26	40
Fluoranthene	329	500	66	425	500	85	51-111	25	40
Pyrene	273	500	55	341	500	68	48-113	22	40
Benz(a)anthracene	293	500	59	373	500	75	51-111	24	40
Chrysene	302	500	60	384	500	77	54-111	24	40
Benzo(b)fluoranthene	322	500	64	406	500	81	51-113	23	40
Benzo(k)fluoranthene	341	500	68	422	500	84	56-114	21	40
Benzo(a)pyrene	322	500	64	403	500	81	52-118	22	40
Indeno(1,2,3-cd)pyrene	320	500	64	389	500	78	42-123	19	40
Dibenz(a,h)anthracene	316	500	63	382	500	76	44-119	19	40
Benzo(g,h,i)perylene	333	500	67	400	500	80	46-114	18	40

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	URS Corporation	**Service Request:**	K0909140
Project:	Boise St. Helens Pulp and Paper Mill-2009	**Date Extracted:**	11/10/2009
Sample Matrix:	Sediment	**Date Analyzed:**	11/16/2009
		Time Analyzed:	08:33

Method Blank Summary
Polynuclear Aromatic Hydrocarbons

Sample Name:	Method Blank	**File ID:**	J:\MS11\DATA\111609\1116F004.D
Lab Code:	KWG0910535-7	**Instrument ID:**	MS11
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270C SIM	**Extraction Lot:**	KWG0910535

This Method Blank applies to the following analyses:

Sample Name	Lab Code	File ID	Date Analyzed	Time Analyzed
M-2-A	K0909140-006	J:\MS11\DATA\111609\1116F014.D	11/16/09	12:57
M-5-B	K0909140-015	J:\MS11\DATA\111609\1116F037.D	11/16/09	23:07
M-5-A	K0909140-016	J:\MS11\DATA\111609\1116F038.D	11/16/09	23:33
M-5-C	K0909140-017	J:\MS11\DATA\111609\1116F039.D	11/17/09	00:00
M-5-B2	K0909140-018	J:\MS11\DATA\111609\1116F040.D	11/17/09	00:26
B-1-C	K0909140-019	J:\MS11\DATA\111609\1116F041.D	11/17/09	00:53
M-2-AMS	KWG0910535-1	J:\MS11\DATA\111609\1116F053.D	11/17/09	06:11
M-2-ADMS	KWG0910535-2	J:\MS11\DATA\111609\1116F054.D	11/17/09	06:37
M-2-A	K0909140-006	J:\MS11\DATA\111609\1116F055.D	11/17/09	07:04

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	URS Corporation	**Service Request:**	K0909140
Project:	Boise St. Helens Pulp and Paper Mill-2009	**Date Extracted:**	11/10/2009
Sample Matrix:	Sediment	**Date Analyzed:**	11/19/2009
		Time Analyzed:	23:27

Method Blank Summary
Polynuclear Aromatic Hydrocarbons

Sample Name:	Method Blank	**File ID:**	J:\MS11\DATA\111909\1119F041.D
Lab Code:	KWG0910535-7	**Instrument ID:**	MS11
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270C SIM	**Extraction Lot:**	KWG0910535

This Method Blank applies to the following analyses:

Sample Name	Lab Code	File ID	Date Analyzed	Time Analyzed
Lab Control Sample	KWG0910535-5	J:\MS11\DATA\111909\1119F045.D	11/20/09	01:13
Duplicate Lab Control Sample	KWG0910535-6	J:\MS11\DATA\111909\1119F046.D	11/20/09	01:40
M-4-A	K0909140-001	J:\MS11\DATA\111909\1119F052.D	11/20/09	04:19
M-4-B	K0909140-002	J:\MS11\DATA\111909\1119F053.D	11/20/09	04:46
M-4-C	K0909140-003	J:\MS11\DATA\111909\1119F054.D	11/20/09	05:12
M-1-B	K0909140-004	J:\MS11\DATA\111909\1119F055.D	11/20/09	05:39
M-2-C	K0909140-005	J:\MS11\DATA\112009\1120F033.D	11/21/09	00:19
M-3-B	K0909140-007	J:\MS11\DATA\112009\1120F034.D	11/21/09	00:46
M-2-B	K0909140-008	J:\MS11\DATA\112009\1120F035.D	11/21/09	01:13
M-1-C	K0909140-009	J:\MS11\DATA\112009\1120F036.D	11/21/09	01:39
M-3-C	K0909140-010	J:\MS11\DATA\112009\1120F037.D	11/21/09	02:06
B-1-A	K0909140-011	J:\MS11\DATA\112009\1120F038.D	11/21/09	02:32
B-1-B	K0909140-012	J:\MS11\DATA\112009\1120F039.D	11/21/09	02:59
M-3-A	K0909140-013	J:\MS11\DATA\112009\1120F040.D	11/21/09	03:25
M-1-A	K0909140-014	J:\MS11\DATA\112009\1120F041.D	11/21/09	03:52

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	URS Corporation	**Service Request:**	K0909140
Project:	Boise St. Helens Pulp and Paper Mill-2009	**Date Extracted:**	11/10/2009
Sample Matrix:	Sediment	**Date Analyzed:**	11/20/2009
		Time Analyzed:	01:13

Lab Control Sample Summary
Polynuclear Aromatic Hydrocarbons

Sample Name:	Lab Control Sample	**File ID:**	J:\MS11\DATA\111909\1119F045.D
Lab Code:	KWG0910535-5	**Instrument ID:**	MS11
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270C SIM	**Extraction Lot:**	KWG0910535

This Lab Control Sample applies to the following analyses:

Sample Name	Lab Code	File ID	Date Analyzed	Time Analyzed
Method Blank	KWG0910535-7	J:\MS11\DATA\111609\1116F004.D	11/16/09	08:33
M-2-A	K0909140-006	J:\MS11\DATA\111609\1116F014.D	11/16/09	12:57
M-5-B	K0909140-015	J:\MS11\DATA\111609\1116F037.D	11/16/09	23:07
M-5-A	K0909140-016	J:\MS11\DATA\111609\1116F038.D	11/16/09	23:33
M-5-C	K0909140-017	J:\MS11\DATA\111609\1116F039.D	11/17/09	00:00
M-5-B2	K0909140-018	J:\MS11\DATA\111609\1116F040.D	11/17/09	00:26
B-1-C	K0909140-019	J:\MS11\DATA\111609\1116F041.D	11/17/09	00:53
M-2-AMS	KWG0910535-1	J:\MS11\DATA\111609\1116F053.D	11/17/09	06:11
M-2-ADMS	KWG0910535-2	J:\MS11\DATA\111609\1116F054.D	11/17/09	06:37
M-2-A	K0909140-006	J:\MS11\DATA\111609\1116F055.D	11/17/09	07:04
Method Blank	KWG0910535-7	J:\MS11\DATA\111909\1119F041.D	11/19/09	23:27
M-4-A	K0909140-001	J:\MS11\DATA\111909\1119F052.D	11/20/09	04:19
M-4-B	K0909140-002	J:\MS11\DATA\111909\1119F053.D	11/20/09	04:46
M-4-C	K0909140-003	J:\MS11\DATA\111909\1119F054.D	11/20/09	05:12
M-1-B	K0909140-004	J:\MS11\DATA\111909\1119F055.D	11/20/09	05:39
M-2-C	K0909140-005	J:\MS11\DATA\112009\1120F033.D	11/21/09	00:19
M-3-B	K0909140-007	J:\MS11\DATA\112009\1120F034.D	11/21/09	00:46
M-2-B	K0909140-008	J:\MS11\DATA\112009\1120F035.D	11/21/09	01:13
M-1-C	K0909140-009	J:\MS11\DATA\112009\1120F036.D	11/21/09	01:39
M-3-C	K0909140-010	J:\MS11\DATA\112009\1120F037.D	11/21/09	02:06
B-1-A	K0909140-011	J:\MS11\DATA\112009\1120F038.D	11/21/09	02:32
B-1-B	K0909140-012	J:\MS11\DATA\112009\1120F039.D	11/21/09	02:59
M-3-A	K0909140-013	J:\MS11\DATA\112009\1120F040.D	11/21/09	03:25
M-1-A	K0909140-014	J:\MS11\DATA\112009\1120F041.D	11/21/09	03:52

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Results

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0909140
Date Analyzed: 11/16/2009
Time Analyzed: 07:10

Tune Summary
Polynuclear Aromatic Hydrocarbons

File ID: J:\MS11\DATA\111609\1116F001.D
Instrument ID: MS11
Column:

Analysis Method: 8270C SIM
Analysis Lot: KWG0910827

Target Mass	Relative to Mass	Lower Limit%	Upper Limit%	Relative Abundance %	Raw Abundance	Result Pass/Fail
51	198	10	80	37.6	181120	PASS
68	69	0	2	0.0	0	PASS
69	198	0	100	39.1	188096	PASS
70	69	0	2	0.8	1437	PASS
127	198	10	80	48.0	231296	PASS
197	198	0	2	0.0	0	PASS
198	442	30	100	50.2	481408	PASS
199	198	5	9	6.6	31616	PASS
275	198	10	60	35.4	170624	PASS
365	442	1	50	2.6	24560	PASS
441	443	0	100	71.6	139840	PASS
442	442	100	100	100.0	959296	PASS
443	442	15	24	20.4	195328	PASS

Sample Name	Lab Code	File ID	Date Analyzed	Time Analyzed	Q
Continuing Calibration Verification	KWG0910827-2	J:\MS11\DATA\111609\1116F002.D	11/16/2009	07:37	
Method Blank	KWG0910535-7	J:\MS11\DATA\111609\1116F004.D	11/16/2009	08:33	
M-2-A	K0909140-006	J:\MS11\DATA\111609\1116F014.D	11/16/2009	12:57	

Results flagged with an asterisk (*) indicate the analysis performed outside specified tune window

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Results

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0909140
Date Analyzed: 11/16/2009
Time Analyzed: 20:54

Tune Summary
Polynuclear Aromatic Hydrocarbons

File ID: J:\MS11\DATA\111609\1116F032.D
Instrument ID: MS11
Column:

Analysis Method: 8270C SIM
Analysis Lot: KWG0910855

Target Mass	Relative to Mass	Lower Limit%	Upper Limit%	Relative Abundance %	Raw Abundance	Result Pass/Fail
51	198	10	80	43.5	193344	PASS
68	69	0	2	0.0	0	PASS
69	198	0	100	45.2	200832	PASS
70	69	0	2	0.4	863	PASS
127	198	10	80	50.3	223488	PASS
197	198	0	2	0.0	0	PASS
198	442	30	100	63.1	444224	PASS
199	198	5	9	7.4	32816	PASS
275	198	10	60	32.5	144512	PASS
365	442	1	50	2.8	19936	PASS
441	443	0	100	69.8	103368	PASS
442	442	100	100	100.0	703616	PASS
443	442	15	24	21.0	148032	PASS

Sample Name	Lab Code	File ID	Date Analyzed	Time Analyzed	Q
Continuing Calibration Verification	KWG0910855-2	J:\MS11\DATA\111609\1116F033.D	11/16/2009	21:21	
M-5-B	K0909140-015	J:\MS11\DATA\111609\1116F037.D	11/16/2009	23:07	
M-5-A	K0909140-016	J:\MS11\DATA\111609\1116F038.D	11/16/2009	23:33	
M-5-C	K0909140-017	J:\MS11\DATA\111609\1116F039.D	11/17/2009	00:00	
M-5-B2	K0909140-018	J:\MS11\DATA\111609\1116F040.D	11/17/2009	00:26	
B-1-C	K0909140-019	J:\MS11\DATA\111609\1116F041.D	11/17/2009	00:53	
M-2-AMS	KWG0910535-1	J:\MS11\DATA\111609\1116F053.D	11/17/2009	06:11	
M-2-ADMS	KWG0910535-2	J:\MS11\DATA\111609\1116F054.D	11/17/2009	06:37	
M-2-A	K0909140-006	J:\MS11\DATA\111609\1116F055.D	11/17/2009	07:04	

Results flagged with an asterisk (*) indicate the analysis performed outside specified tune window

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Results

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0909140
Date Analyzed: 11/19/2009
Time Analyzed: 22:07

Tune Summary
Polynuclear Aromatic Hydrocarbons

File ID: J:\MS11\DATA\111909\1119F038.D
Instrument ID: MS11
Column:

Analysis Method: 8270C SIM
Analysis Lot: KWG0910976

Target Mass	Relative to Mass	Lower Limit%	Upper Limit%	Relative Abundance %	Raw Abundance	Result Pass/Fail
51	198	10	80	29.5	112312	PASS
68	69	0	2	0.0	0	PASS
69	198	0	100	30.9	117664	PASS
70	69	0	2	0.8	939	PASS
127	198	10	80	41.5	158144	PASS
197	198	0	2	0.0	0	PASS
198	442	30	100	36.0	381120	PASS
199	198	5	9	6.8	25808	PASS
275	198	10	60	39.9	151936	PASS
365	442	1	50	2.6	27392	PASS
441	443	0	100	70.8	151616	PASS
442	442	100	100	100.0	1058304	PASS
443	442	15	24	20.2	214208	PASS

Sample Name	Lab Code	File ID	Date Analyzed	Time Analyzed	Q
Continuing Calibration Verification	KWG0910976-2	J:\MS11\DATA\111909\1119F039.D	11/19/2009	22:34	
Method Blank	KWG0910535-7	J:\MS11\DATA\111909\1119F041.D	11/19/2009	23:27	
Lab Control Sample	KWG0910535-5	J:\MS11\DATA\111909\1119F045.D	11/20/2009	01:13	
Duplicate Lab Control Sample	KWG0910535-6	J:\MS11\DATA\111909\1119F046.D	11/20/2009	01:40	
M-4-A	K0909140-001	J:\MS11\DATA\111909\1119F052.D	11/20/2009	04:19	
M-4-B	K0909140-002	J:\MS11\DATA\111909\1119F053.D	11/20/2009	04:46	
M-4-C	K0909140-003	J:\MS11\DATA\111909\1119F054.D	11/20/2009	05:12	
M-1-B	K0909140-004	J:\MS11\DATA\111909\1119F055.D	11/20/2009	05:39	

Results flagged with an asterisk (*) indicate the analysis performed outside specified tune window

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Results

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0909140
Date Analyzed: 11/20/2009
Time Analyzed: 23:00

Tune Summary
Polynuclear Aromatic Hydrocarbons

File ID: J:\MS11\DATA\112009\1120F030.D
Instrument ID: MS11
Column:

Analysis Method: 8270C SIM
Analysis Lot: KWG0911040

Target Mass	Relative to Mass	Lower Limit%	Upper Limit%	Relative Abundance %	Raw Abundance	Result Pass/Fail
275	198	10	60	35.5	164288	PASS
365	442	1	50	2.6	23984	PASS
51	198	10	80	37.9	175552	PASS
68	69	0	2	0.0	0	PASS
69	198	0	100	40.2	186176	PASS
70	69	0	2	0.0	0	PASS
127	198	10	80	47.3	219072	PASS
197	198	0	2	0.0	0	PASS
198	442	30	100	49.8	462912	PASS
199	198	5	9	7.7	35648	PASS
441	443	0	100	71.4	132160	PASS
442	442	100	100	100.0	930240	PASS
443	442	15	24	19.9	185216	PASS

Sample Name	Lab Code	File ID	Date Analyzed	Time Analyzed	Q
Continuing Calibration Verification	KWG0911040-2	J:\MS11\DATA\112009\1120F031.D	11/20/2009	23:26	
M-2-C	K0909140-005	J:\MS11\DATA\112009\1120F033.D	11/21/2009	00:19	
M-3-B	K0909140-007	J:\MS11\DATA\112009\1120F034.D	11/21/2009	00:46	
M-2-B	K0909140-008	J:\MS11\DATA\112009\1120F035.D	11/21/2009	01:13	
M-1-C	K0909140-009	J:\MS11\DATA\112009\1120F036.D	11/21/2009	01:39	
M-3-C	K0909140-010	J:\MS11\DATA\112009\1120F037.D	11/21/2009	02:06	
B-1-A	K0909140-011	J:\MS11\DATA\112009\1120F038.D	11/21/2009	02:32	
B-1-B	K0909140-012	J:\MS11\DATA\112009\1120F039.D	11/21/2009	02:59	
M-3-A	K0909140-013	J:\MS11\DATA\112009\1120F040.D	11/21/2009	03:25	
M-1-A	K0909140-014	J:\MS11\DATA\112009\1120F041.D	11/21/2009	03:52	

Results flagged with an asterisk (*) indicate the analysis performed outside specified tune window

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0909140
Calibration Date: 10/15/2009

Initial Calibration Summary
Polynuclear Aromatic Hydrocarbons

Calibration ID: CAL8928
Instrument ID: MS11

Column: MS

Level ID	File ID	Level ID	File ID
A	J:\MS11\DATA\101509\1015F003.D	G	J:\MS11\DATA\101509\1015F009.D
B	J:\MS11\DATA\101509\1015F004.D	H	J:\MS11\DATA\101509\1015F010.D
C	J:\MS11\DATA\101509\1015F005.D	I	J:\MS11\DATA\101509\1015F011.D
D	J:\MS11\DATA\101509\1015F006.D	J	J:\MS11\DATA\101509\1015F012.D
E	J:\MS11\DATA\101509\1015F007.D		
F	J:\MS11\DATA\101509\1015F008.D		

Analyte Name	Level ID	Amt	RRF	Level ID	Amt	RRF	Level ID	Amt	RRF	Level ID	Amt	RRF	Level ID	Amt	RRF
Naphthalene	A	2.0	0.900	B	4.0	1.01	C	8.0	0.978	D	20	0.978	E	100	0.990
	F	200	1.00	G	400	0.933	H	1000	0.866	I	1600	0.797	J	2000	0.750
2-Methylnaphthalene	A	2.0	0.595	B	4.0	0.667	C	8.0	0.611	D	20	0.632	E	100	0.636
	F	200	0.691	G	400	0.677	H	1000	0.651	I	1600	0.614	J	2000	0.569
Acenaphthylene	A	2.0	1.65	B	4.0	1.79	C	8.0	1.69	D	20	1.86	E	100	1.82
	F	200	1.90	G	400	1.85	H	1000	1.72	I	1600	1.57	J	2000	1.51
Acenaphthene	A	2.0	1.12	B	4.0	1.09	C	8.0	1.02	D	20	1.11	E	100	1.07
	F	200	1.08	G	400	1.05	H	1000	0.991	I	1600	0.930	J	2000	0.886
Fluorene	A	2.0	1.26	B	4.0	1.20	C	8.0	1.13	D	20	1.20	E	100	1.16
	F	200	1.19	G	400	1.11	H	1000	1.02	I	1600	0.968	J	2000	0.909
Dibenzofuran	A	2.0	1.43	B	4.0	1.44	C	8.0	1.37	D	20	1.46	E	100	1.47
	F	200	1.52	G	400	1.45	H	1000	1.34	I	1600	1.25	J	2000	1.19
Phenanthrene	A	2.0	1.35	B	4.0	1.21	C	8.0	1.10	D	20	1.13	E	100	1.14
	F	200	1.19	G	400	1.13	H	1000	1.06	I	1600	0.987	J	2000	0.927
Anthracene	A	2.0	1.14	B	4.0	1.09	C	8.0	1.06	D	20	1.06	E	100	1.11
	F	200	1.21	G	400	1.12	H	1000	1.06	I	1600	0.965	J	2000	0.927
Fluoranthene	A	2.0	1.47	B	4.0	1.41	C	8.0	1.24	D	20	1.25	E	100	1.26
	F	200	1.33	G	400	1.23	H	1000	1.14	I	1600	1.02	J	2000	0.981
Pyrene	A	2.0	1.27	B	4.0	1.13	C	8.0	1.08	D	20	1.14	E	100	1.07
	F	200	1.17	G	400	1.11	H	1000	1.07	I	1600	0.978	J	2000	0.926
Benz(a)anthracene	A	2.0	1.42	B	4.0	1.21	C	8.0	1.02	D	20	1.04	E	100	1.01
	F	200	1.11	G	400	1.06	H	1000	1.05	I	1600	0.989	J	2000	0.965
Chrysene	A	2.0	1.16	B	4.0	1.18	C	8.0	1.07	D	20	1.09	E	100	1.04
	F	200	1.09	G	400	1.07	H	1000	1.03	I	1600	0.945	J	2000	0.914
Benzo(b)fluoranthene	A	2.0	1.17	B	4.0	1.03	C	8.0	0.989	D	20	1.01	E	100	1.00
	F	200	1.11	G	400	1.06	H	1000	1.07	I	1600	1.02	J	2000	0.956
Benzo(k)fluoranthene	A	2.0	1.01	B	4.0	1.03	C	8.0	0.997	D	20	1.04	E	100	1.03
	F	200	1.09	G	400	1.06	H	1000	1.07	I	1600	1.02	J	2000	0.942

Results flagged with an asterisk (*) indicate values outside control criteria.

† **SPCC Compound** ‡ **CCC Compound**

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0909140
Calibration Date: 10/15/2009

Initial Calibration Summary
Polynuclear Aromatic Hydrocarbons

Calibration ID: CAL8928
Instrument ID: MS11

Column: MS

Analyte Name	Level ID	Amt	RRF	Level ID	Amt	RRF	Level ID	Amt	RRF	Level ID	Amt	RRF	Level ID	Amt	RRF
Benzo(a)pyrene	A	2.0	1.13	B	4.0	1.05	C	8.0	0.899	D	20	0.941	E	100	0.937
	F	200	1.01	G	400	0.994	H	1000	1.02	I	1600	0.971	J	2000	0.923
Indeno(1,2,3-cd)pyrene	A	2.0	0.970	B	4.0	0.947	C	8.0	0.806	D	20	0.888	E	100	0.893
	F	200	0.962	G	400	0.925	H	1000	0.938	I	1600	0.884	J	2000	0.851
Dibenz(a,h)anthracene	A	2.0	1.02	B	4.0	1.01	C	8.0	0.876	D	20	0.970	E	100	0.966
	F	200	1.02	G	400	1.00	H	1000	1.01	I	1600	0.967	J	2000	0.918
Benzo(g,h,i)perylene	A	2.0	1.11	B	4.0	1.09	C	8.0	1.06	D	20	1.09	E	100	1.05
	F	200	1.09	G	400	1.05	H	1000	1.02	I	1600	0.967	J	2000	0.918
Fluorene-d10	A	2.0	1.06	B	4.0	1.05	C	8.0	0.892	D	20	0.996	E	100	0.945
	F	200	0.989	G	400	0.924	H	1000	0.863	I	1600	0.831	J	2000	0.778
Fluoranthene-d10				B	4.0	1.42	C	8.0	1.09	D	20	1.10	E	100	1.10
	F	200	1.18	G	400	1.13	H	1000	1.07	I	1600	0.960	J	2000	0.921
Terphenyl-d14				B	4.0	1.05	C	8.0	0.790	D	20	0.866	E	100	0.800
	F	200	0.870	G	400	0.825	H	1000	0.794	I	1600	0.736	J	2000	0.708

Results flagged with an asterisk (*) indicate values outside control criteria.

† **SPCC Compound** ‡ **CCC Compound**

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0909140
Calibration Date: 10/15/2009

Initial Calibration Summary
Polynuclear Aromatic Hydrocarbons

Calibration ID: CAL8928
Instrument ID: MS11

Column: MS

Analyte Name	Compound Type	Calibration Evaluation					RRF Evaluation		
		Fit Type	Eval.	Eval. Result	Q	Control Criteria	Average RRF	Q	Minimum RRF
Naphthalene	MS	AverageRF	% RSD	9.8		≤ 15	0.920		0.01
2-Methylnaphthalene	MS	AverageRF	% RSD	6.0		≤ 15	0.634		0.01
Acenaphthylene	MS	AverageRF	% RSD	7.4		≤ 15	1.74		0.01
Acenaphthene	MS	AverageRF	% RSD	7.6		≤ 15	1.03		0.01
Fluorene	MS	AverageRF	% RSD	10.2		≤ 15	1.12		0.01
Dibenzofuran	MS	AverageRF	% RSD	7.4		≤ 15	1.39		0.01
Phenanthrene	MS	AverageRF	% RSD	10.5		≤ 15	1.12		0.01
Anthracene	MS	AverageRF	% RSD	7.6		≤ 15	1.07		0.01
Fluoranthene	MS	AverageRF	% RSD	12.5		≤ 15	1.23		0.01
Pyrene	MS	AverageRF	% RSD	8.7		≤ 15	1.10		0.01
Benz(a)anthracene	MS	AverageRF	% RSD	12.3		≤ 15	1.09		0.01
Chrysene	MS	AverageRF	% RSD	7.9		≤ 15	1.06		0.01
Benzo(b)fluoranthene	MS	AverageRF	% RSD	6.1		≤ 15	1.04		0.01
Benzo(k)fluoranthene	MS	AverageRF	% RSD	4.1		≤ 15	1.03		0.01
Benzo(a)pyrene	MS	AverageRF	% RSD	7.0		≤ 15	0.988		0.01
Indeno(1,2,3-cd)pyrene	MS	AverageRF	% RSD	5.7		≤ 15	0.907		0.01
Dibenz(a,h)anthracene	MS	AverageRF	% RSD	5.0		≤ 15	0.977		0.01
Benzo(g,h,i)perylene	MS	AverageRF	% RSD	5.8		≤ 15	1.04		0.01
Fluorene-d10	SURR	AverageRF	% RSD	10.0		≤ 15	0.933		0.01
Fluoranthene-d10	SURR	AverageRF	% RSD	12.8		≤ 15	1.11		0.01
Terphenyl-d14	SURR	AverageRF	% RSD	12.1		≤ 15	0.827		0.01

Results flagged with an asterisk (*) indicate values outside control criteria.

† **SPCC Compound** ‡ **CCC Compound**

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Results

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0909140
Calibration Date: 10/15/2009
Date Analyzed: 10/15/2009

Second Source Calibration Verification
Polynuclear Aromatic Hydrocarbons

Calibration Type: Internal Standard
Analysis Method: 8270C SIM

Calibration ID: CAL8928
Units: ng/ml

File ID: J:\MS11\DATA\101509\1015G014.D

Analyte Name	Expected	Result	Average RF	SSV RF	%D	%Drift	Criteria	Curve Fit
Naphthalene	400	390	0.920	0.904	-2	NA	± 20 %	AverageRF
2-Methylnaphthalene	400	410	0.634	0.650	3	NA	± 20 %	AverageRF
Acenaphthylene	400	440	1.74	1.92	10	NA	± 20 %	AverageRF
Acenaphthene	400	420	1.03	1.09	6	NA	± 20 %	AverageRF
Fluorene	400	420	1.12	1.16	4	NA	± 20 %	AverageRF
Dibenzofuran	400	440	1.39	1.52	9	NA	± 20 %	AverageRF
Phenanthrene	400	400	1.12	1.11	-1	NA	± 20 %	AverageRF
Anthracene	400	420	1.07	1.14	6	NA	± 20 %	AverageRF
Fluoranthene	400	400	1.23	1.22	-1	NA	± 20 %	AverageRF
Pyrene	400	360	1.10	0.987	-10	NA	± 20 %	AverageRF
Benz(a)anthracene	400	360	1.09	0.966	-11	NA	± 20 %	AverageRF
Chrysene	400	370	1.06	0.969	-8	NA	± 20 %	AverageRF
Benzo(b)fluoranthene	400	400	1.04	1.06	1	NA	± 20 %	AverageRF
Benzo(k)fluoranthene	400	410	1.03	1.06	3	NA	± 20 %	AverageRF
Benzo(a)pyrene	400	390	0.988	0.965	-2	NA	± 20 %	AverageRF
Indeno(1,2,3-cd)pyrene	400	380	0.907	0.870	-4	NA	± 20 %	AverageRF
Dibenz(a,h)anthracene	400	380	0.977	0.936	-4	NA	± 20 %	AverageRF
Benzo(g,h,i)perylene	400	380	1.04	0.996	-5	NA	± 20 %	AverageRF

Results flagged with an asterisk (*) indicate values outside control criteria.

† SPCC Compound **‡ CCC Compound**

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Results

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0909140
Calibration Date: 11/19/2009

Initial Calibration Summary
Polynuclear Aromatic Hydrocarbons

Calibration ID: CAL9029
Instrument ID: MS11

Column: MS

Level ID	File ID
A	J:\MS11\DATA\111909\1119F003.D
B	J:\MS11\DATA\111909\1119F004.D
C	J:\MS11\DATA\111909\1119F005.D
D	J:\MS11\DATA\111909\1119F006.D
E	J:\MS11\DATA\111909\1119F007.D
F	J:\MS11\DATA\111909\1119F008.D
G	J:\MS11\DATA\111909\1119F009.D

Analyte Name	Level ID	Amt	RRF	Level ID	Amt	RRF	Level ID	Amt	RRF	Level ID	Amt	RRF	Level ID	Amt	RRF
Naphthalene	A	4.0	0.974	B	20	0.912	C	100	0.882	D	200	0.914	E	400	0.873
	F	1000	0.842	G	2000	0.761									
2-Methylnaphthalene	A	4.0	0.673	B	20	0.647	C	100	0.635	D	200	0.662	E	400	0.628
	F	1000	0.615	G	2000	0.576									
Acenaphthylene	A	4.0	1.76	B	20	1.65	C	100	1.66	D	200	1.73	E	400	1.65
	F	1000	1.62	G	2000	1.44									
Acenaphthene	A	4.0	1.00	B	20	0.994	C	100	0.976	D	200	1.03	E	400	0.978
	F	1000	0.969	G	2000	0.886									
Fluorene	A	4.0	1.30	B	20	1.26	C	100	1.26	D	200	1.30	E	400	1.24
	F	1000	1.20	G	2000	1.11									
Dibenzofuran	A	4.0	1.58	B	20	1.50	C	100	1.51	D	200	1.56	E	400	1.48
	F	1000	1.44	G	2000	1.29									
Phenanthrene	A	4.0	1.21	B	20	1.12	C	100	1.06	D	200	1.10	E	400	1.03
	F	1000	1.03	G	2000	0.910									
Anthracene	A	4.0	1.03	B	20	1.00	C	100	1.05	D	200	1.09	E	400	1.04
	F	1000	1.04	G	2000	0.926									
Fluoranthene	A	4.0	1.33	B	20	1.30	C	100	1.27	D	200	1.38	E	400	1.26
	F	1000	1.15	G	2000	0.996									
Pyrene	A	4.0	1.23	B	20	1.20	C	100	1.07	D	200	1.06	E	400	0.984
	F	1000	0.965	G	2000	0.920									
Benz(a)anthracene	A	4.0	1.13	B	20	0.988	C	100	0.976	D	200	1.05	E	400	1.04
	F	1000	1.03	G	2000	0.937									
Chrysene	A	4.0	1.03	B	20	0.982	C	100	0.953	D	200	1.02	E	400	0.989
	F	1000	0.971	G	2000	0.883									
Benzo(b)fluoranthene	A	4.0	1.07	B	20	0.988	C	100	1.01	D	200	1.10	E	400	1.06
	F	1000	1.07	G	2000	0.985									
Benzo(k)fluoranthene	A	4.0	0.956	B	20	0.928	C	100	0.958	D	200	1.05	E	400	1.03
	F	1000	1.04	G	2000	0.952									
Benzo(a)pyrene	A	4.0	0.930	B	20	0.850	C	100	0.851	D	200	0.949	E	400	0.946
	F	1000	0.985	G	2000	0.915									

Results flagged with an asterisk (*) indicate values outside control criteria.

† **SPCC Compound** ‡ **CCC Compound**

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0909140
Calibration Date: 11/19/2009

Initial Calibration Summary
Polynuclear Aromatic Hydrocarbons

Calibration ID: CAL9029
Instrument ID: MS11

Column: MS

Analyte Name	Level ID	Amt	RRF	Level ID	Amt	RRF	Level ID	Amt	RRF	Level ID	Amt	RRF	Level ID	Amt	RRF
Indeno(1,2,3-cd)pyrene	A	4.0	0.924	B	20	0.833	C	100	0.809	D	200	0.861	E	400	0.831
	F	1000	0.869	G	2000	0.797									
Dibenz(a,h)anthracene	A	4.0	0.926	B	20	0.869	C	100	0.855	D	200	0.895	E	400	0.859
	F	1000	0.917	G	2000	0.852									
Benzo(g,h,i)perylene	A	4.0	1.08	B	20	0.996	C	100	0.928	D	200	0.978	E	400	0.924
	F	1000	0.939	G	2000	0.852									
Fluorene-d10	A	4.0	1.20	B	20	1.14	C	100	1.12	D	200	1.17	E	400	1.11
	F	1000	1.09	G	2000	1.02									
Fluoranthene-d10				B	20	1.26	C	100	1.24	D	200	1.32	E	400	1.25
	F	1000	1.16	G	2000	1.03									
Terphenyl-d14				B	20	0.919	C	100	0.826	D	200	0.868	E	400	0.816
	F	1000	0.794	G	2000	0.744									

Results flagged with an asterisk (*) indicate values outside control criteria.

† SPCC Compound **‡ CCC Compound**

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0909140
Calibration Date: 11/19/2009

Initial Calibration Summary
Polynuclear Aromatic Hydrocarbons

Calibration ID: CAL9029
Instrument ID: MS11

Column: MS

Analyte Name	Compound Type	Calibration Evaluation					RRF Evaluation		
		Fit Type	Eval.	Eval. Result	Q	Control Criteria	Average RRF	Q	Minimum RRF
Naphthalene	MS	AverageRF	% RSD	7.6		≤ 15	0.880		0.01
2-Methylnaphthalene	MS	AverageRF	% RSD	5.1		≤ 15	0.634		0.01
Acenaphthylene	MS	AverageRF	% RSD	6.3		≤ 15	1.64		0.01
Acenaphthene	MS	AverageRF	% RSD	4.5		≤ 15	0.976		0.01
Fluorene	MS	AverageRF	% RSD	5.2		≤ 15	1.24		0.01
Dibenzofuran	MS	AverageRF	% RSD	6.6		≤ 15	1.48		0.01
Phenanthrene	MS	AverageRF	% RSD	8.7		≤ 15	1.07		0.01
Anthracene	MS	AverageRF	% RSD	5.1		≤ 15	1.02		0.01
Fluoranthene	MS	AverageRF	% RSD	10.3		≤ 15	1.24		0.01
Pyrene	MS	AverageRF	% RSD	11.0		≤ 15	1.06		0.01
Benz(a)anthracene	MS	AverageRF	% RSD	6.1		≤ 15	1.02		0.01
Chrysene	MS	AverageRF	% RSD	5.1		≤ 15	0.976		0.01
Benzo(b)fluoranthene	MS	AverageRF	% RSD	4.5		≤ 15	1.04		0.01
Benzo(k)fluoranthene	MS	AverageRF	% RSD	5.0		≤ 15	0.988		0.01
Benzo(a)pyrene	MS	AverageRF	% RSD	5.5		≤ 15	0.918		0.01
Indeno(1,2,3-cd)pyrene	MS	AverageRF	% RSD	5.1		≤ 15	0.846		0.01
Dibenz(a,h)anthracene	MS	AverageRF	% RSD	3.5		≤ 15	0.882		0.01
Benzo(g,h,i)perylene	MS	AverageRF	% RSD	7.4		≤ 15	0.956		0.01
Fluorene-d10	SURR	AverageRF	% RSD	5.2		≤ 15	1.12		0.01
Fluoranthene-d10	SURR	AverageRF	% RSD	8.5		≤ 15	1.21		0.01
Terphenyl-d14	SURR	AverageRF	% RSD	7.3		≤ 15	0.828		0.01

Results flagged with an asterisk (*) indicate values outside control criteria.

† **SPCC Compound** ‡ **CCC Compound**

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Results

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0909140
Calibration Date: 11/19/2009
Date Analyzed: 11/19/2009

Second Source Calibration Verification
Polynuclear Aromatic Hydrocarbons

Calibration Type: Internal Standard
Analysis Method: 8270C SIM

Calibration ID: CAL9029
Units: ng/ml

File ID: J:\MS11\DATA\111909\1119F011.D

Analyte Name	Expected	Result	Average RF	SSV RF	%D	%Drift	Criteria	Curve Fit
Naphthalene	400	380	0.880	0.840	-4	NA	± 20 %	AverageRF
2-Methylnaphthalene	400	380	0.634	0.609	-4	NA	± 20 %	AverageRF
Acenaphthylene	400	410	1.64	1.68	2	NA	± 20 %	AverageRF
Acenaphthene	400	400	0.976	0.984	1	NA	± 20 %	AverageRF
Fluorene	400	400	1.24	1.22	-1	NA	± 20 %	AverageRF
Dibenzofuran	400	390	1.48	1.42	-4	NA	± 20 %	AverageRF
Phenanthrene	400	360	1.07	0.956	-10	NA	± 20 %	AverageRF
Anthracene	400	370	1.02	0.949	-7	NA	± 20 %	AverageRF
Fluoranthene	400	350	1.24	1.08	-13	NA	± 20 %	AverageRF
Pyrene	400	350	1.06	0.934	-12	NA	± 20 %	AverageRF
Benz(a)anthracene	400	350	1.02	0.884	-13	NA	± 20 %	AverageRF
Chrysene	400	360	0.976	0.878	-10	NA	± 20 %	AverageRF
Benzo(b)fluoranthene	400	390	1.04	1.01	-4	NA	± 20 %	AverageRF
Benzo(k)fluoranthene	400	390	0.988	0.967	-2	NA	± 20 %	AverageRF
Benzo(a)pyrene	400	380	0.918	0.864	-6	NA	± 20 %	AverageRF
Indeno(1,2,3-cd)pyrene	400	370	0.846	0.792	-6	NA	± 20 %	AverageRF
Dibenz(a,h)anthracene	400	370	0.882	0.820	-7	NA	± 20 %	AverageRF
Benzo(g,h,i)perylene	400	370	0.956	0.892	-7	NA	± 20 %	AverageRF

Results flagged with an asterisk (*) indicate values outside control criteria.

† **SPCC Compound** ‡ **CCC Compound**

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Results

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0909140
Date Analyzed: 11/16/2009

Continuing Calibration Verification Summary
Polynuclear Aromatic Hydrocarbons

Calibration Type: Internal Standard
Analysis Method: 8270C SIM

Calibration Date: 10/15/2009
Calibration ID: CAL8928
Analysis Lot: KWG0910827
Units: ng/ml

File ID: J:\MS11\DATA\111609\1116F002.D

Analyte Name	Expected	Result	Min RF	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Naphthalene	400	370	0.01	0.920	0.853	-7	NA	± 20 %	AverageRF
2-Methylnaphthalene	400	380	0.01	0.634	0.602	-5	NA	± 20 %	AverageRF
Acenaphthylene	400	400	0.01	1.74	1.72	-1	NA	± 20 %	AverageRF
Acenaphthene	400	400	0.01	1.03	1.02	-1	NA	± 20 %	AverageRF
Fluorene	400	450	0.01	1.12	1.27	14	NA	± 20 %	AverageRF
Dibenzofuran	400	430	0.01	1.39	1.50	8	NA	± 20 %	AverageRF
Phenanthrene	400	370	0.01	1.12	1.03	-8	NA	± 20 %	AverageRF
Anthracene	400	390	0.01	1.07	1.04	-3	NA	± 20 %	AverageRF
Fluoranthene	400	410	0.01	1.23	1.28	4	NA	± 20 %	AverageRF
Pyrene	400	320	0.01	1.10	0.873	-20 *	NA	± 20 %	AverageRF
Benz(a)anthracene	400	350	0.01	1.09	0.945	-13	NA	± 20 %	AverageRF
Chrysene	400	350	0.01	1.06	0.938	-11	NA	± 20 %	AverageRF
Benzo(b)fluoranthene	400	390	0.01	1.04	1.02	-2	NA	± 20 %	AverageRF
Benzo(k)fluoranthene	400	410	0.01	1.03	1.04	1	NA	± 20 %	AverageRF
Benzo(a)pyrene	400	380	0.01	0.988	0.942	-5	NA	± 20 %	AverageRF
Indeno(1,2,3-cd)pyrene	400	350	0.01	0.907	0.784	-14	NA	± 20 %	AverageRF
Dibenz(a,h)anthracene	400	350	0.01	0.977	0.865	-11	NA	± 20 %	AverageRF
Benzo(g,h,i)perylene	400	350	0.01	1.04	0.912	-13	NA	± 20 %	AverageRF
Fluorene-d10	400	450	0.01	0.933	1.06	13	NA	± 20 %	AverageRF
Fluoranthene-d10	400	430	0.01	1.11	1.20	8	NA	± 20 %	AverageRF
Terphenyl-d14	400	410	0.01	0.827	0.846	2	NA	± 20 %	AverageRF

Results flagged with an asterisk (*) indicate values outside control criteria.

† **SPCC Compound** ‡ **CCC Compound**

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Results

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0909140
Date Analyzed: 11/16/2009

Continuing Calibration Verification Summary
Polynuclear Aromatic Hydrocarbons

Calibration Type: Internal Standard
Analysis Method: 8270C SIM

Calibration Date: 10/15/2009
Calibration ID: CAL8928
Analysis Lot: KWG0910855
Units: ng/ml

File ID: J:\MS11\DATA\111609\1116F033.D

Analyte Name	Expected	Result	Min RF	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Naphthalene	400	370	0.01	0.920	0.861	-6	NA	± 20 %	AverageRF
2-Methylnaphthalene	400	380	0.01	0.634	0.607	-4	NA	± 20 %	AverageRF
Acenaphthylene	400	400	0.01	1.74	1.72	-1	NA	± 20 %	AverageRF
Acenaphthene	400	390	0.01	1.03	1.01	-2	NA	± 20 %	AverageRF
Fluorene	400	450	0.01	1.12	1.26	13	NA	± 20 %	AverageRF
Dibenzofuran	400	430	0.01	1.39	1.50	8	NA	± 20 %	AverageRF
Phenanthrene	400	360	0.01	1.12	1.01	-10	NA	± 20 %	AverageRF
Anthracene	400	400	0.01	1.07	1.07	0	NA	± 20 %	AverageRF
Fluoranthene	400	420	0.01	1.23	1.30	6	NA	± 20 %	AverageRF
Pyrene	400	330	0.01	1.10	0.916	-16	NA	± 20 %	AverageRF
Benz(a)anthracene	400	350	0.01	1.09	0.960	-12	NA	± 20 %	AverageRF
Chrysene	400	350	0.01	1.06	0.919	-13	NA	± 20 %	AverageRF
Benzo(b)fluoranthene	400	390	0.01	1.04	1.01	-3	NA	± 20 %	AverageRF
Benzo(k)fluoranthene	400	390	0.01	1.03	1.01	-1	NA	± 20 %	AverageRF
Benzo(a)pyrene	400	380	0.01	0.988	0.933	-6	NA	± 20 %	AverageRF
Indeno(1,2,3-cd)pyrene	400	360	0.01	0.907	0.816	-10	NA	± 20 %	AverageRF
Dibenz(a,h)anthracene	400	370	0.01	0.977	0.891	-9	NA	± 20 %	AverageRF
Benzo(g,h,i)perylene	400	350	0.01	1.04	0.911	-13	NA	± 20 %	AverageRF
Fluorene-d10	400	460	0.01	0.933	1.07	14	NA	± 20 %	AverageRF
Fluoranthene-d10	400	430	0.01	1.11	1.19	8	NA	± 20 %	AverageRF
Terphenyl-d14	400	420	0.01	0.827	0.860	4	NA	± 20 %	AverageRF

Results flagged with an asterisk (*) indicate values outside control criteria.

† **SPCC Compound** ‡ **CCC Compound**

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Results

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0909140
Date Analyzed: 11/19/2009

Continuing Calibration Verification Summary
Polynuclear Aromatic Hydrocarbons

Calibration Type: Internal Standard
Analysis Method: 8270C SIM

Calibration Date: 11/19/2009
Calibration ID: CAL9029
Analysis Lot: KWG0910976
Units: ng/ml

File ID: J:\MS11\DATA\111909\1119F039.D

Analyte Name	Expected	Result	Min RF	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Naphthalene	400	380	0.01	0.880	0.843	-4	NA	± 20 %	AverageRF
2-Methylnaphthalene	400	380	0.01	0.634	0.610	-4	NA	± 20 %	AverageRF
Acenaphthylene	400	410	0.01	1.64	1.68	2	NA	± 20 %	AverageRF
Acenaphthene	400	410	0.01	0.976	0.997	2	NA	± 20 %	AverageRF
Fluorene	400	410	0.01	1.24	1.28	4	NA	± 20 %	AverageRF
Dibenzofuran	400	410	0.01	1.48	1.52	3	NA	± 20 %	AverageRF
Phenanthrene	400	380	0.01	1.07	1.02	-4	NA	± 20 %	AverageRF
Anthracene	400	420	0.01	1.02	1.08	6	NA	± 20 %	AverageRF
Fluoranthene	400	420	0.01	1.24	1.31	5	NA	± 20 %	AverageRF
Pyrene	400	360	0.01	1.06	0.950	-10	NA	± 20 %	AverageRF
Benz(a)anthracene	400	360	0.01	1.02	0.914	-11	NA	± 20 %	AverageRF
Chrysene	400	370	0.01	0.976	0.900	-8	NA	± 20 %	AverageRF
Benzo(b)fluoranthene	400	400	0.01	1.04	1.04	0	NA	± 20 %	AverageRF
Benzo(k)fluoranthene	400	410	0.01	0.988	1.01	2	NA	± 20 %	AverageRF
Benzo(a)pyrene	400	390	0.01	0.918	0.900	-2	NA	± 20 %	AverageRF
Indeno(1,2,3-cd)pyrene	400	370	0.01	0.846	0.782	-8	NA	± 20 %	AverageRF
Dibenz(a,h)anthracene	400	370	0.01	0.882	0.822	-7	NA	± 20 %	AverageRF
Benzo(g,h,i)perylene	400	380	0.01	0.956	0.905	-5	NA	± 20 %	AverageRF
Fluorene-d10	400	410	0.01	1.12	1.16	4	NA	± 20 %	AverageRF
Fluoranthene-d10	400	430	0.01	1.21	1.29	7	NA	± 20 %	AverageRF
Terphenyl-d14	400	450	0.01	0.828	0.936	13	NA	± 20 %	AverageRF

Results flagged with an asterisk (*) indicate values outside control criteria.

† SPCC Compound **‡ CCC Compound**

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Results

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0909140
Date Analyzed: 11/20/2009

Continuing Calibration Verification Summary
Polynuclear Aromatic Hydrocarbons

Calibration Type: Internal Standard
Analysis Method: 8270C SIM

Calibration Date: 11/19/2009
Calibration ID: CAL9029
Analysis Lot: KWG0911040
Units: ng/ml

File ID: J:\MS11\DATA\112009\1120F031.D

Analyte Name	Expected	Result	Min RF	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Naphthalene	400	380	0.01	0.880	0.827	-6	NA	± 20 %	AverageRF
2-Methylnaphthalene	400	380	0.01	0.634	0.598	-6	NA	± 20 %	AverageRF
Acenaphthylene	400	410	0.01	1.64	1.68	2	NA	± 20 %	AverageRF
Acenaphthene	400	410	0.01	0.976	0.999	2	NA	± 20 %	AverageRF
Fluorene	400	400	0.01	1.24	1.25	1	NA	± 20 %	AverageRF
Dibenzofuran	400	400	0.01	1.48	1.48	0	NA	± 20 %	AverageRF
Phenanthrene	400	380	0.01	1.07	1.01	-6	NA	± 20 %	AverageRF
Anthracene	400	420	0.01	1.02	1.06	4	NA	± 20 %	AverageRF
Fluoranthene	400	390	0.01	1.24	1.21	-2	NA	± 20 %	AverageRF
Pyrene	400	340	0.01	1.06	0.905	-15	NA	± 20 %	AverageRF
Benz(a)anthracene	400	370	0.01	1.02	0.938	-8	NA	± 20 %	AverageRF
Chrysene	400	360	0.01	0.976	0.885	-9	NA	± 20 %	AverageRF
Benzo(b)fluoranthene	400	380	0.01	1.04	0.989	-5	NA	± 20 %	AverageRF
Benzo(k)fluoranthene	400	390	0.01	0.988	0.961	-3	NA	± 20 %	AverageRF
Benzo(a)pyrene	400	390	0.01	0.918	0.903	-2	NA	± 20 %	AverageRF
Indeno(1,2,3-cd)pyrene	400	410	0.01	0.846	0.873	3	NA	± 20 %	AverageRF
Dibenz(a,h)anthracene	400	420	0.01	0.882	0.920	4	NA	± 20 %	AverageRF
Benzo(g,h,i)perylene	400	420	0.01	0.956	1.01	5	NA	± 20 %	AverageRF
Fluorene-d10	400	410	0.01	1.12	1.14	2	NA	± 20 %	AverageRF
Fluoranthene-d10	400	410	0.01	1.21	1.24	3	NA	± 20 %	AverageRF
Terphenyl-d14	400	450	0.01	0.828	0.927	12	NA	± 20 %	AverageRF

Results flagged with an asterisk (*) indicate values outside control criteria.

† SPCC Compound **‡ CCC Compound**

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Results

Client: URS Corporation **Service Request:** K0909140
Project: Boise St. Helens Pulp and Paper Mill-2009

Analysis Run Log
Polynuclear Aromatic Hydrocarbons

Analysis Method: 8270C SIM **Analysis Lot:** KWG0910827
Instrument ID: MS11

File ID	Sample Name	Lab Code	Date Analysis Started	Start Time	Q	Date Analysis Finished	Finish Time
1116F001.D	GC/MS Tuning - Decafluorotripheny	KWG0910827-1	11/16/2009	07:10		11/16/2009	07:30
1116F002.D	Continuing Calibration Verification	KWG0910827-2	11/16/2009	07:37		11/16/2009	07:56
1116F003.D	ZZZZZZ	ZZZZZZ	11/16/2009	08:06		11/16/2009	08:25
1116F004.D	Method Blank	KWG0910535-7	11/16/2009	08:33		11/16/2009	08:52
1116F005.D	ZZZZZZ	ZZZZZZ	11/16/2009	08:59		11/16/2009	09:18
1116F006.D	ZZZZZZ	ZZZZZZ	11/16/2009	09:25		11/16/2009	09:44
1116F007.D	ZZZZZZ	ZZZZZZ	11/16/2009	09:52		11/16/2009	10:11
1116F008.D	ZZZZZZ	ZZZZZZ	11/16/2009	10:18		11/16/2009	10:37
1116F009.D	ZZZZZZ	ZZZZZZ	11/16/2009	10:45		11/16/2009	11:04
1116F010.D	ZZZZZZ	ZZZZZZ	11/16/2009	11:11		11/16/2009	11:30
1116F011.D	ZZZZZZ	ZZZZZZ	11/16/2009	11:38		11/16/2009	11:57
1116F012.D	ZZZZZZ	ZZZZZZ	11/16/2009	12:04		11/16/2009	12:23
1116F013.D	ZZZZZZ	ZZZZZZ	11/16/2009	12:31		11/16/2009	12:50
1116F014.D	M-2-A	K0909140-006	11/16/2009	12:57		11/16/2009	13:16
1116F015.D	ZZZZZZ	ZZZZZZ	11/16/2009	13:24		11/16/2009	13:43
1116F016.D	ZZZZZZ	ZZZZZZ	11/16/2009	13:50		11/16/2009	14:09
1116F017.D	ZZZZZZ	ZZZZZZ	11/16/2009	14:17		11/16/2009	14:36
1116F018.D	ZZZZZZ	ZZZZZZ	11/16/2009	14:43		11/16/2009	15:02
1116F019.D	ZZZZZZ	ZZZZZZ	11/16/2009	15:10		11/16/2009	15:29
1116F020.D	ZZZZZZ	ZZZZZZ	11/16/2009	15:36		11/16/2009	15:55
1116F021.D	ZZZZZZ	ZZZZZZ	11/16/2009	16:03		11/16/2009	16:22
1116F022.D	ZZZZZZ	ZZZZZZ	11/16/2009	16:29		11/16/2009	16:48
1116F023.D	ZZZZZZ	ZZZZZZ	11/16/2009	16:56		11/16/2009	17:15
1116F024.D	ZZZZZZ	ZZZZZZ	11/16/2009	17:22		11/16/2009	17:41
1116F025.D	ZZZZZZ	ZZZZZZ	11/16/2009	17:49		11/16/2009	18:08
1116F026.D	ZZZZZZ	ZZZZZZ	11/16/2009	18:15		11/16/2009	18:34
1116F027.D	ZZZZZZ	ZZZZZZ	11/16/2009	18:42		11/16/2009	19:01
1116F028.D	ZZZZZZ	ZZZZZZ	11/16/2009	19:08		11/16/2009	19:27

Results flagged with an asterisk (*) indicate the holding time was exceeded for the analysis

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Results

Client: URS Corporation **Service Request:** K0909140
Project: Boise St. Helens Pulp and Paper Mill-2009

Analysis Run Log
Polynuclear Aromatic Hydrocarbons

Analysis Method: 8270C SIM **Analysis Lot:** KWG0910855
Instrument ID: MS11

File ID	Sample Name	Lab Code	Date Analysis Started	Start Time	Q	Date Analysis Finished	Finish Time
1116F032.D	GC/MS Tuning - Decafluorotripheny	KWG0910855-1	11/16/2009	20:54		11/16/2009	21:14
1116F033.D	Continuing Calibration Verification	KWG0910855-2	11/16/2009	21:21		11/16/2009	21:40
1116F036.D	ZZZZZZ	ZZZZZZ	11/16/2009	22:40		11/16/2009	22:59
1116F037.D	M-5-B	K0909140-015	11/16/2009	23:07		11/16/2009	23:26
1116F038.D	M-5-A	K0909140-016	11/16/2009	23:33		11/16/2009	23:52
1116F039.D	M-5-C	K0909140-017	11/17/2009	00:00		11/17/2009	00:19
1116F040.D	M-5-B2	K0909140-018	11/17/2009	00:26		11/17/2009	00:45
1116F041.D	B-1-C	K0909140-019	11/17/2009	00:53		11/17/2009	01:12
1116F042.D	ZZZZZZ	ZZZZZZ	11/17/2009	01:19		11/17/2009	01:38
1116F043.D	ZZZZZZ	ZZZZZZ	11/17/2009	01:46		11/17/2009	02:05
1116F044.D	ZZZZZZ	ZZZZZZ	11/17/2009	02:12		11/17/2009	02:31
1116F045.D	ZZZZZZ	ZZZZZZ	11/17/2009	02:39		11/17/2009	02:58
1116F046.D	ZZZZZZ	ZZZZZZ	11/17/2009	03:05		11/17/2009	03:24
1116F047.D	ZZZZZZ	ZZZZZZ	11/17/2009	03:32		11/17/2009	03:51
1116F048.D	ZZZZZZ	ZZZZZZ	11/17/2009	03:58		11/17/2009	04:17
1116F049.D	ZZZZZZ	ZZZZZZ	11/17/2009	04:25		11/17/2009	04:44
1116F050.D	ZZZZZZ	ZZZZZZ	11/17/2009	04:51		11/17/2009	05:10
1116F051.D	ZZZZZZ	ZZZZZZ	11/17/2009	05:18		11/17/2009	05:37
1116F052.D	ZZZZZZ	ZZZZZZ	11/17/2009	05:44		11/17/2009	06:03
1116F053.D	M-2-AMS	KWG0910535-1	11/17/2009	06:11		11/17/2009	06:30
1116F054.D	M-2-ADMS	KWG0910535-2	11/17/2009	06:37		11/17/2009	06:56
1116F055.D	M-2-A	K0909140-006	11/17/2009	07:04		11/17/2009	07:23
1116F056.D	ZZZZZZ	ZZZZZZ	11/17/2009	07:30		11/17/2009	07:49
1116F057.D	ZZZZZZ	ZZZZZZ	11/17/2009	07:57		11/17/2009	08:16
1116F058.D	ZZZZZZ	ZZZZZZ	11/17/2009	08:23		11/17/2009	08:42

Results flagged with an asterisk (*) indicate the holding time was exceeded for the analysis

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Results

Client: URS Corporation **Service Request:** K0909140
Project: Boise St. Helens Pulp and Paper Mill-2009

Analysis Run Log
Polynuclear Aromatic Hydrocarbons

Analysis Method: 8270C SIM **Analysis Lot:** KWG0910976
Instrument ID: MS11

File ID	Sample Name	Lab Code	Date Analysis Started	Start Time	Q	Date Analysis Finished	Finish Time
1119F038.D	GC/MS Tuning - Decafluorotripheny	KWG0910976-1	11/19/2009	22:07		11/19/2009	22:26
1119F039.D	Continuing Calibration Verification	KWG0910976-2	11/19/2009	22:34		11/19/2009	22:53
1119F040.D	ZZZZZZ	ZZZZZZ	11/19/2009	23:00		11/19/2009	23:19
1119F041.D	Method Blank	KWG0910535-7	11/19/2009	23:27		11/19/2009	23:46
1119F042.D	ZZZZZZ	ZZZZZZ	11/19/2009	23:53		11/20/2009	00:12
1119F043.D	ZZZZZZ	ZZZZZZ	11/20/2009	00:20		11/20/2009	00:39
1119F044.D	ZZZZZZ	ZZZZZZ	11/20/2009	00:47		11/20/2009	01:06
1119F045.D	Lab Control Sample	KWG0910535-5	11/20/2009	01:13		11/20/2009	01:32
1119F046.D	Duplicate Lab Control Sample	KWG0910535-6	11/20/2009	01:40		11/20/2009	01:59
1119F047.D	ZZZZZZ	ZZZZZZ	11/20/2009	02:06		11/20/2009	02:25
1119F048.D	ZZZZZZ	ZZZZZZ	11/20/2009	02:33		11/20/2009	02:52
1119F049.D	ZZZZZZ	ZZZZZZ	11/20/2009	02:59		11/20/2009	03:18
1119F050.D	ZZZZZZ	ZZZZZZ	11/20/2009	03:26		11/20/2009	03:45
1119F051.D	ZZZZZZ	ZZZZZZ	11/20/2009	03:53		11/20/2009	04:12
1119F052.D	M-4-A	K0909140-001	11/20/2009	04:19		11/20/2009	04:38
1119F053.D	M-4-B	K0909140-002	11/20/2009	04:46		11/20/2009	05:05
1119F054.D	M-4-C	K0909140-003	11/20/2009	05:12		11/20/2009	05:31
1119F055.D	M-1-B	K0909140-004	11/20/2009	05:39		11/20/2009	05:58
1119F056.D	ZZZZZZ	ZZZZZZ	11/20/2009	06:06		11/20/2009	06:25
1119F057.D	ZZZZZZ	ZZZZZZ	11/20/2009	06:32		11/20/2009	06:52
1119F058.D	ZZZZZZ	ZZZZZZ	11/20/2009	06:59		11/20/2009	07:18
1119F059.D	ZZZZZZ	ZZZZZZ	11/20/2009	07:26		11/20/2009	07:45
1119F060.D	ZZZZZZ	ZZZZZZ	11/20/2009	07:52		11/20/2009	08:11
1119F061.D	ZZZZZZ	ZZZZZZ	11/20/2009	08:19		11/20/2009	08:38
1119F062.D	ZZZZZZ	ZZZZZZ	11/20/2009	08:45		11/20/2009	09:04
1119F063.D	ZZZZZZ	ZZZZZZ	11/20/2009	09:12		11/20/2009	09:31
1119F064.D	ZZZZZZ	ZZZZZZ	11/20/2009	09:39		11/20/2009	09:58

Results flagged with an asterisk (*) indicate the holding time was exceeded for the analysis

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Results

Client: URS Corporation **Service Request:** K0909140
Project: Boise St. Helens Pulp and Paper Mill-2009

Analysis Run Log
Polynuclear Aromatic Hydrocarbons

Analysis Method: 8270C SIM **Analysis Lot:** KWG0911040
Instrument ID: MS11

File ID	Sample Name	Lab Code	Date Analysis Started	Start Time	Q	Date Analysis Finished	Finish Time
1120F030.D	GC/MS Tuning - Decafluorotripheny	KWG0911040-1	11/20/2009	23:00		11/20/2009	23:19
1120F031.D	Continuing Calibration Verification	KWG0911040-2	11/20/2009	23:26		11/20/2009	23:45
1120F033.D	M-2-C	K0909140-005	11/21/2009	00:19		11/21/2009	00:38
1120F034.D	M-3-B	K0909140-007	11/21/2009	00:46		11/21/2009	01:05
1120F035.D	M-2-B	K0909140-008	11/21/2009	01:13		11/21/2009	01:32
1120F036.D	M-1-C	K0909140-009	11/21/2009	01:39		11/21/2009	01:58
1120F037.D	M-3-C	K0909140-010	11/21/2009	02:06		11/21/2009	02:25
1120F038.D	B-1-A	K0909140-011	11/21/2009	02:32		11/21/2009	02:51
1120F039.D	B-1-B	K0909140-012	11/21/2009	02:59		11/21/2009	03:18
1120F040.D	M-3-A	K0909140-013	11/21/2009	03:25		11/21/2009	03:44
1120F041.D	M-1-A	K0909140-014	11/21/2009	03:52		11/21/2009	04:11
1120F042.D	ZZZZZZ	ZZZZZZ	11/21/2009	04:19		11/21/2009	04:38
1120F043.D	ZZZZZZ	ZZZZZZ	11/21/2009	04:46		11/21/2009	05:05
1120F044.D	ZZZZZZ	ZZZZZZ	11/21/2009	05:12		11/21/2009	05:31
1120F045.D	ZZZZZZ	ZZZZZZ	11/21/2009	05:39		11/21/2009	05:58
1120F046.D	ZZZZZZ	ZZZZZZ	11/21/2009	06:05		11/21/2009	06:24
1120F047.D	ZZZZZZ	ZZZZZZ	11/21/2009	06:32		11/21/2009	06:51
1120F048.D	ZZZZZZ	ZZZZZZ	11/21/2009	06:58		11/21/2009	07:17
1120F049.D	ZZZZZZ	ZZZZZZ	11/21/2009	07:25		11/21/2009	07:44
1120F050.D	ZZZZZZ	ZZZZZZ	11/21/2009	07:52		11/21/2009	08:11
1120F051.D	ZZZZZZ	ZZZZZZ	11/21/2009	08:18		11/21/2009	08:37
1120F052.D	ZZZZZZ	ZZZZZZ	11/21/2009	08:45		11/21/2009	09:04
1120F053.D	ZZZZZZ	ZZZZZZ	11/21/2009	09:11		11/21/2009	09:30
1120F054.D	ZZZZZZ	ZZZZZZ	11/21/2009	09:38		11/21/2009	09:57
1120F055.D	ZZZZZZ	ZZZZZZ	11/21/2009	10:04		11/21/2009	10:23
1120F056.D	ZZZZZZ	ZZZZZZ	11/21/2009	10:31		11/21/2009	10:50

Results flagged with an asterisk (*) indicate the holding time was exceeded for the analysis

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Results

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009
Sample Matrix: Sediment

Service Request: K0909140
Date Extracted: 11/10/2009

Extraction Prep Log
Polynuclear Aromatic Hydrocarbons

Extraction Method: EPA 3541
Analysis Method: 8270C SIM

Extraction Lot: KWG0910535
Level: Low

Sample Name	Lab Code	Date Collected	Date Received	Sample Amount	Final Volume	% Solids	Note
M-4-A	K0909140-001	09/28/09	09/29/09	20.31g	10ml	97.5	
M-4-B	K0909140-002	09/28/09	09/29/09	20.23g	10ml	97.5	
M-4-C	K0909140-003	09/28/09	09/29/09	20.03g	10ml	97.7	
M-1-B	K0909140-004	10/07/09	10/08/09	20.21g	10ml	95.7	
M-2-C	K0909140-005	10/06/09	10/07/09	20.42g	10ml	92.7	
M-2-ADL	K0909140-006	10/06/09	10/07/09	20.21g	10ml	97.8	
M-2-A	K0909140-006	10/06/09	10/07/09	20.21g	10ml	97.8	
M-3-B	K0909140-007	10/05/09	10/06/09	20.51g	10ml	98.2	
M-2-B	K0909140-008	10/06/09	10/07/09	20.35g	10ml	89.5	
M-1-C	K0909140-009	10/07/09	10/08/09	19.99g	10ml	90.5	
M-3-C	K0909140-010	10/05/09	10/06/09	20.44g	10ml	95.3	
B-1-A	K0909140-011	10/09/09	10/09/09	20.01g	10ml	94.8	
B-1-B	K0909140-012	10/09/09	10/09/09	20.41g	10ml	98.2	
M-3-A	K0909140-013	10/05/09	10/06/09	20.25g	10ml	93.9	
M-1-A	K0909140-014	10/07/09	10/08/09	18.19g	10ml	97.2	
M-5-B	K0909140-015	09/28/09	09/29/09	20.79g	10ml	97.2	
M-5-A	K0909140-016	09/28/09	09/29/09	20.19g	10ml	99.1	
M-5-C	K0909140-017	09/28/09	09/29/09	20.19g	10ml	99.6	
M-5-B2	K0909140-018	09/28/09	09/29/09	20.27g	10ml	97.5	
B-1-C	K0909140-019	10/09/09	10/09/09	18.10g	10ml	98.3	
Method Blank	KWG0910535-7	NA	NA	20.79g	10ml	NA	
M-2-AMS	KWG0910535-1	10/06/09	10/07/09	20.17g	10ml	97.8	
M-2-ADMS	KWG0910535-2	10/06/09	10/07/09	20.17g	10ml	97.8	
Lab Control Sample	KWG0910535-5	NA	NA	10.00g	10ml	NA	
Duplicate Lab Control Sample	KWG0910535-6	NA	NA	10.00g	10ml	NA	

Results flagged with an asterisk (*) indicate the holding time was exceeded for the analysis

Organic Analysis:
Polynuclear Aromatic Hydrocarbons

Validation Package

Organic Analysis:
Polynuclear Aromatic Hydrocarbons

Validation Package

QC Reports

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009
Sample Matrix: Sediment

Service Request: K0909140

Surrogate Recovery Summary
Polynuclear Aromatic Hydrocarbons

Extraction Method: EPA 3541
Analysis Method: 8270C SIM

Units: PERCENT
Level: Low

Sample Name	Lab Code	Sur1	Sur2	Sur3	
M-4-A	K0909140-001	59	61	55	
M-4-B	K0909140-002	70	69	65	
M-4-C	K0909140-003	57	56	52	
M-1-B	K0909140-004	66	69	56	
M-2-C	K0909140-005	37	28	28	*
M-2-A	K0909140-006	64	70	44	
M-3-B	K0909140-007	72	75	65	
M-2-B	K0909140-008	58	63	58	
M-1-C	K0909140-009	62	68	54	
M-3-C	K0909140-010	68	70	58	
B-1-A	K0909140-011	62	64	55	
B-1-B	K0909140-012	65	68	62	
M-3-A	K0909140-013	78	82	68	
M-1-A	K0909140-014	58	62	53	
M-5-B	K0909140-015	76	73	61	
M-5-A	K0909140-016	81	81	66	
M-5-C	K0909140-017	82	84	68	
M-5-B2	K0909140-018	72	69	58	
B-1-C	K0909140-019	79	75	66	
Method Blank	KWG0910535-7	66	62	57	
M-2-AMS	KWG0910535-1	84	96	55	
M-2-ADMS	KWG0910535-2	84	99	53	
Lab Control Sample	KWG0910535-5	59	57	55	
Duplicate Lab Control Sample	KWG0910535-6	68	70	66	

Surrogate Recovery Control Limits (%)

Sur1	= Fluorene-d10	17-104
Sur2	= Fluoranthene-d10	27-106
Sur3	= Terphenyl-d14	35-109

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0909140
Date Analyzed: 11/16/2009
Time Analyzed: 07:37

Internal Standard Area and RT Summary
Polynuclear Aromatic Hydrocarbons

File ID: J:\MS11\DATA\111609\1116F002.D
Instrument ID: MS11
Analysis Method: 8270C SIM

Lab Code: KWG0910827-2
Analysis Lot: KWG0910827

		Naphthalene-d8		Acenaphthene-d10		Phenanthrene-d10	
		Area	**RT**	**Area**	**RT**	**Area**	**RT**
	Results ==>	214,680	4.62	109,189	6.04	210,353	7.26
	Upper Limit ==>	429,360	5.12	218,378	6.54	420,706	7.76
	Lower Limit ==>	107,340	4.12	54,595	5.54	105,177	6.76
	ICAL Result ==>	287,363	4.67	143,632	6.10	187,662	7.32
Associated Analyses							
Method Blank	KWG0910535-7	175,332	4.63	91,543	6.04	173,595	7.26
M-2-A	K0909140-006	182,034	4.63	104,004	6.04	181,539	7.26

Results flagged with an asterisk (*) indicate values outside control criteria.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0909140
Date Analyzed: 11/16/2009
Time Analyzed: 07:37

Internal Standard Area and RT Summary
Polynuclear Aromatic Hydrocarbons

File ID: J:\MS11\DATA\111609\1116F002.D
Instrument ID: MS11
Analysis Method: 8270C SIM

Lab Code: KWG0910827-2
Analysis Lot: KWG0910827

		Chrysene-d12		Perylene-d12			
		Area	**RT**	**Area**	**RT**	**Area**	**RT**
	Results ==>	323,783	9.75	332,002	12.75		
	Upper Limit ==>	647,566	10.25	664,004	13.25		
	Lower Limit ==>	161,892	9.25	166,001	12.25		
	ICAL Result ==>	216,839	9.84	240,902	12.92		
Associated Analyses							
Method Blank	KWG0910535-7	252,761	9.75	230,868	12.76		
M-2-A	K0909140-006	273,722	9.76	302,982	12.78		

Results flagged with an asterisk (*) indicate values outside control criteria.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0909140
Date Analyzed: 11/16/2009
Time Analyzed: 21:21

Internal Standard Area and RT Summary
Polynuclear Aromatic Hydrocarbons

File ID: J:\MS11\DATA\111609\1116F033.D
Instrument ID: MS11
Analysis Method: 8270C SIM

Lab Code: KWG0910855-2
Analysis Lot: KWG0910855

		Naphthalene-d8		Acenaphthene-d10		Phenanthrene-d10	
		Area	**RT**	**Area**	**RT**	**Area**	**RT**
	Results ==>	212,089	4.63	110,867	6.05	212,845	7.27
	Upper Limit ==>	424,178	5.13	221,734	6.55	425,690	7.77
	Lower Limit ==>	106,045	4.13	55,434	5.55	106,423	6.77
	ICAL Result ==>	287,363	4.67	143,632	6.10	187,662	7.32
Associated Analyses							
M-5-B	K0909140-015	174,457	4.63	97,076	6.05	171,838	7.27
M-5-A	K0909140-016	184,738	4.63	99,421	6.05	172,884	7.27
M-5-C	K0909140-017	178,552	4.63	99,436	6.05	163,724	7.27
M-5-B2	K0909140-018	180,839	4.63	99,837	6.05	173,965	7.26
B-1-C	K0909140-019	164,204	4.63	91,027	6.05	167,589	7.27
M-2-AMS	KWG0910535-1	138,732	4.62	70,766	6.04	132,263	7.26
M-2-ADMS	KWG0910535-2	155,307	4.62	77,297	6.04	143,742	7.26
M-2-ADL	K0909140-006	156,946	4.62	80,795	6.04	158,590	7.26

Results flagged with an asterisk (*) indicate values outside control criteria.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0909140
Date Analyzed: 11/16/2009
Time Analyzed: 21:21

Internal Standard Area and RT Summary
Polynuclear Aromatic Hydrocarbons

File ID: J:\MS11\DATA\111609\1116F033.D
Instrument ID: MS11
Analysis Method: 8270C SIM

Lab Code: KWG0910855-2
Analysis Lot: KWG0910855

		Chrysene-d12		Perylene-d12			
		Area	**RT**	**Area**	**RT**	**Area**	**RT**
	Results ==>	312,581	9.76	318,519	12.78		
	Upper Limit ==>	625,162	10.26	637,038	13.28		
	Lower Limit ==>	156,291	9.26	159,260	12.28		
	ICAL Result ==>	216,839	9.84	240,902	12.92		
Associated Analyses							
M-5-B	K0909140-015	276,696	9.76	317,266	12.78		
M-5-A	K0909140-016	279,376	9.76	316,616	12.78		
M-5-C	K0909140-017	283,303	9.76	324,903	12.77		
M-5-B2	K0909140-018	295,465	9.76	339,252	12.76		
B-1-C	K0909140-019	247,415	9.76	275,418	12.77		
M-2-AMS	KWG0910535-1	239,950	9.77	248,946	12.79		
M-2-ADMS	KWG0910535-2	263,231	9.77	270,780	12.79		
M-2-ADL	K0909140-006	255,111	9.75	254,558	12.76		

Results flagged with an asterisk (*) indicate values outside control criteria.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0909140
Date Analyzed: 11/19/2009
Time Analyzed: 22:34

Internal Standard Area and RT Summary
Polynuclear Aromatic Hydrocarbons

File ID: J:\MS11\DATA\111909\1119F039.D
Instrument ID: MS11
Analysis Method: 8270C SIM

Lab Code: KWG0910976-2
Analysis Lot: KWG0910976

		Naphthalene-d8		Acenaphthene-d10		Phenanthrene-d10	
		Area	**RT**	**Area**	**RT**	**Area**	**RT**
	Results ==>	141,988	4.88	76,868	6.30	146,729	7.54
	Upper Limit ==>	283,976	5.38	153,736	6.80	293,458	8.04
	Lower Limit ==>	70,994	4.38	38,434	5.80	73,365	7.04
	ICAL Result ==>	167,130	4.88	93,826	6.30	169,262	7.53
Associated Analyses							
Method Blank	KWG0910535-7	144,862	4.88	81,589	6.30	158,799	7.54
Lab Control Sample	KWG0910535-5	134,262	4.88	74,336	6.30	149,193	7.54
Duplicate Lab Control Sample	KWG0910535-6	141,912	4.88	78,201	6.30	152,157	7.54
M-4-A	K0909140-001	141,347	4.87	80,727	6.30	157,868	7.53
M-4-B	K0909140-002	140,670	4.88	80,459	6.30	160,383	7.53
M-4-C	K0909140-003	142,265	4.88	79,570	6.30	155,659	7.53
M-1-B	K0909140-004	146,349	4.88	83,463	6.30	160,777	7.54

Results flagged with an asterisk (*) indicate values outside control criteria.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0909140
Date Analyzed: 11/19/2009
Time Analyzed: 22:34

Internal Standard Area and RT Summary
Polynuclear Aromatic Hydrocarbons

File ID: J:\MS11\DATA\111909\1119F039.D
Instrument ID: MS11
Analysis Method: 8270C SIM

Lab Code: KWG0910976-2
Analysis Lot: KWG0910976

		Chrysene-d12		Perylene-d12			
		Area	**RT**	**Area**	**RT**	**Area**	**RT**
	Results ==>	209,498	10.27	199,973	13.86		
	Upper Limit ==>	418,996	10.77	399,946	14.36		
	Lower Limit ==>	104,749	9.77	99,987	13.36		
	ICAL Result ==>	225,410	10.26	242,714	13.85		
Associated Analyses							
Method Blank	KWG0910535-7	198,433	10.26	191,436	13.86		
Lab Control Sample	KWG0910535-5	216,776	10.27	212,846	13.87		
Duplicate Lab Control Sample	KWG0910535-6	231,625	10.27	231,102	13.86		
M-4-A	K0909140-001	257,095	10.27	289,217	13.86		
M-4-B	K0909140-002	238,044	10.27	279,876	13.86		
M-4-C	K0909140-003	235,776	10.27	271,932	13.86		
M-1-B	K0909140-004	269,522	10.27	315,722	13.87		

Results flagged with an asterisk (*) indicate values outside control criteria.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0909140
Date Analyzed: 11/20/2009
Time Analyzed: 23:26

Internal Standard Area and RT Summary
Polynuclear Aromatic Hydrocarbons

File ID: J:\MS11\DATA\112009\1120F031.D
Instrument ID: MS11
Analysis Method: 8270C SIM

Lab Code: KWG0911040-2
Analysis Lot: KWG0911040

		Naphthalene-d8		Acenaphthene-d10		Phenanthrene-d10	
		Area	**RT**	**Area**	**RT**	**Area**	**RT**
	Results ==>	181,996	4.87	94,961	6.29	169,321	7.52
	Upper Limit ==>	363,992	5.37	189,922	6.79	338,642	8.02
	Lower Limit ==>	90,998	4.37	47,481	5.79	84,661	7.02
	ICAL Result ==>	167,130	4.88	93,826	6.30	169,262	7.53
Associated Analyses							
M-2-C	K0909140-005	172,578	4.87	99,155	6.29	194,970	7.53
M-3-B	K0909140-007	157,091	4.86	88,205	6.29	178,607	7.52
M-2-B	K0909140-008	158,935	4.87	90,951	6.29	184,759	7.52
M-1-C	K0909140-009	145,202	4.87	81,042	6.29	164,786	7.52
M-3-C	K0909140-010	154,311	4.87	85,972	6.29	180,412	7.52
B-1-A	K0909140-011	162,367	4.86	89,585	6.29	177,508	7.52
B-1-B	K0909140-012	151,107	4.86	82,900	6.29	169,900	7.52
M-3-A	K0909140-013	152,013	4.87	84,935	6.29	171,613	7.52
M-1-A	K0909140-014	159,982	4.86	88,560	6.29	180,346	7.52

Results flagged with an asterisk (*) indicate values outside control criteria.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0909140
Date Analyzed: 11/20/2009
Time Analyzed: 23:26

Internal Standard Area and RT Summary
Polynuclear Aromatic Hydrocarbons

File ID: J:\MS11\DATA\112009\1120F031.D
Instrument ID: MS11
Analysis Method: 8270C SIM

Lab Code: KWG0911040-2
Analysis Lot: KWG0911040

		Chrysene-d12		Perylene-d12			
		Area	**RT**	**Area**	**RT**	**Area**	**RT**
	Results ==>	235,199	10.25	251,477	13.82		
	Upper Limit ==>	470,398	10.75	502,954	14.32		
	Lower Limit ==>	117,600	9.75	125,739	13.32		
	ICAL Result ==>	225,410	10.26	242,714	13.85		
Associated Analyses							
M-2-C	K0909140-005	287,442	10.26	319,971	13.84		
M-3-B	K0909140-007	293,029	10.25	344,117	13.83		
M-2-B	K0909140-008	323,764	10.26	365,986	13.83		
M-1-C	K0909140-009	292,465	10.25	352,887	13.83		
M-3-C	K0909140-010	329,359	10.26	373,649	13.84		
B-1-A	K0909140-011	302,123	10.25	355,752	13.82		
B-1-B	K0909140-012	258,052	10.25	294,113	13.81		
M-3-A	K0909140-013	302,020	10.26	349,424	13.84		
M-1-A	K0909140-014	296,874	10.25	345,790	13.83		

Results flagged with an asterisk (*) indicate values outside control criteria.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	URS Corporation	**Service Request:**	K0909140
Project:	Boise St. Helens Pulp and Paper Mill-2009	**Date Extracted:**	11/10/2009
Sample Matrix:	Sediment	**Date Analyzed:**	11/17/2009

Matrix Spike/Duplicate Matrix Spike Summary
Polynuclear Aromatic Hydrocarbons

Sample Name:	M-2-A	**Units:**	ug/Kg
Lab Code:	K0909140-006	**Basis:**	Dry
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270C SIM	**Extraction Lot:**	KWG0910535

Analyte Name	Sample Result	M-2-AMS KWG0910535-1 Matrix Spike			M-2-ADMS KWG0910535-2 Duplicate Matrix Spike			%Rec Limits	RPD	RPD Limit
		Result	Expected	%Rec	Result	Expected	%Rec			
Naphthalene	790	1050E	253	103	1080E	253	116	11-119	3	40
2-Methylnaphthalene	590	818	253	92	816	253	91	17-123	0	40
Acenaphthylene	220	436	253	86	434	253	85	32-106	0	40
Acenaphthene	170	386	253	85	386	253	85	29-110	0	40
Fluorene	250	526	253	111	541	253	117	29-117	3	40
Dibenzofuran	140	357	253	86	356	253	85	31-110	0	40
Phenanthrene	1400	1520E	253	59 #	1480E	253	44 #	19-128	3	40
Anthracene	200	363	253	64	351	253	60	31-115	3	40
Fluoranthene	750	1350E	253	235 *	1200E	253	178 *	22-138	11	40
Pyrene	990	1120E	253	53	1040E	253	21	11-148	7	40
Benz(a)anthracene	220	346	253	50	329	253	44	25-128	5	40
Chrysene	320	484	253	67	487	253	68	25-132	1	40
Benzo(b)fluoranthene	220	364	253	55	353	253	51	15-136	3	40
Benzo(k)fluoranthene	71	142	253	28 *	140	253	27 *	29-126	2	40
Benzo(a)pyrene	190	282	253	37	264	253	30	24-131	7	40
Indeno(1,2,3-cd)pyrene	110	155	253	18 *	150	253	16 *	20-136	3	40
Dibenz(a,h)anthracene	22	61.5	253	15 *	64.1	253	16 *	29-124	4	40
Benzo(g,h,i)perylene	170	226	253	23 *	210	253	17 *	24-127	7	40

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	URS Corporation	**Service Request:**	K0909140
Project:	Boise St. Helens Pulp and Paper Mill-2009	**Date Extracted:**	11/10/2009
Sample Matrix:	Sediment	**Date Analyzed:**	11/20/2009

Lab Control Spike/Duplicate Lab Control Spike Summary
Polynuclear Aromatic Hydrocarbons

Extraction Method:	EPA 3541	**Units:**	ug/Kg
Analysis Method:	8270C SIM	**Basis:**	Dry
		Level:	Low
		Extraction Lot:	KWG0910535

	Lab Control Sample KWG0910535-5 Lab Control Spike			Duplicate Lab Control Sample KWG0910535-6 Duplicate Lab Control Spike					
Analyte Name	**Result**	**Expected**	**%Rec**	**Result**	**Expected**	**%Rec**	**%Rec Limits**	**RPD**	**RPD Limit**
Naphthalene	302	500	60	365	500	73	43-99	19	40
2-Methylnaphthalene	273	500	55	334	500	67	44-111	20	40
Acenaphthylene	321	500	64	398	500	80	41-110	21	40
Acenaphthene	326	500	65	404	500	81	44-104	21	40
Fluorene	334	500	67	413	500	83	49-105	21	40
Dibenzofuran	331	500	66	408	500	82	43-113	21	40
Phenanthrene	299	500	60	372	500	74	47-104	22	40
Anthracene	313	500	63	408	500	82	47-112	26	40
Fluoranthene	329	500	66	425	500	85	51-111	25	40
Pyrene	273	500	55	341	500	68	48-113	22	40
Benz(a)anthracene	293	500	59	373	500	75	51-111	24	40
Chrysene	302	500	60	384	500	77	54-111	24	40
Benzo(b)fluoranthene	322	500	64	406	500	81	51-113	23	40
Benzo(k)fluoranthene	341	500	68	422	500	84	56-114	21	40
Benzo(a)pyrene	322	500	64	403	500	81	52-118	22	40
Indeno(1,2,3-cd)pyrene	320	500	64	389	500	78	42-123	19	40
Dibenz(a,h)anthracene	316	500	63	382	500	76	44-119	19	40
Benzo(g,h,i)perylene	333	500	67	400	500	80	46-114	18	40

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	URS Corporation	**Service Request:**	K0909140
Project:	Boise St. Helens Pulp and Paper Mill-2009	**Date Extracted:**	11/10/2009
Sample Matrix:	Sediment	**Date Analyzed:**	11/16/2009
		Time Analyzed:	08:33

Method Blank Summary
Polynuclear Aromatic Hydrocarbons

Sample Name:	Method Blank	**File ID:**	J:\MS11\DATA\111609\1116F004.D
Lab Code:	KWG0910535-7	**Instrument ID:**	MS11
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270C SIM	**Extraction Lot:**	KWG0910535

This Method Blank applies to the following analyses:

Sample Name	Lab Code	File ID	Date Analyzed	Time Analyzed
M-2-A	K0909140-006	J:\MS11\DATA\111609\1116F014.D	11/16/09	12:57
M-5-B	K0909140-015	J:\MS11\DATA\111609\1116F037.D	11/16/09	23:07
M-5-A	K0909140-016	J:\MS11\DATA\111609\1116F038.D	11/16/09	23:33
M-5-C	K0909140-017	J:\MS11\DATA\111609\1116F039.D	11/17/09	00:00
M-5-B2	K0909140-018	J:\MS11\DATA\111609\1116F040.D	11/17/09	00:26
B-1-C	K0909140-019	J:\MS11\DATA\111609\1116F041.D	11/17/09	00:53
M-2-AMS	KWG0910535-1	J:\MS11\DATA\111609\1116F053.D	11/17/09	06:11
M-2-ADMS	KWG0910535-2	J:\MS11\DATA\111609\1116F054.D	11/17/09	06:37
M-2-A	K0909140-006	J:\MS11\DATA\111609\1116F055.D	11/17/09	07:04

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	URS Corporation	**Service Request:**	K0909140
Project:	Boise St. Helens Pulp and Paper Mill-2009	**Date Extracted:**	11/10/2009
Sample Matrix:	Sediment	**Date Analyzed:**	11/19/2009
		Time Analyzed:	23:27

Method Blank Summary
Polynuclear Aromatic Hydrocarbons

Sample Name:	Method Blank	**File ID:**	J:\MS11\DATA\111909\1119F041.D
Lab Code:	KWG0910535-7	**Instrument ID:**	MS11
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270C SIM	**Extraction Lot:**	KWG0910535

This Method Blank applies to the following analyses:

Sample Name	Lab Code	File ID	Date Analyzed	Time Analyzed
Lab Control Sample	KWG0910535-5	J:\MS11\DATA\111909\1119F045.D	11/20/09	01:13
Duplicate Lab Control Sample	KWG0910535-6	J:\MS11\DATA\111909\1119F046.D	11/20/09	01:40
M-4-A	K0909140-001	J:\MS11\DATA\111909\1119F052.D	11/20/09	04:19
M-4-B	K0909140-002	J:\MS11\DATA\111909\1119F053.D	11/20/09	04:46
M-4-C	K0909140-003	J:\MS11\DATA\111909\1119F054.D	11/20/09	05:12
M-1-B	K0909140-004	J:\MS11\DATA\111909\1119F055.D	11/20/09	05:39
M-2-C	K0909140-005	J:\MS11\DATA\112009\1120F033.D	11/21/09	00:19
M-3-B	K0909140-007	J:\MS11\DATA\112009\1120F034.D	11/21/09	00:46
M-2-B	K0909140-008	J:\MS11\DATA\112009\1120F035.D	11/21/09	01:13
M-1-C	K0909140-009	J:\MS11\DATA\112009\1120F036.D	11/21/09	01:39
M-3-C	K0909140-010	J:\MS11\DATA\112009\1120F037.D	11/21/09	02:06
B-1-A	K0909140-011	J:\MS11\DATA\112009\1120F038.D	11/21/09	02:32
B-1-B	K0909140-012	J:\MS11\DATA\112009\1120F039.D	11/21/09	02:59
M-3-A	K0909140-013	J:\MS11\DATA\112009\1120F040.D	11/21/09	03:25
M-1-A	K0909140-014	J:\MS11\DATA\112009\1120F041.D	11/21/09	03:52

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	URS Corporation	**Service Request:**	K0909140
Project:	Boise St. Helens Pulp and Paper Mill-2009	**Date Extracted:**	11/10/2009
Sample Matrix:	Sediment	**Date Analyzed:**	11/20/2009
		Time Analyzed:	01:13

Lab Control Sample Summary
Polynuclear Aromatic Hydrocarbons

Sample Name:	Lab Control Sample	**File ID:**	J:\MS11\DATA\111909\1119F045.D
Lab Code:	KWG0910535-5	**Instrument ID:**	MS11
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270C SIM	**Extraction Lot:**	KWG0910535

This Lab Control Sample applies to the following analyses:

Sample Name	Lab Code	File ID	Date Analyzed	Time Analyzed
Method Blank	KWG0910535-7	J:\MS11\DATA\111609\1116F004.D	11/16/09	08:33
M-2-A	K0909140-006	J:\MS11\DATA\111609\1116F014.D	11/16/09	12:57
M-5-B	K0909140-015	J:\MS11\DATA\111609\1116F037.D	11/16/09	23:07
M-5-A	K0909140-016	J:\MS11\DATA\111609\1116F038.D	11/16/09	23:33
M-5-C	K0909140-017	J:\MS11\DATA\111609\1116F039.D	11/17/09	00:00
M-5-B2	K0909140-018	J:\MS11\DATA\111609\1116F040.D	11/17/09	00:26
B-1-C	K0909140-019	J:\MS11\DATA\111609\1116F041.D	11/17/09	00:53
M-2-AMS	KWG0910535-1	J:\MS11\DATA\111609\1116F053.D	11/17/09	06:11
M-2-ADMS	KWG0910535-2	J:\MS11\DATA\111609\1116F054.D	11/17/09	06:37
M-2-A	K0909140-006	J:\MS11\DATA\111609\1116F055.D	11/17/09	07:04
Method Blank	KWG0910535-7	J:\MS11\DATA\111909\1119F041.D	11/19/09	23:27
M-4-A	K0909140-001	J:\MS11\DATA\111909\1119F052.D	11/20/09	04:19
M-4-B	K0909140-002	J:\MS11\DATA\111909\1119F053.D	11/20/09	04:46
M-4-C	K0909140-003	J:\MS11\DATA\111909\1119F054.D	11/20/09	05:12
M-1-B	K0909140-004	J:\MS11\DATA\111909\1119F055.D	11/20/09	05:39
M-2-C	K0909140-005	J:\MS11\DATA\112009\1120F033.D	11/21/09	00:19
M-3-B	K0909140-007	J:\MS11\DATA\112009\1120F034.D	11/21/09	00:46
M-2-B	K0909140-008	J:\MS11\DATA\112009\1120F035.D	11/21/09	01:13
M-1-C	K0909140-009	J:\MS11\DATA\112009\1120F036.D	11/21/09	01:39
M-3-C	K0909140-010	J:\MS11\DATA\112009\1120F037.D	11/21/09	02:06
B-1-A	K0909140-011	J:\MS11\DATA\112009\1120F038.D	11/21/09	02:32
B-1-B	K0909140-012	J:\MS11\DATA\112009\1120F039.D	11/21/09	02:59
M-3-A	K0909140-013	J:\MS11\DATA\112009\1120F040.D	11/21/09	03:25
M-1-A	K0909140-014	J:\MS11\DATA\112009\1120F041.D	11/21/09	03:52

Organic Analysis:
Polynuclear Aromatic Hydrocarbons

Validation Package

Raw Data

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	URS Corporation	**Service Request:**	K0909140
Project:	Boise St. Helens Pulp and Paper Mill-2009	**Date Collected:**	09/28/2009
Sample Matrix:	Sediment	**Date Received:**	09/29/2009

Polynuclear Aromatic Hydrocarbons

Sample Name:	M-4-A	**Units:**	ug/Kg
Lab Code:	K0909140-001	**Basis:**	Dry
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270C SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Naphthalene	**180**		2.6	0.60	1	11/10/09	11/20/09	KWG0910535	
2-Methylnaphthalene	**35**		2.6	0.46	1	11/10/09	11/20/09	KWG0910535	
Acenaphthylene	**52**		2.6	0.56	1	11/10/09	11/20/09	KWG0910535	
Acenaphthene	**25**		2.6	0.50	1	11/10/09	11/20/09	KWG0910535	
Fluorene	**29**		2.6	0.61	1	11/10/09	11/20/09	KWG0910535	
Dibenzofuran	**27**		2.6	0.63	1	11/10/09	11/20/09	KWG0910535	
Phenanthrene	**230**		2.6	1.4	1	11/10/09	11/20/09	KWG0910535	
Anthracene	**45**		2.6	0.55	1	11/10/09	11/20/09	KWG0910535	
Fluoranthene	**350**		2.6	0.98	1	11/10/09	11/20/09	KWG0910535	
Pyrene	**300**		2.6	0.76	1	11/10/09	11/20/09	KWG0910535	
Benz(a)anthracene	**120**		2.6	0.72	1	11/10/09	11/20/09	KWG0910535	
Chrysene	**170**		2.6	0.80	1	11/10/09	11/20/09	KWG0910535	
Benzo(b)fluoranthene	**200**		2.6	0.92	1	11/10/09	11/20/09	KWG0910535	
Benzo(k)fluoranthene	**62**		2.6	0.87	1	11/10/09	11/20/09	KWG0910535	
Benzo(a)pyrene	**180**		2.6	0.76	1	11/10/09	11/20/09	KWG0910535	
Indeno(1,2,3-cd)pyrene	**160**		2.6	0.87	1	11/10/09	11/20/09	KWG0910535	
Dibenz(a,h)anthracene	**21**		2.6	0.80	1	11/10/09	11/20/09	KWG0910535	
Benzo(g,h,i)perylene	**200**		2.6	0.85	1	11/10/09	11/20/09	KWG0910535	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	59	17-104	11/20/09	Acceptable
Fluoranthene-d10	61	27-106	11/20/09	Acceptable
Terphenyl-d14	55	35-109	11/20/09	Acceptable

Comments:

Exception Report

Data File: J:\MS11\DATA\111909\1119F052.D
Lab ID: K0909140-001
RunType: SMPL
Matrix: SEDIMENT

Date Acquired: 11/20/2009 04:19
Date Quantitated: 11/20/2009 12:26
Batch ID: KWG0910976
Analysis Method: 8270C SIM
ListJoinID: LJ5646

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Tune Window	NA	NA	NA	x	
Analytical Holding Time	NA	NA	NA	x	
Preparation Holding Time	NA	NA	NA	x	
Pre-Preparation Holding Time	NA	NA	NA	x	
ICAL Pass/Fail	NA	NA	NA	x	
ICAL Average RSD	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Initial Calibration Minimum RF	NA	NA	NA	x	
Initial Calibration SPCC/CCC	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA	x	
Continuing Calibration Minimum RF	NA	NA	NA	x	
Continuing Calibration SPCC/CCC	NA	NA	NA	x	
Method Blank	NA	NA	NA	x	
MB Surrogate Recovery	NA	NA	NA	x	
Lab Control Spike	NA	NA	NA	x	
Duplicate Lab Control Spike	NA	NA	NA	x	
Internal Standards	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Relative Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Primary Review: 11/21/9

Secondary Review: 11/23/09

Quantitation Report

Bottle ID:		**Tier:**	V	**Matrix:**	SEDIMENT
Prod Code:	8270C SIM PAH_S	**Collect Date:**	09/28/2009	**Receive Date:**	09/29/2009

Analysis Lot:	KWG0910976	**Prep Lot:**	KWG0910535	**Report Group:**	K0909140
Analysis Method:	8270C SIM	**Prep Method:**	EPA 3541		
Prep Ref:	865754	**Prep Date:**	11/10/2009		

Quant Method:	J:\MS11\METHODS\SIM\1119ALK.M	**Calibration ID:**	CAL9029
Title:	Polynuclear Aromatic Hydrocarbons	**Report List ID:**	LJ5646
Tune Ref:	J:\MS11\DATA\111909\1119F038.D	**Method ID:**	MJ253
MB Ref:	J:\MS11\DATA\111909\1119F041.D	**Quant based on Report List**	

Data File:	J:\MS11\DATA\111909\1119F052.D			**Instrument:**	MS11
Acqu Date:	11/20/2009 04:19	**Quant Date:**	11/20/2009 12:26	**Vial:**	40
Run Type:	SMPL			**Dilution:**	1.0
Lab ID:	K0909140-001			**Soln Conc. Units:**	ng/ml

Internal Standard Compounds

IS Ref	Parameter Name	RT	RT Dev	Quant Mass	Response	Solution Conc	Area Criteria
1	Naphthalene-d8	4.87	-0.01	136	141347	200.00	OK
2	Acenaphthene-d10	6.30	0.00	164	80727	200.00	OK
3	Phenanthrene-d10	7.53	-0.01	188	157868	200.00	OK
4	Chrysene-d12	10.27	0.00	240	257095	200.00	OK
5	Perylene-d12	13.86	0.00	264	289217	200.00	OK

Surrogate Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	%Rec	%Rec Limits		Rpt?
2	Fluorene-d10	6.73	0.01	0.00	176	53031	117.00	59	17-104	OK	
3	Fluoranthene-d10	8.52	0.00	0.00	212	115727	121.25	61	27-106	OK	
4	Terphenyl-d14	8.90	0.00	0.00	244	117413	110.32	55	35-109	OK	

Target Compounds

Final Conc. Units: ug/Kg Dry Weight

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	Final Conc	Q	Rpt?
1	Naphthalene	4.89	-0.01	0.00	128	226835	364.84	180		
1	2-Methylnaphthalene	5.44	-0.01	0.00	142	31230	69.73	35		
2	Acenaphthylene	6.18		0.00	152	68587	103.39	52		
2	Acenaphthene	6.32	-0.01	0.00	154	19713**m**	50.03	25		
2	Dibenzofuran	6.47		0.00	168	31433	52.67	27		
2	Fluorene	6.75		0.00	166	29076**m**	58.25	29		
3	Phenanthrene	7.55		0.00	178	379434	450.81	230		
3	Anthracene	7.60		0.00	178	72175	89.24	45		
3	Fluoranthene	8.54	0.01	0.00	202	674388	689.25	350		
4	Pyrene	8.74		0.00	202	811647	595.31	300		
4	Benz(a)anthracene	10.25		0.00	228	302140	230.04	120		
4	Chrysene	10.32	0.01	0.00	228	421644	336.16	170		
5	Benzo(b)fluoranthene	12.65	0.01	0.00	252	586336	389.08	200		

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Data File:	J:\MS11\DATA\111909\1119F052.D			**Instrument:**	MS11
Acqu Date:	11/20/2009 04:19	**Quant Date:**	11/20/2009 12:26	**Vial:**	40
Run Type:	SMPL			**Dilution:**	1.0
Lab ID:	K0909140-001			**Soln Conc. Units:**	ng/ml

Target Compounds **Final Conc. Units:** ug/Kg Dry Weight

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	Final Conc	Q	Rpt?
5	Benzo(k)fluoranthene	12.73		0.00	252	174172	121.97	62		
5	Benzo(a)pyrene	13.66		0.00	252	476202	358.69	180		
5	Indeno(1,2,3-cd)pyrene	17.00	0.01	0.00	276	381381	311.65	160		
5	Dibenz(a,h)anthracene	17.06	-0.01	0.00	278	52401	41.09	21		
5	Benzo(g,h,i)perylene	17.41		0.00	276	559953	404.88	200		

Prep Amount:	20.31 g	**Dilution:**	1.0
Prep Final Vol:	10 ml	**Unit Factor:**	1
Solids:	97.5 %		

Final Concentration = ((Soln Conc x Prep Final Vol x Dilution) / (Prep Amount x Solids)) x Unit Factor

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\111909\1119F052.D Vial: 40
Acq On : 20 Nov 2009 4:19 am Operator: LWeiskopf
Sample : K0909140-001 Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 20 11:02:27 2009 Quant Results File: 1119ALK.RES

Quant Method : J:\MS11\METHODS\SIM\1119ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Fri Nov 20 09:17:56 2009
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	4.87	136	141347	200.00	ng/ml	0.00
10) Acenaphthene-d10	6.30	164	80727	200.00	ng/ml	0.00
22) Phenanthrene-d10	7.53	188	157868	200.00	ng/ml	0.00
37) Chrysene-d12	10.27	240	257095	200.00	ng/ml	0.00
49) Perylene-d12	13.86	264	289217	200.00	ng/ml	0.00
System Monitoring Compounds						
15) Fluorene-d10	6.73	176	53031	117.00	ng/ml	0.00
Spiked Amount 200.000			Recovery = 58.50%			
20) 2,4,6 Tribromophenol	0.00	330	0d	0.00	ng/ml	
Spiked Amount 375.000			Recovery = 0.00%			
36) Fluoranthene-d10	8.52	212	115727	121.25	ng/ml	0.00
Spiked Amount 200.000			Recovery = 60.62%			
42) Terphenyl-d14	8.90	244	117413	110.32	ng/ml	0.00
Spiked Amount 200.000			Recovery = 55.16%			
Target Compounds						Qvalue
2) Naphthalene	4.89	128	226835	364.84	ng/ml	99
3) 2-Methylnaphthalene	5.44	142	31230	69.73	ng/ml	98
4) 1-Methylnaphthalene	5.53	142	15504	36.09	ng/ml	92
5) Biphenyl	5.82	154	18878	35.43	ng/ml	98
6) 2,6-Dimethylnaphthalene	5.96	156	17645	42.87	ng/ml	99
11) Acenaphthylene	6.18	152	68587	103.39	ng/ml	99
12) Acenaphthene	6.32	154	19713m	50.03	ng/ml	
13) Dibenzofuran	6.47	168	31433	52.67	ng/ml	67
14) 2,3,5-Trimethylnaphthalene	6.63	170	10559	25.09	ng/ml	75
16) Fluorene	6.75	166	29076m	58.25	ng/ml	
23) Dibenzothiophene	7.44	184	20572m	29.26	ng/ml	
27) Phenanthrene	7.55	178	379434	450.81	ng/ml	99
28) Anthracene	7.60	178	72175	89.24	ng/ml	98
29) Carbazole	7.73	167	6965	10.08	ng/ml	89
30) 1-Methylphenanthrene	8.05	192	35362	53.97	ng/ml	96
35) Fluoranthene	8.54	202	674388	689.25	ng/ml	100
38) Pyrene	8.74	202	811647	595.31	ng/ml	89
43) Benz(a)anthracene	10.25	228	302140	230.04	ng/ml	44
44) Chrysene	10.32	228	421644	336.16	ng/ml	97
50) Benzo(b)fluoranthene	12.65	252	586336	389.08	ng/ml	99
51) Benzo(k)fluoranthene	12.73	252	174172	121.97	ng/ml	97
52) Benzo(e)pyrene	13.49	252	376448	272.58	ng/ml	99
53) Benzo(a)pyrene	13.66	252	476202	358.69	ng/ml	99
54) Perylene	13.95	252	246533	188.03	ng/ml	100
55) Indeno(1,2,3-cd)pyrene	17.00	276	381381	311.65	ng/ml	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\111909\1119F052.D Vial: 40
Acq On : 20 Nov 2009 4:19 am Operator: LWeiskopf
Sample : K0909140-001 Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 20 11:02:27 2009 Quant Results File: 1119ALK.RES

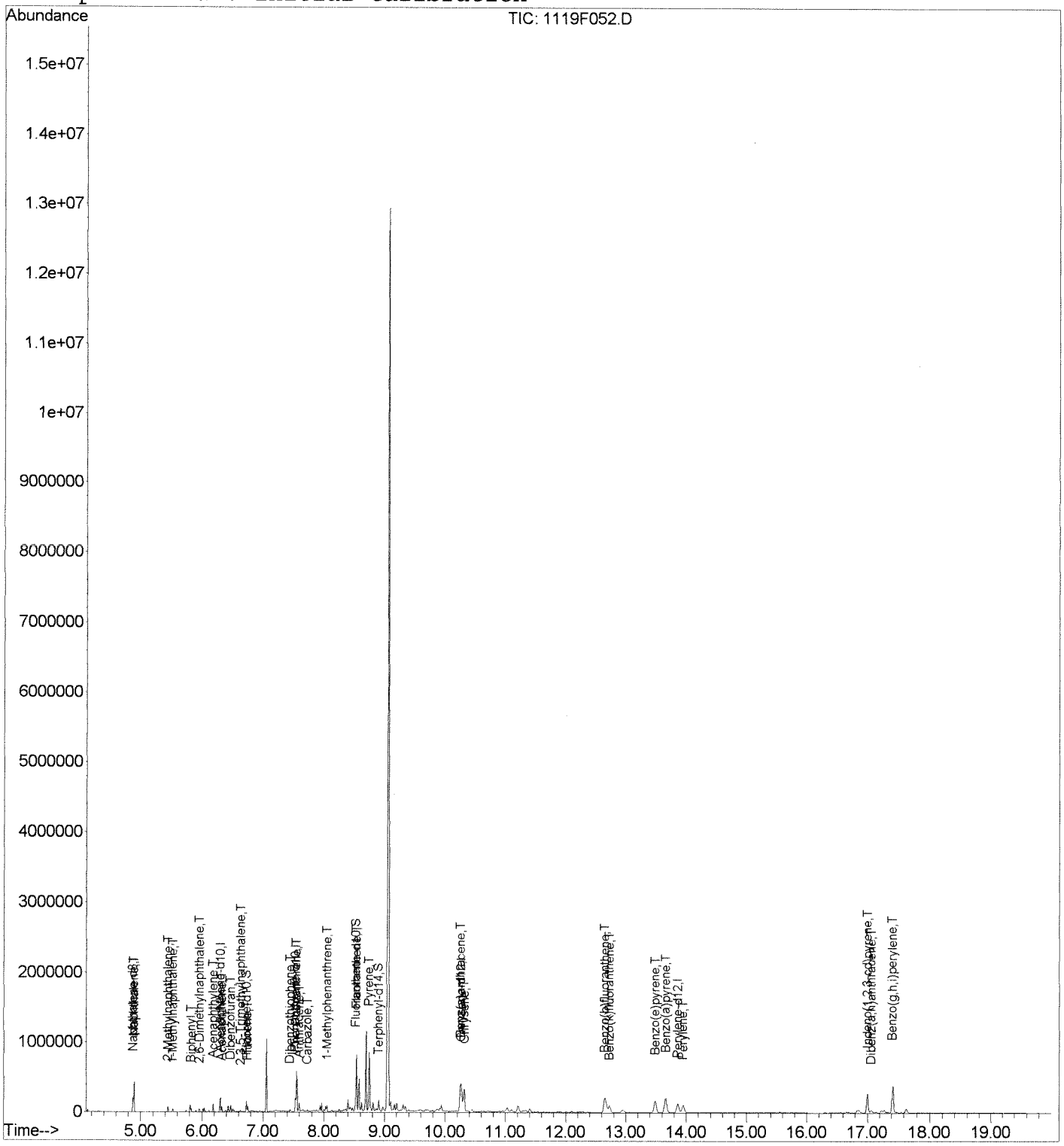
Quant Method : J:\MS11\METHODS\SIM\1119ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Fri Nov 20 09:17:56 2009
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

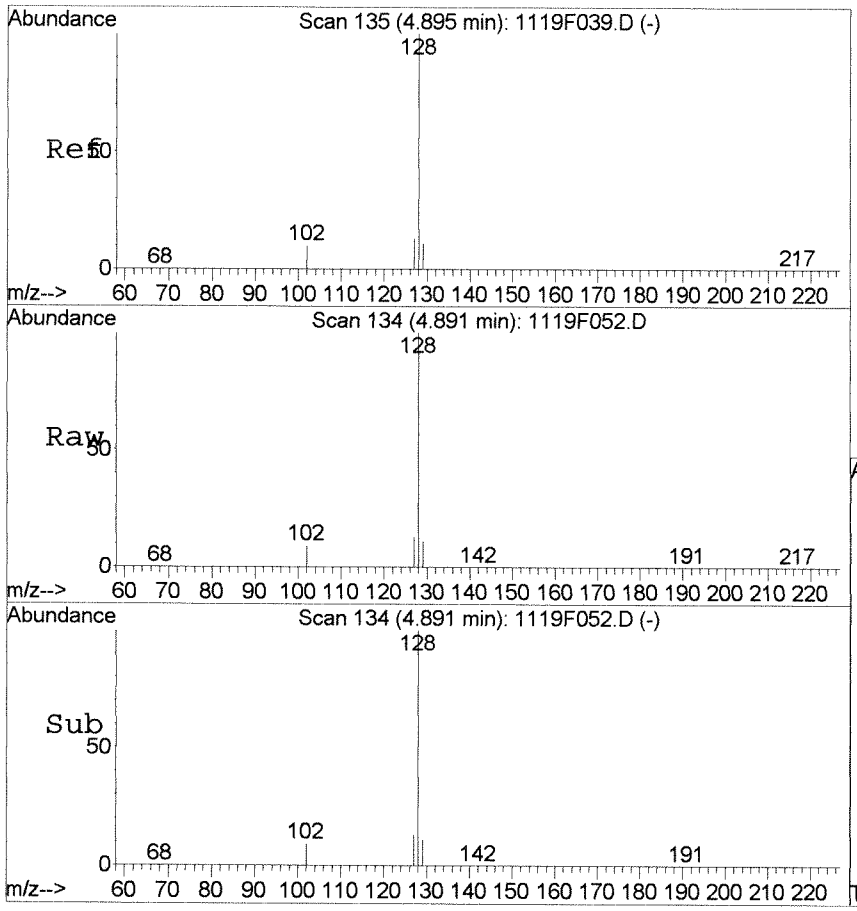
	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
56)	Dibenz(a,h)anthracene	17.06	278	52401	41.09	ng/ml	79
57)	Benzo(g,h,i)perylene	17.41	276	559953	404.88	ng/ml	97

(#) = qualifier out of range (m) = manual integration

Data File : J:\MS11\DATA\111909\1119F052.D Vial: 40
Acq On : 20 Nov 2009 4:19 am Operator: LWeiskopf
Sample : K0909140-001 Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 20 12:26 2009 Quant Results File: 1119ALK.RES

Method : J:\MS11\METHODS\SIM\1119ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Fri Nov 20 12:01:24 2009
Response via : Initial Calibration

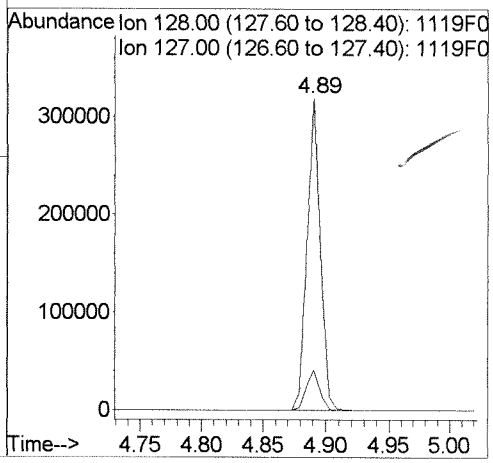


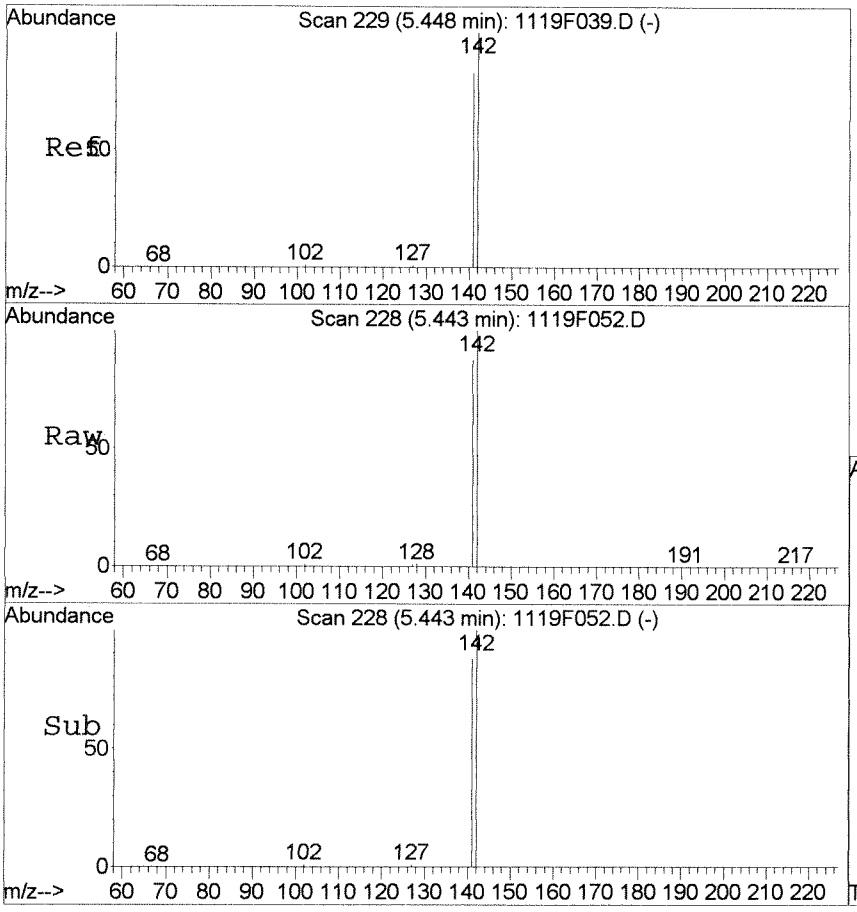


#2
Naphthalene
Concen: 364.84 ng/ml
RT: 4.89 min Scan# 134
Delta R.T. 0.00 min
Lab File: 1119F052.D
Acq: 20 Nov 2009 4:19 am

Tgt Ion:128 Resp: 226835

Ion	Ratio	Lower	Upper
128	100		
127	12.9	0.0	42.4

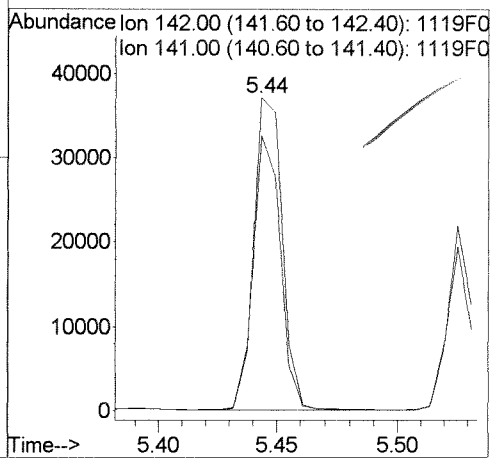


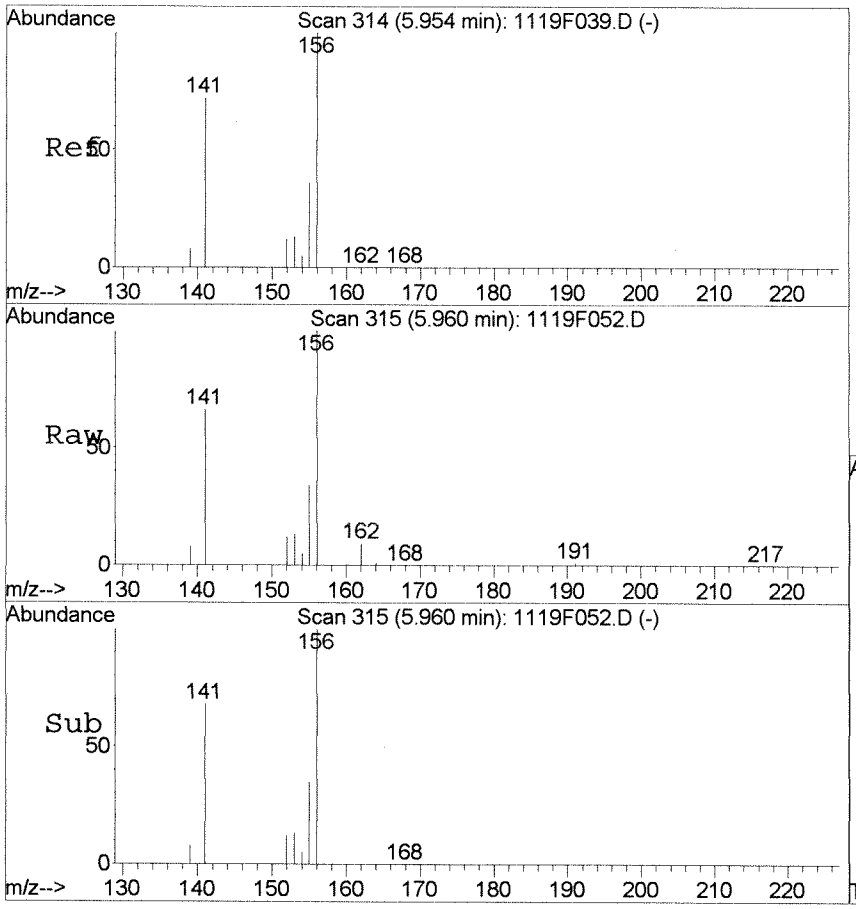


#3
2-Methylnaphthalene
Concen: 69.73 ng/ml
RT: 5.44 min Scan# 228
Delta R.T. 0.00 min
Lab File: 1119F052.D
Acq: 20 Nov 2009 4:19 am

Tgt Ion:142 Resp: 31230

Ion	Ratio	Lower	Upper
142	100		
141	87.8	56.1	116.1

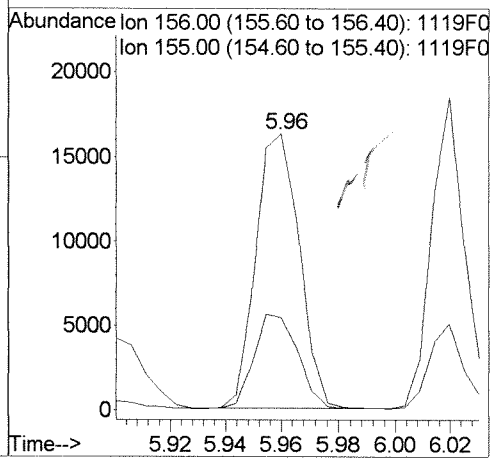


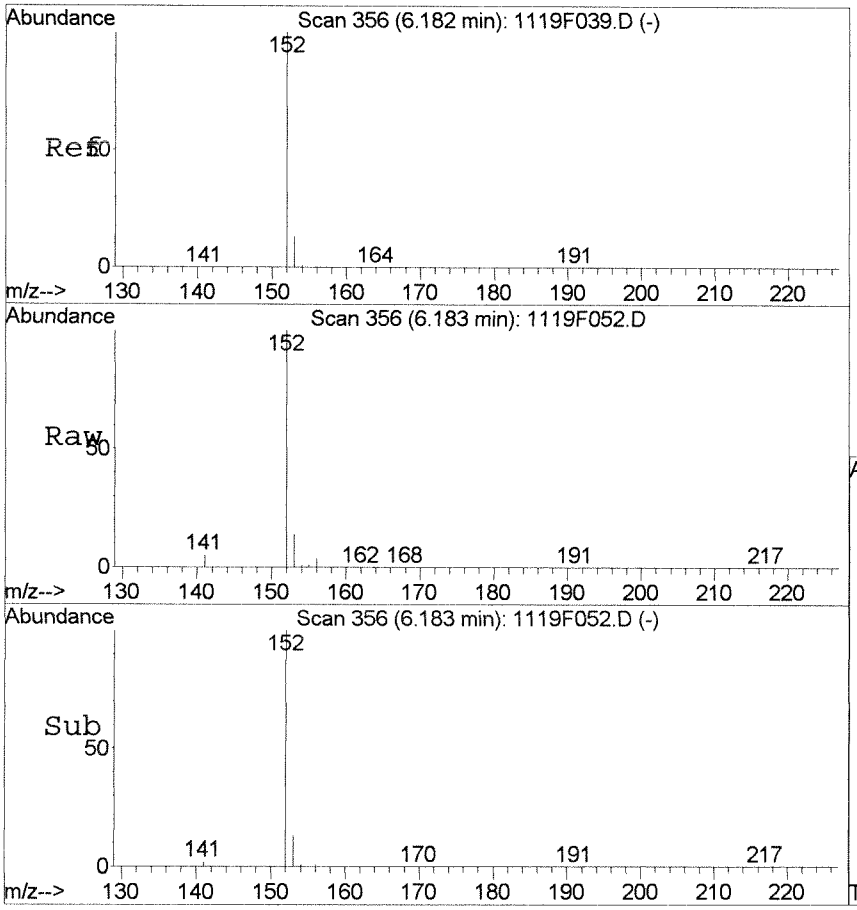


#6
2,6-Dimethylnaphthalene
Concen: 42.87 ng/ml
RT: 5.96 min Scan# 315
Delta R.T. 0.01 min
Lab File: 1119F052.D
Acq: 20 Nov 2009 4:19 am

Tgt Ion:156 Resp: 17645

Ion	Ratio	Lower	Upper
156	100		
155	33.1	3.7	63.7

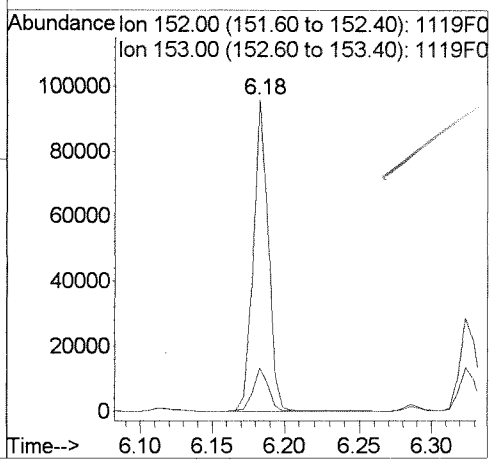


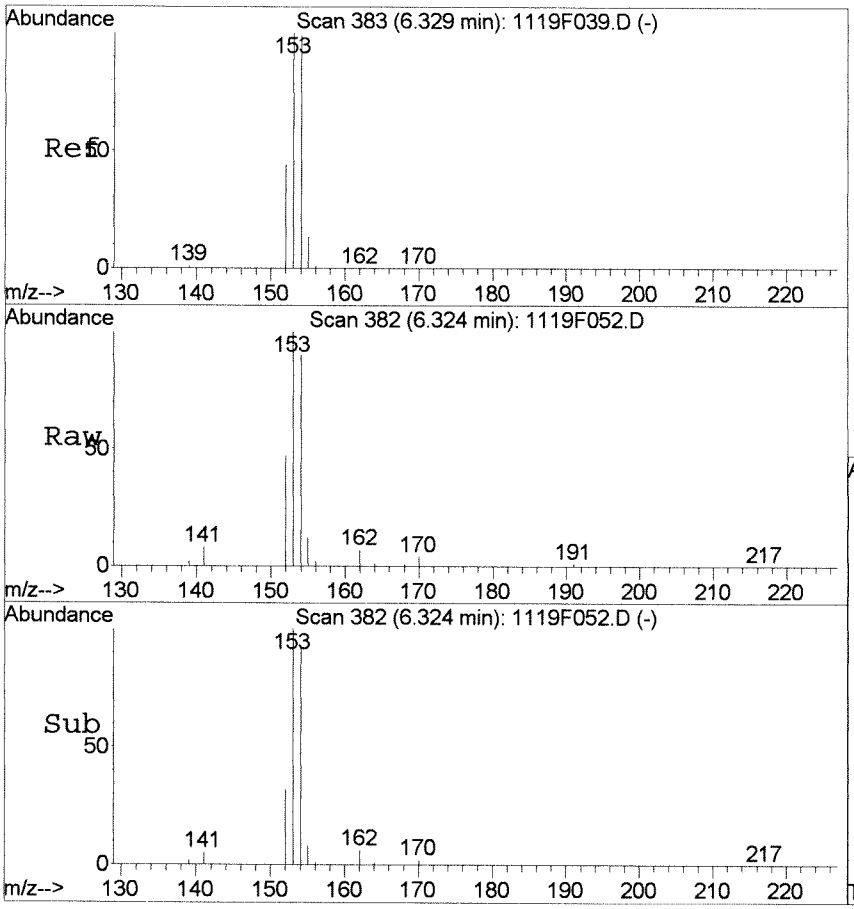


#11
Acenaphthylene
Concen: 103.39 ng/ml
RT: 6.18 min Scan# 356
Delta R.T. 0.00 min
Lab File: 1119F052.D
Acq: 20 Nov 2009 4:19 am

Tgt Ion:152 Resp: 68587

Ion	Ratio	Lower	Upper
152	100		
153	13.7	0.0	44.1

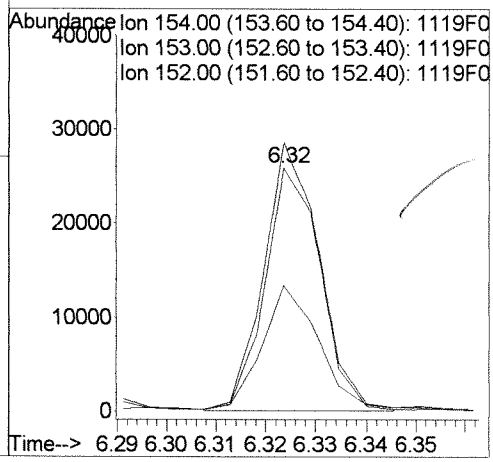


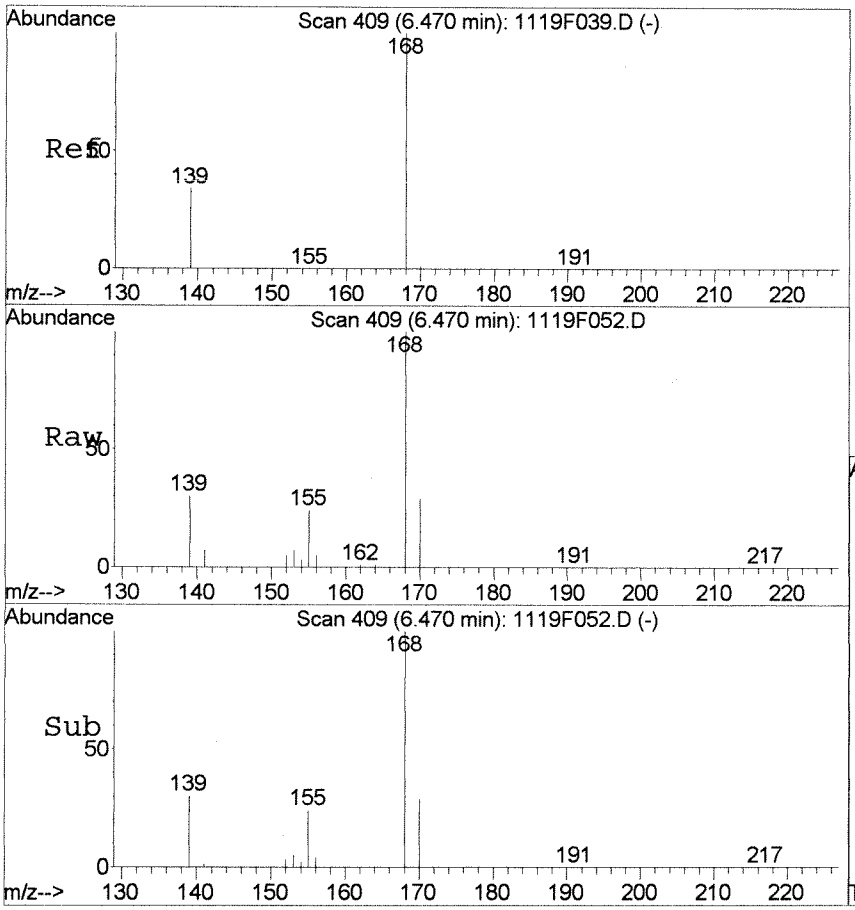


#12
Acenaphthene
Concen: 50.03 ng/ml m
RT: 6.32 min Scan# 382
Delta R.T. 0.00 min
Lab File: 1119F052.D
Acq: 20 Nov 2009 4:19 am

Tgt Ion:154 Resp: 19713

Ion	Ratio	Lower	Upper
154	100		
153	110.5	77.8	137.8
152	51.7	24.7	84.7

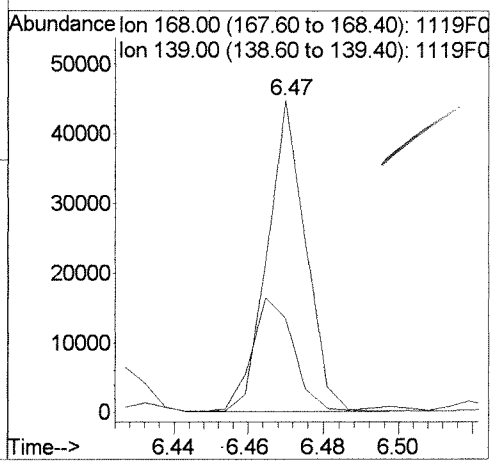


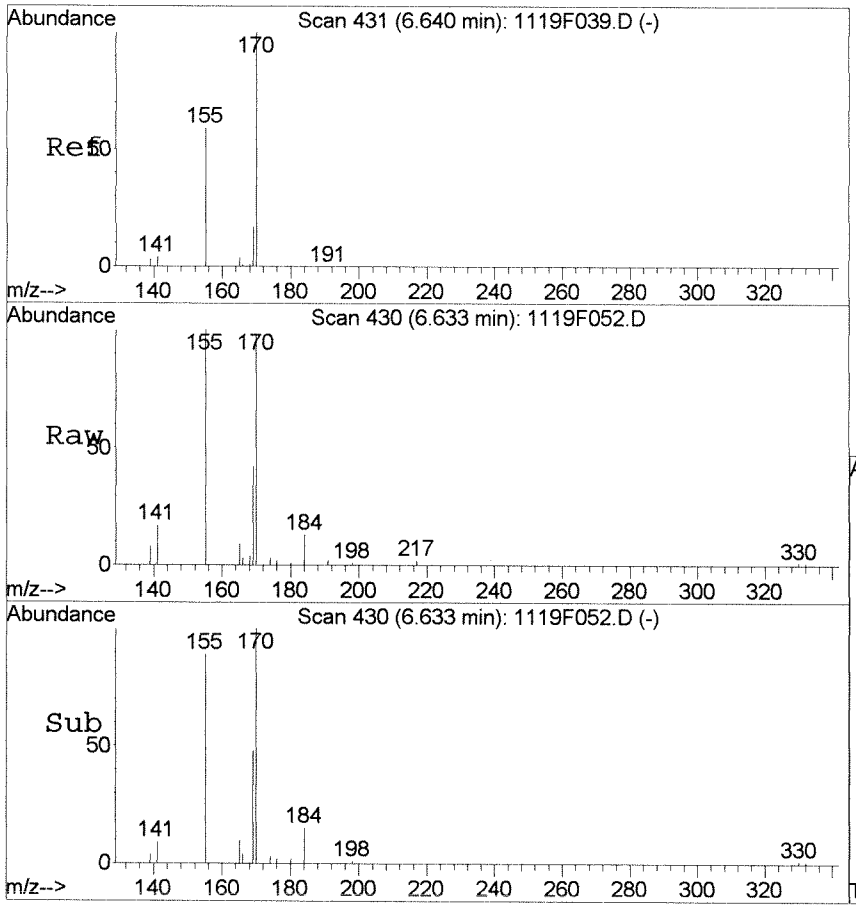


#13
Dibenzofuran
Concen: 52.67 ng/ml
RT: 6.47 min Scan# 409
Delta R.T. 0.01 min
Lab File: 1119F052.D
Acq: 20 Nov 2009 4:19 am

Tgt Ion:168 Resp: 31433

Ion	Ratio	Lower	Upper
168	100		
139	30.0	23.3	83.3

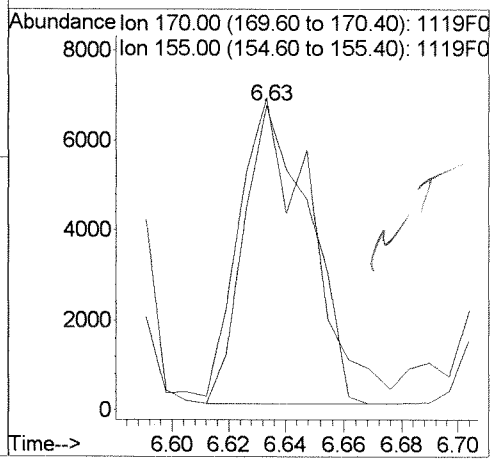


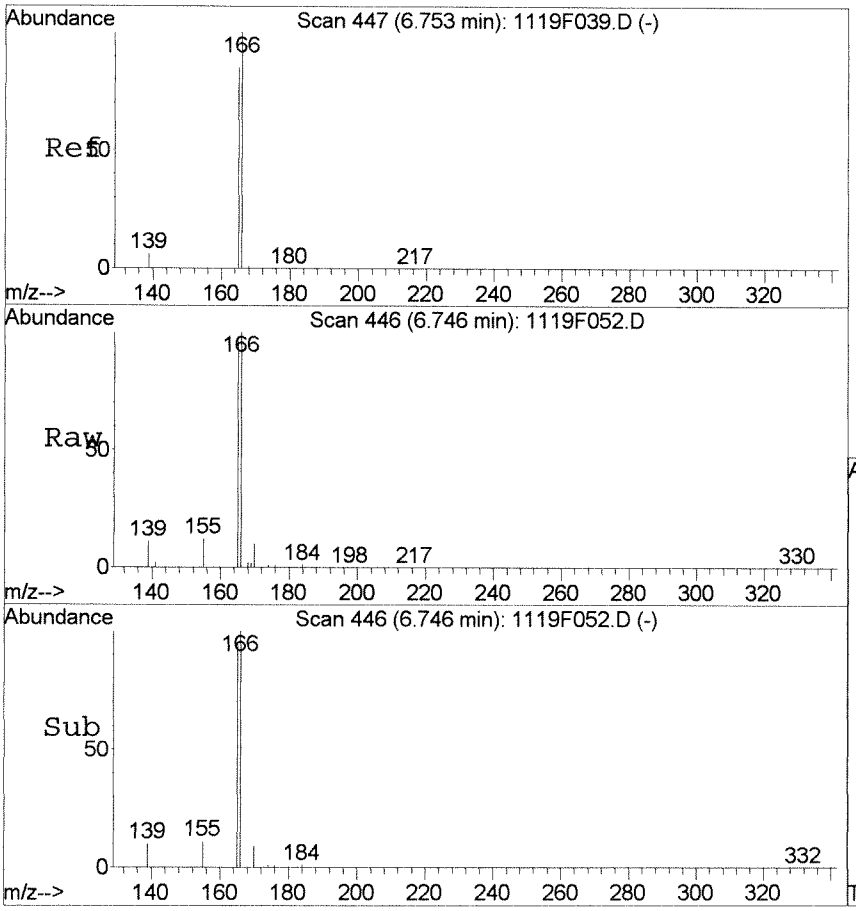


#14
2,3,5-Trimethylnaphthalene
Concen: 25.09 ng/ml
RT: 6.63 min Scan# 430
Delta R.T. -0.00 min
Lab File: 1119F052.D
Acq: 20 Nov 2009 4:19 am

Tgt Ion:170 Resp: 10559

Ion	Ratio	Lower	Upper
170	100		
155	100.0	48.2	108.2

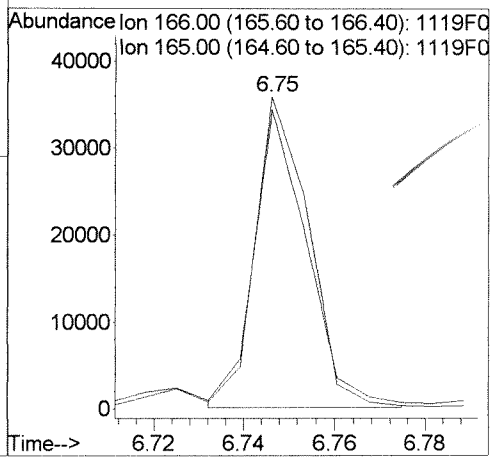


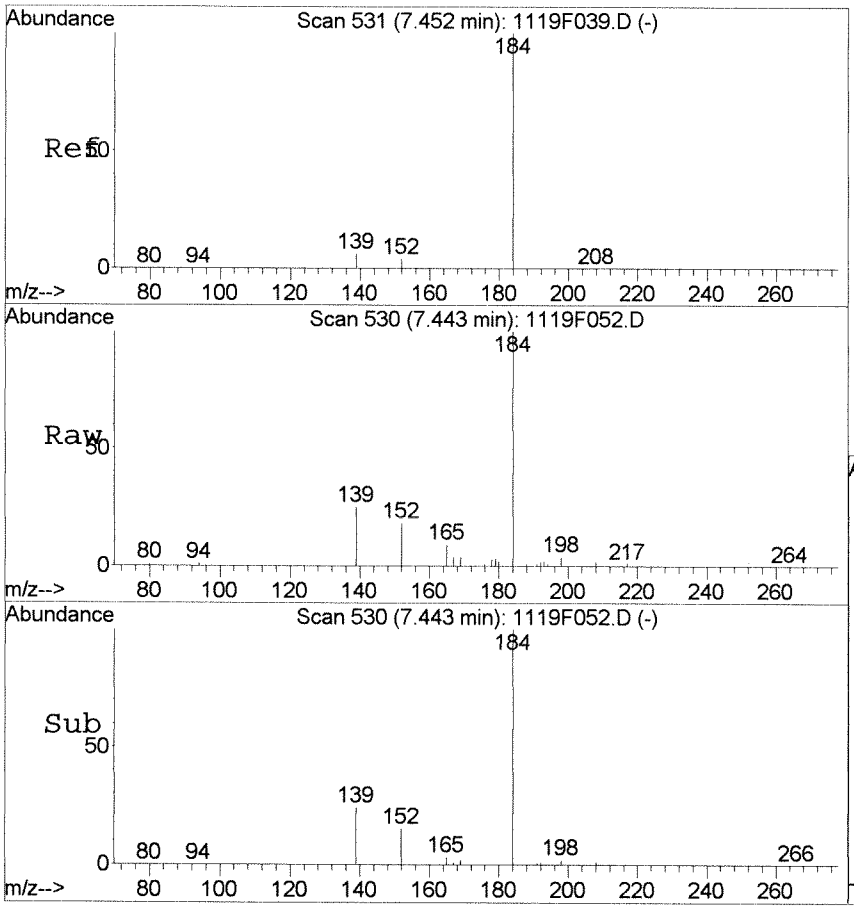


#16
Fluorene
Concen: 58.25 ng/ml m
RT: 6.75 min Scan# 446
Delta R.T. -0.01 min
Lab File: 1119F052.D
Acq: 20 Nov 2009 4:19 am

Tgt Ion:166 Resp: 29076

Ion	Ratio	Lower	Upper
166	100		
165	95.8	57.8	117.8

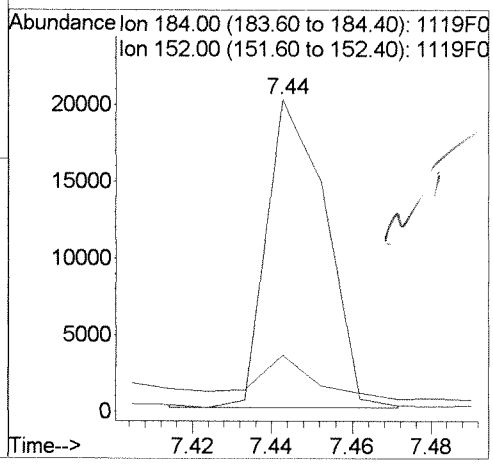


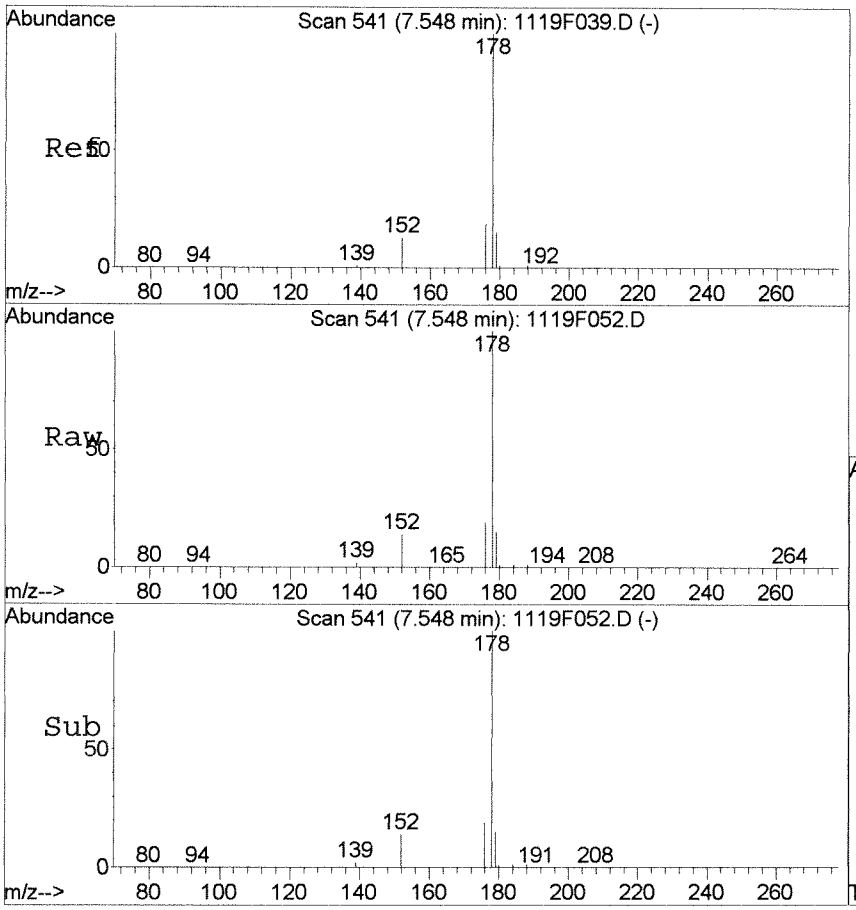


#23
Dibenzothiophene
Concen: 29.26 ng/ml m
RT: 7.44 min Scan# 530
Delta R.T. 0.00 min
Lab File: 1119F052.D
Acq: 20 Nov 2009 4:19 am

Tgt Ion:184 Resp: 20572

Ion	Ratio	Lower	Upper
184	100		
152	18.1	0.0	39.4

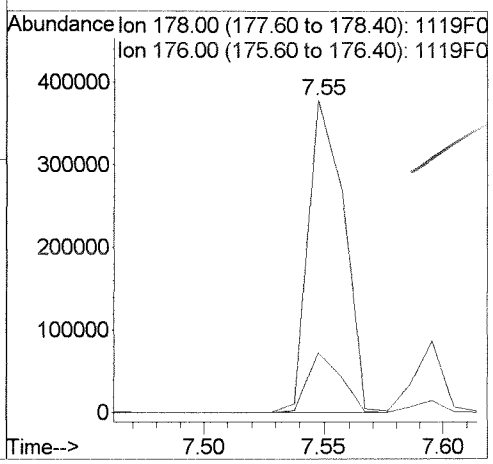


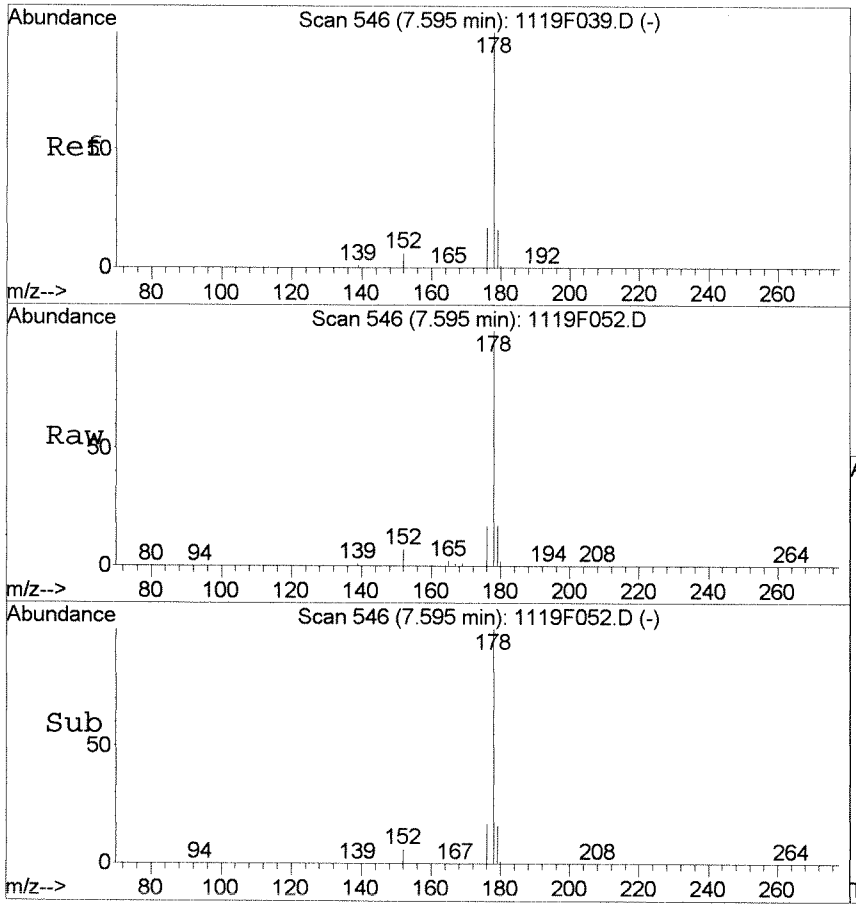


#27
Phenanthrene
Concen: 450.81 ng/ml
RT: 7.55 min Scan# 541
Delta R.T. 0.00 min
Lab File: 1119F052.D
Acq: 20 Nov 2009 4:19 am

Tgt Ion:178 Resp: 379434

Ion	Ratio	Lower	Upper
178	100		
176	19.3	0.0	49.6

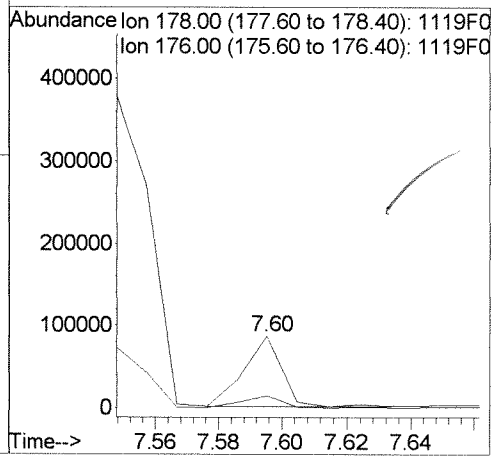


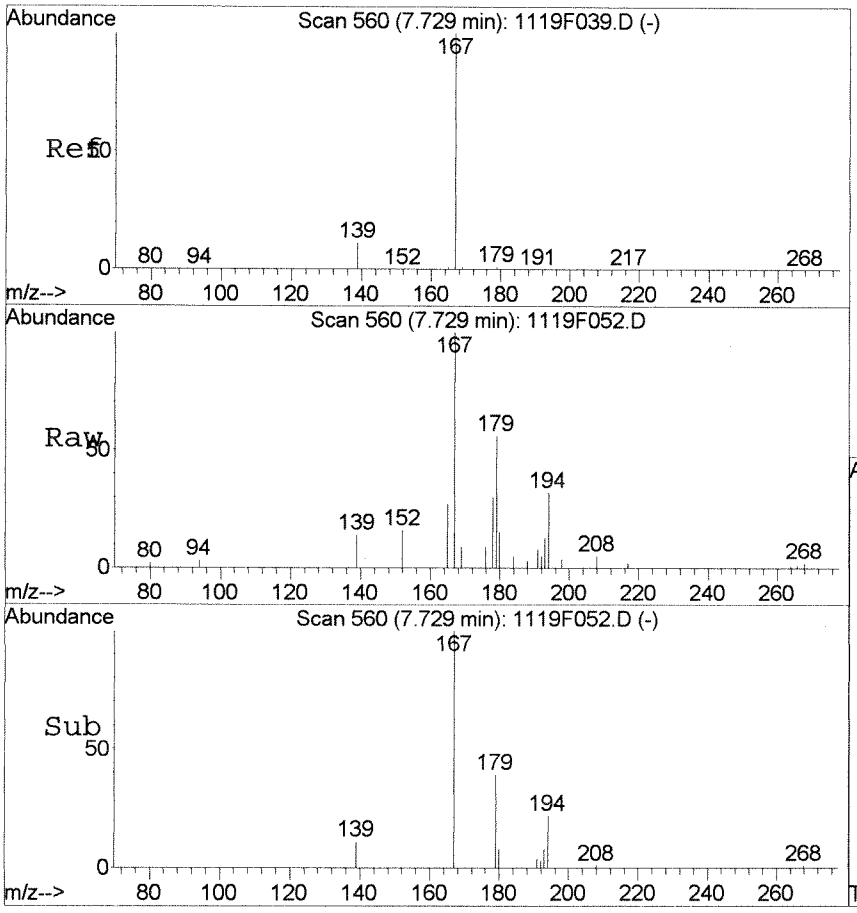


#28
Anthracene
Concen: 89.24 ng/ml
RT: 7.60 min Scan# 546
Delta R.T. 0.01 min
Lab File: 1119F052.D
Acq: 20 Nov 2009 4:19 am

Tgt Ion:178 Resp: 72175

Ion	Ratio	Lower	Upper
178	100		
176	16.6	0.0	47.6

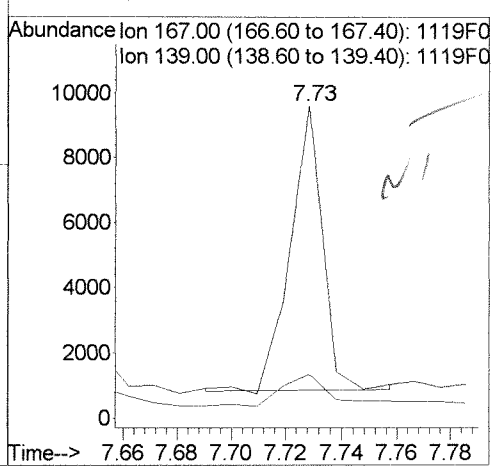


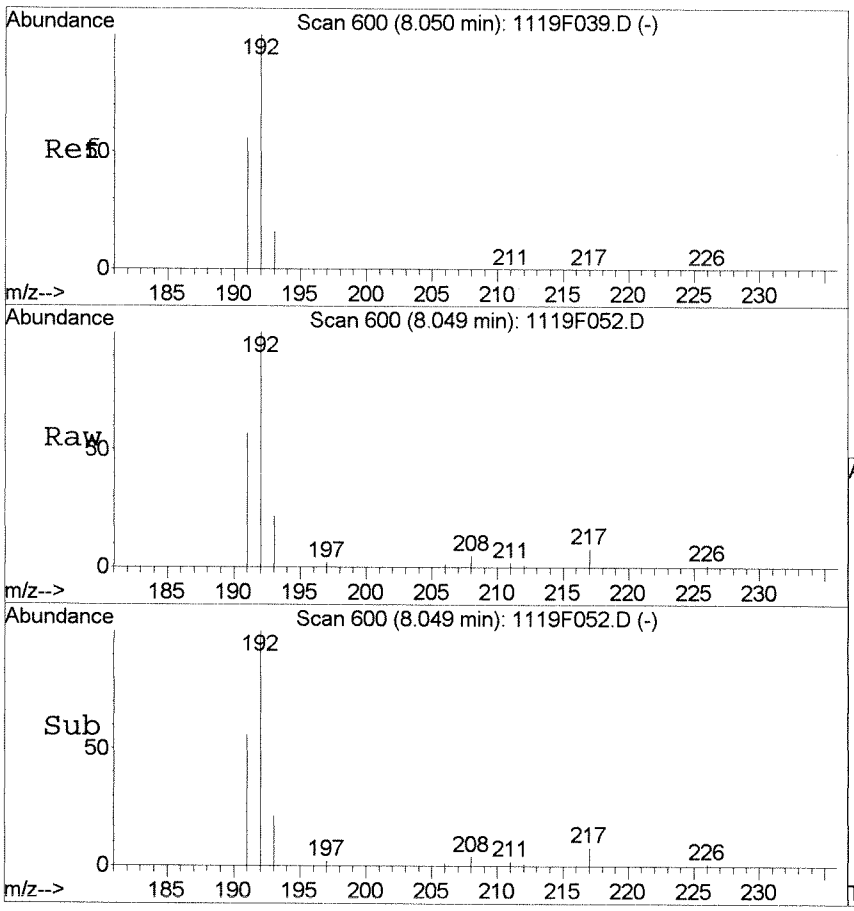


#29
Carbazole
Concen: 10.08 ng/ml
RT: 7.73 min Scan# 560
Delta R.T. 0.01 min
Lab File: 1119F052.D
Acq: 20 Nov 2009 4:19 am

Tgt Ion:167 Resp: 6965

Ion	Ratio	Lower	Upper
167	100		
139	11.0	0.0	45.7

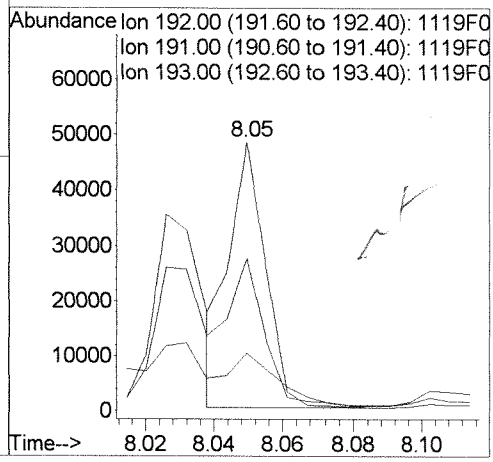


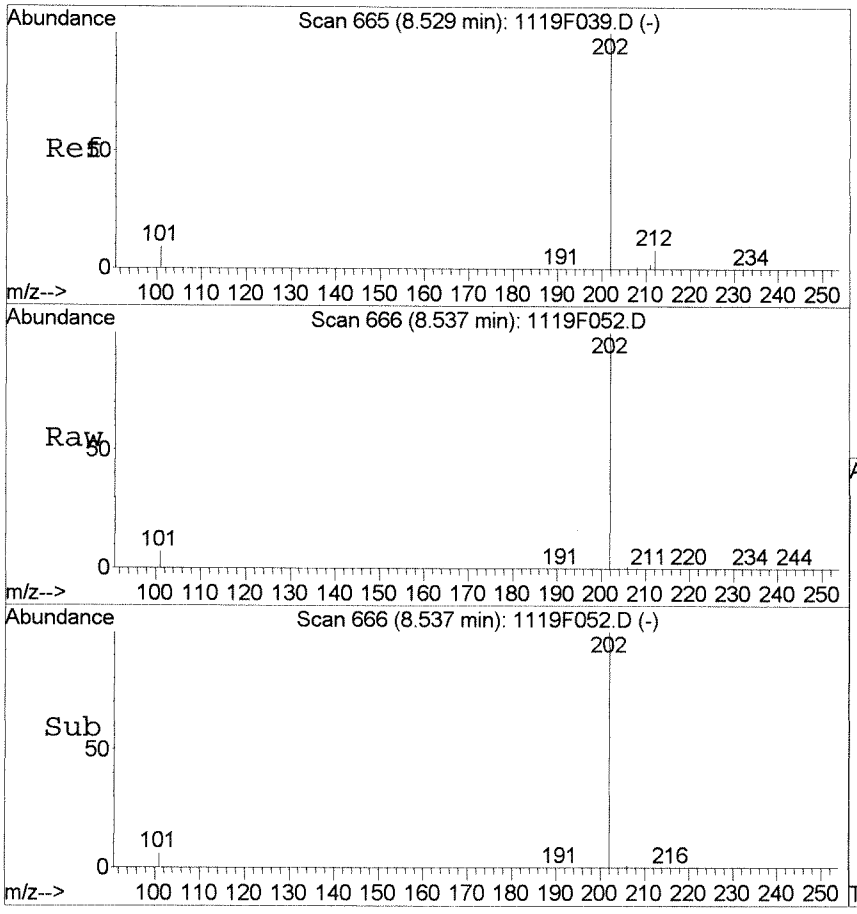


#30
1-Methylphenanthrene
Concen: 53.97 ng/ml
RT: 8.05 min Scan# 600
Delta R.T. -0.00 min
Lab File: 1119F052.D
Acq: 20 Nov 2009 4:19 am

Tgt Ion:192 Resp: 35362

Ion	Ratio	Lower	Upper
192	100		
191	55.7	23.0	83.0
193	19.8	0.0	47.0

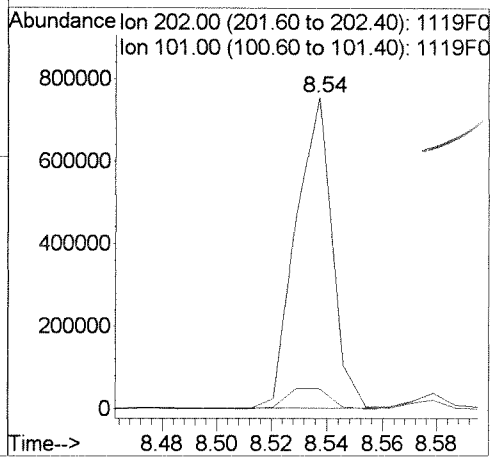


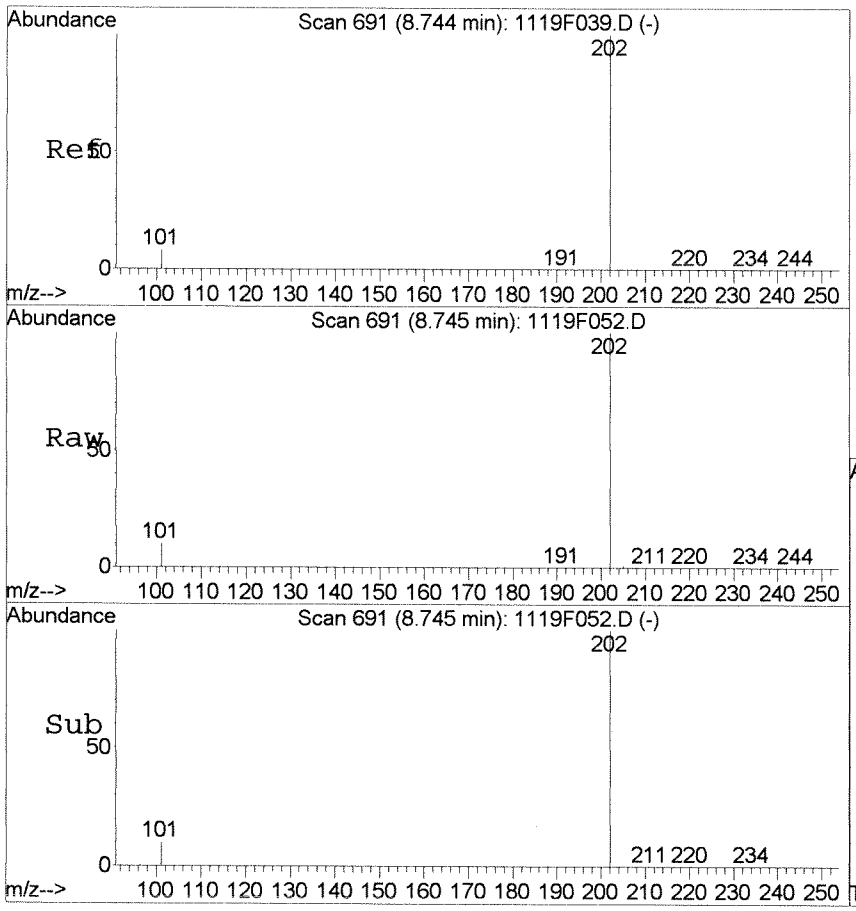


#35
Fluoranthene
Concen: 689.25 ng/ml
RT: 8.54 min Scan# 666
Delta R.T. 0.01 min
Lab File: 1119F052.D
Acq: 20 Nov 2009 4:19 am

Tgt Ion:202 Resp: 674388

Ion	Ratio	Lower	Upper
202	100		
101	6.5	0.0	36.5

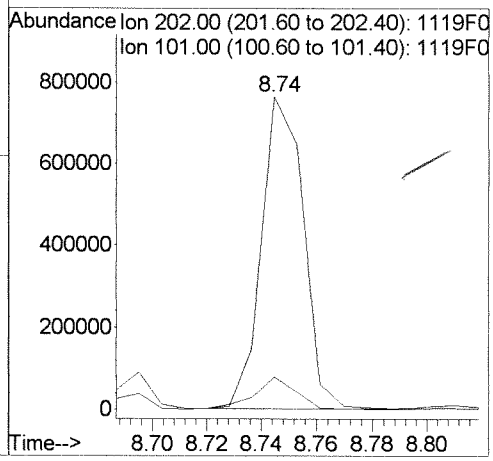


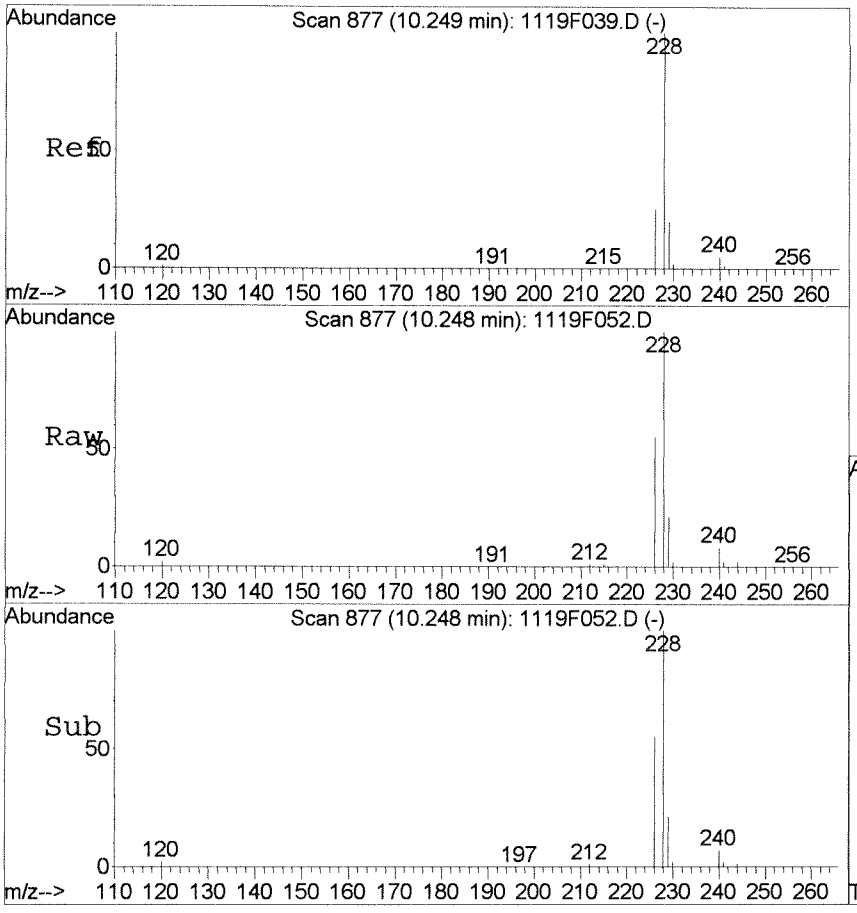


#38
Pyrene
Concen: 595.31 ng/ml
RT: 8.74 min Scan# 691
Delta R.T. 0.00 min
Lab File: 1119F052.D
Acq: 20 Nov 2009 4:19 am

Tgt Ion:202 Resp: 811647

Ion	Ratio	Lower	Upper
202	100		
101	10.3	0.0	36.4

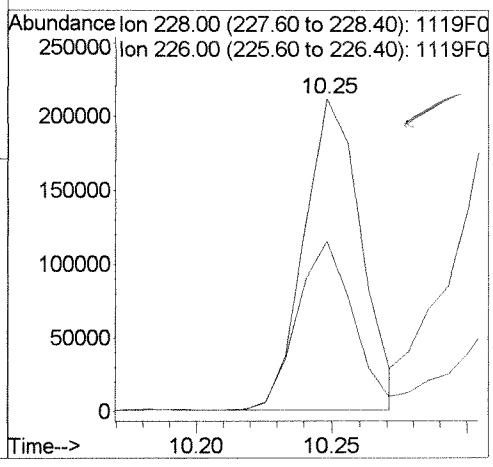


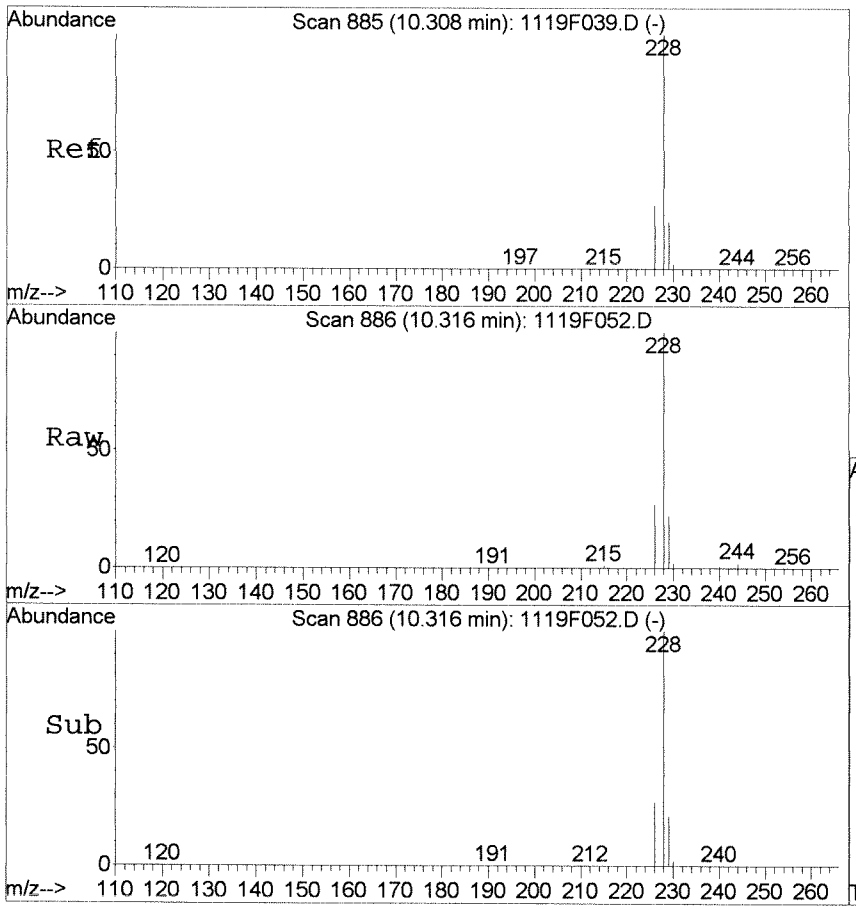


#43
Benz(a)anthracene
Concen: 230.04 ng/ml
RT: 10.25 min Scan# 877
Delta R.T. -0.00 min
Lab File: 1119F052.D
Acq: 20 Nov 2009 4:19 am

Tgt Ion:228 Resp: 302140

Ion	Ratio	Lower	Upper
228	100		
226	54.5	0.0	55.9

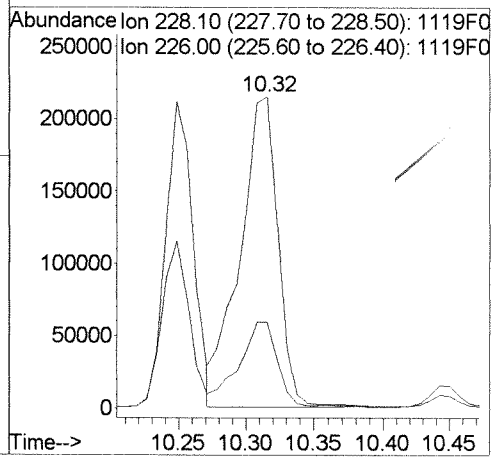


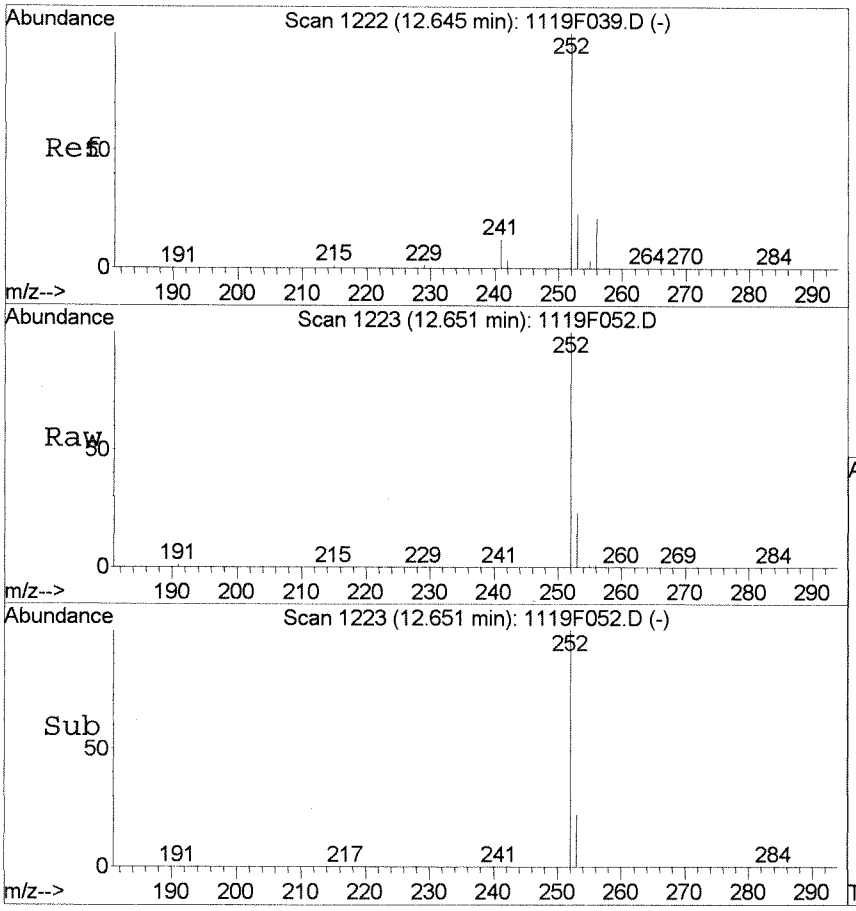


#44
Chrysene
Concen: 336.16 ng/ml
RT: 10.32 min Scan# 886
Delta R.T. 0.00 min
Lab File: 1119F052.D
Acq: 20 Nov 2009 4:19 am

Tgt Ion:228 Resp: 421644

Ion	Ratio	Lower	Upper
228	100		
226	27.1	0.0	58.8

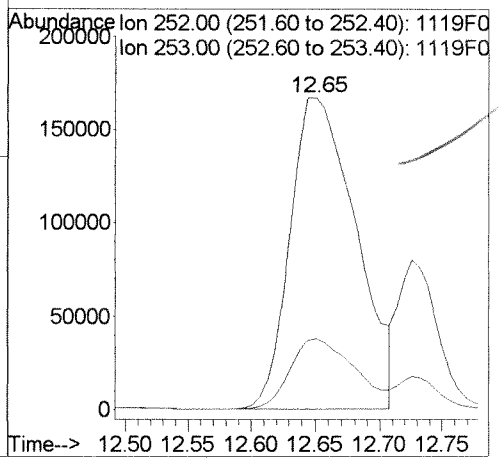


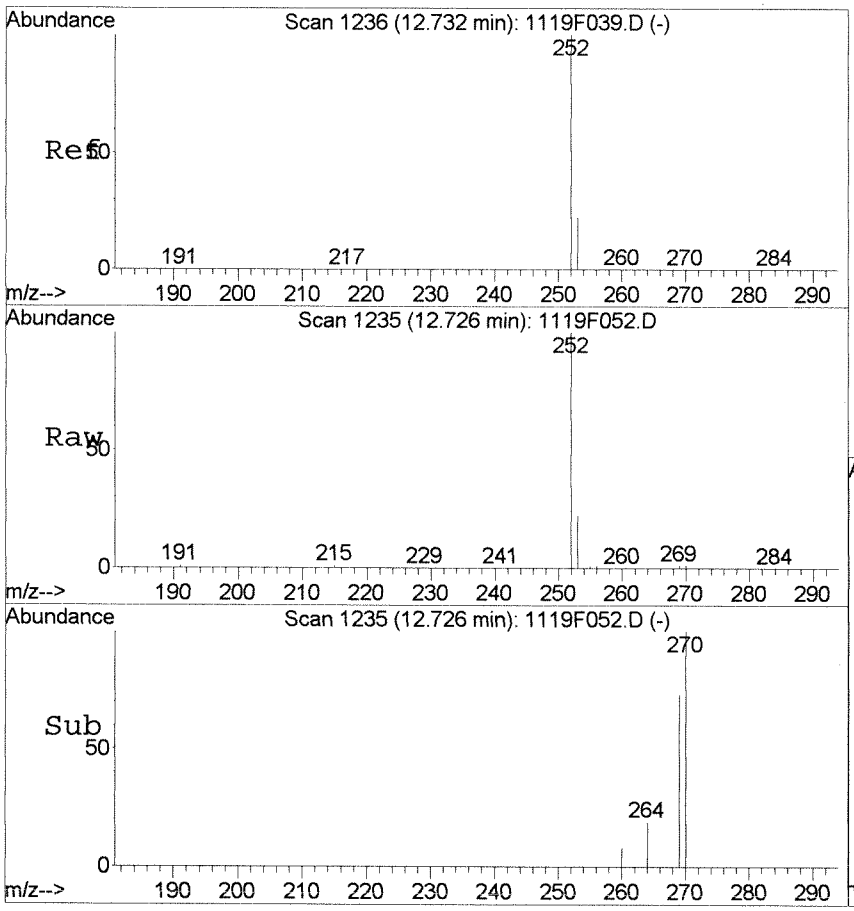


#50
Benzo(b)fluoranthene
Concen: 389.08 ng/ml
RT: 12.65 min Scan# 1223
Delta R.T. -0.01 min
Lab File: 1119F052.D
Acq: 20 Nov 2009 4:19 am

Tgt Ion:252 Resp: 586336

Ion	Ratio	Lower	Upper
252	100		
253	22.5	0.0	52.8

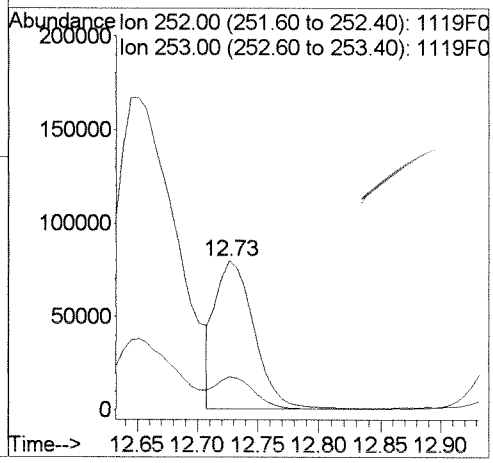


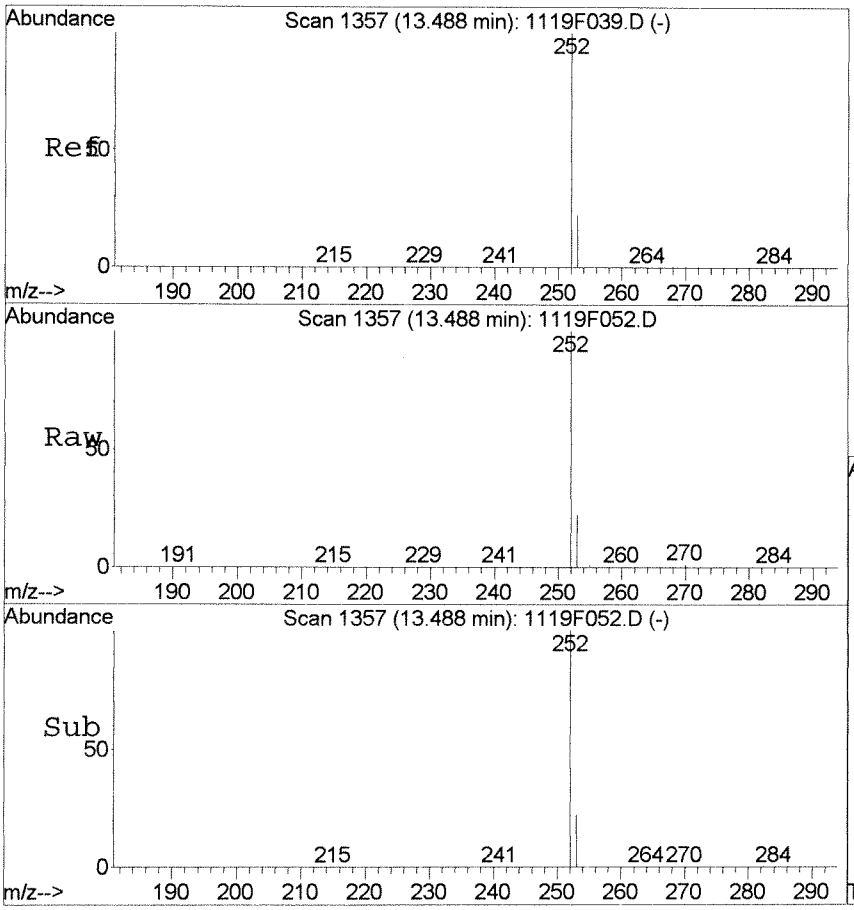


#51
Benzo(k)fluoranthene
Concen: 121.97 ng/ml
RT: 12.73 min Scan# 1235
Delta R.T. -0.01 min
Lab File: 1119F052.D
Acq: 20 Nov 2009 4:19 am

Tgt Ion:252 Resp: 174172

Ion	Ratio	Lower	Upper
252	100		
253	21.2	0.0	52.5

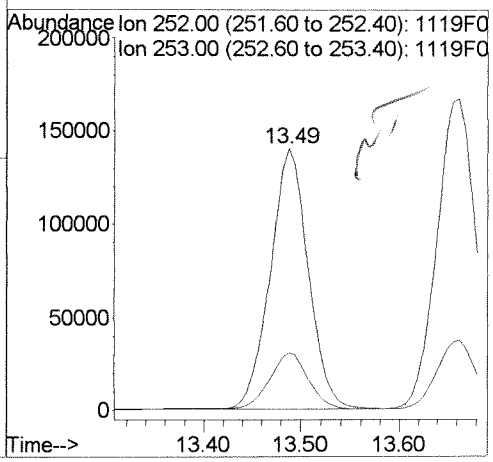


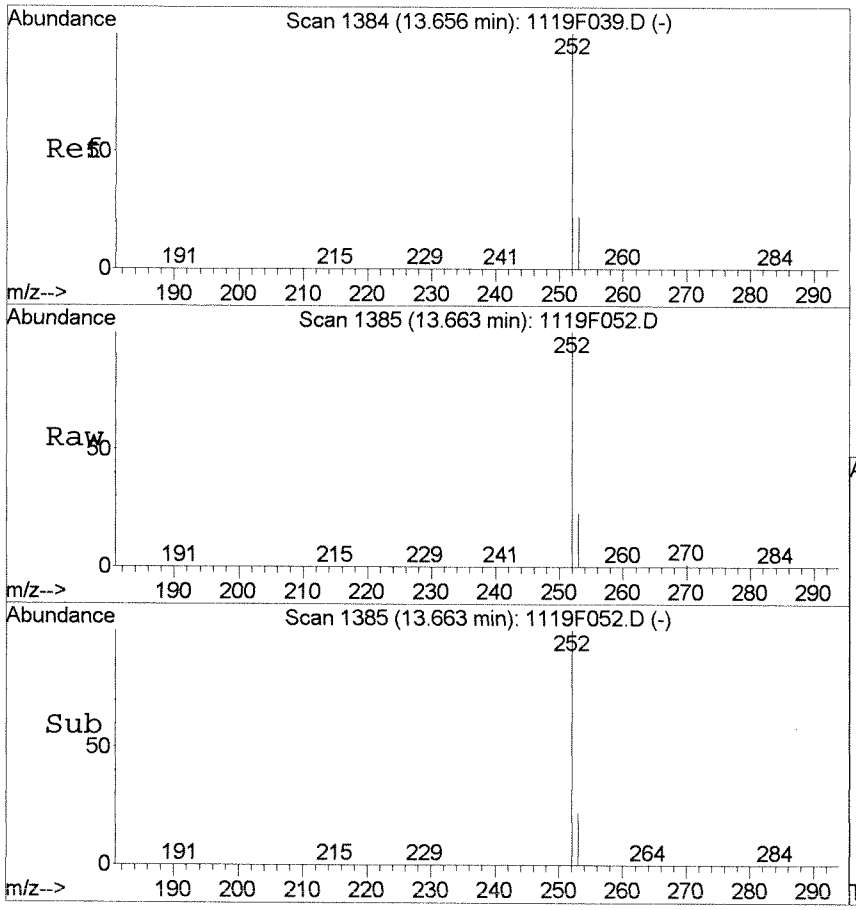


#52
Benzo(e)pyrene
Concen: 272.58 ng/ml
RT: 13.49 min Scan# 1357
Delta R.T. -0.01 min
Lab File: 1119F052.D
Acq: 20 Nov 2009 4:19 am

Tgt Ion:252 Resp: 376448

Ion	Ratio	Lower	Upper
252	100		
253	21.8	0.0	52.3

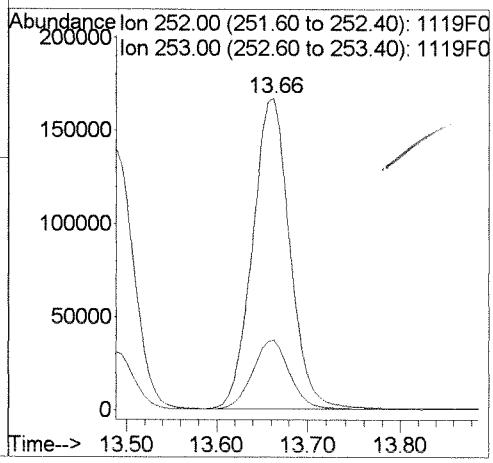


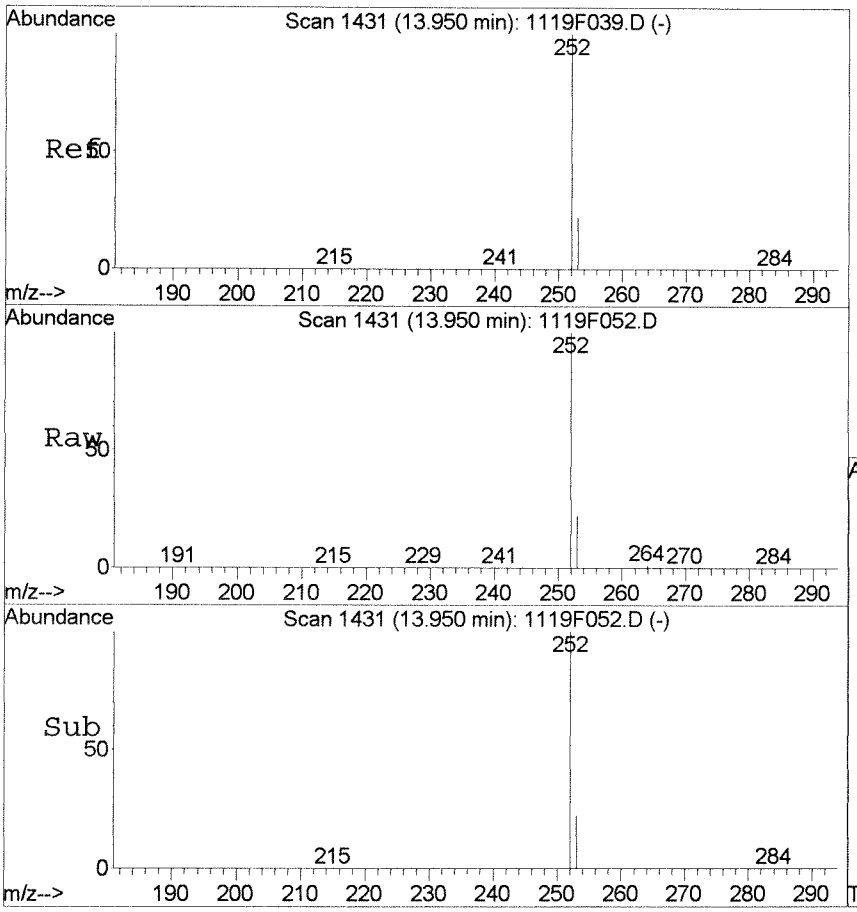


#53
Benzo(a)pyrene
Concen: 358.69 ng/ml
RT: 13.66 min Scan# 1385
Delta R.T. -0.00 min
Lab File: 1119F052.D
Acq: 20 Nov 2009 4:19 am

Tgt Ion:252 Resp: 476202

Ion	Ratio	Lower	Upper
252	100		
253	22.3	0.0	52.6

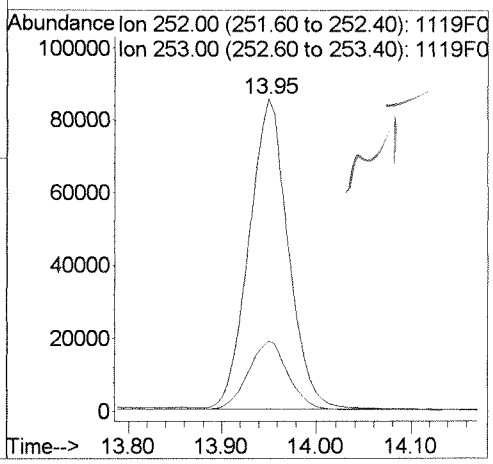


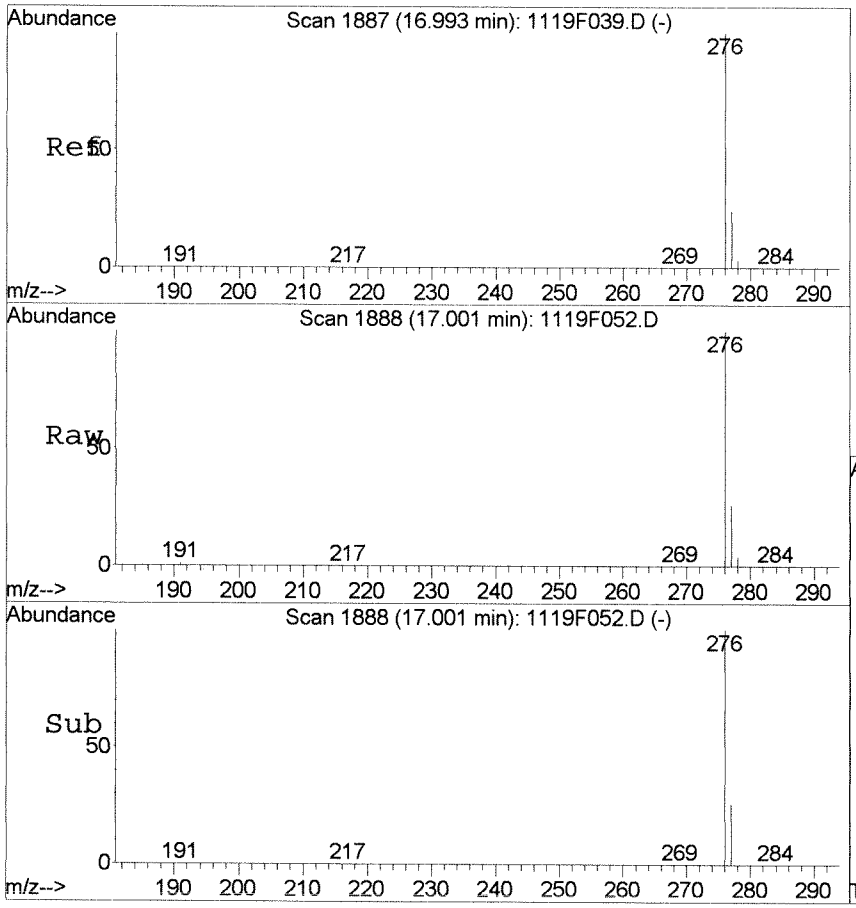


#54
Perylene
Concen: 188.03 ng/ml
RT: 13.95 min Scan# 1431
Delta R.T. -0.00 min
Lab File: 1119F052.D
Acq: 20 Nov 2009 4:19 am

Tgt Ion:252 Resp: 246533

Ion	Ratio	Lower	Upper
252	100		
253	22.1	0.0	52.0

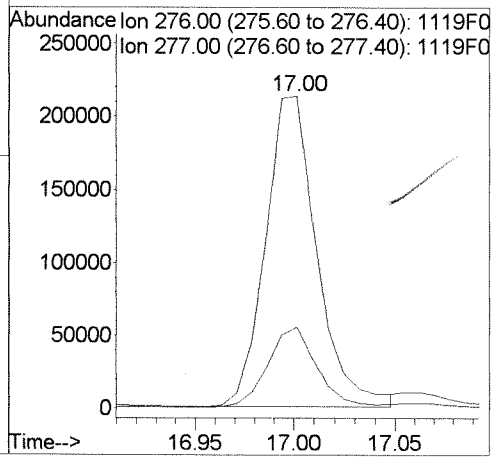


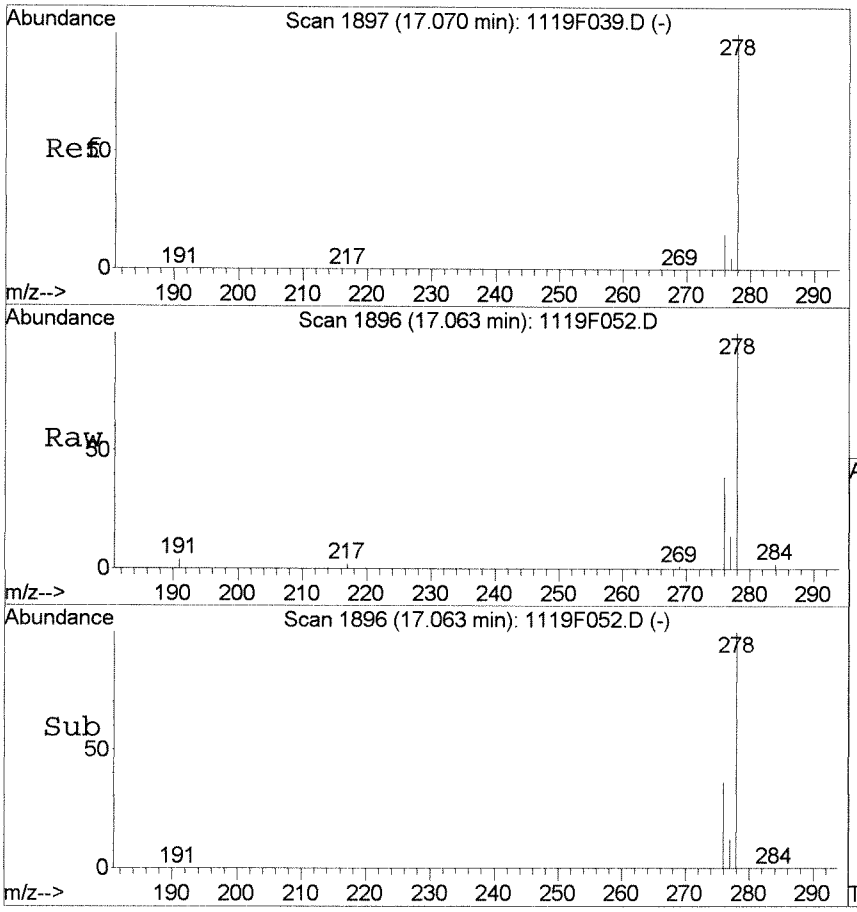


#55
Indeno(1,2,3-cd)pyrene
Concen: 311.65 ng/ml
RT: 17.00 min Scan# 1888
Delta R.T. -0.00 min
Lab File: 1119F052.D
Acq: 20 Nov 2009 4:19 am

Tgt Ion:276 Resp: 381381

Ion	Ratio	Lower	Upper
276	100		
277	25.9	0.0	55.1

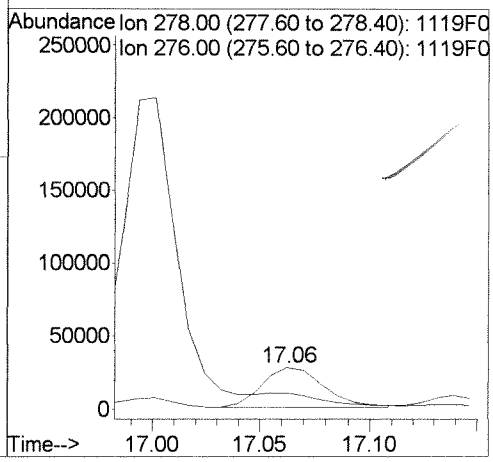


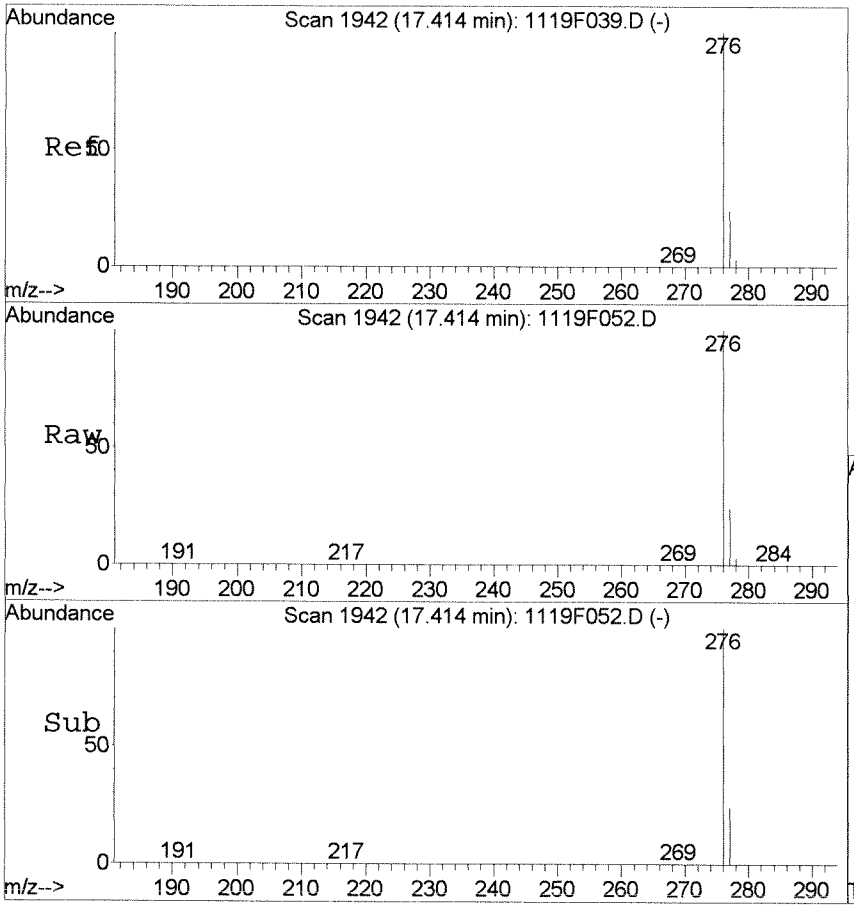


#56
Dibenz(a,h)anthracene
Concen: 41.09 ng/ml
RT: 17.06 min Scan# 1896
Delta R.T. -0.01 min
Lab File: 1119F052.D
Acq: 20 Nov 2009 4:19 am

Tgt Ion:278 Resp: 52401

Ion	Ratio	Lower	Upper
278	100		
276	31.9	0.0	52.1

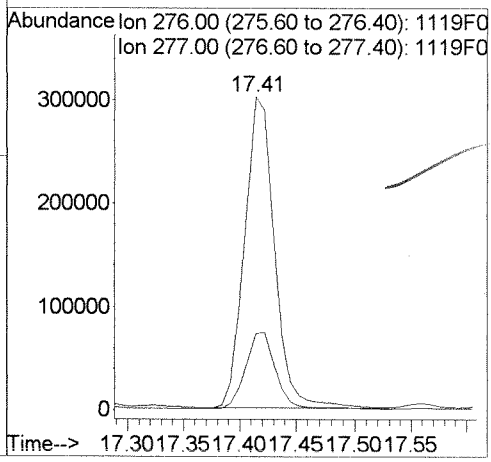




#57
Benzo(g,h,i)perylene
Concen: 404.88 ng/ml
RT: 17.41 min Scan# 1942
Delta R.T. -0.01 min
Lab File: 1119F052.D
Acq: 20 Nov 2009 4:19 am

Tgt Ion:276 Resp: 559953

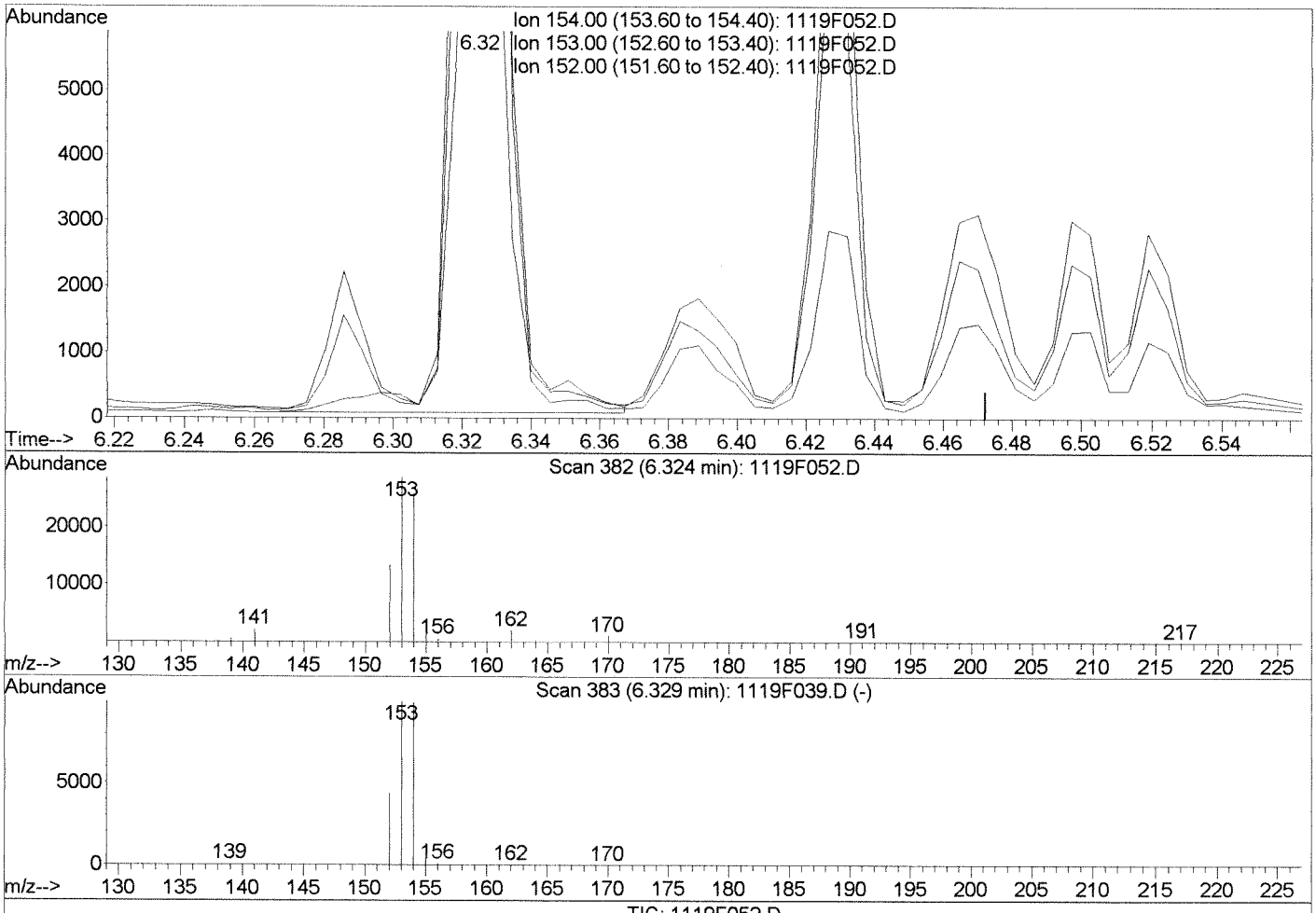
Ion	Ratio	Lower	Upper
276	100		
277	24.2	0.0	55.7



Quantitation Report (Qedit)

Data File : J:\MS11\DATA\111909\1119F052.D Vial: 40
Acq On : 20 Nov 2009 4:19 am Operator: LWeiskopf
Sample : K0909140-001 Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 20 11:02 2009 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1119ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Fri Nov 20 12:01:24 2009
Response via : Multiple Level Calibration



TIC: 1119F052.D

(12) Acenaphthene (T)

6.32min 51.81ng/ml

response 20414

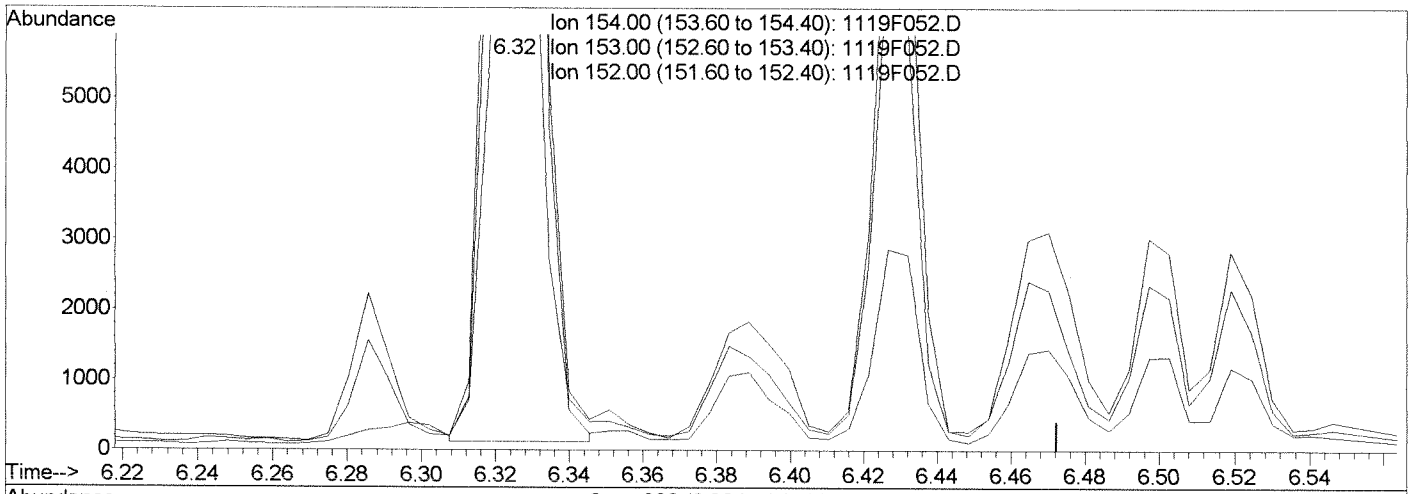
Ion	Exp%	Act%
154.00	100	100
153.00	107.80	110.41
152.00	54.70	51.27
0.00	0.00	0.00

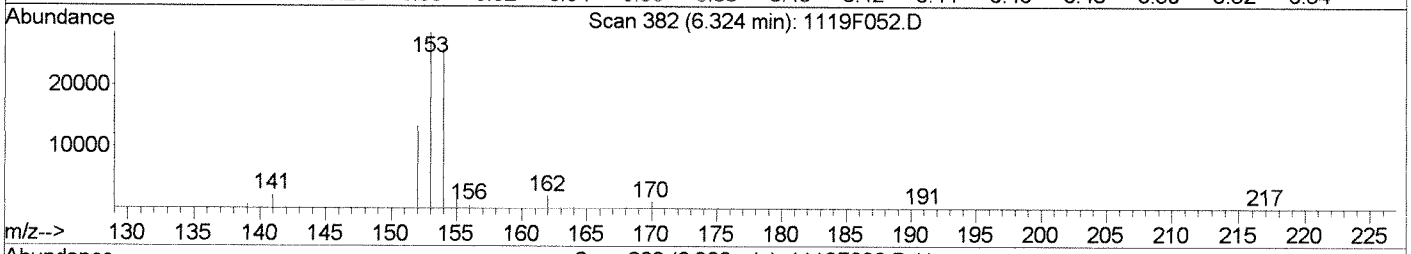
Quantitation Report (Qedit)

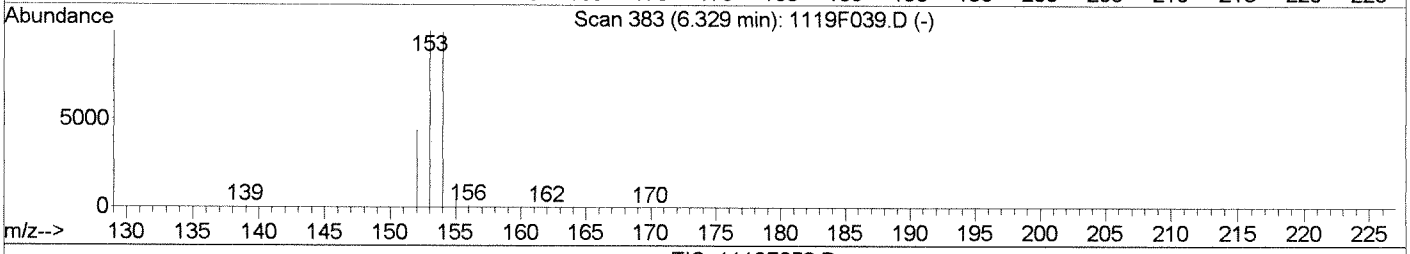
Data File : J:\MS11\DATA\111909\1119F052.D
Acq On : 20 Nov 2009 4:19 am
Sample : K0909140-001
Misc :
MS Integration Params: RTEINT.P
Quant Time: Nov 20 12:26 2009

Vial: 40
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1119ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Fri Nov 20 12:01:24 2009
Response via : Multiple Level Calibration







TIC: 1119F052.D

(12) Acenaphthene (T)

6.32min 50.03ng/ml m

response 19713

Ion	Exp%	Act%
154.00	100	100
153.00	107.80	110.51
152.00	54.70	51.70
0.00	0.00	0.00

OK 11/24/09
M 1-13-09

1119F052.D 1119ALK.M Fri Nov 20 12:26:21 2009

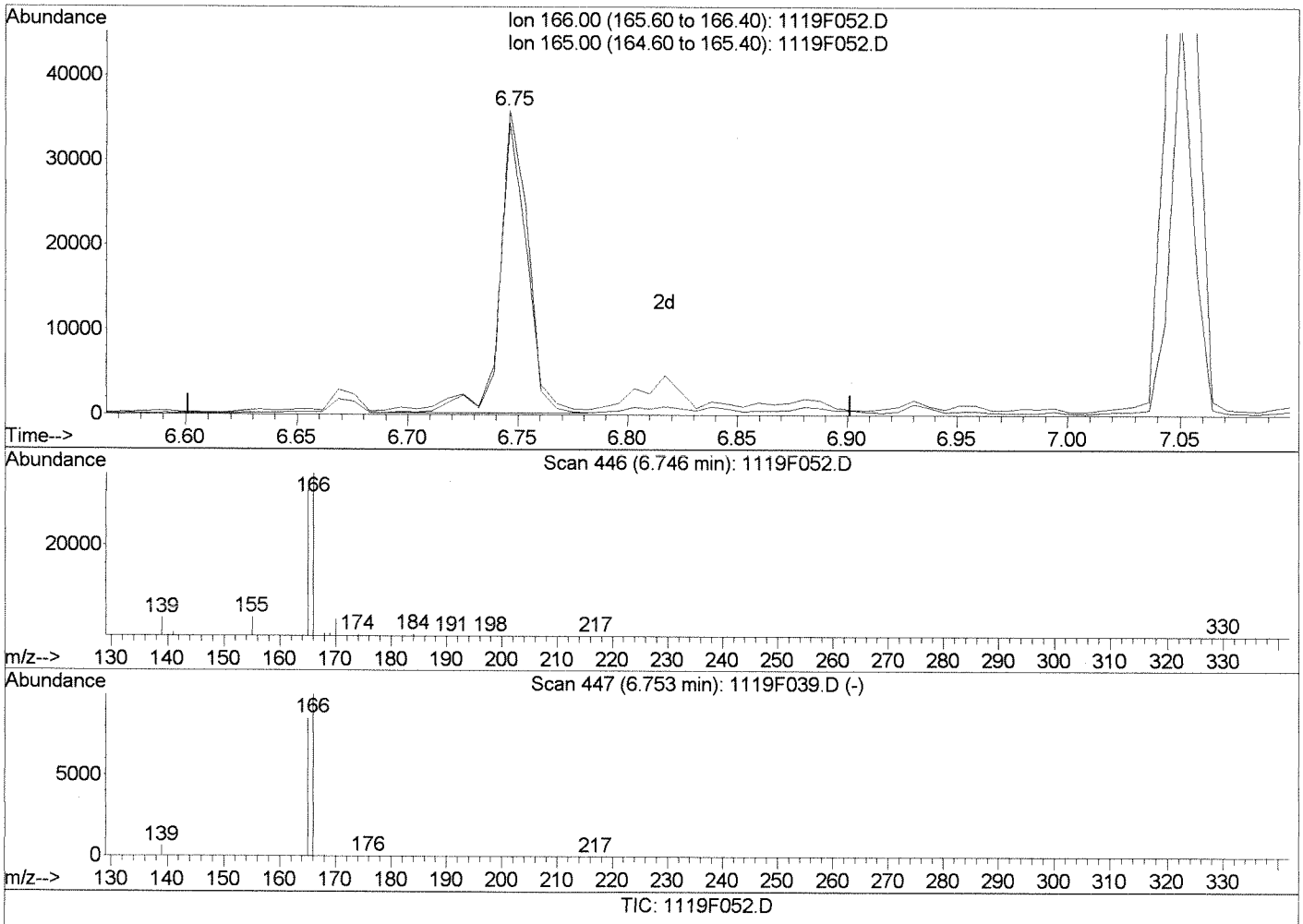
Quantitation Report (Qedit)

Data File : J:\MS11\DATA\111909\1119F052.D
Acq On : 20 Nov 2009 4:19 am
Sample : K0909140-001
Misc :
MS Integration Params: RTEINT.P
Quant Time: Nov 20 12:26 2009

Vial: 40
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1119ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Fri Nov 20 12:01:24 2009
Response via : Multiple Level Calibration



TIC: 1119F052.D

(16) Fluorene (T)

6.75min 61.72ng/ml

response 30808

Ion	Exp%	Act%
166.00	100	100
165.00	87.80	94.96
0.00	0.00	0.00
0.00	0.00	0.00

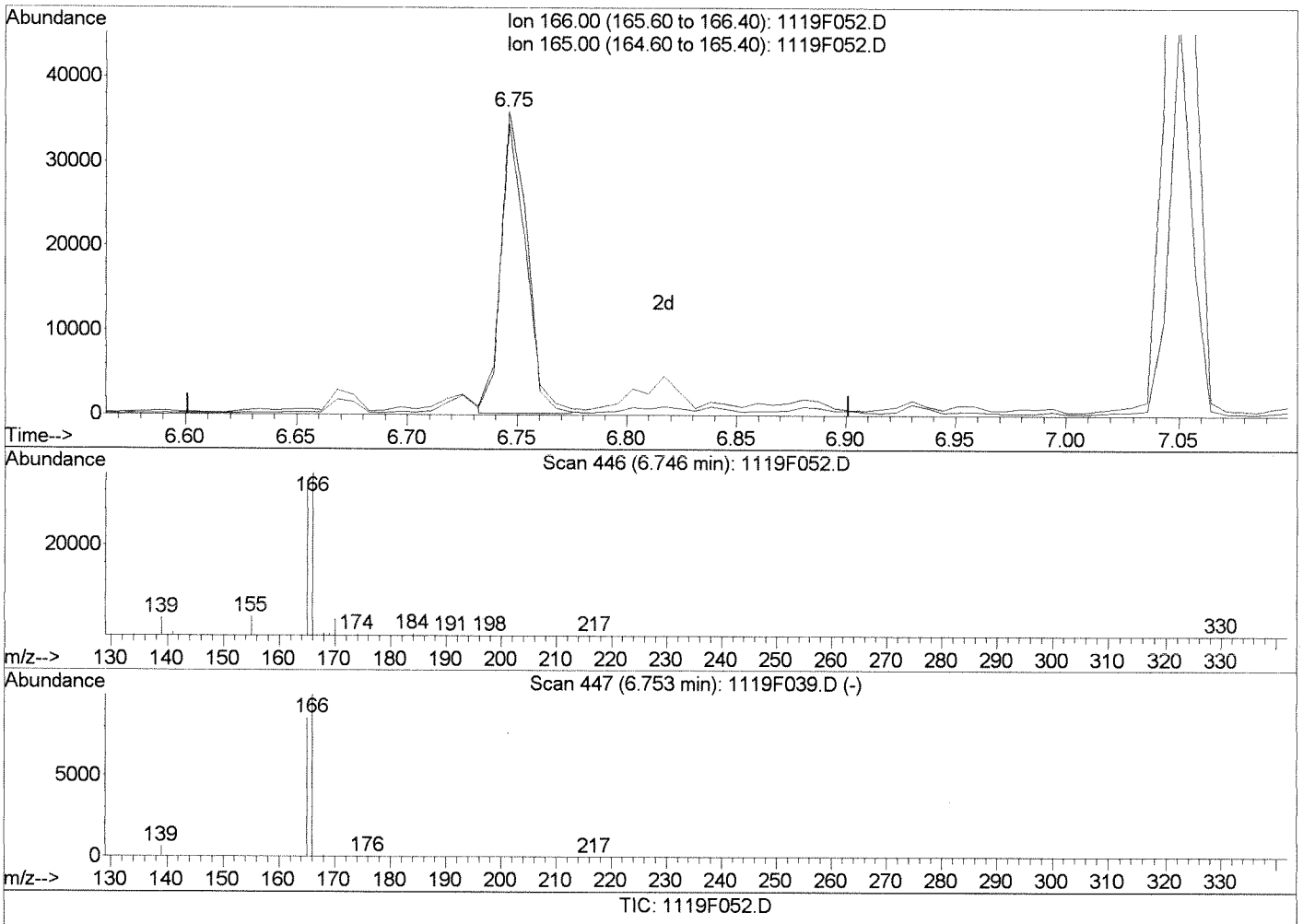
Quantitation Report (Qedit)

Data File : J:\MS11\DATA\111909\1119F052.D
Acq On : 20 Nov 2009 4:19 am
Sample : K0909140-001
Misc :
MS Integration Params: RTEINT.P
Quant Time: Nov 20 12:26 2009

Vial: 40
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1119ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Fri Nov 20 12:01:24 2009
Response via : Multiple Level Calibration



TIC: 1119F052.D

(16) Fluorene (T)

6.75min 58.25ng/ml m

response 29076

Ion	Exp%	Act%
166.00	100	100
165.00	87.80	95.79
0.00	0.00	0.00
0.00	0.00	0.00

OK 11/24/09
11-23-09

1119F052.D 1119ALK.M Fri Nov 20 12:26:35 2009

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	URS Corporation	**Service Request:**	K0909140
Project:	Boise St. Helens Pulp and Paper Mill-2009	**Date Collected:**	09/28/2009
Sample Matrix:	Sediment	**Date Received:**	09/29/2009

Polynuclear Aromatic Hydrocarbons

Sample Name:	M-4-B	**Units:**	ug/Kg
Lab Code:	K0909140-002	**Basis:**	Dry
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270C SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Naphthalene	**180**		2.6	0.60	1	11/10/09	11/20/09	KWG0910535	
2-Methylnaphthalene	**38**		2.6	0.46	1	11/10/09	11/20/09	KWG0910535	
Acenaphthylene	**61**		2.6	0.56	1	11/10/09	11/20/09	KWG0910535	
Acenaphthene	**32**		2.6	0.50	1	11/10/09	11/20/09	KWG0910535	
Fluorene	**36**		2.6	0.61	1	11/10/09	11/20/09	KWG0910535	
Dibenzofuran	**28**		2.6	0.63	1	11/10/09	11/20/09	KWG0910535	
Phenanthrene	**250**		2.6	1.4	1	11/10/09	11/20/09	KWG0910535	
Anthracene	**52**		2.6	0.55	1	11/10/09	11/20/09	KWG0910535	
Fluoranthene	**350**		2.6	0.98	1	11/10/09	11/20/09	KWG0910535	
Pyrene	**330**		2.6	0.76	1	11/10/09	11/20/09	KWG0910535	
Benz(a)anthracene	**130**		2.6	0.72	1	11/10/09	11/20/09	KWG0910535	
Chrysene	**170**		2.6	0.80	1	11/10/09	11/20/09	KWG0910535	
Benzo(b)fluoranthene	**200**		2.6	0.92	1	11/10/09	11/20/09	KWG0910535	
Benzo(k)fluoranthene	**63**		2.6	0.87	1	11/10/09	11/20/09	KWG0910535	
Benzo(a)pyrene	**190**		2.6	0.76	1	11/10/09	11/20/09	KWG0910535	
Indeno(1,2,3-cd)pyrene	**180**		2.6	0.87	1	11/10/09	11/20/09	KWG0910535	
Dibenz(a,h)anthracene	**25**		2.6	0.80	1	11/10/09	11/20/09	KWG0910535	
Benzo(g,h,i)perylene	**230**		2.6	0.85	1	11/10/09	11/20/09	KWG0910535	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	70	17-104	11/20/09	Acceptable
Fluoranthene-d10	69	27-106	11/20/09	Acceptable
Terphenyl-d14	65	35-109	11/20/09	Acceptable

Comments:

Exception Report

Data File: J:\MS11\DATA\111909\1119F053.D
Lab ID: K0909140-002
RunType: SMPL
Matrix: SEDIMENT

Date Acquired: 11/20/2009 04:46
Date Quantitated: 11/20/2009 12:28
Batch ID: KWG0910976
Analysis Method: 8270C SIM
ListJoinID: LJ5646

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Tune Window	NA	NA	NA	x	
Analytical Holding Time	NA	NA	NA	x	
Preparation Holding Time	NA	NA	NA	x	
Pre-Preparation Holding Time	NA	NA	NA	x	
ICAL Pass/Fail	NA	NA	NA	x	
ICAL Average RSD	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Initial Calibration Minimum RF	NA	NA	NA	x	
Initial Calibration SPCC/CCC	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA	x	
Continuing Calibration Minimum RF	NA	NA	NA	x	
Continuing Calibration SPCC/CCC	NA	NA	NA	x	
Method Blank	NA	NA	NA	x	
MB Surrogate Recovery	NA	NA	NA	x	
Lab Control Spike	NA	NA	NA	x	
Duplicate Lab Control Spike	NA	NA	NA	x	
Internal Standards	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Relative Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Primary Review: 11/21/9

Secondary Review: 11/23-09

Quantitation Report

Bottle ID:		**Tier:**	V	**Matrix:**	SEDIMENT
Prod Code:	8270C SIM PAH_S	**Collect Date:**	09/28/2009	**Receive Date:**	09/29/2009

Analysis Lot:	KWG0910976	**Prep Lot:**	KWG0910535	**Report Group:**	K0909140
Analysis Method:	8270C SIM	**Prep Method:**	EPA 3541		
Prep Ref:	865755	**Prep Date:**	11/10/2009		

Quant Method:	J:\MS11\METHODS\SIM\1119ALK.M	**Calibration ID:**	CAL9029
Title:	Polynuclear Aromatic Hydrocarbons	**Report List ID:**	LJ5646
Tune Ref:	J:\MS11\DATA\111909\1119F038.D	**Method ID:**	MJ253
MB Ref:	J:\MS11\DATA\111909\1119F041.D	**Quant based on Report List**	

Data File:	J:\MS11\DATA\111909\1119F053.D			**Instrument:**	MS11
Acqu Date:	11/20/2009 04:46	**Quant Date:**	11/20/2009 12:28	**Vial:**	41
Run Type:	SMPL			**Dilution:**	1.0
Lab ID:	K0909140-002			**Soln Conc. Units:**	ng/ml

Internal Standard Compounds

IS Ref	Parameter Name	RT	RT Dev	Quant Mass	Response	Solution Conc	Area Criteria
1	Naphthalene-d8	4.88	0.00	136	140670	200.00	OK
2	Acenaphthene-d10	6.30	0.00	164	80459	200.00	OK
3	Phenanthrene-d10	7.53	-0.01	188	160383	200.00	OK
4	Chrysene-d12	10.27	0.00	240	238044	200.00	OK
5	Perylene-d12	13.86	0.00	264	279876	200.00	OK

Surrogate Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	%Rec	%Rec Limits		Rpt?
2	Fluorene-d10	6.72	0.00	0.00	176	62815	139.04	70	17-104	OK	
3	Fluoranthene-d10	8.52	0.00	0.00	212	133198	137.37	69	27-106	OK	
4	Terphenyl-d14	8.90	0.00	0.00	244	128090	129.98	65	35-109	OK	

Target Compounds

Final Conc. Units: ug/Kg Dry Weight

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	Final Conc	Q	Rpt?
1	Naphthalene	4.90		0.00	128	224139	362.23	180		
1	2-Methylnaphthalene	5.45		0.00	142	33367	74.86	38		
2	Acenaphthylene	6.18		0.00	152	79277	119.90	61		
2	Acenaphthene	6.33		0.00	154	24537**m**	62.48	32		
2	Dibenzofuran	6.47		0.00	168	32744	55.05	28		
2	Fluorene	6.75		0.00	166	34876**m**	70.10	36		
3	Phenanthrene	7.55		0.00	178	421806	493.29	250		
3	Anthracene	7.60		0.00	178	83882	102.08	52		
3	Fluoranthene	8.53		0.00	202	690897	695.05	350		
4	Pyrene	8.75	0.01	0.00	202	823408	652.27	330		
4	Benz(a)anthracene	10.26	0.01	0.00	228	303538	249.60	130		
4	Chrysene	10.32	0.01	0.00	228	393640	338.95	170		
5	Benzo(b)fluoranthene	12.65	0.01	0.00	252	570856	391.45	200		

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Data File:	J:\MS11\DATA\111909\1119F053.D			**Instrument:**	MS11
Acqu Date:	11/20/2009 04:46	**Quant Date:**	11/20/2009 12:28	**Vial:**	41
Run Type:	SMPL			**Dilution:**	1.0
Lab ID:	K0909140-002			**Soln Conc. Units:**	ng/ml

Target Compounds **Final Conc. Units:** ug/Kg Dry Weight

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	Final Conc	Q	Rpt?
5	Benzo(k)fluoranthene	12.73		0.00	252	172393	124.75	63		
5	Benzo(a)pyrene	13.66		0.00	252	493378	384.03	190		
5	Indeno(1,2,3-cd)pyrene	16.99		0.00	276	422149	356.47	180		
5	Dibenz(a,h)anthracene	17.06	-0.01	0.00	278	61021	49.45	25		
5	Benzo(g,h,i)perylene	17.42	0.01	0.00	276	605340	452.31	230		

Prep Amount:	20.23 g	**Dilution:**	1.0
Prep Final Vol:	10 ml	**Unit Factor:**	1
Solids:	97.5 %		

Final Concentration = ((Soln Conc x Prep Final Vol x Dilution) / (Prep Amount x Solids)) x Unit Factor

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\111909\1119F053.D Vial: 41
Acq On : 20 Nov 2009 4:46 am Operator: LWeiskopf
Sample : K0909140-002 Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 20 11:02:28 2009 Quant Results File: 1119ALK.RES

Quant Method : J:\MS11\METHODS\SIM\1119ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Fri Nov 20 09:17:56 2009
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	4.88	136	140670	200.00	ng/ml	0.00
10) Acenaphthene-d10	6.30	164	80459	200.00	ng/ml	0.00
22) Phenanthrene-d10	7.53	188	160383	200.00	ng/ml	0.00
37) Chrysene-d12	10.27	240	238044	200.00	ng/ml	0.00
49) Perylene-d12	13.86	264	279876	200.00	ng/ml	0.00
System Monitoring Compounds						
15) Fluorene-d10	6.72	176	62815	139.04	ng/ml	0.00
Spiked Amount 200.000			Recovery = 69.52%			
20) 2,4,6 Tribromophenol	0.00	330	0d	0.00	ng/ml	
Spiked Amount 375.000			Recovery = 0.00%			
36) Fluoranthene-d10	8.52	212	133198	137.37	ng/ml	0.00
Spiked Amount 200.000			Recovery = 68.69%			
42) Terphenyl-d14	8.90	244	128090	129.98	ng/ml	0.00
Spiked Amount 200.000			Recovery = 64.99%			
Target Compounds						Qvalue
2) Naphthalene	4.90	128	224139	362.23	ng/ml	100
3) 2-Methylnaphthalene	5.45	142	33367	74.86	ng/ml	94
4) 1-Methylnaphthalene	5.53	142	17838	41.72	ng/ml	99
5) Biphenyl	5.82	154	18642	35.15	ng/ml	95
6) 2,6-Dimethylnaphthalene	5.96	156	21159	51.65	ng/ml	98
11) Acenaphthylene	6.18	152	79277	119.90	ng/ml	98
12) Acenaphthene	6.33	154	24537m	62.48	ng/ml	
13) Dibenzofuran	6.47	168	32744	55.05	ng/ml	72
14) 2,3,5-Trimethylnaphthalene	6.63	170	13071	31.17	ng/ml	71
16) Fluorene	6.75	166	34876m	70.10	ng/ml	
23) Dibenzothiophene	7.44	184	22924	32.09	ng/ml	87
27) Phenanthrene	7.55	178	421806	493.29	ng/ml	99
28) Anthracene	7.60	178	83882	102.08	ng/ml	98
29) Carbazole	7.73	167	7291m	10.39	ng/ml	
30) 1-Methylphenanthrene	8.05	192	38394	57.68	ng/ml	97
35) Fluoranthene	8.53	202	690897	695.05	ng/ml	92
38) Pyrene	8.75	202	823408	652.27	ng/ml	88
43) Benz(a)anthracene	10.26	228	303538	249.60	ng/ml	58
44) Chrysene	10.32	228	393640	338.95	ng/ml	96
50) Benzo(b)fluoranthene	12.65	252	570856	391.45	ng/ml	99
51) Benzo(k)fluoranthene	12.73	252	172393	124.75	ng/ml	98
52) Benzo(e)pyrene	13.49	252	377323	282.33	ng/ml	100
53) Benzo(a)pyrene	13.66	252	493378	384.03	ng/ml	99
54) Perylene	13.95	252	268664	211.75	ng/ml	98
55) Indeno(1,2,3-cd)pyrene	16.99	276	422149	356.47	ng/ml	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\111909\1119F053.D Vial: 41
Acq On : 20 Nov 2009 4:46 am Operator: LWeiskopf
Sample : K0909140-002 Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 20 11:02:28 2009 Quant Results File: 1119ALK.RES

Quant Method : J:\MS11\METHODS\SIM\1119ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Fri Nov 20 09:17:56 2009
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

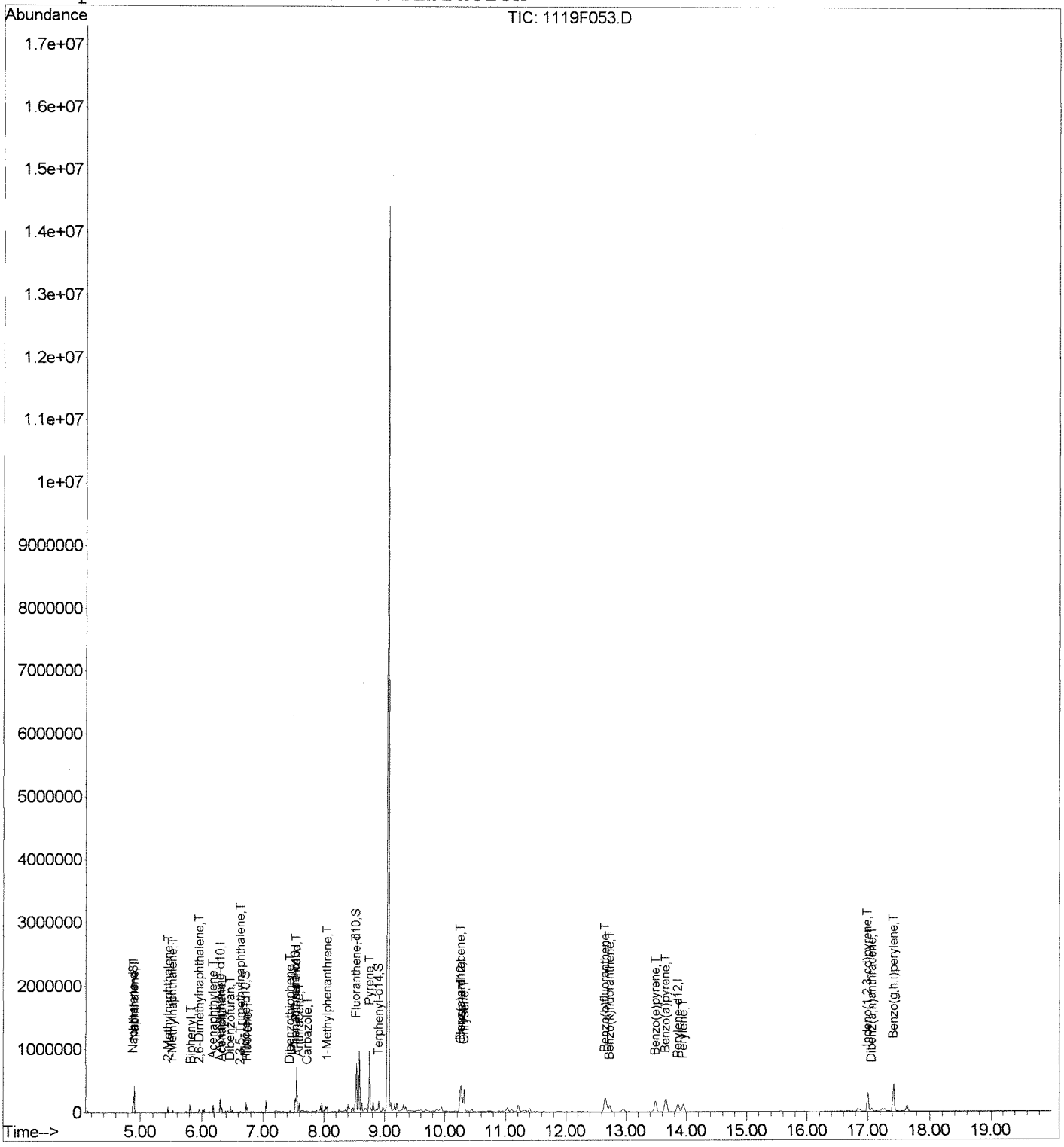
	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
56)	Dibenz(a,h)anthracene	17.06	278	61021	49.45	ng/ml	85
57)	Benzo(g,h,i)perylene	17.42	276	605340	452.31	ng/ml	100

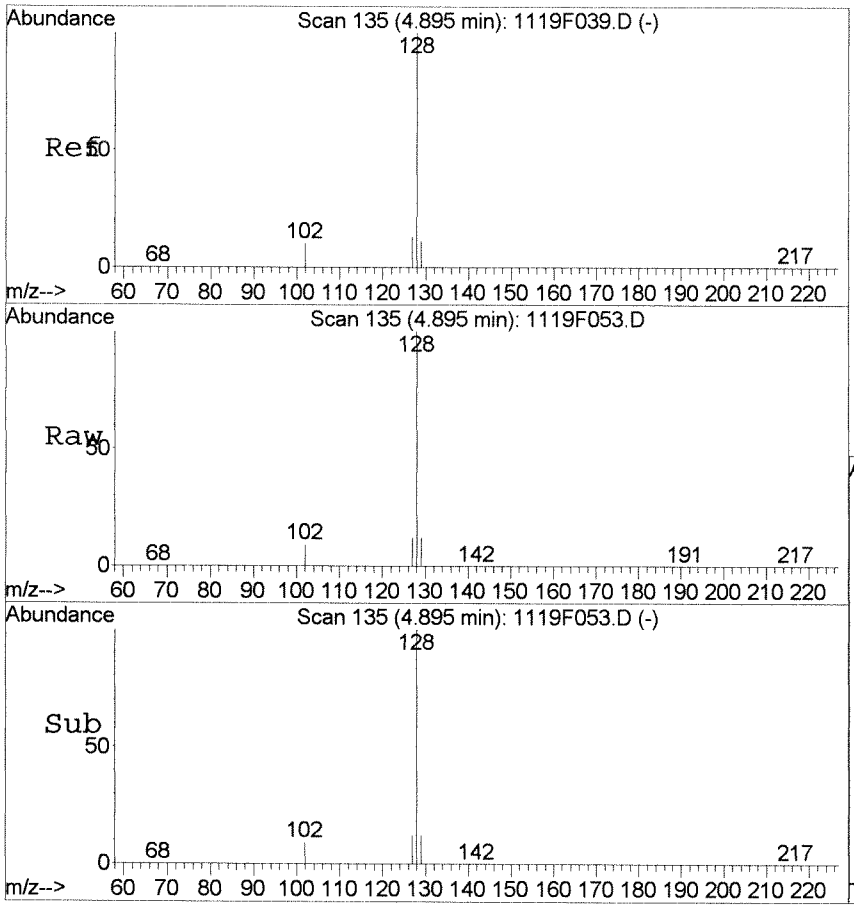
(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\111909\1119F053.D Vial: 41
Acq On : 20 Nov 2009 4:46 am Operator: LWeiskopf
Sample : K0909140-002 Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 20 12:28 2009 Quant Results File: 1119ALK.RES

Method : J:\MS11\METHODS\SIM\1119ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Fri Nov 20 12:01:24 2009
Response via : Initial Calibration

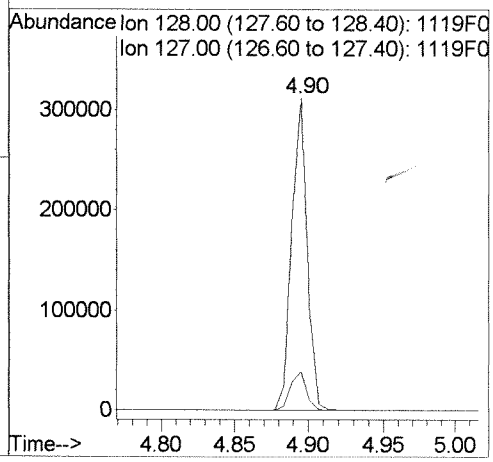


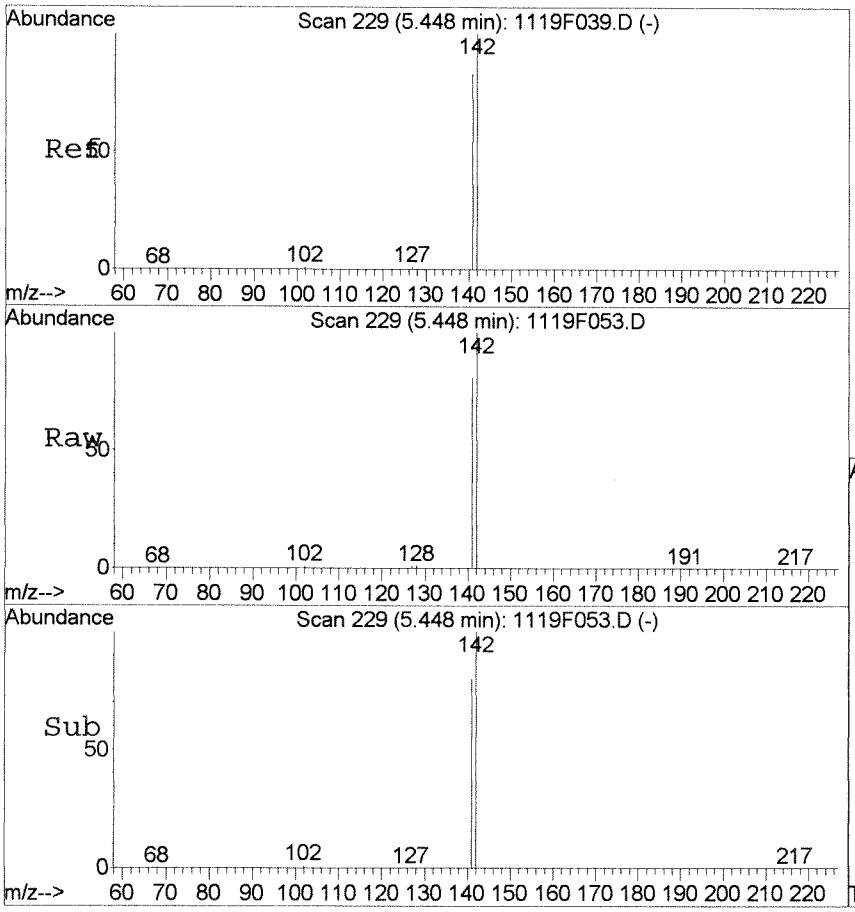


#2
Naphthalene
Concen: 362.23 ng/ml
RT: 4.90 min Scan# 135
Delta R.T. 0.01 min
Lab File: 1119F053.D
Acq: 20 Nov 2009 4:46 am

Tgt Ion:128 Resp: 224139

Ion	Ratio	Lower	Upper
128	100		
127	12.4	0.0	42.4

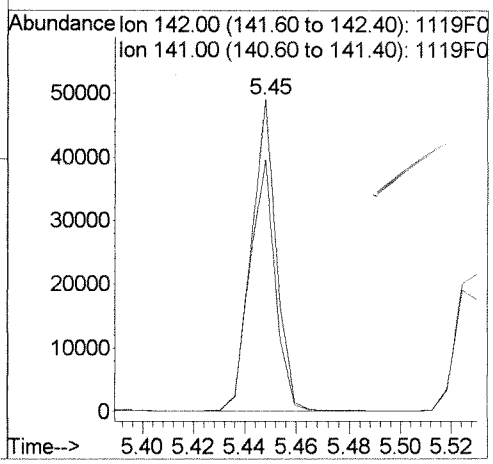


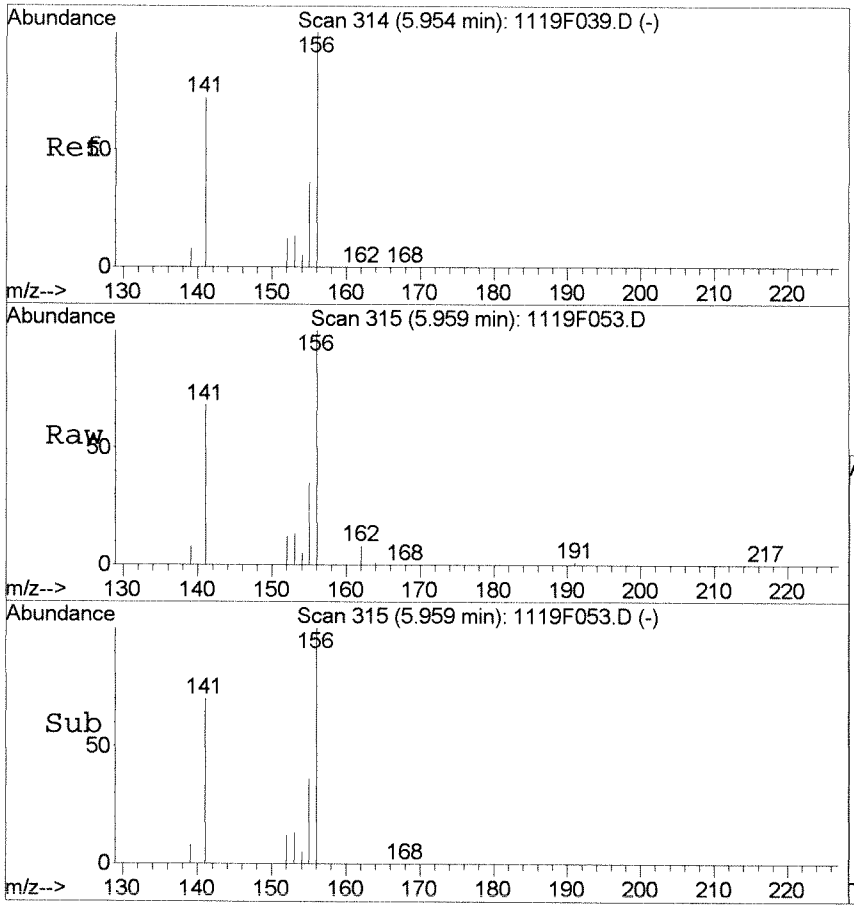


#3
2-Methylnaphthalene
Concen: 74.86 ng/ml
RT: 5.45 min Scan# 229
Delta R.T. 0.01 min
Lab File: 1119F053.D
Acq: 20 Nov 2009 4:46 am

Tgt Ion:142 Resp: 33367

Ion	Ratio	Lower	Upper
142	100		
141	80.6	56.1	116.1

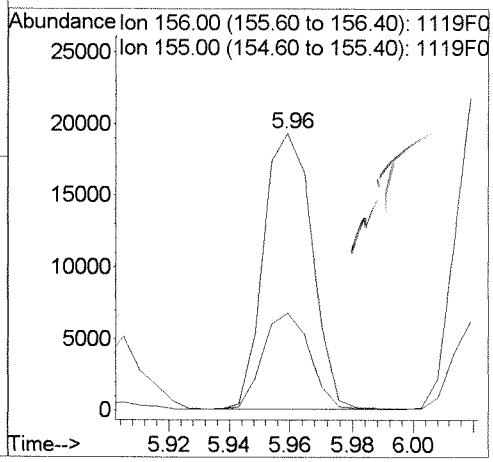


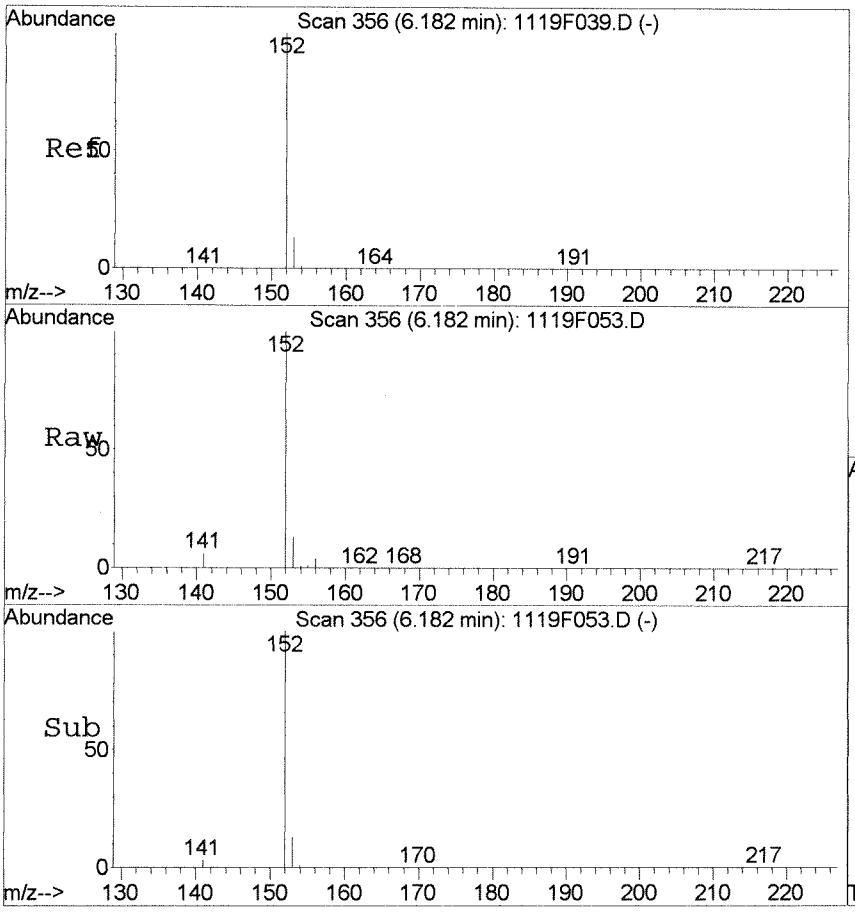


#6
2,6-Dimethylnaphthalene
Concen: 51.65 ng/ml
RT: 5.96 min Scan# 315
Delta R.T. 0.01 min
Lab File: 1119F053.D
Acq: 20 Nov 2009 4:46 am

Tgt Ion:156 Resp: 21159

Ion	Ratio	Lower	Upper
156	100		
155	35.0	3.7	63.7

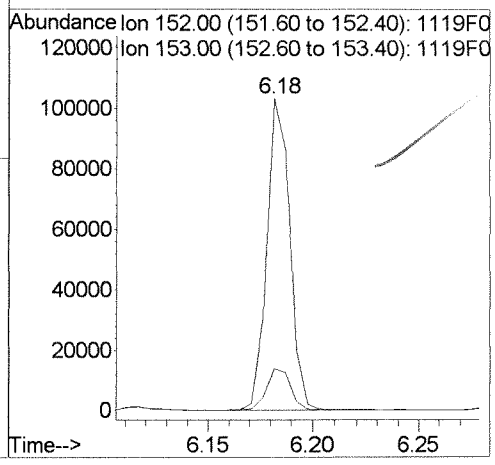


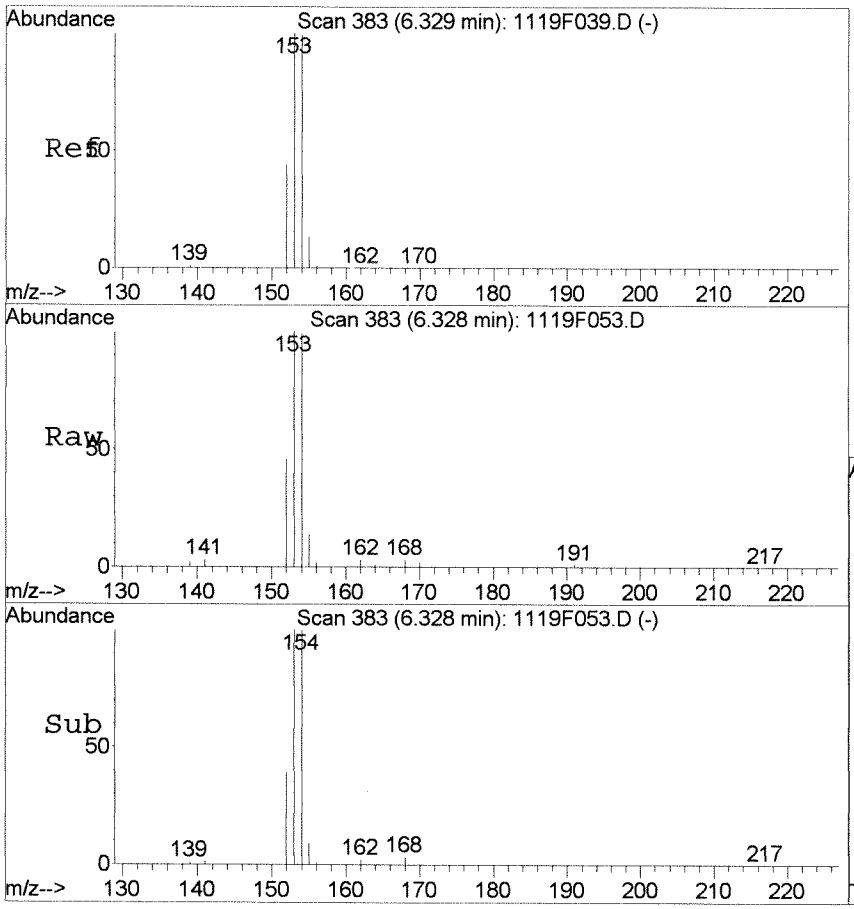


#11
Acenaphthylene
Concen: 119.90 ng/ml
RT: 6.18 min Scan# 356
Delta R.T. 0.00 min
Lab File: 1119F053.D
Acq: 20 Nov 2009 4:46 am

Tgt Ion:152 Resp: 79277

Ion	Ratio	Lower	Upper
152	100		
153	13.3	0.0	44.1

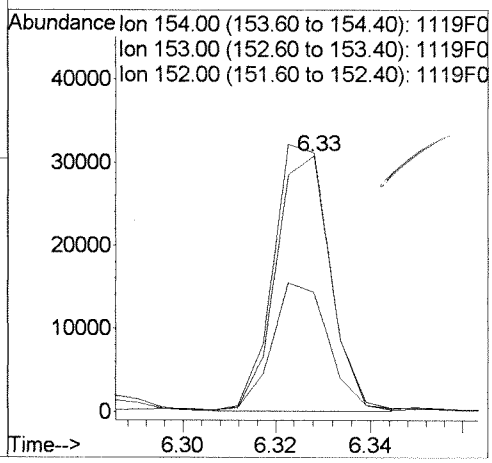


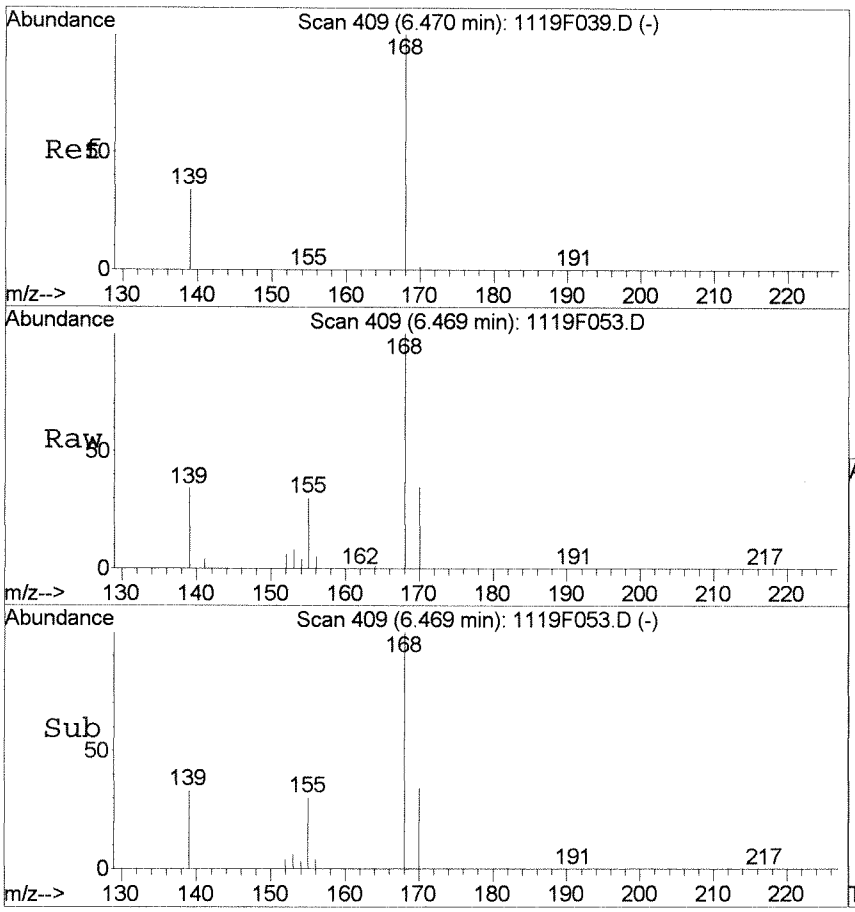


#12
Acenaphthene
Concen: 62.48 ng/ml m
RT: 6.33 min Scan# 383
Delta R.T. 0.01 min
Lab File: 1119F053.D
Acq: 20 Nov 2009 4:46 am

Tgt Ion:154 Resp: 24537

Ion	Ratio	Lower	Upper
154	100		
153	101.2	77.8	137.8
152	46.5	24.7	84.7

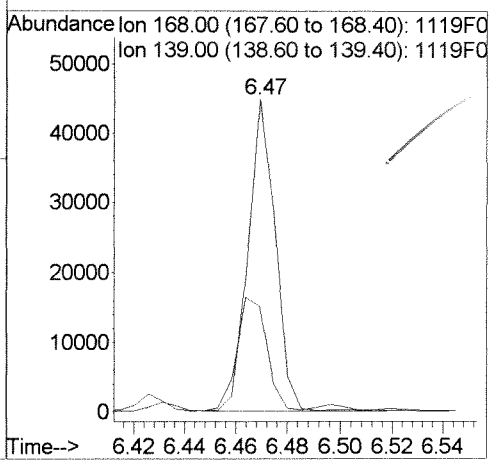


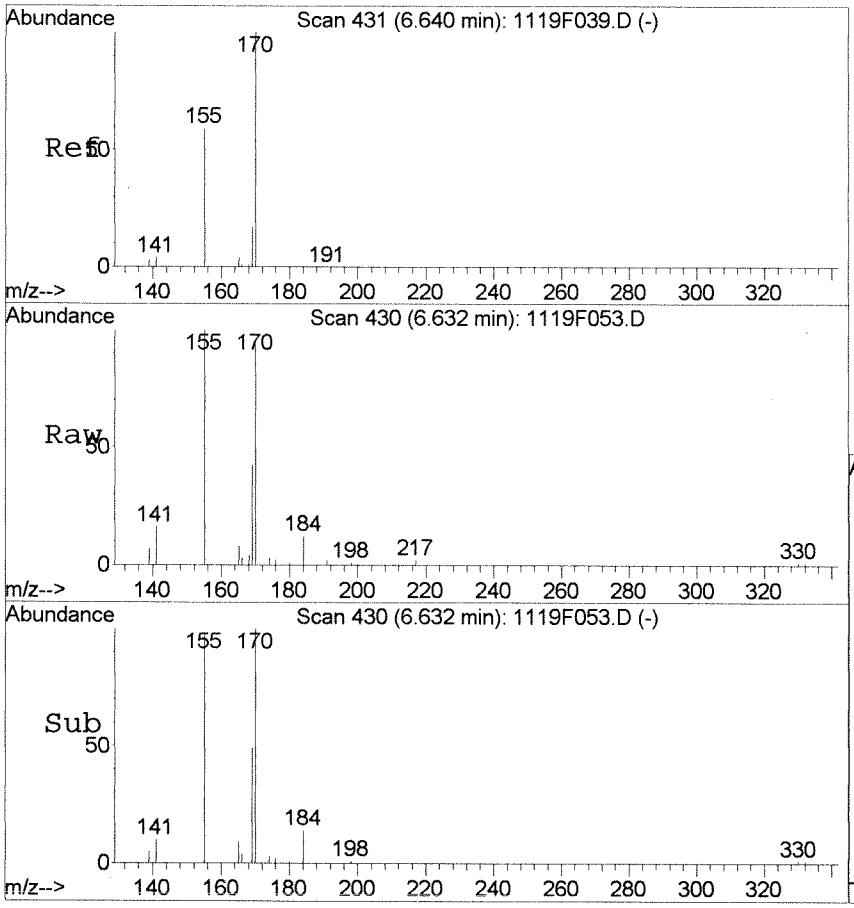


#13
Dibenzofuran
Concen: 55.05 ng/ml
RT: 6.47 min Scan# 409
Delta R.T. 0.01 min
Lab File: 1119F053.D
Acq: 20 Nov 2009 4:46 am

Tgt Ion:168 Resp: 32744

Ion	Ratio	Lower	Upper
168	100		
139	33.5	23.3	83.3

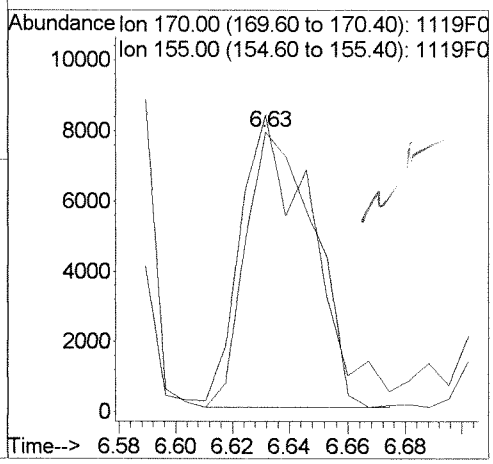


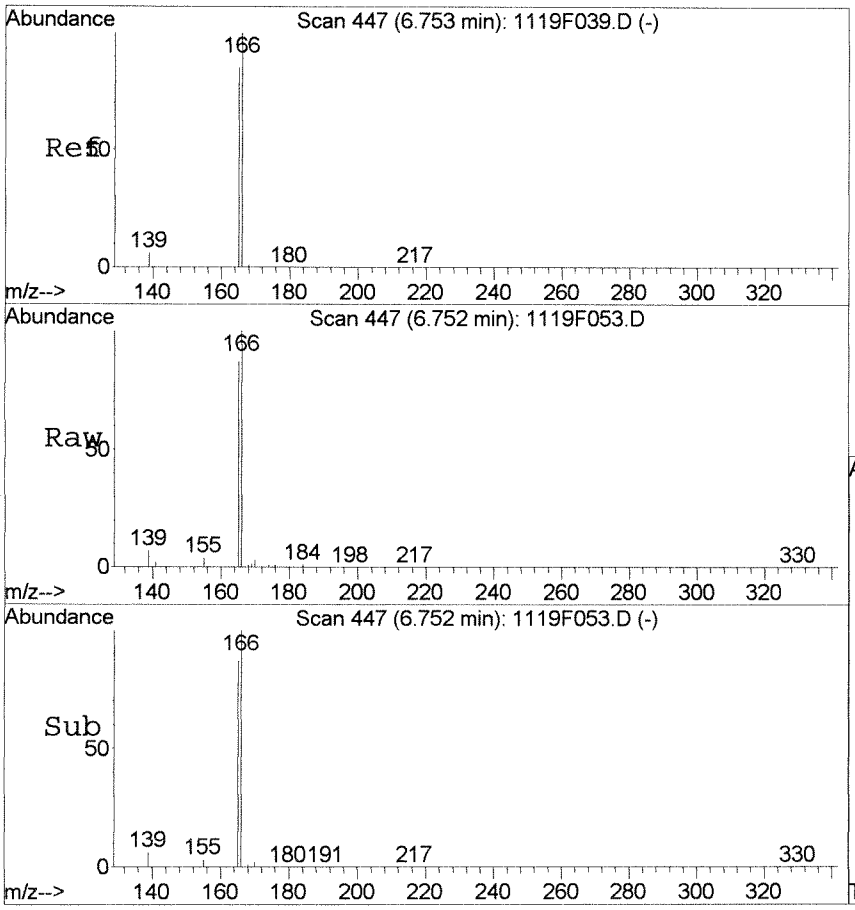


#14
2,3,5-Trimethylnaphthalene
Concen: 31.17 ng/ml
RT: 6.63 min Scan# 430
Delta R.T. -0.00 min
Lab File: 1119F053.D
Acq: 20 Nov 2009 4:46 am

Tgt Ion:170 Resp: 13071

Ion	Ratio	Lower	Upper
170	100		
155	103.8	48.2	108.2

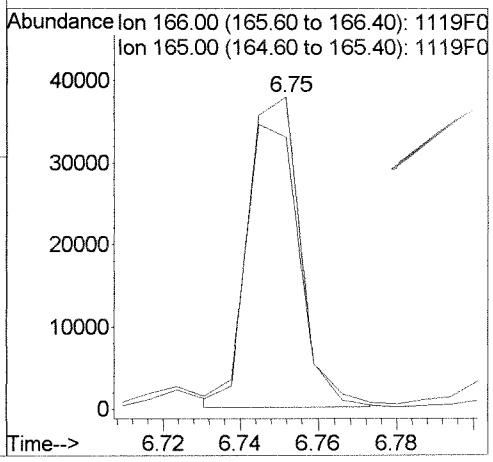


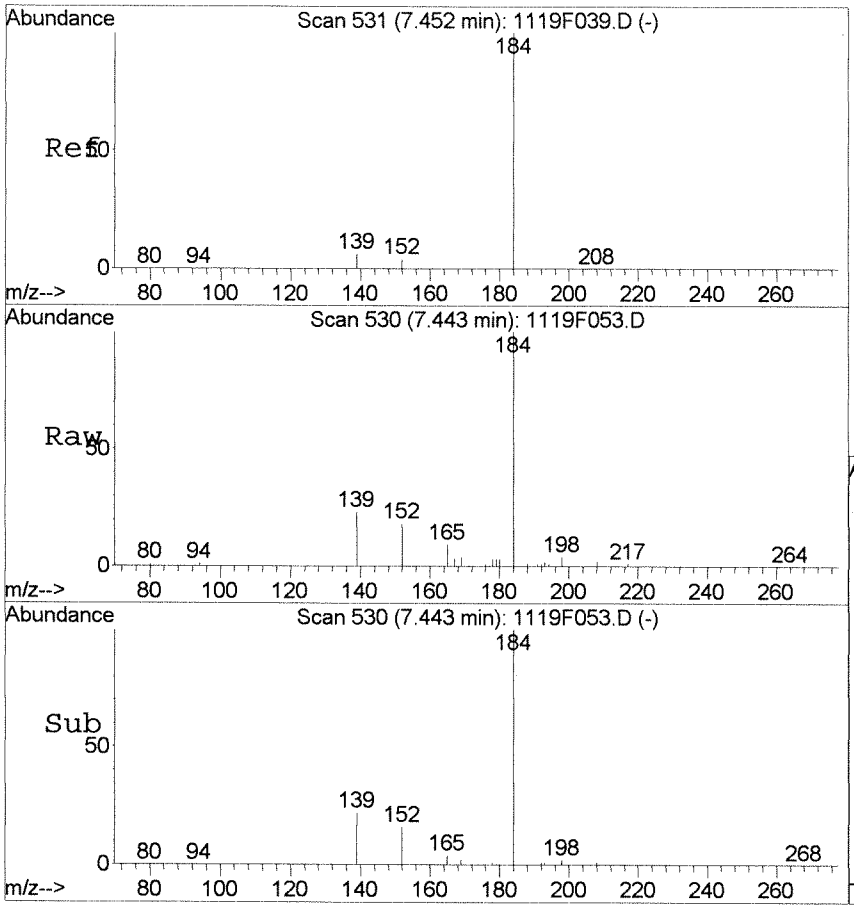


#16
Fluorene
Concen: 70.10 ng/ml m
RT: 6.75 min Scan# 447
Delta R.T. 0.00 min
Lab File: 1119F053.D
Acq: 20 Nov 2009 4:46 am

Tgt Ion:166 Resp: 34876

Ion	Ratio	Lower	Upper
166	100		
165	87.1	57.8	117.8

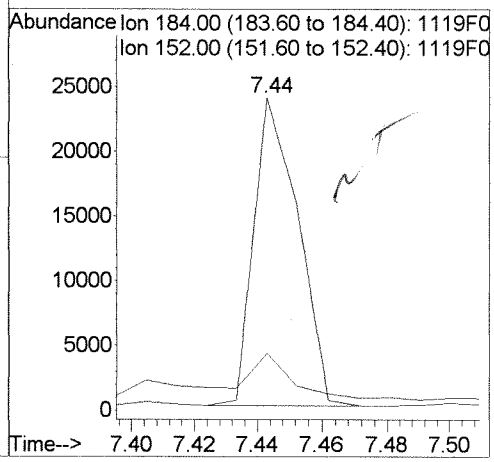


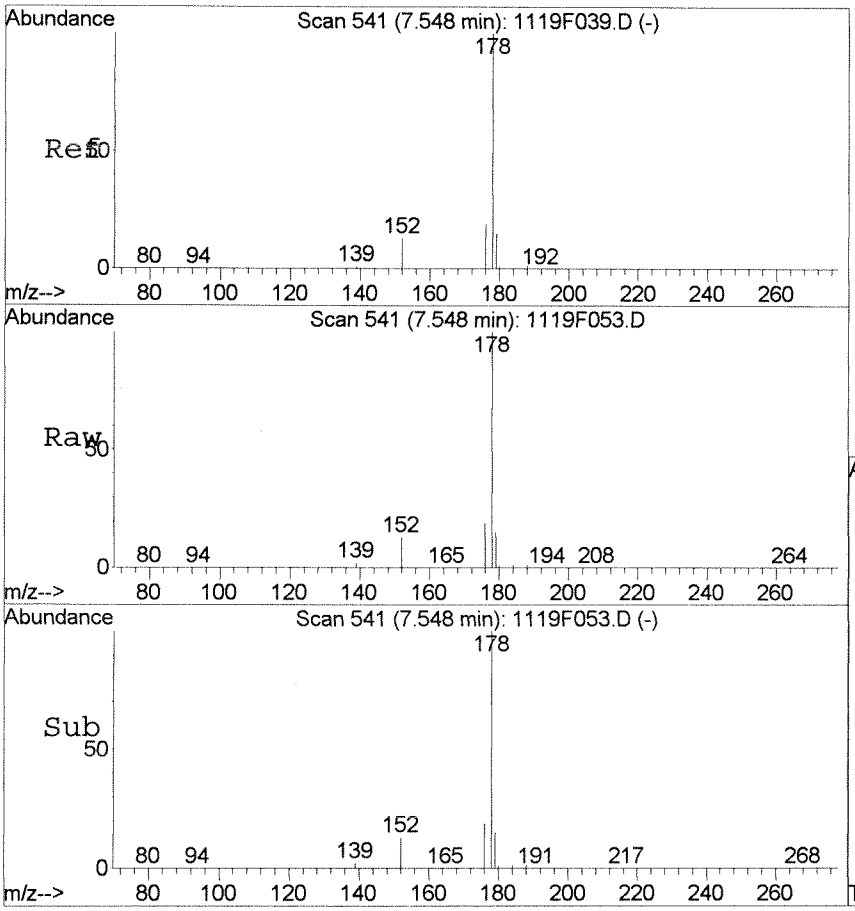


#23
Dibenzothiophene
Concen: 32.09 ng/ml
RT: 7.44 min Scan# 530
Delta R.T. 0.00 min
Lab File: 1119F053.D
Acq: 20 Nov 2009 4:46 am

Tgt Ion:184 Resp: 22924

Ion	Ratio	Lower	Upper
184	100		
152	14.3	0.0	39.4

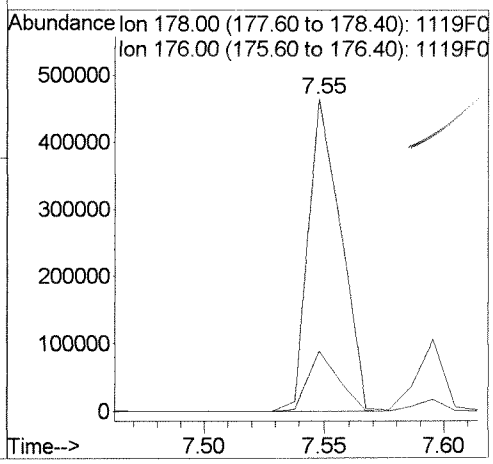


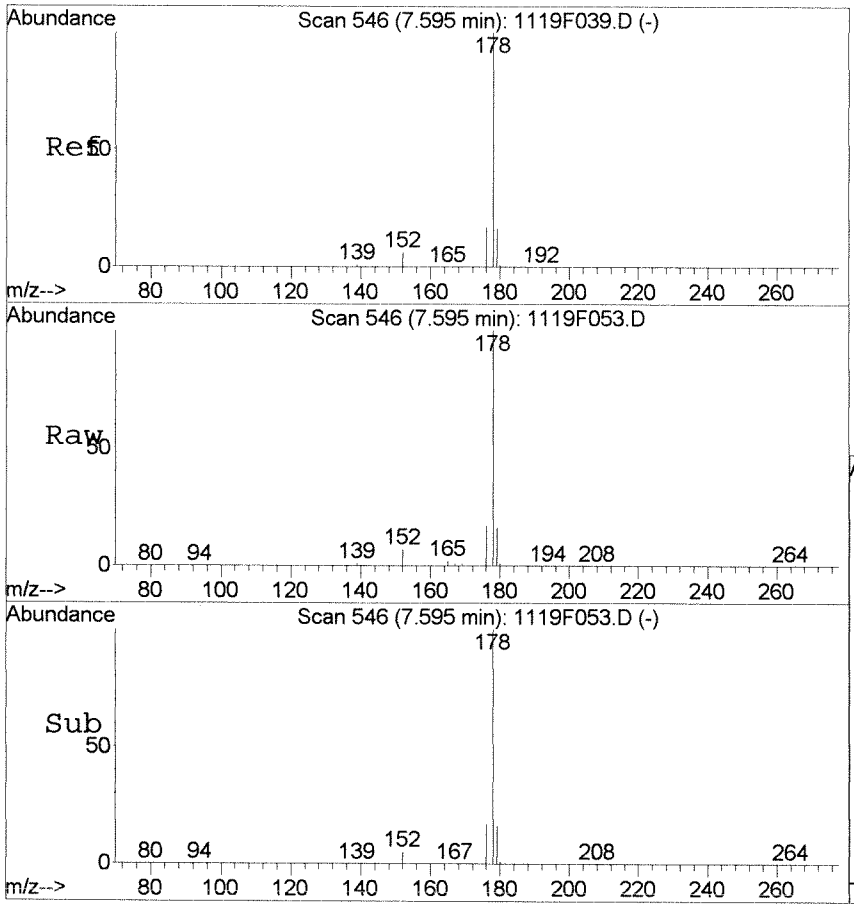


#27
Phenanthrene
Concen: 493.29 ng/ml
RT: 7.55 min Scan# 541
Delta R.T. 0.00 min
Lab File: 1119F053.D
Acq: 20 Nov 2009 4:46 am

Tgt Ion:178 Resp: 421806

Ion	Ratio	Lower	Upper
178	100		
176	19.2	0.0	49.6

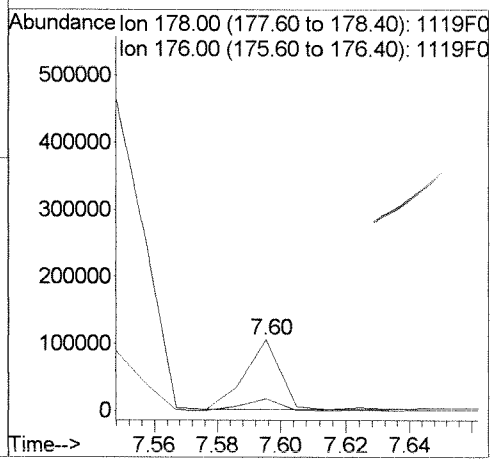


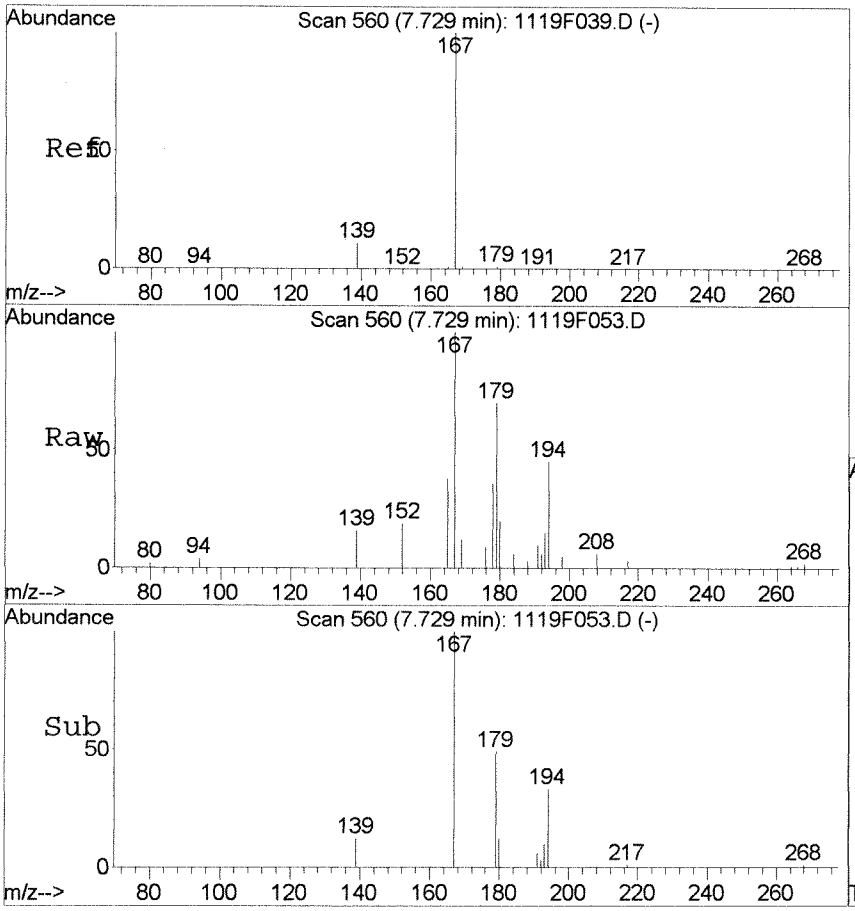


#28
Anthracene
Concen: 102.08 ng/ml
RT: 7.60 min Scan# 546
Delta R.T. 0.01 min
Lab File: 1119F053.D
Acq: 20 Nov 2009 4:46 am

Tgt Ion:178 Resp: 83882

Ion	Ratio	Lower	Upper
178	100		
176	16.5	0.0	47.6

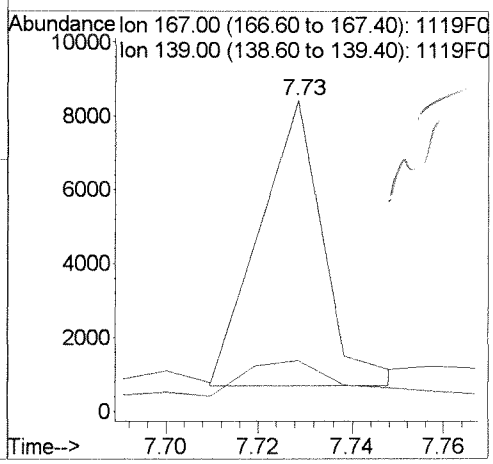


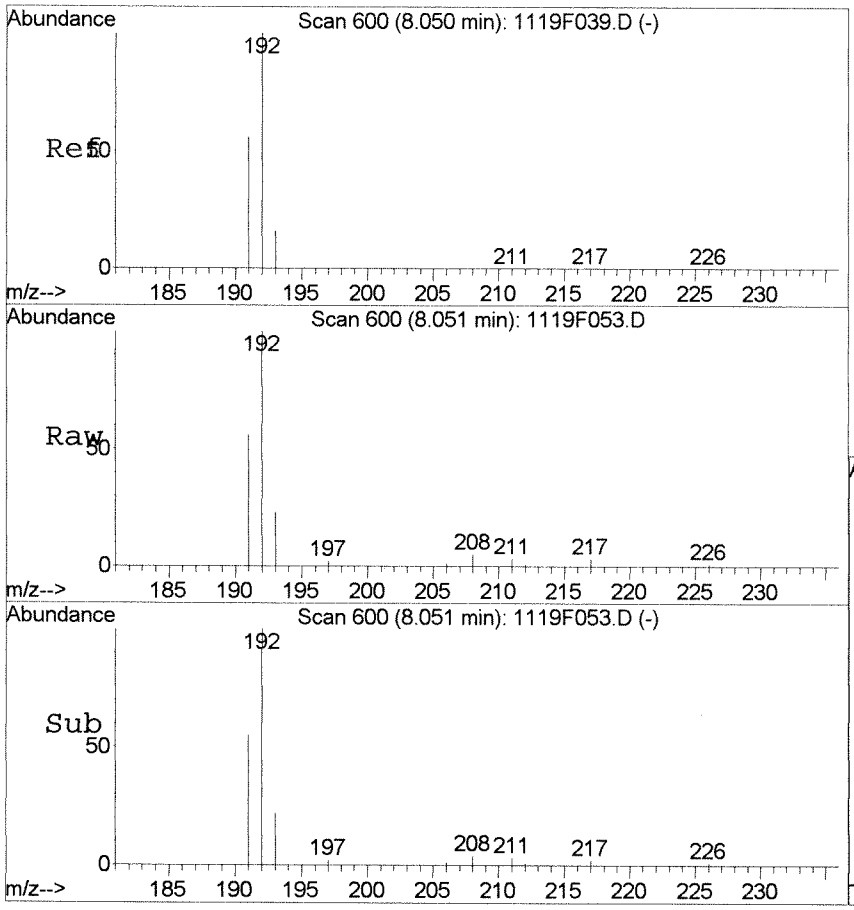


#29
Carbazole
Concen: 10.39 ng/ml m
RT: 7.73 min Scan# 560
Delta R.T. 0.01 min
Lab File: 1119F053.D
Acq: 20 Nov 2009 4:46 am

Tgt Ion:167 Resp: 7291

Ion	Ratio	Lower	Upper
167	100		
139	16.3	0.0	45.7

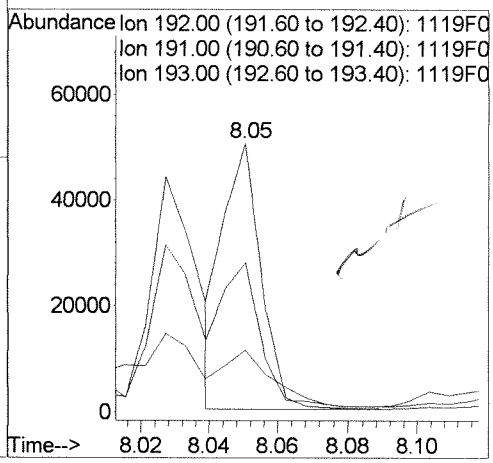


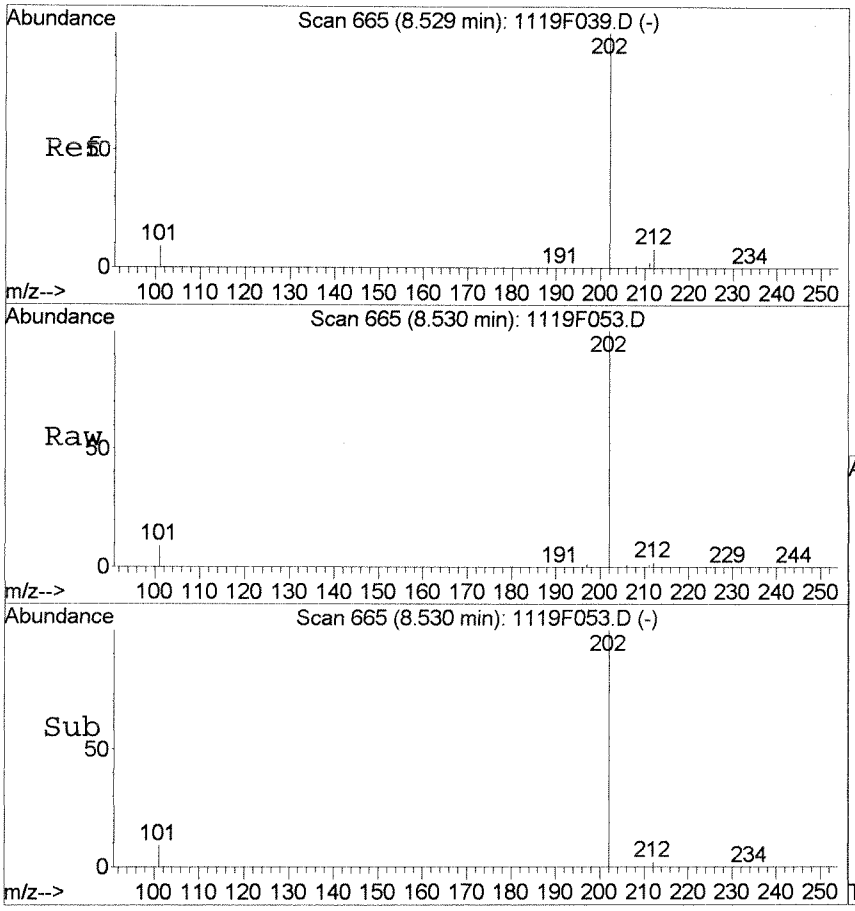


#30
1-Methylphenanthrene
Concen: 57.68 ng/ml
RT: 8.05 min Scan# 600
Delta R.T. 0.00 min
Lab File: 1119F053.D
Acq: 20 Nov 2009 4:46 am

Tgt Ion:192 Resp: 38394

Ion	Ratio	Lower	Upper
192	100		
191	54.1	23.0	83.0
193	20.9	0.0	47.0

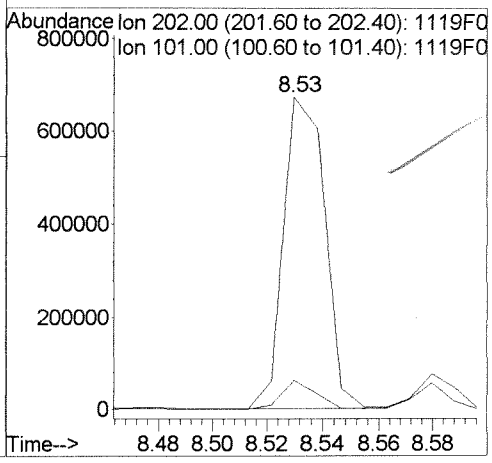


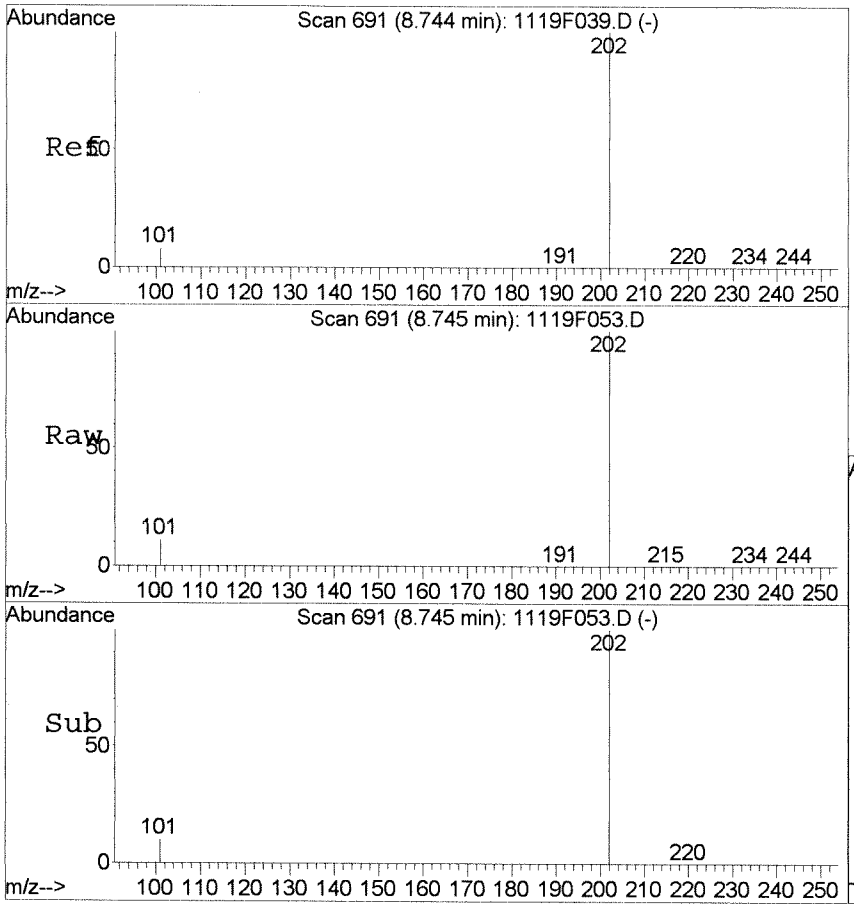


#35
Fluoranthene
Concen: 695.05 ng/ml
RT: 8.53 min Scan# 665
Delta R.T. -0.00 min
Lab File: 1119F053.D
Acq: 20 Nov 2009 4:46 am

Tgt Ion:202 Resp: 690897

Ion	Ratio	Lower	Upper
202	100		
101	9.3	0.0	36.5

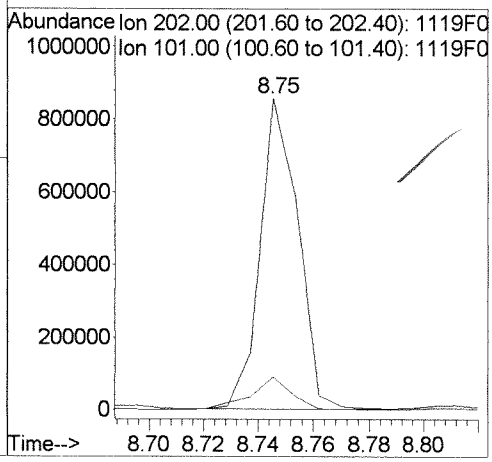


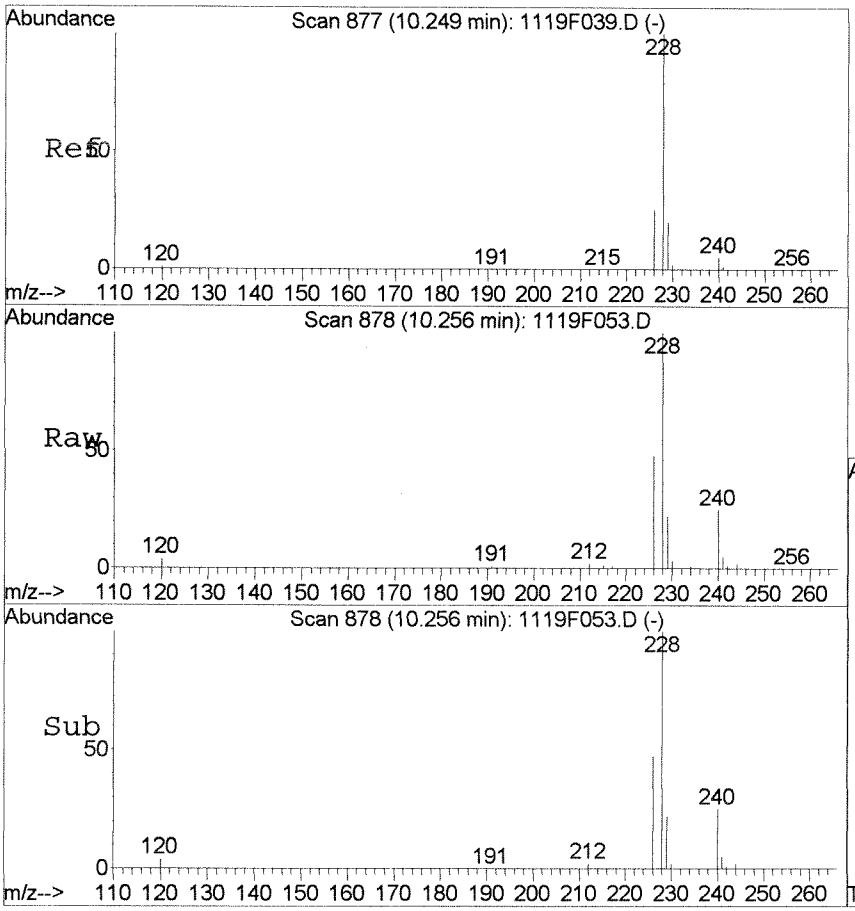


#38
Pyrene
Concen: 652.27 ng/ml
RT: 8.75 min Scan# 691
Delta R.T. 0.00 min
Lab File: 1119F053.D
Acq: 20 Nov 2009 4:46 am

Tgt Ion:202 Resp: 823408

Ion	Ratio	Lower	Upper
202	100		
101	10.5	0.0	36.4

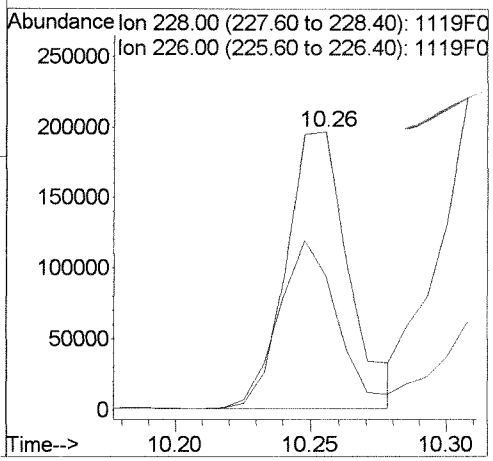


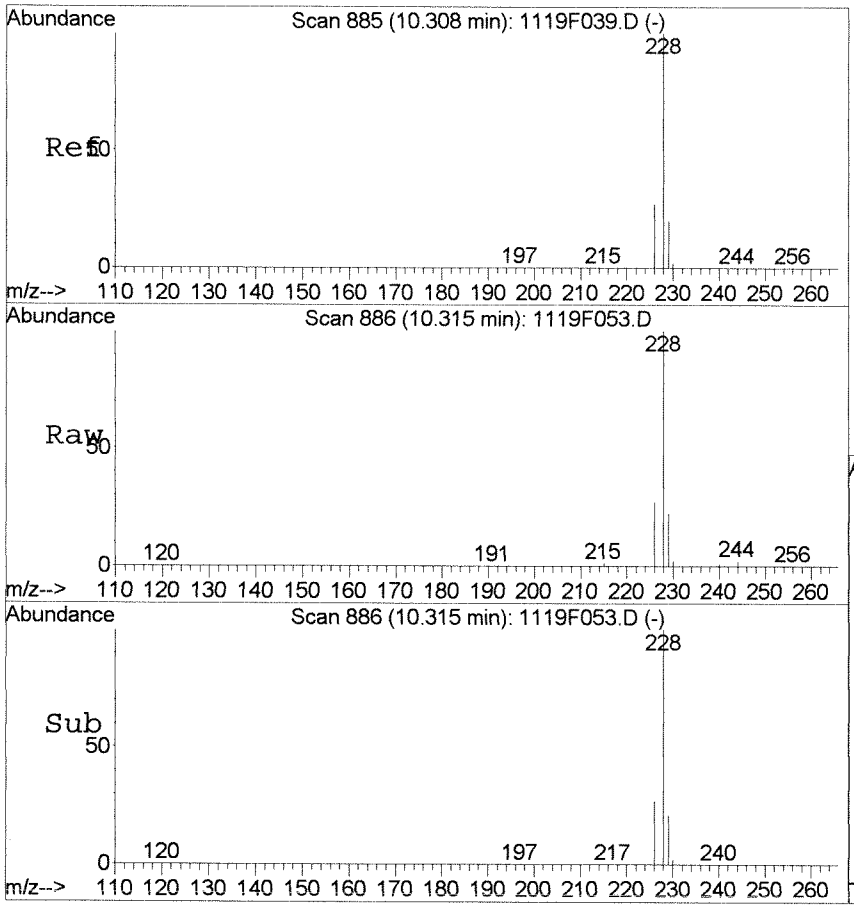


#43
Benz(a)anthracene
Concen: 249.60 ng/ml
RT: 10.26 min Scan# 878
Delta R.T. 0.00 min
Lab File: 1119F053.D
Acq: 20 Nov 2009 4:46 am

Tgt Ion:228 Resp: 303538

Ion	Ratio	Lower	Upper
228	100		
226	47.4	0.0	55.9

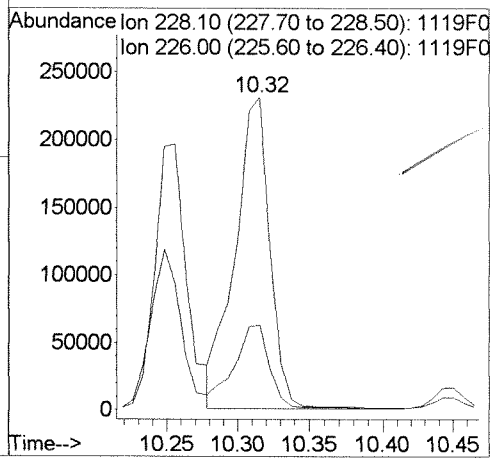


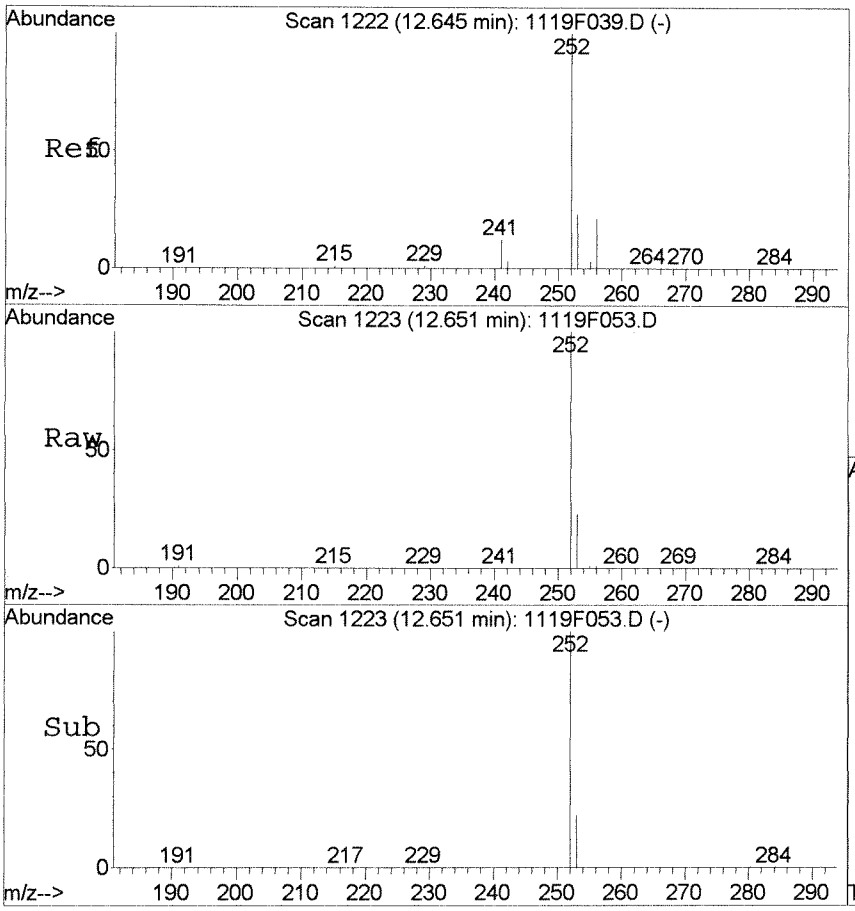


#44
Chrysene
Concen: 338.95 ng/ml
RT: 10.32 min Scan# 886
Delta R.T. 0.00 min
Lab File: 1119F053.D
Acq: 20 Nov 2009 4:46 am

Tgt Ion:228 Resp: 393640

Ion	Ratio	Lower	Upper
228	100		
226	26.9	0.0	58.8

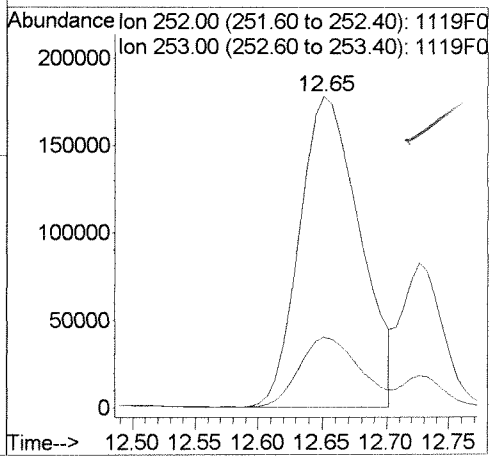


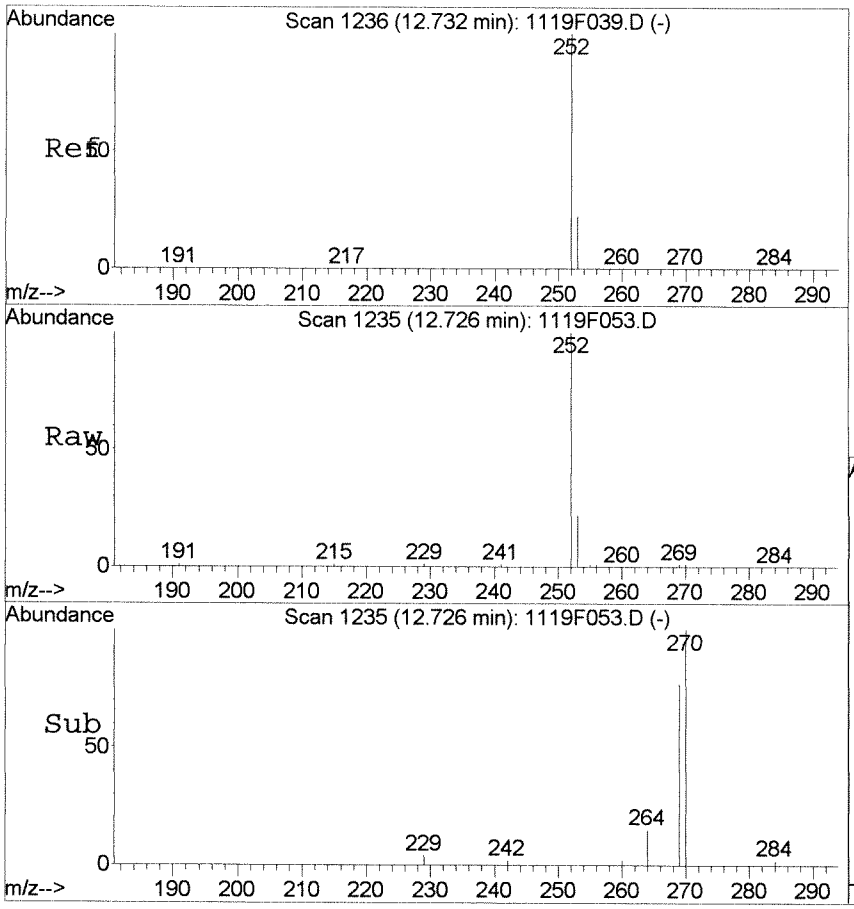


#50
Benzo(b)fluoranthene
Concen: 391.45 ng/ml
RT: 12.65 min Scan# 1223
Delta R.T. -0.01 min
Lab File: 1119F053.D
Acq: 20 Nov 2009 4:46 am

Tgt Ion:252 Resp: 570856

Ion	Ratio	Lower	Upper
252	100		
253	22.3	0.0	52.8

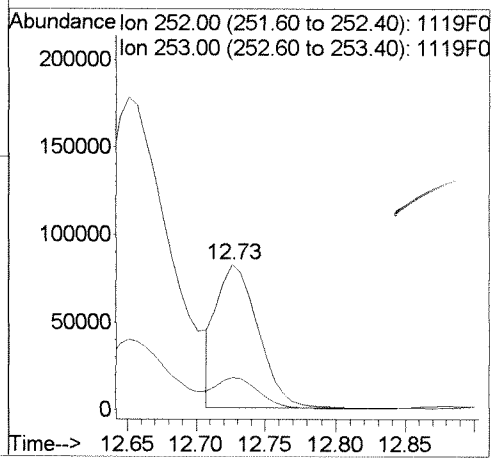


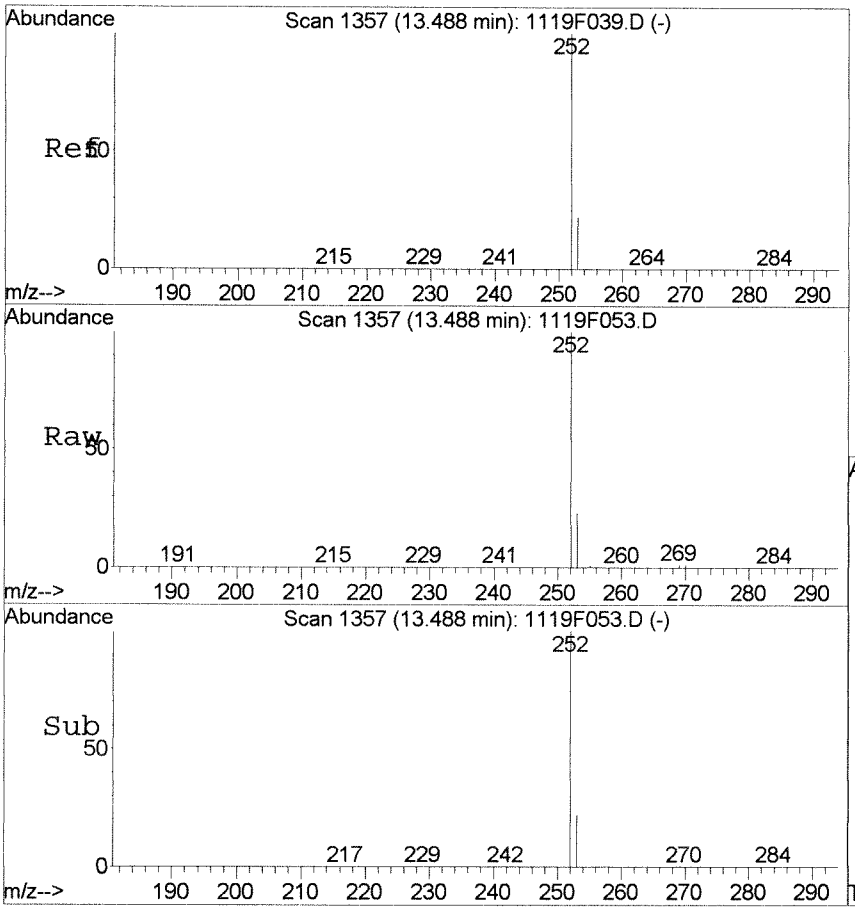


#51
Benzo(k)fluoranthene
Concen: 124.75 ng/ml
RT: 12.73 min Scan# 1235
Delta R.T. -0.01 min
Lab File: 1119F053.D
Acq: 20 Nov 2009 4:46 am

Tgt Ion:252 Resp: 172393

Ion	Ratio	Lower	Upper
252	100		
253	21.3	0.0	52.5

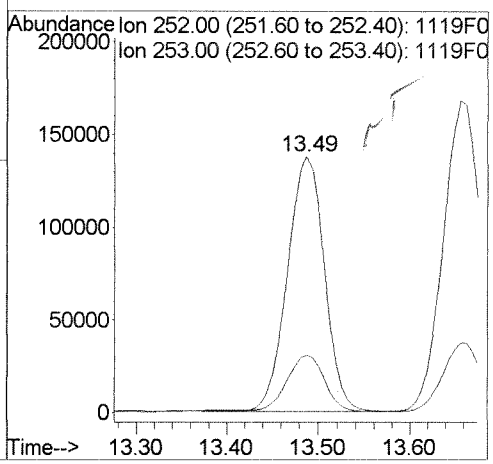


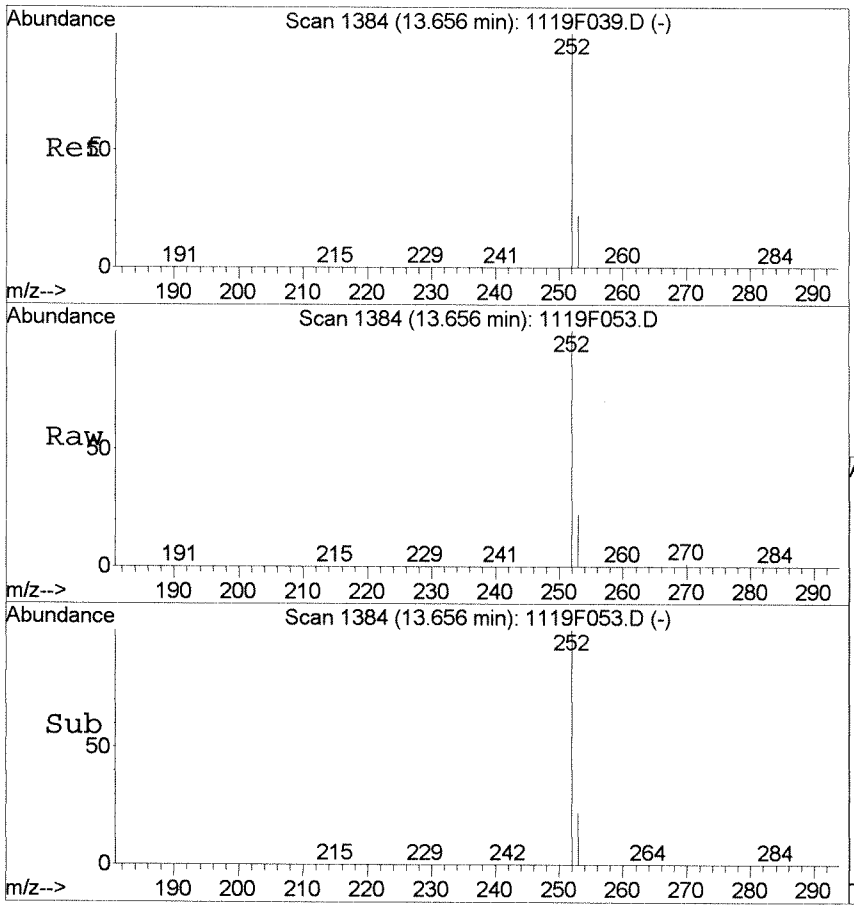


#52
Benzo(e)pyrene
Concen: 282.33 ng/ml
RT: 13.49 min Scan# 1357
Delta R.T. -0.01 min
Lab File: 1119F053.D
Acq: 20 Nov 2009 4:46 am

Tgt Ion:252 Resp: 377323

Ion	Ratio	Lower	Upper
252	100		
253	22.1	0.0	52.3

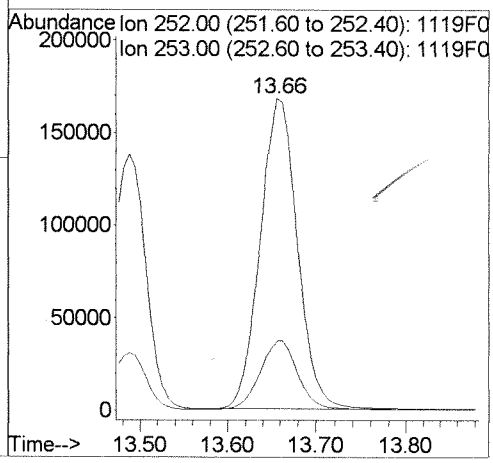


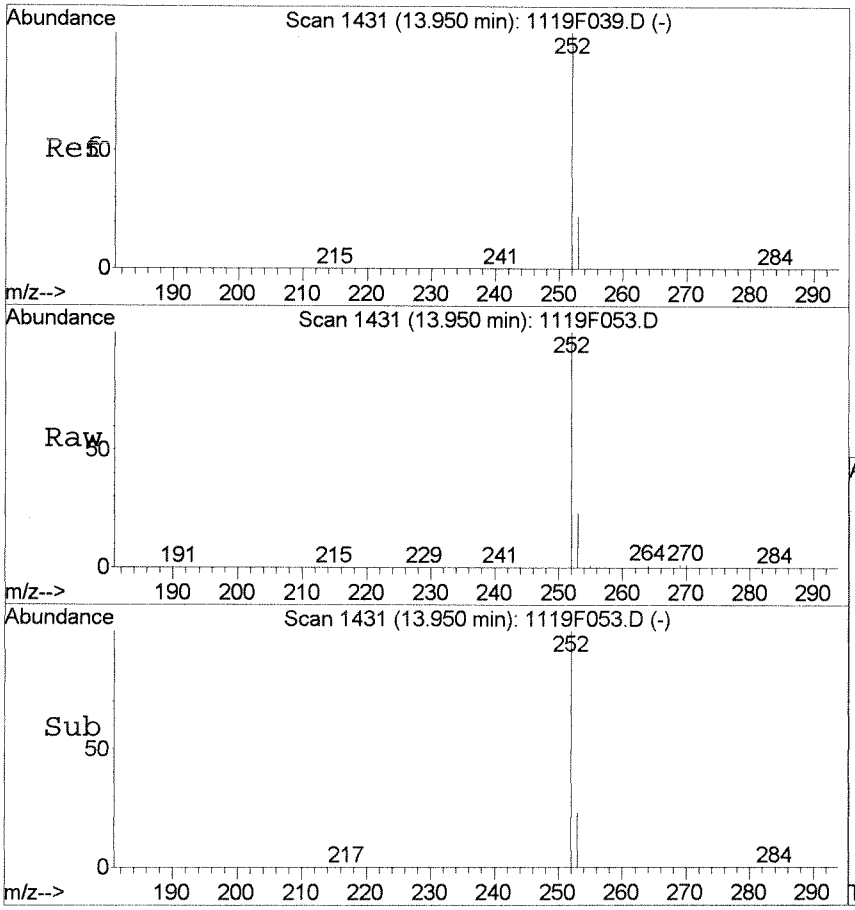


#53
Benzo(a)pyrene
Concen: 384.03 ng/ml
RT: 13.66 min Scan# 1384
Delta R.T. -0.01 min
Lab File: 1119F053.D
Acq: 20 Nov 2009 4:46 am

Tgt Ion:252 Resp: 493378

Ion	Ratio	Lower	Upper
252	100		
253	22.1	0.0	52.6

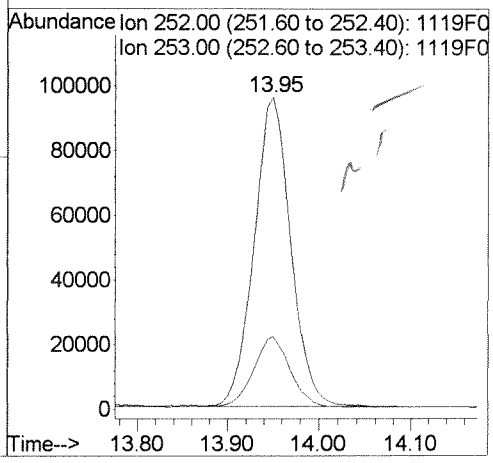


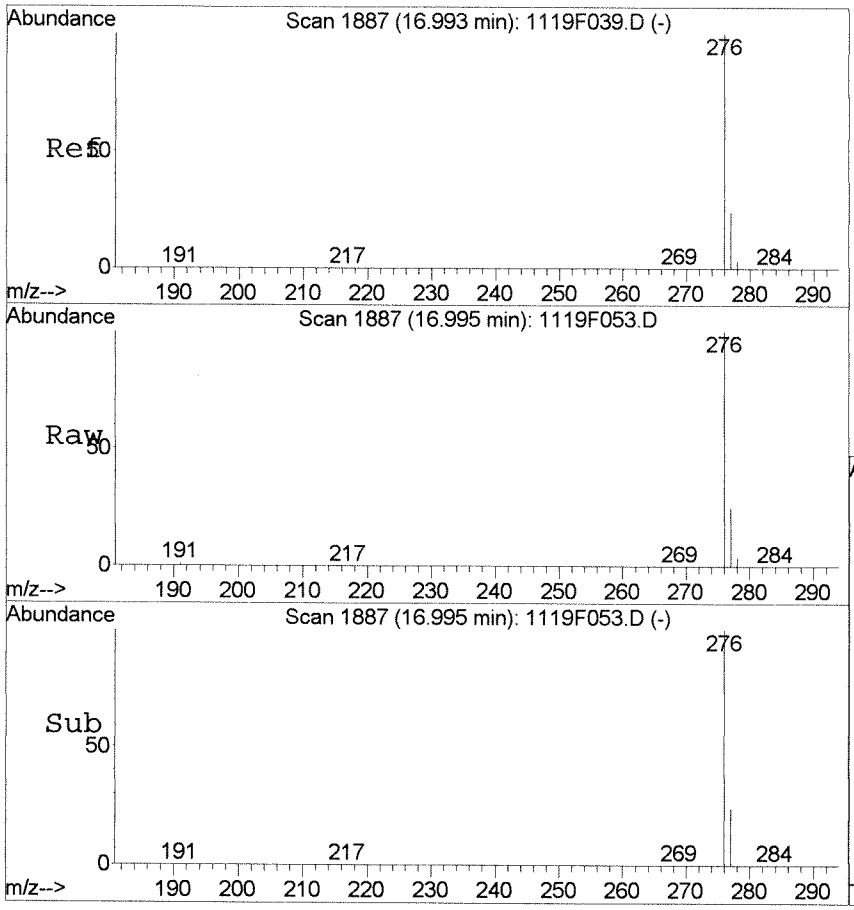


#54
Perylene
Concen: 211.75 ng/ml
RT: 13.95 min Scan# 1431
Delta R.T. -0.00 min
Lab File: 1119F053.D
Acq: 20 Nov 2009 4:46 am

Tgt Ion:252 Resp: 268664

Ion	Ratio	Lower	Upper
252	100		
253	22.8	0.0	52.0

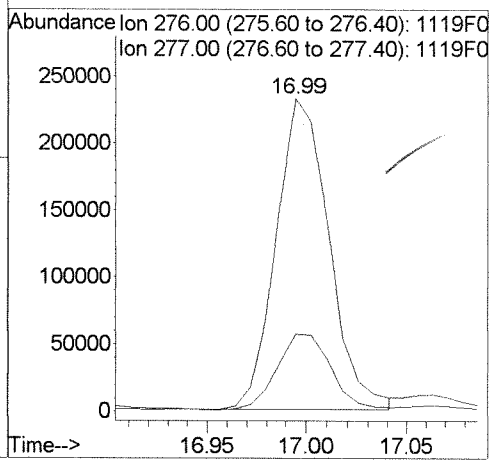


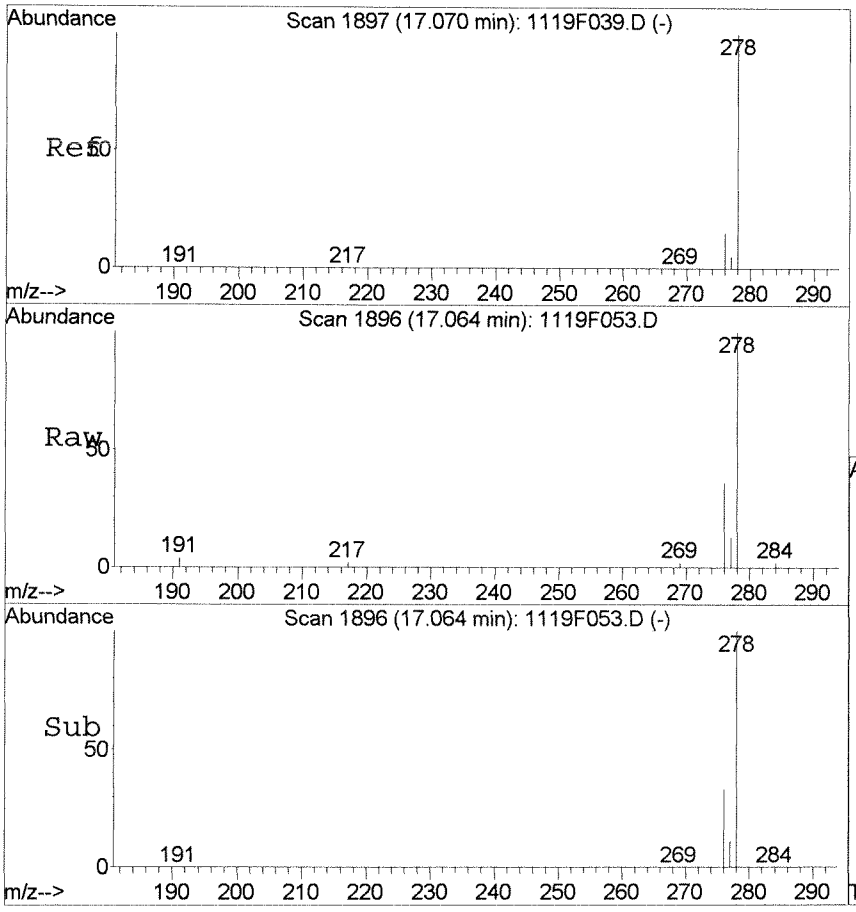


#55
Indeno(1,2,3-cd)pyrene
Concen: 356.47 ng/ml
RT: 16.99 min Scan# 1887
Delta R.T. -0.01 min
Lab File: 1119F053.D
Acq: 20 Nov 2009 4:46 am

Tgt Ion:276 Resp: 422149

Ion	Ratio	Lower	Upper
276	100		
277	24.2	0.0	55.1

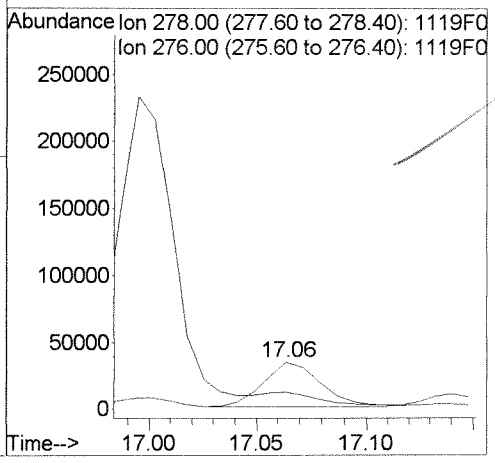


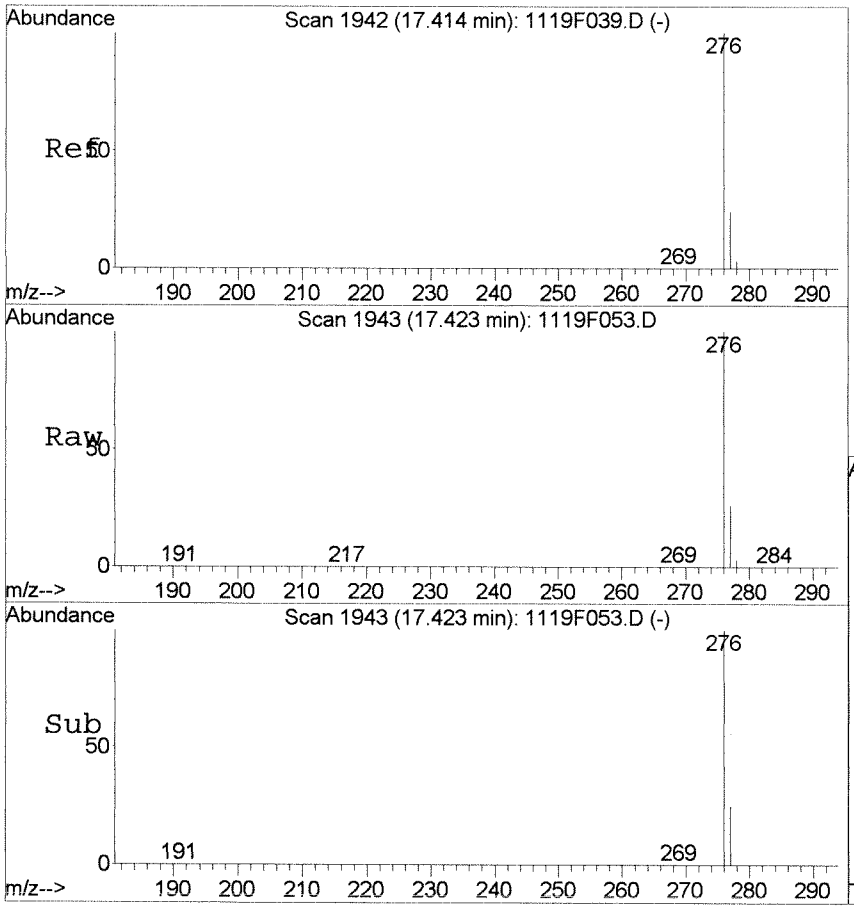


#56
Dibenz(a,h)anthracene
Concen: 49.45 ng/ml
RT: 17.06 min Scan# 1896
Delta R.T. -0.01 min
Lab File: 1119F053.D
Acq: 20 Nov 2009 4:46 am

Tgt Ion:278 Resp: 61021

Ion	Ratio	Lower	Upper
278	100		
276	29.2	0.0	52.1

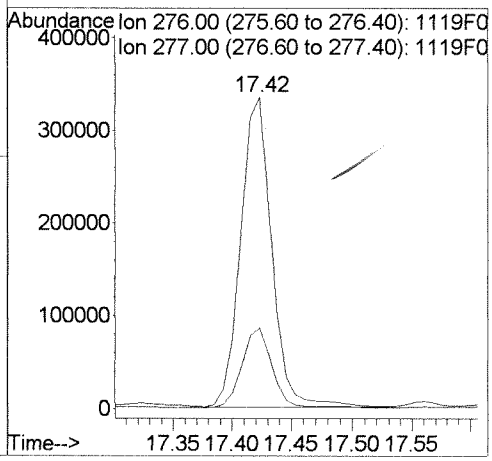




#57
Benzo(g,h,i)perylene
Concen: 452.31 ng/ml
RT: 17.42 min Scan# 1943
Delta R.T. -0.00 min
Lab File: 1119F053.D
Acq: 20 Nov 2009 4:46 am

Tgt Ion:276 Resp: 605340

Ion	Ratio	Lower	Upper
276	100		
277	25.6	0.0	55.7

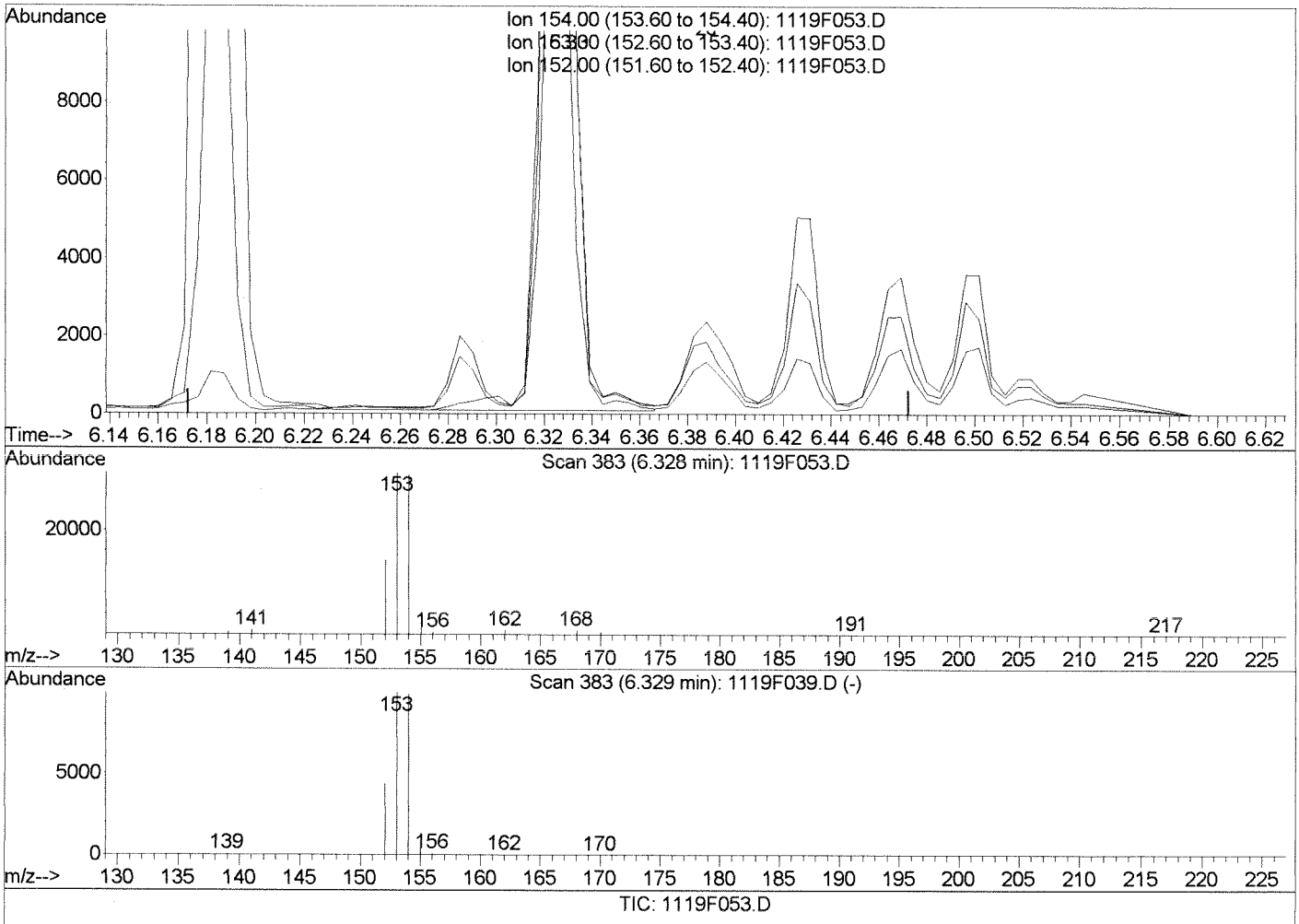


Quantitation Report (Qedit)

Data File : J:\MS11\DATA\111909\1119F053.D
Acq On : 20 Nov 2009 4:46 am
Sample : K0909140-002
Misc :
MS Integration Params: RTEINT.P
Quant Time: Nov 20 11:02 2009

Vial: 41
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1119ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Fri Nov 20 12:01:24 2009
Response via : Multiple Level Calibration



(12) Acenaphthene (T)

6.33min 64.30ng/ml

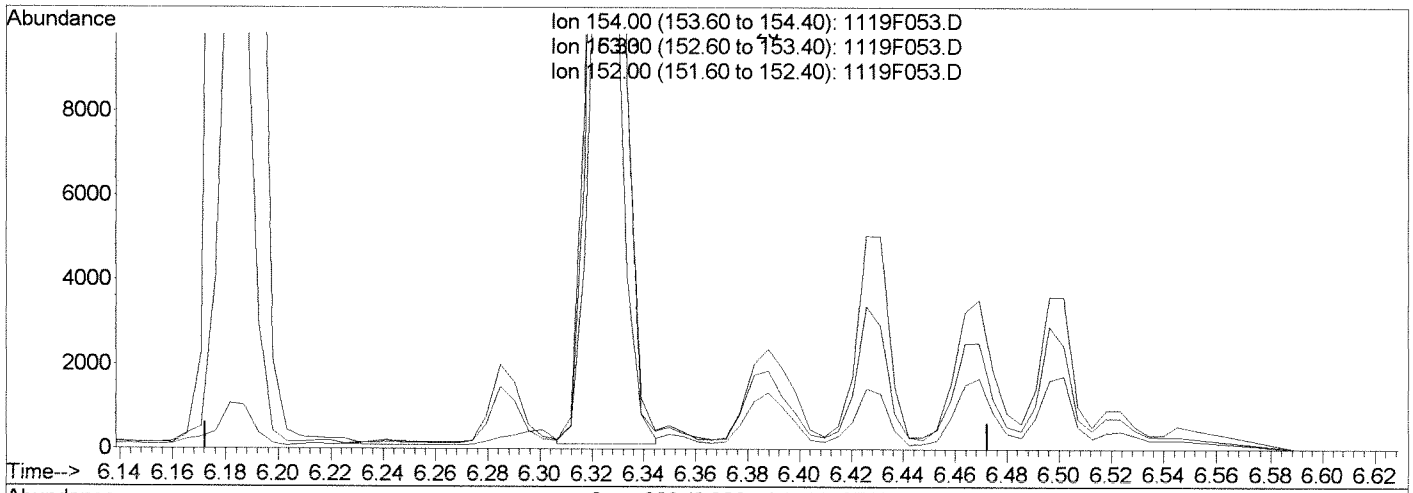
response 25253

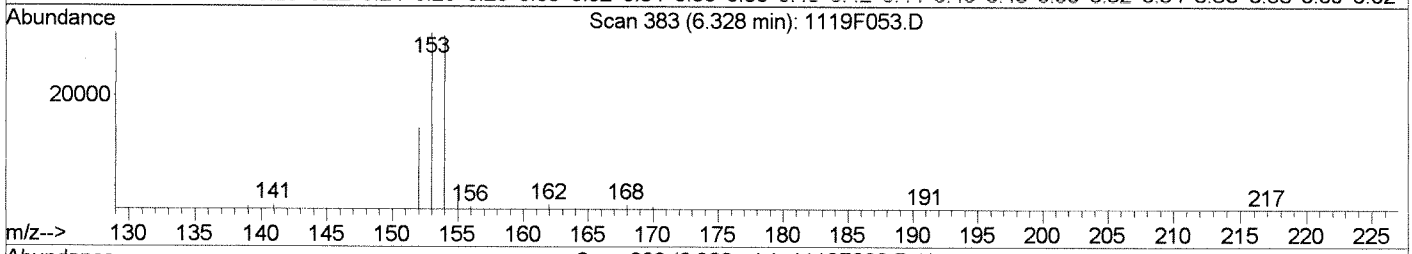
Ion	Exp%	Act%
154.00	100	100
153.00	107.80	101.08
152.00	54.70	46.12
0.00	0.00	0.00

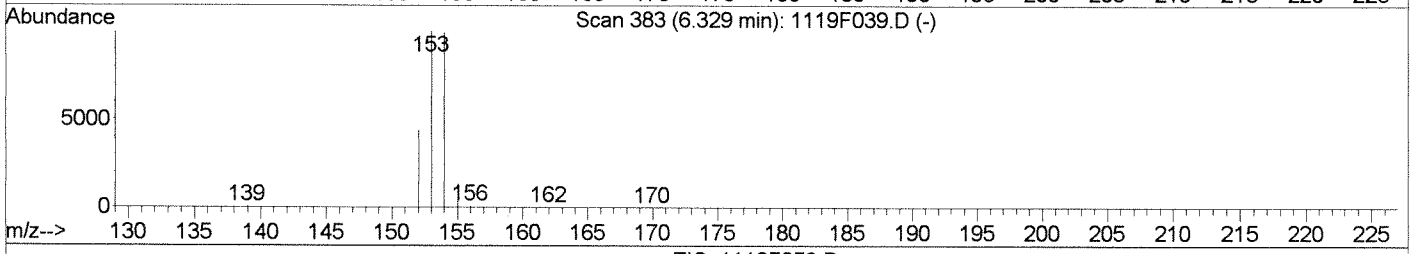
Quantitation Report (Qedit)

Data File : J:\MS11\DATA\111909\1119F053.D Vial: 41
Acq On : 20 Nov 2009 4:46 am Operator: LWeiskopf
Sample : K0909140-002 Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 20 12:27 2009 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1119ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Fri Nov 20 12:01:24 2009
Response via : Multiple Level Calibration







TIC: 1119F053.D

(12) Acenaphthene (T)

6.33min 62.48ng/ml m

response 24537

Ion	Exp%	Act%
154.00	100	100
153.00	107.80	101.25
152.00	54.70	46.54
0.00	0.00	0.00

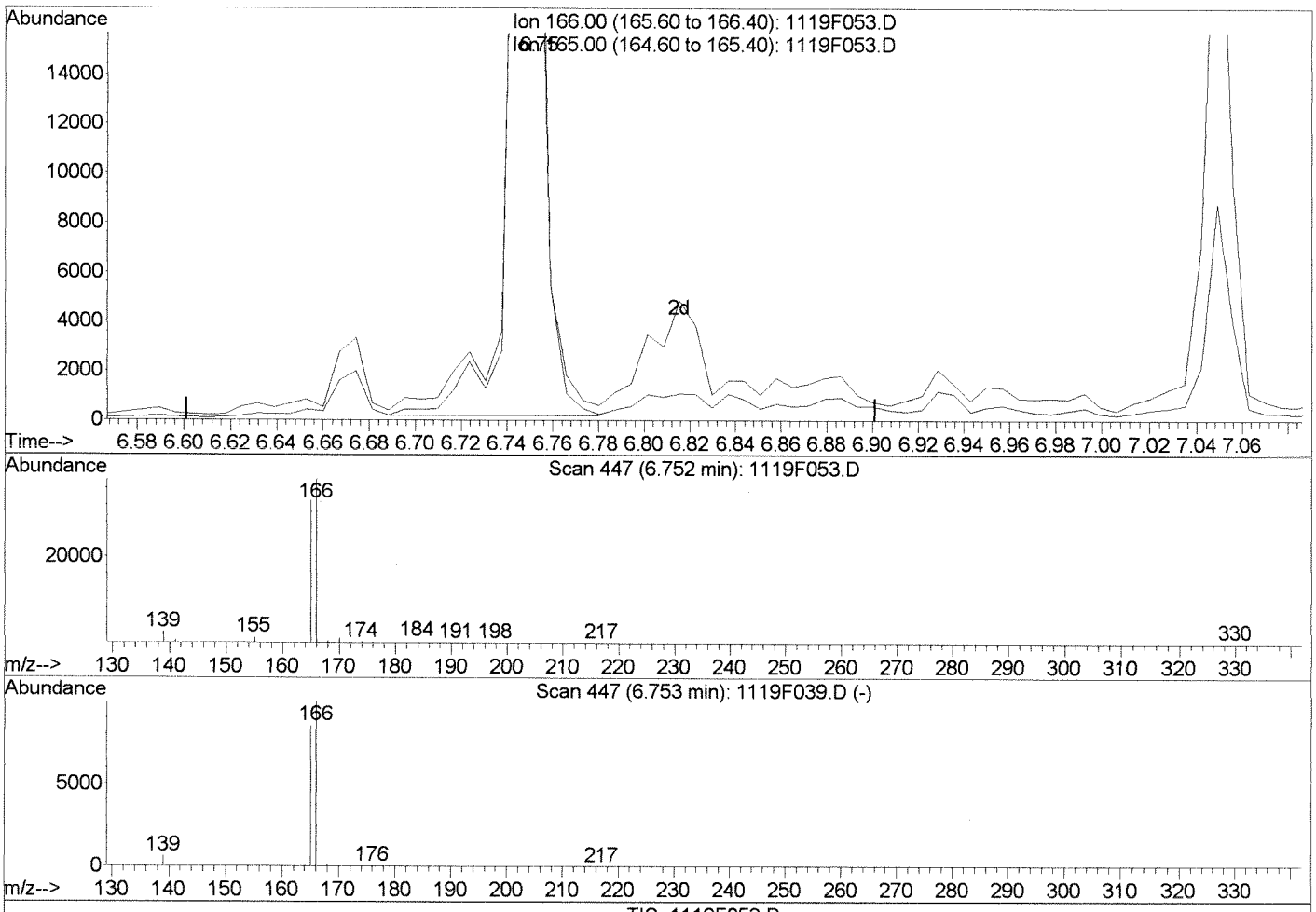
11/21/09
11-23-09

1119F053.D 1119ALK.M Fri Nov 20 12:27:41 2009

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\111909\1119F053.D Vial: 41
Acq On : 20 Nov 2009 4:46 am Operator: LWeiskopf
Sample : K0909140-002 Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 20 12:27 2009 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1119ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Fri Nov 20 12:01:24 2009
Response via : Multiple Level Calibration



TIC: 1119F053.D

(16) Fluorene (T)

6.75min 74.70ng/ml

response 37167

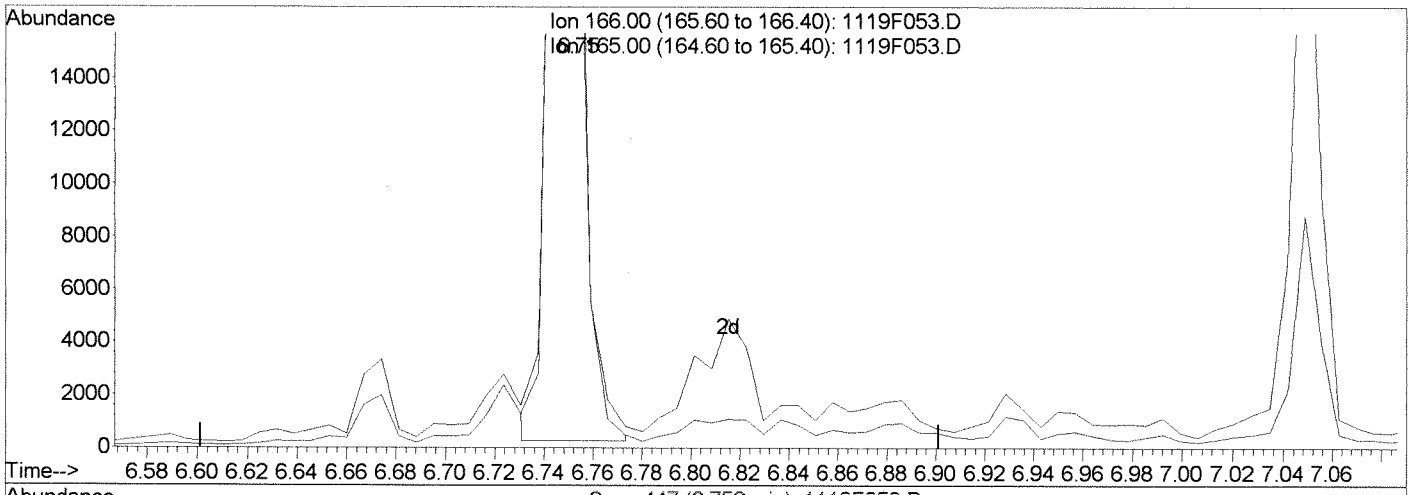
Ion	Exp%	Act%
166.00	100	100
165.00	87.80	86.46
0.00	0.00	0.00
0.00	0.00	0.00

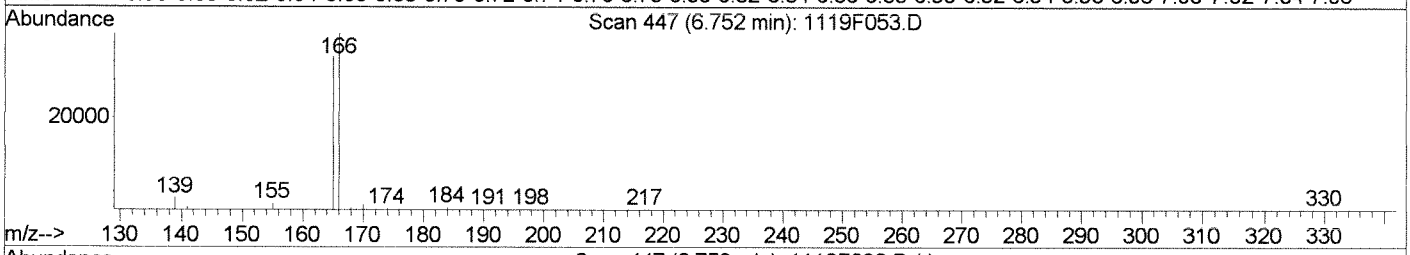
1119F053.D 1119ALK.M Fri Nov 20 12:28:07 2009

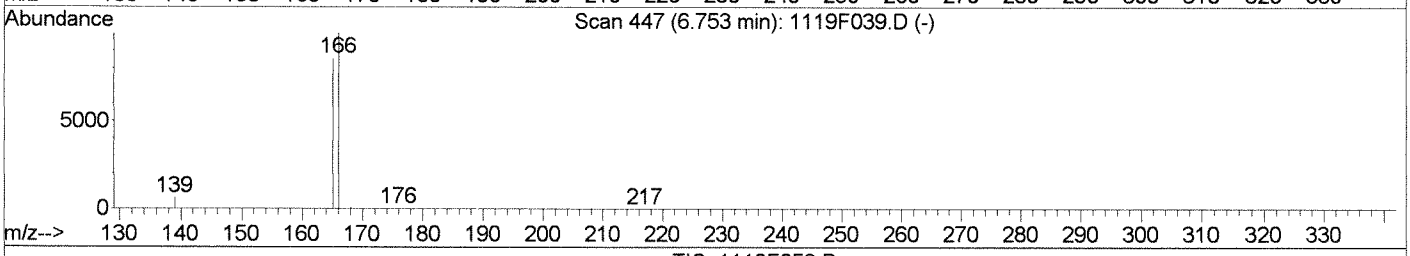
Quantitation Report (Qedit)

Data File : J:\MS11\DATA\111909\1119F053.D Vial: 41
Acq On : 20 Nov 2009 4:46 am Operator: LWeiskopf
Sample : K0909140-002 Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 20 12:28 2009 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1119ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Fri Nov 20 12:01:24 2009
Response via : Multiple Level Calibration







TIC: 1119F053.D

(16) Fluorene (T)

6.75min 70.10ng/ml m

response 34876

Ion	Exp%	Act%
166.00	100	100
165.00	87.80	87.07
0.00	0.00	0.00
0.00	0.00	0.00

OK 11/21/19 M1123-09

1119F053.D 1119ALK.M Fri Nov 20 12:28:15 2009

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	URS Corporation	**Service Request:**	K0909140
Project:	Boise St. Helens Pulp and Paper Mill-2009	**Date Collected:**	09/28/2009
Sample Matrix:	Sediment	**Date Received:**	09/29/2009

Polynuclear Aromatic Hydrocarbons

Sample Name:	M-4-C	**Units:**	ug/Kg
Lab Code:	K0909140-003	**Basis:**	Dry
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270C SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Naphthalene	**150**		2.6	0.60	1	11/10/09	11/20/09	KWG0910535	
2-Methylnaphthalene	**41**		2.6	0.46	1	11/10/09	11/20/09	KWG0910535	
Acenaphthylene	**42**		2.6	0.56	1	11/10/09	11/20/09	KWG0910535	
Acenaphthene	**35**		2.6	0.50	1	11/10/09	11/20/09	KWG0910535	
Fluorene	**36**		2.6	0.61	1	11/10/09	11/20/09	KWG0910535	
Dibenzofuran	**26**		2.6	0.63	1	11/10/09	11/20/09	KWG0910535	
Phenanthrene	**240**		2.6	1.4	1	11/10/09	11/20/09	KWG0910535	
Anthracene	**44**		2.6	0.55	1	11/10/09	11/20/09	KWG0910535	
Fluoranthene	**340**		2.6	0.98	1	11/10/09	11/20/09	KWG0910535	
Pyrene	**330**		2.6	0.76	1	11/10/09	11/20/09	KWG0910535	
Benz(a)anthracene	**120**		2.6	0.72	1	11/10/09	11/20/09	KWG0910535	
Chrysene	**180**		2.6	0.80	1	11/10/09	11/20/09	KWG0910535	
Benzo(b)fluoranthene	**200**		2.6	0.92	1	11/10/09	11/20/09	KWG0910535	
Benzo(k)fluoranthene	**61**		2.6	0.87	1	11/10/09	11/20/09	KWG0910535	
Benzo(a)pyrene	**190**		2.6	0.76	1	11/10/09	11/20/09	KWG0910535	
Indeno(1,2,3-cd)pyrene	**170**		2.6	0.87	1	11/10/09	11/20/09	KWG0910535	
Dibenz(a,h)anthracene	**25**		2.6	0.80	1	11/10/09	11/20/09	KWG0910535	
Benzo(g,h,i)perylene	**210**		2.6	0.85	1	11/10/09	11/20/09	KWG0910535	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	57	17-104	11/20/09	Acceptable
Fluoranthene-d10	56	27-106	11/20/09	Acceptable
Terphenyl-d14	52	35-109	11/20/09	Acceptable

Comments:

Exception Report

Data File: J:\MS11\DATA\111909\1119F054.D
Lab ID: K0909140-003
RunType: SMPL
Matrix: SEDIMENT

Date Acquired: 11/20/2009 05:12
Date Quantitated: 11/20/2009 12:30
Batch ID: KWG0910976
Analysis Method: 8270C SIM
ListJoinID: LJ5646

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Tune Window	NA	NA	NA	x	
Analytical Holding Time	NA	NA	NA	x	
Preparation Holding Time	NA	NA	NA	x	
Pre-Preparation Holding Time	NA	NA	NA	x	
ICAL Pass/Fail	NA	NA	NA	x	
ICAL Average RSD	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Initial Calibration Minimum RF	NA	NA	NA	x	
Initial Calibration SPCC/CCC	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA	x	
Continuing Calibration Minimum RF	NA	NA	NA	x	
Continuing Calibration SPCC/CCC	NA	NA	NA	x	
Method Blank	NA	NA	NA	x	
MB Surrogate Recovery	NA	NA	NA	x	
Lab Control Spike	NA	NA	NA	x	
Duplicate Lab Control Spike	NA	NA	NA	x	
Internal Standards	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Relative Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Primary Review: 12/11/2009

Secondary Review: 12/14/09

Quantitation Report

Bottle ID:		**Tier:**	V	**Matrix:**	SEDIMENT
Prod Code:	8270C SIM PAH_S	**Collect Date:**	09/28/2009	**Receive Date:**	09/29/2009

Analysis Lot:	KWG0910976	**Prep Lot:**	KWG0910535	**Report Group:**	K0909140
Analysis Method:	8270C SIM	**Prep Method:**	EPA 3541		
Prep Ref:	865756	**Prep Date:**	11/10/2009		

Quant Method:	J:\MS11\METHODS\SIM\1119ALK.M	**Calibration ID:**	CAL9029
Title:	Polynuclear Aromatic Hydrocarbons	**Report List ID:**	LJ5646
Tune Ref:	J:\MS11\DATA\111909\1119F038.D	**Method ID:**	MJ253
MB Ref:	J:\MS11\DATA\111909\1119F041.D	**Quant based on Report List**	

Data File:	J:\MS11\DATA\111909\1119F054.D			**Instrument:**	MS11
Acqu Date:	11/20/2009 05:12	**Quant Date:**	11/20/2009 12:30	**Vial:**	42
Run Type:	SMPL			**Dilution:**	1.0
Lab ID:	K0909140-003			**Soln Conc. Units:**	ng/ml

Internal Standard Compounds

IS Ref	Parameter Name	RT	RT Dev	Quant Mass	Response	Solution Conc	Area Criteria
1	Naphthalene-d8	4.88	0.00	136	142265	200.00	OK
2	Acenaphthene-d10	6.30	0.00	164	79570	200.00	OK
3	Phenanthrene-d10	7.53	-0.01	188	155659	200.00	OK
4	Chrysene-d12	10.27	0.00	240	235776	200.00	OK
5	Perylene-d12	13.86	0.00	264	271932	200.00	OK

Surrogate Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	%Rec	%Rec Limits		Rpt?
2	Fluorene-d10	6.72	0.00	0.00	176	50970	114.08	57	17-104	OK	
3	Fluoranthene-d10	8.51	-0.01	0.00	212	104587	111.13	56	27-106	OK	
4	Terphenyl-d14	8.90	0.00	0.00	244	100997	103.48	52	35-109	OK	

Target Compounds

Final Conc. Units: ug/Kg Dry Weight

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	Final Conc	Q	Rpt?
1	Naphthalene	4.90		0.00	128	186044	297.30	150		
1	2-Methylnaphthalene	5.45		0.00	142	36596	81.18	41		
2	Acenaphthylene	6.18		0.00	152	54112	82.76	42		
2	Acenaphthene	6.32	-0.01	0.00	154	26667**m**	68.66	35		
2	Dibenzofuran	6.47		0.00	168	29992	50.98	26		
2	Fluorene	6.75		0.00	166	34488**m**	70.09	36		
3	Phenanthrene	7.55		0.00	178	391783	472.09	240		
3	Anthracene	7.60		0.00	178	68118	85.41	44		
3	Fluoranthene	8.53		0.00	202	647266	670.92	340		
4	Pyrene	8.75	0.01	0.00	202	802202	641.59	330		
4	Benz(a)anthracene	10.25		0.00	228	293655	243.80	120		
4	Chrysene	10.31		0.00	228	398821	346.72	180		
5	Benzo(b)fluoranthene	12.64		0.00	252	544128	384.02	200		

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Data File:	J:\MS11\DATA\111909\1119F054.D			**Instrument:**	MS11
Acqu Date:	11/20/2009 05:12	**Quant Date:**	11/20/2009 12:30	**Vial:**	42
Run Type:	SMPL			**Dilution:**	1.0
Lab ID:	K0909140-003			**Soln Conc. Units:**	ng/ml

Target Compounds **Final Conc. Units:** ug/Kg Dry Weight

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	Final Conc	Q	Rpt?
5	Benzo(k)fluoranthene	12.73		0.00	252	160478	119.52	61		
5	Benzo(a)pyrene	13.66		0.00	252	470455	376.89	190		
5	Indeno(1,2,3-cd)pyrene	16.99		0.00	276	386159	335.61	170		
5	Dibenz(a,h)anthracene	17.06	-0.01	0.00	278	57832	48.23	25		
5	Benzo(g,h,i)perylene	17.42	0.01	0.00	276	541991	416.81	210		

Prep Amount:	20.03 g	**Dilution:**	1.0
Prep Final Vol:	10 ml	**Unit Factor:**	1
Solids:	97.7 %		

Final Concentration = ((Soln Conc x Prep Final Vol x Dilution) / (Prep Amount x Solids)) x Unit Factor

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\111909\1119F054.D Vial: 42
Acq On : 20 Nov 2009 5:12 am Operator: LWeiskopf
Sample : K0909140-003 Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 20 11:02:29 2009 Quant Results File: 1119ALK.RES

Quant Method : J:\MS11\METHODS\SIM\1119ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Fri Nov 20 09:17:56 2009
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	4.88	136	142265	200.00	ng/ml	0.00
10) Acenaphthene-d10	6.30	164	79570	200.00	ng/ml	0.00
22) Phenanthrene-d10	7.53	188	155659	200.00	ng/ml	0.00
37) Chrysene-d12	10.27	240	235776	200.00	ng/ml	0.00
49) Perylene-d12	13.86	264	271932	200.00	ng/ml	-0.01
System Monitoring Compounds						
15) Fluorene-d10	6.72	176	50970	114.08	ng/ml	0.00
Spiked Amount 200.000			Recovery = 57.04%			
20) 2,4,6 Tribromophenol	0.00	330	0d	0.00	ng/ml	
Spiked Amount 375.000			Recovery = 0.00%			
36) Fluoranthene-d10	8.51	212	104587	111.13	ng/ml	0.00
Spiked Amount 200.000			Recovery = 55.56%			
42) Terphenyl-d14	8.90	244	100997	103.48	ng/ml	0.00
Spiked Amount 200.000			Recovery = 51.74%			
Target Compounds						Qvalue
2) Naphthalene	4.90	128	186044	297.30	ng/ml	100
3) 2-Methylnaphthalene	5.45	142	36596	81.18	ng/ml	94
4) 1-Methylnaphthalene	5.53	142	20519	47.45	ng/ml	85
5) Biphenyl	5.82	154	17513	32.65	ng/ml	98
6) 2,6-Dimethylnaphthalene	5.96	156	21073	50.86	ng/ml	99
11) Acenaphthylene	6.18	152	54112	82.76	ng/ml	99
12) Acenaphthene	6.32	154	26667m	68.66	ng/ml	
13) Dibenzofuran	6.47	168	29992	50.98	ng/ml	61
14) 2,3,5-Trimethylnaphthalene	6.63	170	12486	30.10	ng/ml	74
16) Fluorene	6.75	166	34488m	70.09	ng/ml	
23) Dibenzothiophene	7.45	184	24906	35.92	ng/ml	87
27) Phenanthrene	7.55	178	391783	472.09	ng/ml	99
28) Anthracene	7.60	178	68118	85.41	ng/ml	98
29) Carbazole	7.73	167	7607	11.17	ng/ml	88
30) 1-Methylphenanthrene	8.05	192	43669	67.59	ng/ml	96
35) Fluoranthene	8.53	202	647266	670.92	ng/ml	95
38) Pyrene	8.75	202	802202	641.59	ng/ml	93
43) Benz(a)anthracene	10.25	228	293655	243.80	ng/ml	46
44) Chrysene	10.31	228	398821	346.72	ng/ml	97
50) Benzo(b)fluoranthene	12.64	252	544128	384.02	ng/ml	98
51) Benzo(k)fluoranthene	12.73	252	160478	119.52	ng/ml	99
52) Benzo(e)pyrene	13.49	252	360169	277.37	ng/ml	99
53) Benzo(a)pyrene	13.66	252	470455	376.89	ng/ml	98
54) Perylene	13.94	252	203864	165.37	ng/ml	100
55) Indeno(1,2,3-cd)pyrene	16.99	276	386159	335.61	ng/ml	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\111909\1119F054.D Vial: 42
Acq On : 20 Nov 2009 5:12 am Operator: LWeiskopf
Sample : K0909140-003 Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 20 11:02:29 2009 Quant Results File: 1119ALK.RES

Quant Method : J:\MS11\METHODS\SIM\1119ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Fri Nov 20 09:17:56 2009
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

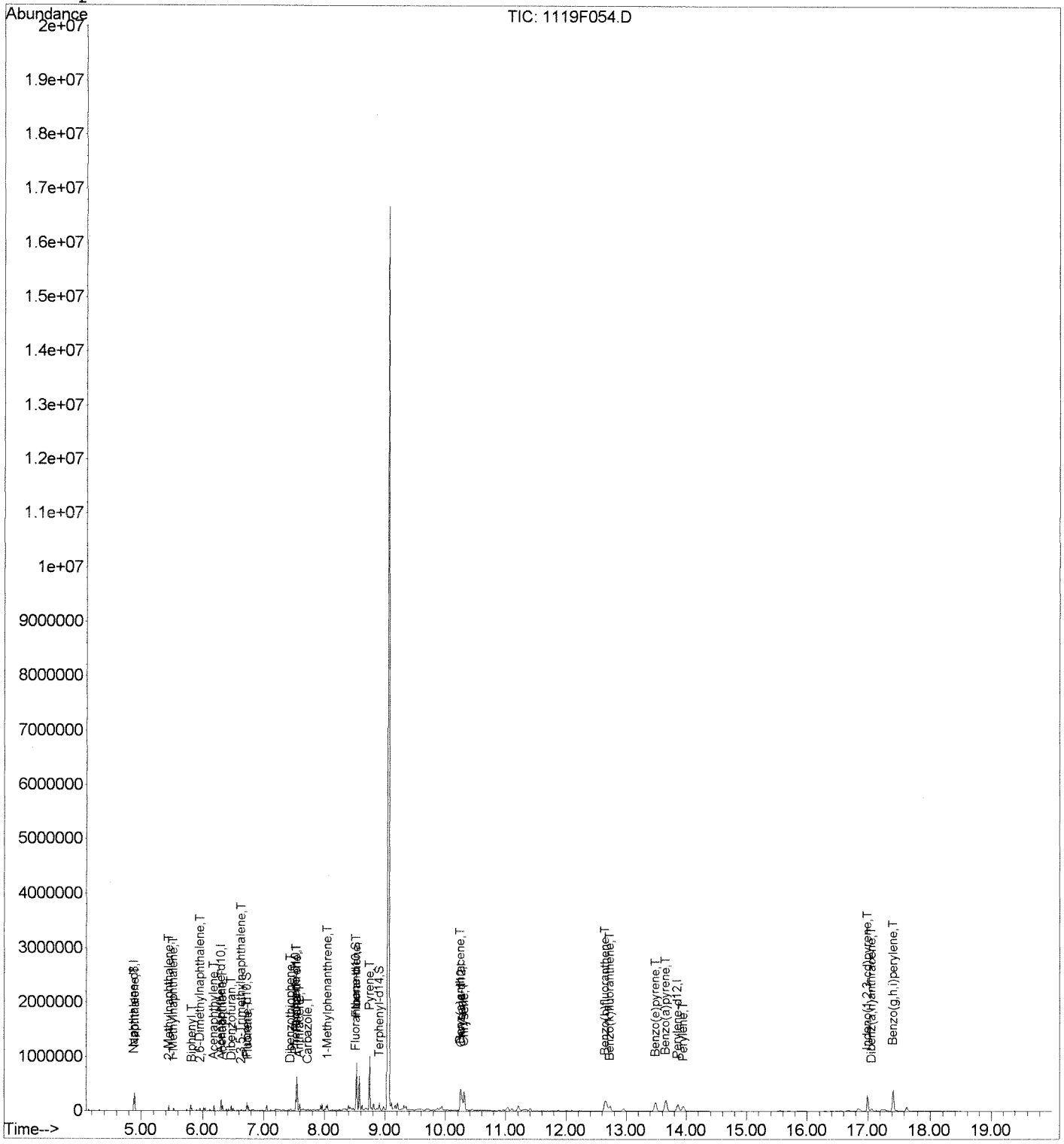
	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
56)	Dibenz(a,h)anthracene	17.06	278	57832	48.23	ng/ml	85
57)	Benzo(g,h,i)perylene	17.42	276	541991	416.81	ng/ml	100

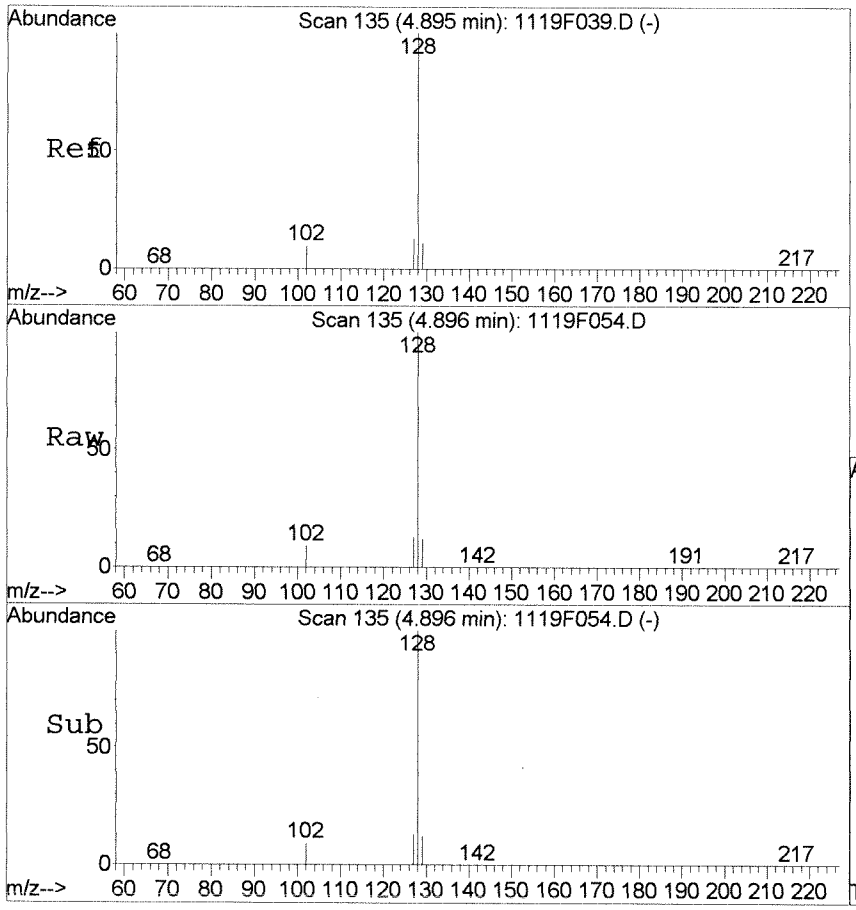
(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\111909\1119F054.D Vial: 42
Acq On : 20 Nov 2009 5:12 am Operator: LWeiskopf
Sample : K0909140-003 Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 20 12:30 2009 Quant Results File: 1119ALK.RES

Method : J:\MS11\METHODS\SIM\1119ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Fri Nov 20 12:01:24 2009
Response via : Initial Calibration

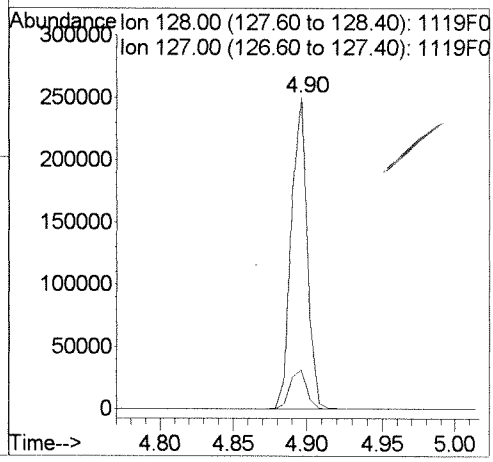


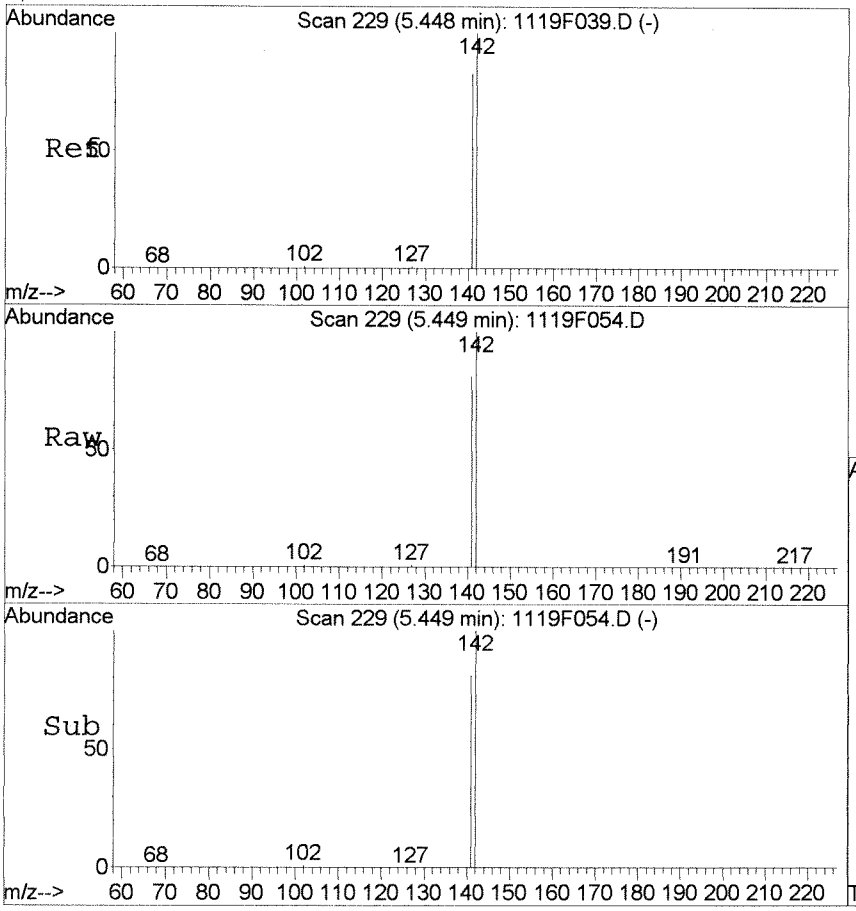


#2
Naphthalene
Concen: 297.30 ng/ml
RT: 4.90 min Scan# 135
Delta R.T. 0.01 min
Lab File: 1119F054.D
Acq: 20 Nov 2009 5:12 am

Tgt Ion:128 Resp: 186044

Ion	Ratio	Lower	Upper
128	100		
127	12.5	0.0	42.4

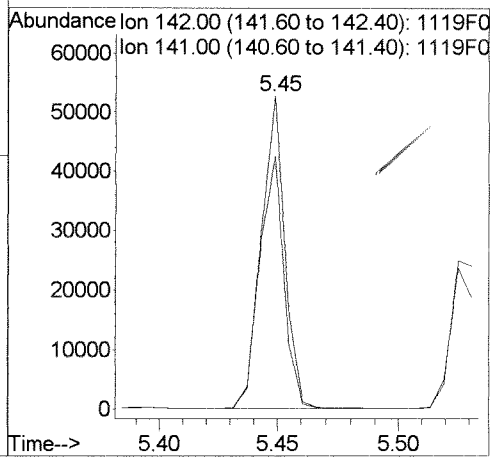


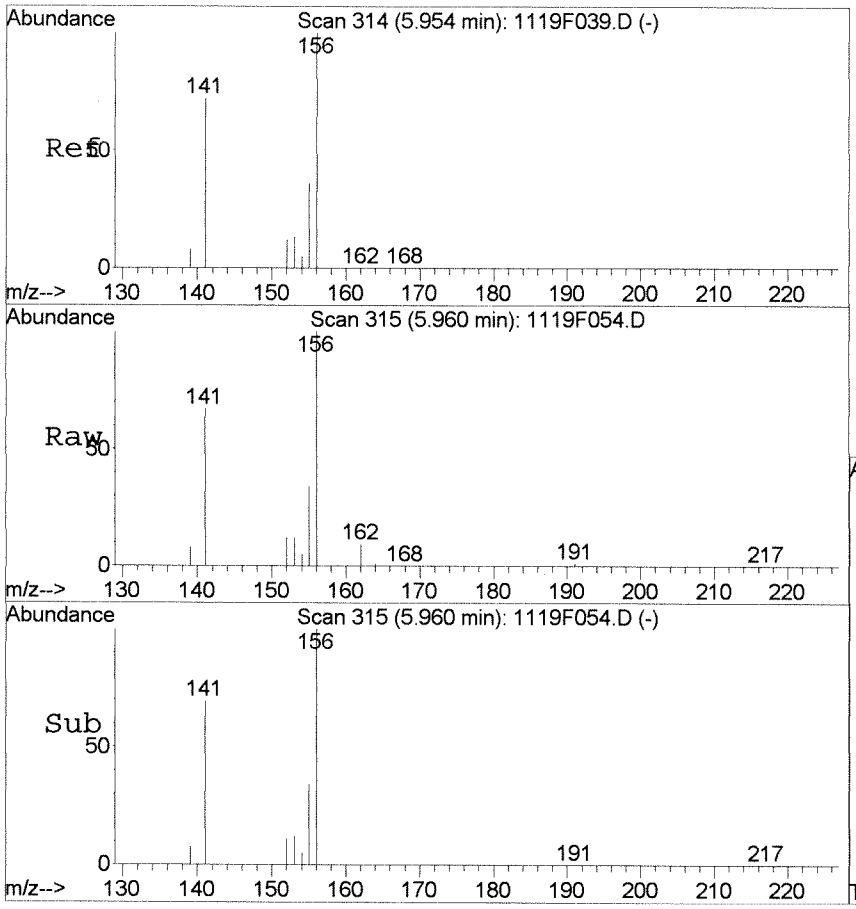


#3
2-Methylnaphthalene
Concen: 81.18 ng/ml
RT: 5.45 min Scan# 229
Delta R.T. 0.01 min
Lab File: 1119F054.D
Acq: 20 Nov 2009 5:12 am

Tgt Ion:142 Resp: 36596

Ion	Ratio	Lower	Upper
142	100		
141	80.7	56.1	116.1

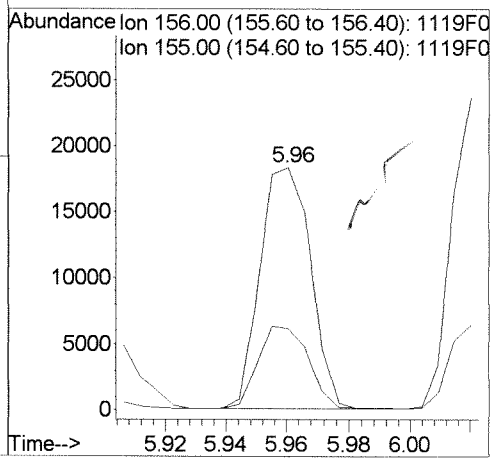


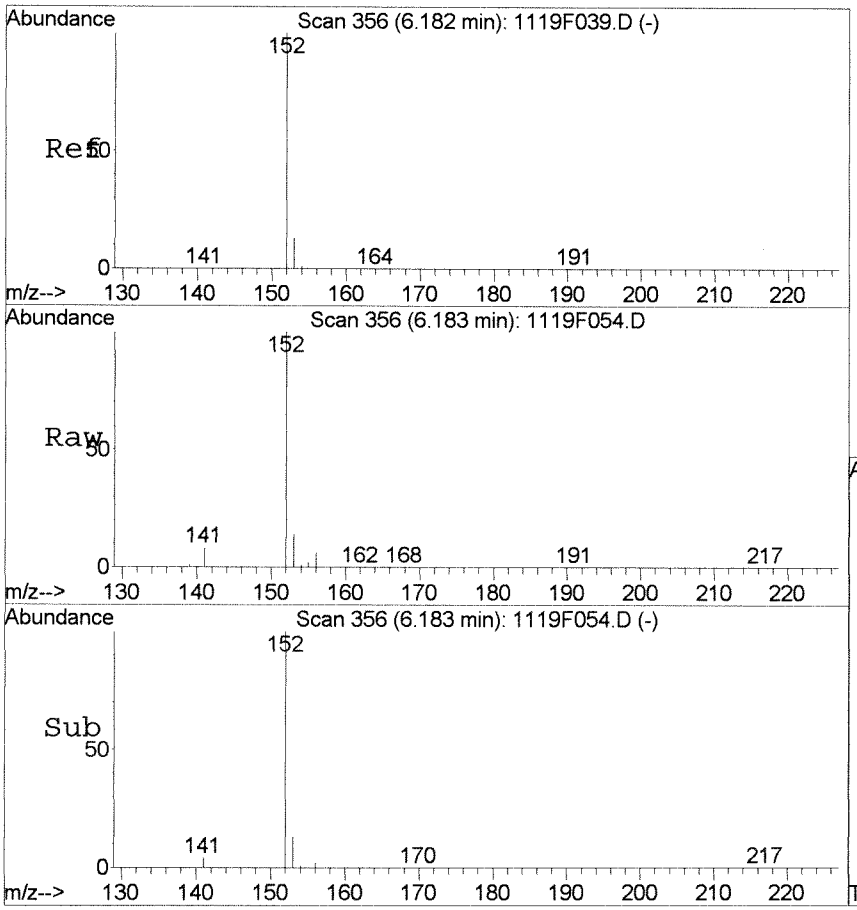


#6
2,6-Dimethylnaphthalene
Concen: 50.86 ng/ml
RT: 5.96 min Scan# 315
Delta R.T. 0.01 min
Lab File: 1119F054.D
Acq: 20 Nov 2009 5:12 am

Tgt Ion:156 Resp: 21073

Ion	Ratio	Lower	Upper
156	100		
155	33.2	3.7	63.7

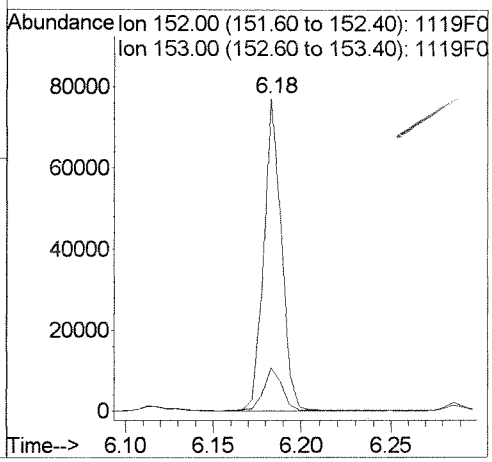


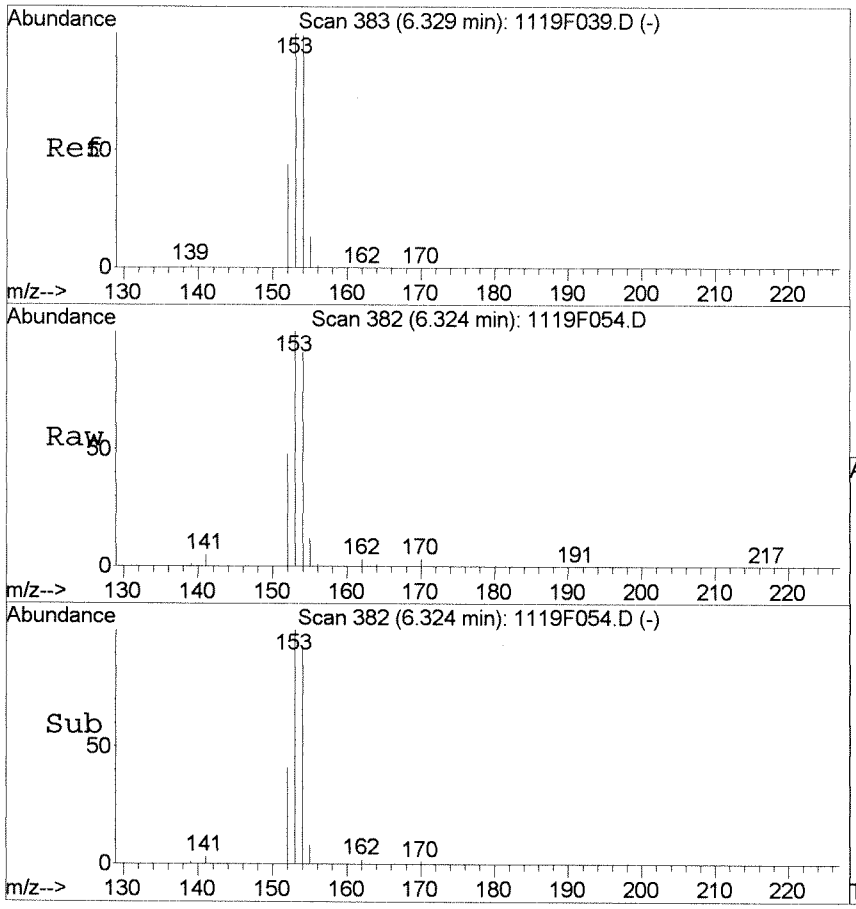


#11
Acenaphthylene
Concen: 82.76 ng/ml
RT: 6.18 min Scan# 356
Delta R.T. 0.00 min
Lab File: 1119F054.D
Acq: 20 Nov 2009 5:12 am

Tgt Ion:152 Resp: 54112

Ion	Ratio	Lower	Upper
152	100		
153	13.8	0.0	44.1

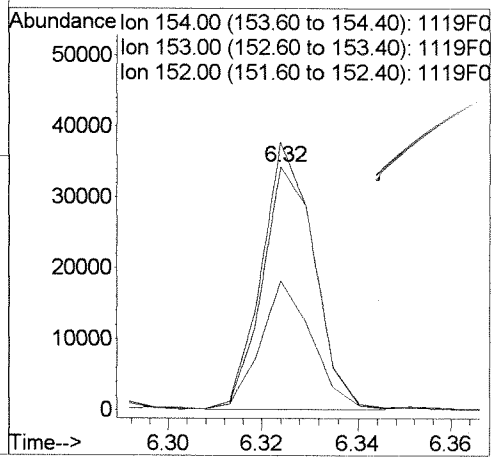


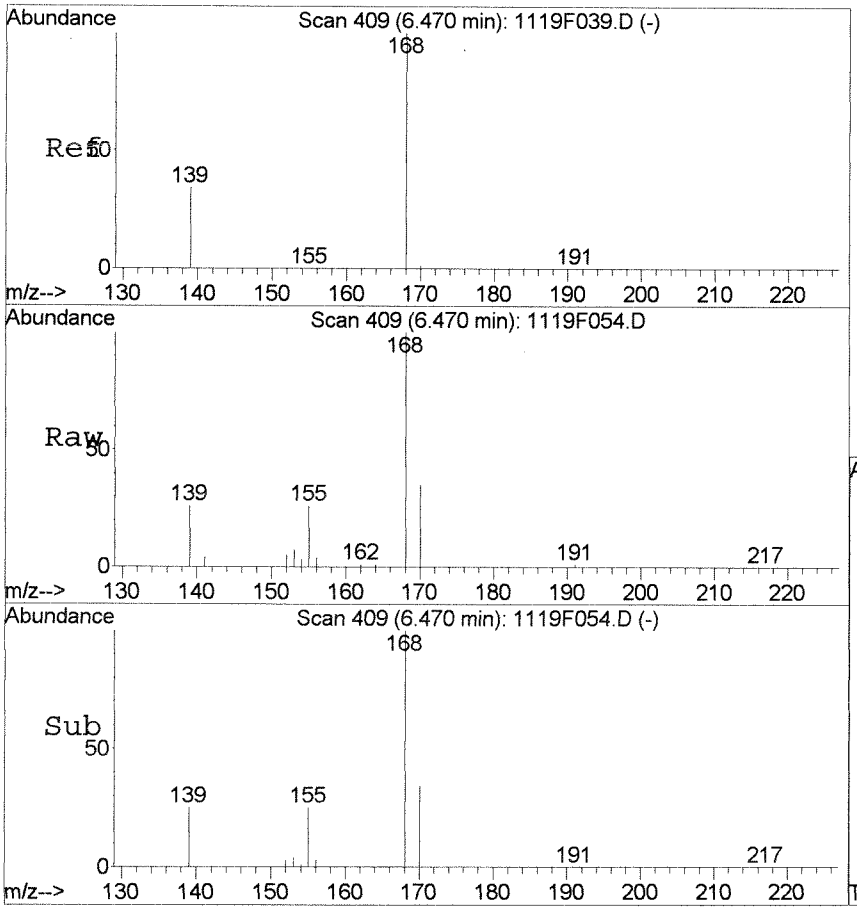


#12
Acenaphthene
Concen: 68.66 ng/ml m
RT: 6.32 min Scan# 382
Delta R.T. 0.00 min
Lab File: 1119F054.D
Acq: 20 Nov 2009 5:12 am

Tgt Ion:154 Resp: 26667

Ion	Ratio	Lower	Upper
154	100		
153	110.1	77.8	137.8
152	53.0	24.7	84.7

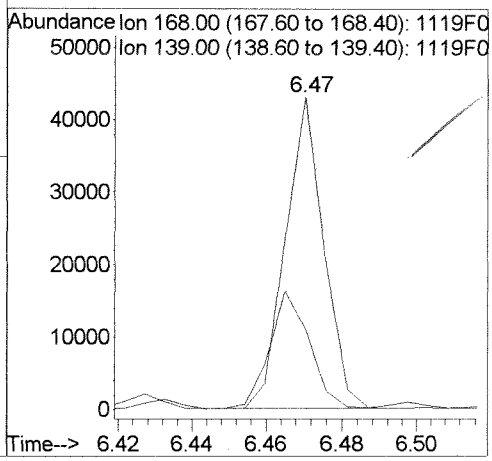


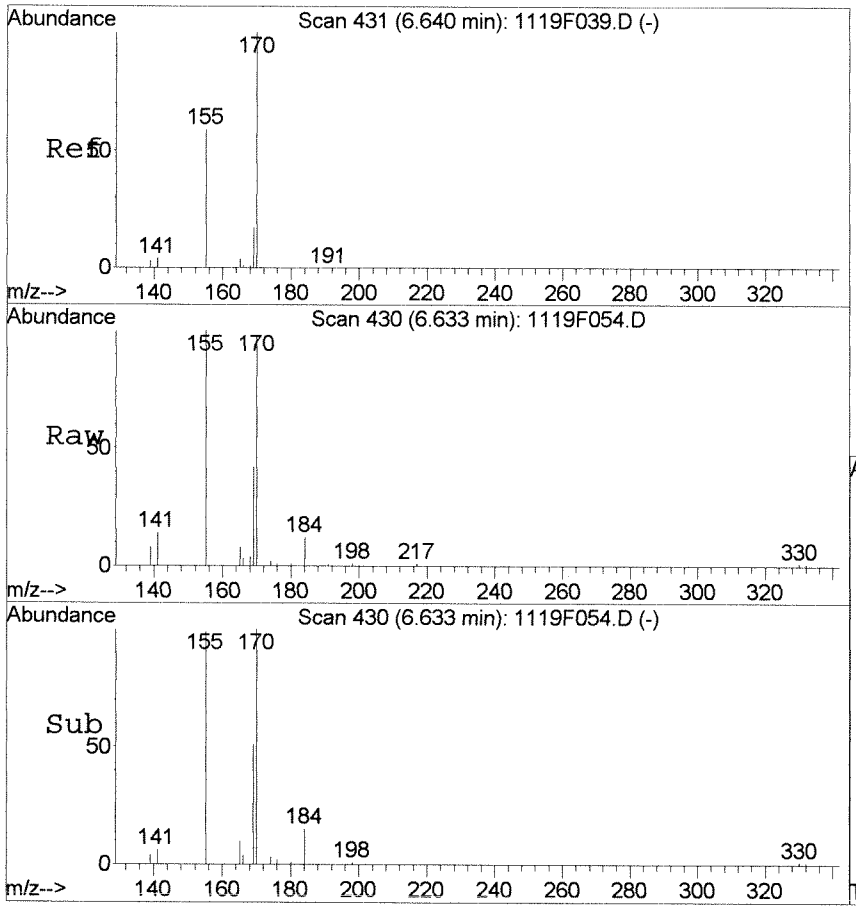


#13
Dibenzofuran
Concen: 50.98 ng/ml
RT: 6.47 min Scan# 409
Delta R.T. 0.01 min
Lab File: 1119F054.D
Acq: 20 Nov 2009 5:12 am

Tgt Ion:168 Resp: 29992

Ion	Ratio	Lower	Upper
168	100		
139	25.7	23.3	83.3

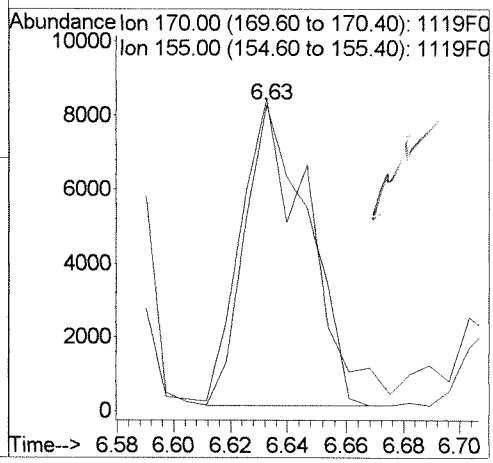


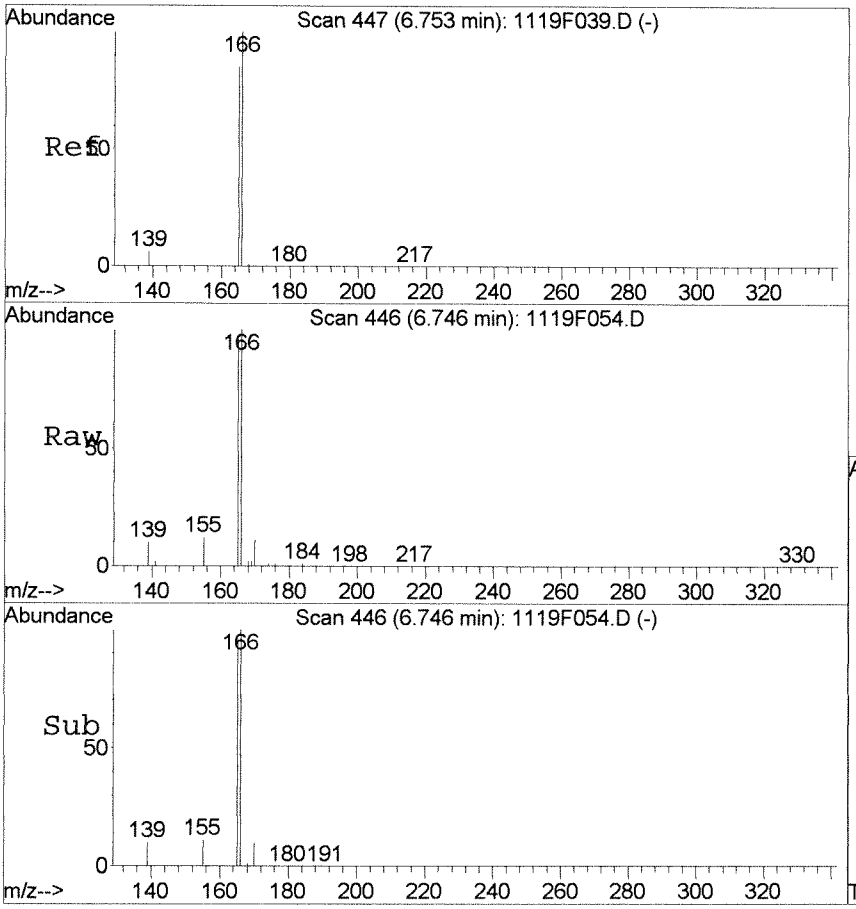


#14
2,3,5-Trimethylnaphthalene
Concen: 30.10 ng/ml
RT: 6.63 min Scan# 430
Delta R.T. -0.00 min
Lab File: 1119F054.D
Acq: 20 Nov 2009 5:12 am

Tgt Ion:170 Resp: 12486

Ion	Ratio	Lower	Upper
170	100		
155	100.7	48.2	108.2

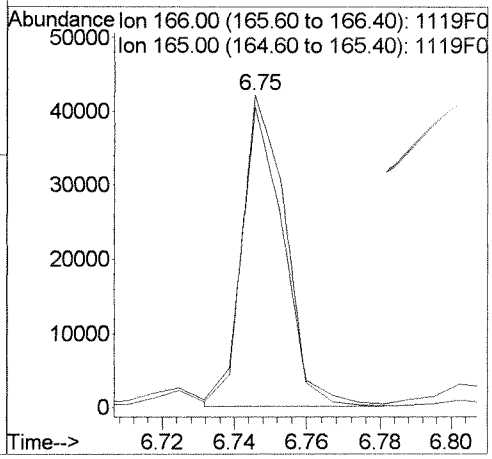


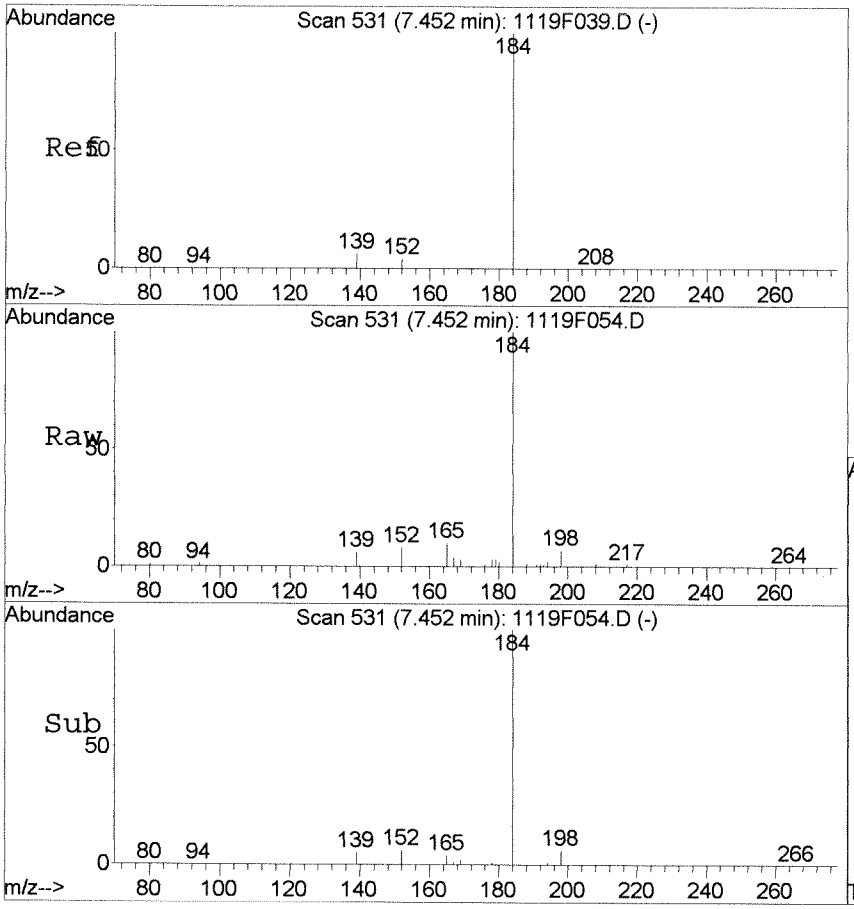


#16
Fluorene
Concen: 70.09 ng/ml m
RT: 6.75 min Scan# 446
Delta R.T. -0.01 min
Lab File: 1119F054.D
Acq: 20 Nov 2009 5:12 am

Tgt Ion:166 Resp: 34488

Ion	Ratio	Lower	Upper
166	100		
165	96.2	57.8	117.8

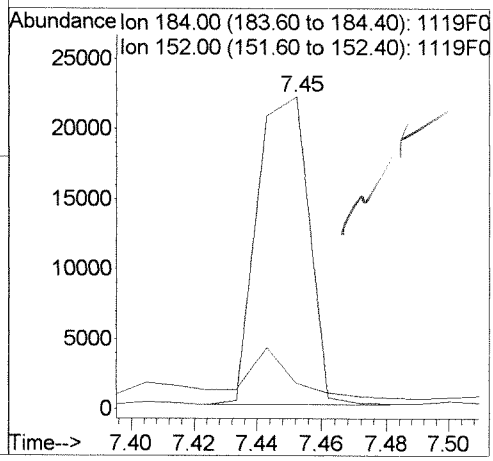


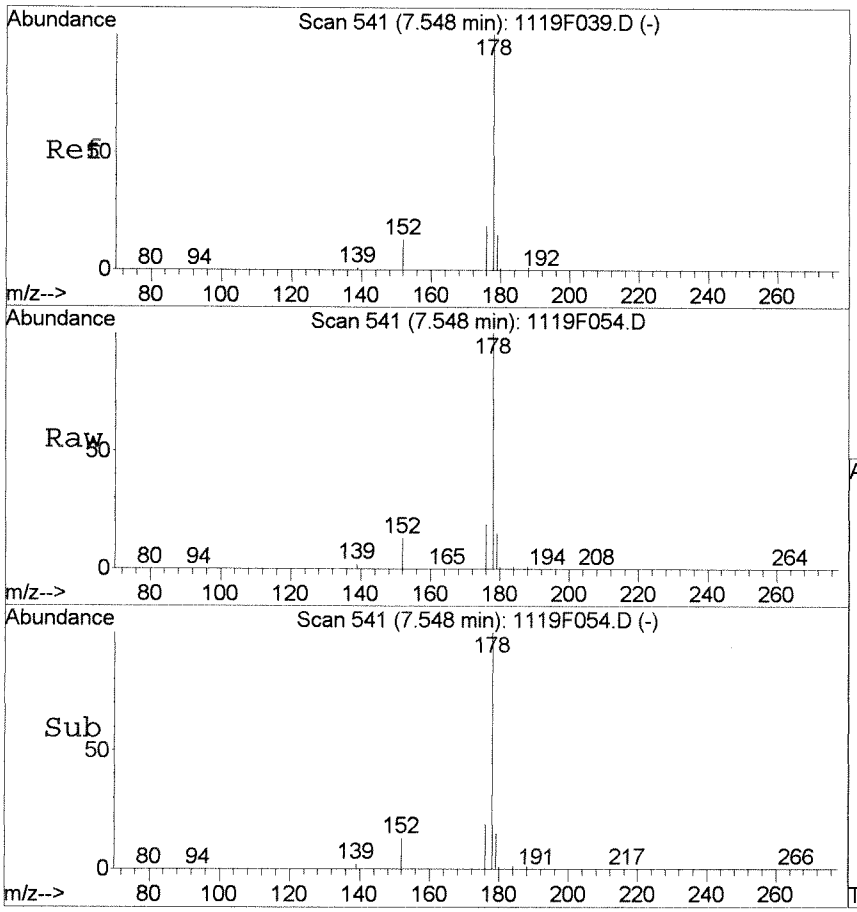


#23
Dibenzothiophene
Concen: 35.92 ng/ml
RT: 7.45 min Scan# 531
Delta R.T. 0.01 min
Lab File: 1119F054.D
Acq: 20 Nov 2009 5:12 am

Tgt Ion:184 Resp: 24906

Ion	Ratio	Lower	Upper
184	100		
152	4.7	0.0	39.4

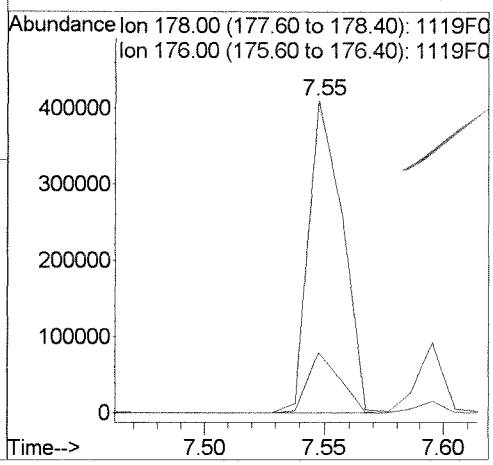


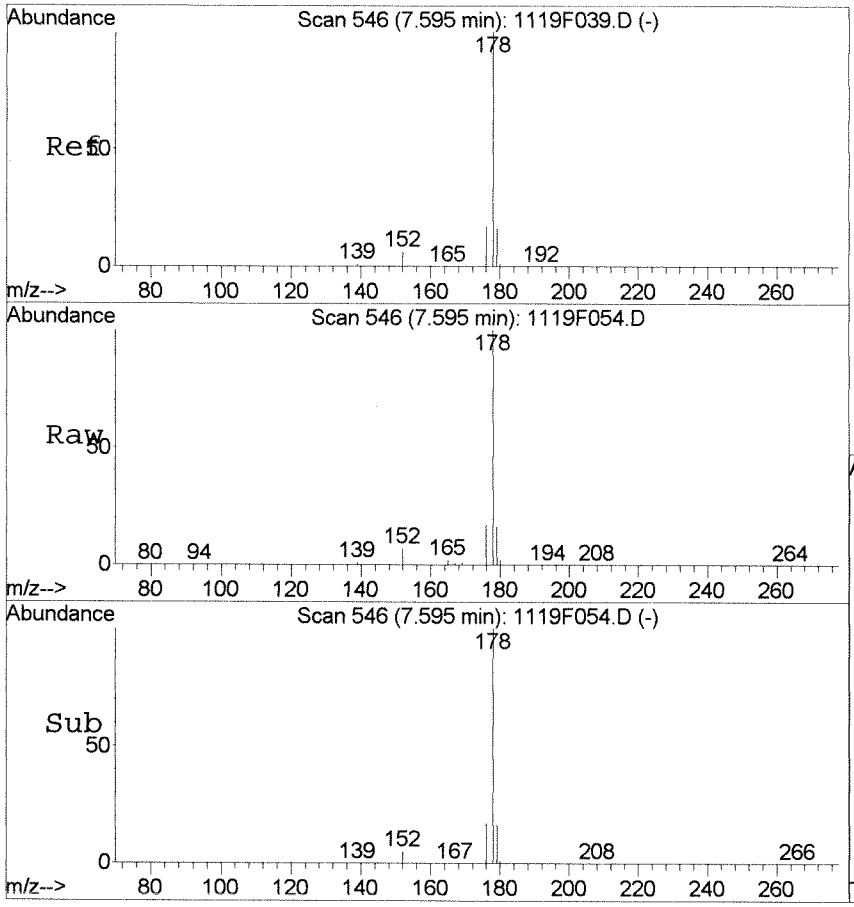


#27
Phenanthrene
Concen: 472.09 ng/ml
RT: 7.55 min Scan# 541
Delta R.T. 0.00 min
Lab File: 1119F054.D
Acq: 20 Nov 2009 5:12 am

Tgt Ion:178 Resp: 391783

Ion	Ratio	Lower	Upper
178	100		
176	19.2	0.0	49.6

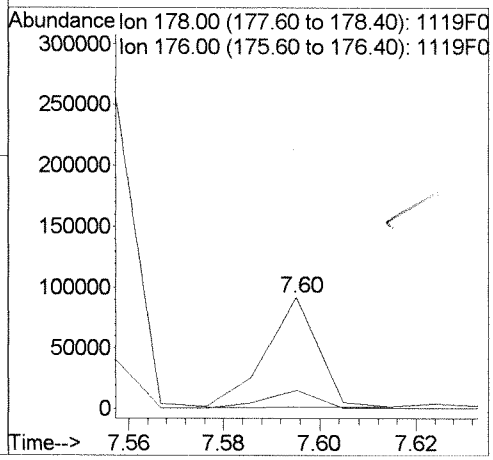


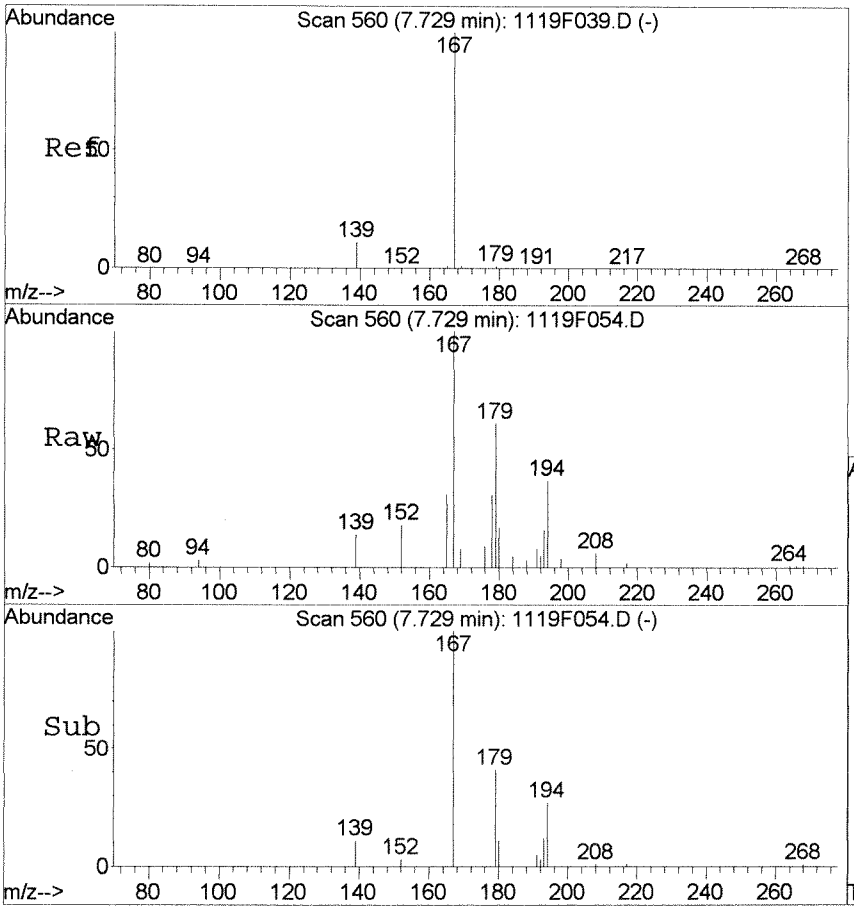


#28
Anthracene
Concen: 85.41 ng/ml
RT: 7.60 min Scan# 546
Delta R.T. 0.01 min
Lab File: 1119F054.D
Acq: 20 Nov 2009 5:12 am

Tgt Ion:178 Resp: 68118

Ion	Ratio	Lower	Upper
178	100		
176	16.6	0.0	47.6

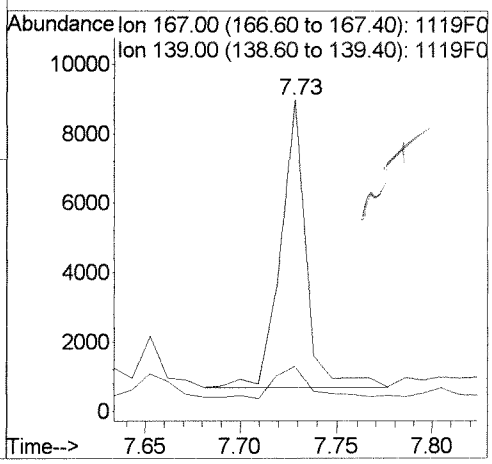


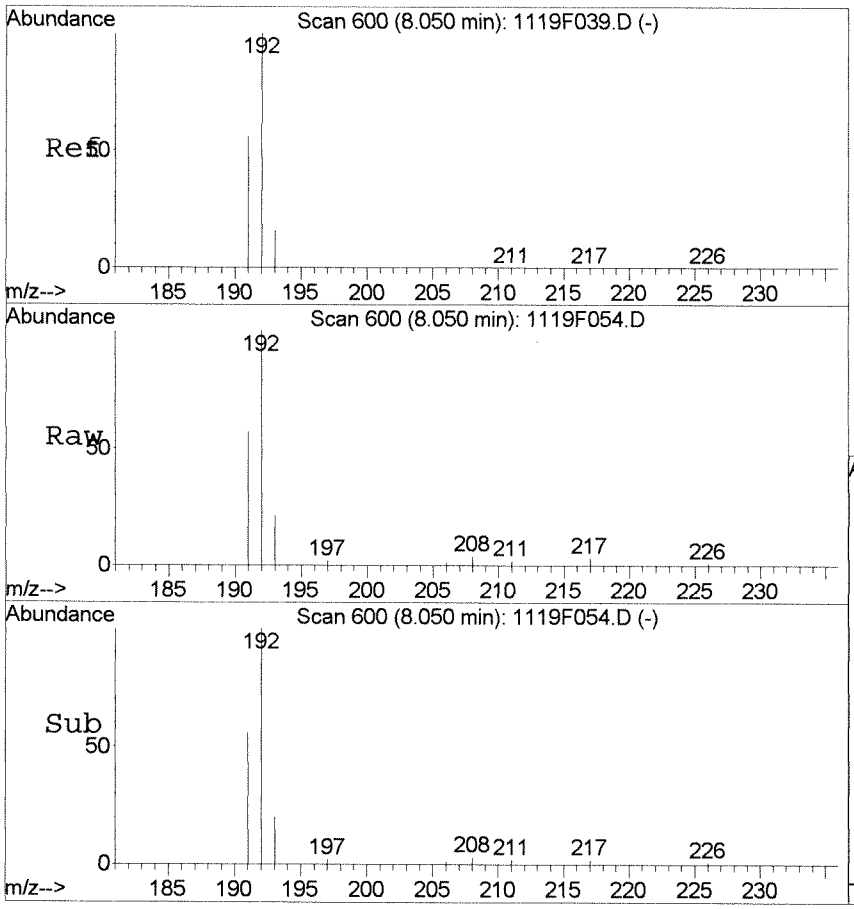


#29
Carbazole
Concen: 11.17 ng/ml
RT: 7.73 min Scan# 560
Delta R.T. 0.01 min
Lab File: 1119F054.D
Acq: 20 Nov 2009 5:12 am

Tgt Ion:167 Resp: 7607

Ion	Ratio	Lower	Upper
167	100		
139	10.6	0.0	45.7

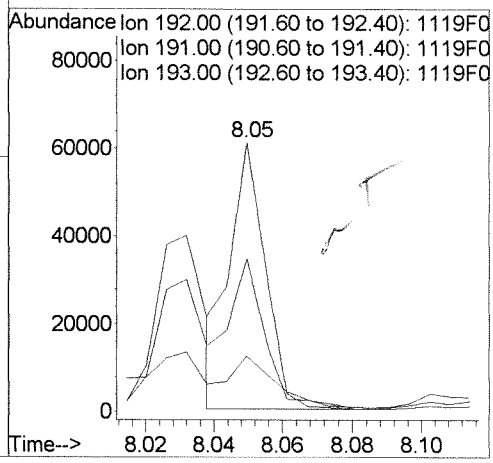


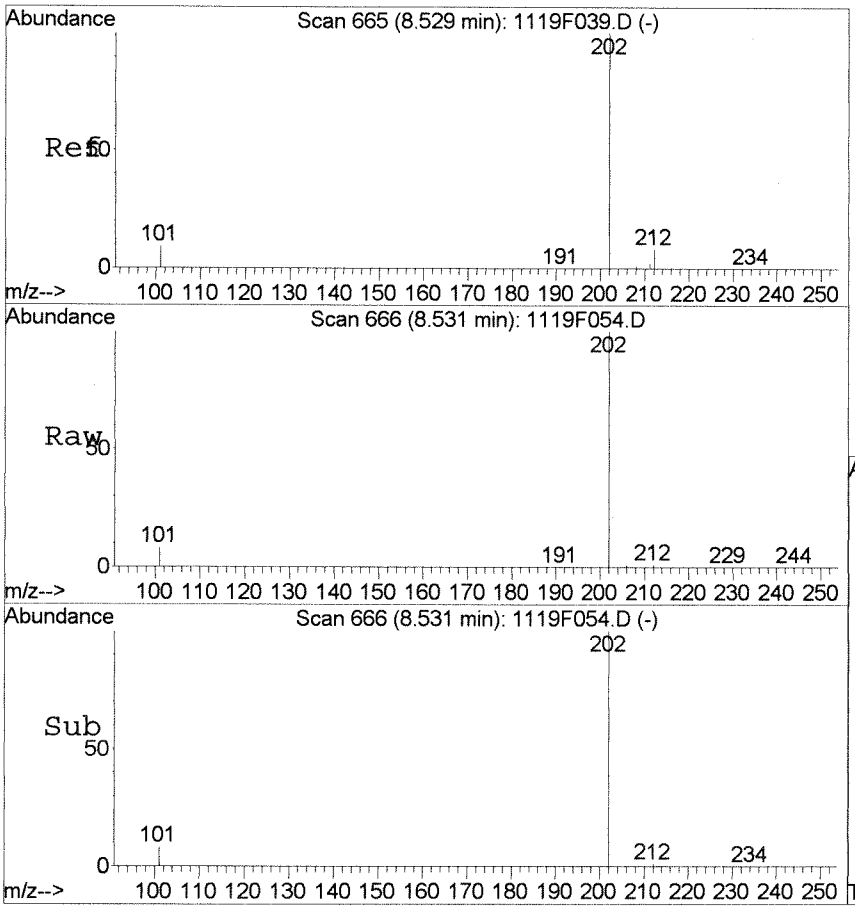


#30
1-Methylphenanthrene
Concen: 67.59 ng/ml
RT: 8.05 min Scan# 600
Delta R.T. -0.00 min
Lab File: 1119F054.D
Acq: 20 Nov 2009 5:12 am

Tgt Ion:192 Resp: 43669

Ion	Ratio	Lower	Upper
192	100		
191	55.9	23.0	83.0
193	19.2	0.0	47.0

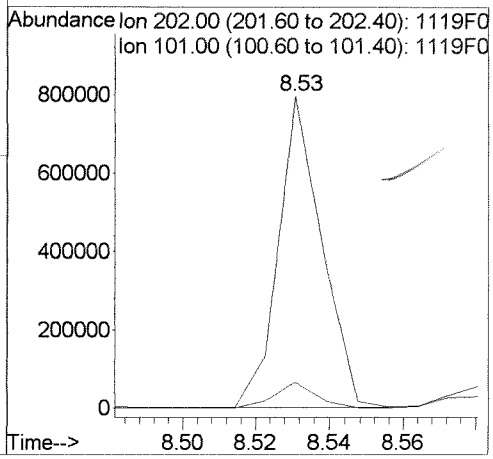


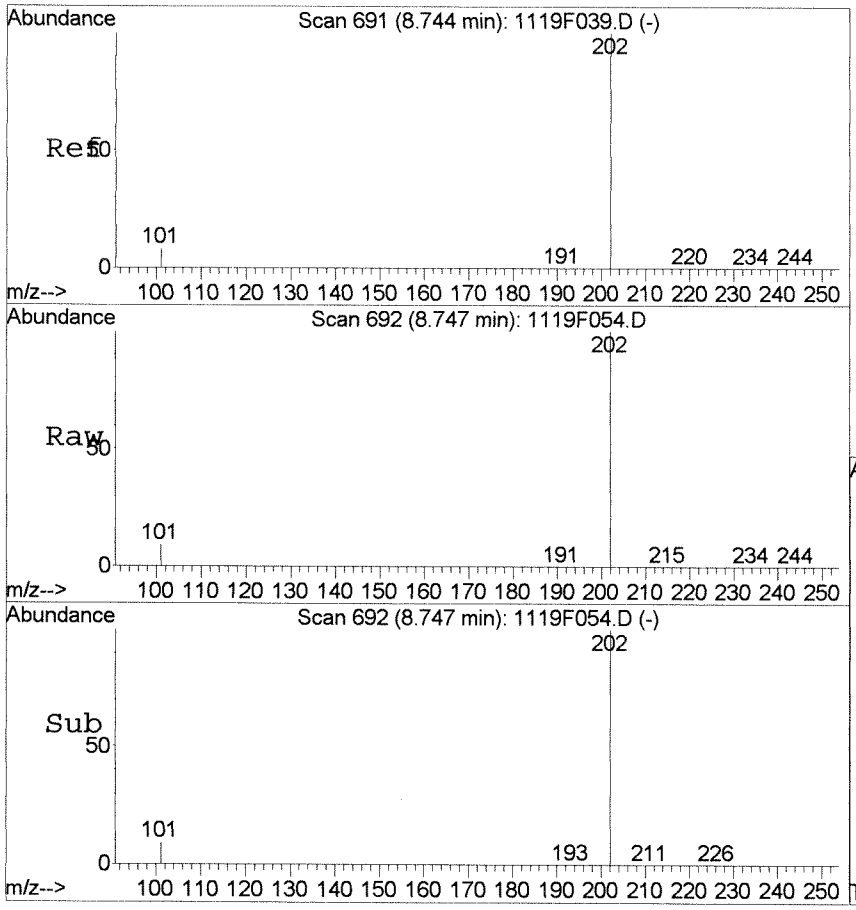


#35
Fluoranthene
Concen: 670.92 ng/ml
RT: 8.53 min Scan# 666
Delta R.T. -0.00 min
Lab File: 1119F054.D
Acq: 20 Nov 2009 5:12 am

Tgt Ion:202 Resp: 647266

Ion	Ratio	Lower	Upper
202	100		
101	8.3	0.0	36.5

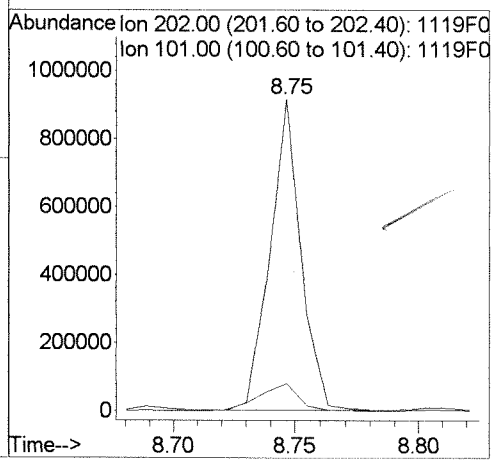


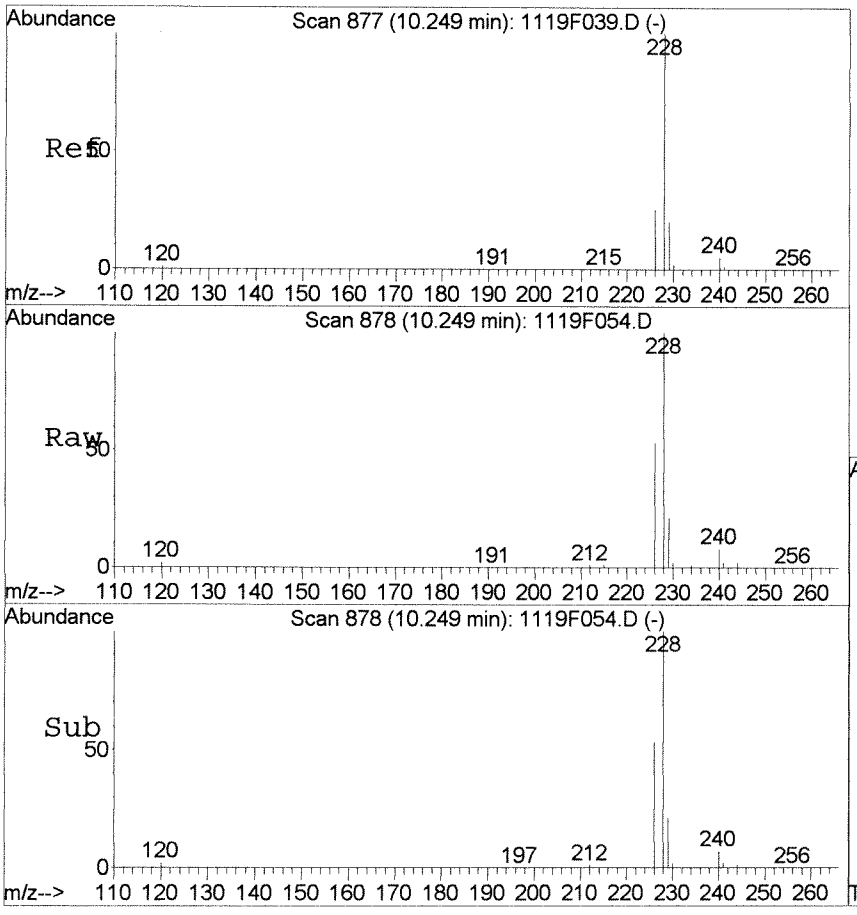


#38
Pyrene
Concen: 641.59 ng/ml
RT: 8.75 min Scan# 692
Delta R.T. 0.00 min
Lab File: 1119F054.D
Acq: 20 Nov 2009 5:12 am

Tgt Ion:202 Resp: 802202

Ion	Ratio	Lower	Upper
202	100		
101	8.7	0.0	36.4

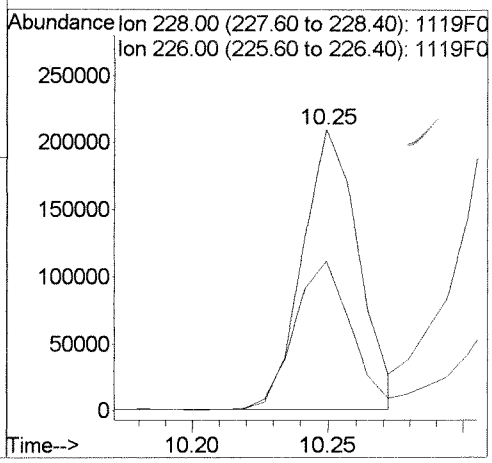


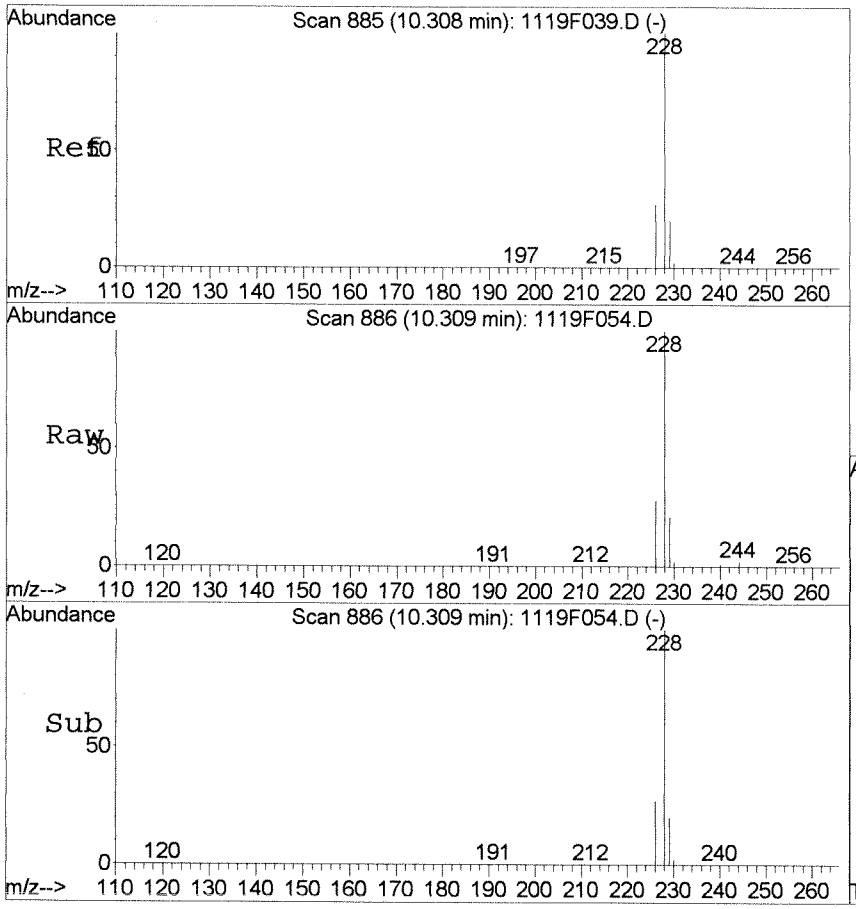


#43
Benz(a)anthracene
Concen: 243.80 ng/ml
RT: 10.25 min Scan# 878
Delta R.T. -0.00 min
Lab File: 1119F054.D
Acq: 20 Nov 2009 5:12 am

Tgt Ion:228 Resp: 293655

Ion	Ratio	Lower	Upper
228	100		
226	53.1	0.0	55.9

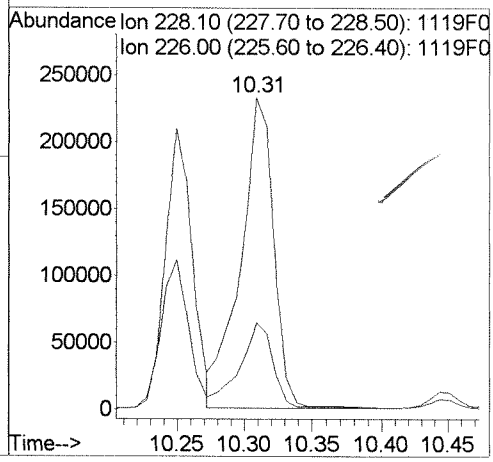


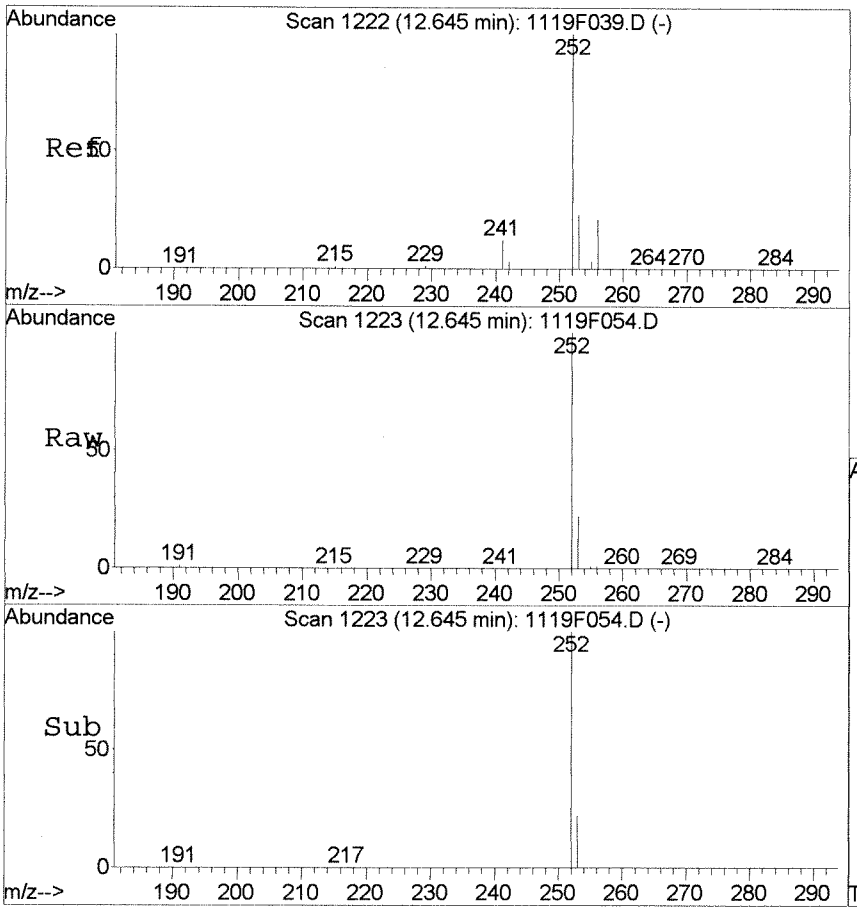


#44
Chrysene
Concen: 346.72 ng/ml
RT: 10.31 min Scan# 886
Delta R.T. -0.00 min
Lab File: 1119F054.D
Acq: 20 Nov 2009 5:12 am

Tgt Ion:228 Resp: 398821

Ion	Ratio	Lower	Upper
228	100		
226	27.4	0.0	58.8

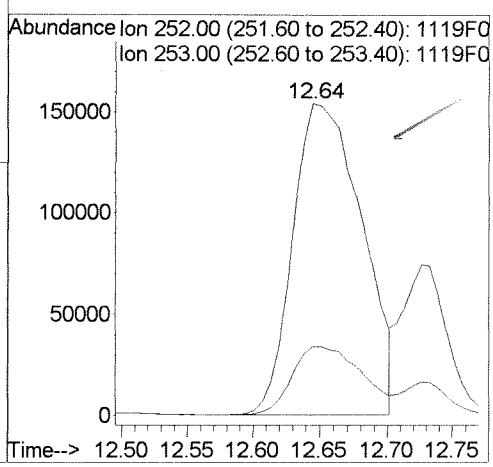


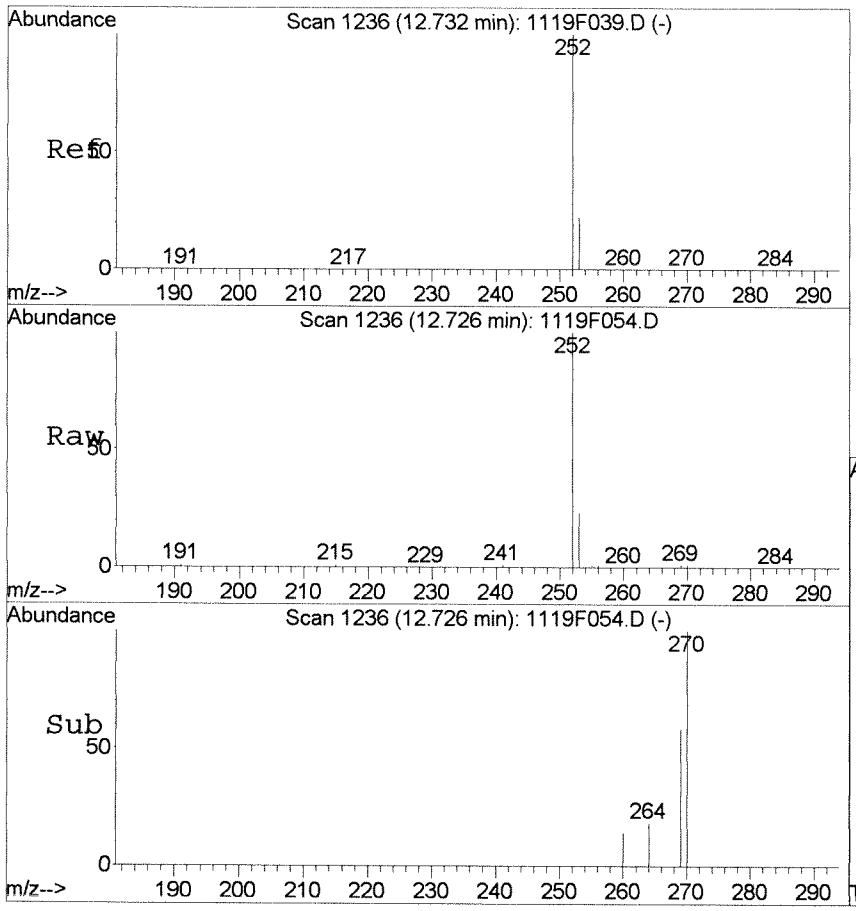


#50
Benzo(b)fluoranthene
Concen: 384.02 ng/ml
RT: 12.64 min Scan# 1223
Delta R.T. -0.01 min
Lab File: 1119F054.D
Acq: 20 Nov 2009 5:12 am

Tgt Ion:252 Resp: 544128

Ion	Ratio	Lower	Upper
252	100		
253	22.0	0.0	52.8

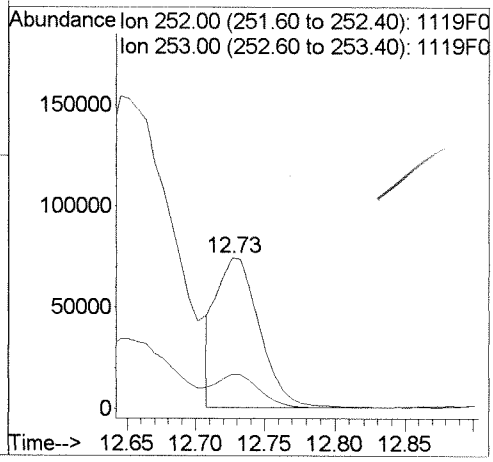


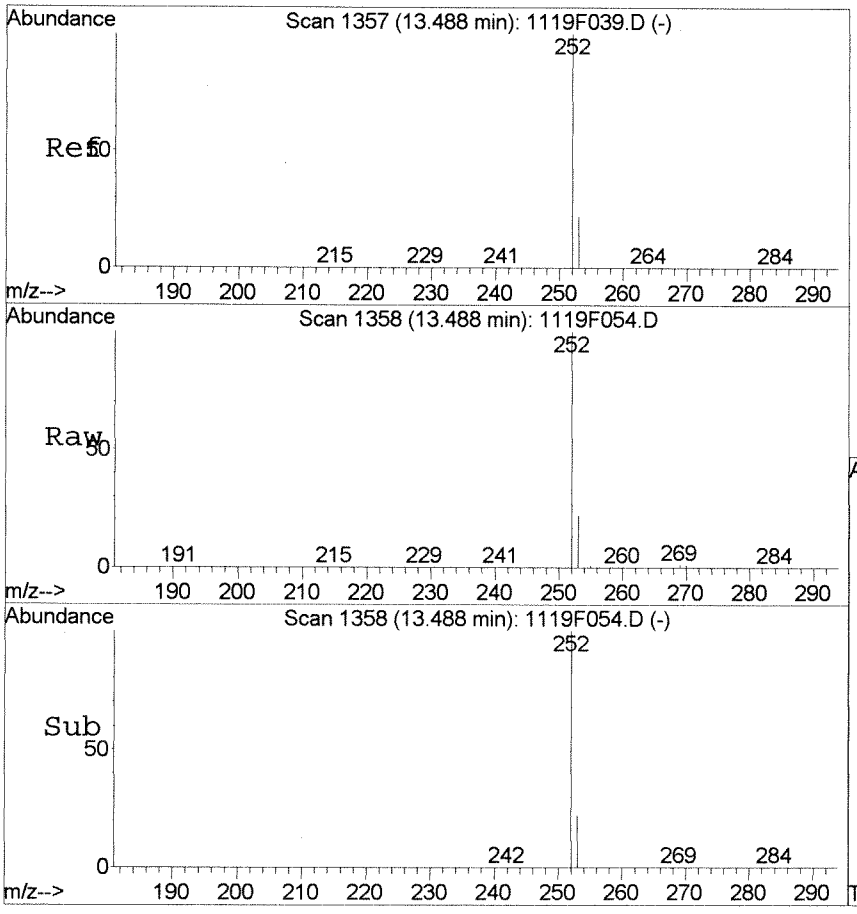


#51
Benzo(k)fluoranthene
Concen: 119.52 ng/ml
RT: 12.73 min Scan# 1236
Delta R.T. -0.01 min
Lab File: 1119F054.D
Acq: 20 Nov 2009 5:12 am

Tgt Ion:252 Resp: 160478

Ion	Ratio	Lower	Upper
252	100		
253	21.8	0.0	52.5

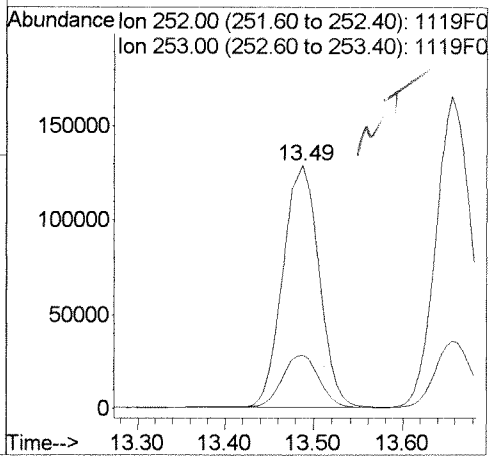


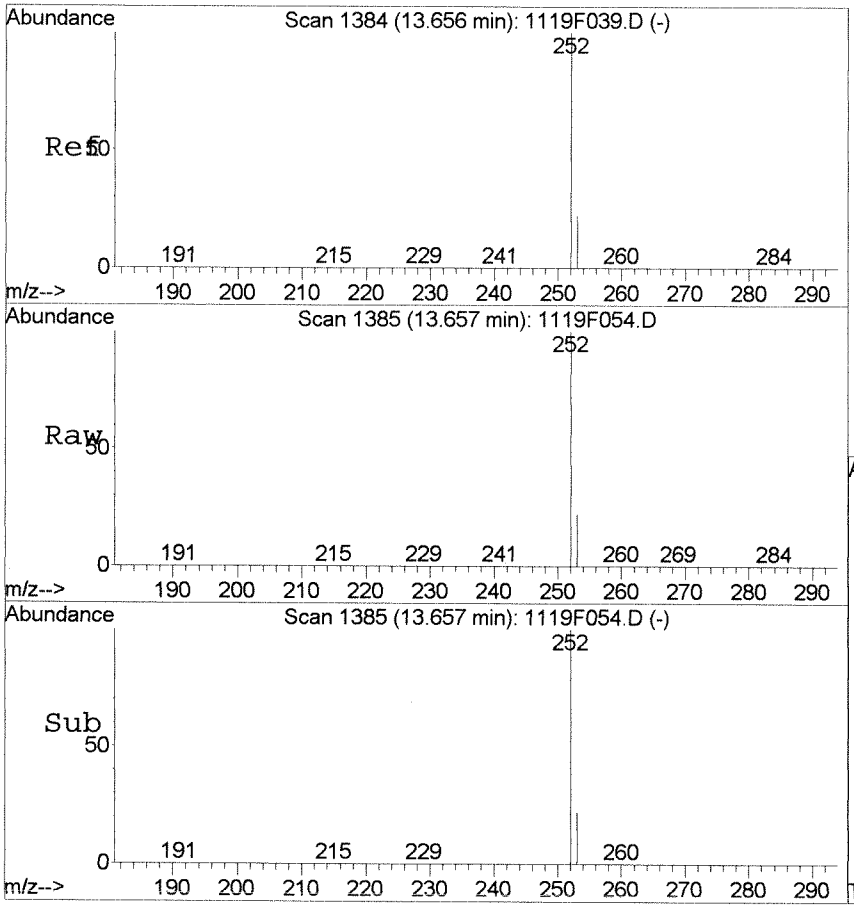


#52
Benzo(e)pyrene
Concen: 277.37 ng/ml
RT: 13.49 min Scan# 1358
Delta R.T. -0.01 min
Lab File: 1119F054.D
Acq: 20 Nov 2009 5:12 am

Tgt Ion:252 Resp: 360169

Ion	Ratio	Lower	Upper
252	100		
253	21.8	0.0	52.3

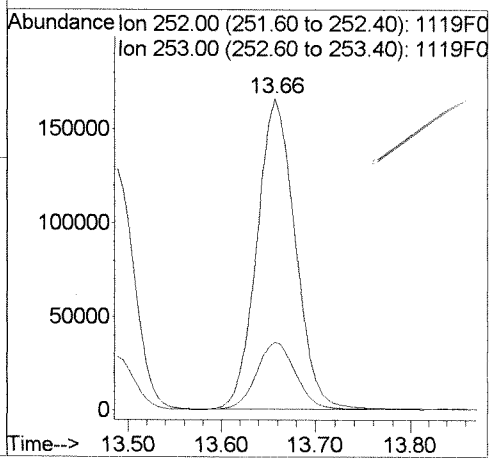


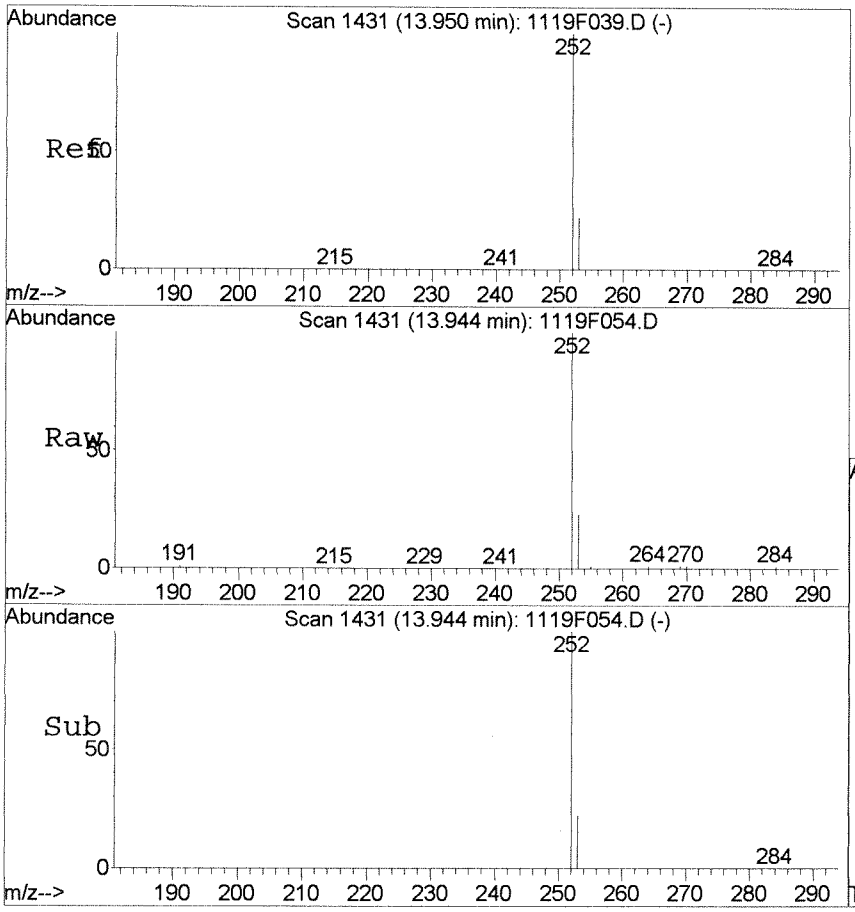


#53
Benzo(a)pyrene
Concen: 376.89 ng/ml
RT: 13.66 min Scan# 1385
Delta R.T. -0.01 min
Lab File: 1119F054.D
Acq: 20 Nov 2009 5:12 am

Tgt Ion:252 Resp: 470455

Ion	Ratio	Lower	Upper
252	100		
253	21.7	0.0	52.6

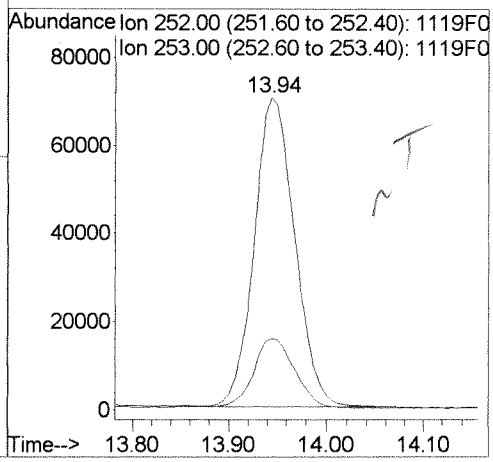


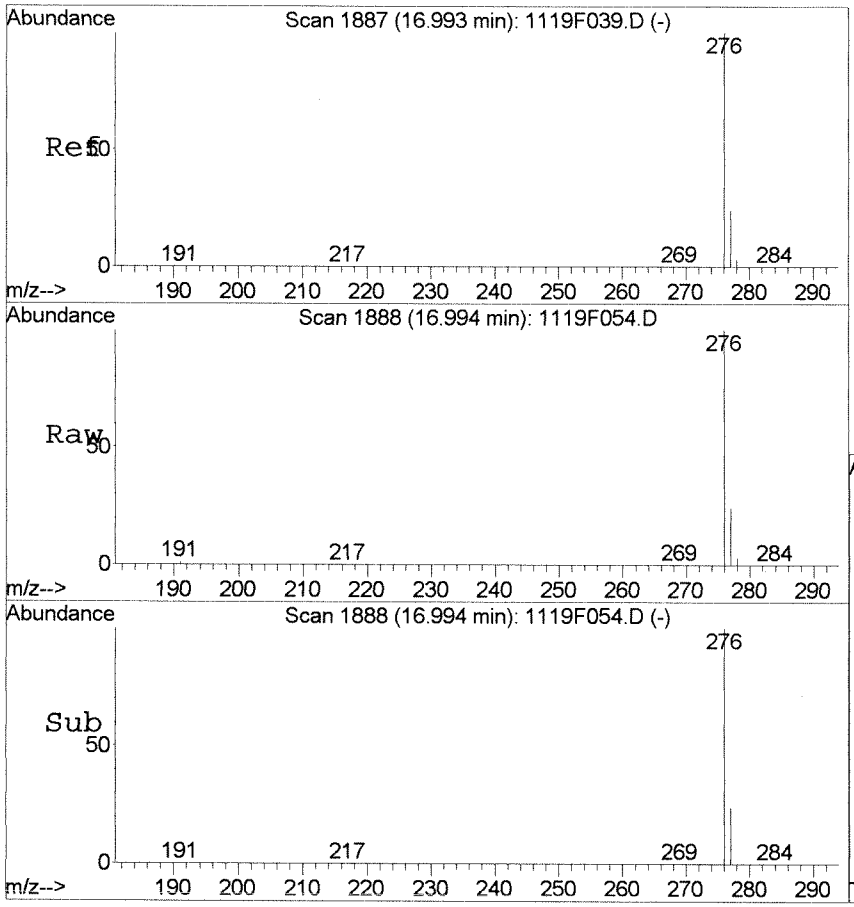


#54
Perylene
Concen: 165.37 ng/ml
RT: 13.94 min Scan# 1431
Delta R.T. -0.01 min
Lab File: 1119F054.D
Acq: 20 Nov 2009 5:12 am

Tgt Ion:252 Resp: 203864

Ion	Ratio	Lower	Upper
252	100		
253	22.2	0.0	52.0

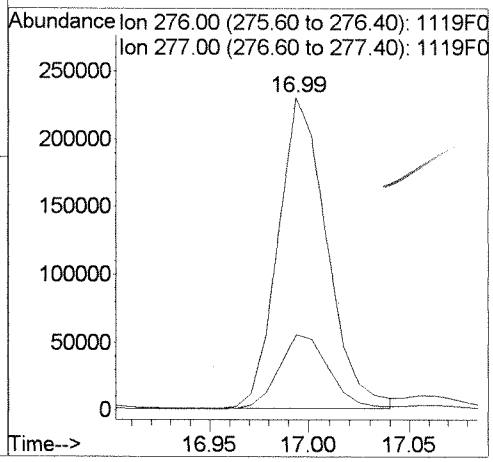


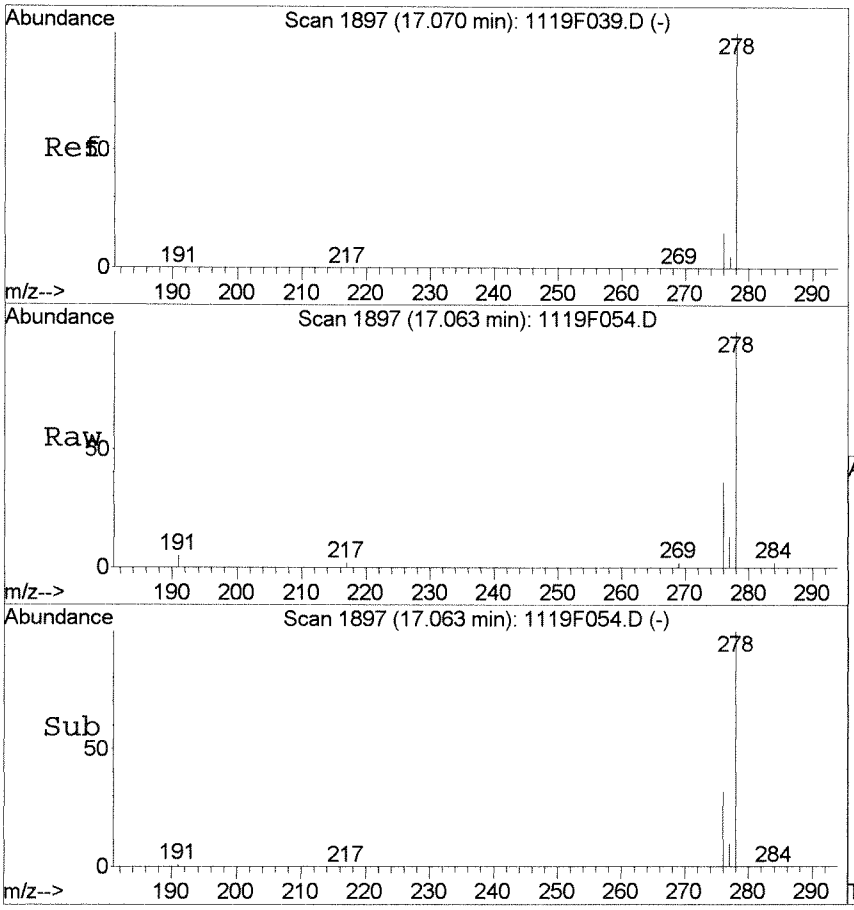


#55
Indeno(1,2,3-cd)pyrene
Concen: 335.61 ng/ml
RT: 16.99 min Scan# 1888
Delta R.T. -0.01 min
Lab File: 1119F054.D
Acq: 20 Nov 2009 5:12 am

Tgt Ion:276 Resp: 386159

Ion	Ratio	Lower	Upper
276	100		
277	23.9	0.0	55.1

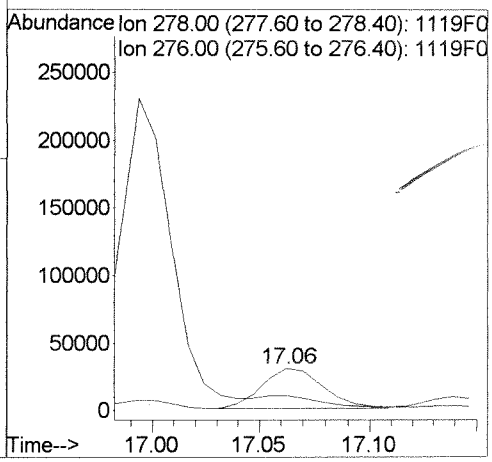


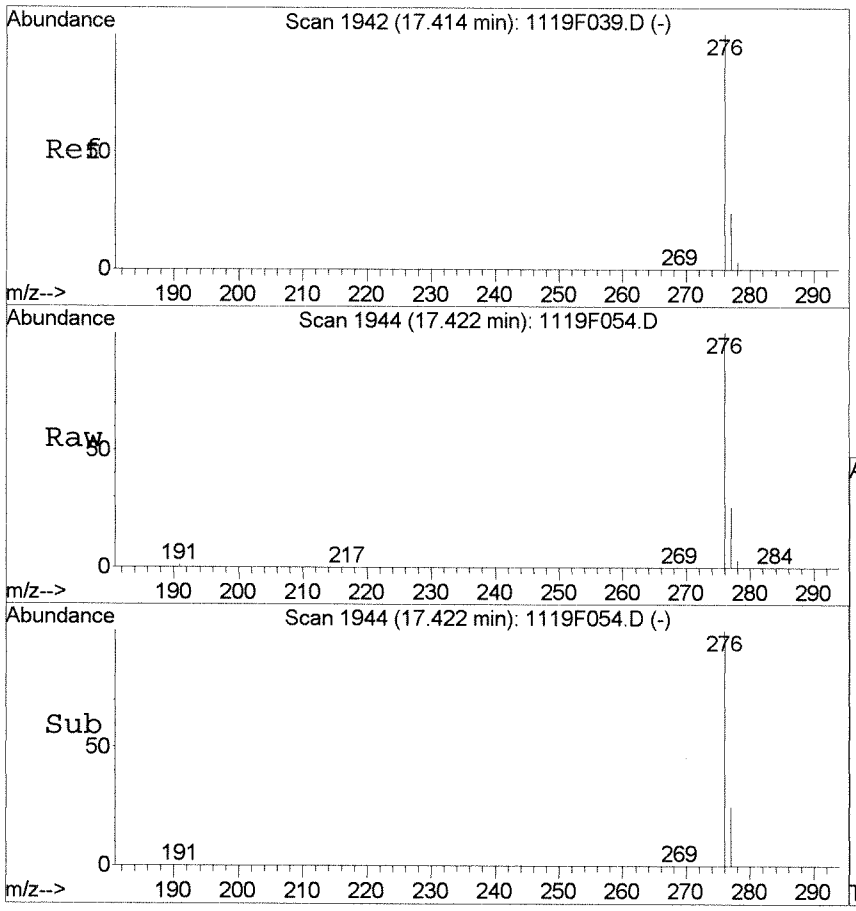


#56
Dibenz(a,h)anthracene
Concen: 48.23 ng/ml
RT: 17.06 min Scan# 1897
Delta R.T. -0.01 min
Lab File: 1119F054.D
Acq: 20 Nov 2009 5:12 am

Tgt Ion:278 Resp: 57832

Ion	Ratio	Lower	Upper
278	100		
276	29.3	0.0	52.1

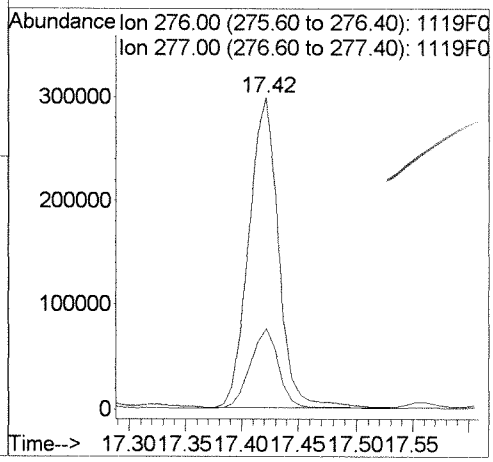




#57
Benzo(g,h,i)perylene
Concen: 416.81 ng/ml
RT: 17.42 min Scan# 1944
Delta R.T. -0.01 min
Lab File: 1119F054.D
Acq: 20 Nov 2009 5:12 am

Tgt Ion:276 Resp: 541991

Ion	Ratio	Lower	Upper
276	100		
277	25.5	0.0	55.7



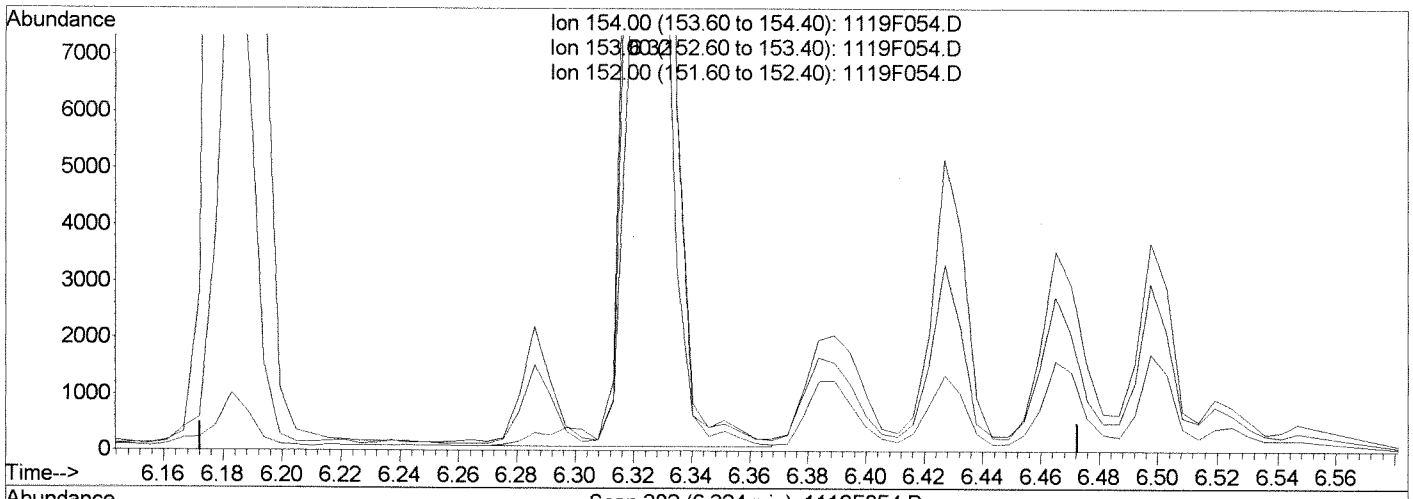
Quantitation Report (Qedit)

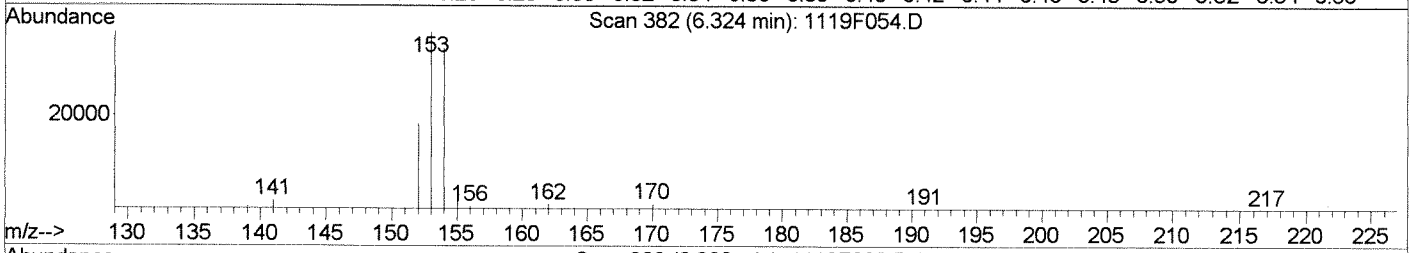
Data File : J:\MS11\DATA\111909\1119F054.D
Acq On : 20 Nov 2009 5:12 am
Sample : K0909140-003
Misc :
MS Integration Params: RTEINT.P
Quant Time: Nov 20 11:02 2009

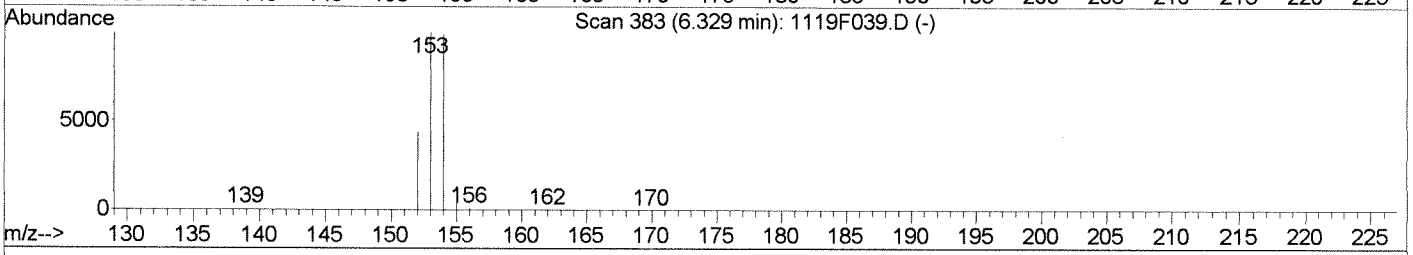
Vial: 42
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1119ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Fri Nov 20 12:01:24 2009
Response via : Multiple Level Calibration







TIC: 1119F054.D

(12) Acenaphthene (T)

6.32min 70.35ng/ml

response 27323

Ion	Exp%	Act%
154.00	100	100
153.00	107.80	110.01
152.00	54.70	52.59
0.00	0.00	0.00

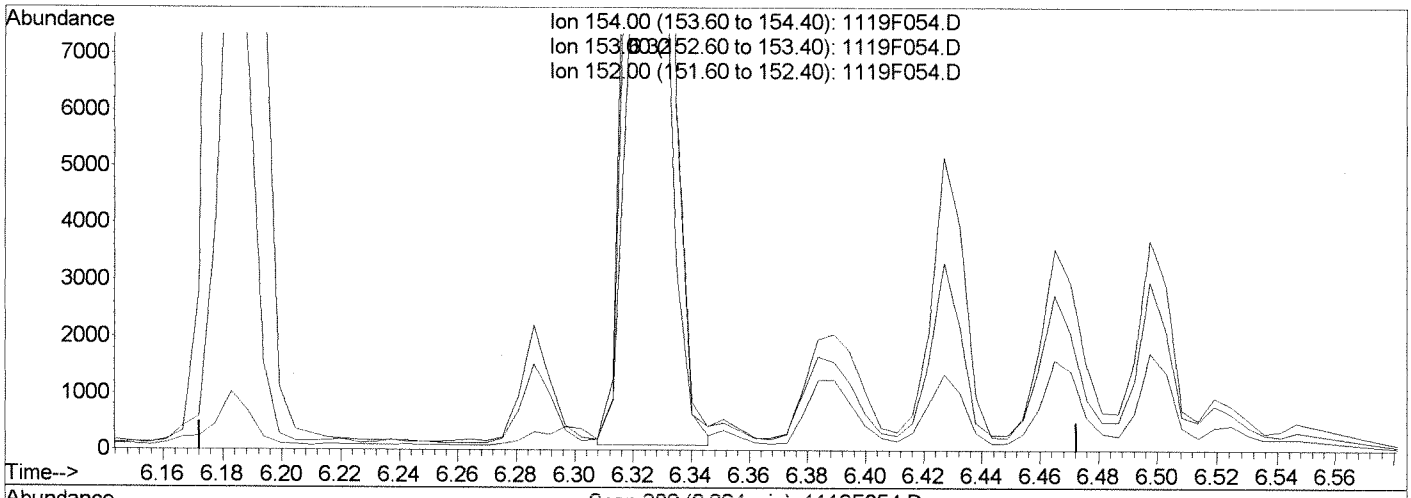
1119F054.D 1119ALK.M Fri Nov 20 12:29:49 2009

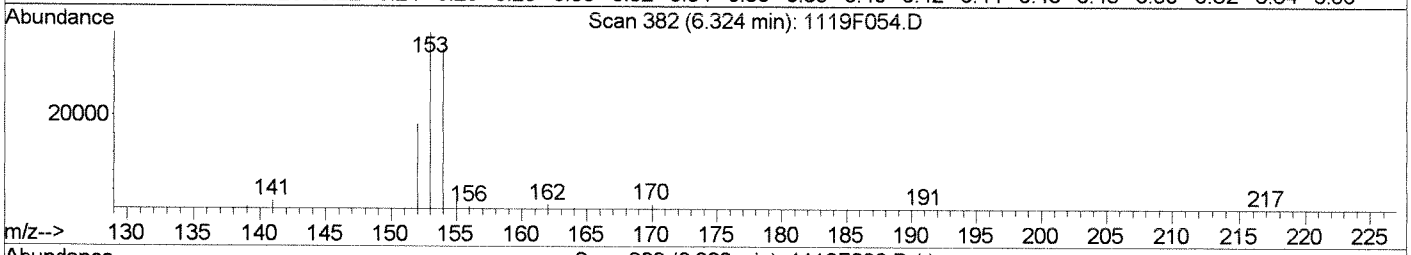
Quantitation Report (Qedit)

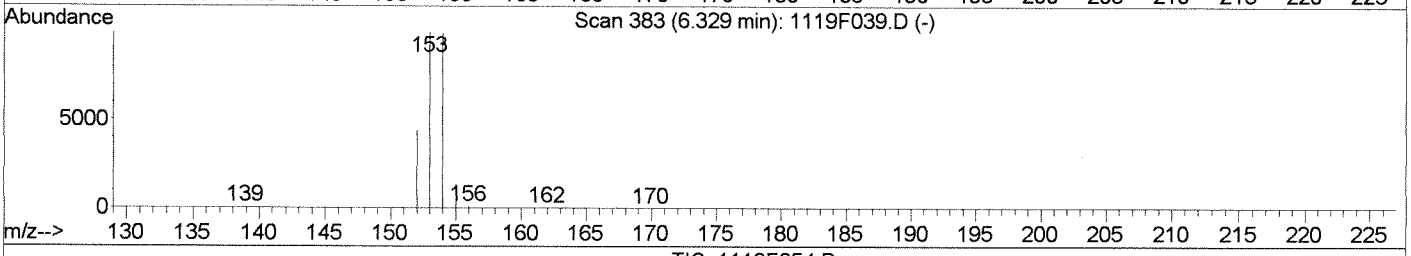
Data File : J:\MS11\DATA\111909\1119F054.D
Acq On : 20 Nov 2009 5:12 am
Sample : K0909140-003
Misc :
MS Integration Params: RTEINT.P
Quant Time: Nov 20 12:29 2009

Vial: 42
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1119ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Fri Nov 20 12:01:24 2009
Response via : Multiple Level Calibration







TIC: 1119F054.D

(12) Acenaphthene (T)

6.32min 68.66ng/ml m

response 26667

Ion	Exp%	Act%
154.00	100	100
153.00	107.80	110.14
152.00	54.70	53.01
0.00	0.00	0.00

OI
11/20/09
M 11-13-09

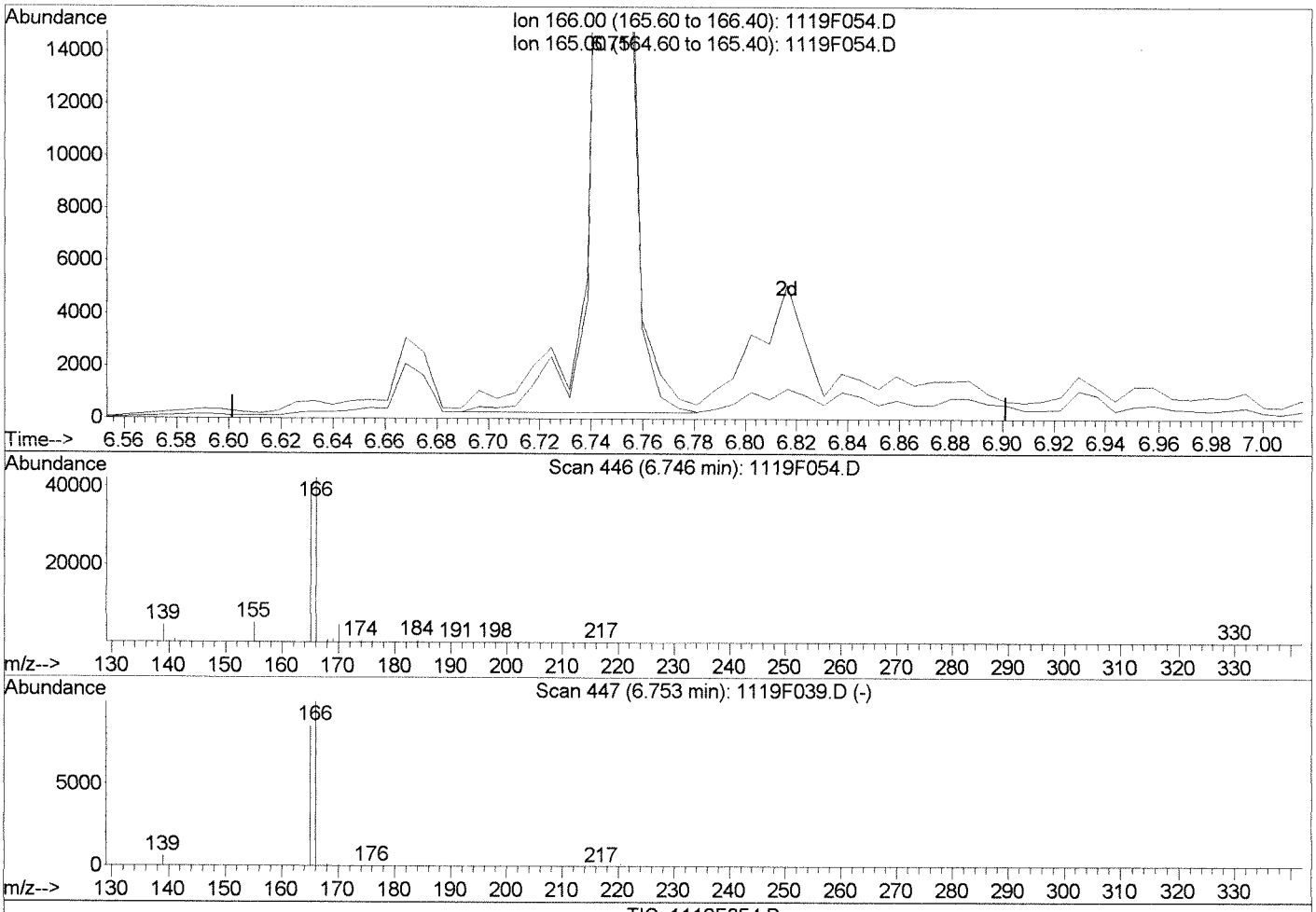
1119F054.D 1119ALK.M Fri Nov 20 12:29:55 2009

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\111909\1119F054.D
Acq On : 20 Nov 2009 5:12 am
Sample : K0909140-003
Misc :
MS Integration Params: RTEINT.P
Quant Time: Nov 20 12:29 2009

Vial: 42
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1119ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Fri Nov 20 12:01:24 2009
Response via : Multiple Level Calibration



TIC: 1119F054.D

(16) Fluorene (T)

6.75min 73.44ng/ml

response 36136

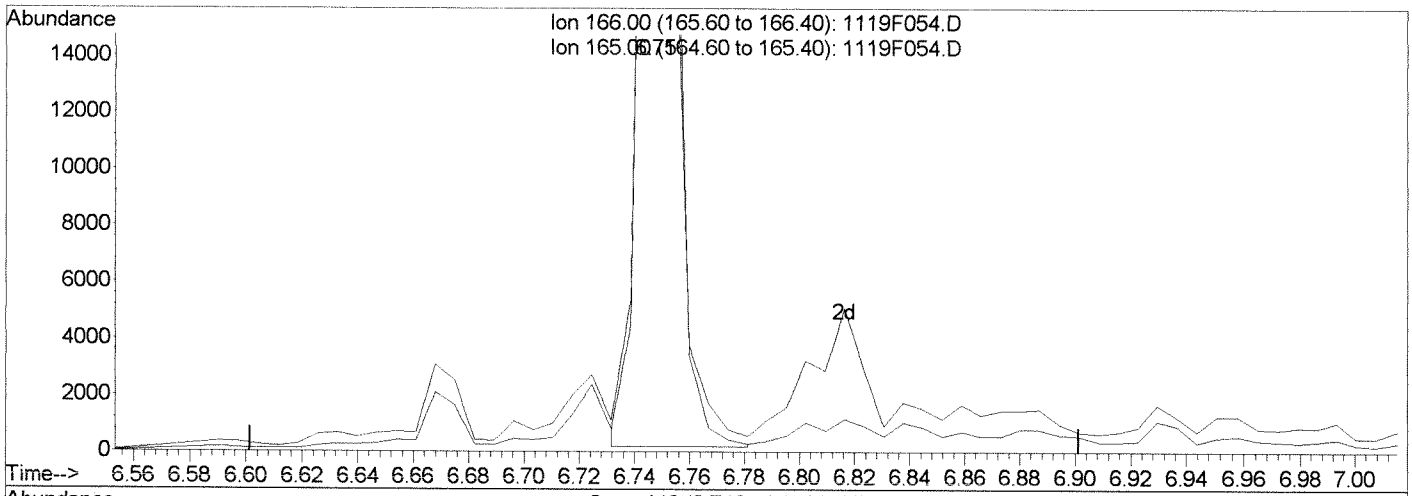
Ion	Exp%	Act%
166.00	100	100
165.00	87.80	95.88
0.00	0.00	0.00
0.00	0.00	0.00

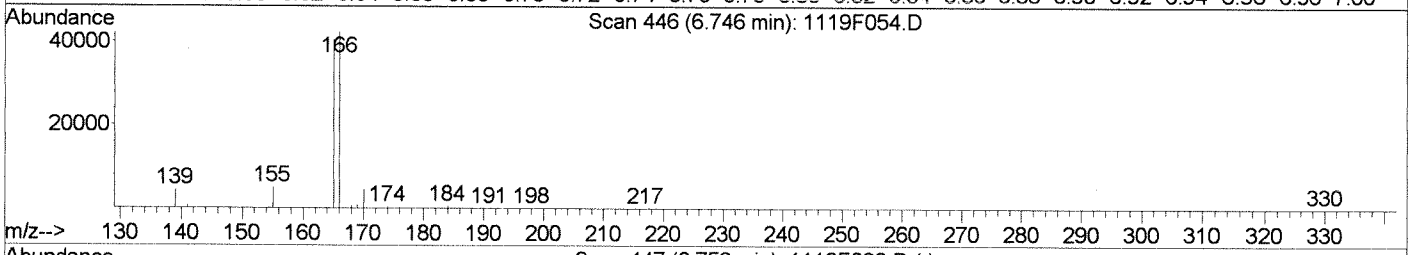
Quantitation Report (Qedit)

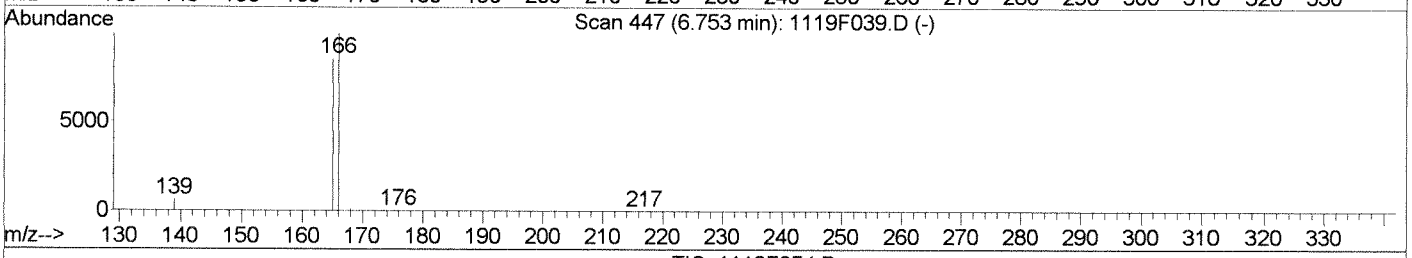
Data File : J:\MS11\DATA\111909\1119F054.D
Acq On : 20 Nov 2009 5:12 am
Sample : K0909140-003
Misc :
MS Integration Params: RTEINT.P
Quant Time: Nov 20 12:30 2009

Vial: 42
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1119ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Fri Nov 20 12:01:24 2009
Response via : Multiple Level Calibration







TIC: 1119F054.D

(16) Fluorene (T)

6.75min 70.09ng/ml m

response 34488

Ion	Exp%	Act%
166.00	100	100
165.00	87.80	96.23
0.00	0.00	0.00
0.00	0.00	0.00

OI 11/24/09

11-23-09

1119F054.D 1119ALK.M Fri Nov 20 12:30:05 2009

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	URS Corporation	**Service Request:**	K0909140
Project:	Boise St. Helens Pulp and Paper Mill-2009	**Date Collected:**	10/07/2009
Sample Matrix:	Sediment	**Date Received:**	10/08/2009

Polynuclear Aromatic Hydrocarbons

Sample Name:	M-1-B	**Units:**	ug/Kg
Lab Code:	K0909140-004	**Basis:**	Dry
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270C SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Naphthalene	**490**		2.6	0.60	1	11/10/09	11/20/09	KWG0910535	
2-Methylnaphthalene	**160**		2.6	0.46	1	11/10/09	11/20/09	KWG0910535	
Acenaphthylene	**52**		2.6	0.56	1	11/10/09	11/20/09	KWG0910535	
Acenaphthene	**110**		2.6	0.50	1	11/10/09	11/20/09	KWG0910535	
Fluorene	**130**		2.6	0.61	1	11/10/09	11/20/09	KWG0910535	
Dibenzofuran	**160**		2.6	0.63	1	11/10/09	11/20/09	KWG0910535	
Phenanthrene	**620**		2.6	1.4	1	11/10/09	11/20/09	KWG0910535	
Anthracene	**120**		2.6	0.55	1	11/10/09	11/20/09	KWG0910535	
Fluoranthene	**730**		2.6	0.98	1	11/10/09	11/20/09	KWG0910535	
Pyrene	**480**		2.6	0.76	1	11/10/09	11/20/09	KWG0910535	
Benz(a)anthracene	**190**		2.6	0.72	1	11/10/09	11/20/09	KWG0910535	
Chrysene	**280**		2.6	0.80	1	11/10/09	11/20/09	KWG0910535	
Benzo(b)fluoranthene	**290**		2.6	0.92	1	11/10/09	11/20/09	KWG0910535	
Benzo(k)fluoranthene	**96**		2.6	0.87	1	11/10/09	11/20/09	KWG0910535	
Benzo(a)pyrene	**220**		2.6	0.76	1	11/10/09	11/20/09	KWG0910535	
Indeno(1,2,3-cd)pyrene	**180**		2.6	0.87	1	11/10/09	11/20/09	KWG0910535	
Dibenz(a,h)anthracene	**31**		2.6	0.80	1	11/10/09	11/20/09	KWG0910535	
Benzo(g,h,i)perylene	**200**		2.6	0.85	1	11/10/09	11/20/09	KWG0910535	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	66	17-104	11/20/09	Acceptable
Fluoranthene-d10	69	27-106	11/20/09	Acceptable
Terphenyl-d14	56	35-109	11/20/09	Acceptable

Comments:

Exception Report

Data File: J:\MS11\DATA\111909\1119F055.D
Lab ID: K0909140-004
RunType: SMPL
Matrix: SEDIMENT

Date Acquired: 11/20/2009 05:39
Date Quantitated: 11/20/2009 12:31
Batch ID: KWG0910976
Analysis Method: 8270C SIM
ListJoinID: LJ5646

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Tune Window	NA	NA	NA	x	
Analytical Holding Time	NA	NA	NA	x	
Preparation Holding Time	NA	NA	NA	x	
Pre-Preparation Holding Time	NA	NA	NA	x	
ICAL Pass/Fail	NA	NA	NA	x	
ICAL Average RSD	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Initial Calibration Minimum RF	NA	NA	NA	x	
Initial Calibration SPCC/CCC	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA	x	
Continuing Calibration Minimum RF	NA	NA	NA	x	
Continuing Calibration SPCC/CCC	NA	NA	NA	x	
Method Blank	NA	NA	NA	x	
MB Surrogate Recovery	NA	NA	NA	x	
Lab Control Spike	NA	NA	NA	x	
Duplicate Lab Control Spike	NA	NA	NA	x	
Internal Standards	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Relative Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Primary Review: 11/21/09

Secondary Review: 11-23-09

Quantitation Report

Bottle ID:		**Tier:**	V	**Matrix:**	SEDIMENT
Prod Code:	8270C SIM PAH_S	**Collect Date:**	10/07/2009	**Receive Date:**	10/08/2009

Analysis Lot:	KWG0910976	**Prep Lot:**	KWG0910535	**Report Group:**	K0909140
Analysis Method:	8270C SIM	**Prep Method:**	EPA 3541		
Prep Ref:	865757	**Prep Date:**	11/10/2009		

Quant Method:	J:\MS11\METHODS\SIM\1119ALK.M	**Calibration ID:**	CAL9029
Title:	Polynuclear Aromatic Hydrocarbons	**Report List ID:**	LJ5646
Tune Ref:	J:\MS11\DATA\111909\1119F038.D	**Method ID:**	MJ253
MB Ref:	J:\MS11\DATA\111909\1119F041.D	**Quant based on Report List**	

Data File:	J:\MS11\DATA\111909\1119F055.D			**Instrument:**	MS11
Acqu Date:	11/20/2009 05:39	**Quant Date:**	11/20/2009 12:31	**Vial:**	43
Run Type:	SMPL			**Dilution:**	1.0
Lab ID:	K0909140-004			**Soln Conc. Units:**	ng/ml

Internal Standard Compounds

IS Ref	Parameter Name	RT	RT Dev	Quant Mass	Response	Solution Conc	Area Criteria
1	Naphthalene-d8	4.88	0.00	136	146349	200.00	OK
2	Acenaphthene-d10	6.30	0.00	164	83463	200.00	OK
3	Phenanthrene-d10	7.54	0.00	188	160777	200.00	OK
4	Chrysene-d12	10.27	0.00	240	269522	200.00	OK
5	Perylene-d12	13.87	0.01	264	315722	200.00	OK

Surrogate Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	%Rec	%Rec Limits		Rpt?
2	Fluorene-d10	6.73	0.01	0.00	176	61645	131.54	66	17-104	OK	
3	Fluoranthene-d10	8.52	0.00	0.00	212	134702	138.58	69	27-106	OK	
4	Terphenyl-d14	8.90	0.00	0.00	244	125455	112.44	56	35-109	OK	

Target Compounds

Final Conc. Units: ug/Kg Dry Weight

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	Final Conc	Q	Rpt?
1	Naphthalene	4.89	-0.01	0.00	128	615528	956.16	490		
1	2-Methylnaphthalene	5.45		0.00	142	142756	307.85	160		
2	Acenaphthylene	6.18		0.00	152	69213	100.91	52		
2	Acenaphthene	6.32	-0.01	0.00	154	90211	221.44	110		
2	Dibenzofuran	6.47		0.00	168	188236	305.07	160		
2	Fluorene	6.75		0.00	166	134162**m**	259.95	130		
3	Phenanthrene	7.56	0.01	0.00	178	1027059	1,198	620		
3	Anthracene	7.59	-0.01	0.00	178	198483	240.96	120		
3	Fluoranthene	8.54	0.01	0.00	202	1400042	1,405	730		
4	Pyrene	8.74		0.00	202	1333714	933.12	480		
4	Benz(a)anthracene	10.25		0.00	228	501628	364.32	190		
4	Chrysene	10.32	0.01	0.00	228	720983	548.31	280		
5	Benzo(b)fluoranthene	12.66	0.02	0.00	252	913081	555.04	290		

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Data File:	J:\MS11\DATA\111909\1119F055.D			**Instrument:**	MS11
Acqu Date:	11/20/2009 05:39	**Quant Date:**	11/20/2009 12:31	**Vial:**	43
Run Type:	SMPL			**Dilution:**	1.0
Lab ID:	K0909140-004			**Soln Conc. Units:**	ng/ml

Target Compounds **Final Conc. Units:** ug/Kg Dry Weight

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	Final Conc	Q	Rpt?
5	Benzo(k)fluoranthene	12.74	0.01	0.00	252	290873	186.59	96		
5	Benzo(a)pyrene	13.67	0.01	0.00	252	610702	421.38	220		
5	Indeno(1,2,3-cd)pyrene	17.00	0.01	0.00	276	463134	346.68	180		
5	Dibenz(a,h)anthracene	17.07		0.00	278	83507	59.99	31		
5	Benzo(g,h,i)perylene	17.42	0.01	0.00	276	594984	394.10	200		

Prep Amount:	20.21 g	**Dilution:**	1.0
Prep Final Vol:	10 ml	**Unit Factor:**	1
Solids:	95.7 %		

Final Concentration = ((Soln Conc x Prep Final Vol x Dilution) / (Prep Amount x Solids)) x Unit Factor

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\111909\1119F055.D Vial: 43
Acq On : 20 Nov 2009 5:39 am Operator: LWeiskopf
Sample : K0909140-004 Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 20 11:02:30 2009 Quant Results File: 1119ALK.RES

Quant Method : J:\MS11\METHODS\SIM\1119ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Fri Nov 20 09:17:56 2009
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	4.88	136	146349	200.00	ng/ml	0.00
10) Acenaphthene-d10	6.30	164	83463	200.00	ng/ml	0.00
22) Phenanthrene-d10	7.54	188	160777	200.00	ng/ml	0.02
37) Chrysene-d12	10.27	240	269522	200.00	ng/ml	0.00
49) Perylene-d12	13.87	264	315722	200.00	ng/ml	0.00
System Monitoring Compounds						
15) Fluorene-d10	6.73	176	61645	131.54	ng/ml	0.00
Spiked Amount 200.000			Recovery =	65.77%		
20) 2,4,6 Tribromophenol	0.00	330	0d	0.00	ng/ml	
Spiked Amount 375.000			Recovery =	0.00%		
36) Fluoranthene-d10	8.52	212	134702	138.58	ng/ml	0.00
Spiked Amount 200.000			Recovery =	69.29%		
42) Terphenyl-d14	8.90	244	125455	112.44	ng/ml	0.00
Spiked Amount 200.000			Recovery =	56.22%		
Target Compounds						Qvalue
2) Naphthalene	4.89	128	615528	956.16	ng/ml	97
3) 2-Methylnaphthalene	5.45	142	142756	307.85	ng/ml	92
4) 1-Methylnaphthalene	5.53	142	58077	130.56	ng/ml	98
5) Biphenyl	5.83	154	50846	92.16	ng/ml	99
6) 2,6-Dimethylnaphthalene	5.96	156	65956	154.76	ng/ml	99
11) Acenaphthylene	6.18	152	69213	100.91	ng/ml	99
12) Acenaphthene	6.32	154	90211	221.44	ng/ml	97
13) Dibenzofuran	6.47	168	188236	305.07	ng/ml	62
14) 2,3,5-Trimethylnaphthalene	6.63	170	31960	73.46	ng/ml	85
16) Fluorene	6.75	166	134162m	259.95	ng/ml	
23) Dibenzothiophene	7.45	184	67226	93.88	ng/ml	88
27) Phenanthrene	7.56	178	1027059	1198.18	ng/ml	94
28) Anthracene	7.59	178	198483	240.96	ng/ml	98
29) Carbazole	7.73	167	21911m	31.14	ng/ml	
30) 1-Methylphenanthrene	8.05	192	84408	126.49	ng/ml	96
35) Fluoranthene	8.54	202	1400042	1405.00	ng/ml	100
38) Pyrene	8.74	202	1333714	933.12	ng/ml	88
43) Benz(a)anthracene	10.25	228	501628	364.32	ng/ml	73
44) Chrysene	10.32	228	720983	548.31	ng/ml	96
50) Benzo(b)fluoranthene	12.66	252	913081	555.04	ng/ml	100
51) Benzo(k)fluoranthene	12.74	252	290873	186.59	ng/ml	100
52) Benzo(e)pyrene	13.50	252	530329	351.77	ng/ml	100
53) Benzo(a)pyrene	13.67	252	610702	421.38	ng/ml	100
54) Perylene	13.96	252	304174	212.52	ng/ml	95
55) Indeno(1,2,3-cd)pyrene	17.00	276	463134	346.68	ng/ml	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\111909\1119F055.D Vial: 43
Acq On : 20 Nov 2009 5:39 am Operator: LWeiskopf
Sample : K0909140-004 Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 20 11:02:30 2009 Quant Results File: 1119ALK.RES

Quant Method : J:\MS11\METHODS\SIM\1119ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Fri Nov 20 09:17:56 2009
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

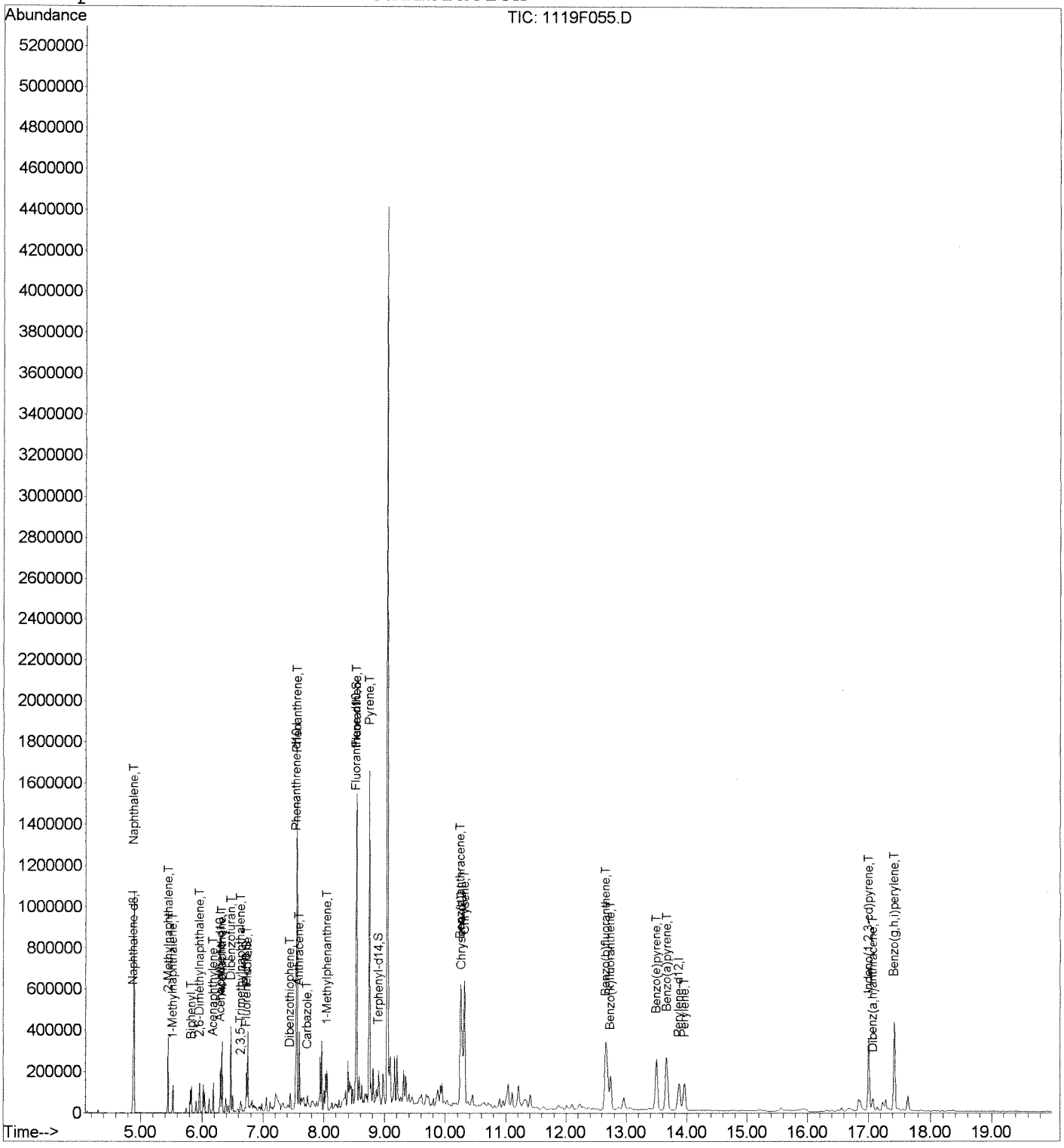
	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
56)	Dibenz(a,h)anthracene	17.07	278	83507	59.99	ng/ml	89
57)	Benzo(g,h,i)perylene	17.42	276	594984	394.10	ng/ml	98

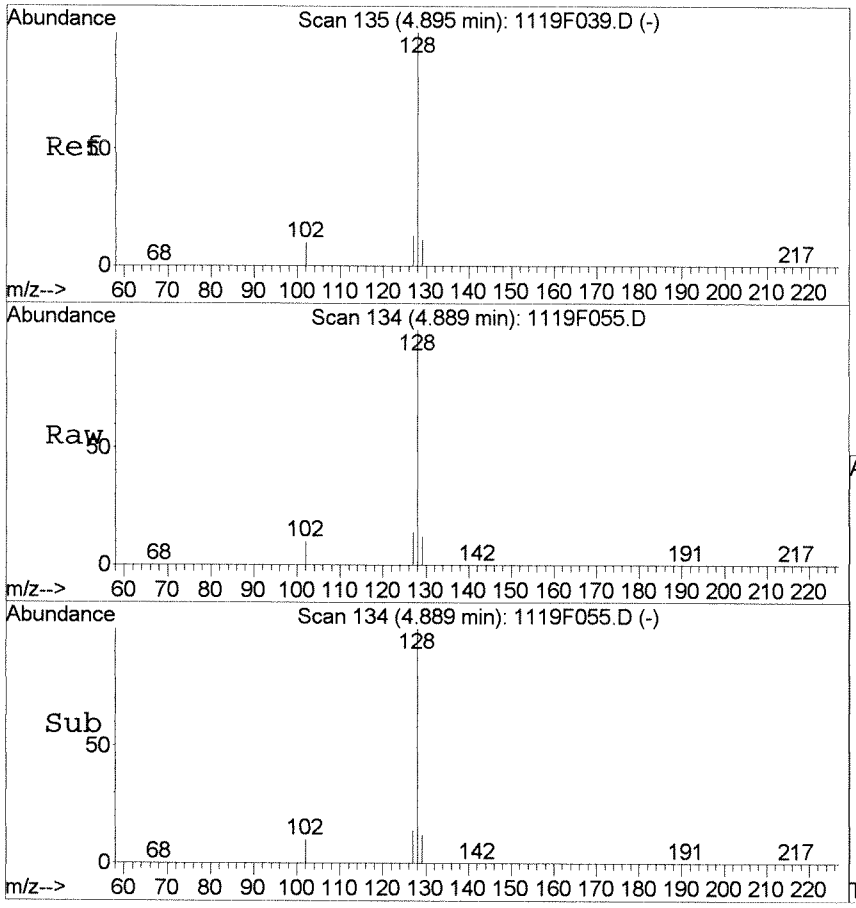
(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\111909\1119F055.D Vial: 43
Acq On : 20 Nov 2009 5:39 am Operator: LWeiskopf
Sample : K0909140-004 Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 20 12:31 2009 Quant Results File: 1119ALK.RES

Method : J:\MS11\METHODS\SIM\1119ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Fri Nov 20 12:01:24 2009
Response via : Initial Calibration

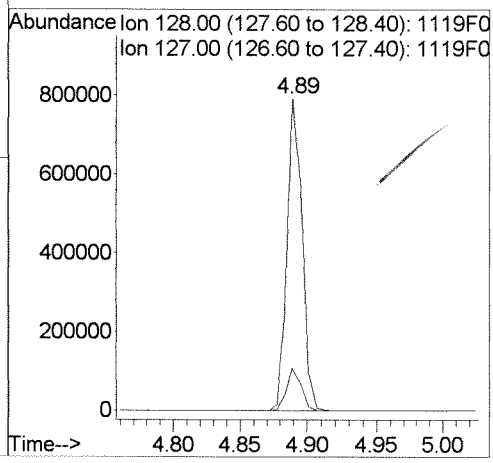


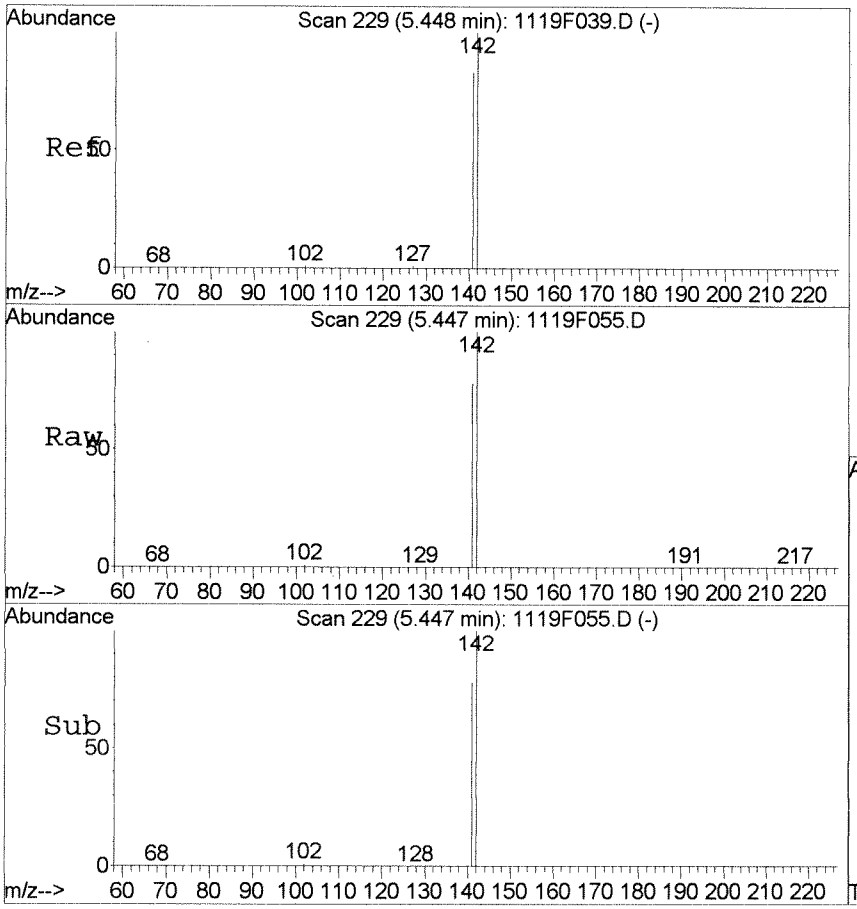


#2
Naphthalene
Concen: 956.16 ng/ml
RT: 4.89 min Scan# 134
Delta R.T. 0.00 min
Lab File: 1119F055.D
Acq: 20 Nov 2009 5:39 am

Tgt Ion:128 Resp: 615528

Ion	Ratio	Lower	Upper
128	100		
127	13.7	0.0	42.4

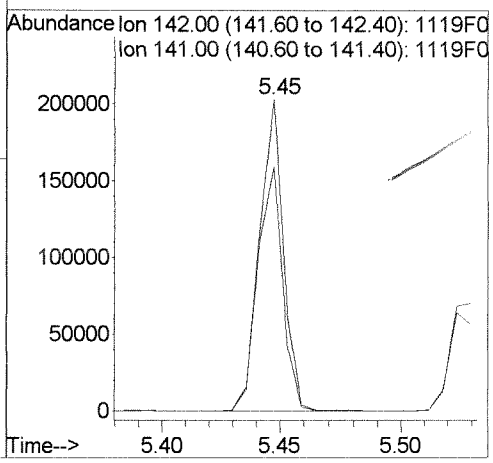


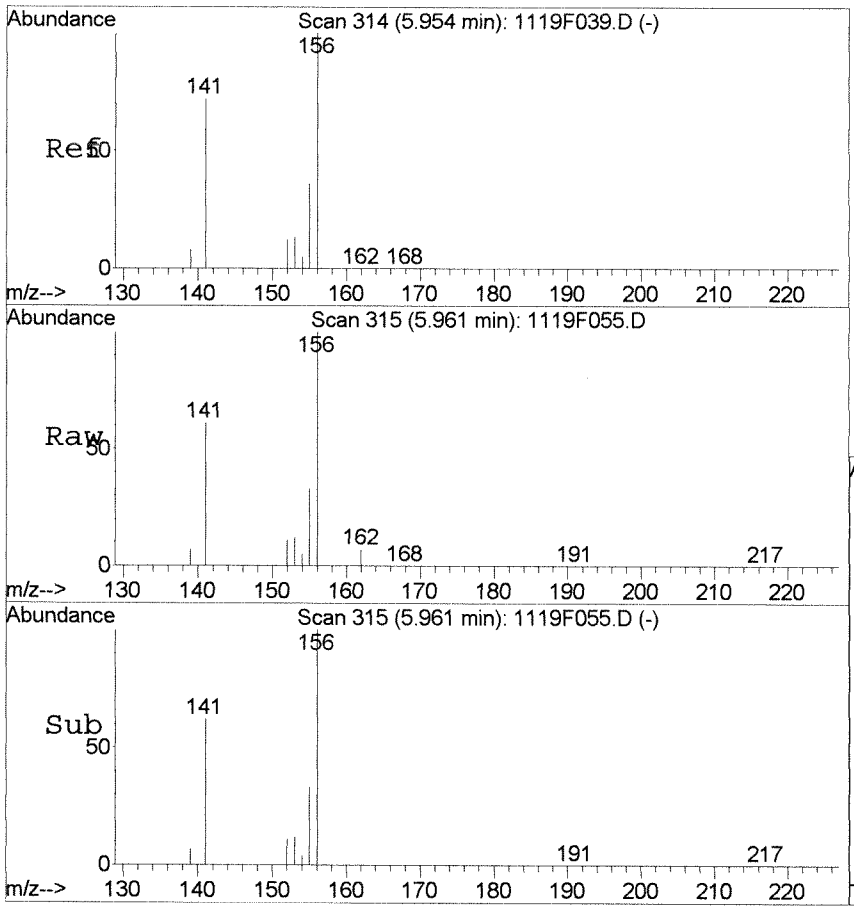


#3
2-Methylnaphthalene
Concen: 307.85 ng/ml
RT: 5.45 min Scan# 229
Delta R.T. 0.01 min
Lab File: 1119F055.D
Acq: 20 Nov 2009 5:39 am

Tgt Ion:142 Resp: 142756

Ion	Ratio	Lower	Upper
142	100		
141	78.4	56.1	116.1

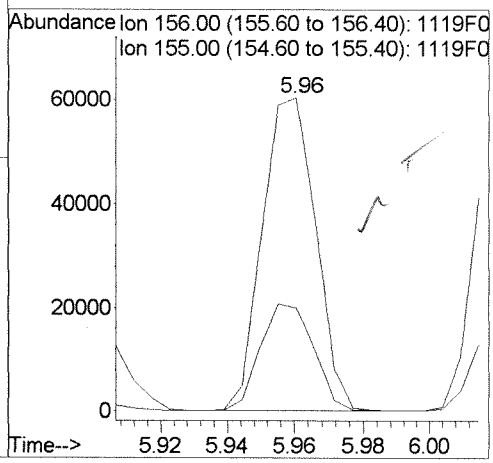


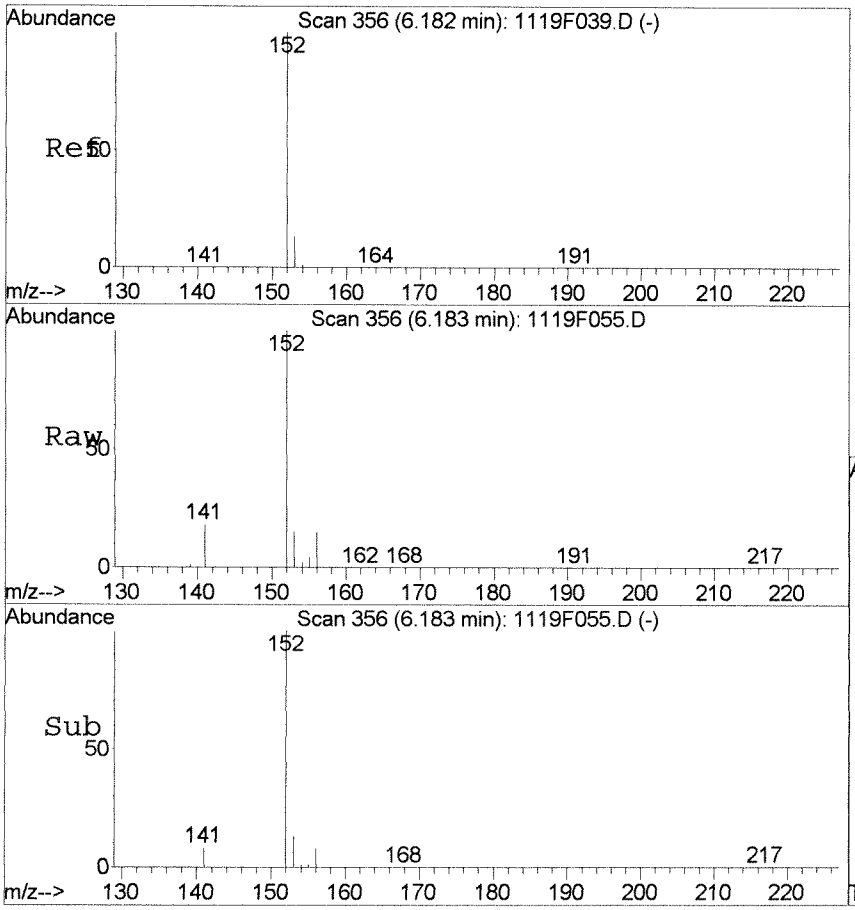


#6
2,6-Dimethylnaphthalene
Concen: 154.76 ng/ml
RT: 5.96 min Scan# 315
Delta R.T. 0.01 min
Lab File: 1119F055.D
Acq: 20 Nov 2009 5:39 am

Tgt Ion:156 Resp: 65956

Ion	Ratio	Lower	Upper
156	100		
155	33.0	3.7	63.7

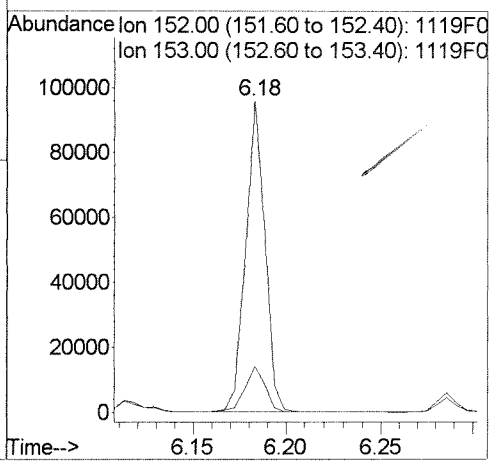


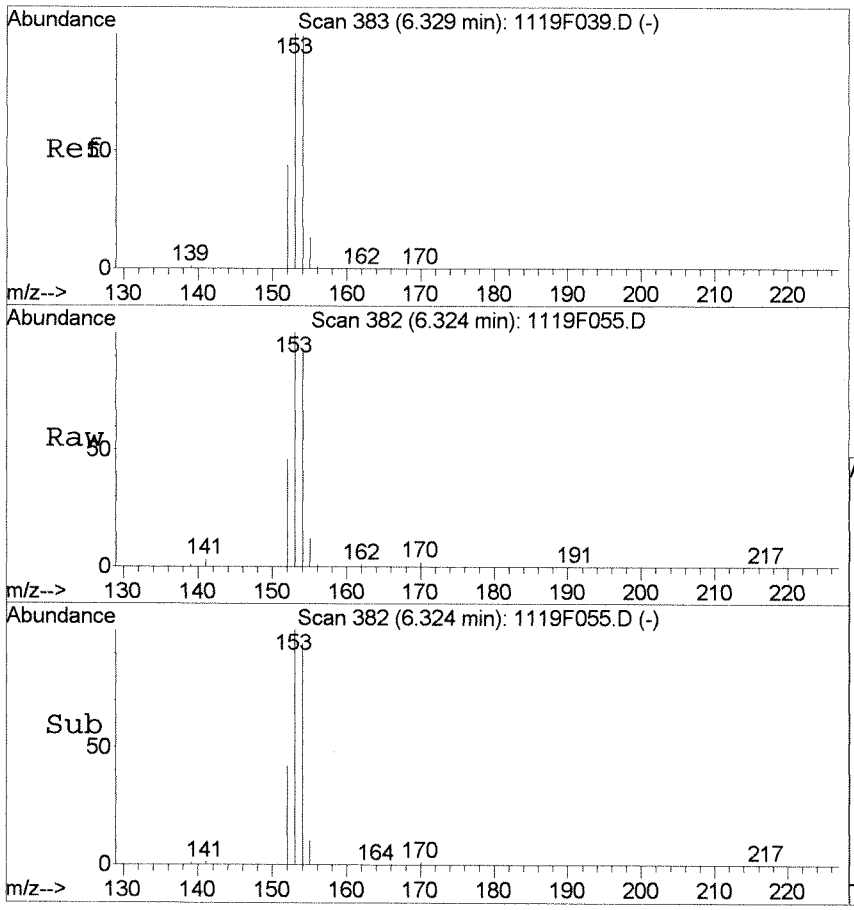


#11
Acenaphthylene
Concen: 100.91 ng/ml
RT: 6.18 min Scan# 356
Delta R.T. 0.00 min
Lab File: 1119F055.D
Acq: 20 Nov 2009 5:39 am

Tgt Ion:152 Resp: 69213

Ion	Ratio	Lower	Upper
152	100		
153	14.6	0.0	44.1

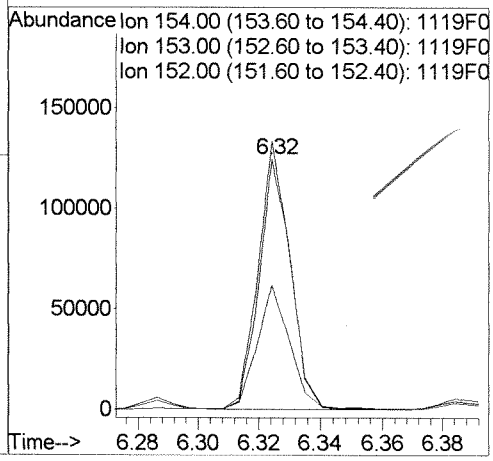


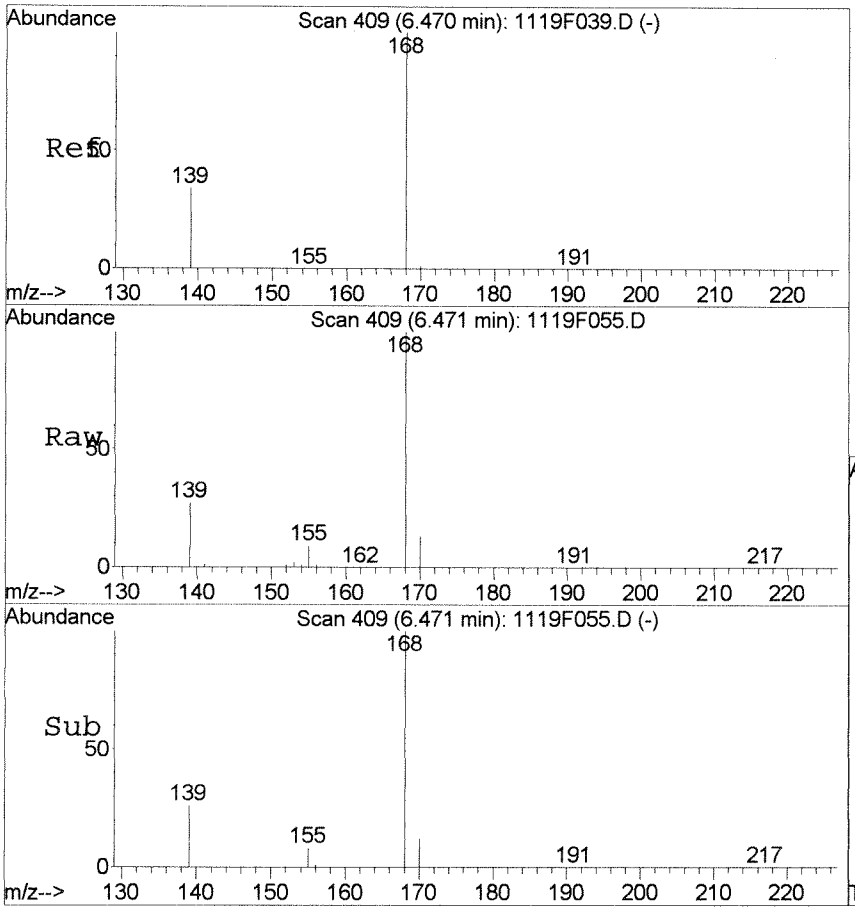


#12
Acenaphthene
Concen: 221.44 ng/ml
RT: 6.32 min Scan# 382
Delta R.T. 0.00 min
Lab File: 1119F055.D
Acq: 20 Nov 2009 5:39 am

Tgt Ion:154 Resp: 90211

Ion	Ratio	Lower	Upper
154	100		
153	107.4	77.8	137.8
152	49.7	24.7	84.7

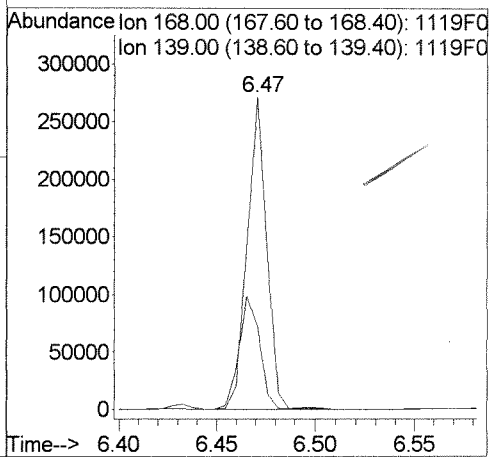


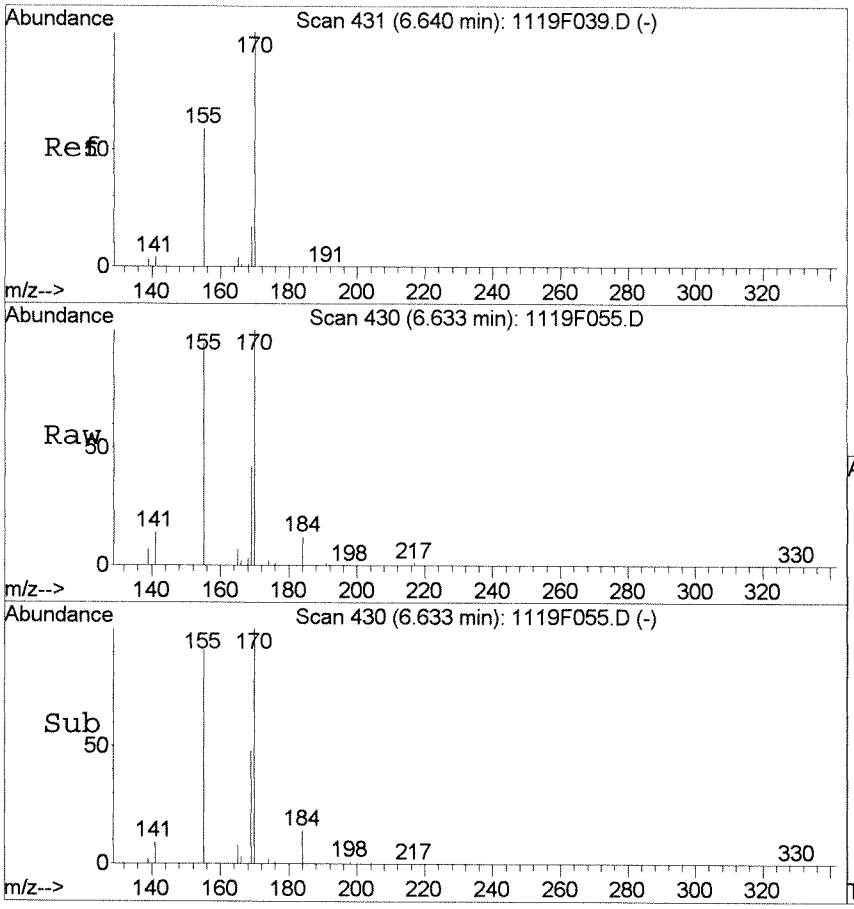


#13
Dibenzofuran
Concen: 305.07 ng/ml
RT: 6.47 min Scan# 409
Delta R.T. 0.01 min
Lab File: 1119F055.D
Acq: 20 Nov 2009 5:39 am

Tgt Ion:168 Resp: 188236

Ion	Ratio	Lower	Upper
168	100		
139	26.6	23.3	83.3

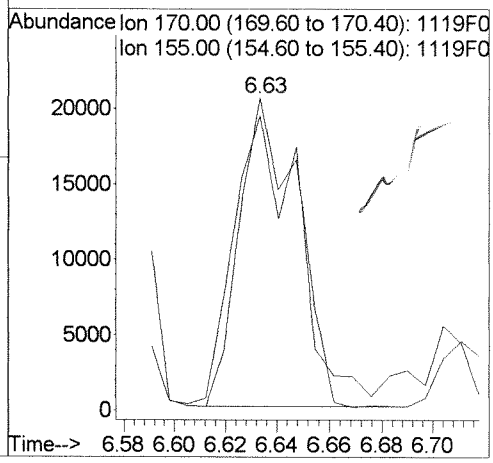


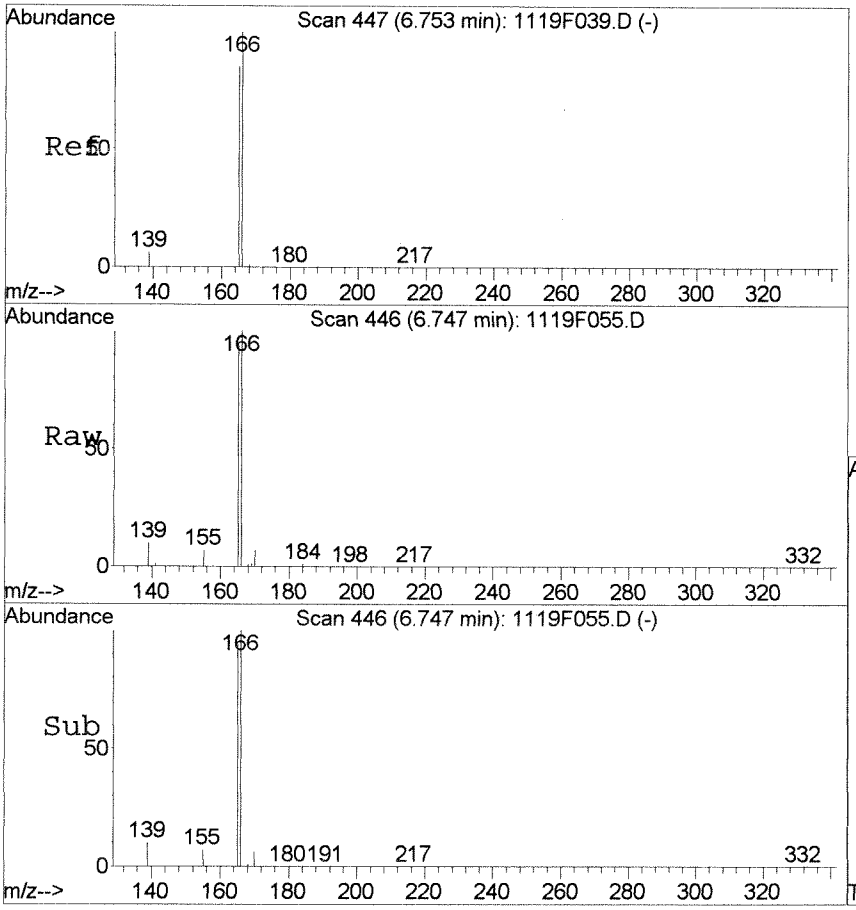


#14
2,3,5-Trimethylnaphthalene
Concen: 73.46 ng/ml
RT: 6.63 min Scan# 430
Delta R.T. -0.00 min
Lab File: 1119F055.D
Acq: 20 Nov 2009 5:39 am

Tgt Ion:170 Resp: 31960

Ion	Ratio	Lower	Upper
170	100		
155	91.6	48.2	108.2

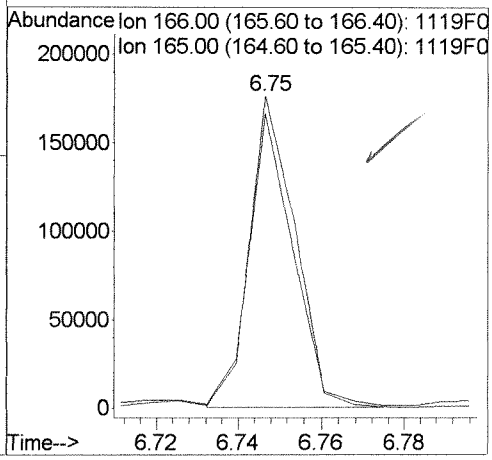


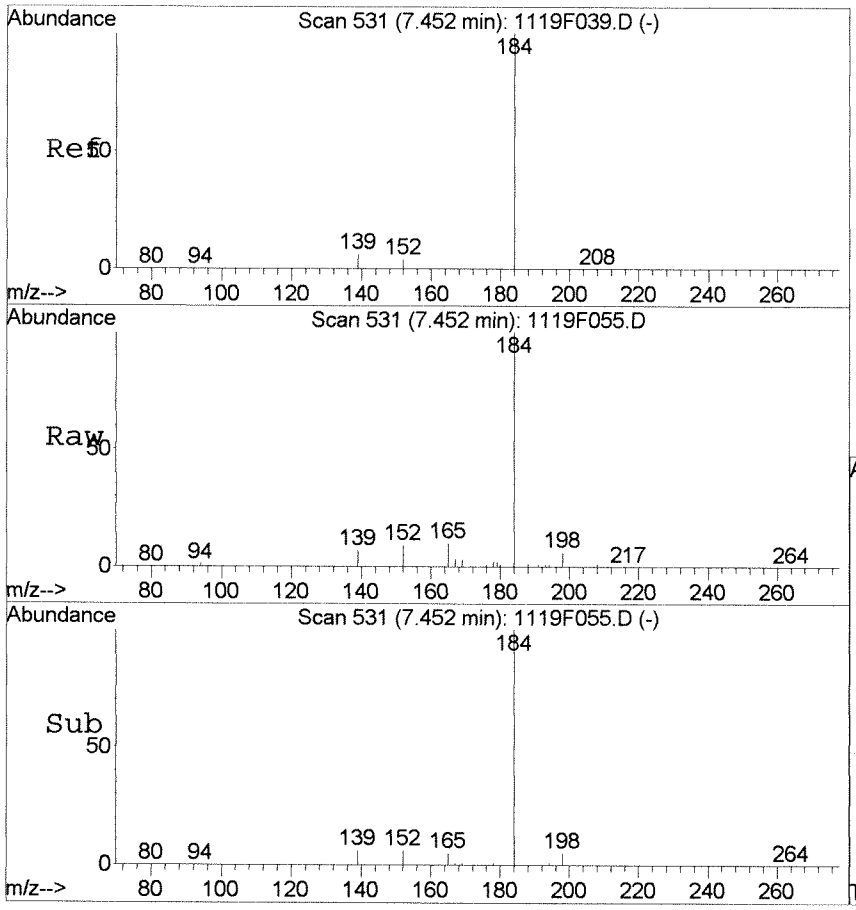


#16
Fluorene
Concen: 259.95 ng/ml m
RT: 6.75 min Scan# 446
Delta R.T. -0.00 min
Lab File: 1119F055.D
Acq: 20 Nov 2009 5:39 am

Tgt Ion:166 Resp: 134162

Ion	Ratio	Lower	Upper
166	100		
165	94.3	57.8	117.8

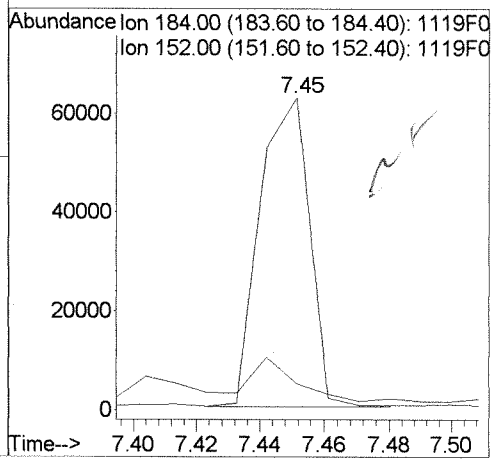


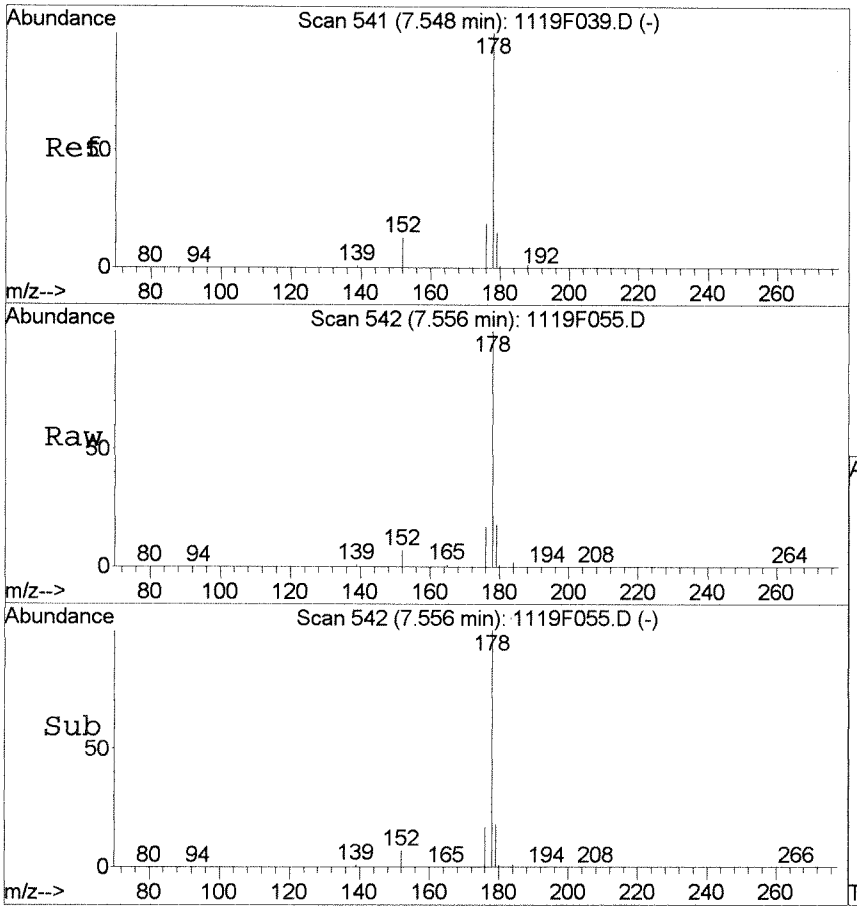


#23
Dibenzothiophene
Concen: 93.88 ng/ml
RT: 7.45 min Scan# 531
Delta R.T. 0.01 min
Lab File: 1119F055.D
Acq: 20 Nov 2009 5:39 am

Tgt Ion:184 Resp: 67226

Ion	Ratio	Lower	Upper
184	100		
152	4.9	0.0	39.4

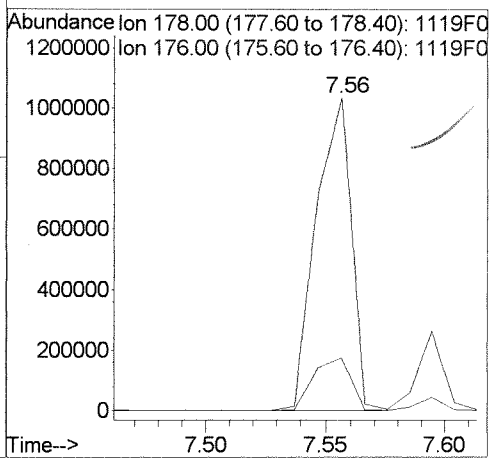


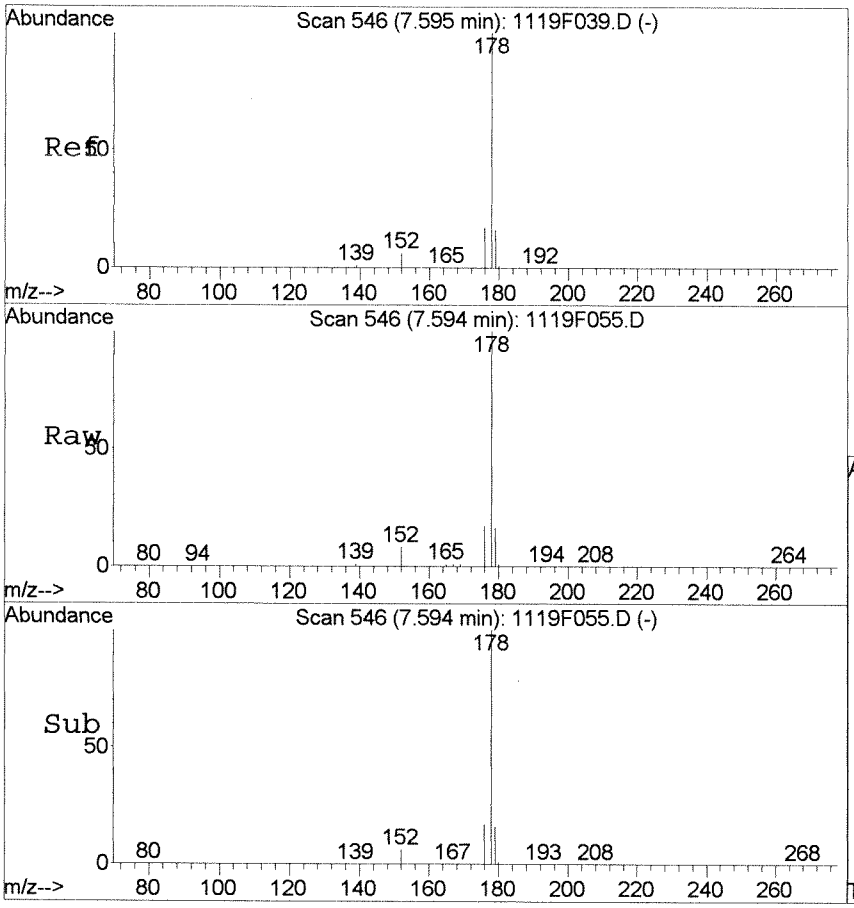


#27
Phenanthrene
Concen: 1198.18 ng/ml
RT: 7.56 min Scan# 542
Delta R.T. 0.01 min
Lab File: 1119F055.D
Acq: 20 Nov 2009 5:39 am

Tgt Ion:178 Resp: 1027059

Ion	Ratio	Lower	Upper
178	100		
176	16.9	0.0	49.6

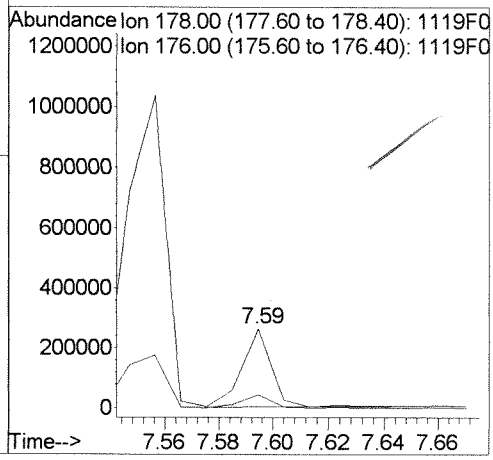


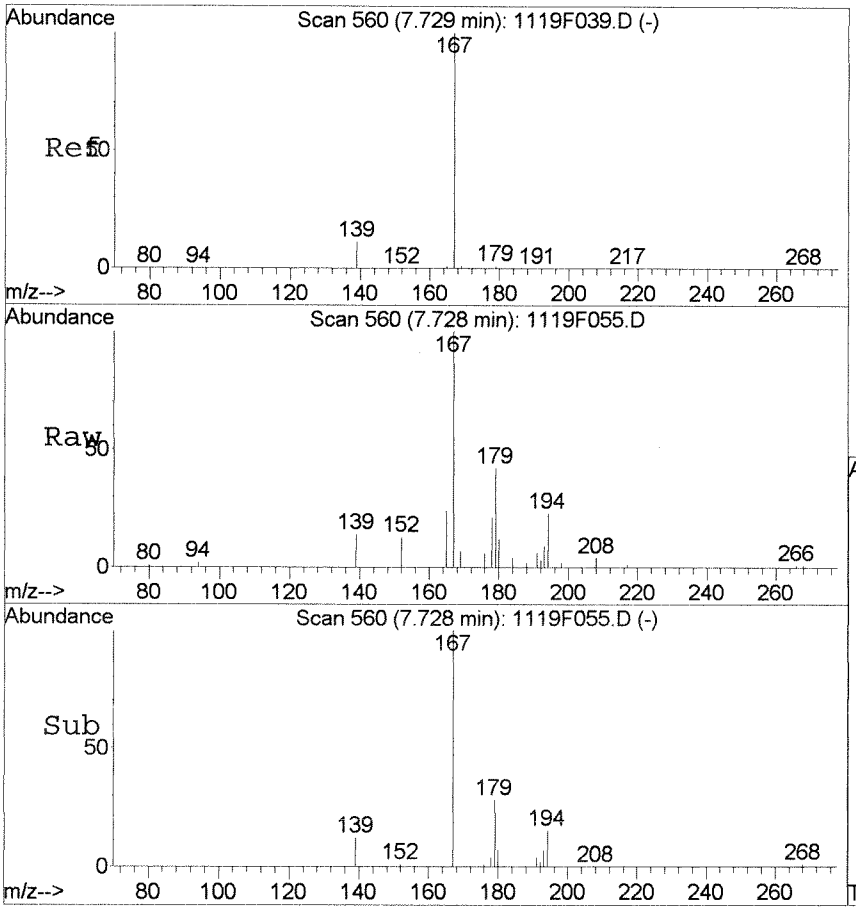


#28
Anthracene
Concen: 240.96 ng/ml
RT: 7.59 min Scan# 546
Delta R.T. 0.01 min
Lab File: 1119F055.D
Acq: 20 Nov 2009 5:39 am

Tgt Ion:178 Resp: 198483

Ion	Ratio	Lower	Upper
178	100		
176	16.8	0.0	47.6

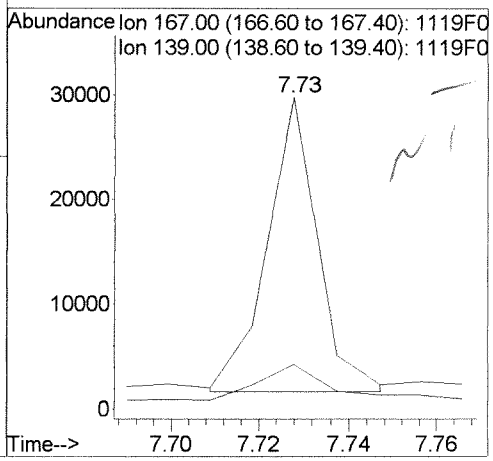


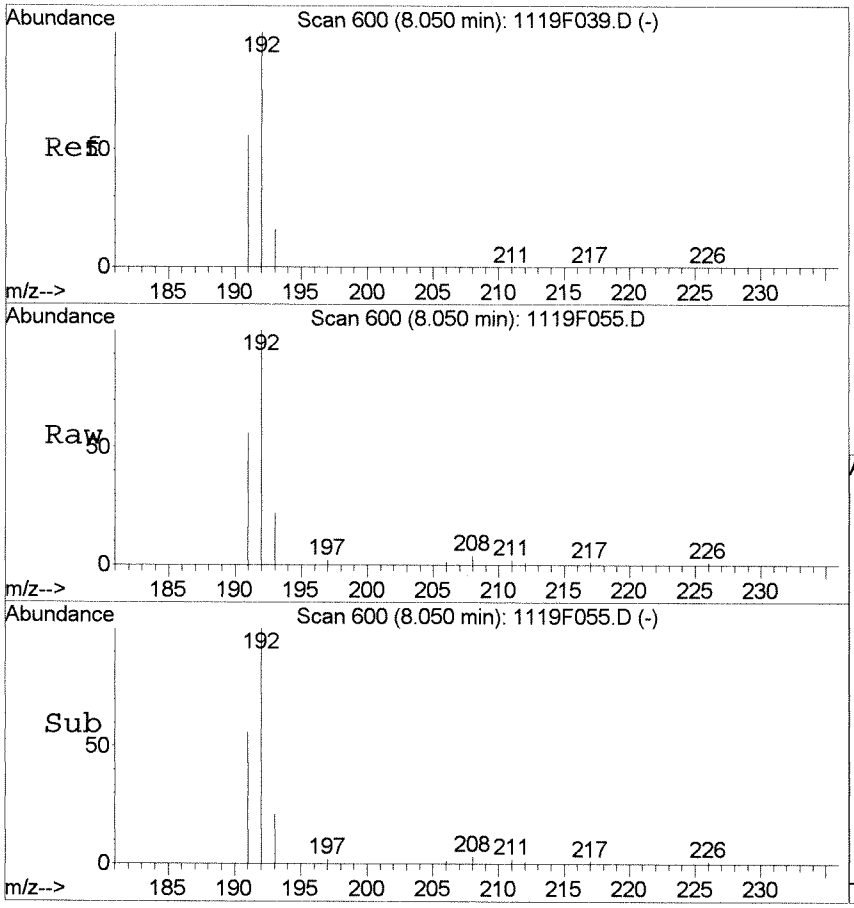


#29
Carbazole
Concen: 31.14 ng/ml m
RT: 7.73 min Scan# 560
Delta R.T. 0.01 min
Lab File: 1119F055.D
Acq: 20 Nov 2009 5:39 am

Tgt Ion:167 Resp: 21911

Ion	Ratio	Lower	Upper
167	100		
139	14.3	0.0	45.7

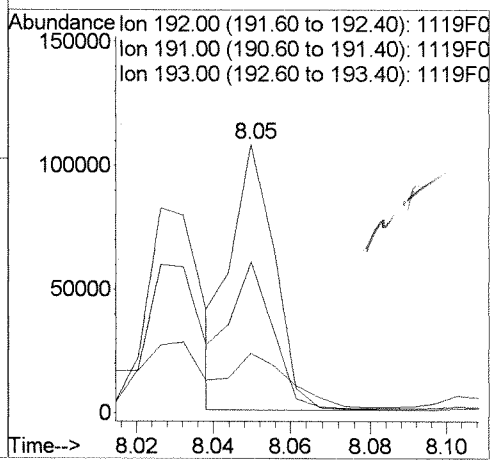


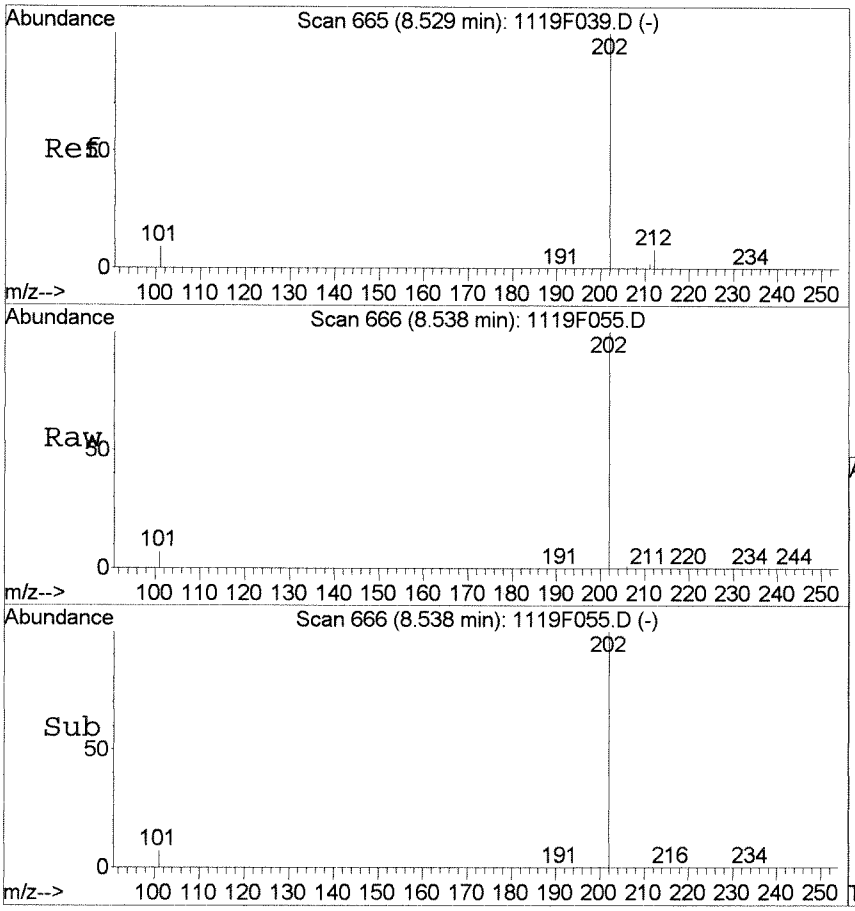


#30
1-Methylphenanthrene
Concen: 126.49 ng/ml
RT: 8.05 min Scan# 600
Delta R.T. -0.00 min
Lab File: 1119F055.D
Acq: 20 Nov 2009 5:39 am

Tgt Ion:192 Resp: 84408

Ion	Ratio	Lower	Upper
192	100		
191	55.3	23.0	83.0
193	20.3	0.0	47.0

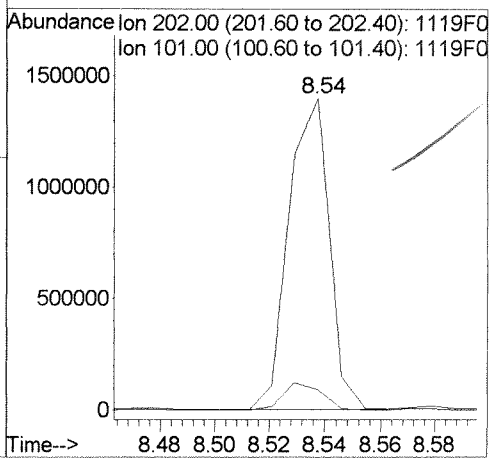


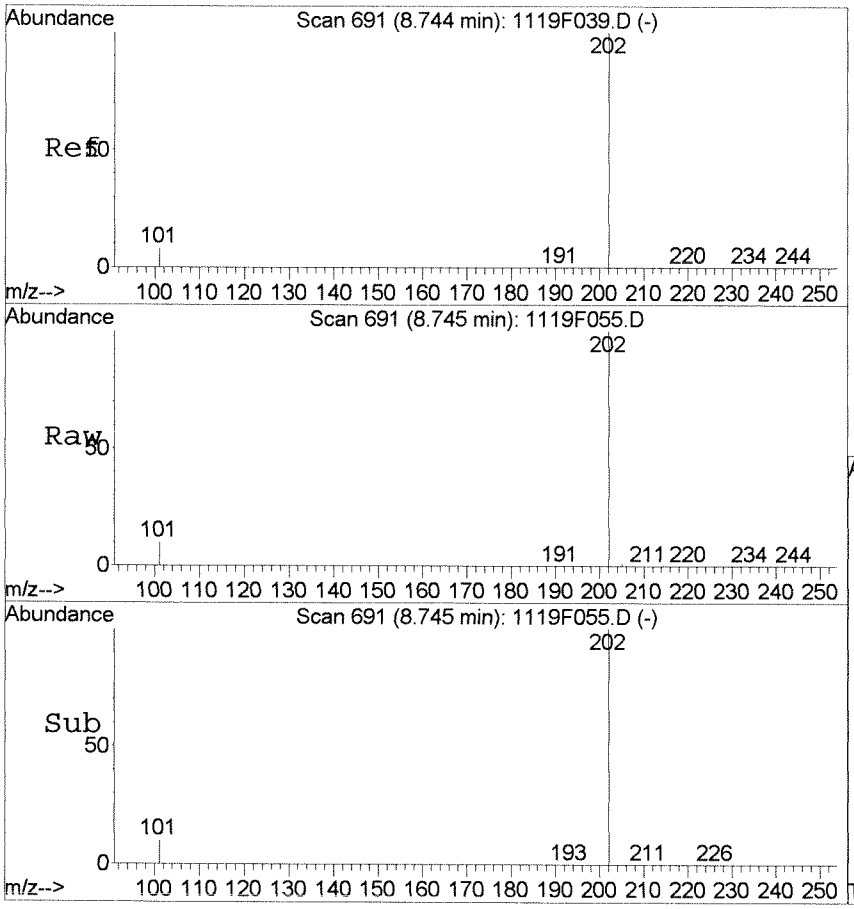


#35
Fluoranthene
Concen: 1405.00 ng/ml
RT: 8.54 min Scan# 666
Delta R.T. 0.01 min
Lab File: 1119F055.D
Acq: 20 Nov 2009 5:39 am

Tgt Ion:202 Resp: 1400042

Ion	Ratio	Lower	Upper
202	100		
101	6.5	0.0	36.5

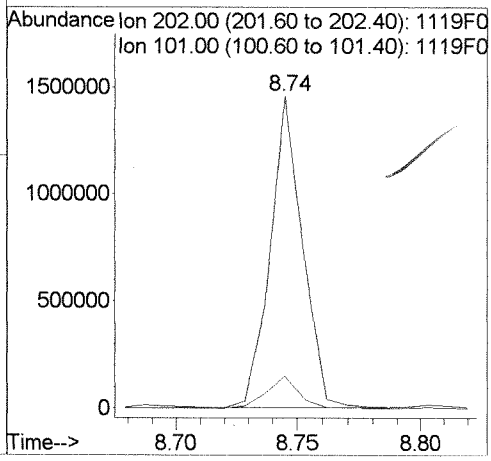


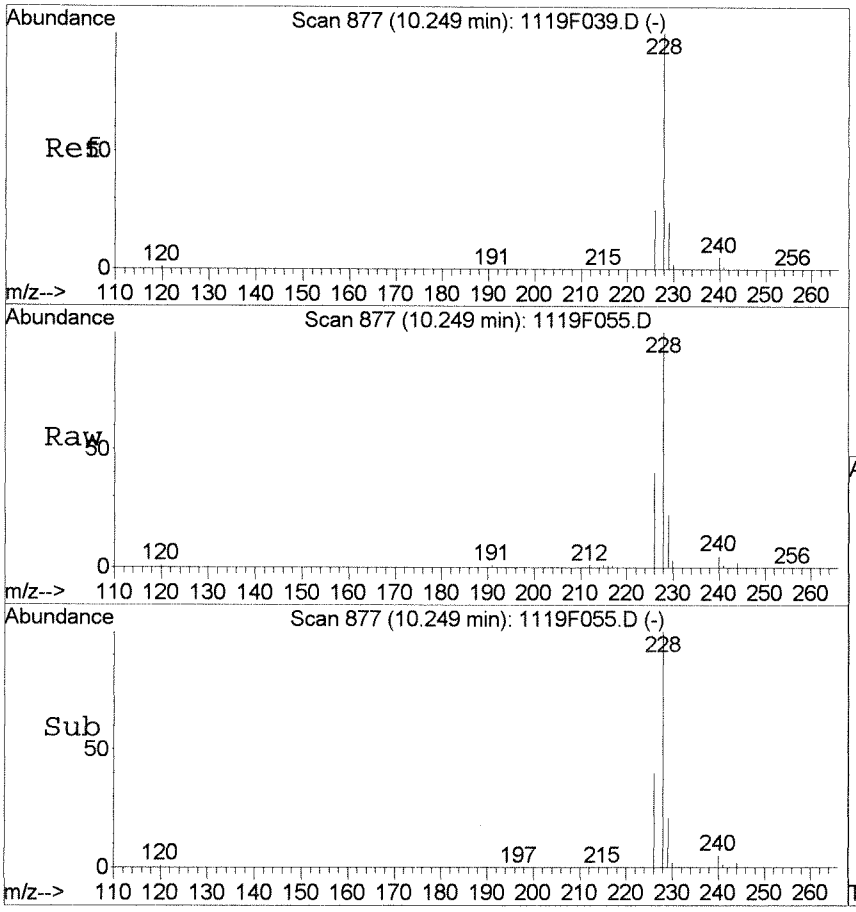


#38
Pyrene
Concen: 933.12 ng/ml
RT: 8.74 min Scan# 691
Delta R.T. 0.00 min
Lab File: 1119F055.D
Acq: 20 Nov 2009 5:39 am

Tgt Ion:202 Resp: 1333714

Ion	Ratio	Lower	Upper
202	100		
101	10.3	0.0	36.4

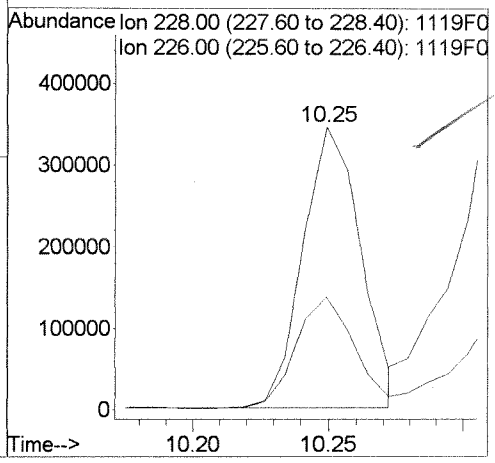


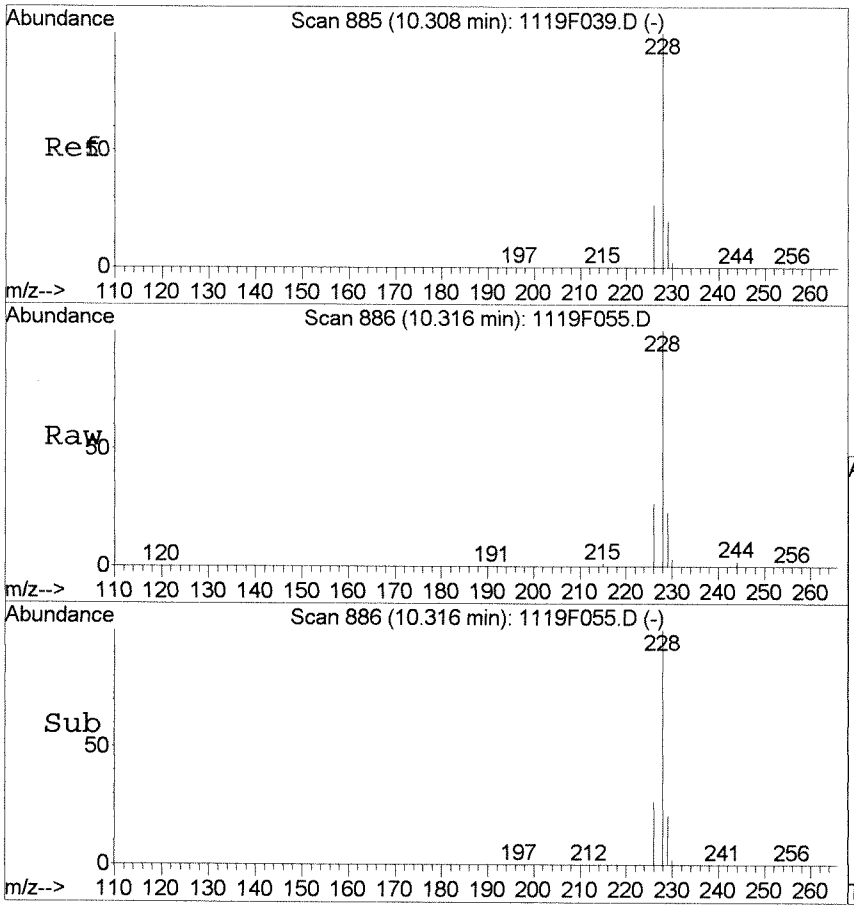


#43
Benz(a)anthracene
Concen: 364.32 ng/ml
RT: 10.25 min Scan# 877
Delta R.T. -0.00 min
Lab File: 1119F055.D
Acq: 20 Nov 2009 5:39 am

Tgt Ion:228 Resp: 501628

Ion	Ratio	Lower	Upper
228	100		
226	39.6	0.0	55.9

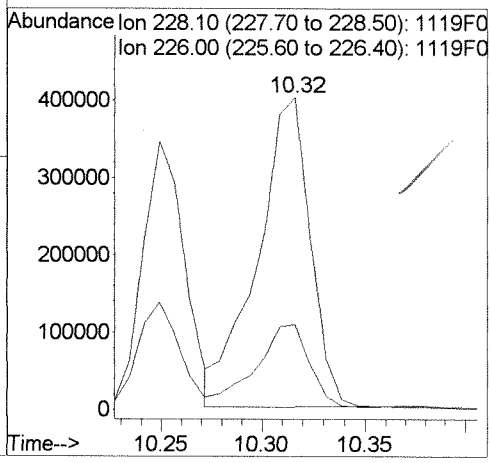


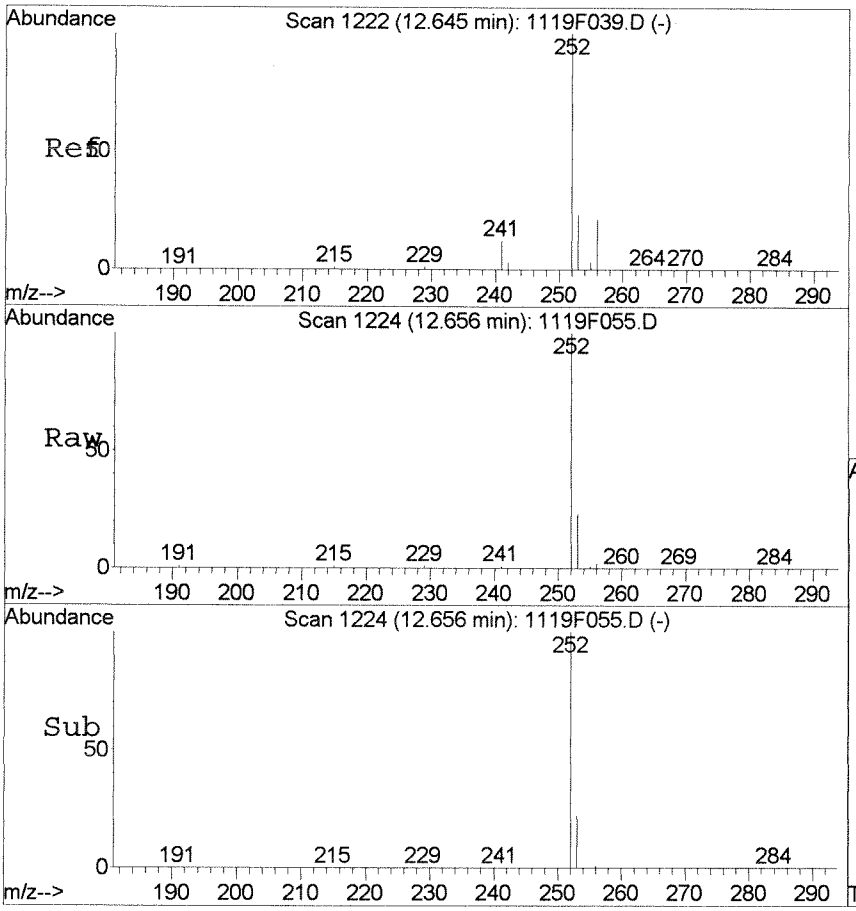


#44
Chrysene
Concen: 548.31 ng/ml
RT: 10.32 min Scan# 886
Delta R.T. 0.00 min
Lab File: 1119F055.D
Acq: 20 Nov 2009 5:39 am

Tgt Ion:228 Resp: 720983

Ion	Ratio	Lower	Upper
228	100		
226	26.5	0.0	58.8

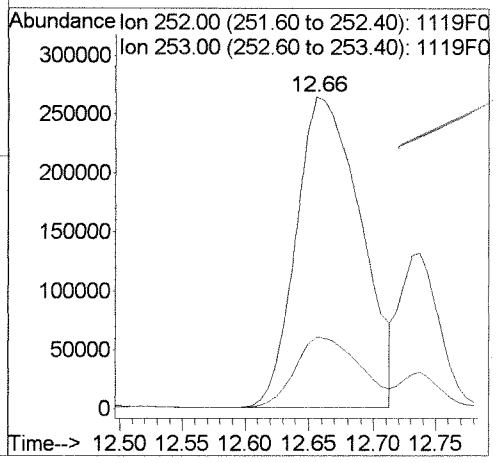


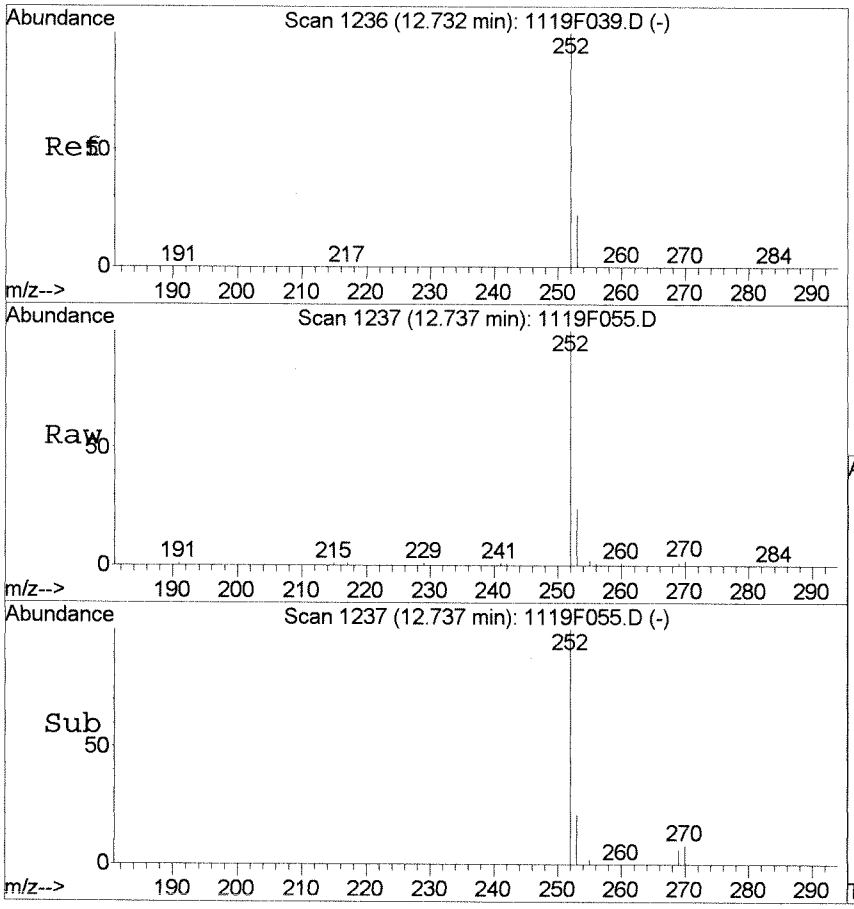


#50
Benzo(b)fluoranthene
Concen: 555.04 ng/ml
RT: 12.66 min Scan# 1224
Delta R.T. -0.00 min
Lab File: 1119F055.D
Acq: 20 Nov 2009 5:39 am

Tgt Ion:252 Resp: 913081

Ion	Ratio	Lower	Upper
252	100		
253	22.6	0.0	52.8

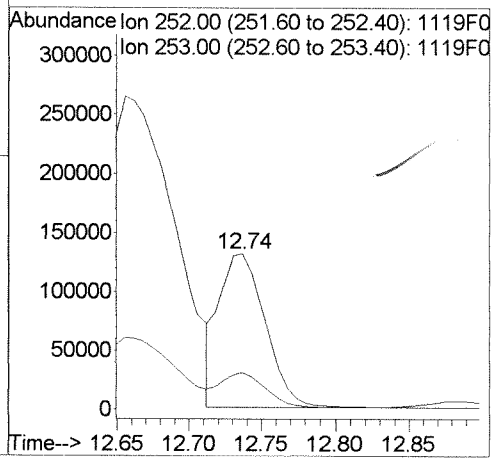


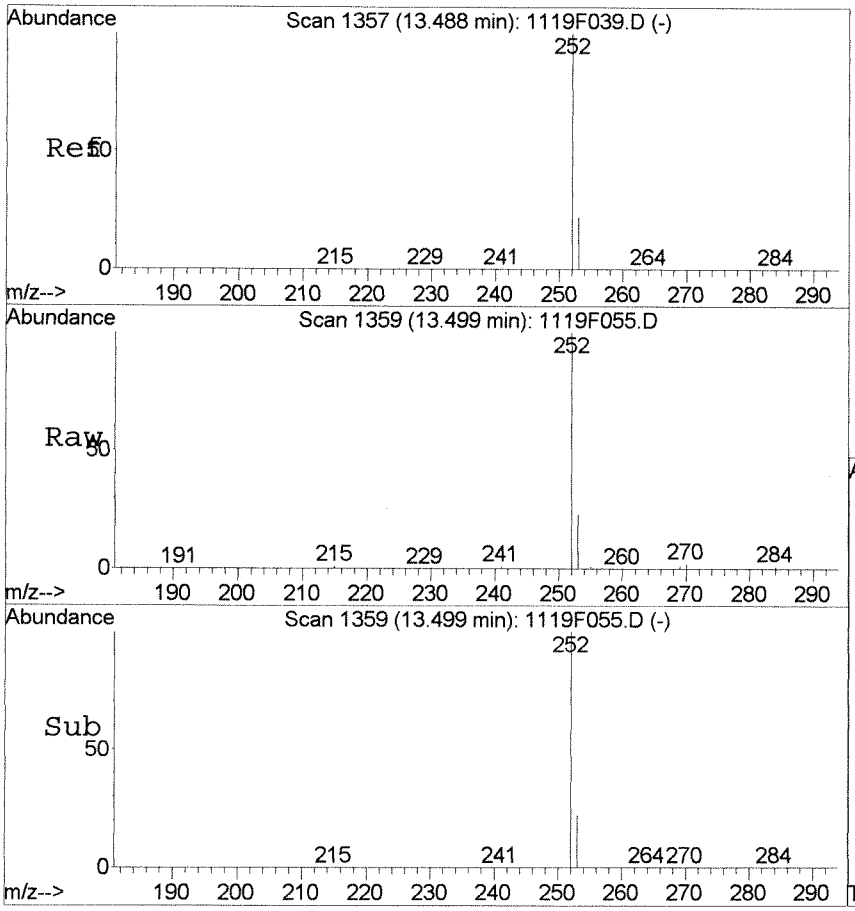


#51
Benzo(k)fluoranthene
Concen: 186.59 ng/ml
RT: 12.74 min Scan# 1237
Delta R.T. -0.00 min
Lab File: 1119F055.D
Acq: 20 Nov 2009 5:39 am

Tgt Ion:252 Resp: 290873

Ion	Ratio	Lower	Upper
252	100		
253	22.5	0.0	52.5

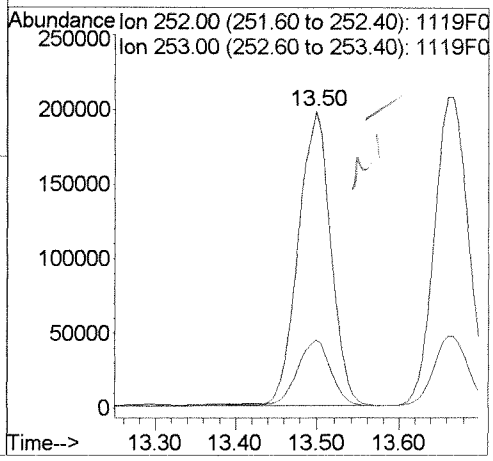


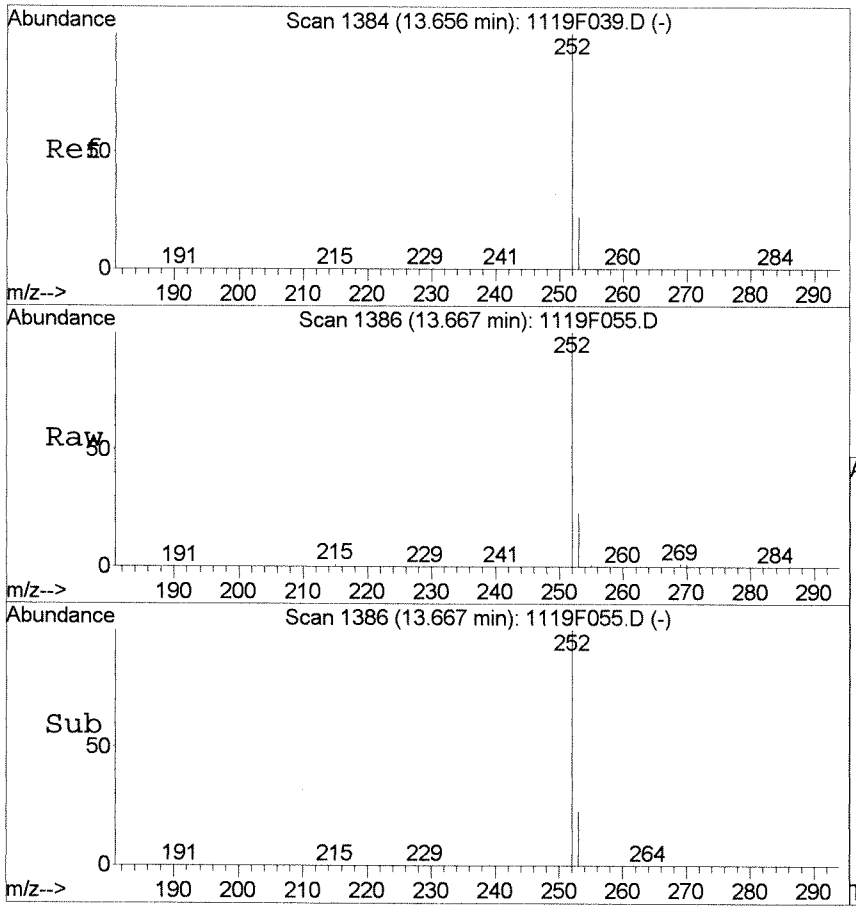


#52
Benzo(e)pyrene
Concen: 351.77 ng/ml
RT: 13.50 min Scan# 1359
Delta R.T. 0.00 min
Lab File: 1119F055.D
Acq: 20 Nov 2009 5:39 am

Tgt Ion:252 Resp: 530329

Ion	Ratio	Lower	Upper
252	100		
253	22.2	0.0	52.3

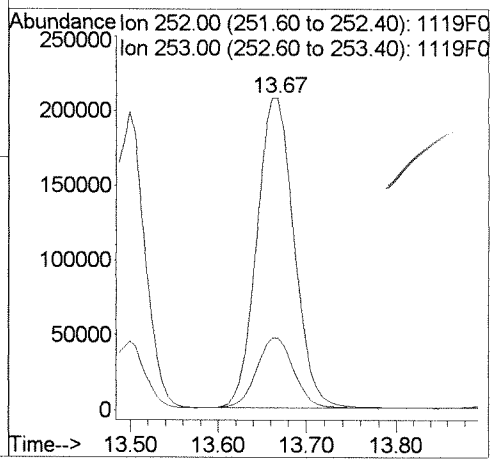


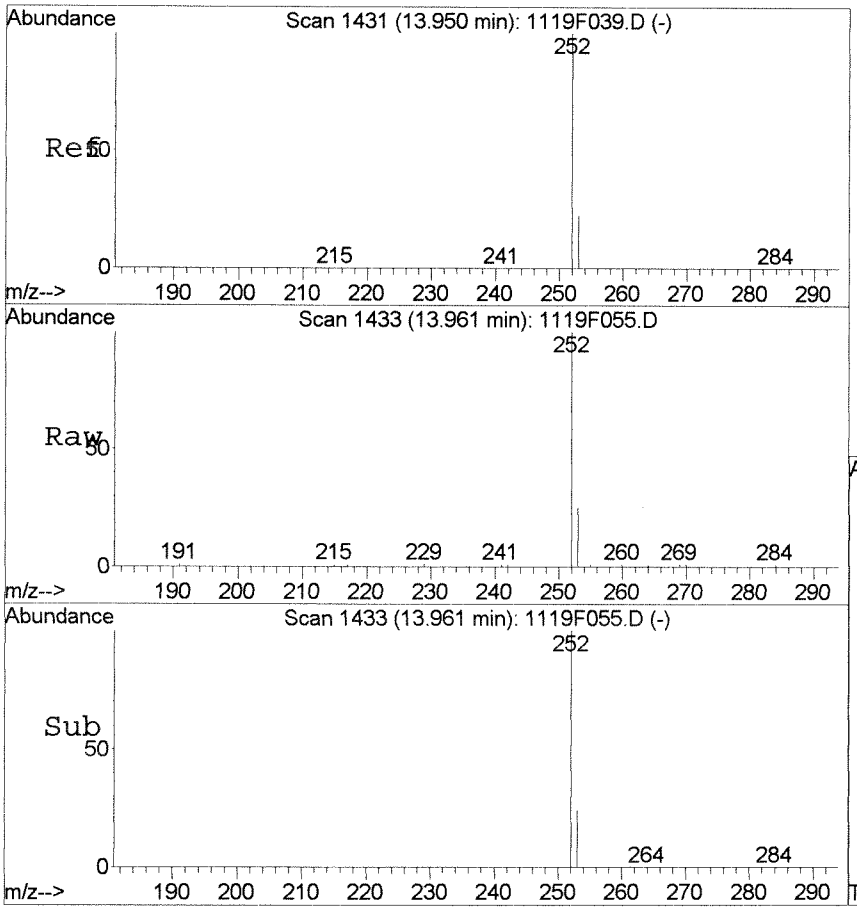


#53
Benzo(a)pyrene
Concen: 421.38 ng/ml
RT: 13.67 min Scan# 1386
Delta R.T. 0.00 min
Lab File: 1119F055.D
Acq: 20 Nov 2009 5:39 am

Tgt Ion:252 Resp: 610702

Ion	Ratio	Lower	Upper
252	100		
253	22.4	0.0	52.6

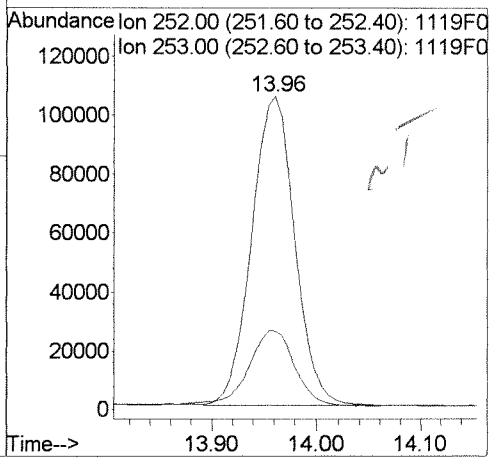


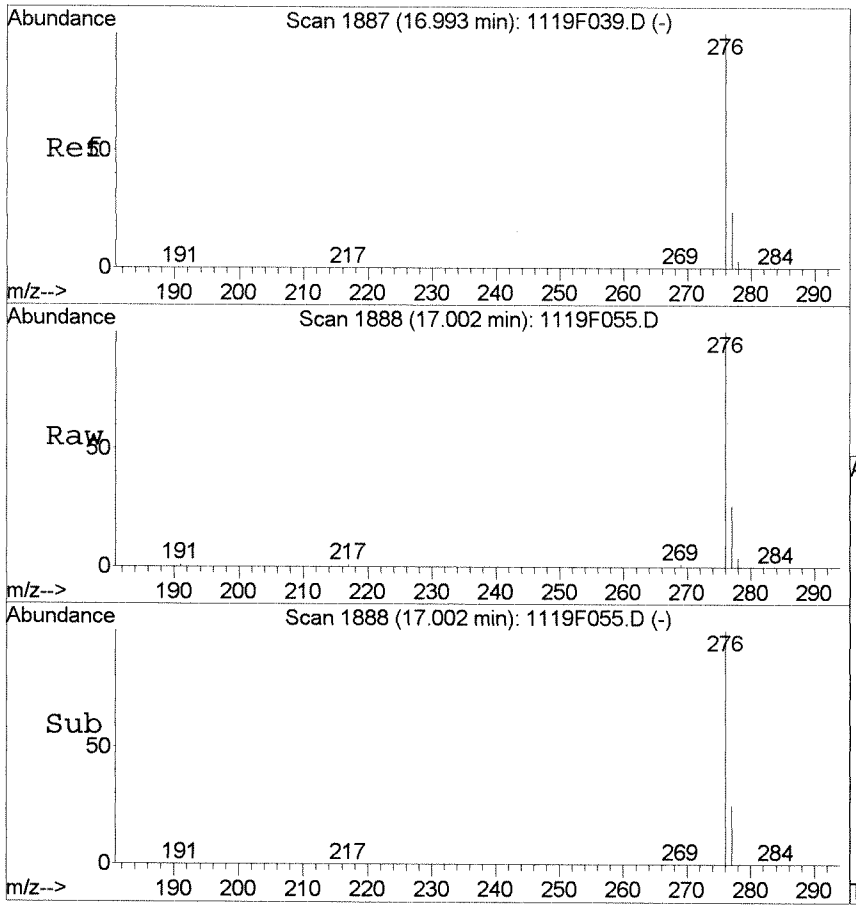


#54
Perylene
Concen: 212.52 ng/ml
RT: 13.96 min Scan# 1433
Delta R.T. 0.01 min
Lab File: 1119F055.D
Acq: 20 Nov 2009 5:39 am

Tgt Ion:252 Resp: 304174

Ion	Ratio	Lower	Upper
252	100		
253	24.3	0.0	52.0

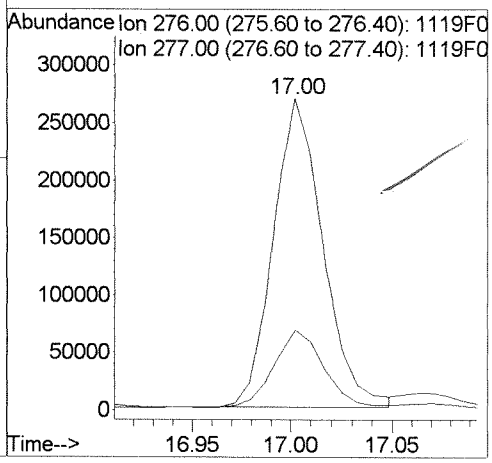


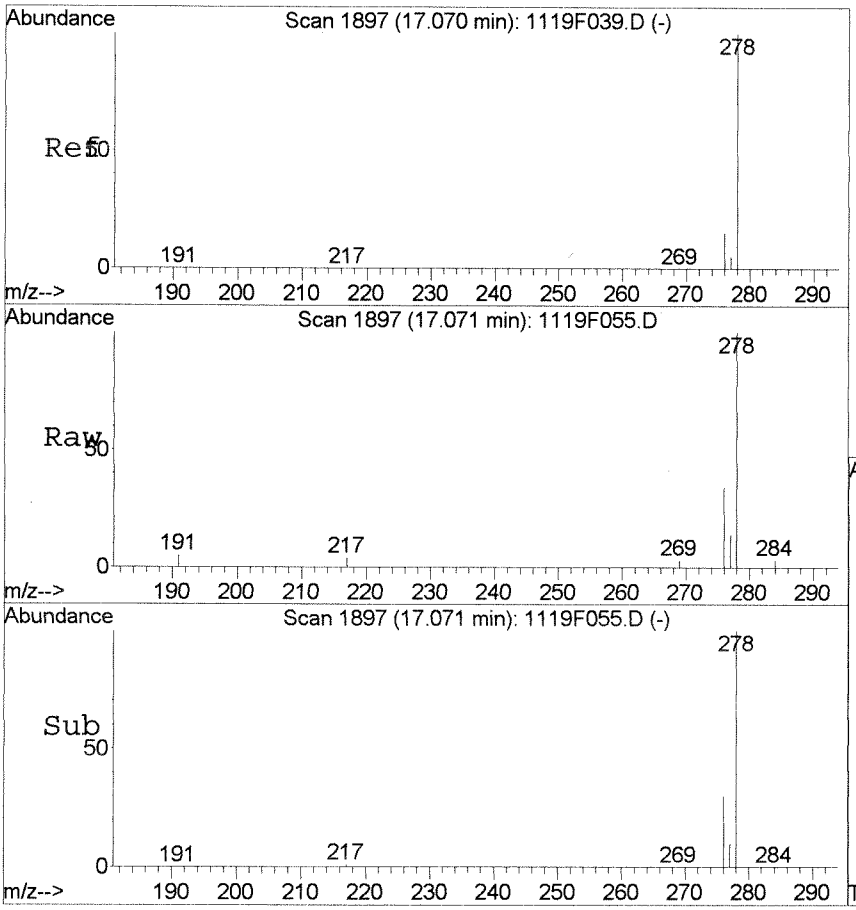


#55
Indeno(1,2,3-cd)pyrene
Concen: 346.68 ng/ml
RT: 17.00 min Scan# 1888
Delta R.T. -0.00 min
Lab File: 1119F055.D
Acq: 20 Nov 2009 5:39 am

Tgt Ion:276 Resp: 463134

Ion	Ratio	Lower	Upper
276	100		
277	25.0	0.0	55.1

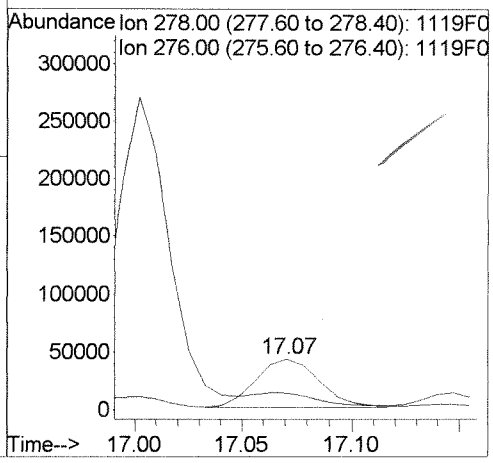


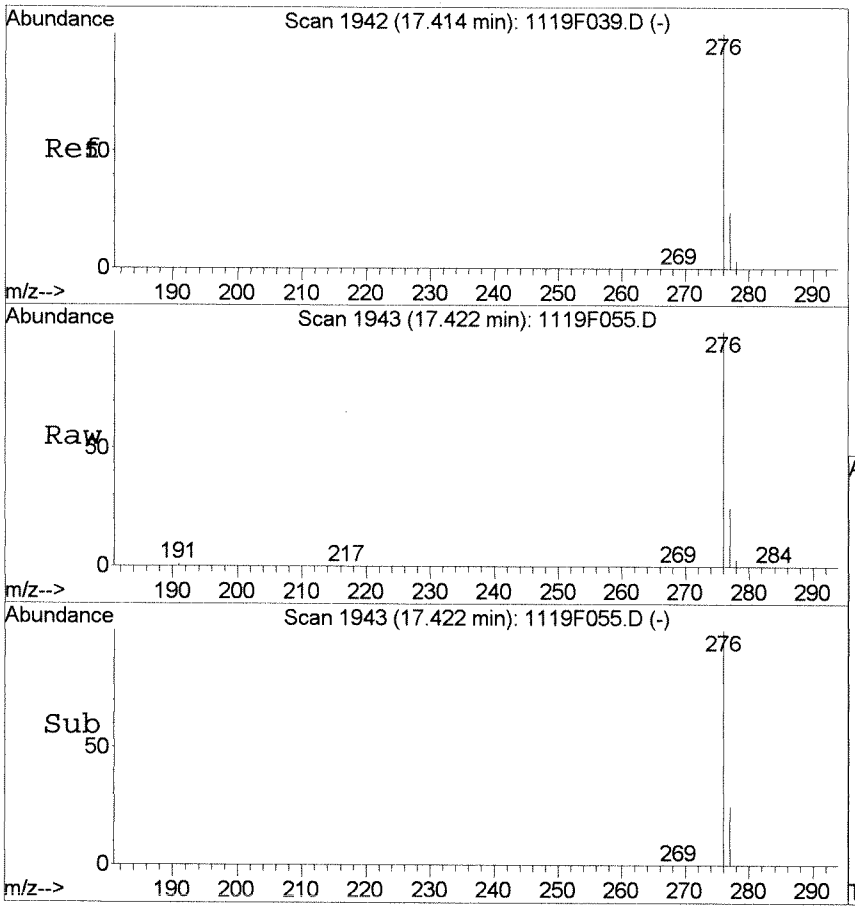


#56
Dibenz(a,h)anthracene
Concen: 59.99 ng/ml
RT: 17.07 min Scan# 1897
Delta R.T. -0.00 min
Lab File: 1119F055.D
Acq: 20 Nov 2009 5:39 am

Tgt Ion:278 Resp: 83507

Ion	Ratio	Lower	Upper
278	100		
276	27.6	0.0	52.1

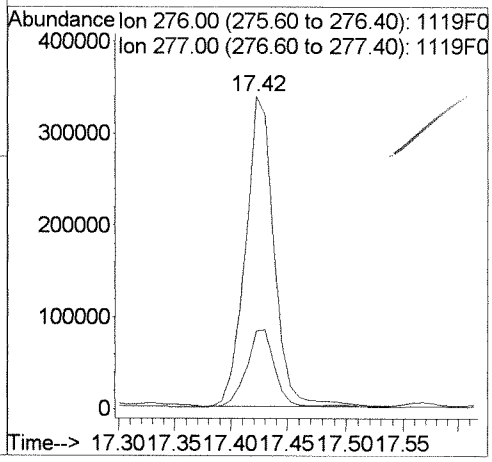




#57
Benzo(g,h,i)perylene
Concen: 394.10 ng/ml
RT: 17.42 min Scan# 1943
Delta R.T. -0.00 min
Lab File: 1119F055.D
Acq: 20 Nov 2009 5:39 am

Tgt Ion:276 Resp: 594984

Ion	Ratio	Lower	Upper
276	100		
277	24.7	0.0	55.7



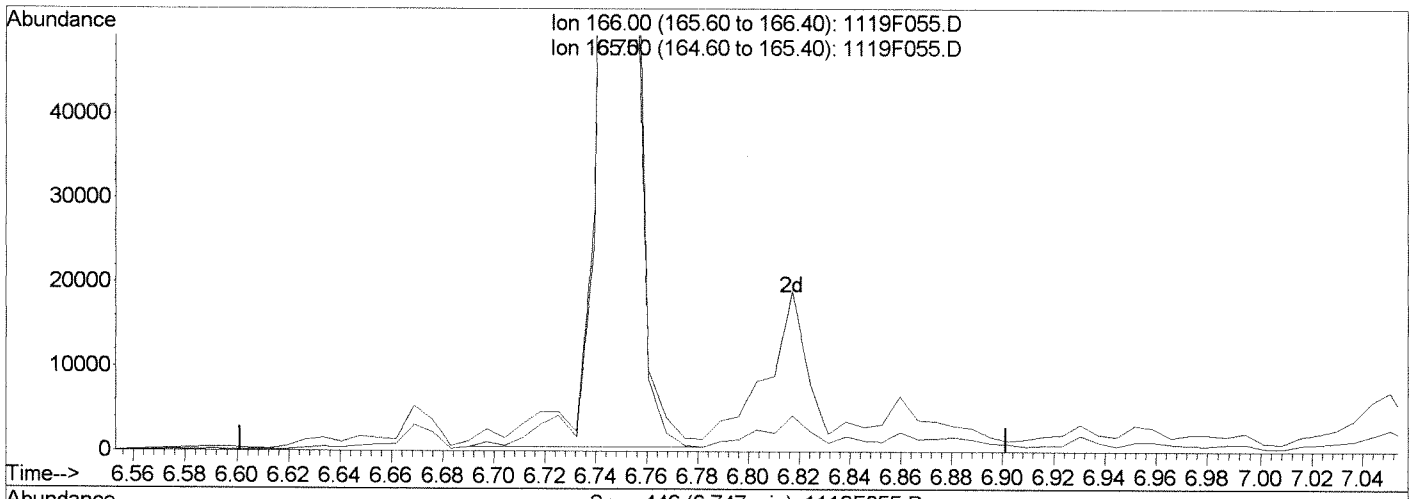
Quantitation Report (Qedit)

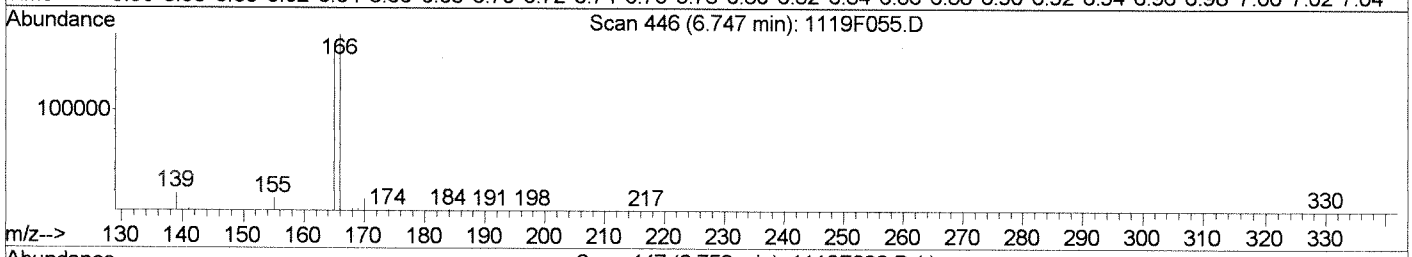
Data File : J:\MS11\DATA\111909\1119F055.D
Acq On : 20 Nov 2009 5:39 am
Sample : K0909140-004
Misc :
MS Integration Params: RTEINT.P
Quant Time: Nov 20 11:02 2009

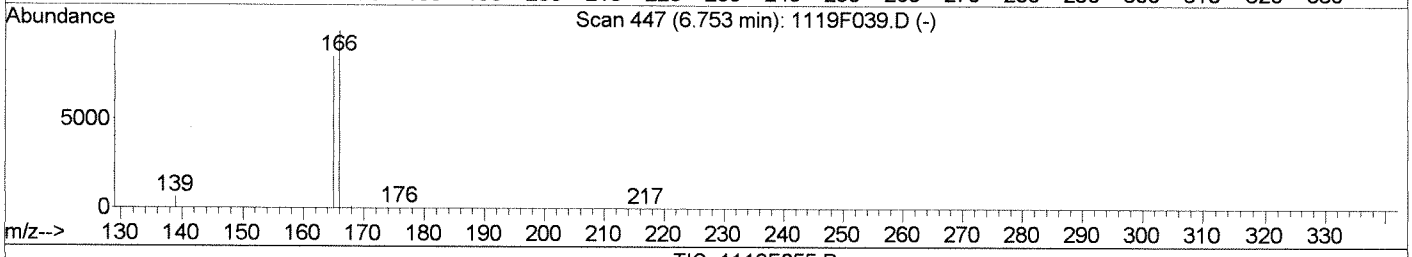
Vial: 43
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1119ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Fri Nov 20 12:01:24 2009
Response via : Multiple Level Calibration







TIC: 1119F055.D

(16) Fluorene (T)

6.75min 266.97ng/ml

response 137787

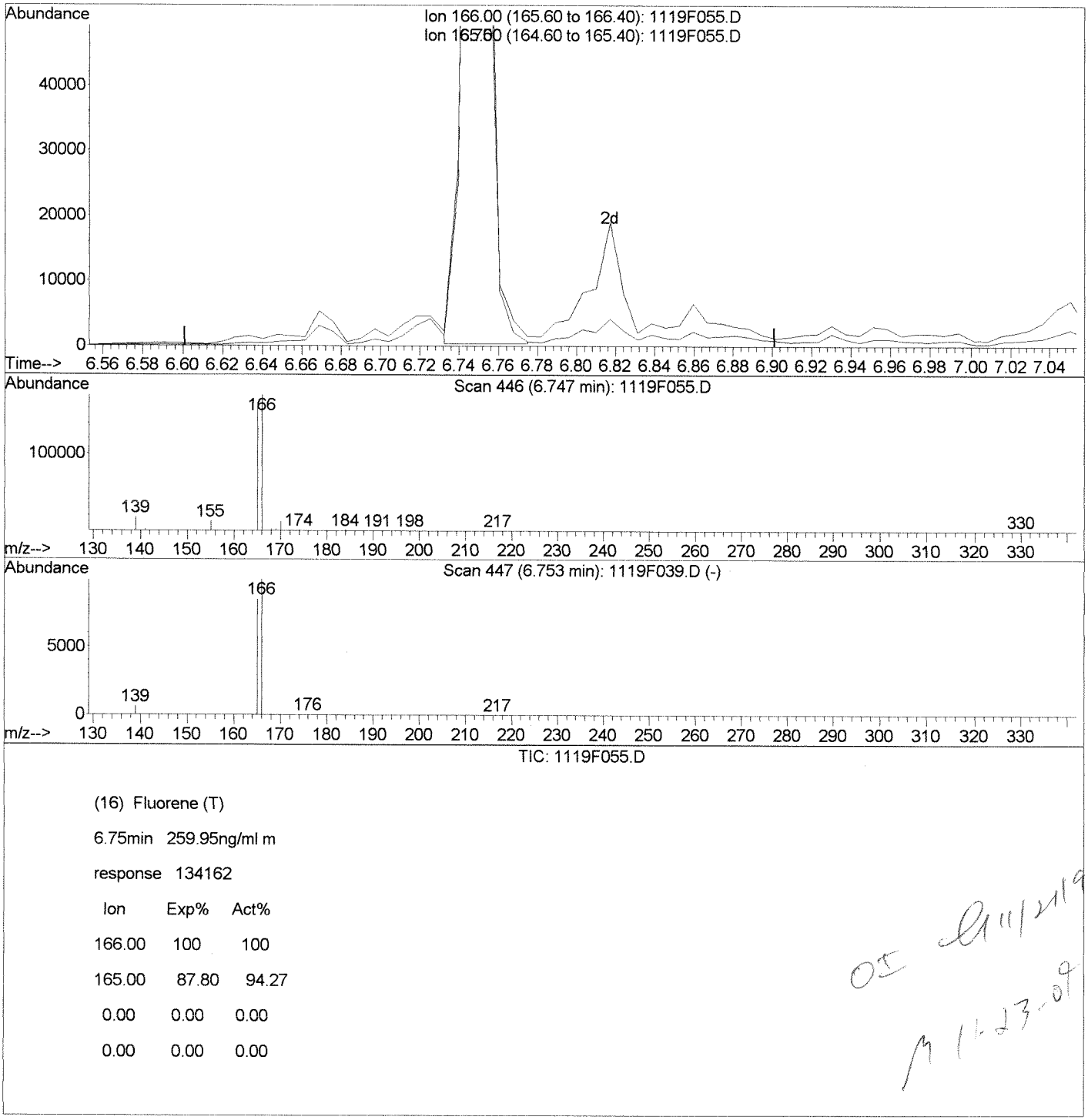
Ion	Exp%	Act%
166.00	100	100
165.00	87.80	93.89
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\111909\1119F055.D
Acq On : 20 Nov 2009 5:39 am
Sample : K0909140-004
Misc :
MS Integration Params: RTEINT.P
Quant Time: Nov 20 12:31 2009

Vial: 43
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1119ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Fri Nov 20 12:01:24 2009
Response via : Multiple Level Calibration



TIC: 1119F055.D

(16) Fluorene (T)

6.75min 259.95ng/ml m

response 134162

Ion	Exp%	Act%
166.00	100	100
165.00	87.80	94.27
0.00	0.00	0.00
0.00	0.00	0.00

OK 11/21/09

11-23-09

1119F055.D 1119ALK.M Fri Nov 20 12:31:07 2009

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	URS Corporation	**Service Request:**	K0909140
Project:	Boise St. Helens Pulp and Paper Mill-2009	**Date Collected:**	10/06/2009
Sample Matrix:	Sediment	**Date Received:**	10/07/2009

Polynuclear Aromatic Hydrocarbons

Sample Name:	M-2-C	**Units:**	ug/Kg
Lab Code:	K0909140-005	**Basis:**	Dry
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270C SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Naphthalene	**440**		2.7	0.60	1	11/10/09	11/21/09	KWG0910535	
2-Methylnaphthalene	**270**		2.7	0.46	1	11/10/09	11/21/09	KWG0910535	
Acenaphthylene	**130**		2.7	0.56	1	11/10/09	11/21/09	KWG0910535	
Acenaphthene	**130**		2.7	0.50	1	11/10/09	11/21/09	KWG0910535	
Fluorene	**170**		2.7	0.61	1	11/10/09	11/21/09	KWG0910535	
Dibenzofuran	**84**		2.7	0.63	1	11/10/09	11/21/09	KWG0910535	
Phenanthrene	**720**		2.7	1.4	1	11/10/09	11/21/09	KWG0910535	
Anthracene	**96**		2.7	0.55	1	11/10/09	11/21/09	KWG0910535	
Fluoranthene	**520**		2.7	0.98	1	11/10/09	11/21/09	KWG0910535	
Pyrene	**530**		2.7	0.76	1	11/10/09	11/21/09	KWG0910535	
Benz(a)anthracene	**120**		2.7	0.72	1	11/10/09	11/21/09	KWG0910535	
Chrysene	**140**		2.7	0.80	1	11/10/09	11/21/09	KWG0910535	
Benzo(b)fluoranthene	**130**		2.7	0.92	1	11/10/09	11/21/09	KWG0910535	
Benzo(k)fluoranthene	**35**		2.7	0.87	1	11/10/09	11/21/09	KWG0910535	
Benzo(a)pyrene	**100**		2.7	0.76	1	11/10/09	11/21/09	KWG0910535	
Indeno(1,2,3-cd)pyrene	**65**		2.7	0.87	1	11/10/09	11/21/09	KWG0910535	
Dibenz(a,h)anthracene	**14**		2.7	0.80	1	11/10/09	11/21/09	KWG0910535	
Benzo(g,h,i)perylene	**97**		2.7	0.85	1	11/10/09	11/21/09	KWG0910535	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	37	17-104	11/21/09	Acceptable
Fluoranthene-d10	28	27-106	11/21/09	Acceptable
Terphenyl-d14	28	35-109	11/21/09	Outside Control Limits

Comments:

Exception Report

Data File: J:\MS11\DATA\112009\1120F033.D
Lab ID: K0909140-005
RunType: SMPL
Matrix: SEDIMENT

Date Acquired: 11/21/2009 00:19
Date Quantitated: 11/23/2009 08:39
Batch ID: KWG0911040
Analysis Method: 8270C SIM
ListJoinID: LJ5646

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Tune Window	NA	NA	NA	x	
Analytical Holding Time	NA	NA	NA	x	
Preparation Holding Time	NA	NA	NA	x	
Pre-Preparation Holding Time	NA	NA	NA	x	
ICAL Pass/Fail	NA	NA	NA	x	
ICAL Average RSD	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Initial Calibration Minimum RF	NA	NA	NA	x	
Initial Calibration SPCC/CCC	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA	x	
Continuing Calibration Minimum RF	NA	NA	NA	x	
Continuing Calibration SPCC/CCC	NA	NA	NA	x	
Method Blank	NA	NA	NA	x	
MB Surrogate Recovery	NA	NA	NA	x	
Lab Control Spike	NA	NA	NA	x	
Internal Standards	NA	NA	NA	x	
Surrogates	NA	NA	NA		x
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Relative Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
Surrogates	Terphenyl-d14	28	35	109	MaMX

Primary Review: 11/23/09

Secondary Review: 11-24-09

Quantitation Report

Bottle ID:		**Tier:**	V	**Matrix:**	SEDIMENT
Prod Code:	8270C SIM PAH_S	**Collect Date:**	10/06/2009	**Receive Date:**	10/07/2009

Analysis Lot:	KWG0911040	**Prep Lot:**	KWG0910535	**Report Group:**	K0909140
Analysis Method:	8270C SIM	**Prep Method:**	EPA 3541		
Prep Ref:	865758	**Prep Date:**	11/10/2009		

Quant Method:	J:\MS11\METHODS\SIM\1119ALK.M	**Calibration ID:**	CAL9029
Title:	Polynuclear Aromatic Hydrocarbons	**Report List ID:**	LJ5646
Tune Ref:	J:\MS11\DATA\112009\1120F030.D	**Method ID:**	MJ253
MB Ref:	J:\MS11\DATA\111909\1119F041.D	**Quant based on Report List**	

Data File:	J:\MS11\DATA\112009\1120F033.D			**Instrument:**	MS11
Acqu Date:	11/21/2009 00:19	**Quant Date:**	11/23/2009 08:39	**Vial:**	30
Run Type:	SMPL			**Dilution:**	1.0
Lab ID:	K0909140-005			**Soln Conc. Units:**	ng/ml

Internal Standard Compounds

IS Ref	Parameter Name	RT	RT Dev	Quant Mass	Response	Solution Conc	Area Criteria
1	Naphthalene-d8	4.87	0.00	136	172578	200.00	OK
2	Acenaphthene-d10	6.29	0.00	164	99155	200.00	OK
3	Phenanthrene-d10	7.53	0.01	188	194970	200.00	OK
4	Chrysene-d12	10.26	0.01	240	287442	200.00	OK
5	Perylene-d12	13.84	0.02	264	319971	200.00	OK

Surrogate Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	%Rec	%Rec Limits		Rpt?
2	Fluorene-d10	6.72	0.00	0.00	176	41440**m**	74.43	37	17-104	OK	
3	Fluoranthene-d10	8.51	0.01	0.00	212	66867**m**	56.73	28	27-106	OK	
4	Terphenyl-d14	8.89	0.00	0.00	244	65594	55.12	28	35-109	*	

Target Compounds

Final Conc. Units: ug/Kg Dry Weight

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	Final Conc	Q	Rpt?
1	Naphthalene	4.88	-0.01	0.00	128	638109	840.59	440		
1	2-Methylnaphthalene	5.44		0.00	142	277602	507.66	270		
2	Acenaphthylene	6.17	-0.01	0.00	152	202321	248.30	130		
2	Acenaphthene	6.32		0.00	154	118658	245.17	130		
2	Dibenzofuran	6.46		0.00	168	115874	158.07	84		
2	Fluorene	6.74		0.00	166	194792	317.69	170		
3	Phenanthrene	7.55	0.01	0.00	178	1420199	1,366	720		
3	Anthracene	7.59		0.00	178	180650	180.85	96		
3	Fluoranthene	8.53	0.01	0.00	202	1185617	981.15	520		
4	Pyrene	8.74	0.01	0.00	202	1517601	995.58	530		
4	Benz(a)anthracene	10.24	0.01	0.00	228	342082	232.96	120		
4	Chrysene	10.30	0.01	0.00	228	367899**m**	262.35	140		
5	Benzo(b)fluoranthene	12.63	0.01	0.00	252	401042	240.55	130		

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Data File:	J:\MS11\DATA\112009\1120F033.D			**Instrument:**	MS11
Acqu Date:	11/21/2009 00:19	**Quant Date:**	11/23/2009 08:39	**Vial:**	30
Run Type:	SMPL			**Dilution:**	1.0
Lab ID:	K0909140-005			**Soln Conc. Units:**	ng/ml

Target Compounds **Final Conc. Units:** ug/Kg Dry Weight

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	Final Conc	Q	Rpt?
5	Benzo(k)fluoranthene	12.71	0.01	0.00	252	103583	65.56	35		
5	Benzo(a)pyrene	13.64	0.03	0.00	252	278063	189.31	100		
5	Indeno(1,2,3-cd)pyrene	16.99	0.01	0.00	276	166166	122.73	65		
5	Dibenz(a,h)anthracene	17.05		0.00	278	37135	26.32	14		
5	Benzo(g,h,i)perylene	17.41	0.02	0.00	276	280170**m**	183.11	97		

Prep Amount:	20.42 g	**Dilution:**	1.0
Prep Final Vol:	10 ml	**Unit Factor:**	1
Solids:	92.7 %		

Final Concentration = ((Soln Conc x Prep Final Vol x Dilution) / (Prep Amount x Solids)) x Unit Factor

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\112009\1120F033.D Vial: 30
Acq On : 21 Nov 2009 12:19 am Operator: LWeiskopf
Sample : K0909140-005 Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 23 08:36:24 2009 Quant Results File: 1119ALK.RES

Quant Method : J:\MS11\METHODS\SIM\1119ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Nov 23 08:36:00 2009
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	4.87	136	172578	200.00	ng/ml	0.00
10) Acenaphthene-d10	6.29	164	99155	200.00	ng/ml	0.00
22) Phenanthrene-d10	7.53	188	194970	200.00	ng/ml	0.00
37) Chrysene-d12	10.26	240	287442	200.00	ng/ml	0.00
49) Perylene-d12	13.84	264	319971	200.00	ng/ml	-0.03
System Monitoring Compounds						
15) Fluorene-d10	6.72	176	41440m	74.43	ng/ml	0.00
Spiked Amount 200.000			Recovery = 37.22%			
20) 2,4,6 Tribromophenol	0.00	330	0d	0.00	ng/ml	
Spiked Amount 375.000			Recovery = 0.00%			
36) Fluoranthene-d10	8.51	212	66867m	56.73	ng/ml	0.00
Spiked Amount 200.000			Recovery = 28.36%			
42) Terphenyl-d14	8.89	244	65594	55.12	ng/ml	0.00
Spiked Amount 200.000			Recovery = 27.56%			
Target Compounds						Qvalue
2) Naphthalene	4.88	128	638109	840.59	ng/ml	98
3) 2-Methylnaphthalene	5.44	142	277602	507.66	ng/ml	93
4) 1-Methylnaphthalene	5.52	142	217824	415.26	ng/ml	98
5) Biphenyl	5.81	154	47005	72.25	ng/ml	96
6) 2,6-Dimethylnaphthalene	5.94	156	492315	979.60	ng/ml	96
11) Acenaphthylene	6.17	152	202321	248.30	ng/ml	79
12) Acenaphthene	6.32	154	118658	245.17	ng/ml	96
13) Dibenzofuran	6.46	168	115874	158.07	ng/ml	92
14) 2,3,5-Trimethylnaphthalene	6.63	170	613791	1187.58	ng/ml	88
16) Fluorene	6.74	166	194792	317.69	ng/ml	97
23) Dibenzothiophene	7.44	184	191129	220.10	ng/ml	90
27) Phenanthrene	7.55	178	1420199	1366.26	ng/ml	96
28) Anthracene	7.59	178	180650	180.85	ng/ml	98
30) 1-Methylphenanthrene	8.04	192	433772m	536.05	ng/ml	
35) Fluoranthene	8.53	202	1185617	981.15	ng/ml	99
38) Pyrene	8.74	202	1517601	995.58	ng/ml	86
43) Benz(a)anthracene	10.24	228	342082	232.96	ng/ml	63
44) Chrysene	10.30	228	367899m	262.35	ng/ml	
50) Benzo(b)fluoranthene	12.63	252	401042	240.55	ng/ml	100
51) Benzo(k)fluoranthene	12.71	252	103583	65.56	ng/ml	97
52) Benzo(e)pyrene	13.46	252	327894	214.60	ng/ml	96
53) Benzo(a)pyrene	13.64	252	278063	189.31	ng/ml	98
54) Perylene	13.93	252	131941	90.96	ng/ml	89
55) Indeno(1,2,3-cd)pyrene	16.99	276	166166	122.73	ng/ml	97
56) Dibenz(a,h)anthracene	17.05	278	37135	26.32	ng/ml	76

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\112009\1120F033.D Vial: 30
Acq On : 21 Nov 2009 12:19 am Operator: LWeiskopf
Sample : K0909140-005 Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 23 08:36:24 2009 Quant Results File: 1119ALK.RES

Quant Method : J:\MS11\METHODS\SIM\1119ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Nov 23 08:36:00 2009
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
57)	Benzo(g,h,i)perylene	17.41	276	280170m	183.11	ng/ml	

(#) = qualifier out of range (m) = manual integration

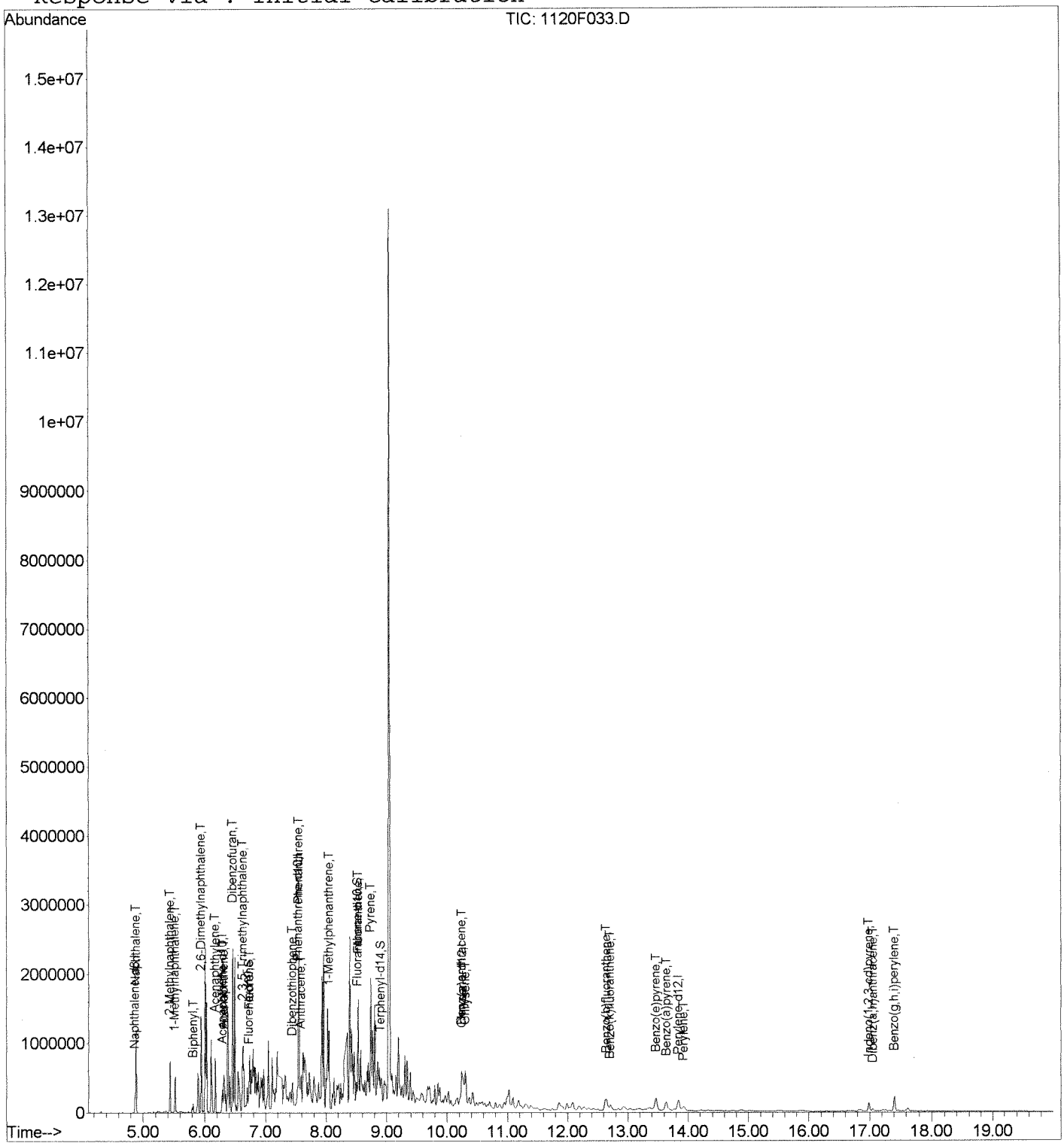
Quantitation Report (QT Reviewed)

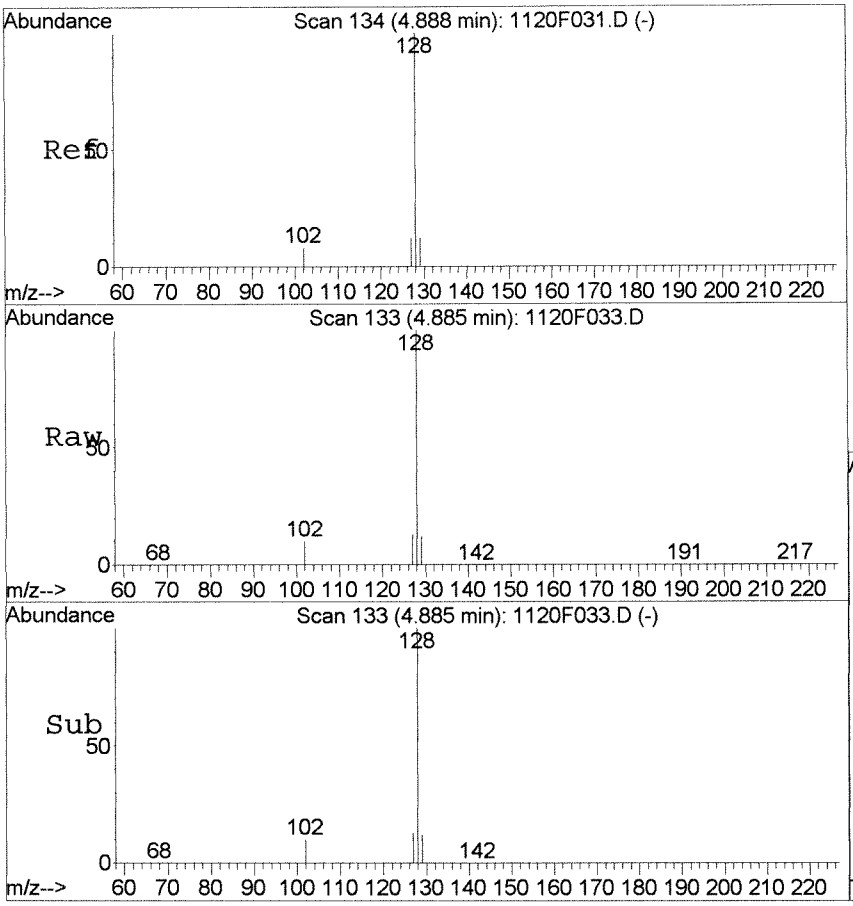
Data File : J:\MS11\DATA\112009\1120F033.D
Acq On : 21 Nov 2009 12:19 am
Sample : K0909140-005
Misc :
MS Integration Params: RTEINT.P
Quant Time: Nov 23 8:39 2009

Vial: 30
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00

Quant Results File: 1119ALK.RES

Method : J:\MS11\METHODS\SIM\1119ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Nov 23 08:36:00 2009
Response via : Initial Calibration

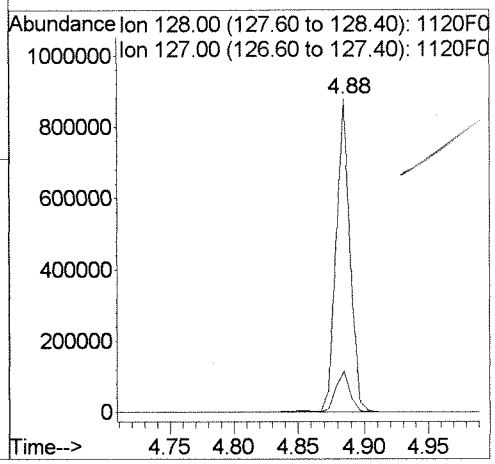


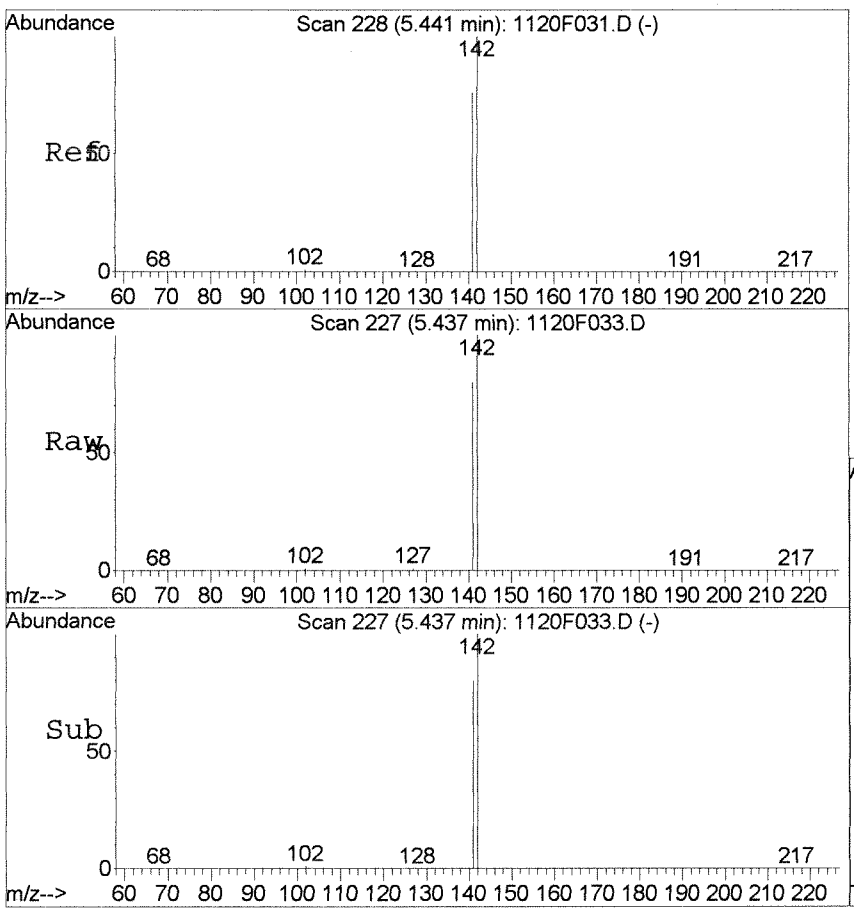


#2
Naphthalene
Concen: 840.59 ng/ml
RT: 4.88 min Scan# 133
Delta R.T. -0.00 min
Lab File: 1120F033.D
Acq: 21 Nov 2009 12:19 am

Tgt Ion:128 Resp: 638109

Ion	Ratio	Lower	Upper
128	100		
127	13.2	0.0	42.4

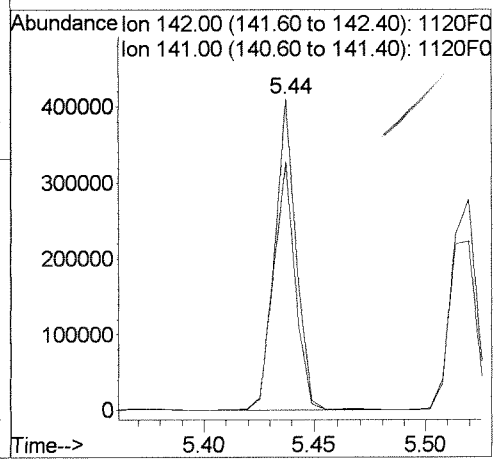


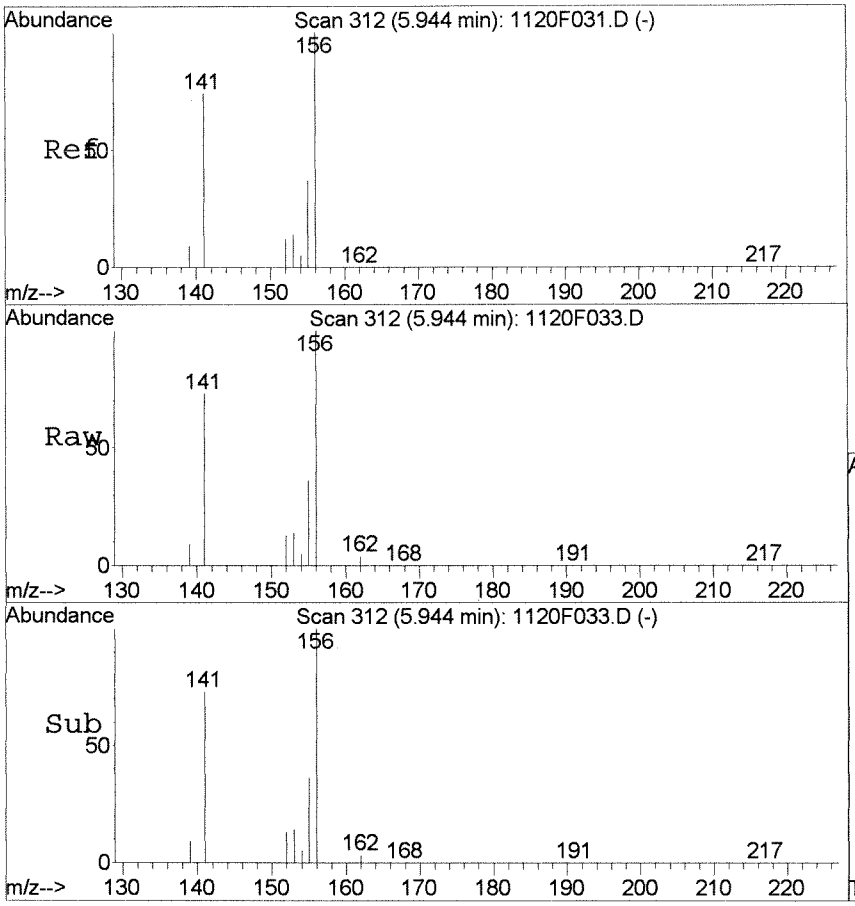


#3
2-Methylnaphthalene
Concen: 507.66 ng/ml
RT: 5.44 min Scan# 227
Delta R.T. -0.00 min
Lab File: 1120F033.D
Acq: 21 Nov 2009 12:19 am

Tgt Ion:142 Resp: 277602

Ion	Ratio	Lower	Upper
142	100		
141	79.8	56.1	116.1

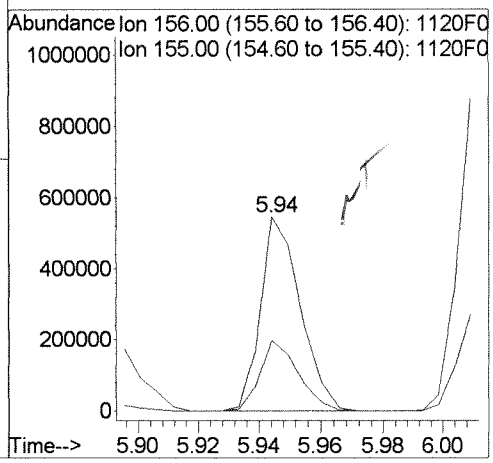


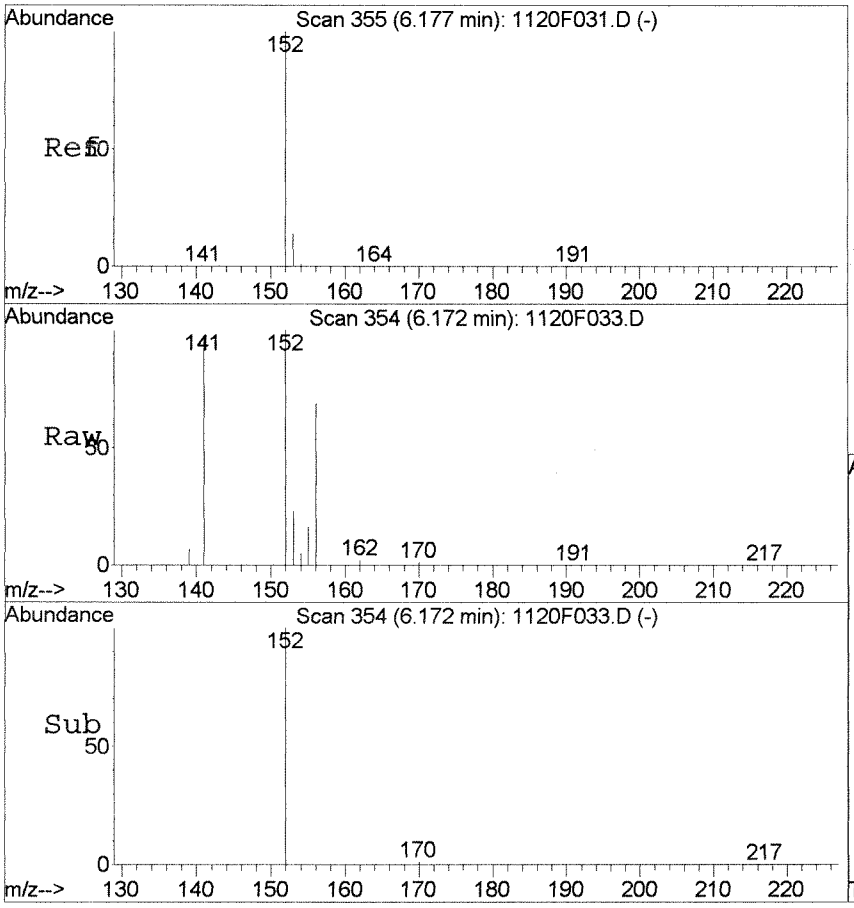


#6
2,6-Dimethylnaphthalene
Concen: 979.60 ng/ml
RT: 5.94 min Scan# 312
Delta R.T. -0.01 min
Lab File: 1120F033.D
Acq: 21 Nov 2009 12:19 am

Tgt Ion:156 Resp: 492315

Ion	Ratio	Lower	Upper
156	100		
155	36.2	3.7	63.7

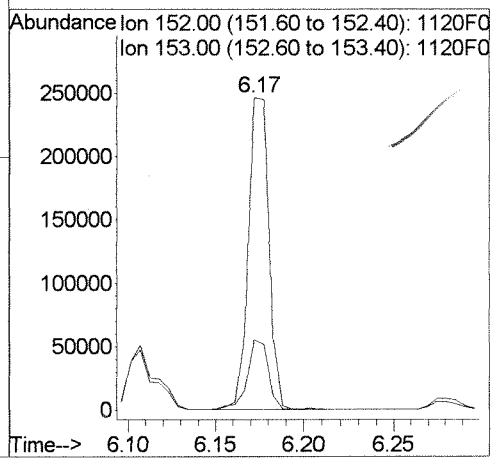


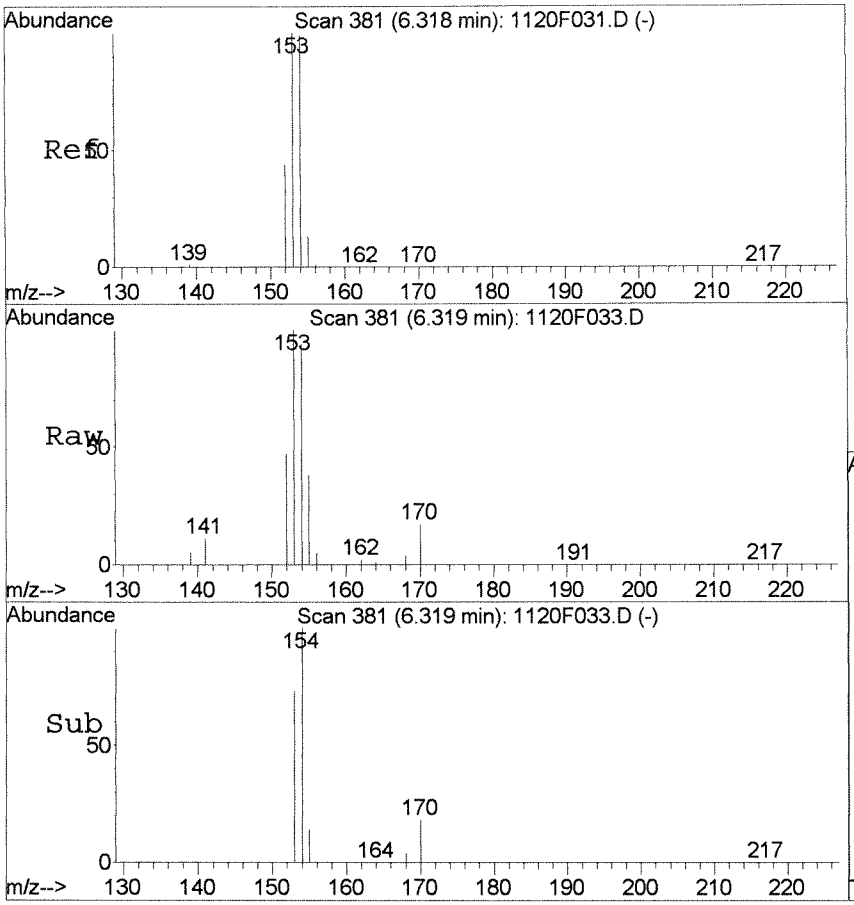


#11
Acenaphthylene
Concen: 248.30 ng/ml
RT: 6.17 min Scan# 354
Delta R.T. -0.01 min
Lab File: 1120F033.D
Acq: 21 Nov 2009 12:19 am

Tgt Ion:152 Resp: 202321

Ion	Ratio	Lower	Upper
152	100		
153	22.5	0.0	44.1

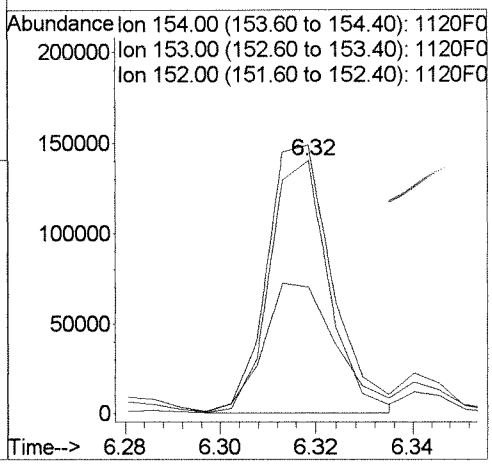


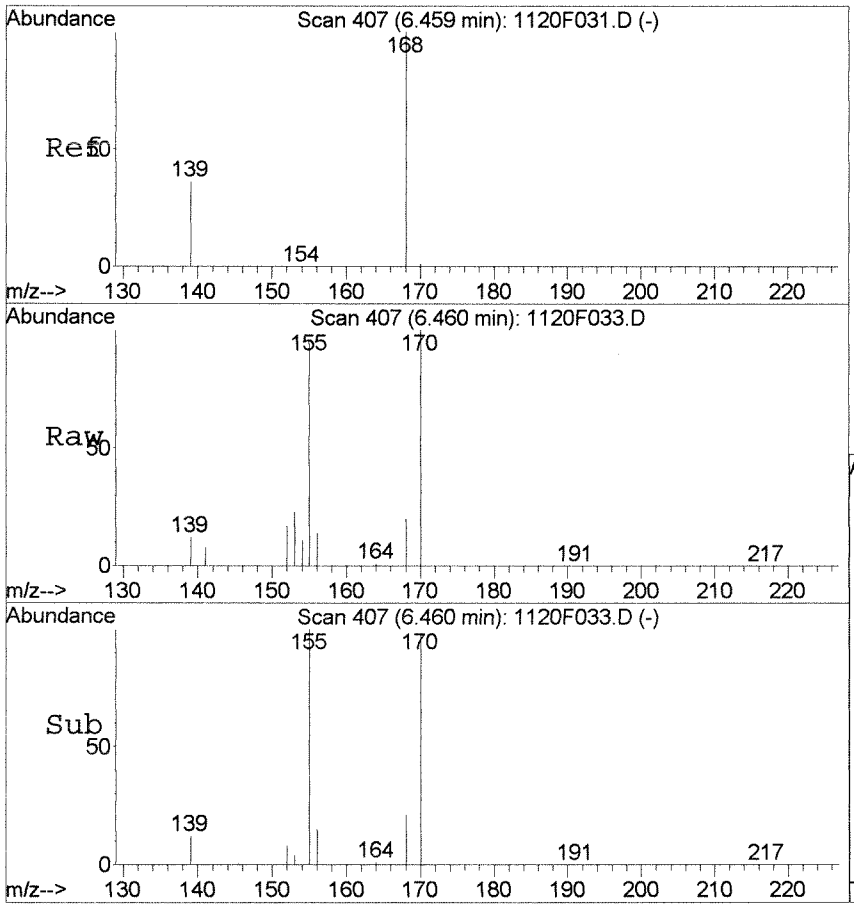


#12
Acenaphthene
Concen: 245.17 ng/ml
RT: 6.32 min Scan# 381
Delta R.T. -0.00 min
Lab File: 1120F033.D
Acq: 21 Nov 2009 12:19 am

Tgt Ion:154 Resp: 118658

Ion	Ratio	Lower	Upper
154	100		
153	105.8	77.8	137.8
152	49.3	24.7	84.7

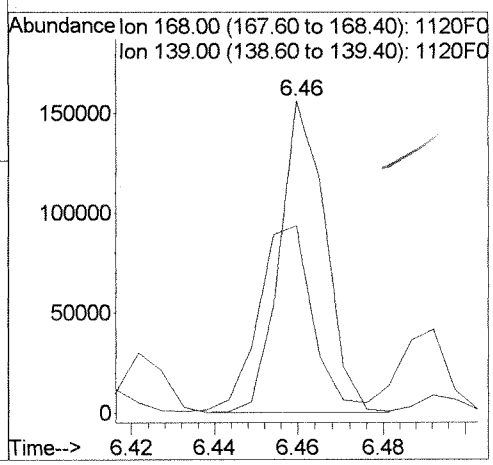


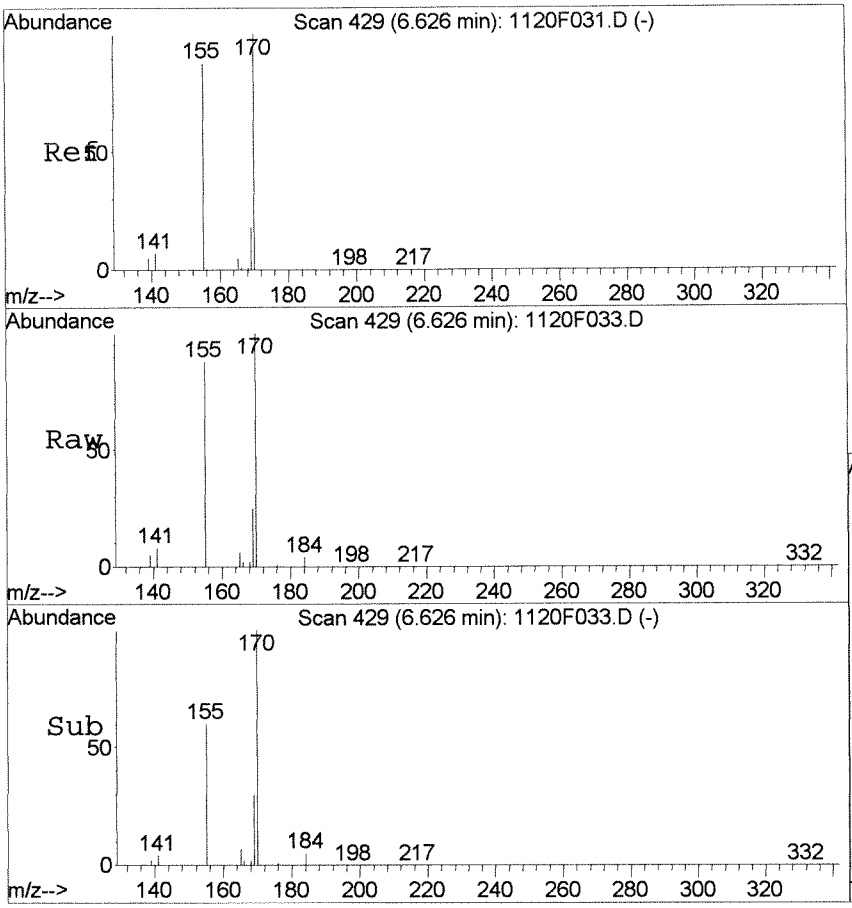


#13
Dibenzofuran
Concen: 158.07 ng/ml
RT: 6.46 min Scan# 407
Delta R.T. -0.00 min
Lab File: 1120F033.D
Acq: 21 Nov 2009 12:19 am

Tgt Ion:168 Resp: 115874

Ion	Ratio	Lower	Upper
168	100		
139	59.0	23.3	83.3

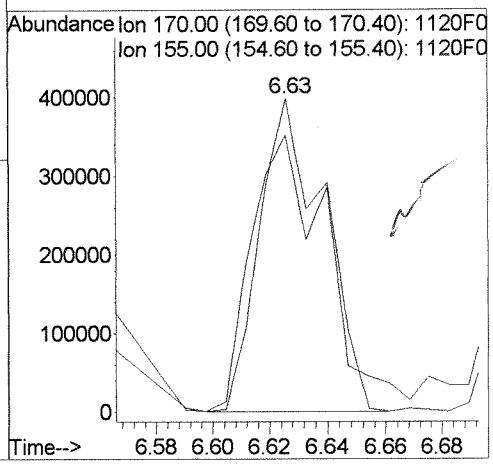


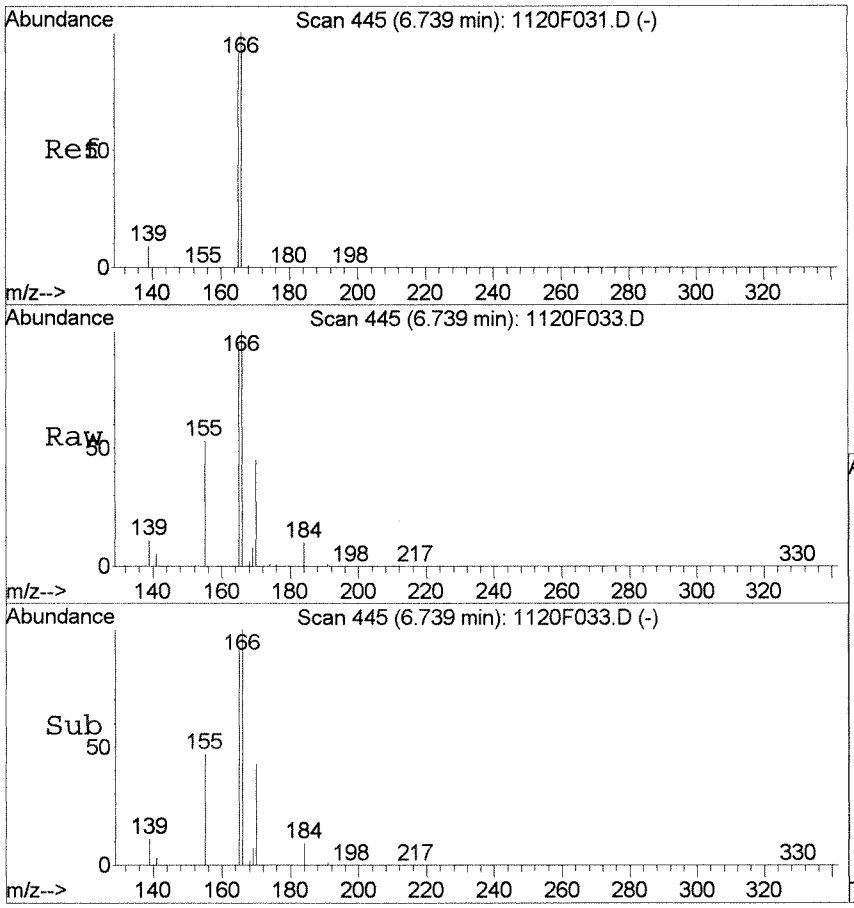


#14
2,3,5-Trimethylnaphthalene
Concen: 1187.58 ng/ml
RT: 6.63 min Scan# 429
Delta R.T. -0.01 min
Lab File: 1120F033.D
Acq: 21 Nov 2009 12:19 am

Tgt Ion:170 Resp: 613791

Ion	Ratio	Lower	Upper
170	100		
155	88.2	48.2	108.2

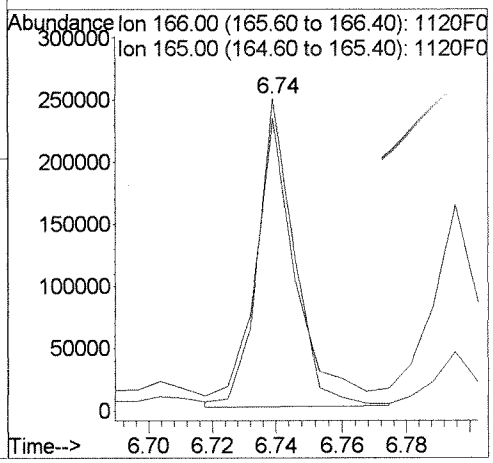


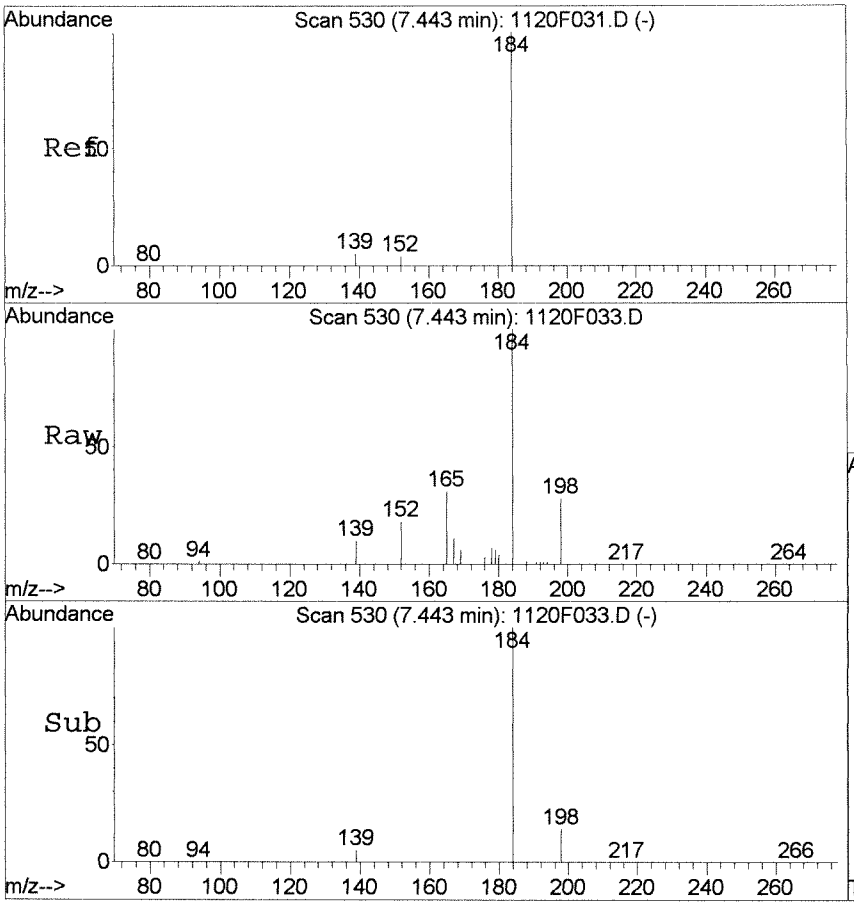


#16
Fluorene
Concen: 317.69 ng/ml
RT: 6.74 min Scan# 445
Delta R.T. -0.01 min
Lab File: 1120F033.D
Acq: 21 Nov 2009 12:19 am

Tgt Ion:166 Resp: 194792

Ion	Ratio	Lower	Upper
166	100		
165	90.7	57.8	117.8

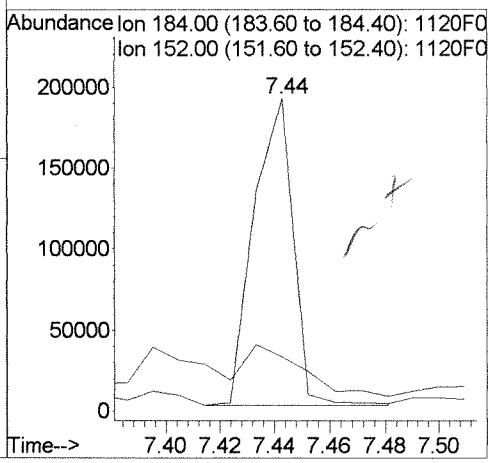


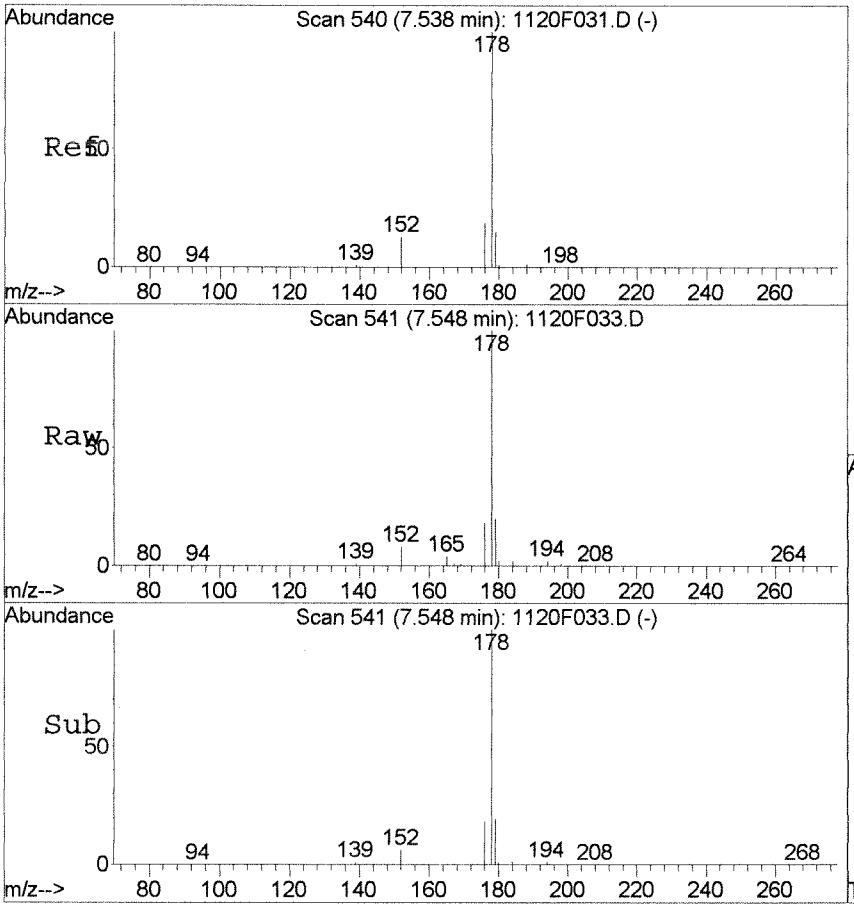


#23
Dibenzothiophene
Concen: 220.10 ng/ml
RT: 7.44 min Scan# 530
Delta R.T. 0.00 min
Lab File: 1120F033.D
Acq: 21 Nov 2009 12:19 am

Tgt Ion:184 Resp: 191129

Ion	Ratio	Lower	Upper
184	100		
152	12.9	0.0	39.4

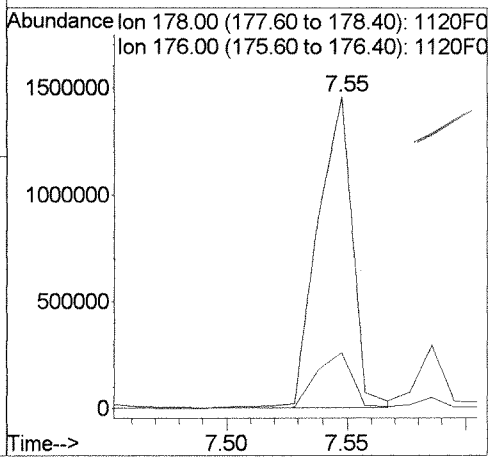


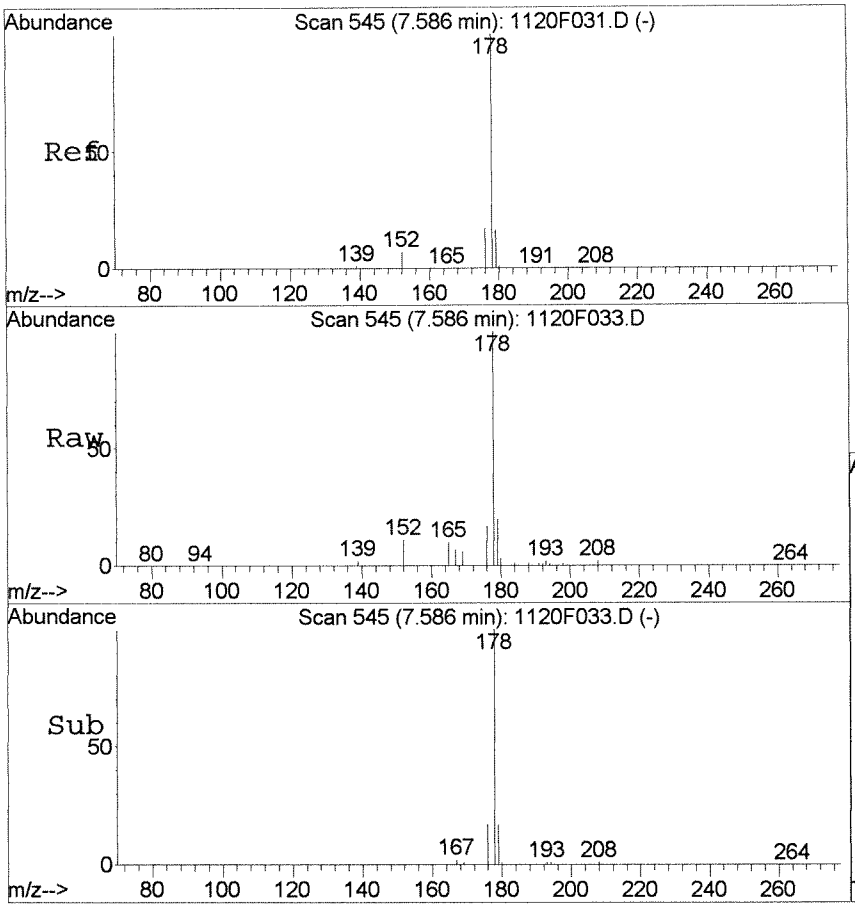


#27
Phenanthrene
Concen: 1366.26 ng/ml
RT: 7.55 min Scan# 541
Delta R.T. 0.00 min
Lab File: 1120F033.D
Acq: 21 Nov 2009 12:19 am

Tgt Ion:178 Resp: 1420199

Ion	Ratio	Lower	Upper
178	100		
176	17.8	0.0	49.6

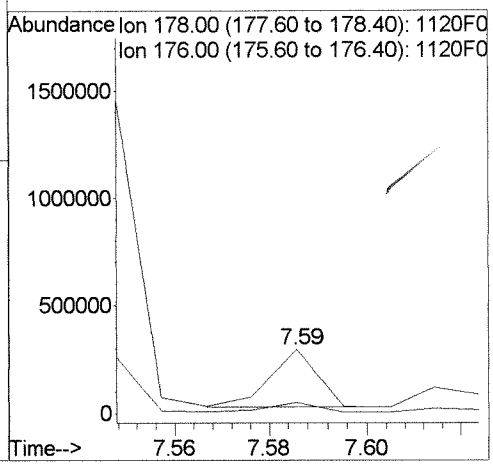


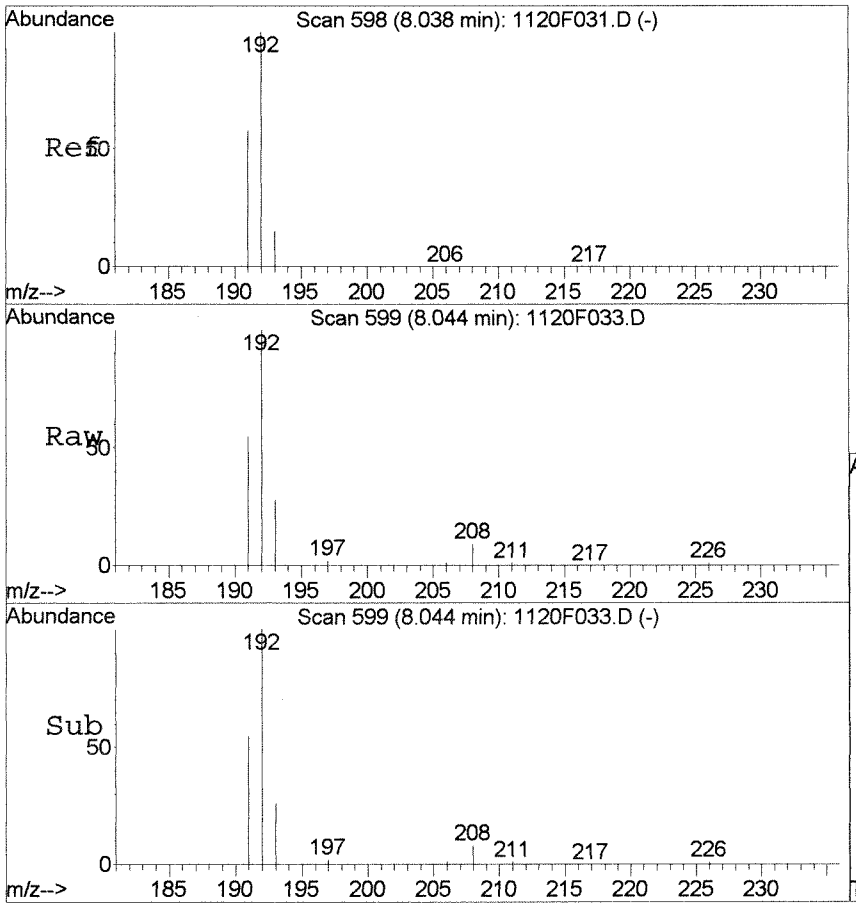


#28
Anthracene
Concen: 180.85 ng/ml
RT: 7.59 min Scan# 545
Delta R.T. 0.00 min
Lab File: 1120F033.D
Acq: 21 Nov 2009 12:19 am

Tgt Ion:178 Resp: 180650

Ion	Ratio	Lower	Upper
178	100		
176	16.9	0.0	47.6

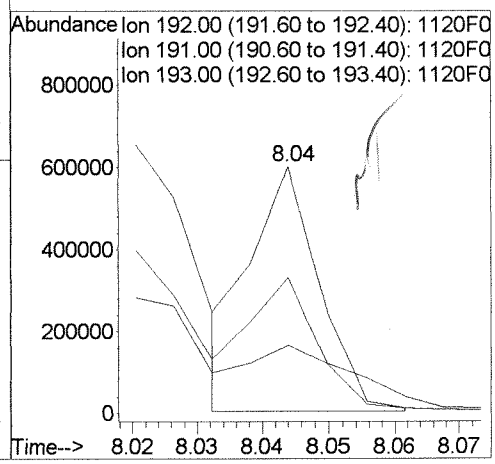


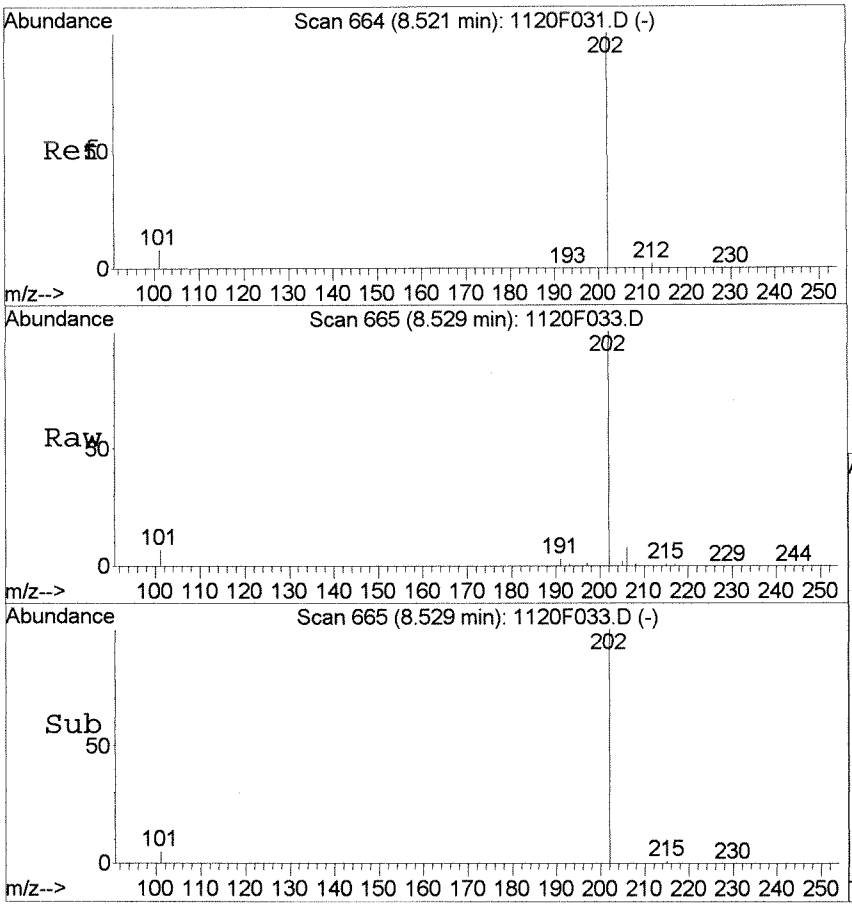


#30
1-Methylphenanthrene
Concen: 536.05 ng/ml m
RT: 8.04 min Scan# 599
Delta R.T. -0.01 min
Lab File: 1120F033.D
Acq: 21 Nov 2009 12:19 am

Tgt Ion:192 Resp: 433772

Ion	Ratio	Lower	Upper
192	100		
191	55.2	23.0	83.0
193	27.7	0.0	47.0

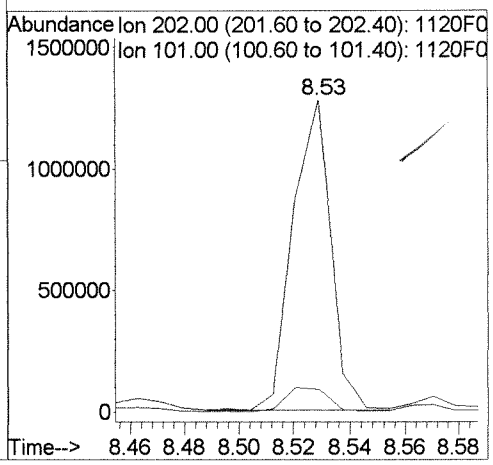


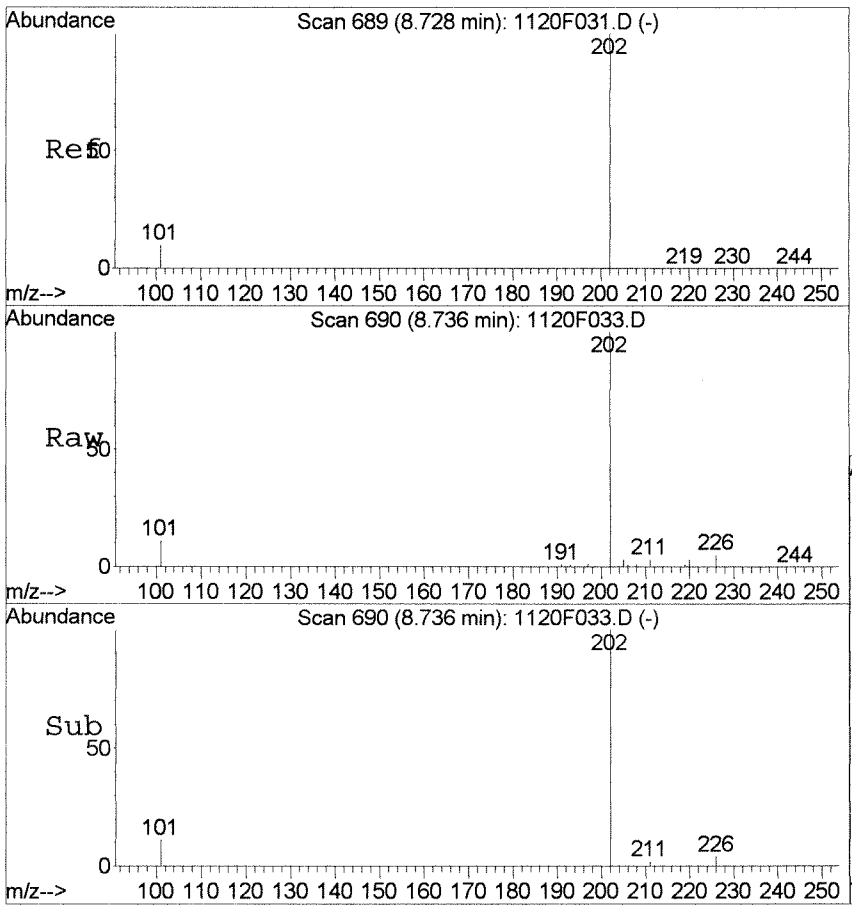


#35
Fluoranthene
Concen: 981.15 ng/ml
RT: 8.53 min Scan# 665
Delta R.T. -0.00 min
Lab File: 1120F033.D
Acq: 21 Nov 2009 12:19 am

Tgt Ion:202 Resp: 1185617

Ion	Ratio	Lower	Upper
202	100		
101	7.0	0.0	36.5

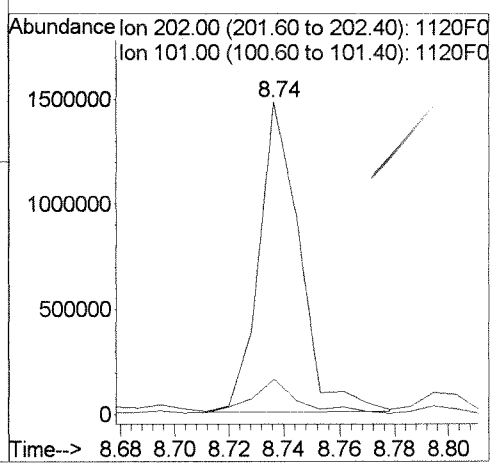


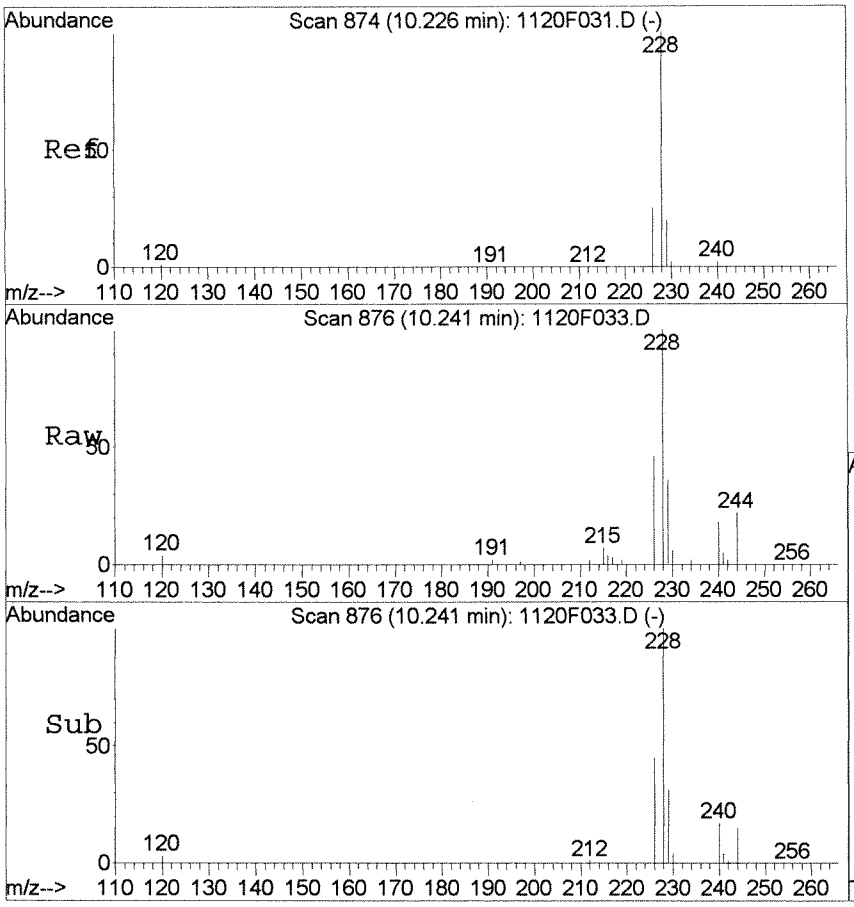


#38
Pyrene
Concen: 995.58 ng/ml
RT: 8.74 min Scan# 690
Delta R.T. -0.01 min
Lab File: 1120F033.D
Acq: 21 Nov 2009 12:19 am

Tgt Ion:202 Resp: 1517601

Ion	Ratio	Lower	Upper
202	100		
101	11.0	0.0	36.4

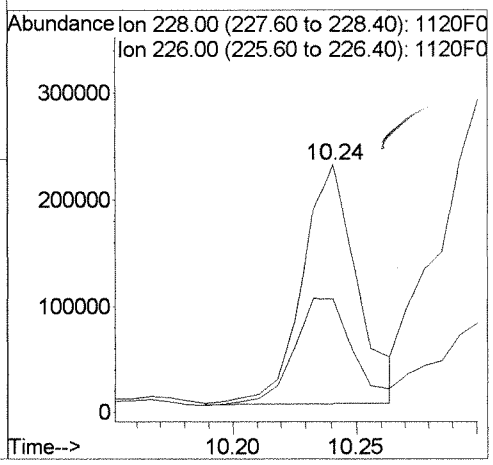


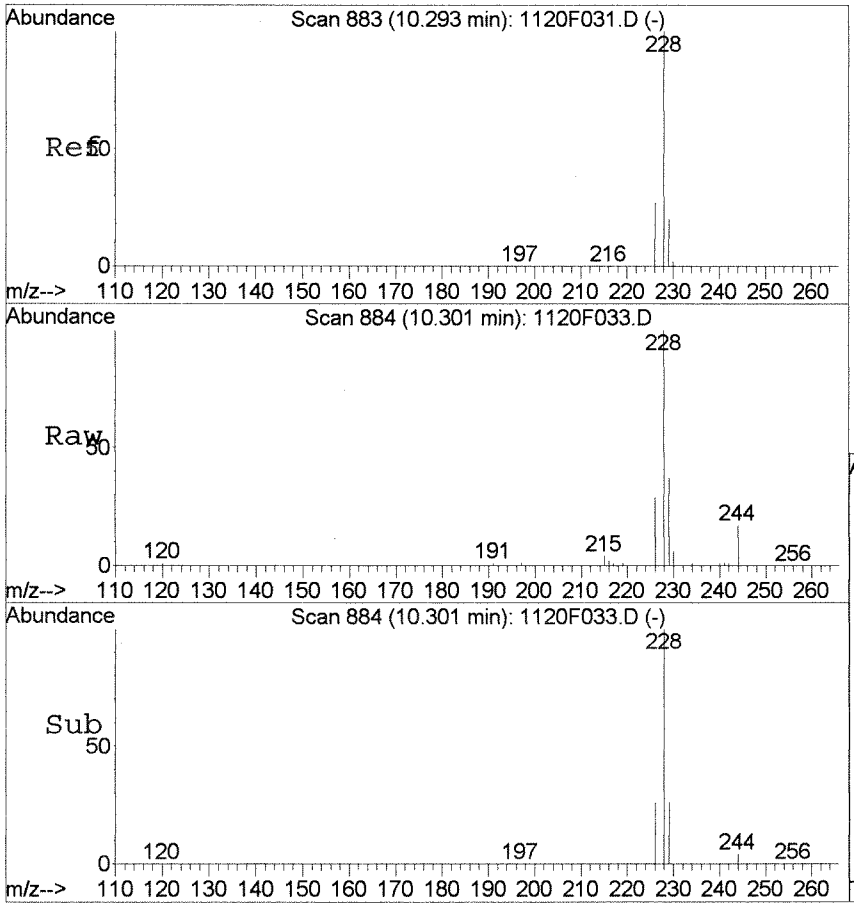


#43
Benz(a)anthracene
Concen: 232.96 ng/ml
RT: 10.24 min Scan# 876
Delta R.T. -0.01 min
Lab File: 1120F033.D
Acq: 21 Nov 2009 12:19 am

Tgt Ion:228 Resp: 342082

Ion	Ratio	Lower	Upper
228	100		
226	44.7	0.0	55.9

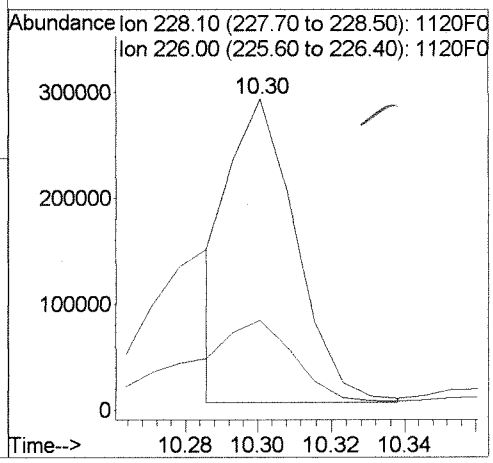


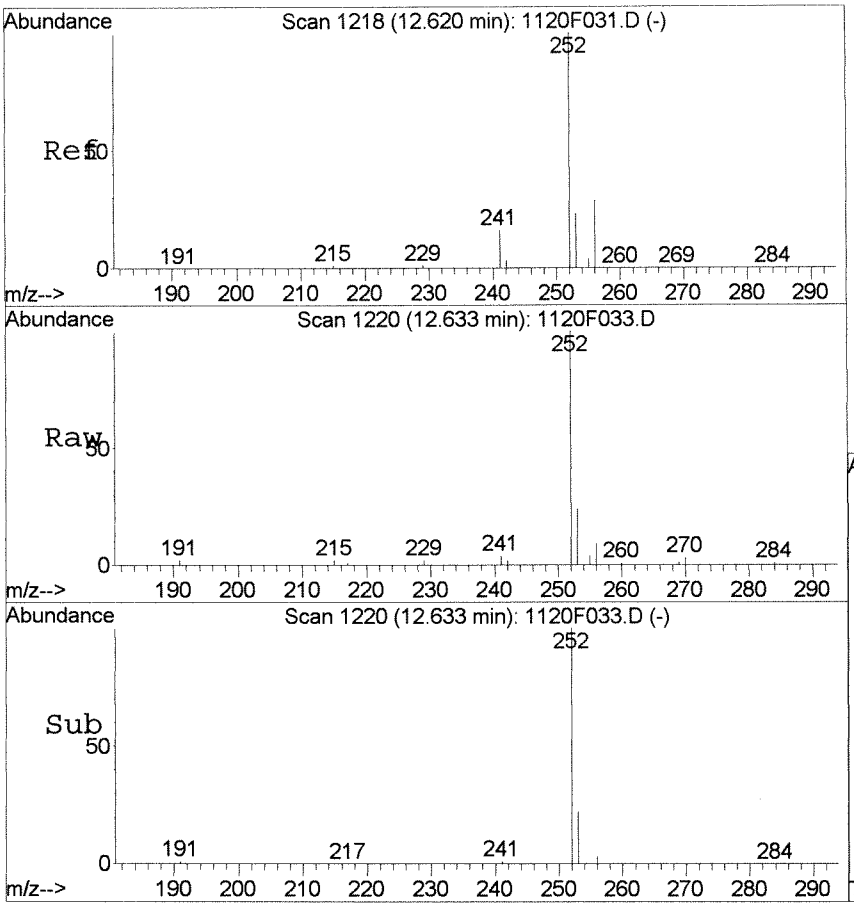


#44
Chrysene
Concen: 262.35 ng/ml m
RT: 10.30 min Scan# 884
Delta R.T. -0.01 min
Lab File: 1120F033.D
Acq: 21 Nov 2009 12:19 am

Tgt Ion:228 Resp: 367899

Ion	Ratio	Lower	Upper
228	100		
226	28.7	0.0	58.8

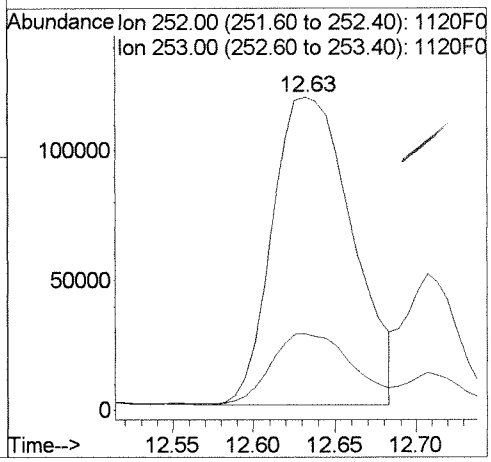


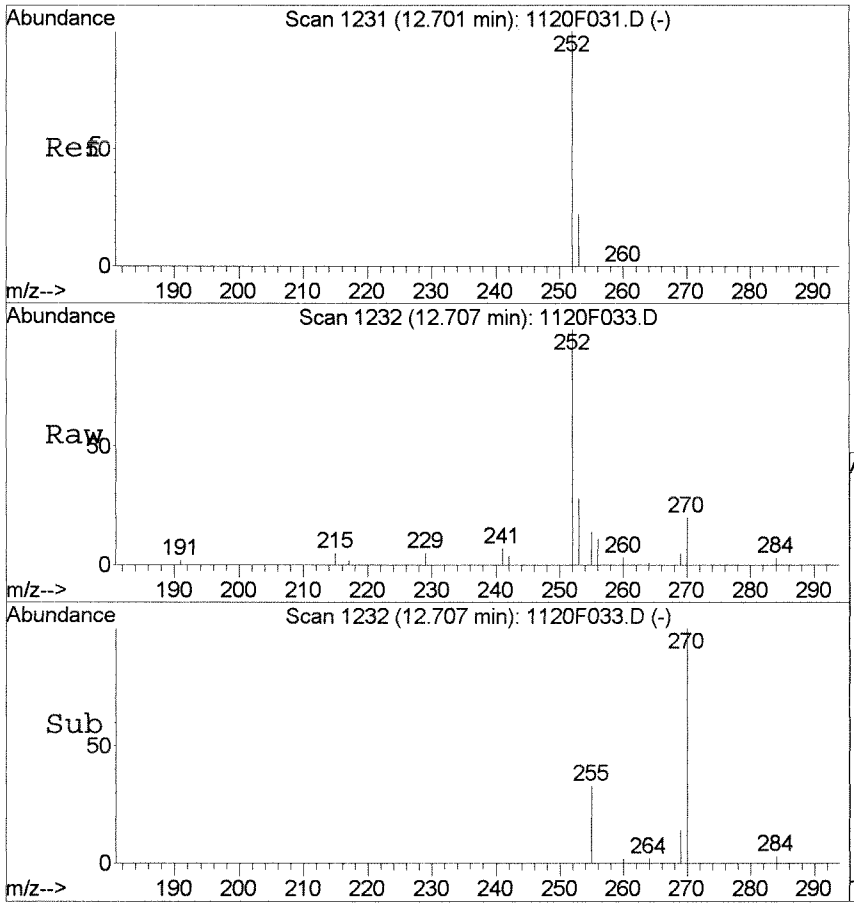


#50
Benzo(b)fluoranthene
Concen: 240.55 ng/ml
RT: 12.63 min Scan# 1220
Delta R.T. -0.02 min
Lab File: 1120F033.D
Acq: 21 Nov 2009 12:19 am

Tgt Ion:252 Resp: 401042

Ion	Ratio	Lower	Upper
252	100		
253	22.8	0.0	52.8

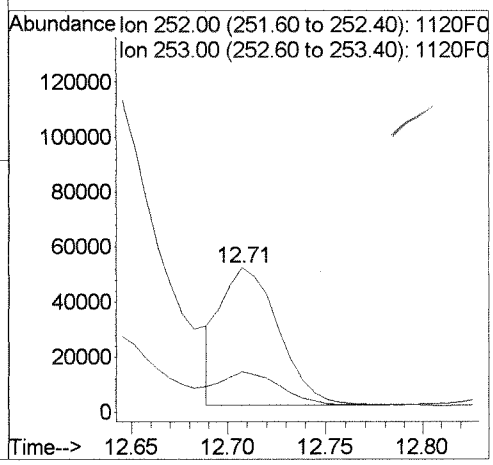


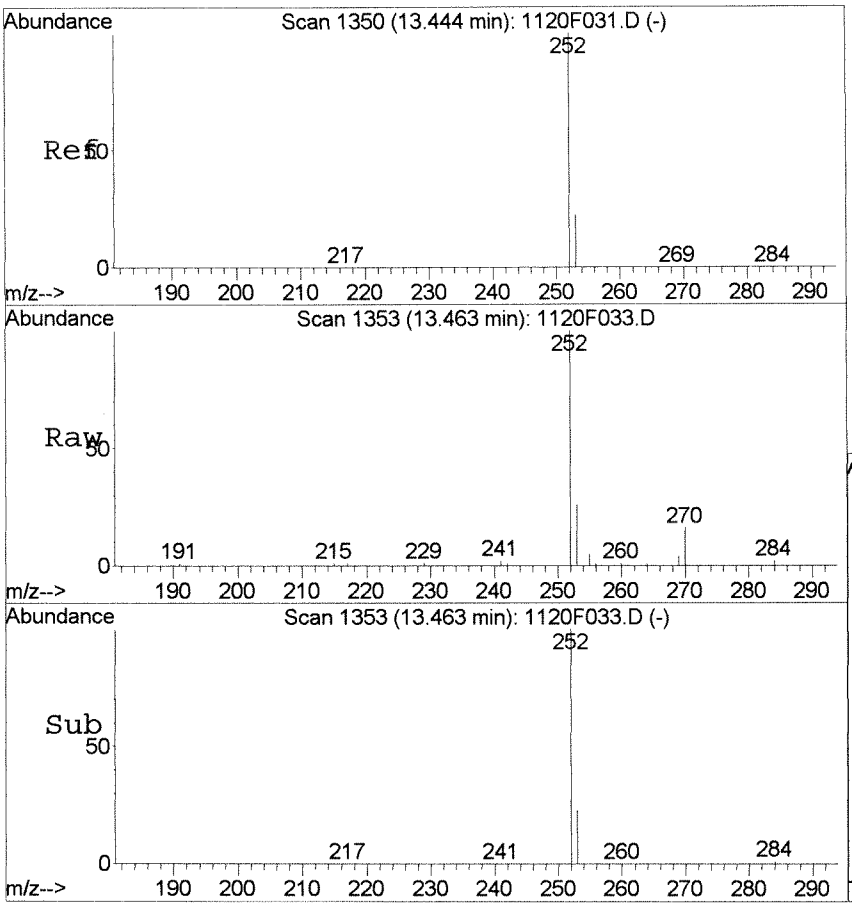


#51
Benzo(k)fluoranthene
Concen: 65.56 ng/ml
RT: 12.71 min Scan# 1232
Delta R.T. -0.03 min
Lab File: 1120F033.D
Acq: 21 Nov 2009 12:19 am

Tgt Ion:252 Resp: 103583

Ion	Ratio	Lower	Upper
252	100		
253	23.9	0.0	52.5

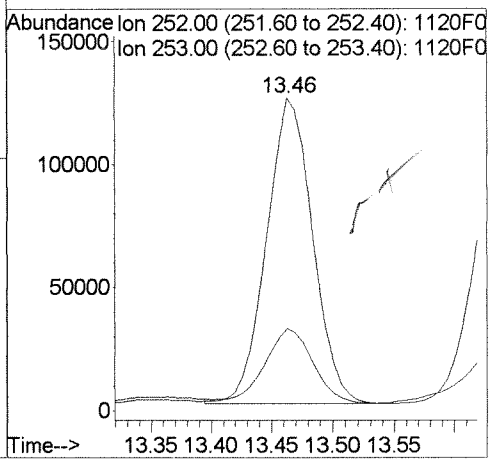


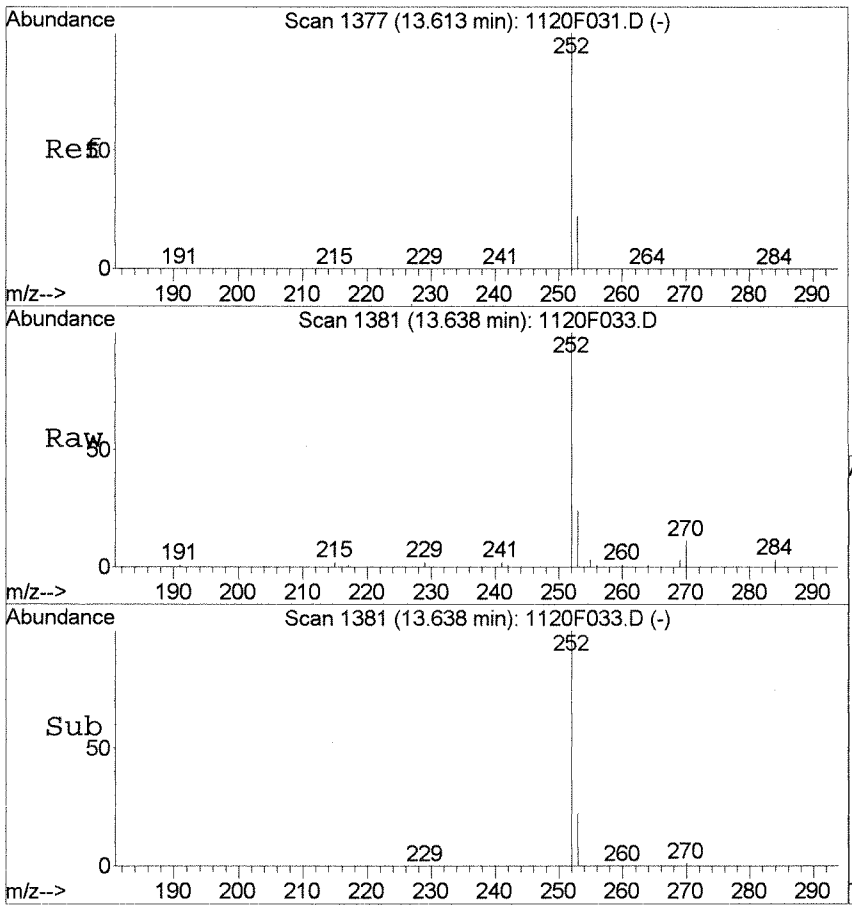


#52
Benzo(e)pyrene
Concen: 214.60 ng/ml
RT: 13.46 min Scan# 1353
Delta R.T. -0.03 min
Lab File: 1120F033.D
Acq: 21 Nov 2009 12:19 am

Tgt Ion:252 Resp: 327894

Ion	Ratio	Lower	Upper
252	100		
253	24.3	0.0	52.3

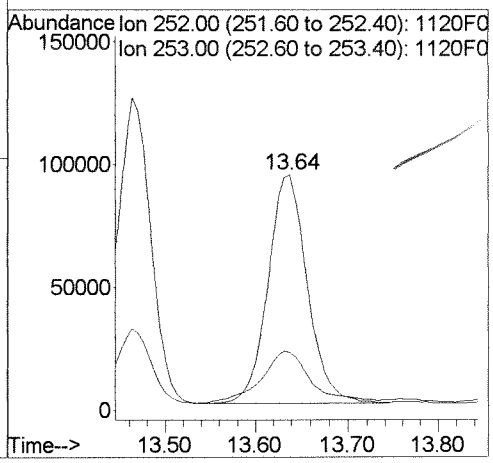


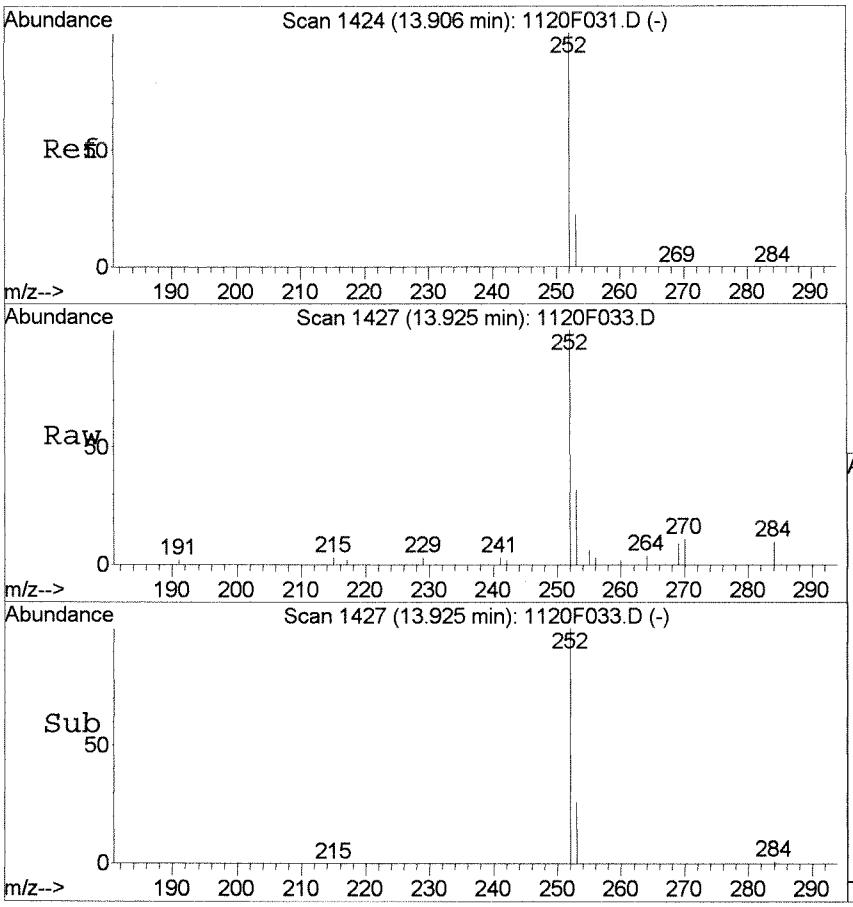


#53
Benzo(a)pyrene
Concen: 189.31 ng/ml
RT: 13.64 min Scan# 1381
Delta R.T. -0.03 min
Lab File: 1120F033.D
Acq: 21 Nov 2009 12:19 am

Tgt Ion:252 Resp: 278063

Ion	Ratio	Lower	Upper
252	100		
253	21.8	0.0	52.6

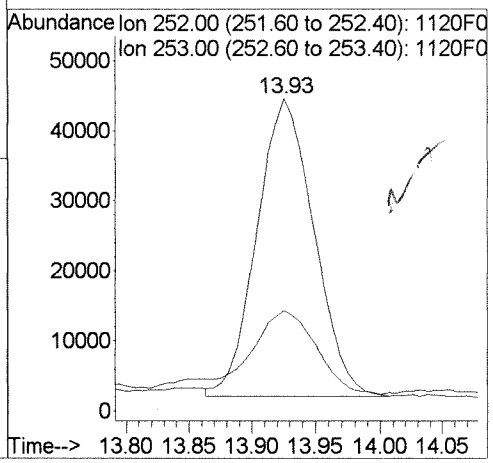


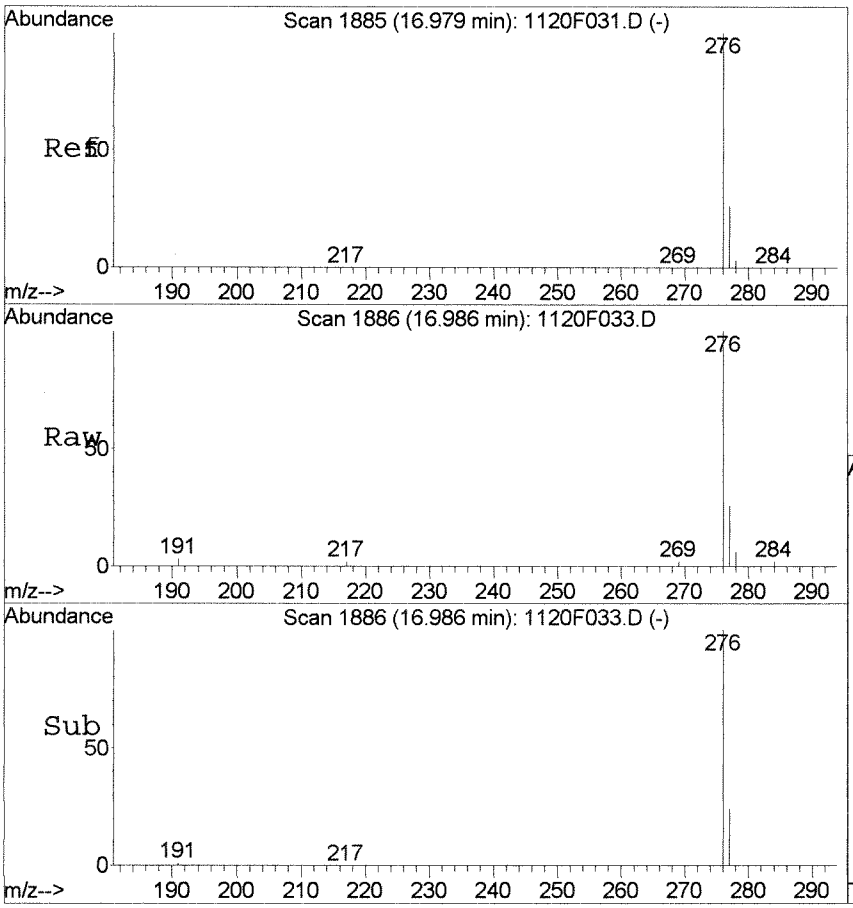


#54
Perylene
Concen: 90.96 ng/ml
RT: 13.93 min Scan# 1427
Delta R.T. -0.03 min
Lab File: 1120F033.D
Acq: 21 Nov 2009 12:19 am

Tgt Ion:252 Resp: 131941

Ion	Ratio	Lower	Upper
252	100		
253	27.4	0.0	52.0

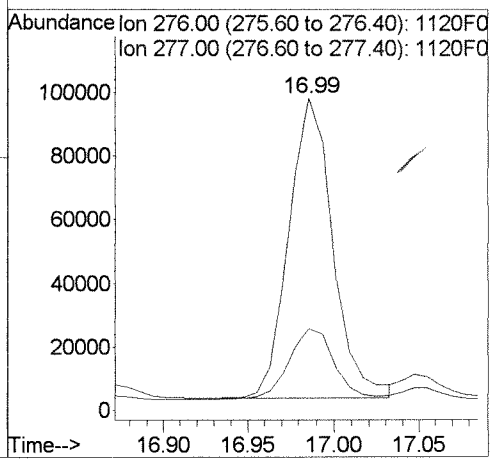


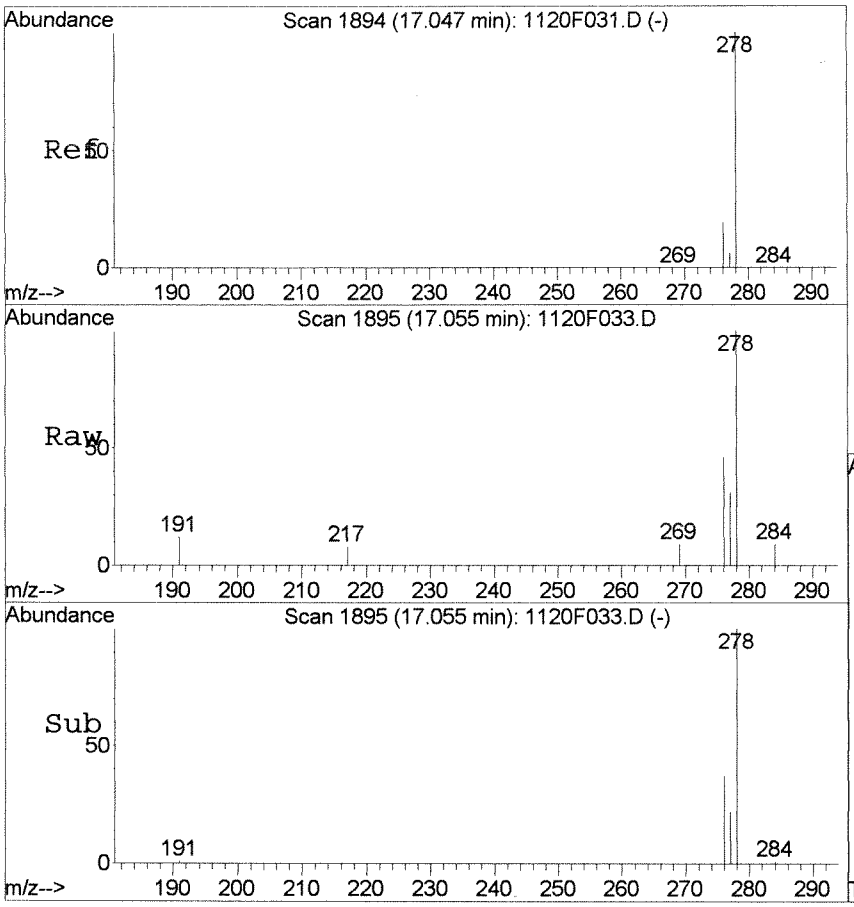


#55
Indeno(1,2,3-cd)pyrene
Concen: 122.73 ng/ml
RT: 16.99 min Scan# 1886
Delta R.T. -0.02 min
Lab File: 1120F033.D
Acq: 21 Nov 2009 12:19 am

Tgt Ion:276 Resp: 166166

Ion	Ratio	Lower	Upper
276	100		
277	23.7	0.0	55.1

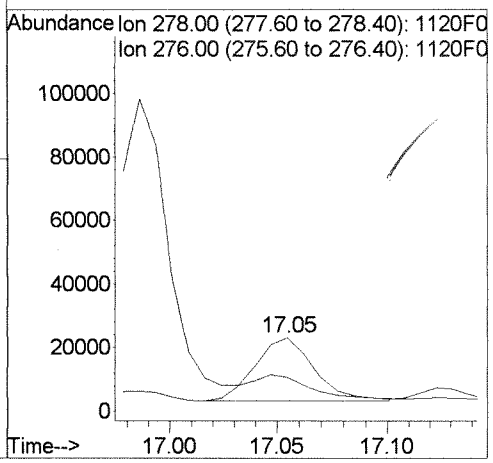


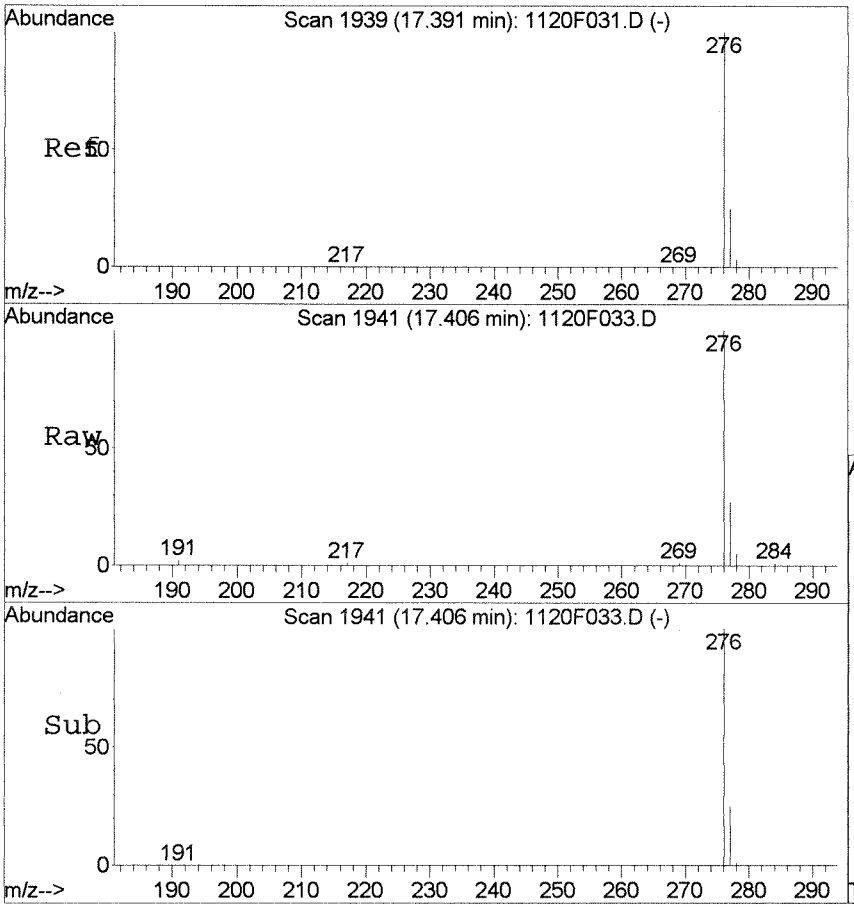


#56
Dibenz(a,h)anthracene
Concen: 26.32 ng/ml
RT: 17.05 min Scan# 1895
Delta R.T. -0.02 min
Lab File: 1120F033.D
Acq: 21 Nov 2009 12:19 am

Tgt Ion:278 Resp: 37135

Ion	Ratio	Lower	Upper
278	100		
276	33.6	0.0	52.1

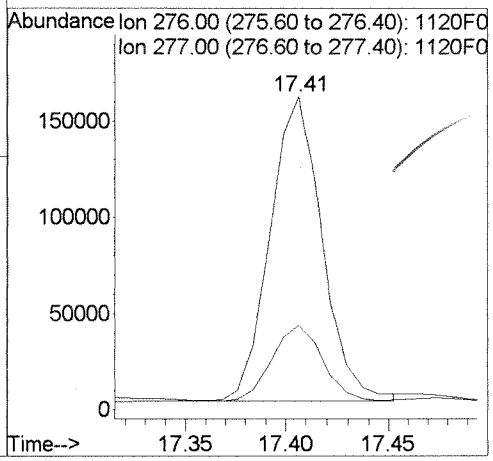




#57
Benzo(g,h,i)perylene
Concen: 183.11 ng/ml m
RT: 17.41 min Scan# 1941
Delta R.T. -0.02 min
Lab File: 1120F033.D
Acq: 21 Nov 2009 12:19 am

Tgt Ion:276 Resp: 280170

Ion	Ratio	Lower	Upper
276	100		
277	27.0	0.0	55.7



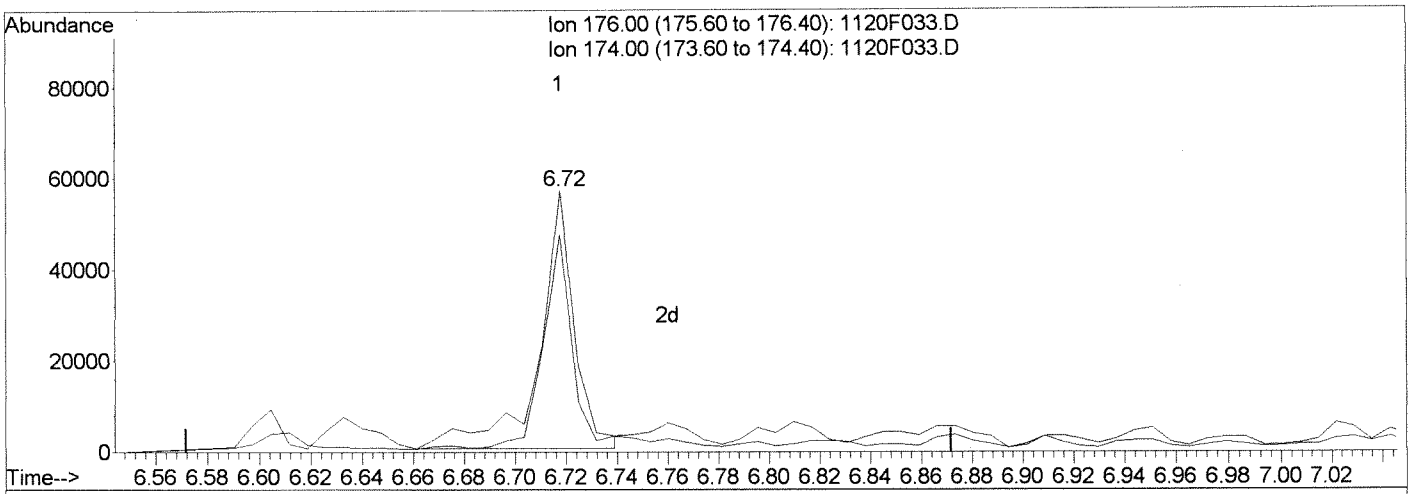
Quantitation Report (Qedit)

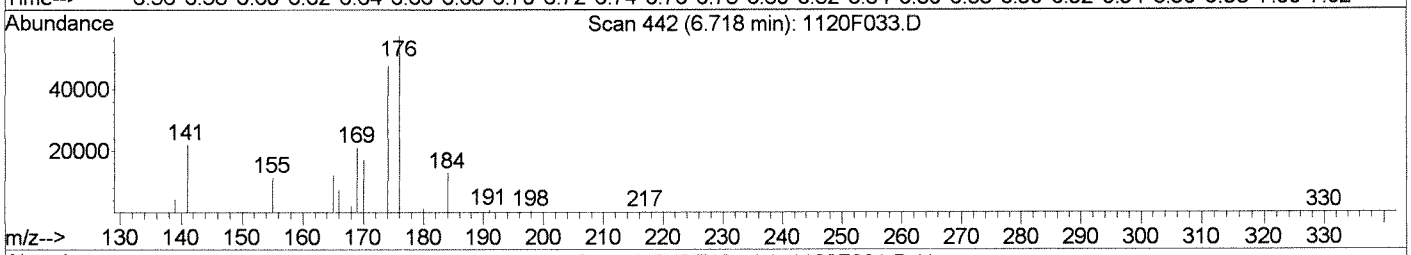
Data File : J:\MS11\DATA\112009\1120F033.D
Acq On : 21 Nov 2009 12:19 am
Sample : K0909140-005
Misc :
MS Integration Params: RTEINT.P
Quant Time: Nov 23 8:36 2009

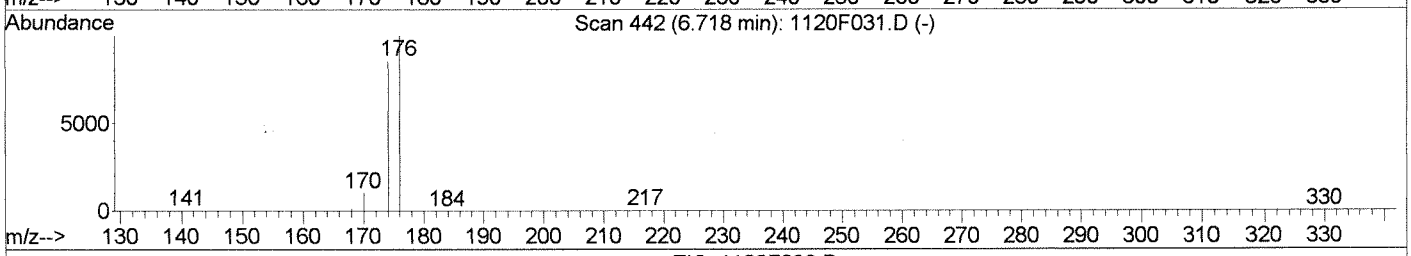
Vial: 30
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1119ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Nov 23 08:36:00 2009
Response via : Multiple Level Calibration







TIC: 1120F033.D

(15) Fluorene-d10 (S)

6.72min 99.00ng/ml

response 55117

Ion	Exp%	Act%
176.00	100	100
174.00	85.50	83.18
0.00	0.00	0.00
0.00	0.00	0.00

1120F033.D 1119ALK.M Mon Nov 23 08:38:58 2009

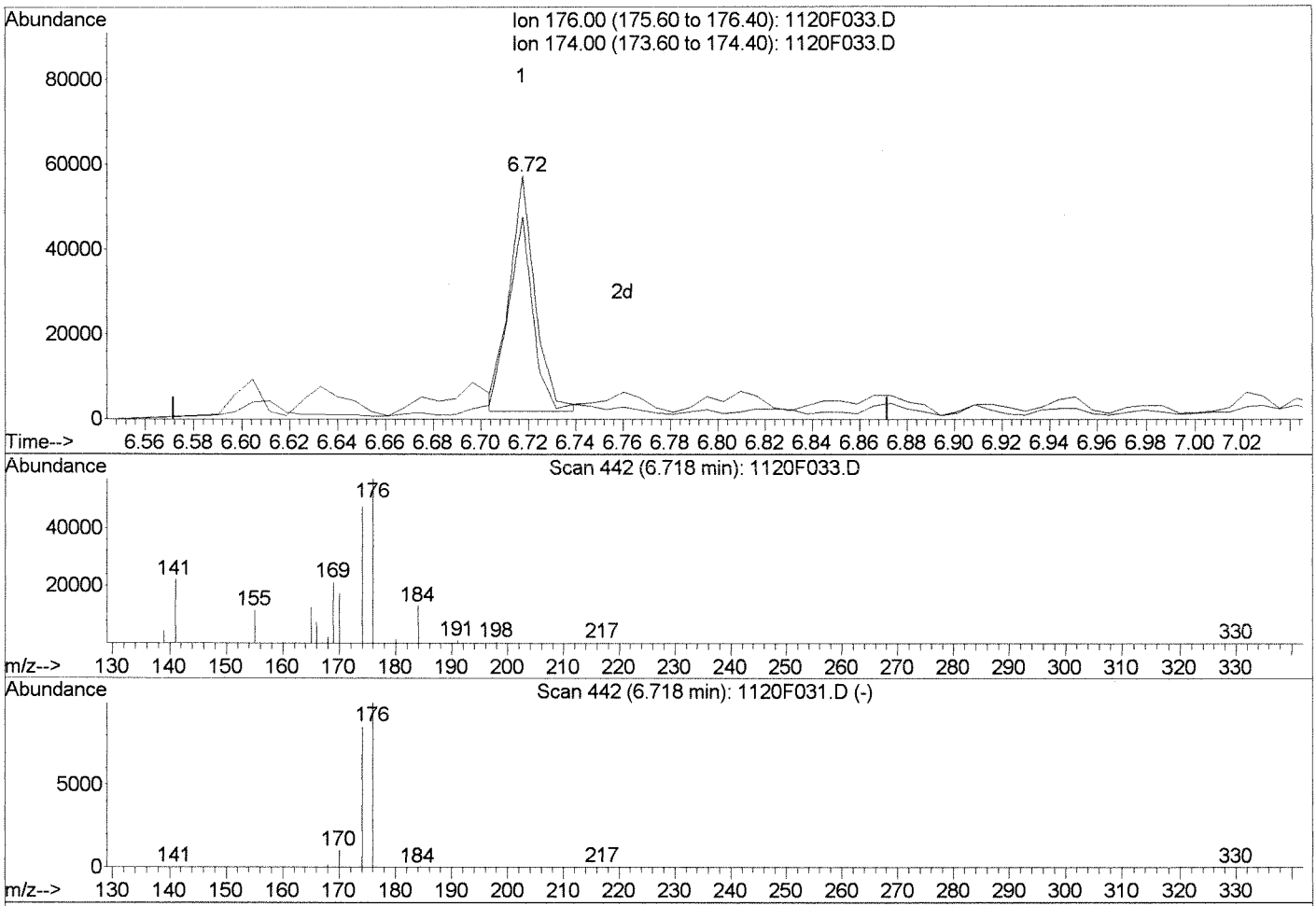
Quantitation Report (Qedit)

Data File : J:\MS11\DATA\112009\1120F033.D
Acq On : 21 Nov 2009 12:19 am
Sample : K0909140-005
Misc :
MS Integration Params: RTEINT.P
Quant Time: Nov 23 8:39 2009

Vial: 30
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1119ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Nov 23 08:36:00 2009
Response via : Multiple Level Calibration



TIC: 1120F033.D

(15) Fluorene-d10 (S)

6.72min 74.43ng/ml m

response 41440

Ion	Exp%	Act%
176.00	100	100
174.00	85.50	83.24
0.00	0.00	0.00
0.00	0.00	0.00

OI 11/24/09

1120F033.D 1119ALK.M Mon Nov 23 08:39:03 2009

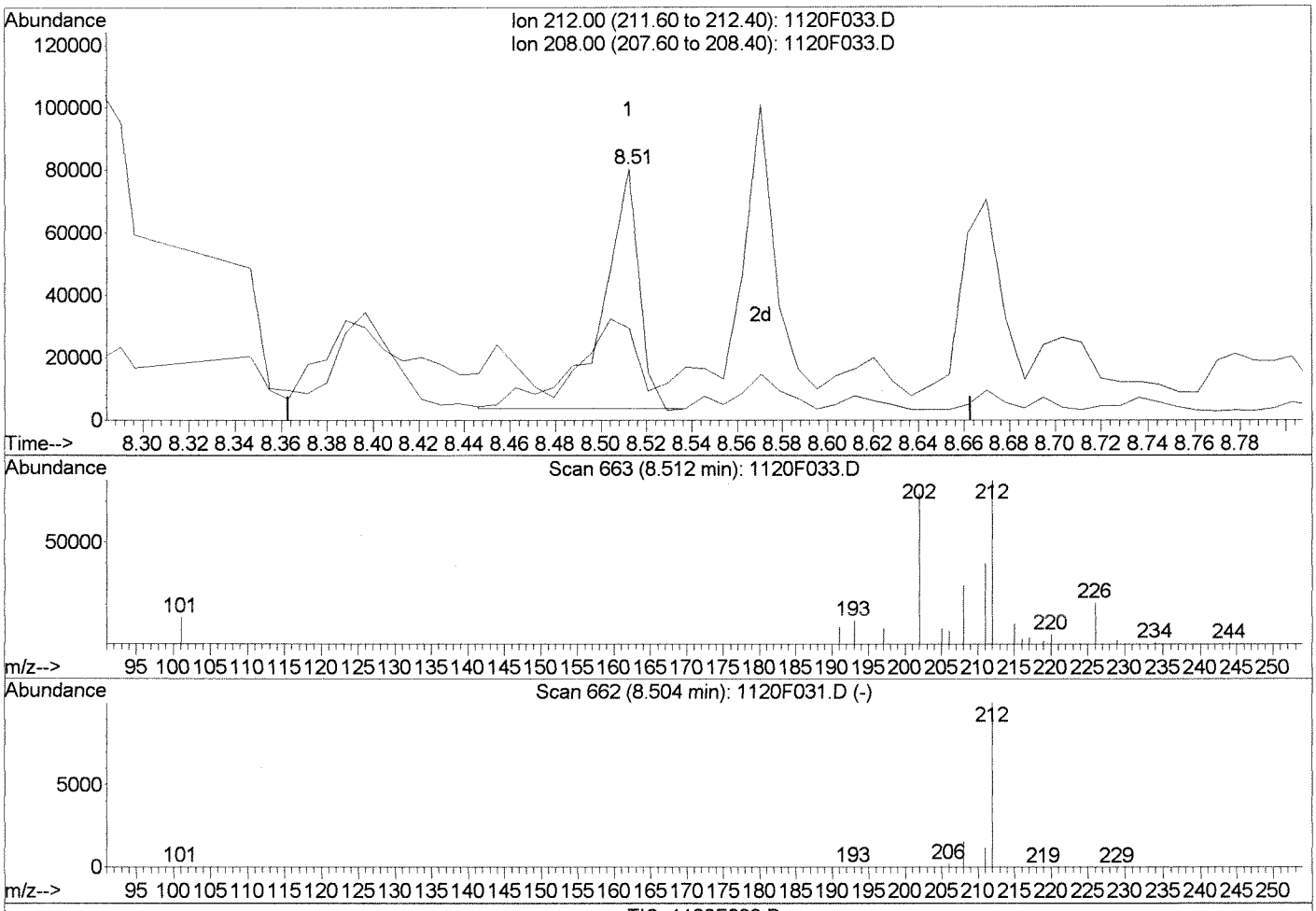
Quantitation Report (Qedit)

Data File : J:\MS11\DATA\112009\1120F033.D
Acq On : 21 Nov 2009 12:19 am
Sample : K0909140-005
Misc :
MS Integration Params: RTEINT.P
Quant Time: Nov 23 8:39 2009

Vial: 30
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1119ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Nov 23 08:36:00 2009
Response via : Multiple Level Calibration



TIC: 1120F033.D

(36) Fluoranthene-d10 (S)

8.51min 75.49ng/ml

response 88984

Ion	Exp%	Act%
212.00	100	100
208.00	15.50	18.78
0.00	0.00	0.00
0.00	0.00	0.00

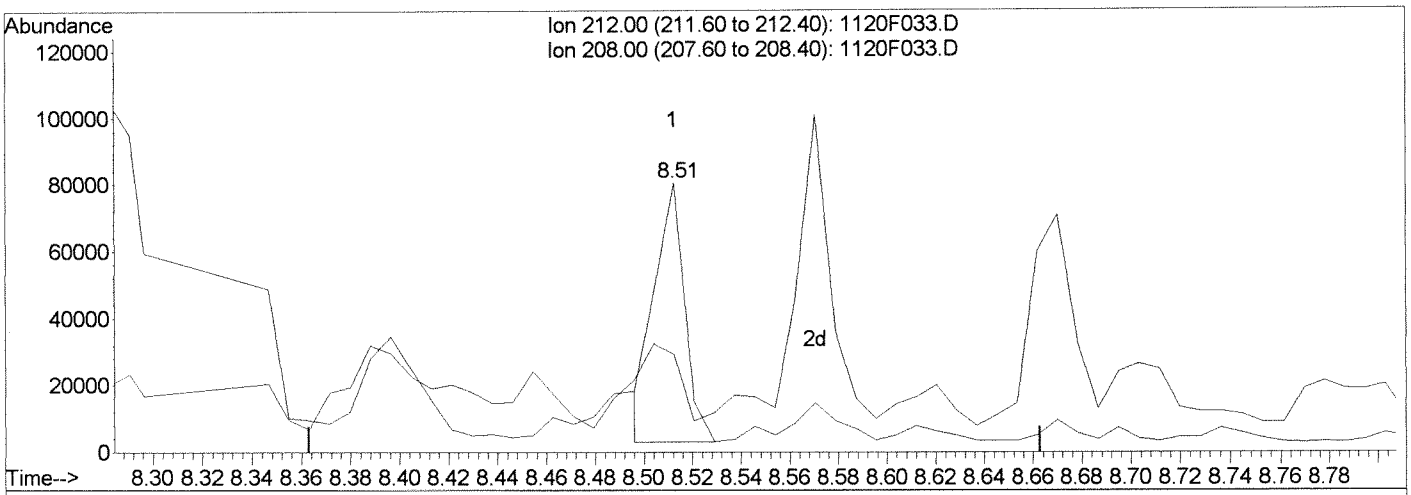
Quantitation Report (Qedit)

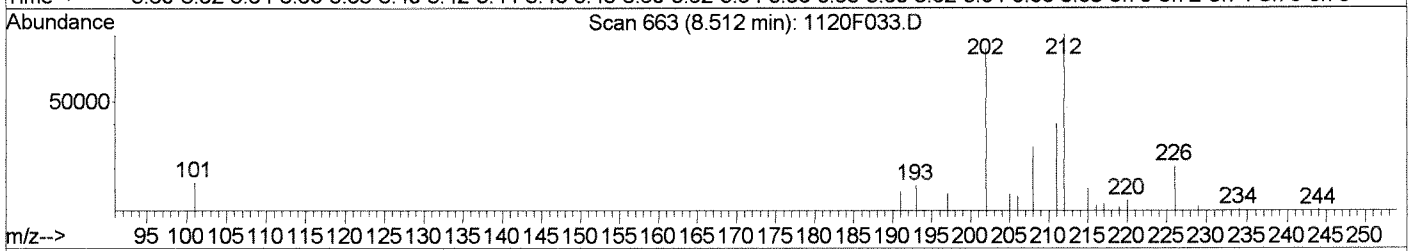
Data File : J:\MS11\DATA\112009\1120F033.D
Acq On : 21 Nov 2009 12:19 am
Sample : K0909140-005
Misc :
MS Integration Params: RTEINT.P
Quant Time: Nov 23 8:39 2009

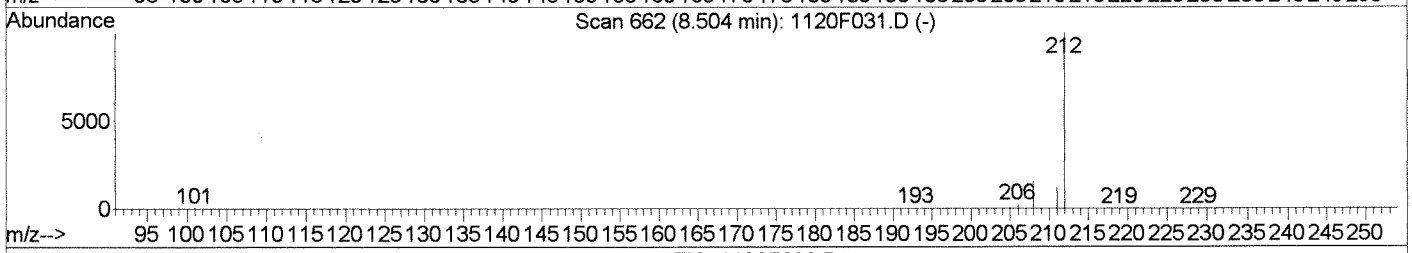
Vial: 30
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1119ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Nov 23 08:36:00 2009
Response via : Multiple Level Calibration







TIC: 1120F033.D

(36) Fluoranthene-d10 (S)

8.51min 56.73ng/ml m

response 66867

Ion	Exp%	Act%
212.00	100	100
208.00	15.50	36.45
0.00	0.00	0.00
0.00	0.00	0.00

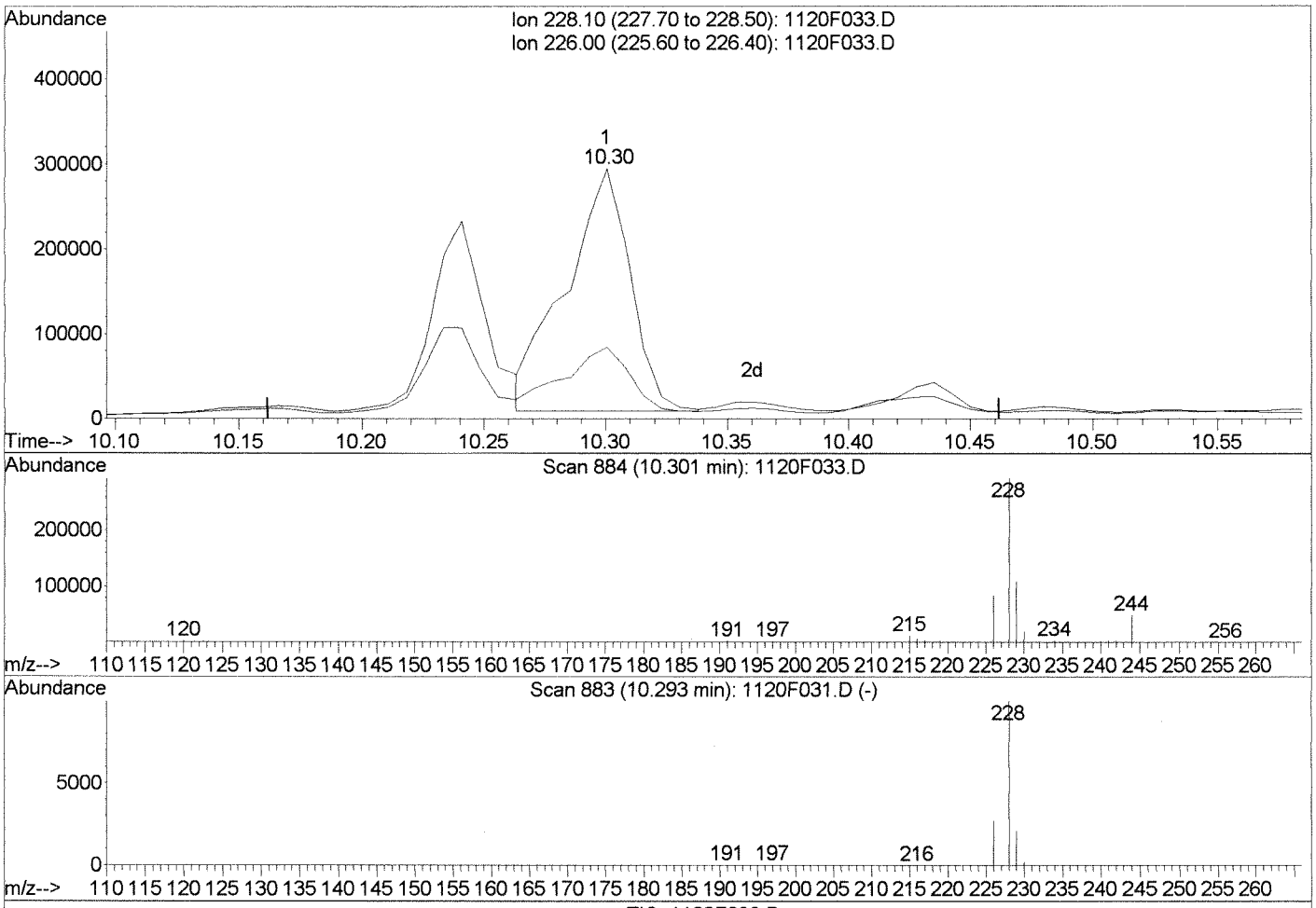
OI 11/23/09 11-24-09

1120F033.D 1119ALK.M Mon Nov 23 08:39:31 2009

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\112009\1120F033.D Vial: 30
Acq On : 21 Nov 2009 12:19 am Operator: LWeiskopf
Sample : K0909140-005 Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 23 8:39 2009 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1119ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Nov 23 08:36:00 2009
Response via : Multiple Level Calibration



TIC: 1120F033.D

(44) Chrysene (T)

10.30min 373.12ng/ml

response 523237

Ion	Exp%	Act%
228.10	100	100
226.00	28.80	26.77
0.00	0.00	0.00
0.00	0.00	0.00

1120F033.D 1119ALK.M Mon Nov 23 08:39:39 2009

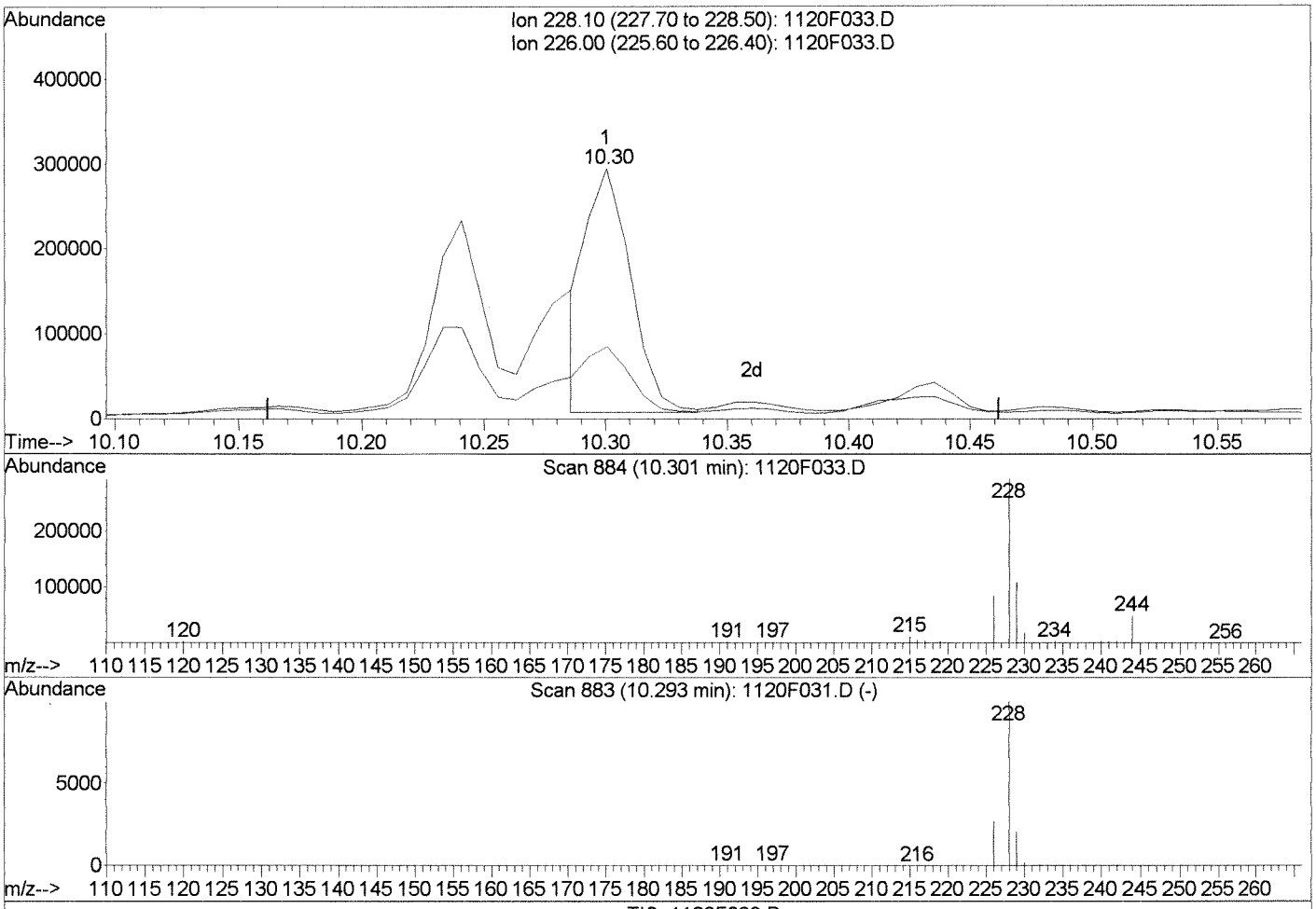
Quantitation Report (Qedit)

Data File : J:\MS11\DATA\112009\1120F033.D
Acq On : 21 Nov 2009 12:19 am
Sample : K0909140-005
Misc :
MS Integration Params: RTEINT.P
Quant Time: Nov 23 8:39 2009

Vial: 30
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1119ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Nov 23 08:36:00 2009
Response via : Multiple Level Calibration



(44) Chrysene (T)

10.30min 262.35ng/ml m

response 367899

Ion	Exp%	Act%
228.10	100	100
226.00	28.80	28.67
0.00	0.00	0.00
0.00	0.00	0.00

11-24-09
OI
11/23/09

1120F033.D 1119ALK.M Mon Nov 23 08:39:46 2009

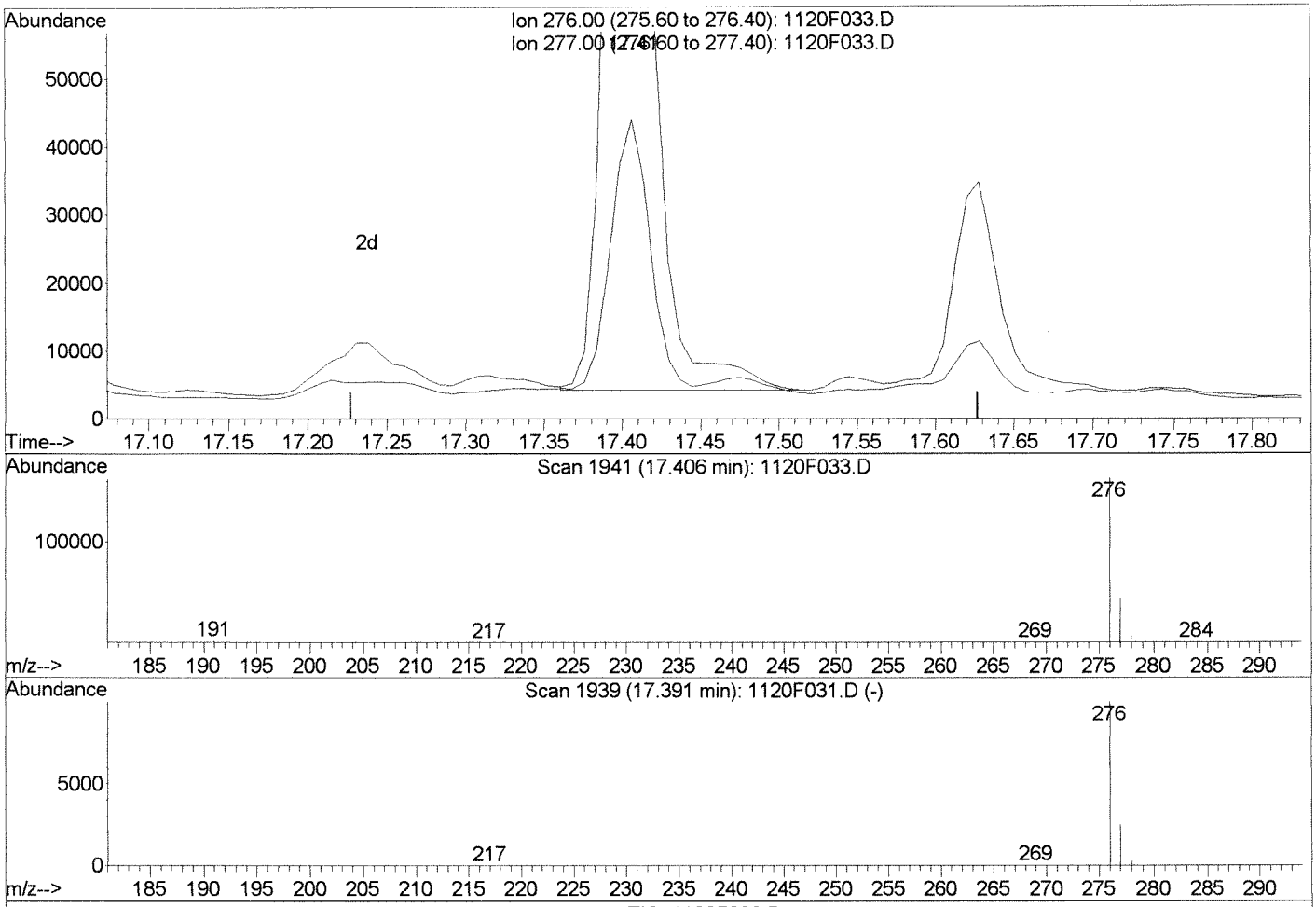
Quantitation Report (Qedit)

Data File : J:\MS11\DATA\112009\1120F033.D
Acq On : 21 Nov 2009 12:19 am
Sample : K0909140-005
Misc :
MS Integration Params: RTEINT.P
Quant Time: Nov 23 8:39 2009

Vial: 30
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1119ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Nov 23 08:36:00 2009
Response via : Multiple Level Calibration



TIC: 1120F033.D

(57) Benzo(g,h,i)perylene (T)

17.41min 188.55ng/ml

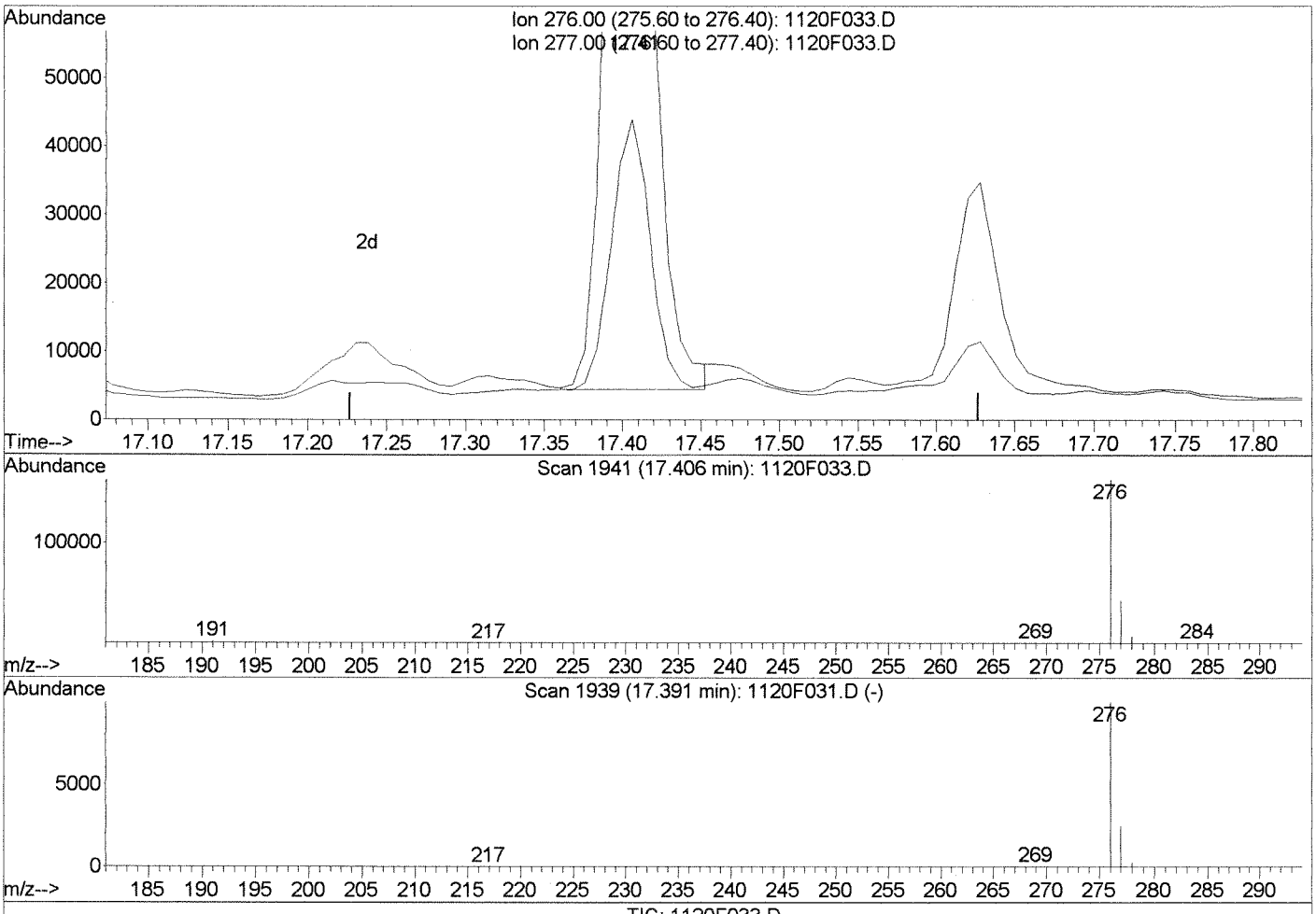
response 288499

Ion	Exp%	Act%
276.00	100	100
277.00	25.70	25.38
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\112009\1120F033.D Vial: 30
Acq On : 21 Nov 2009 12:19 am Operator: LWeiskopf
Sample : K0909140-005 Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 23 8:39 2009 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1119ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Nov 23 08:36:00 2009
Response via : Multiple Level Calibration



TIC: 1120F033.D

(57) Benzo(g,h,i)perylene (T)

17.41min 183.11ng/ml m

response 280170

Ion	Exp%	Act%
276.00	100	100
277.00	25.70	26.97
0.00	0.00	0.00
0.00	0.00	0.00

11-24-09
OI
11/23/09

1120F033.D 1119ALK.M Mon Nov 23 08:40:01 2009

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	URS Corporation	**Service Request:**	K0909140
Project:	Boise St. Helens Pulp and Paper Mill-2009	**Date Collected:**	10/06/2009
Sample Matrix:	Sediment	**Date Received:**	10/07/2009

Polynuclear Aromatic Hydrocarbons

Sample Name:	M-2-A	**Units:**	ug/Kg
Lab Code:	K0909140-006	**Basis:**	Dry
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270C SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Naphthalene	**790**		2.6	0.60	1	11/10/09	11/16/09	KWG0910535	
2-Methylnaphthalene	**590**		2.6	0.46	1	11/10/09	11/16/09	KWG0910535	
Acenaphthylene	**220**		2.6	0.56	1	11/10/09	11/16/09	KWG0910535	
Acenaphthene	**170**		2.6	0.50	1	11/10/09	11/16/09	KWG0910535	
Fluorene	**250**		2.6	0.61	1	11/10/09	11/16/09	KWG0910535	
Dibenzofuran	**140**		2.6	0.63	1	11/10/09	11/16/09	KWG0910535	
Phenanthrene	**1400**	D	26	14	10	11/10/09	11/17/09	KWG0910535	
Anthracene	**200**		2.6	0.55	1	11/10/09	11/16/09	KWG0910535	
Fluoranthene	**750**		2.6	0.98	1	11/10/09	11/16/09	KWG0910535	
Pyrene	**990**	D	26	7.6	10	11/10/09	11/17/09	KWG0910535	
Benz(a)anthracene	**220**		2.6	0.72	1	11/10/09	11/16/09	KWG0910535	
Chrysene	**320**		2.6	0.80	1	11/10/09	11/16/09	KWG0910535	
Benzo(b)fluoranthene	**220**		2.6	0.92	1	11/10/09	11/16/09	KWG0910535	
Benzo(k)fluoranthene	**71**		2.6	0.87	1	11/10/09	11/16/09	KWG0910535	
Benzo(a)pyrene	**190**		2.6	0.76	1	11/10/09	11/16/09	KWG0910535	
Indeno(1,2,3-cd)pyrene	**110**		2.6	0.87	1	11/10/09	11/16/09	KWG0910535	
Dibenz(a,h)anthracene	**22**		2.6	0.80	1	11/10/09	11/16/09	KWG0910535	
Benzo(g,h,i)perylene	**170**		2.6	0.85	1	11/10/09	11/16/09	KWG0910535	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	64	17-104	11/16/09	Acceptable
Fluoranthene-d10	70	27-106	11/16/09	Acceptable
Terphenyl-d14	44	35-109	11/16/09	Acceptable

Comments:

Exception Report

Data File: J:\MS11\DATA\111609\1116F014.D
Lab ID: K0909140-006
RunType: SMPL
Matrix: SEDIMENT

Date Acquired: 11/16/2009 12:57
Date Quantitated: 11/18/2009 08:06
Batch ID: KWG0910827
Analysis Method: 8270C SIM
ListJoinID: LJ5646

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Tune Window	NA	NA	NA	x	
Analytical Holding Time	NA	NA	NA	x	
Preparation Holding Time	NA	NA	NA	x	
Pre-Preparation Holding Time	NA	NA	NA	x	
ICAL Pass/Fail	NA	NA	NA	x	
ICAL Average RSD	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Initial Calibration Minimum RF	NA	NA	NA	x	
Initial Calibration SPCC/CCC	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA		x
Continuing Calibration Minimum RF	NA	NA	NA	x	
Continuing Calibration SPCC/CCC	NA	NA	NA	x	
Method Blank	NA	NA	NA	x	
MB Surrogate Recovery	NA	NA	NA	x	
Lab Control Spike	NA	NA	NA	x	
Duplicate Lab Control Spike	NA	NA	NA	x	
Internal Standards	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Relative Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA		x
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

batch QC
K10843

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
Continuing Calibration Recovery	Pyrene	-20.3	NA	20	see Dil
Above Highest ICAL Level	Phenanthrene	2122.54	NA	2000	1

Primary Review: [signature] 11/19

Secondary Review: LB 11/18/09

Quantitation Report

Bottle ID:		**Tier:**	V	**Matrix:**	SEDIMENT
Prod Code:	8270C SIM PAH_S	**Collect Date:**	10/06/2009	**Receive Date:**	10/07/2009

Analysis Lot:	KWG0910827	**Prep Lot:**	KWG0910535	**Report Group:**	K0909140
Analysis Method:	8270C SIM	**Prep Method:**	EPA 3541		
Prep Ref:	865759	**Prep Date:**	11/10/2009		

Quant Method:	J:\MS11\METHODS\SIM\1015ALK.M	**Calibration ID:**	CAL8928
Title:	Polynuclear Aromatic Hydrocarbons	**Report List ID:**	LJ5646
Tune Ref:	J:\MS11\DATA\111609\1116F001.D	**Method ID:**	MJ253
MB Ref:	J:\MS11\DATA\111609\1116F004.D	**Quant based on Report List**	

Data File:	J:\MS11\DATA\111609\1116F014.D			**Instrument:**	MS11
Acqu Date:	11/16/2009 12:57	**Quant Date:**	11/18/2009 08:06	**Vial:**	12
Run Type:	SMPL			**Dilution:**	1.0
Lab ID:	K0909140-006			**Soln Conc. Units:**	ng/ml

Internal Standard Compounds

IS Ref	Parameter Name	RT	RT Dev	Quant Mass	Response	Solution Conc	Area Criteria
1	Naphthalene-d8	4.63	0.01	136	182034	200.00	OK
2	Acenaphthene-d10	6.04	0.00	164	104004	200.00	OK
3	Phenanthrene-d10	7.26	0.00	188	181539	200.00	OK
4	Chrysene-d12	9.76	0.01	240	273722	200.00	OK
5	Perylene-d12	12.78	0.03	264	302982	200.00	OK

Surrogate Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	%Rec	%Rec Limits		Rpt?
2	Fluorene-d10	6.47	0.01	0.00	176	62474**m**	128.75	64	17-104	OK	
3	Fluoranthene-d10	8.24	0.01	0.00	212	140691**m**	139.85	70	27-106	OK	
4	Terphenyl-d14	8.59	0.02	0.00	244	99180	87.65	44	35-109	OK	

Target Compounds

Final Conc. Units: ug/Kg Dry Weight

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	Final Conc	Q	Rpt?
1	Naphthalene	4.64		0.00	128	1304559	1,557	790		
1	2-Methylnaphthalene	5.20		0.00	142	667590	1,156	590		
2	Acenaphthylene	5.93		0.00	152	390570	432.76	220		
2	Acenaphthene	6.07	0.01	0.00	154	180513	335.48	170		
2	Dibenzofuran	6.22	0.01	0.00	168	200131	276.51	140		
2	Fluorene	6.49		0.00	166	281583**m**	485.37	250		
3	Phenanthrene	7.28		0.00	178	2161098	2,123	1100	E	NR
3	Anthracene	7.33	0.01	0.00	178	385145**m**	395.61	200		
3	Fluoranthene	8.25		0.00	202	1663747	1,488	750		
4	Pyrene	8.44	0.01	0.00	202	2232720**m**	1,490	750		NR
4	Benz(a)anthracene	9.75	0.02	0.00	228	640762	430.70	220		
4	Chrysene	9.80	0.02	0.00	228	904270	624.01	320		
5	Benzo(b)fluoranthene	11.78	0.03	0.00	252	699561	442.61	220		

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Data File:	J:\MS11\DATA\111609\1116F014.D			**Instrument:**	MS11
Acqu Date:	11/16/2009 12:57	**Quant Date:**	11/18/2009 08:06	**Vial:**	12
Run Type:	SMPL			**Dilution:**	1.0
Lab ID:	K0909140-006			**Soln Conc. Units:**	ng/ml

Target Compounds

Final Conc. Units: ug/Kg Dry Weight

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	Final Conc	Q	Rpt?
5	Benzo(k)fluoranthene	11.83	0.02	0.00	252	219428**m**	140.92	71		
5	Benzo(a)pyrene	12.61	0.02	0.00	252	560170	374.22	190		
5	Indeno(1,2,3-cd)pyrene	16.34	0.03	0.00	276	294798**m**	214.67	110		
5	Dibenz(a,h)anthracene	16.40	0.01	0.00	278	65576	44.32	22		
5	Benzo(g,h,i)perylene	16.82	0.02	0.00	276	525027	331.94	170		

Prep Amount:	20.21 g	**Dilution:**	1.0
Prep Final Vol:	10 ml	**Unit Factor:**	1
Solids:	97.8 %		

Final Concentration = ((Soln Conc x Prep Final Vol x Dilution) / (Prep Amount x Solids)) x Unit Factor

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\111609\1116F014.D Vial: 12
Acq On : 16 Nov 2009 12:57 pm Operator: LWeiskopf
Sample : K0909140-006 Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 18 07:45:51 2009 Quant Results File: 1015ALK.RES

Quant Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Wed Nov 18 07:45:20 2009
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	4.63	136	182034	200.00	ng/ml	0.00
10) Acenaphthene-d10	6.04	164	104004	200.00	ng/ml	0.00
22) Phenanthrene-d10	7.26	188	181539	200.00	ng/ml	0.00
37) Chrysene-d12	9.76	240	273722	200.00	ng/ml	0.00
49) Perylene-d12	12.78	264	302982	200.00	ng/ml	0.02
System Monitoring Compounds						
15) Fluorene-d10	6.47	176	62474m	128.75	ng/ml	0.00
Spiked Amount 200.000			Recovery = 64.38%			
20) 2,4,6 Tribromophenol	0.00	330	0d	0.00	ng/ml	
Spiked Amount 375.000			Recovery = 0.00%			
36) Fluoranthene-d10	8.24	212	140691m	139.85	ng/ml	0.00
Spiked Amount 200.000			Recovery = 69.92%			
42) Terphenyl-d14	8.59	244	99180	87.65	ng/ml	0.00
Spiked Amount 200.000			Recovery = 43.83%			
Target Compounds						Qvalue
2) Naphthalene	4.64	128	1304559	1557.36	ng/ml	94
3) 2-Methylnaphthalene	5.20	142	667590	1156.40	ng/ml	91
4) 1-Methylnaphthalene	5.28	142	302545	492.93	ng/ml	96
5) Biphenyl	5.58	154	106029	161.07	ng/ml	97
6) 2,6-Dimethylnaphthalene	5.77	156	1498377	3300.98	ng/ml	89
11) Acenaphthylene	5.93	152	390570	432.76	ng/ml	79
12) Acenaphthene	6.07	154	180513	335.48	ng/ml	90
13) Dibenzofuran	6.22	168	200131	276.51	ng/ml	86
14) 2,3,5-Trimethylnaphthalene	6.38	170	1136961	2515.38	ng/ml	91
16) Fluorene	6.49	166	281583m	485.37	ng/ml	
23) Dibenzothiophene	7.18	184	322325m	351.19	ng/ml	
27) Phenanthrene	7.28	178	2161098	2122.54	ng/ml	96
28) Anthracene	7.33	178	385145m	395.61	ng/ml	
30) 1-Methylphenanthrene	7.78	192	795532m	1091.21	ng/ml	
35) Fluoranthene	8.25	202	1663747	1487.51	ng/ml	97
38) Pyrene	8.44	202	2232720m	1489.64	ng/ml	
43) Benz(a)anthracene	9.75	228	640762	430.70	ng/ml	56
44) Chrysene	9.80	228	904270	624.01	ng/ml	99
50) Benzo(b)fluoranthene	11.78	252	699561	442.61	ng/ml	99
51) Benzo(k)fluoranthene	11.83	252	219428m	140.92	ng/ml	
52) Benzo(e)pyrene	12.47	252	625343	422.49	ng/ml	95
53) Benzo(a)pyrene	12.61	252	560170	374.22	ng/ml	99
54) Perylene	12.86	252	292942	199.64	ng/ml	99
55) Indeno(1,2,3-cd)pyrene	16.34	276	294798m	214.67	ng/ml	
56) Dibenz(a,h)anthracene	16.40	278	65576	44.32	ng/ml	47

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\111609\1116F014.D Vial: 12
Acq On : 16 Nov 2009 12:57 pm Operator: LWeiskopf
Sample : K0909140-006 Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 18 07:45:51 2009 Quant Results File: 1015ALK.RES

Quant Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Wed Nov 18 07:45:20 2009
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

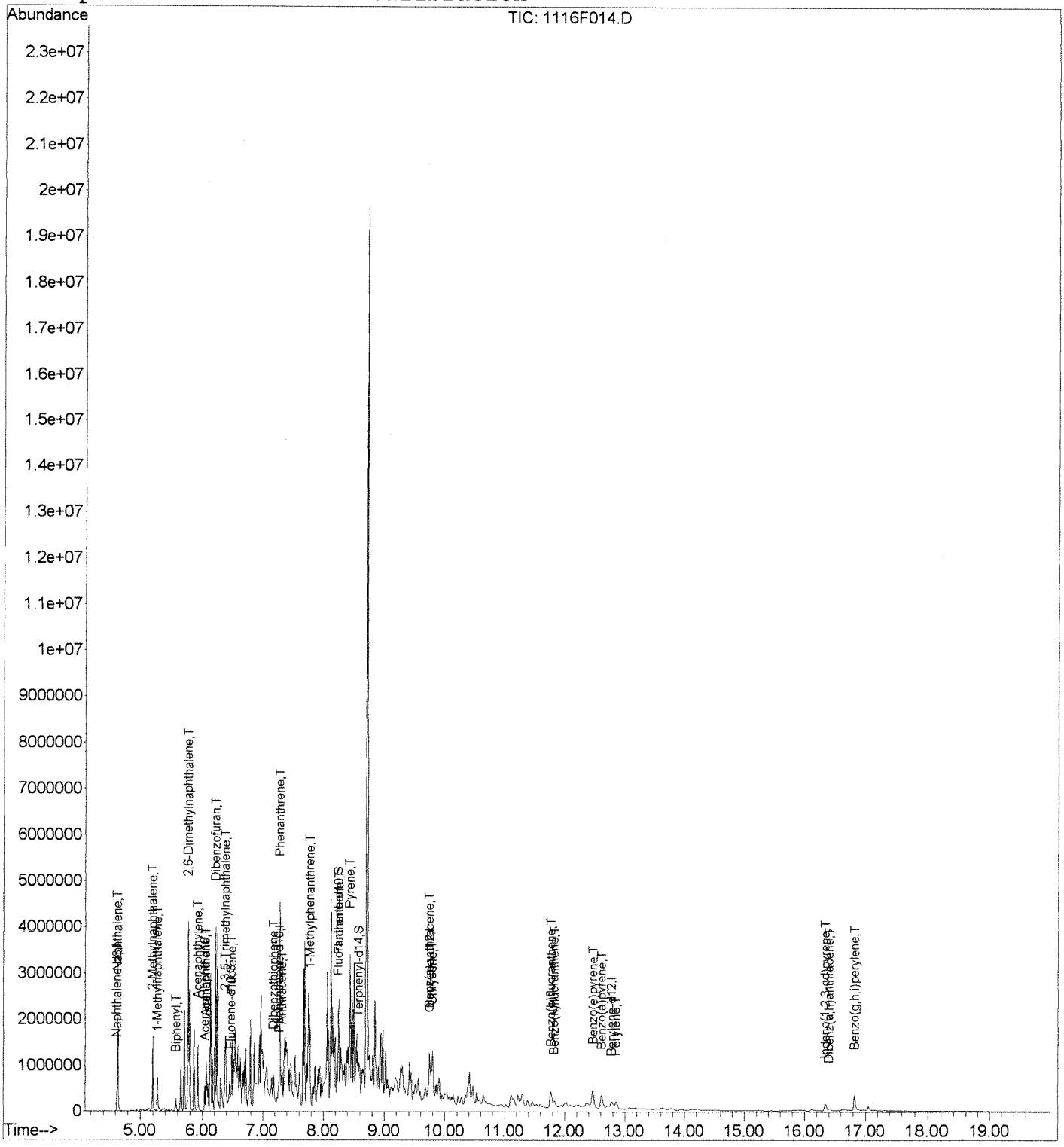
Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
57) Benzo(g,h,i)perylene	16.82	276	525027	331.94	ng/ml	99

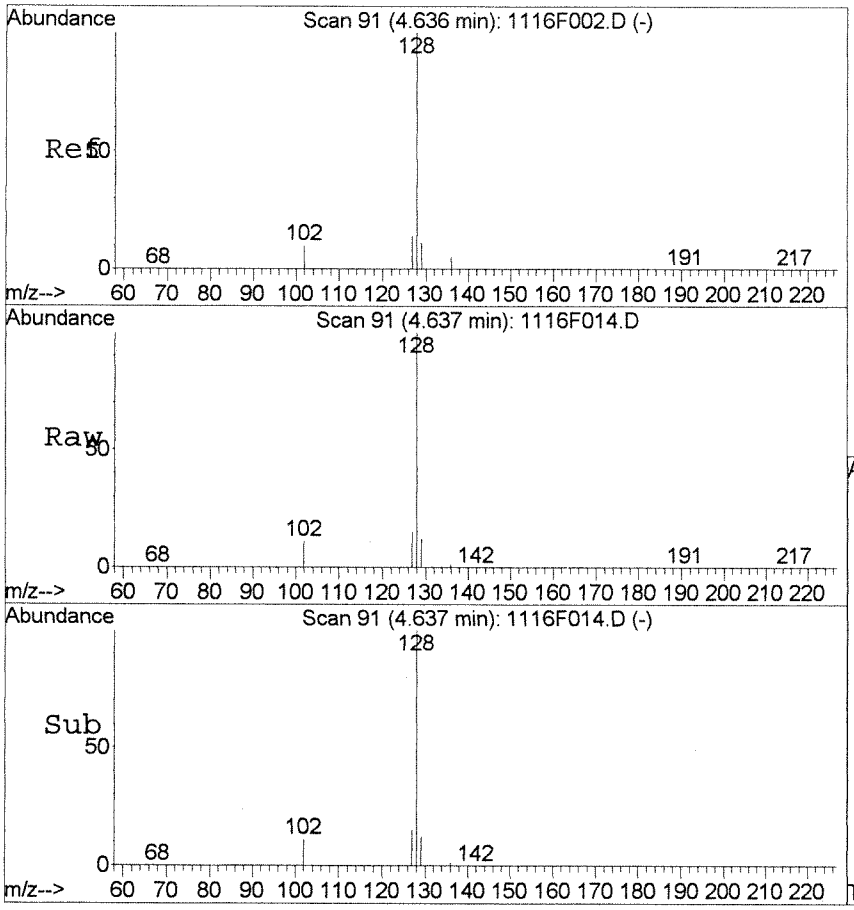
(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\111609\1116F014.D Vial: 12
Acq On : 16 Nov 2009 12:57 pm Operator: LWeiskopf
Sample : K0909140-006 Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 18 8:06 2009 Quant Results File: 1015ALK.RES

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Tue Nov 17 11:03:16 2009
Response via : Initial Calibration

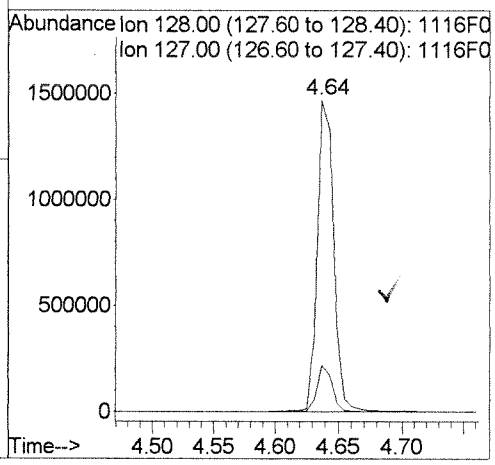


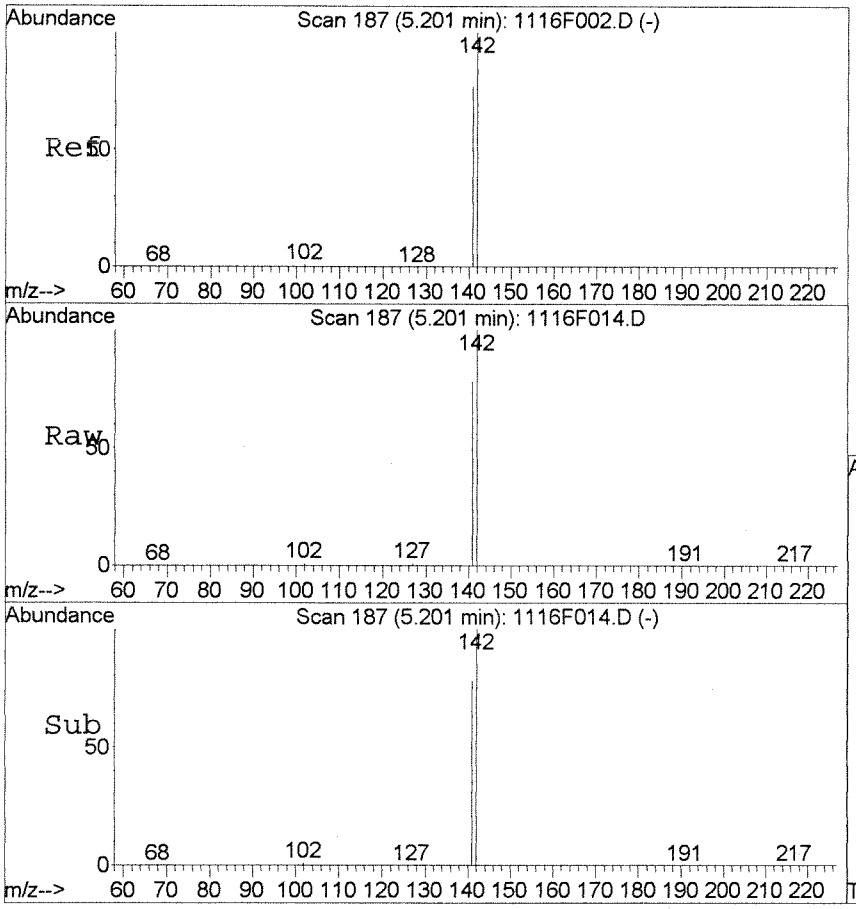


#2
Naphthalene
Concen: 1557.36 ng/ml
RT: 4.64 min Scan# 91
Delta R.T. 0.00 min
Lab File: 1116F014.D
Acq: 16 Nov 2009 12:57 pm

Tgt Ion:128 Resp: 1304559

Ion	Ratio	Lower	Upper
128	100		
127	14.8	0.0	42.4

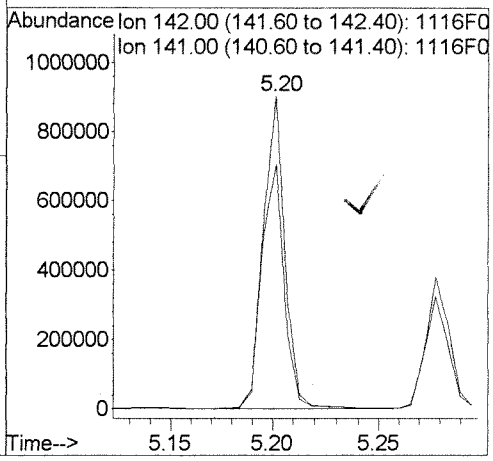


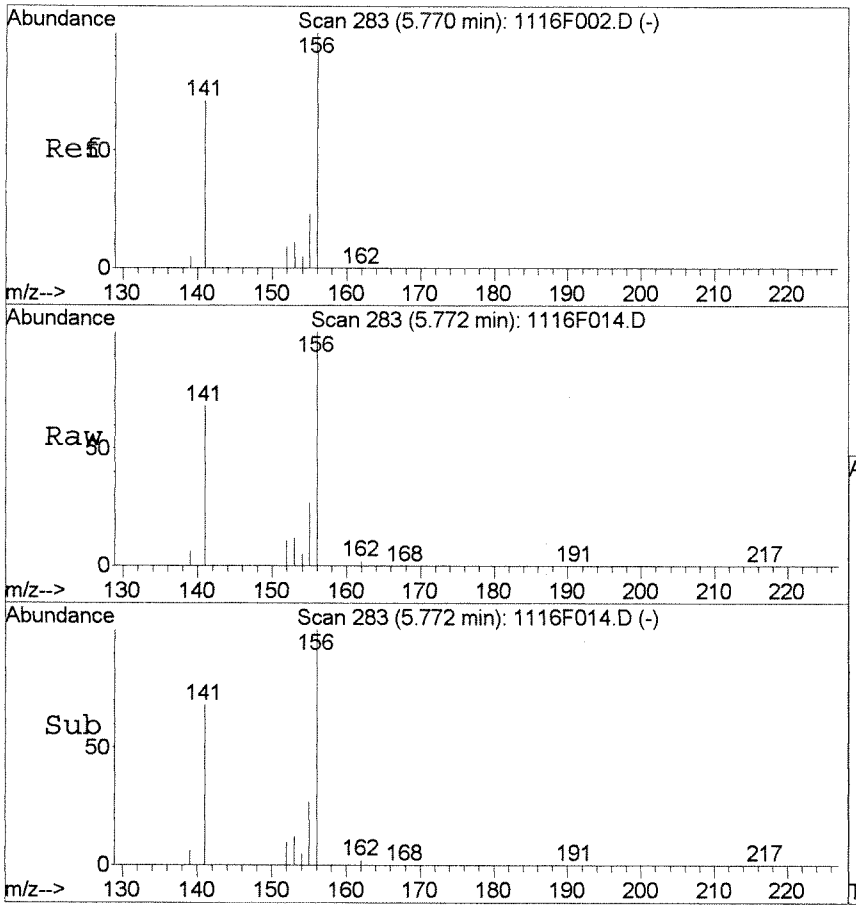


#3
2-Methylnaphthalene
Concen: 1156.40 ng/ml
RT: 5.20 min Scan# 187
Delta R.T. 0.00 min
Lab File: 1116F014.D
Acq: 16 Nov 2009 12:57 pm

Tgt Ion:142 Resp: 667590

Ion	Ratio	Lower	Upper
142	100		
141	78.3	56.1	116.1

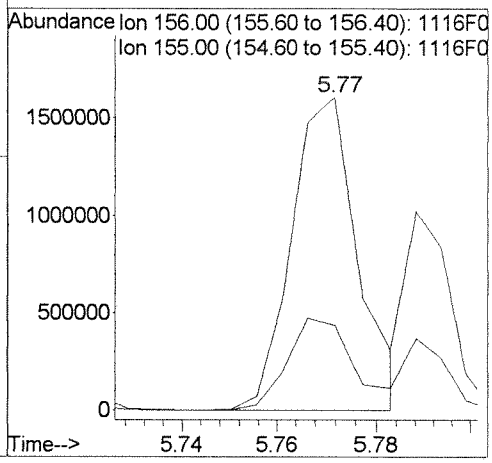


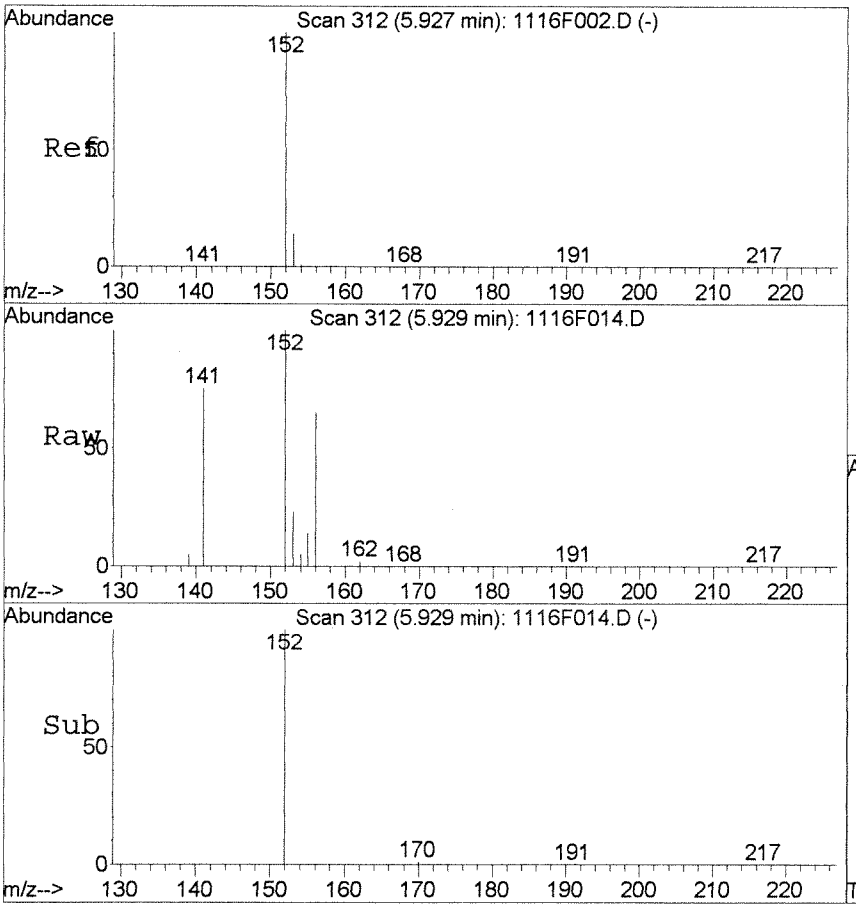


#6
2,6-Dimethylnaphthalene
Concen: 3300.98 ng/ml
RT: 5.77 min Scan# 283
Delta R.T. 0.01 min
Lab File: 1116F014.D
Acq: 16 Nov 2009 12:57 pm

Tgt Ion:156 Resp: 1498377

Ion	Ratio	Lower	Upper
156	100		
155	27.2	3.7	63.7

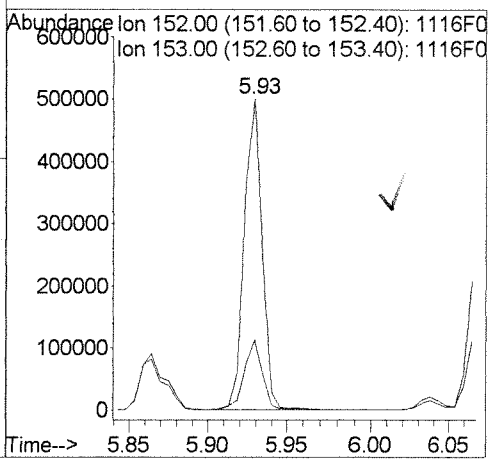


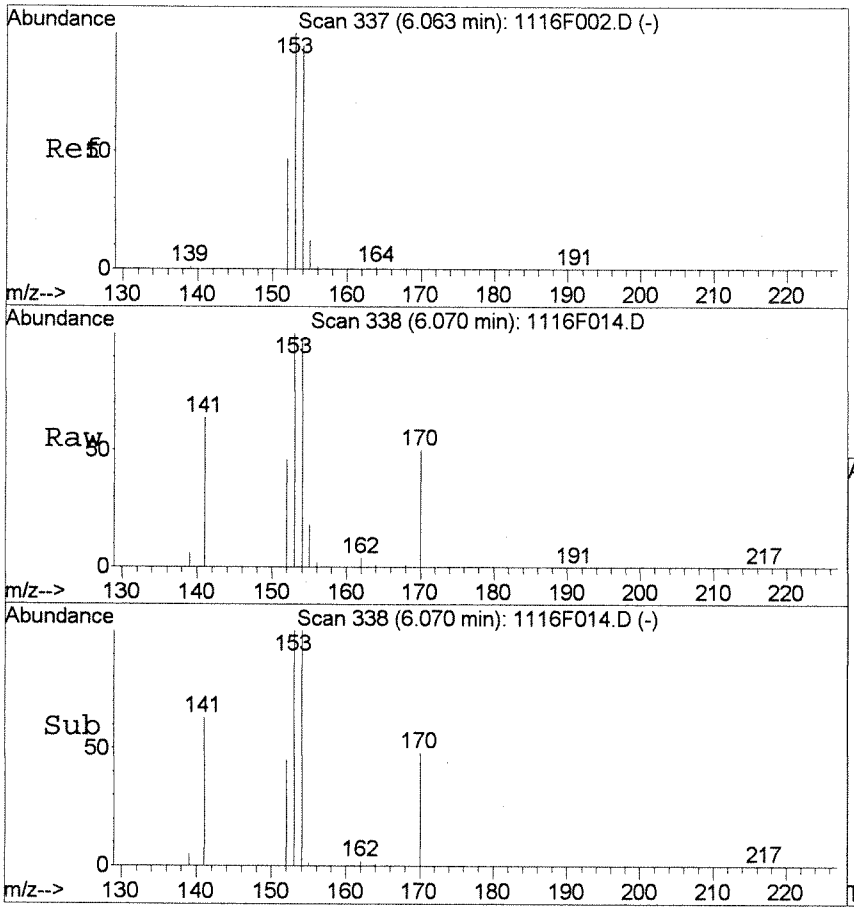


#11
Acenaphthylene
Concen: 432.76 ng/ml
RT: 5.93 min Scan# 312
Delta R.T. 0.01 min
Lab File: 1116F014.D
Acq: 16 Nov 2009 12:57 pm

Tgt Ion:152 Resp: 390570

Ion	Ratio	Lower	Upper
152	100		
153	22.5	0.0	44.1

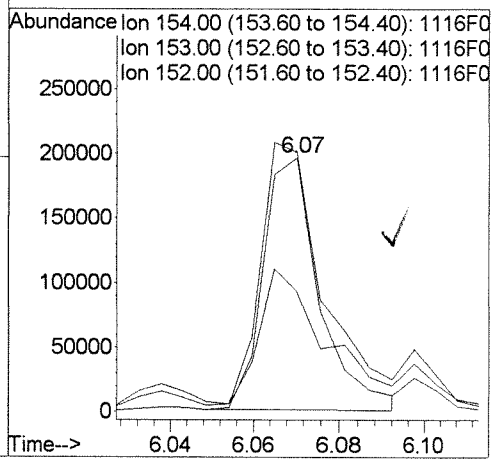


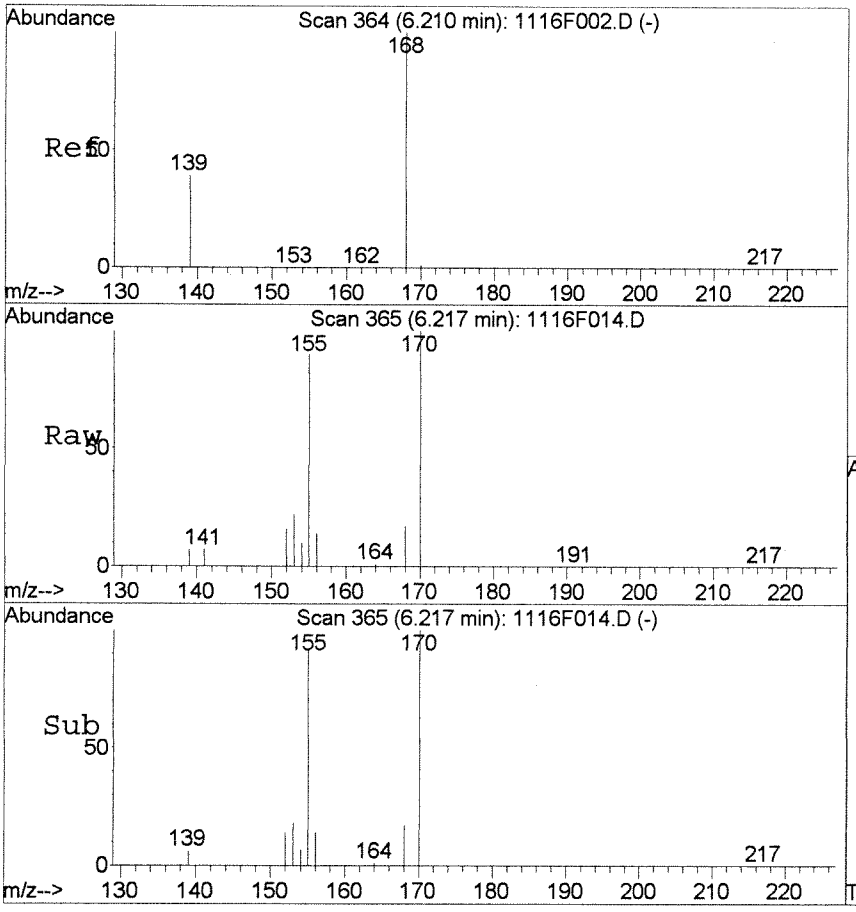


#12
Acenaphthene
Concen: 335.48 ng/ml
RT: 6.07 min Scan# 338
Delta R.T. 0.01 min
Lab File: 1116F014.D
Acq: 16 Nov 2009 12:57 pm

Tgt Ion:154 Resp: 180513

Ion	Ratio	Lower	Upper
154	100		
153	100.4	77.8	137.8
152	43.9	24.7	84.7

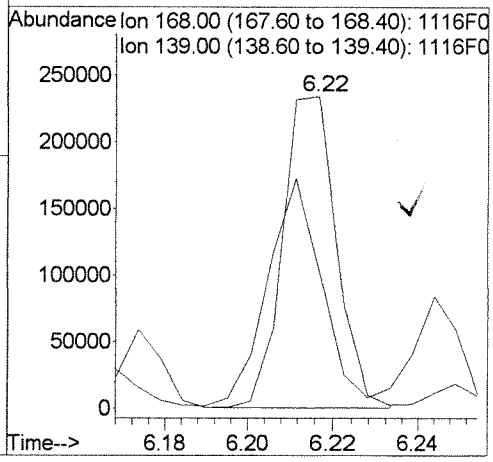


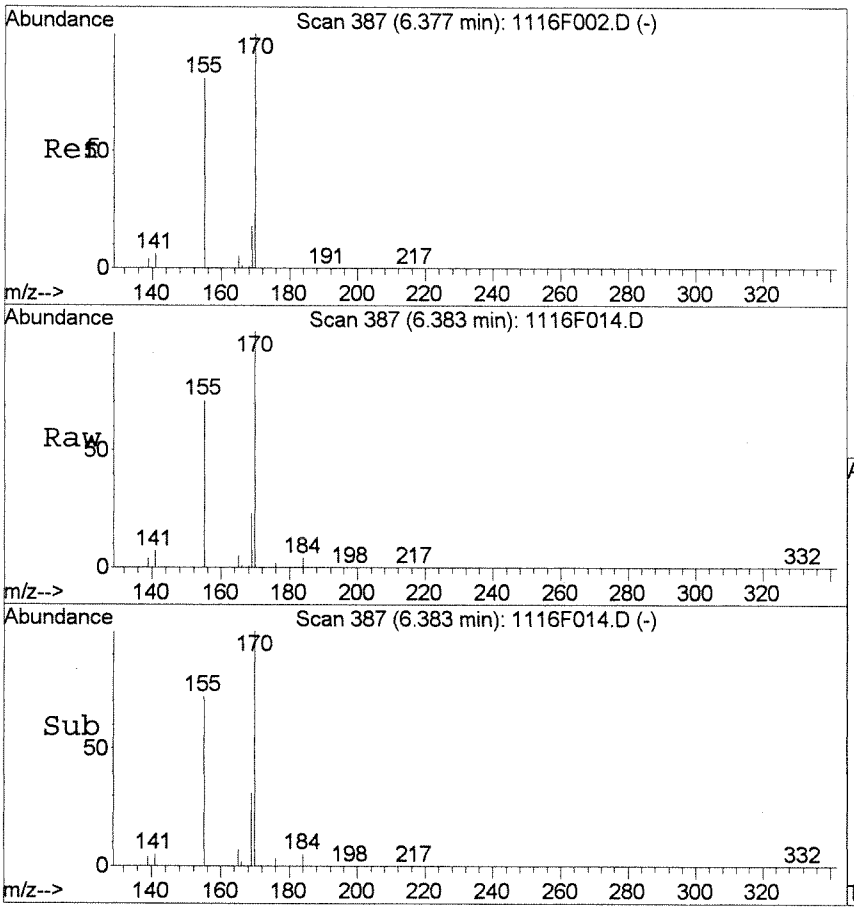


#13
Dibenzofuran
Concen: 276.51 ng/ml
RT: 6.22 min Scan# 365
Delta R.T. 0.01 min
Lab File: 1116F014.D
Acq: 16 Nov 2009 12:57 pm

Tgt Ion:168 Resp: 200131

Ion	Ratio	Lower	Upper
168	100		
139	43.7	23.3	83.3

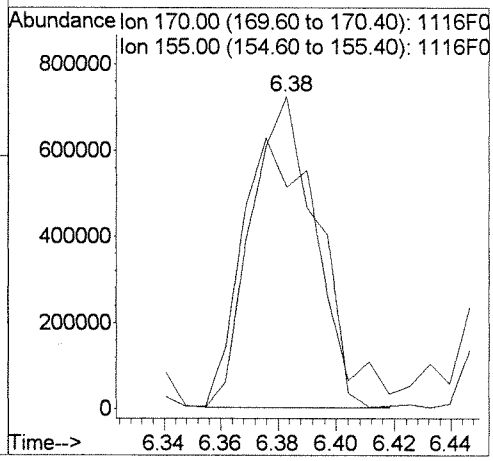


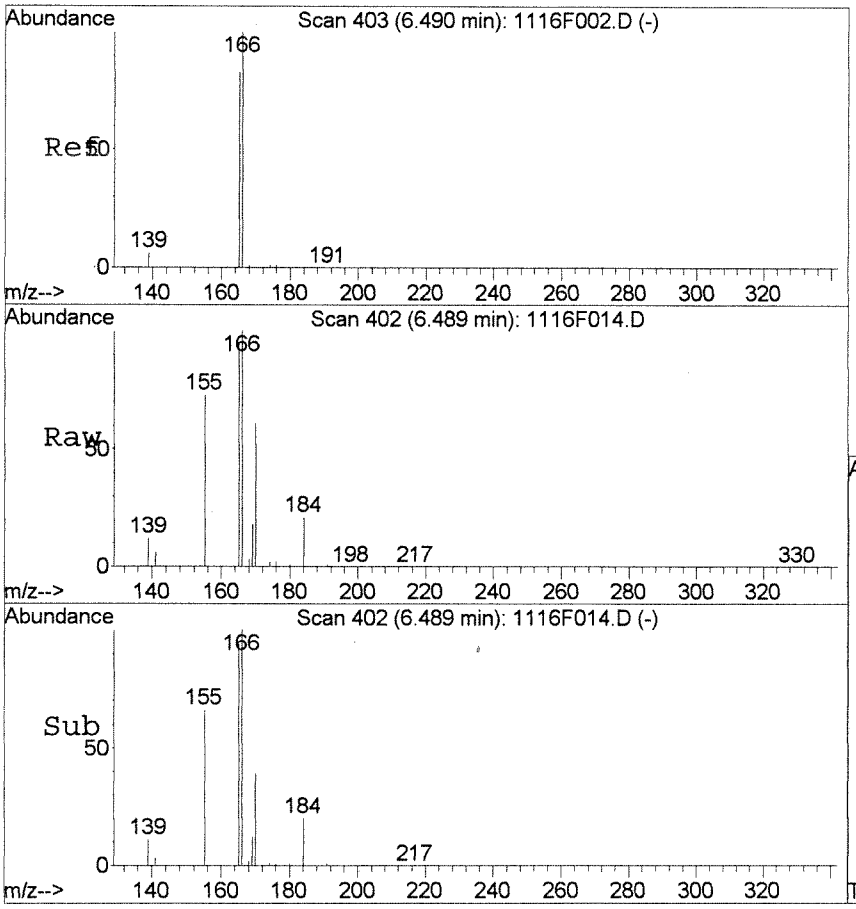


#14
2,3,5-Trimethylnaphthalene
Concen: 2515.38 ng/ml
RT: 6.38 min Scan# 387
Delta R.T. 0.00 min
Lab File: 1116F014.D
Acq: 16 Nov 2009 12:57 pm

Tgt Ion:170 Resp: 1136961

Ion	Ratio	Lower	Upper
170	100		
155	70.4	48.2	108.2

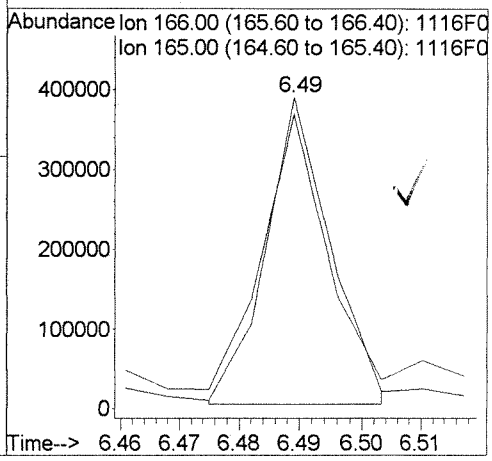


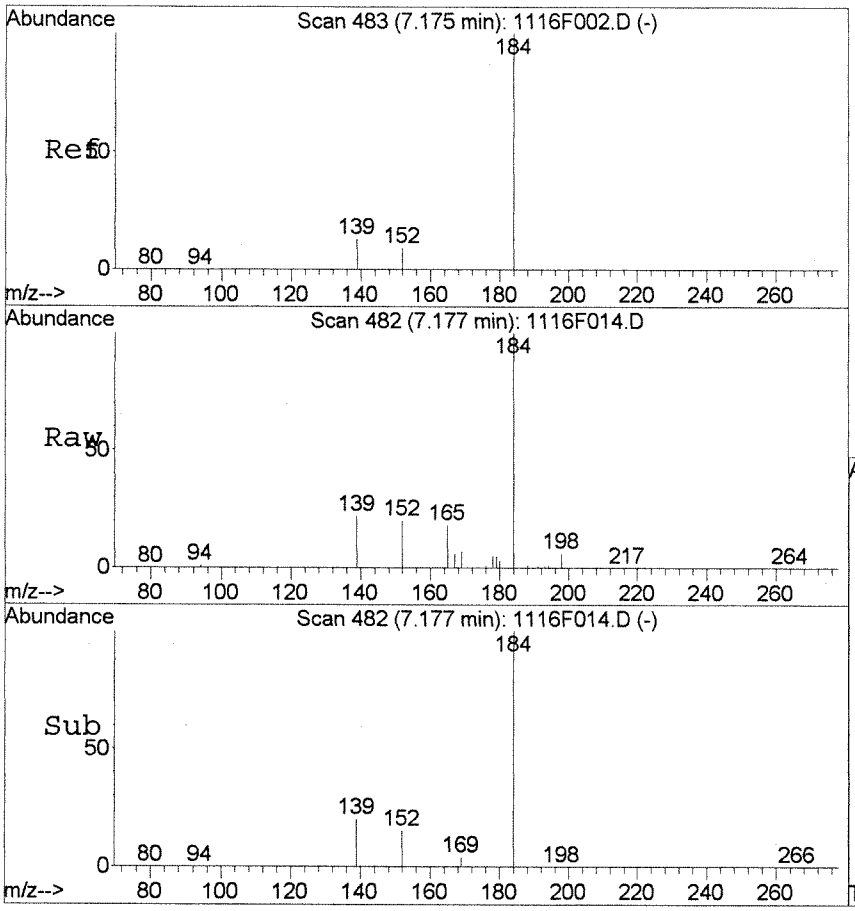


#16
Fluorene
Concen: 485.37 ng/ml m
RT: 6.49 min Scan# 402
Delta R.T. 0.00 min
Lab File: 1116F014.D
Acq: 16 Nov 2009 12:57 pm

Tgt Ion:166 Resp: 281583

Ion	Ratio	Lower	Upper
166	100		
165	94.5	57.8	117.8

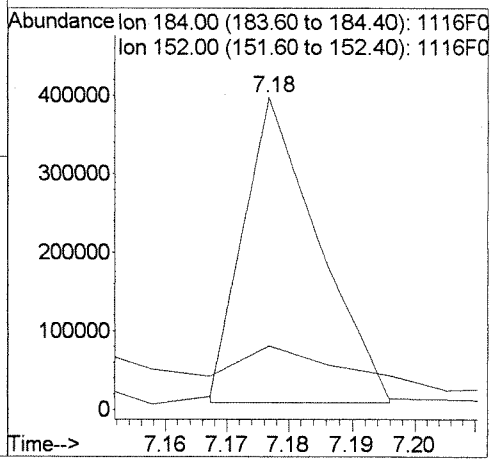


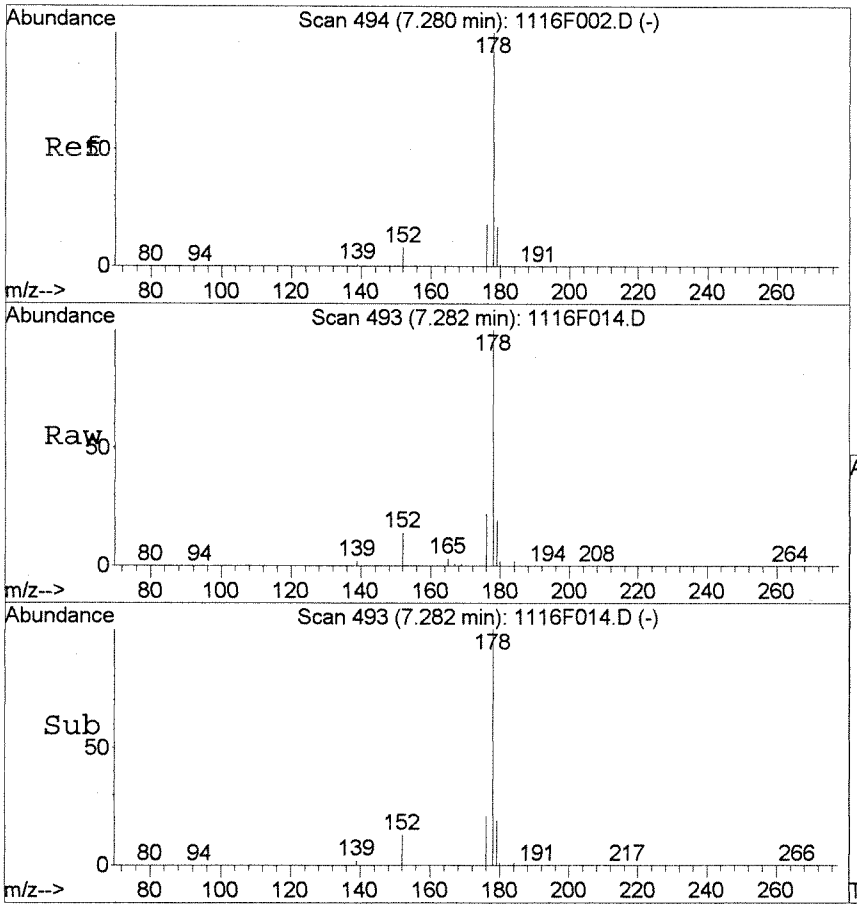


#23
Dibenzothiophene
Concen: 351.19 ng/ml m
RT: 7.18 min Scan# 482
Delta R.T. -0.00 min
Lab File: 1116F014.D
Acq: 16 Nov 2009 12:57 pm

Tgt Ion:184 Resp: 322325

Ion	Ratio	Lower	Upper
184	100		
152	20.4	0.0	39.4

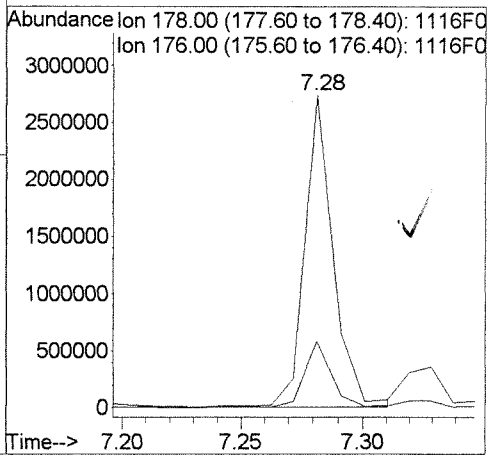


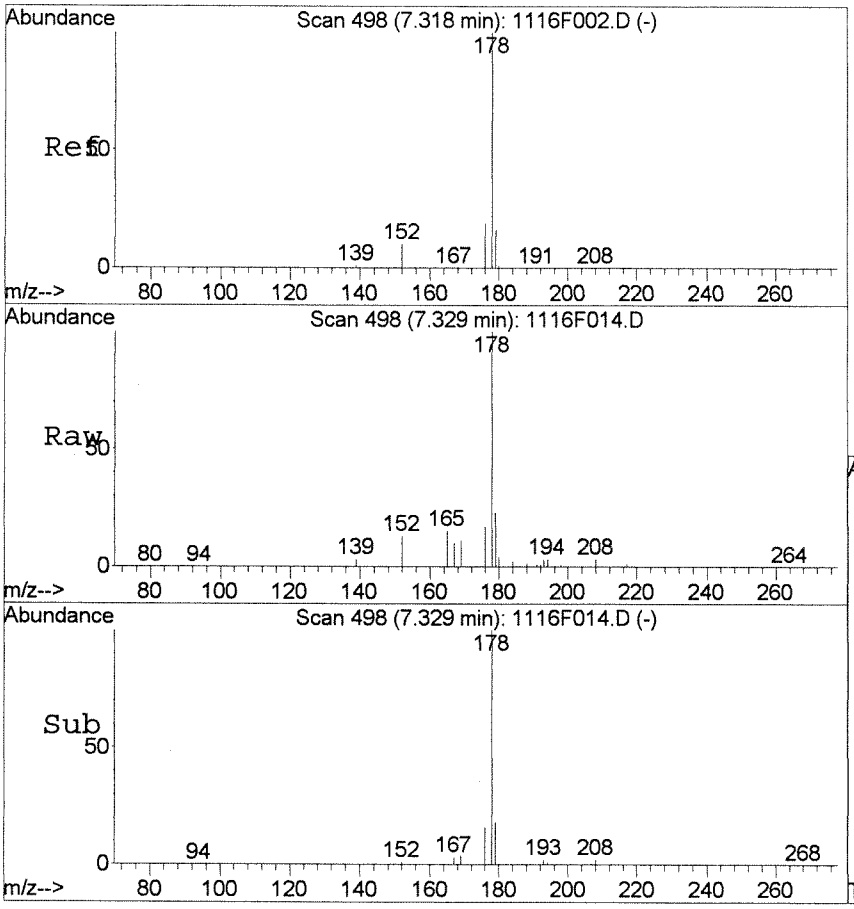


#27
Phenanthrene
Concen: 2122.54 ng/ml
RT: 7.28 min Scan# 493
Delta R.T. -0.00 min
Lab File: 1116F014.D
Acq: 16 Nov 2009 12:57 pm

Tgt Ion:178 Resp: 2161098

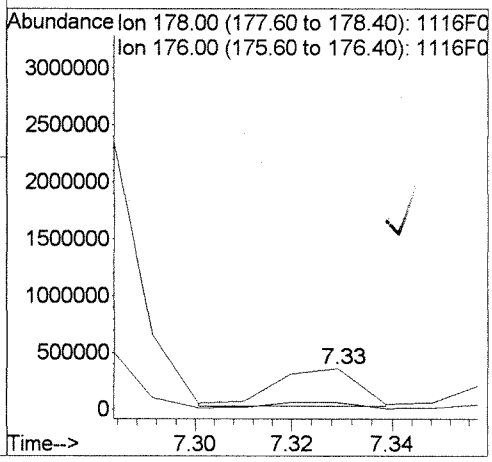
Ion	Ratio	Lower	Upper
178	100		
176	21.4	0.0	49.6

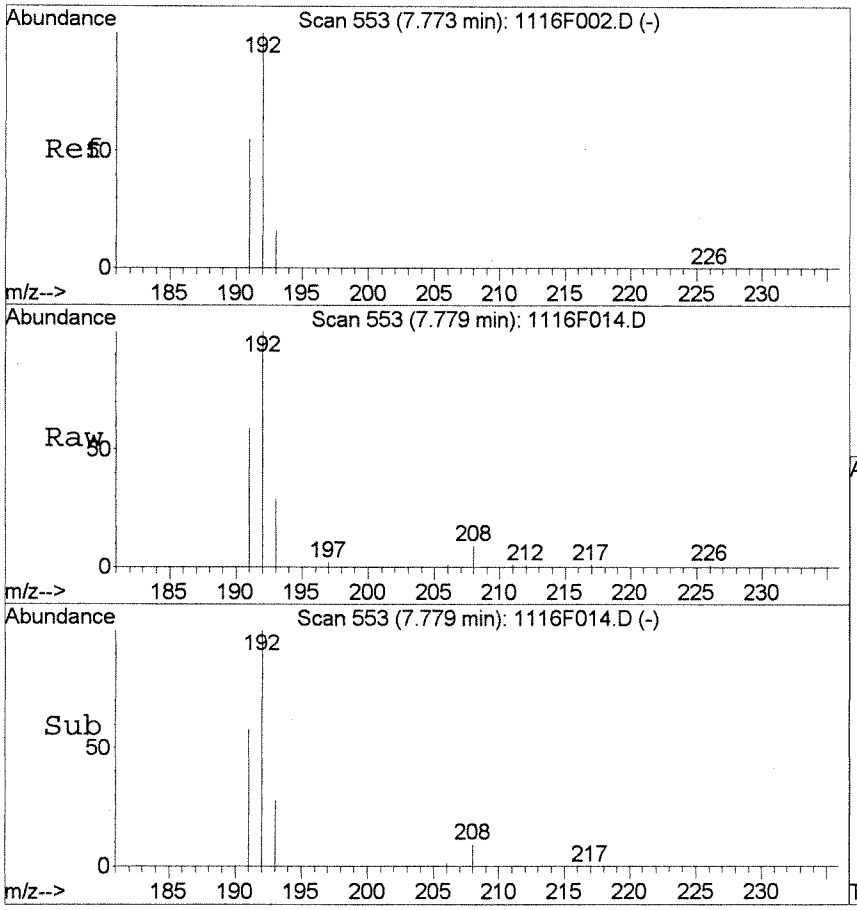




#28
Anthracene
Concen: 395.61 ng/ml m
RT: 7.33 min Scan# 498
Delta R.T. 0.01 min
Lab File: 1116F014.D
Acq: 16 Nov 2009 12:57 pm

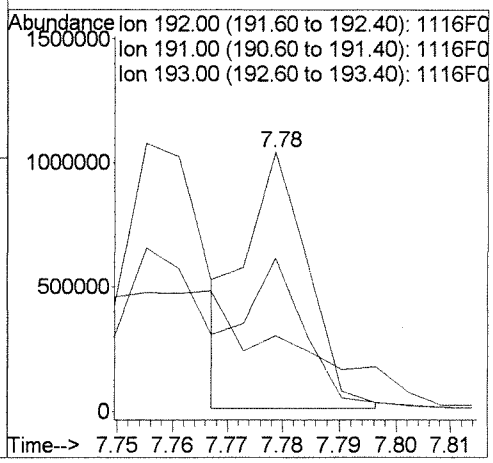
Tgt Ion:178	Resp:	385145	
Ion	Ratio	Lower	Upper
178	100		
176	17.0	0.0	47.6

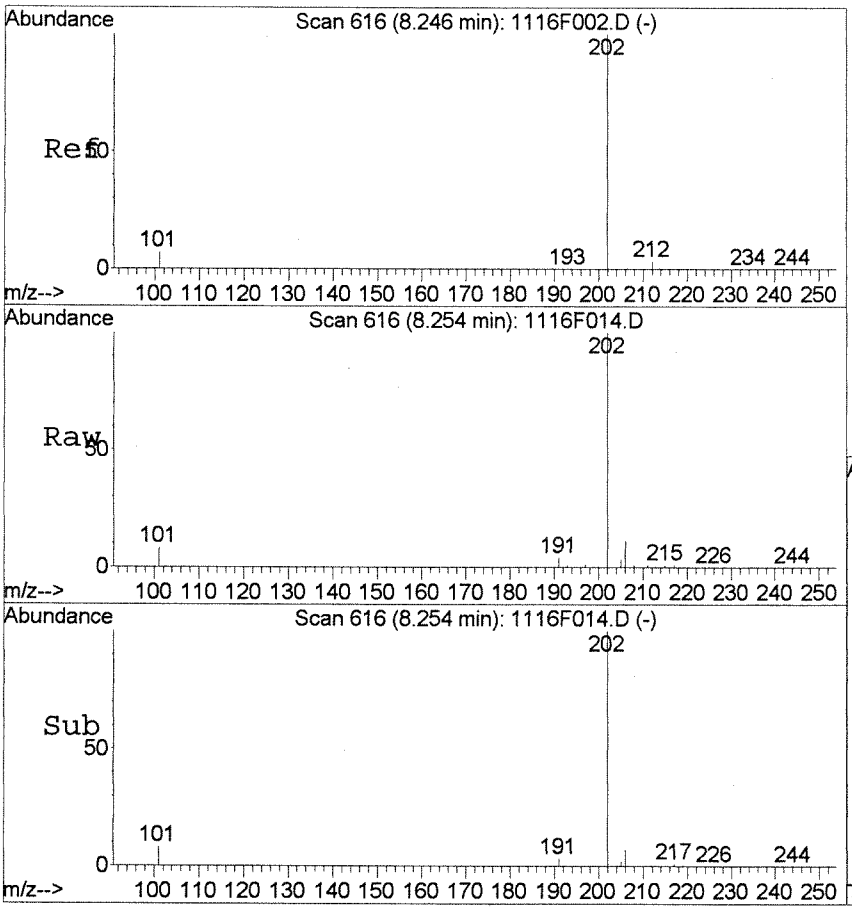




#30
1-Methylphenanthrene
Concen: 1091.21 ng/ml m
RT: 7.78 min Scan# 553
Delta R.T. 0.01 min
Lab File: 1116F014.D
Acq: 16 Nov 2009 12:57 pm

Tgt Ion:192	Resp:	795532	
Ion	Ratio	Lower	Upper
192	100		
191	58.9	23.0	83.0
193	29.1	0.0	47.0

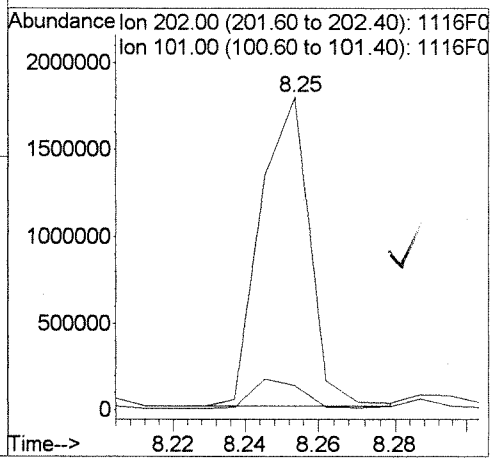


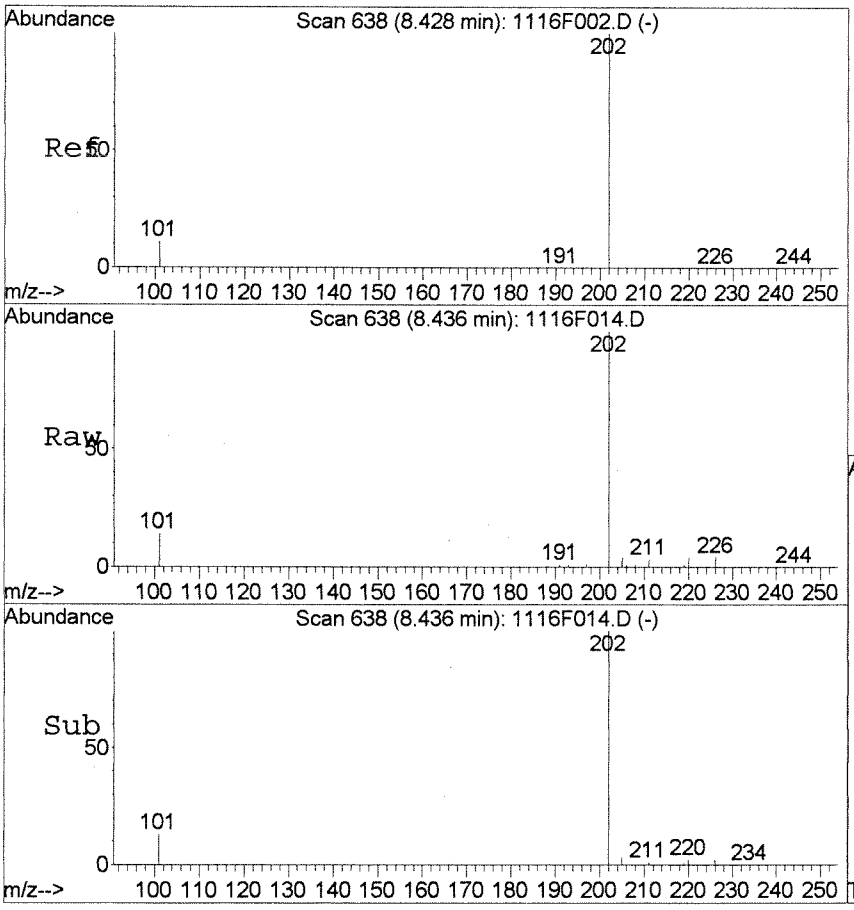


#35
Fluoranthene
Concen: 1487.51 ng/ml
RT: 8.25 min Scan# 616
Delta R.T. 0.01 min
Lab File: 1116F014.D
Acq: 16 Nov 2009 12:57 pm

Tgt Ion:202 Resp: 1663747

Ion	Ratio	Lower	Upper
202	100		
101	7.5	0.0	36.5

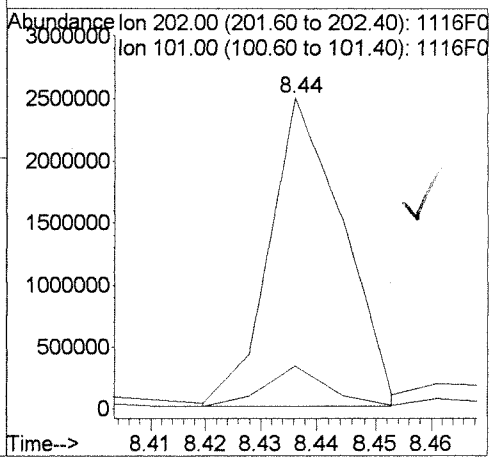


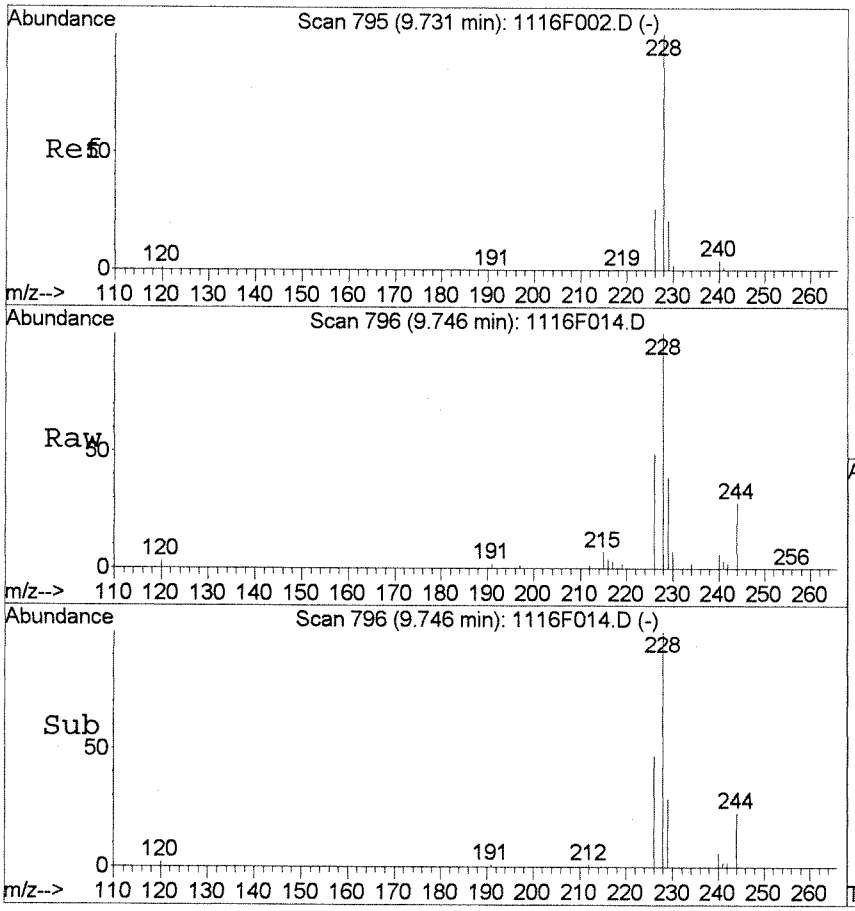


#38
Pyrene
Concen: 1489.64 ng/ml m
RT: 8.44 min Scan# 638
Delta R.T. 0.01 min
Lab File: 1116F014.D
Acq: 16 Nov 2009 12:57 pm

Tgt Ion:202 Resp: 2232720

Ion	Ratio	Lower	Upper
202	100		
101	13.8	0.0	36.4

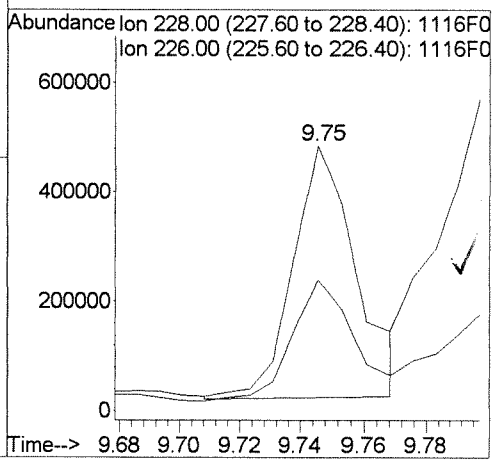


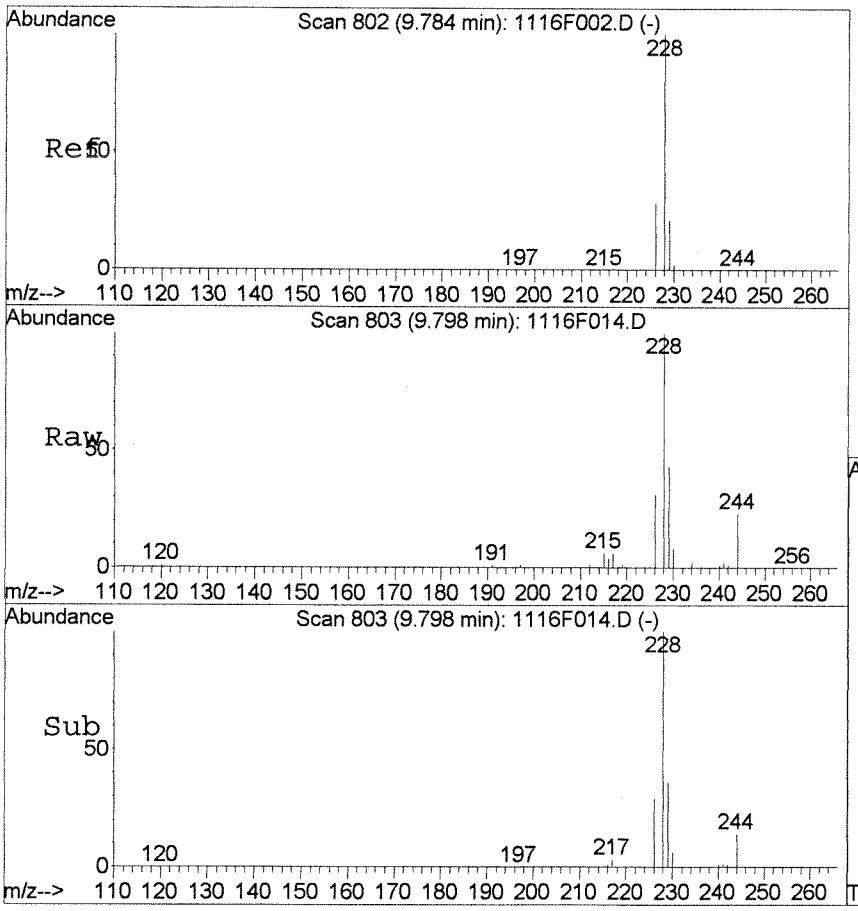


#43
Benz(a)anthracene
Concen: 430.70 ng/ml
RT: 9.75 min Scan# 796
Delta R.T. 0.01 min
Lab File: 1116F014.D
Acq: 16 Nov 2009 12:57 pm

Tgt Ion:228 Resp: 640762

Ion	Ratio	Lower	Upper
228	100		
226	48.2	0.0	55.9

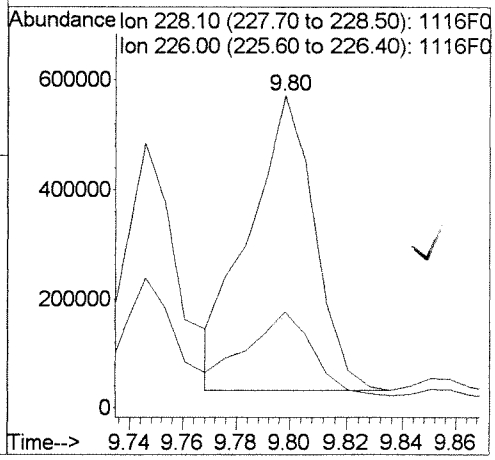


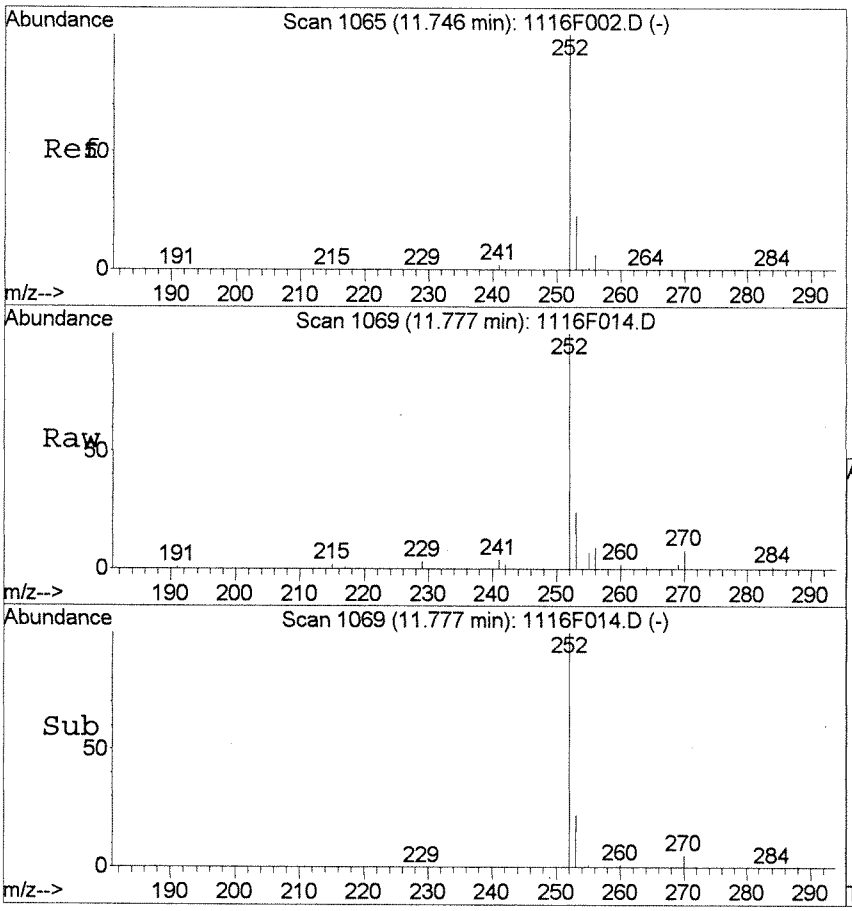


#44
Chrysene
Concen: 624.01 ng/ml
RT: 9.80 min Scan# 803
Delta R.T. 0.01 min
Lab File: 1116F014.D
Acq: 16 Nov 2009 12:57 pm

Tgt Ion:228 Resp: 904270

Ion	Ratio	Lower	Upper
228	100		
226	28.5	0.0	58.8

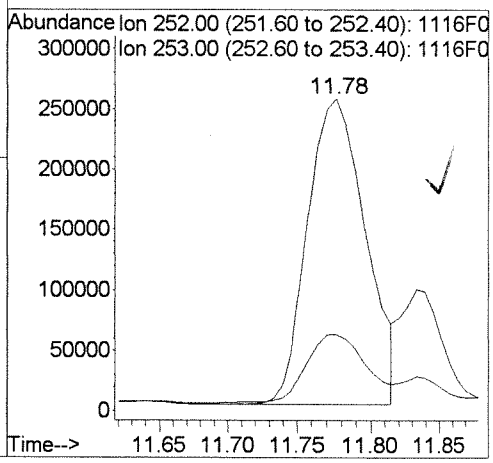


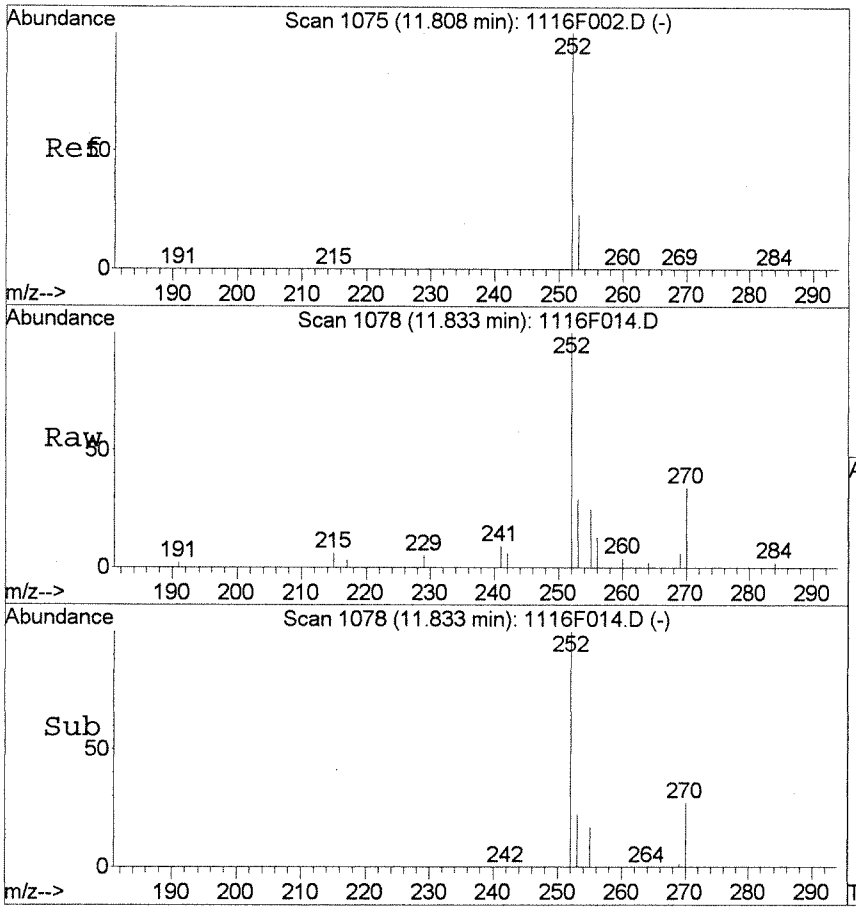


#50
Benzo(b)fluoranthene
Concen: 442.61 ng/ml
RT: 11.78 min Scan# 1069
Delta R.T. 0.03 min
Lab File: 1116F014.D
Acq: 16 Nov 2009 12:57 pm

Tgt Ion:252 Resp: 699561

Ion	Ratio	Lower	Upper
252	100		
253	22.5	0.0	52.8

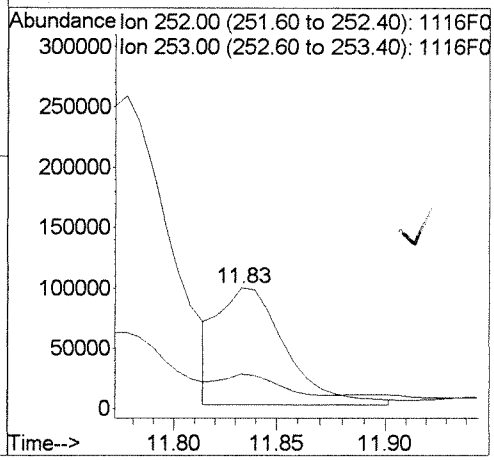


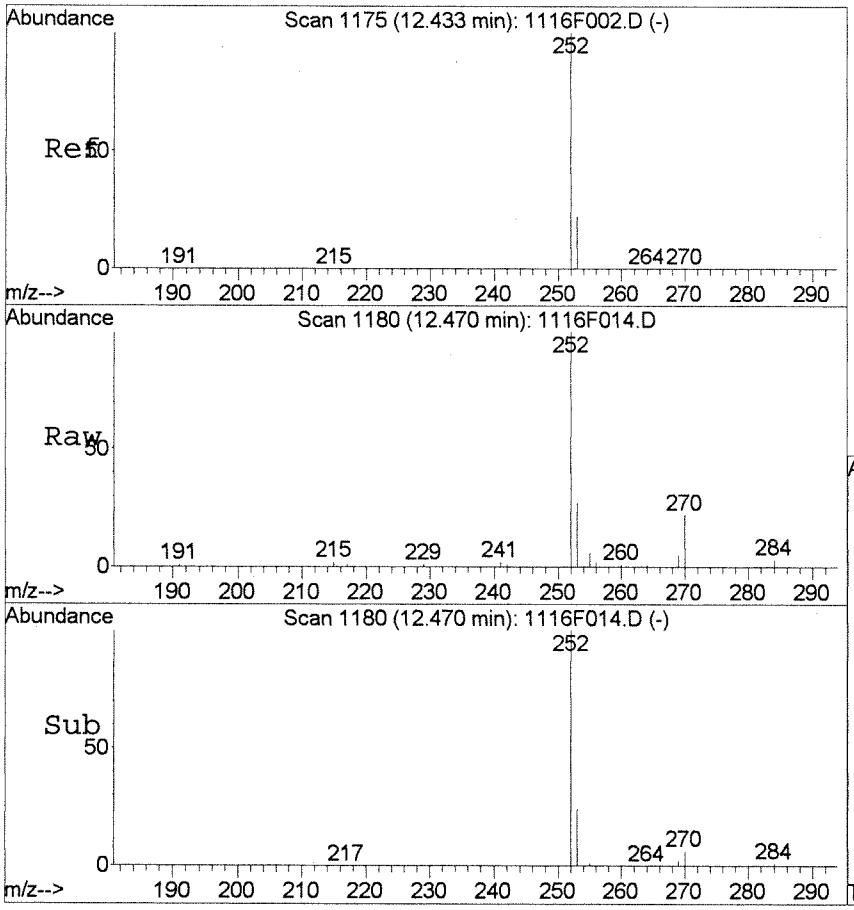


#51
Benzo(k)fluoranthene
Concen: 140.92 ng/ml m
RT: 11.83 min Scan# 1078
Delta R.T. 0.02 min
Lab File: 1116F014.D
Acq: 16 Nov 2009 12:57 pm

Tgt Ion:252 Resp: 219428

Ion	Ratio	Lower	Upper
252	100		
253	28.6	0.0	52.5

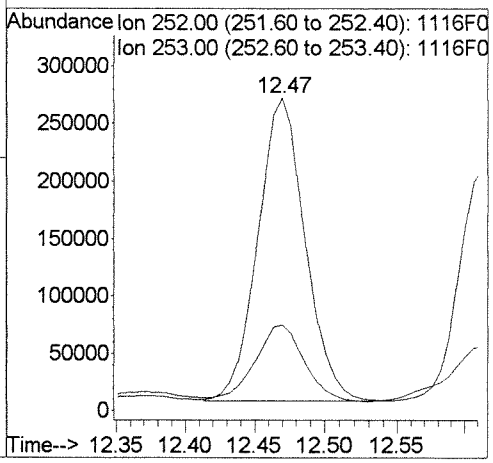


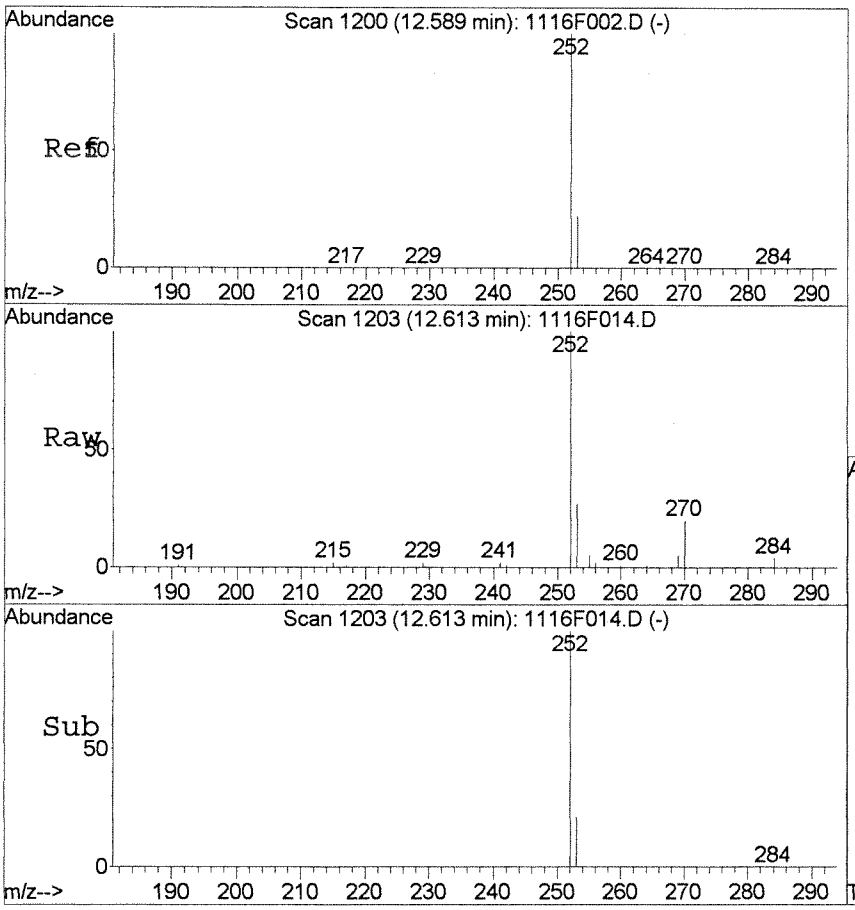


#52
Benzo(e)pyrene
Concen: 422.49 ng/ml
RT: 12.47 min Scan# 1180
Delta R.T. 0.03 min
Lab File: 1116F014.D
Acq: 16 Nov 2009 12:57 pm

Tgt Ion:252 Resp: 625343

Ion	Ratio	Lower	Upper
252	100		
253	24.6	0.0	52.3

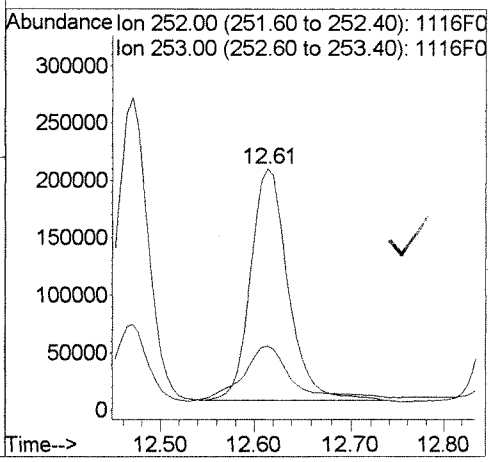


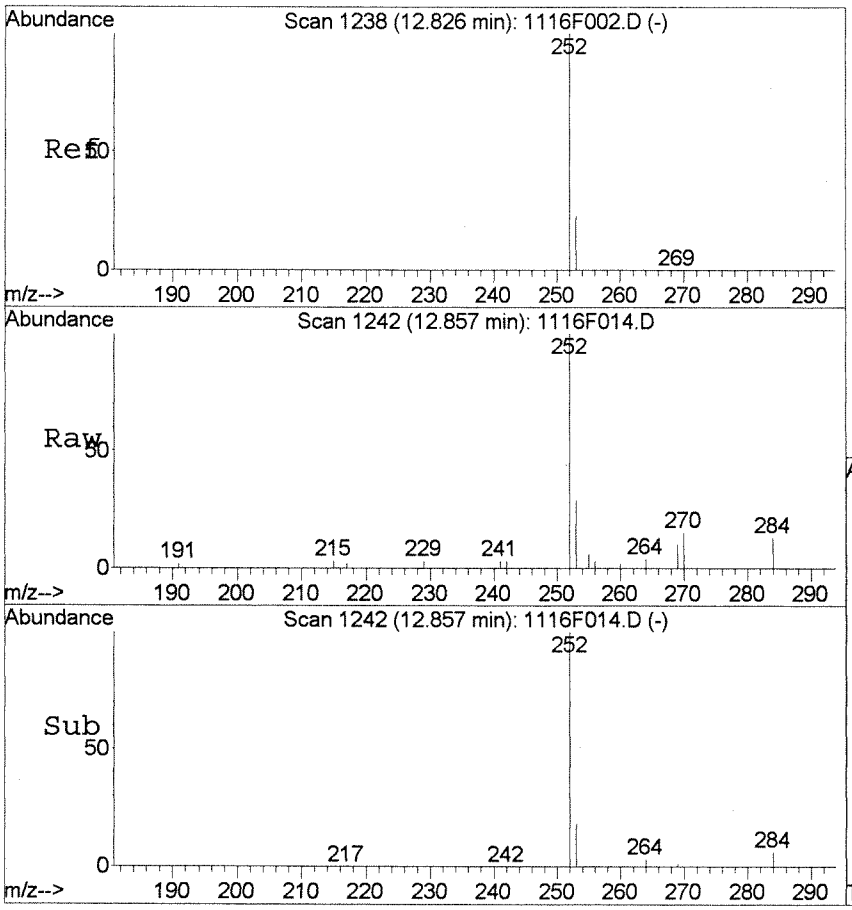


#53
Benzo(a)pyrene
Concen: 374.22 ng/ml
RT: 12.61 min Scan# 1203
Delta R.T. 0.02 min
Lab File: 1116F014.D
Acq: 16 Nov 2009 12:57 pm

Tgt Ion:252 Resp: 560170

Ion	Ratio	Lower	Upper
252	100		
253	22.9	0.0	52.6

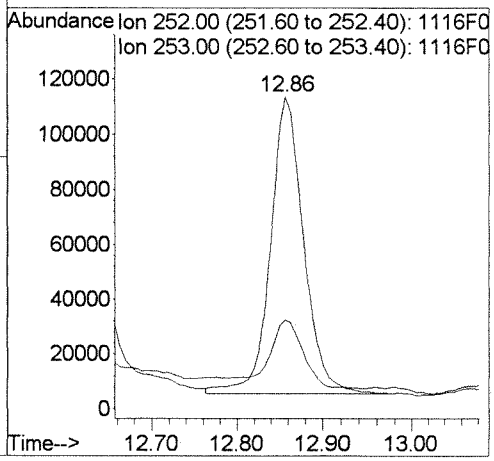


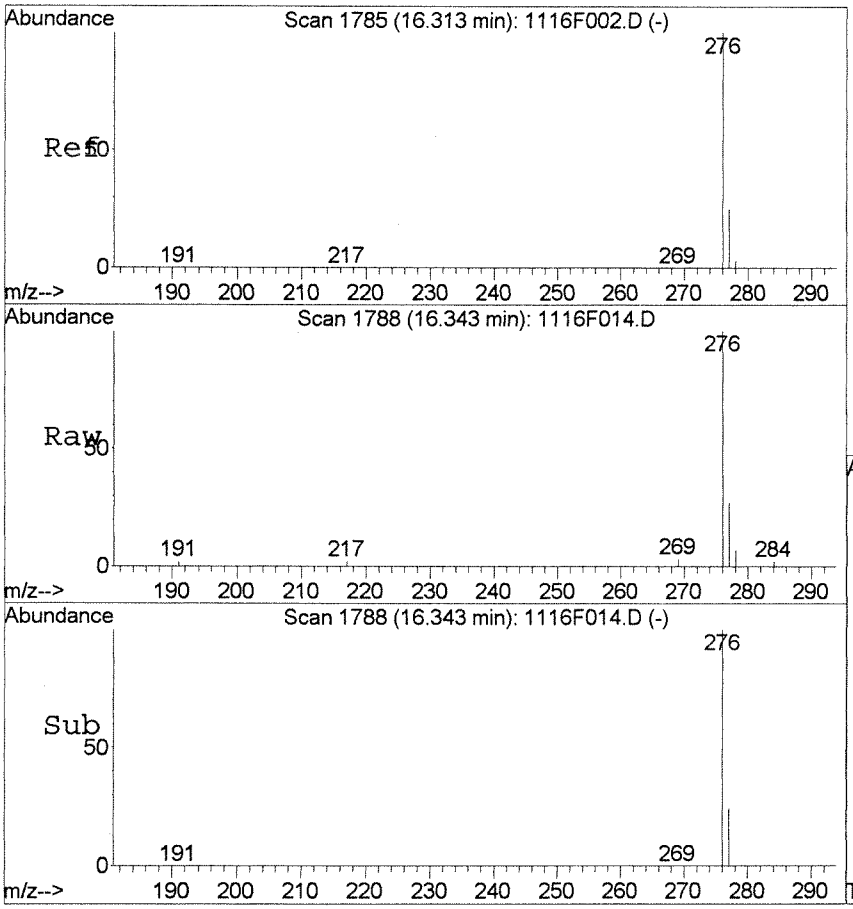


#54
Perylene
Concen: 199.64 ng/ml
RT: 12.86 min Scan# 1242
Delta R.T. 0.03 min
Lab File: 1116F014.D
Acq: 16 Nov 2009 12:57 pm

Tgt Ion:252 Resp: 292942

Ion	Ratio	Lower	Upper
252	100		
253	22.7	0.0	52.0

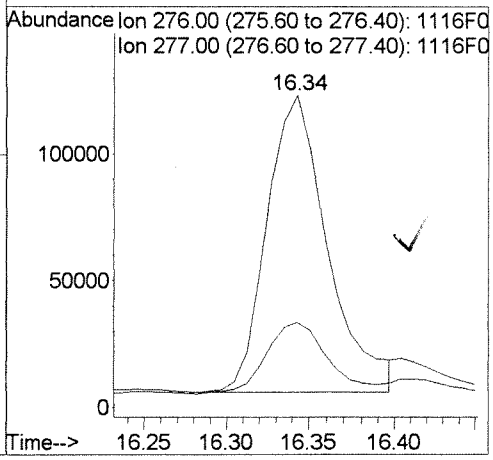


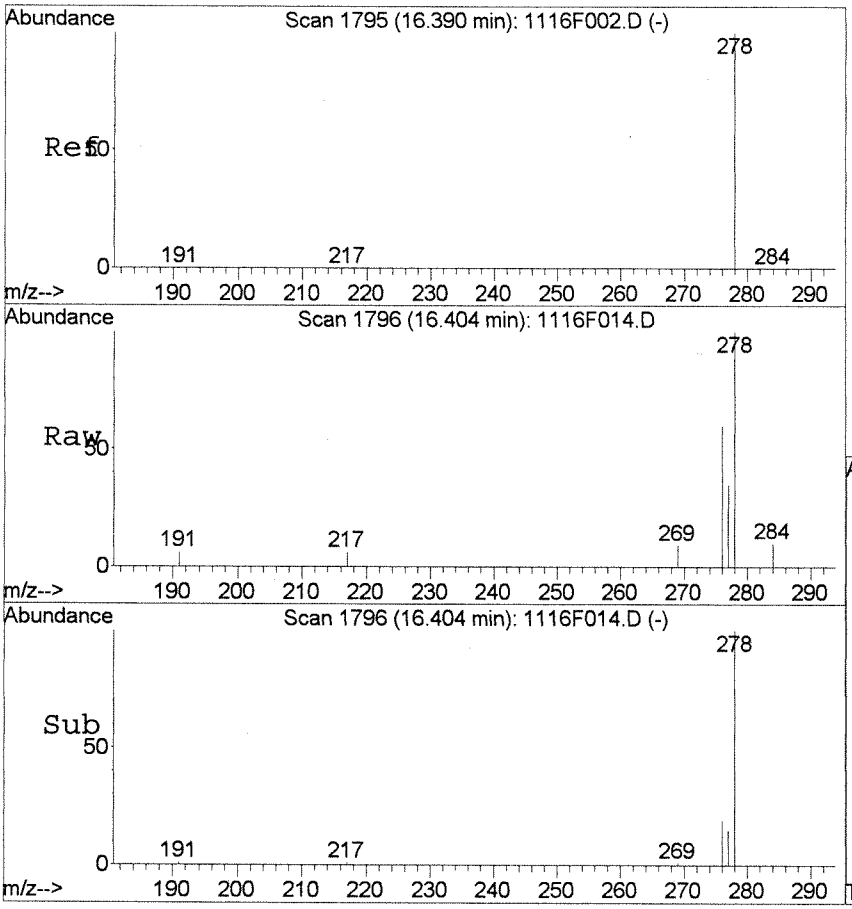


#55
Indeno(1,2,3-cd)pyrene
Concen: 214.67 ng/ml m
RT: 16.34 min Scan# 1788
Delta R.T. 0.03 min
Lab File: 1116F014.D
Acq: 16 Nov 2009 12:57 pm

Tgt Ion:276 Resp: 294798

Ion	Ratio	Lower	Upper
276	100		
277	27.2	0.0	55.1

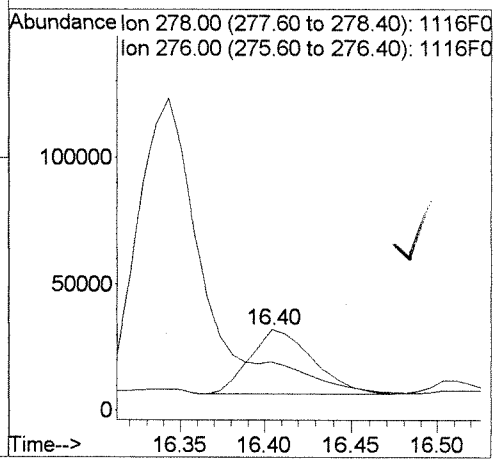


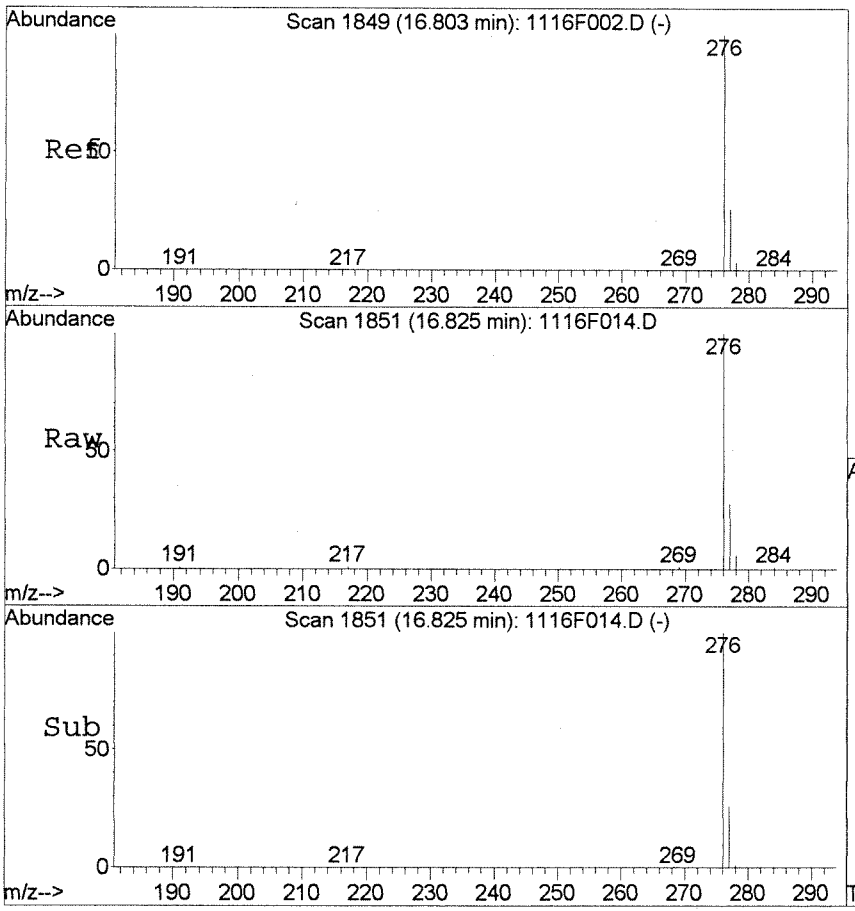


#56
Dibenz(a,h)anthracene
Concen: 44.32 ng/ml
RT: 16.40 min Scan# 1796
Delta R.T. 0.01 min
Lab File: 1116F014.D
Acq: 16 Nov 2009 12:57 pm

Tgt Ion:278 Resp: 65576

Ion	Ratio	Lower	Upper
278	100		
276	47.2	0.0	52.1

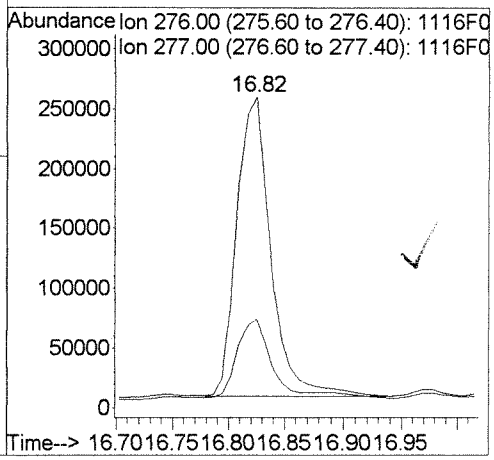




#57
Benzo(g,h,i)perylene
Concen: 331.94 ng/ml
RT: 16.82 min Scan# 1851
Delta R.T. 0.03 min
Lab File: 1116F014.D
Acq: 16 Nov 2009 12:57 pm

Tgt Ion:276 Resp: 525027

Ion	Ratio	Lower	Upper
276	100		
277	26.2	0.0	55.7



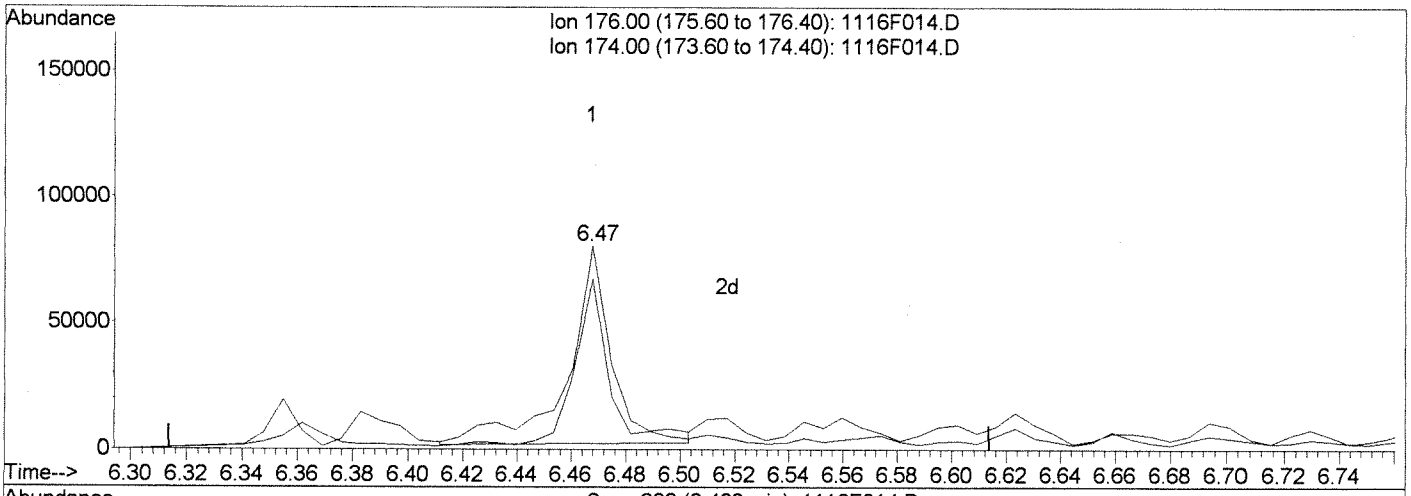
Quantitation Report (Qedit)

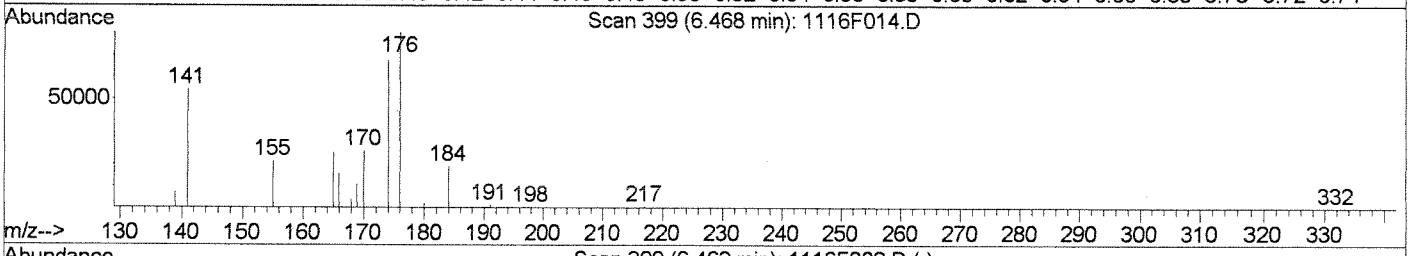
Data File : J:\MS11\DATA\111609\1116F014.D
Acq On : 16 Nov 2009 12:57 pm
Sample : K0909140-006
Misc :
MS Integration Params: RTEINT.P
Quant Time: Nov 18 7:45 2009

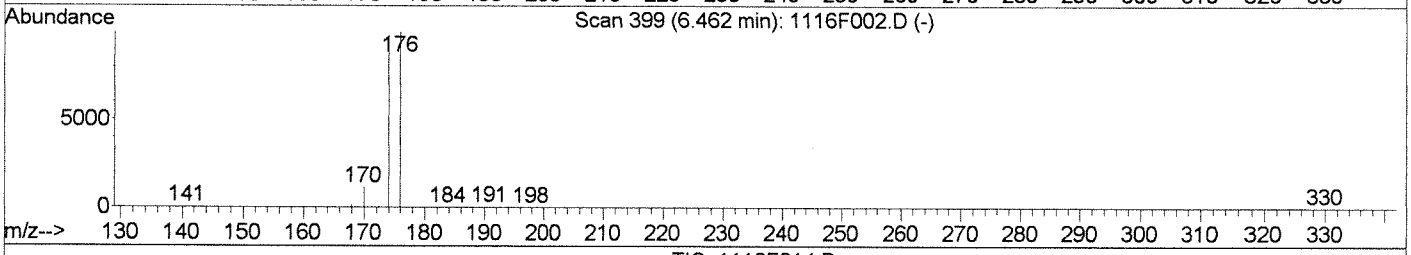
Vial: 12
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Tue Nov 17 11:03:16 2009
Response via : Multiple Level Calibration







TIC: 1116F014.D

(15) Fluorene-d10 (S)

6.47min 183.88ng/ml

response 89225

Ion	Exp%	Act%
176.00	100	100
174.00	85.50	84.99
0.00	0.00	0.00
0.00	0.00	0.00

1116F014.D 1015ALK.M Wed Nov 18 08:04:52 2009

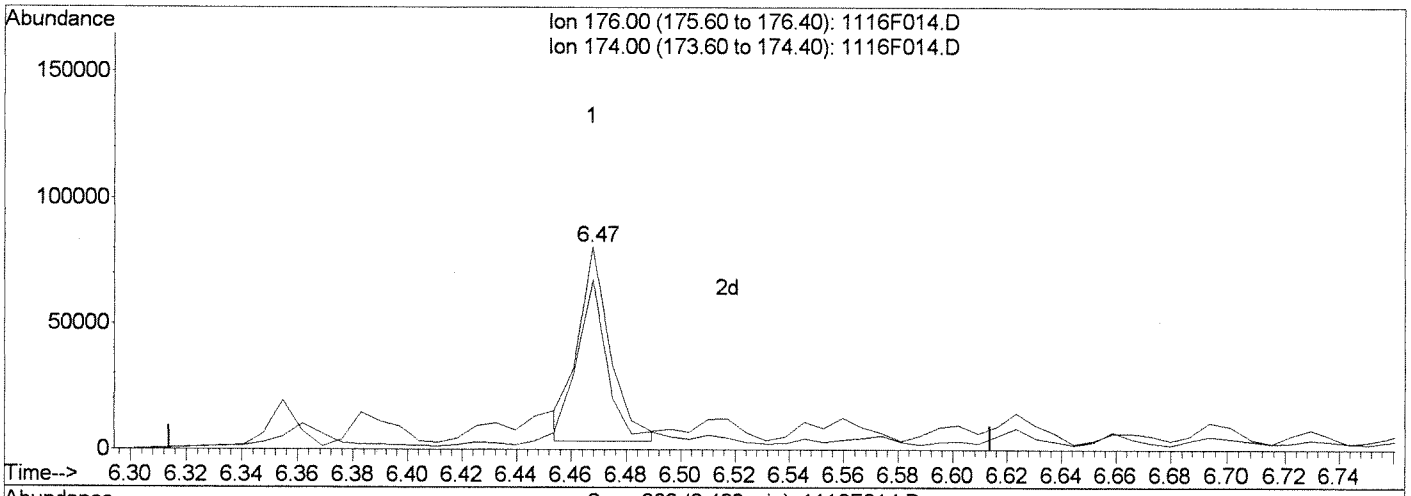
Quantitation Report (Qedit)

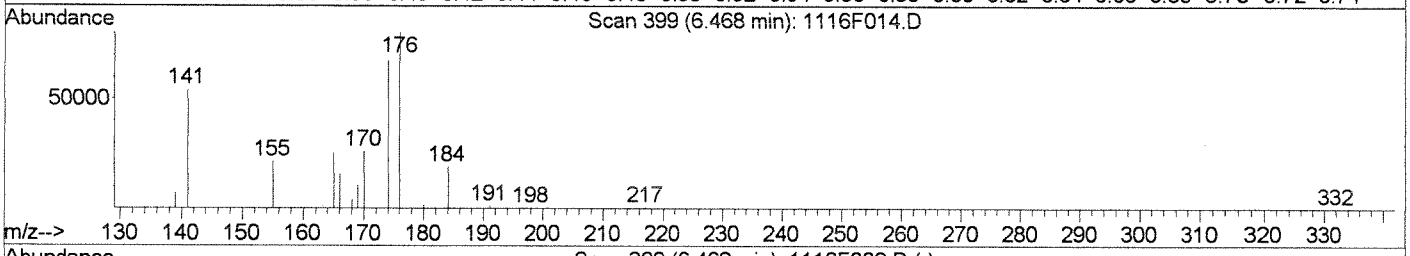
Data File : J:\MS11\DATA\111609\1116F014.D
Acq On : 16 Nov 2009 12:57 pm
Sample : K0909140-006
Misc :
MS Integration Params: RTEINT.P
Quant Time: Nov 18 8:04 2009

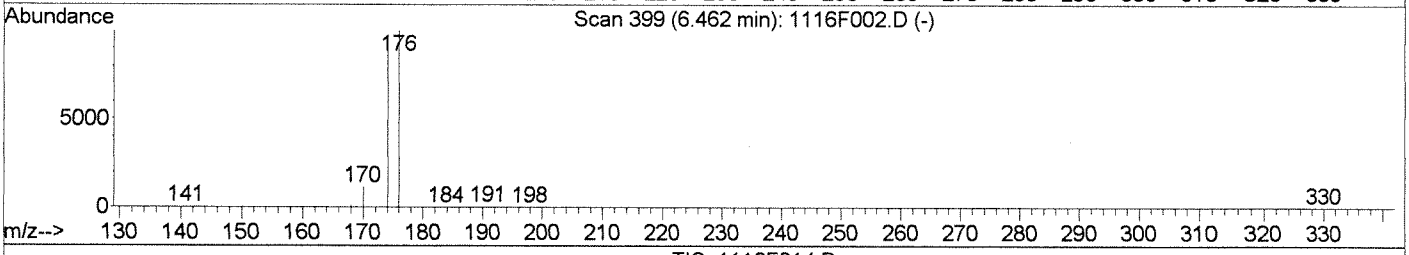
Vial: 12
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Tue Nov 17 11:03:16 2009
Response via : Multiple Level Calibration







TIC: 1116F014.D

(15) Fluorene-d10 (S)

6.47min 128.75ng/ml m

response 62474

Ion	Exp%	Act%
176.00	100	100
174.00	85.50	83.72
0.00	0.00	0.00
0.00	0.00	0.00

DT 11/18/09

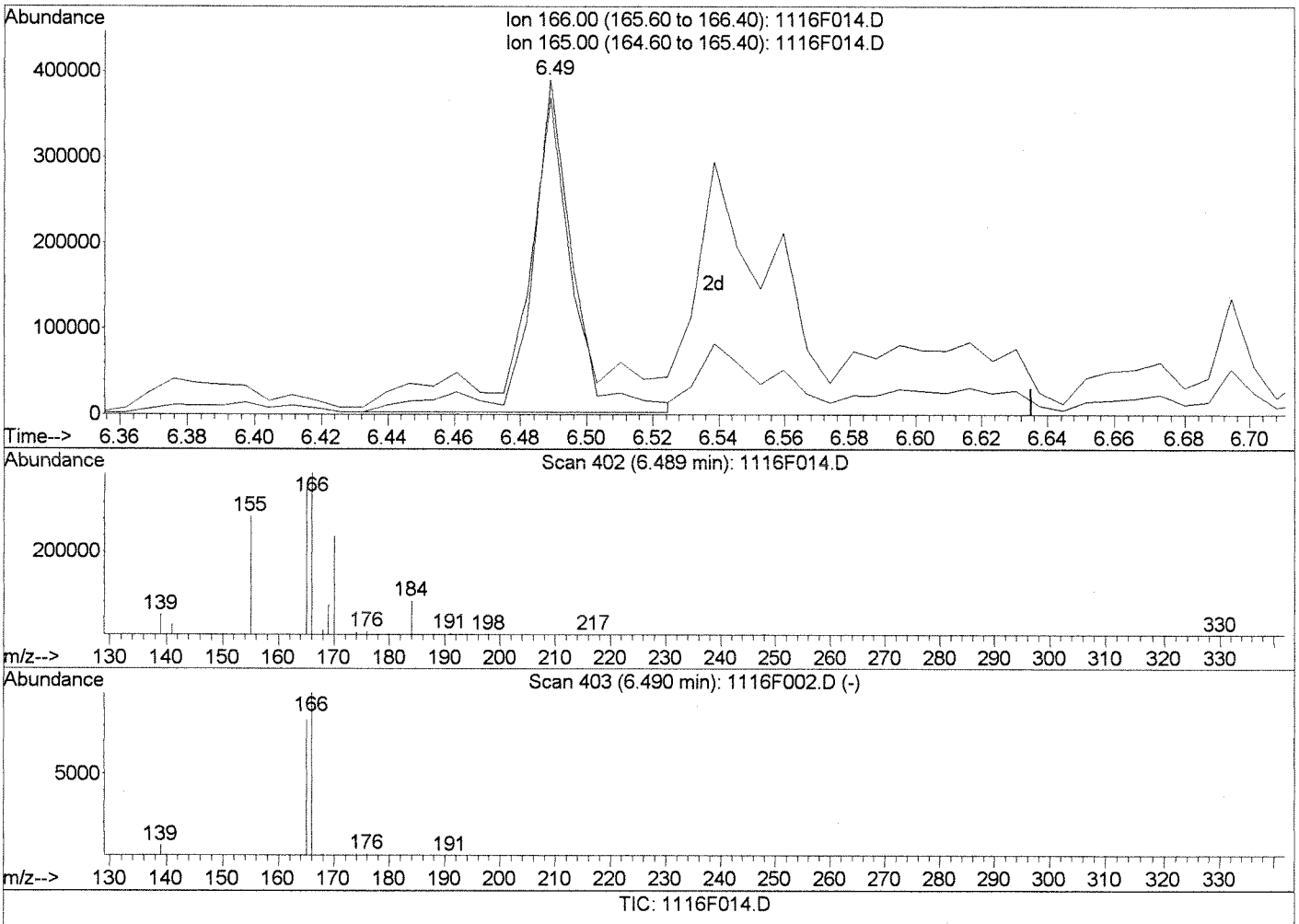
LB 11/18/09

1116F014.D 1015ALK.M Wed Nov 18 08:04:57 2009

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\111609\1116F014.D Vial: 12
Acq On : 16 Nov 2009 12:57 pm Operator: LWeiskopf
Sample : K0909140-006 Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 18 8:04 2009 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Tue Nov 17 11:03:16 2009
Response via : Multiple Level Calibration



TIC: 1116F014.D

(16) Fluorene (T)

6.49min 585.53ng/ml

response 339692

Ion	Exp%	Act%
166.00	100	100
165.00	87.80	93.08
0.00	0.00	0.00
0.00	0.00	0.00

1116F014.D 1015ALK.M Wed Nov 18 08:05:01 2009

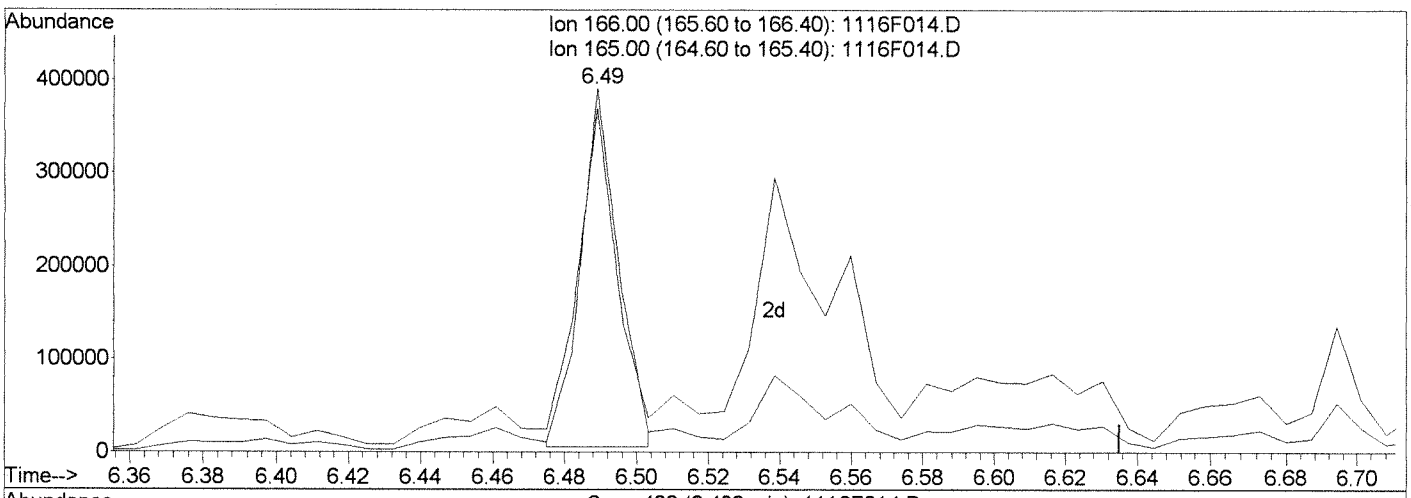
Quantitation Report (Qedit)

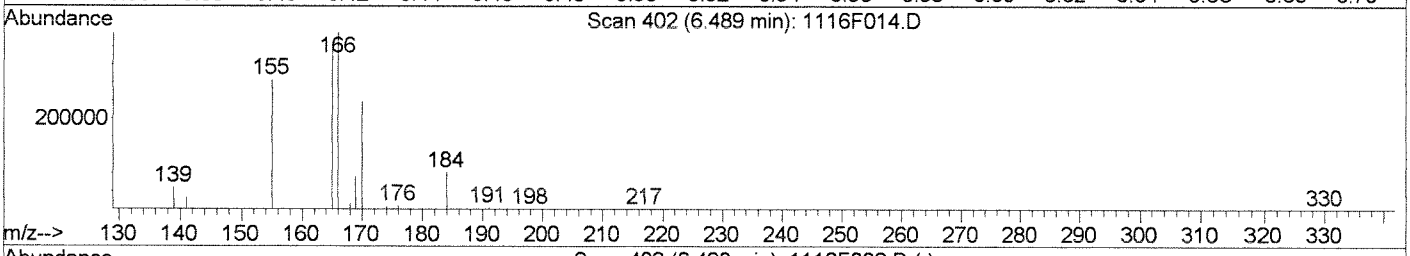
Data File : J:\MS11\DATA\111609\1116F014.D
Acq On : 16 Nov 2009 12:57 pm
Sample : K0909140-006
Misc :
MS Integration Params: RTEINT.P
Quant Time: Nov 18 8:05 2009

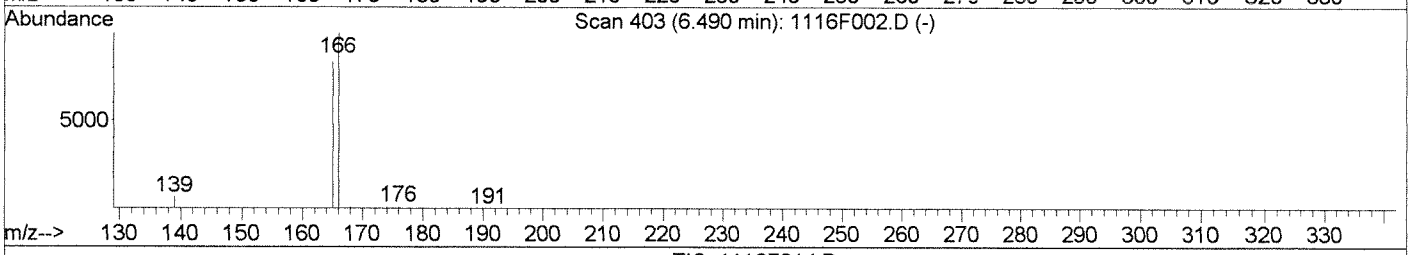
Vial: 12
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Tue Nov 17 11:03:16 2009
Response via : Multiple Level Calibration







TIC: 1116F014.D

(16) Fluorene (T)

6.49min 485.37ng/ml m

response 281583

Ion	Exp%	Act%
166.00	100	100
165.00	87.80	94.51
0.00	0.00	0.00
0.00	0.00	0.00

OI 11/18/09

LB 11/18/09

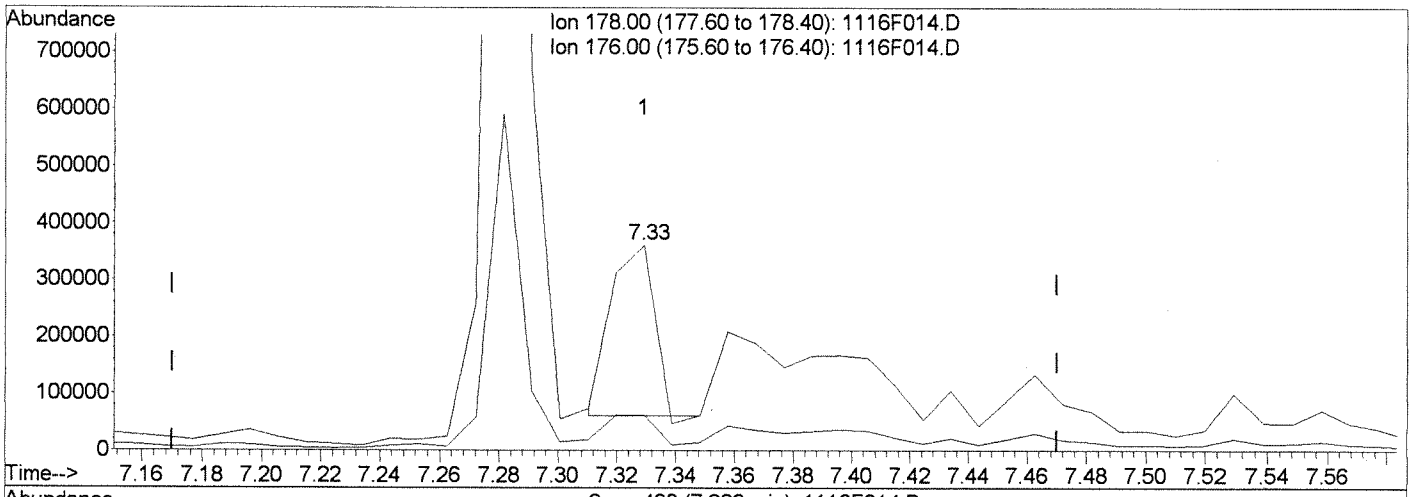
1116F014.D 1015ALK.M Wed Nov 18 08:05:05 2009

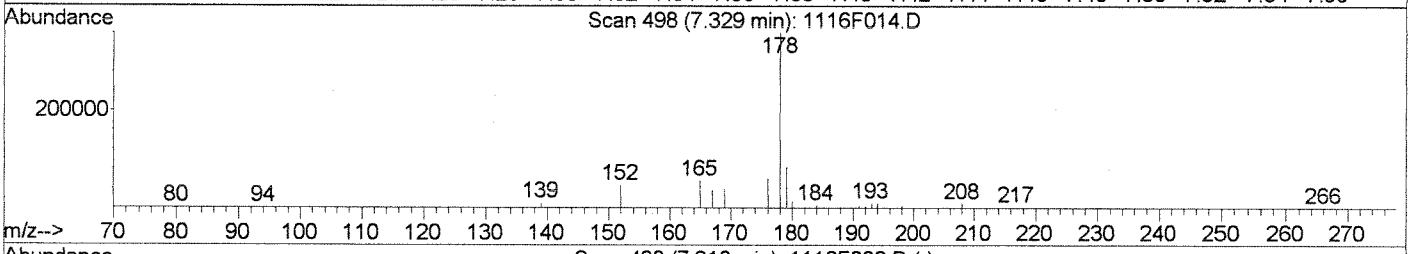
Quantitation Report (Qedit)

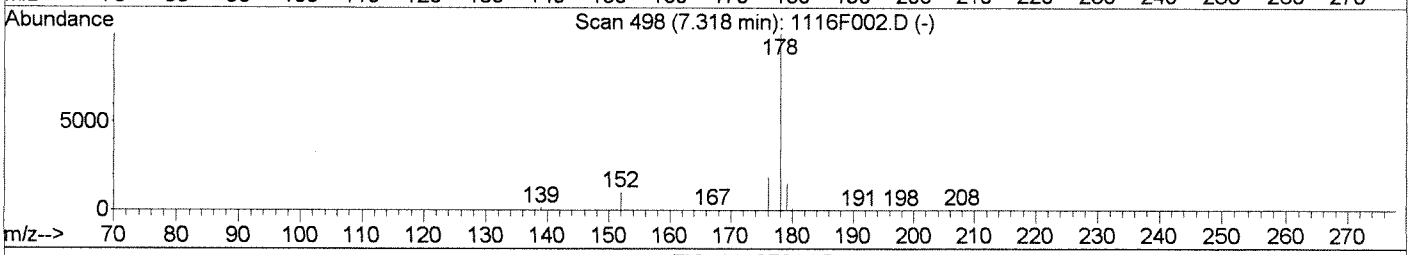
Data File : J:\MS11\DATA\111609\1116F014.D
Acq On : 16 Nov 2009 12:57 pm
Sample : K0909140-006
Misc :
MS Integration Params: RTEINT.P
Quant Time: Nov 18 8:05 2009

Vial: 12
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Tue Nov 17 11:03:16 2009
Response via : Multiple Level Calibration







TIC: 1116F014.D

(28) Anthracene (T)

7.33min 315.29ng/ml

response 306947

Ion	Exp%	Act%
178.00	100	100
176.00	17.60	15.87
0.00	0.00	0.00
0.00	0.00	0.00

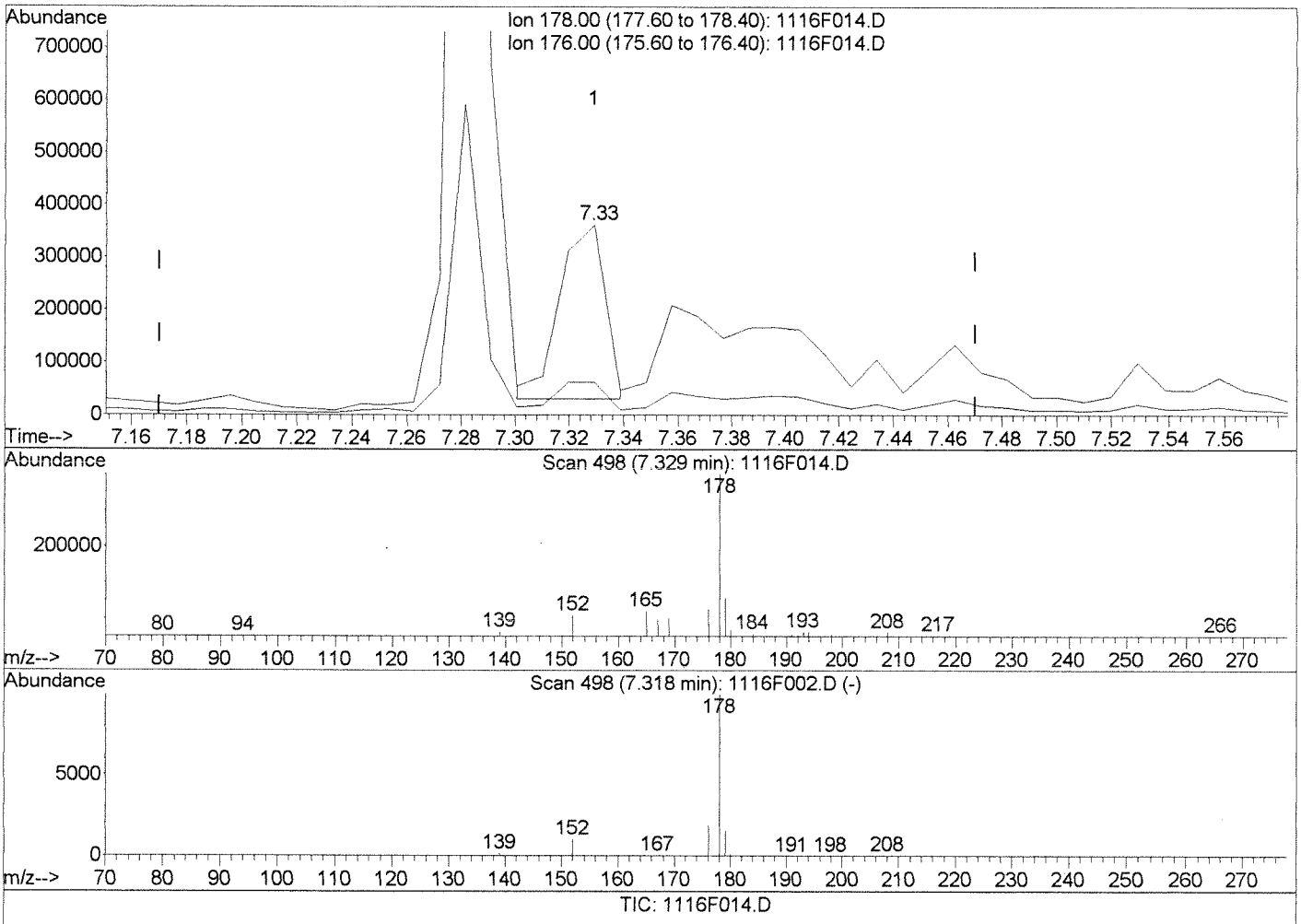
1116F014.D 1015ALK.M Wed Nov 18 08:05:18 2009

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\111609\1116F014.D
Acq On : 16 Nov 2009 12:57 pm
Sample : K0909140-006
Misc :
MS Integration Params: RTEINT.P
Quant Time: Nov 18 8:05 2009

Vial: 12
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Tue Nov 17 11:03:16 2009
Response via : Multiple Level Calibration



TIC: 1116F014.D

(28) Anthracene (T)

7.33min 395.61ng/ml m

response 385145

Ion	Exp%	Act%
178.00	100	100
176.00	17.60	17.04
0.00	0.00	0.00
0.00	0.00	0.00

IC 11/18/09

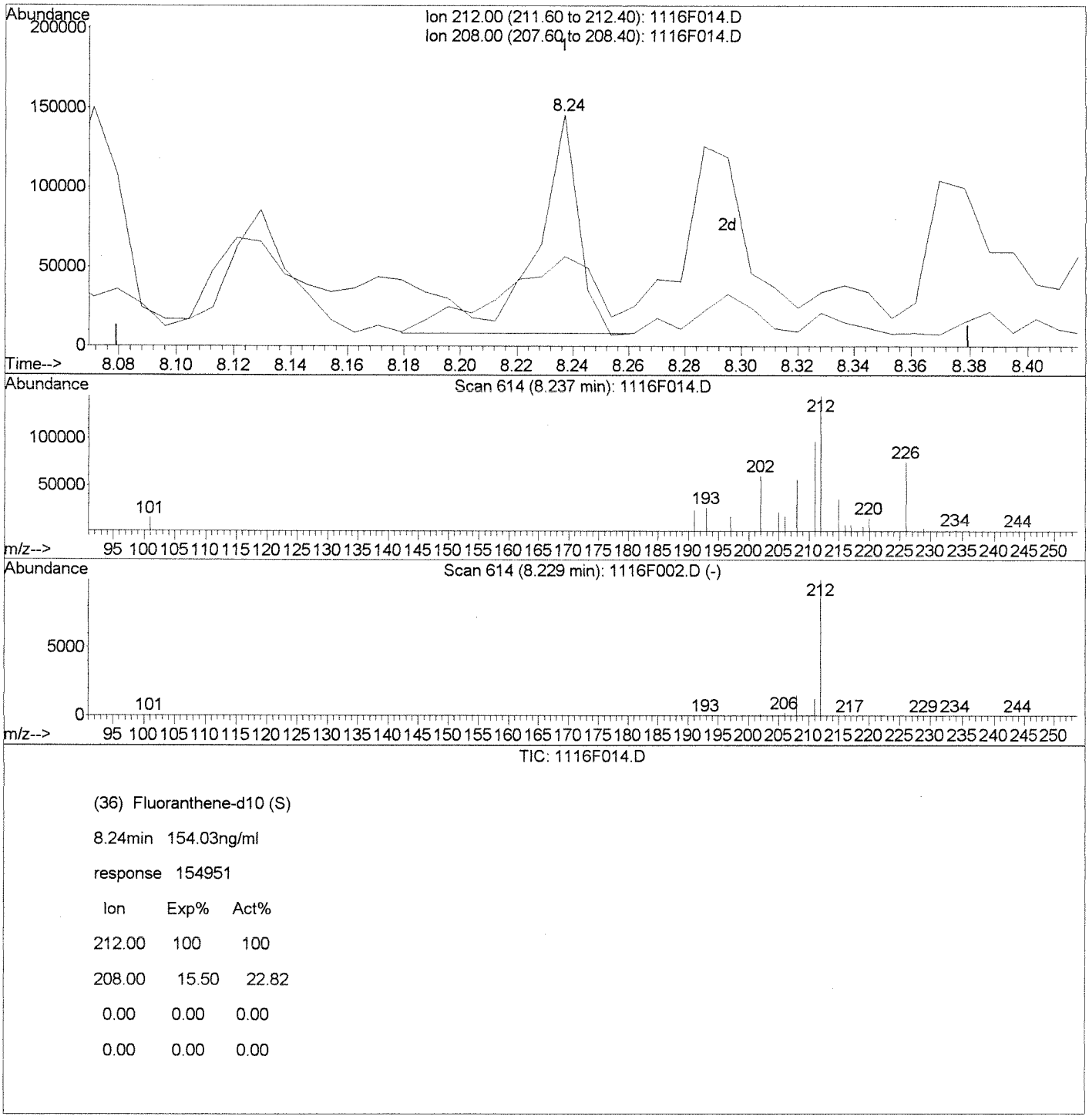
1116F014.D 1015ALK.M Wed Nov 18 08:05:23 2009

LB 11/18/09

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\111609\1116F014.D Vial: 12
Acq On : 16 Nov 2009 12:57 pm Operator: LWeiskopf
Sample : K0909140-006 Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 18 8:05 2009 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Tue Nov 17 11:03:16 2009
Response via : Multiple Level Calibration



TIC: 1116F014.D

(36) Fluoranthene-d10 (S)

8.24min 154.03ng/ml

response 154951

Ion	Exp%	Act%
212.00	100	100
208.00	15.50	22.82
0.00	0.00	0.00
0.00	0.00	0.00

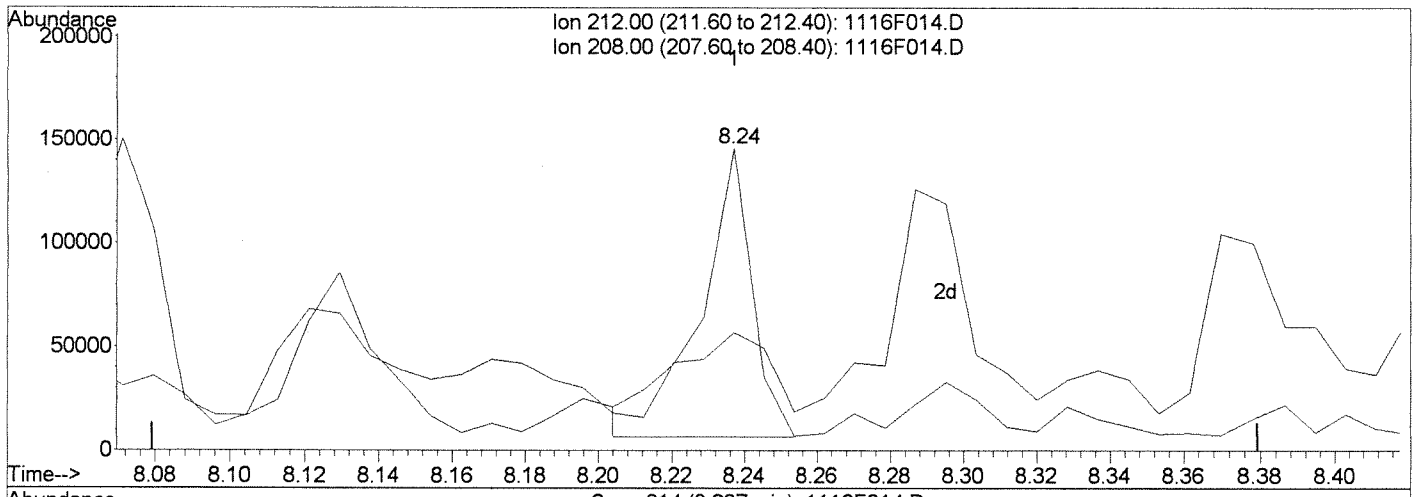
1116F014.D 1015ALK.M Wed Nov 18 08:05:38 2009

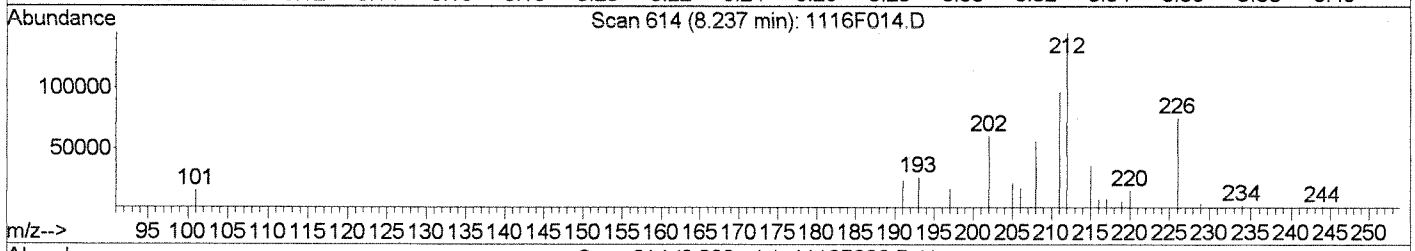
Quantitation Report (Qedit)

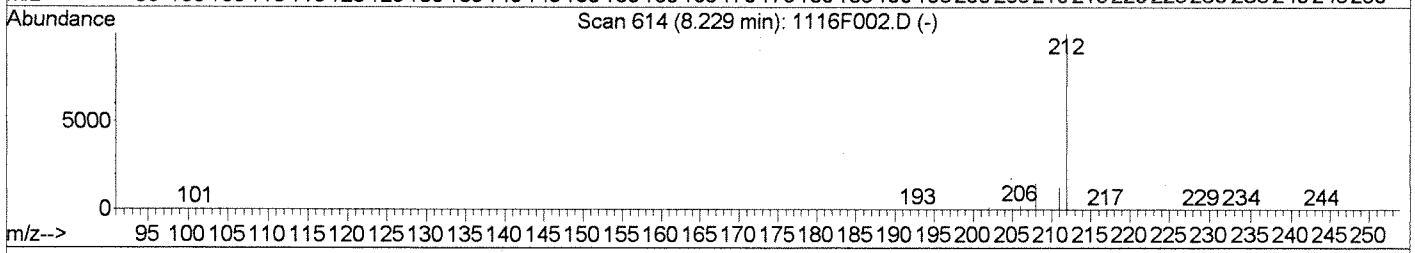
Data File : J:\MS11\DATA\111609\1116F014.D
Acq On : 16 Nov 2009 12:57 pm
Sample : K0909140-006
Misc :
MS Integration Params: RTEINT.P
Quant Time: Nov 18 8:05 2009

Vial: 12
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Tue Nov 17 11:03:16 2009
Response via : Multiple Level Calibration







TIC: 1116F014.D

(36) Fluoranthene-d10 (S)

8.24min 139.85ng/ml m

response 140691

Ion	Exp%	Act%
212.00	100	100
208.00	15.50	38.87
0.00	0.00	0.00
0.00	0.00	0.00

11/18/09

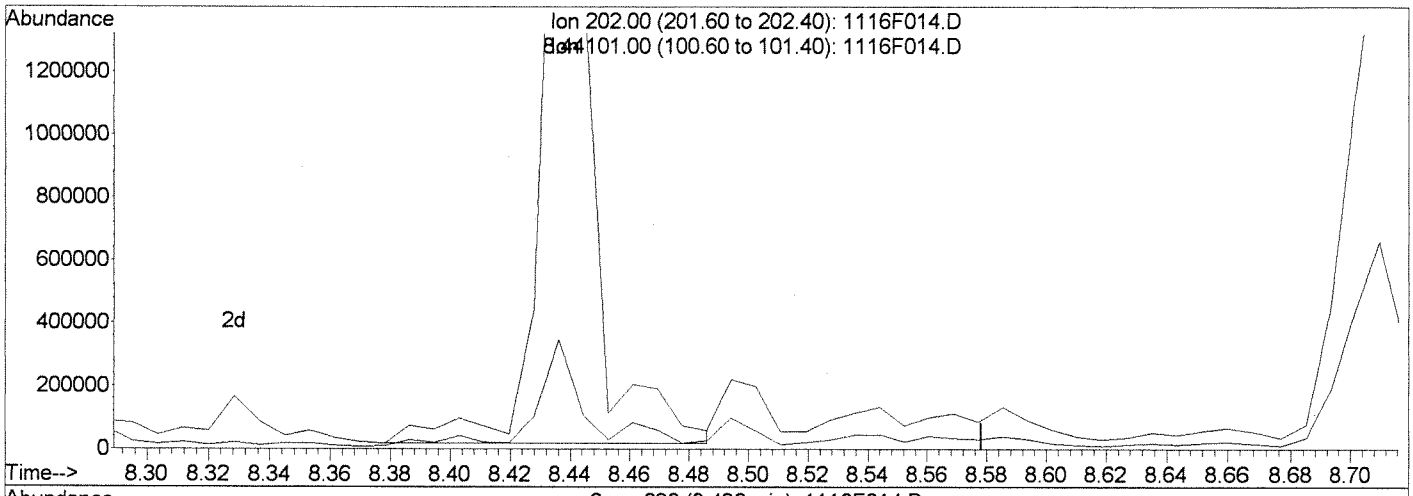
1116F014.D 1015ALK.M Wed Nov 18 08:05:46 2009

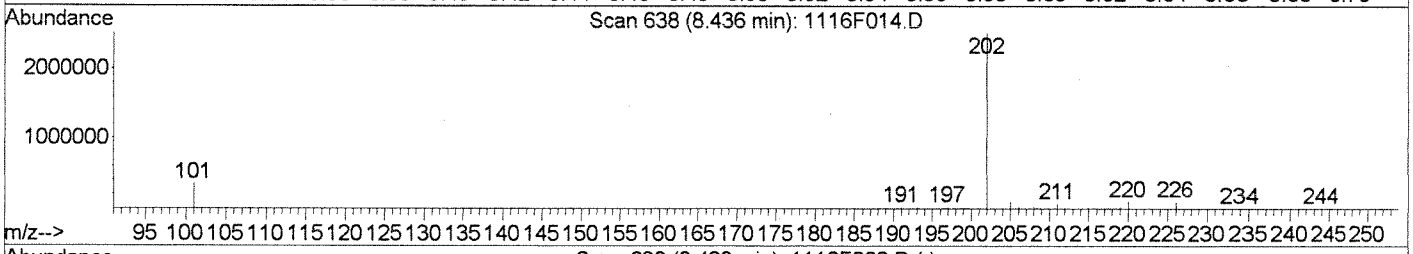
11/18/09

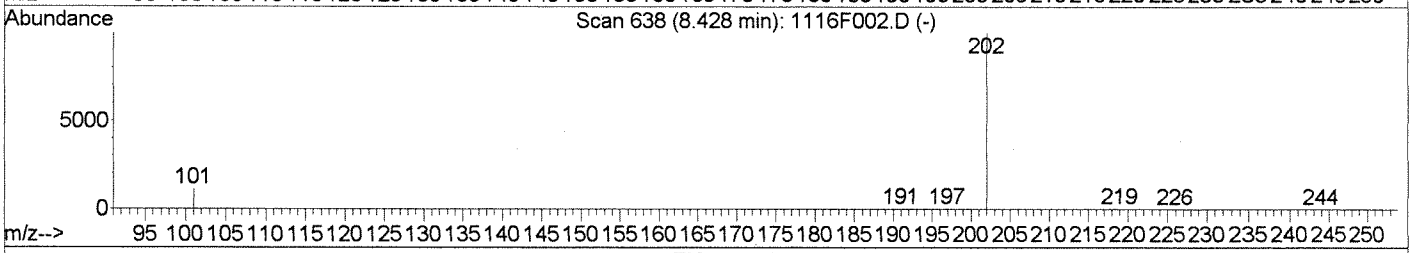
Quantitation Report (Qedit)

Data File : J:\MS11\DATA\111609\1116F014.D Vial: 12
Acq On : 16 Nov 2009 12:57 pm Operator: LWeiskopf
Sample : K0909140-006 Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 18 8:05 2009 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Tue Nov 17 11:03:16 2009
Response via : Multiple Level Calibration







TIC: 1116F014.D

(38) Pyrene (T)

8.44min 1732.37ng/ml

response 2596545

Ion	Exp%	Act%
202.00	100	100
101.00	6.40	13.54
0.00	0.00	0.00
0.00	0.00	0.00

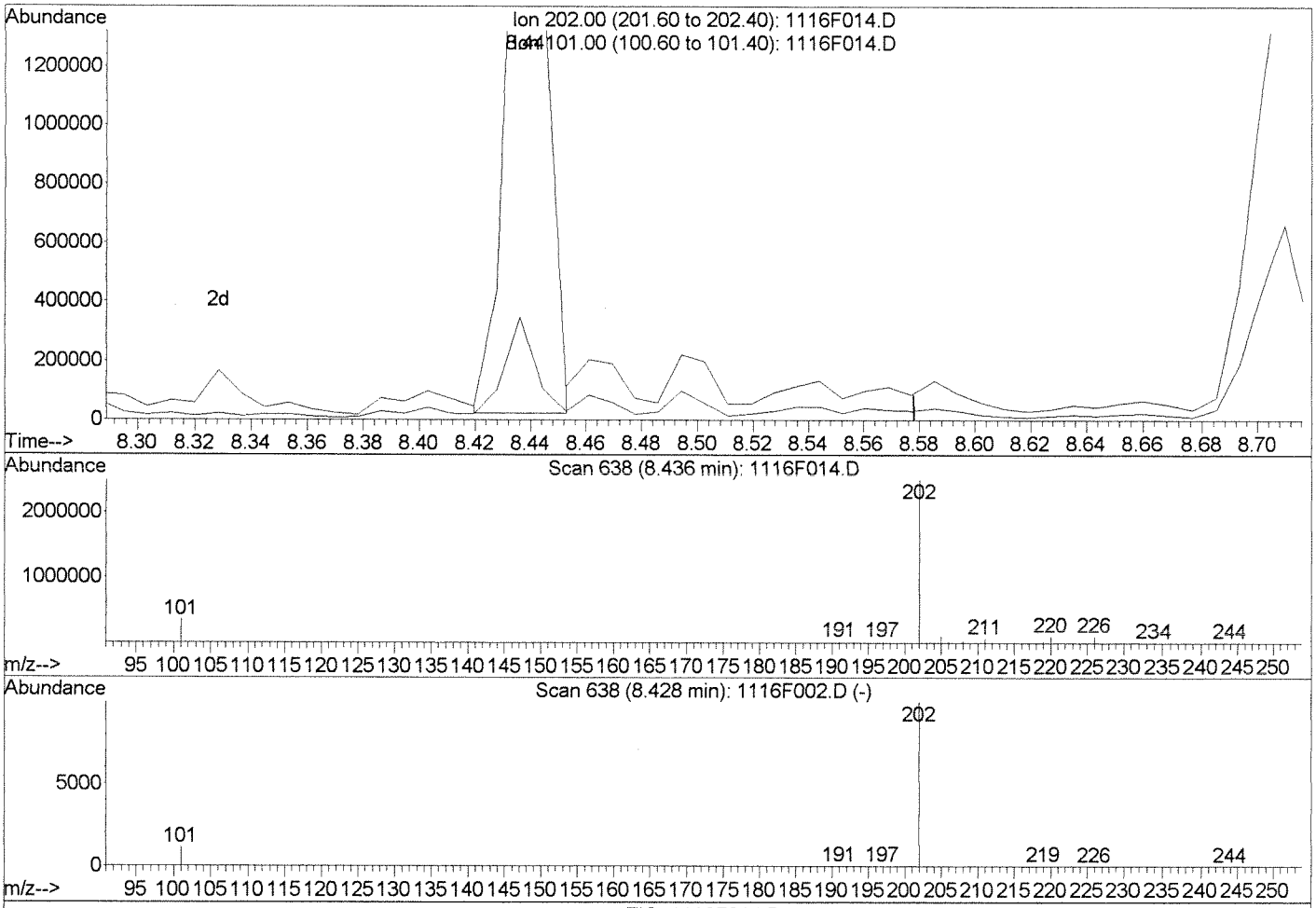
1116F014.D 1015ALK.M Wed Nov 18 08:05:50 2009

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\111609\1116F014.D
Acq On : 16 Nov 2009 12:57 pm
Sample : K0909140-006
Misc :
MS Integration Params: RTEINT.P
Quant Time: Nov 18 8:05 2009

Vial: 12
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Tue Nov 17 11:03:16 2009
Response via : Multiple Level Calibration



TIC: 1116F014.D

(38) Pyrene (T)

8.44min 1489.64ng/ml m

response 2232720

Ion	Exp%	Act%
202.00	100	100
101.00	6.40	13.84
0.00	0.00	0.00
0.00	0.00	0.00

DI 11/18/09

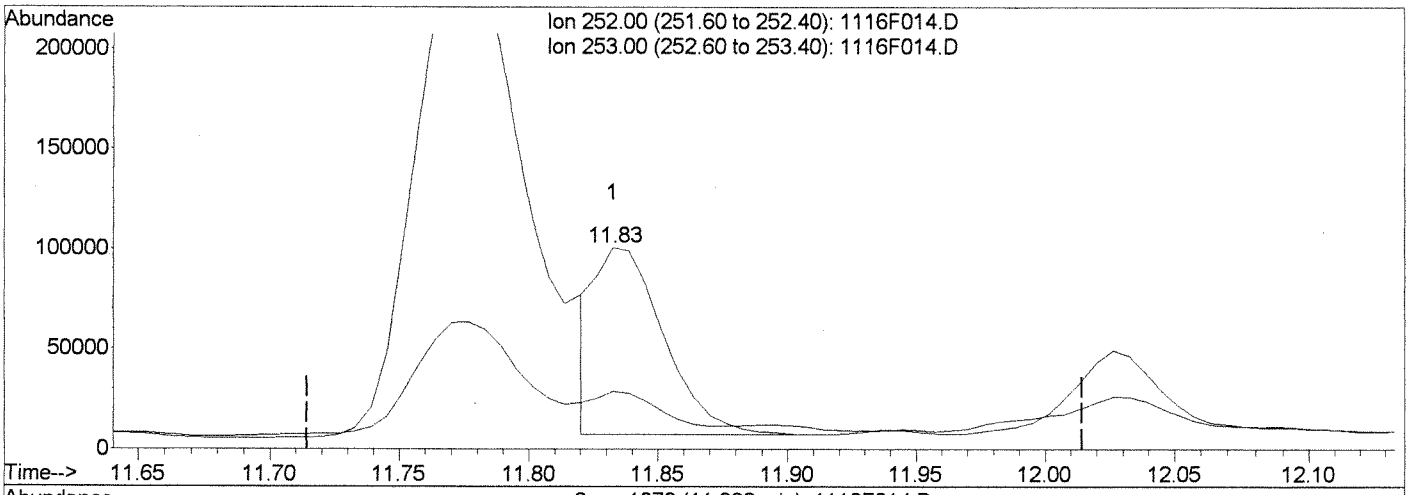
1116F014.D 1015ALK.M Wed Nov 18 08:05:55 2009

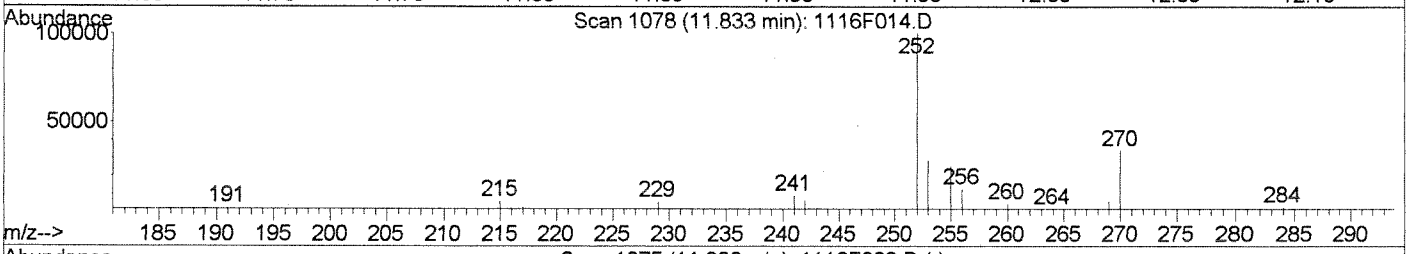
LP 11/18/09

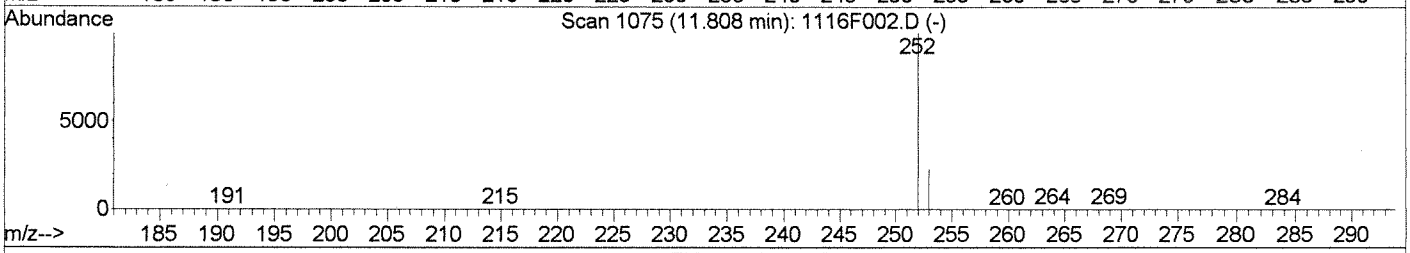
Quantitation Report (Qedit)

Data File : J:\MS11\DATA\111609\1116F014.D Vial: 12
Acq On : 16 Nov 2009 12:57 pm Operator: LWeiskopf
Sample : K0909140-006 Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 18 8:05 2009 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Tue Nov 17 11:03:16 2009
Response via : Multiple Level Calibration







TIC: 1116F014.D

(51) Benzo(k)fluoranthene (T)

11.83min 111.29ng/ml

response 173293

Ion	Exp%	Act%
252.00	100	100
253.00	22.50	18.96
0.00	0.00	0.00
0.00	0.00	0.00

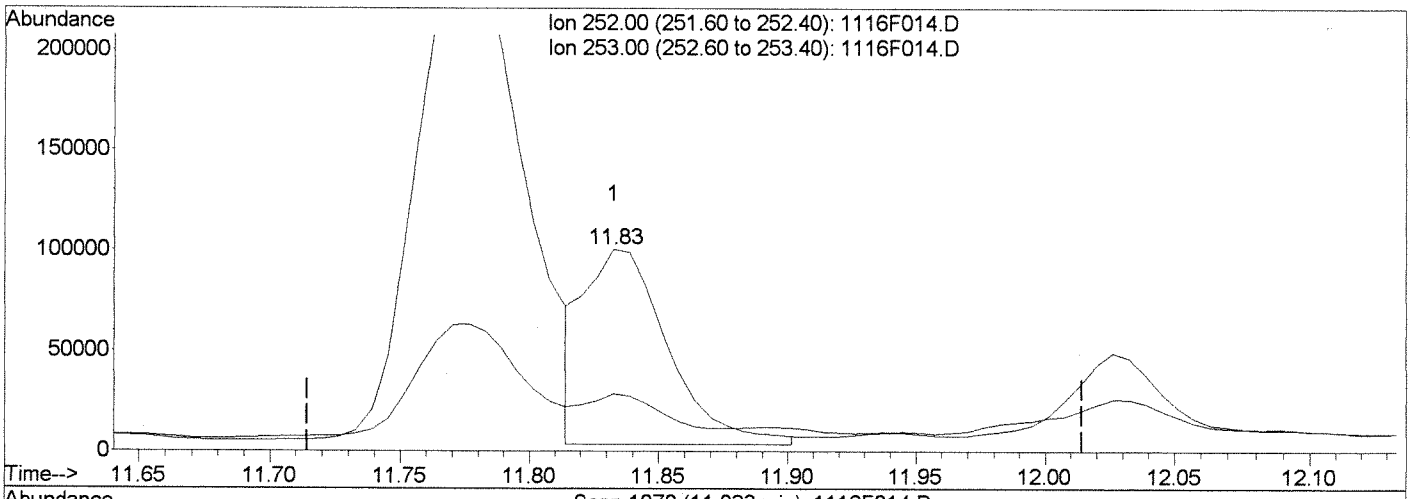
1116F014.D 1015ALK.M Wed Nov 18 08:06:06 2009

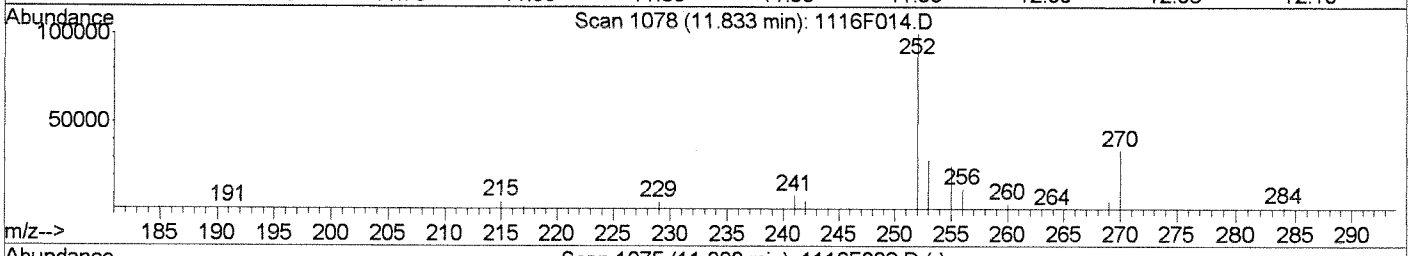
Quantitation Report (Qedit)

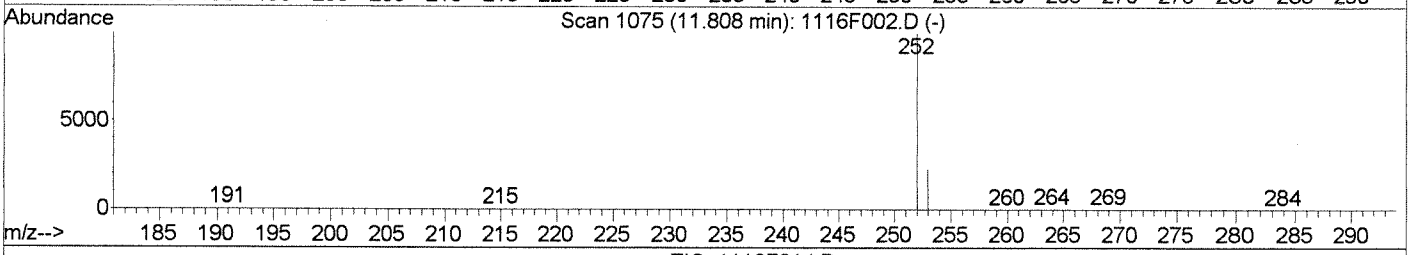
Data File : J:\MS11\DATA\111609\1116F014.D
Acq On : 16 Nov 2009 12:57 pm
Sample : K0909140-006
Misc :
MS Integration Params: RTEINT.P
Quant Time: Nov 18 8:06 2009

Vial: 12
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Tue Nov 17 11:03:16 2009
Response via : Multiple Level Calibration







TIC: 1116F014.D

(51) Benzo(k)fluoranthene (T)

11.83min 140.92ng/ml m

response 219428

Ion	Exp%	Act%
252.00	100	100
253.00	22.50	28.62
0.00	0.00	0.00
0.00	0.00	0.00

IC 11/18/09

LB 11/18/09

1116F014.D 1015ALK.M Wed Nov 18 08:06:11 2009

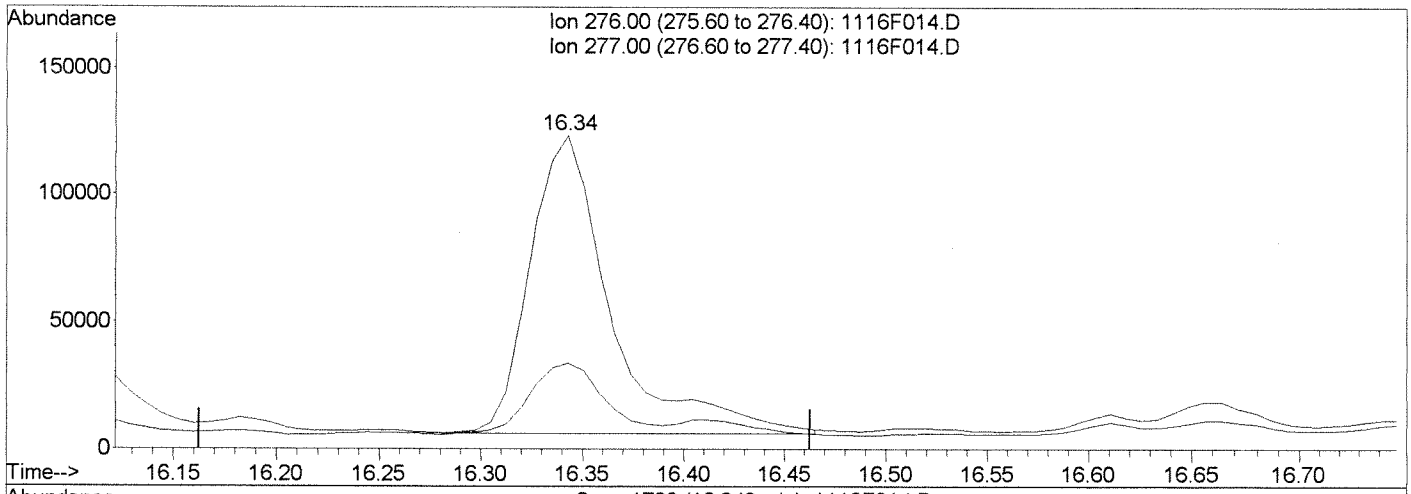
Quantitation Report (Qedit)

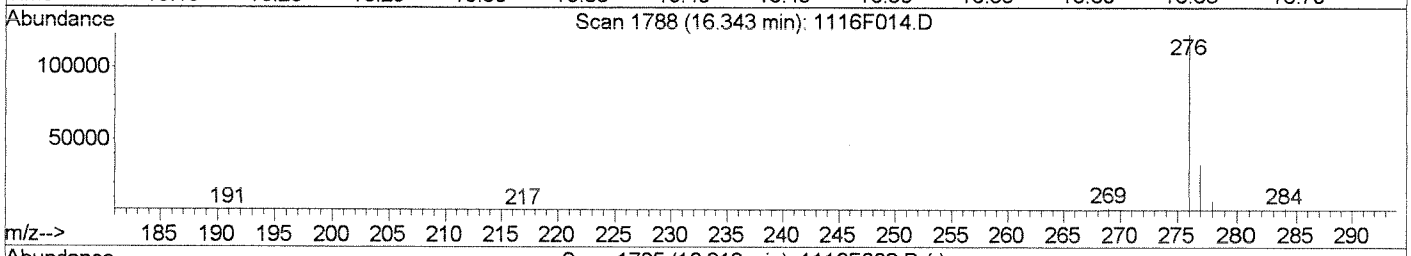
Data File : J:\MS11\DATA\111609\1116F014.D
Acq On : 16 Nov 2009 12:57 pm
Sample : K0909140-006
Misc :
MS Integration Params: RTEINT.P
Quant Time: Nov 18 8:06 2009

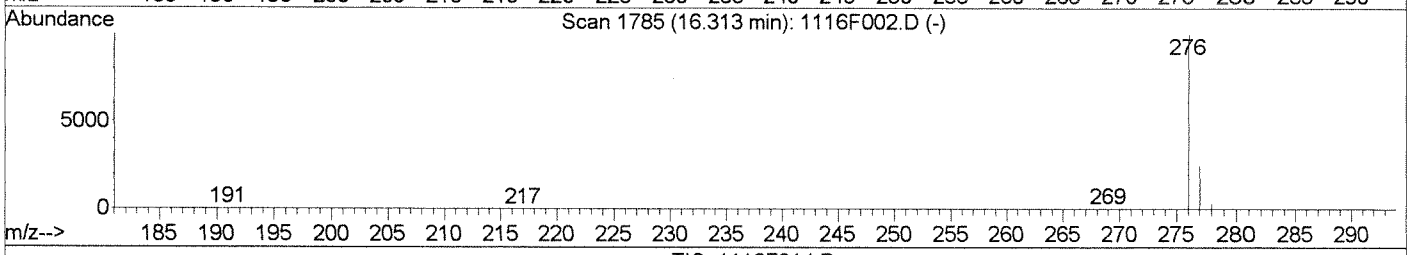
Vial: 12
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Tue Nov 17 11:03:16 2009
Response via : Multiple Level Calibration







TIC: 1116F014.D

(55) Indeno(1,2,3-cd)pyrene (T)

16.34min 234.34ng/ml

response 321819

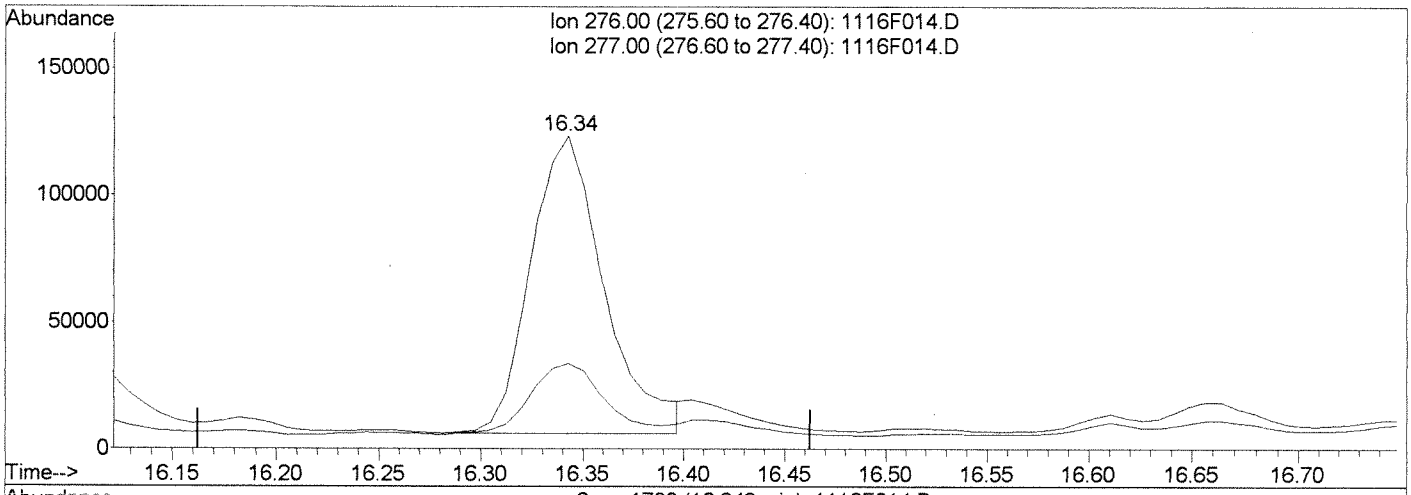
Ion	Exp%	Act%
276.00	100	100
277.00	25.10	23.96
0.00	0.00	0.00
0.00	0.00	0.00

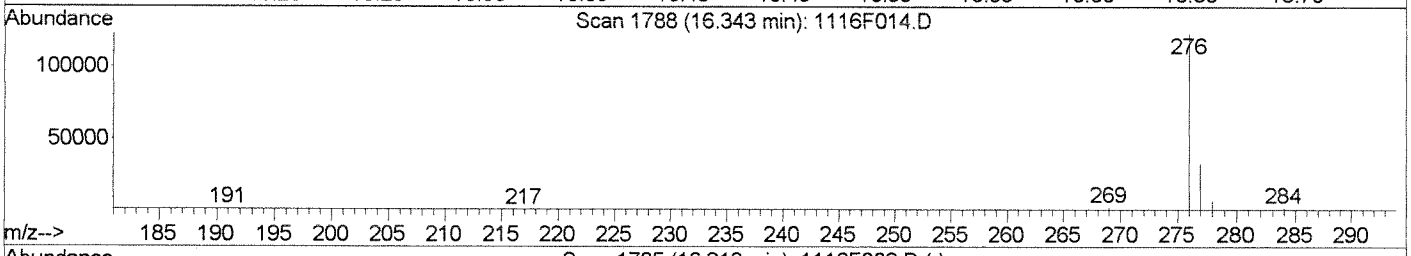
1116F014.D 1015ALK.M Wed Nov 18 08:06:20 2009

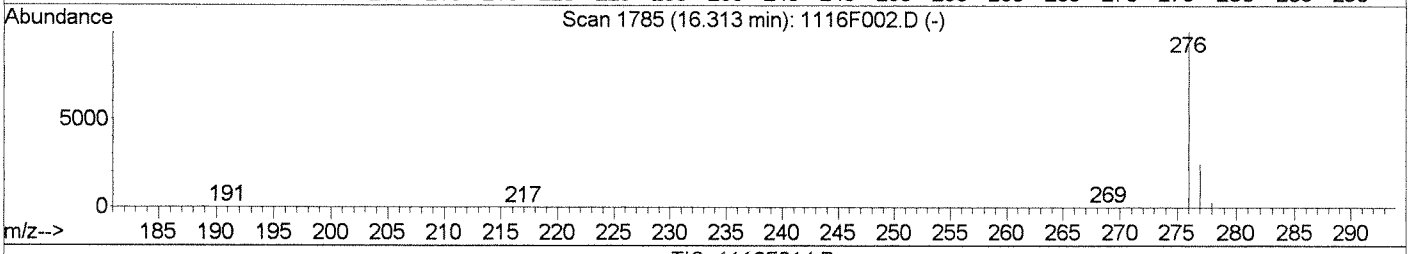
Quantitation Report (Qedit)

Data File : J:\MS11\DATA\111609\1116F014.D Vial: 12
Acq On : 16 Nov 2009 12:57 pm Operator: LWeiskopf
Sample : K0909140-006 Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 18 8:06 2009 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Tue Nov 17 11:03:16 2009
Response via : Multiple Level Calibration







TIC: 1116F014.D

(55) Indeno(1,2,3-cd)pyrene (T)

16.34min 214.67ng/ml m

response 294798

Ion	Exp%	Act%
276.00	100	100
277.00	25.10	27.22
0.00	0.00	0.00
0.00	0.00	0.00

DF 11/18/09

LB 11/18/09

1116F014.D 1015ALK.M Wed Nov 18 08:06:25 2009

Exception Report

Data File: J:\MS11\DATA\111609\1116F055.D
Lab ID: K0909140-006
RunType: DL
Matrix: SEDIMENT

Date Acquired: 11/17/2009 07:04
Date Quantitated: 11/18/2009 12:49
Batch ID: KWG0910855
Analysis Method: 8270C SIM
ListJoinID: LJ5646

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Tune Window	NA	NA	NA	x	
Analytical Holding Time	NA	NA	NA	x	
Preparation Holding Time	NA	NA	NA	x	
Pre-Preparation Holding Time	NA	NA	NA	x	
ICAL Pass/Fail	NA	NA	NA	x	
ICAL Average RSD	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Initial Calibration Minimum RF	NA	NA	NA	x	
Initial Calibration SPCC/CCC	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA	x	
Continuing Calibration Minimum RF	NA	NA	NA	x	
Continuing Calibration SPCC/CCC	NA	NA	NA	x	
Method Blank	NA	NA	NA	x	
MB Surrogate Recovery	NA	NA	NA	x	
Lab Control Spike	NA	NA	NA	x	
Duplicate Lab Control Spike	NA	NA	NA	x	
Internal Standards	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Relative Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	*	NA	NA		x

batch QC
K10893

MRL OK

Primary Review: 11/18/09

Secondary Review: 11-19-09

Quantitation Report

Bottle ID:		**Tier:**	V	**Matrix:**	SEDIMENT
Prod Code:	8270C SIM PAH_S	**Collect Date:**	10/06/2009	**Receive Date:**	10/07/2009

Analysis Lot:	KWG0910855	**Prep Lot:**	KWG0910535	**Report Group:**	K0909140
Analysis Method:	8270C SIM	**Prep Method:**	EPA 3541		
Prep Ref:	865759	**Prep Date:**	11/10/2009		

Quant Method:	J:\MS11\METHODS\SIM\1015ALK.M	**Calibration ID:**	CAL8928
Title:	Polynuclear Aromatic Hydrocarbons	**Report List ID:**	LJ5646
Tune Ref:	J:\MS11\DATA\111609\1116F032.D	**Method ID:**	MJ253
MB Ref:	J:\MS11\DATA\111609\1116F004.D	**Quant based on Report List**	

Data File:	J:\MS11\DATA\111609\1116F055.D			**Instrument:**	MS11
Acqu Date:	11/17/2009 07:04	**Quant Date:**	11/18/2009 12:49	**Vial:**	3
Run Type:	DL			**Dilution:**	10.0
Lab ID:	K0909140-006			**Soln Conc. Units:**	ng/ml

Internal Standard Compounds

IS Ref	Parameter Name	RT	RT Dev	Quant Mass	Response	Solution Conc	Area Criteria
1	Naphthalene-d8	4.62	-0.01	136	156946	200.00	OK
2	Acenaphthene-d10	6.04	-0.01	164	80795	200.00	OK
3	Phenanthrene-d10	7.26	-0.01	188	158590	200.00	OK
4	Chrysene-d12	9.75	-0.01	240	255111	200.00	OK
5	Perylene-d12	12.76	-0.02	264	254558	200.00	OK

Surrogate Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	%Rec	%Rec Limits		Rpt?
2	Fluorene-d10	6.47	0.00	0.00	176	5017**m**	13.31	67	17-104	OK	NR
3	Fluoranthene-d10	8.24	0.00	0.00	212	13995**m**	15.92	80	27-106	OK	NR
4	Terphenyl-d14	8.58	0.00	0.00	244	14914	14.14	71	35-109	OK	NR

Target Compounds

Final Conc. Units: ug/Kg Dry Weight

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	Final Conc	Q	Rpt?
1	Naphthalene	4.64	-0.01	0.00	128	135310	187.35	950	D	NR
1	2-Methylnaphthalene	5.20	-0.01	0.00	142	59452	119.44	600	D	NR
2	Acenaphthylene	5.93		0.00	152	34329	48.96	250	D	NR
2	Acenaphthene	6.07		0.00	154	15289	36.58	190	D	NR
2	Dibenzofuran	6.22		0.00	168	18374	32.68	170	D	NR
2	Fluorene	6.49	-0.01	0.00	166	25474**m**	56.52	290	D	NR
3	Phenanthrene	7.28	-0.01	0.00	178	240345	270.22	1400	D	
3	Anthracene	7.33		0.00	178	37089	43.61	220	D	NR
3	Fluoranthene	8.25		0.00	202	190235	194.70	990	D	NR
4	Pyrene	8.44		0.00	202	272856**m**	195.33	990	D	
4	Benz(a)anthracene	9.74	-0.01	0.00	228	70616	50.93	260	D	NR
4	Chrysene	9.79	-0.01	0.00	228	94476	69.95	350	D	NR
5	Benzo(b)fluoranthene	11.76	-0.01	0.00	252	68941	51.92	260	D	NR

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Data File:	J:\MS11\DATA\111609\1116F055.D			**Instrument:**	MS11
Acqu Date:	11/17/2009 07:04	**Quant Date:**	11/18/2009 12:49	**Vial:**	3
Run Type:	DL			**Dilution:**	10.0
Lab ID:	K0909140-006			**Soln Conc. Units:**	ng/ml

Target Compounds

Final Conc. Units: ug/Kg Dry Weight

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	Final Conc	Q	Rpt?
5	Benzo(k)fluoranthene	11.83	-0.01	0.00	252	19370	14.81	75	D	NR
5	Benzo(a)pyrene	12.60	-0.01	0.00	252	49972	39.73	200	D	NR
5	Indeno(1,2,3-cd)pyrene	16.33		0.00	276	27699	24.01	120	D	NR
5	Dibenz(a,h)anthracene	16.41		0.00	278	9122	7.34	37	D	NR
5	Benzo(g,h,i)perylene	16.81	-0.01	0.00	276	50240	37.81	190	D	NR

Prep Amount:	20.21 g	**Dilution:**	10.0
Prep Final Vol:	10 ml	**Unit Factor:**	1
Solids:	97.8 %		

Final Concentration = ((Soln Conc x Prep Final Vol x Dilution) / (Prep Amount x Solids)) x Unit Factor

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\111609\1116F055.D
Acq On : 17 Nov 2009 7:04 am
Sample : K0909140-006DIL 10X
Misc :
MS Integration Params: RTEINT.P
Quant Time: Nov 18 12:18:00 2009

Vial: 3
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00
Quant Results File: 1015ALK.RES

Quant Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Wed Nov 18 12:17:22 2009
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	4.62	136	156946	200.00	ng/ml	0.00
10) Acenaphthene-d10	6.04	164	80795	200.00	ng/ml	0.00
22) Phenanthrene-d10	7.26	188	158590	200.00	ng/ml	0.00
37) Chrysene-d12	9.75	240	255111	200.00	ng/ml	0.00
49) Perylene-d12	12.76	264	254558	200.00	ng/ml	0.00
System Monitoring Compounds						
15) Fluorene-d10	6.47	176	5017m	13.31	ng/ml	0.00
Spiked Amount 200.000			Recovery =	6.65%		
20) 2,4,6 Tribromophenol	0.00	330	0d	0.00	ng/ml	
Spiked Amount 375.000			Recovery =	0.00%		
36) Fluoranthene-d10	8.24	212	13995m	15.92	ng/ml	0.00
Spiked Amount 200.000			Recovery =	7.96%		
42) Terphenyl-d14	8.58	244	14914	14.14	ng/ml	0.00
Spiked Amount 200.000			Recovery =	7.07%		
Target Compounds						Qvalue
2) Naphthalene	4.64	128	135310	187.35	ng/ml	99
3) 2-Methylnaphthalene	5.20	142	59452	119.44	ng/ml	94
4) 1-Methylnaphthalene	5.28	142	25617	48.41	ng/ml	95
5) Biphenyl	5.58	154	8011	14.11	ng/ml	93
6) 2,6-Dimethylnaphthalene	5.77	156	139863	357.38	ng/ml	91
11) Acenaphthylene	5.93	152	34329	48.96	ng/ml	86
12) Acenaphthene	6.07	154	15289	36.58	ng/ml	93
13) Dibenzofuran	6.22	168	18374	32.68	ng/ml	79
14) 2,3,5-Trimethylnaphthalene	6.38	170	99134	282.32	ng/ml	78
16) Fluorene	6.49	166	25474m	56.52	ng/ml	
23) Dibenzothiophene	7.18	184	29164m	36.37	ng/ml	
27) Phenanthrene	7.28	178	240345	270.22	ng/ml	97
28) Anthracene	7.33	178	37089	43.61	ng/ml	94
29) Carbazole	7.47	167	8245	11.34	ng/ml	91
30) 1-Methylphenanthrene	7.78	192	76956	120.83	ng/ml	93
35) Fluoranthene	8.25	202	190235	194.70	ng/ml	93
38) Pyrene	8.44	202	272856m	195.33	ng/ml	
43) Benz(a)anthracene	9.74	228	70616	50.93	ng/ml	56
44) Chrysene	9.79	228	94476	69.95	ng/ml	98
50) Benzo(b)fluoranthene	11.76	252	68941	51.92	ng/ml	96
51) Benzo(k)fluoranthene	11.83	252	19370	14.81	ng/ml	95
52) Benzo(e)pyrene	12.45	252	55477	44.61	ng/ml	97
53) Benzo(a)pyrene	12.60	252	49972	39.73	ng/ml	99
54) Perylene	12.84	252	24267	19.68	ng/ml	99
55) Indeno(1,2,3-cd)pyrene	16.33	276	27699	24.01	ng/ml	97

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\111609\1116F055.D
Acq On : 17 Nov 2009 7:04 am
Sample : K0909140-006DIL 10X
Misc :
MS Integration Params: RTEINT.P
Quant Time: Nov 18 12:18:00 2009

Vial: 3
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00
Quant Results File: 1015ALK.RES

Quant Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Wed Nov 18 12:17:22 2009
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
56)	Dibenz(a,h)anthracene	16.41	278	9122	7.34	ng/ml	77
57)	Benzo(g,h,i)perylene	16.81	276	50240	37.81	ng/ml	98

(#) = qualifier out of range (m) = manual integration

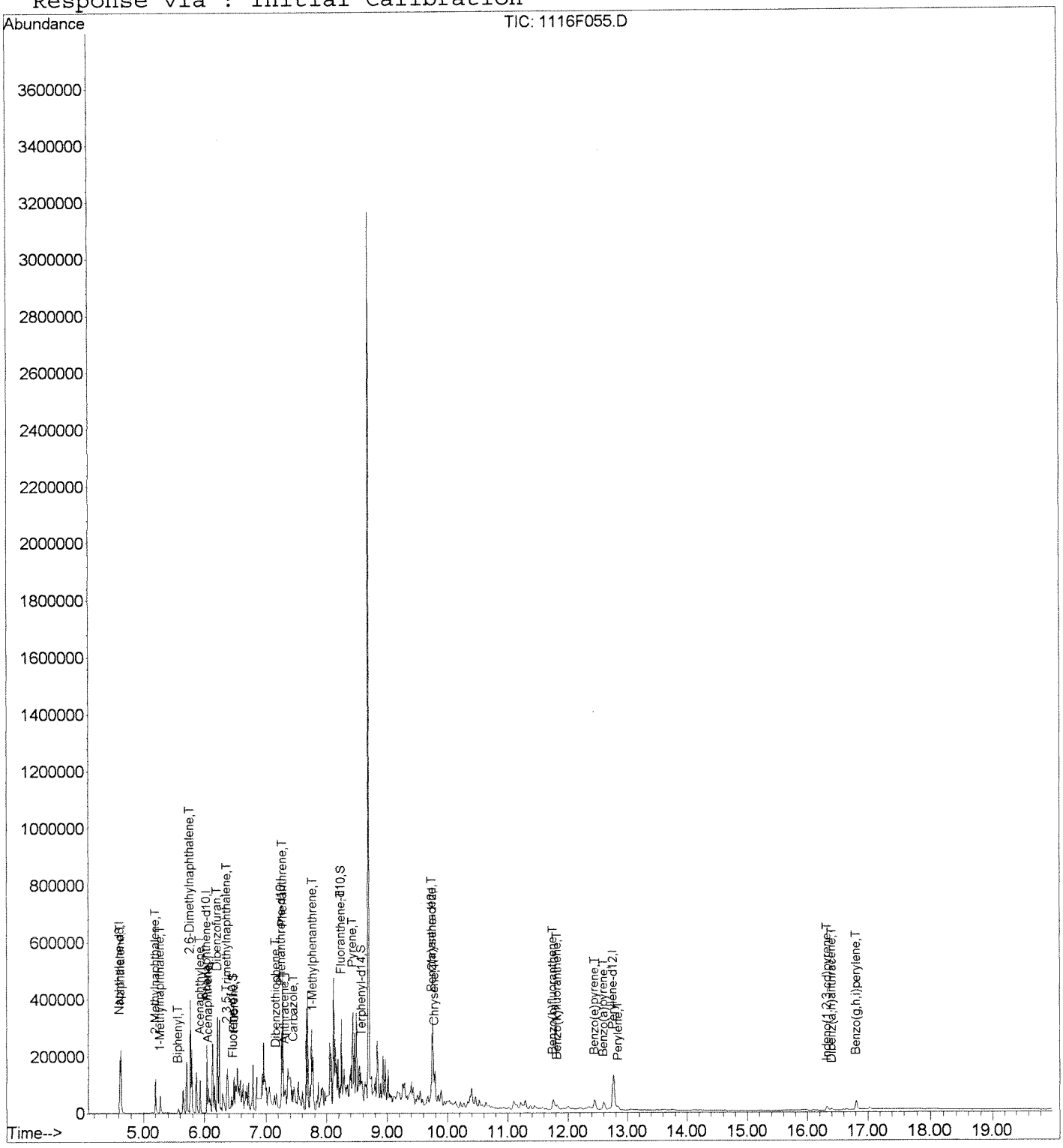
Quantitation Report (QT Reviewed)

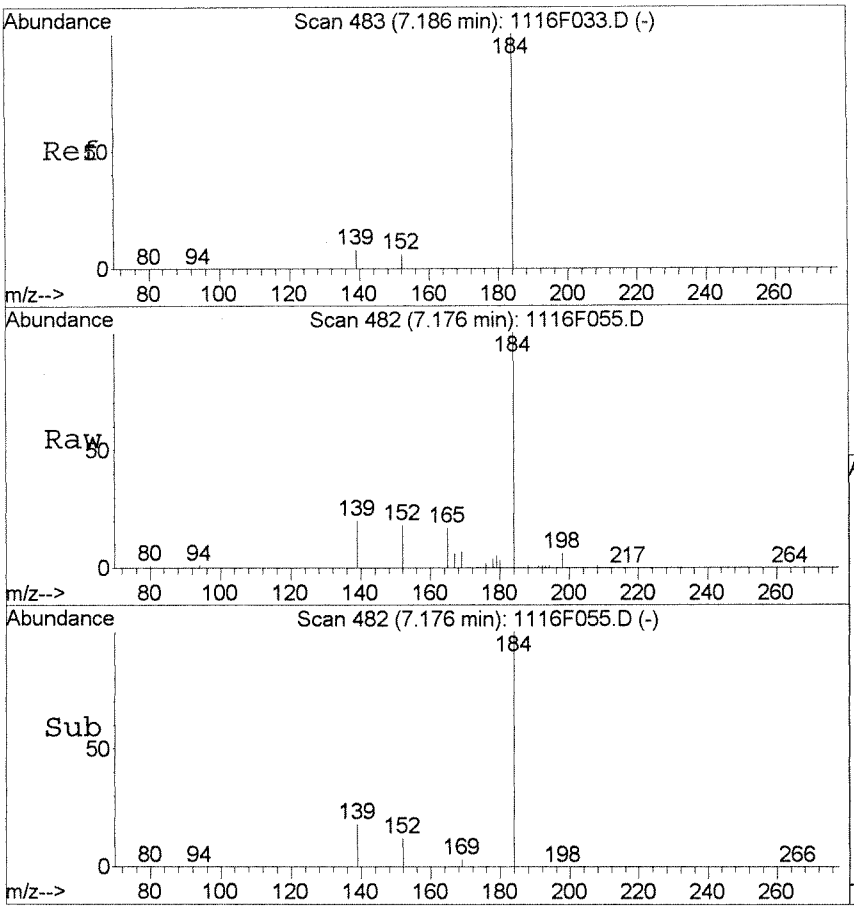
Data File : J:\MS11\DATA\111609\1116F055.D
Acq On : 17 Nov 2009 7:04 am
Sample : K0909140-006DIL 10X
Misc :
MS Integration Params: RTEINT.P
Quant Time: Nov 18 12:49 2009

Vial: 3
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00

Quant Results File: 1015ALK.RES

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Tue Nov 17 11:03:16 2009
Response via : Initial Calibration

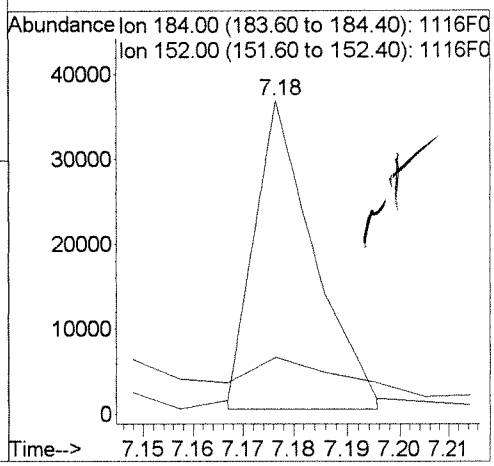


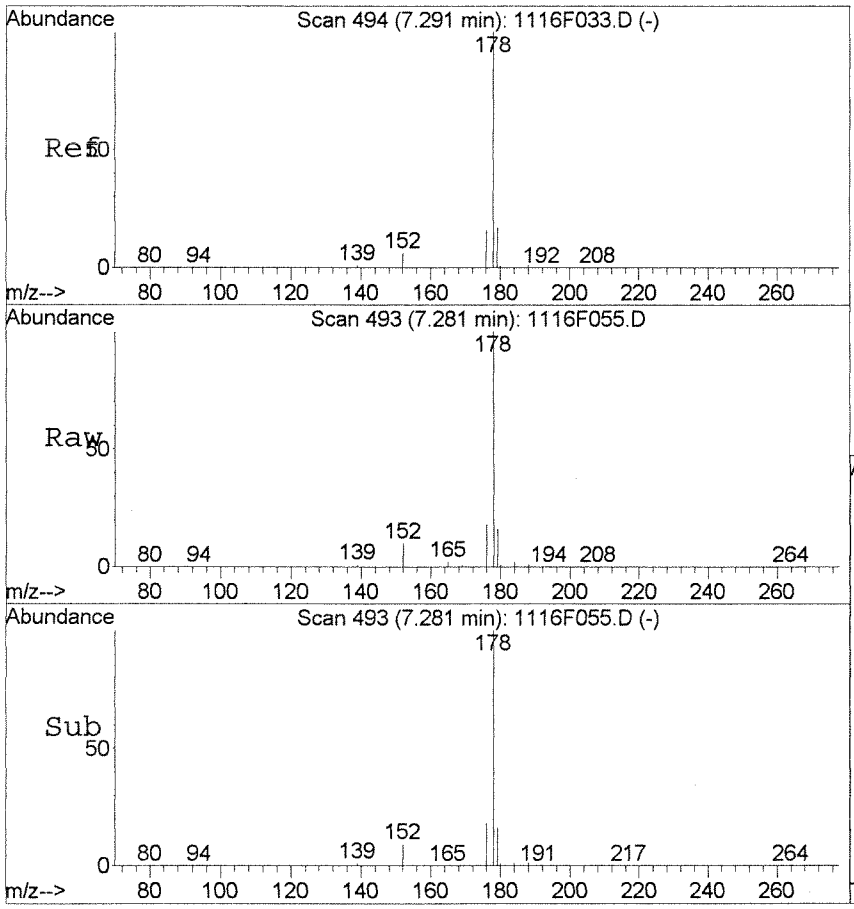


#23
Dibenzothiophene
Concen: 36.37 ng/ml m
RT: 7.18 min Scan# 482
Delta R.T. -0.00 min
Lab File: 1116F055.D
Acq: 17 Nov 2009 7:04 am

Tgt Ion:184 Resp: 29164

Ion	Ratio	Lower	Upper
184	100		
152	18.1	0.0	39.4

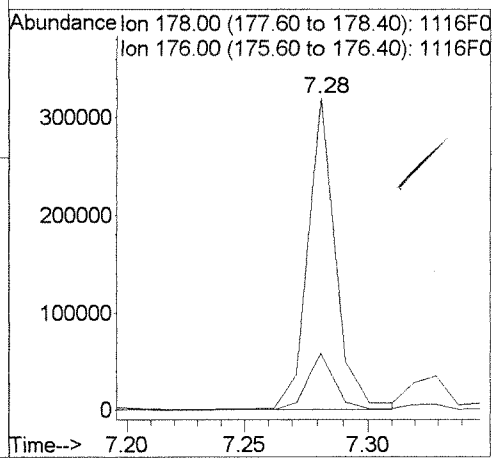


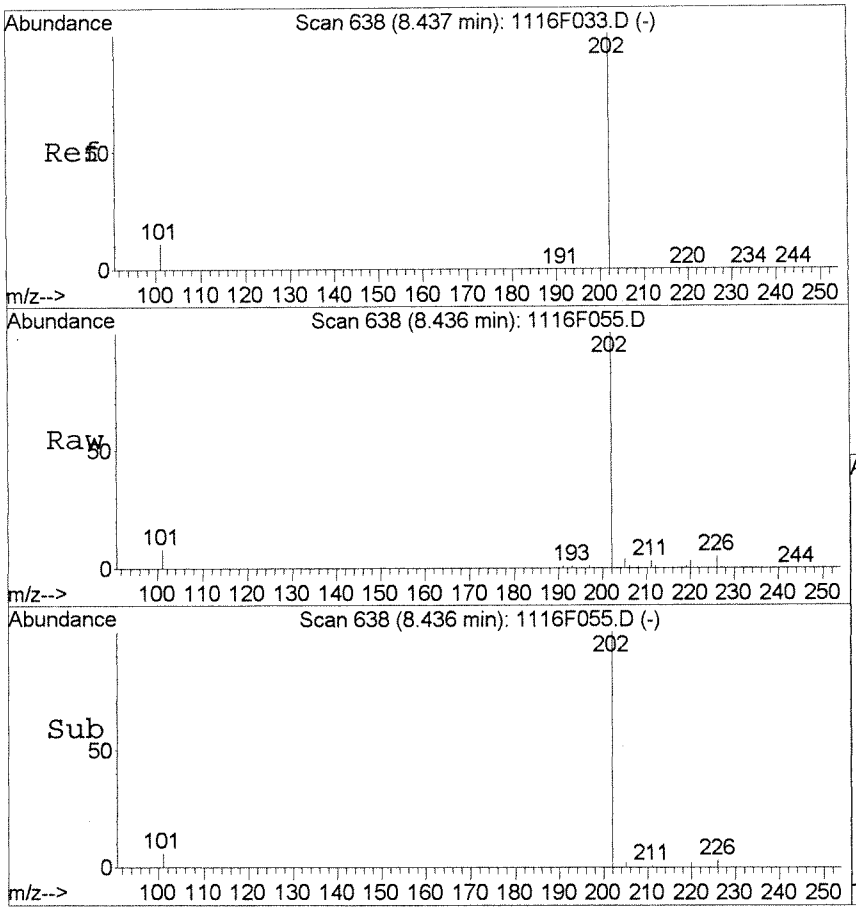


#27
Phenanthrene
Concen: 270.22 ng/ml
RT: 7.28 min Scan# 493
Delta R.T. -0.00 min
Lab File: 1116F055.D
Acq: 17 Nov 2009 7:04 am

Tgt Ion:178 Resp: 240345

Ion	Ratio	Lower	Upper
178	100		
176	18.2	0.0	49.6

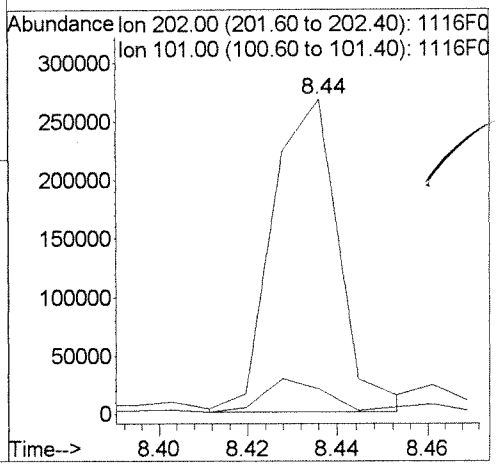


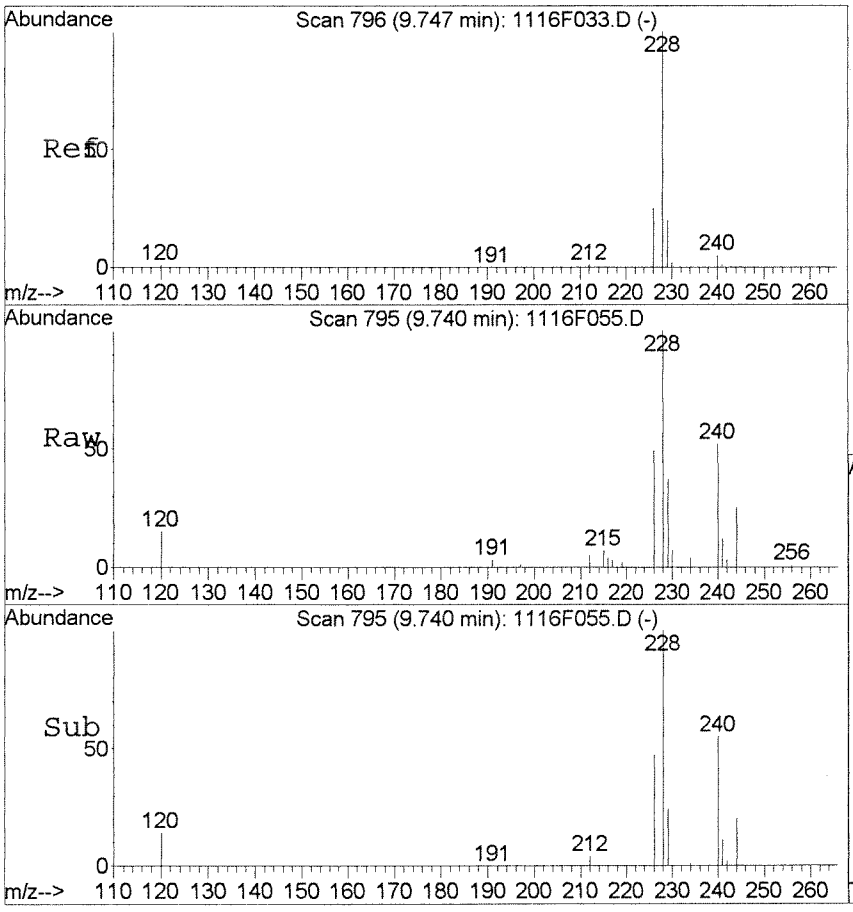


#38
Pyrene
Concen: 195.33 ng/ml m
RT: 8.44 min Scan# 638
Delta R.T. 0.01 min
Lab File: 1116F055.D
Acq: 17 Nov 2009 7:04 am

Tgt Ion:202 Resp: 272856

Ion	Ratio	Lower	Upper
202	100		
101	8.0	0.0	36.4

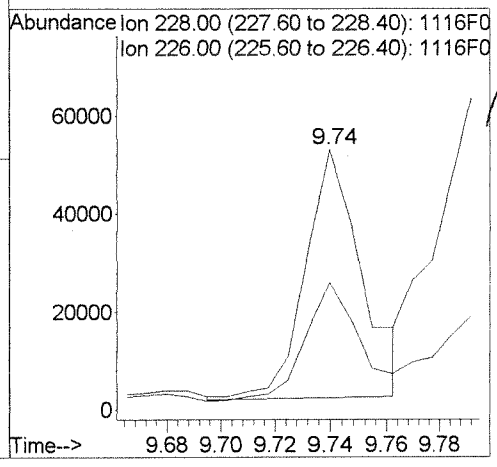




#43
Benz(a)anthracene
Concen: 50.93 ng/ml
RT: 9.74 min Scan# 795
Delta R.T. 0.00 min
Lab File: 1116F055.D
Acq: 17 Nov 2009 7:04 am

Tgt Ion:228 Resp: 70616

Ion	Ratio	Lower	Upper
228	100		
226	48.2	0.0	55.9



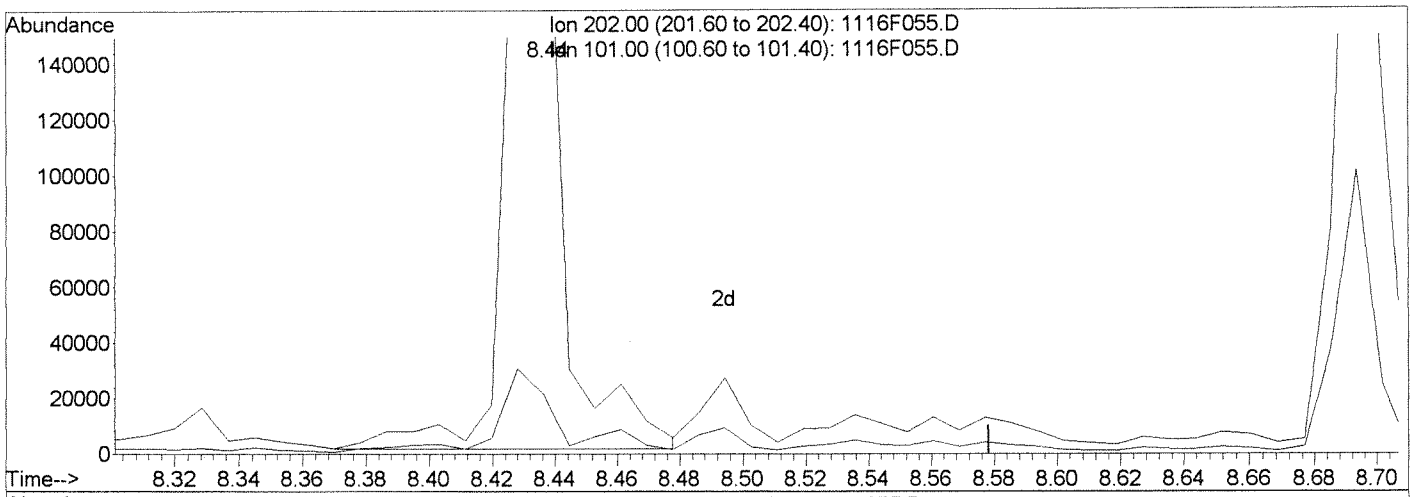
Quantitation Report (Qedit)

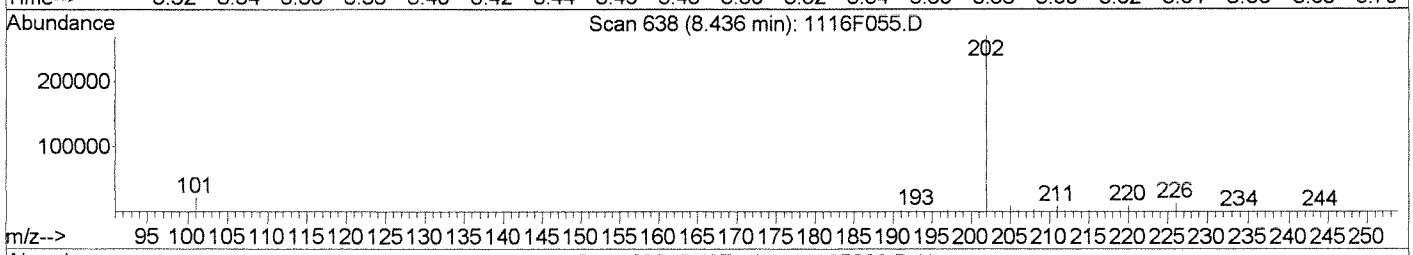
Data File : J:\MS11\DATA\111609\1116F055.D
Acq On : 17 Nov 2009 7:04 am
Sample : K0909140-006DIL 10X
Misc :
MS Integration Params: RTEINT.P
Quant Time: Nov 18 12:49 2009

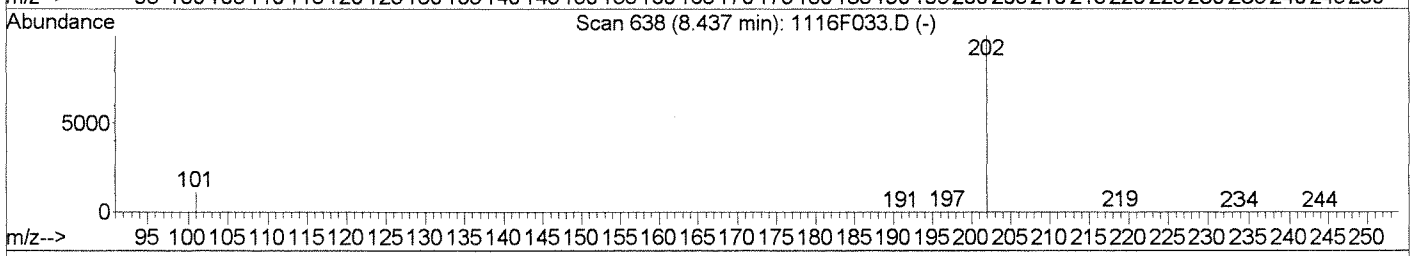
Vial: 3
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Tue Nov 17 11:03:16 2009
Response via : Multiple Level Calibration







TIC: 1116F055.D

(38) Pyrene (T)

8.44min 217.56ng/ml

response 303910

Ion	Exp%	Act%
202.00	100	100
101.00	6.40	7.83
0.00	0.00	0.00
0.00	0.00	0.00

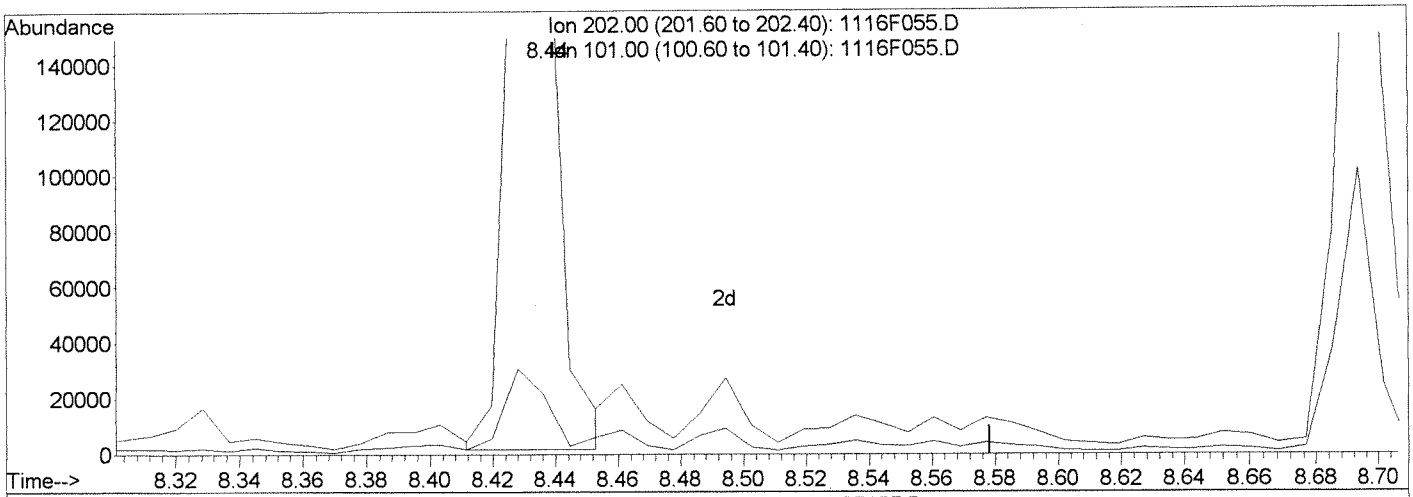
Quantitation Report (Qedit)

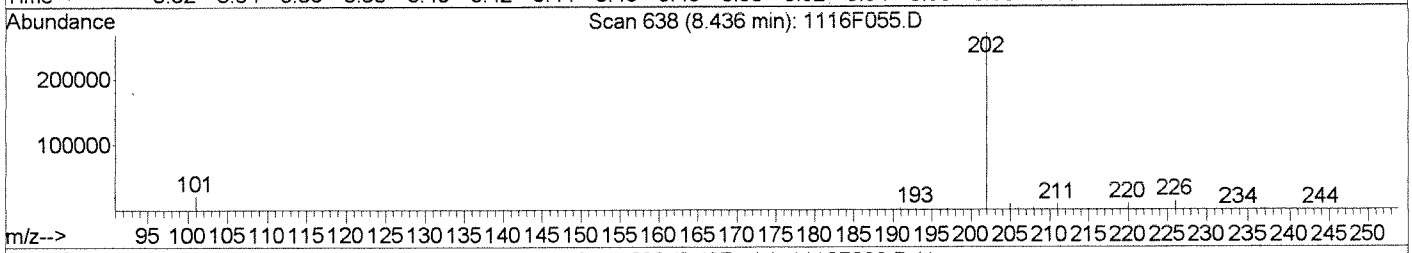
Data File : J:\MS11\DATA\111609\1116F055.D
Acq On : 17 Nov 2009 7:04 am
Sample : K0909140-006DIL 10X
Misc :
MS Integration Params: RTEINT.P
Quant Time: Nov 18 12:49 2009

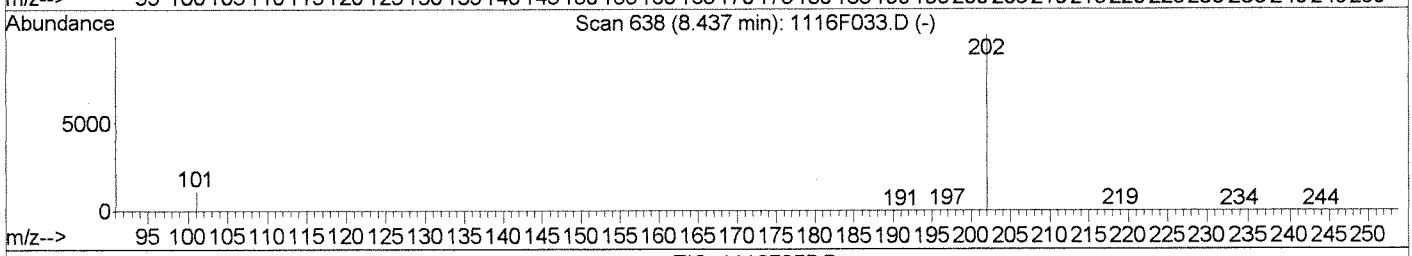
Vial: 3
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Tue Nov 17 11:03:16 2009
Response via : Multiple Level Calibration







TIC: 1116F055.D

(38) Pyrene (T)

8.44min 195.33ng/ml m

response 272856

Ion	Exp%	Act%
202.00	100	100
101.00	6.40	8.03
0.00	0.00	0.00
0.00	0.00	0.00

OI 11/18/09

M 11-19-09

1116F055.D 1015ALK.M Wed Nov 18 12:49:56 2009

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	URS Corporation	**Service Request:**	K0909140
Project:	Boise St. Helens Pulp and Paper Mill-2009	**Date Collected:**	10/05/2009
Sample Matrix:	Sediment	**Date Received:**	10/06/2009

Polynuclear Aromatic Hydrocarbons

Sample Name:	M-3-B	**Units:**	ug/Kg
Lab Code:	K0909140-007	**Basis:**	Dry
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270C SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Naphthalene	**320**		2.5	0.60	1	11/10/09	11/21/09	KWG0910535	
2-Methylnaphthalene	**69**		2.5	0.46	1	11/10/09	11/21/09	KWG0910535	
Acenaphthylene	**77**		2.5	0.56	1	11/10/09	11/21/09	KWG0910535	
Acenaphthene	**54**		2.5	0.50	1	11/10/09	11/21/09	KWG0910535	
Fluorene	**58**		2.5	0.61	1	11/10/09	11/21/09	KWG0910535	
Dibenzofuran	**44**		2.5	0.63	1	11/10/09	11/21/09	KWG0910535	
Phenanthrene	**410**		2.5	1.4	1	11/10/09	11/21/09	KWG0910535	
Anthracene	**77**		2.5	0.55	1	11/10/09	11/21/09	KWG0910535	
Fluoranthene	**560**		2.5	0.98	1	11/10/09	11/21/09	KWG0910535	
Pyrene	**480**		2.5	0.76	1	11/10/09	11/21/09	KWG0910535	
Benz(a)anthracene	**160**		2.5	0.72	1	11/10/09	11/21/09	KWG0910535	
Chrysene	**220**		2.5	0.80	1	11/10/09	11/21/09	KWG0910535	
Benzo(b)fluoranthene	**250**		2.5	0.92	1	11/10/09	11/21/09	KWG0910535	
Benzo(k)fluoranthene	**83**		2.5	0.87	1	11/10/09	11/21/09	KWG0910535	
Benzo(a)pyrene	**240**		2.5	0.76	1	11/10/09	11/21/09	KWG0910535	
Indeno(1,2,3-cd)pyrene	**200**		2.5	0.87	1	11/10/09	11/21/09	KWG0910535	
Dibenz(a,h)anthracene	**29**		2.5	0.80	1	11/10/09	11/21/09	KWG0910535	
Benzo(g,h,i)perylene	**240**		2.5	0.85	1	11/10/09	11/21/09	KWG0910535	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	72	17-104	11/21/09	Acceptable
Fluoranthene-d10	75	27-106	11/21/09	Acceptable
Terphenyl-d14	65	35-109	11/21/09	Acceptable

Comments:

Exception Report

Data File: J:\MS11\DATA\112009\1120F034.D
Lab ID: K0909140-007
RunType: SMPL
Matrix: SEDIMENT

Date Acquired: 11/21/2009 00:46
Date Quantitated: 11/23/2009 08:40
Batch ID: KWG0911040
Analysis Method: 8270C SIM
ListJoinID: LJ5646

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Tune Window	NA	NA	NA	x	
Analytical Holding Time	NA	NA	NA	x	
Preparation Holding Time	NA	NA	NA	x	
Pre-Preparation Holding Time	NA	NA	NA	x	
ICAL Pass/Fail	NA	NA	NA	x	
ICAL Average RSD	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Initial Calibration Minimum RF	NA	NA	NA	x	
Initial Calibration SPCC/CCC	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA	x	
Continuing Calibration Minimum RF	NA	NA	NA	x	
Continuing Calibration SPCC/CCC	NA	NA	NA	x	
Method Blank	NA	NA	NA	x	
MB Surrogate Recovery	NA	NA	NA	x	
Lab Control Spike	NA	NA	NA	x	
Internal Standards	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Relative Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Primary Review: 11/23/09

Secondary Review: 11-24-09

Quantitation Report

Bottle ID:		**Tier:**	V	**Matrix:**	SEDIMENT
Prod Code:	8270C SIM PAH_S	**Collect Date:**	10/05/2009	**Receive Date:**	10/06/2009

Analysis Lot:	KWG0911040	**Prep Lot:**	KWG0910535	**Report Group:**	K0909140
Analysis Method:	8270C SIM	**Prep Method:**	EPA 3541		
Prep Ref:	865760	**Prep Date:**	11/10/2009		

Quant Method:	J:\MS11\METHODS\SIM\1119ALK.M	**Calibration ID:**	CAL9029
Title:	Polynuclear Aromatic Hydrocarbons	**Report List ID:**	LJ5646
Tune Ref:	J:\MS11\DATA\112009\1120F030.D	**Method ID:**	MJ253
MB Ref:	J:\MS11\DATA\111909\1119F041.D	**Quant based on Report List**	

Data File:	J:\MS11\DATA\112009\1120F034.D			**Instrument:**	MS11
Acqu Date:	11/21/2009 00:46	**Quant Date:**	11/23/2009 08:40	**Vial:**	31
Run Type:	SMPL			**Dilution:**	1.0
Lab ID:	K0909140-007			**Soln Conc. Units:**	ng/ml

Internal Standard Compounds

IS Ref	Parameter Name	RT	RT Dev	Quant Mass	Response	Solution Conc	Area Criteria
1	Naphthalene-d8	4.86	-0.01	136	157091	200.00	OK
2	Acenaphthene-d10	6.29	0.00	164	88205	200.00	OK
3	Phenanthrene-d10	7.52	0.00	188	178607	200.00	OK
4	Chrysene-d12	10.25	0.00	240	293029	200.00	OK
5	Perylene-d12	13.83	0.01	264	344117	200.00	OK

Surrogate Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	%Rec	%Rec Limits	Rpt?
2	Fluorene-d10	6.72	0.00	0.00	176	71757	144.89	72	17-104 OK	
3	Fluoranthene-d10	8.50	0.00	0.00	212	160921	149.02	75	27-106 OK	
4	Terphenyl-d14	8.89	0.00	0.00	244	158296	130.49	65	35-109 OK	

Target Compounds

Final Conc. Units: ug/Kg Dry Weight

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	Final Conc	Q	Rpt?
1	Naphthalene	4.88	-0.01	0.00	128	443356	641.62	320		
1	2-Methylnaphthalene	5.43	-0.01	0.00	142	68696	138.01	69		
2	Acenaphthylene	6.17	-0.01	0.00	152	112930	155.80	77		
2	Acenaphthene	6.31	-0.01	0.00	154	46465	107.92	54		
2	Dibenzofuran	6.46		0.00	168	57775	88.60	44		
2	Fluorene	6.74		0.00	166	63689**m**	116.77	58		
3	Phenanthrene	7.54		0.00	178	779729	818.83	410		
3	Anthracene	7.59		0.00	178	141068	154.16	77		
3	Fluoranthene	8.52		0.00	202	1238295	1,119	560		
4	Pyrene	8.74	0.01	0.00	202	1494291	961.60	480		
4	Benz(a)anthracene	10.23		0.00	228	495655	331.10	160		
4	Chrysene	10.29		0.00	228	647307	452.79	220		
5	Benzo(b)fluoranthene	12.63	0.01	0.00	252	902475	503.32	250		

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Data File:	J:\MS11\DATA\112009\1120F034.D			**Instrument:**	MS11
Acqu Date:	11/21/2009 00:46	**Quant Date:**	11/23/2009 08:40	**Vial:**	31
Run Type:	SMPL			**Dilution:**	1.0
Lab ID:	K0909140-007			**Soln Conc. Units:**	ng/ml

Target Compounds **Final Conc. Units:** ug/Kg Dry Weight

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	Final Conc	Q	Rpt?
5	Benzo(k)fluoranthene	12.70		0.00	252	282972	166.54	83		
5	Benzo(a)pyrene	13.63	0.02	0.00	252	749843	474.70	240		
5	Indeno(1,2,3-cd)pyrene	16.99	0.01	0.00	276	581998	399.71	200		
5	Dibenz(a,h)anthracene	17.05		0.00	278	89263	58.83	29		
5	Benzo(g,h,i)perylene	17.40	0.01	0.00	276	809205	491.76	240		

Prep Amount:	20.51 g	**Dilution:**	1.0
Prep Final Vol:	10 ml	**Unit Factor:**	1
Solids:	98.2 %		

Final Concentration = ((Soln Conc x Prep Final Vol x Dilution) / (Prep Amount x Solids)) x Unit Factor

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\112009\1120F034.D Vial: 31
Acq On : 21 Nov 2009 12:46 am Operator: LWeiskopf
Sample : K0909140-007 Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 23 08:36:25 2009 Quant Results File: 1119ALK.RES

Quant Method : J:\MS11\METHODS\SIM\1119ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Nov 23 08:36:00 2009
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	4.86	136	157091	200.00	ng/ml	0.00
10) Acenaphthene-d10	6.29	164	88205	200.00	ng/ml	0.00
22) Phenanthrene-d10	7.52	188	178607	200.00	ng/ml	0.00
37) Chrysene-d12	10.25	240	293029	200.00	ng/ml	-0.02
49) Perylene-d12	13.83	264	344117	200.00	ng/ml	-0.04
System Monitoring Compounds						
15) Fluorene-d10	6.72	176	71757	144.89	ng/ml	0.00
Spiked Amount 200.000			Recovery =	72.44%		
20) 2,4,6 Tribromophenol	0.00	330	0d	0.00	ng/ml	
Spiked Amount 375.000			Recovery =	0.00%		
36) Fluoranthene-d10	8.50	212	160921	149.02	ng/ml	0.00
Spiked Amount 200.000			Recovery =	74.51%		
42) Terphenyl-d14	8.89	244	158296	130.49	ng/ml	0.00
Spiked Amount 200.000			Recovery =	65.25%		
Target Compounds						Qvalue
2) Naphthalene	4.88	128	443356	641.62	ng/ml	98
3) 2-Methylnaphthalene	5.43	142	68696	138.01	ng/ml	100
4) 1-Methylnaphthalene	5.52	142	35304	73.94	ng/ml	94
5) Biphenyl	5.81	154	32924	55.59	ng/ml	97
6) 2,6-Dimethylnaphthalene	5.95	156	42704	93.35	ng/ml	100
11) Acenaphthylene	6.17	152	112930	155.80	ng/ml	99
12) Acenaphthene	6.31	154	46465	107.92	ng/ml	98
13) Dibenzofuran	6.46	168	57775	88.60	ng/ml	66
14) 2,3,5-Trimethylnaphthalene	6.63	170	28195	61.32	ng/ml	91
16) Fluorene	6.74	166	63689m	116.77	ng/ml	
23) Dibenzothiophene	7.43	184	56619	71.17	ng/ml	87
27) Phenanthrene	7.54	178	779729	818.83	ng/ml	99
28) Anthracene	7.59	178	141068	154.16	ng/ml	96
29) Carbazole	7.72	167	12575m	16.09	ng/ml	
30) 1-Methylphenanthrene	8.04	192	67712	91.34	ng/ml	96
35) Fluoranthene	8.52	202	1238295	1118.63	ng/ml	91
38) Pyrene	8.74	202	1494291	961.60	ng/ml	92
43) Benz(a)anthracene	10.23	228	495655	331.10	ng/ml	65
44) Chrysene	10.29	228	647307	452.79	ng/ml	96
50) Benzo(b)fluoranthene	12.63	252	902475	503.32	ng/ml	99
51) Benzo(k)fluoranthene	12.70	252	282972	166.54	ng/ml	100
52) Benzo(e)pyrene	13.46	252	598628	364.31	ng/ml	100
53) Benzo(a)pyrene	13.63	252	749843	474.70	ng/ml	100
54) Perylene	13.92	252	374546	240.10	ng/ml	96
55) Indeno(1,2,3-cd)pyrene	16.99	276	581998	399.71	ng/ml	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\112009\1120F034.D Vial: 31
Acq On : 21 Nov 2009 12:46 am Operator: LWeiskopf
Sample : K0909140-007 Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 23 08:36:25 2009 Quant Results File: 1119ALK.RES

Quant Method : J:\MS11\METHODS\SIM\1119ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Nov 23 08:36:00 2009
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

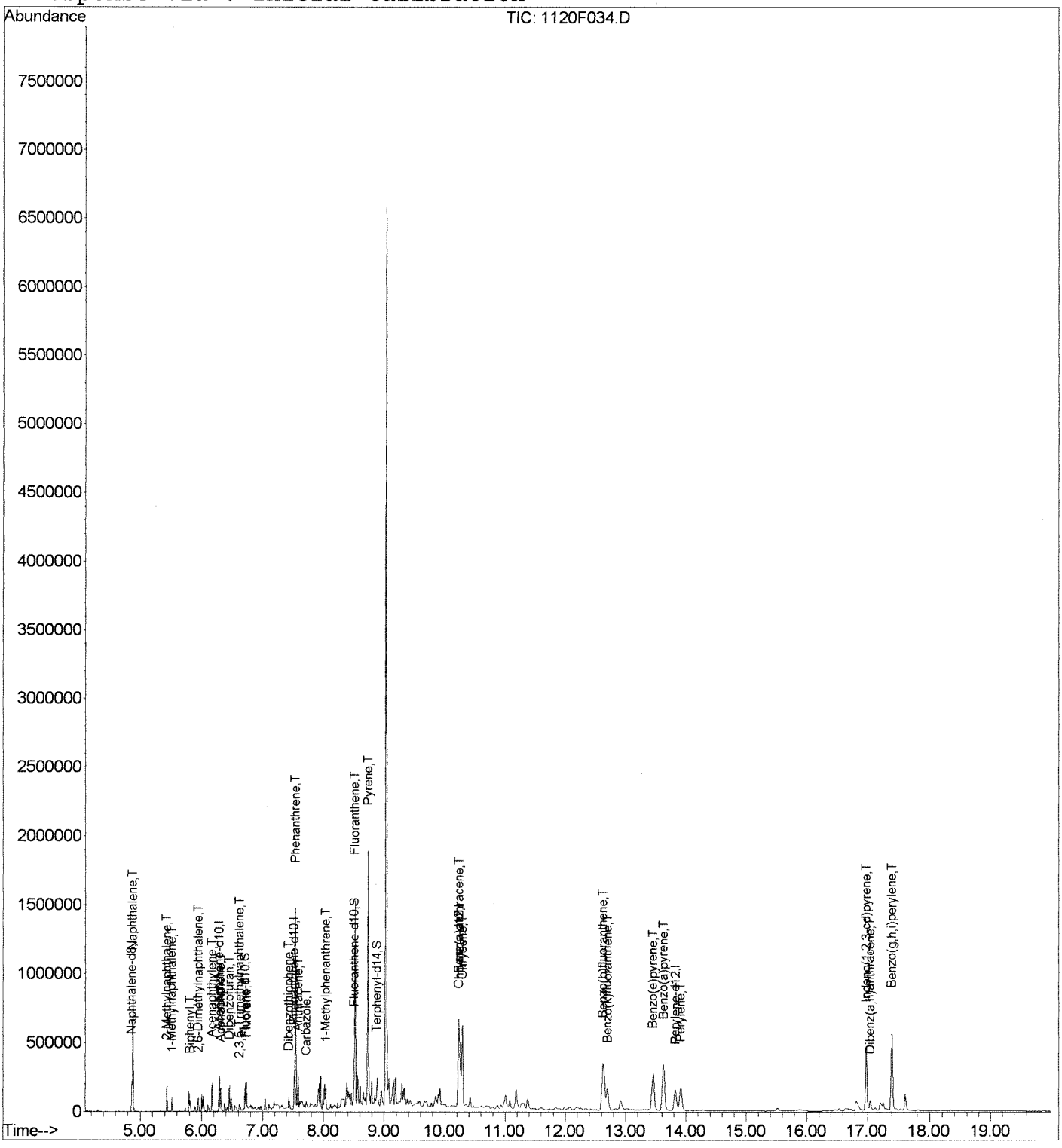
	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
56)	Dibenz(a,h)anthracene	17.05	278	89263	58.83	ng/ml	88
57)	Benzo(g,h,i)perylene	17.40	276	809205	491.76	ng/ml	99

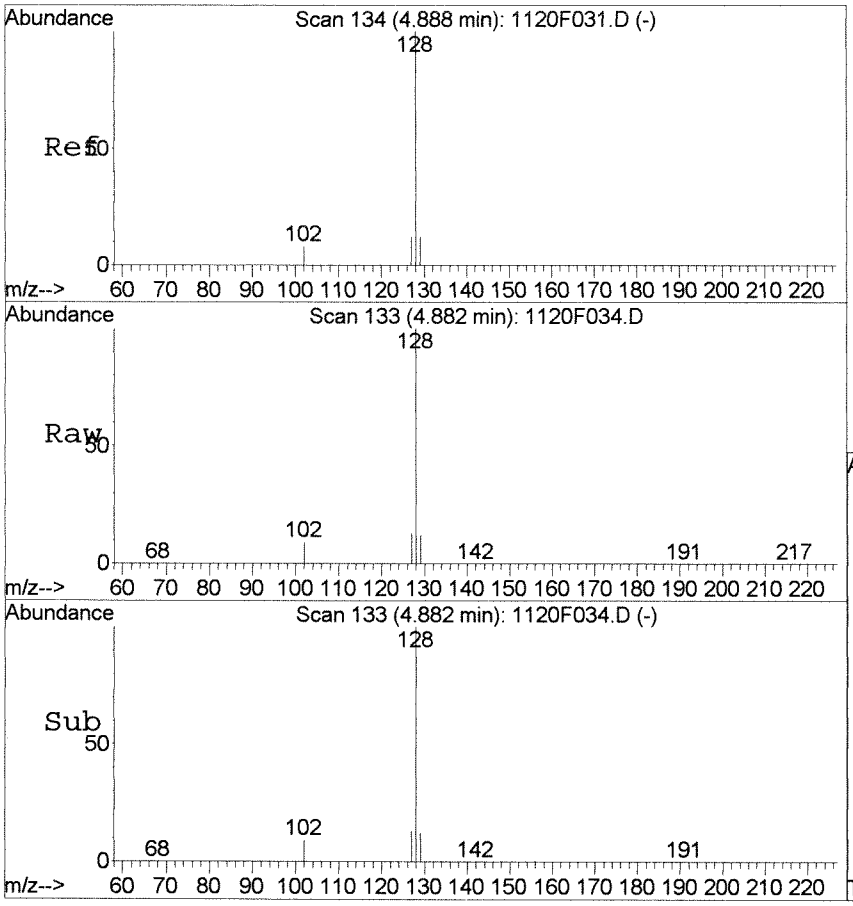
(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\112009\1120F034.D Vial: 31
Acq On : 21 Nov 2009 12:46 am Operator: LWeiskopf
Sample : K0909140-007 Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 23 8:40 2009 Quant Results File: 1119ALK.RES

Method : J:\MS11\METHODS\SIM\1119ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Nov 23 08:36:00 2009
Response via : Initial Calibration

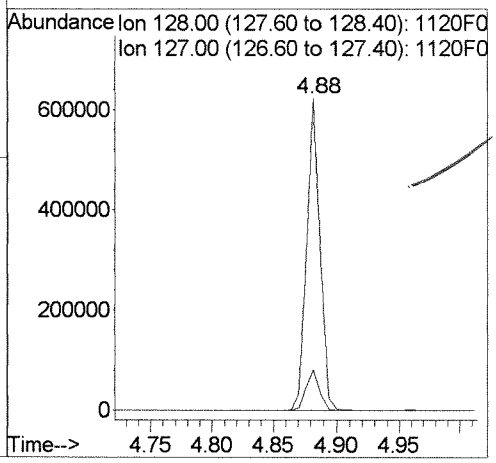


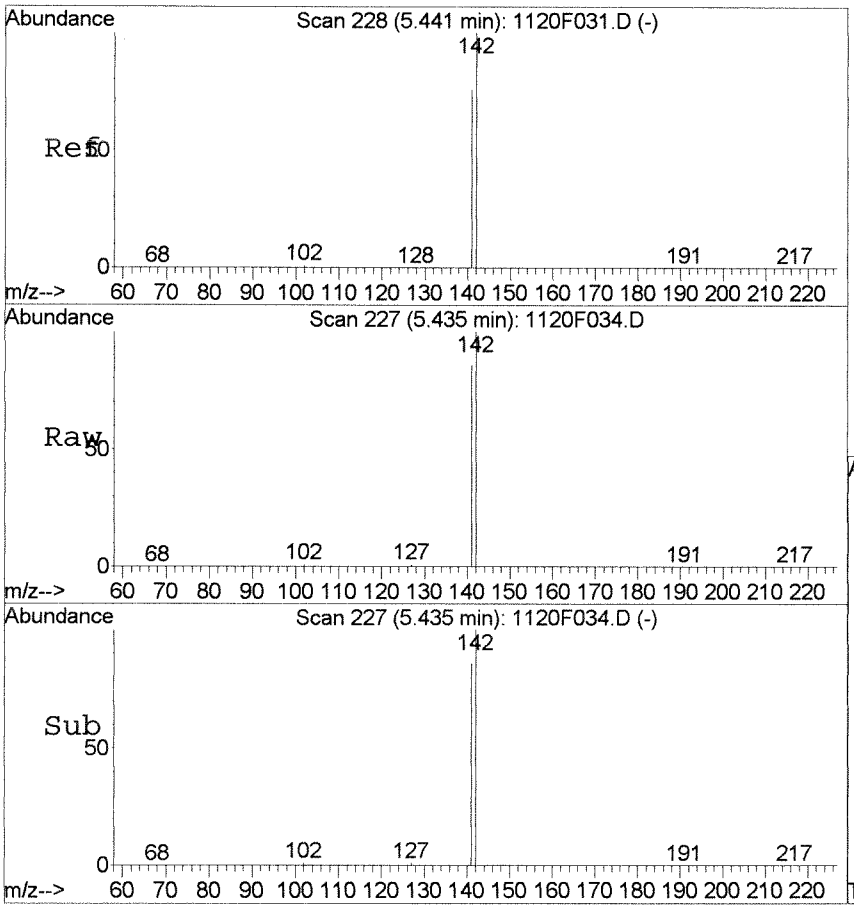


#2
Naphthalene
Concen: 641.62 ng/ml
RT: 4.88 min Scan# 133
Delta R.T. -0.01 min
Lab File: 1120F034.D
Acq: 21 Nov 2009 12:46 am

Tgt Ion:128 Resp: 443356

Ion	Ratio	Lower	Upper
128	100		
127	13.0	0.0	42.4

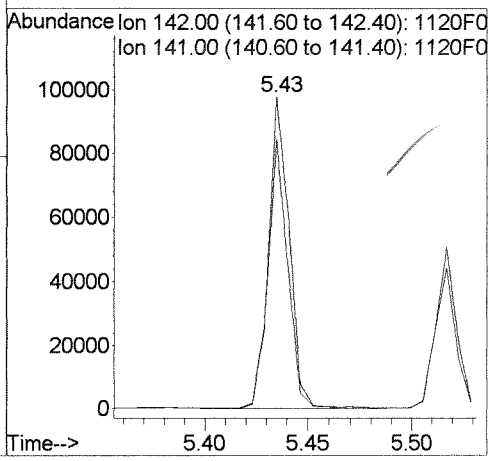


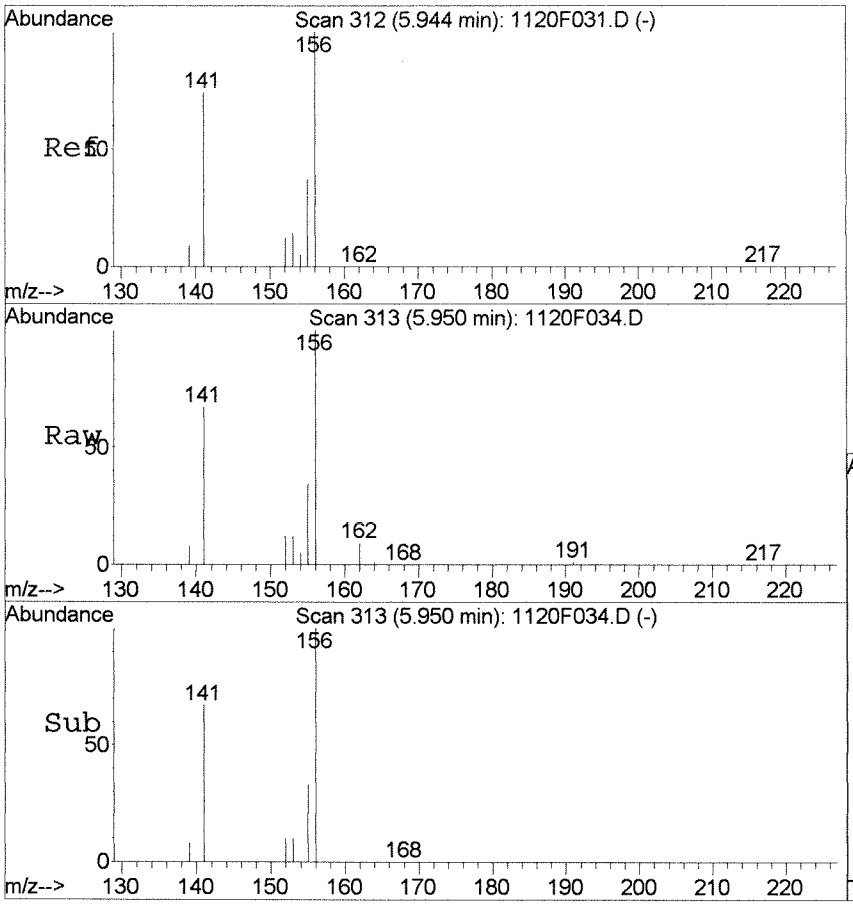


#3
2-Methylnaphthalene
Concen: 138.01 ng/ml
RT: 5.43 min Scan# 227
Delta R.T. -0.01 min
Lab File: 1120F034.D
Acq: 21 Nov 2009 12:46 am

Tgt Ion:142 Resp: 68696

Ion	Ratio	Lower	Upper
142	100		
141	86.1	56.1	116.1

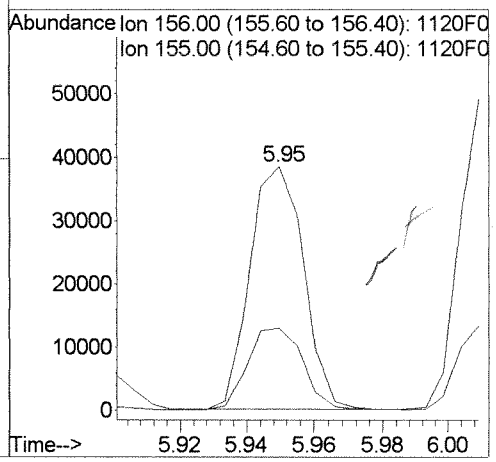


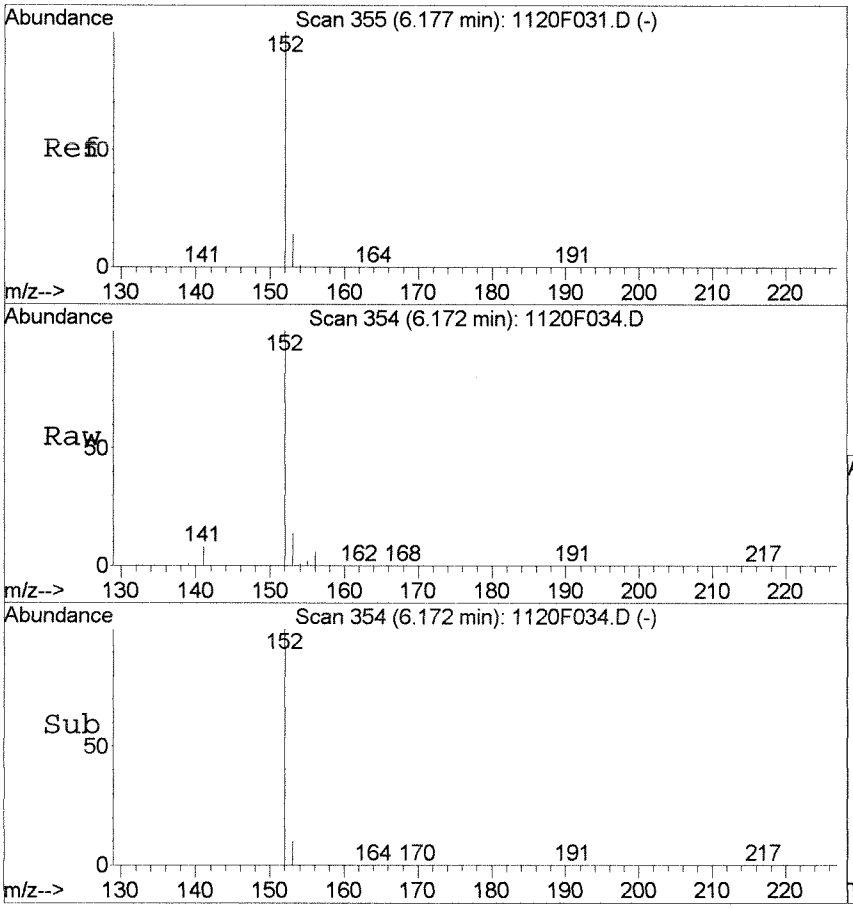


#6
2,6-Dimethylnaphthalene
Concen: 93.35 ng/ml
RT: 5.95 min Scan# 313
Delta R.T. -0.00 min
Lab File: 1120F034.D
Acq: 21 Nov 2009 12:46 am

Tgt Ion:156 Resp: 42704

Ion	Ratio	Lower	Upper
156	100		
155	33.4	3.7	63.7

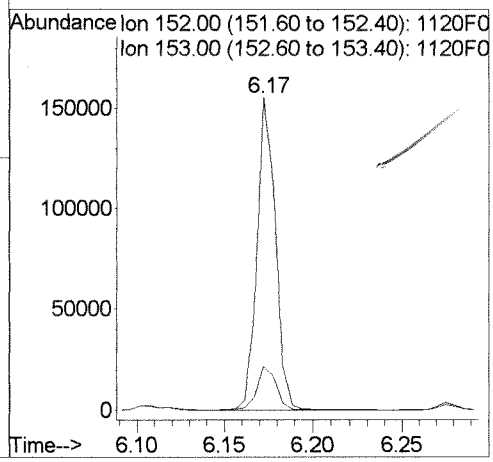


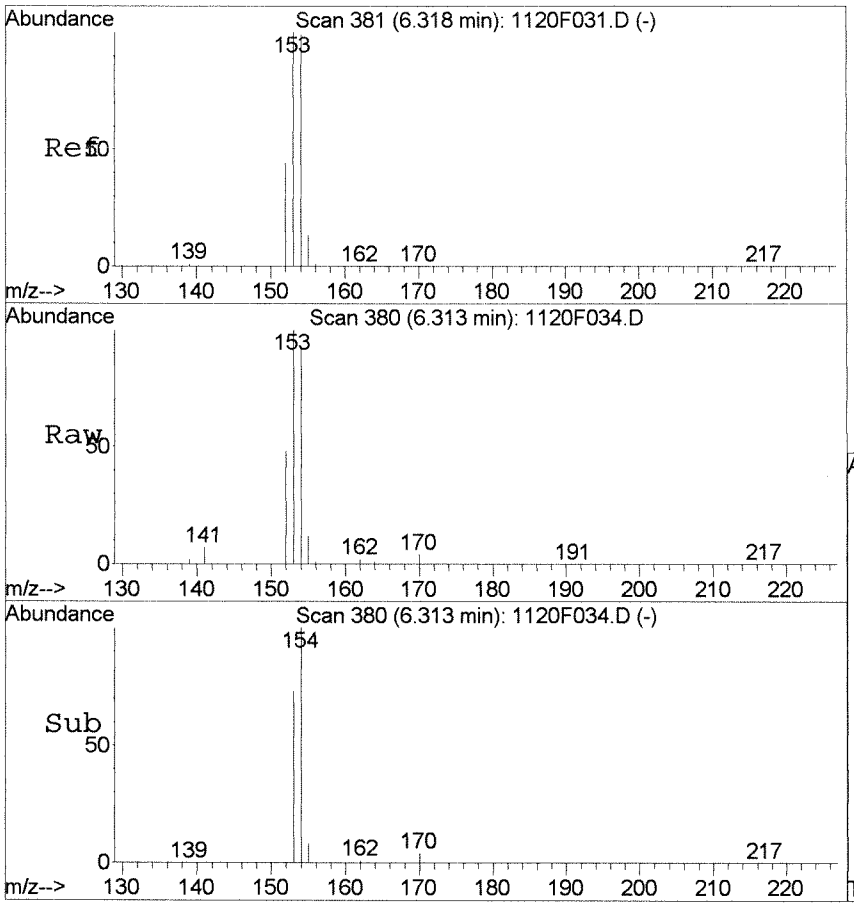


#11
Acenaphthylene
Concen: 155.80 ng/ml
RT: 6.17 min Scan# 354
Delta R.T. -0.01 min
Lab File: 1120F034.D
Acq: 21 Nov 2009 12:46 am

Tgt Ion:152 Resp: 112930

Ion	Ratio	Lower	Upper
152	100		
153	13.8	0.0	44.1

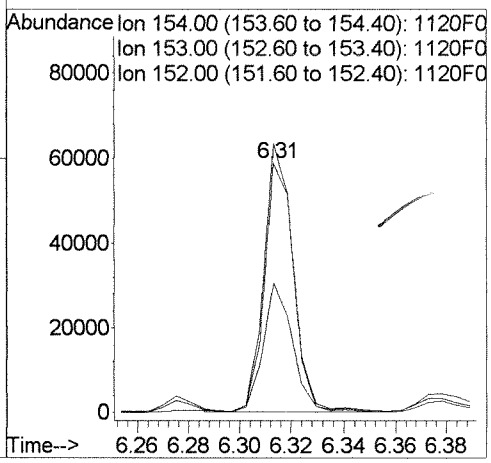


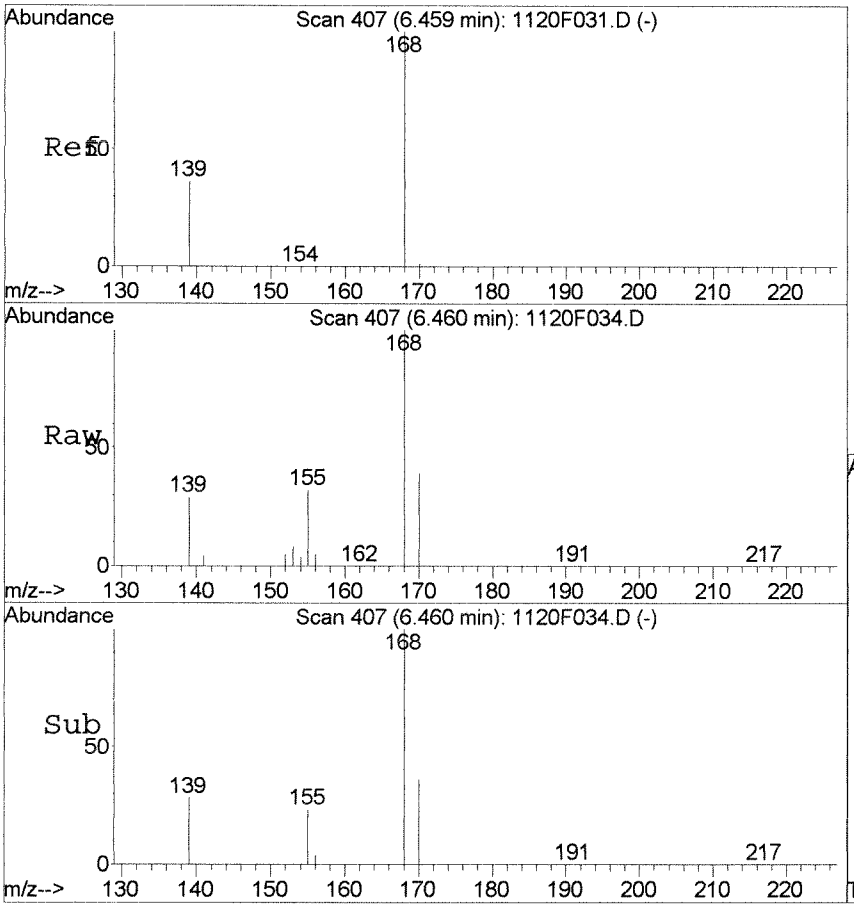


#12
Acenaphthene
Concen: 107.92 ng/ml
RT: 6.31 min Scan# 380
Delta R.T. -0.01 min
Lab File: 1120F034.D
Acq: 21 Nov 2009 12:46 am

Tgt Ion:154 Resp: 46465

Ion	Ratio	Lower	Upper
154	100		
153	107.4	77.8	137.8
152	51.6	24.7	84.7

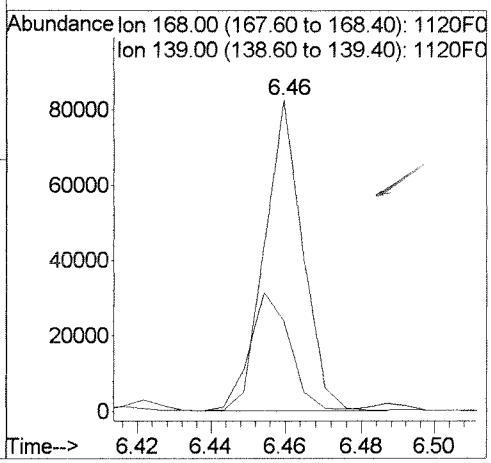


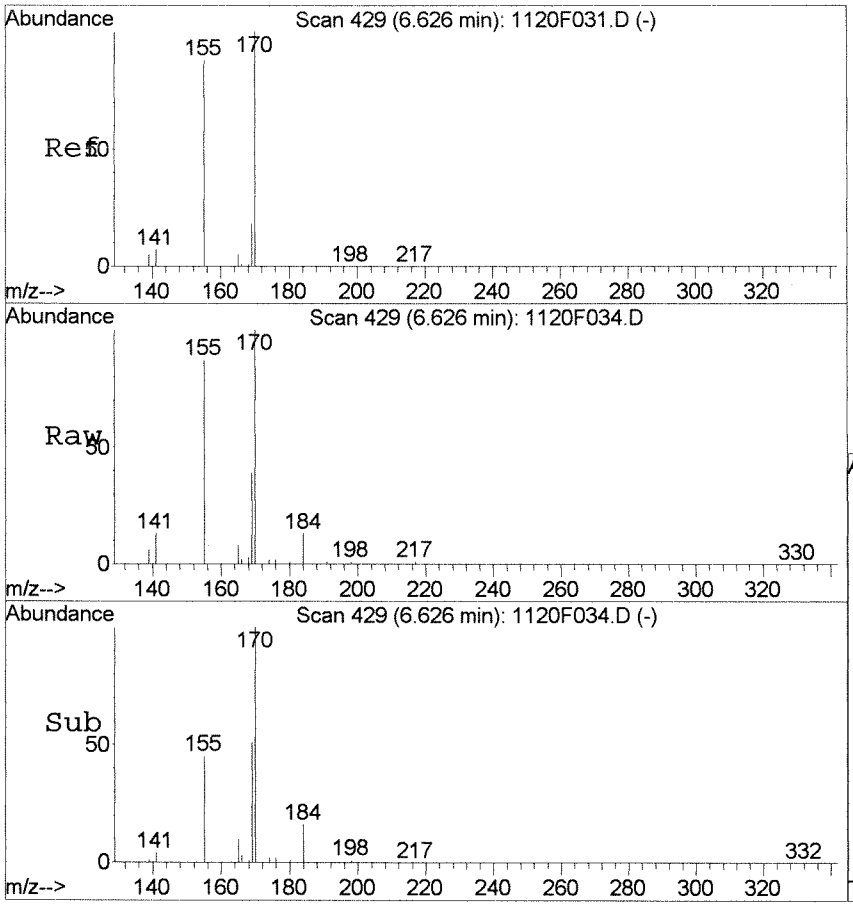


#13
Dibenzofuran
Concen: 88.60 ng/ml
RT: 6.46 min Scan# 407
Delta R.T. -0.00 min
Lab File: 1120F034.D
Acq: 21 Nov 2009 12:46 am

Tgt Ion:168 Resp: 57775

Ion	Ratio	Lower	Upper
168	100		
139	28.8	23.3	83.3

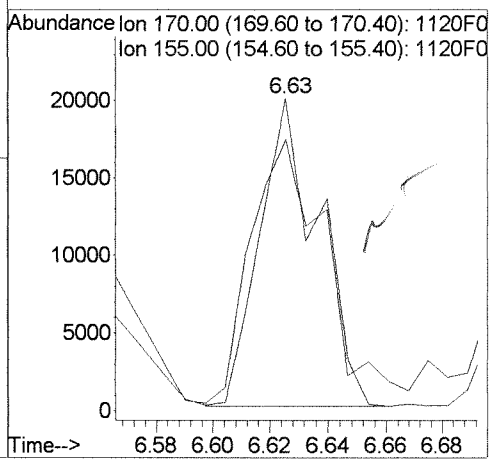


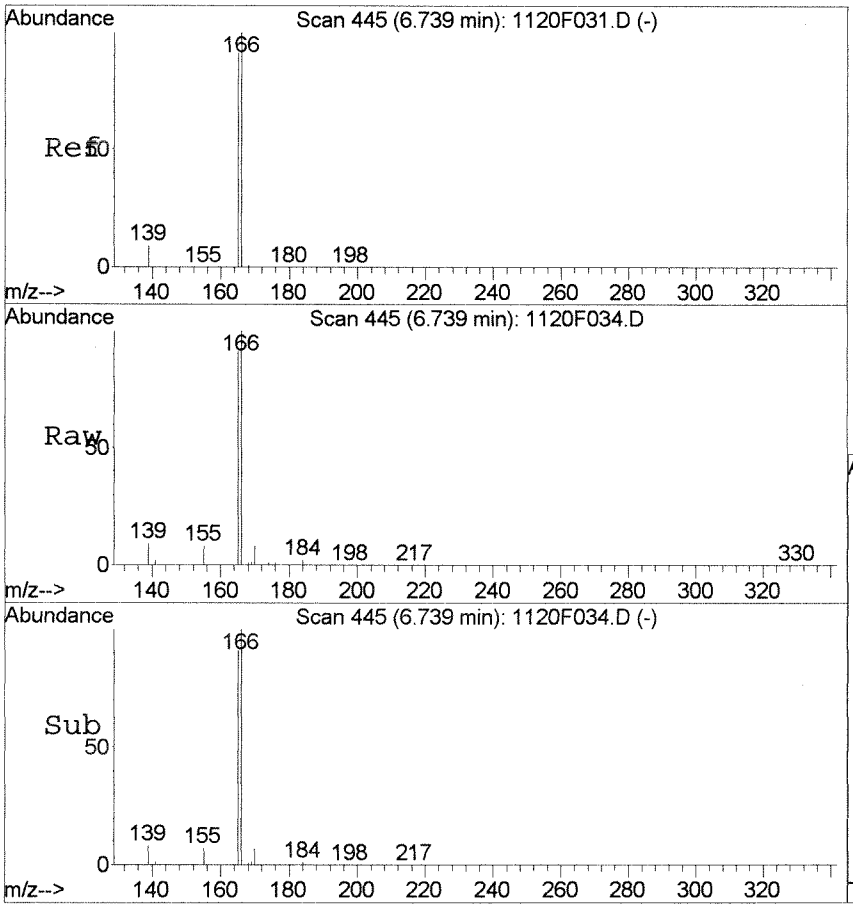


#14
2,3,5-Trimethylnaphthalene
Concen: 61.32 ng/ml
RT: 6.63 min Scan# 429
Delta R.T. -0.01 min
Lab File: 1120F034.D
Acq: 21 Nov 2009 12:46 am

Tgt Ion:170 Resp: 28195

Ion	Ratio	Lower	Upper
170	100		
155	85.6	48.2	108.2

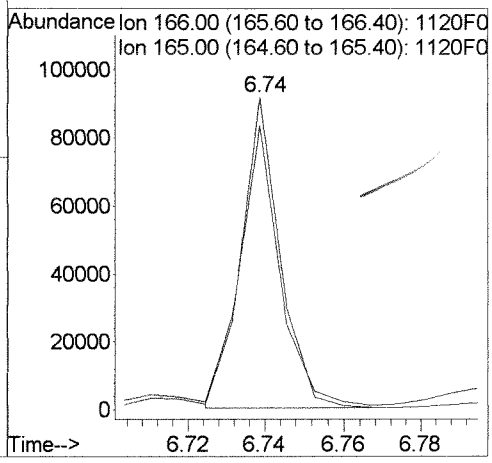


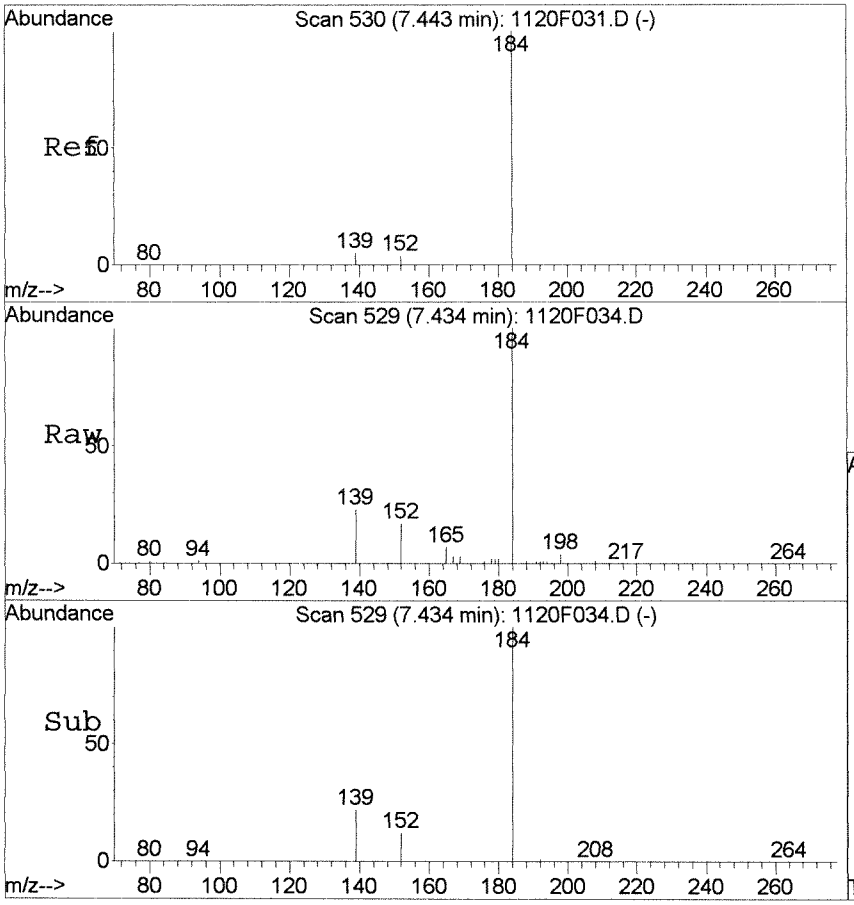


#16
Fluorene
Concen: 116.77 ng/ml m
RT: 6.74 min Scan# 445
Delta R.T. -0.01 min
Lab File: 1120F034.D
Acq: 21 Nov 2009 12:46 am

Tgt Ion:166 Resp: 63689

Ion	Ratio	Lower	Upper
166	100		
165	90.9	57.8	117.8

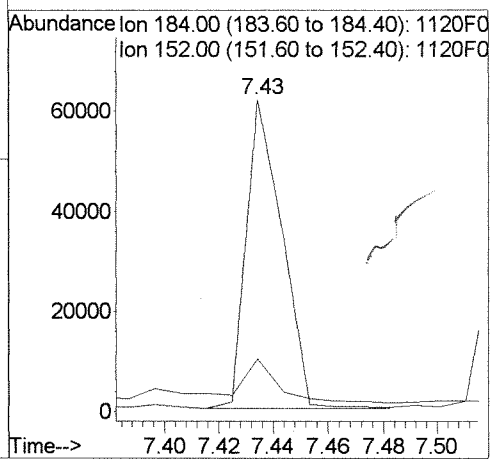


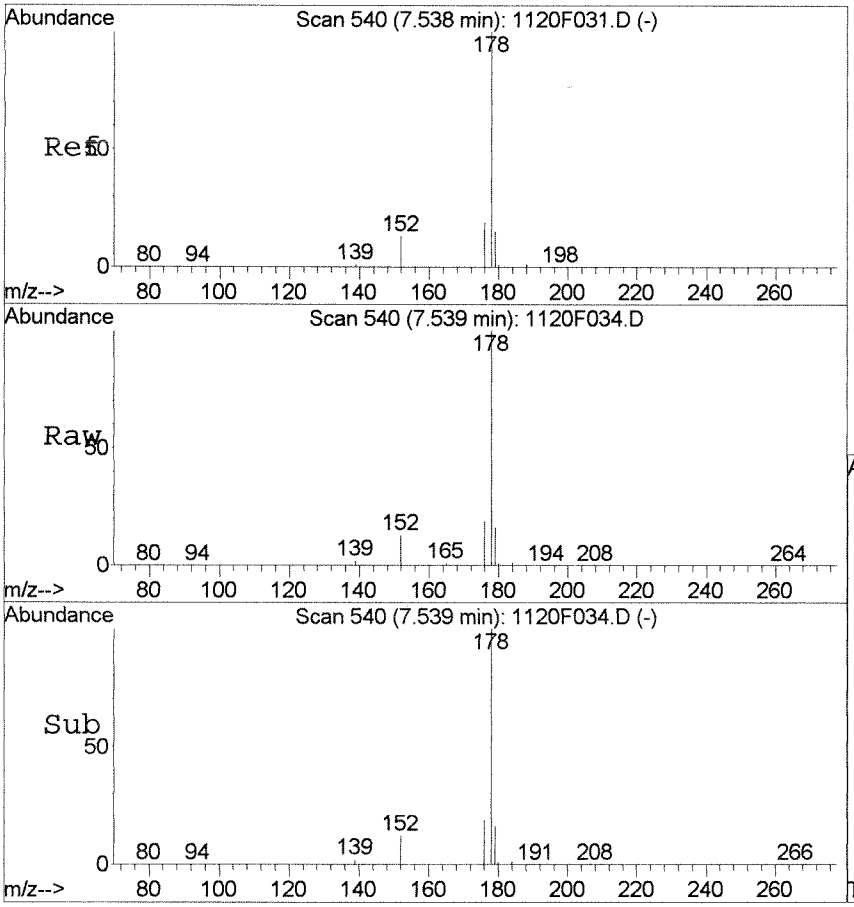


#23
Dibenzothiophene
Concen: 71.17 ng/ml
RT: 7.43 min Scan# 529
Delta R.T. -0.00 min
Lab File: 1120F034.D
Acq: 21 Nov 2009 12:46 am

Tgt Ion:184 Resp: 56619

Ion	Ratio	Lower	Upper
184	100		
152	14.1	0.0	39.4

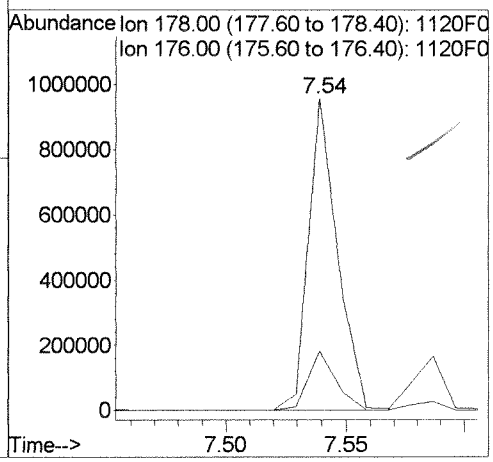


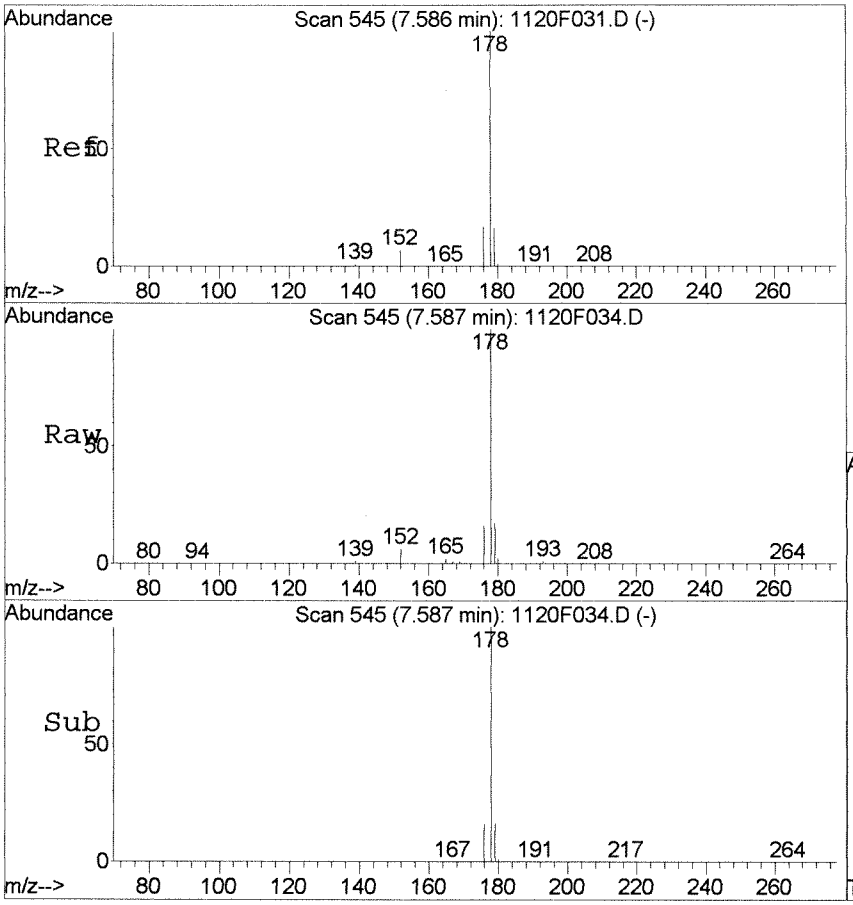


#27
Phenanthrene
Concen: 818.83 ng/ml
RT: 7.54 min Scan# 540
Delta R.T. -0.01 min
Lab File: 1120F034.D
Acq: 21 Nov 2009 12:46 am

Tgt Ion:178 Resp: 779729

Ion	Ratio	Lower	Upper
178	100		
176	19.0	0.0	49.6

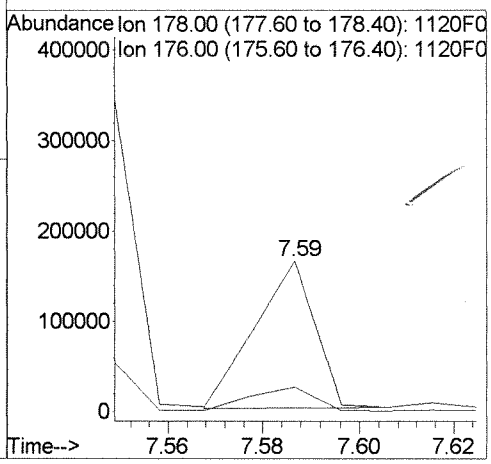


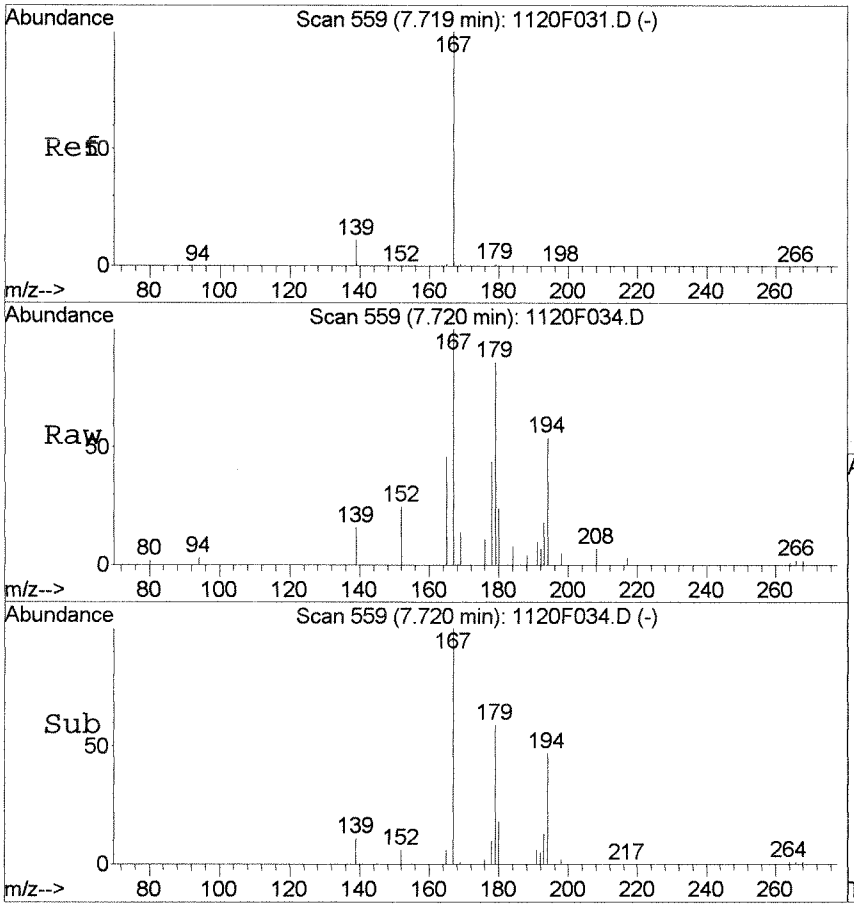


#28
Anthracene
Concen: 154.16 ng/ml
RT: 7.59 min Scan# 545
Delta R.T. 0.00 min
Lab File: 1120F034.D
Acq: 21 Nov 2009 12:46 am

Tgt Ion:178 Resp: 141068

Ion	Ratio	Lower	Upper
178	100		
176	16.0	0.0	47.6

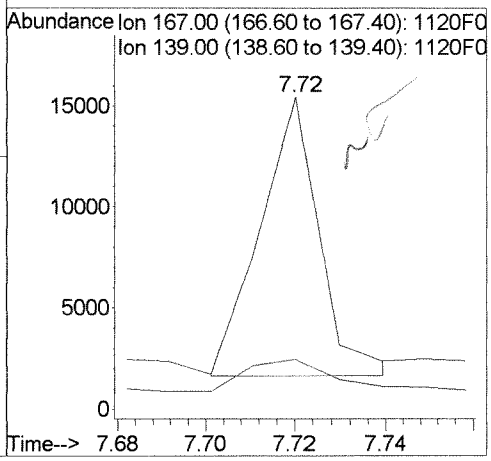


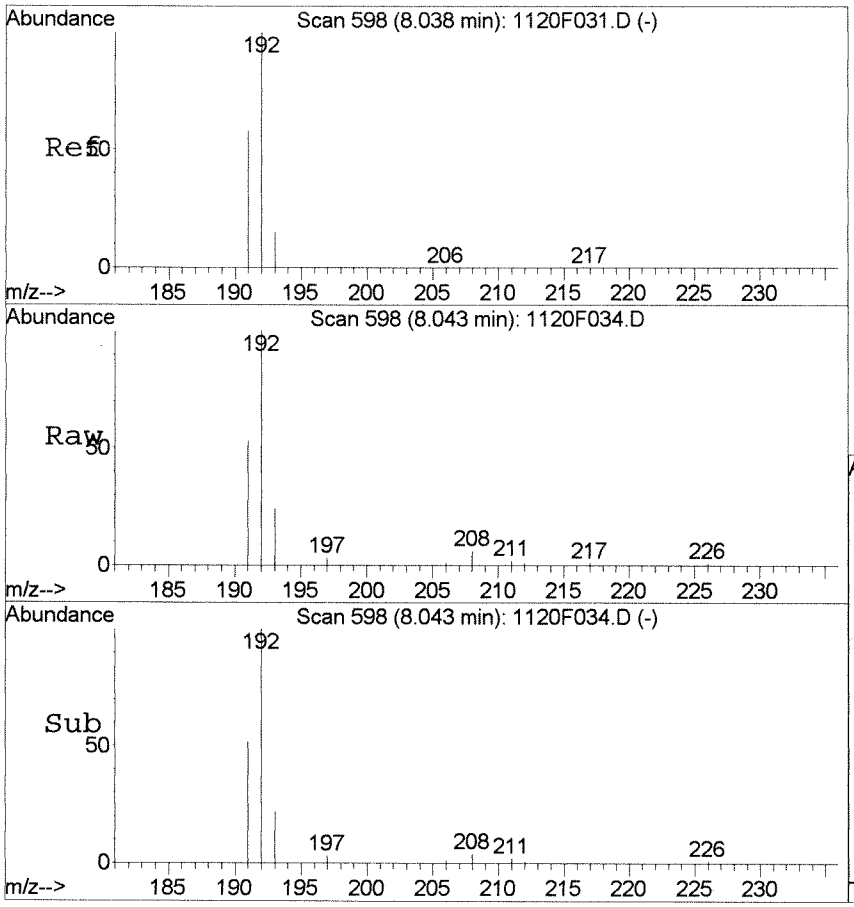


#29
Carbazole
Concen: 16.09 ng/ml m
RT: 7.72 min Scan# 559
Delta R.T. -0.00 min
Lab File: 1120F034.D
Acq: 21 Nov 2009 12:46 am

Tgt Ion:167 Resp: 12575

Ion	Ratio	Lower	Upper
167	100		
139	16.0	0.0	45.7

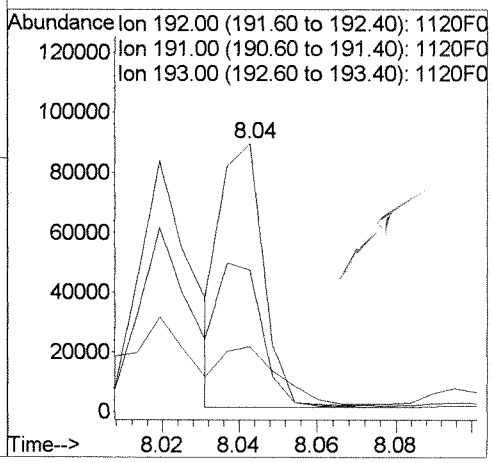


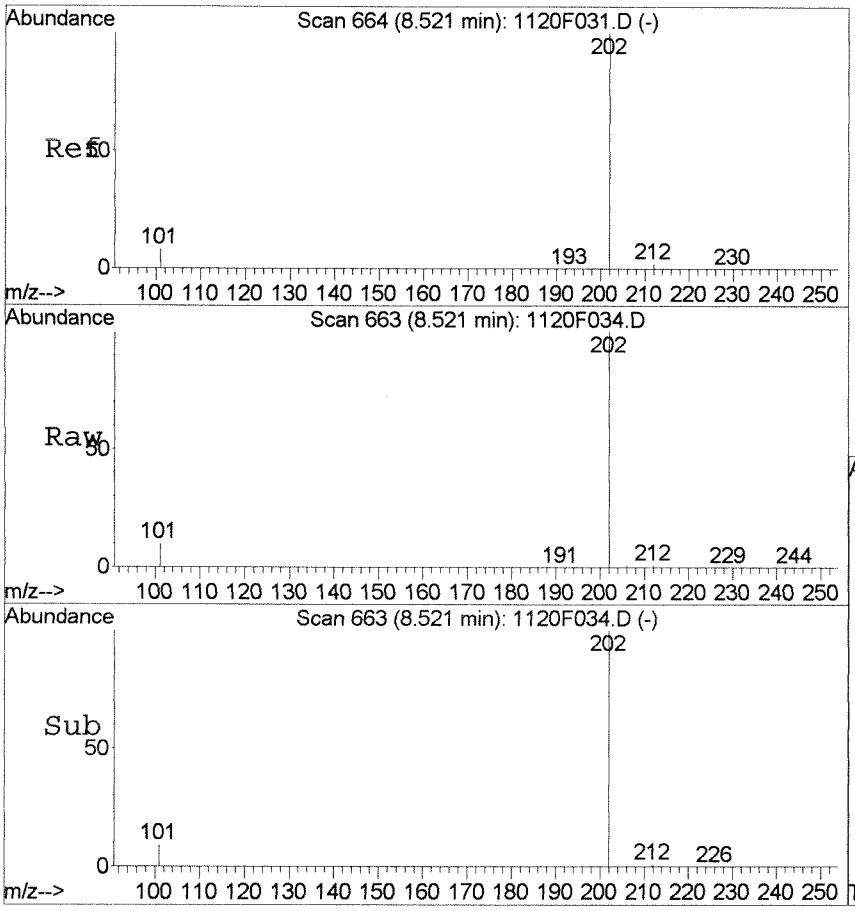


#30
1-Methylphenanthrene
Concen: 91.34 ng/ml
RT: 8.04 min Scan# 598
Delta R.T. -0.01 min
Lab File: 1120F034.D
Acq: 21 Nov 2009 12:46 am

Tgt Ion:192 Resp: 67712

Ion	Ratio	Lower	Upper
192	100		
191	51.6	23.0	83.0
193	21.7	0.0	47.0

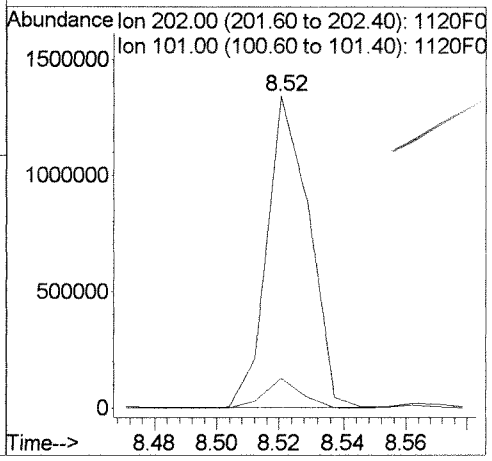


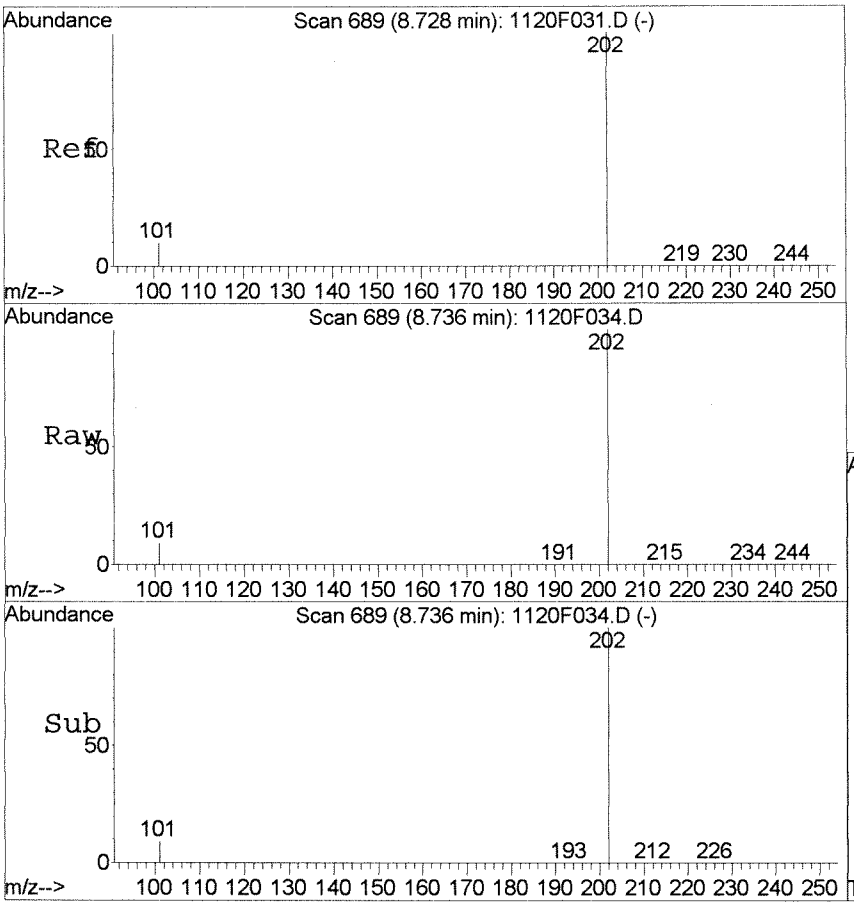


#35
Fluoranthene
Concen: 1118.63 ng/ml
RT: 8.52 min Scan# 663
Delta R.T. -0.01 min
Lab File: 1120F034.D
Acq: 21 Nov 2009 12:46 am

Tgt Ion:202 Resp: 1238295

Ion	Ratio	Lower	Upper
202	100		
101	9.6	0.0	36.5

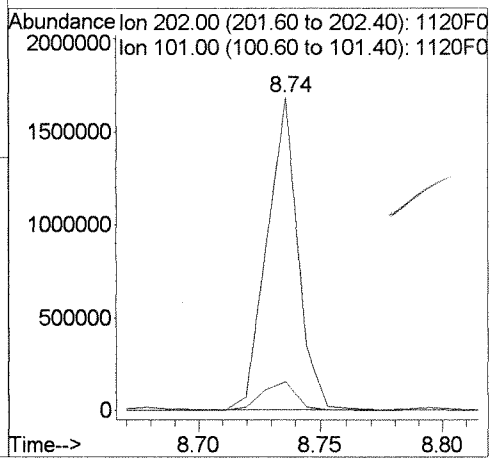


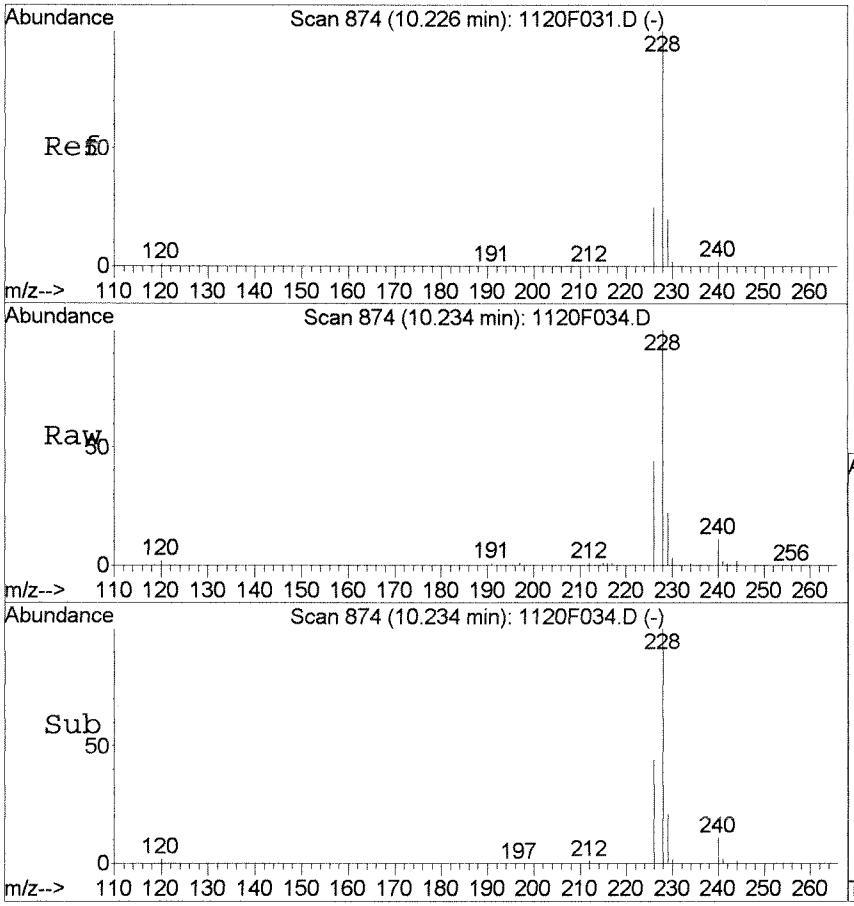


#38
Pyrene
Concen: 961.60 ng/ml
RT: 8.74 min Scan# 689
Delta R.T. -0.01 min
Lab File: 1120F034.D
Acq: 21 Nov 2009 12:46 am

Tgt Ion:202 Resp: 1494291

Ion	Ratio	Lower	Upper
202	100		
101	9.2	0.0	36.4

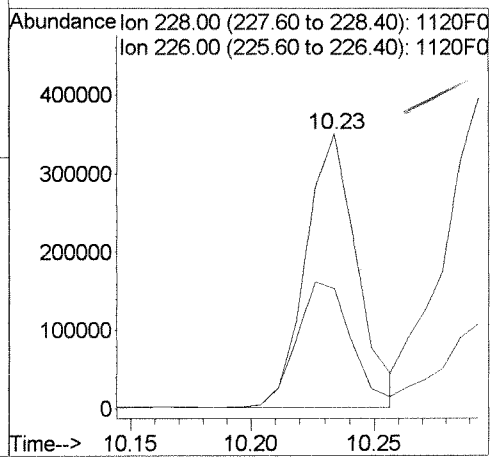


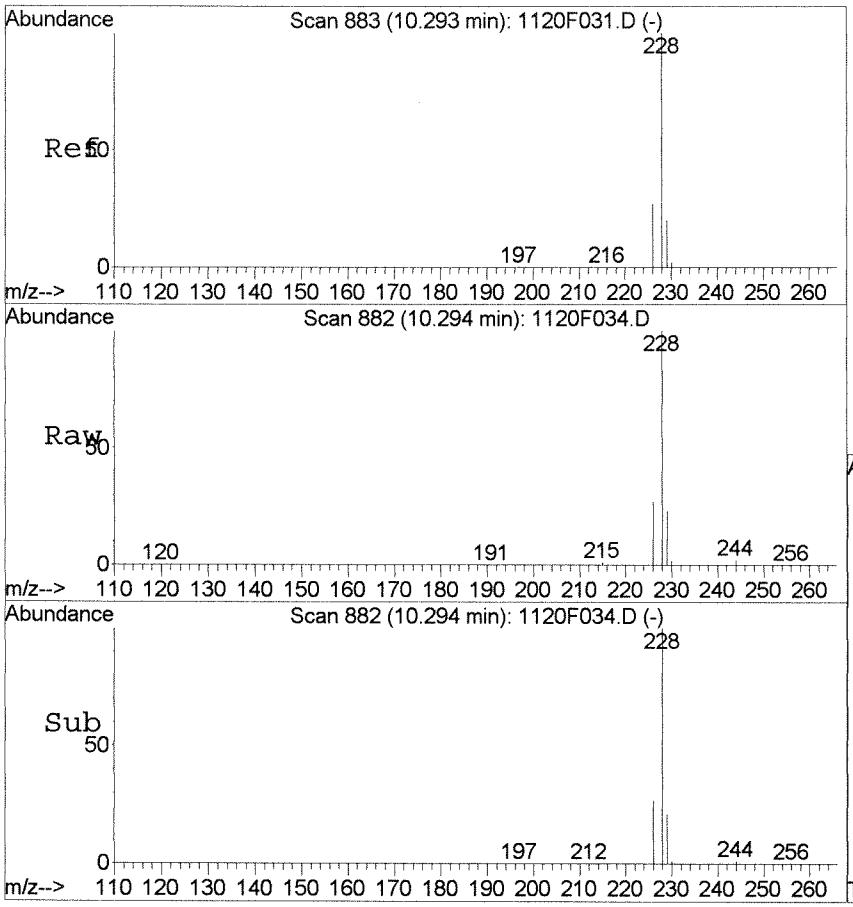


#43
Benz(a)anthracene
Concen: 331.10 ng/ml
RT: 10.23 min Scan# 874
Delta R.T. -0.02 min
Lab File: 1120F034.D
Acq: 21 Nov 2009 12:46 am

Tgt Ion:228 Resp: 495655

Ion	Ratio	Lower	Upper
228	100		
226	43.5	0.0	55.9

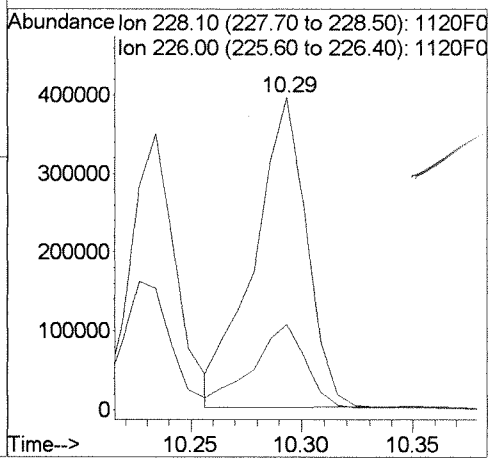


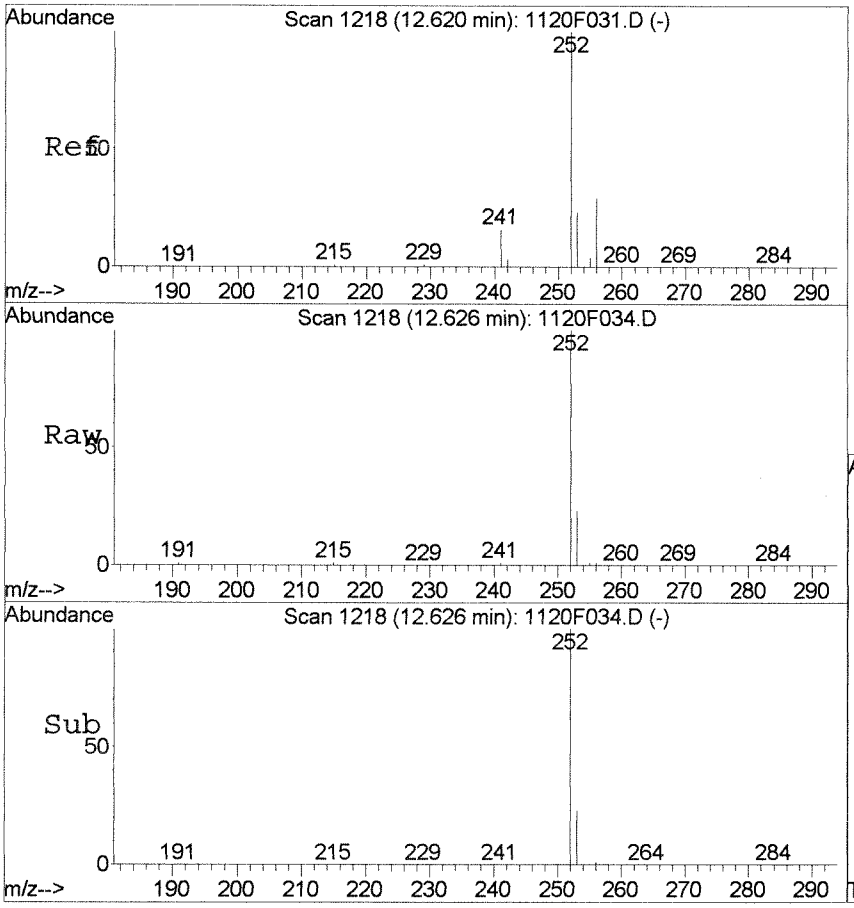


#44
Chrysene
Concen: 452.79 ng/ml
RT: 10.29 min Scan# 882
Delta R.T. -0.02 min
Lab File: 1120F034.D
Acq: 21 Nov 2009 12:46 am

Tgt Ion:228 Resp: 647307

Ion	Ratio	Lower	Upper
228	100		
226	26.7	0.0	58.8

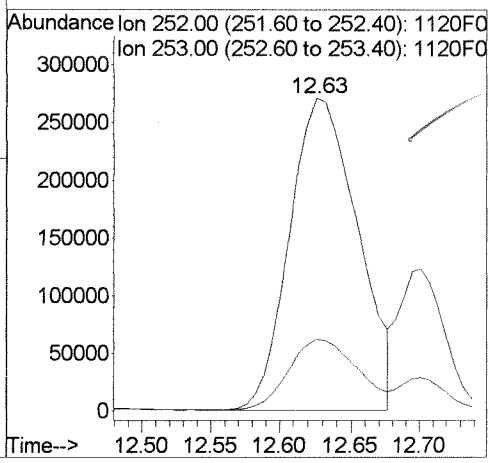


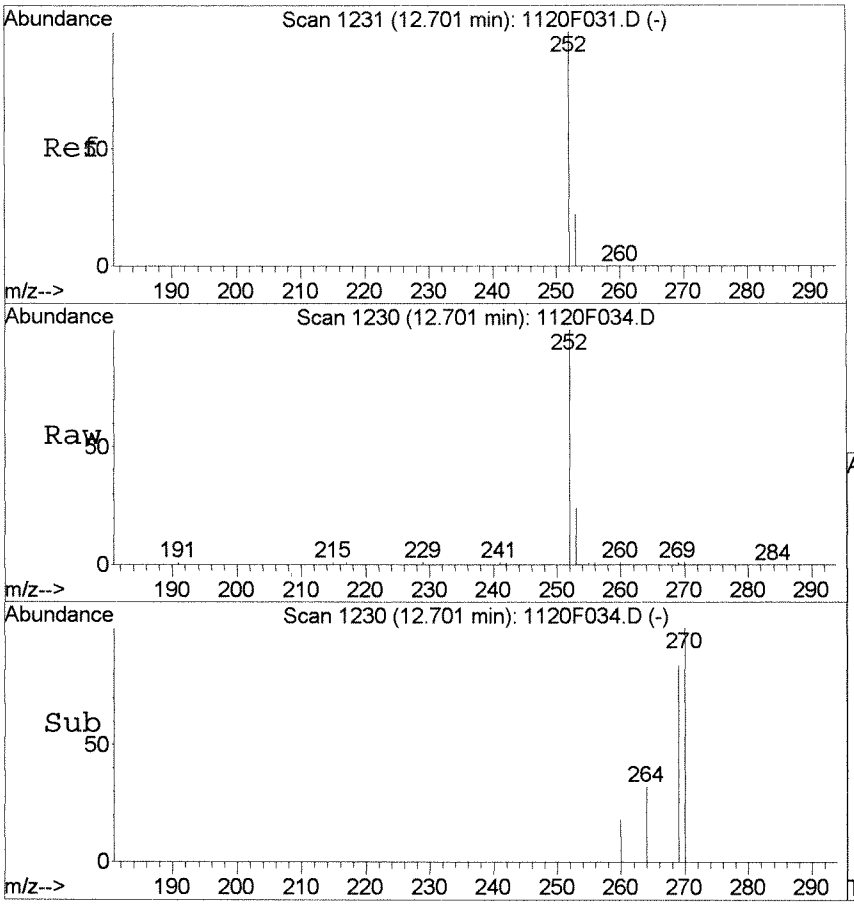


#50
Benzo(b)fluoranthene
Concen: 503.32 ng/ml
RT: 12.63 min Scan# 1218
Delta R.T. -0.03 min
Lab File: 1120F034.D
Acq: 21 Nov 2009 12:46 am

Tgt Ion:252 Resp: 902475

Ion	Ratio	Lower	Upper
252	100		
253	22.5	0.0	52.8

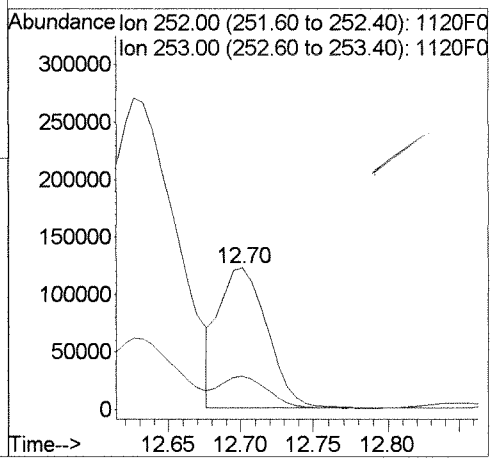


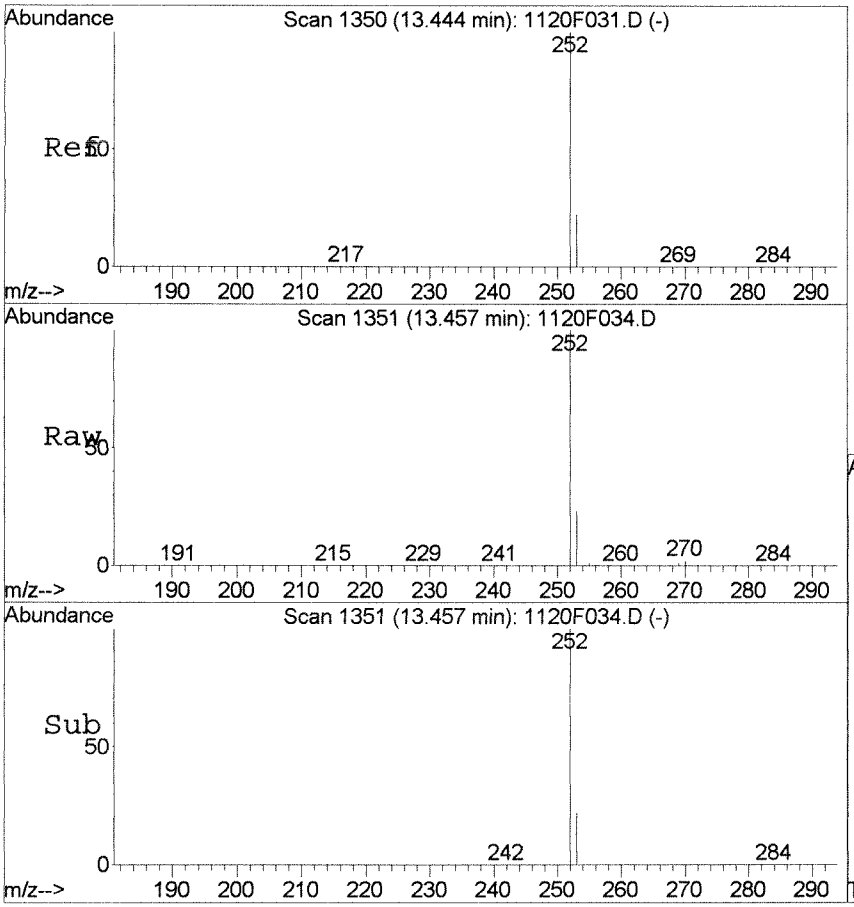


#51
Benzo(k)fluoranthene
Concen: 166.54 ng/ml
RT: 12.70 min Scan# 1230
Delta R.T. -0.04 min
Lab File: 1120F034.D
Acq: 21 Nov 2009 12:46 am

Tgt Ion:252 Resp: 282972

Ion	Ratio	Lower	Upper
252	100		
253	22.4	0.0	52.5

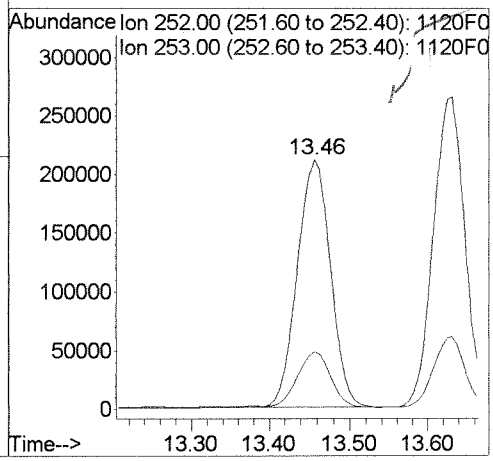


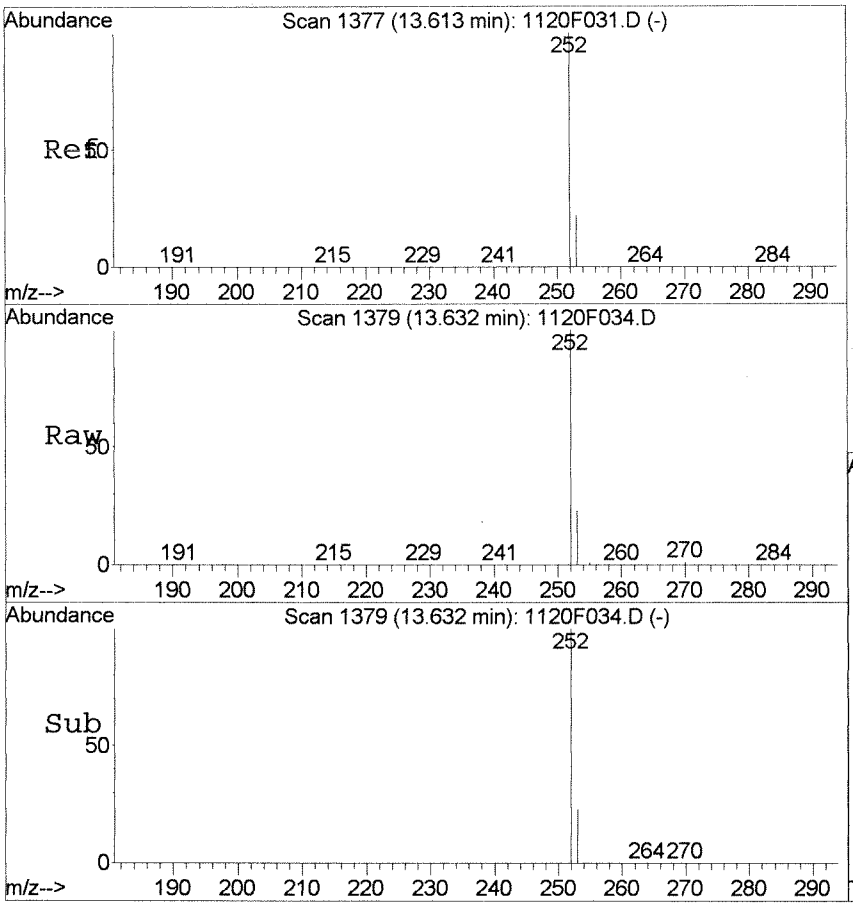


#52
Benzo(e)pyrene
Concen: 364.31 ng/ml
RT: 13.46 min Scan# 1351
Delta R.T. -0.04 min
Lab File: 1120F034.D
Acq: 21 Nov 2009 12:46 am

Tgt Ion:252 Resp: 598628

Ion	Ratio	Lower	Upper
252	100		
253	22.5	0.0	52.3

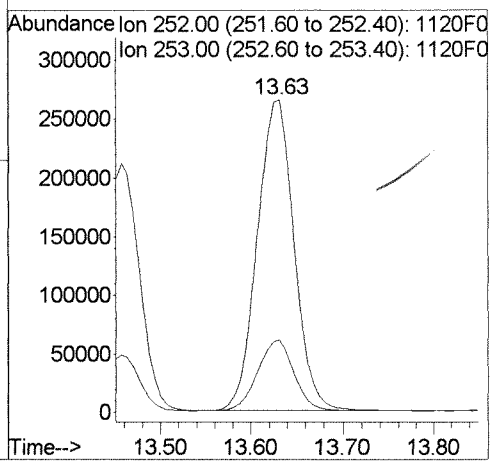


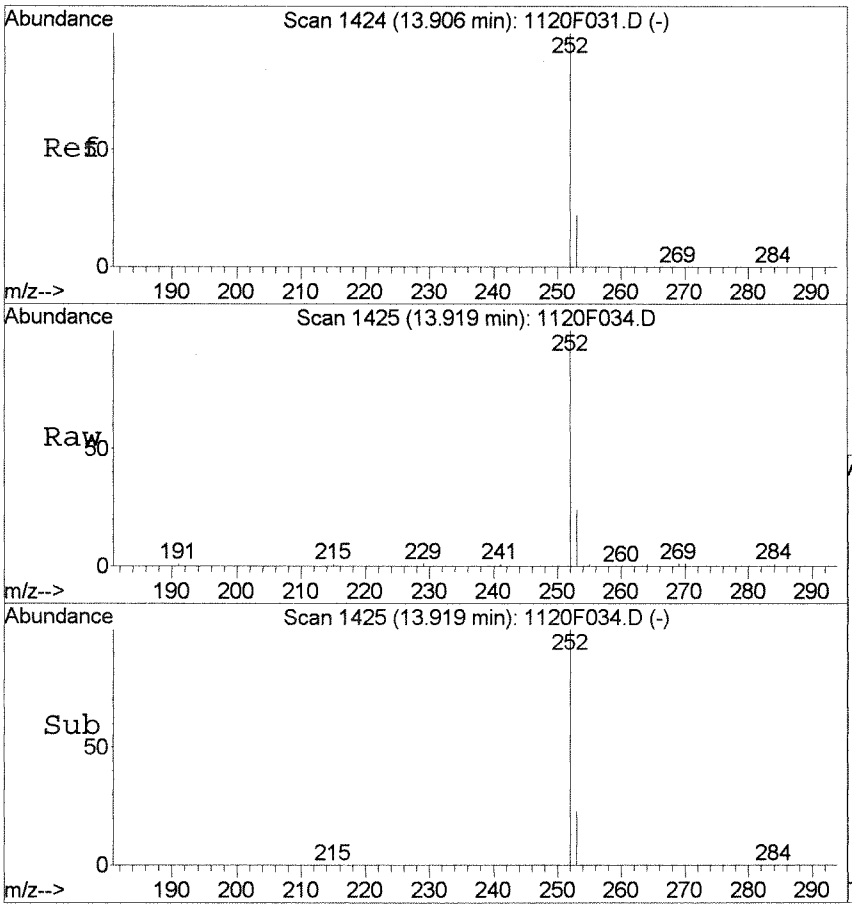


#53
Benzo(a)pyrene
Concen: 474.70 ng/ml
RT: 13.63 min Scan# 1379
Delta R.T. -0.04 min
Lab File: 1120F034.D
Acq: 21 Nov 2009 12:46 am

Tgt Ion:252 Resp: 749843

Ion	Ratio	Lower	Upper
252	100		
253	22.7	0.0	52.6

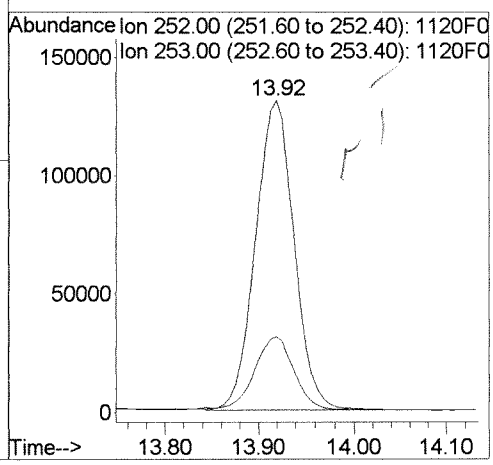


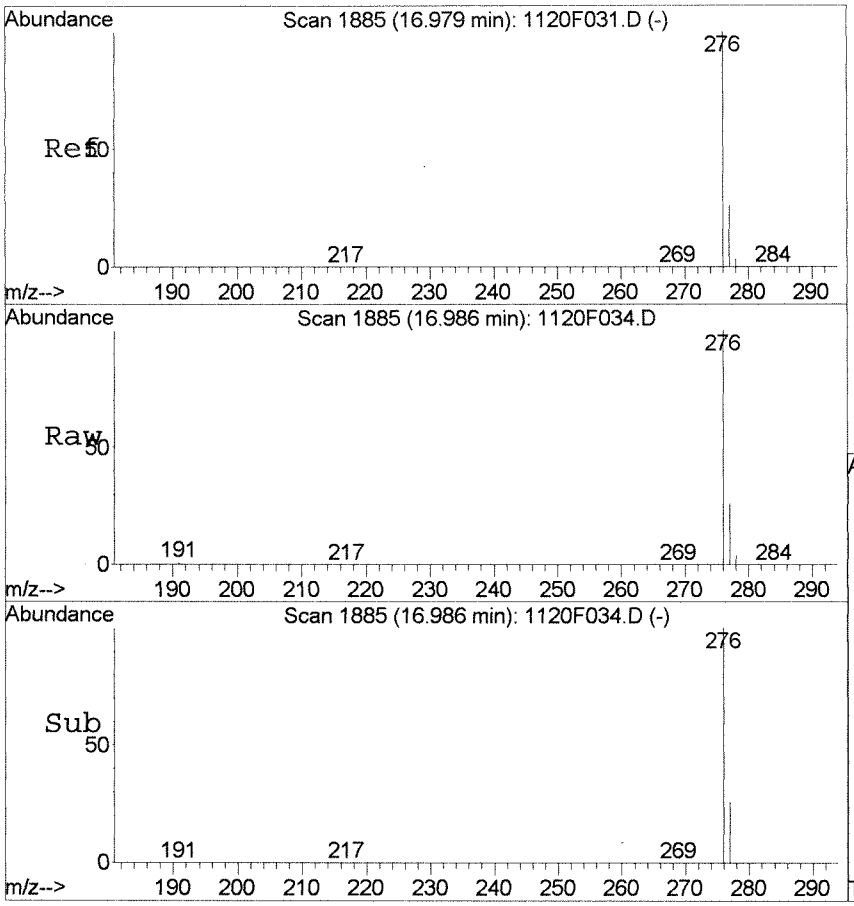


#54
Perylene
Concen: 240.10 ng/ml
RT: 13.92 min Scan# 1425
Delta R.T. -0.04 min
Lab File: 1120F034.D
Acq: 21 Nov 2009 12:46 am

Tgt Ion:252 Resp: 374546

Ion	Ratio	Lower	Upper
252	100		
253	23.7	0.0	52.0

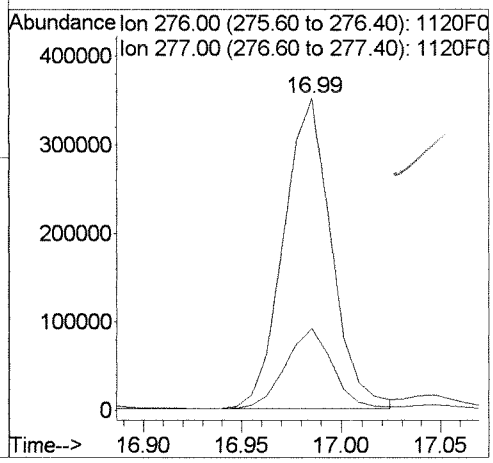


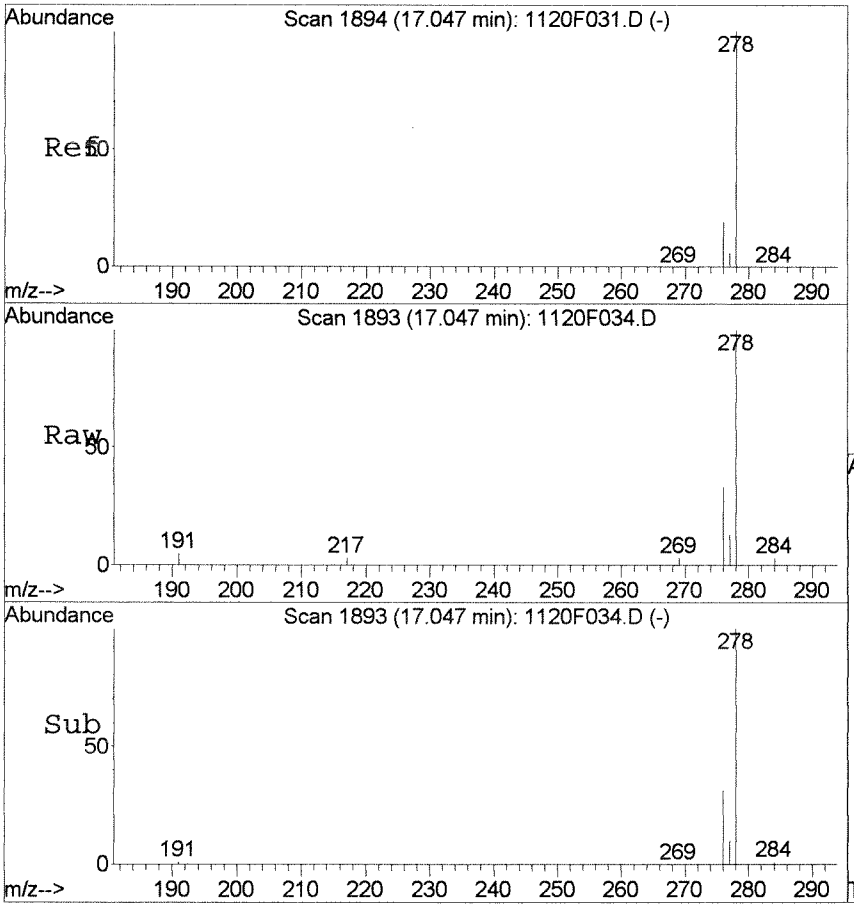


#55
Indeno(1,2,3-cd)pyrene
Concen: 399.71 ng/ml
RT: 16.99 min Scan# 1885
Delta R.T. -0.02 min
Lab File: 1120F034.D
Acq: 21 Nov 2009 12:46 am

Tgt Ion:276 Resp: 581998

Ion	Ratio	Lower	Upper
276	100		
277	25.8	0.0	55.1

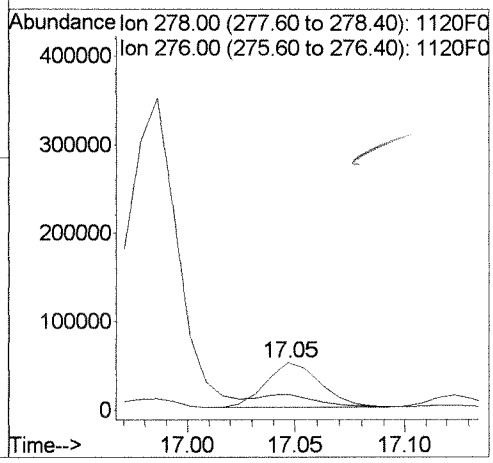


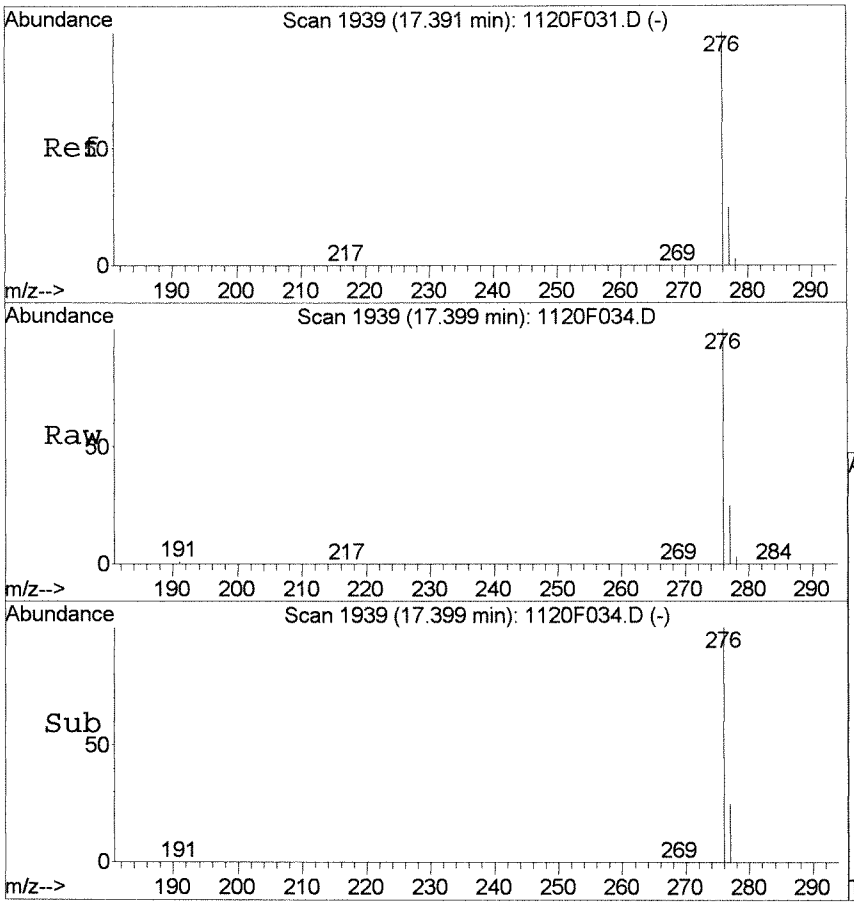


#56
Dibenz(a,h)anthracene
Concen: 58.83 ng/ml
RT: 17.05 min Scan# 1893
Delta R.T. -0.03 min
Lab File: 1120F034.D
Acq: 21 Nov 2009 12:46 am

Tgt Ion:278 Resp: 89263

Ion	Ratio	Lower	Upper
278	100		
276	27.9	0.0	52.1

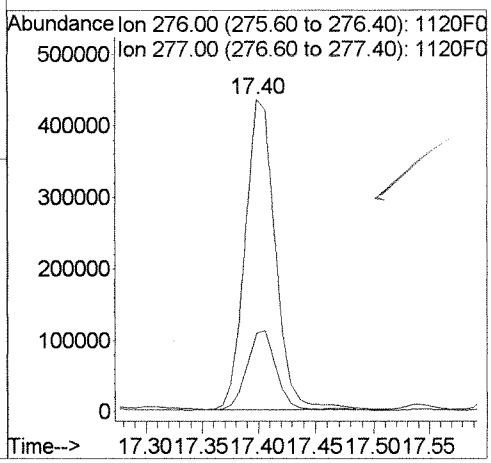




#57
Benzo(g,h,i)perylene
Concen: 491.76 ng/ml
RT: 17.40 min Scan# 1939
Delta R.T. -0.03 min
Lab File: 1120F034.D
Acq: 21 Nov 2009 12:46 am

Tgt Ion:276 Resp: 809205

Ion	Ratio	Lower	Upper
276	100		
277	25.0	0.0	55.7

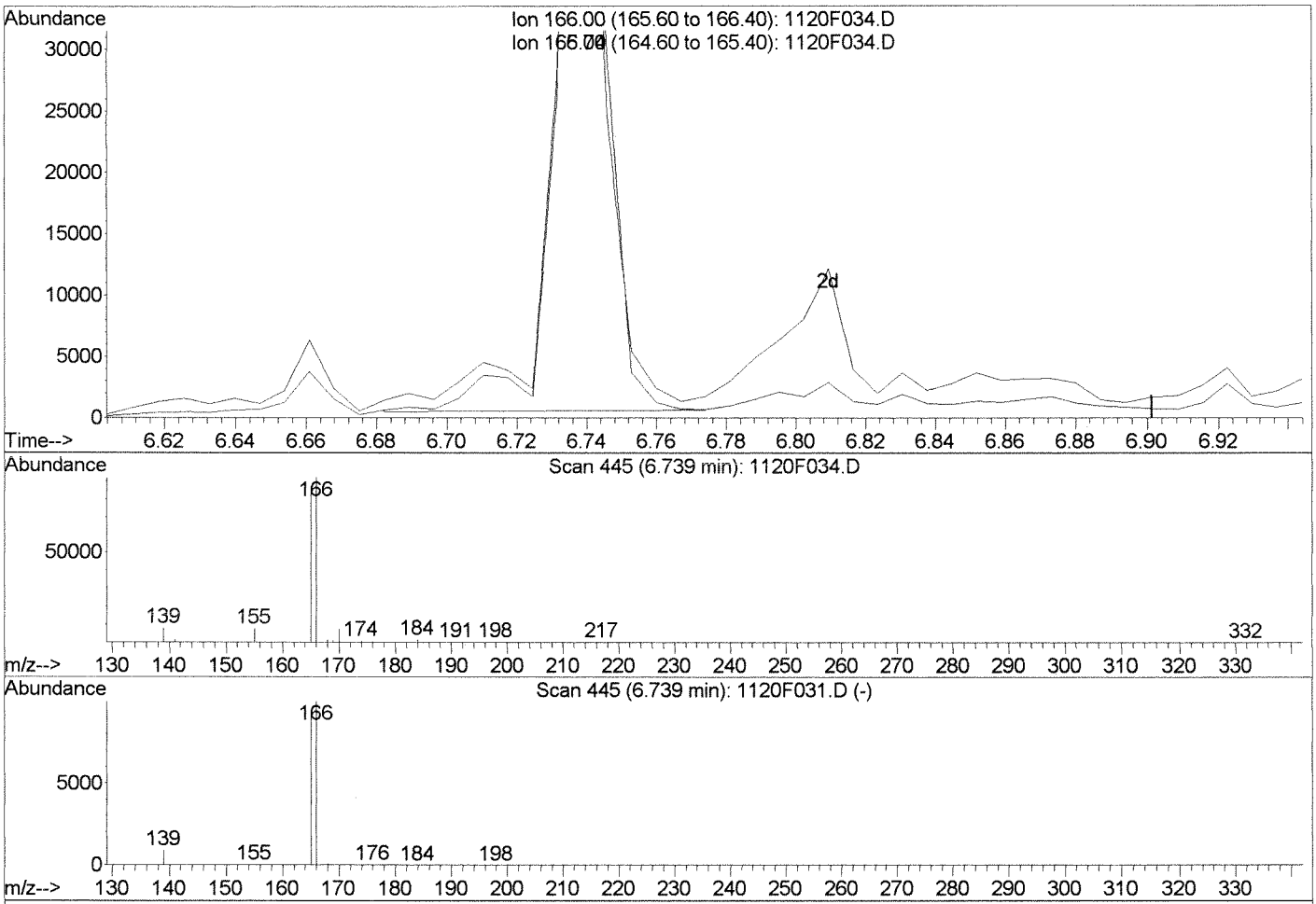


Quantitation Report (Qedit)

Data File : J:\MS11\DATA\112009\1120F034.D
Acq On : 21 Nov 2009 12:46 am
Sample : K0909140-007
Misc :
MS Integration Params: RTEINT.P
Quant Time: Nov 23 8:36 2009

Vial: 31
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1119ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Nov 23 08:36:00 2009
Response via : Multiple Level Calibration



TIC: 1120F034.D

(16) Fluorene (T)

6.74min 123.62ng/ml

response 67425

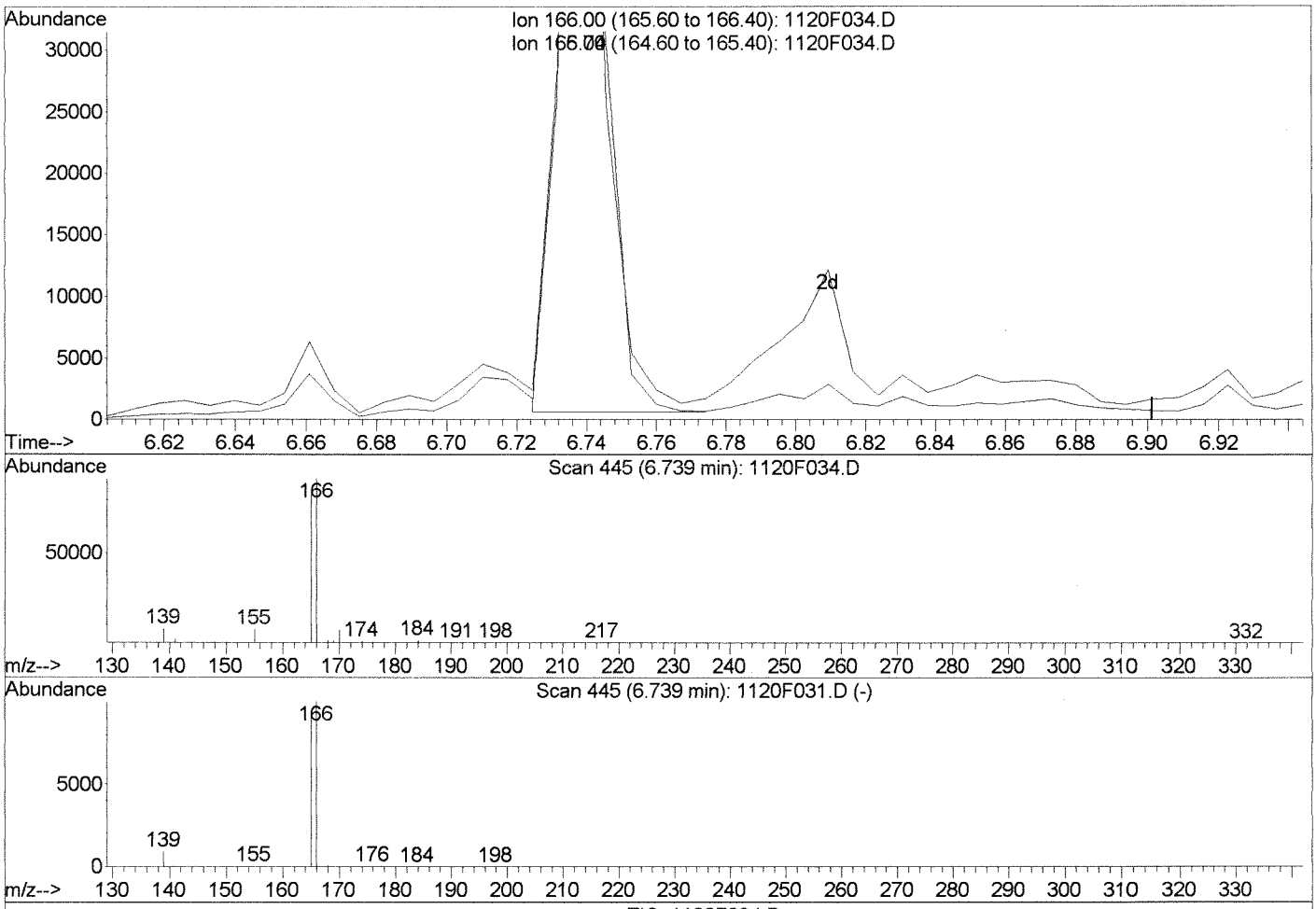
Ion	Exp%	Act%
166.00	100	100
165.00	87.80	89.93
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\112009\1120F034.D
Acq On : 21 Nov 2009 12:46 am
Sample : K0909140-007
Misc :
MS Integration Params: RTEINT.P
Quant Time: Nov 23 8:40 2009

Vial: 31
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1119ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Nov 23 08:36:00 2009
Response via : Multiple Level Calibration



TIC: 1120F034.D

(16) Fluorene (T)

6.74min 116.77ng/ml m

response 63689

Ion	Exp%	Act%
166.00	100	100
165.00	87.80	90.87
0.00	0.00	0.00
0.00	0.00	0.00

OK 11/23/09 11-23-09

1120F034.D 1119ALK.M Mon Nov 23 08:40:22 2009

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	URS Corporation	**Service Request:**	K0909140
Project:	Boise St. Helens Pulp and Paper Mill-2009	**Date Collected:**	10/06/2009
Sample Matrix:	Sediment	**Date Received:**	10/07/2009

Polynuclear Aromatic Hydrocarbons

Sample Name:	M-2-B	**Units:**	ug/Kg
Lab Code:	K0909140-008	**Basis:**	Dry
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270C SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Naphthalene	**770**		2.8	0.60	1	11/10/09	11/21/09	KWG0910535	
2-Methylnaphthalene	**240**		2.8	0.46	1	11/10/09	11/21/09	KWG0910535	
Acenaphthylene	**250**		2.8	0.56	1	11/10/09	11/21/09	KWG0910535	
Acenaphthene	**110**		2.8	0.50	1	11/10/09	11/21/09	KWG0910535	
Fluorene	**130**		2.8	0.61	1	11/10/09	11/21/09	KWG0910535	
Dibenzofuran	**110**		2.8	0.63	1	11/10/09	11/21/09	KWG0910535	
Phenanthrene	**640**		2.8	1.4	1	11/10/09	11/21/09	KWG0910535	
Anthracene	**120**		2.8	0.55	1	11/10/09	11/21/09	KWG0910535	
Fluoranthene	**760**		2.8	0.98	1	11/10/09	11/21/09	KWG0910535	
Pyrene	**570**		2.8	0.76	1	11/10/09	11/21/09	KWG0910535	
Benz(a)anthracene	**140**		2.8	0.72	1	11/10/09	11/21/09	KWG0910535	
Chrysene	**250**		2.8	0.80	1	11/10/09	11/21/09	KWG0910535	
Benzo(b)fluoranthene	**220**		2.8	0.92	1	11/10/09	11/21/09	KWG0910535	
Benzo(k)fluoranthene	**70**		2.8	0.87	1	11/10/09	11/21/09	KWG0910535	
Benzo(a)pyrene	**150**		2.8	0.76	1	11/10/09	11/21/09	KWG0910535	
Indeno(1,2,3-cd)pyrene	**120**		2.8	0.87	1	11/10/09	11/21/09	KWG0910535	
Dibenz(a,h)anthracene	**25**		2.8	0.80	1	11/10/09	11/21/09	KWG0910535	
Benzo(g,h,i)perylene	**160**		2.8	0.85	1	11/10/09	11/21/09	KWG0910535	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	58	17-104	11/21/09	Acceptable
Fluoranthene-d10	63	27-106	11/21/09	Acceptable
Terphenyl-d14	58	35-109	11/21/09	Acceptable

Comments:

Exception Report

Data File: J:\MS11\DATA\112009\1120F035.D
Lab ID: K0909140-008
RunType: SMPL
Matrix: SEDIMENT

Date Acquired: 11/21/2009 01:13
Date Quantitated: 11/23/2009 08:41
Batch ID: KWG0911040
Analysis Method: 8270C SIM
ListJoinID: LJ5646

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Tune Window	NA	NA	NA	x	
Analytical Holding Time	NA	NA	NA	x	
Preparation Holding Time	NA	NA	NA	x	
Pre-Preparation Holding Time	NA	NA	NA	x	
ICAL Pass/Fail	NA	NA	NA	x	
ICAL Average RSD	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Initial Calibration Minimum RF	NA	NA	NA	x	
Initial Calibration SPCC/CCC	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA	x	
Continuing Calibration Minimum RF	NA	NA	NA	x	
Continuing Calibration SPCC/CCC	NA	NA	NA	x	
Method Blank	NA	NA	NA	x	
MB Surrogate Recovery	NA	NA	NA	x	
Lab Control Spike	NA	NA	NA	x	
Internal Standards	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Relative Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Primary Review: 11/23/09

Secondary Review: 11-23-09

Quantitation Report

Bottle ID:		**Tier:**	V	**Matrix:**	SEDIMENT
Prod Code:	8270C SIM PAH_S	**Collect Date:**	10/06/2009	**Receive Date:**	10/07/2009

Analysis Lot:	KWG0911040	**Prep Lot:**	KWG0910535	**Report Group:**	K0909140
Analysis Method:	8270C SIM	**Prep Method:**	EPA 3541		
Prep Ref:	865761	**Prep Date:**	11/10/2009		

Quant Method:	J:\MS11\METHODS\SIM\1119ALK.M	**Calibration ID:**	CAL9029
Title:	Polynuclear Aromatic Hydrocarbons	**Report List ID:**	LJ5646
Tune Ref:	J:\MS11\DATA\112009\1120F030.D	**Method ID:**	MJ253
MB Ref:	J:\MS11\DATA\111909\1119F041.D	**Quant based on Report List**	

Data File:	J:\MS11\DATA\112009\1120F035.D			**Instrument:**	MS11
Acqu Date:	11/21/2009 01:13	**Quant Date:**	11/23/2009 08:41	**Vial:**	32
Run Type:	SMPL			**Dilution:**	1.0
Lab ID:	K0909140-008			**Soln Conc. Units:**	ng/ml

Internal Standard Compounds

IS Ref	Parameter Name	RT	RT Dev	Quant Mass	Response	Solution Conc	Area Criteria
1	Naphthalene-d8	4.87	0.00	136	158935	200.00	OK
2	Acenaphthene-d10	6.29	0.00	164	90951	200.00	OK
3	Phenanthrene-d10	7.52	0.00	188	184759	200.00	OK
4	Chrysene-d12	10.26	0.01	240	323764	200.00	OK
5	Perylene-d12	13.83	0.01	264	365986	200.00	OK

Surrogate Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	%Rec	%Rec Limits		Rpt?
2	Fluorene-d10	6.72	0.00	0.00	176	59161	115.85	58	17-104	OK	
3	Fluoranthene-d10	8.51	0.01	0.00	212	141724	126.88	63	27-106	OK	
4	Terphenyl-d14	8.89	0.00	0.00	244	156035	116.42	58	35-109	OK	

Target Compounds

Final Conc. Units: ug/Kg Dry Weight

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	Final Conc	Q	Rpt?
1	Naphthalene	4.88	-0.01	0.00	128	977716	1,399	770		
1	2-Methylnaphthalene	5.44		0.00	142	220097	437.05	240		
2	Acenaphthylene	6.18		0.00	152	335313	448.64	250		
2	Acenaphthene	6.32		0.00	154	90652	204.20	110		
2	Dibenzofuran	6.46		0.00	168	137399	204.34	110		
2	Fluorene	6.74		0.00	166	134321**m**	238.83	130		
3	Phenanthrene	7.54		0.00	178	1156603	1,174	640		
3	Anthracene	7.59		0.00	178	206085	217.71	120		
3	Fluoranthene	8.52		0.00	202	1580847	1,381	760		
4	Pyrene	8.74	0.01	0.00	202	1774561	1,034	570		
4	Benz(a)anthracene	10.24	0.01	0.00	228	431254	260.74	140		
4	Chrysene	10.30	0.01	0.00	228	714972	452.64	250		
5	Benzo(b)fluoranthene	12.63	0.01	0.00	252	762786	400.00	220		

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Data File:	J:\MS11\DATA\112009\1120F035.D			**Instrument:**	MS11
Acqu Date:	11/21/2009 01:13	**Quant Date:**	11/23/2009 08:41	**Vial:**	32
Run Type:	SMPL			**Dilution:**	1.0
Lab ID:	K0909140-008			**Soln Conc. Units:**	ng/ml

Target Compounds **Final Conc. Units:** ug/Kg Dry Weight

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	Final Conc	Q	Rpt?
5	Benzo(k)fluoranthene	12.71	0.01	0.00	252	231220	127.95	70		
5	Benzo(a)pyrene	13.63	0.02	0.00	252	472590	281.30	150		
5	Indeno(1,2,3-cd)pyrene	16.98		0.00	276	333876	215.60	120		
5	Dibenz(a,h)anthracene	17.06	0.01	0.00	278	72679	45.04	25		
5	Benzo(g,h,i)perylene	17.40	0.01	0.00	276	525160	300.08	160		

Prep Amount:	20.35 g	**Dilution:**	1.0
Prep Final Vol:	10 ml	**Unit Factor:**	1
Solids:	89.5 %		

Final Concentration = ((Soln Conc x Prep Final Vol x Dilution) / (Prep Amount x Solids)) x Unit Factor

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\112009\1120F035.D Vial: 32
Acq On : 21 Nov 2009 1:13 am Operator: LWeiskopf
Sample : K0909140-008 Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 23 08:36:26 2009 Quant Results File: 1119ALK.RES

Quant Method : J:\MS11\METHODS\SIM\1119ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Nov 23 08:36:00 2009
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	4.87	136	158935	200.00	ng/ml	0.00
10) Acenaphthene-d10	6.29	164	90951	200.00	ng/ml	0.00
22) Phenanthrene-d10	7.52	188	184759	200.00	ng/ml	0.00
37) Chrysene-d12	10.26	240	323764	200.00	ng/ml	0.00
49) Perylene-d12	13.83	264	365986	200.00	ng/ml	-0.04
System Monitoring Compounds						
15) Fluorene-d10	6.72	176	59161	115.85	ng/ml	0.00
Spiked Amount 200.000			Recovery = 57.92%			
20) 2,4,6 Tribromophenol	0.00	330	0d	0.00	ng/ml	
Spiked Amount 375.000			Recovery = 0.00%			
36) Fluoranthene-d10	8.51	212	141724	126.88	ng/ml	0.00
Spiked Amount 200.000			Recovery = 63.44%			
42) Terphenyl-d14	8.89	244	156035	116.42	ng/ml	0.00
Spiked Amount 200.000			Recovery = 58.21%			
Target Compounds						Qvalue
2) Naphthalene	4.88	128	977716	1398.52	ng/ml	97
3) 2-Methylnaphthalene	5.44	142	220097	437.05	ng/ml	96
4) 1-Methylnaphthalene	5.52	142	118161	244.60	ng/ml	98
5) Biphenyl	5.81	154	66792	111.47	ng/ml	96
6) 2,6-Dimethylnaphthalene	5.95	156	171408	370.34	ng/ml	99
11) Acenaphthylene	6.18	152	335313	448.64	ng/ml	98
12) Acenaphthene	6.32	154	90652	204.20	ng/ml	91
13) Dibenzofuran	6.46	168	137399	204.34	ng/ml	82
14) 2,3,5-Trimethylnaphthalene	6.62	170	102912	217.08	ng/ml	96
16) Fluorene	6.74	166	134321m	238.83	ng/ml	
23) Dibenzothiophene	7.43	184	85505	103.91	ng/ml	78
27) Phenanthrene	7.54	178	1156603	1174.17	ng/ml	99
28) Anthracene	7.59	178	206085	217.71	ng/ml	97
29) Carbazole	7.72	167	26329m	32.57	ng/ml	
30) 1-Methylphenanthrene	8.04	192	125210	163.28	ng/ml	92
35) Fluoranthene	8.52	202	1580847	1380.53	ng/ml	88
38) Pyrene	8.74	202	1774561	1033.55	ng/ml	86
43) Benz(a)anthracene	10.24	228	431254	260.74	ng/ml	41
44) Chrysene	10.30	228	714972	452.64	ng/ml	96
50) Benzo(b)fluoranthene	12.63	252	762786	400.00	ng/ml	100
51) Benzo(k)fluoranthene	12.71	252	231220	127.95	ng/ml	98
52) Benzo(e)pyrene	13.46	252	491420	281.19	ng/ml	100
53) Benzo(a)pyrene	13.63	252	472590	281.30	ng/ml	99
54) Perylene	13.93	252	273742	164.99	ng/ml	93
55) Indeno(1,2,3-cd)pyrene	16.98	276	333876	215.60	ng/ml	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\112009\1120F035.D Vial: 32
Acq On : 21 Nov 2009 1:13 am Operator: LWeiskopf
Sample : K0909140-008 Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 23 08:36:26 2009 Quant Results File: 1119ALK.RES

Quant Method : J:\MS11\METHODS\SIM\1119ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Nov 23 08:36:00 2009
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

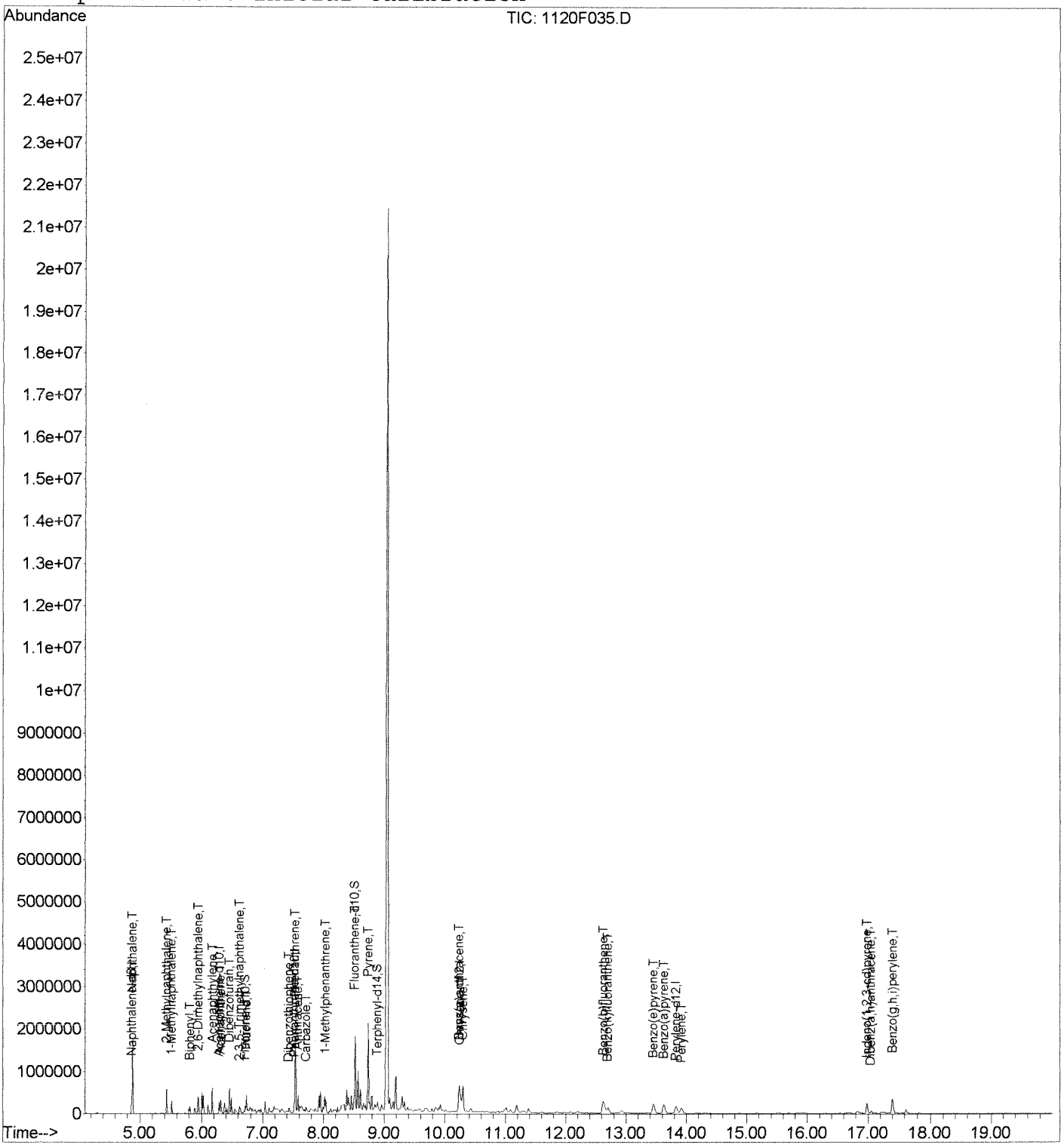
	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
56)	Dibenz(a,h)anthracene	17.06	278	72679	45.04	ng/ml	97
57)	Benzo(g,h,i)perylene	17.40	276	525160	300.08	ng/ml	98

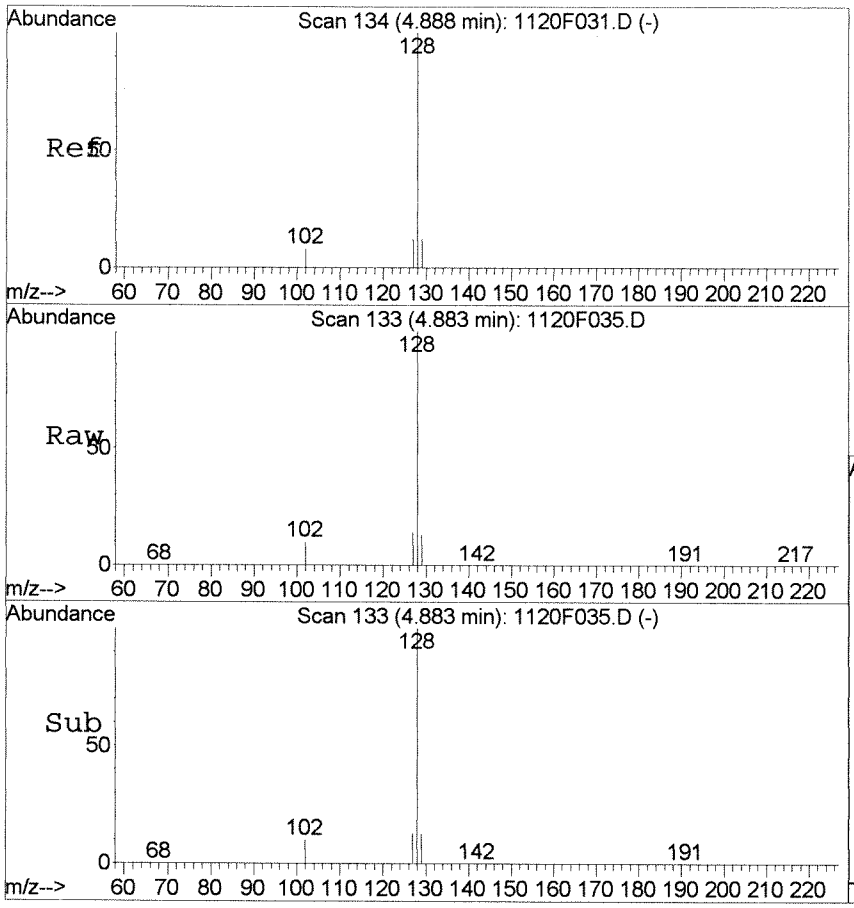
(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\112009\1120F035.D Vial: 32
Acq On : 21 Nov 2009 1:13 am Operator: LWeiskopf
Sample : K0909140-008 Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 23 8:41 2009 Quant Results File: 1119ALK.RES

Method : J:\MS11\METHODS\SIM\1119ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Nov 23 08:36:00 2009
Response via : Initial Calibration

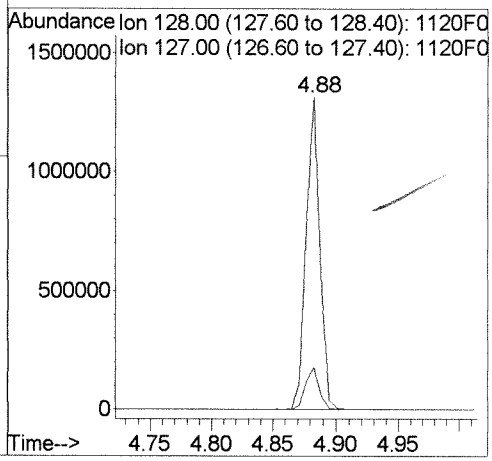


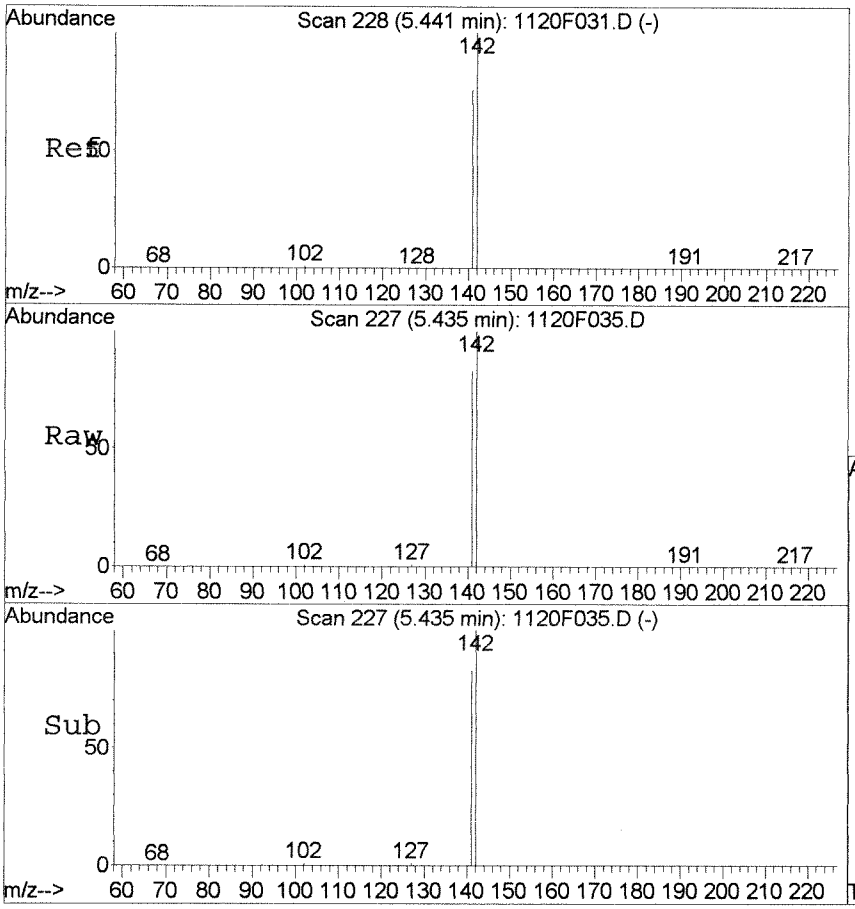


#2
Naphthalene
Concen: 1398.52 ng/ml
RT: 4.88 min Scan# 133
Delta R.T. -0.01 min
Lab File: 1120F035.D
Acq: 21 Nov 2009 1:13 am

Tgt Ion:128 Resp: 977716

Ion	Ratio	Lower	Upper
128	100		
127	13.5	0.0	42.4

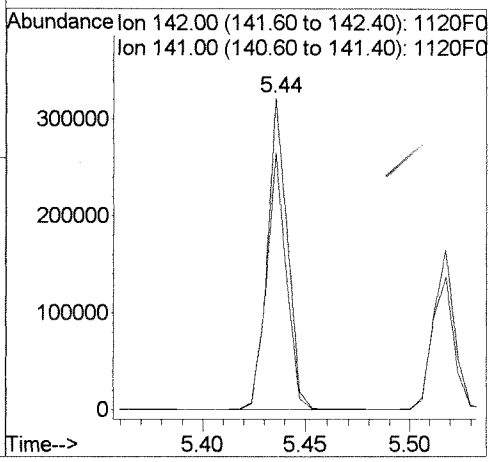


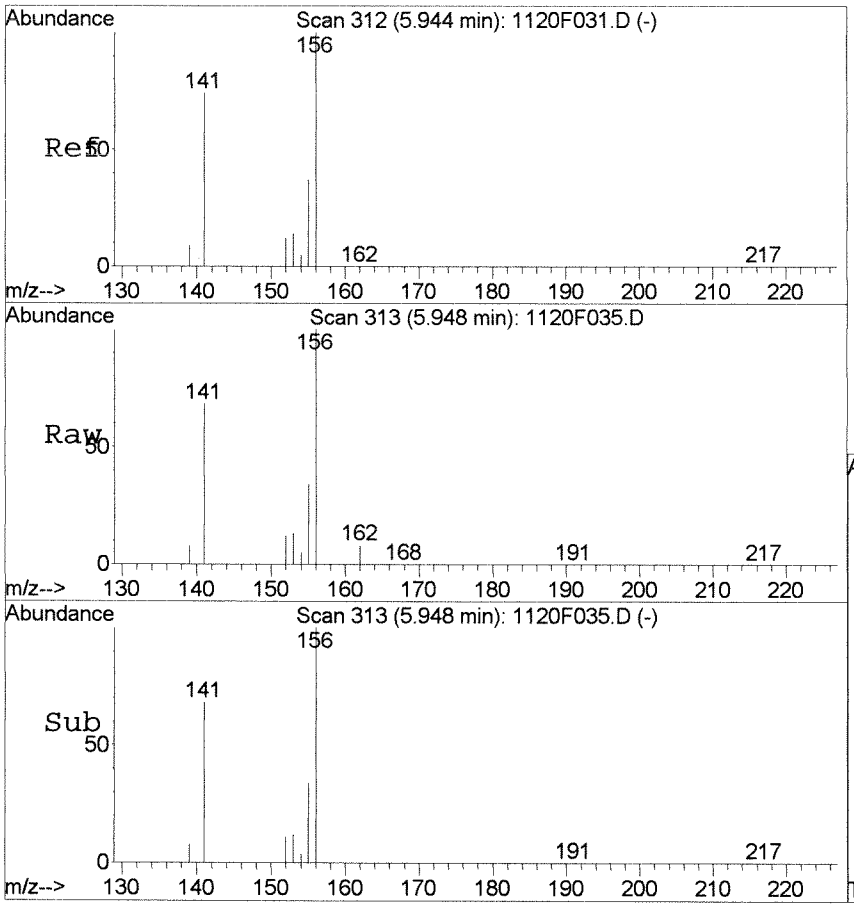


#3
2-Methylnaphthalene
Concen: 437.05 ng/ml
RT: 5.44 min Scan# 227
Delta R.T. -0.01 min
Lab File: 1120F035.D
Acq: 21 Nov 2009 1:13 am

Tgt Ion:142 Resp: 220097

Ion	Ratio	Lower	Upper
142	100		
141	82.6	56.1	116.1

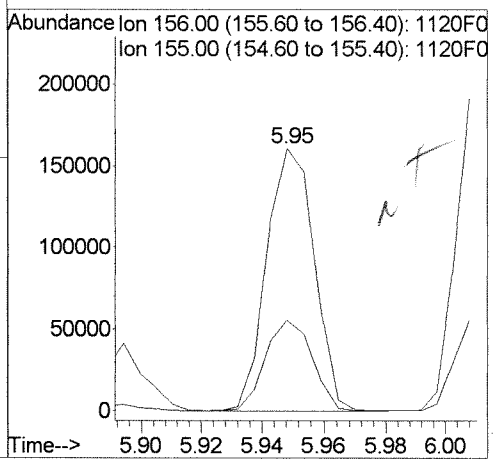


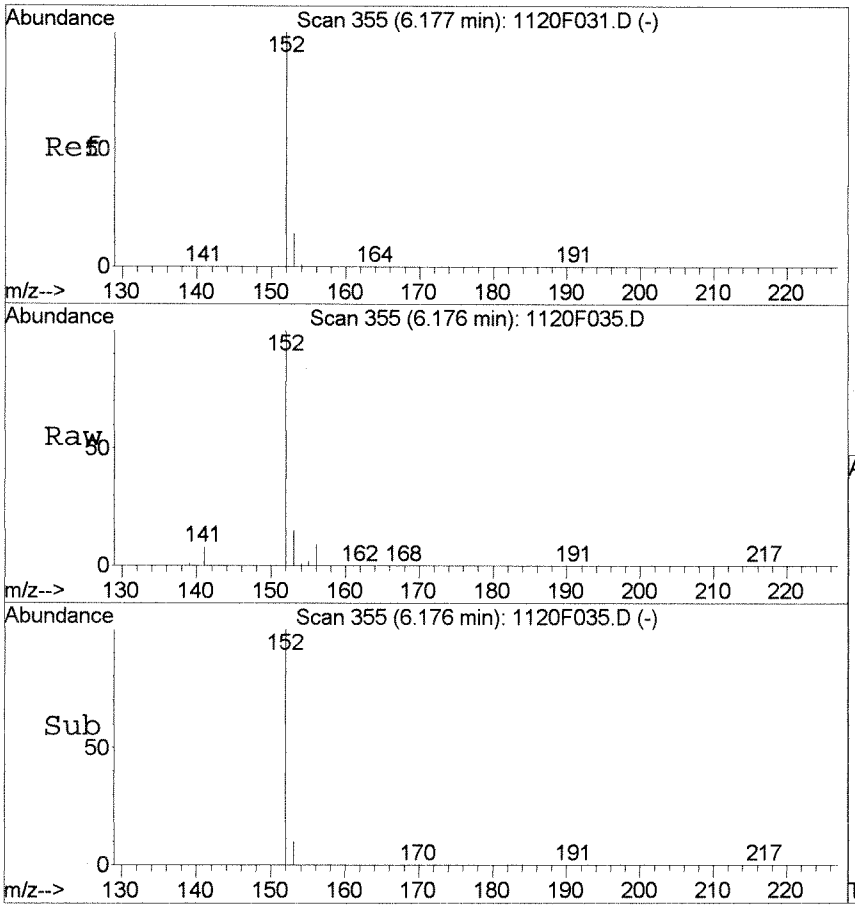


#6
2,6-Dimethylnaphthalene
Concen: 370.34 ng/ml
RT: 5.95 min Scan# 313
Delta R.T. -0.00 min
Lab File: 1120F035.D
Acq: 21 Nov 2009 1:13 am

Tgt Ion:156 Resp: 171408

Ion	Ratio	Lower	Upper
156	100		
155	34.4	3.7	63.7

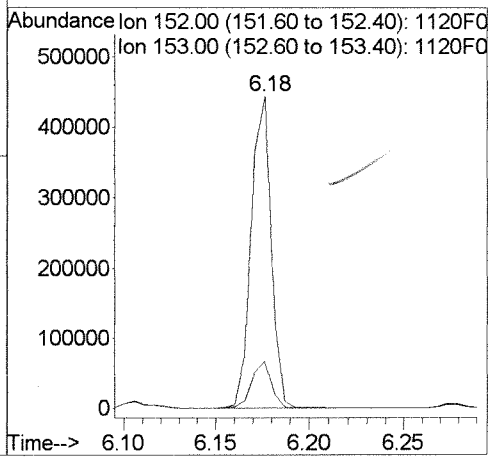


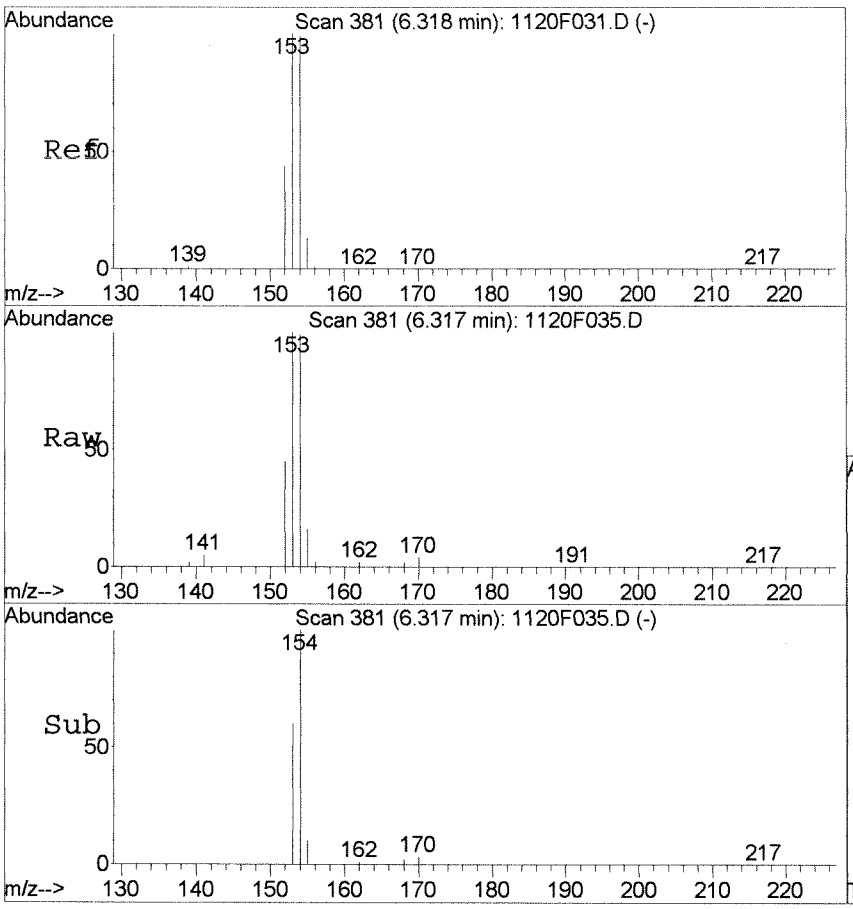


#11
Acenaphthylene
Concen: 448.64 ng/ml
RT: 6.18 min Scan# 355
Delta R.T. -0.01 min
Lab File: 1120F035.D
Acq: 21 Nov 2009 1:13 am

Tgt Ion:152 Resp: 335313

Ion	Ratio	Lower	Upper
152	100		
153	15.0	0.0	44.1

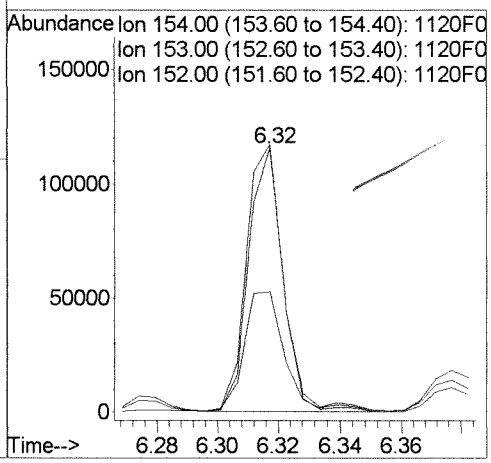


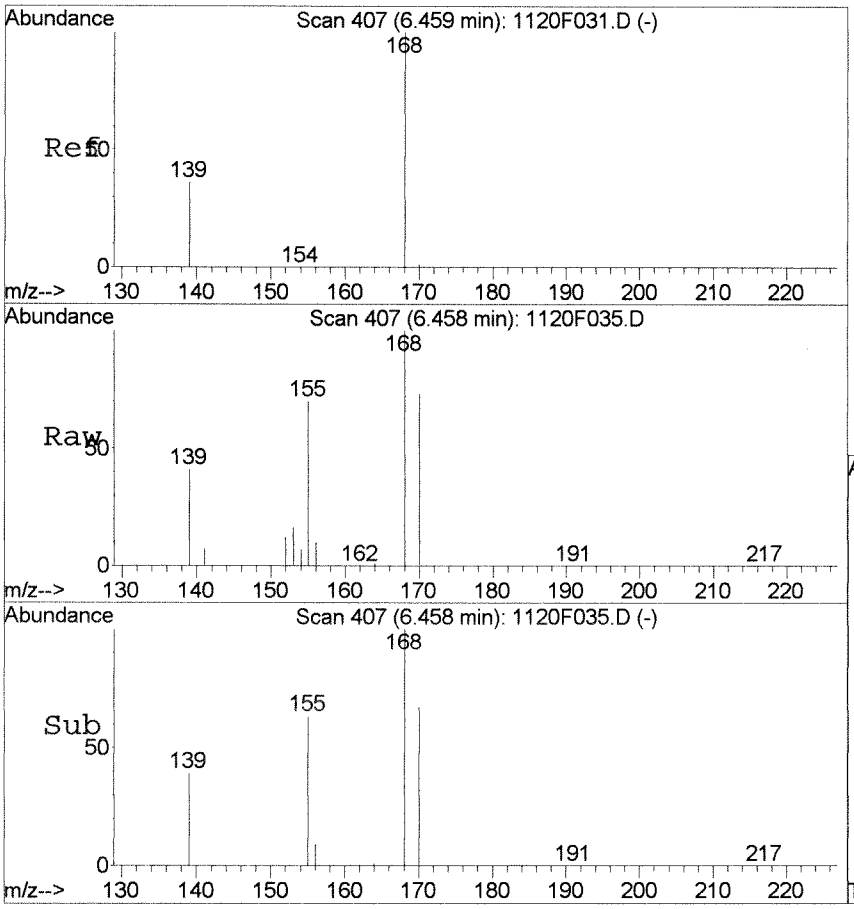


#12
Acenaphthene
Concen: 204.20 ng/ml
RT: 6.32 min Scan# 381
Delta R.T. -0.01 min
Lab File: 1120F035.D
Acq: 21 Nov 2009 1:13 am

Tgt Ion:154 Resp: 90652

Ion	Ratio	Lower	Upper
154	100		
153	101.2	77.8	137.8
152	45.3	24.7	84.7

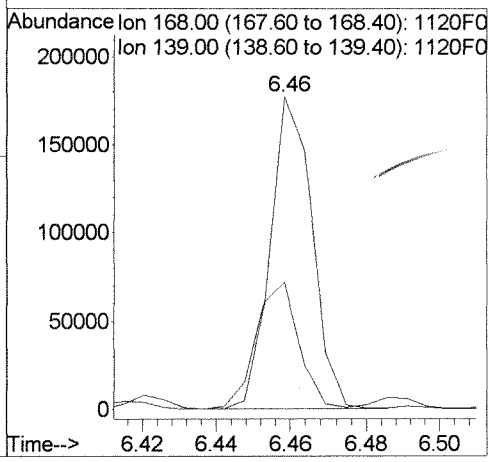


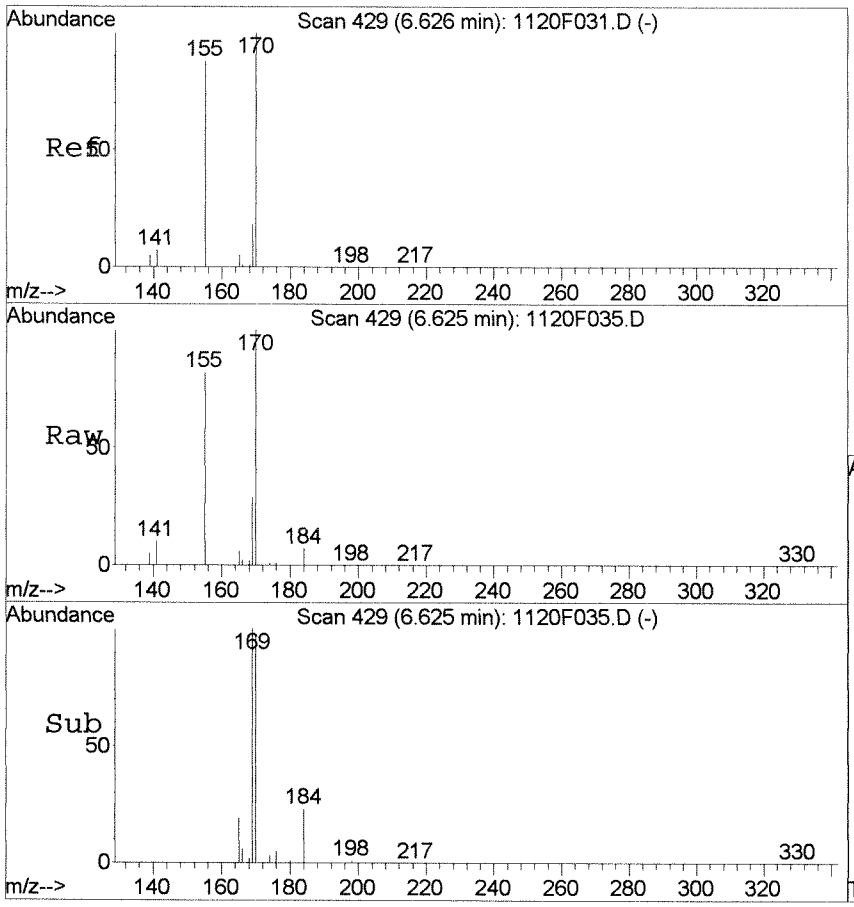


#13
Dibenzofuran
Concen: 204.34 ng/ml
RT: 6.46 min Scan# 407
Delta R.T. -0.01 min
Lab File: 1120F035.D
Acq: 21 Nov 2009 1:13 am

Tgt Ion:168 Resp: 137399

Ion	Ratio	Lower	Upper
168	100		
139	40.6	23.3	83.3

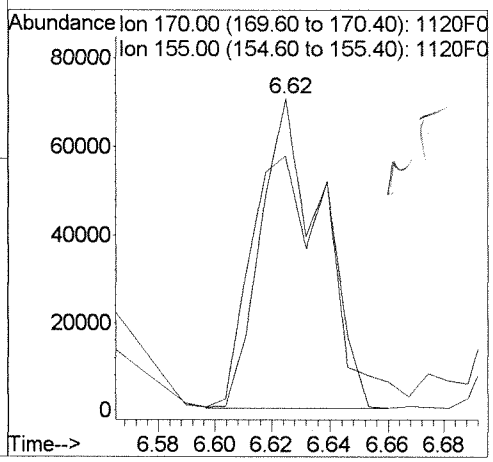


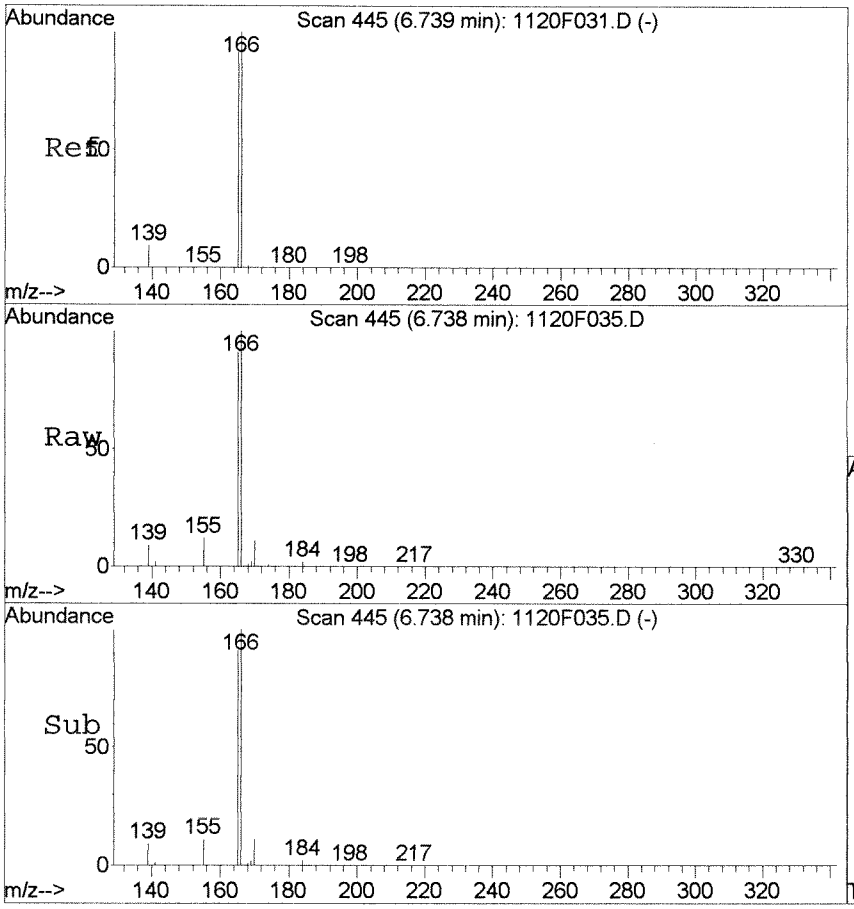


#14
2,3,5-Trimethylnaphthalene
Concen: 217.08 ng/ml
RT: 6.62 min Scan# 429
Delta R.T. -0.01 min
Lab File: 1120F035.D
Acq: 21 Nov 2009 1:13 am

Tgt Ion:170 Resp: 102912

Ion	Ratio	Lower	Upper
170	100		
155	81.3	48.2	108.2

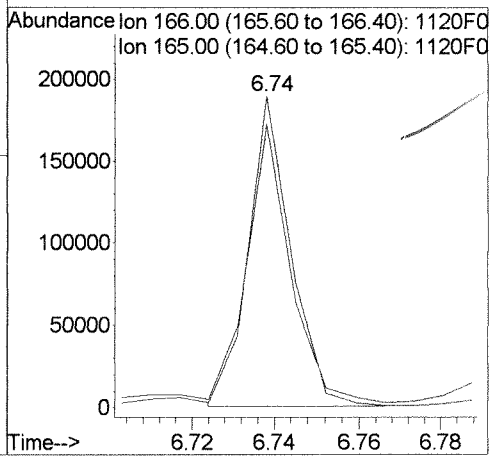


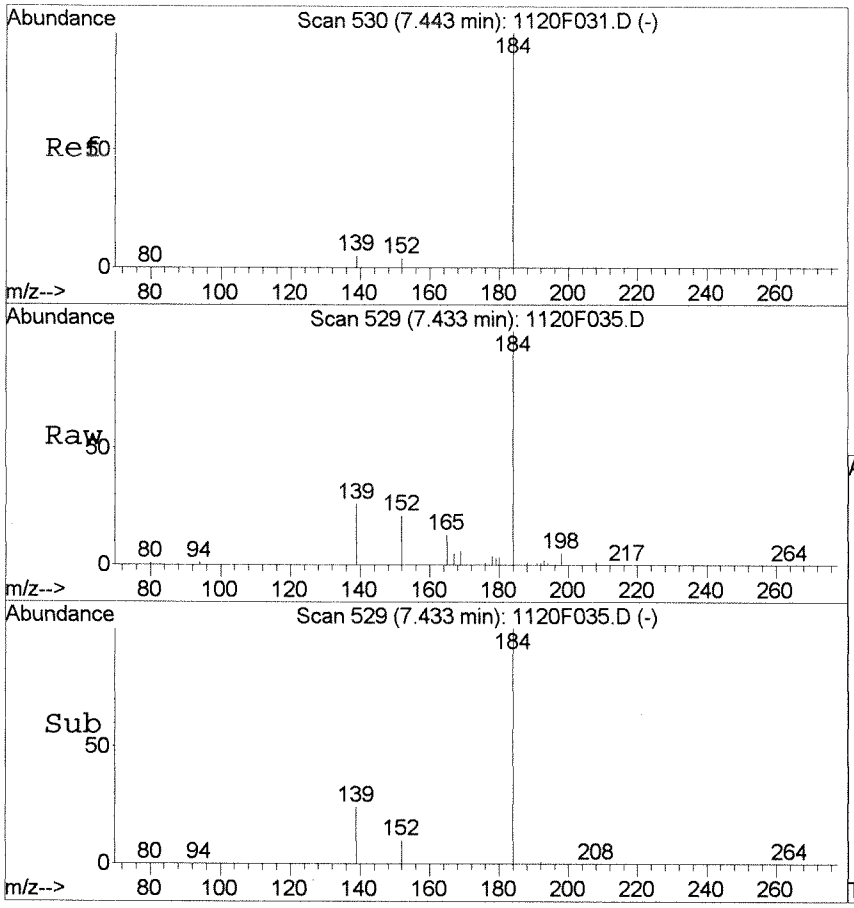


#16
Fluorene
Concen: 238.83 ng/ml m
RT: 6.74 min Scan# 445
Delta R.T. -0.01 min
Lab File: 1120F035.D
Acq: 21 Nov 2009 1:13 am

Tgt Ion:166 Resp: 134321

Ion	Ratio	Lower	Upper
166	100		
165	90.9	57.8	117.8

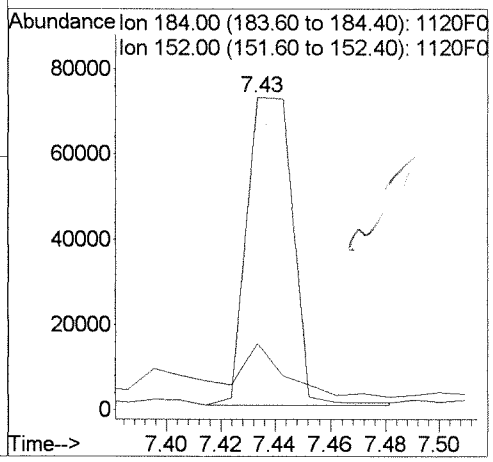


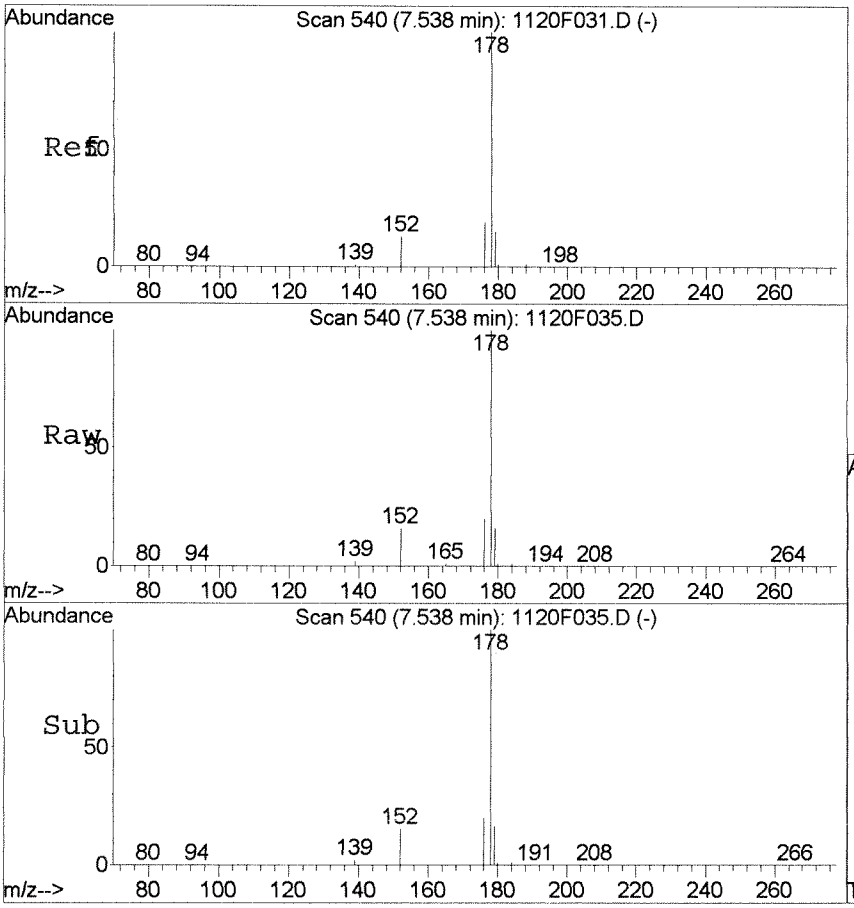


#23
Dibenzothiophene
Concen: 103.91 ng/ml
RT: 7.43 min Scan# 529
Delta R.T. -0.01 min
Lab File: 1120F035.D
Acq: 21 Nov 2009 1:13 am

Tgt Ion:184 Resp: 85505

Ion	Ratio	Lower	Upper
184	100		
152	17.4	0.0	39.4

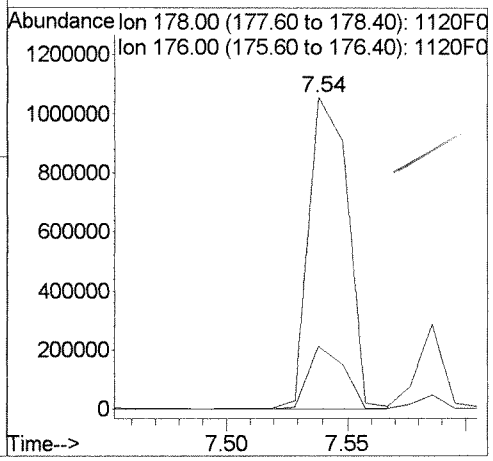


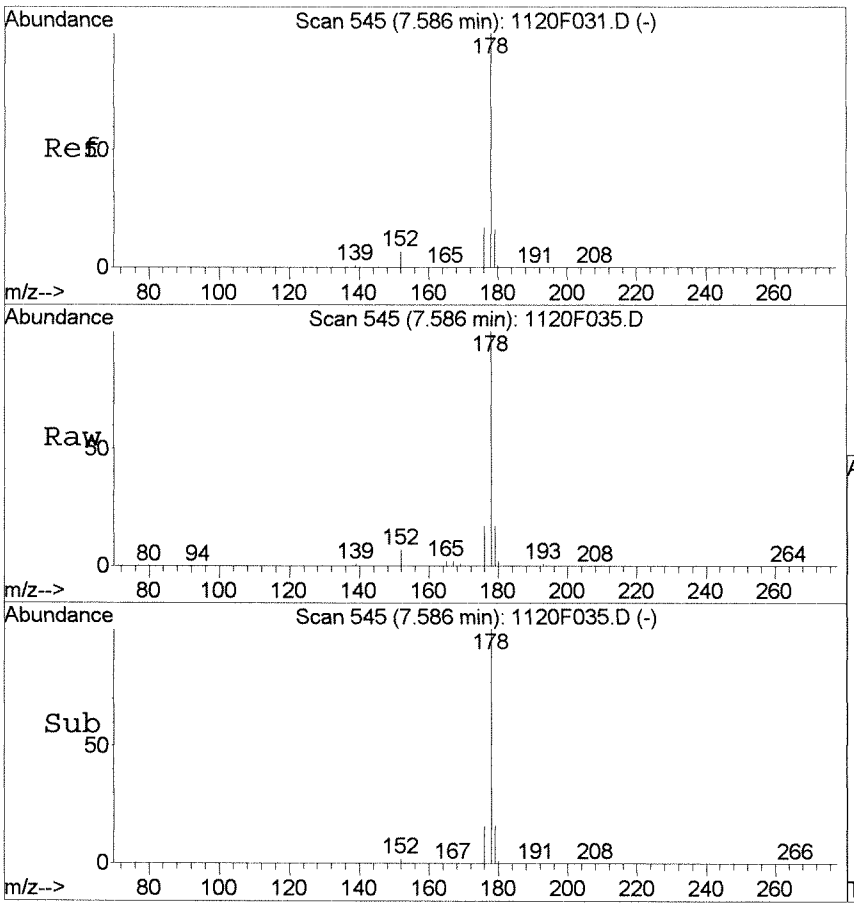


#27
Phenanthrene
Concen: 1174.17 ng/ml
RT: 7.54 min Scan# 540
Delta R.T. -0.01 min
Lab File: 1120F035.D
Acq: 21 Nov 2009 1:13 am

Tgt Ion:178 Resp: 1156603

Ion	Ratio	Lower	Upper
178	100		
176	20.1	0.0	49.6

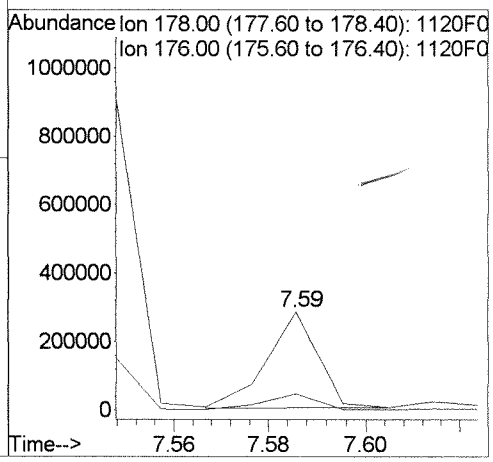


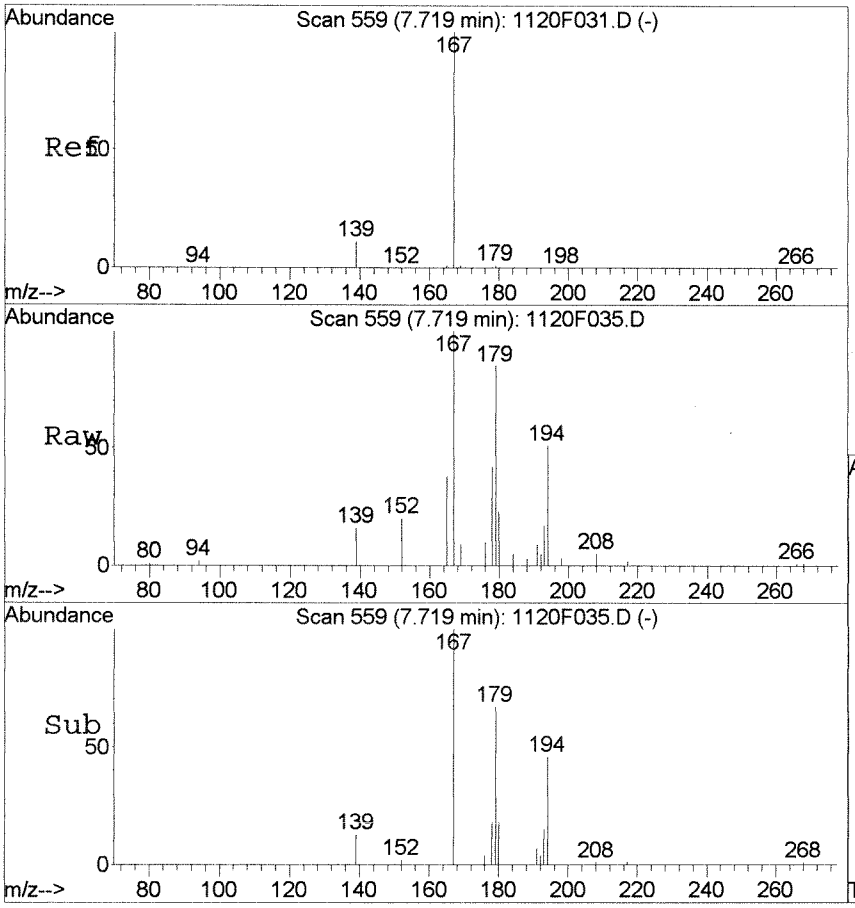


#28
Anthracene
Concen: 217.71 ng/ml
RT: 7.59 min Scan# 545
Delta R.T. 0.00 min
Lab File: 1120F035.D
Acq: 21 Nov 2009 1:13 am

Tgt Ion:178 Resp: 206085

Ion	Ratio	Lower	Upper
178	100		
176	16.4	0.0	47.6

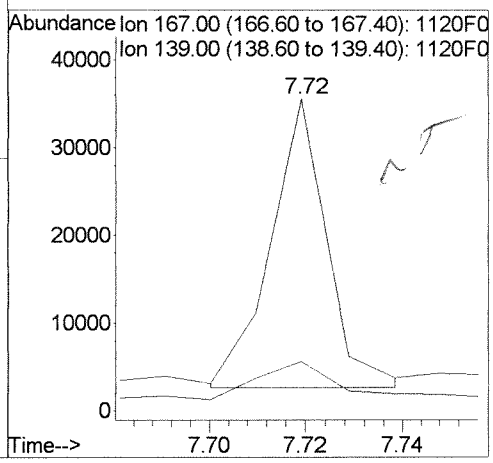


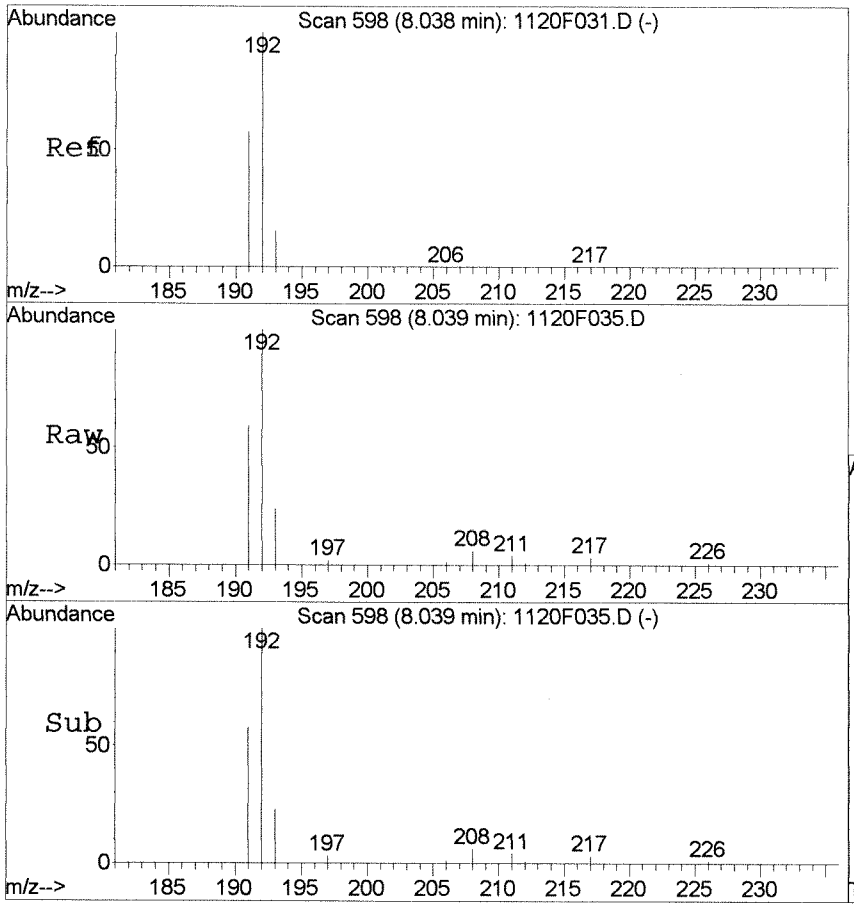


#29
Carbazole
Concen: 32.57 ng/ml m
RT: 7.72 min Scan# 559
Delta R.T. -0.00 min
Lab File: 1120F035.D
Acq: 21 Nov 2009 1:13 am

Tgt Ion:167 Resp: 26329

Ion	Ratio	Lower	Upper
167	100		
139	15.9	0.0	45.7

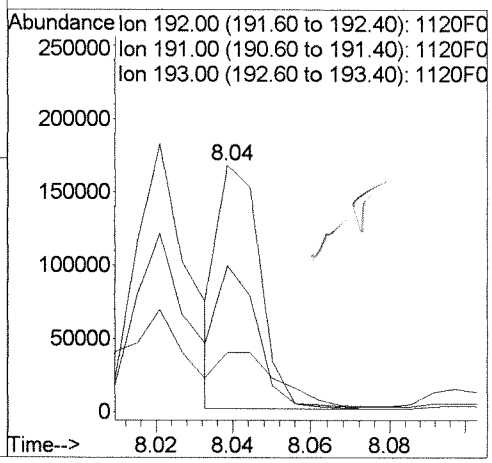


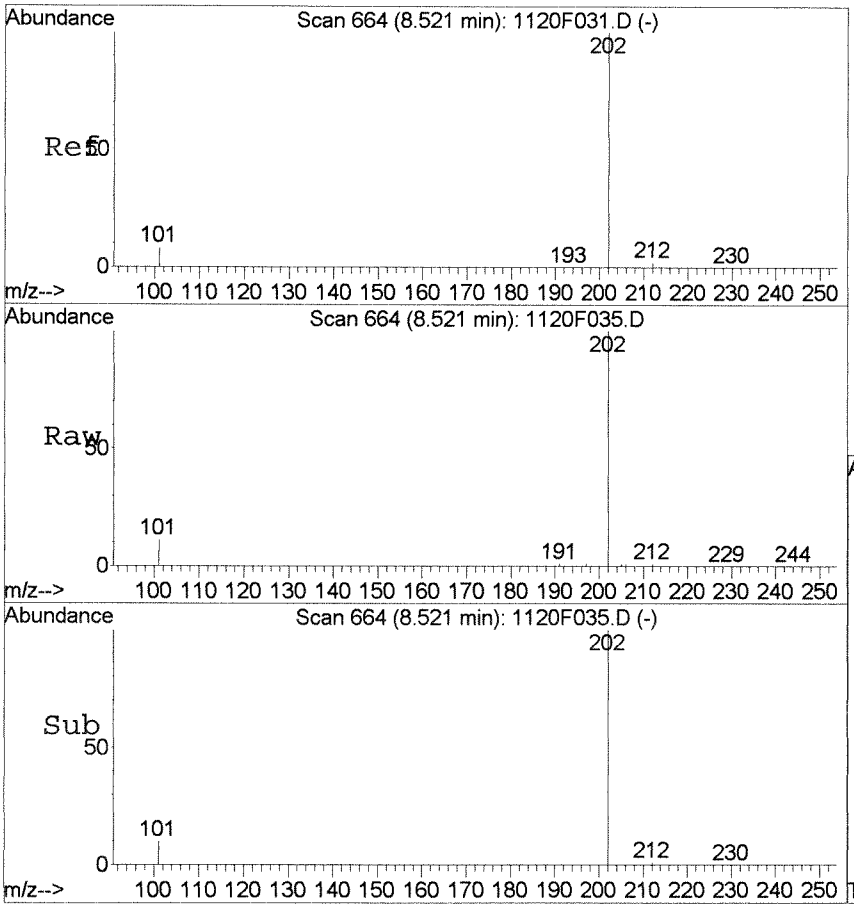


#30
1-Methylphenanthrene
Concen: 163.28 ng/ml
RT: 8.04 min Scan# 598
Delta R.T. -0.01 min
Lab File: 1120F035.D
Acq: 21 Nov 2009 1:13 am

Tgt Ion:192 Resp: 125210

Ion	Ratio	Lower	Upper
192	100		
191	57.9	23.0	83.0
193	22.1	0.0	47.0

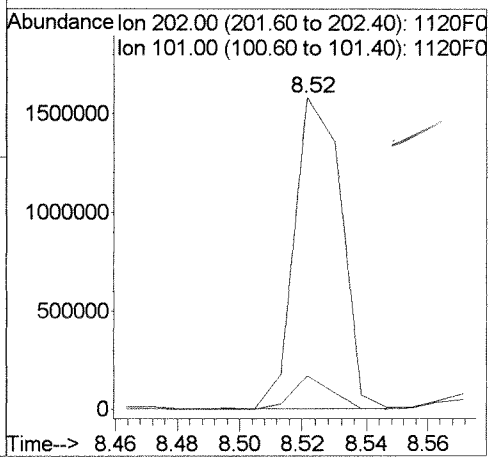


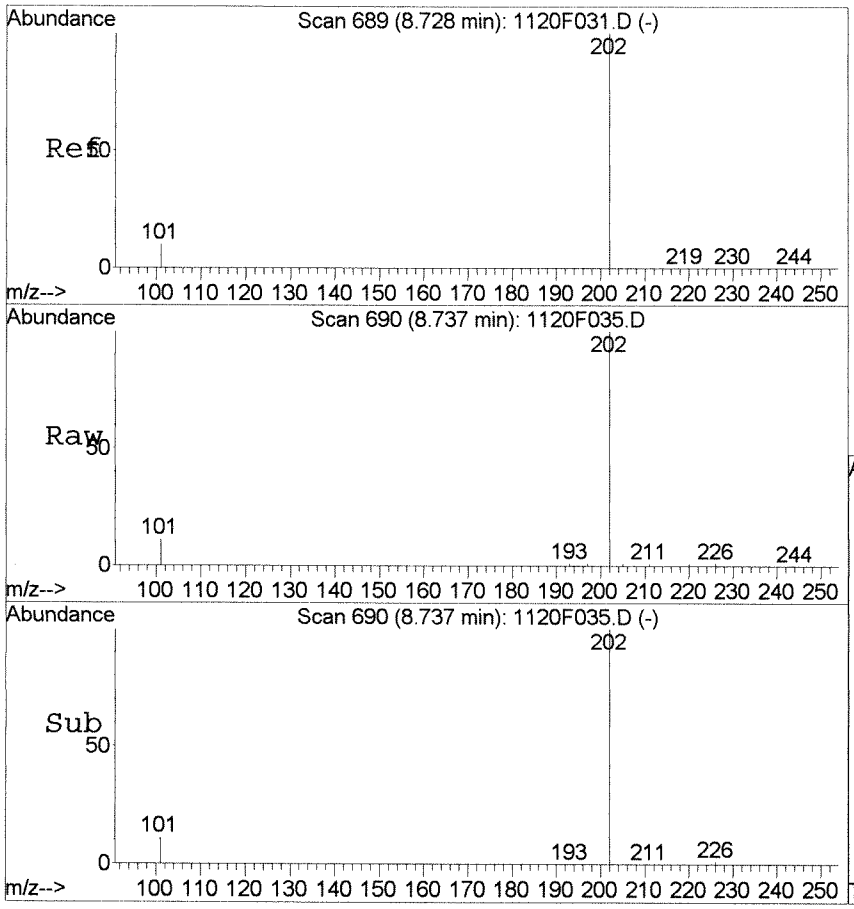


#35
Fluoranthene
Concen: 1380.53 ng/ml
RT: 8.52 min Scan# 664
Delta R.T. -0.01 min
Lab File: 1120F035.D
Acq: 21 Nov 2009 1:13 am

Tgt Ion:202 Resp: 1580847

Ion	Ratio	Lower	Upper
202	100		
101	10.7	0.0	36.5

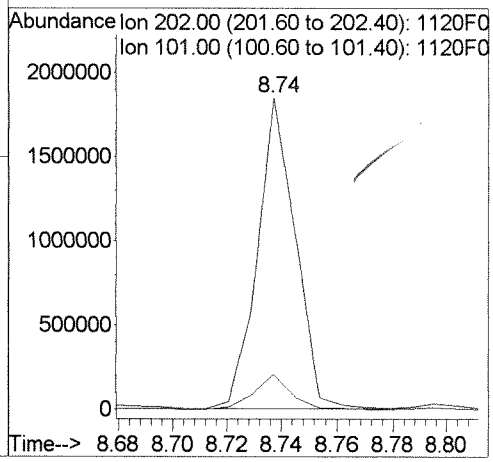


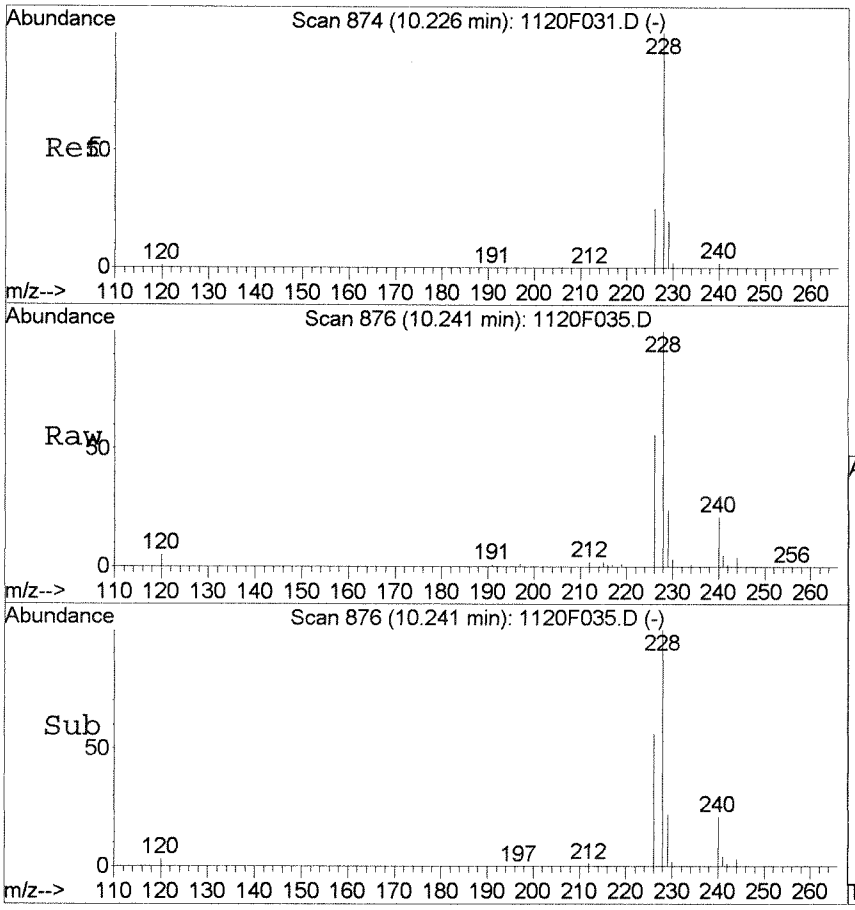


#38
Pyrene
Concen: 1033.55 ng/ml
RT: 8.74 min Scan# 690
Delta R.T. -0.01 min
Lab File: 1120F035.D
Acq: 21 Nov 2009 1:13 am

Tgt Ion:202 Resp: 1774561

Ion	Ratio	Lower	Upper
202	100		
101	11.2	0.0	36.4

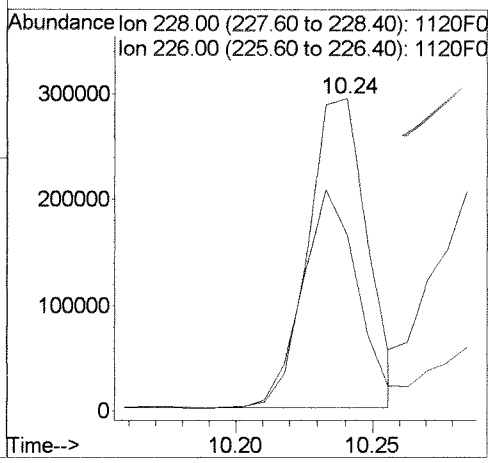


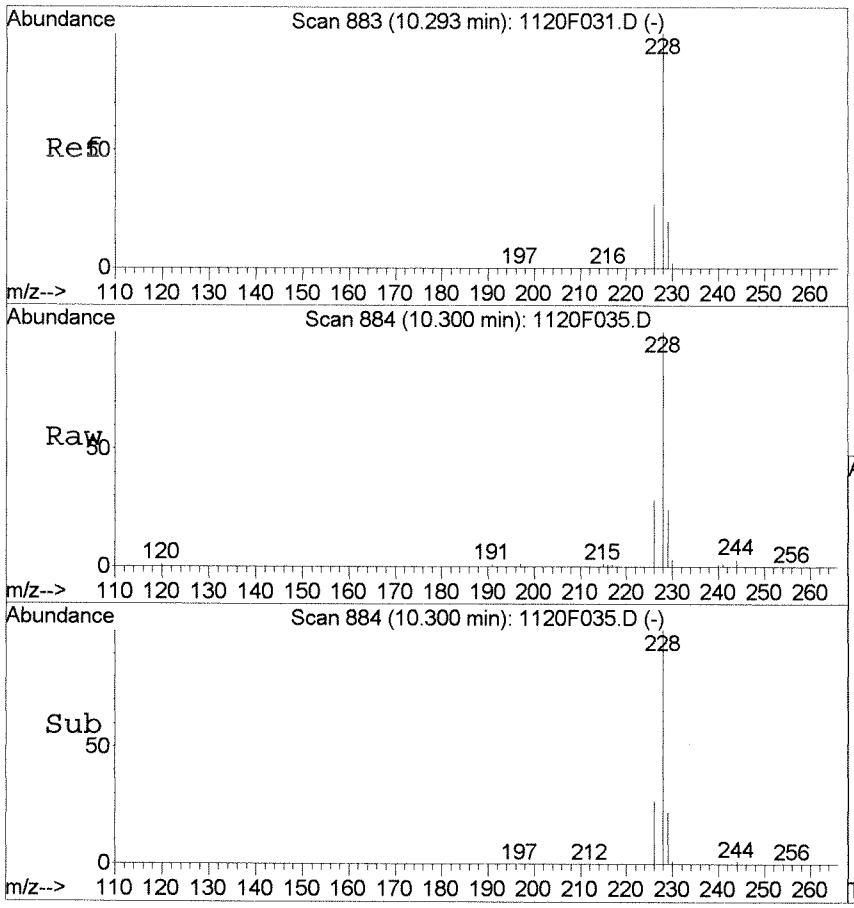


#43
Benz(a)anthracene
Concen: 260.74 ng/ml
RT: 10.24 min Scan# 876
Delta R.T. -0.01 min
Lab File: 1120F035.D
Acq: 21 Nov 2009 1:13 am

Tgt Ion:228 Resp: 431254

Ion	Ratio	Lower	Upper
228	100		
226	55.7	0.0	55.9

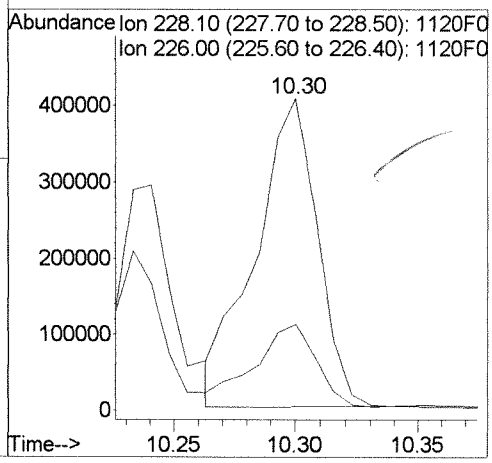


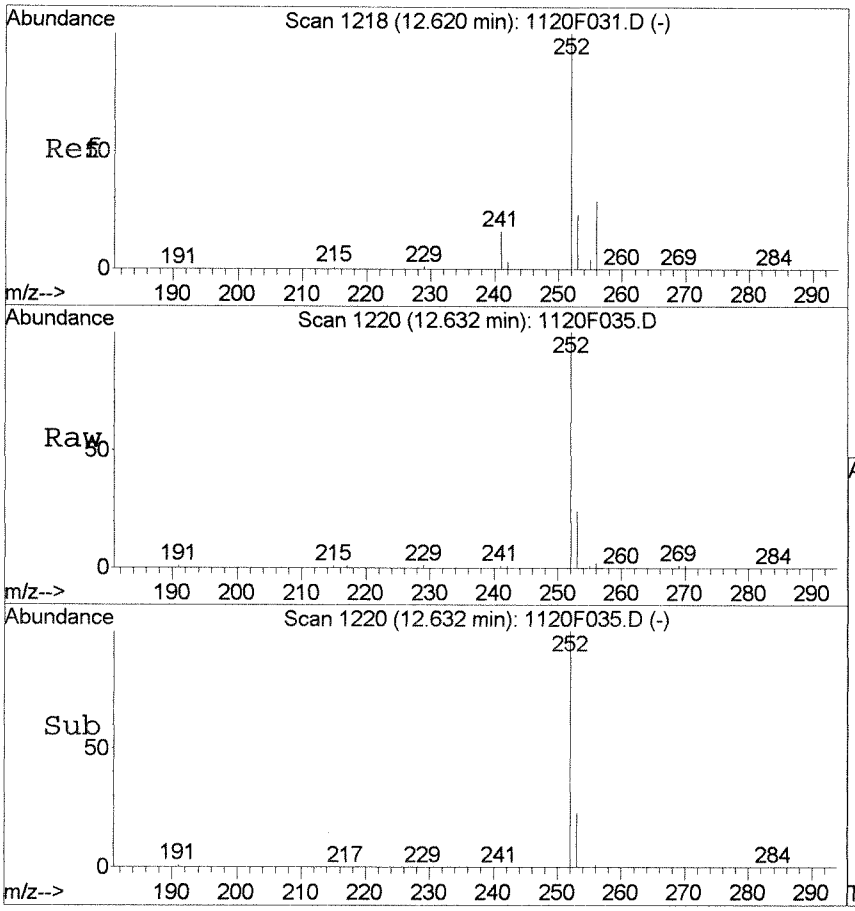


#44
Chrysene
Concen: 452.64 ng/ml
RT: 10.30 min Scan# 884
Delta R.T. -0.01 min
Lab File: 1120F035.D
Acq: 21 Nov 2009 1:13 am

Tgt Ion:228 Resp: 714972

Ion	Ratio	Lower	Upper
228	100		
226	26.8	0.0	58.8

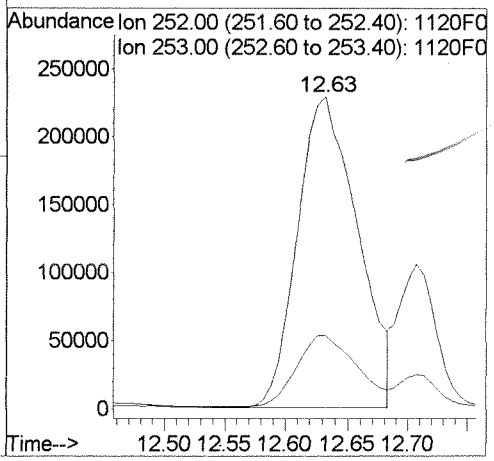


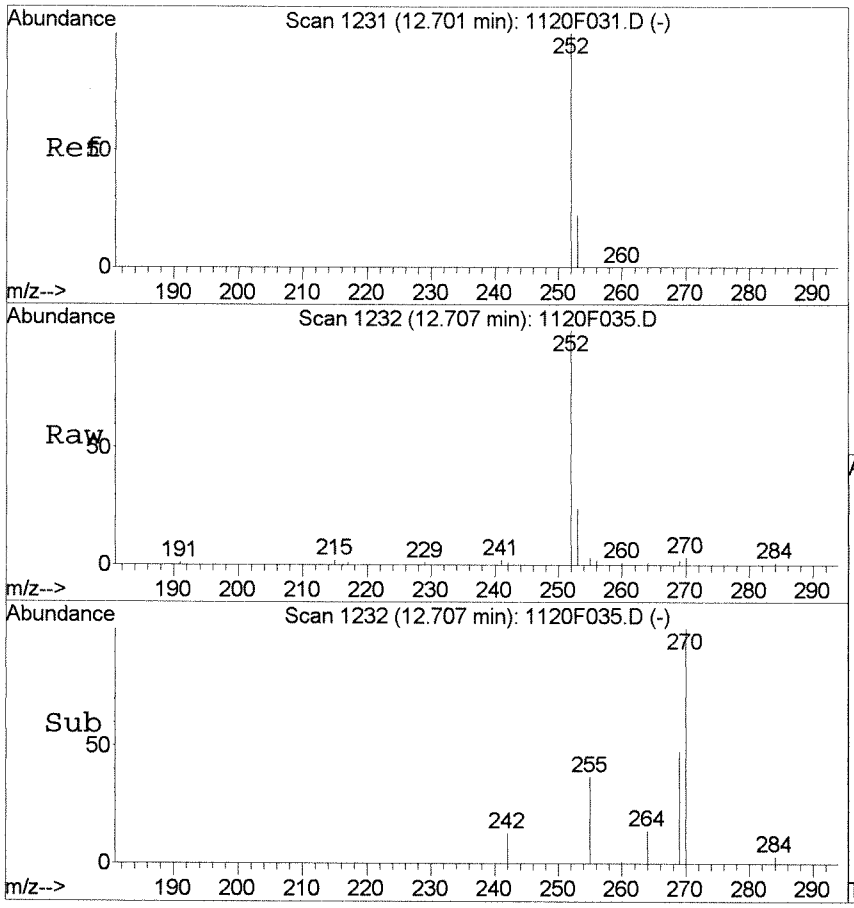


#50
Benzo(b)fluoranthene
Concen: 400.00 ng/ml
RT: 12.63 min Scan# 1220
Delta R.T. -0.02 min
Lab File: 1120F035.D
Acq: 21 Nov 2009 1:13 am

Tgt Ion:252 Resp: 762786

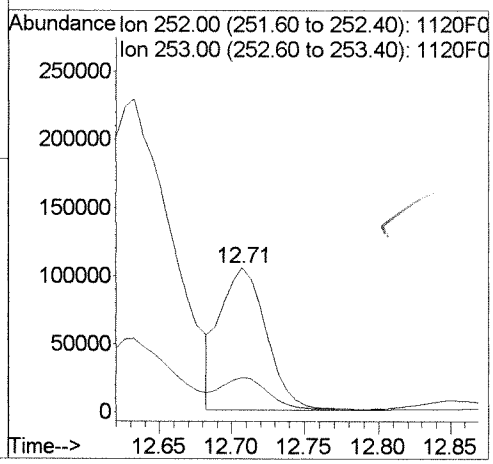
Ion	Ratio	Lower	Upper
252	100		
253	22.9	0.0	52.8

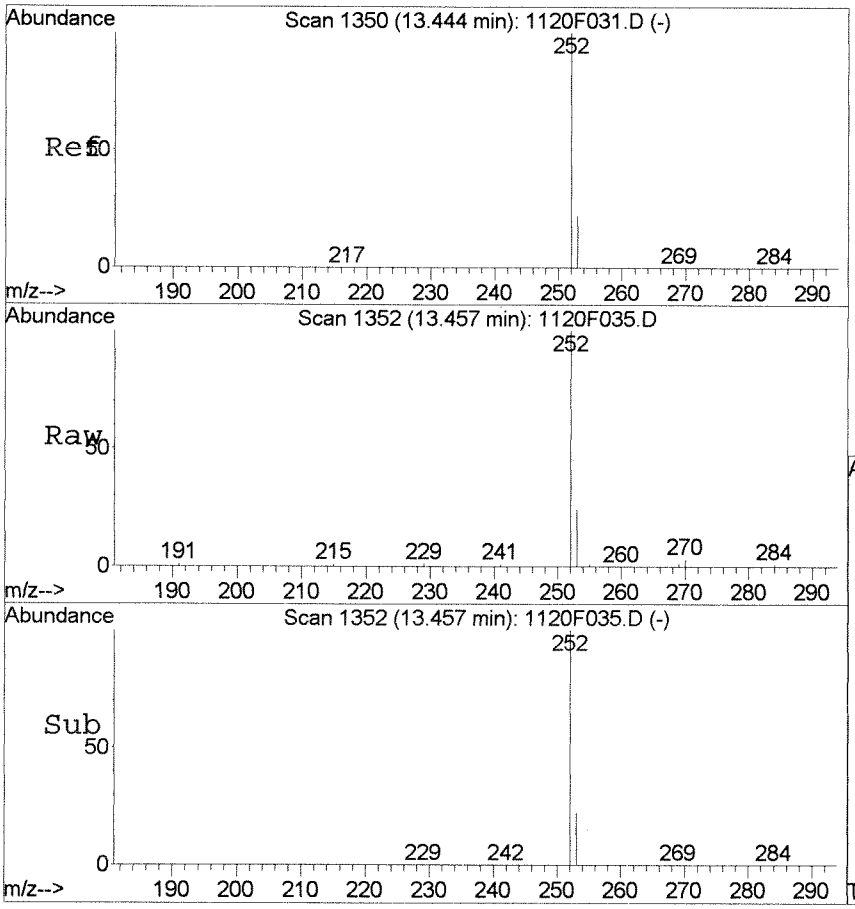




#51
Benzo(k)fluoranthene
Concen: 127.95 ng/ml
RT: 12.71 min Scan# 1232
Delta R.T. -0.03 min
Lab File: 1120F035.D
Acq: 21 Nov 2009 1:13 am

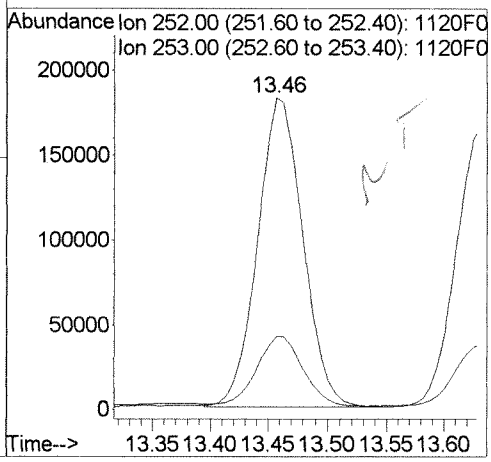
Tgt Ion:252	Resp:	231220	
Ion	Ratio	Lower	Upper
252	100		
253	21.7	0.0	52.5

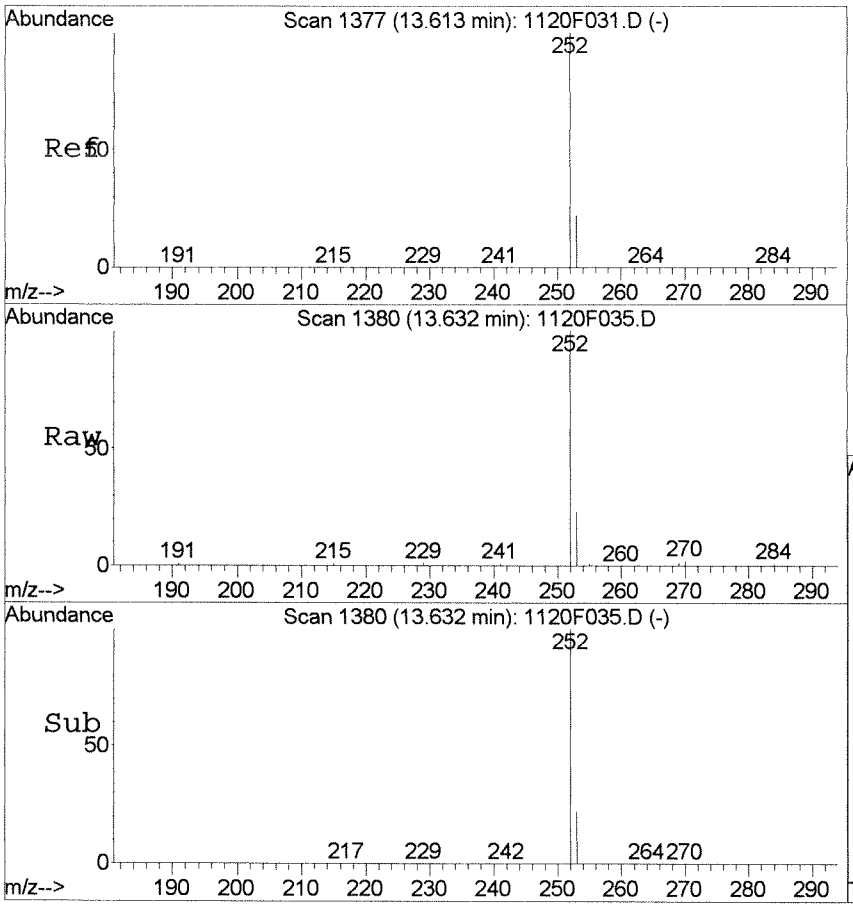




#52
Benzo(e)pyrene
Concen: 281.19 ng/ml
RT: 13.46 min Scan# 1352
Delta R.T. -0.04 min
Lab File: 1120F035.D
Acq: 21 Nov 2009 1:13 am

Tgt Ion:252	Resp:	491420	
Ion	Ratio	Lower	Upper
252	100		
253	22.4	0.0	52.3

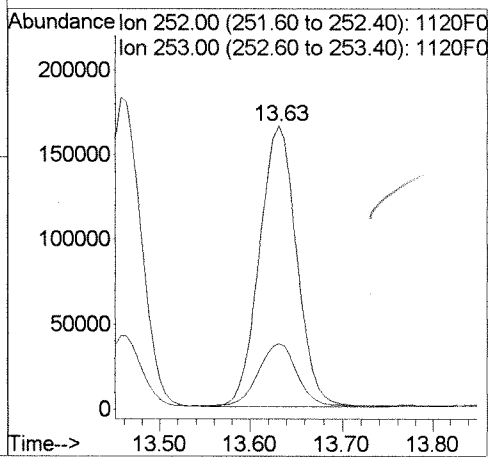


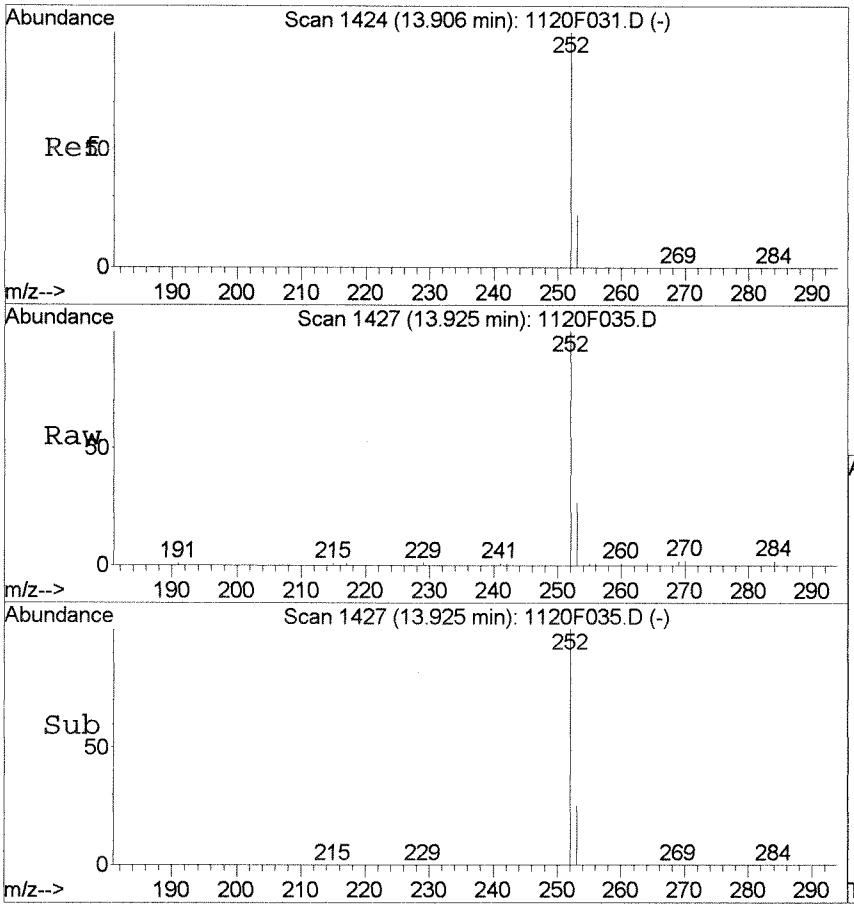


#53
Benzo(a)pyrene
Concen: 281.30 ng/ml
RT: 13.63 min Scan# 1380
Delta R.T. -0.04 min
Lab File: 1120F035.D
Acq: 21 Nov 2009 1:13 am

Tgt Ion:252 Resp: 472590

Ion	Ratio	Lower	Upper
252	100		
253	21.9	0.0	52.6

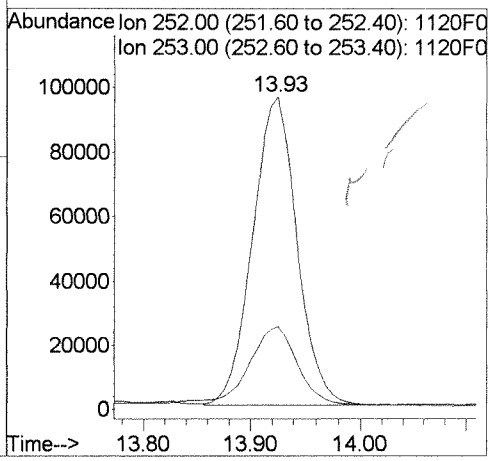


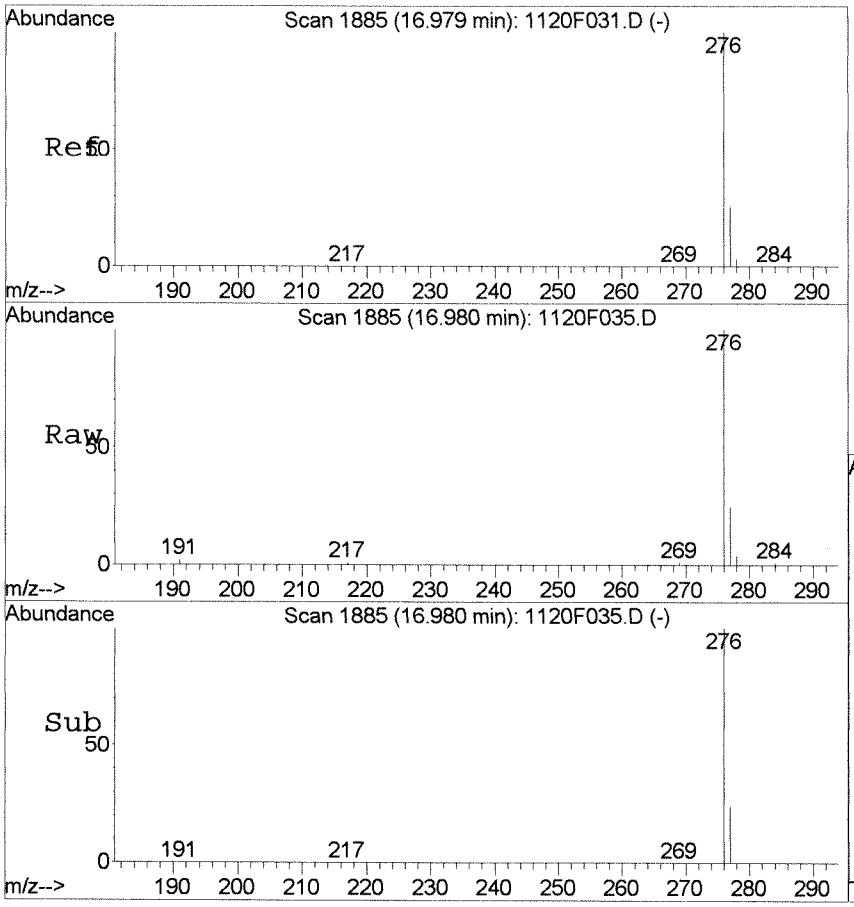


#54
Perylene
Concen: 164.99 ng/ml
RT: 13.93 min Scan# 1427
Delta R.T. -0.03 min
Lab File: 1120F035.D
Acq: 21 Nov 2009 1:13 am

Tgt Ion:252 Resp: 273742

Ion	Ratio	Lower	Upper
252	100		
253	25.3	0.0	52.0

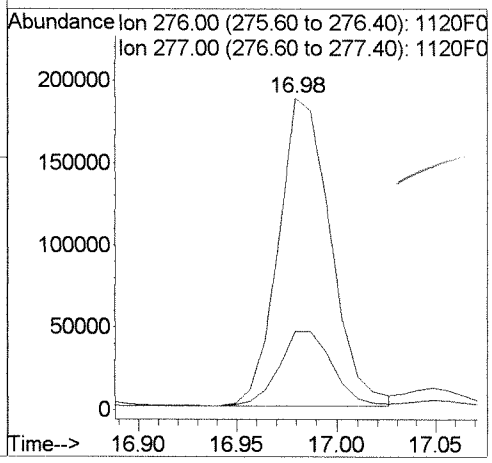


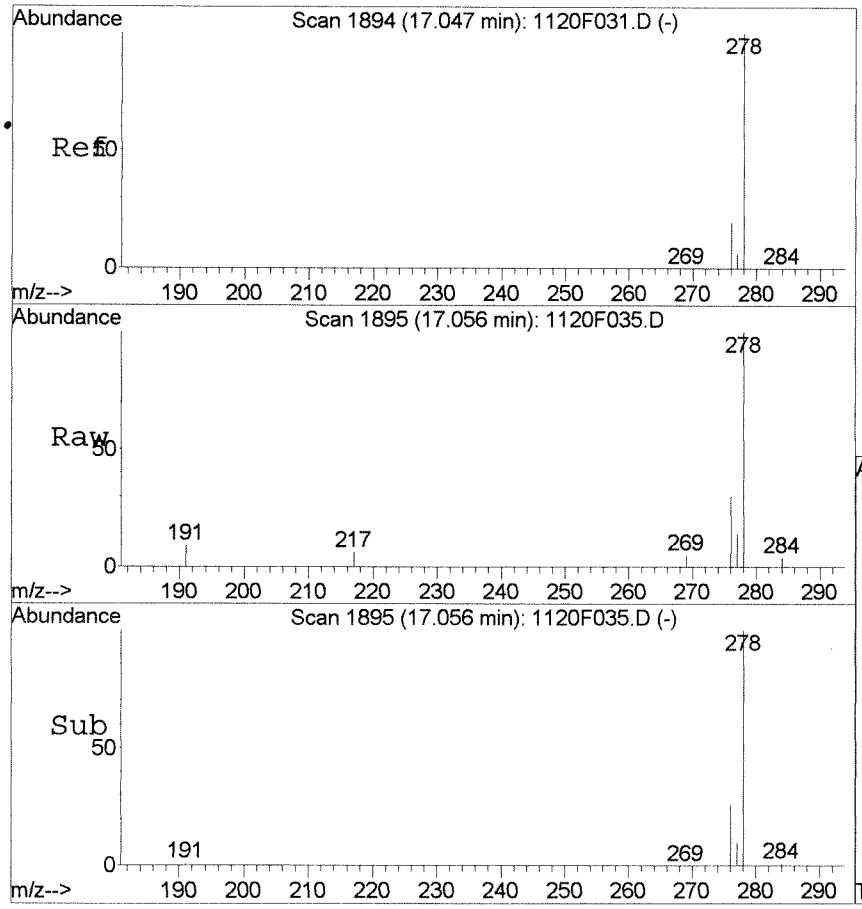


#55
Indeno(1,2,3-cd)pyrene
Concen: 215.60 ng/ml
RT: 16.98 min Scan# 1885
Delta R.T. -0.02 min
Lab File: 1120F035.D
Acq: 21 Nov 2009 1:13 am

Tgt Ion:276 Resp: 333876

Ion	Ratio	Lower	Upper
276	100		
277	24.1	0.0	55.1

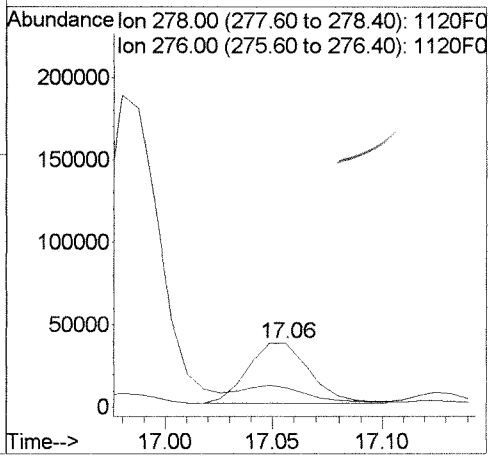


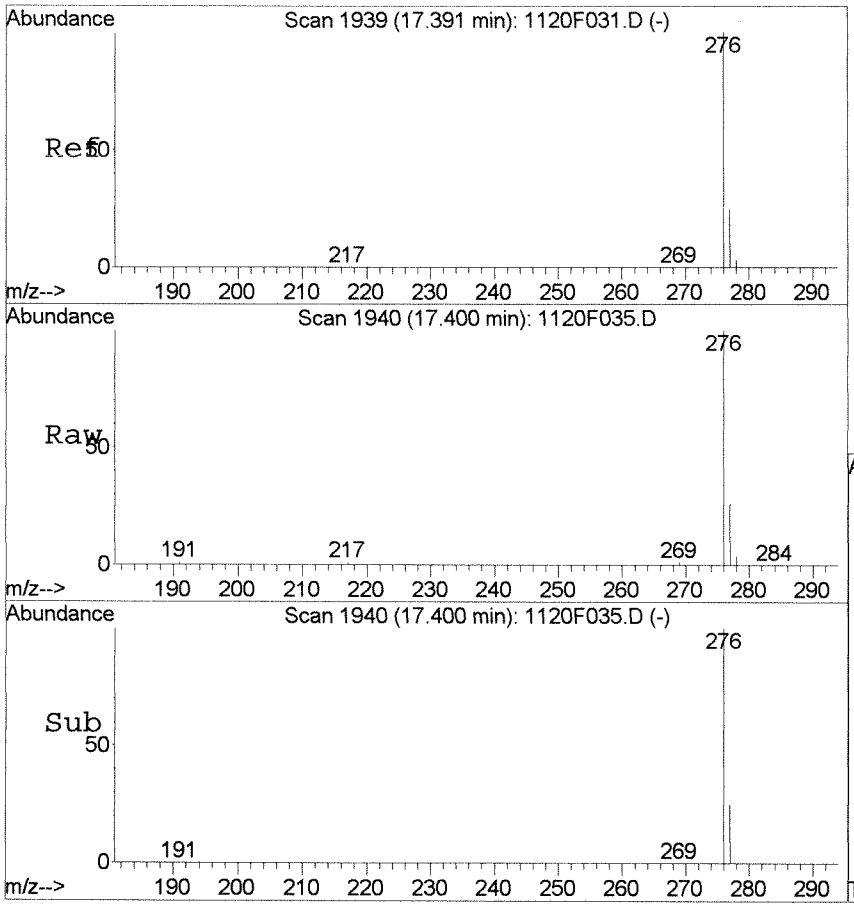


#56
Dibenz(a,h)anthracene
Concen: 45.04 ng/ml
RT: 17.06 min Scan# 1895
Delta R.T. -0.02 min
Lab File: 1120F035.D
Acq: 21 Nov 2009 1:13 am

Tgt Ion:278 Resp: 72679

Ion	Ratio	Lower	Upper
278	100		
276	23.7	0.0	52.1

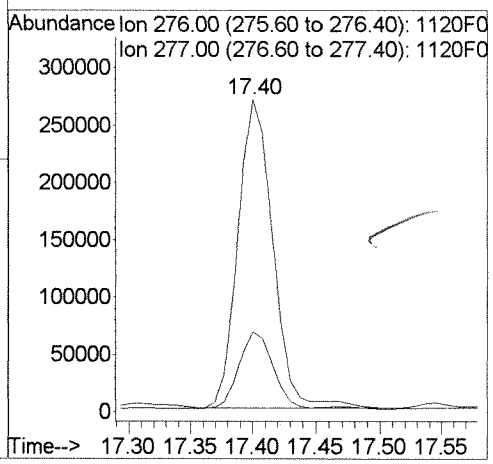




#57
Benzo(g,h,i)perylene
Concen: 300.08 ng/ml
RT: 17.40 min Scan# 1940
Delta R.T. -0.03 min
Lab File: 1120F035.D
Acq: 21 Nov 2009 1:13 am

Tgt Ion:276 Resp: 525160

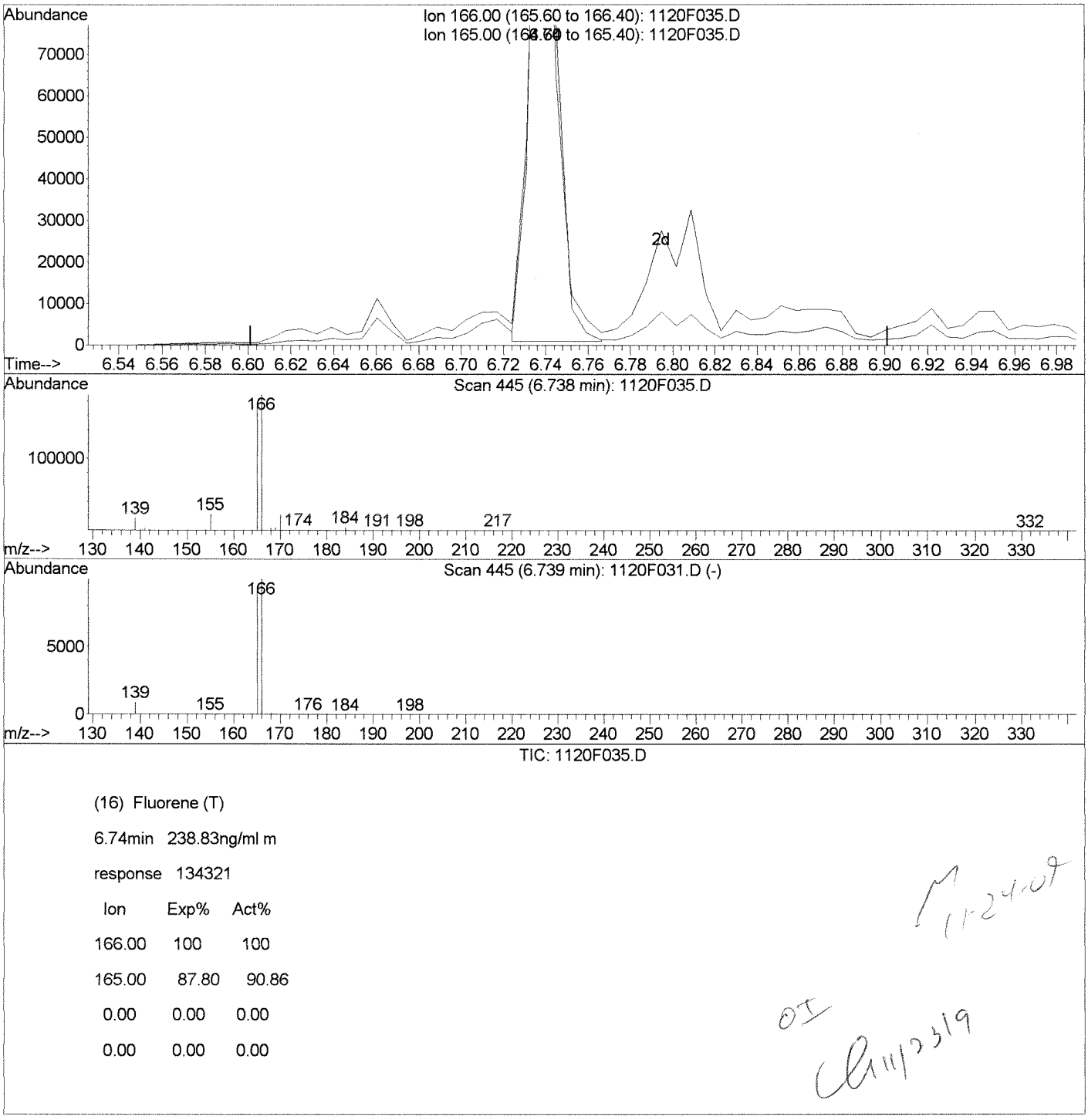
Ion	Ratio	Lower	Upper
276	100		
277	24.9	0.0	55.7



Quantitation Report (Qedit)

Data File : J:\MS11\DATA\112009\1120F035.D Vial: 32
Acq On : 21 Nov 2009 1:13 am Operator: LWeiskopf
Sample : K0909140-008 Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 23 8:41 2009 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1119ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Nov 23 08:36:00 2009
Response via : Multiple Level Calibration



TIC: 1120F035.D

(16) Fluorene (T)

6.74min 238.83ng/ml m

response 134321

Ion	Exp%	Act%
166.00	100	100
165.00	87.80	90.86
0.00	0.00	0.00
0.00	0.00	0.00

11-24-09

OI 11/23/09

1120F035.D 1119ALK.M Mon Nov 23 08:41:07 2009

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	URS Corporation	**Service Request:**	K0909140
Project:	Boise St. Helens Pulp and Paper Mill-2009	**Date Collected:**	10/07/2009
Sample Matrix:	Sediment	**Date Received:**	10/08/2009

Polynuclear Aromatic Hydrocarbons

Sample Name:	M-1-C	**Units:**	ug/Kg
Lab Code:	K0909140-009	**Basis:**	Dry
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270C SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Naphthalene	**550**		2.8	0.60	1	11/10/09	11/21/09	KWG0910535	
2-Methylnaphthalene	**140**		2.8	0.46	1	11/10/09	11/21/09	KWG0910535	
Acenaphthylene	**54**		2.8	0.56	1	11/10/09	11/21/09	KWG0910535	
Acenaphthene	**120**		2.8	0.50	1	11/10/09	11/21/09	KWG0910535	
Fluorene	**140**		2.8	0.61	1	11/10/09	11/21/09	KWG0910535	
Dibenzofuran	**150**		2.8	0.63	1	11/10/09	11/21/09	KWG0910535	
Phenanthrene	**600**		2.8	1.4	1	11/10/09	11/21/09	KWG0910535	
Anthracene	**130**		2.8	0.55	1	11/10/09	11/21/09	KWG0910535	
Fluoranthene	**680**		2.8	0.98	1	11/10/09	11/21/09	KWG0910535	
Pyrene	**420**		2.8	0.76	1	11/10/09	11/21/09	KWG0910535	
Benz(a)anthracene	**140**		2.8	0.72	1	11/10/09	11/21/09	KWG0910535	
Chrysene	**210**		2.8	0.80	1	11/10/09	11/21/09	KWG0910535	
Benzo(b)fluoranthene	**190**		2.8	0.92	1	11/10/09	11/21/09	KWG0910535	
Benzo(k)fluoranthene	**62**		2.8	0.87	1	11/10/09	11/21/09	KWG0910535	
Benzo(a)pyrene	**140**		2.8	0.76	1	11/10/09	11/21/09	KWG0910535	
Indeno(1,2,3-cd)pyrene	**120**		2.8	0.87	1	11/10/09	11/21/09	KWG0910535	
Dibenz(a,h)anthracene	**22**		2.8	0.80	1	11/10/09	11/21/09	KWG0910535	
Benzo(g,h,i)perylene	**140**		2.8	0.85	1	11/10/09	11/21/09	KWG0910535	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	62	17-104	11/21/09	Acceptable
Fluoranthene-d10	68	27-106	11/21/09	Acceptable
Terphenyl-d14	54	35-109	11/21/09	Acceptable

Comments:

Exception Report

Data File: J:\MS11\DATA\112009\1120F036.D
Lab ID: K0909140-009
RunType: SMPL
Matrix: SEDIMENT

Date Acquired: 11/21/2009 01:39
Date Quantitated: 11/23/2009 08:47
Batch ID: KWG0911040
Analysis Method: 8270C SIM
ListJoinID: LJ5646

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Tune Window	NA	NA	NA	x	
Analytical Holding Time	NA	NA	NA	x	
Preparation Holding Time	NA	NA	NA	x	
Pre-Preparation Holding Time	NA	NA	NA	x	
ICAL Pass/Fail	NA	NA	NA	x	
ICAL Average RSD	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Initial Calibration Minimum RF	NA	NA	NA	x	
Initial Calibration SPCC/CCC	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA	x	
Continuing Calibration Minimum RF	NA	NA	NA	x	
Continuing Calibration SPCC/CCC	NA	NA	NA	x	
Method Blank	NA	NA	NA	x	
MB Surrogate Recovery	NA	NA	NA	x	
Lab Control Spike	NA	NA	NA	x	
Internal Standards	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Relative Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Primary Review: 11/23/09
Secondary Review: 11-24-09

Quantitation Report

Bottle ID:		**Tier:**	V	**Matrix:**	SEDIMENT
Prod Code:	8270C SIM PAH_S	**Collect Date:**	10/07/2009	**Receive Date:**	10/08/2009

Analysis Lot:	KWG0911040	**Prep Lot:**	KWG0910535	**Report Group:**	K0909140
Analysis Method:	8270C SIM	**Prep Method:**	EPA 3541		
		Prep Date:	11/10/2009		
Prep Ref:	865762				

Quant Method:	J:\MS11\METHODS\SIM\1119ALK.M	**Calibration ID:**	CAL9029
Title:	Polynuclear Aromatic Hydrocarbons	**Report List ID:**	LJ5646
Tune Ref:	J:\MS11\DATA\112009\1120F030.D	**Method ID:**	MJ253
MB Ref:	J:\MS11\DATA\111909\1119F041.D	**Quant based on Report List**	

Data File:	J:\MS11\DATA\112009\1120F036.D			**Instrument:**	MS11
Acqu Date:	11/21/2009 01:39	**Quant Date:**	11/23/2009 08:47	**Vial:**	33
Run Type:	SMPL			**Dilution:**	1.0
Lab ID:	K0909140-009			**Soln Conc. Units:**	ng/ml

Internal Standard Compounds

IS Ref	Parameter Name	RT	RT Dev	Quant Mass	Response	Solution Conc	Area Criteria
1	Naphthalene-d8	4.87	0.00	136	145202	200.00	OK
2	Acenaphthene-d10	6.29	0.00	164	81042	200.00	OK
3	Phenanthrene-d10	7.52	0.00	188	164786	200.00	OK
4	Chrysene-d12	10.25	0.00	240	292465	200.00	OK
5	Perylene-d12	13.83	0.01	264	352887	200.00	OK

Surrogate Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	%Rec	%Rec Limits		Rpt?
2	Fluorene-d10	6.72	0.00	0.00	176	56494	124.15	62	17-104	OK	
3	Fluoranthene-d10	8.50	0.00	0.00	212	134766	135.27	68	27-106	OK	
4	Terphenyl-d14	8.89	0.00	0.00	244	131947	108.98	54	35-109	OK	

Target Compounds

Final Conc. Units: ug/Kg Dry Weight

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	Final Conc	Q	Rpt?
1	Naphthalene	4.88	-0.01	0.00	128	641189	1,004	550		
1	2-Methylnaphthalene	5.43	-0.01	0.00	142	117704	255.83	140		
2	Acenaphthylene	6.17	-0.01	0.00	152	64588	96.98	54		
2	Acenaphthene	6.31	-0.01	0.00	154	87778	221.90	120		
2	Dibenzofuran	6.46		0.00	168	161369	269.34	150		
2	Fluorene	6.74		0.00	166	129480**m**	258.37	140		
3	Phenanthrene	7.54		0.00	178	955006	1,087	600		
3	Anthracene	7.59		0.00	178	195713	231.82	130		
3	Fluoranthene	8.52		0.00	202	1260162	1,234	680		
4	Pyrene	8.74	0.01	0.00	202	1169079	753.77	420		
4	Benz(a)anthracene	10.23		0.00	228	375164	251.10	140		
4	Chrysene	10.29		0.00	228	532211	373.00	210		
5	Benzo(b)fluoranthene	12.63	0.01	0.00	252	643501	349.97	190		

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Data File:	J:\MS11\DATA\112009\1120F036.D			**Instrument:**	MS11
Acqu Date:	11/21/2009 01:39	**Quant Date:**	11/23/2009 08:47	**Vial:**	33
Run Type:	SMPL			**Dilution:**	1.0
Lab ID:	K0909140-009			**Soln Conc. Units:**	ng/ml

Target Compounds **Final Conc. Units:** ug/Kg Dry Weight

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	Final Conc	Q	Rpt?
5	Benzo(k)fluoranthene	12.70		0.00	252	196300	112.66	62		
5	Benzo(a)pyrene	13.63	0.02	0.00	252	417143	257.51	140		
5	Indeno(1,2,3-cd)pyrene	16.98		0.00	276	326109	218.40	120		
5	Dibenz(a,h)anthracene	17.05		0.00	278	60781	39.06	22		
5	Benzo(g,h,i)perylene	17.40	0.01	0.00	276	425333	252.06	140		

Prep Amount:	19.99 g	**Dilution:**	1.0
Prep Final Vol:	10 ml	**Unit Factor:**	1
Solids:	90.5 %		

Final Concentration = ((Soln Conc x Prep Final Vol x Dilution) / (Prep Amount x Solids)) x Unit Factor

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\112009\1120F036.D Vial: 33
Acq On : 21 Nov 2009 1:39 am Operator: LWeiskopf
Sample : K0909140-009 Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 23 08:36:26 2009 Quant Results File: 1119ALK.RES

Quant Method : J:\MS11\METHODS\SIM\1119ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Nov 23 08:36:00 2009
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	4.87	136	145202	200.00	ng/ml	0.00
10) Acenaphthene-d10	6.29	164	81042	200.00	ng/ml	0.00
22) Phenanthrene-d10	7.52	188	164786	200.00	ng/ml	0.00
37) Chrysene-d12	10.25	240	292465	200.00	ng/ml	-0.02
49) Perylene-d12	13.83	264	352887	200.00	ng/ml	-0.03
System Monitoring Compounds						
15) Fluorene-d10	6.72	176	56494	124.15	ng/ml	0.00
Spiked Amount 200.000			Recovery =	62.08%		
20) 2,4,6 Tribromophenol	0.00	330	0d	0.00	ng/ml	
Spiked Amount 375.000			Recovery =	0.00%		
36) Fluoranthene-d10	8.50	212	134766	135.27	ng/ml	0.00
Spiked Amount 200.000			Recovery =	67.64%		
42) Terphenyl-d14	8.89	244	131947	108.98	ng/ml	0.00
Spiked Amount 200.000			Recovery =	54.49%		
Target Compounds						Qvalue
2) Naphthalene	4.88	128	641189	1003.89	ng/ml	97
3) 2-Methylnaphthalene	5.43	142	117704	255.83	ng/ml	99
4) 1-Methylnaphthalene	5.52	142	51945	117.70	ng/ml	97
5) Biphenyl	5.81	154	41743	76.26	ng/ml	97
6) 2,6-Dimethylnaphthalene	5.95	156	58637	138.67	ng/ml	99
11) Acenaphthylene	6.17	152	64588	96.98	ng/ml	99
12) Acenaphthene	6.31	154	87778	221.90	ng/ml	96
13) Dibenzofuran	6.46	168	161369	269.34	ng/ml	62
14) 2,3,5-Trimethylnaphthalene	6.63	170	29002	68.66	ng/ml	95
16) Fluorene	6.74	166	129480m	258.37	ng/ml	
23) Dibenzothiophene	7.43	184	68316	93.08	ng/ml	92
27) Phenanthrene	7.54	178	955006	1087.02	ng/ml	100
28) Anthracene	7.59	178	195713	231.82	ng/ml	97
29) Carbazole	7.72	167	24502	33.98	ng/ml	88
30) 1-Methylphenanthrene	8.04	192	78832	115.26	ng/ml	95
35) Fluoranthene	8.52	202	1260162	1233.86	ng/ml	91
38) Pyrene	8.74	202	1169079	753.77	ng/ml	94
43) Benz(a)anthracene	10.23	228	375164	251.10	ng/ml	75
44) Chrysene	10.29	228	532211	373.00	ng/ml	96
50) Benzo(b)fluoranthene	12.63	252	643501	349.97	ng/ml	99
51) Benzo(k)fluoranthene	12.70	252	196300	112.66	ng/ml	99
52) Benzo(e)pyrene	13.46	252	370419	219.82	ng/ml	100
53) Benzo(a)pyrene	13.63	252	417143	257.51	ng/ml	99
54) Perylene	13.91	252	277493	173.46	ng/ml	94
55) Indeno(1,2,3-cd)pyrene	16.98	276	326109	218.40	ng/ml	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\112009\1120F036.D Vial: 33
Acq On : 21 Nov 2009 1:39 am Operator: LWeiskopf
Sample : K0909140-009 Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 23 08:36:26 2009 Quant Results File: 1119ALK.RES

Quant Method : J:\MS11\METHODS\SIM\1119ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Nov 23 08:36:00 2009
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

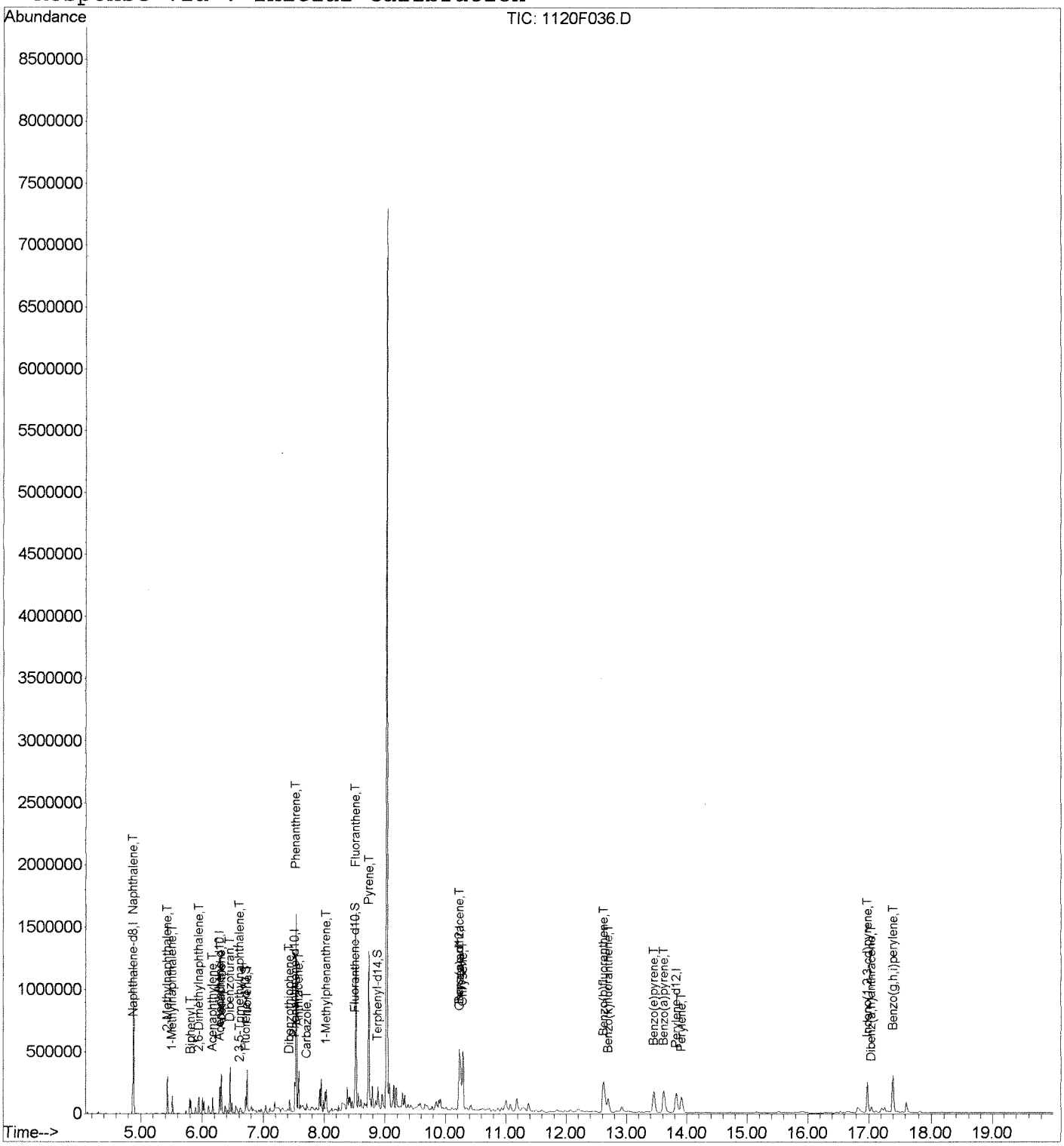
	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
56)	Dibenz(a,h)anthracene	17.05	278	60781	39.06	ng/ml	92
57)	Benzo(g,h,i)perylene	17.40	276	425333	252.06	ng/ml	98

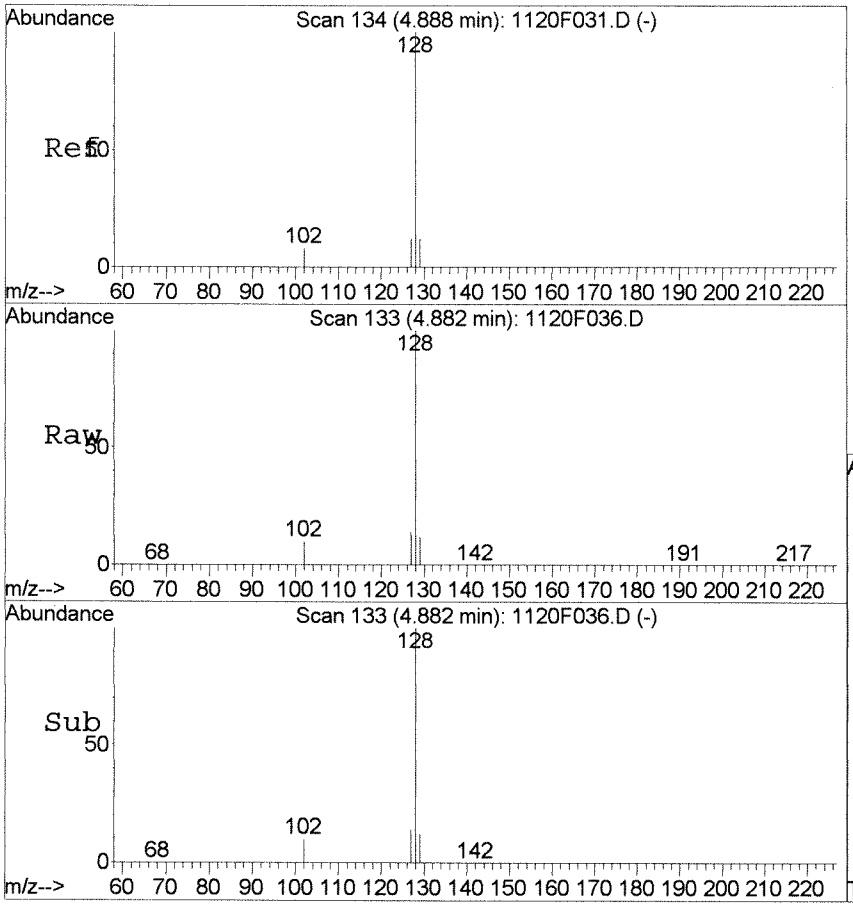
(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\112009\1120F036.D Vial: 33
Acq On : 21 Nov 2009 1:39 am Operator: LWeiskopf
Sample : K0909140-009 Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 23 8:47 2009 Quant Results File: 1119ALK.RES

Method : J:\MS11\METHODS\SIM\1119ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Nov 23 08:36:00 2009
Response via : Initial Calibration

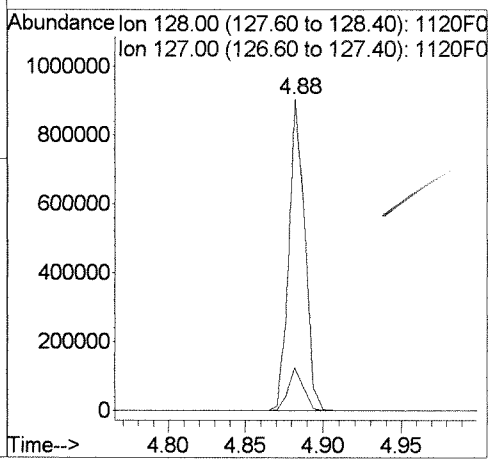


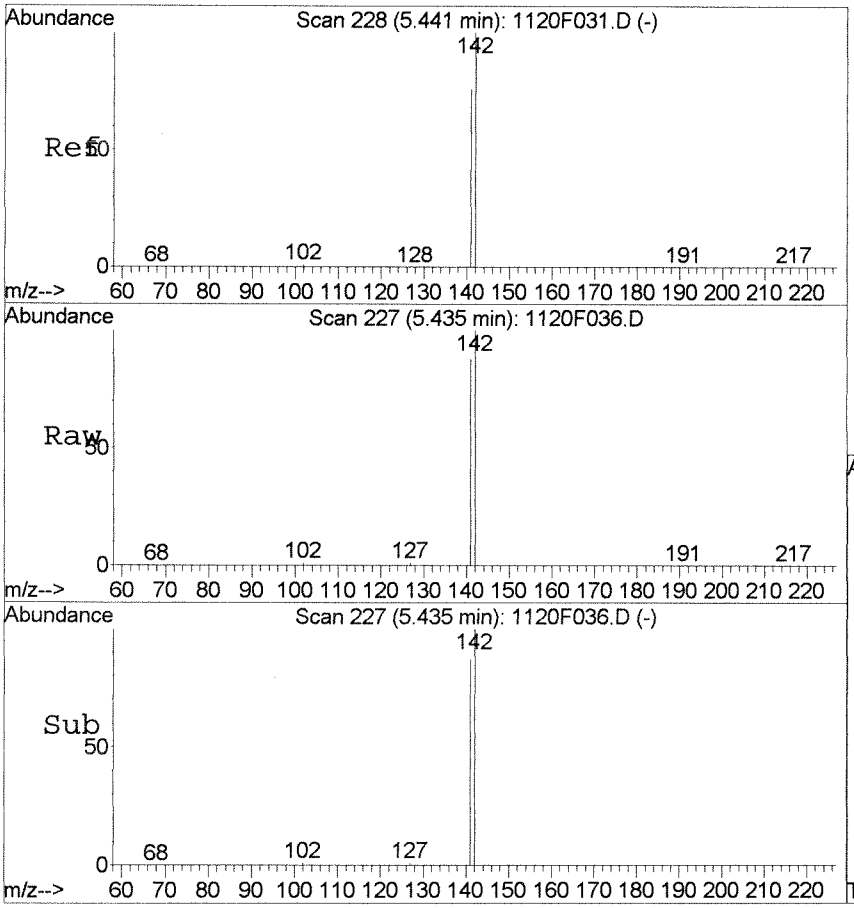


#2
Naphthalene
Concen: 1003.89 ng/ml
RT: 4.88 min Scan# 133
Delta R.T. -0.01 min
Lab File: 1120F036.D
Acq: 21 Nov 2009 1:39 am

Tgt Ion:128 Resp: 641189

Ion	Ratio	Lower	Upper
128	100		
127	13.7	0.0	42.4

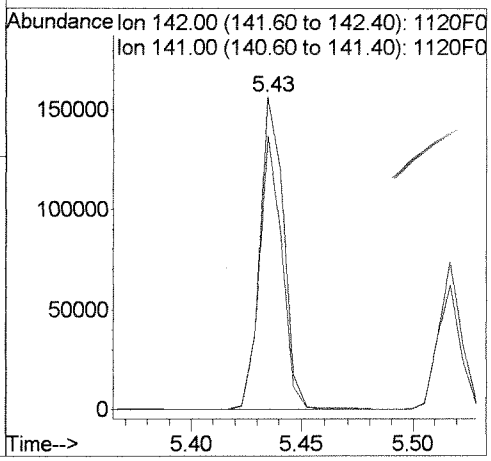


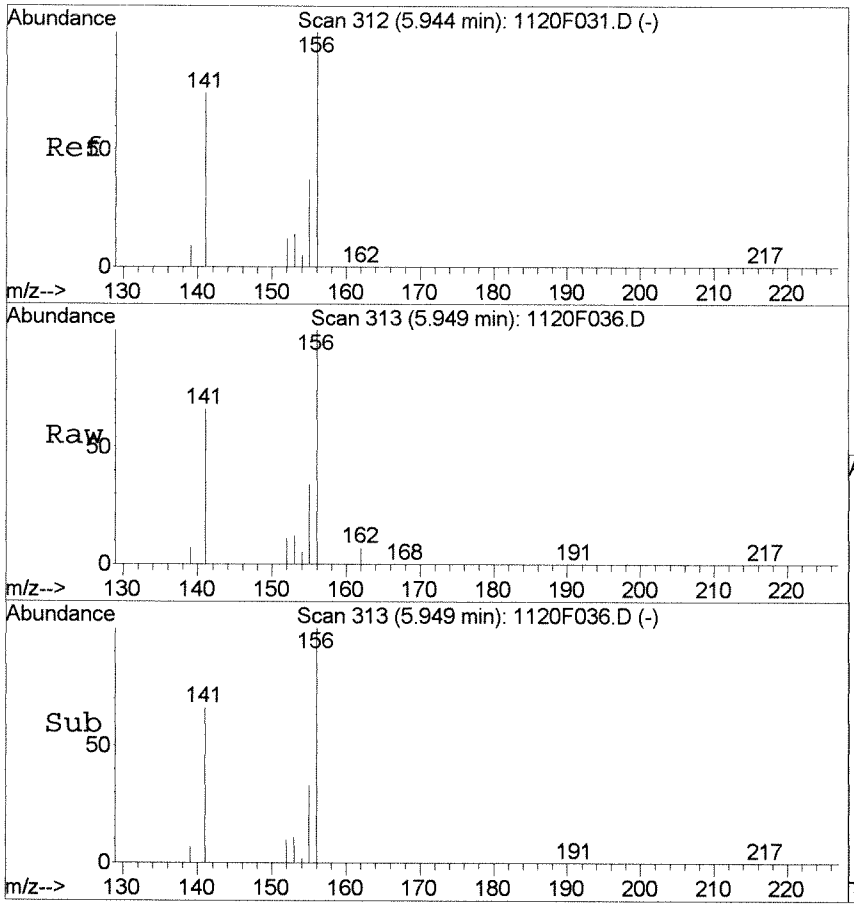


#3
2-Methylnaphthalene
Concen: 255.83 ng/ml
RT: 5.43 min Scan# 227
Delta R.T. -0.01 min
Lab File: 1120F036.D
Acq: 21 Nov 2009 1:39 am

Tgt Ion:142 Resp: 117704

Ion	Ratio	Lower	Upper
142	100		
141	87.5	56.1	116.1

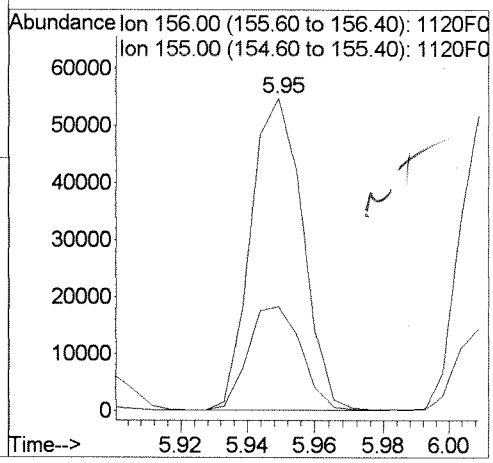


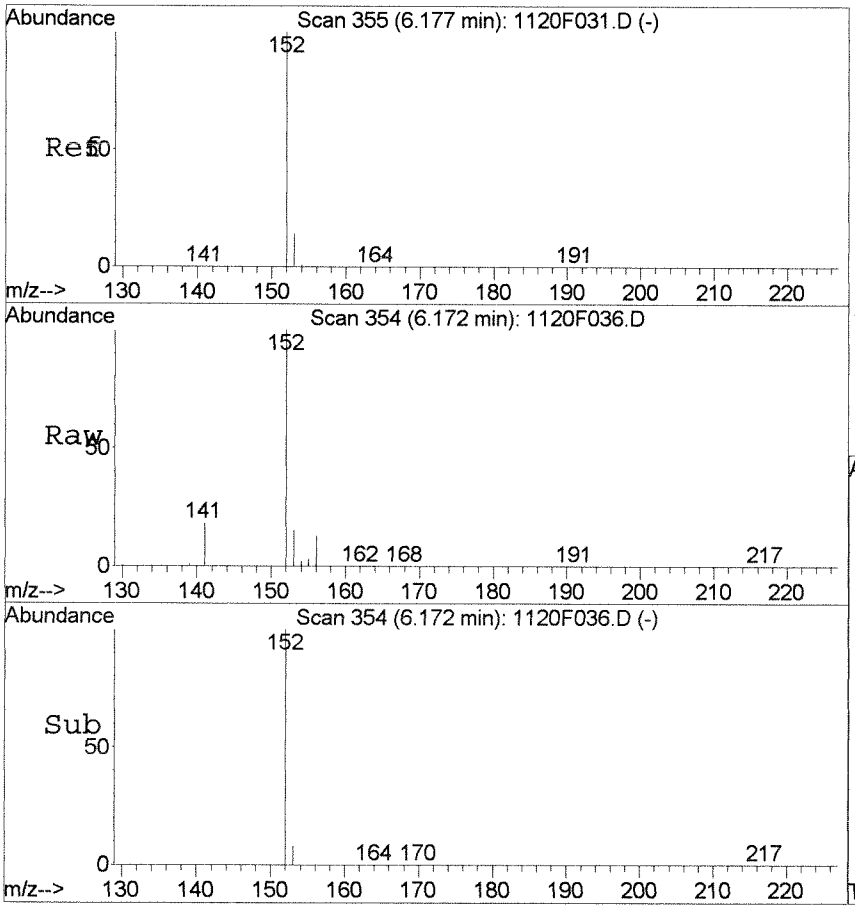


#6
2,6-Dimethylnaphthalene
Concen: 138.67 ng/ml
RT: 5.95 min Scan# 313
Delta R.T. -0.00 min
Lab File: 1120F036.D
Acq: 21 Nov 2009 1:39 am

Tgt Ion:156 Resp: 58637

Ion	Ratio	Lower	Upper
156	100		
155	33.3	3.7	63.7

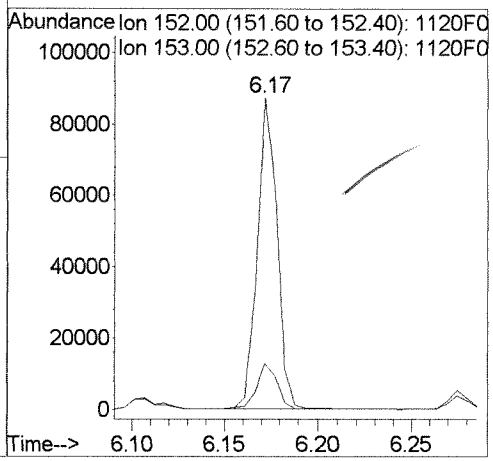


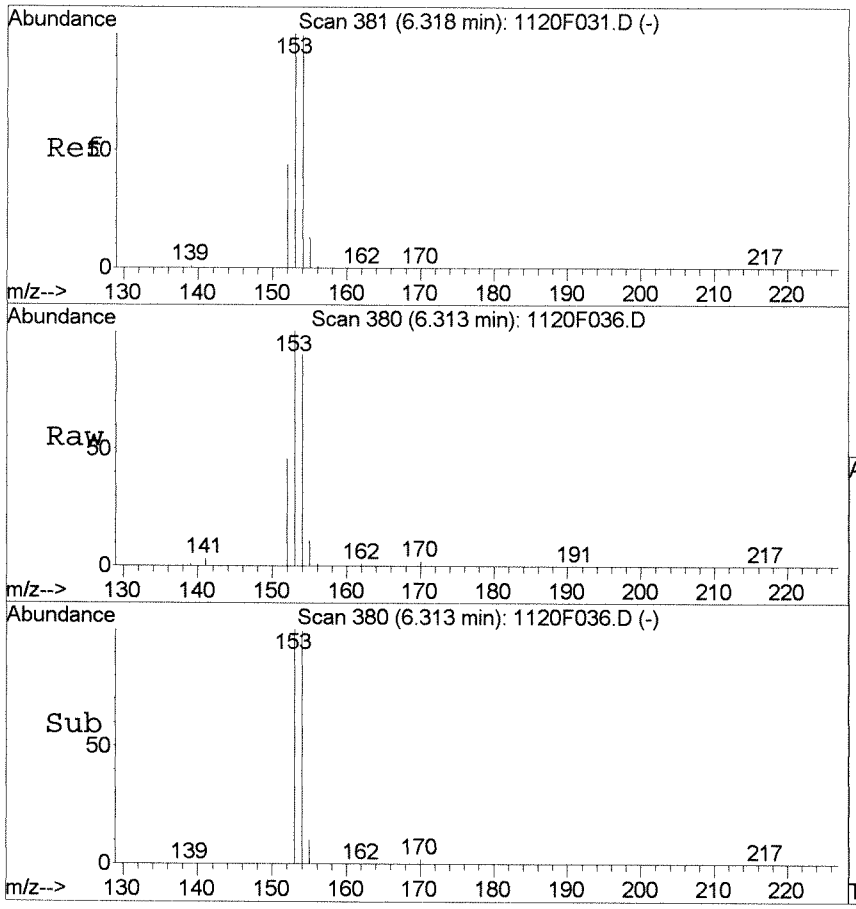


#11
Acenaphthylene
Concen: 96.98 ng/ml
RT: 6.17 min Scan# 354
Delta R.T. -0.01 min
Lab File: 1120F036.D
Acq: 21 Nov 2009 1:39 am

Tgt Ion:152 Resp: 64588

Ion	Ratio	Lower	Upper
152	100		
153	14.6	0.0	44.1

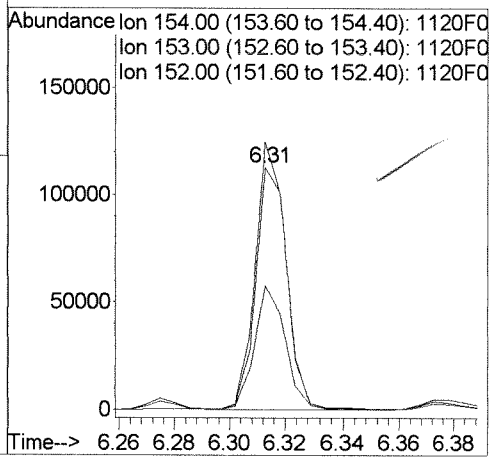


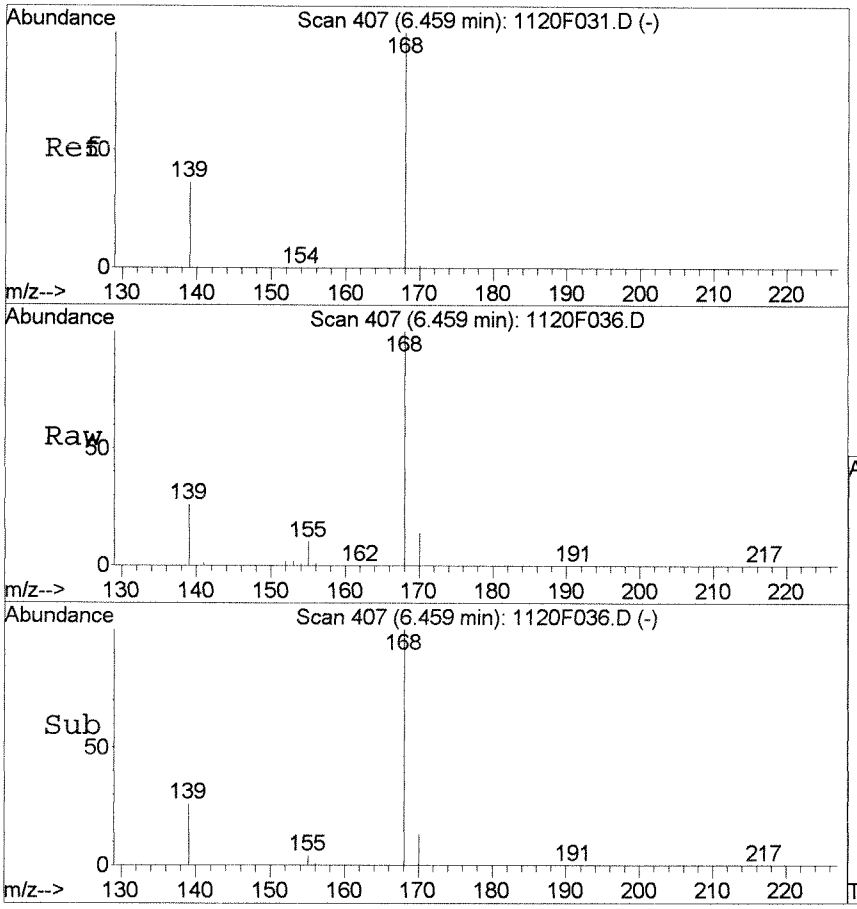


#12
Acenaphthene
Concen: 221.90 ng/ml
RT: 6.31 min Scan# 380
Delta R.T. -0.01 min
Lab File: 1120F036.D
Acq: 21 Nov 2009 1:39 am

Tgt Ion:154 Resp: 87778

Ion	Ratio	Lower	Upper
154	100		
153	110.6	77.8	137.8
152	50.9	24.7	84.7

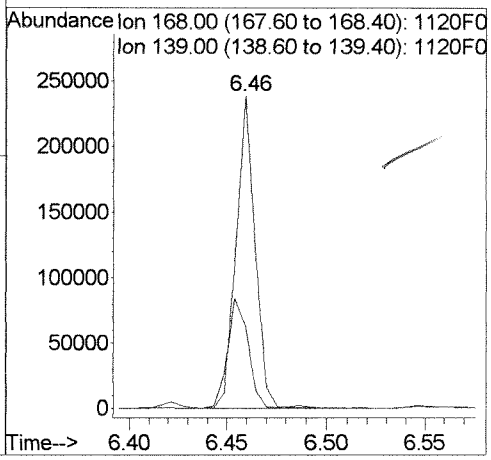


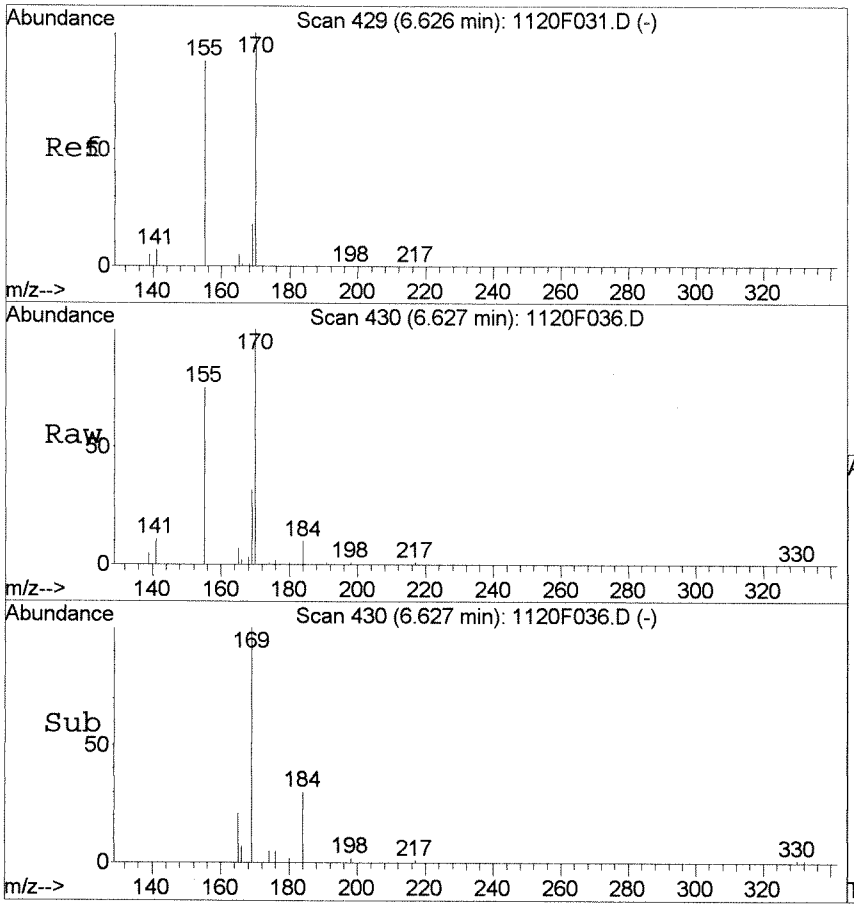


#13
Dibenzofuran
Concen: 269.34 ng/ml
RT: 6.46 min Scan# 407
Delta R.T. -0.00 min
Lab File: 1120F036.D
Acq: 21 Nov 2009 1:39 am

Tgt Ion:168 Resp: 161369

Ion	Ratio	Lower	Upper
168	100		
139	26.3	23.3	83.3

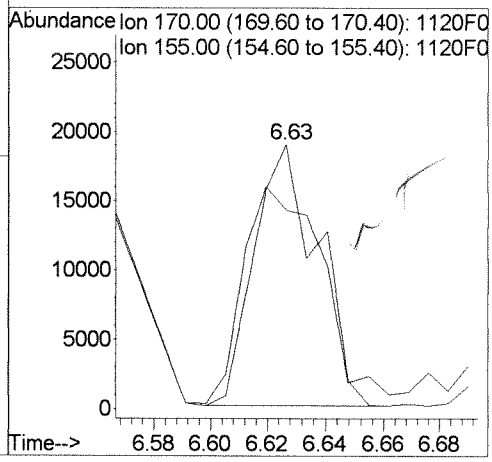


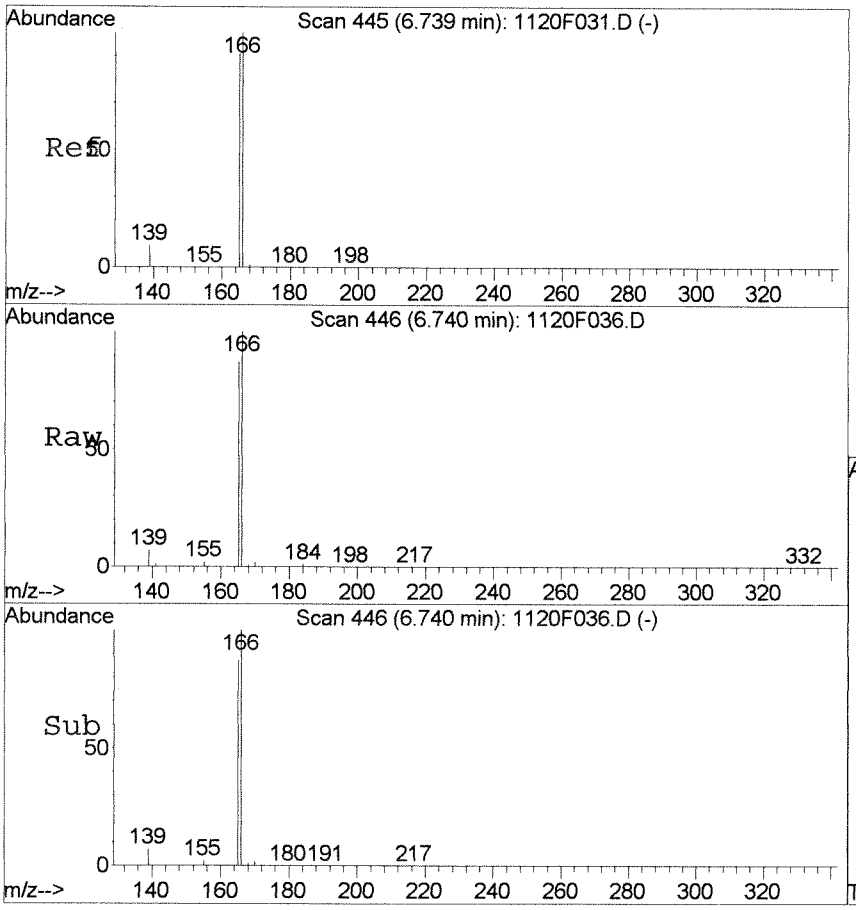


#14
2,3,5-Trimethylnaphthalene
Concen: 68.66 ng/ml
RT: 6.63 min Scan# 430
Delta R.T. -0.01 min
Lab File: 1120F036.D
Acq: 21 Nov 2009 1:39 am

Tgt Ion:170 Resp: 29002

Ion	Ratio	Lower	Upper
170	100		
155	74.0	48.2	108.2

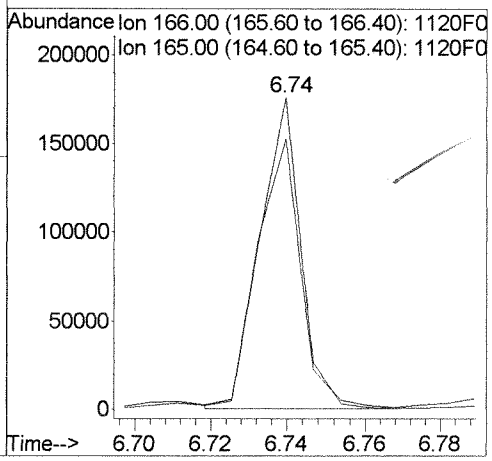


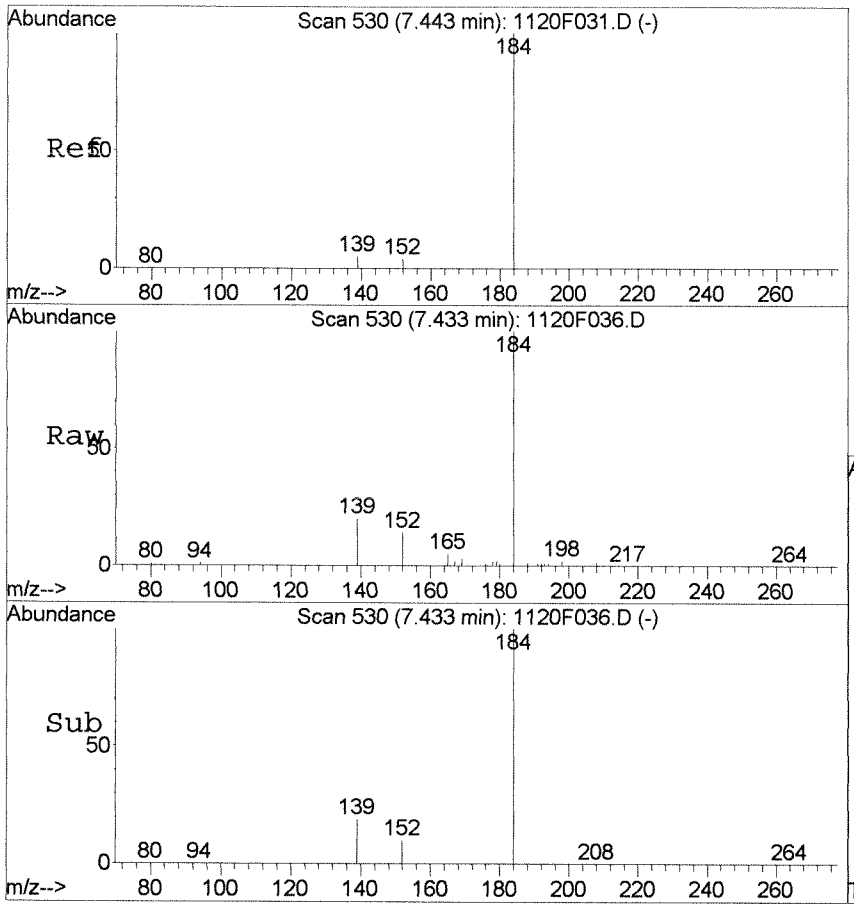


#16
Fluorene
Concen: 258.37 ng/ml m
RT: 6.74 min Scan# 446
Delta R.T. -0.01 min
Lab File: 1120F036.D
Acq: 21 Nov 2009 1:39 am

Tgt Ion:166 Resp: 129480

Ion	Ratio	Lower	Upper
166	100		
165	86.6	57.8	117.8

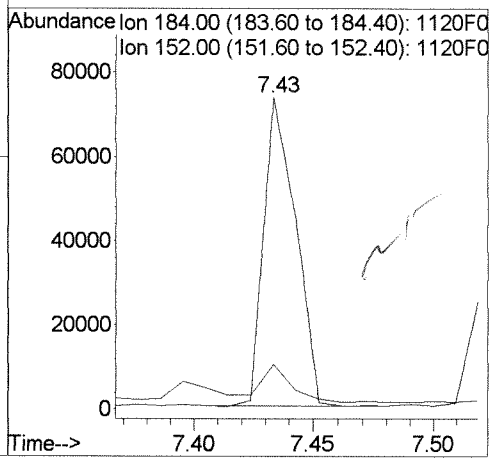


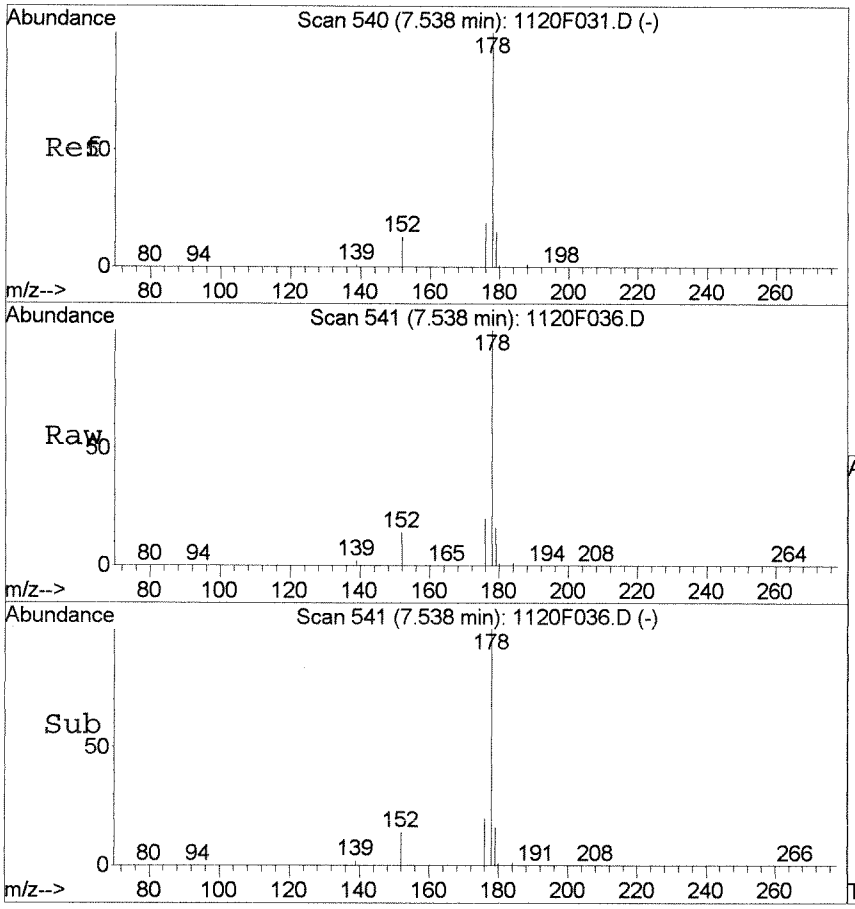


#23
Dibenzothiophene
Concen: 93.08 ng/ml
RT: 7.43 min Scan# 530
Delta R.T. -0.01 min
Lab File: 1120F036.D
Acq: 21 Nov 2009 1:39 am

Tgt Ion:184 Resp: 68316

Ion	Ratio	Lower	Upper
184	100		
152	12.3	0.0	39.4

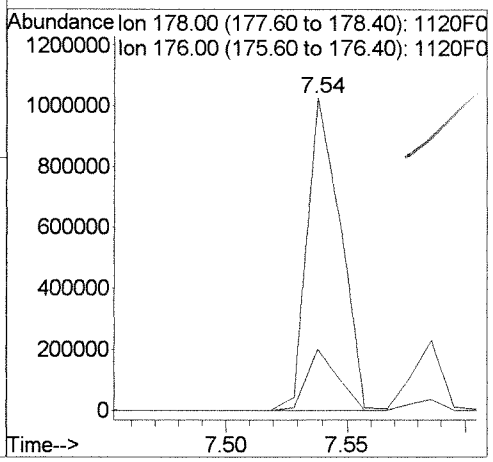


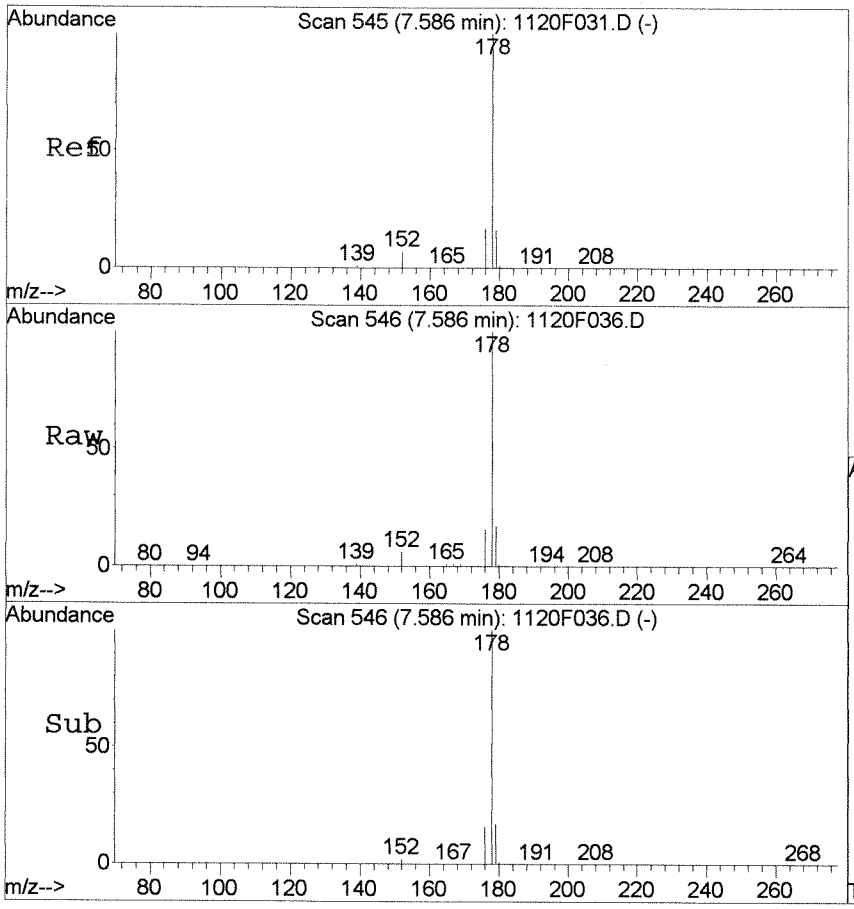


#27
Phenanthrene
Concen: 1087.02 ng/ml
RT: 7.54 min Scan# 541
Delta R.T. -0.01 min
Lab File: 1120F036.D
Acq: 21 Nov 2009 1:39 am

Tgt Ion:178 Resp: 955006

Ion	Ratio	Lower	Upper
178	100		
176	19.6	0.0	49.6

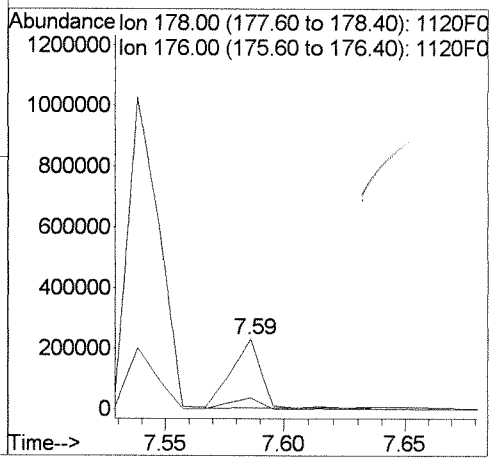


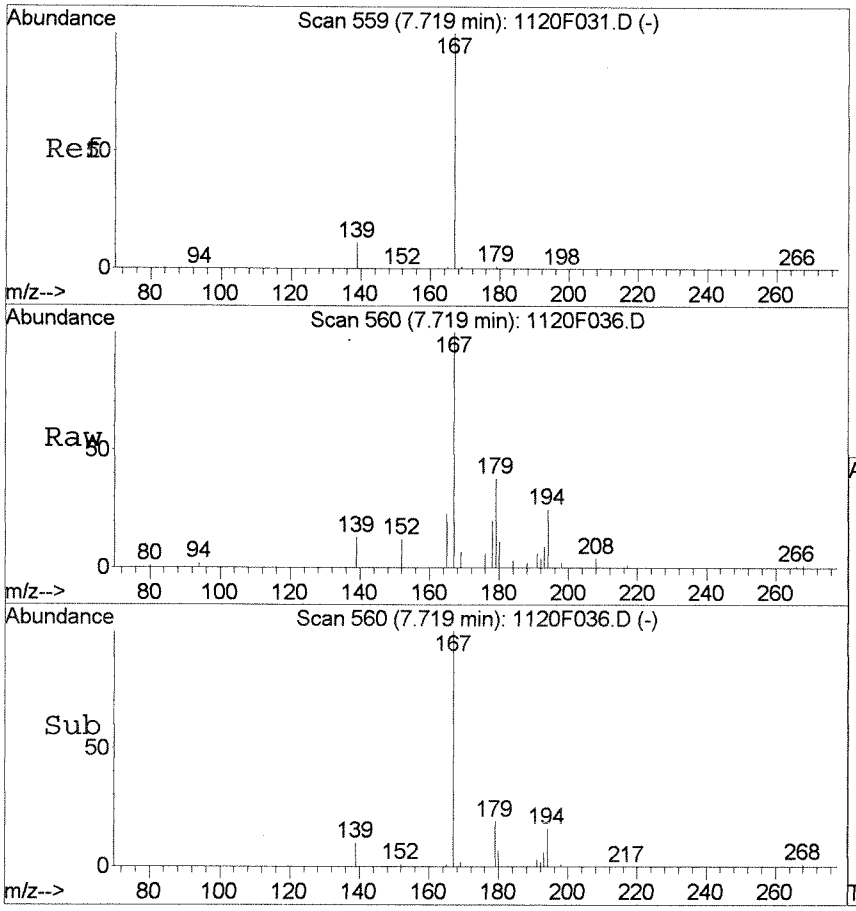


#28
Anthracene
Concen: 231.82 ng/ml
RT: 7.59 min Scan# 546
Delta R.T. 0.00 min
Lab File: 1120F036.D
Acq: 21 Nov 2009 1:39 am

Tgt Ion:178 Resp: 195713

Ion	Ratio	Lower	Upper
178	100		
176	16.1	0.0	47.6

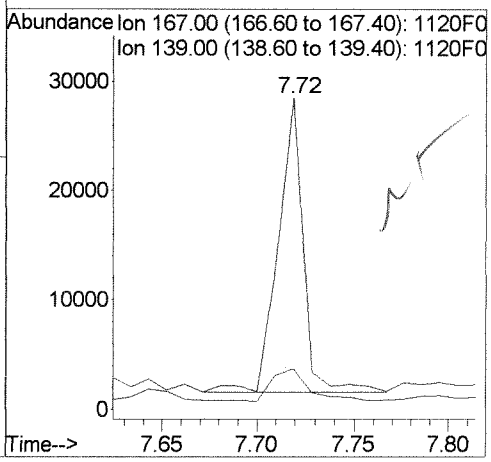


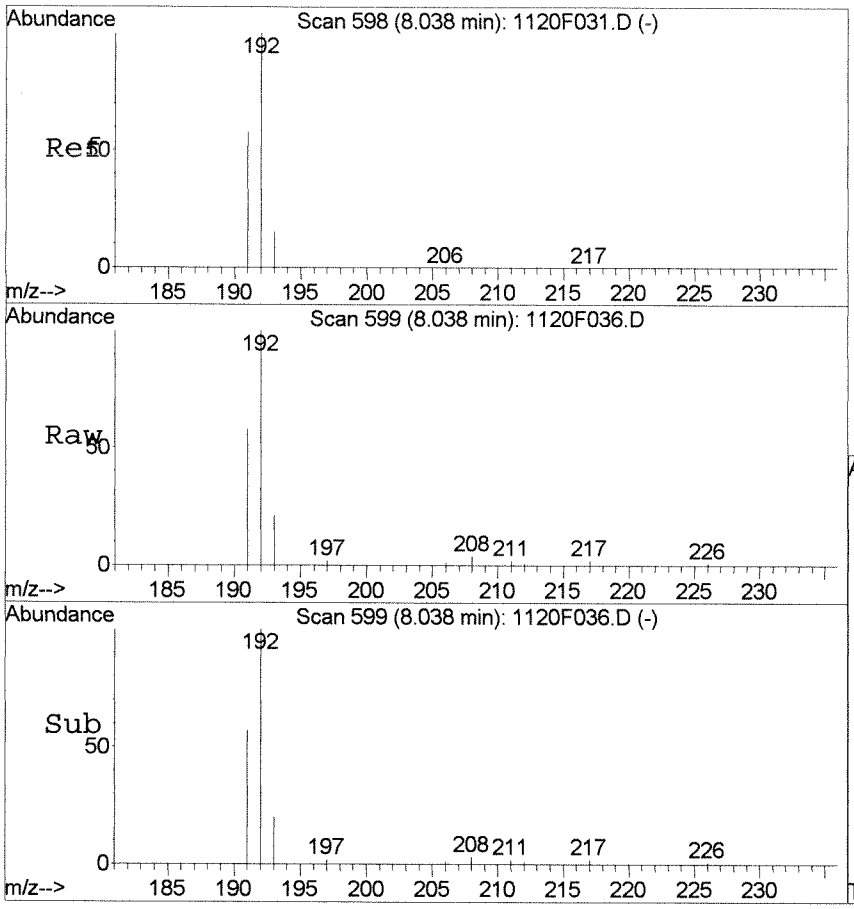


#29
Carbazole
Concen: 33.98 ng/ml
RT: 7.72 min Scan# 560
Delta R.T. -0.00 min
Lab File: 1120F036.D
Acq: 21 Nov 2009 1:39 am

Tgt Ion:167 Resp: 24502

Ion	Ratio	Lower	Upper
167	100		
139	10.7	0.0	45.7

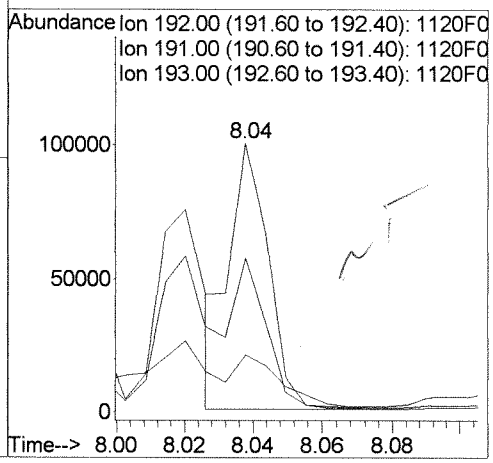


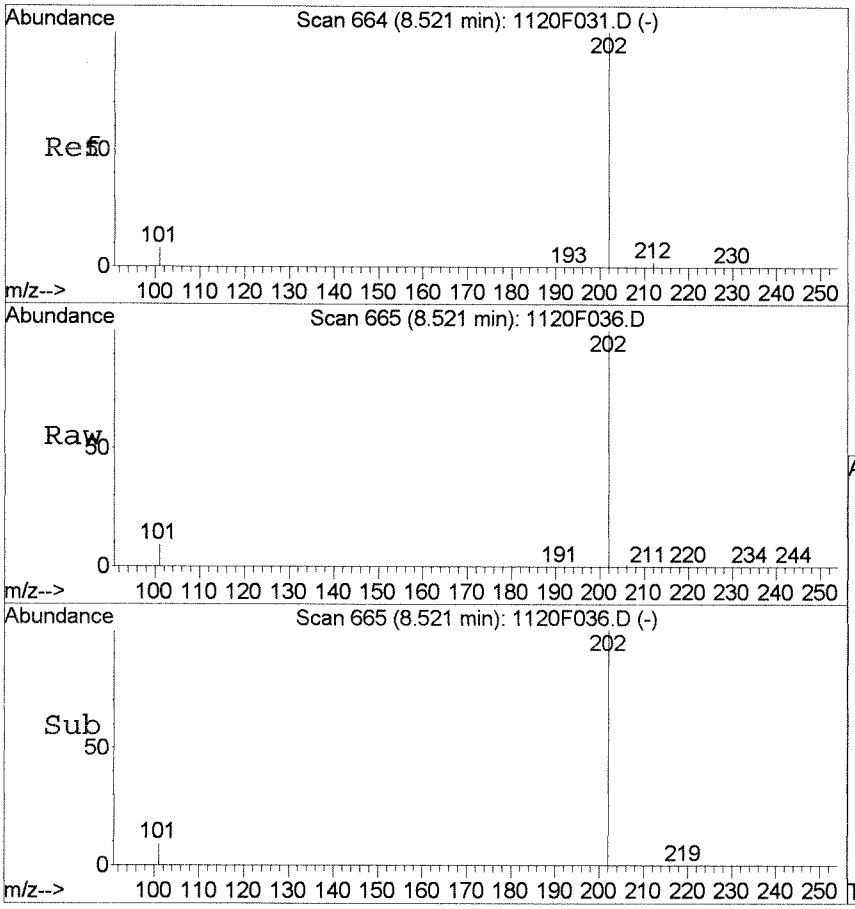


#30
1-Methylphenanthrene
Concen: 115.26 ng/ml
RT: 8.04 min Scan# 599
Delta R.T. -0.01 min
Lab File: 1120F036.D
Acq: 21 Nov 2009 1:39 am

Tgt Ion:192 Resp: 78832

Ion	Ratio	Lower	Upper
192	100		
191	56.5	23.0	83.0
193	19.4	0.0	47.0

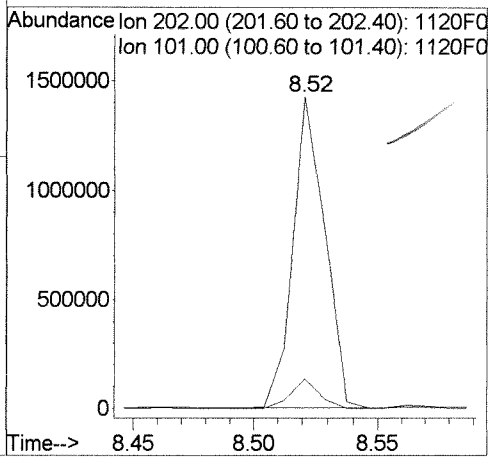


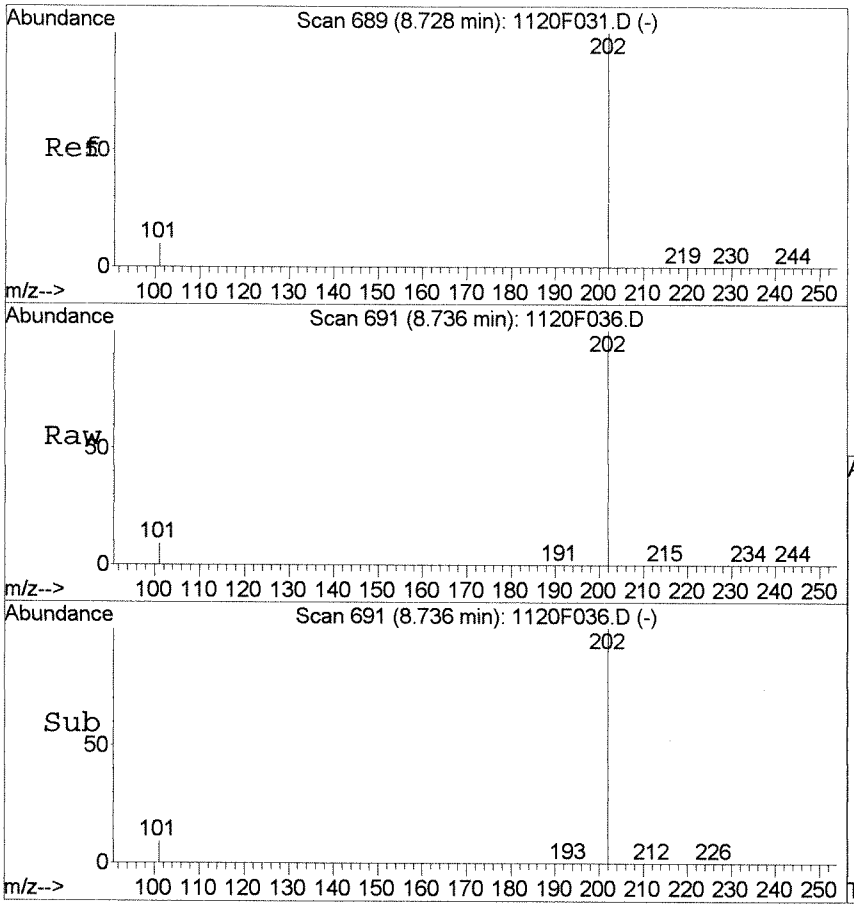


#35
Fluoranthene
Concen: 1233.86 ng/ml
RT: 8.52 min Scan# 665
Delta R.T. -0.01 min
Lab File: 1120F036.D
Acq: 21 Nov 2009 1:39 am

Tgt Ion:202 Resp: 1260162

Ion	Ratio	Lower	Upper
202	100		
101	9.4	0.0	36.5

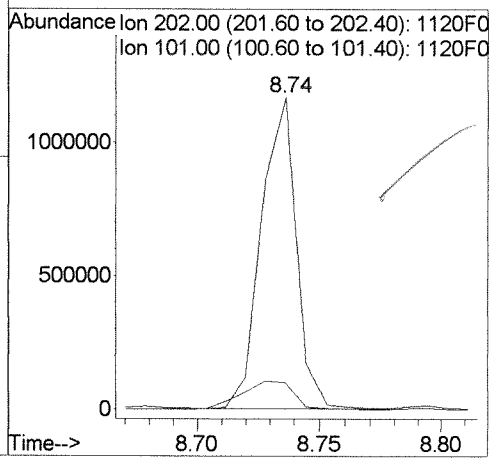


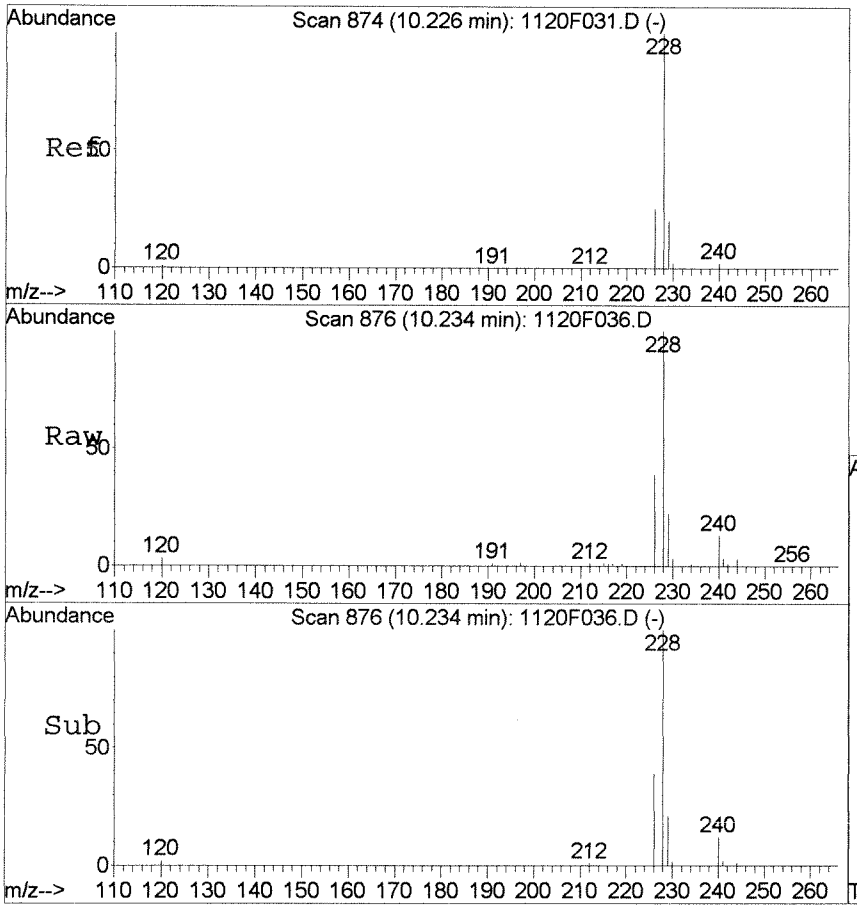


#38
Pyrene
Concen: 753.77 ng/ml
RT: 8.74 min Scan# 691
Delta R.T. -0.01 min
Lab File: 1120F036.D
Acq: 21 Nov 2009 1:39 am

Tgt Ion:202 Resp: 1169079

Ion	Ratio	Lower	Upper
202	100		
101	8.5	0.0	36.4

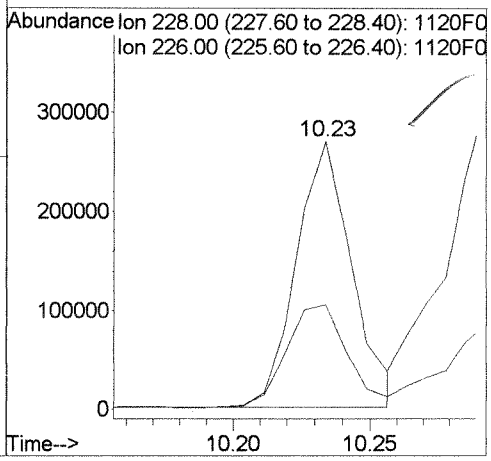


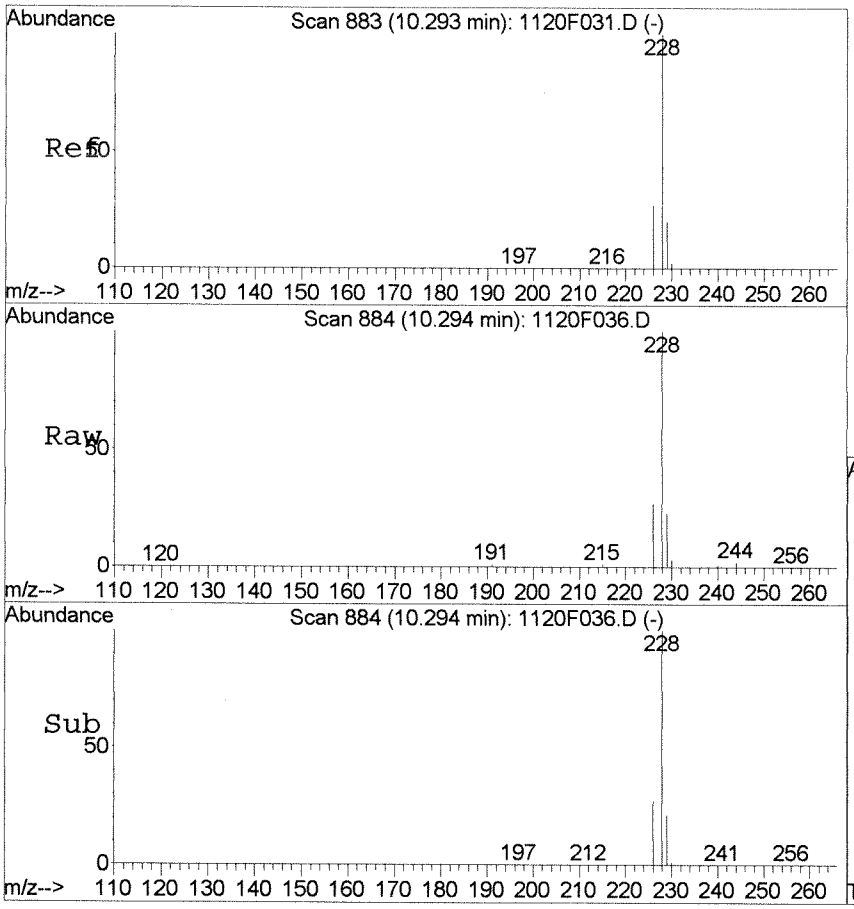


#43
Benz(a)anthracene
Concen: 251.10 ng/ml
RT: 10.23 min Scan# 876
Delta R.T. -0.02 min
Lab File: 1120F036.D
Acq: 21 Nov 2009 1:39 am

Tgt Ion:228 Resp: 375164

Ion	Ratio	Lower	Upper
228	100		
226	38.9	0.0	55.9

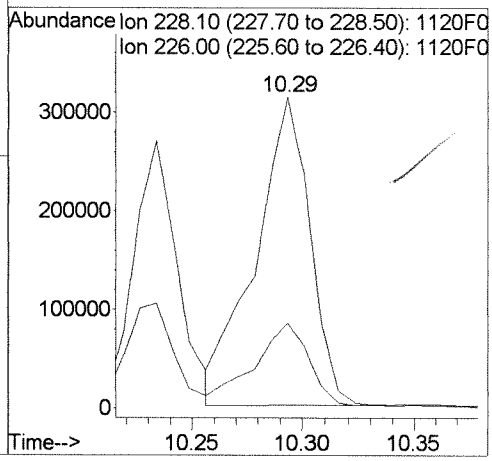


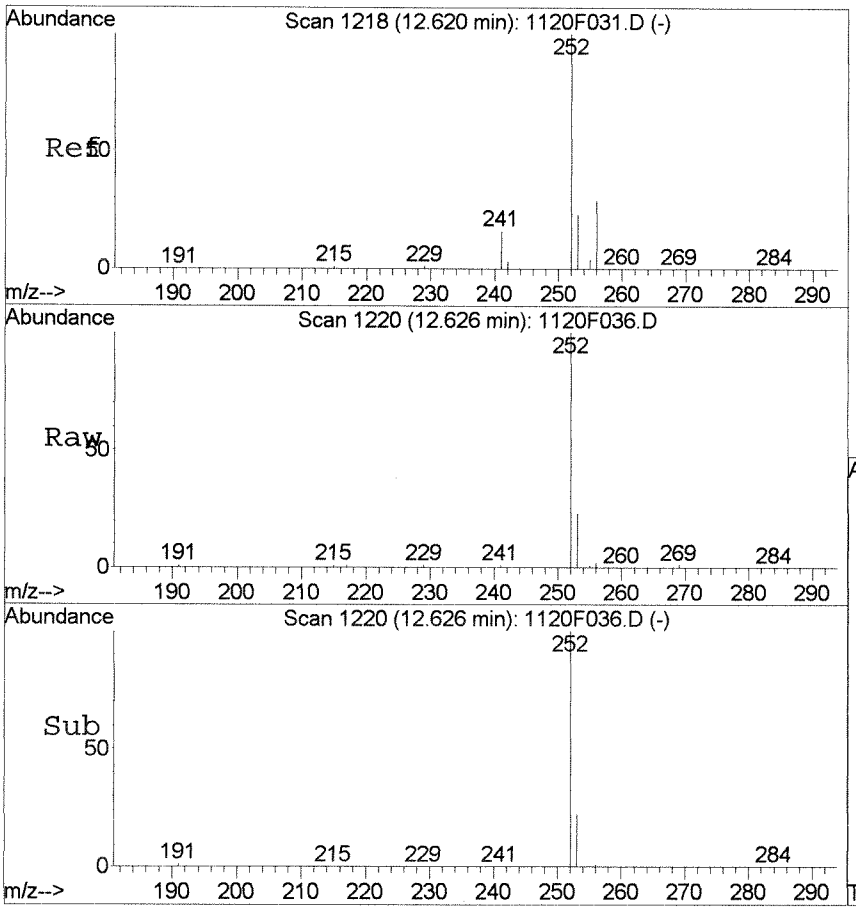


#44
Chrysene
Concen: 373.00 ng/ml
RT: 10.29 min Scan# 884
Delta R.T. -0.02 min
Lab File: 1120F036.D
Acq: 21 Nov 2009 1:39 am

Tgt Ion:228 Resp: 532211

Ion	Ratio	Lower	Upper
228	100		
226	26.7	0.0	58.8

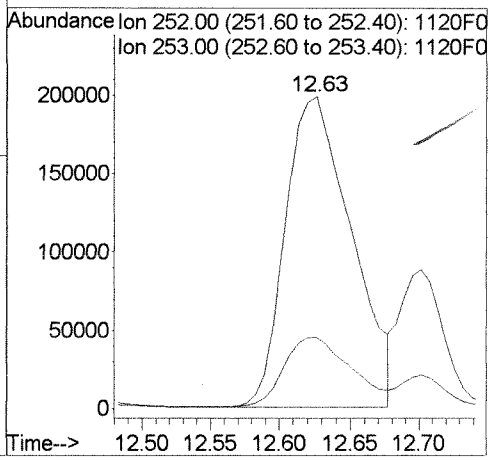


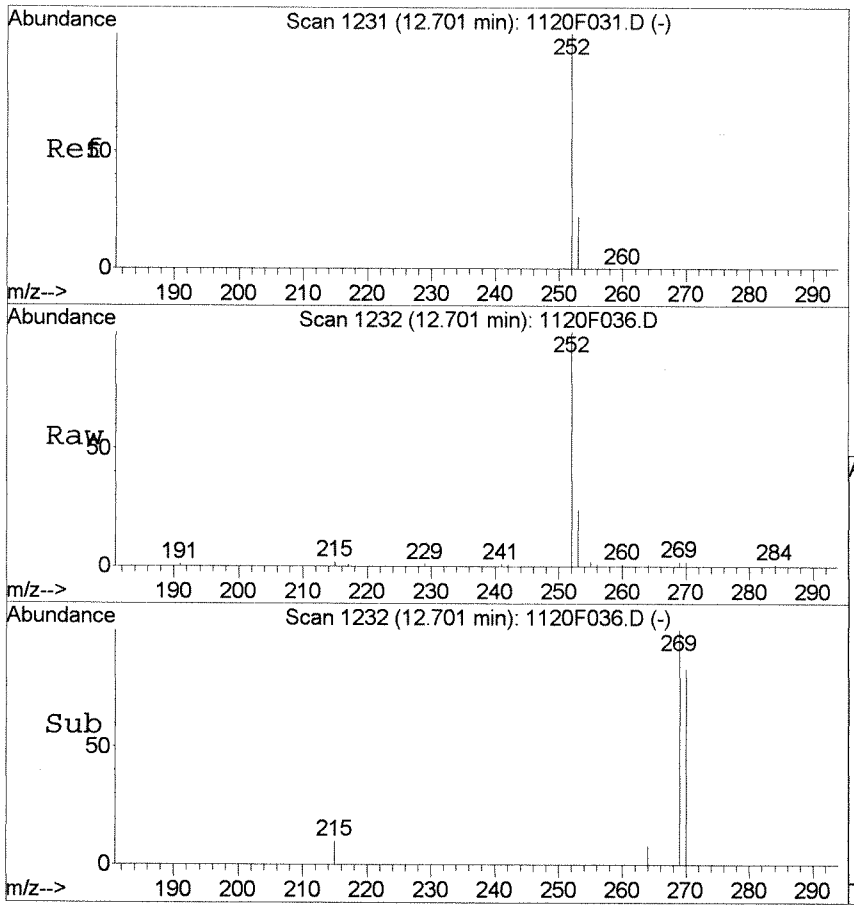


#50
Benzo(b)fluoranthene
Concen: 349.97 ng/ml
RT: 12.63 min Scan# 1220
Delta R.T. -0.03 min
Lab File: 1120F036.D
Acq: 21 Nov 2009 1:39 am

Tgt Ion:252 Resp: 643501

Ion	Ratio	Lower	Upper
252	100		
253	22.4	0.0	52.8

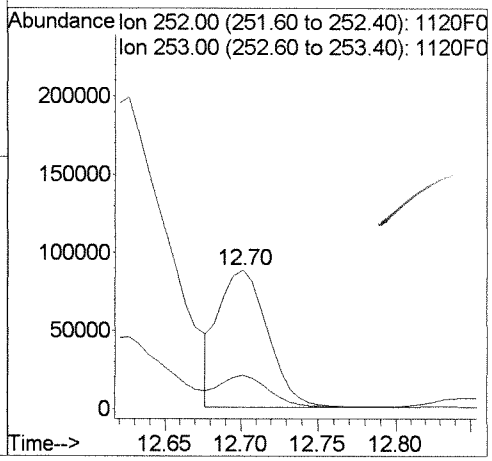


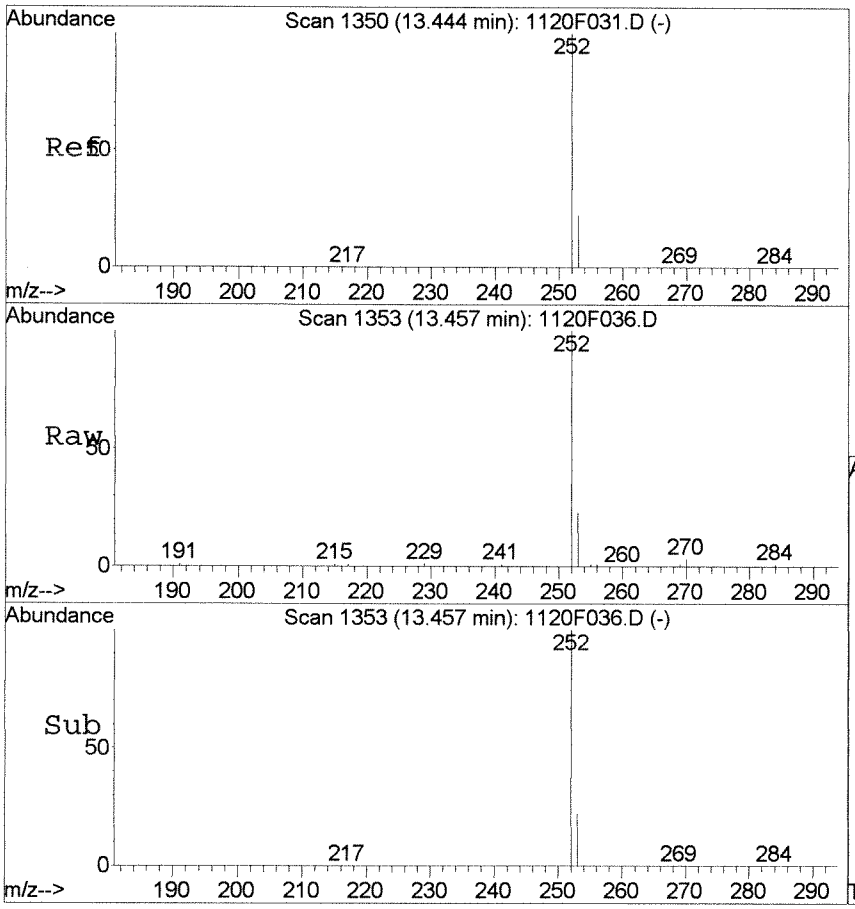


#51
Benzo(k)fluoranthene
Concen: 112.66 ng/ml
RT: 12.70 min Scan# 1232
Delta R.T. -0.04 min
Lab File: 1120F036.D
Acq: 21 Nov 2009 1:39 am

Tgt Ion:252 Resp: 196300

Ion	Ratio	Lower	Upper
252	100		
253	22.8	0.0	52.5

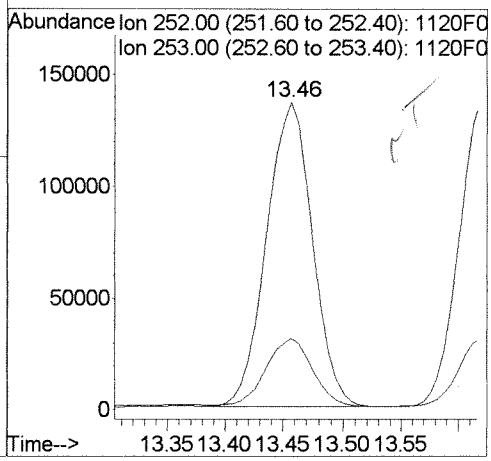


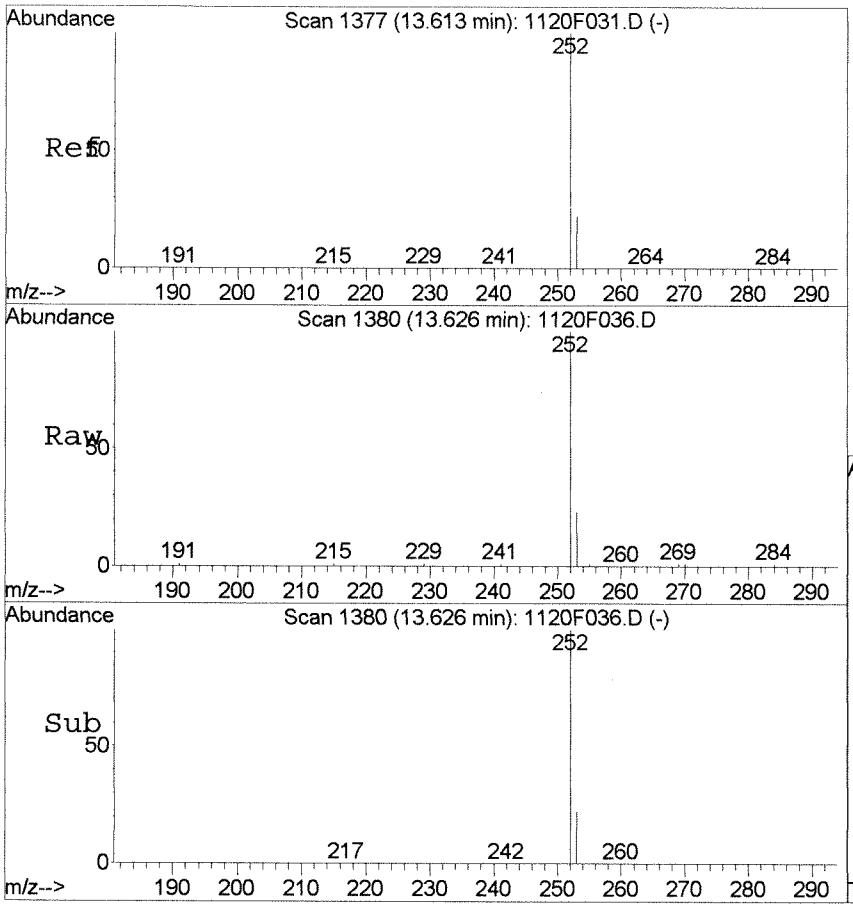


#52
Benzo(e)pyrene
Concen: 219.82 ng/ml
RT: 13.46 min Scan# 1353
Delta R.T. -0.04 min
Lab File: 1120F036.D
Acq: 21 Nov 2009 1:39 am

Tgt Ion:252 Resp: 370419

Ion	Ratio	Lower	Upper
252	100		
253	22.4	0.0	52.3

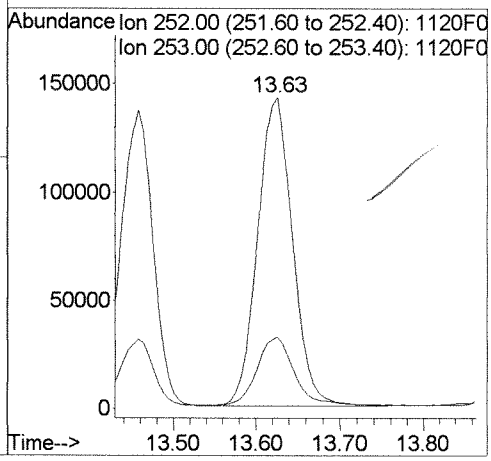


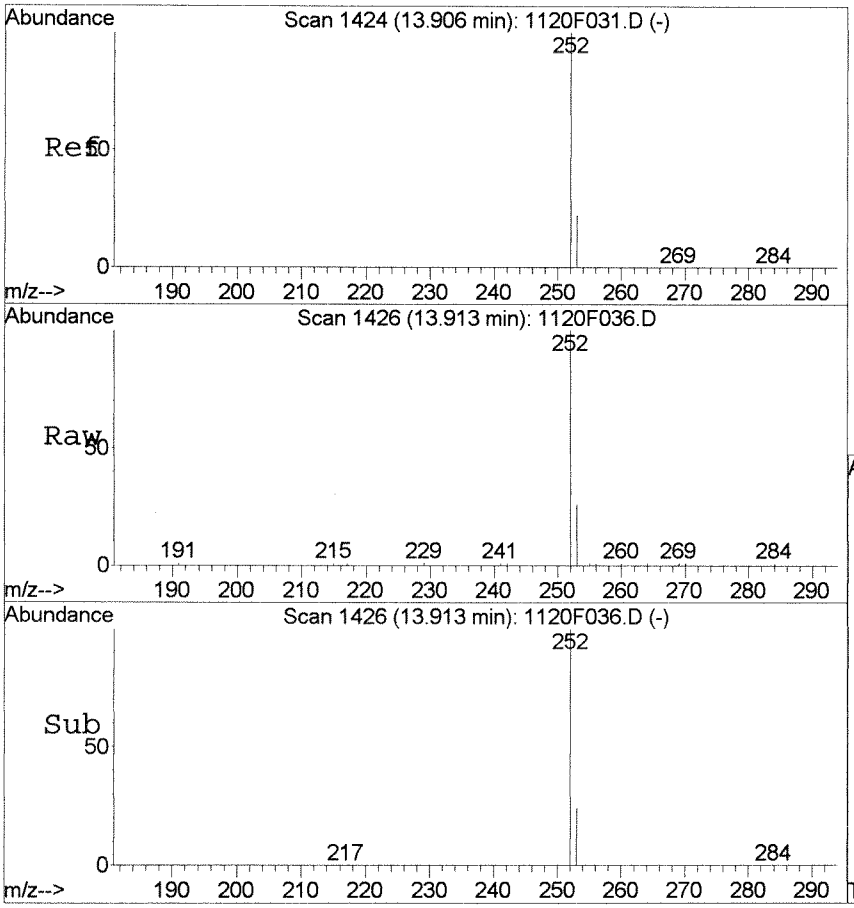


#53
Benzo(a)pyrene
Concen: 257.51 ng/ml
RT: 13.63 min Scan# 1380
Delta R.T. -0.04 min
Lab File: 1120F036.D
Acq: 21 Nov 2009 1:39 am

Tgt Ion:252 Resp: 417143

Ion	Ratio	Lower	Upper
252	100		
253	22.3	0.0	52.6

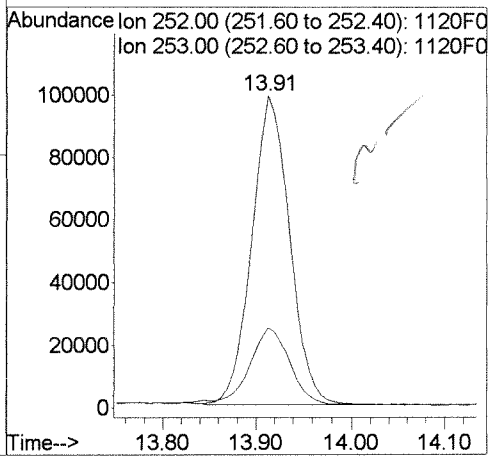


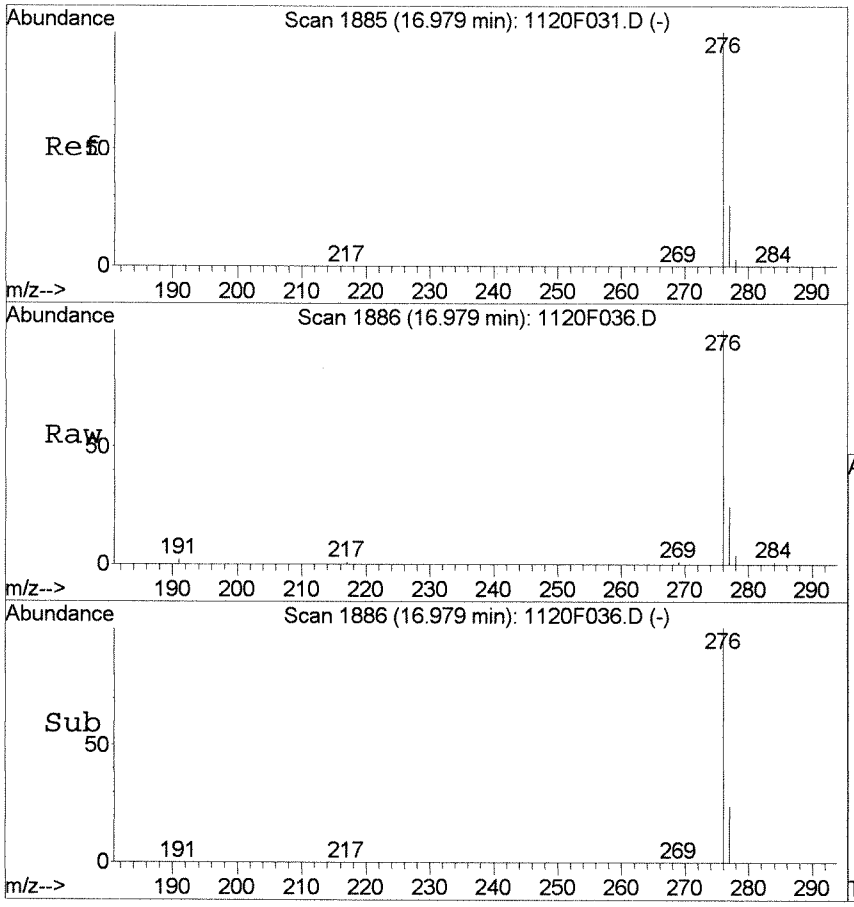


#54
Perylene
Concen: 173.46 ng/ml
RT: 13.91 min Scan# 1426
Delta R.T. -0.04 min
Lab File: 1120F036.D
Acq: 21 Nov 2009 1:39 am

Tgt Ion:252 Resp: 277493

Ion	Ratio	Lower	Upper
252	100		
253	24.7	0.0	52.0

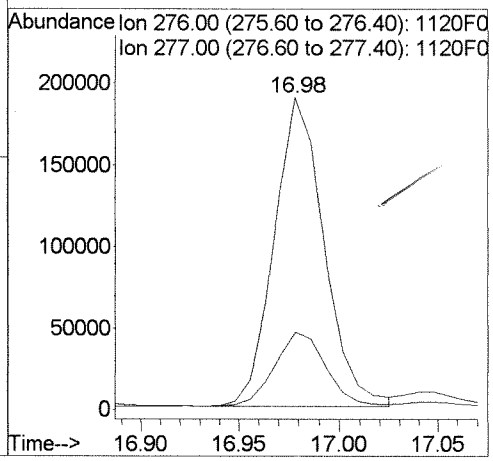


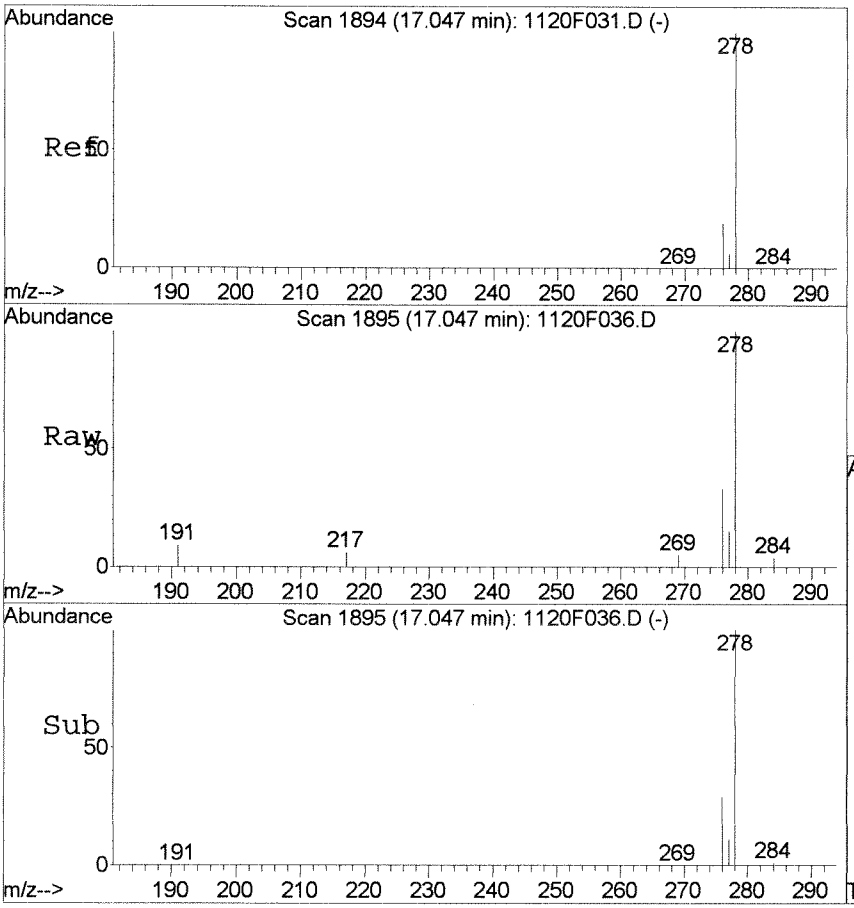


#55
Indeno(1,2,3-cd)pyrene
Concen: 218.40 ng/ml
RT: 16.98 min Scan# 1886
Delta R.T. -0.03 min
Lab File: 1120F036.D
Acq: 21 Nov 2009 1:39 am

Tgt Ion:276 Resp: 326109

Ion	Ratio	Lower	Upper
276	100		
277	24.1	0.0	55.1

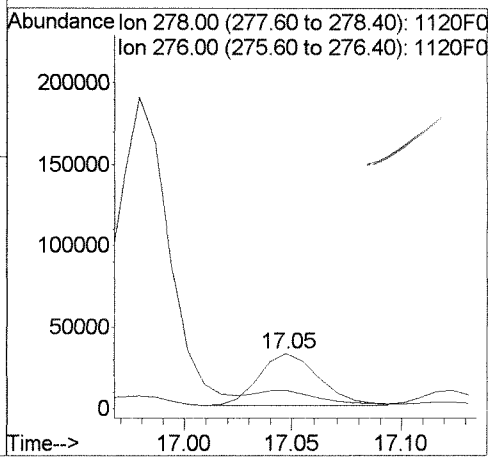


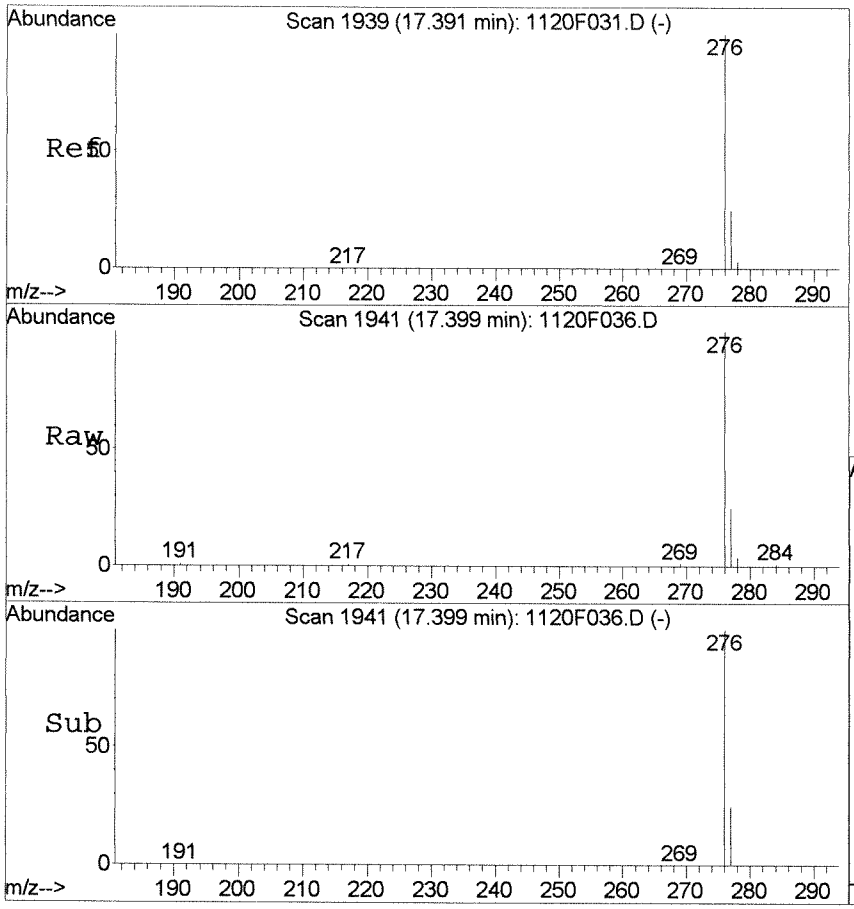


#56
Dibenz(a,h)anthracene
Concen: 39.06 ng/ml
RT: 17.05 min Scan# 1895
Delta R.T. -0.03 min
Lab File: 1120F036.D
Acq: 21 Nov 2009 1:39 am

Tgt Ion:278 Resp: 60781

Ion	Ratio	Lower	Upper
278	100		
276	26.1	0.0	52.1

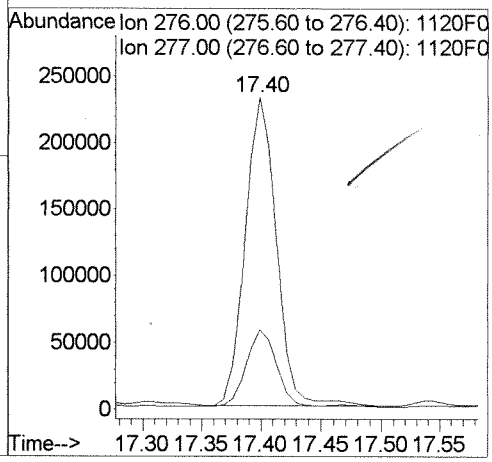




#57
Benzo(g,h,i)perylene
Concen: 252.06 ng/ml
RT: 17.40 min Scan# 1941
Delta R.T. -0.03 min
Lab File: 1120F036.D
Acq: 21 Nov 2009 1:39 am

Tgt Ion:276 Resp: 425333

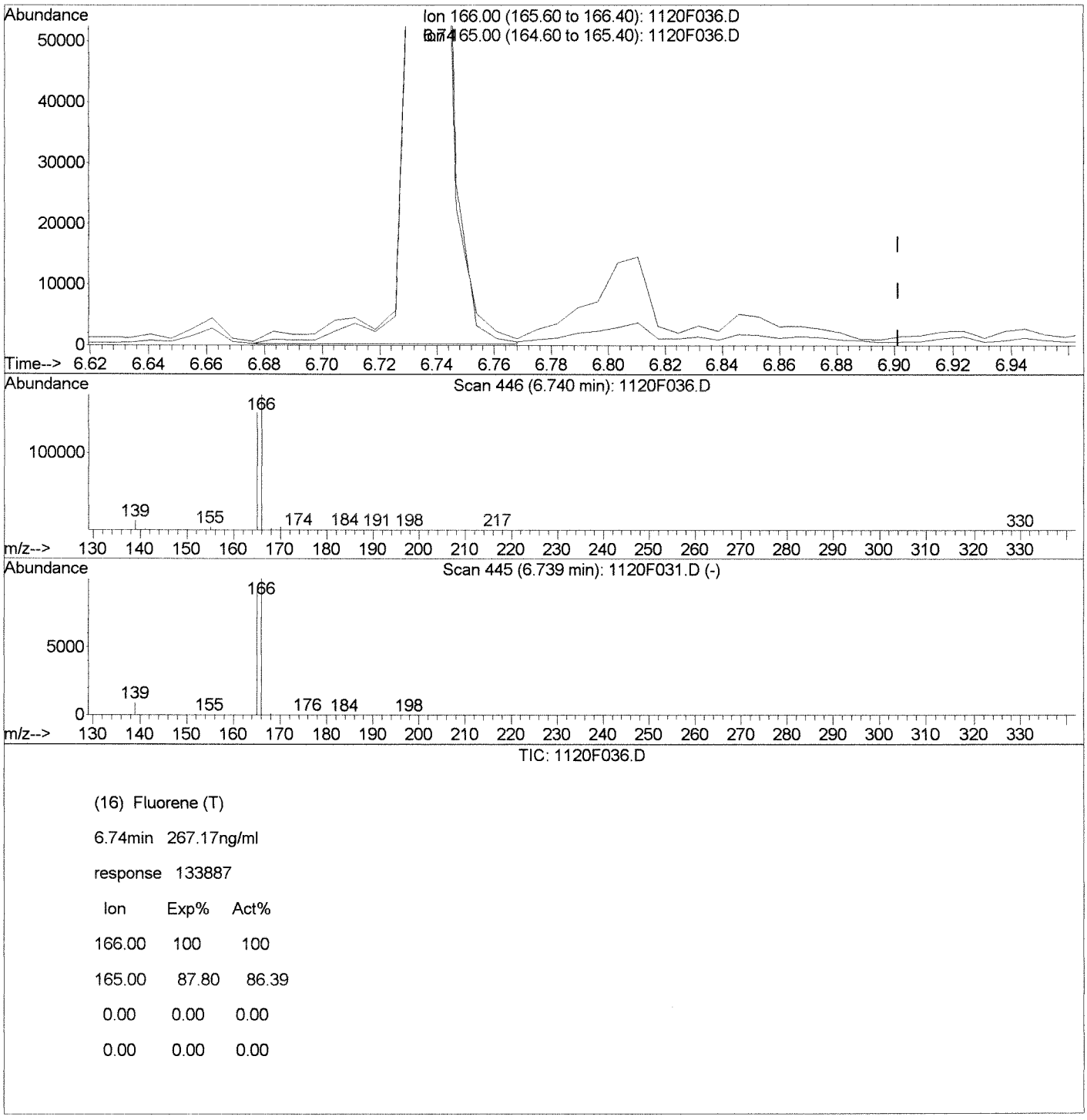
Ion	Ratio	Lower	Upper
276	100		
277	24.8	0.0	55.7



Quantitation Report (Qedit)

Data File : J:\MS11\DATA\112009\1120F036.D Vial: 33
Acq On : 21 Nov 2009 1:39 am Operator: LWeiskopf
Sample : K0909140-009 Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 23 8:36 2009 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1119ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Nov 23 08:36:00 2009
Response via : Multiple Level Calibration



(16) Fluorene (T)

6.74min 267.17ng/ml

response 133887

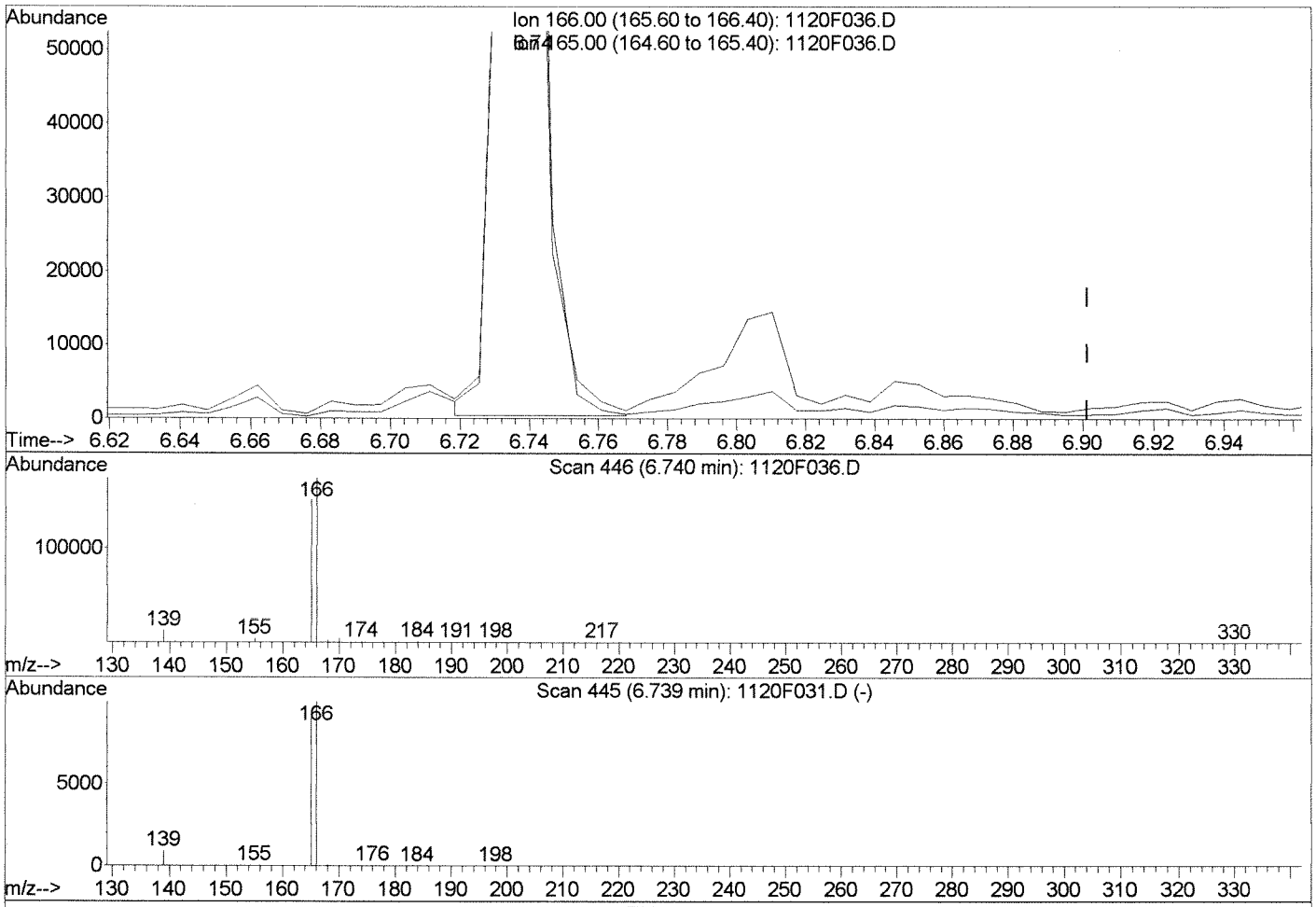
Ion	Exp%	Act%
166.00	100	100
165.00	87.80	86.39
0.00	0.00	0.00
0.00	0.00	0.00

1120F036.D 1119ALK.M Mon Nov 23 08:47:07 2009

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\112009\1120F036.D Vial: 33
Acq On : 21 Nov 2009 1:39 am Operator: LWeiskopf
Sample : K0909140-009 Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 23 8:47 2009 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1119ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Nov 23 08:36:00 2009
Response via : Multiple Level Calibration



(16) Fluorene (T)

6.74min 258.37ng/ml m

response 129480

Ion	Exp%	Act%
166.00	100	100
165.00	87.80	86.62
0.00	0.00	0.00
0.00	0.00	0.00

OI 11/23/09 11/24/09

1120F036.D 1119ALK.M Mon Nov 23 08:47:13 2009

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	URS Corporation	**Service Request:**	K0909140
Project:	Boise St. Helens Pulp and Paper Mill-2009	**Date Collected:**	10/05/2009
Sample Matrix:	Sediment	**Date Received:**	10/06/2009

Polynuclear Aromatic Hydrocarbons

Sample Name:	M-3-C	**Units:**	ug/Kg
Lab Code:	K0909140-010	**Basis:**	Dry
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270C SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Naphthalene	**490**		2.6	0.60	1	11/10/09	11/21/09	KWG0910535	
2-Methylnaphthalene	**100**		2.6	0.46	1	11/10/09	11/21/09	KWG0910535	
Acenaphthylene	**160**		2.6	0.56	1	11/10/09	11/21/09	KWG0910535	
Acenaphthene	**81**		2.6	0.50	1	11/10/09	11/21/09	KWG0910535	
Fluorene	**90**		2.6	0.61	1	11/10/09	11/21/09	KWG0910535	
Dibenzofuran	**74**		2.6	0.63	1	11/10/09	11/21/09	KWG0910535	
Phenanthrene	**570**		2.6	1.4	1	11/10/09	11/21/09	KWG0910535	
Anthracene	**120**		2.6	0.55	1	11/10/09	11/21/09	KWG0910535	
Fluoranthene	**830**		2.6	0.98	1	11/10/09	11/21/09	KWG0910535	
Pyrene	**680**		2.6	0.76	1	11/10/09	11/21/09	KWG0910535	
Benz(a)anthracene	**240**		2.6	0.72	1	11/10/09	11/21/09	KWG0910535	
Chrysene	**310**		2.6	0.80	1	11/10/09	11/21/09	KWG0910535	
Benzo(b)fluoranthene	**360**		2.6	0.92	1	11/10/09	11/21/09	KWG0910535	
Benzo(k)fluoranthene	**110**		2.6	0.87	1	11/10/09	11/21/09	KWG0910535	
Benzo(a)pyrene	**350**		2.6	0.76	1	11/10/09	11/21/09	KWG0910535	
Indeno(1,2,3-cd)pyrene	**270**		2.6	0.87	1	11/10/09	11/21/09	KWG0910535	
Dibenz(a,h)anthracene	**38**		2.6	0.80	1	11/10/09	11/21/09	KWG0910535	
Benzo(g,h,i)perylene	**340**		2.6	0.85	1	11/10/09	11/21/09	KWG0910535	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	68	17-104	11/21/09	Acceptable
Fluoranthene-d10	70	27-106	11/21/09	Acceptable
Terphenyl-d14	58	35-109	11/21/09	Acceptable

Comments:

Exception Report

Data File: J:\MS11\DATA\112009\1120F037.D
Lab ID: K0909140-010
RunType: SMPL
Matrix: SEDIMENT

Date Acquired: 11/21/2009 02:06
Date Quantitated: 11/23/2009 08:54
Batch ID: KWG0911040
Analysis Method: 8270C SIM
ListJoinID: LJ5646

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Tune Window	NA	NA	NA	x	
Analytical Holding Time	NA	NA	NA	x	
Preparation Holding Time	NA	NA	NA	x	
Pre-Preparation Holding Time	NA	NA	NA	x	
ICAL Pass/Fail	NA	NA	NA	x	
ICAL Average RSD	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Initial Calibration Minimum RF	NA	NA	NA	x	
Initial Calibration SPCC/CCC	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA	x	
Continuing Calibration Minimum RF	NA	NA	NA	x	
Continuing Calibration SPCC/CCC	NA	NA	NA	x	
Method Blank	NA	NA	NA	x	
MB Surrogate Recovery	NA	NA	NA	x	
Lab Control Spike	NA	NA	NA	x	
Internal Standards	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Relative Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Primary Review: 11/23/09

Secondary Review: 11-23-09

Quantitation Report

Bottle ID:		**Tier:**	V	**Matrix:**	SEDIMENT
Prod Code:	8270C SIM PAH_S	**Collect Date:**	10/05/2009	**Receive Date:**	10/06/2009

Analysis Lot:	KWG0911040	**Prep Lot:**	KWG0910535	**Report Group:**	K0909140
Analysis Method:	8270C SIM	**Prep Method:**	EPA 3541		
Prep Ref:	865763	**Prep Date:**	11/10/2009		

Quant Method:	J:\MS11\METHODS\SIM\1119ALK.M	**Calibration ID:**	CAL9029
Title:	Polynuclear Aromatic Hydrocarbons	**Report List ID:**	LJ5646
Tune Ref:	J:\MS11\DATA\112009\1120F030.D	**Method ID:**	MJ253
MB Ref:	J:\MS11\DATA\111909\1119F041.D	**Quant based on Report List**	

Data File:	J:\MS11\DATA\112009\1120F037.D			**Instrument:**	MS11
Acqu Date:	11/21/2009 02:06	**Quant Date:**	11/23/2009 08:54	**Vial:**	34
Run Type:	SMPL			**Dilution:**	1.0
Lab ID:	K0909140-010			**Soln Conc. Units:**	ng/ml

Internal Standard Compounds

IS Ref	Parameter Name	RT	RT Dev	Quant Mass	Response	Solution Conc	Area Criteria
1	Naphthalene-d8	4.87	0.00	136	154311	200.00	OK
2	Acenaphthene-d10	6.29	0.00	164	85972	200.00	OK
3	Phenanthrene-d10	7.52	0.00	188	180412	200.00	OK
4	Chrysene-d12	10.26	0.01	240	329359	200.00	OK
5	Perylene-d12	13.84	0.02	264	373649	200.00	OK

Surrogate Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	%Rec	%Rec Limits		Rpt?
2	Fluorene-d10	6.72	0.00	0.00	176	65208	135.08	68	17-104	OK	
3	Fluoranthene-d10	8.51	0.01	0.00	212	153572	140.79	70	27-106	OK	
4	Terphenyl-d14	8.89	0.00	0.00	244	158264	116.08	58	35-109	OK	

Target Compounds

Final Conc. Units: ug/Kg Dry Weight

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	Final Conc	Q	Rpt?
1	Naphthalene	4.88	-0.01	0.00	128	652951	961.96	490		
1	2-Methylnaphthalene	5.44		0.00	142	97190	198.77	100		
2	Acenaphthylene	6.17	-0.01	0.00	152	219735	311.03	160		
2	Acenaphthene	6.32		0.00	154	66296**m**	157.99	81		
2	Dibenzofuran	6.46		0.00	168	91093	143.32	74		
2	Fluorene	6.74		0.00	166	93090**m**	175.11	90		
3	Phenanthrene	7.54		0.00	178	1075668	1,118	570		
3	Anthracene	7.59		0.00	178	221964	240.14	120		
3	Fluoranthene	8.52		0.00	202	1813701	1,622	830		
4	Pyrene	8.74	0.01	0.00	202	2327886	1,333	680		
4	Benz(a)anthracene	10.24	0.01	0.00	228	790903	470.06	240		
4	Chrysene	10.30	0.01	0.00	228	959224	596.96	310		
5	Benzo(b)fluoranthene	12.63	0.01	0.00	252	1351121	693.98	360		

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Data File:	J:\MS11\DATA\112009\1120F037.D			**Instrument:**	MS11
Acqu Date:	11/21/2009 02:06	**Quant Date:**	11/23/2009 08:54	**Vial:**	34
Run Type:	SMPL			**Dilution:**	1.0
Lab ID:	K0909140-010			**Soln Conc. Units:**	ng/ml

Target Compounds **Final Conc. Units:** ug/Kg Dry Weight

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	Final Conc	Q	Rpt?
5	Benzo(k)fluoranthene	12.71	0.01	0.00	252	406420	220.29	110		
5	Benzo(a)pyrene	13.63	0.02	0.00	252	1168004	680.98	350		
5	Indeno(1,2,3-cd)pyrene	16.99	0.01	0.00	276	843933	533.79	270		
5	Dibenz(a,h)anthracene	17.05		0.00	278	120756	73.30	38		
5	Benzo(g,h,i)perylene	17.41	0.02	0.00	276	1180376	660.63	340		

Prep Amount:	20.44 g	**Dilution:**	1.0
Prep Final Vol:	10 ml	**Unit Factor:**	1
Solids:	95.3 %		

Final Concentration = ((Soln Conc x Prep Final Vol x Dilution) / (Prep Amount x Solids)) x Unit Factor

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\112009\1120F037.D Vial: 34
Acq On : 21 Nov 2009 2:06 am Operator: LWeiskopf
Sample : K0909140-010 Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 23 08:36:27 2009 Quant Results File: 1119ALK.RES

Quant Method : J:\MS11\METHODS\SIM\1119ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Nov 23 08:36:00 2009
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	4.87	136	154311	200.00	ng/ml	0.00
10) Acenaphthene-d10	6.29	164	85972	200.00	ng/ml	0.00
22) Phenanthrene-d10	7.52	188	180412	200.00	ng/ml	0.00
37) Chrysene-d12	10.26	240	329359	200.00	ng/ml	0.00
49) Perylene-d12	13.84	264	373649	200.00	ng/ml	-0.03
System Monitoring Compounds						
15) Fluorene-d10	6.72	176	65208	135.08	ng/ml	0.00
Spiked Amount 200.000			Recovery =	67.54%		
20) 2,4,6 Tribromophenol	0.00	330	0d	0.00	ng/ml	
Spiked Amount 375.000			Recovery =	0.00%		
36) Fluoranthene-d10	8.51	212	153572	140.79	ng/ml	0.00
Spiked Amount 200.000			Recovery =	70.39%		
42) Terphenyl-d14	8.89	244	158264	116.08	ng/ml	0.00
Spiked Amount 200.000			Recovery =	58.04%		
Target Compounds						Qvalue
2) Naphthalene	4.88	128	652951	961.96	ng/ml	96
3) 2-Methylnaphthalene	5.44	142	97190	198.77	ng/ml	94
4) 1-Methylnaphthalene	5.52	142	48816	104.08	ng/ml	99
5) Biphenyl	5.81	154	51163	87.95	ng/ml	97
6) 2,6-Dimethylnaphthalene	5.95	156	54335	120.91	ng/ml	99
11) Acenaphthylene	6.17	152	219735	311.03	ng/ml	99
12) Acenaphthene	6.32	154	66296m	157.99	ng/ml	
13) Dibenzofuran	6.46	168	91093	143.32	ng/ml	72
14) 2,3,5-Trimethylnaphthalene	6.63	170	35331	78.84	ng/ml	91
16) Fluorene	6.74	166	93090m	175.11	ng/ml	
23) Dibenzothiophene	7.43	184	63095	78.52	ng/ml	84
27) Phenanthrene	7.54	178	1075668	1118.31	ng/ml	99
28) Anthracene	7.59	178	221964	240.14	ng/ml	96
29) Carbazole	7.72	167	15987m	20.25	ng/ml	
30) 1-Methylphenanthrene	8.04	192	81143	108.37	ng/ml	94
35) Fluoranthene	8.52	202	1813701	1622.04	ng/ml	92
38) Pyrene	8.74	202	2327886	1332.79	ng/ml	91
43) Benz(a)anthracene	10.24	228	790903	470.06	ng/ml	62
44) Chrysene	10.30	228	959224	596.96	ng/ml	95
50) Benzo(b)fluoranthene	12.63	252	1351121	693.98	ng/ml	100
51) Benzo(k)fluoranthene	12.71	252	406420	220.29	ng/ml	100
52) Benzo(e)pyrene	13.46	252	876809	491.42	ng/ml	100
53) Benzo(a)pyrene	13.63	252	1168004	680.98	ng/ml	100
54) Perylene	13.92	252	508967	300.48	ng/ml	97
55) Indeno(1,2,3-cd)pyrene	16.99	276	843933	533.79	ng/ml	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\112009\1120F037.D Vial: 34
Acq On : 21 Nov 2009 2:06 am Operator: LWeiskopf
Sample : K0909140-010 Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 23 08:36:27 2009 Quant Results File: 1119ALK.RES

Quant Method : J:\MS11\METHODS\SIM\1119ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Nov 23 08:36:00 2009
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

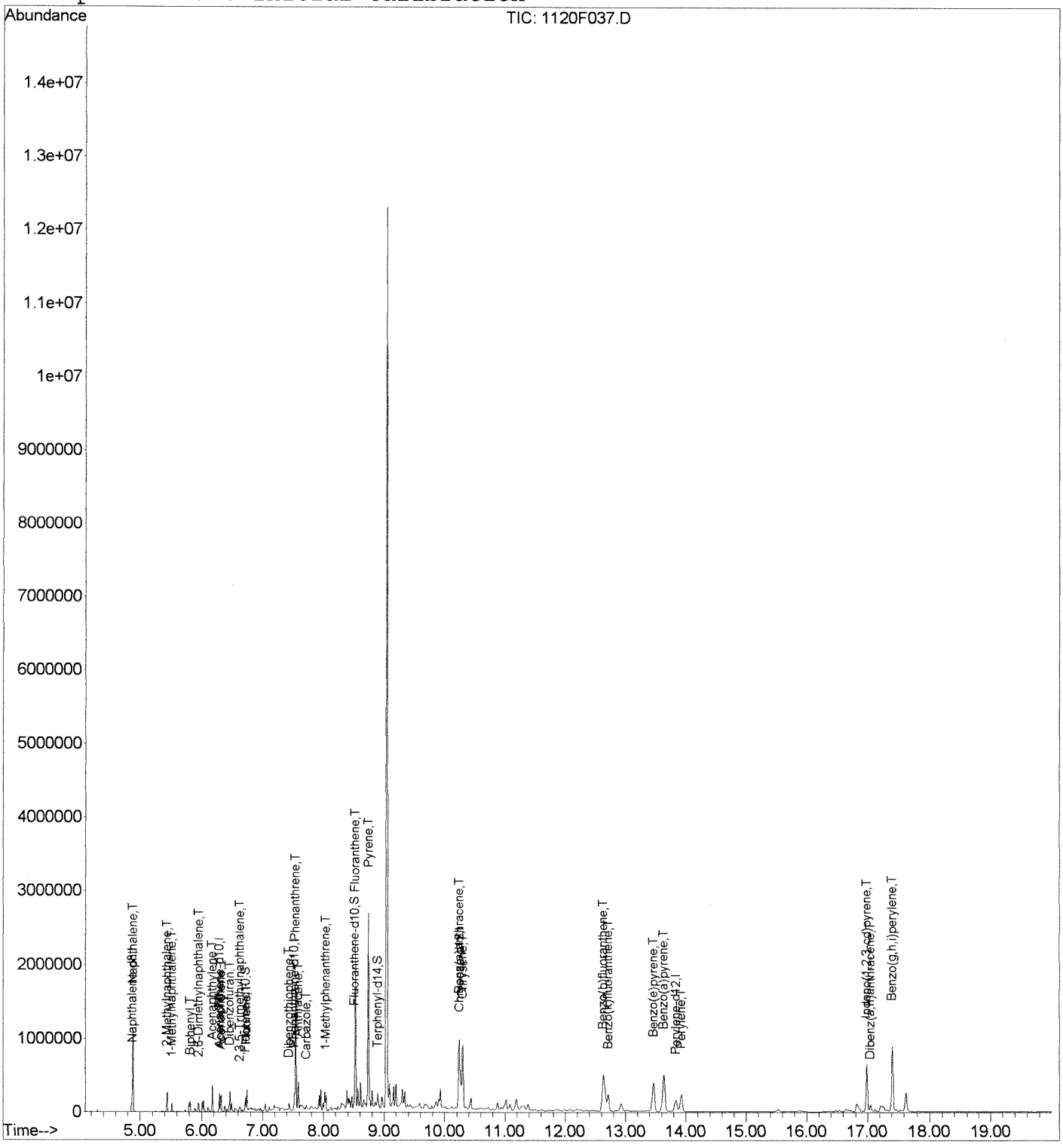
	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
56)	Dibenz(a,h)anthracene	17.05	278	120756	73.30	ng/ml	87
57)	Benzo(g,h,i)perylene	17.41	276	1180376	660.63	ng/ml	100

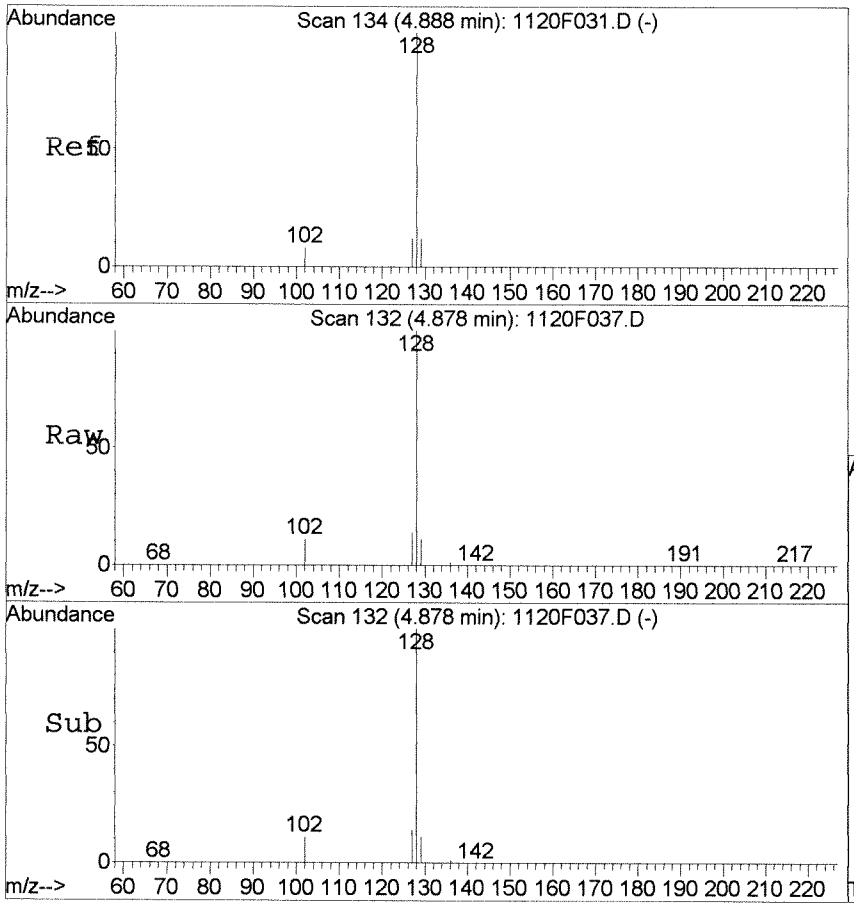
(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\112009\1120F037.D Vial: 34
Acq On : 21 Nov 2009 2:06 am Operator: LWeiskopf
Sample : K0909140-010 Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 23 8:54 2009 Quant Results File: 1119ALK.RES

Method : J:\MS11\METHODS\SIM\1119ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Nov 23 08:36:00 2009
Response via : Initial Calibration

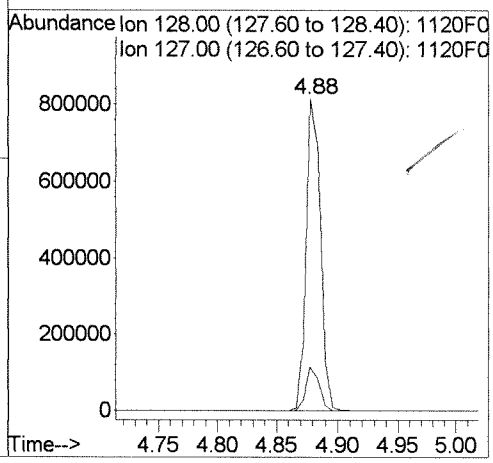


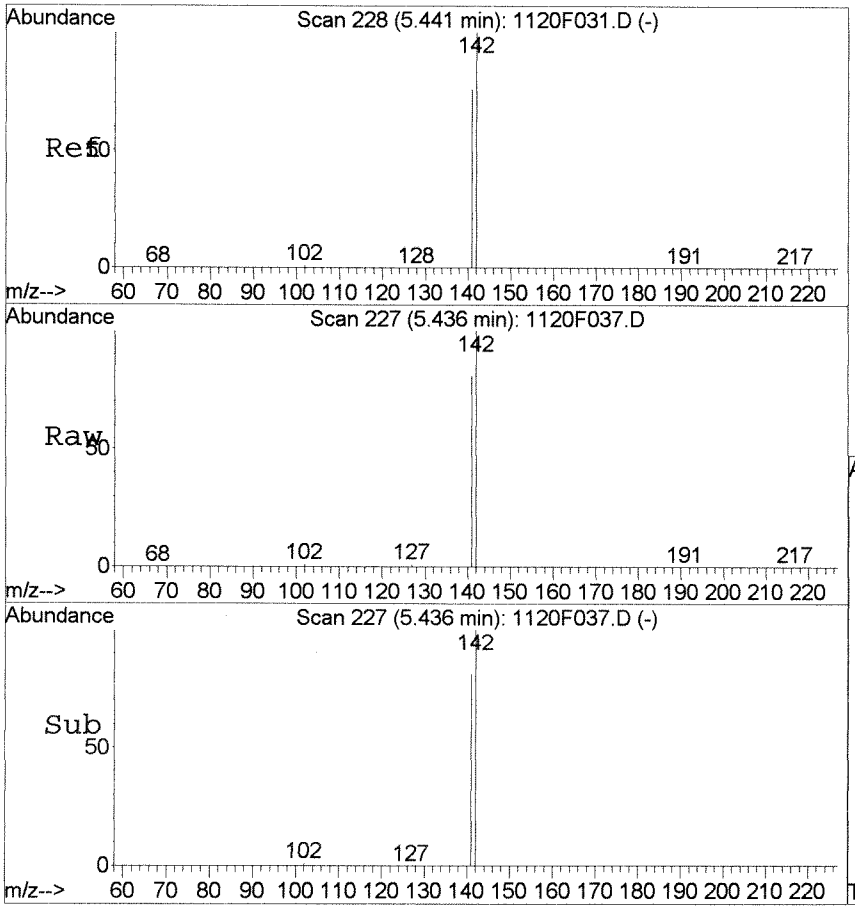


#2
Naphthalene
Concen: 961.96 ng/ml
RT: 4.88 min Scan# 132
Delta R.T. -0.01 min
Lab File: 1120F037.D
Acq: 21 Nov 2009 2:06 am

Tgt Ion:128 Resp: 652951

Ion	Ratio	Lower	Upper
128	100		
127	14.1	0.0	42.4

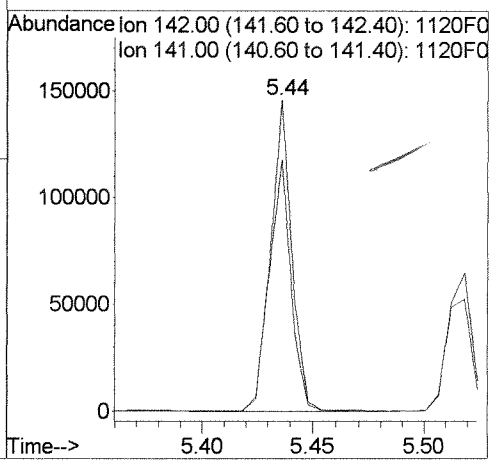


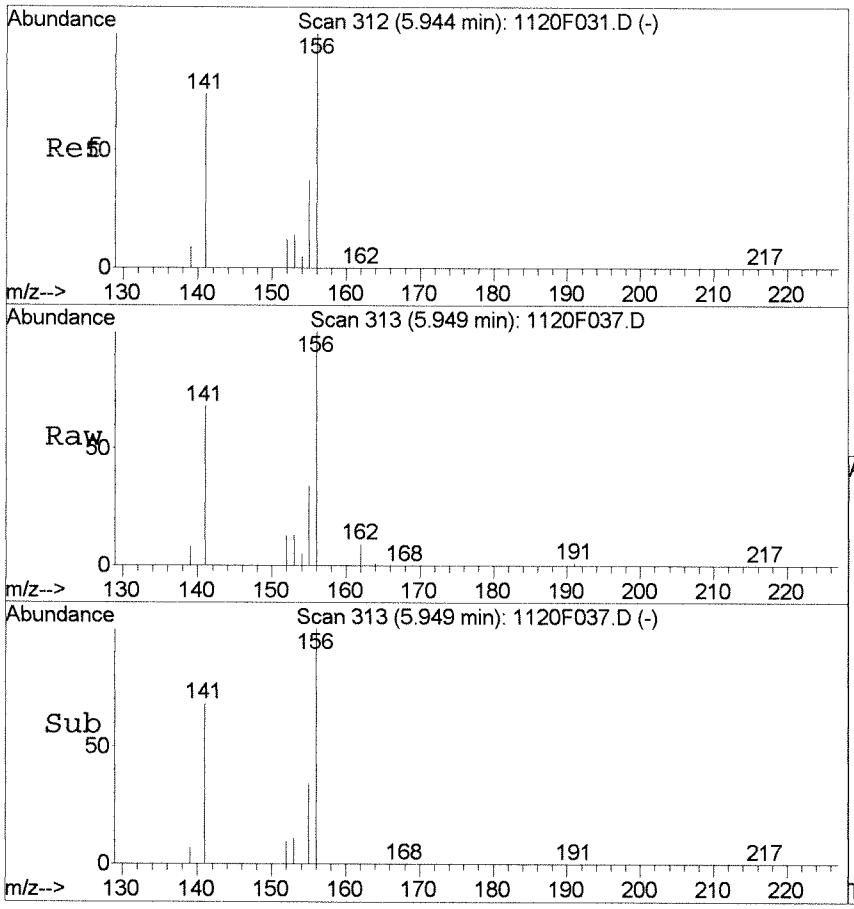


#3
2-Methylnaphthalene
Concen: 198.77 ng/ml
RT: 5.44 min Scan# 227
Delta R.T. -0.00 min
Lab File: 1120F037.D
Acq: 21 Nov 2009 2:06 am

Tgt Ion:142 Resp: 97190

Ion	Ratio	Lower	Upper
142	100		
141	80.7	56.1	116.1

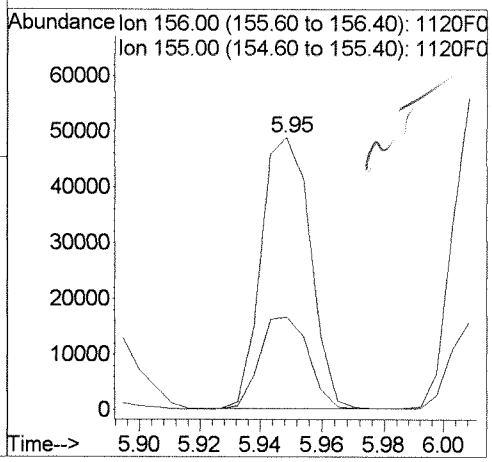


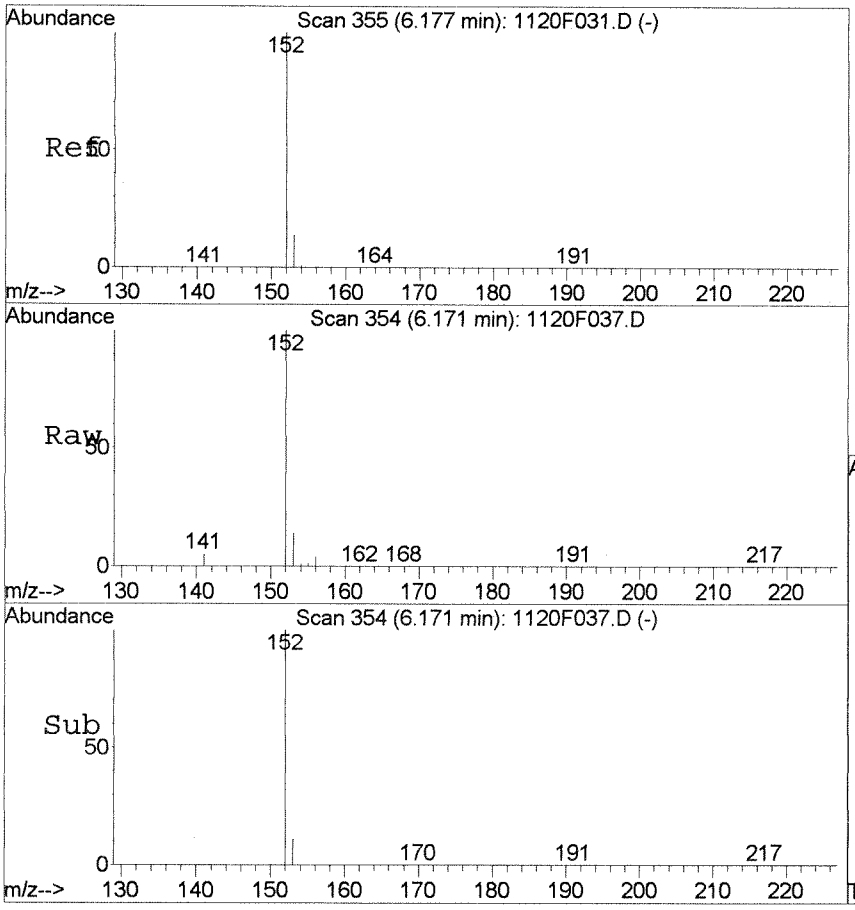


#6
2,6-Dimethylnaphthalene
Concen: 120.91 ng/ml
RT: 5.95 min Scan# 313
Delta R.T. -0.00 min
Lab File: 1120F037.D
Acq: 21 Nov 2009 2:06 am

Tgt Ion:156 Resp: 54335

Ion	Ratio	Lower	Upper
156	100		
155	34.0	3.7	63.7

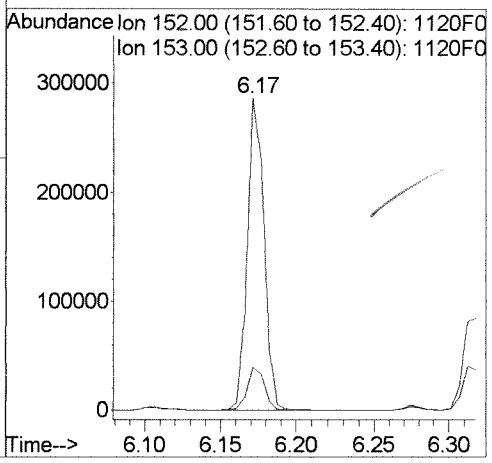


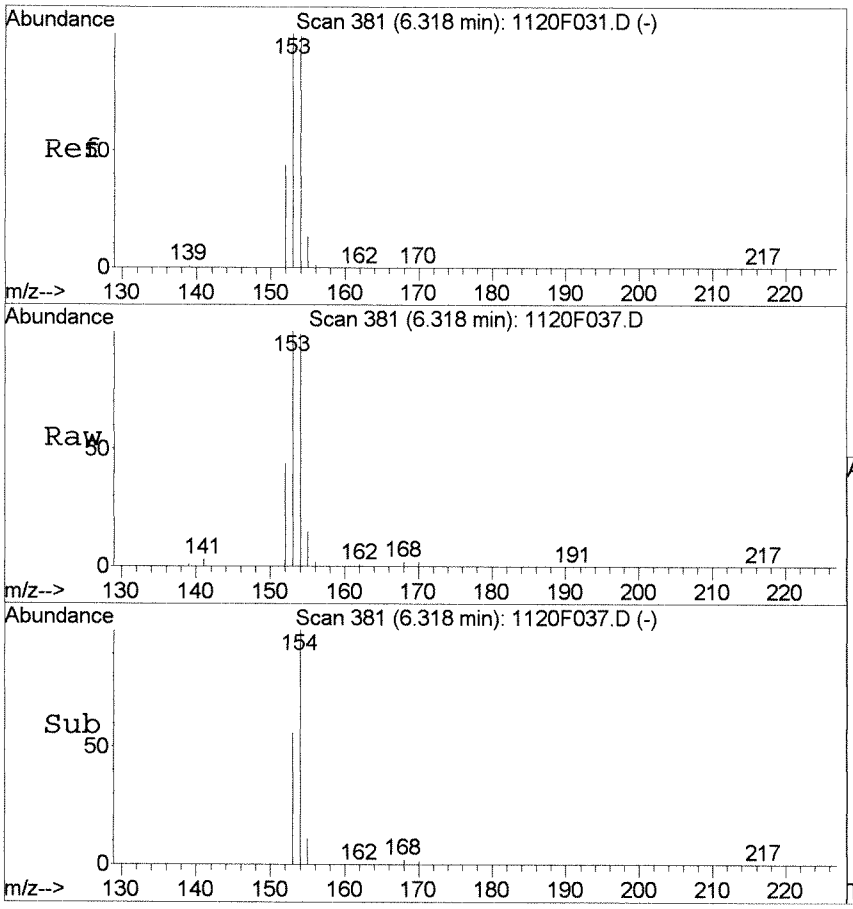


#11
Acenaphthylene
Concen: 311.03 ng/ml
RT: 6.17 min Scan# 354
Delta R.T. -0.01 min
Lab File: 1120F037.D
Acq: 21 Nov 2009 2:06 am

Tgt Ion:152 Resp: 219735

Ion	Ratio	Lower	Upper
152	100		
153	13.7	0.0	44.1

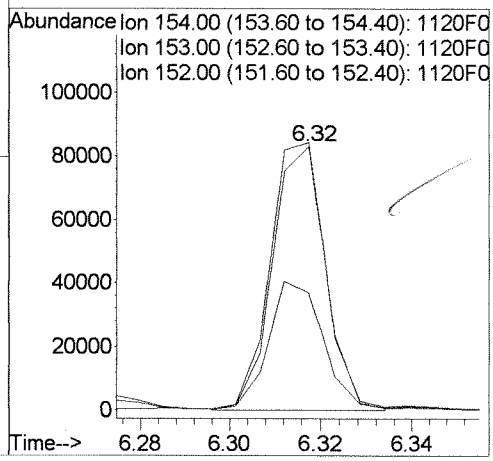


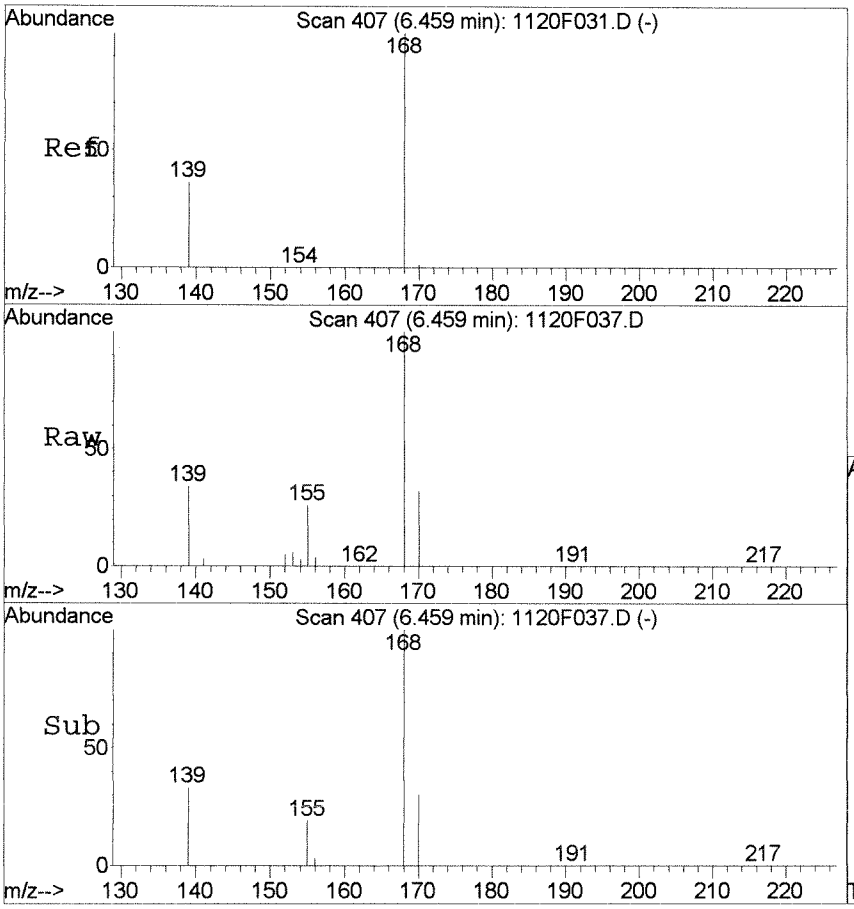


#12
Acenaphthene
Concen: 157.99 ng/ml m
RT: 6.32 min Scan# 381
Delta R.T. -0.00 min
Lab File: 1120F037.D
Acq: 21 Nov 2009 2:06 am

Tgt Ion:154 Resp: 66296

Ion	Ratio	Lower	Upper
154	100		
153	101.5	77.8	137.8
152	44.3	24.7	84.7

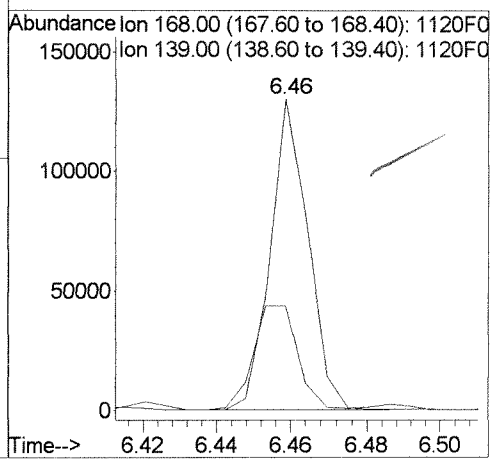


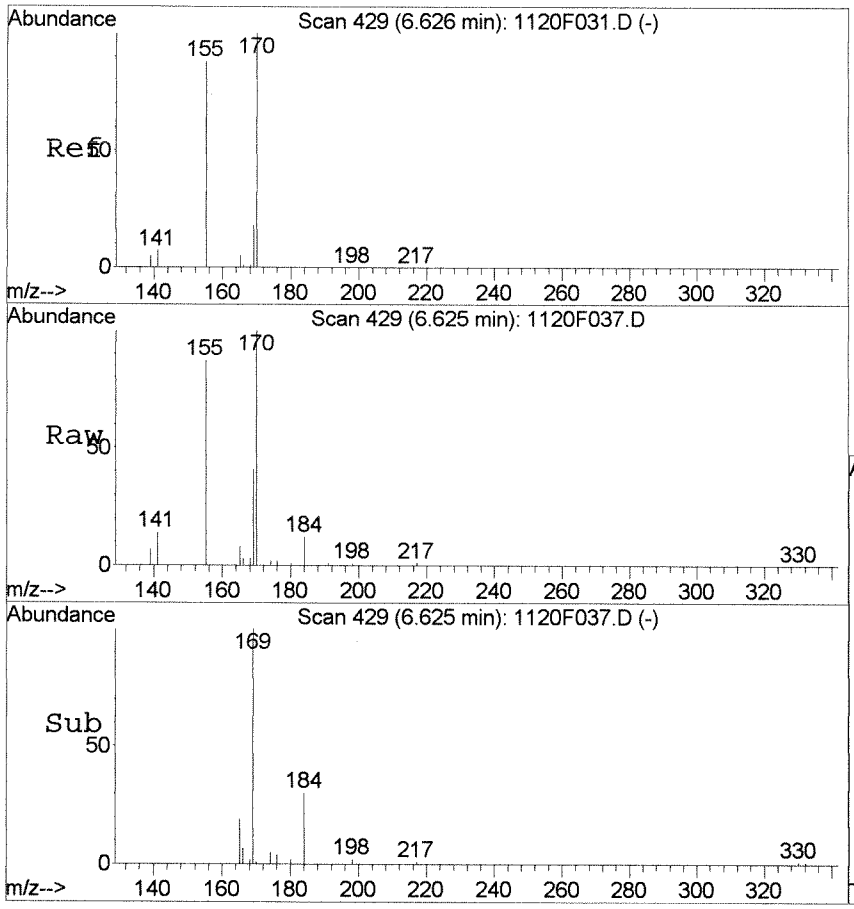


#13
Dibenzofuran
Concen: 143.32 ng/ml
RT: 6.46 min Scan# 407
Delta R.T. -0.00 min
Lab File: 1120F037.D
Acq: 21 Nov 2009 2:06 am

Tgt Ion:168 Resp: 91093

Ion	Ratio	Lower	Upper
168	100		
139	33.6	23.3	83.3

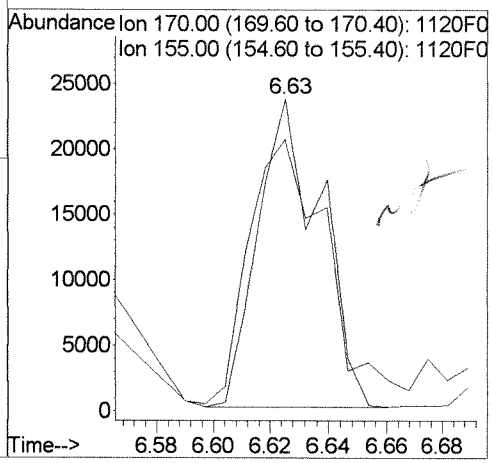


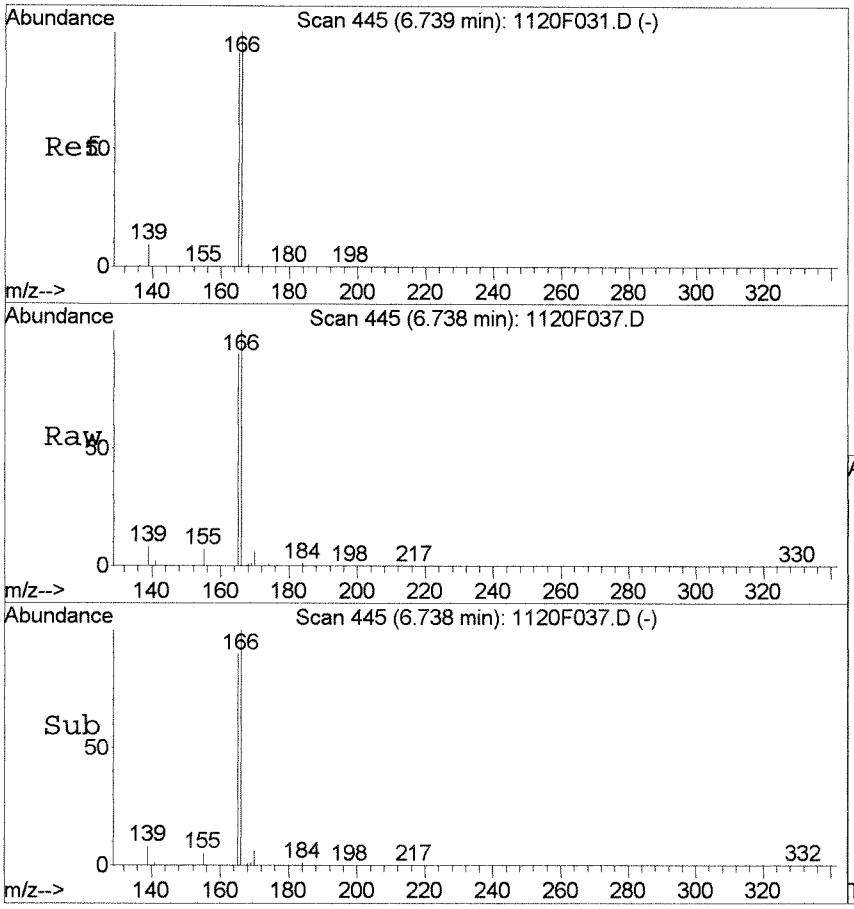


#14
2,3,5-Trimethylnaphthalene
Concen: 78.84 ng/ml
RT: 6.63 min Scan# 429
Delta R.T. -0.01 min
Lab File: 1120F037.D
Acq: 21 Nov 2009 2:06 am

Tgt Ion:170 Resp: 35331

Ion	Ratio	Lower	Upper
170	100		
155	85.8	48.2	108.2

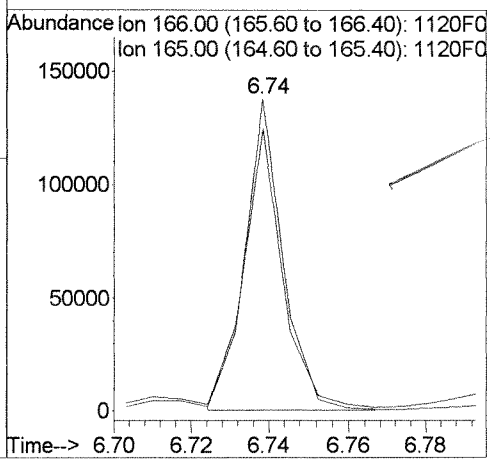


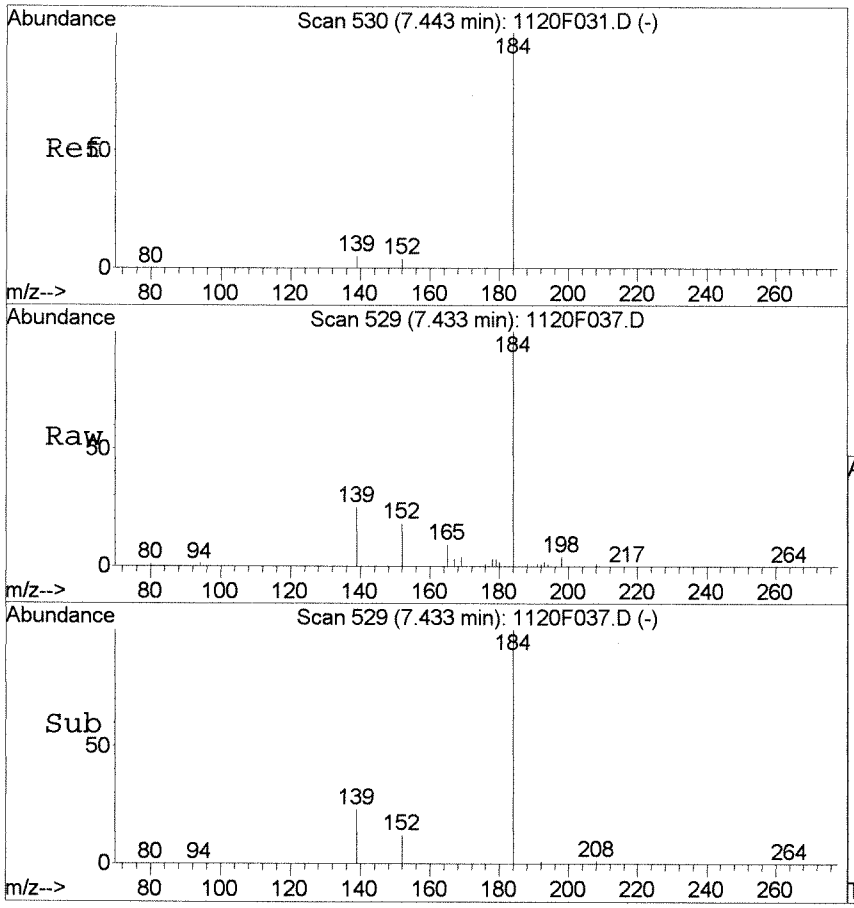


#16
Fluorene
Concen: 175.11 ng/ml m
RT: 6.74 min Scan# 445
Delta R.T. -0.01 min
Lab File: 1120F037.D
Acq: 21 Nov 2009 2:06 am

Tgt Ion:166 Resp: 93090

Ion	Ratio	Lower	Upper
166	100		
165	90.3	57.8	117.8

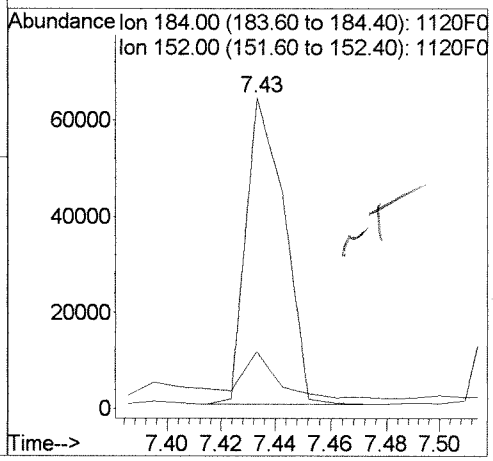


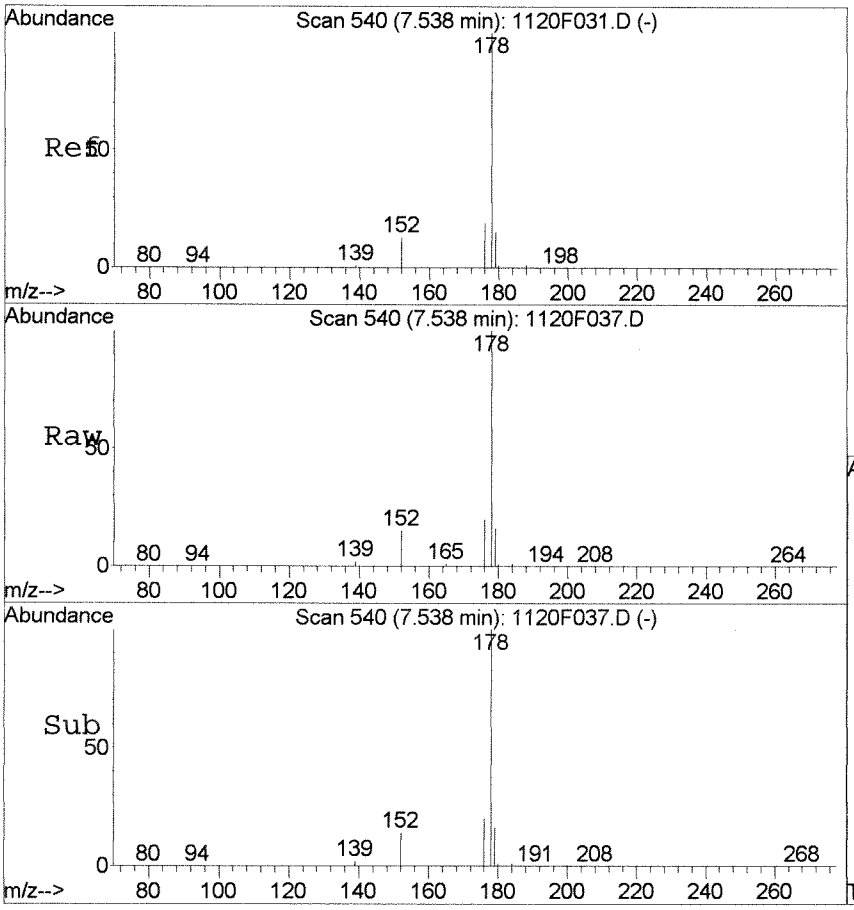


#23
Dibenzothiophene
Concen: 78.52 ng/ml
RT: 7.43 min Scan# 529
Delta R.T. -0.01 min
Lab File: 1120F037.D
Acq: 21 Nov 2009 2:06 am

Tgt Ion:184 Resp: 63095

Ion	Ratio	Lower	Upper
184	100		
152	15.3	0.0	39.4

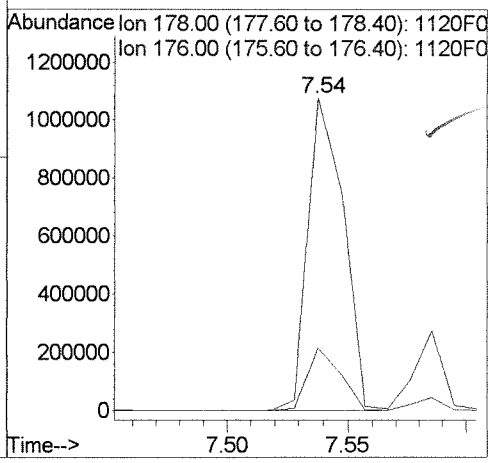


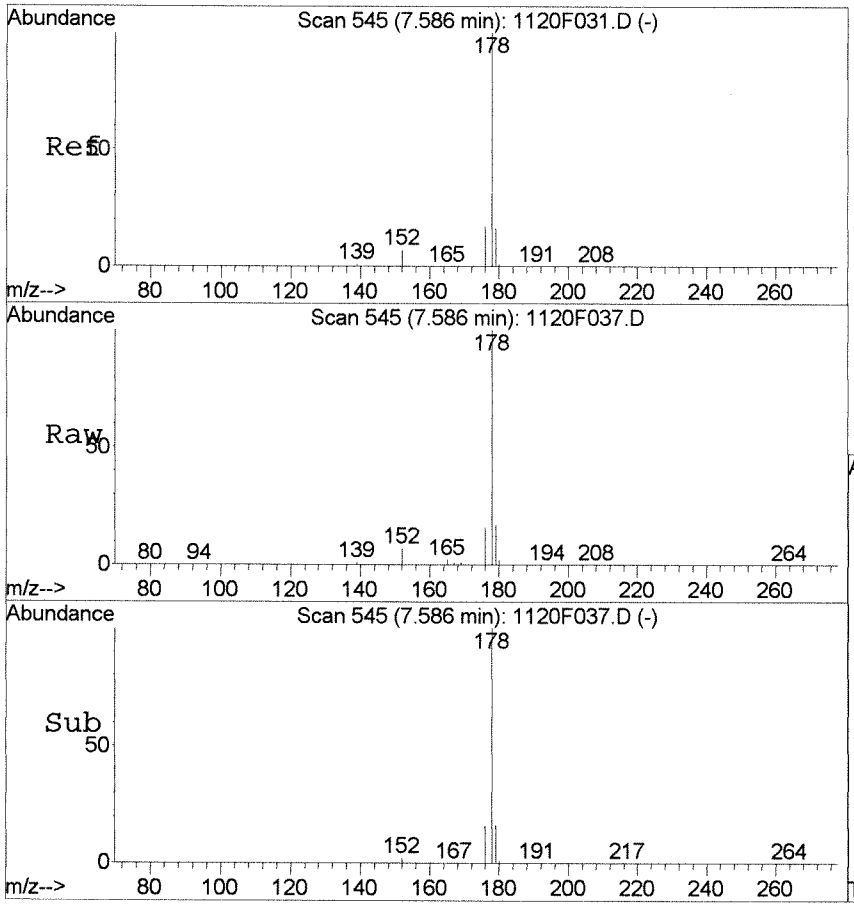


#27
Phenanthrene
Concen: 1118.31 ng/ml
RT: 7.54 min Scan# 540
Delta R.T. -0.01 min
Lab File: 1120F037.D
Acq: 21 Nov 2009 2:06 am

Tgt Ion:178 Resp: 1075668

Ion	Ratio	Lower	Upper
178	100		
176	19.9	0.0	49.6

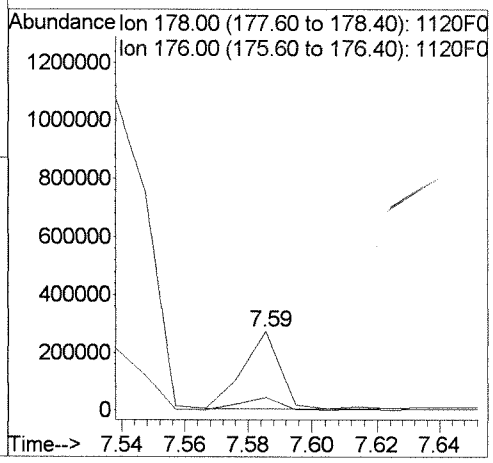


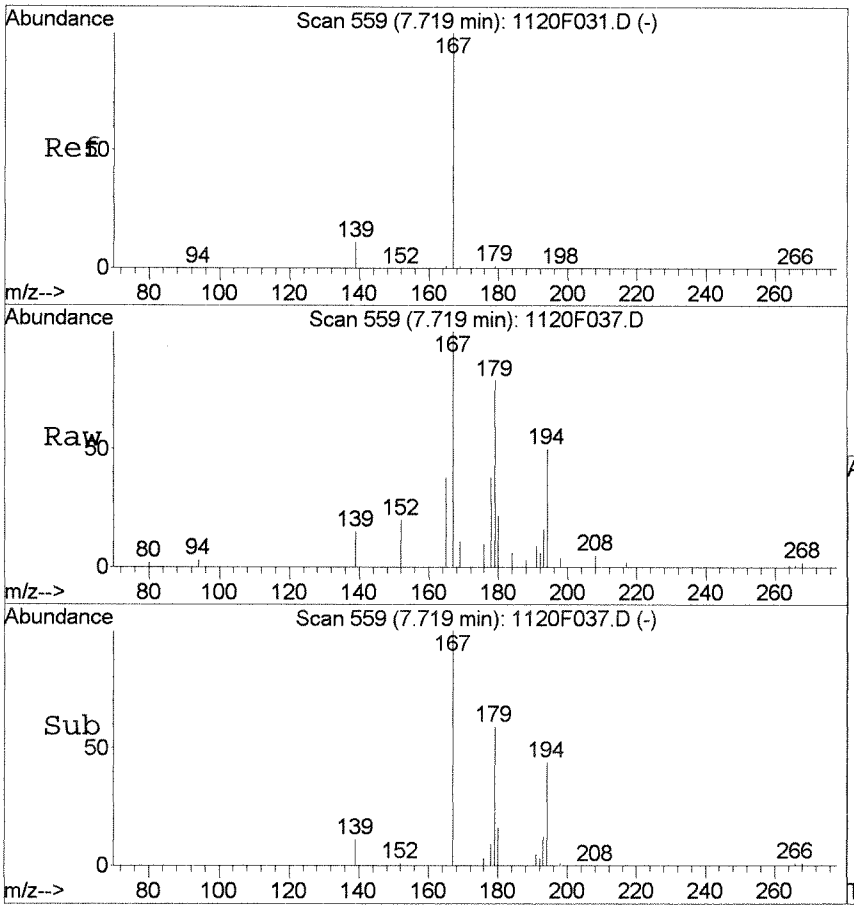


#28
Anthracene
Concen: 240.14 ng/ml
RT: 7.59 min Scan# 545
Delta R.T. -0.00 min
Lab File: 1120F037.D
Acq: 21 Nov 2009 2:06 am

Tgt Ion:178 Resp: 221964

Ion	Ratio	Lower	Upper
178	100		
176	16.1	0.0	47.6

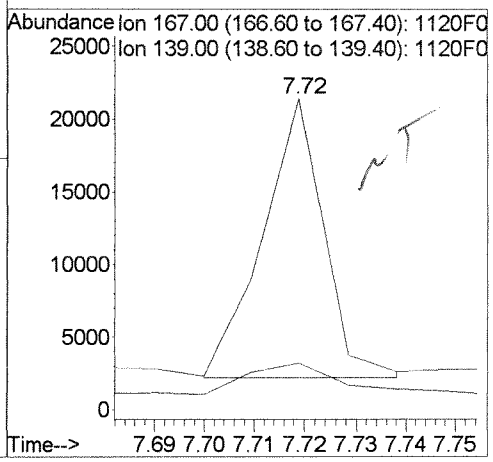


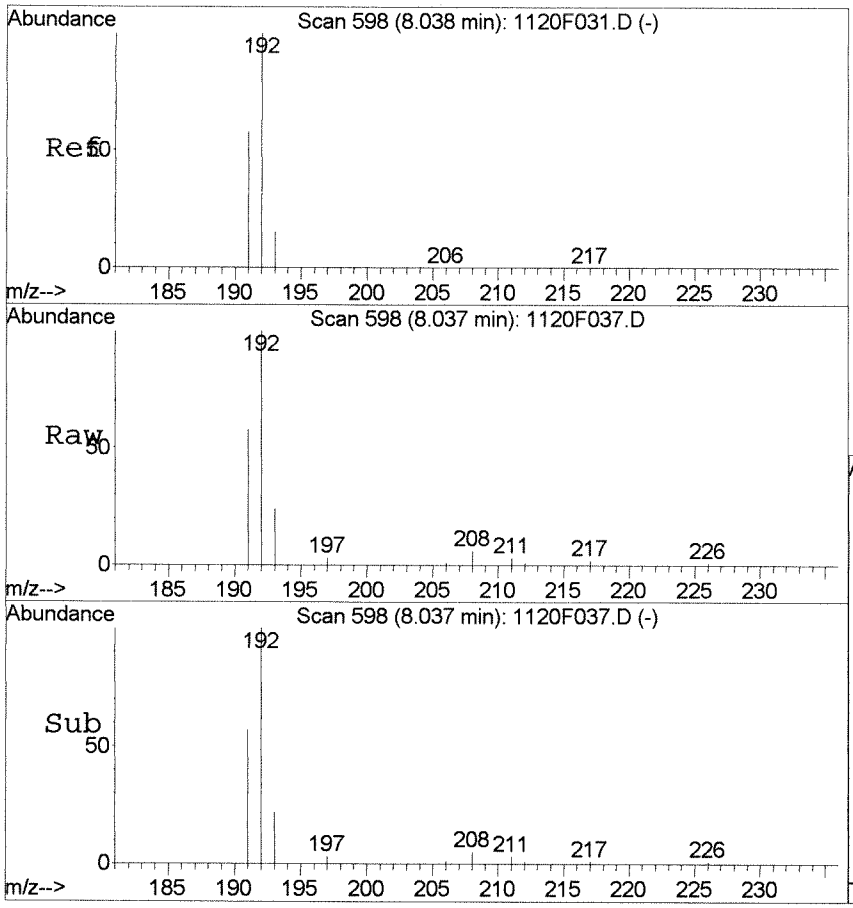


#29
Carbazole
Concen: 20.25 ng/ml m
RT: 7.72 min Scan# 559
Delta R.T. -0.00 min
Lab File: 1120F037.D
Acq: 21 Nov 2009 2:06 am

Tgt Ion:167 Resp: 15987

Ion	Ratio	Lower	Upper
167	100		
139	15.0	0.0	45.7

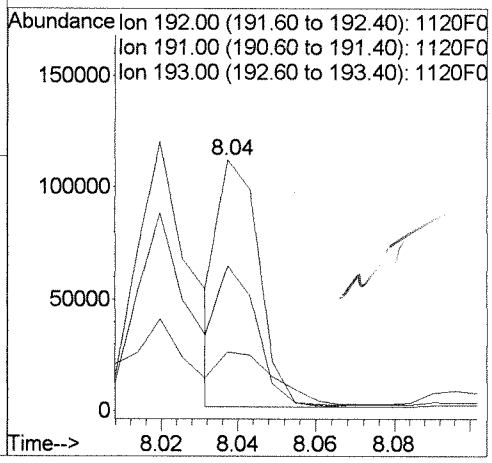


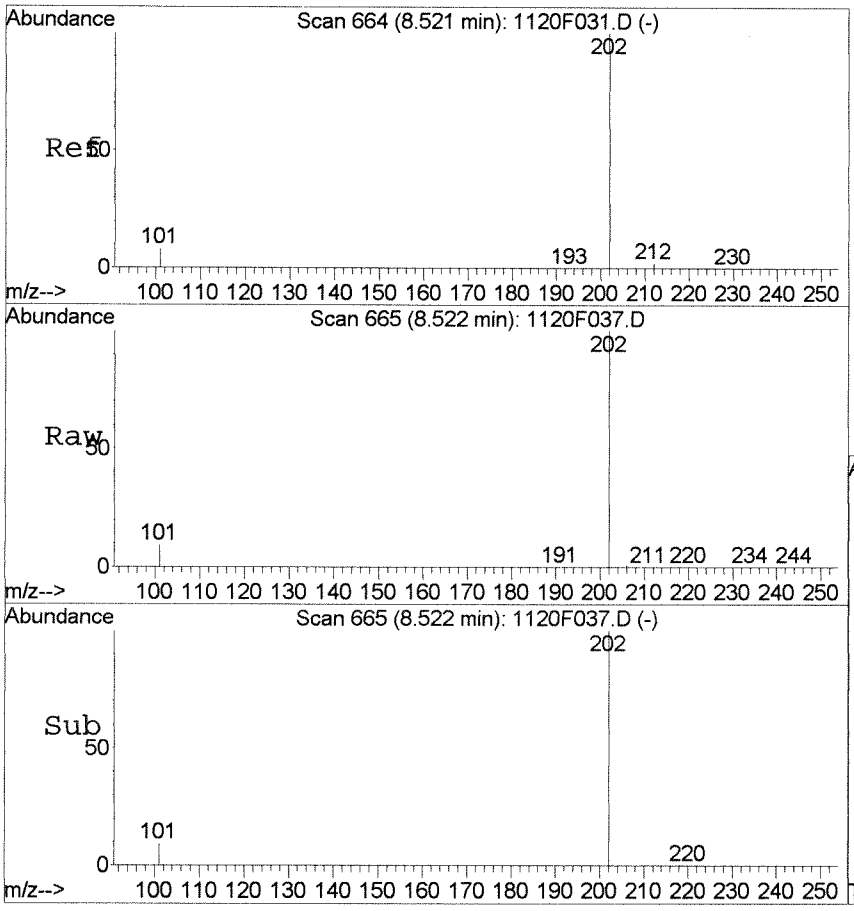


#30
1-Methylphenanthrene
Concen: 108.37 ng/ml
RT: 8.04 min Scan# 598
Delta R.T. -0.01 min
Lab File: 1120F037.D
Acq: 21 Nov 2009 2:06 am

Tgt Ion:192 Resp: 81143

Ion	Ratio	Lower	Upper
192	100		
191	56.5	23.0	83.0
193	21.2	0.0	47.0

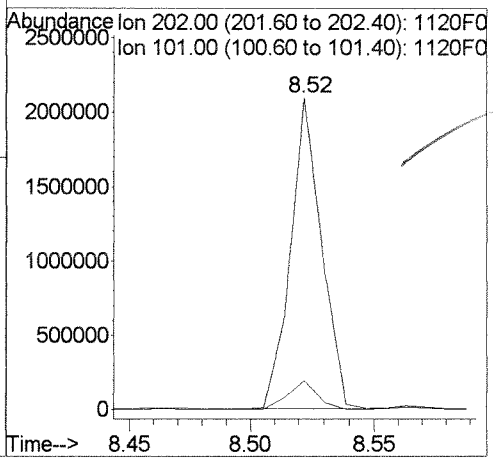


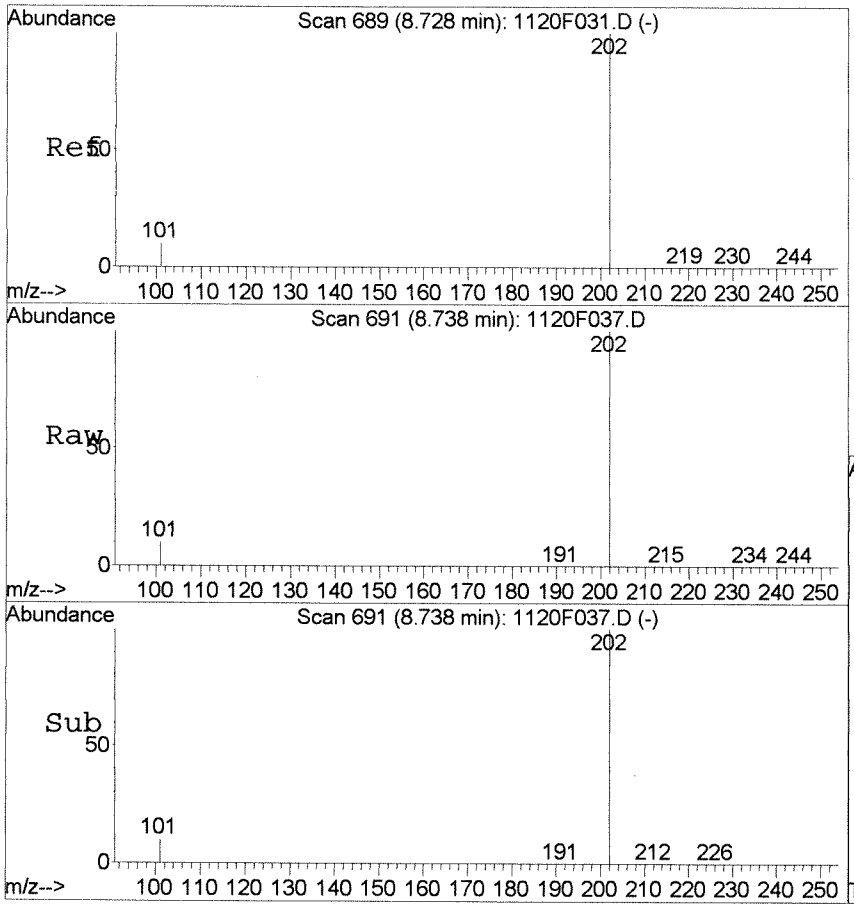


#35
Fluoranthene
Concen: 1622.04 ng/ml
RT: 8.52 min Scan# 665
Delta R.T. -0.01 min
Lab File: 1120F037.D
Acq: 21 Nov 2009 2:06 am

Tgt Ion:202 Resp: 1813701

Ion	Ratio	Lower	Upper
202	100		
101	9.2	0.0	36.5

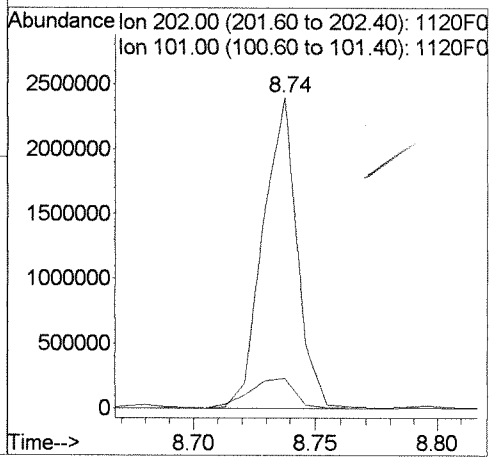


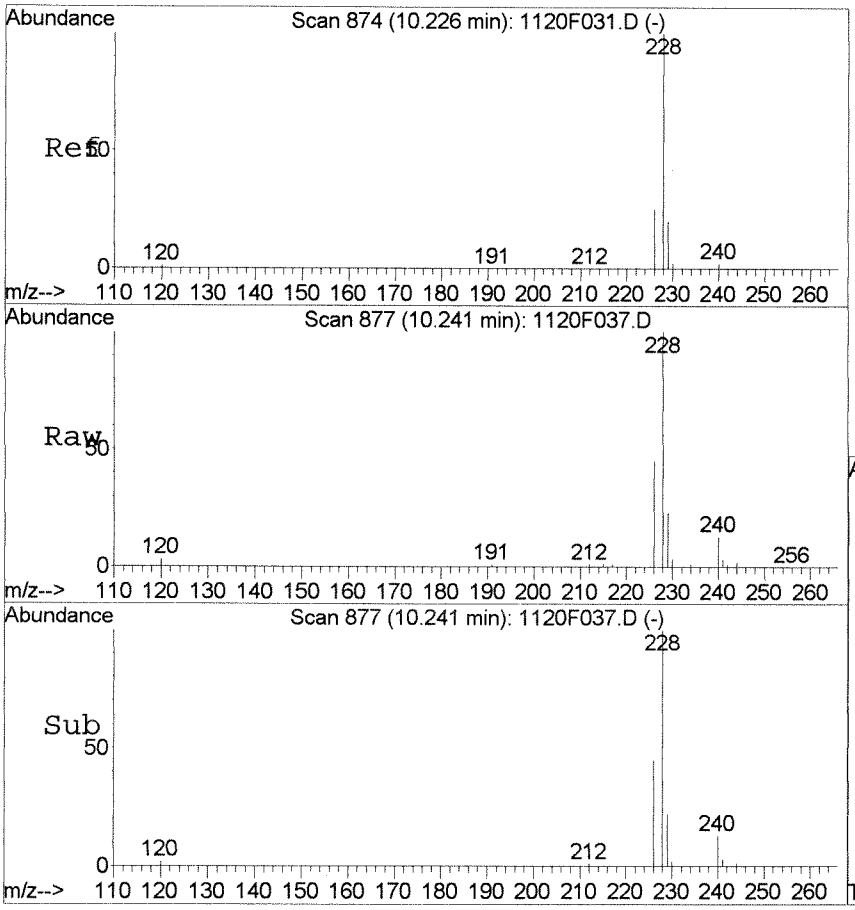


#38
Pyrene
Concen: 1332.79 ng/ml
RT: 8.74 min Scan# 691
Delta R.T. -0.01 min
Lab File: 1120F037.D
Acq: 21 Nov 2009 2:06 am

Tgt Ion:202 Resp: 2327886

Ion	Ratio	Lower	Upper
202	100		
101	9.6	0.0	36.4

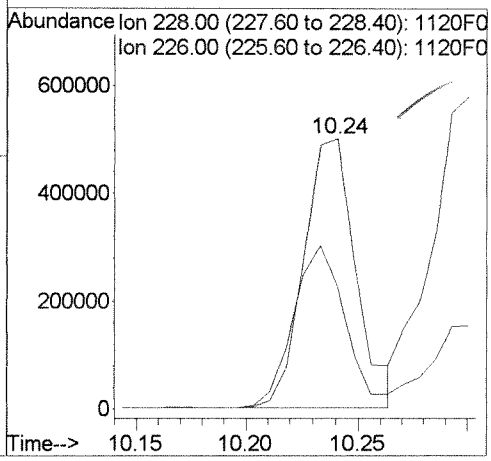


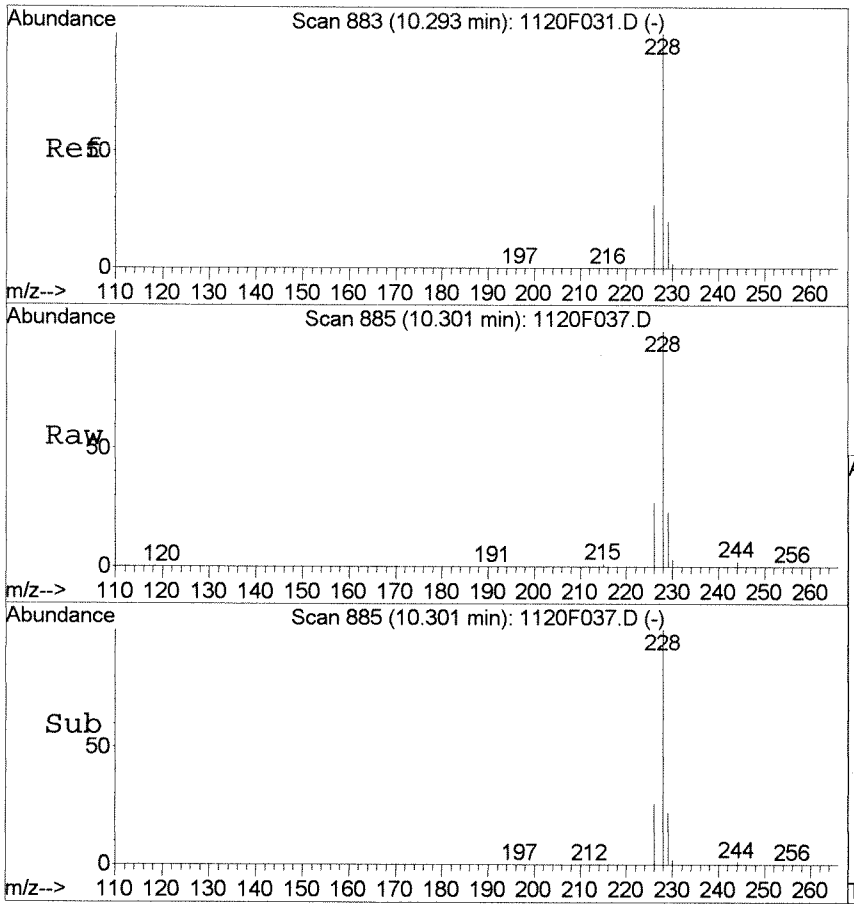


#43
Benz(a)anthracene
Concen: 470.06 ng/ml
RT: 10.24 min Scan# 877
Delta R.T. -0.01 min
Lab File: 1120F037.D
Acq: 21 Nov 2009 2:06 am

Tgt Ion:228 Resp: 790903

Ion	Ratio	Lower	Upper
228	100		
226	45.0	0.0	55.9

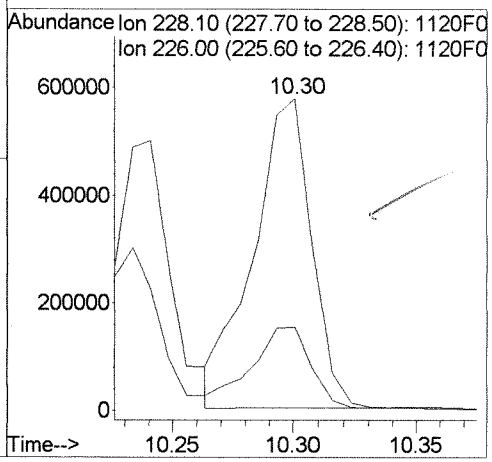


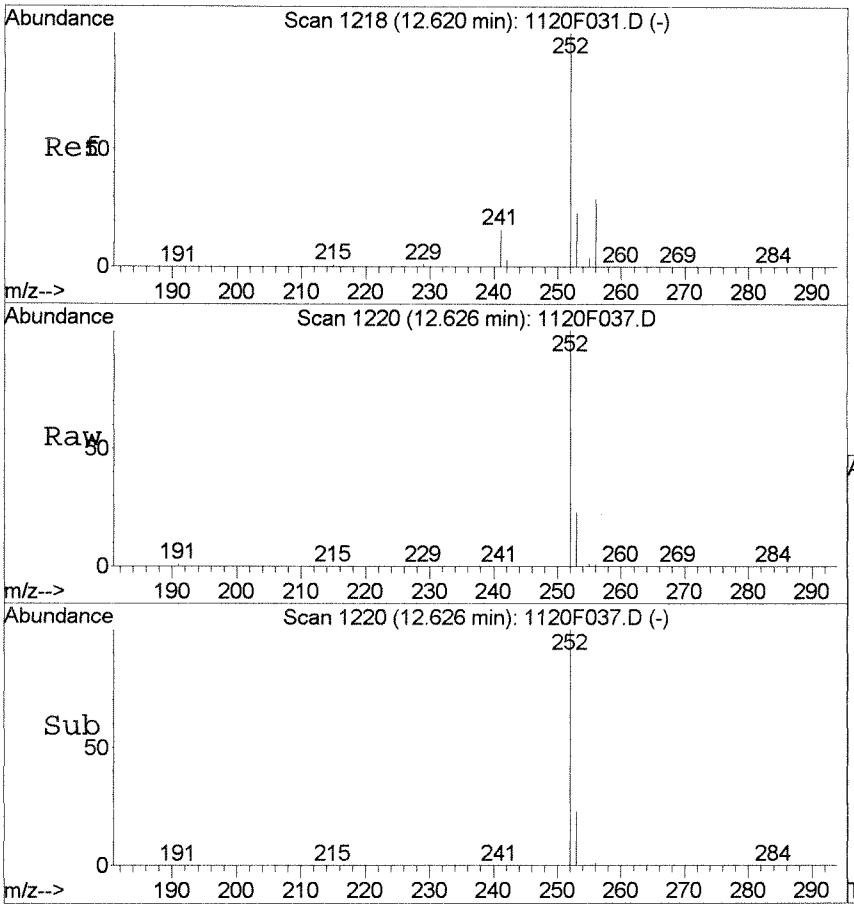


#44
Chrysene
Concen: 596.96 ng/ml
RT: 10.30 min Scan# 885
Delta R.T. -0.01 min
Lab File: 1120F037.D
Acq: 21 Nov 2009 2:06 am

Tgt Ion:228 Resp: 959224

Ion	Ratio	Lower	Upper
228	100		
226	26.1	0.0	58.8

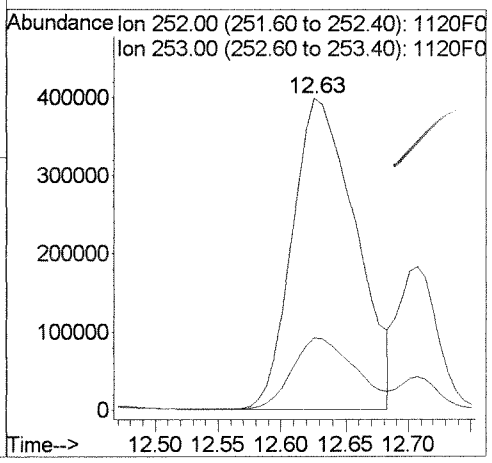


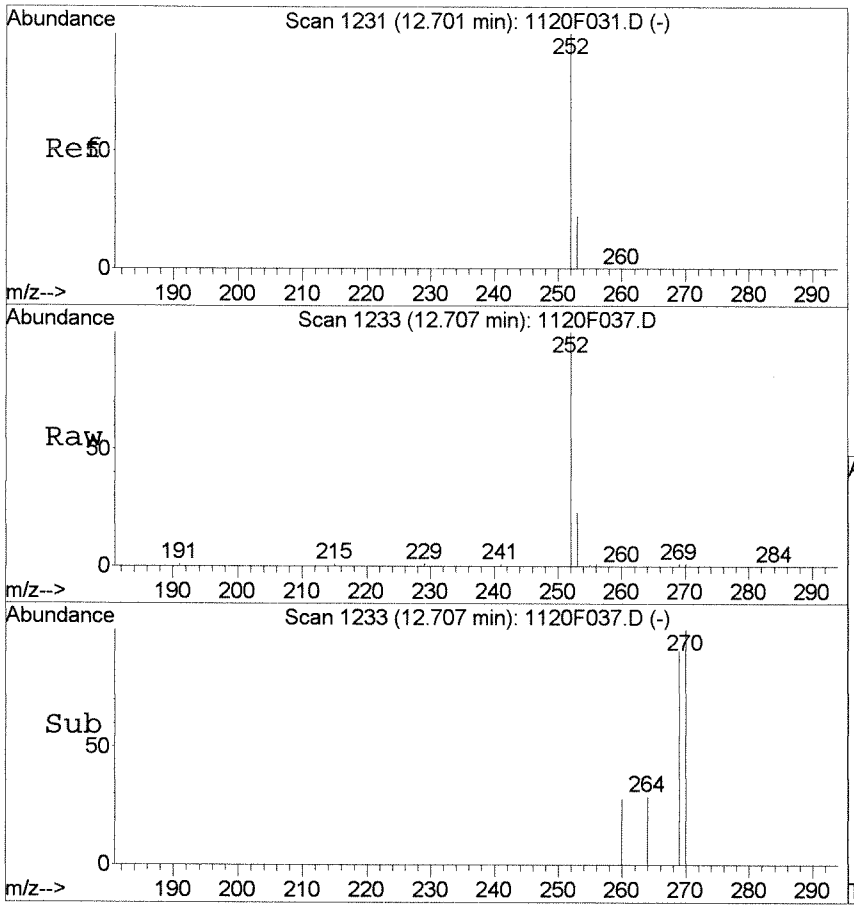


#50
Benzo(b)fluoranthene
Concen: 693.98 ng/ml
RT: 12.63 min Scan# 1220
Delta R.T. -0.03 min
Lab File: 1120F037.D
Acq: 21 Nov 2009 2:06 am

Tgt Ion:252 Resp: 1351121

Ion	Ratio	Lower	Upper
252	100		
253	22.9	0.0	52.8

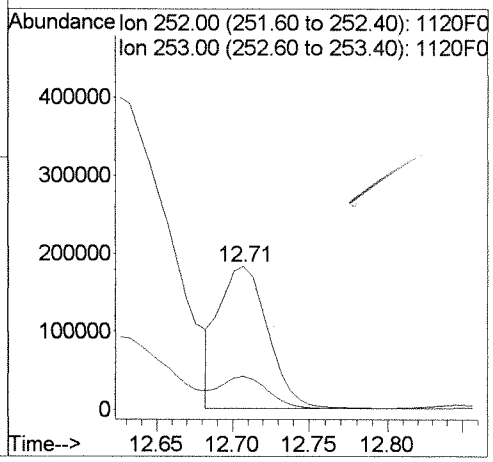


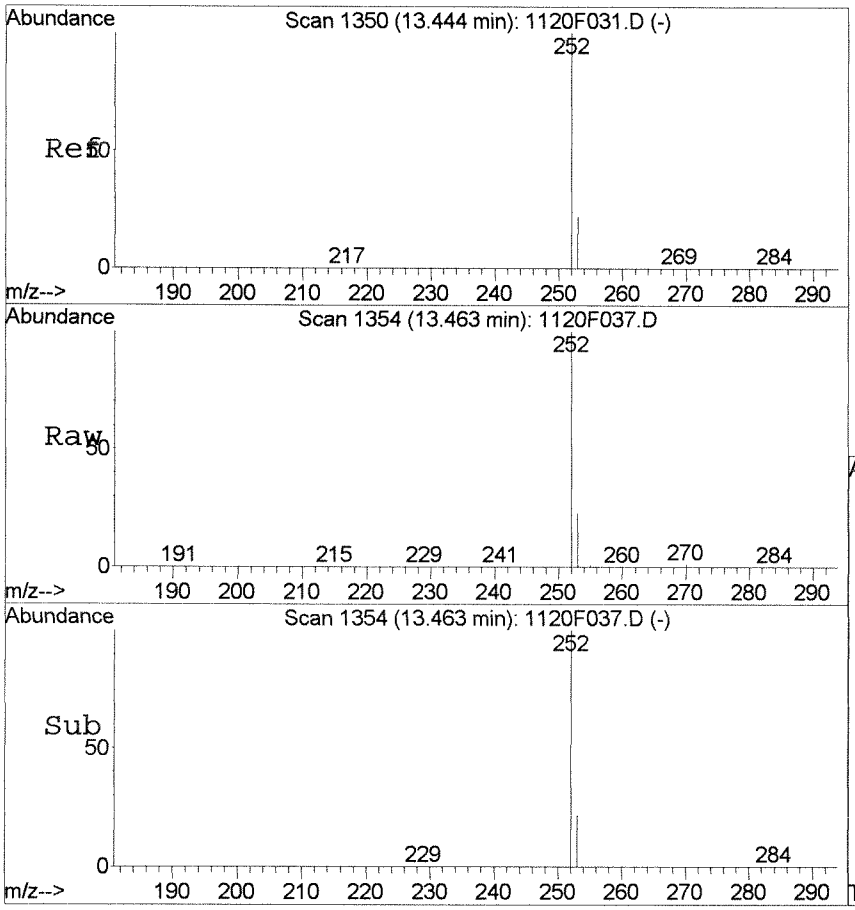


#51
Benzo(k)fluoranthene
Concen: 220.29 ng/ml
RT: 12.71 min Scan# 1233
Delta R.T. -0.03 min
Lab File: 1120F037.D
Acq: 21 Nov 2009 2:06 am

Tgt Ion:252 Resp: 406420

Ion	Ratio	Lower	Upper
252	100		
253	22.6	0.0	52.5

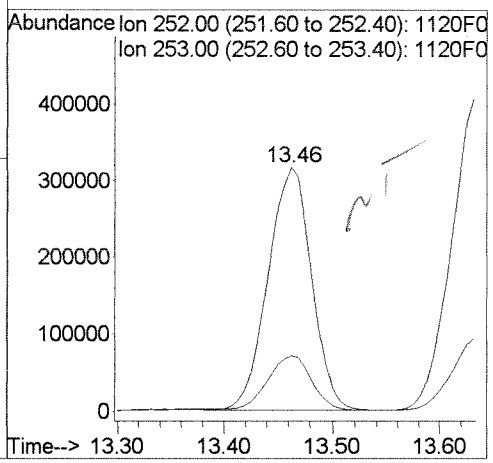


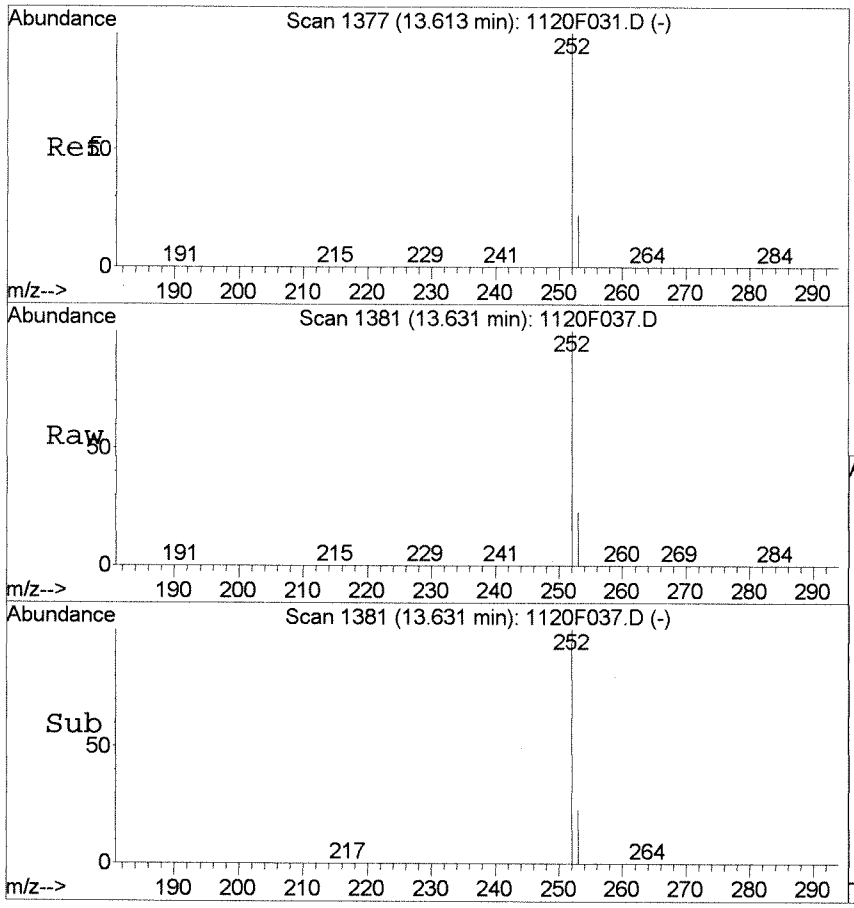


#52
Benzo(e)pyrene
Concen: 491.42 ng/ml
RT: 13.46 min Scan# 1354
Delta R.T. -0.03 min
Lab File: 1120F037.D
Acq: 21 Nov 2009 2:06 am

Tgt Ion:252 Resp: 876809

Ion	Ratio	Lower	Upper
252	100		
253	22.3	0.0	52.3

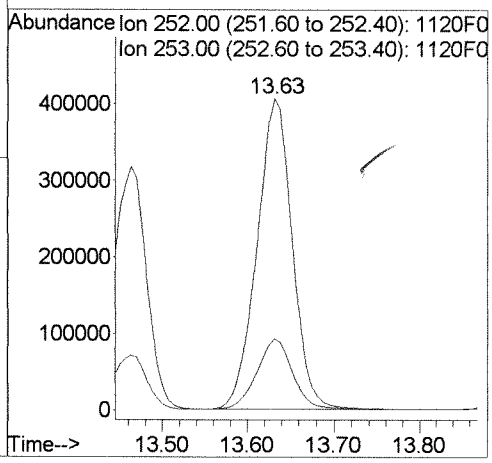


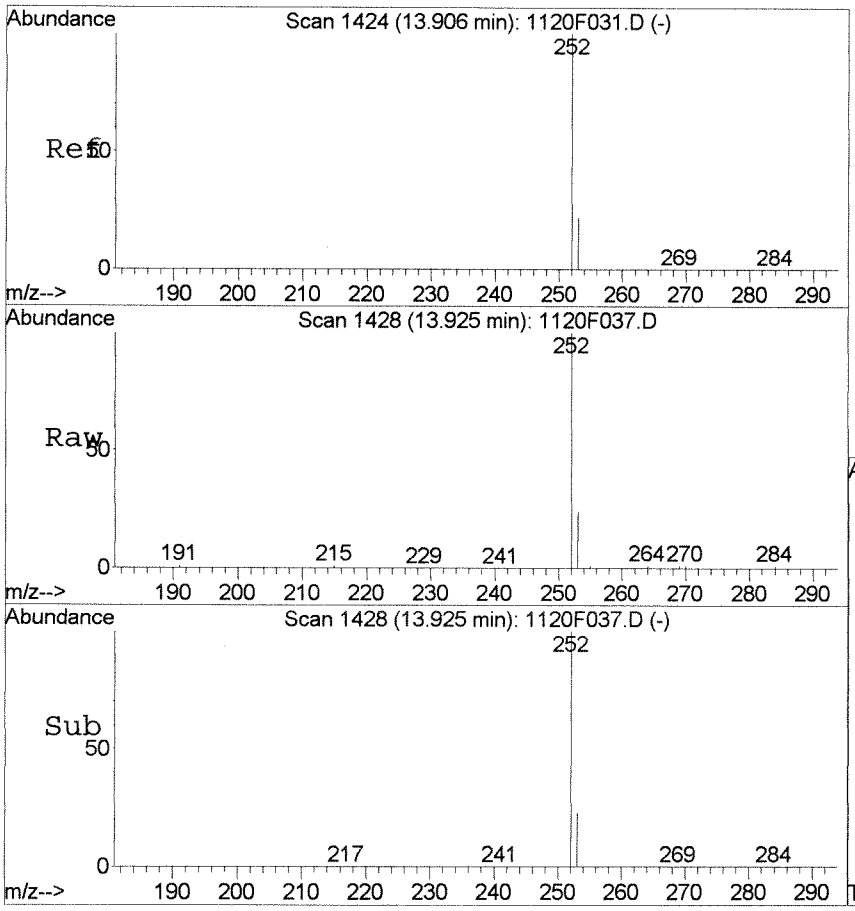


#53
Benzo(a)pyrene
Concen: 680.98 ng/ml
RT: 13.63 min Scan# 1381
Delta R.T. -0.04 min
Lab File: 1120F037.D
Acq: 21 Nov 2009 2:06 am

Tgt Ion:252 Resp: 1168004

Ion	Ratio	Lower	Upper
252	100		
253	22.7	0.0	52.6

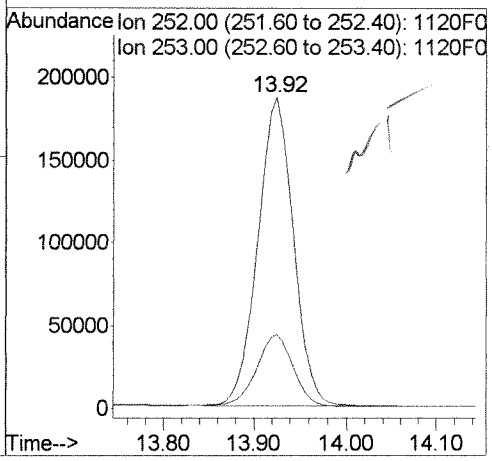


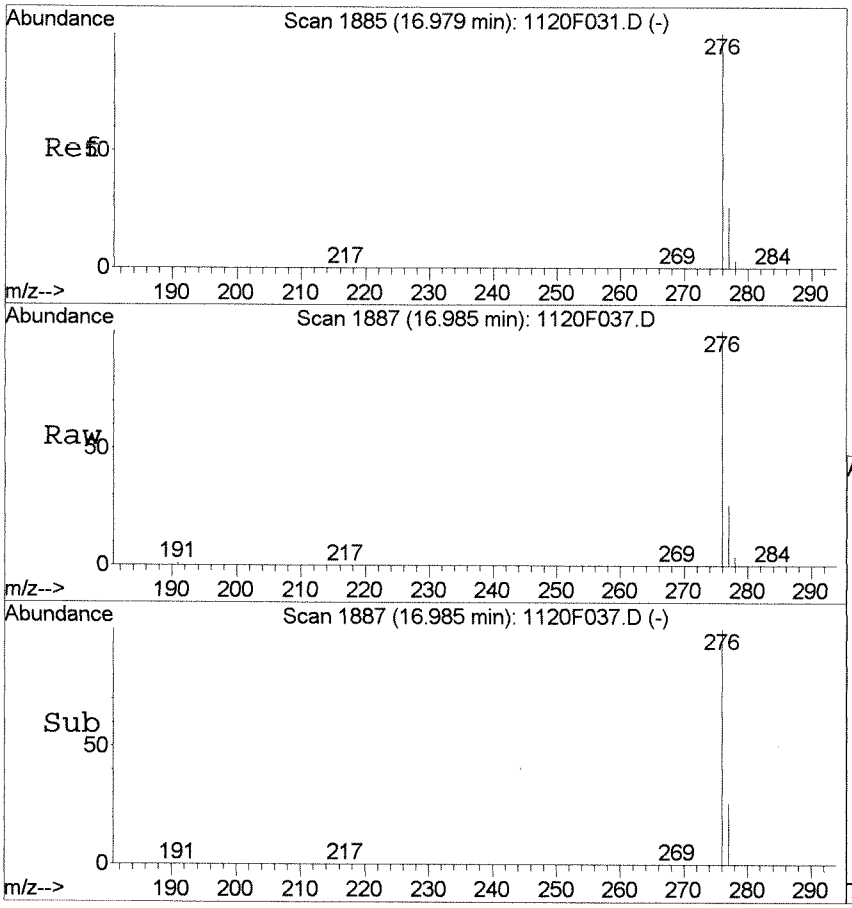


#54
Perylene
Concen: 300.48 ng/ml
RT: 13.92 min Scan# 1428
Delta R.T. -0.03 min
Lab File: 1120F037.D
Acq: 21 Nov 2009 2:06 am

Tgt Ion:252 Resp: 508967

Ion	Ratio	Lower	Upper
252	100		
253	23.3	0.0	52.0

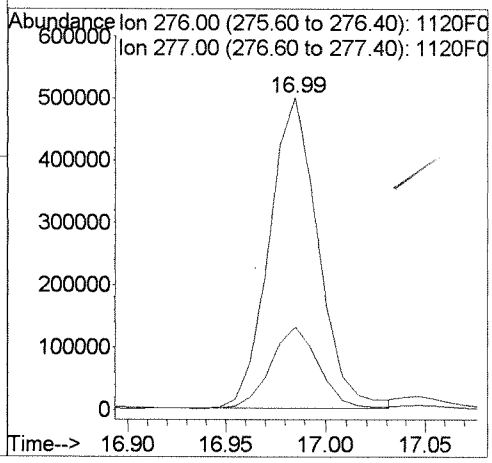


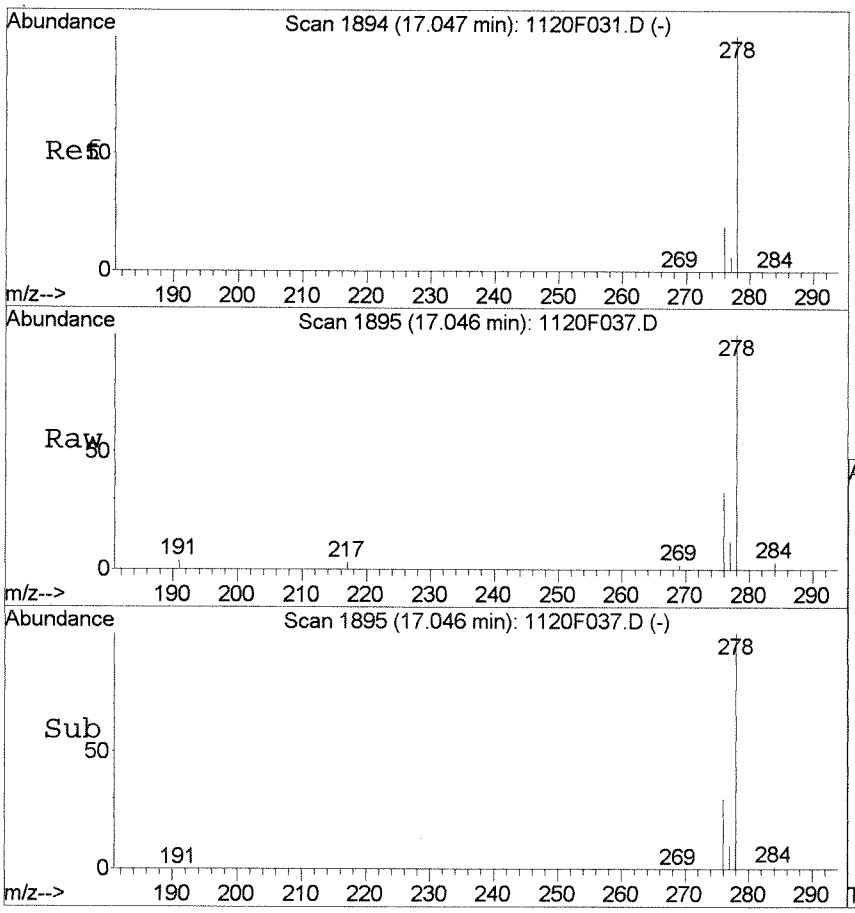


#55
Indeno(1,2,3-cd)pyrene
Concen: 533.79 ng/ml
RT: 16.99 min Scan# 1887
Delta R.T. -0.02 min
Lab File: 1120F037.D
Acq: 21 Nov 2009 2:06 am

Tgt Ion:276 Resp: 843933

Ion	Ratio	Lower	Upper
276	100		
277	26.0	0.0	55.1

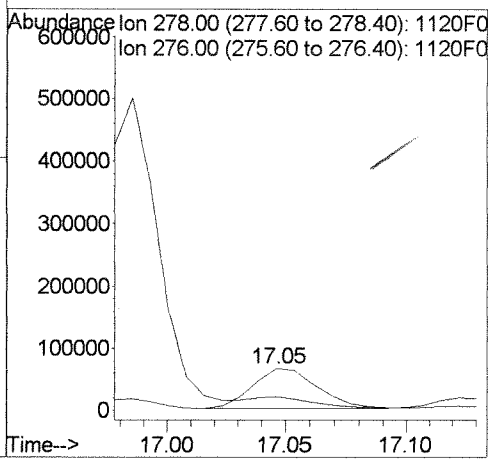


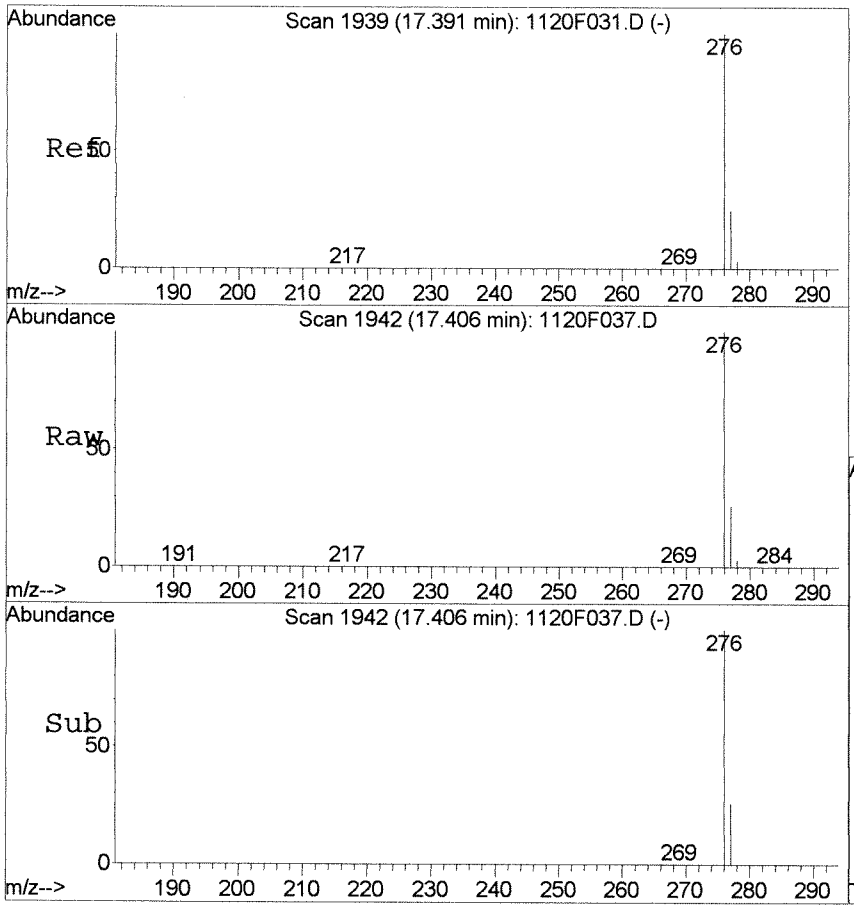


#56
Dibenz(a,h)anthracene
Concen: 73.30 ng/ml
RT: 17.05 min Scan# 1895
Delta R.T. -0.03 min
Lab File: 1120F037.D
Acq: 21 Nov 2009 2:06 am

Tgt Ion:278 Resp: 120756

Ion	Ratio	Lower	Upper
278	100		
276	28.1	0.0	52.1

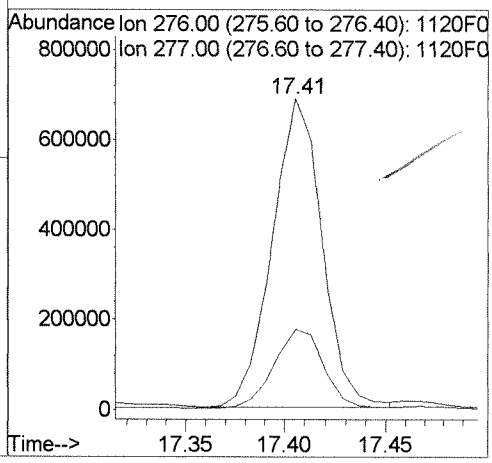




#57
Benzo(g,h,i)perylene
Concen: 660.63 ng/ml
RT: 17.41 min Scan# 1942
Delta R.T. -0.02 min
Lab File: 1120F037.D
Acq: 21 Nov 2009 2:06 am

Tgt Ion:276 Resp: 1180376

Ion	Ratio	Lower	Upper
276	100		
277	25.5	0.0	55.7



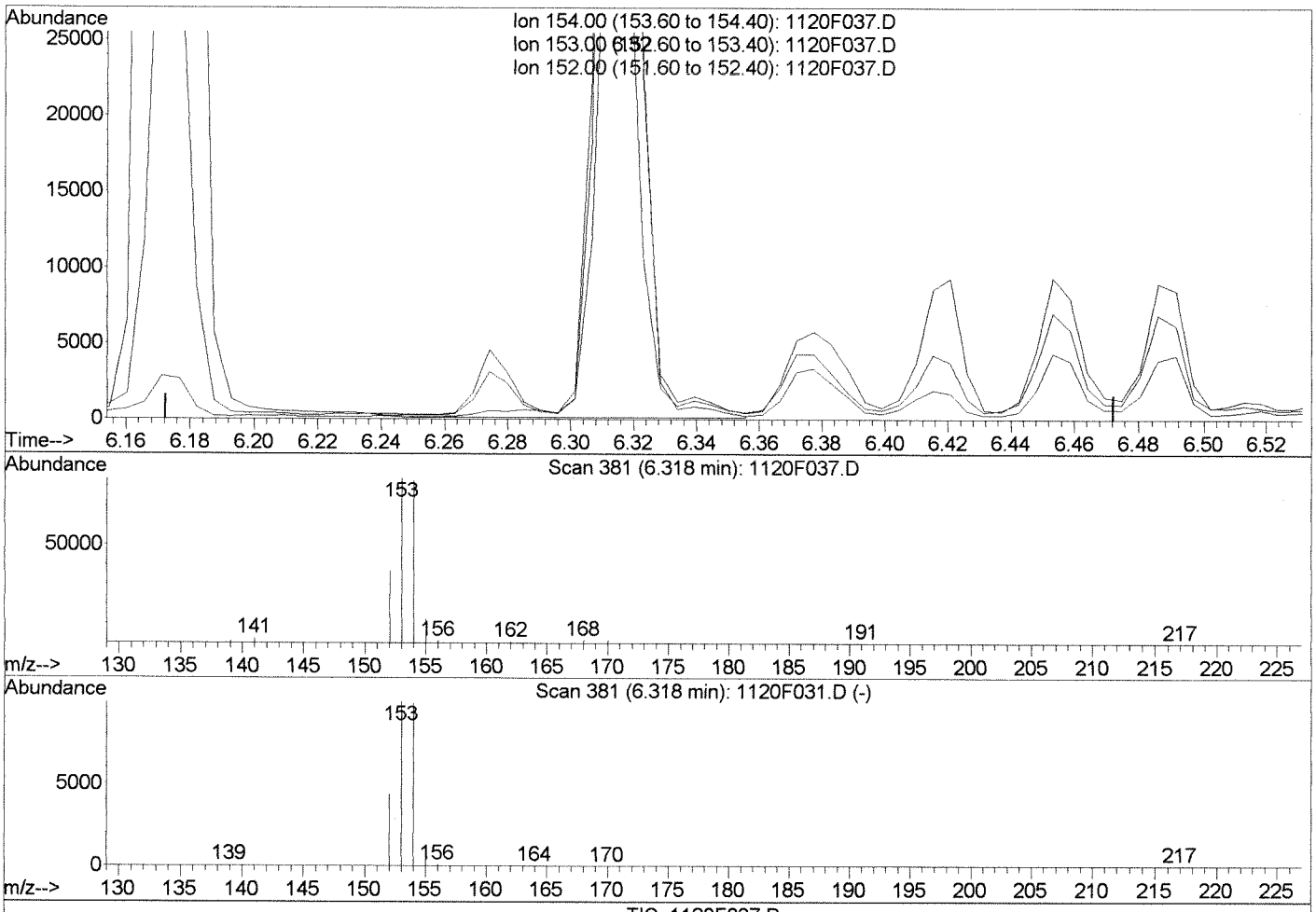
Quantitation Report (Qedit)

Data File : J:\MS11\DATA\112009\1120F037.D
Acq On : 21 Nov 2009 2:06 am
Sample : K0909140-010
Misc :
MS Integration Params: RTEINT.P
Quant Time: Nov 23 8:36 2009

Vial: 34
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1119ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Nov 23 08:36:00 2009
Response via : Multiple Level Calibration



TIC: 1120F037.D

(12) Acenaphthene (T)

6.32min 161.00ng/ml

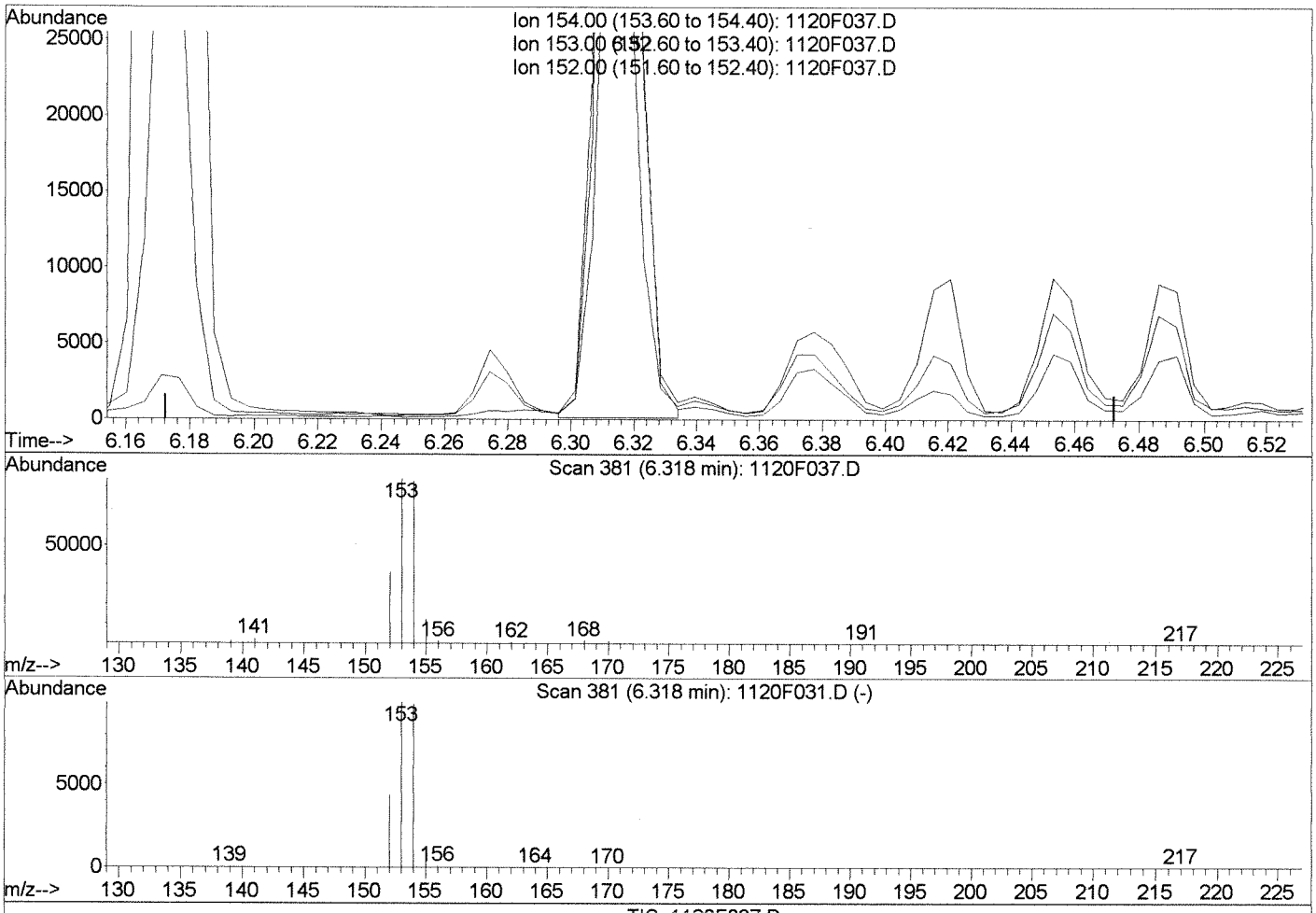
response 67559

Ion	Exp%	Act%
154.00	100	100
153.00	107.80	101.33
152.00	54.70	44.02
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\112009\1120F037.D Vial: 34
Acq On : 21 Nov 2009 2:06 am Operator: LWeiskopf
Sample : K0909140-010 Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 23 8:54 2009 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1119ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Nov 23 08:36:00 2009
Response via : Multiple Level Calibration



TIC: 1120F037.D

(12) Acenaphthene (T)

6.32min 157.99ng/ml m

response 66296

Ion	Exp%	Act%
154.00	100	100
153.00	107.80	101.48
152.00	54.70	44.33
0.00	0.00	0.00

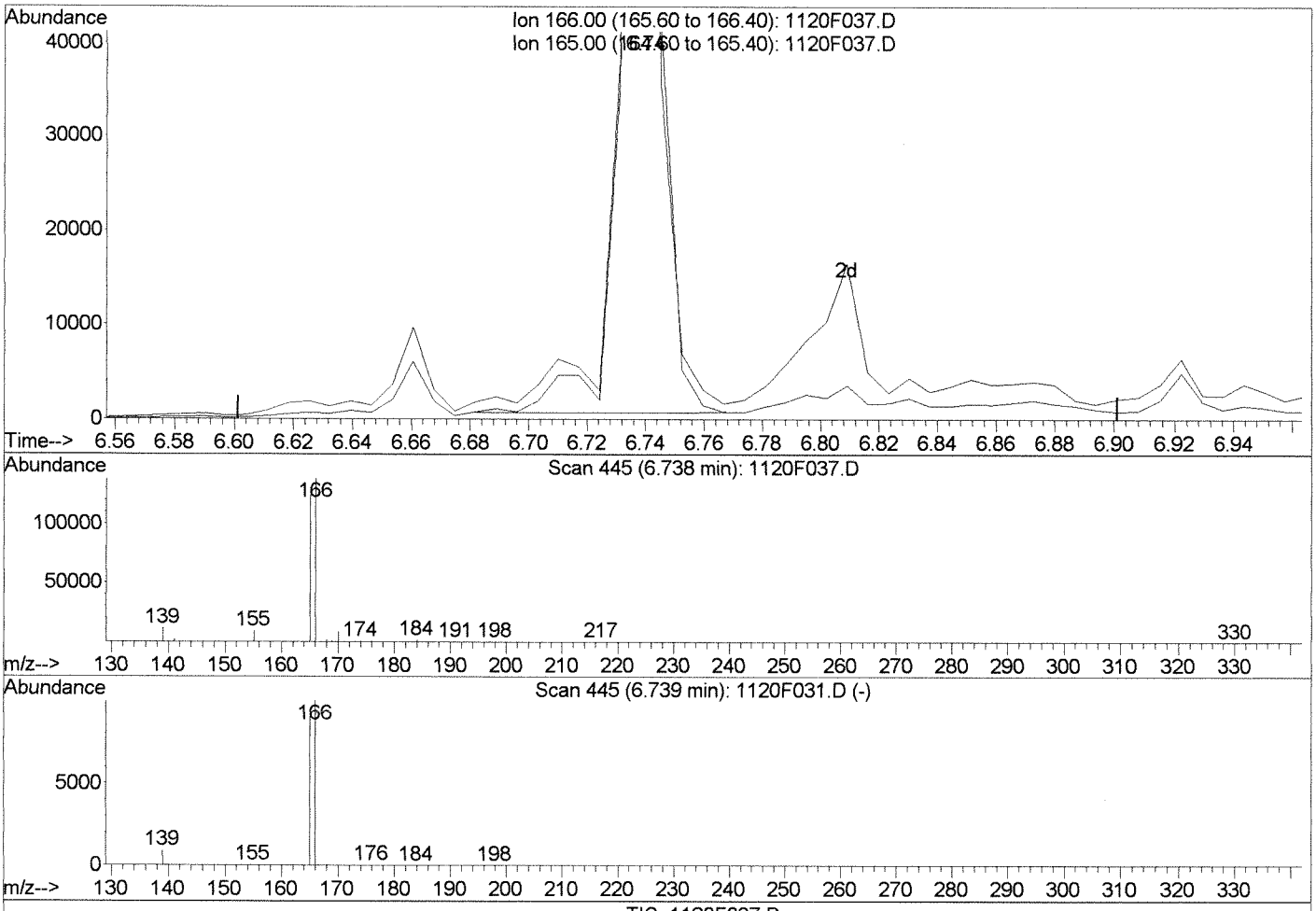
DI 11/23/09 11-24-09

1120F037.D 1119ALK.M Mon Nov 23 08:54:05 2009

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\112009\1120F037.D Vial: 34
Acq On : 21 Nov 2009 2:06 am Operator: LWeiskopf
Sample : K0909140-010 Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 23 8:54 2009 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1119ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Nov 23 08:36:00 2009
Response via : Multiple Level Calibration



TIC: 1120F037.D

(16) Fluorene (T)

6.74min 182.59ng/ml

response 97069

Ion	Exp%	Act%
166.00	100	100
165.00	87.80	89.48
0.00	0.00	0.00
0.00	0.00	0.00

1120F037.D 1119ALK.M Mon Nov 23 08:54:10 2009

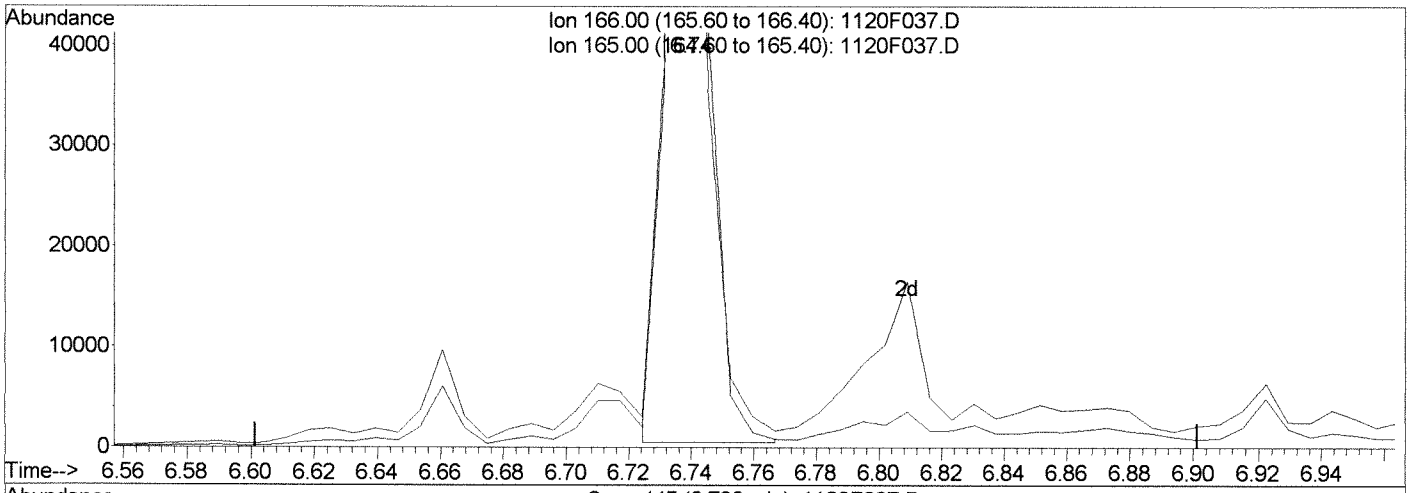
Quantitation Report (Qedit)

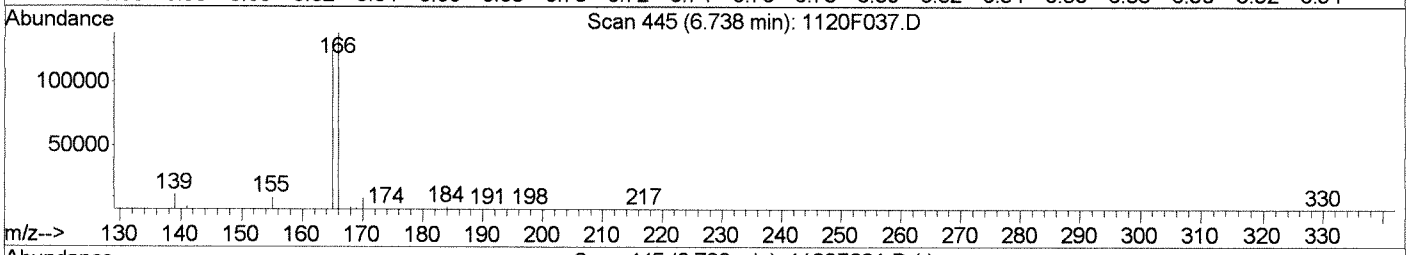
Data File : J:\MS11\DATA\112009\1120F037.D
Acq On : 21 Nov 2009 2:06 am
Sample : K0909140-010
Misc :
MS Integration Params: RTEINT.P
Quant Time: Nov 23 8:54 2009

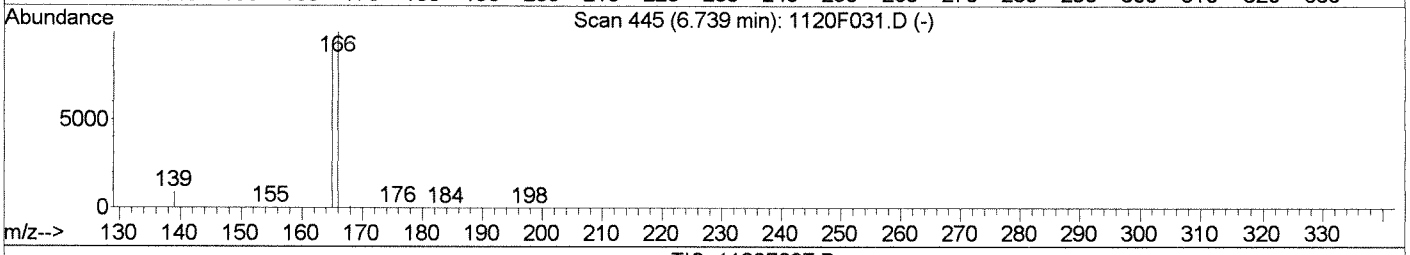
Vial: 34
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1119ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Nov 23 08:36:00 2009
Response via : Multiple Level Calibration







TIC: 1120F037.D

(16) Fluorene (T)

6.74min 175.11ng/ml m

response 93090

Ion	Exp%	Act%
166.00	100	100
165.00	87.80	90.31
0.00	0.00	0.00
0.00	0.00	0.00

OT 11/25/19
11-24-09

1120F037.D 1119ALK.M Mon Nov 23 08:54:14 2009

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	URS Corporation	**Service Request:**	K0909140
Project:	Boise St. Helens Pulp and Paper Mill-2009	**Date Collected:**	10/09/2009
Sample Matrix:	Sediment	**Date Received:**	10/09/2009

Polynuclear Aromatic Hydrocarbons

Sample Name:	B-1-A	**Units:**	ug/Kg
Lab Code:	K0909140-011	**Basis:**	Dry
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270C SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Naphthalene	**12**		2.7	0.60	1	11/10/09	11/21/09	KWG0910535	
2-Methylnaphthalene	**4.8**		2.7	0.46	1	11/10/09	11/21/09	KWG0910535	
Acenaphthylene	**4.9**		2.7	0.56	1	11/10/09	11/21/09	KWG0910535	
Acenaphthene	**3.0**		2.7	0.50	1	11/10/09	11/21/09	KWG0910535	
Fluorene	**3.6**		2.7	0.61	1	11/10/09	11/21/09	KWG0910535	
Dibenzofuran	**1.8**	J	2.7	0.63	1	11/10/09	11/21/09	KWG0910535	
Phenanthrene	**33**		2.7	1.4	1	11/10/09	11/21/09	KWG0910535	
Anthracene	**8.8**		2.7	0.55	1	11/10/09	11/21/09	KWG0910535	
Fluoranthene	**69**		2.7	0.98	1	11/10/09	11/21/09	KWG0910535	
Pyrene	**64**		2.7	0.76	1	11/10/09	11/21/09	KWG0910535	
Benz(a)anthracene	**34**		2.7	0.72	1	11/10/09	11/21/09	KWG0910535	
Chrysene	**45**		2.7	0.80	1	11/10/09	11/21/09	KWG0910535	
Benzo(b)fluoranthene	**59**		2.7	0.92	1	11/10/09	11/21/09	KWG0910535	
Benzo(k)fluoranthene	**20**		2.7	0.87	1	11/10/09	11/21/09	KWG0910535	
Benzo(a)pyrene	**55**		2.7	0.76	1	11/10/09	11/21/09	KWG0910535	
Indeno(1,2,3-cd)pyrene	**56**		2.7	0.87	1	11/10/09	11/21/09	KWG0910535	
Dibenz(a,h)anthracene	**7.9**		2.7	0.80	1	11/10/09	11/21/09	KWG0910535	
Benzo(g,h,i)perylene	**66**		2.7	0.85	1	11/10/09	11/21/09	KWG0910535	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	62	17-104	11/21/09	Acceptable
Fluoranthene-d10	64	27-106	11/21/09	Acceptable
Terphenyl-d14	55	35-109	11/21/09	Acceptable

Comments:

Exception Report

Data File: J:\MS11\DATA\112009\1120F038.D
Lab ID: K0909140-011
RunType: SMPL
Matrix: SEDIMENT

Date Acquired: 11/21/2009 02:32
Date Quantitated: 11/23/2009 08:54
Batch ID: KWG0911040
Analysis Method: 8270C SIM
ListJoinID: LJ5646

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Tune Window	NA	NA	NA	x	
Analytical Holding Time	NA	NA	NA	x	
Preparation Holding Time	NA	NA	NA	x	
Pre-Preparation Holding Time	NA	NA	NA	x	
ICAL Pass/Fail	NA	NA	NA	x	
ICAL Average RSD	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Initial Calibration Minimum RF	NA	NA	NA	x	
Initial Calibration SPCC/CCC	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA	x	
Continuing Calibration Minimum RF	NA	NA	NA	x	
Continuing Calibration SPCC/CCC	NA	NA	NA	x	
Method Blank	NA	NA	NA	x	
MB Surrogate Recovery	NA	NA	NA	x	
Lab Control Spike	NA	NA	NA	x	
Internal Standards	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Relative Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Primary Review: 11/25/9

Secondary Review: 11-24-09

Quantitation Report

Bottle ID:		**Tier:**	V	**Matrix:**	SEDIMENT
Prod Code:	8270C SIM PAH_S	**Collect Date:**	10/09/2009	**Receive Date:**	10/09/2009

Analysis Lot:	KWG0911040	**Prep Lot:**	KWG0910535	**Report Group:**	K0909140
Analysis Method:	8270C SIM	**Prep Method:**	EPA 3541		
Prep Ref:	865764	**Prep Date:**	11/10/2009		

Quant Method:	J:\MS11\METHODS\SIM\1119ALK.M	**Calibration ID:**	CAL9029
Title:	Polynuclear Aromatic Hydrocarbons	**Report List ID:**	LJ5646
Tune Ref:	J:\MS11\DATA\112009\1120F030.D	**Method ID:**	MJ253
MB Ref:	J:\MS11\DATA\111909\1119F041.D	**Quant based on Report List**	

Data File:	J:\MS11\DATA\112009\1120F038.D			**Instrument:**	MS11
Acqu Date:	11/21/2009 02:32	**Quant Date:**	11/23/2009 08:54	**Vial:**	35
Run Type:	SMPL			**Dilution:**	1.0
Lab ID:	K0909140-011			**Soln Conc. Units:**	ng/ml

Internal Standard Compounds

IS Ref	Parameter Name	RT	RT Dev	Quant Mass	Response	Solution Conc	Area Criteria
1	Naphthalene-d8	4.86	-0.01	136	162367	200.00	OK
2	Acenaphthene-d10	6.29	0.00	164	89585	200.00	OK
3	Phenanthrene-d10	7.52	0.00	188	177508	200.00	OK
4	Chrysene-d12	10.25	0.00	240	302123	200.00	OK
5	Perylene-d12	13.82	0.00	264	355752	200.00	OK

Surrogate Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	%Rec	%Rec Limits		Rpt?
2	Fluorene-d10	6.72	0.00	0.00	176	61929	123.12	62	17-104	OK	
3	Fluoranthene-d10	8.50	0.00	0.00	212	138244	128.82	64	27-106	OK	
4	Terphenyl-d14	8.89	0.00	0.00	244	138490	110.73	55	35-109	OK	

Target Compounds

Final Conc. Units: ug/Kg Dry Weight

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	Final Conc	Q	Rpt?
1	Naphthalene	4.88	-0.01	0.00	128	15734	22.03	12		
1	2-Methylnaphthalene	5.43	-0.01	0.00	142	4647	9.03	4.8		
2	Acenaphthylene	6.17	-0.01	0.00	152	6832	9.28	4.9		
2	Acenaphthene	6.31	-0.01	0.00	154	2488	5.69	3.0		
2	Dibenzofuran	6.46		0.00	168	2320	3.50	1.8	J	
2	Fluorene	6.74		0.00	166	3747**m**	6.76	3.6		
3	Phenanthrene	7.54		0.00	178	59258	62.62	33		
3	Anthracene	7.58	-0.01	0.00	178	15212	16.73	8.8		
3	Fluoranthene	8.52		0.00	202	144920	131.73	69		
4	Pyrene	8.73		0.00	202	193467	120.75	64		
4	Benz(a)anthracene	10.23		0.00	228	100817	65.32	34		
4	Chrysene	10.29		0.00	228	126930	86.11	45		
5	Benzo(b)fluoranthene	12.62		0.00	252	206226	111.25	59		

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Data File:	J:\MS11\DATA\112009\1120F038.D			**Instrument:**	MS11
Acqu Date:	11/21/2009 02:32	**Quant Date:**	11/23/2009 08:54	**Vial:**	35
Run Type:	SMPL			**Dilution:**	1.0
Lab ID:	K0909140-011			**Soln Conc. Units:**	ng/ml

Target Compounds **Final Conc. Units:** ug/Kg Dry Weight

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	Final Conc	Q	Rpt?
5	Benzo(k)fluoranthene	12.69	-0.01	0.00	252	65876	37.50	20		
5	Benzo(a)pyrene	13.61		0.00	252	171501	105.02	55		
5	Indeno(1,2,3-cd)pyrene	16.97	-0.01	0.00	276	161137	107.05	56		
5	Dibenz(a,h)anthracene	17.04	-0.01	0.00	278	23533	15.00	7.9		
5	Benzo(g,h,i)perylene	17.39		0.00	276	211870	124.54	66		

Prep Amount:	20.01 g	**Dilution:**	1.0
Prep Final Vol:	10 ml	**Unit Factor:**	1
Solids:	94.8 %		

Final Concentration = ((Soln Conc x Prep Final Vol x Dilution) / (Prep Amount x Solids)) x Unit Factor

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\112009\1120F038.D Vial: 35
Acq On : 21 Nov 2009 2:32 am Operator: LWeiskopf
Sample : K0909140-011 Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 23 08:36:28 2009 Quant Results File: 1119ALK.RES

Quant Method : J:\MS11\METHODS\SIM\1119ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Nov 23 08:36:00 2009
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	4.86	136	162367	200.00	ng/ml	0.00
10) Acenaphthene-d10	6.29	164	89585	200.00	ng/ml	0.00
22) Phenanthrene-d10	7.52	188	177508	200.00	ng/ml	0.00
37) Chrysene-d12	10.25	240	302123	200.00	ng/ml	-0.02
49) Perylene-d12	13.82	264	355752	200.00	ng/ml	-0.05
System Monitoring Compounds						
15) Fluorene-d10	6.72	176	61929	123.12	ng/ml	0.00
Spiked Amount 200.000			Recovery = 61.56%			
20) 2,4,6 Tribromophenol	0.00	330	0d	0.00	ng/ml	
Spiked Amount 375.000			Recovery = 0.00%			
36) Fluoranthene-d10	8.50	212	138244	128.82	ng/ml	0.00
Spiked Amount 200.000			Recovery = 64.41%			
42) Terphenyl-d14	8.89	244	138490	110.73	ng/ml	0.00
Spiked Amount 200.000			Recovery = 55.36%			
Target Compounds						Qvalue
2) Naphthalene	4.88	128	15734	22.03	ng/ml	98
3) 2-Methylnaphthalene	5.43	142	4647	9.03	ng/ml	99
4) 1-Methylnaphthalene	5.52	142	2261	4.58	ng/ml	100
5) Biphenyl	5.81	154	2817	4.60	ng/ml	98
6) 2,6-Dimethylnaphthalene	5.95	156	2398	5.07	ng/ml	97
11) Acenaphthylene	6.17	152	6832	9.28	ng/ml	97
12) Acenaphthene	6.31	154	2488	5.69	ng/ml	98
13) Dibenzofuran	6.46	168	2320	3.50	ng/ml	73
16) Fluorene	6.74	166	3747m	6.76	ng/ml	
23) Dibenzothiophene	7.43	184	3151	3.99	ng/ml	75
27) Phenanthrene	7.54	178	59258	62.62	ng/ml	98
28) Anthracene	7.58	178	15212	16.73	ng/ml	96
29) Carbazole	7.72	167	1520	1.96	ng/ml	91
30) 1-Methylphenanthrene	8.04	192	5800	7.87	ng/ml	98
35) Fluoranthene	8.52	202	144920	131.73	ng/ml	99
38) Pyrene	8.73	202	193467	120.75	ng/ml	69
43) Benz(a)anthracene	10.23	228	100817	65.32	ng/ml	68
44) Chrysene	10.29	228	126930	86.11	ng/ml	96
50) Benzo(b)fluoranthene	12.62	252	206226	111.25	ng/ml	98
51) Benzo(k)fluoranthene	12.69	252	65876	37.50	ng/ml	100
52) Benzo(e)pyrene	13.45	252	121435	71.48	ng/ml	99
53) Benzo(a)pyrene	13.61	252	171501	105.02	ng/ml	98
54) Perylene	13.91	252	154260	95.65	ng/ml	98
55) Indeno(1,2,3-cd)pyrene	16.97	276	161137	107.05	ng/ml	99
56) Dibenz(a,h)anthracene	17.04	278	23533	15.00	ng/ml	88

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\112009\1120F038.D Vial: 35
Acq On : 21 Nov 2009 2:32 am Operator: LWeiskopf
Sample : K0909140-011 Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 23 08:36:28 2009 Quant Results File: 1119ALK.RES

Quant Method : J:\MS11\METHODS\SIM\1119ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Nov 23 08:36:00 2009
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
57)	Benzo(g,h,i)perylene	17.39	276	211870	124.54	ng/ml	98

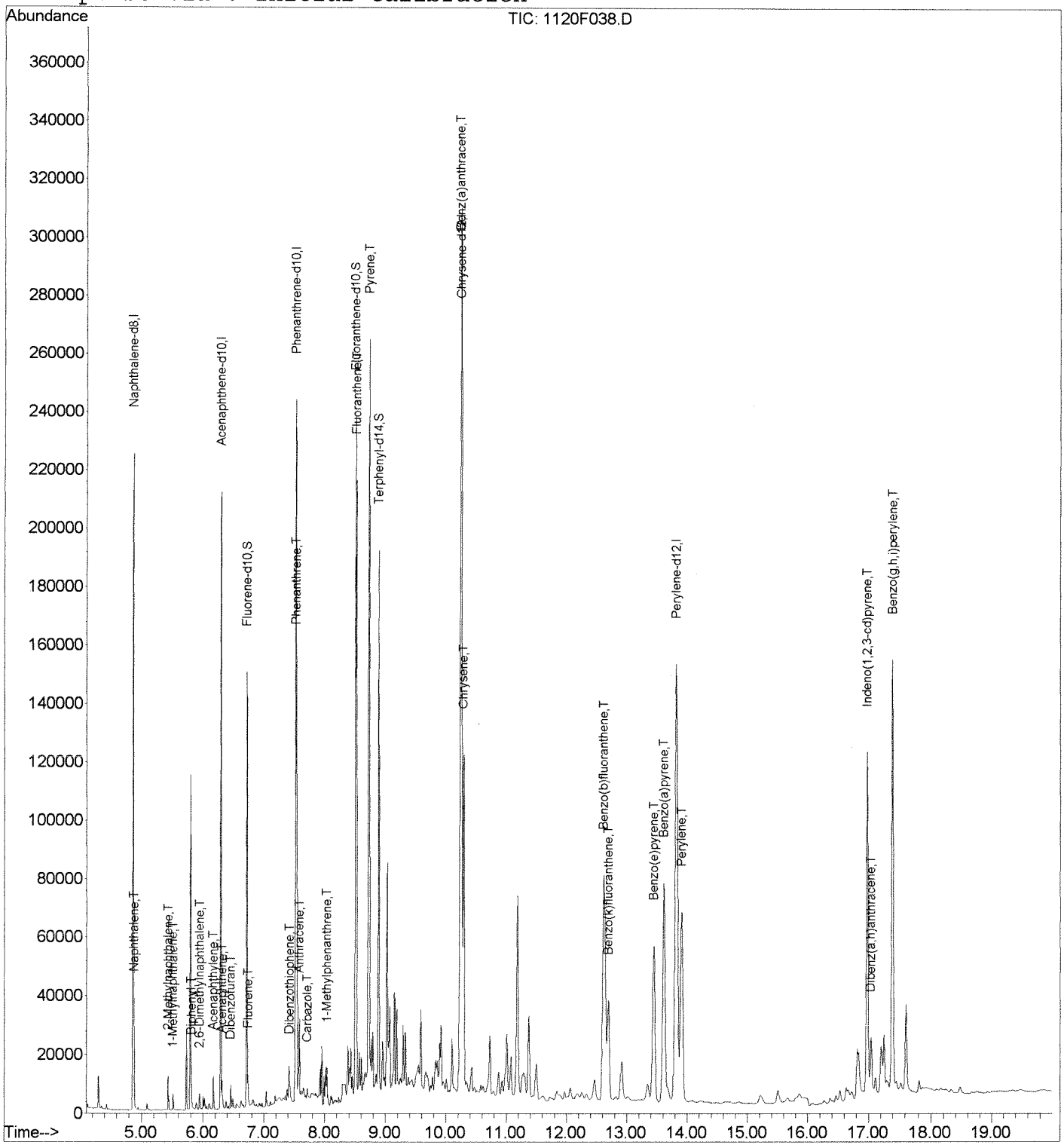
(#) = qualifier out of range (m) = manual integration

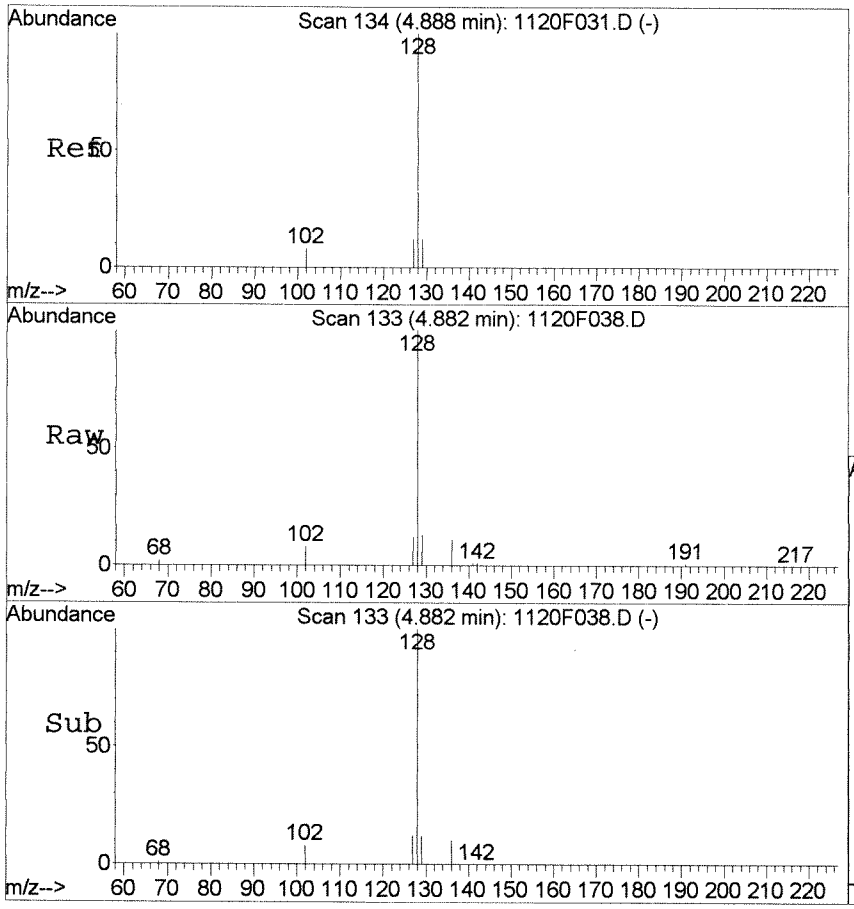
Data File : J:\MS11\DATA\112009\1120F038.D
Acq On : 21 Nov 2009 2:32 am
Sample : K0909140-011
Misc :
MS Integration Params: RTEINT.P
Quant Time: Nov 23 8:54 2009

Vial: 35
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00

Quant Results File: 1119ALK.RES

Method : J:\MS11\METHODS\SIM\1119ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Nov 23 08:36:00 2009
Response via : Initial Calibration

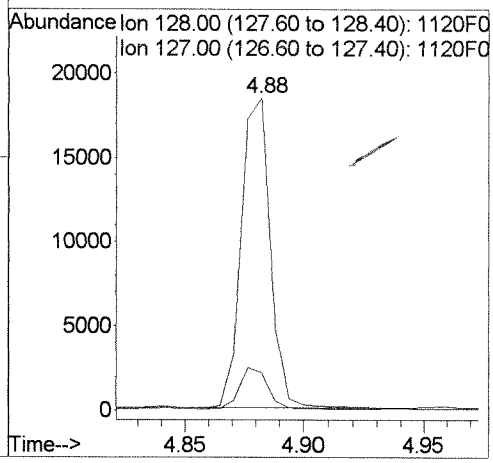


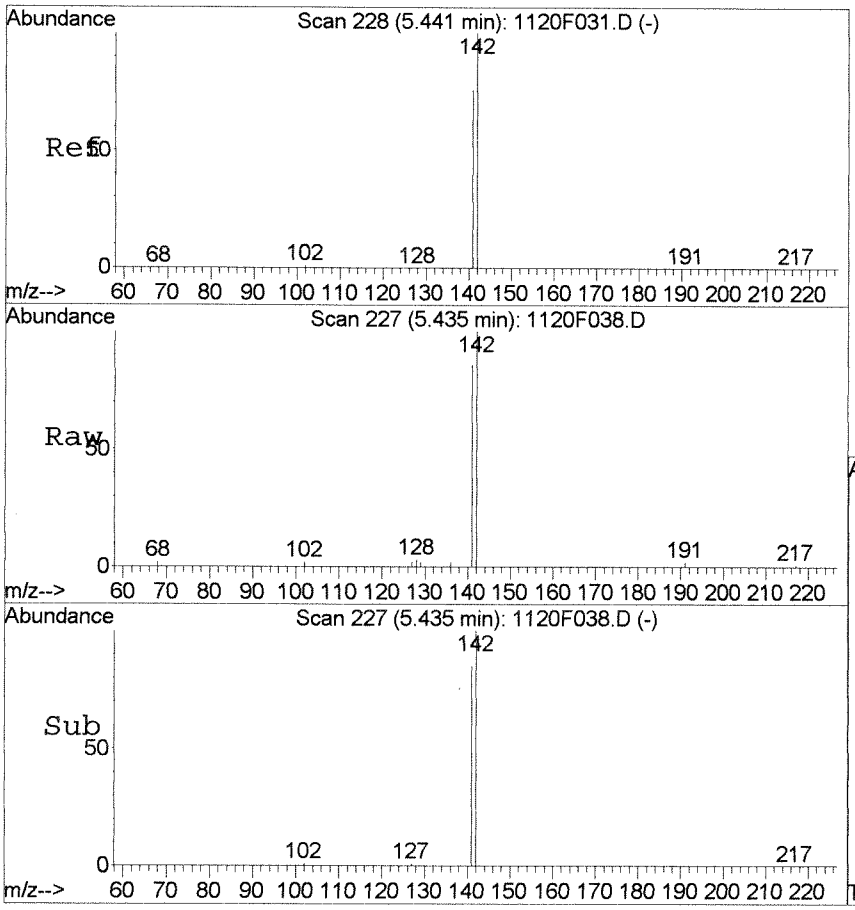


#2
Naphthalene
Concen: 22.03 ng/ml
RT: 4.88 min Scan# 133
Delta R.T. -0.01 min
Lab File: 1120F038.D
Acq: 21 Nov 2009 2:32 am

Tgt Ion:128 Resp: 15734

Ion	Ratio	Lower	Upper
128	100		
127	11.6	0.0	42.4

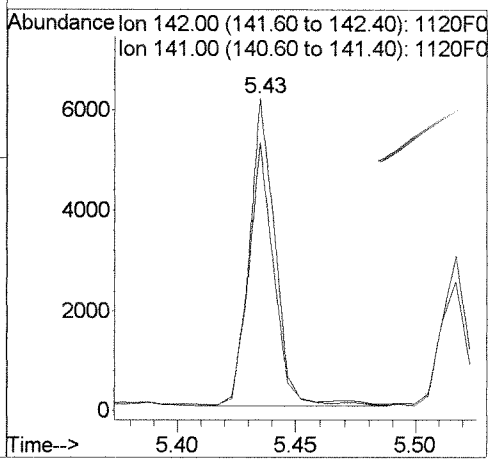


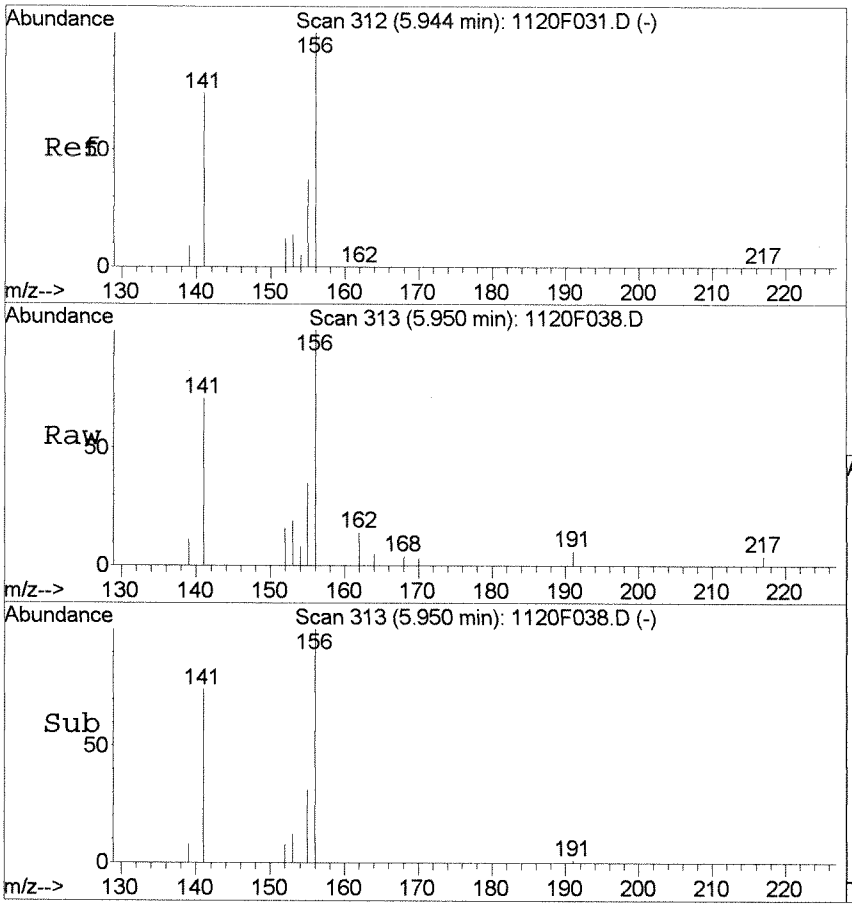


#3
2-Methylnaphthalene
Concen: 9.03 ng/ml
RT: 5.43 min Scan# 227
Delta R.T. -0.01 min
Lab File: 1120F038.D
Acq: 21 Nov 2009 2:32 am

Tgt Ion:142 Resp: 4647

Ion	Ratio	Lower	Upper
142	100		
141	85.2	56.1	116.1

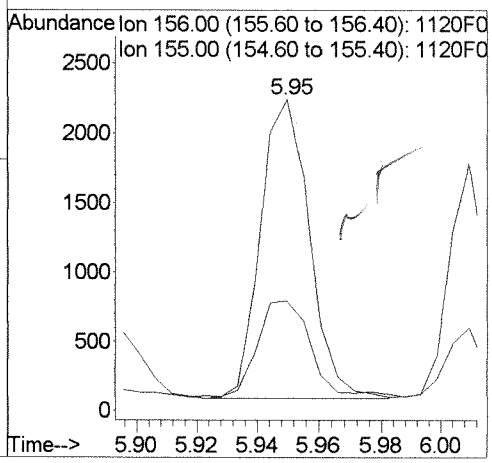


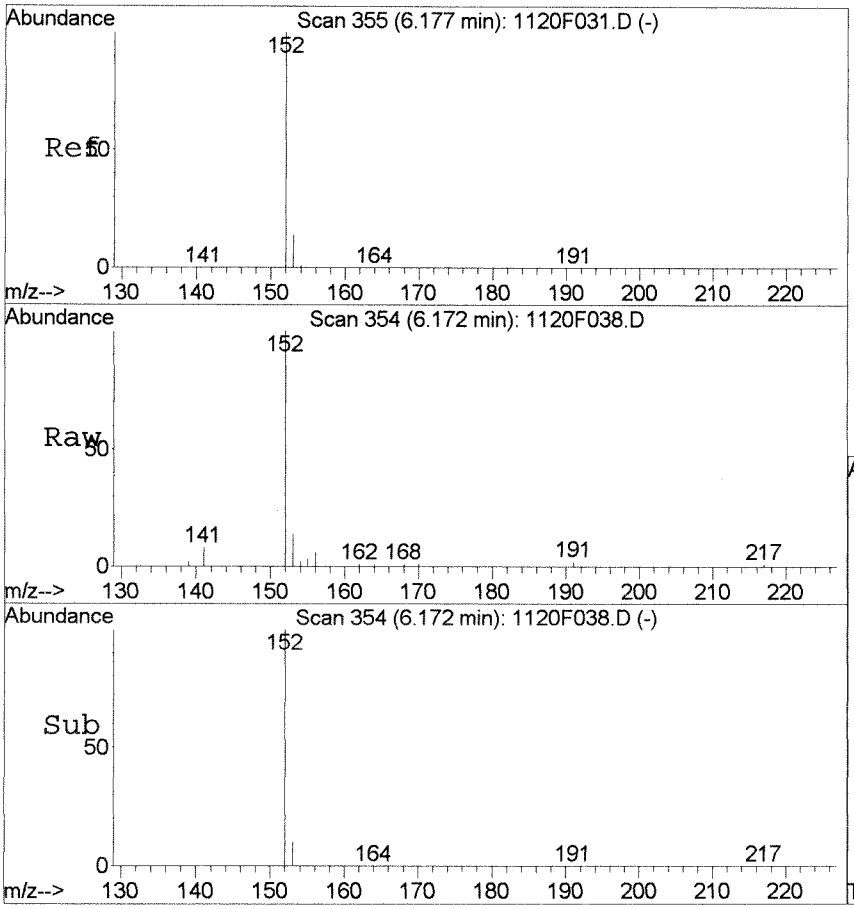


#6
2,6-Dimethylnaphthalene
Concen: 5.07 ng/ml
RT: 5.95 min Scan# 313
Delta R.T. -0.00 min
Lab File: 1120F038.D
Acq: 21 Nov 2009 2:32 am

Tgt Ion:156 Resp: 2398

Ion	Ratio	Lower	Upper
156	100		
155	31.8	3.7	63.7

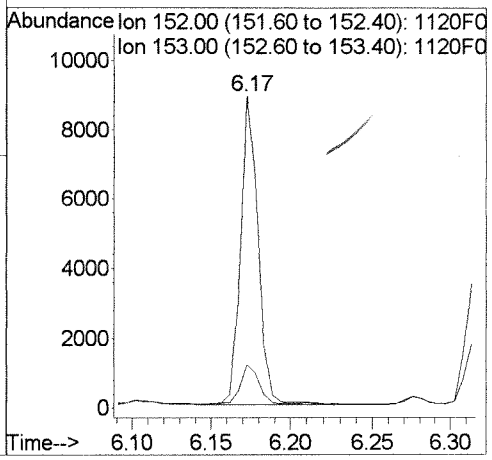


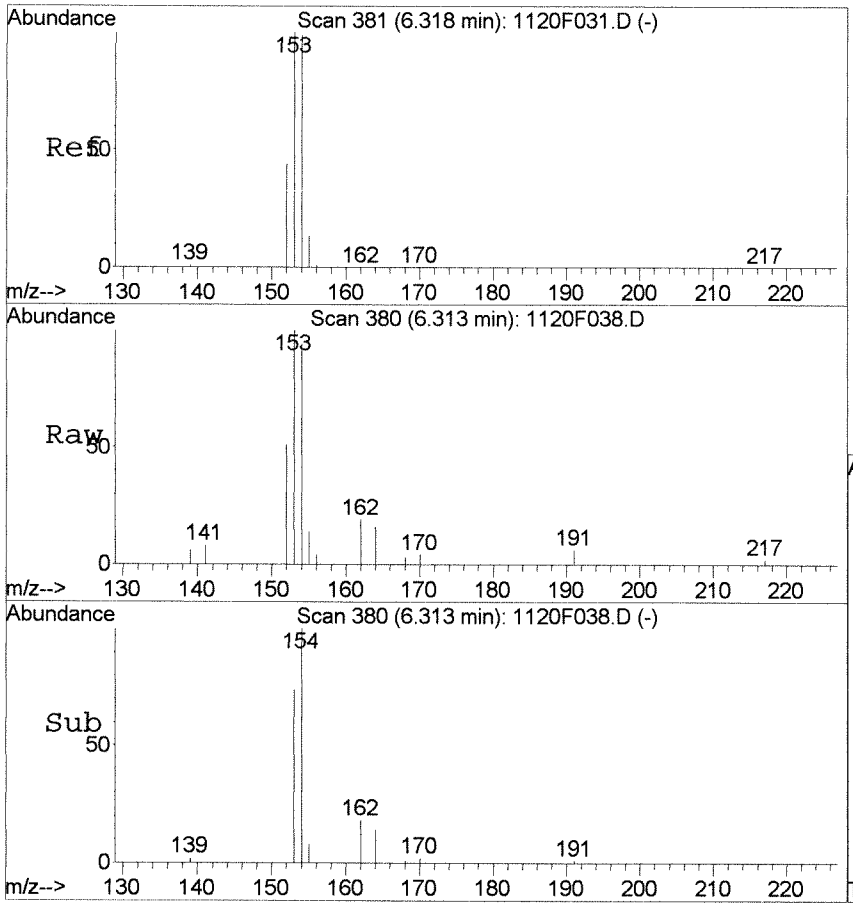


#11
Acenaphthylene
Concen: 9.28 ng/ml
RT: 6.17 min Scan# 354
Delta R.T. -0.01 min
Lab File: 1120F038.D
Acq: 21 Nov 2009 2:32 am

Tgt Ion:152 Resp: 6832

Ion	Ratio	Lower	Upper
152	100		
153	12.7	0.0	44.1

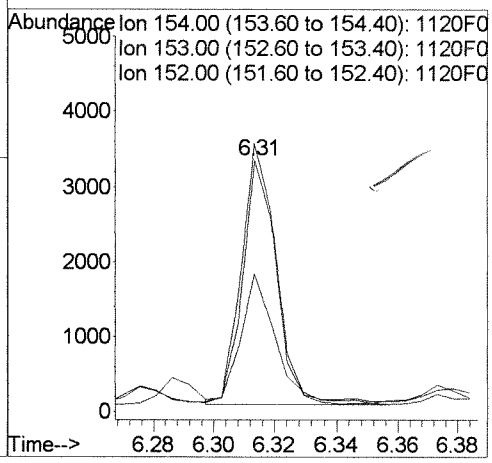


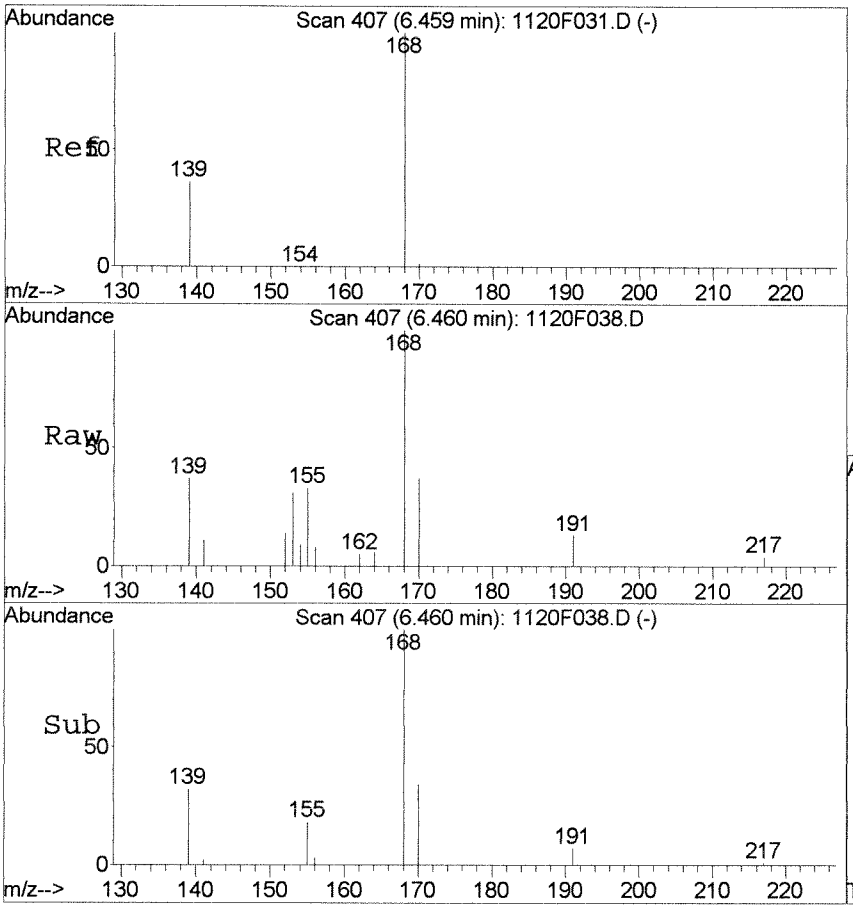


#12
Acenaphthene
Concen: 5.69 ng/ml
RT: 6.31 min Scan# 380
Delta R.T. -0.01 min
Lab File: 1120F038.D
Acq: 21 Nov 2009 2:32 am

Tgt Ion:154 Resp: 2488

Ion	Ratio	Lower	Upper
154	100		
153	105.8	77.8	137.8
152	52.8	24.7	84.7

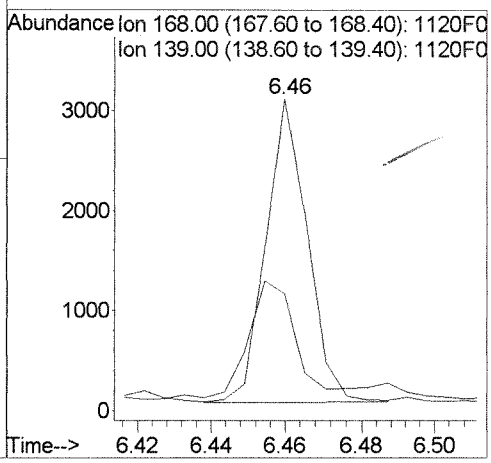


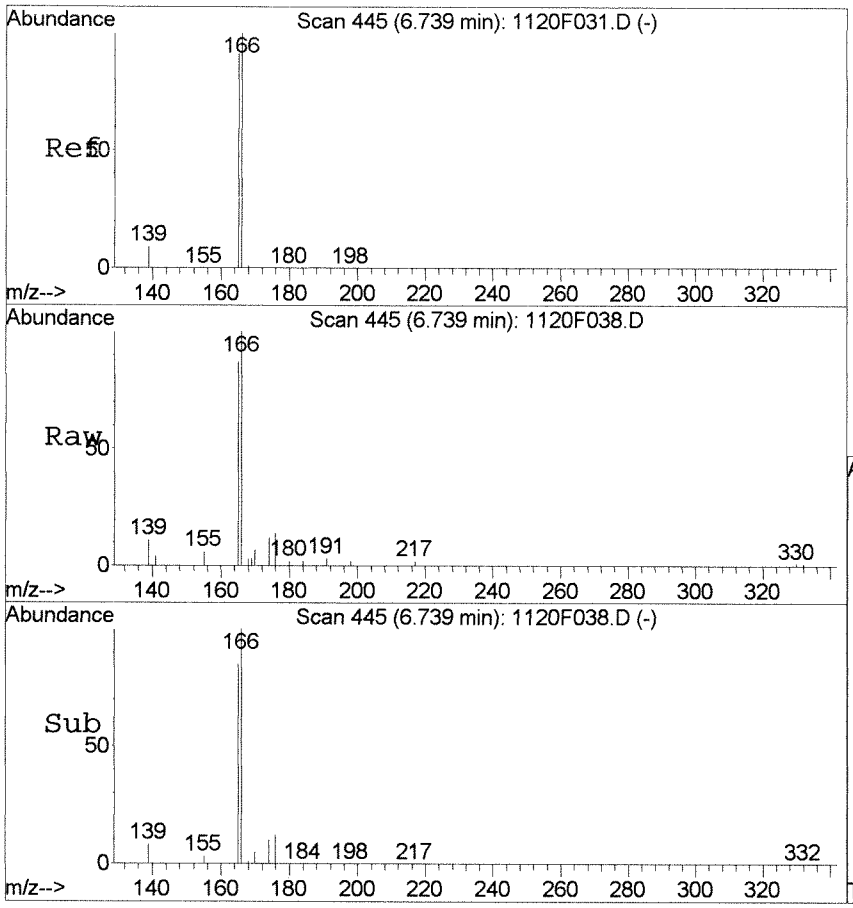


#13
Dibenzofuran
Concen: 3.50 ng/ml
RT: 6.46 min Scan# 407
Delta R.T. -0.00 min
Lab File: 1120F038.D
Acq: 21 Nov 2009 2:32 am

Tgt Ion:168 Resp: 2320

Ion	Ratio	Lower	Upper
168	100		
139	34.1	23.3	83.3

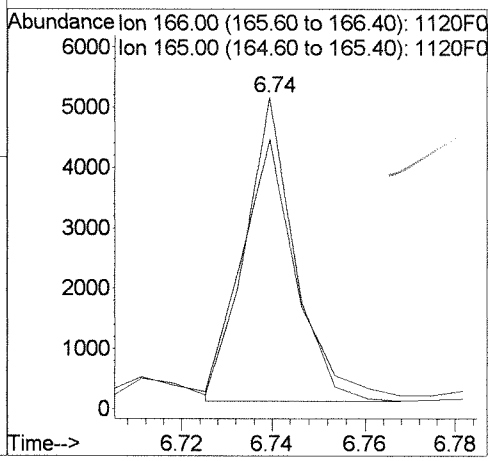


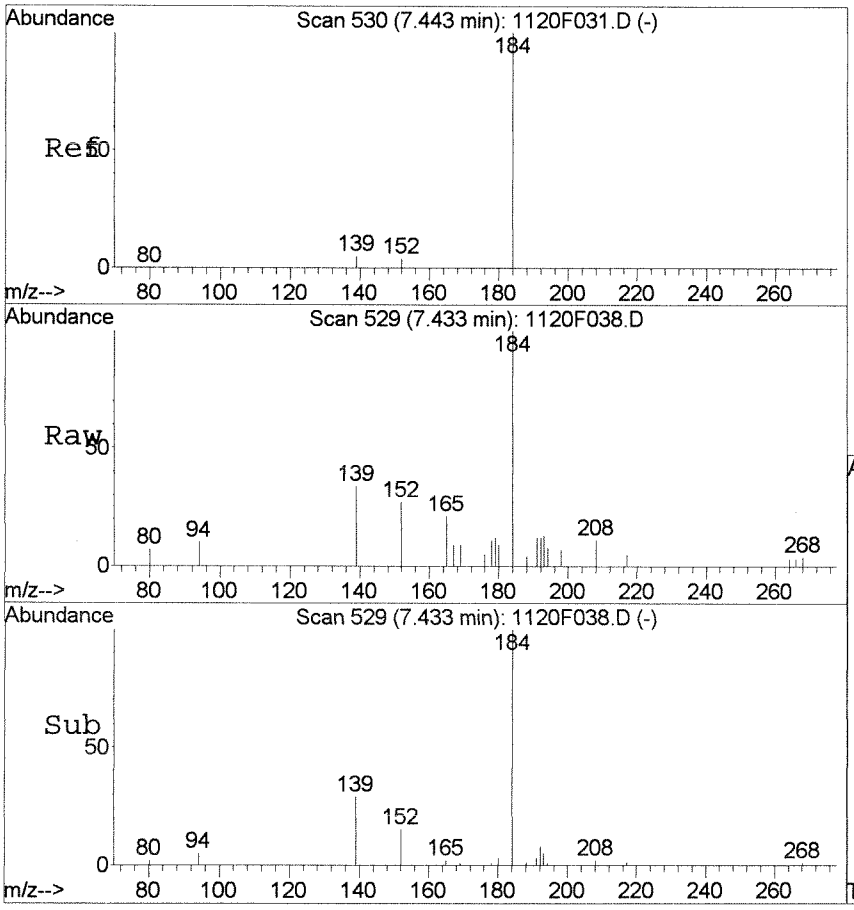


#16
Fluorene
Concen: 6.76 ng/ml m
RT: 6.74 min Scan# 445
Delta R.T. -0.01 min
Lab File: 1120F038.D
Acq: 21 Nov 2009 2:32 am

Tgt Ion:166 Resp: 3747

Ion	Ratio	Lower	Upper
166	100		
165	86.5	57.8	117.8

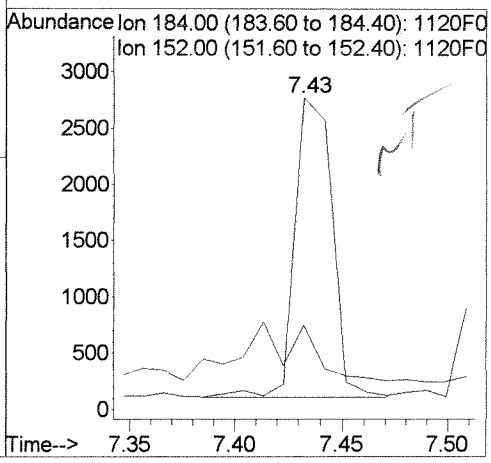


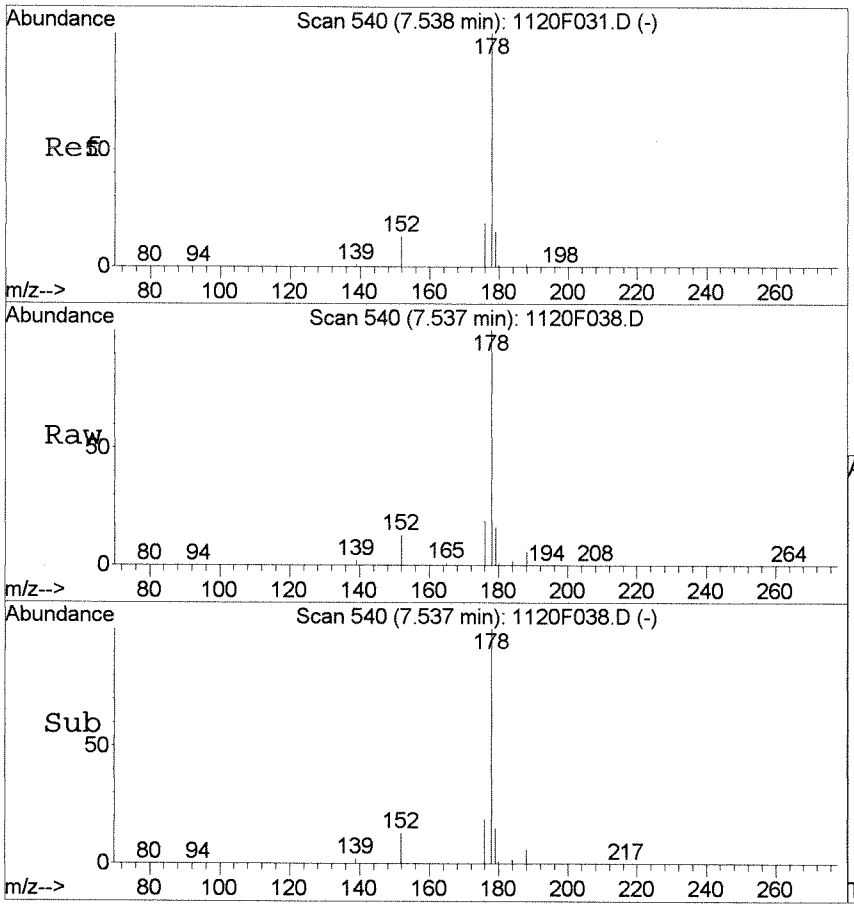


#23
Dibenzothiophene
Concen: 3.99 ng/ml
RT: 7.43 min Scan# 529
Delta R.T. -0.01 min
Lab File: 1120F038.D
Acq: 21 Nov 2009 2:32 am

Tgt Ion:184 Resp: 3151

Ion	Ratio	Lower	Upper
184	100		
152	18.5	0.0	39.4

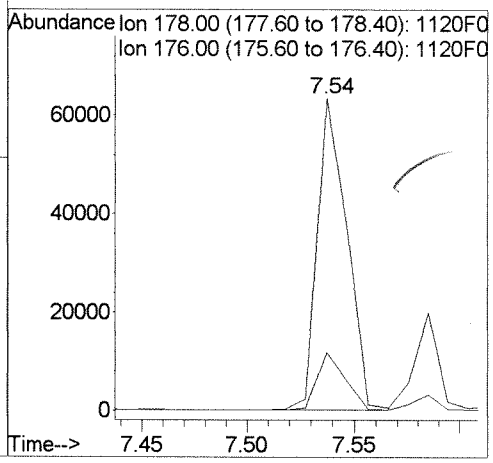


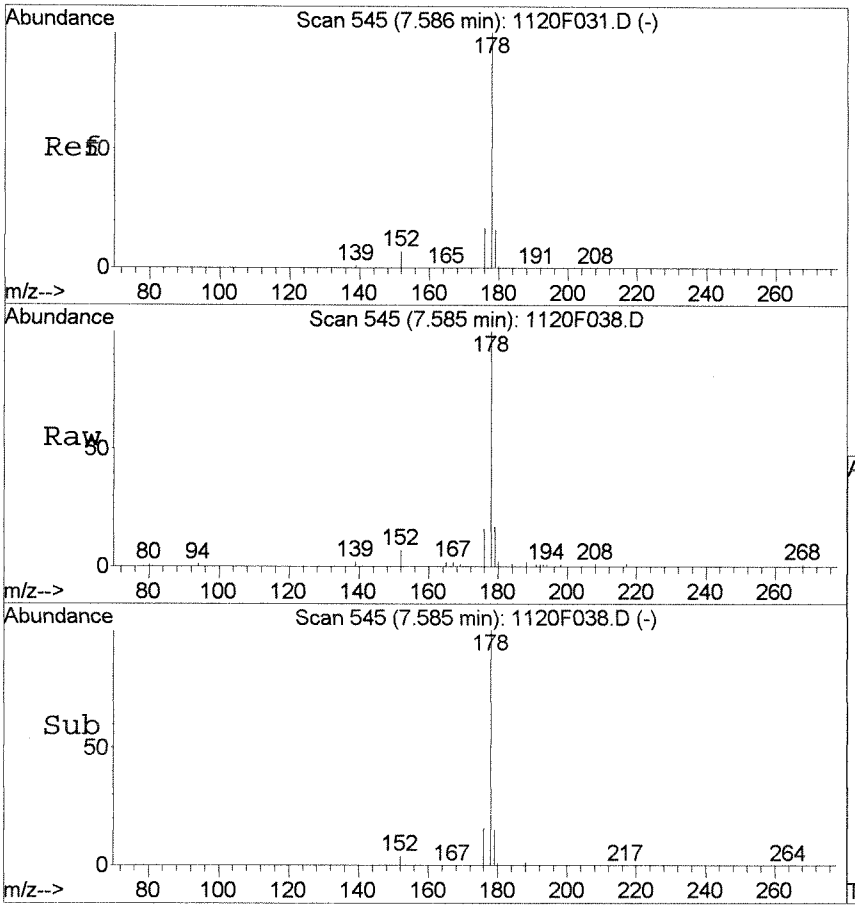


#27
Phenanthrene
Concen: 62.62 ng/ml
RT: 7.54 min Scan# 540
Delta R.T. -0.01 min
Lab File: 1120F038.D
Acq: 21 Nov 2009 2:32 am

Tgt Ion:178 Resp: 59258

Ion	Ratio	Lower	Upper
178	100		
176	18.5	0.0	49.6

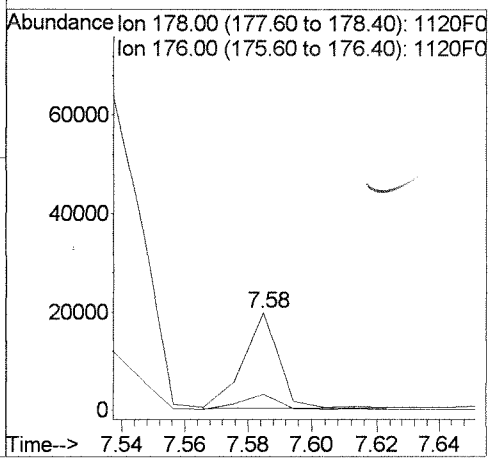


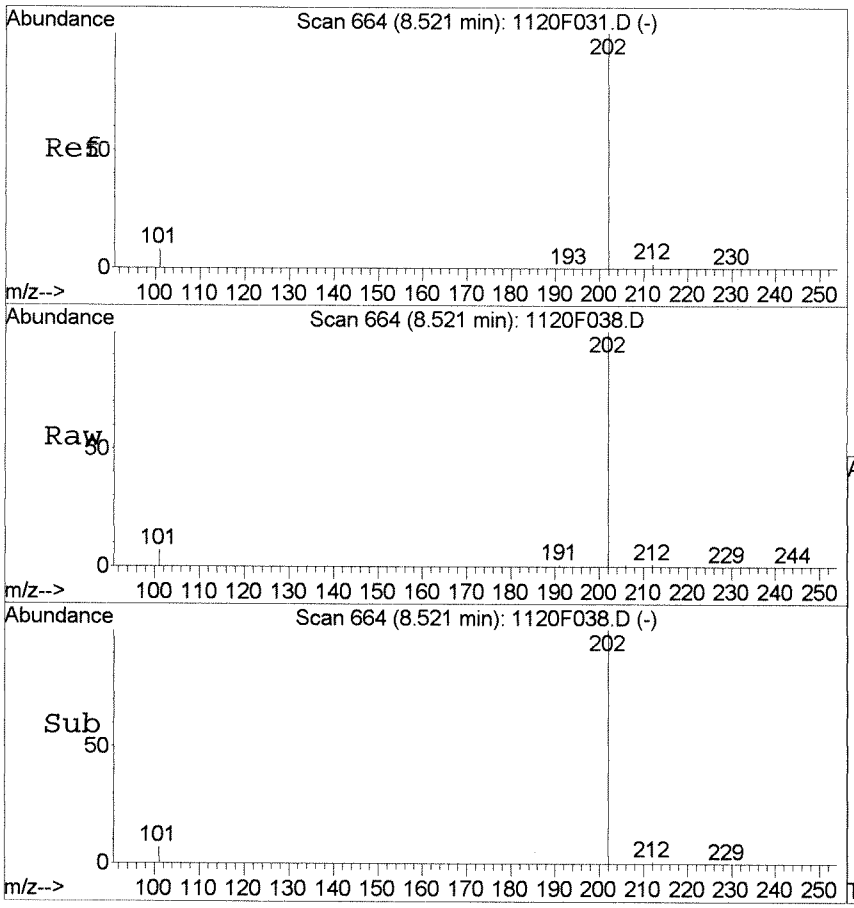


#28
Anthracene
Concen: 16.73 ng/ml
RT: 7.58 min Scan# 545
Delta R.T. -0.00 min
Lab File: 1120F038.D
Acq: 21 Nov 2009 2:32 am

Tgt Ion:178 Resp: 15212

Ion	Ratio	Lower	Upper
178	100		
176	15.7	0.0	47.6

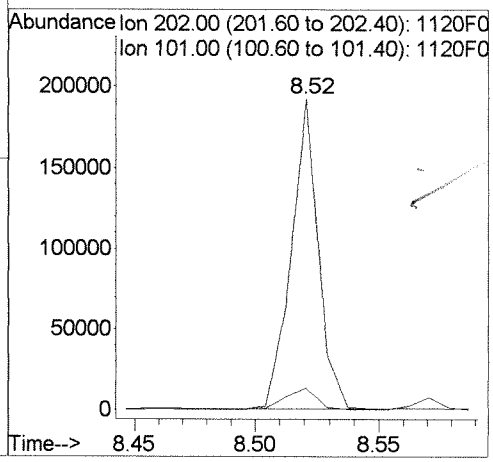


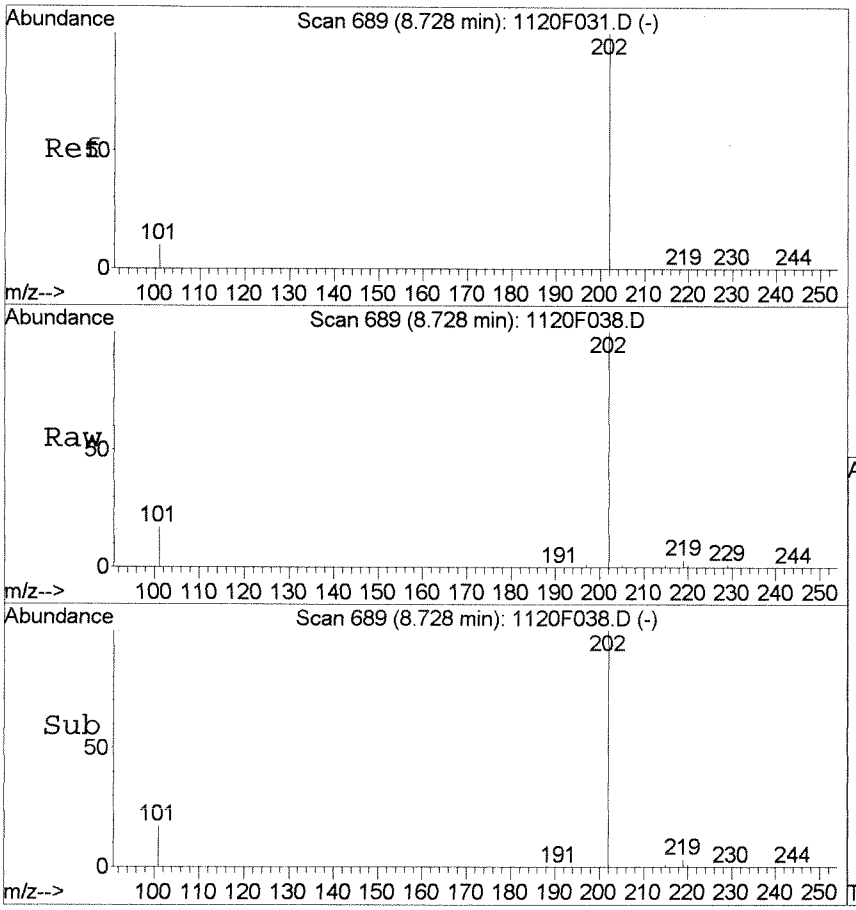


#35
Fluoranthene
Concen: 131.73 ng/ml
RT: 8.52 min Scan# 664
Delta R.T. -0.01 min
Lab File: 1120F038.D
Acq: 21 Nov 2009 2:32 am

Tgt Ion:202 Resp: 144920

Ion	Ratio	Lower	Upper
202	100		
101	6.9	0.0	36.5

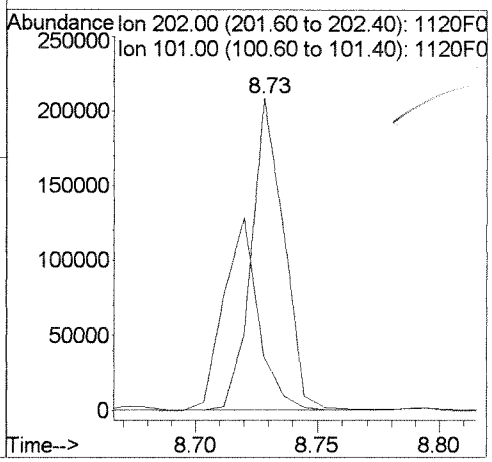


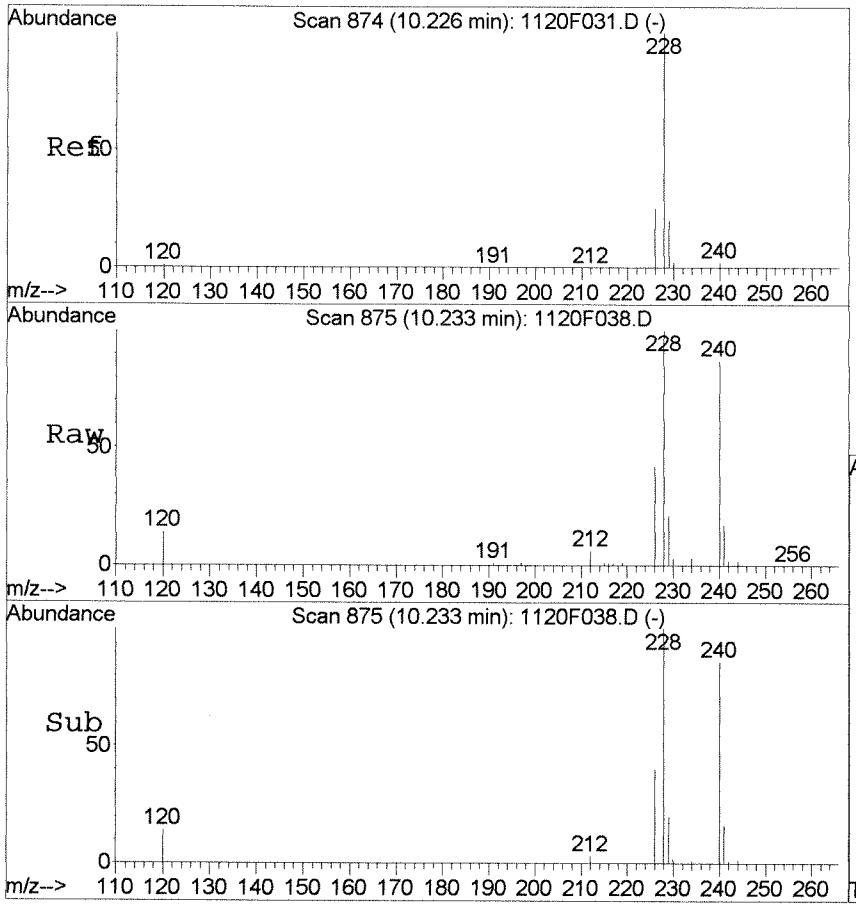


#38
Pyrene
Concen: 120.75 ng/ml
RT: 8.73 min Scan# 689
Delta R.T. -0.01 min
Lab File: 1120F038.D
Acq: 21 Nov 2009 2:32 am

Tgt Ion:202 Resp: 193467

Ion	Ratio	Lower	Upper
202	100		
101	17.1	0.0	36.4

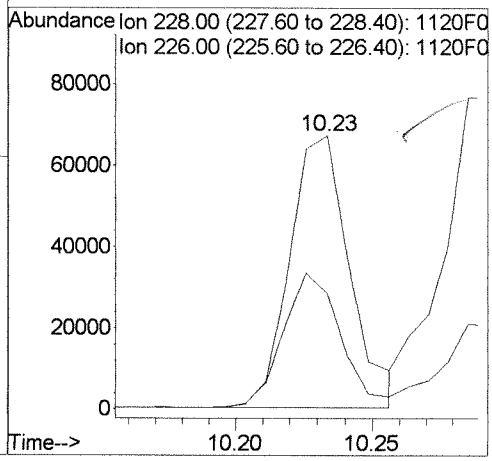


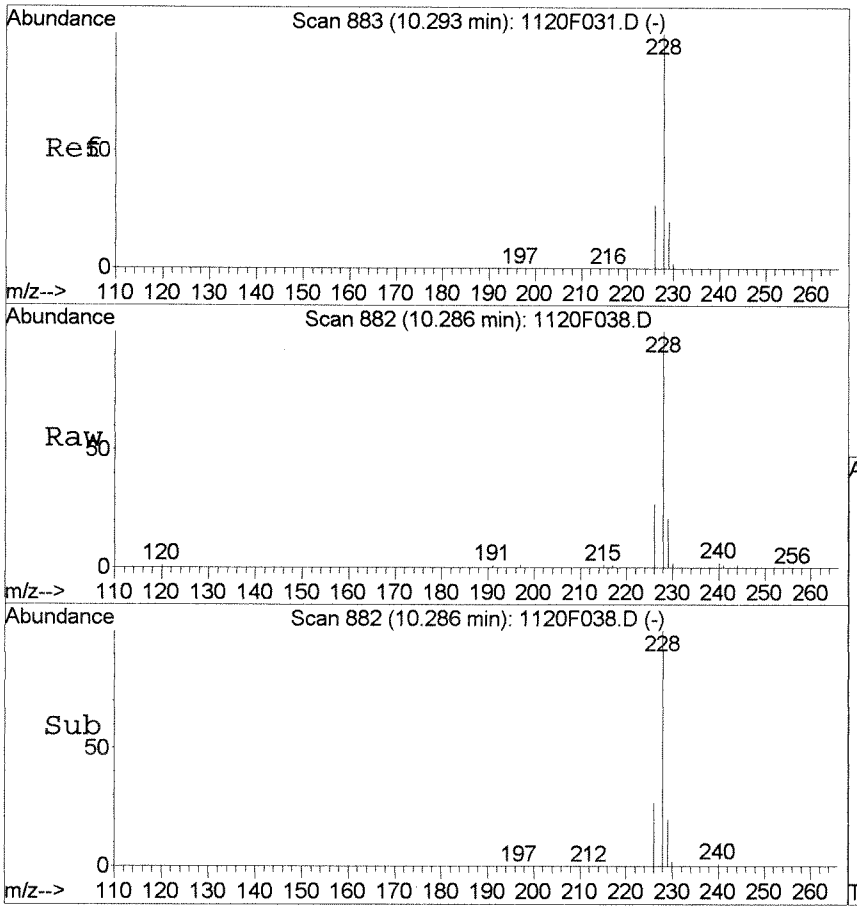


#43
Benz(a)anthracene
Concen: 65.32 ng/ml
RT: 10.23 min Scan# 875
Delta R.T. -0.02 min
Lab File: 1120F038.D
Acq: 21 Nov 2009 2:32 am

Tgt Ion:228 Resp: 100817

Ion	Ratio	Lower	Upper
228	100		
226	42.1	0.0	55.9

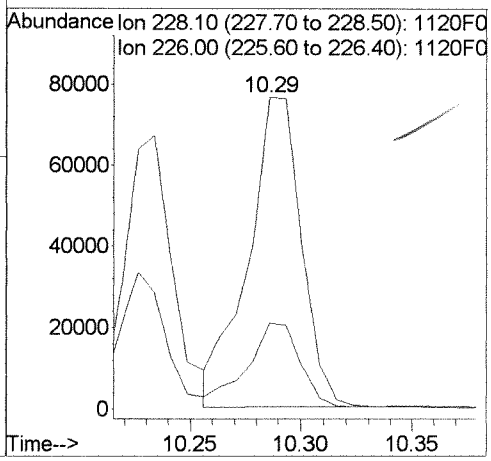


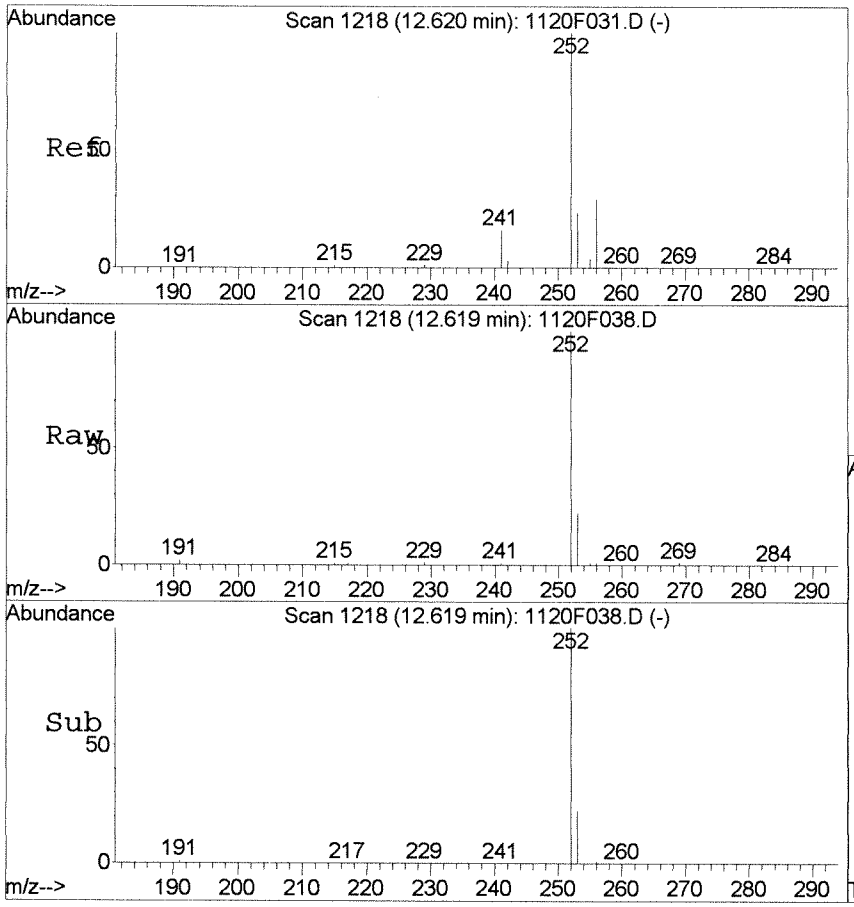


#44
Chrysene
Concen: 86.11 ng/ml
RT: 10.29 min Scan# 882
Delta R.T. -0.03 min
Lab File: 1120F038.D
Acq: 21 Nov 2009 2:32 am

Tgt Ion:228 Resp: 126930

Ion	Ratio	Lower	Upper
228	100		
226	26.9	0.0	58.8

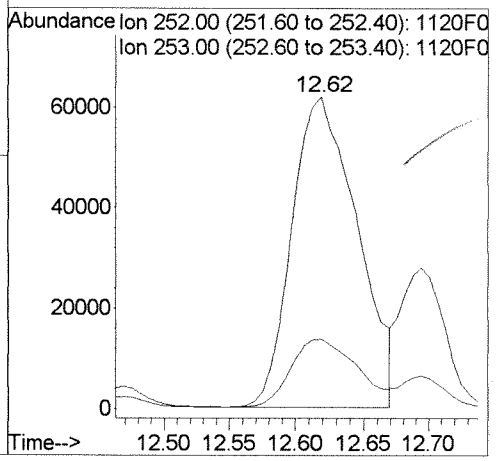


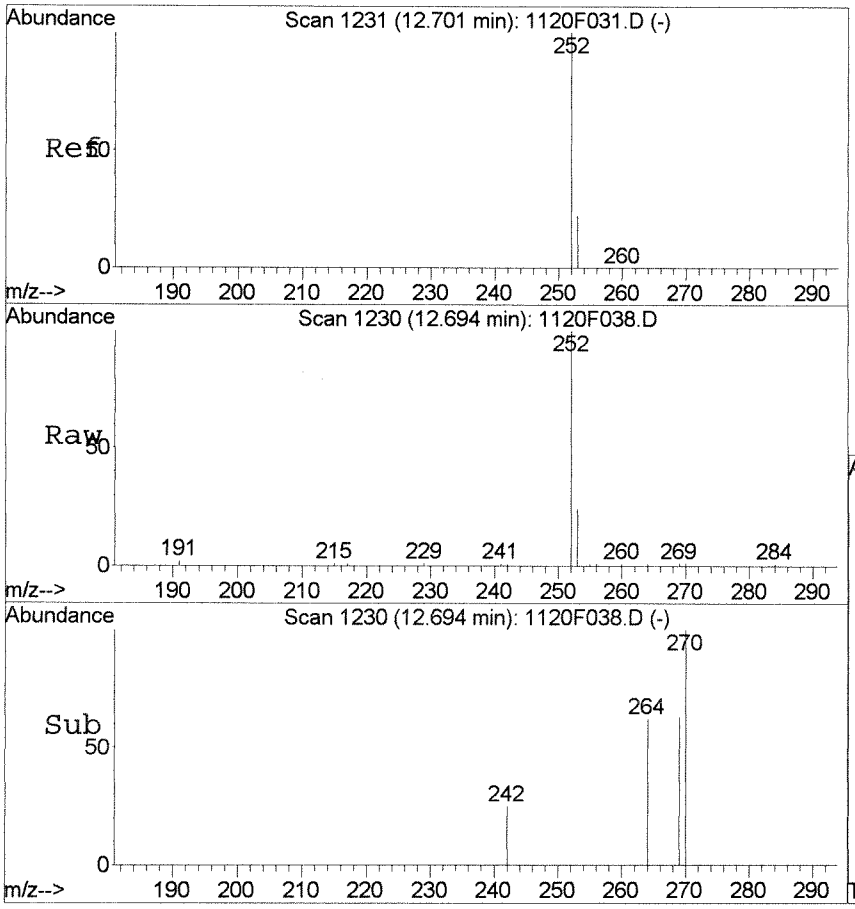


#50
Benzo(b)fluoranthene
Concen: 111.25 ng/ml
RT: 12.62 min Scan# 1218
Delta R.T. -0.04 min
Lab File: 1120F038.D
Acq: 21 Nov 2009 2:32 am

Tgt Ion:252 Resp: 206226

Ion	Ratio	Lower	Upper
252	100		
253	21.9	0.0	52.8

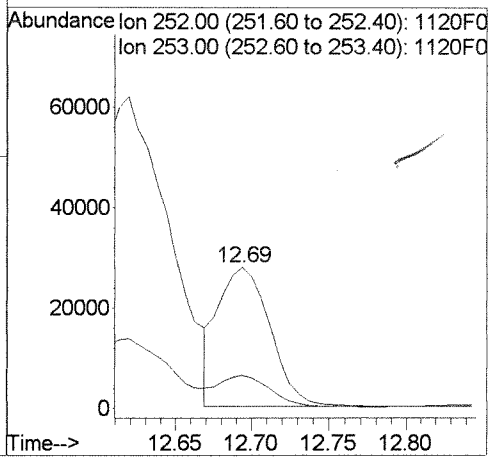


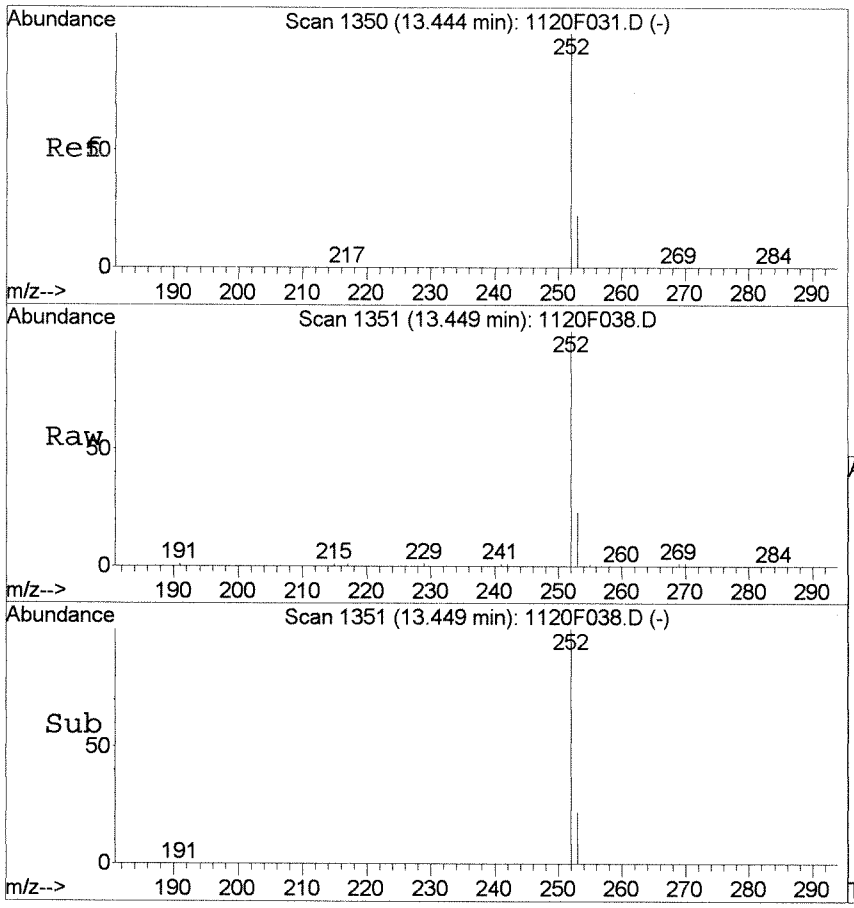


#51
Benzo(k)fluoranthene
Concen: 37.50 ng/ml
RT: 12.69 min Scan# 1230
Delta R.T. -0.04 min
Lab File: 1120F038.D
Acq: 21 Nov 2009 2:32 am

Tgt Ion:252 Resp: 65876

Ion	Ratio	Lower	Upper
252	100		
253	22.6	0.0	52.5

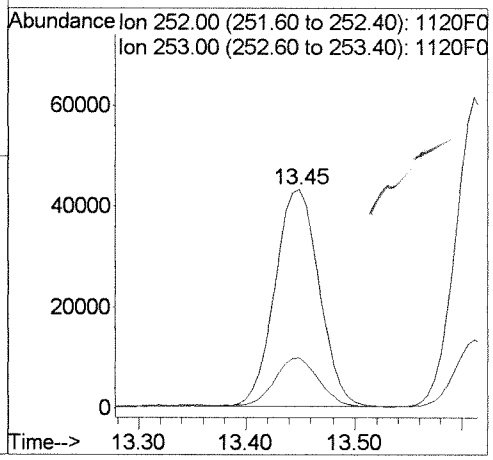


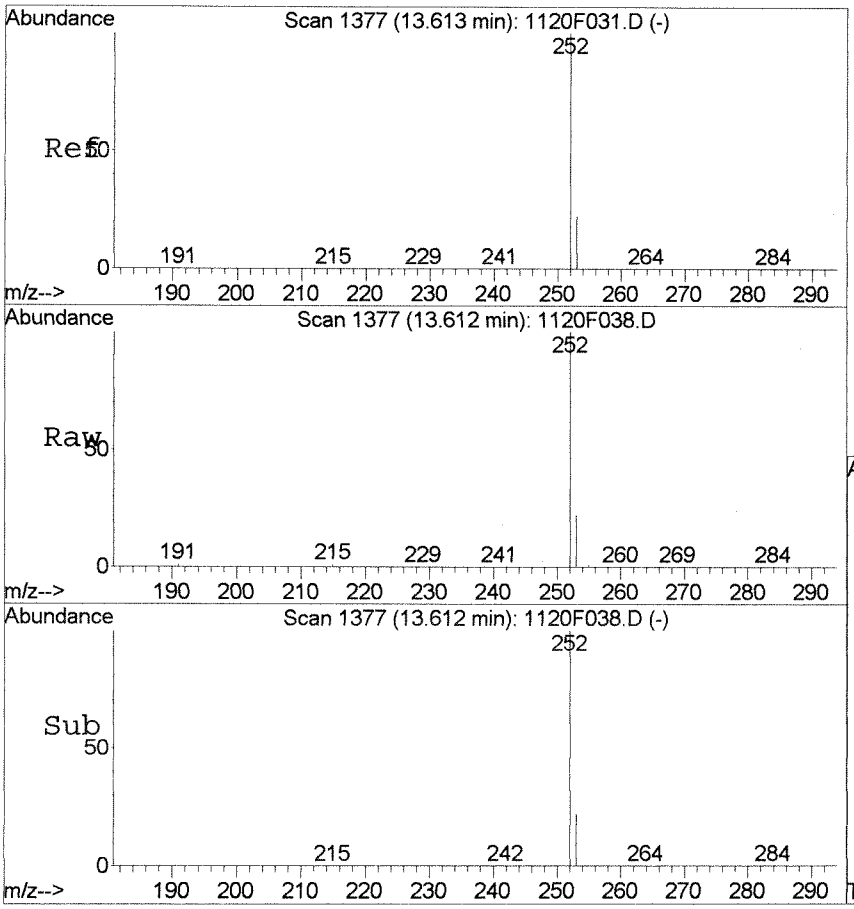


#52
Benzo(e)pyrene
Concen: 71.48 ng/ml
RT: 13.45 min Scan# 1351
Delta R.T. -0.05 min
Lab File: 1120F038.D
Acq: 21 Nov 2009 2:32 am

Tgt Ion:252 Resp: 121435

Ion	Ratio	Lower	Upper
252	100		
253	22.6	0.0	52.3

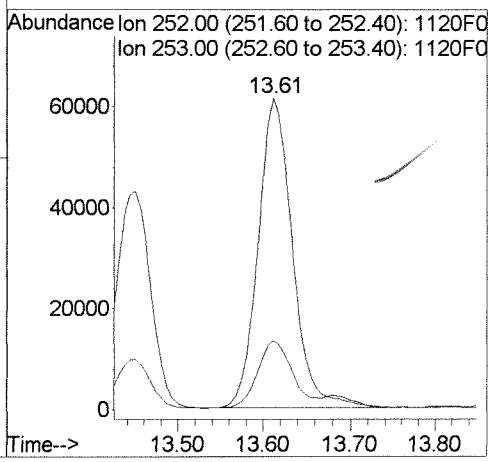


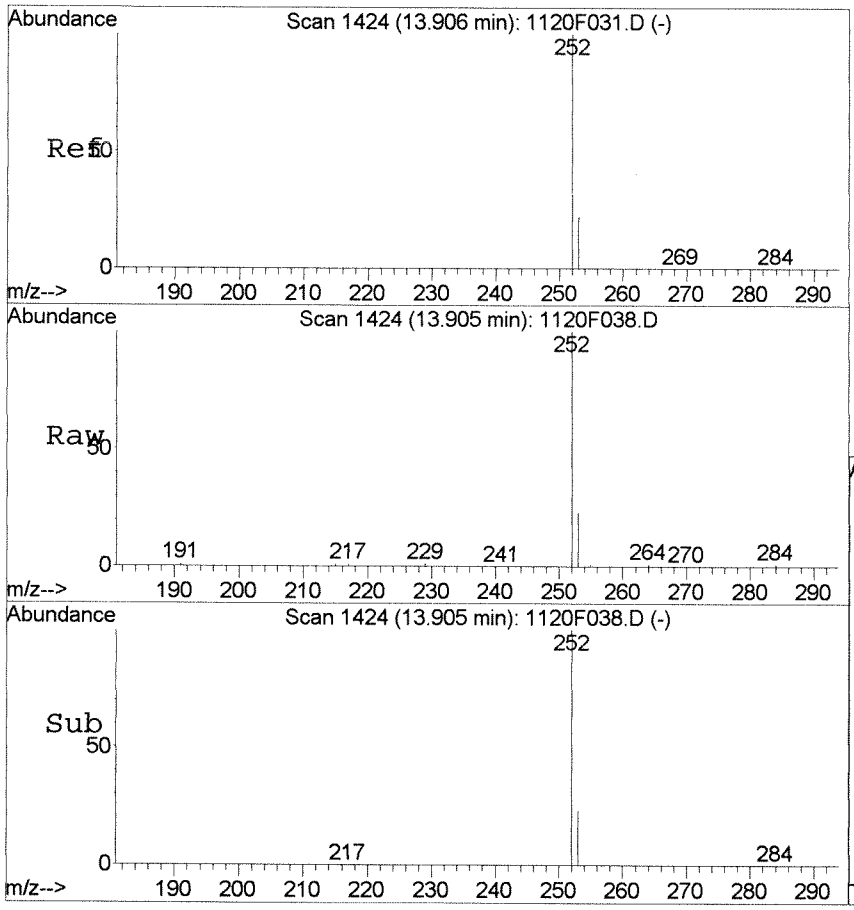


#53
Benzo(a)pyrene
Concen: 105.02 ng/ml
RT: 13.61 min Scan# 1377
Delta R.T. -0.05 min
Lab File: 1120F038.D
Acq: 21 Nov 2009 2:32 am

Tgt Ion:252 Resp: 171501

Ion	Ratio	Lower	Upper
252	100		
253	21.8	0.0	52.6

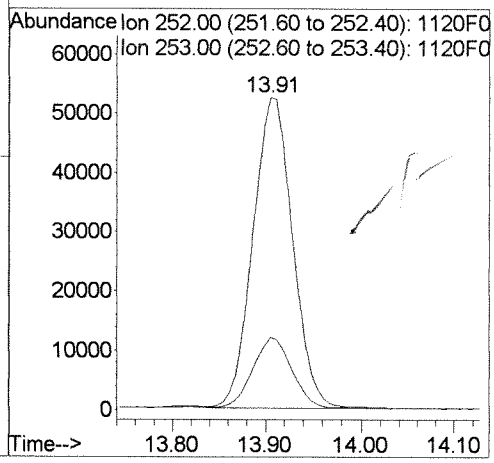


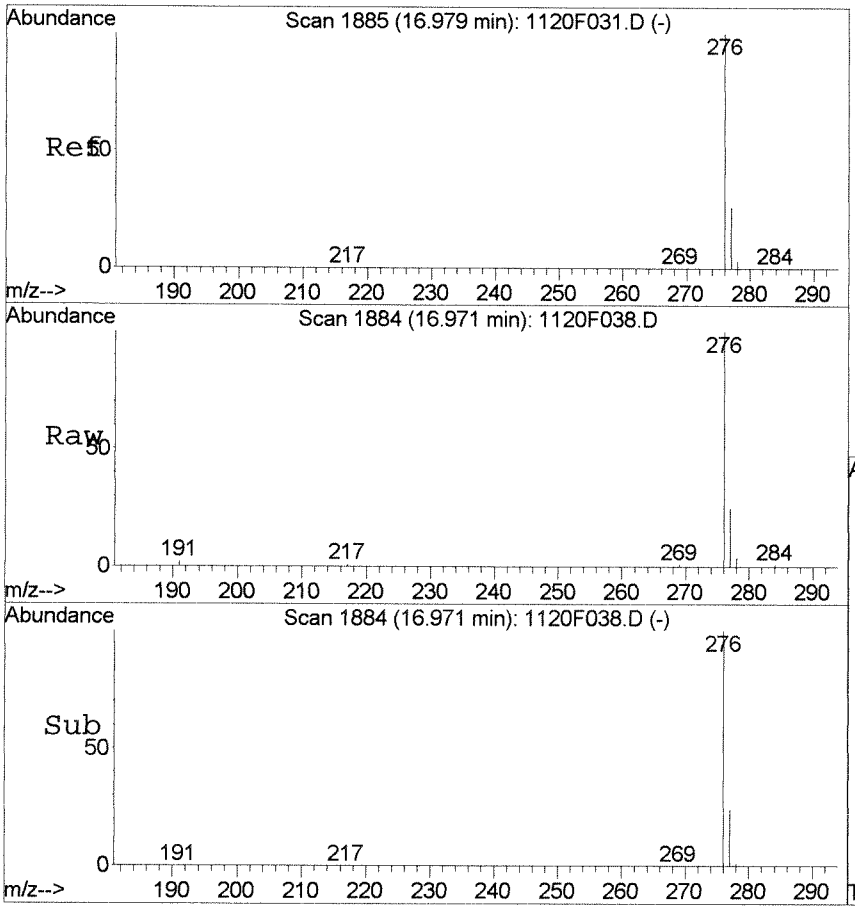


#54
Perylene
Concen: 95.65 ng/ml
RT: 13.91 min Scan# 1424
Delta R.T. -0.05 min
Lab File: 1120F038.D
Acq: 21 Nov 2009 2:32 am

Tgt Ion:252 Resp: 154260

Ion	Ratio	Lower	Upper
252	100		
253	22.8	0.0	52.0

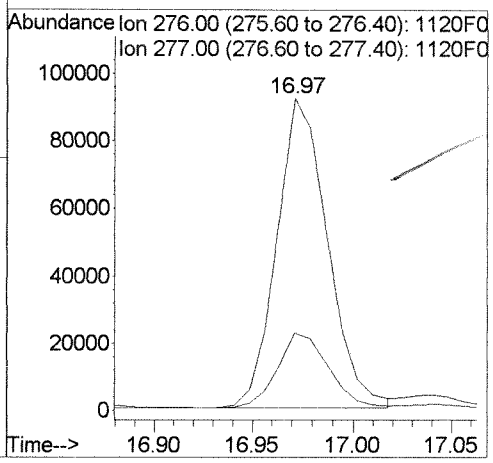


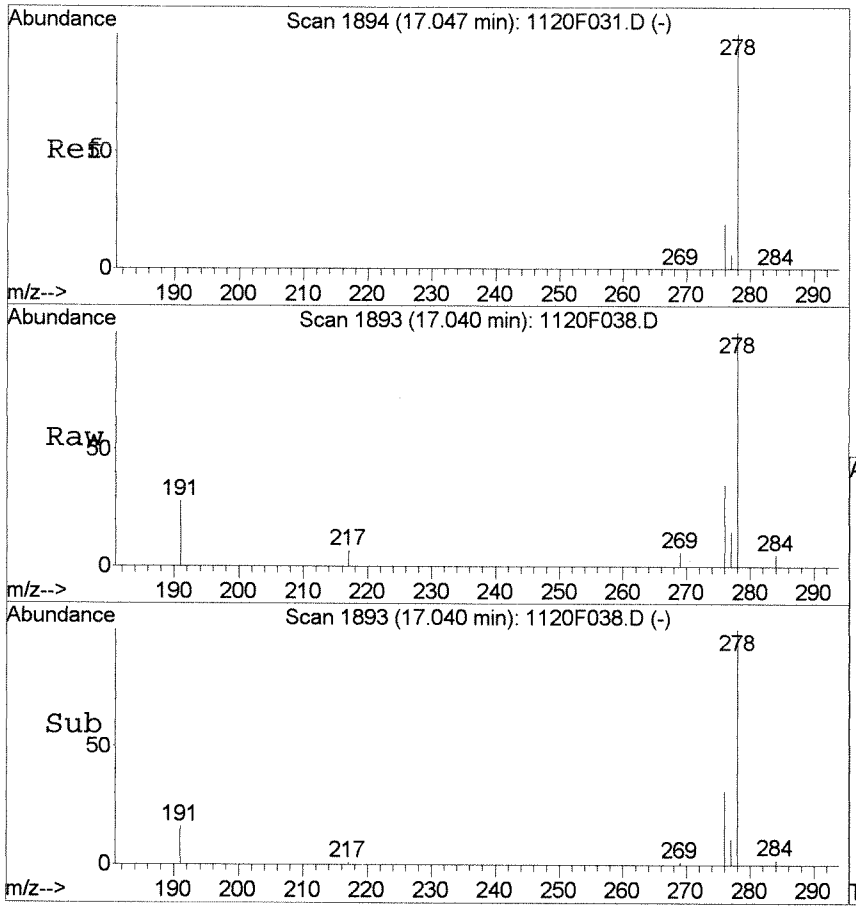


#55
Indeno(1,2,3-cd)pyrene
Concen: 107.05 ng/ml
RT: 16.97 min Scan# 1884
Delta R.T. -0.03 min
Lab File: 1120F038.D
Acq: 21 Nov 2009 2:32 am

Tgt Ion:276 Resp: 161137

Ion	Ratio	Lower	Upper
276	100		
277	24.4	0.0	55.1

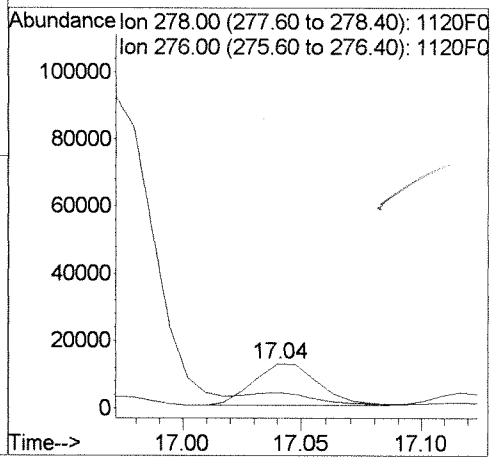


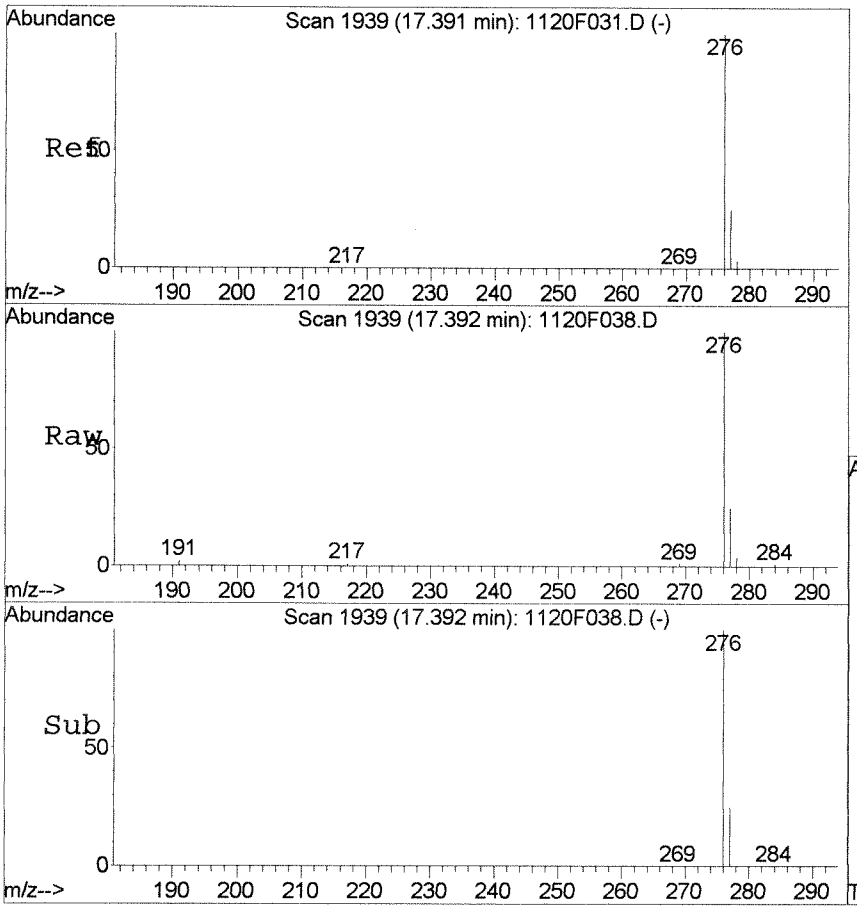


#56
Dibenz(a,h)anthracene
Concen: 15.00 ng/ml
RT: 17.04 min Scan# 1893
Delta R.T. -0.03 min
Lab File: 1120F038.D
Acq: 21 Nov 2009 2:32 am

Tgt Ion:278 Resp: 23533

Ion	Ratio	Lower	Upper
278	100		
276	28.0	0.0	52.1

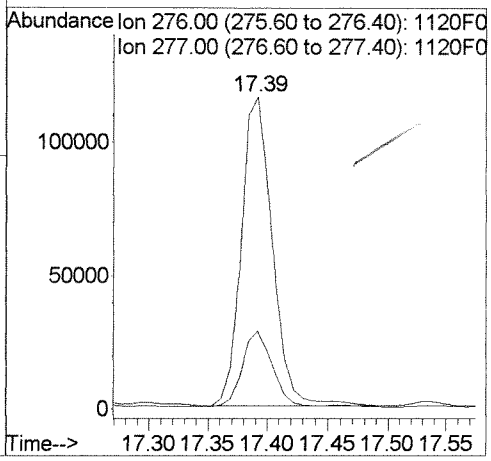




#57
Benzo(g,h,i)perylene
Concen: 124.54 ng/ml
RT: 17.39 min Scan# 1939
Delta R.T. -0.04 min
Lab File: 1120F038.D
Acq: 21 Nov 2009 2:32 am

Tgt Ion:276 Resp: 211870

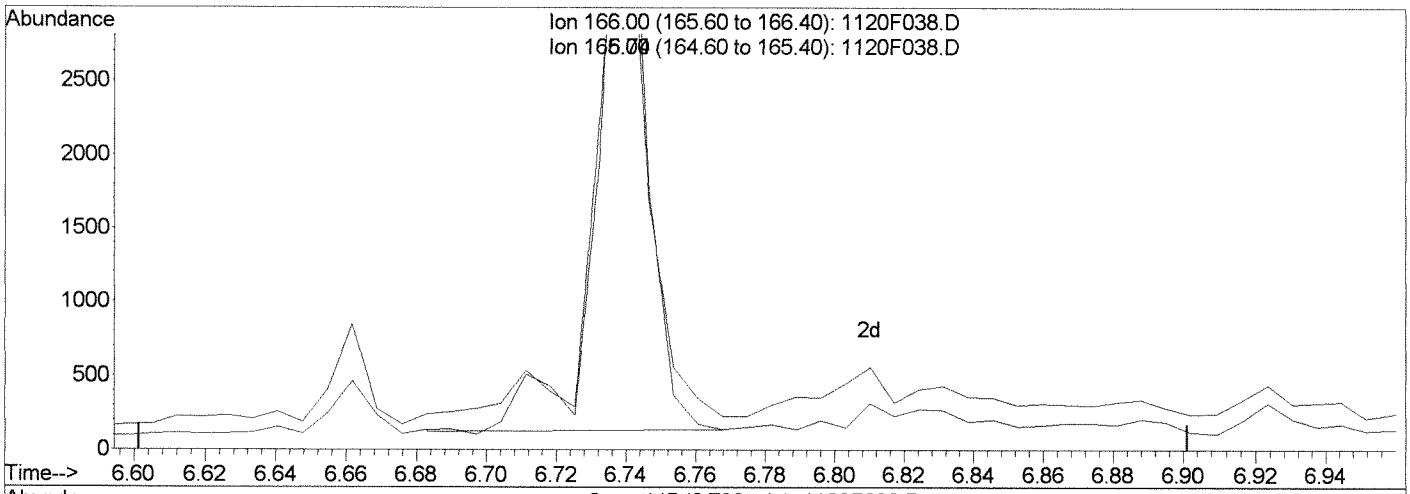
Ion	Ratio	Lower	Upper
276	100		
277	24.5	0.0	55.7

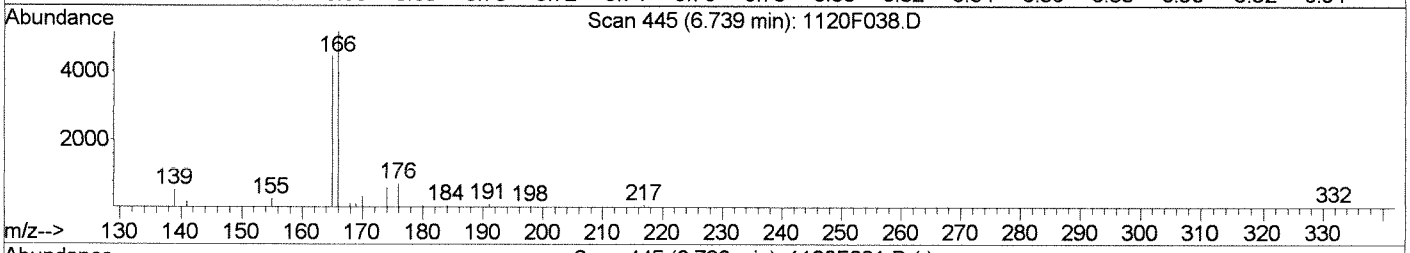


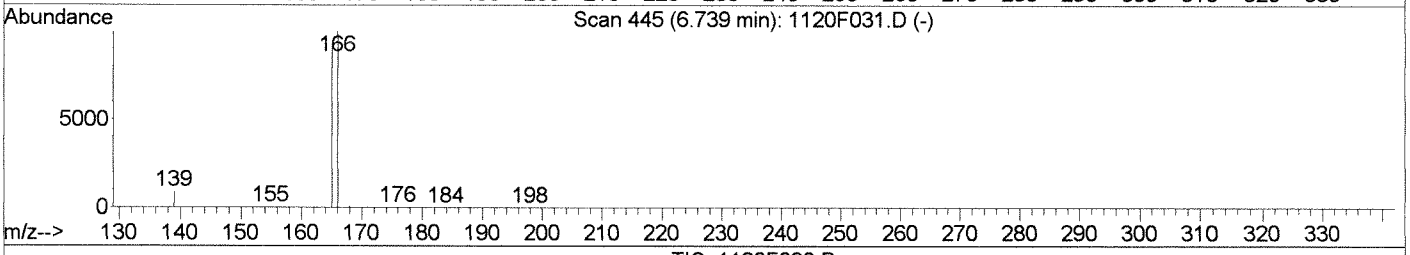
Quantitation Report (Qedit)

Data File : J:\MS11\DATA\112009\1120F038.D Vial: 35
Acq On : 21 Nov 2009 2:32 am Operator: LWeiskopf
Sample : K0909140-011 Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 23 8:54 2009 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1119ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Nov 23 08:36:00 2009
Response via : Multiple Level Calibration







TIC: 1120F038.D

(16) Fluorene (T)

6.74min 7.38ng/ml

response 4091

Ion	Exp%	Act%
166.00	100	100
165.00	87.80	84.39
0.00	0.00	0.00
0.00	0.00	0.00

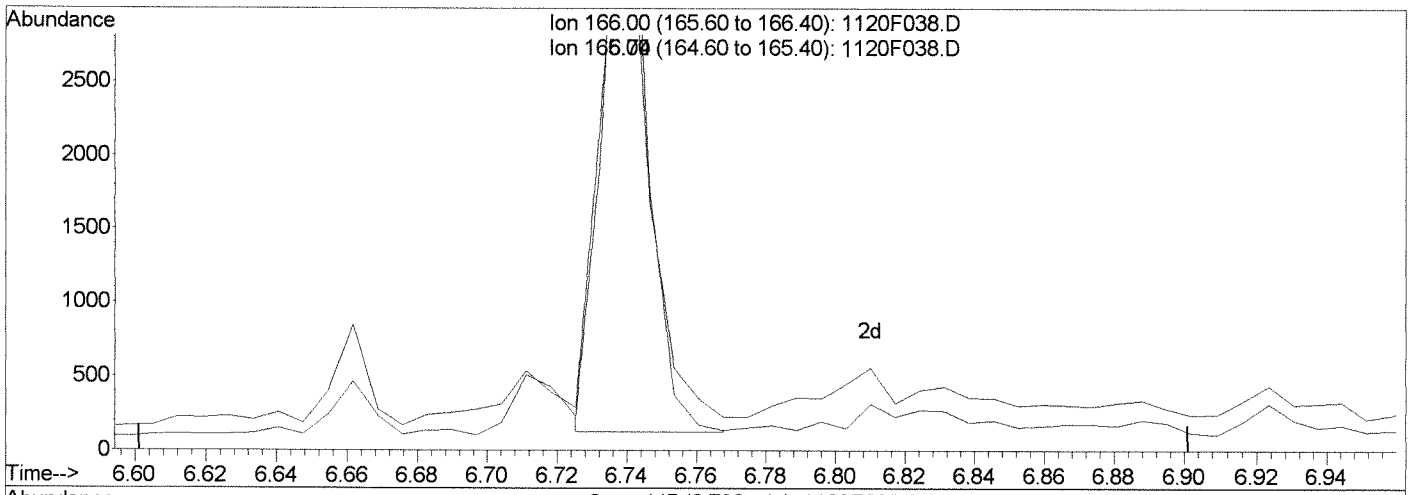
Quantitation Report (Qedit)

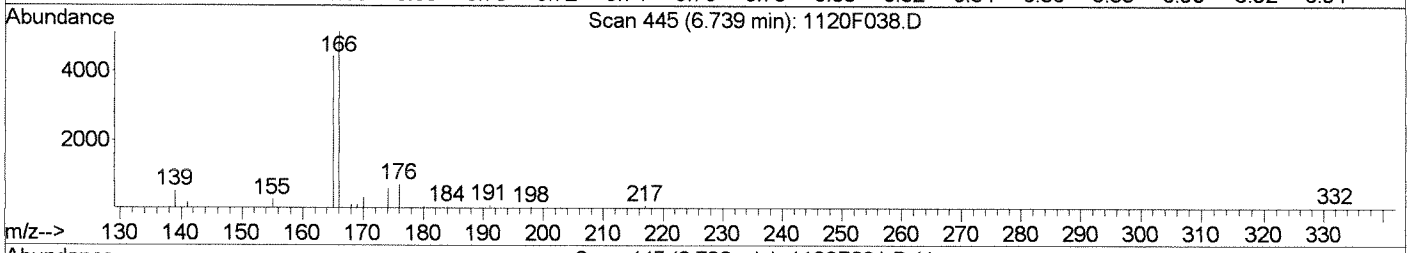
Data File : J:\MS11\DATA\112009\1120F038.D
Acq On : 21 Nov 2009 2:32 am
Sample : K0909140-011
Misc :
MS Integration Params: RTEINT.P
Quant Time: Nov 23 8:54 2009

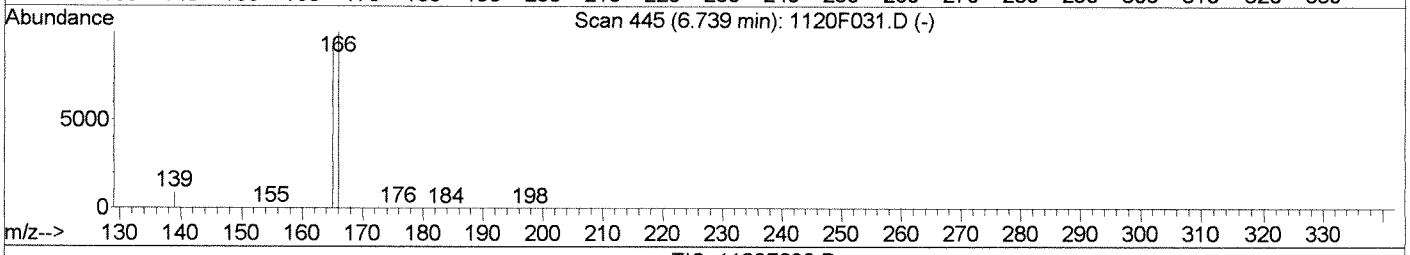
Vial: 35
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1119ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Nov 23 08:36:00 2009
Response via : Multiple Level Calibration







TIC: 1120F038.D

(16) Fluorene (T)

6.74min 6.76ng/ml m

response 3747

Ion	Exp%	Act%
166.00	100	100
165.00	87.80	86.55
0.00	0.00	0.00
0.00	0.00	0.00

OT 11/23/09 11-24-09

1120F038.D 1119ALK.M Mon Nov 23 08:54:51 2009

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	URS Corporation	**Service Request:**	K0909140
Project:	Boise St. Helens Pulp and Paper Mill-2009	**Date Collected:**	10/09/2009
Sample Matrix:	Sediment	**Date Received:**	10/09/2009

Polynuclear Aromatic Hydrocarbons

Sample Name:	B-1-B	**Units:**	ug/Kg
Lab Code:	K0909140-012	**Basis:**	Dry
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270C SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Naphthalene	**8.7**		2.5	0.60	1	11/10/09	11/21/09	KWG0910535	
2-Methylnaphthalene	**4.9**		2.5	0.46	1	11/10/09	11/21/09	KWG0910535	
Acenaphthylene	**7.8**		2.5	0.56	1	11/10/09	11/21/09	KWG0910535	
Acenaphthene	**4.6**		2.5	0.50	1	11/10/09	11/21/09	KWG0910535	
Fluorene	**2.5**	J	2.5	0.61	1	11/10/09	11/21/09	KWG0910535	
Dibenzofuran	**3.2**		2.5	0.63	1	11/10/09	11/21/09	KWG0910535	
Phenanthrene	**58**		2.5	1.4	1	11/10/09	11/21/09	KWG0910535	
Anthracene	**6.8**		2.5	0.55	1	11/10/09	11/21/09	KWG0910535	
Fluoranthene	**73**		2.5	0.98	1	11/10/09	11/21/09	KWG0910535	
Pyrene	**76**		2.5	0.76	1	11/10/09	11/21/09	KWG0910535	
Benz(a)anthracene	**48**		2.5	0.72	1	11/10/09	11/21/09	KWG0910535	
Chrysene	**61**		2.5	0.80	1	11/10/09	11/21/09	KWG0910535	
Benzo(b)fluoranthene	**87**		2.5	0.92	1	11/10/09	11/21/09	KWG0910535	
Benzo(k)fluoranthene	**31**		2.5	0.87	1	11/10/09	11/21/09	KWG0910535	
Benzo(a)pyrene	**89**		2.5	0.76	1	11/10/09	11/21/09	KWG0910535	
Indeno(1,2,3-cd)pyrene	**89**		2.5	0.87	1	11/10/09	11/21/09	KWG0910535	
Dibenz(a,h)anthracene	**12**		2.5	0.80	1	11/10/09	11/21/09	KWG0910535	
Benzo(g,h,i)perylene	**110**		2.5	0.85	1	11/10/09	11/21/09	KWG0910535	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	65	17-104	11/21/09	Acceptable
Fluoranthene-d10	68	27-106	11/21/09	Acceptable
Terphenyl-d14	62	35-109	11/21/09	Acceptable

Comments:

Exception Report

Data File: J:\MS11\DATA\112009\1120F039.D
Lab ID: K0909140-012
RunType: SMPL
Matrix: SEDIMENT

Date Acquired: 11/21/2009 02:59
Date Quantitated: 11/23/2009 08:55
Batch ID: KWG0911040
Analysis Method: 8270C SIM
ListJoinID: LJ5646

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Tune Window	NA	NA	NA	x	
Analytical Holding Time	NA	NA	NA	x	
Preparation Holding Time	NA	NA	NA	x	
Pre-Preparation Holding Time	NA	NA	NA	x	
ICAL Pass/Fail	NA	NA	NA	x	
ICAL Average RSD	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Initial Calibration Minimum RF	NA	NA	NA	x	
Initial Calibration SPCC/CCC	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA	x	
Continuing Calibration Minimum RF	NA	NA	NA	x	
Continuing Calibration SPCC/CCC	NA	NA	NA	x	
Method Blank	NA	NA	NA	x	
MB Surrogate Recovery	NA	NA	NA	x	
Lab Control Spike	NA	NA	NA	x	
Internal Standards	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Relative Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Primary Review: 11/23/09

Secondary Review: 11-24-09

Quantitation Report

Bottle ID:		**Tier:**	V	**Matrix:**	SEDIMENT
Prod Code:	8270C SIM PAH_S	**Collect Date:**	10/09/2009	**Receive Date:**	10/09/2009

Analysis Lot:	KWG0911040	**Prep Lot:**	KWG0910535	**Report Group:**	K0909140
Analysis Method:	8270C SIM	**Prep Method:**	EPA 3541		
Prep Ref:	865765	**Prep Date:**	11/10/2009		

Quant Method:	J:\MS11\METHODS\SIM\1119ALK.M	**Calibration ID:**	CAL9029
Title:	Polynuclear Aromatic Hydrocarbons	**Report List ID:**	LJ5646
Tune Ref:	J:\MS11\DATA\112009\1120F030.D	**Method ID:**	MJ253
MB Ref:	J:\MS11\DATA\111909\1119F041.D	**Quant based on Report List**	

Data File:	J:\MS11\DATA\112009\1120F039.D			**Instrument:**	MS11
Acqu Date:	11/21/2009 02:59	**Quant Date:**	11/23/2009 08:55	**Vial:**	36
Run Type:	SMPL			**Dilution:**	1.0
Lab ID:	K0909140-012			**Soln Conc. Units:**	ng/ml

Internal Standard Compounds

IS Ref	Parameter Name	RT	RT Dev	Quant Mass	Response	Solution Conc	Area Criteria
1	Naphthalene-d8	4.86	-0.01	136	151107	200.00	OK
2	Acenaphthene-d10	6.29	0.00	164	82900	200.00	OK
3	Phenanthrene-d10	7.52	0.00	188	169900	200.00	OK
4	Chrysene-d12	10.25	0.00	240	258052	200.00	OK
5	Perylene-d12	13.81	-0.01	264	294113	200.00	OK

Surrogate Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	%Rec	%Rec Limits		Rpt?
2	Fluorene-d10	6.72	0.00	0.00	176	60455	129.88	65	17-104	OK	
3	Fluoranthene-d10	8.51	0.01	0.00	212	140037	136.33	68	27-106	OK	
4	Terphenyl-d14	8.89	0.00	0.00	244	132611	124.14	62	35-109	OK	

Target Compounds

Final Conc. Units: ug/Kg Dry Weight

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	Final Conc	Q	Rpt?
1	Naphthalene	4.88	-0.01	0.00	128	11611	17.47	8.7		
1	2-Methylnaphthalene	5.44		0.00	142	4717	9.85	4.9		
2	Acenaphthylene	6.17	-0.01	0.00	152	10616	15.58	7.8		
2	Acenaphthene	6.31	-0.01	0.00	154	3740	9.24	4.6		
2	Dibenzofuran	6.46		0.00	168	3878	6.33	3.2		
2	Fluorene	6.74		0.00	166	2565**m**	5.00	2.5	J	
3	Phenanthrene	7.54		0.00	178	105148	116.08	58		
3	Anthracene	7.59		0.00	178	11873**m**	13.64	6.8		
3	Fluoranthene	8.52		0.00	202	153830	146.09	73		
4	Pyrene	8.73		0.00	202	208629	152.45	76		
4	Benz(a)anthracene	10.23		0.00	228	127543	96.75	48		
4	Chrysene	10.29		0.00	228	154969	123.09	61		
5	Benzo(b)fluoranthene	12.61	-0.01	0.00	252	265994	173.57	87		

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Data File:	J:\MS11\DATA\112009\1120F039.D			**Instrument:**	MS11
Acqu Date:	11/21/2009 02:59	**Quant Date:**	11/23/2009 08:55	**Vial:**	36
Run Type:	SMPL			**Dilution:**	1.0
Lab ID:	K0909140-012			**Soln Conc. Units:**	ng/ml

Target Compounds **Final Conc. Units:** ug/Kg Dry Weight

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	Final Conc	Q	Rpt?
5	Benzo(k)fluoranthene	12.69	-0.01	0.00	252	89397	61.56	31		
5	Benzo(a)pyrene	13.61		0.00	252	240289	177.98	89		
5	Indeno(1,2,3-cd)pyrene	16.97	-0.01	0.00	276	223038	179.22	89		
5	Dibenz(a,h)anthracene	17.04	-0.01	0.00	278	32043	24.71	12		
5	Benzo(g,h,i)perylene	17.39		0.00	276	306551	217.97	110		

Prep Amount:	20.41 g	**Dilution:**	1.0
Prep Final Vol:	10 ml	**Unit Factor:**	1
Solids:	98.2 %		

Final Concentration = ((Soln Conc x Prep Final Vol x Dilution) / (Prep Amount x Solids)) x Unit Factor

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\112009\1120F039.D Vial: 36
Acq On : 21 Nov 2009 2:59 am Operator: LWeiskopf
Sample : K0909140-012 Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 23 08:36:29 2009 Quant Results File: 1119ALK.RES

Quant Method : J:\MS11\METHODS\SIM\1119ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Nov 23 08:36:00 2009
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	4.86	136	151107	200.00	ng/ml	0.00
10) Acenaphthene-d10	6.29	164	82900	200.00	ng/ml	0.00
22) Phenanthrene-d10	7.52	188	169900	200.00	ng/ml	0.00
37) Chrysene-d12	10.25	240	258052	200.00	ng/ml	-0.02
49) Perylene-d12	13.81	264	294113	200.00	ng/ml	-0.05
System Monitoring Compounds						
15) Fluorene-d10	6.72	176	60455	129.88	ng/ml	0.00
Spiked Amount 200.000			Recovery =	64.94%		
20) 2,4,6 Tribromophenol	0.00	330	0d	0.00	ng/ml	
Spiked Amount 375.000			Recovery =	0.00%		
36) Fluoranthene-d10	8.51	212	140037	136.33	ng/ml	0.00
Spiked Amount 200.000			Recovery =	68.17%		
42) Terphenyl-d14	8.89	244	132611	124.14	ng/ml	0.00
Spiked Amount 200.000			Recovery =	62.07%		
Target Compounds						Qvalue
2) Naphthalene	4.88	128	11611	17.47	ng/ml	98
3) 2-Methylnaphthalene	5.44	142	4717	9.85	ng/ml	92
4) 1-Methylnaphthalene	5.51	142	2624	5.71	ng/ml	95
5) Biphenyl	5.81	154	4404	7.73	ng/ml	96
6) 2,6-Dimethylnaphthalene	5.95	156	6667	15.15	ng/ml	95
11) Acenaphthylene	6.17	152	10616	15.58	ng/ml	99
12) Acenaphthene	6.31	154	3740	9.24	ng/ml	96
13) Dibenzofuran	6.46	168	3878	6.33	ng/ml	70
14) 2,3,5-Trimethylnaphthalene	6.63	170	2370	5.48	ng/ml	67
16) Fluorene	6.74	166	2565m	5.00	ng/ml	
23) Dibenzothiophene	7.43	184	7375	9.75	ng/ml	85
27) Phenanthrene	7.54	178	105148	116.08	ng/ml	98
28) Anthracene	7.59	178	11873m	13.64	ng/ml	
29) Carbazole	7.72	167	2693	3.62	ng/ml	90
30) 1-Methylphenanthrene	8.04	192	6789	9.63	ng/ml	97
35) Fluoranthene	8.52	202	153830	146.09	ng/ml	99
38) Pyrene	8.73	202	208629	152.45	ng/ml	93
43) Benz(a)anthracene	10.23	228	127543	96.75	ng/ml	65
44) Chrysene	10.29	228	154969	123.09	ng/ml	97
50) Benzo(b)fluoranthene	12.61	252	265994	173.57	ng/ml	100
51) Benzo(k)fluoranthene	12.69	252	89397	61.56	ng/ml	99
52) Benzo(e)pyrene	13.44	252	170277	121.24	ng/ml	98
53) Benzo(a)pyrene	13.61	252	240289	177.98	ng/ml	99
54) Perylene	13.91	252	132671	99.51	ng/ml	99
55) Indeno(1,2,3-cd)pyrene	16.97	276	223038	179.22	ng/ml	97

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\112009\1120F039.D Vial: 36
Acq On : 21 Nov 2009 2:59 am Operator: LWeiskopf
Sample : K0909140-012 Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 23 08:36:29 2009 Quant Results File: 1119ALK.RES

Quant Method : J:\MS11\METHODS\SIM\1119ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Nov 23 08:36:00 2009
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

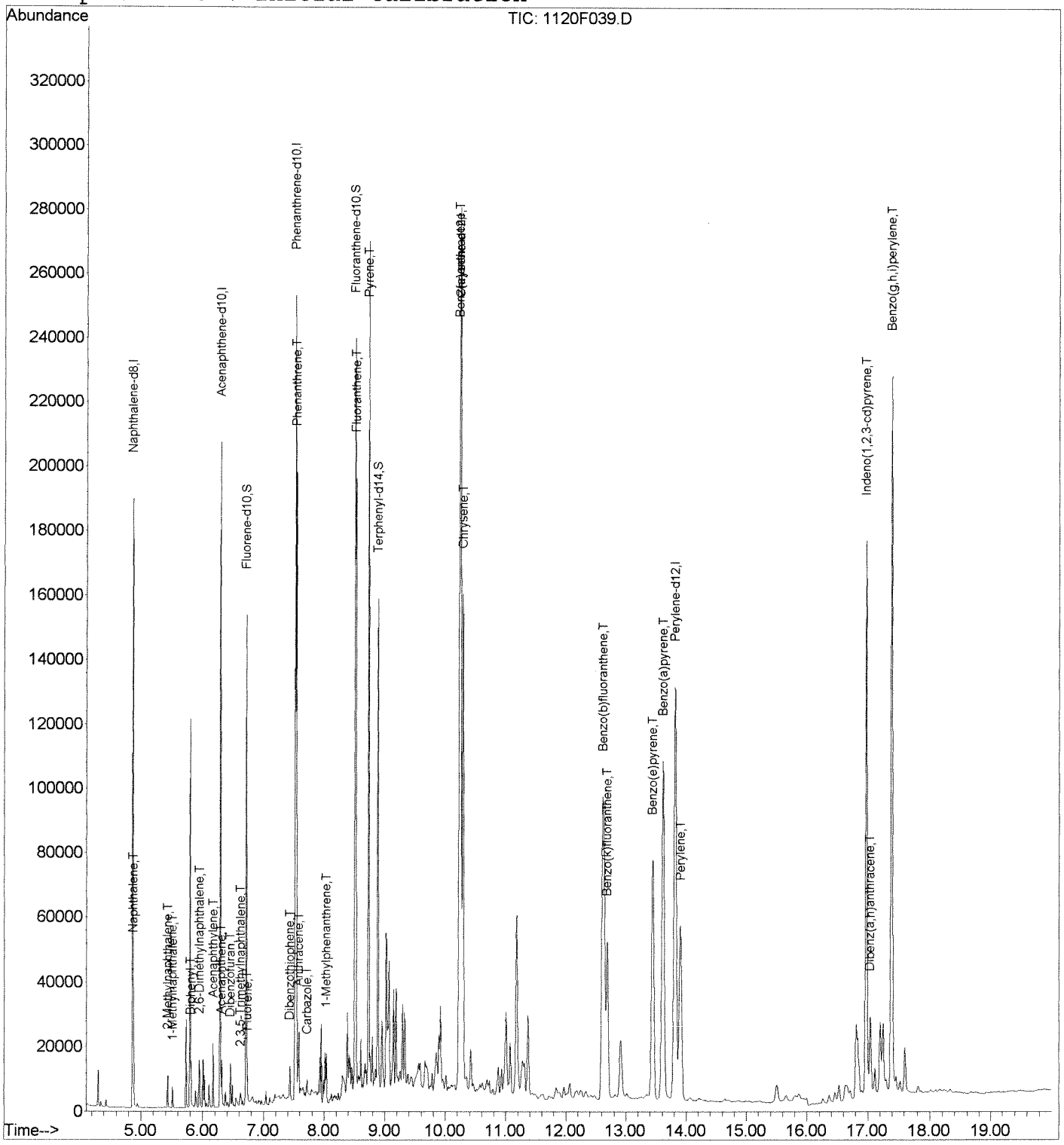
	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
56)	Dibenz(a,h)anthracene	17.04	278	32043	24.71	ng/ml	89
57)	Benzo(g,h,i)perylene	17.39	276	306551	217.97	ng/ml	98

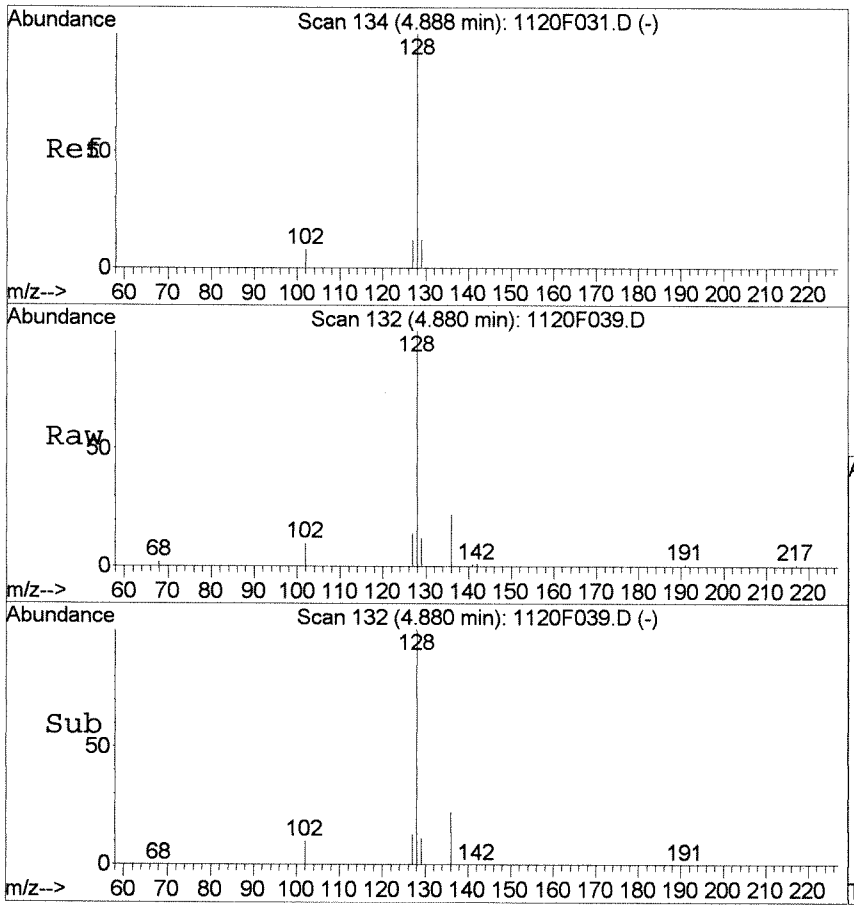
(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\112009\1120F039.D Vial: 36
Acq On : 21 Nov 2009 2:59 am Operator: LWeiskopf
Sample : K0909140-012 Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 23 8:55 2009 Quant Results File: 1119ALK.RES

Method : J:\MS11\METHODS\SIM\1119ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Nov 23 08:36:00 2009
Response via : Initial Calibration

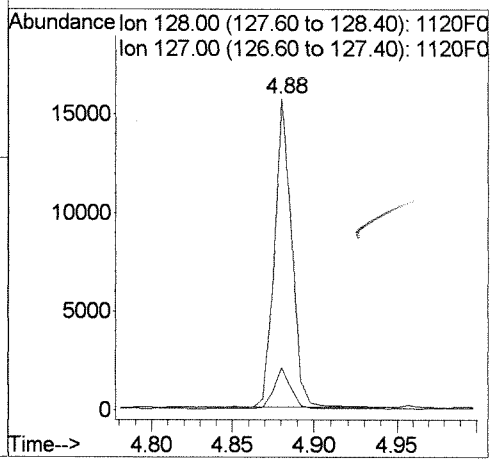


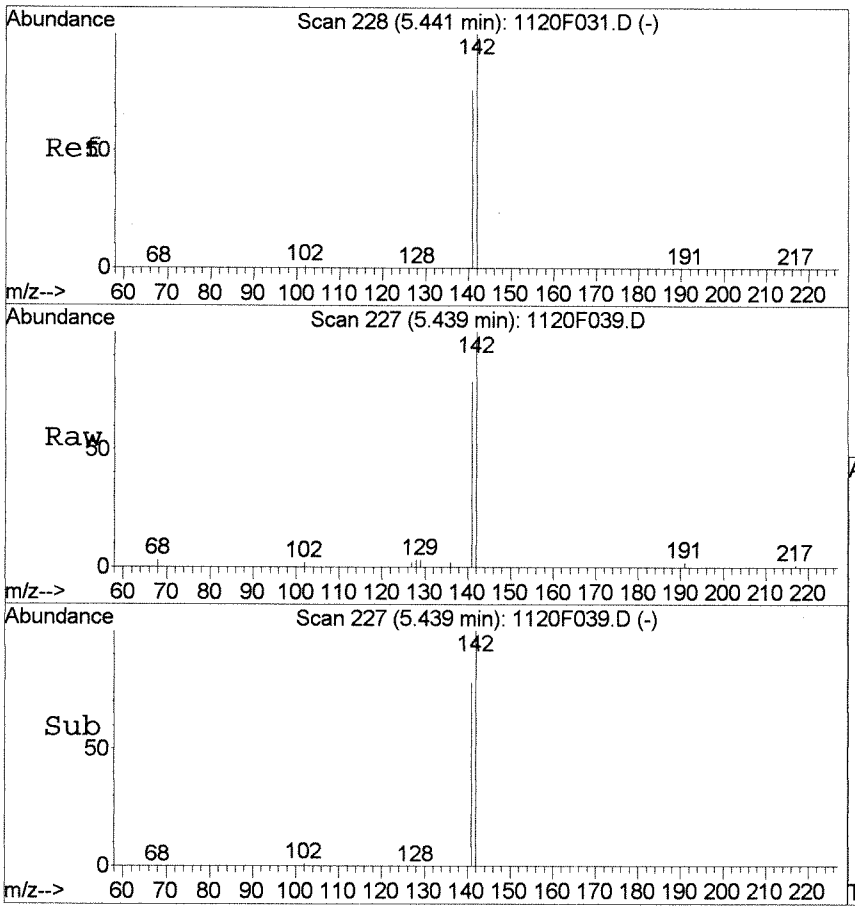


#2
Naphthalene
Concen: 17.47 ng/ml
RT: 4.88 min Scan# 132
Delta R.T. -0.01 min
Lab File: 1120F039.D
Acq: 21 Nov 2009 2:59 am

Tgt Ion:128 Resp: 11611

Ion	Ratio	Lower	Upper
128	100		
127	13.3	0.0	42.4

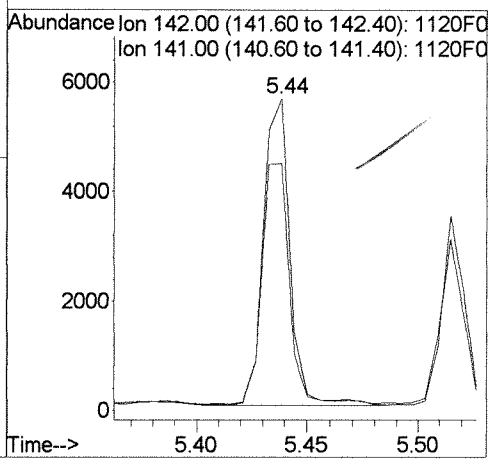


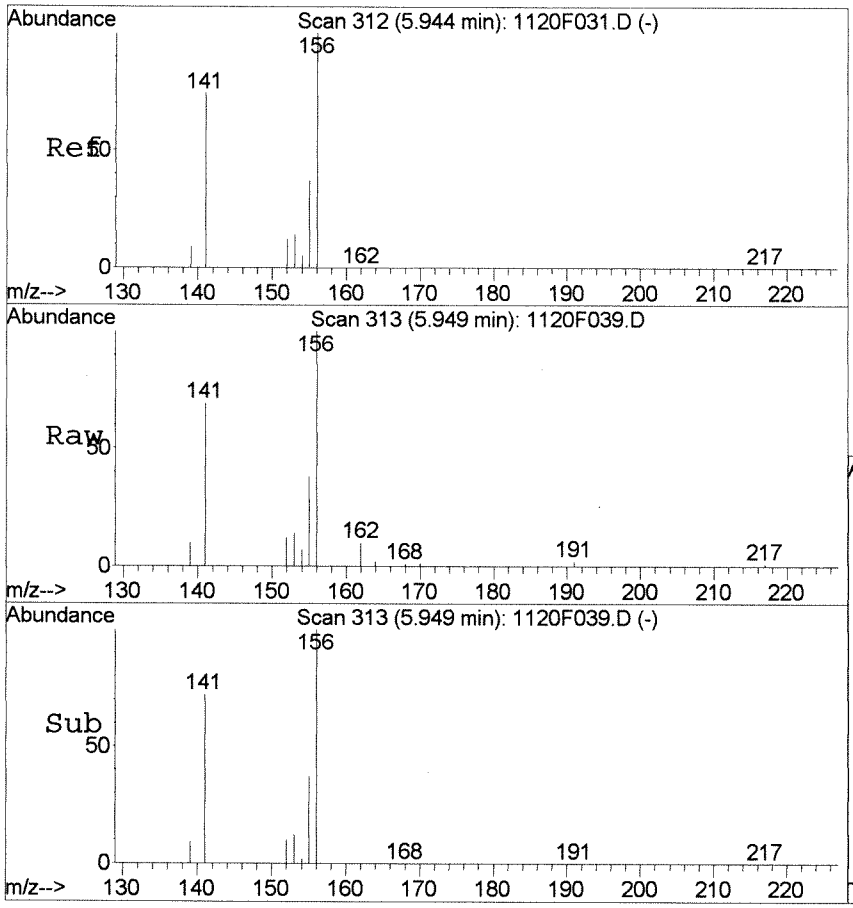


#3
2-Methylnaphthalene
Concen: 9.85 ng/ml
RT: 5.44 min Scan# 227
Delta R.T. -0.00 min
Lab File: 1120F039.D
Acq: 21 Nov 2009 2:59 am

Tgt Ion:142 Resp: 4717

Ion	Ratio	Lower	Upper
142	100		
141	78.4	56.1	116.1

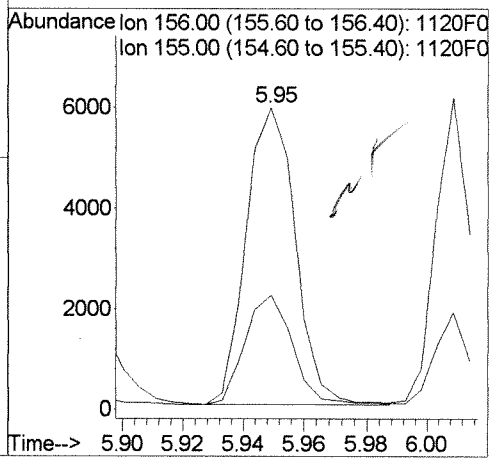


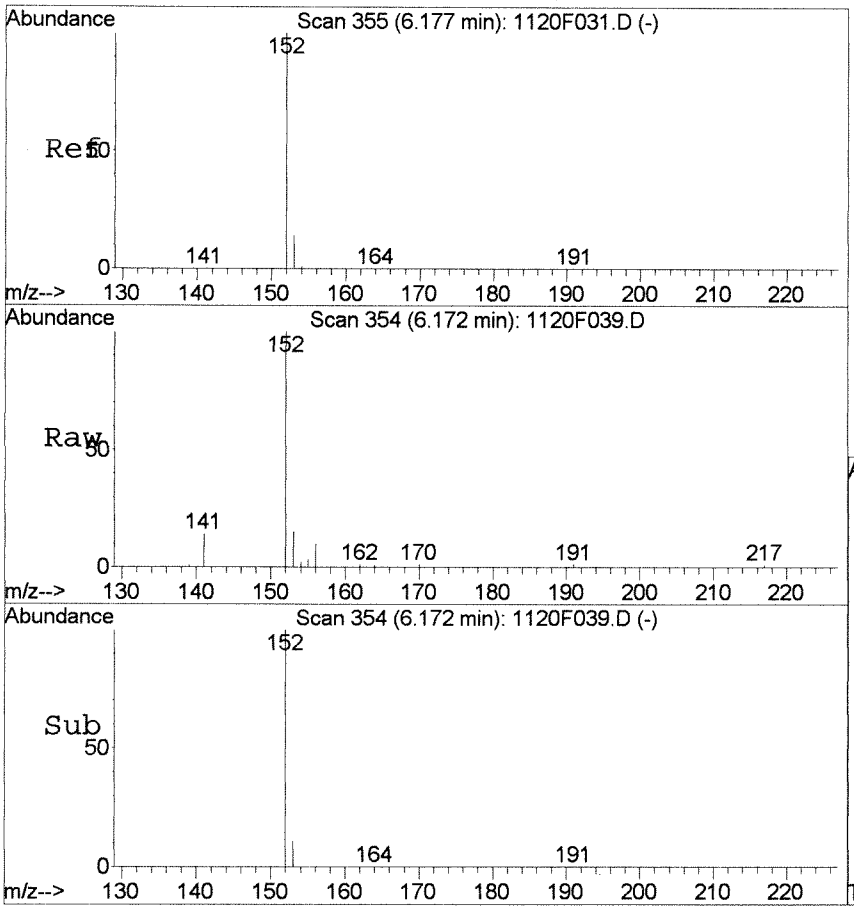


#6
2,6-Dimethylnaphthalene
Concen: 15.15 ng/ml
RT: 5.95 min Scan# 313
Delta R.T. -0.00 min
Lab File: 1120F039.D
Acq: 21 Nov 2009 2:59 am

Tgt Ion:156 Resp: 6667

Ion	Ratio	Lower	Upper
156	100		
155	36.8	3.7	63.7

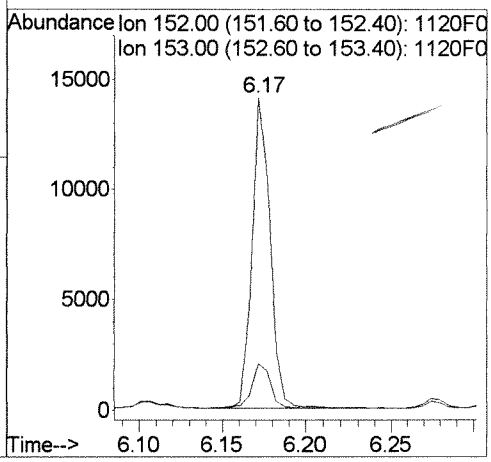


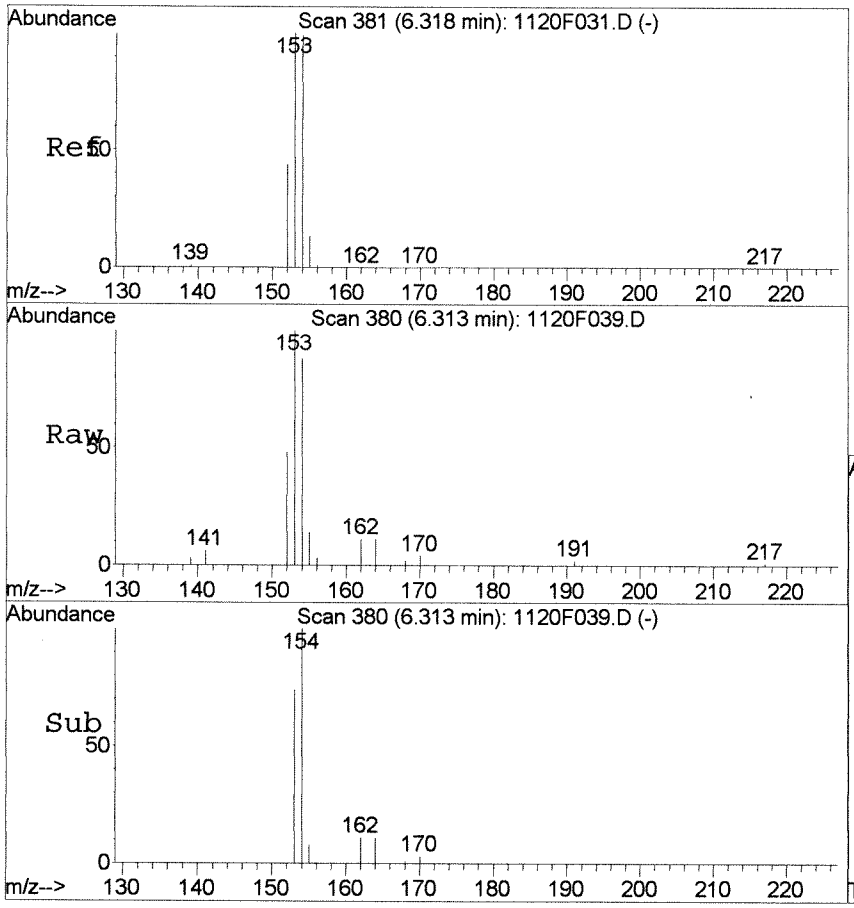


#11
Acenaphthylene
Concen: 15.58 ng/ml
RT: 6.17 min Scan# 354
Delta R.T. -0.01 min
Lab File: 1120F039.D
Acq: 21 Nov 2009 2:59 am

Tgt Ion:152 Resp: 10616

Ion	Ratio	Lower	Upper
152	100		
153	14.4	0.0	44.1

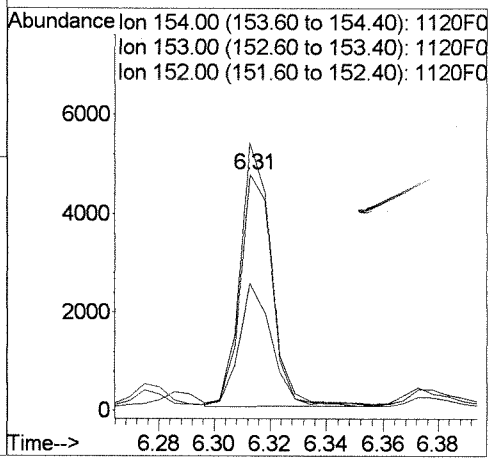


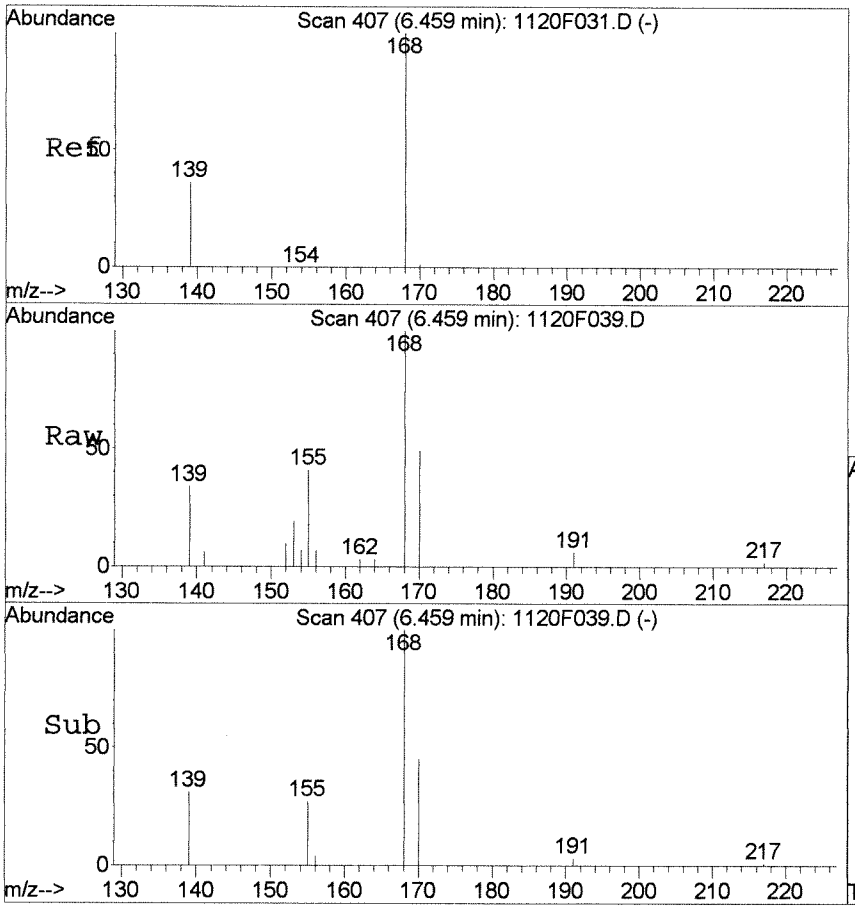


#12
Acenaphthene
Concen: 9.24 ng/ml
RT: 6.31 min Scan# 380
Delta R.T. -0.01 min
Lab File: 1120F039.D
Acq: 21 Nov 2009 2:59 am

Tgt Ion:154 Resp: 3740

Ion	Ratio	Lower	Upper
154	100		
153	113.2	77.8	137.8
152	52.5	24.7	84.7

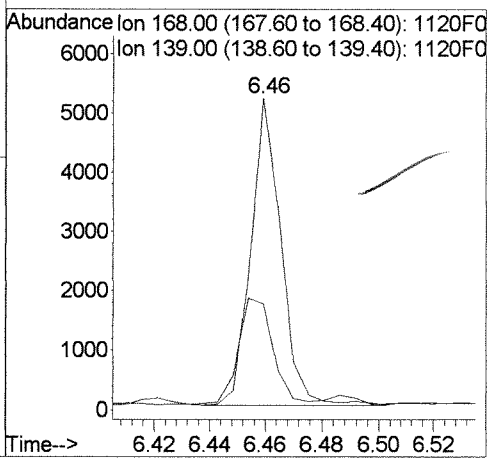


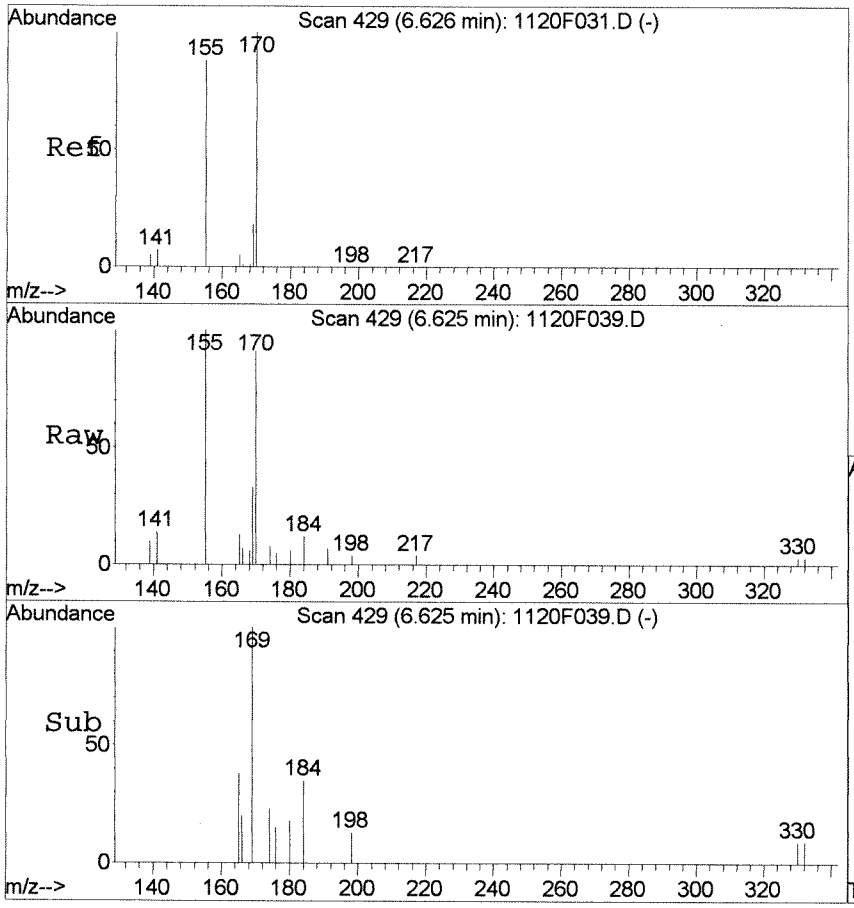


#13
Dibenzofuran
Concen: 6.33 ng/ml
RT: 6.46 min Scan# 407
Delta R.T. -0.00 min
Lab File: 1120F039.D
Acq: 21 Nov 2009 2:59 am

Tgt Ion:168 Resp: 3878

Ion	Ratio	Lower	Upper
168	100		
139	32.3	23.3	83.3

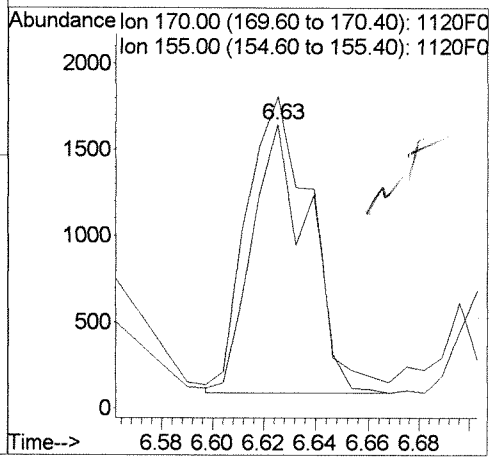


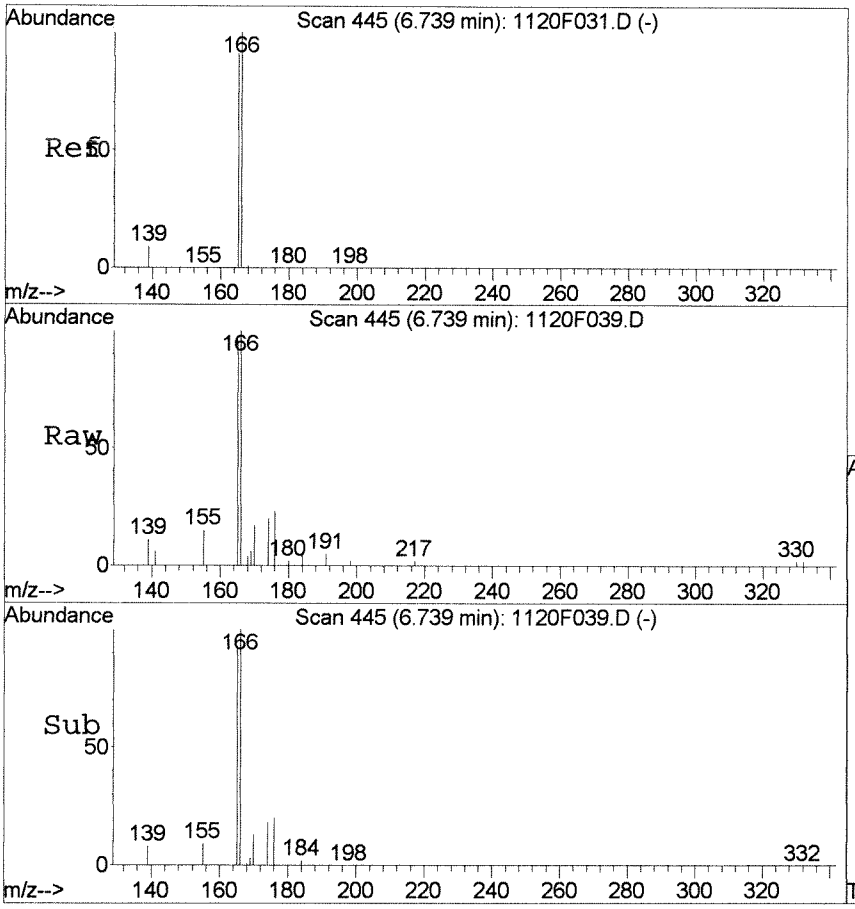


#14
2,3,5-Trimethylnaphthalene
Concen: 5.48 ng/ml
RT: 6.63 min Scan# 429
Delta R.T. -0.01 min
Lab File: 1120F039.D
Acq: 21 Nov 2009 2:59 am

Tgt Ion:170 Resp: 2370

Ion	Ratio	Lower	Upper
170	100		
155	107.3	48.2	108.2

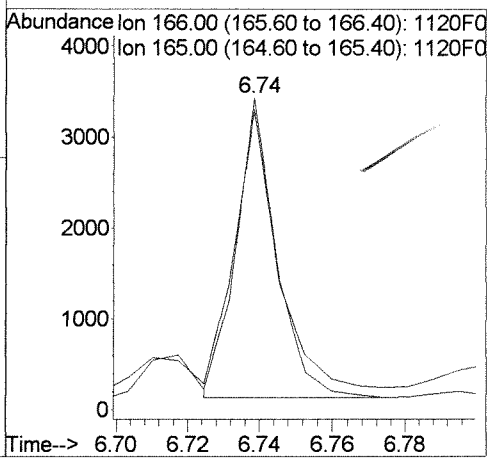


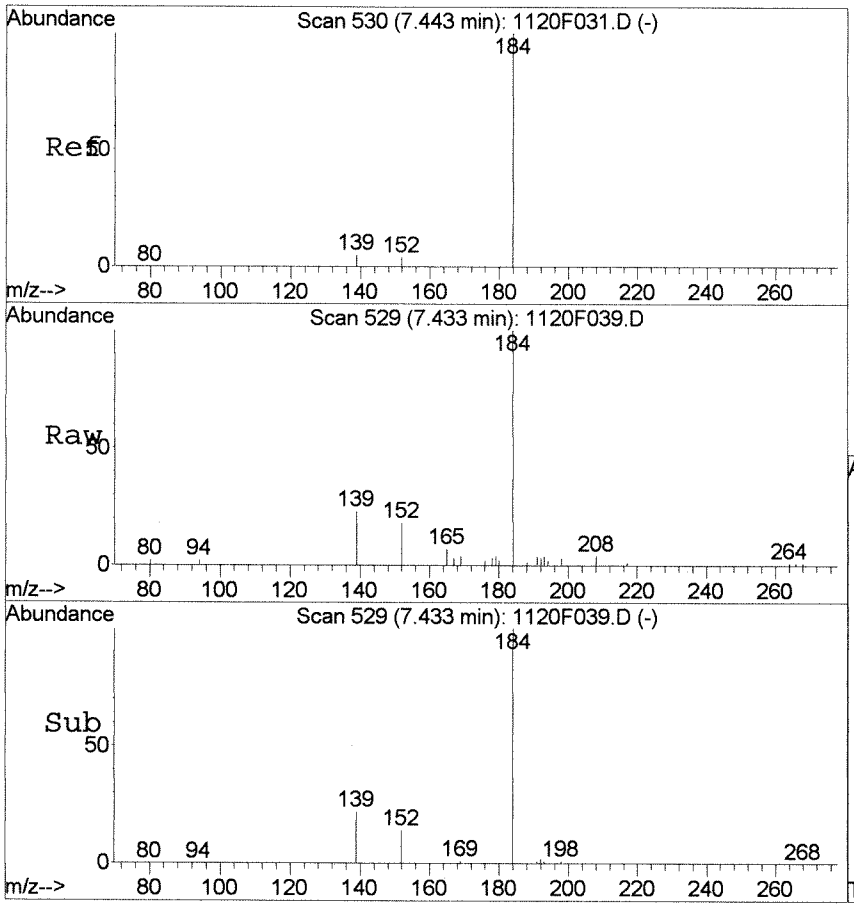


#16
Fluorene
Concen: 5.00 ng/ml m
RT: 6.74 min Scan# 445
Delta R.T. -0.01 min
Lab File: 1120F039.D
Acq: 21 Nov 2009 2:59 am

Tgt Ion:166 Resp: 2565

Ion	Ratio	Lower	Upper
166	100		
165	96.2	57.8	117.8

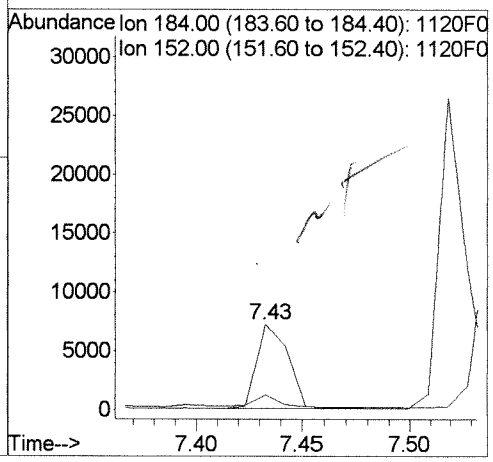


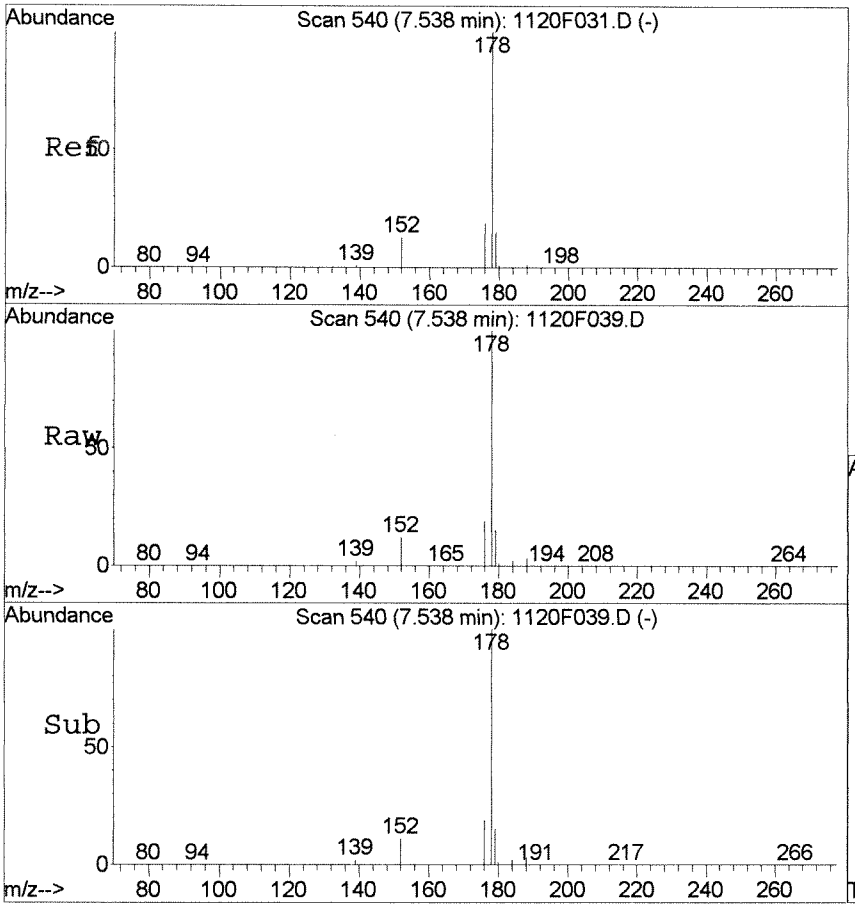


#23
Dibenzothiophene
Concen: 9.75 ng/ml
RT: 7.43 min Scan# 529
Delta R.T. -0.01 min
Lab File: 1120F039.D
Acq: 21 Nov 2009 2:59 am

Tgt Ion:184 Resp: 7375

Ion	Ratio	Lower	Upper
184	100		
152	14.9	0.0	39.4

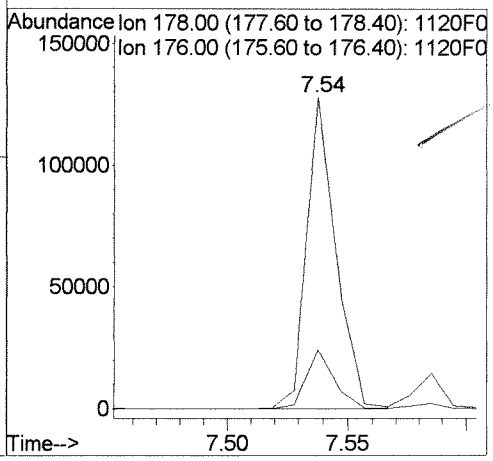


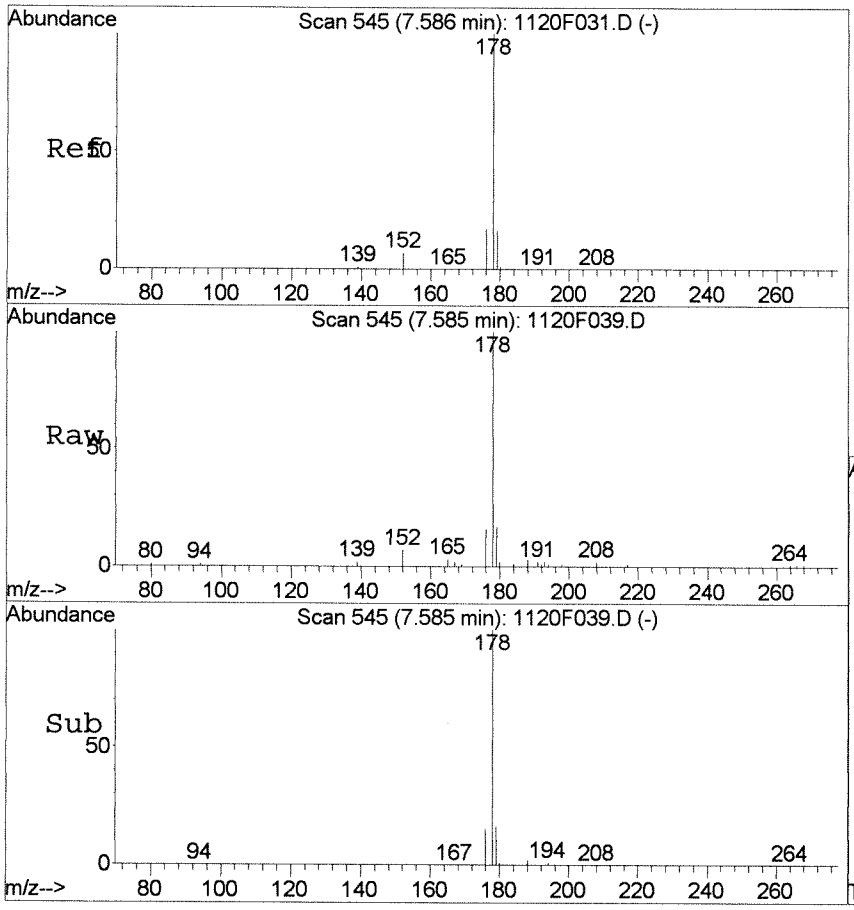


#27
Phenanthrene
Concen: 116.08 ng/ml
RT: 7.54 min Scan# 540
Delta R.T. -0.01 min
Lab File: 1120F039.D
Acq: 21 Nov 2009 2:59 am

Tgt Ion:178 Resp: 105148

Ion	Ratio	Lower	Upper
178	100		
176	18.9	0.0	49.6

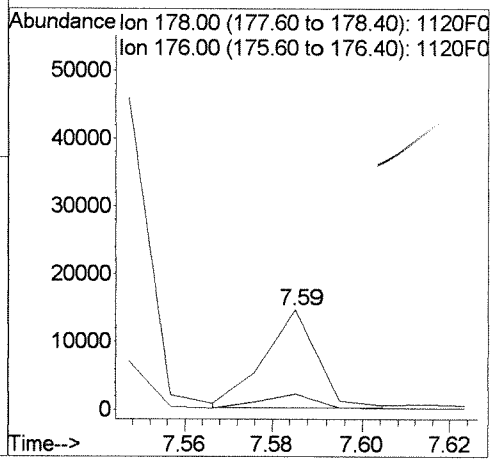


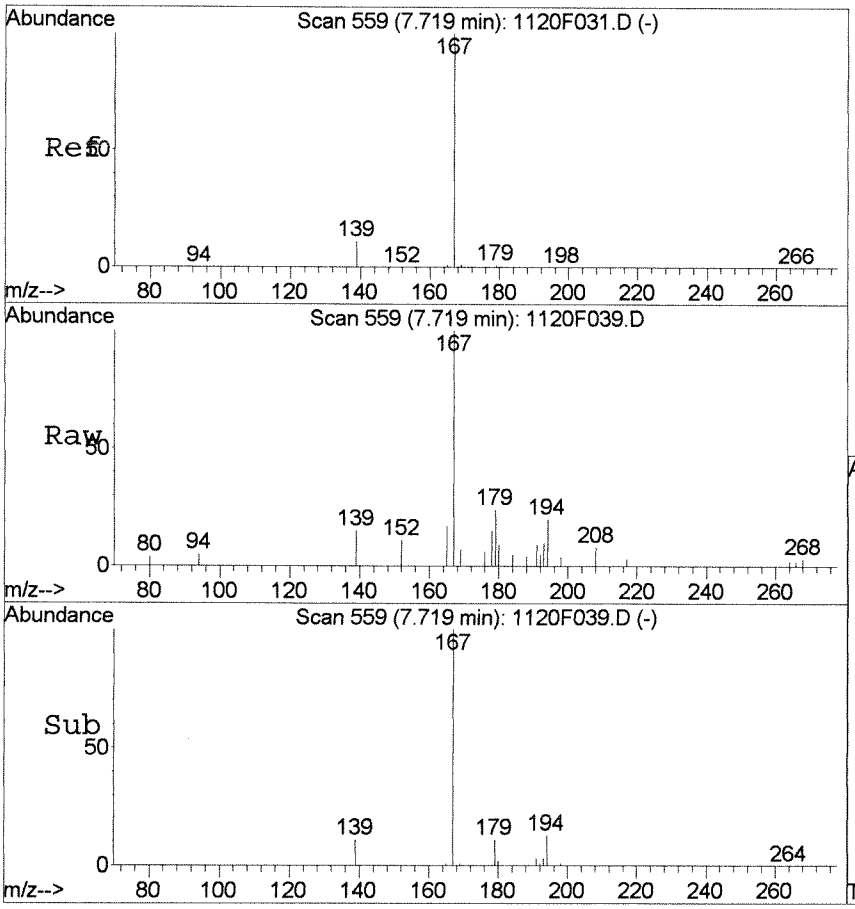


#28
Anthracene
Concen: 13.64 ng/ml m
RT: 7.59 min Scan# 545
Delta R.T. -0.00 min
Lab File: 1120F039.D
Acq: 21 Nov 2009 2:59 am

Tgt Ion:178 Resp: 11873

Ion	Ratio	Lower	Upper
178	100		
176	15.6	0.0	47.6

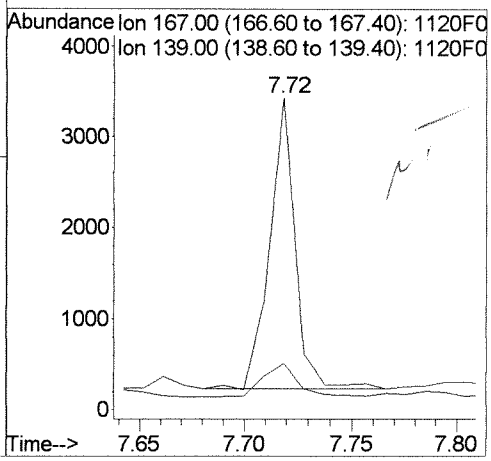


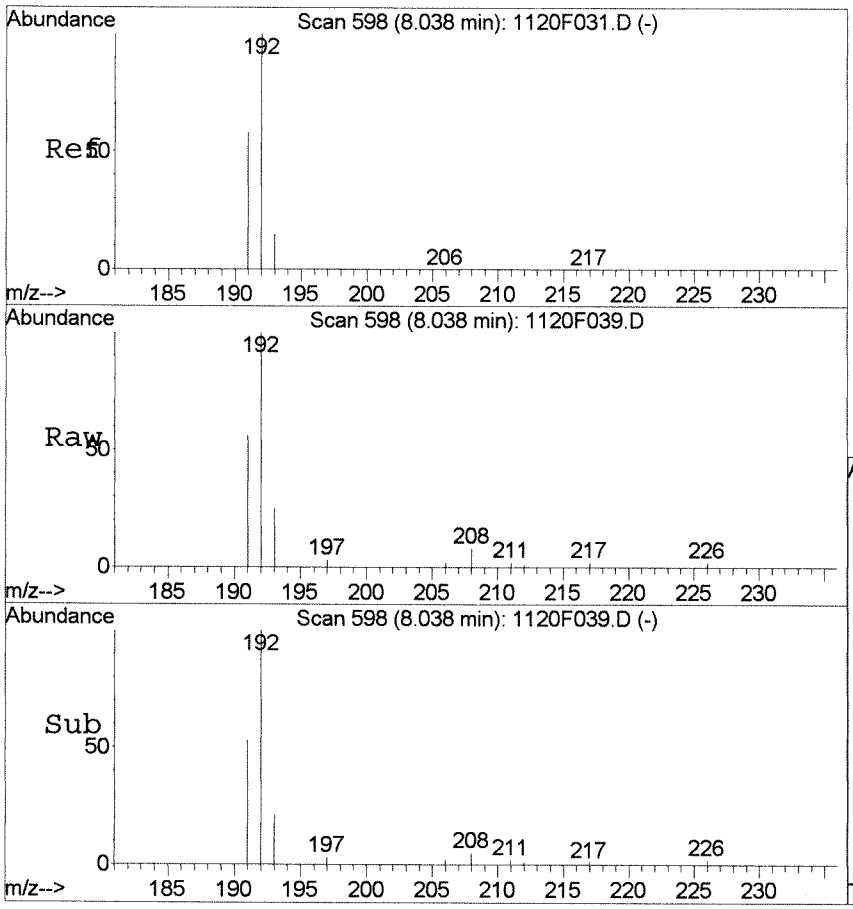


#29
Carbazole
Concen: 3.62 ng/ml
RT: 7.72 min Scan# 559
Delta R.T. -0.00 min
Lab File: 1120F039.D
Acq: 21 Nov 2009 2:59 am

Tgt Ion:167 Resp: 2693

Ion	Ratio	Lower	Upper
167	100		
139	11.6	0.0	45.7

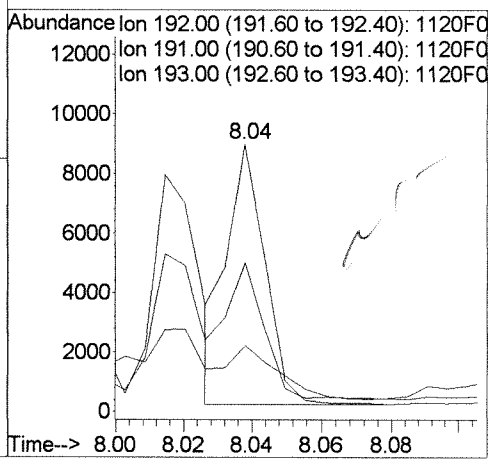


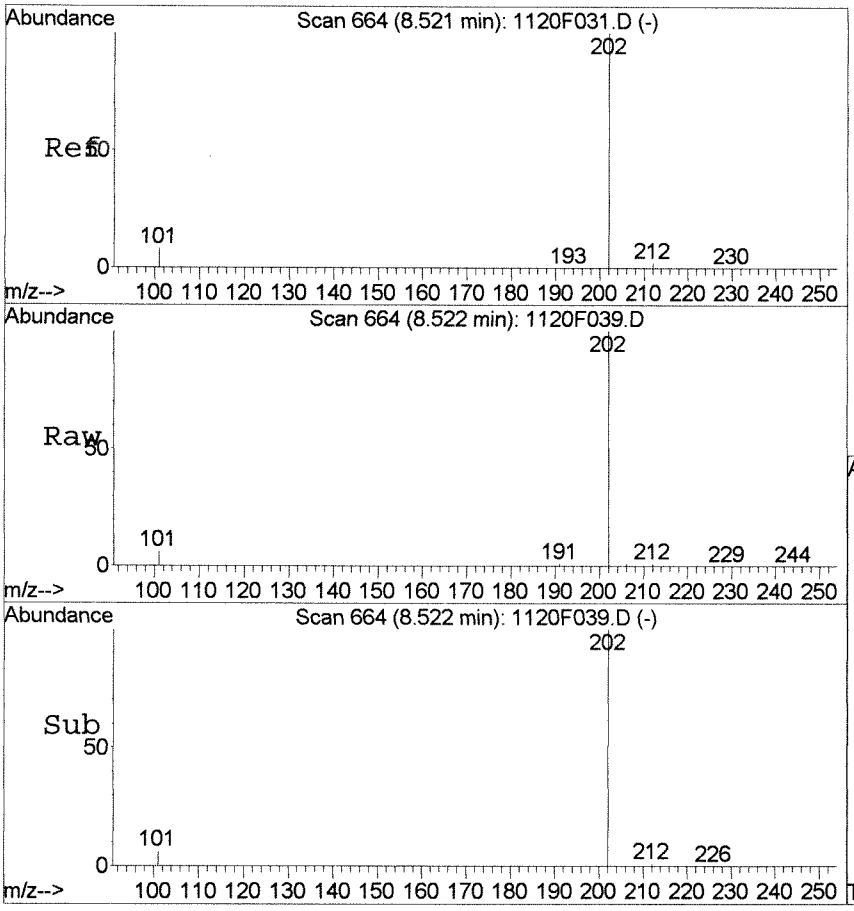


#30
1-Methylphenanthrene
Concen: 9.63 ng/ml
RT: 8.04 min Scan# 598
Delta R.T. -0.01 min
Lab File: 1120F039.D
Acq: 21 Nov 2009 2:59 am

Tgt Ion:192 Resp: 6789

Ion	Ratio	Lower	Upper
192	100		
191	52.3	23.0	83.0
193	20.3	0.0	47.0

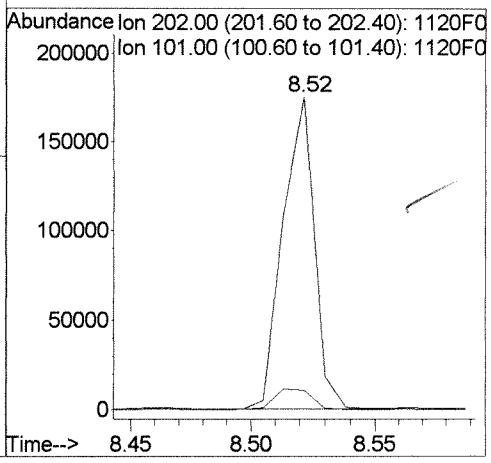


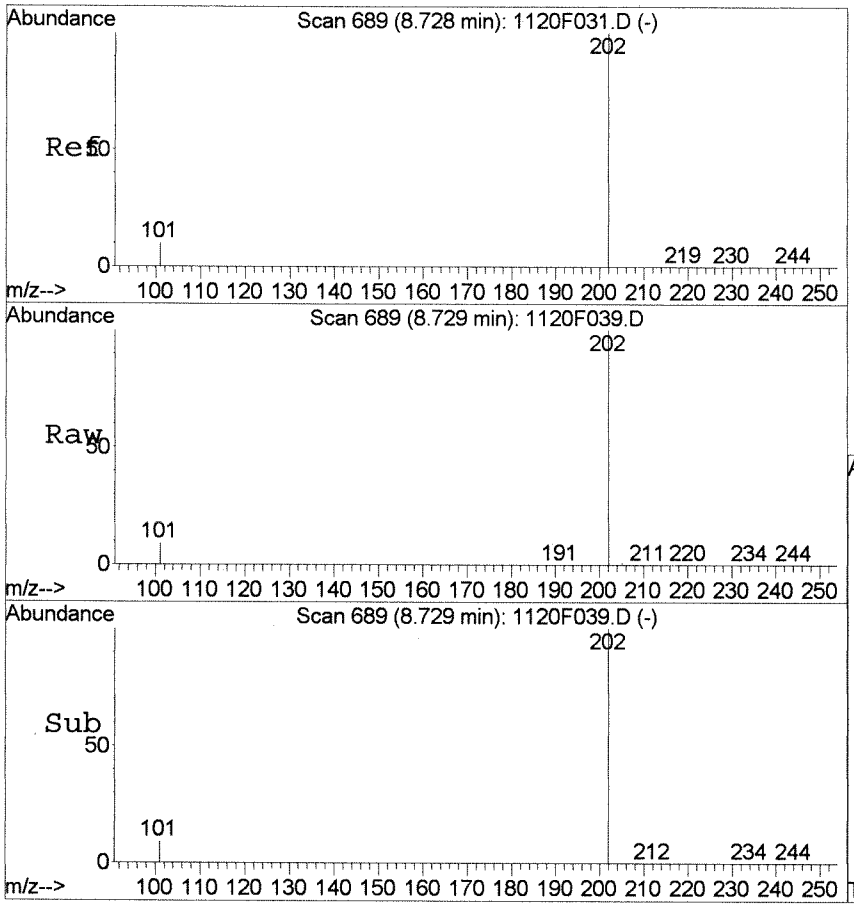


#35
Fluoranthene
Concen: 146.09 ng/ml
RT: 8.52 min Scan# 664
Delta R.T. -0.01 min
Lab File: 1120F039.D
Acq: 21 Nov 2009 2:59 am

Tgt Ion:202 Resp: 153830

Ion	Ratio	Lower	Upper
202	100		
101	6.1	0.0	36.5

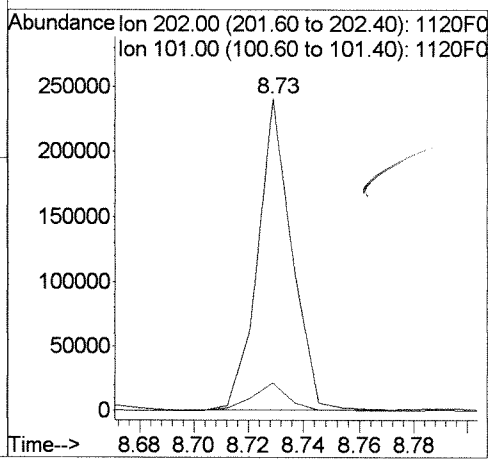


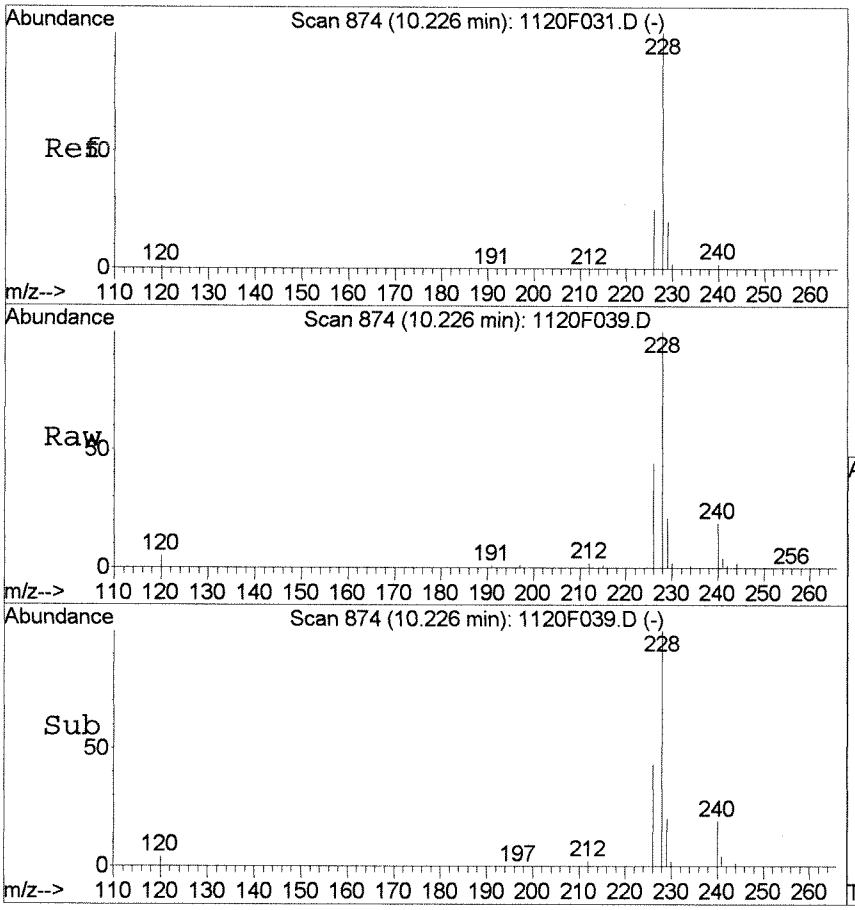


#38
Pyrene
Concen: 152.45 ng/ml
RT: 8.73 min Scan# 689
Delta R.T. -0.01 min
Lab File: 1120F039.D
Acq: 21 Nov 2009 2:59 am

Tgt Ion:202 Resp: 208629

Ion	Ratio	Lower	Upper
202	100		
101	8.8	0.0	36.4

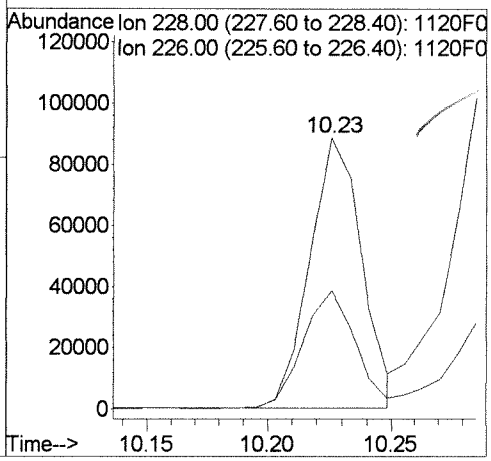


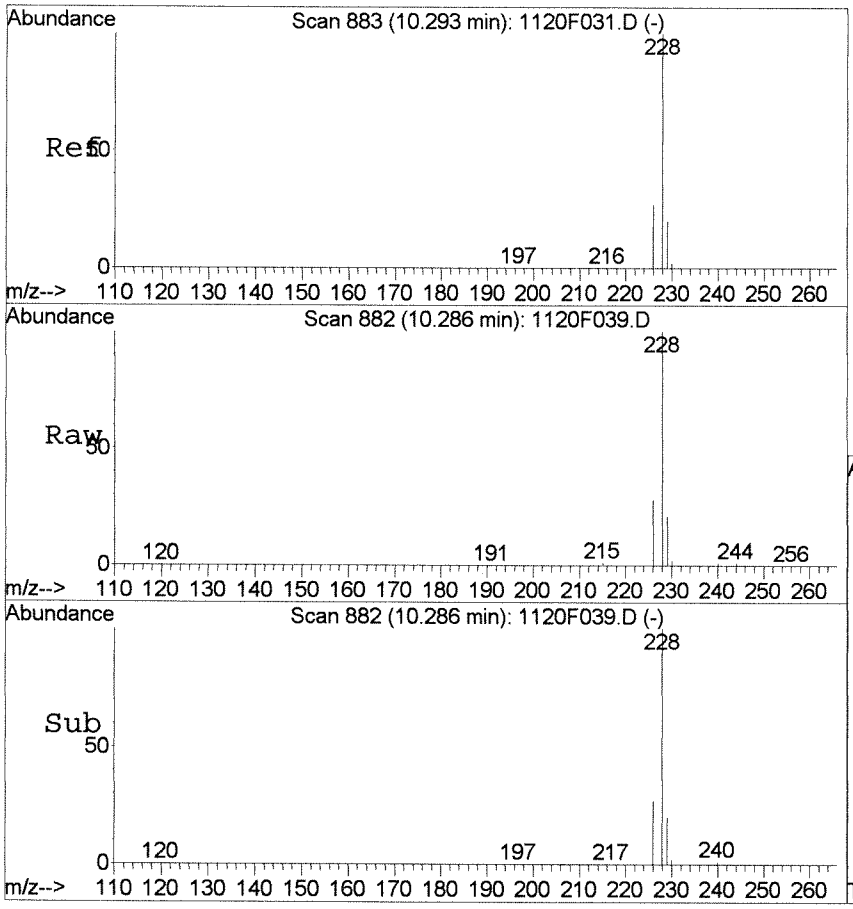


#43
Benz(a)anthracene
Concen: 96.75 ng/ml
RT: 10.23 min Scan# 874
Delta R.T. -0.03 min
Lab File: 1120F039.D
Acq: 21 Nov 2009 2:59 am

Tgt Ion:228 Resp: 127543

Ion	Ratio	Lower	Upper
228	100		
226	43.5	0.0	55.9

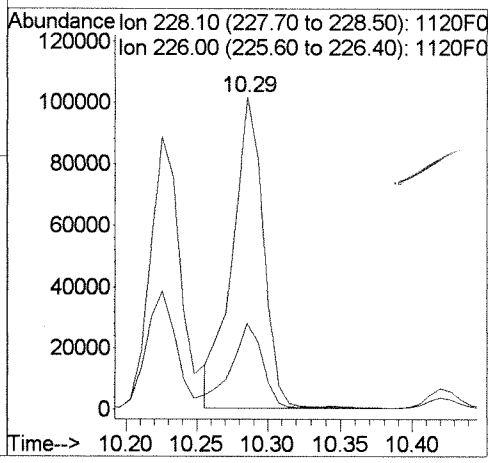


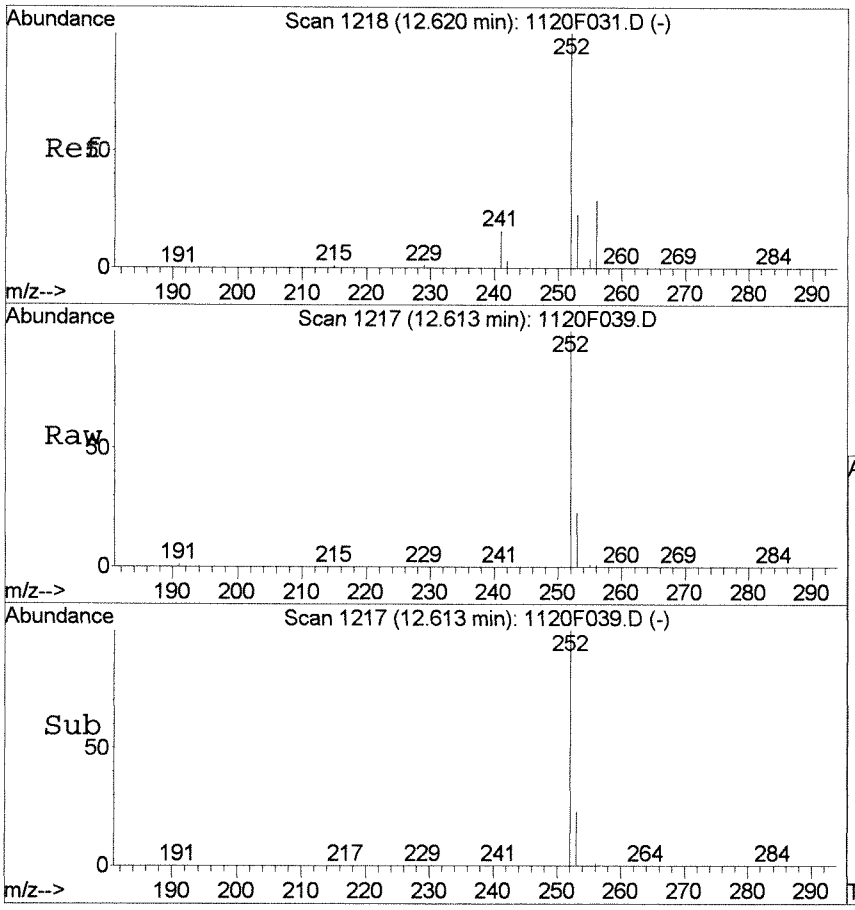


#44
Chrysene
Concen: 123.09 ng/ml
RT: 10.29 min Scan# 882
Delta R.T. -0.03 min
Lab File: 1120F039.D
Acq: 21 Nov 2009 2:59 am

Tgt Ion:228 Resp: 154969

Ion	Ratio	Lower	Upper
228	100		
226	27.5	0.0	58.8

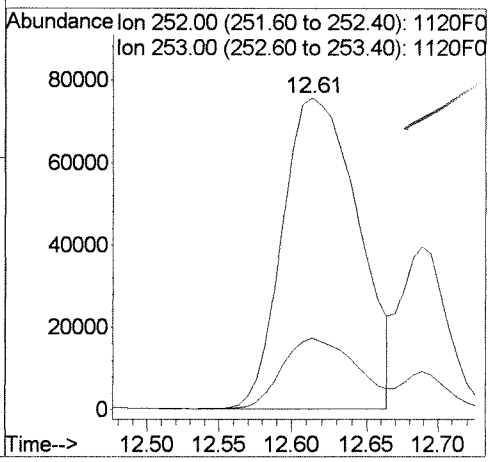


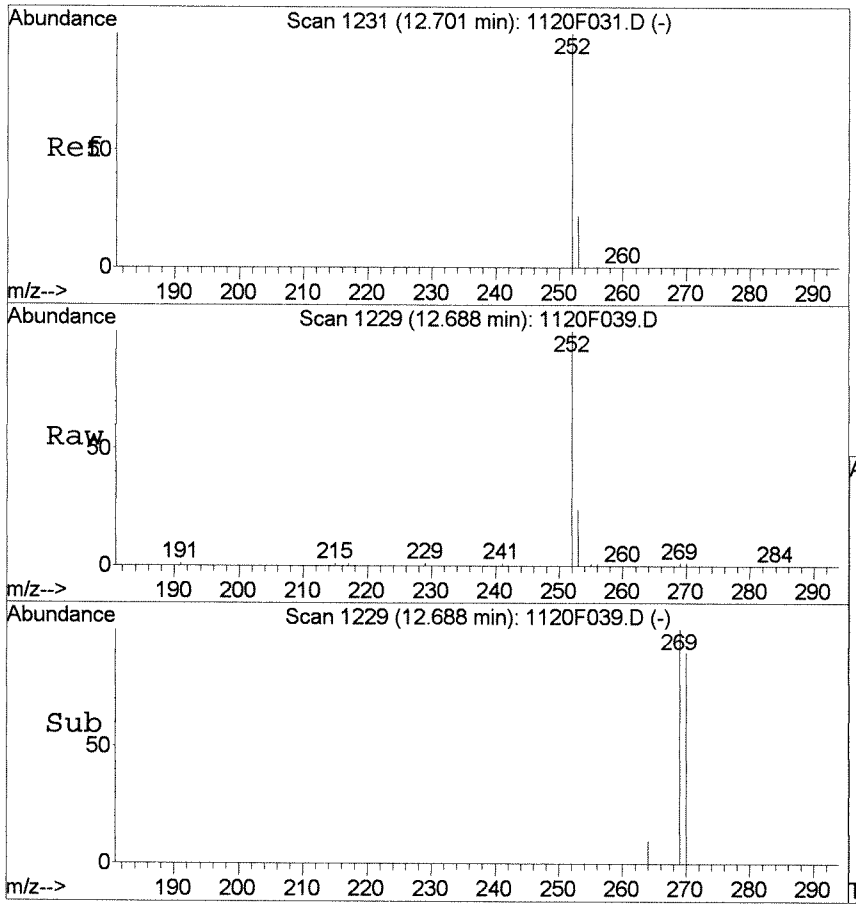


#50
Benzo(b)fluoranthene
Concen: 173.57 ng/ml
RT: 12.61 min Scan# 1217
Delta R.T. -0.04 min
Lab File: 1120F039.D
Acq: 21 Nov 2009 2:59 am

Tgt Ion:252 Resp: 265994

Ion	Ratio	Lower	Upper
252	100		
253	22.8	0.0	52.8

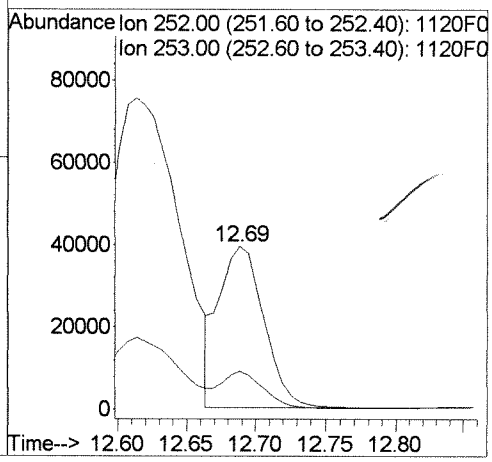


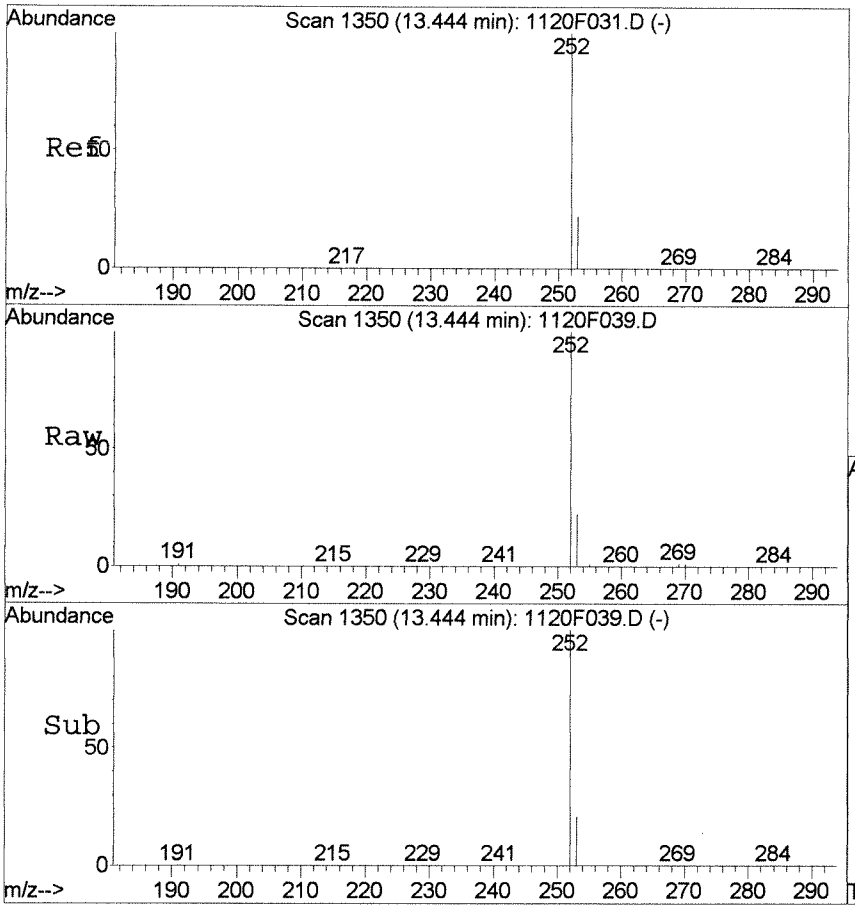


#51
Benzo(k)fluoranthene
Concen: 61.56 ng/ml
RT: 12.69 min Scan# 1229
Delta R.T. -0.05 min
Lab File: 1120F039.D
Acq: 21 Nov 2009 2:59 am

Tgt Ion:252 Resp: 89397

Ion	Ratio	Lower	Upper
252	100		
253	22.9	0.0	52.5

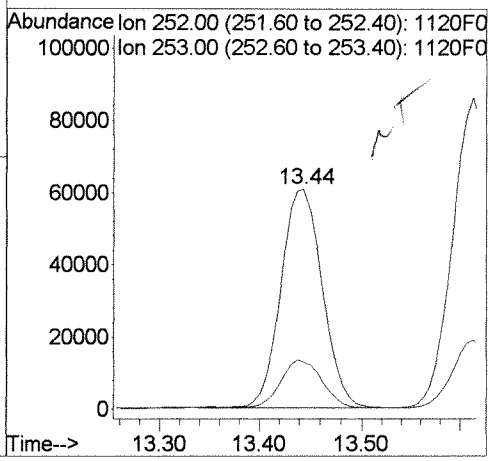


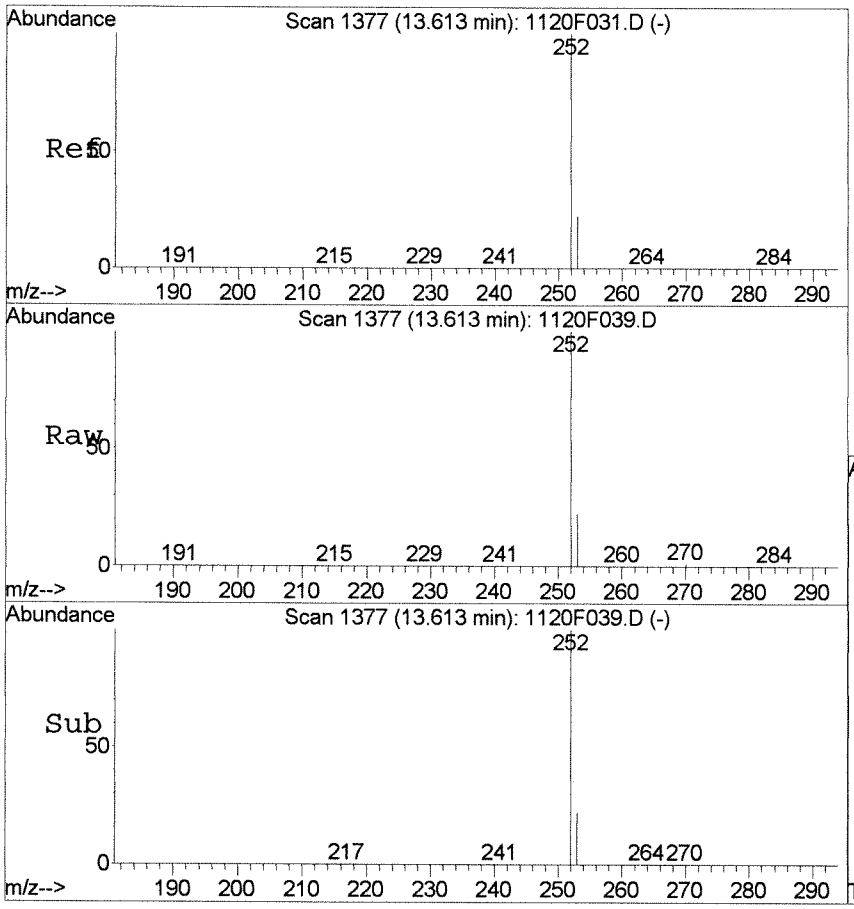


#52
Benzo(e)pyrene
Concen: 121.24 ng/ml
RT: 13.44 min Scan# 1350
Delta R.T. -0.05 min
Lab File: 1120F039.D
Acq: 21 Nov 2009 2:59 am

Tgt Ion:252 Resp: 170277

Ion	Ratio	Lower	Upper
252	100		
253	21.1	0.0	52.3

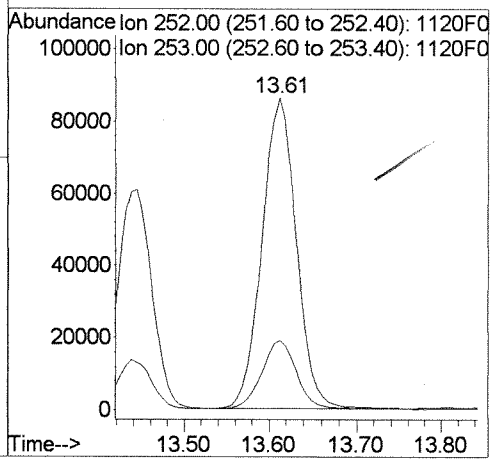


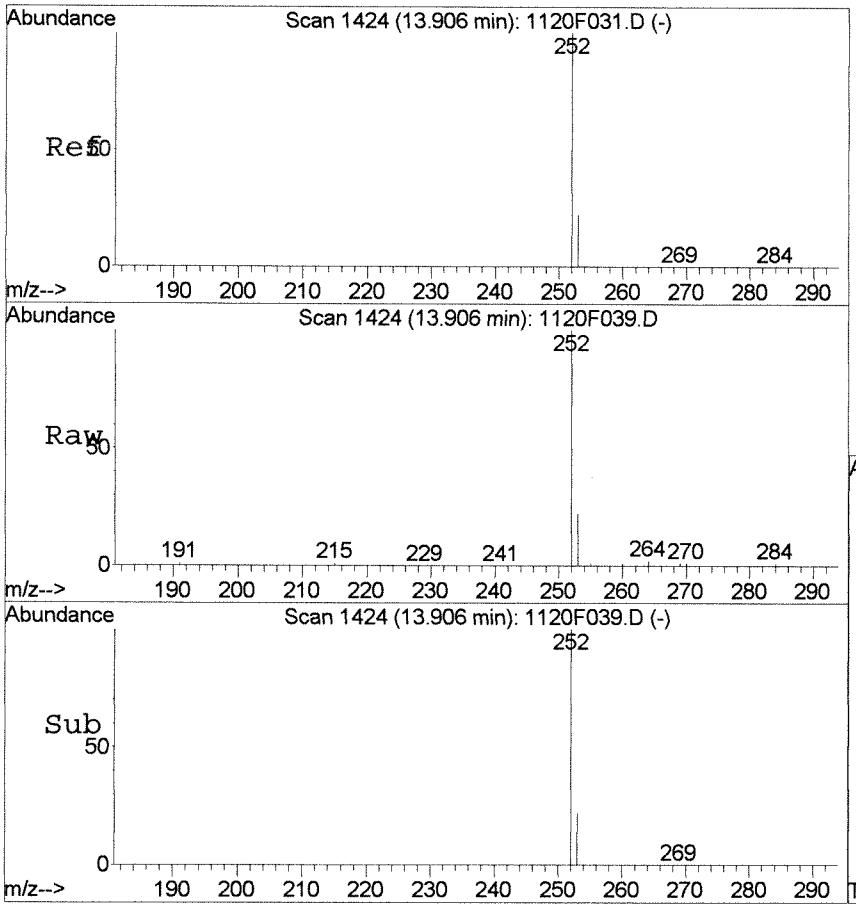


#53
Benzo(a)pyrene
Concen: 177.98 ng/ml
RT: 13.61 min Scan# 1377
Delta R.T. -0.05 min
Lab File: 1120F039.D
Acq: 21 Nov 2009 2:59 am

Tgt Ion:252 Resp: 240289

Ion	Ratio	Lower	Upper
252	100		
253	22.0	0.0	52.6

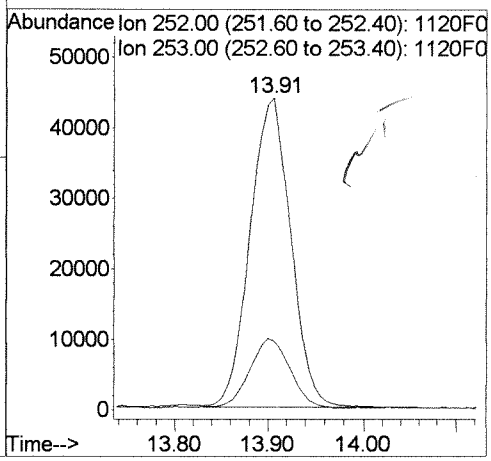


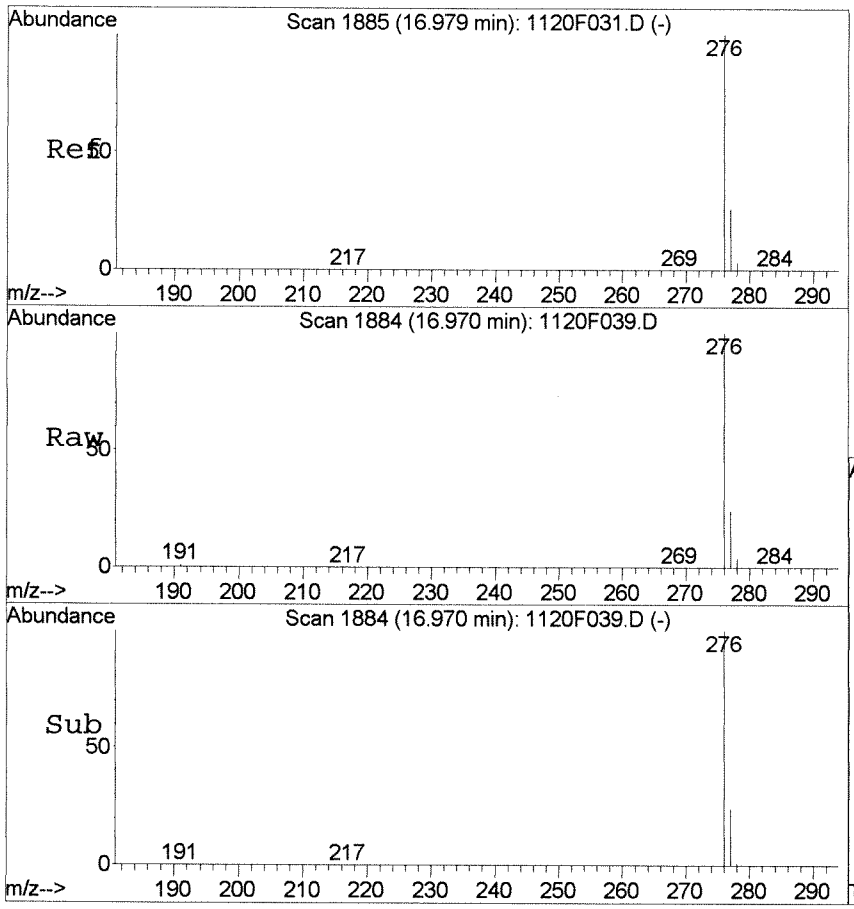


#54
Perylene
Concen: 99.51 ng/ml
RT: 13.91 min Scan# 1424
Delta R.T. -0.05 min
Lab File: 1120F039.D
Acq: 21 Nov 2009 2:59 am

Tgt Ion:252 Resp: 132671

Ion	Ratio	Lower	Upper
252	100		
253	21.5	0.0	52.0

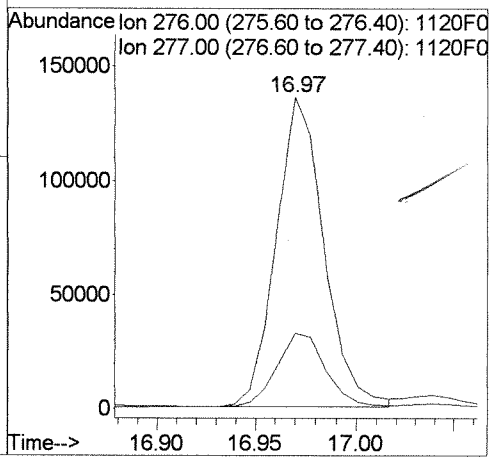


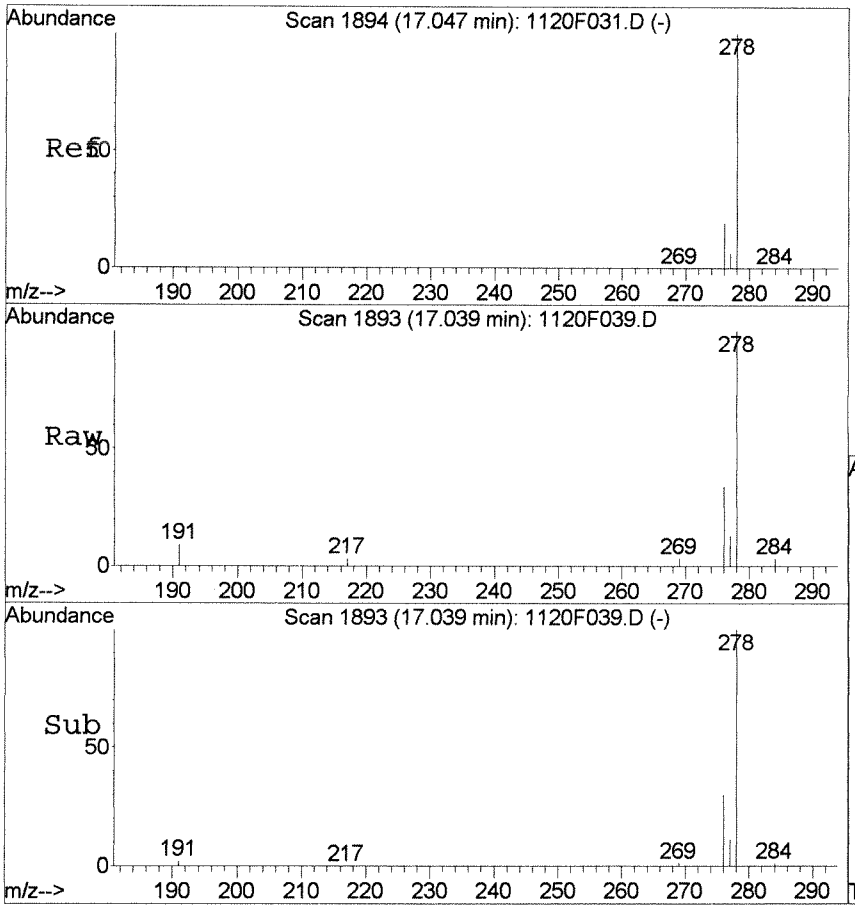


#55
Indeno(1,2,3-cd)pyrene
Concen: 179.22 ng/ml
RT: 16.97 min Scan# 1884
Delta R.T. -0.03 min
Lab File: 1120F039.D
Acq: 21 Nov 2009 2:59 am

Tgt Ion:276 Resp: 223038

Ion	Ratio	Lower	Upper
276	100		
277	23.8	0.0	55.1

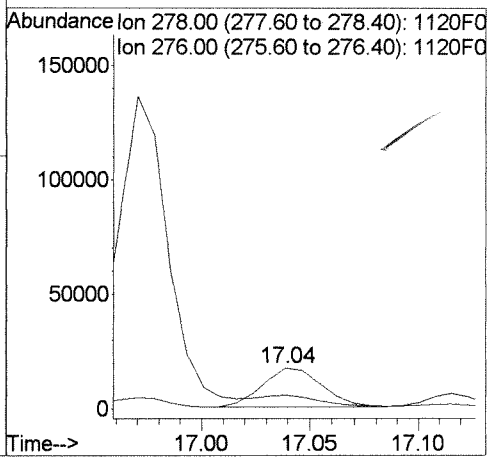


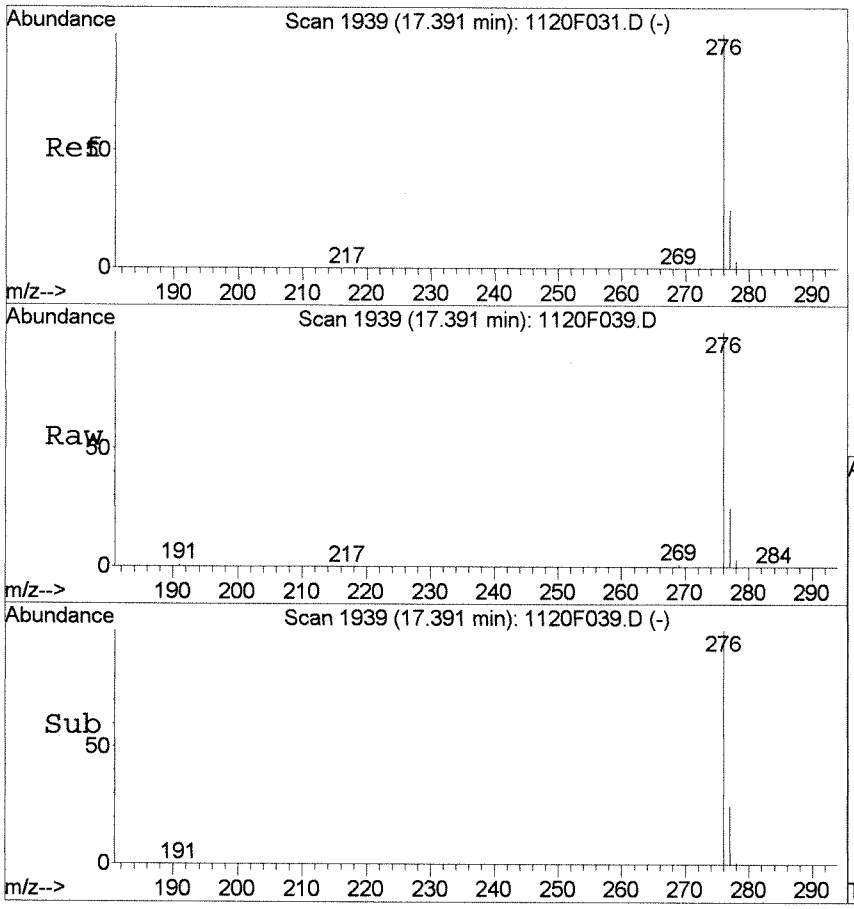


#56
Dibenz(a,h)anthracene
Concen: 24.71 ng/ml
RT: 17.04 min Scan# 1893
Delta R.T. -0.04 min
Lab File: 1120F039.D
Acq: 21 Nov 2009 2:59 am

Tgt Ion:278 Resp: 32043

Ion	Ratio	Lower	Upper
278	100		
276	27.6	0.0	52.1

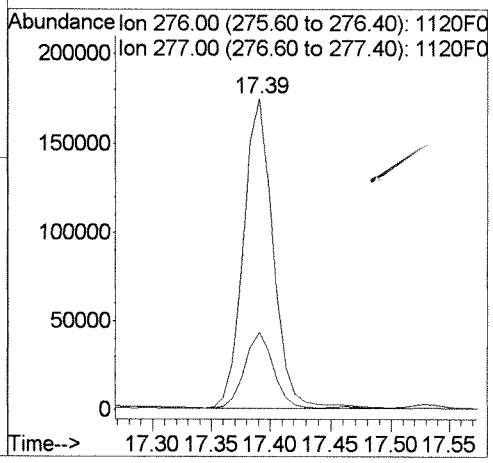




#57
Benzo(g,h,i)perylene
Concen: 217.97 ng/ml
RT: 17.39 min Scan# 1939
Delta R.T. -0.04 min
Lab File: 1120F039.D
Acq: 21 Nov 2009 2:59 am

Tgt Ion:276 Resp: 306551

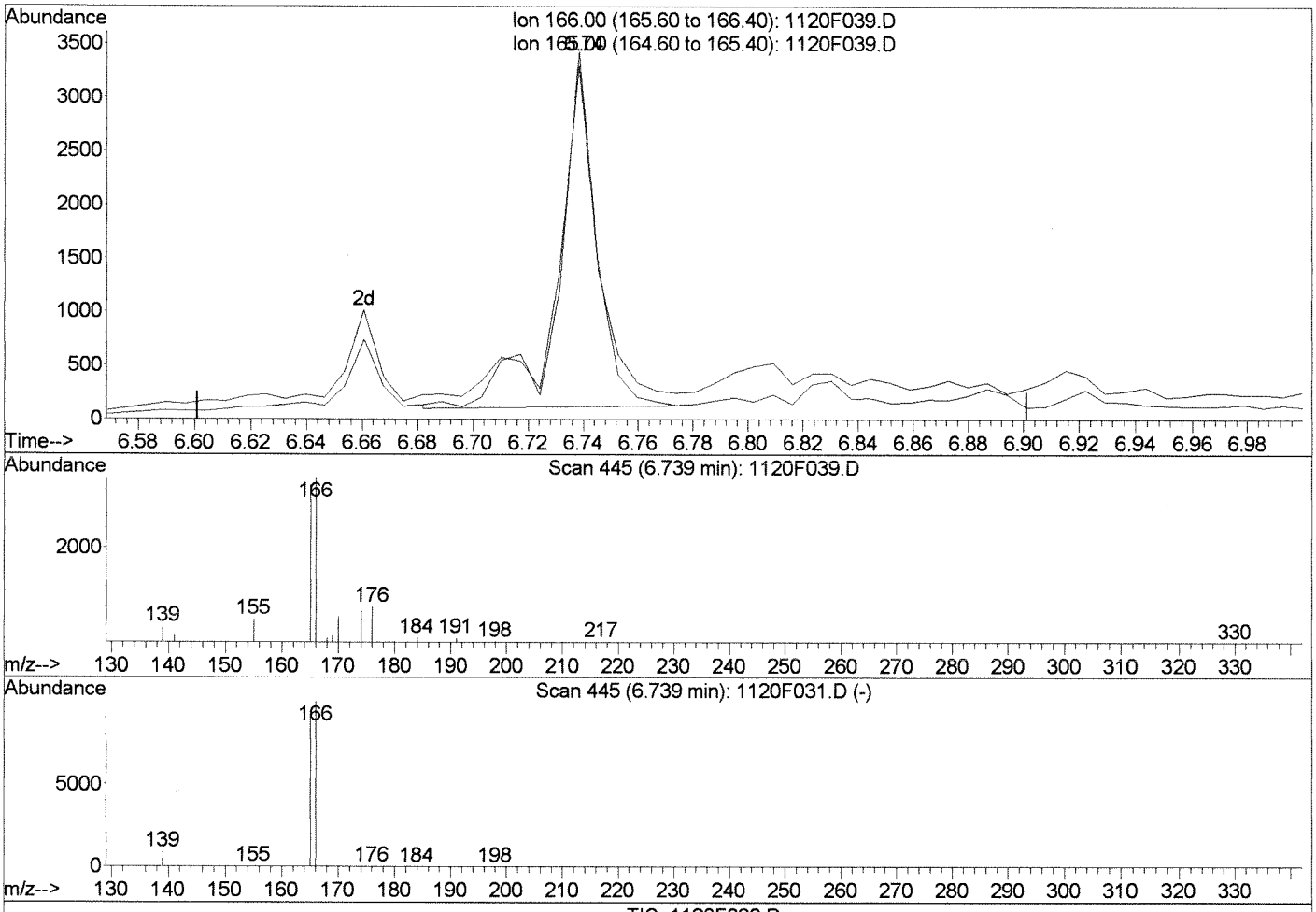
Ion	Ratio	Lower	Upper
276	100		
277	24.6	0.0	55.7



Quantitation Report (Qedit)

Data File : J:\MS11\DATA\112009\1120F039.D Vial: 36
Acq On : 21 Nov 2009 2:59 am Operator: LWeiskopf
Sample : K0909140-012 Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 23 8:36 2009 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1119ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Nov 23 08:36:00 2009
Response via : Multiple Level Calibration



TIC: 1120F039.D

(16) Fluorene (T)

6.74min 6.06ng/ml

response 3107

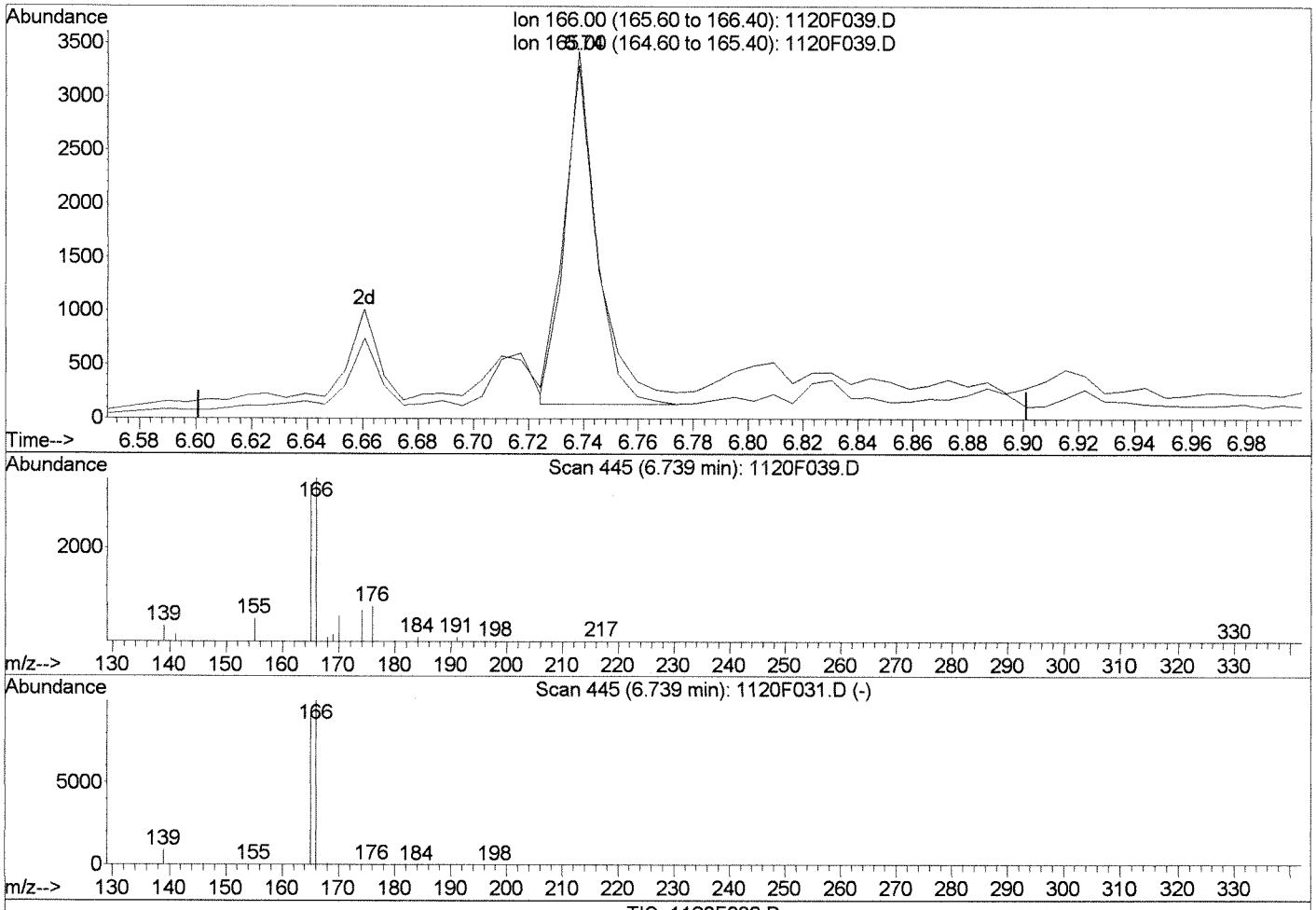
Ion	Exp%	Act%
166.00	100	100
165.00	87.80	93.17
0.00	0.00	0.00
0.00	0.00	0.00

1120F039.D 1119ALK.M Mon Nov 23 08:55:14 2009

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\112009\1120F039.D Vial: 36
Acq On : 21 Nov 2009 2:59 am Operator: LWeiskopf
Sample : K0909140-012 Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 23 8:55 2009 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1119ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Nov 23 08:36:00 2009
Response via : Multiple Level Calibration



TIC: 1120F039.D

(16) Fluorene (T)

6.74min 5.00ng/ml m

response 2565

Ion	Exp%	Act%
166.00	100	100
165.00	87.80	96.15
0.00	0.00	0.00
0.00	0.00	0.00

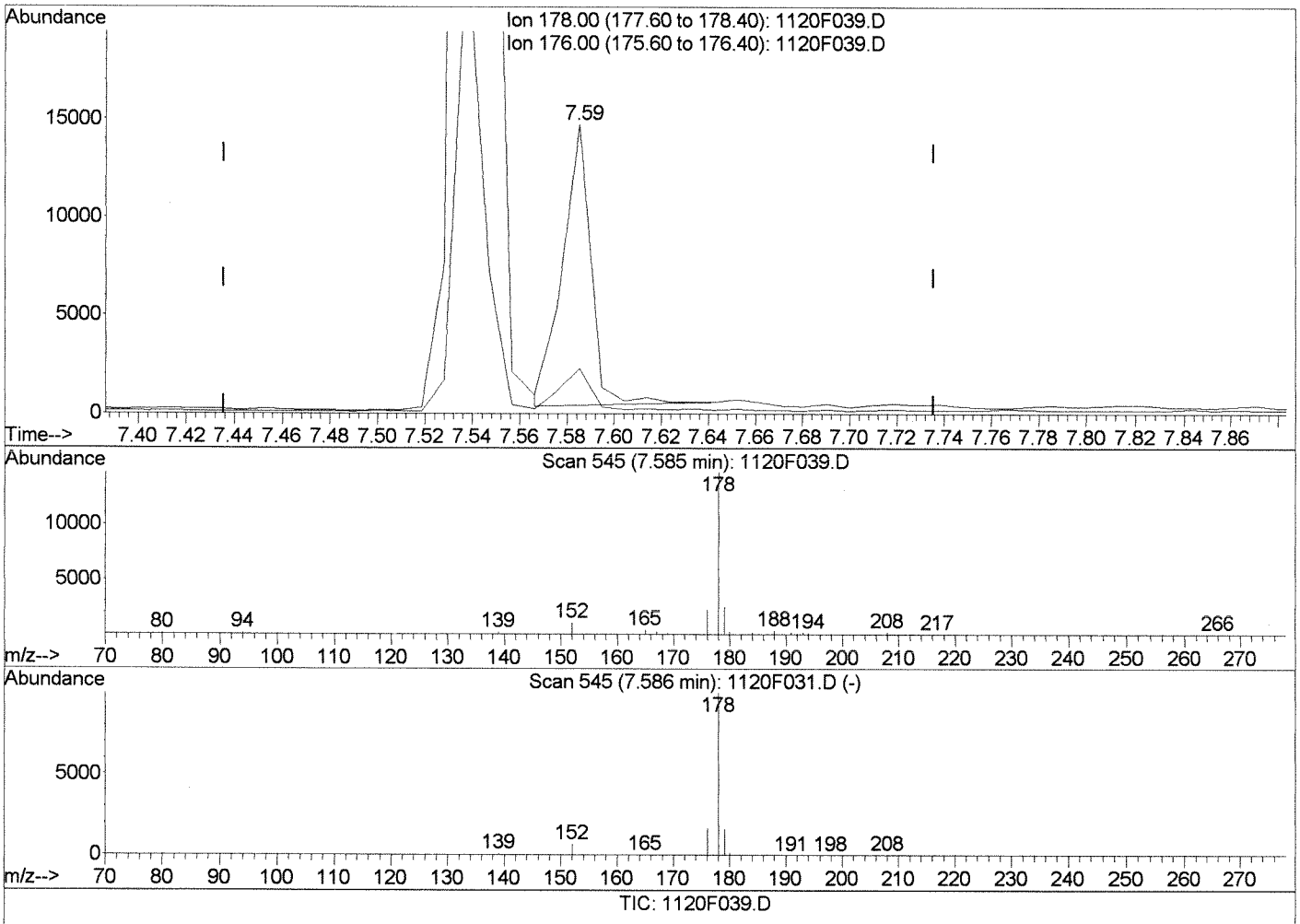
OI 11/23/09 11-24-09

1120F039.D 1119ALK.M Mon Nov 23 08:55:19 2009

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\112009\1120F039.D Vial: 36
Acq On : 21 Nov 2009 2:59 am Operator: LWeiskopf
Sample : K0909140-012 Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 23 8:55 2009 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1119ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Nov 23 08:36:00 2009
Response via : Multiple Level Calibration



(28) Anthracene (T)

7.59min 13.67ng/ml

response 11903

Ion	Exp%	Act%
178.00	100	100
176.00	17.60	14.89
0.00	0.00	0.00
0.00	0.00	0.00

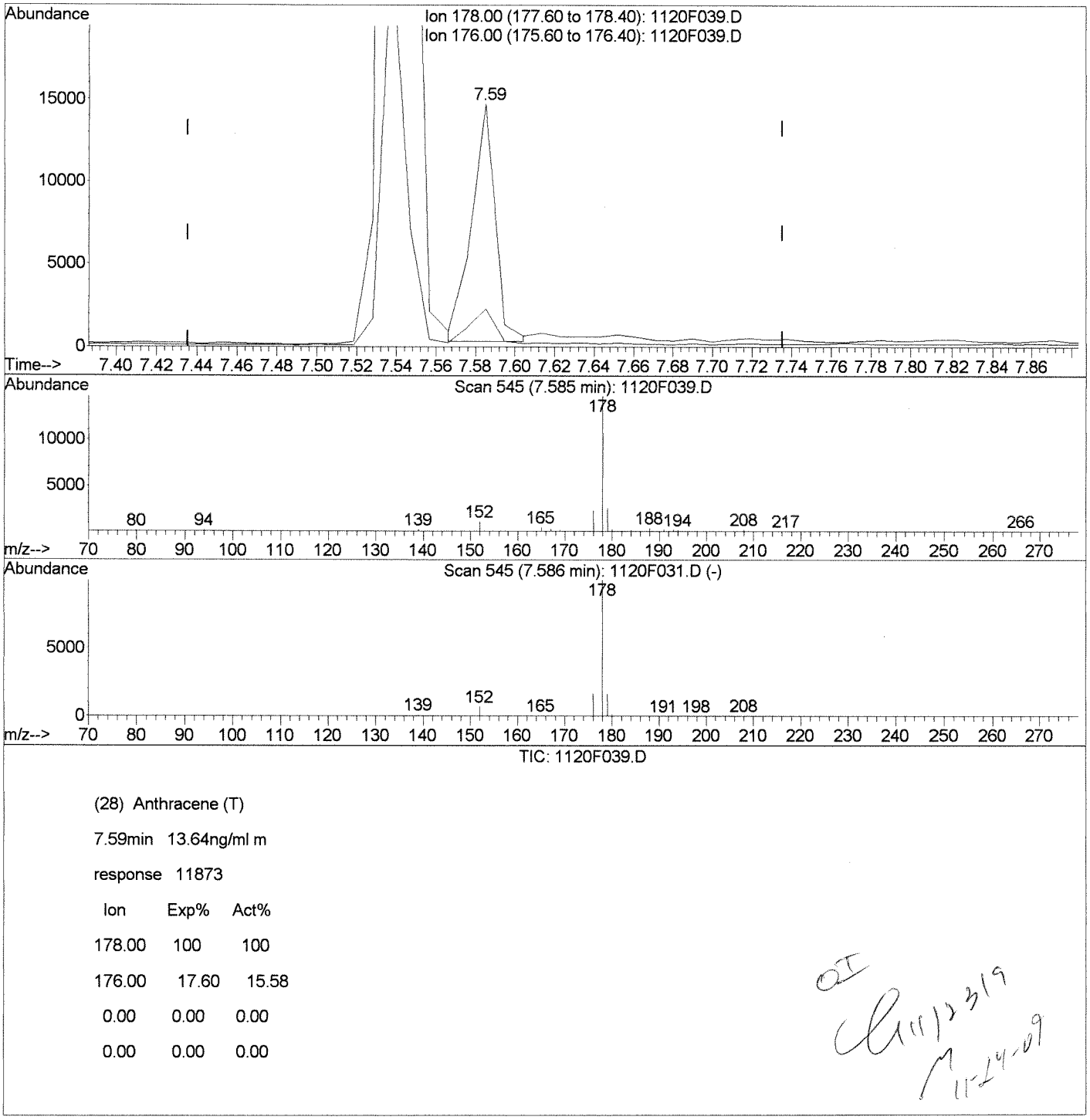
1120F039.D 1119ALK.M Mon Nov 23 08:55:27 2009

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\112009\1120F039.D
Acq On : 21 Nov 2009 2:59 am
Sample : K0909140-012
Misc :
MS Integration Params: RTEINT.P
Quant Time: Nov 23 8:55 2009

Vial: 36
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1119ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Nov 23 08:36:00 2009
Response via : Multiple Level Calibration



TIC: 1120F039.D

(28) Anthracene (T)

7.59min 13.64ng/ml m

response 11873

Ion	Exp%	Act%
178.00	100	100
176.00	17.60	15.58
0.00	0.00	0.00
0.00	0.00	0.00

OI 11/23/09 11-24-09

1120F039.D 1119ALK.M Mon Nov 23 08:55:32 2009

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	URS Corporation	**Service Request:**	K0909140
Project:	Boise St. Helens Pulp and Paper Mill-2009	**Date Collected:**	10/05/2009
Sample Matrix:	Sediment	**Date Received:**	10/06/2009

Polynuclear Aromatic Hydrocarbons

Sample Name:	M-3-A	**Units:**	ug/Kg
Lab Code:	K0909140-013	**Basis:**	Dry
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270C SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Naphthalene	**410**		2.7	0.60	1	11/10/09	11/21/09	KWG0910535	
2-Methylnaphthalene	**110**		2.7	0.46	1	11/10/09	11/21/09	KWG0910535	
Acenaphthylene	**110**		2.7	0.56	1	11/10/09	11/21/09	KWG0910535	
Acenaphthene	**90**		2.7	0.50	1	11/10/09	11/21/09	KWG0910535	
Fluorene	**96**		2.7	0.61	1	11/10/09	11/21/09	KWG0910535	
Dibenzofuran	**67**		2.7	0.63	1	11/10/09	11/21/09	KWG0910535	
Phenanthrene	**670**		2.7	1.4	1	11/10/09	11/21/09	KWG0910535	
Anthracene	**140**		2.7	0.55	1	11/10/09	11/21/09	KWG0910535	
Fluoranthene	**950**		2.7	0.98	1	11/10/09	11/21/09	KWG0910535	
Pyrene	**780**		2.7	0.76	1	11/10/09	11/21/09	KWG0910535	
Benz(a)anthracene	**310**		2.7	0.72	1	11/10/09	11/21/09	KWG0910535	
Chrysene	**430**		2.7	0.80	1	11/10/09	11/21/09	KWG0910535	
Benzo(b)fluoranthene	**480**		2.7	0.92	1	11/10/09	11/21/09	KWG0910535	
Benzo(k)fluoranthene	**160**		2.7	0.87	1	11/10/09	11/21/09	KWG0910535	
Benzo(a)pyrene	**480**		2.7	0.76	1	11/10/09	11/21/09	KWG0910535	
Indeno(1,2,3-cd)pyrene	**390**		2.7	0.87	1	11/10/09	11/21/09	KWG0910535	
Dibenz(a,h)anthracene	**55**		2.7	0.80	1	11/10/09	11/21/09	KWG0910535	
Benzo(g,h,i)perylene	**460**		2.7	0.85	1	11/10/09	11/21/09	KWG0910535	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	78	17-104	11/21/09	Acceptable
Fluoranthene-d10	82	27-106	11/21/09	Acceptable
Terphenyl-d14	68	35-109	11/21/09	Acceptable

Comments:

Exception Report

Data File: J:\MS11\DATA\112009\1120F040.D
Lab ID: K0909140-013
RunType: SMPL
Matrix: SEDIMENT

Date Acquired: 11/21/2009 03:25
Date Quantitated: 11/23/2009 08:57
Batch ID: KWG0911040
Analysis Method: 8270C SIM
ListJoinID: LJ5646

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Tune Window	NA	NA	NA	x	
Analytical Holding Time	NA	NA	NA	x	
Preparation Holding Time	NA	NA	NA	x	
Pre-Preparation Holding Time	NA	NA	NA	x	
ICAL Pass/Fail	NA	NA	NA	x	
ICAL Average RSD	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Initial Calibration Minimum RF	NA	NA	NA	x	
Initial Calibration SPCC/CCC	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA	x	
Continuing Calibration Minimum RF	NA	NA	NA	x	
Continuing Calibration SPCC/CCC	NA	NA	NA	x	
Method Blank	NA	NA	NA	x	
MB Surrogate Recovery	NA	NA	NA	x	
Lab Control Spike	NA	NA	NA	x	
Internal Standards	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Relative Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Primary Review: 11/23/09

Secondary Review: 11-24-09

Quantitation Report

Bottle ID:		**Tier:**	V	**Matrix:**	SEDIMENT
Prod Code:	8270C SIM PAH_S	**Collect Date:**	10/05/2009	**Receive Date:**	10/06/2009

Analysis Lot:	KWG0911040	**Prep Lot:**	KWG0910535	**Report Group:**	K0909140
Analysis Method:	8270C SIM	**Prep Method:**	EPA 3541		
Prep Ref:	865766	**Prep Date:**	11/10/2009		

Quant Method:	J:\MS11\METHODS\SIM\1119ALK.M	**Calibration ID:**	CAL9029
Title:	Polynuclear Aromatic Hydrocarbons	**Report List ID:**	LJ5646
Tune Ref:	J:\MS11\DATA\112009\1120F030.D	**Method ID:**	MJ253
MB Ref:	J:\MS11\DATA\111909\1119F041.D	**Quant based on Report List**	

Data File:	J:\MS11\DATA\112009\1120F040.D			**Instrument:**	MS11
Acqu Date:	11/21/2009 03:25	**Quant Date:**	11/23/2009 08:57	**Vial:**	37
Run Type:	SMPL			**Dilution:**	1.0
Lab ID:	K0909140-013			**Soln Conc. Units:**	ng/ml

Internal Standard Compounds

IS Ref	Parameter Name	RT	RT Dev	Quant Mass	Response	Solution Conc	Area Criteria
1	Naphthalene-d8	4.87	0.00	136	152013	200.00	OK
2	Acenaphthene-d10	6.29	0.00	164	84935	200.00	OK
3	Phenanthrene-d10	7.52	0.00	188	171613	200.00	OK
4	Chrysene-d12	10.26	0.01	240	302020	200.00	OK
5	Perylene-d12	13.84	0.02	264	349424	200.00	OK

Surrogate Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	%Rec	%Rec Limits		Rpt?
2	Fluorene-d10	6.72	0.00	0.00	176	74660	156.55	78	17-104	OK	
3	Fluoranthene-d10	8.51	0.01	0.00	212	169689	163.55	82	27-106	OK	
4	Terphenyl-d14	8.89	0.00	0.00	244	170935	136.72	68	35-109	OK	

Target Compounds

Final Conc. Units: ug/Kg Dry Weight

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	Final Conc	Q	Rpt?
1	Naphthalene	4.88	-0.01	0.00	128	525187	785.43	410		
1	2-Methylnaphthalene	5.44		0.00	142	99533	206.64	110		
2	Acenaphthylene	6.17	-0.01	0.00	152	141860	203.25	110		
2	Acenaphthene	6.32		0.00	154	70742	170.64	90		
2	Dibenzofuran	6.46		0.00	168	80299	127.88	67		
2	Fluorene	6.74		0.00	166	95403**m**	181.65	96		
3	Phenanthrene	7.54		0.00	178	1159679	1,267	670		
3	Anthracene	7.59		0.00	178	231184	262.94	140		
3	Fluoranthene	8.52		0.00	202	1913744	1,799	950		
4	Pyrene	8.74	0.01	0.00	202	2380665	1,486	780		
4	Benz(a)anthracene	10.23		0.00	228	914244	592.55	310		
4	Chrysene	10.29		0.00	228	1195518	811.36	430		
5	Benzo(b)fluoranthene	12.63	0.01	0.00	252	1668628	916.48	480		

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Data File:	J:\MS11\DATA\112009\1120F040.D			**Instrument:**	MS11
Acqu Date:	11/21/2009 03:25	**Quant Date:**	11/23/2009 08:57	**Vial:**	37
Run Type:	SMPL			**Dilution:**	1.0
Lab ID:	K0909140-013			**Soln Conc. Units:**	ng/ml

Target Compounds

Final Conc. Units: ug/Kg Dry Weight

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	Final Conc	Q	Rpt?
5	Benzo(k)fluoranthene	12.71	0.01	0.00	252	524611	304.07	160		
5	Benzo(a)pyrene	13.64	0.03	0.00	252	1473513	918.66	480		
5	Indeno(1,2,3-cd)pyrene	16.99	0.01	0.00	276	1085534	734.20	390		
5	Dibenz(a,h)anthracene	17.06	0.01	0.00	278	162512	105.48	55		
5	Benzo(g,h,i)perylene	17.41	0.02	0.00	276	1470593	880.12	460		

Prep Amount:	20.25 g	**Dilution:**	1.0
Prep Final Vol:	10 ml	**Unit Factor:**	1
Solids:	93.9 %		

Final Concentration = ((Soln Conc x Prep Final Vol x Dilution) / (Prep Amount x Solids)) x Unit Factor

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\112009\1120F040.D Vial: 37
Acq On : 21 Nov 2009 3:25 am Operator: LWeiskopf
Sample : K0909140-013 Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 23 08:36:30 2009 Quant Results File: 1119ALK.RES

Quant Method : J:\MS11\METHODS\SIM\1119ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Nov 23 08:36:00 2009
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	4.87	136	152013	200.00	ng/ml	0.00
10) Acenaphthene-d10	6.29	164	84935	200.00	ng/ml	0.00
22) Phenanthrene-d10	7.52	188	171613	200.00	ng/ml	0.00
37) Chrysene-d12	10.26	240	302020	200.00	ng/ml	0.00
49) Perylene-d12	13.84	264	349424	200.00	ng/ml	-0.03
System Monitoring Compounds						
15) Fluorene-d10	6.72	176	74660	156.55	ng/ml	0.00
Spiked Amount 200.000			Recovery = 78.28%			
20) 2,4,6 Tribromophenol	0.00	330	0d	0.00	ng/ml	
Spiked Amount 375.000			Recovery = 0.00%			
36) Fluoranthene-d10	8.51	212	169689	163.55	ng/ml	0.00
Spiked Amount 200.000			Recovery = 81.78%			
42) Terphenyl-d14	8.89	244	170935	136.72	ng/ml	0.00
Spiked Amount 200.000			Recovery = 68.36%			
Target Compounds						Qvalue
2) Naphthalene	4.88	128	525187	785.43	ng/ml	100
3) 2-Methylnaphthalene	5.44	142	99533	206.64	ng/ml	93
4) 1-Methylnaphthalene	5.51	142	49075	106.21	ng/ml	87
5) Biphenyl	5.81	154	47770	83.36	ng/ml	99
6) 2,6-Dimethylnaphthalene	5.95	156	61696	139.37	ng/ml	99
11) Acenaphthylene	6.17	152	141860	203.25	ng/ml	100
12) Acenaphthene	6.32	154	70742	170.64	ng/ml	90
13) Dibenzofuran	6.46	168	80299	127.88	ng/ml	70
14) 2,3,5-Trimethylnaphthalene	6.63	170	43758	98.84	ng/ml	96
16) Fluorene	6.74	166	95403m	181.65	ng/ml	
23) Dibenzothiophene	7.43	184	89270	116.79	ng/ml	94
27) Phenanthrene	7.54	178	1159679	1267.47	ng/ml	100
28) Anthracene	7.59	178	231184	262.94	ng/ml	96
29) Carbazole	7.72	167	20085m	26.75	ng/ml	
30) 1-Methylphenanthrene	8.04	192	98344	138.07	ng/ml	93
35) Fluoranthene	8.52	202	1913744	1799.26	ng/ml	90
38) Pyrene	8.74	202	2380665	1486.39	ng/ml	89
43) Benz(a)anthracene	10.23	228	914244	592.55	ng/ml	48
44) Chrysene	10.29	228	1195518	811.36	ng/ml	98
50) Benzo(b)fluoranthene	12.63	252	1668628	916.48	ng/ml	99
51) Benzo(k)fluoranthene	12.71	252	524611	304.07	ng/ml	99
52) Benzo(e)pyrene	13.46	252	1098616	658.43	ng/ml	99
53) Benzo(a)pyrene	13.64	252	1473513	918.66	ng/ml	99
54) Perylene	13.93	252	685787	432.94	ng/ml	96
55) Indeno(1,2,3-cd)pyrene	16.99	276	1085534	734.20	ng/ml	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\112009\1120F040.D Vial: 37
Acq On : 21 Nov 2009 3:25 am Operator: LWeiskopf
Sample : K0909140-013 Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 23 08:36:30 2009 Quant Results File: 1119ALK.RES

Quant Method : J:\MS11\METHODS\SIM\1119ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Nov 23 08:36:00 2009
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

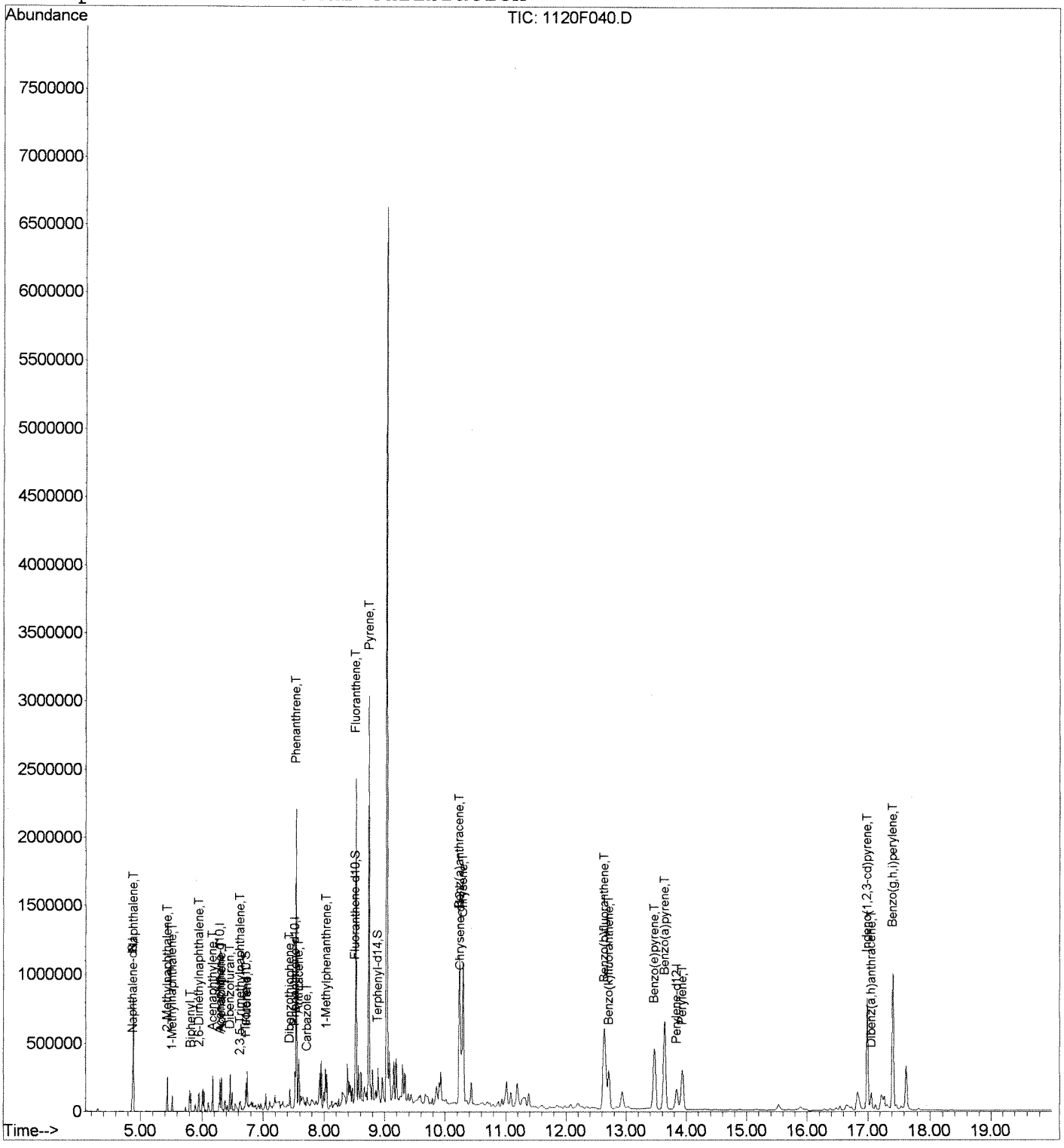
	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
56)	Dibenz(a,h)anthracene	17.06	278	162512	105.48	ng/ml	95
57)	Benzo(g,h,i)perylene	17.41	276	1470593	880.12	ng/ml	100

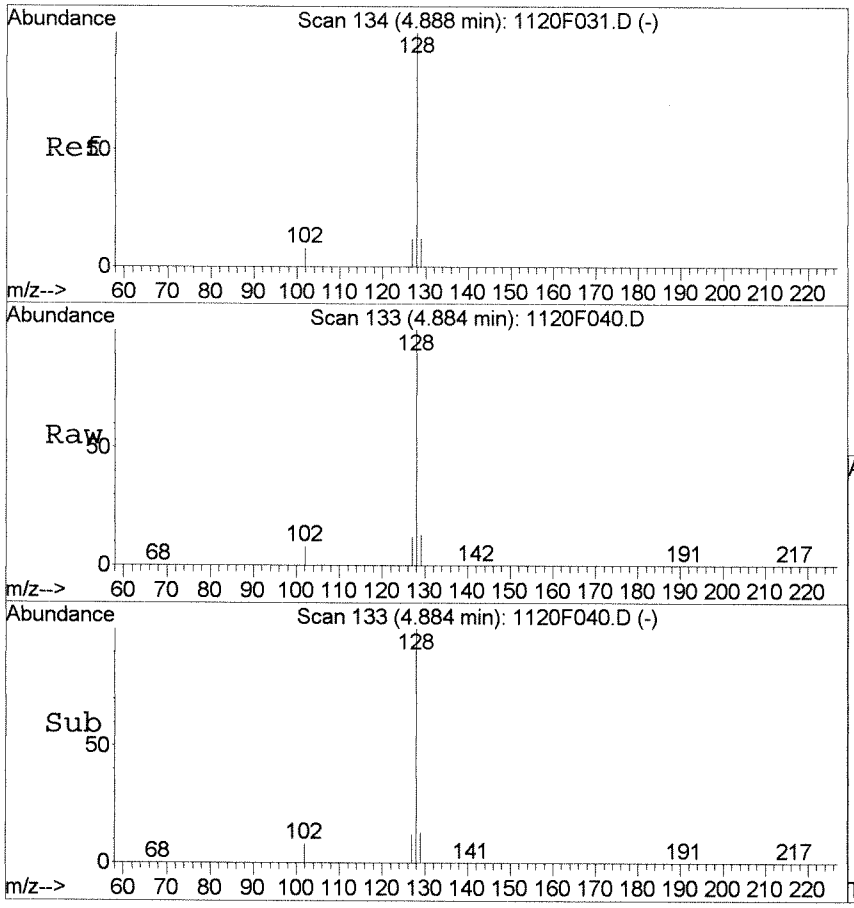
(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\112009\1120F040.D Vial: 37
Acq On : 21 Nov 2009 3:25 am Operator: LWeiskopf
Sample : K0909140-013 Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 23 8:57 2009 Quant Results File: 1119ALK.RES

Method : J:\MS11\METHODS\SIM\1119ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Nov 23 08:36:00 2009
Response via : Initial Calibration

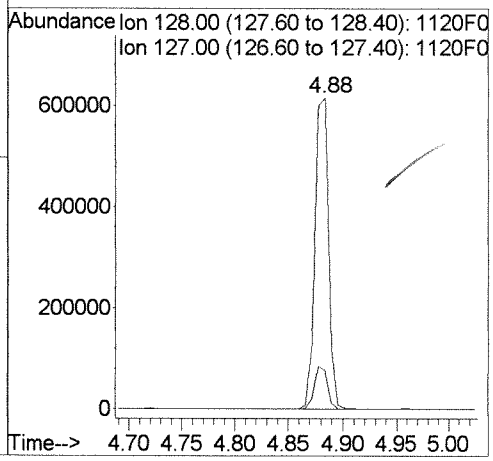


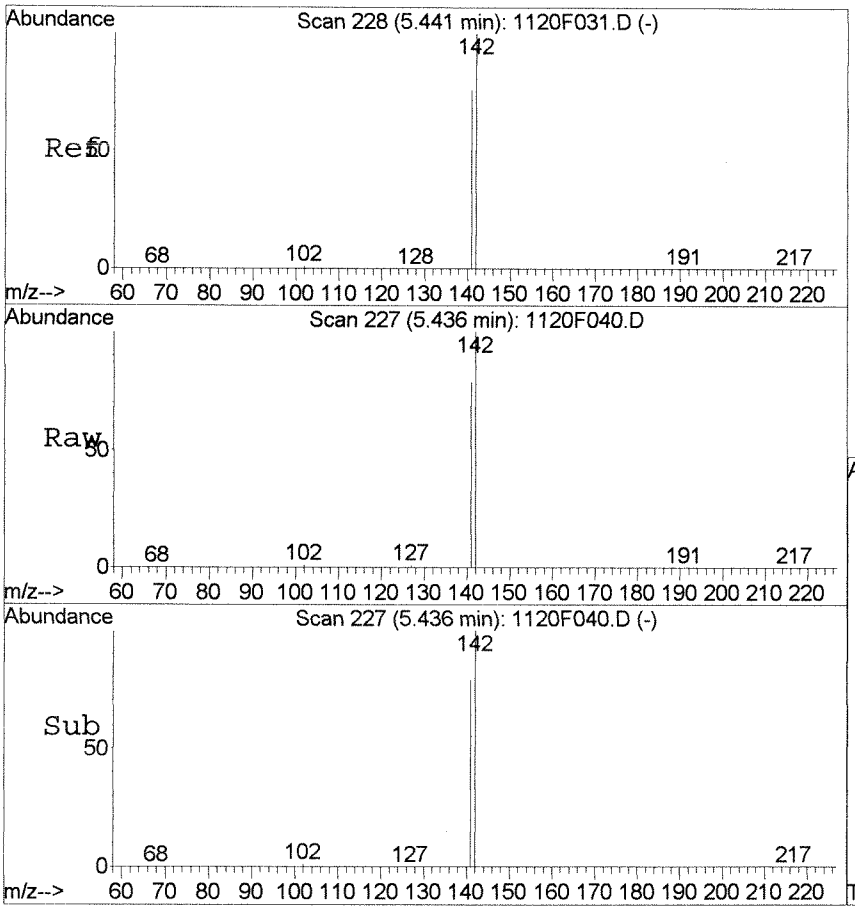


#2
Naphthalene
Concen: 785.43 ng/ml
RT: 4.88 min Scan# 133
Delta R.T. -0.00 min
Lab File: 1120F040.D
Acq: 21 Nov 2009 3:25 am

Tgt Ion:128 Resp: 525187

Ion	Ratio	Lower	Upper
128	100		
127	12.3	0.0	42.4

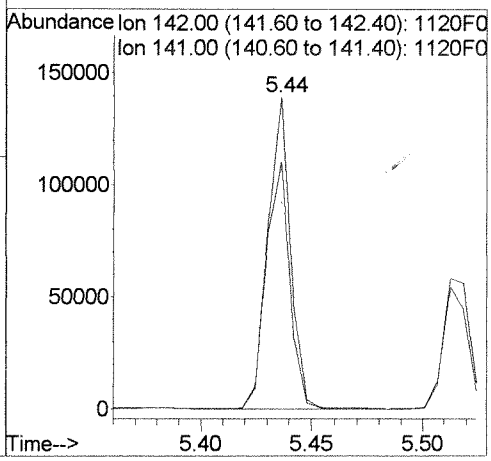


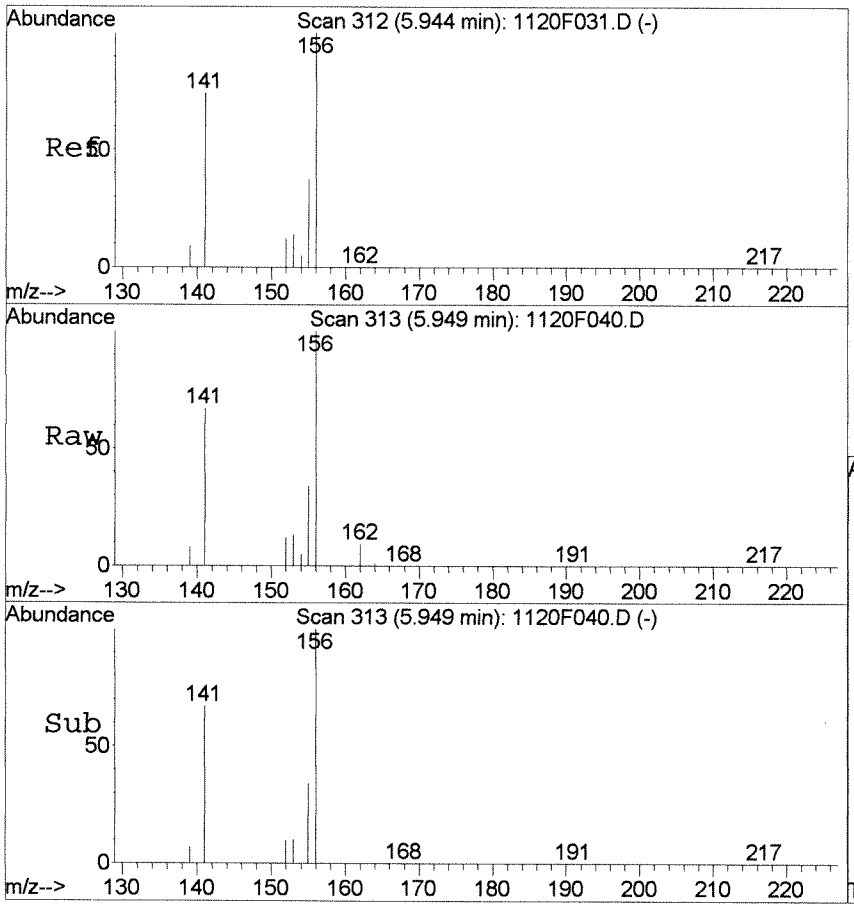


#3
2-Methylnaphthalene
Concen: 206.64 ng/ml
RT: 5.44 min Scan# 227
Delta R.T. -0.00 min
Lab File: 1120F040.D
Acq: 21 Nov 2009 3:25 am

Tgt Ion:142 Resp: 99533

Ion	Ratio	Lower	Upper
142	100		
141	79.3	56.1	116.1

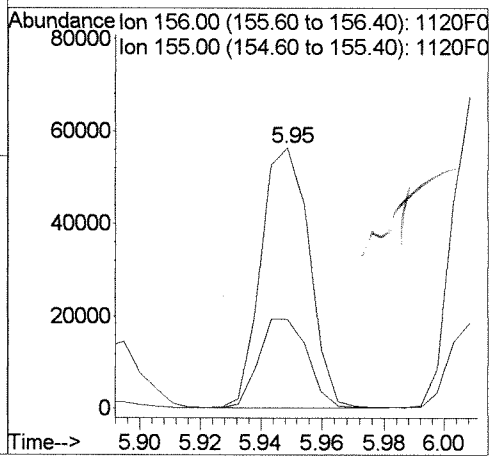


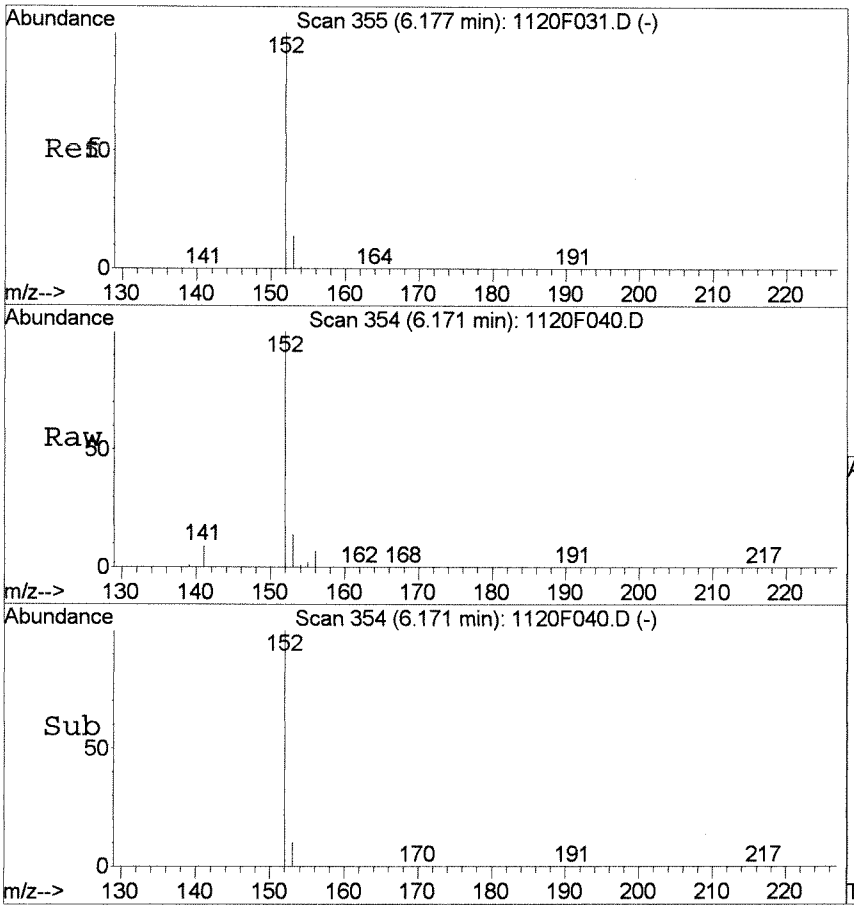


#6
2,6-Dimethylnaphthalene
Concen: 139.37 ng/ml
RT: 5.95 min Scan# 313
Delta R.T. -0.00 min
Lab File: 1120F040.D
Acq: 21 Nov 2009 3:25 am

Tgt Ion:156 Resp: 61696

Ion	Ratio	Lower	Upper
156	100		
155	34.1	3.7	63.7

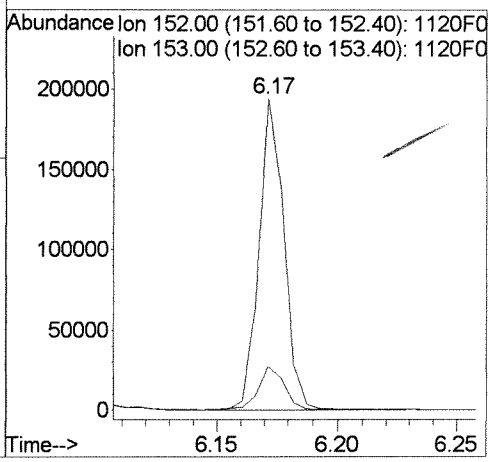


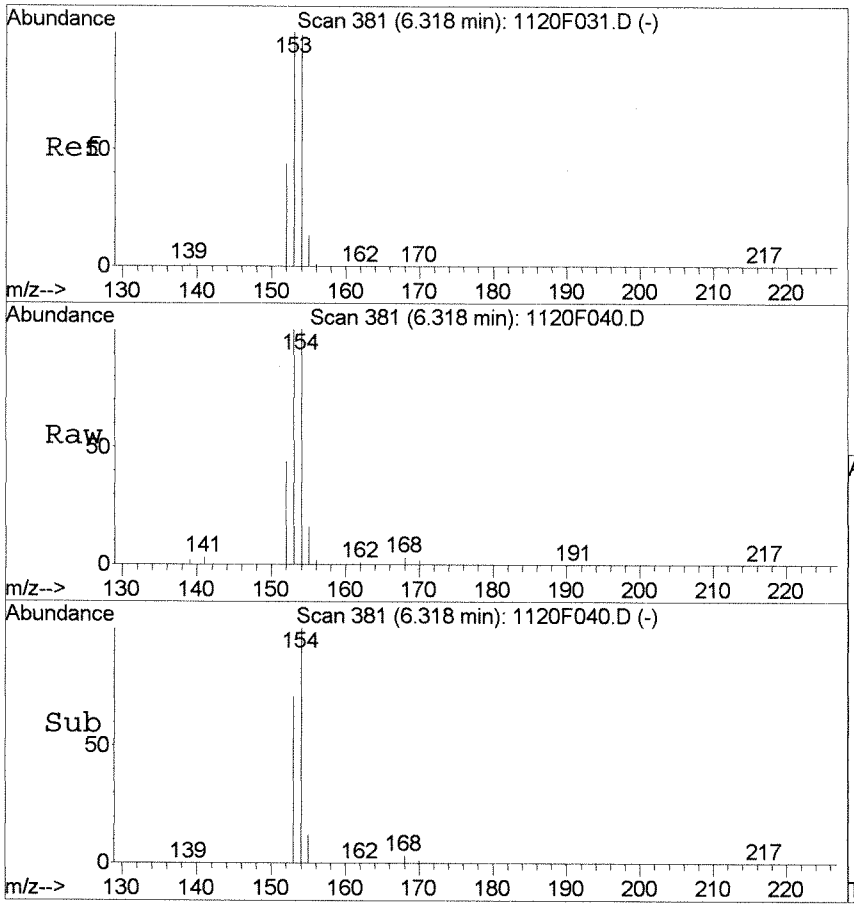


#11
Acenaphthylene
Concen: 203.25 ng/ml
RT: 6.17 min Scan# 354
Delta R.T. -0.01 min
Lab File: 1120F040.D
Acq: 21 Nov 2009 3:25 am

Tgt Ion:152 Resp: 141860

Ion	Ratio	Lower	Upper
152	100		
153	13.9	0.0	44.1

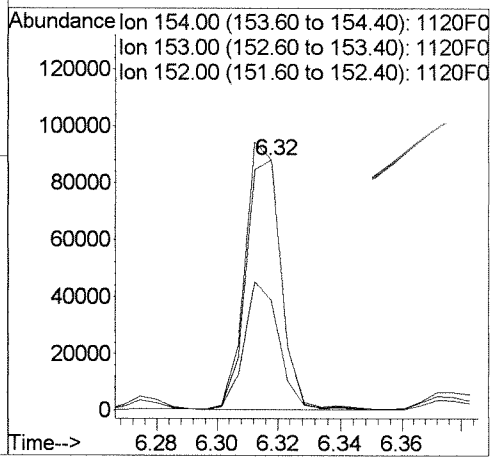


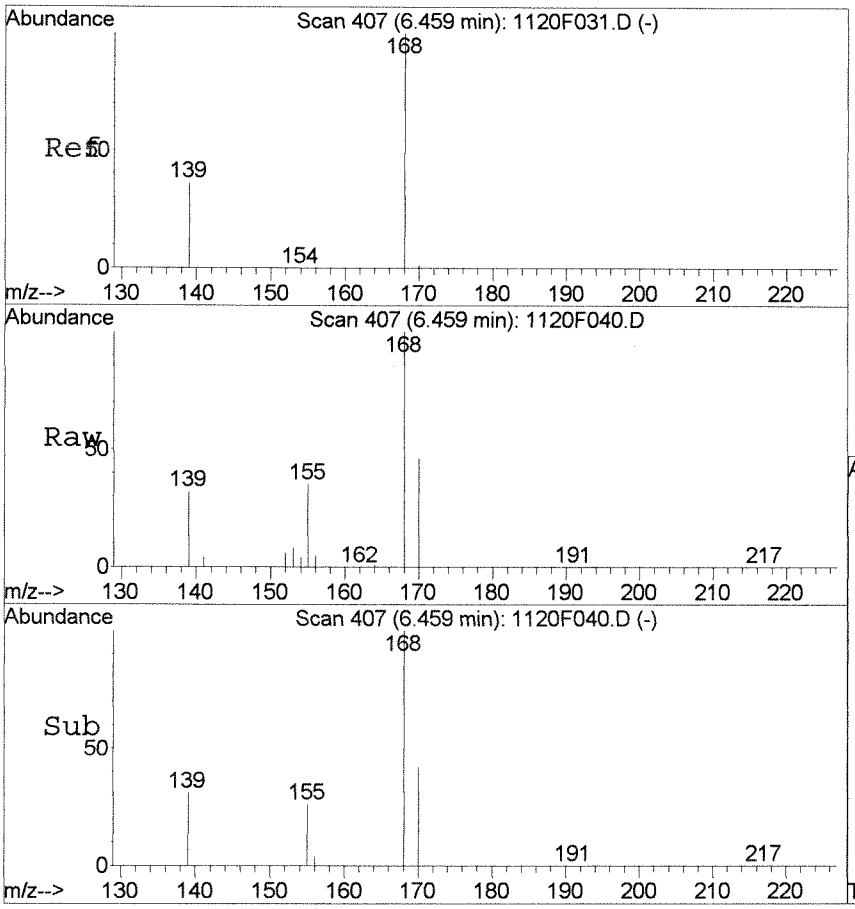


#12
Acenaphthene
Concen: 170.64 ng/ml
RT: 6.32 min Scan# 381
Delta R.T. -0.00 min
Lab File: 1120F040.D
Acq: 21 Nov 2009 3:25 am

Tgt Ion:154 Resp: 70742

Ion	Ratio	Lower	Upper
154	100		
153	99.9	77.8	137.8
152	43.6	24.7	84.7

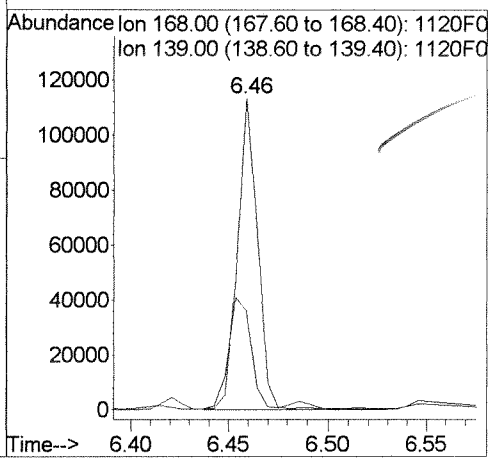


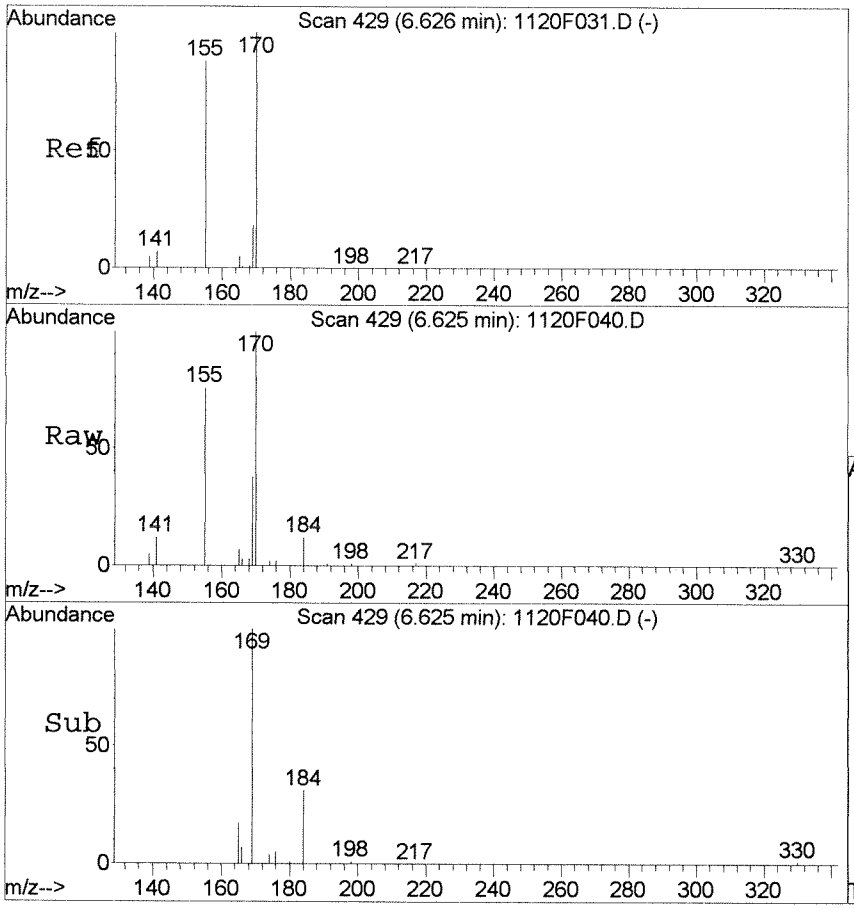


#13
Dibenzofuran
Concen: 127.88 ng/ml
RT: 6.46 min Scan# 407
Delta R.T. -0.00 min
Lab File: 1120F040.D
Acq: 21 Nov 2009 3:25 am

Tgt Ion:168 Resp: 80299

Ion	Ratio	Lower	Upper
168	100		
139	31.7	23.3	83.3

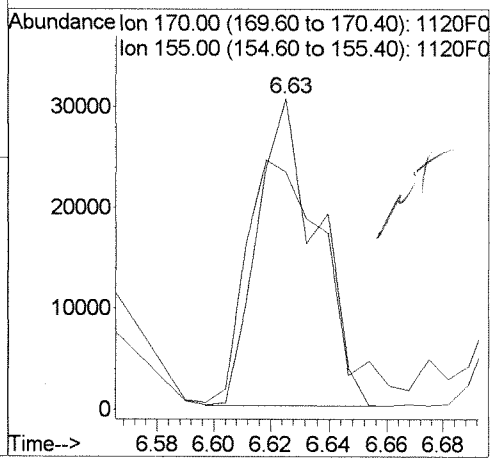


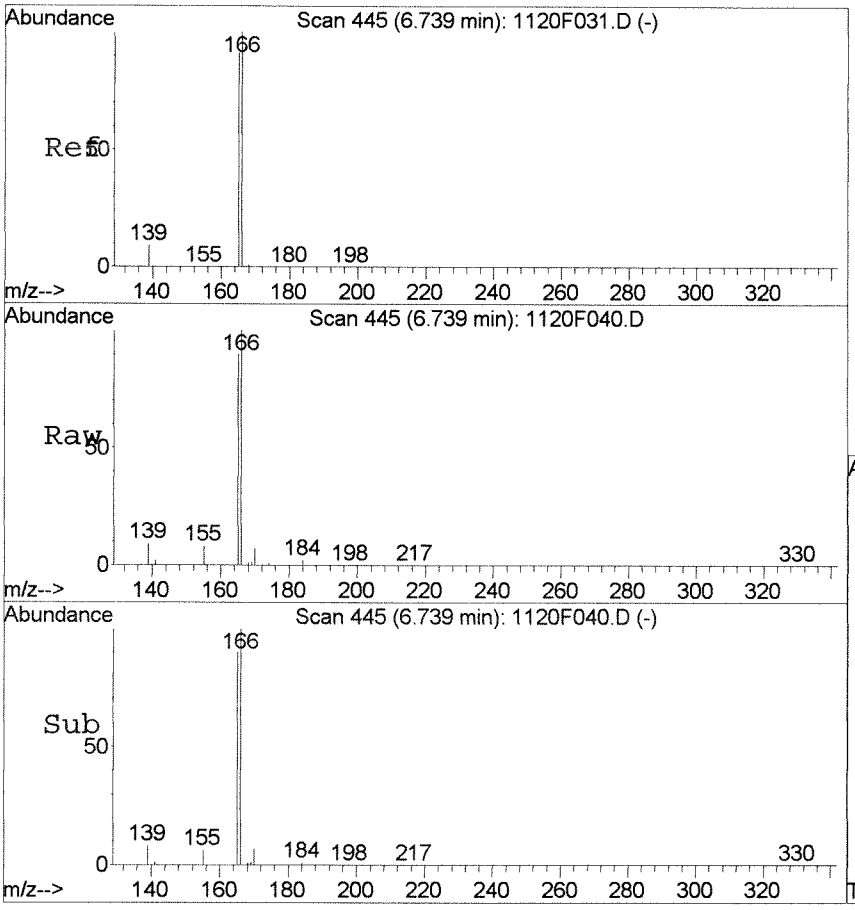


#14
2,3,5-Trimethylnaphthalene
Concen: 98.84 ng/ml
RT: 6.63 min Scan# 429
Delta R.T. -0.01 min
Lab File: 1120F040.D
Acq: 21 Nov 2009 3:25 am

Tgt Ion:170 Resp: 43758

Ion	Ratio	Lower	Upper
170	100		
155	74.9	48.2	108.2

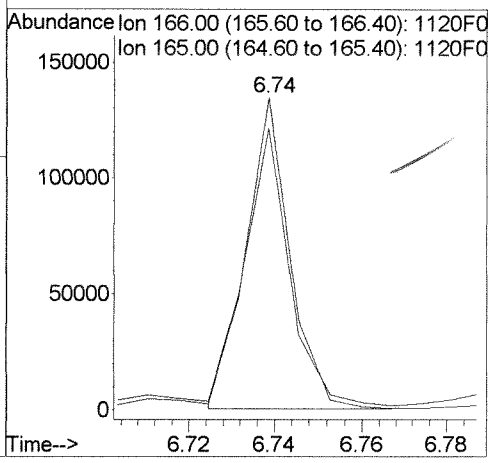


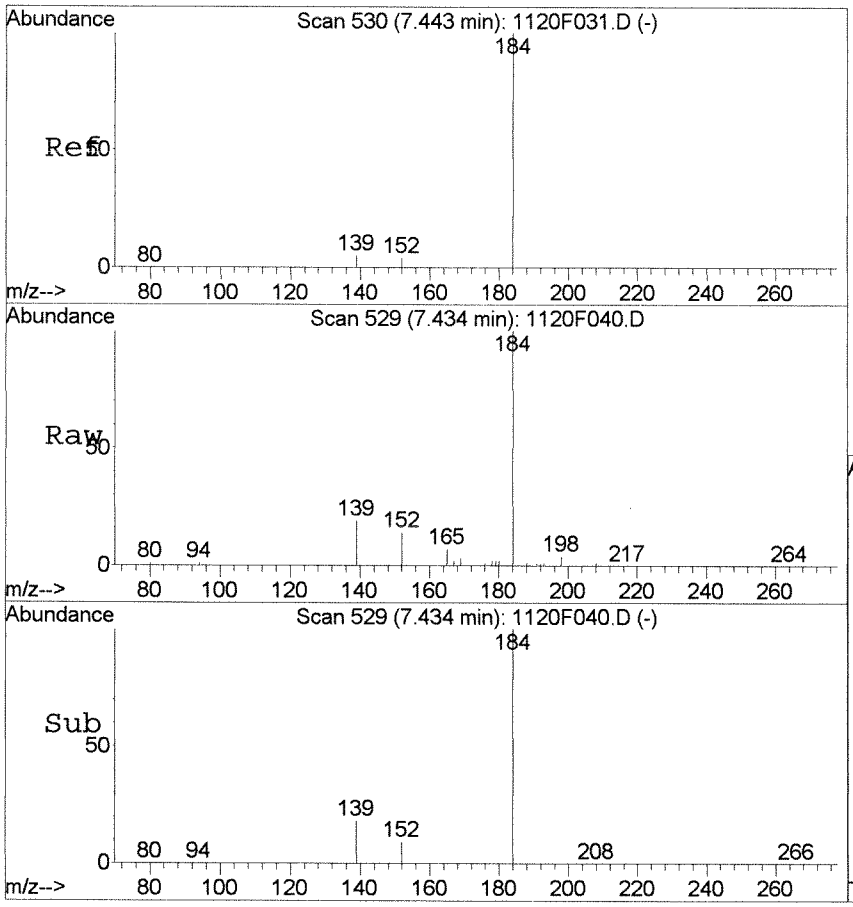


#16
Fluorene
Concen: 181.65 ng/ml m
RT: 6.74 min Scan# 445
Delta R.T. -0.01 min
Lab File: 1120F040.D
Acq: 21 Nov 2009 3:25 am

Tgt Ion:166 Resp: 95403

Ion	Ratio	Lower	Upper
166	100		
165	90.2	57.8	117.8

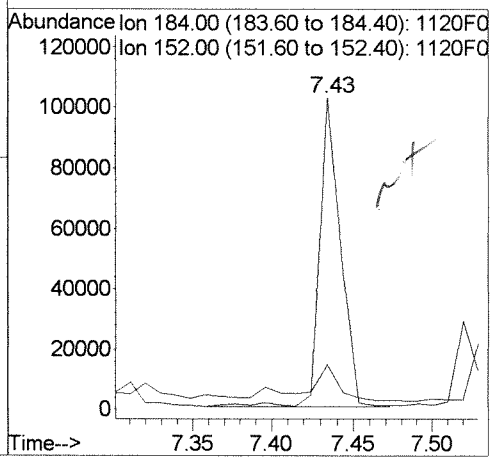


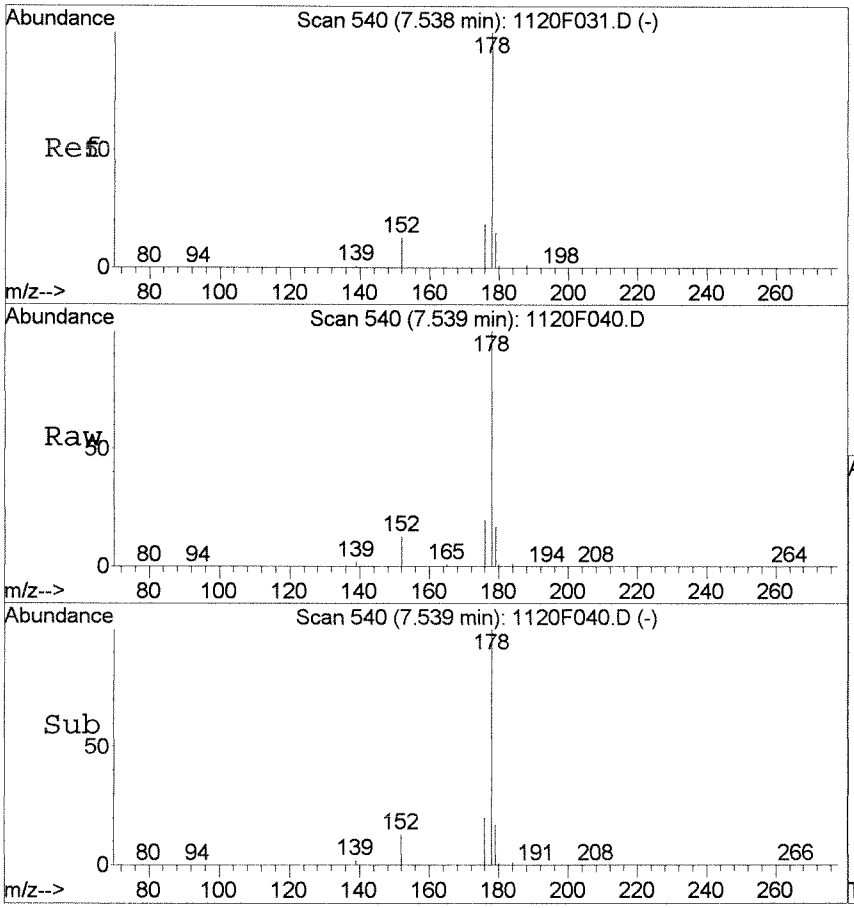


#23
Dibenzothiophene
Concen: 116.79 ng/ml
RT: 7.43 min Scan# 529
Delta R.T. -0.00 min
Lab File: 1120F040.D
Acq: 21 Nov 2009 3:25 am

Tgt Ion:184 Resp: 89270

Ion	Ratio	Lower	Upper
184	100		
152	11.5	0.0	39.4

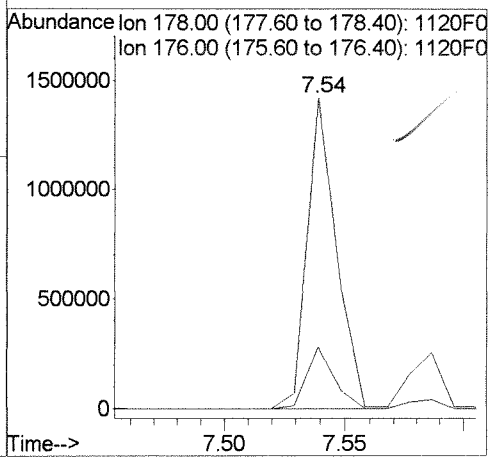


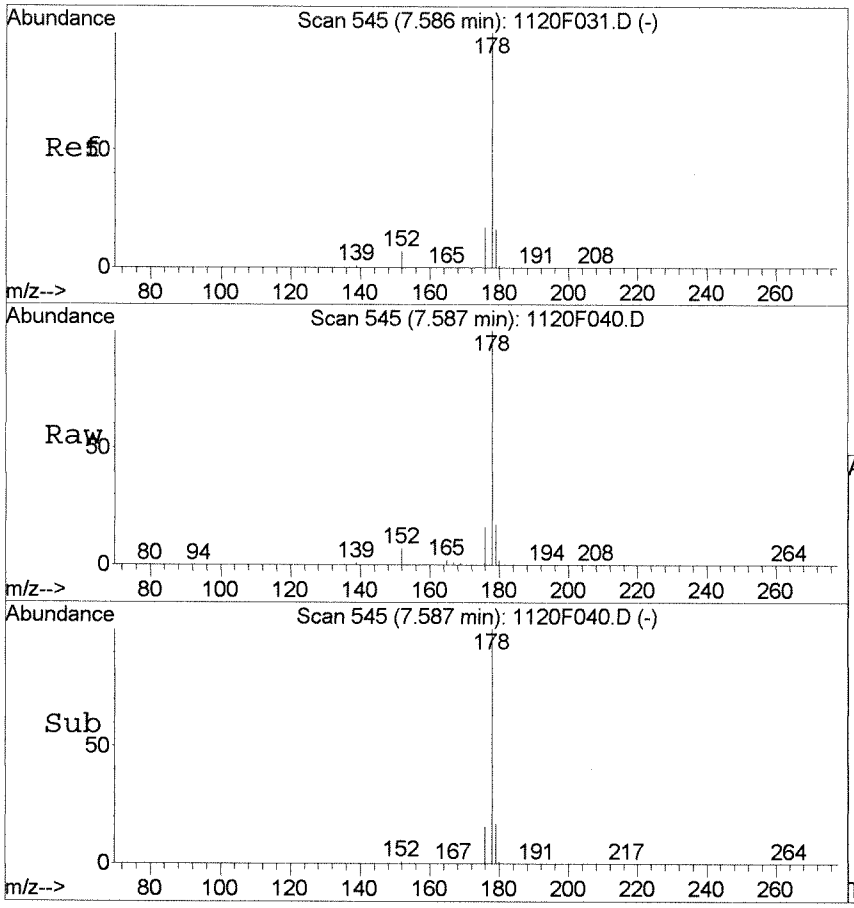


#27
Phenanthrene
Concen: 1267.47 ng/ml
RT: 7.54 min Scan# 540
Delta R.T. -0.01 min
Lab File: 1120F040.D
Acq: 21 Nov 2009 3:25 am

Tgt Ion:178 Resp: 1159679

Ion	Ratio	Lower	Upper
178	100		
176	19.7	0.0	49.6

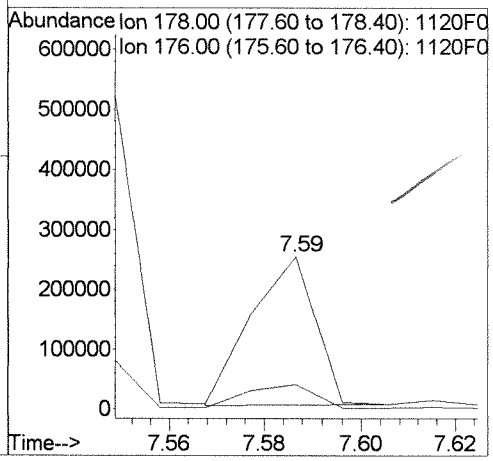


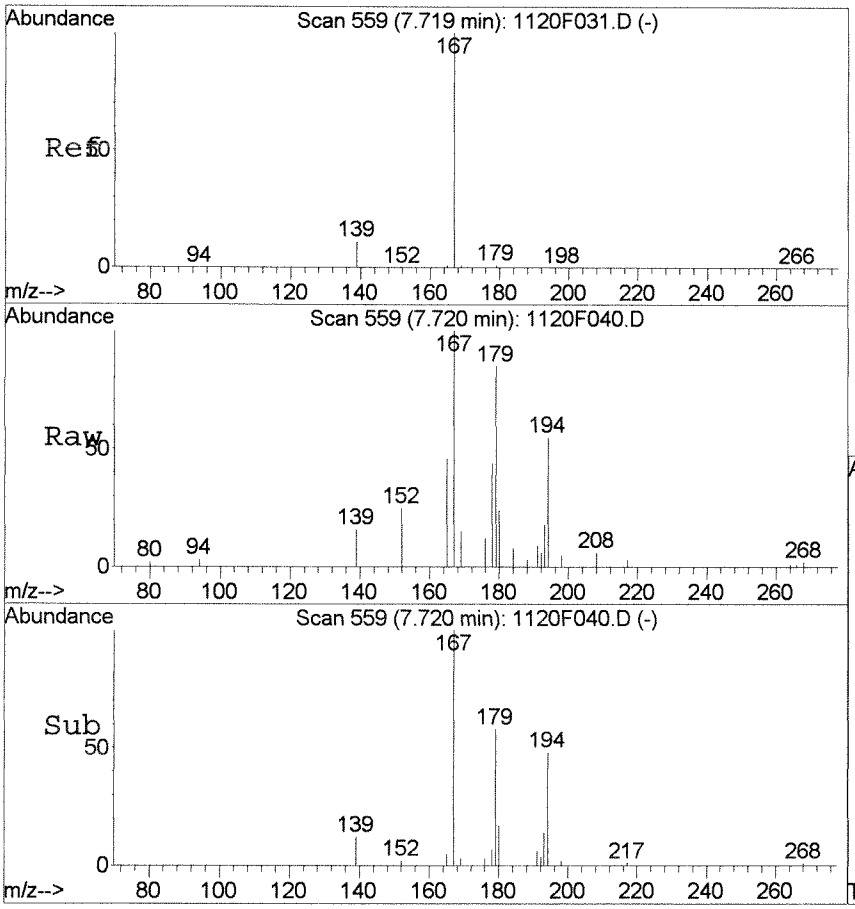


#28
Anthracene
Concen: 262.94 ng/ml
RT: 7.59 min Scan# 545
Delta R.T. 0.00 min
Lab File: 1120F040.D
Acq: 21 Nov 2009 3:25 am

Tgt Ion:178 Resp: 231184

Ion	Ratio	Lower	Upper
178	100		
176	16.0	0.0	47.6

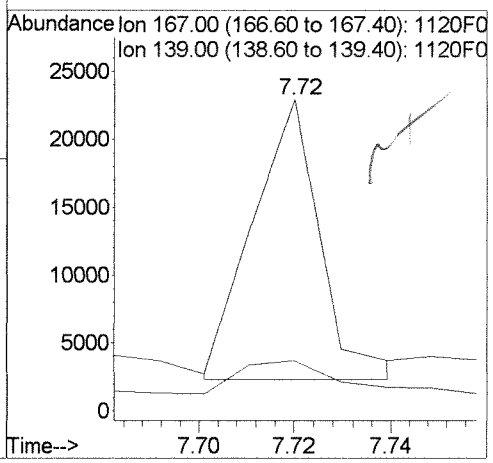


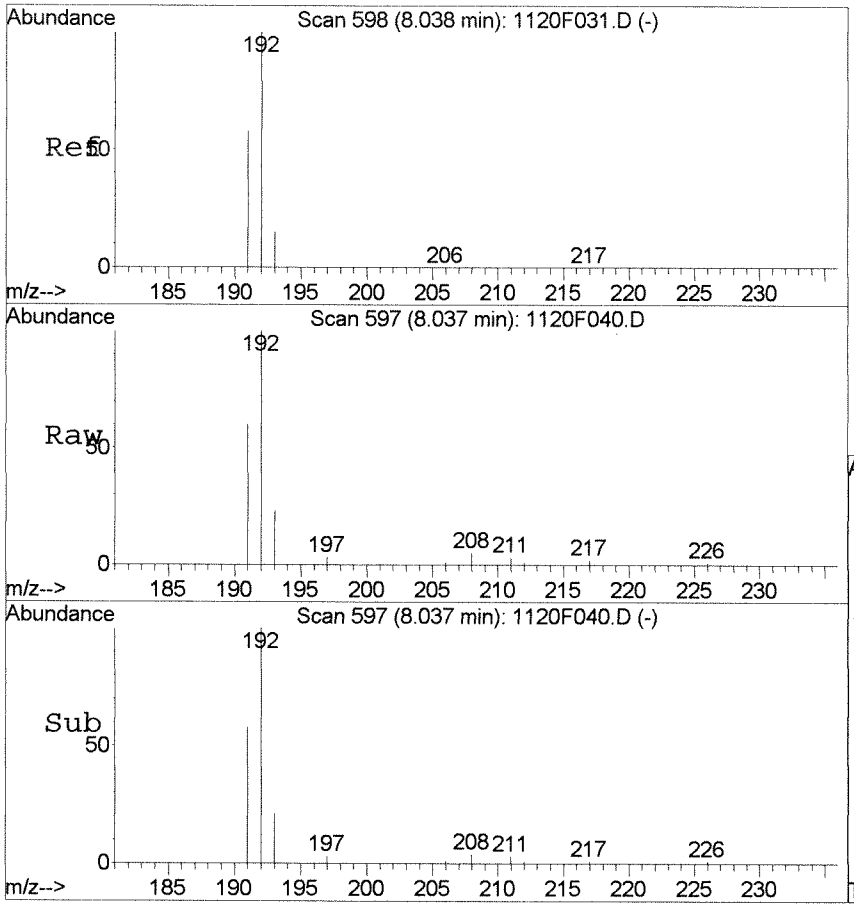


#29
Carbazole
Concen: 26.75 ng/ml m
RT: 7.72 min Scan# 559
Delta R.T. -0.00 min
Lab File: 1120F040.D
Acq: 21 Nov 2009 3:25 am

Tgt Ion:167 Resp: 20085

Ion	Ratio	Lower	Upper
167	100		
139	16.1	0.0	45.7

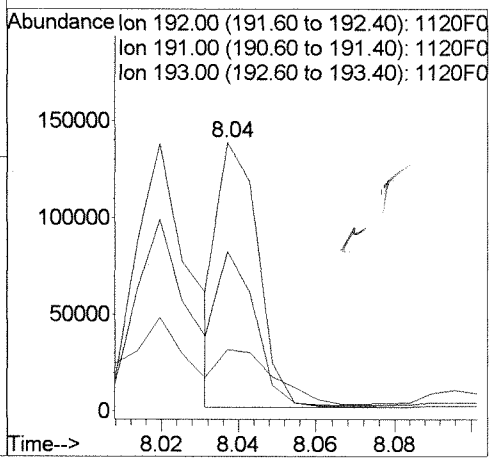


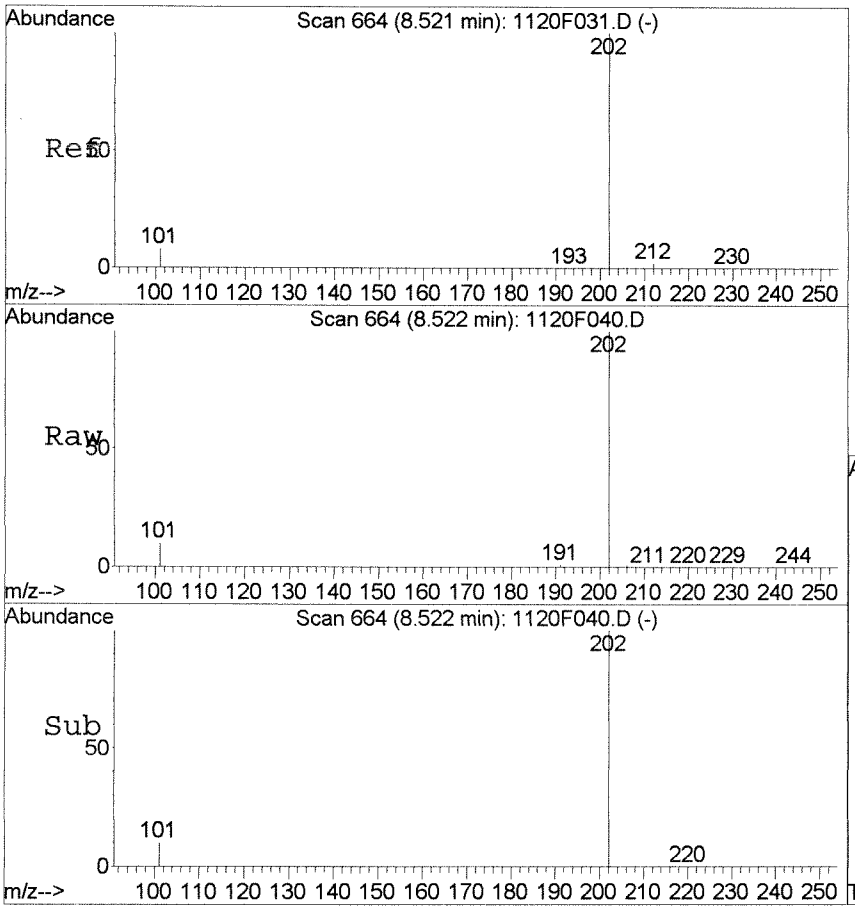


#30
1-Methylphenanthrene
Concen: 138.07 ng/ml
RT: 8.04 min Scan# 597
Delta R.T. -0.01 min
Lab File: 1120F040.D
Acq: 21 Nov 2009 3:25 am

Tgt Ion:192 Resp: 98344

Ion	Ratio	Lower	Upper
192	100		
191	58.2	23.0	83.0
193	20.4	0.0	47.0

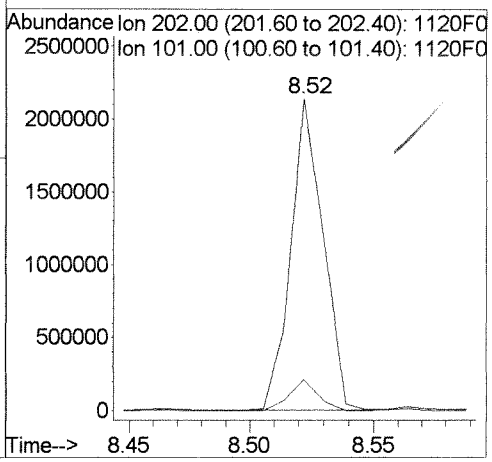


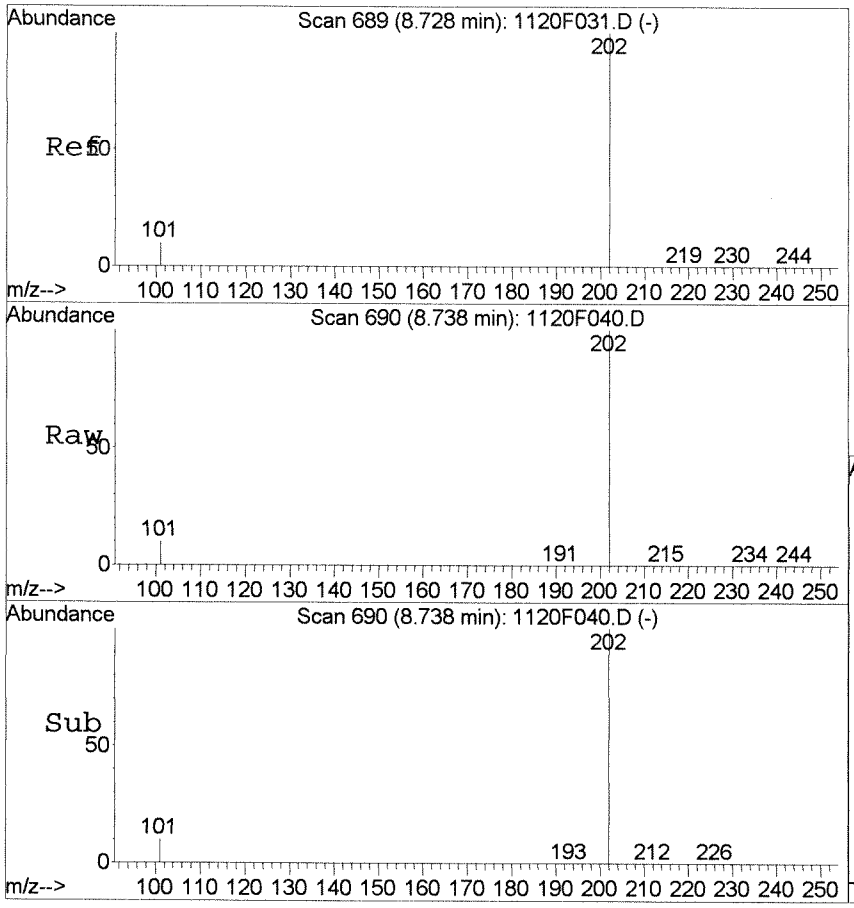


#35
Fluoranthene
Concen: 1799.26 ng/ml
RT: 8.52 min Scan# 664
Delta R.T. -0.01 min
Lab File: 1120F040.D
Acq: 21 Nov 2009 3:25 am

Tgt Ion:202 Resp: 1913744

Ion	Ratio	Lower	Upper
202	100		
101	9.8	0.0	36.5

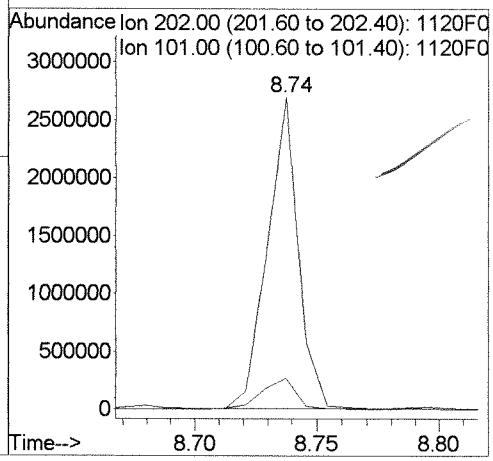


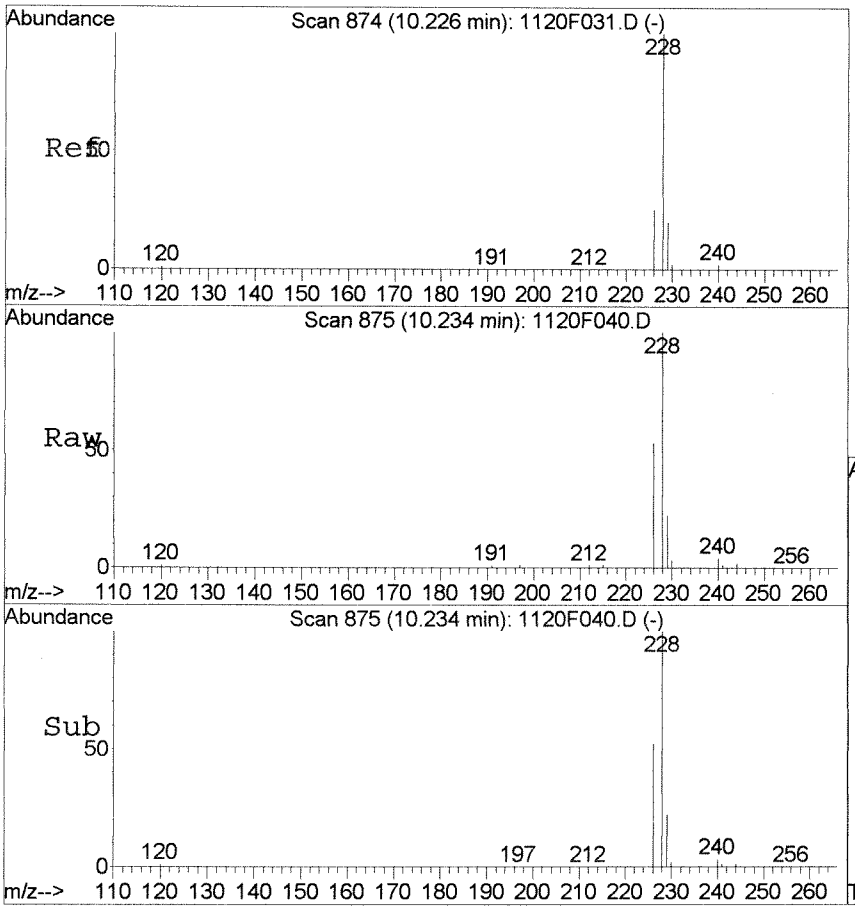


#38
Pyrene
Concen: 1486.39 ng/ml
RT: 8.74 min Scan# 690
Delta R.T. -0.01 min
Lab File: 1120F040.D
Acq: 21 Nov 2009 3:25 am

Tgt Ion:202 Resp: 2380665

Ion	Ratio	Lower	Upper
202	100		
101	10.0	0.0	36.4

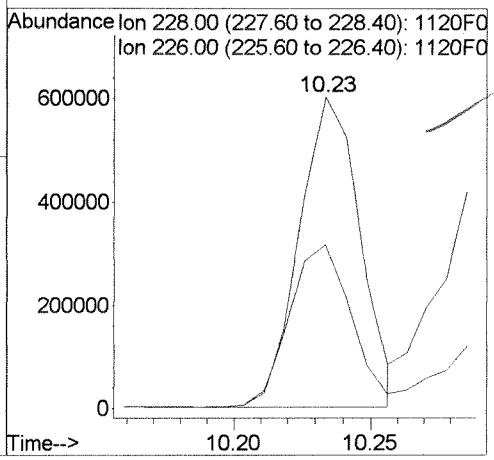


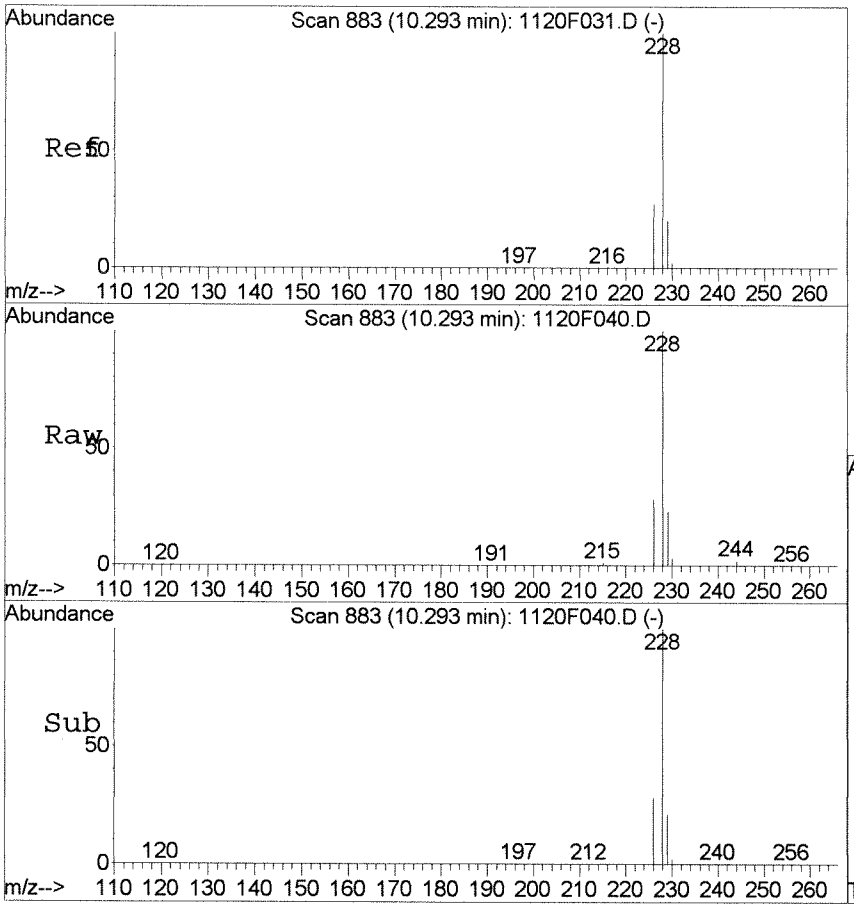


#43
Benz(a)anthracene
Concen: 592.55 ng/ml
RT: 10.23 min Scan# 875
Delta R.T. -0.02 min
Lab File: 1120F040.D
Acq: 21 Nov 2009 3:25 am

Tgt Ion:228 Resp: 914244

Ion	Ratio	Lower	Upper
228	100		
226	52.4	0.0	55.9

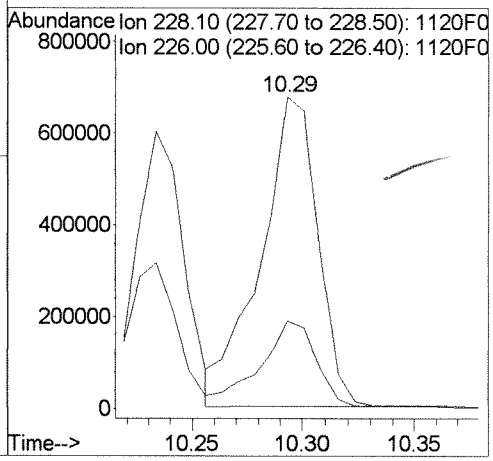


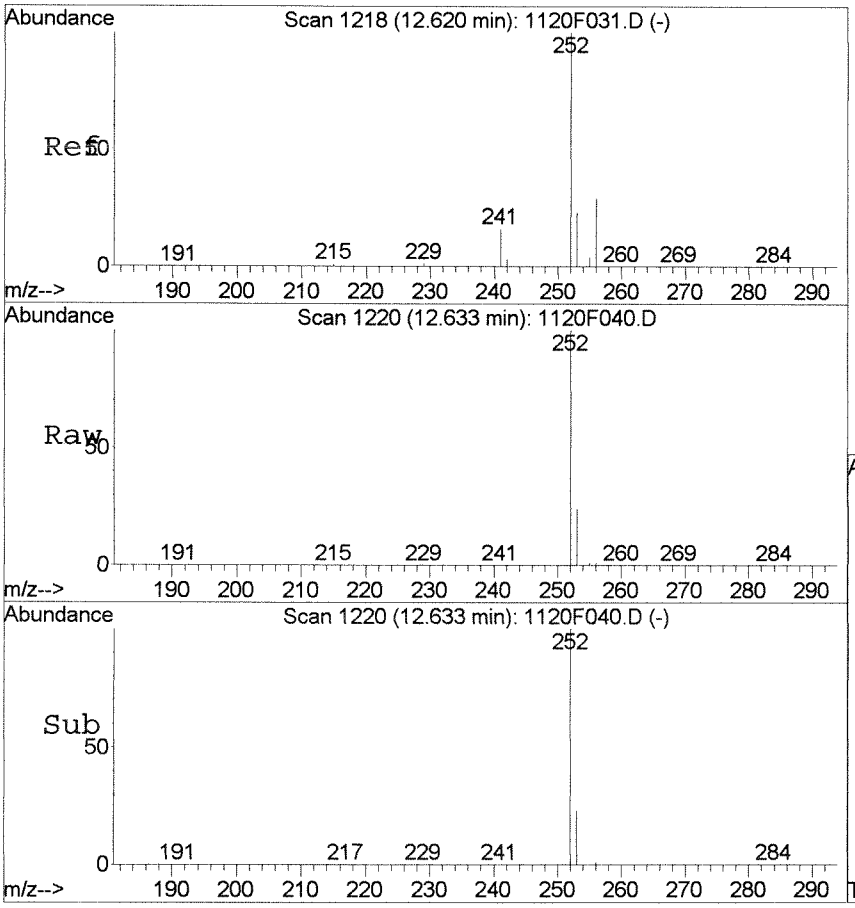


#44
Chrysene
Concen: 811.36 ng/ml
RT: 10.29 min Scan# 883
Delta R.T. -0.02 min
Lab File: 1120F040.D
Acq: 21 Nov 2009 3:25 am

Tgt Ion:228 Resp: 1195518

Ion	Ratio	Lower	Upper
228	100		
226	27.5	0.0	58.8

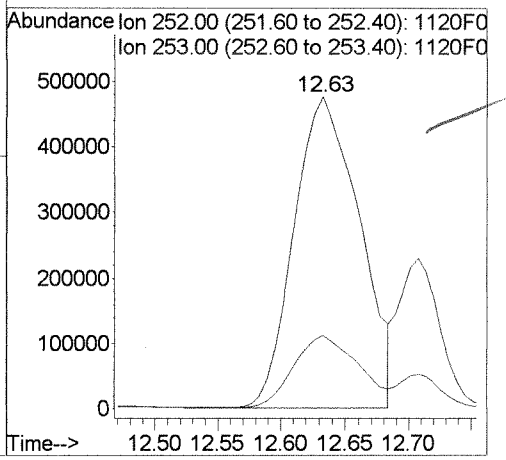


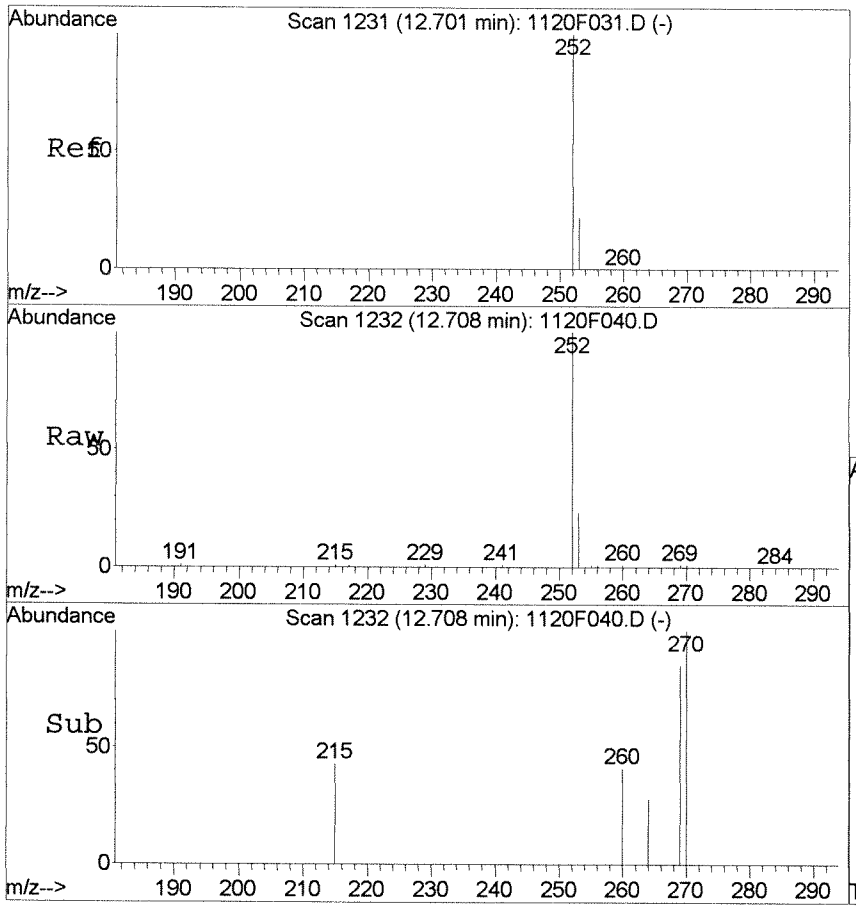


#50
Benzo(b)fluoranthene
Concen: 916.48 ng/ml
RT: 12.63 min Scan# 1220
Delta R.T. -0.02 min
Lab File: 1120F040.D
Acq: 21 Nov 2009 3:25 am

Tgt Ion:252 Resp: 1668628

Ion	Ratio	Lower	Upper
252	100		
253	23.3	0.0	52.8

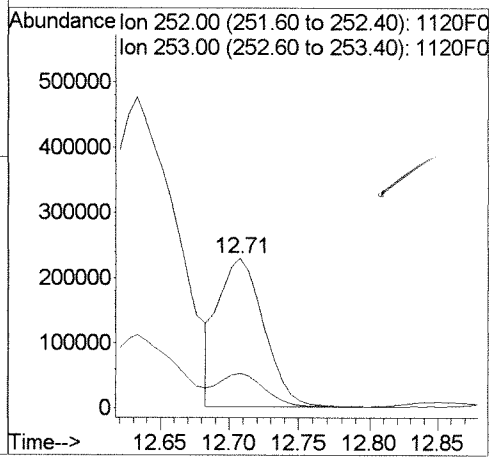


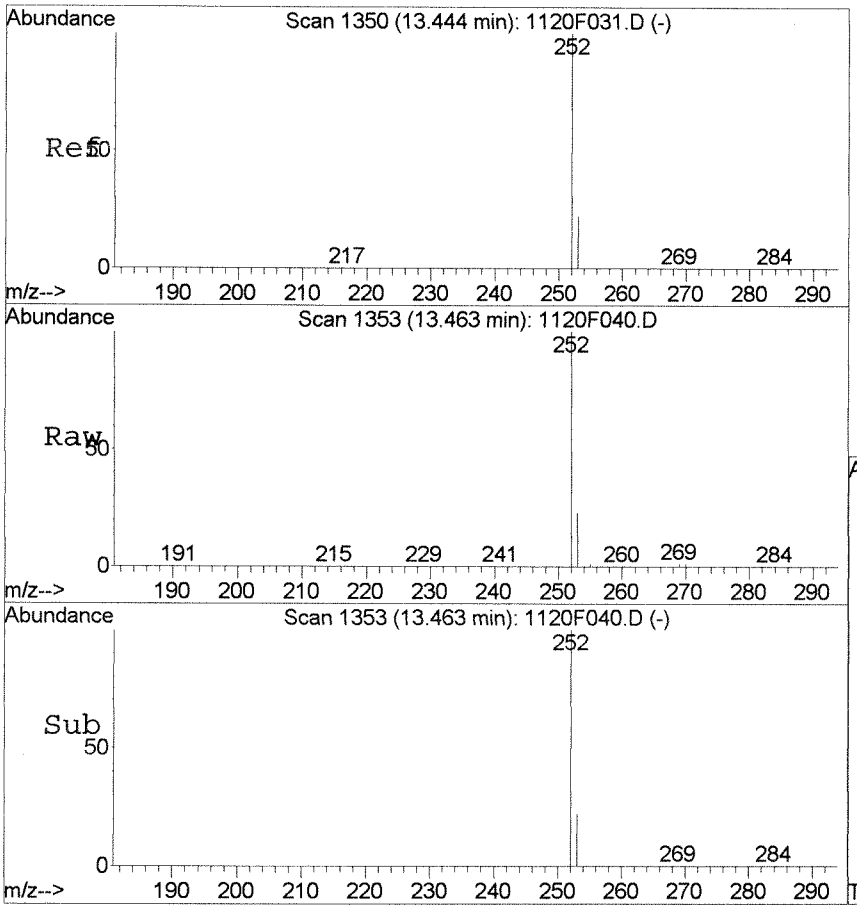


#51
Benzo(k)fluoranthene
Concen: 304.07 ng/ml
RT: 12.71 min Scan# 1232
Delta R.T. -0.03 min
Lab File: 1120F040.D
Acq: 21 Nov 2009 3:25 am

Tgt Ion:252 Resp: 524611

Ion	Ratio	Lower	Upper
252	100		
253	21.8	0.0	52.5

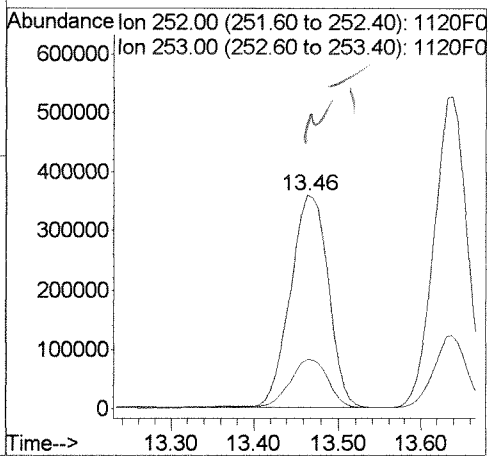


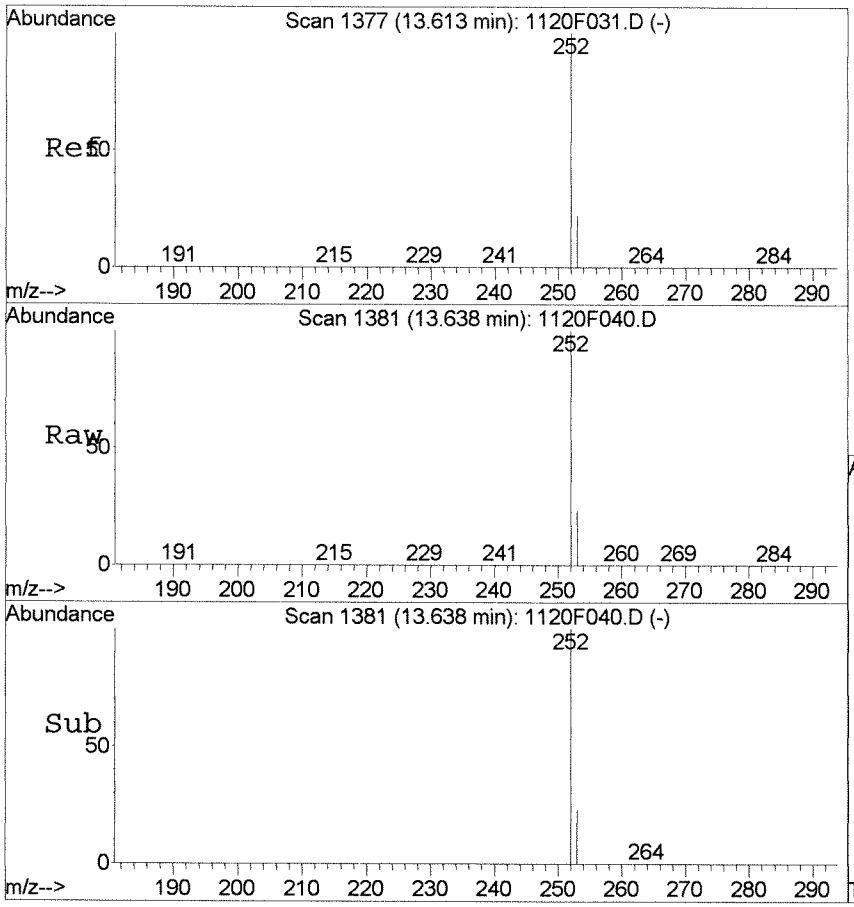


#52
Benzo(e)pyrene
Concen: 658.43 ng/ml
RT: 13.46 min Scan# 1353
Delta R.T. -0.03 min
Lab File: 1120F040.D
Acq: 21 Nov 2009 3:25 am

Tgt Ion:252 Resp: 1098616

Ion	Ratio	Lower	Upper
252	100		
253	22.7	0.0	52.3

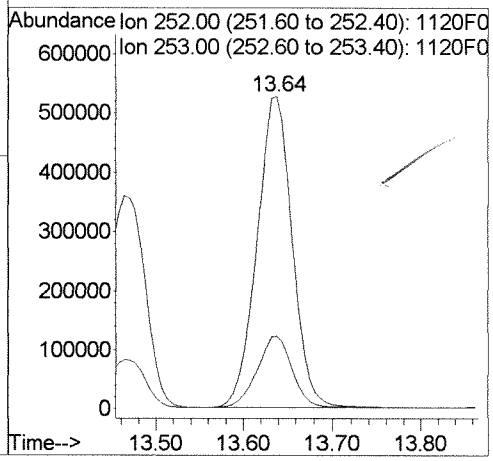


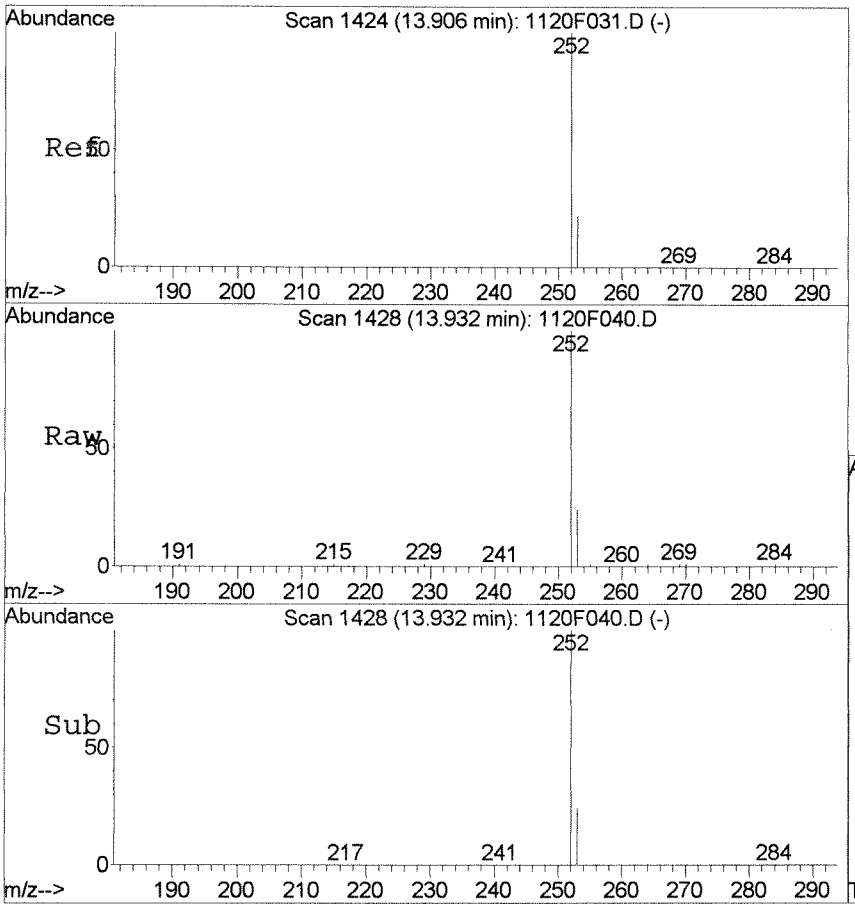


#53
Benzo(a)pyrene
Concen: 918.66 ng/ml
RT: 13.64 min Scan# 1381
Delta R.T. -0.03 min
Lab File: 1120F040.D
Acq: 21 Nov 2009 3:25 am

Tgt Ion:252 Resp: 1473513

Ion	Ratio	Lower	Upper
252	100		
253	23.1	0.0	52.6

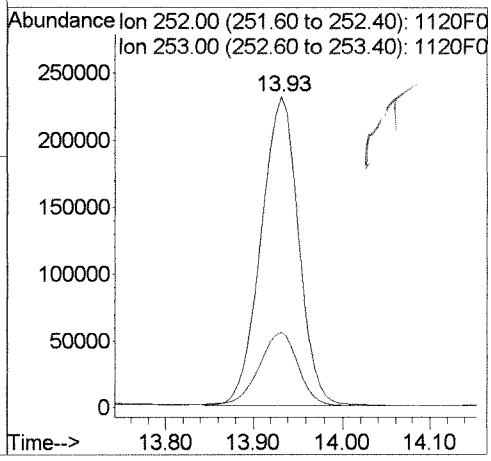


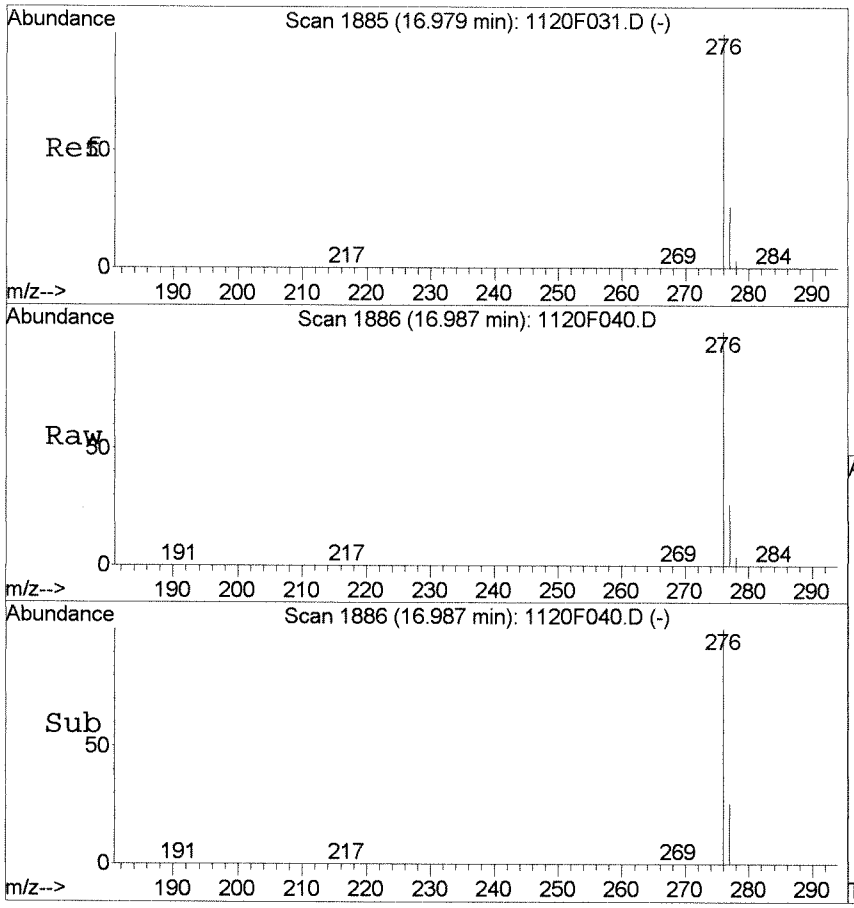


#54
Perylene
Concen: 432.94 ng/ml
RT: 13.93 min Scan# 1428
Delta R.T. -0.02 min
Lab File: 1120F040.D
Acq: 21 Nov 2009 3:25 am

Tgt Ion:252 Resp: 685787

Ion	Ratio	Lower	Upper
252	100		
253	23.7	0.0	52.0

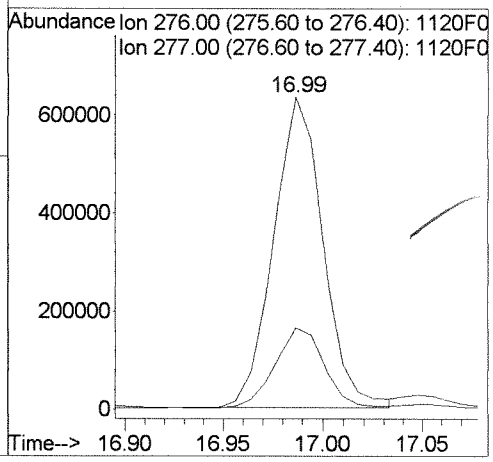


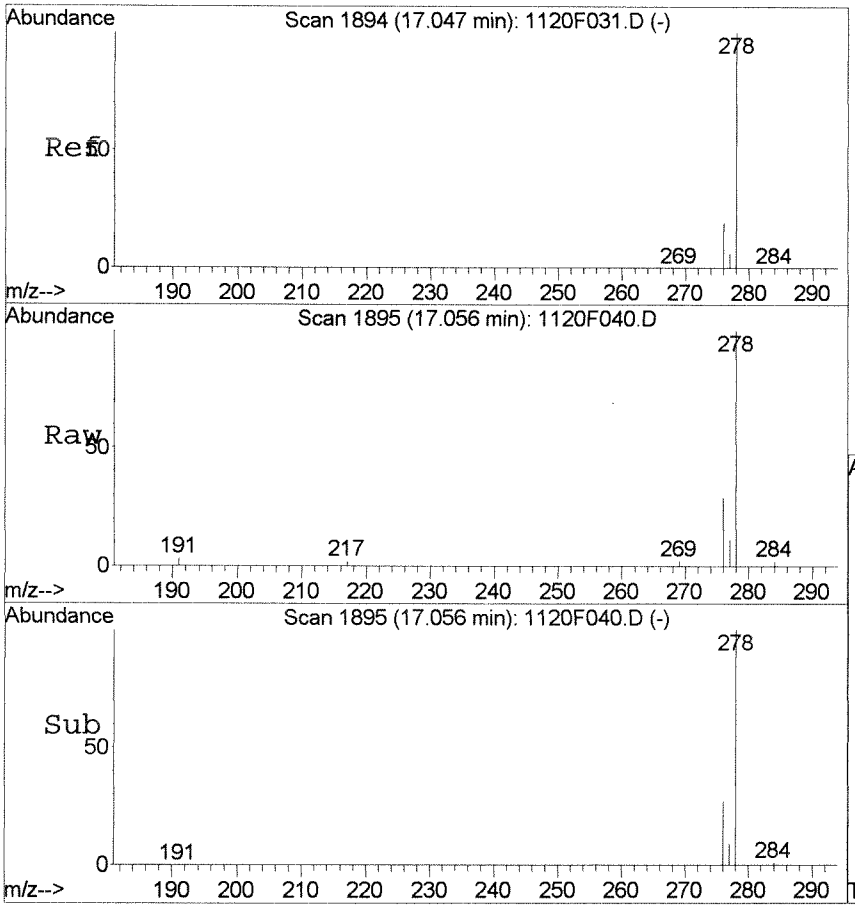


#55
Indeno(1,2,3-cd)pyrene
Concen: 734.20 ng/ml
RT: 16.99 min Scan# 1886
Delta R.T. -0.02 min
Lab File: 1120F040.D
Acq: 21 Nov 2009 3:25 am

Tgt Ion:276 Resp: 1085534

Ion	Ratio	Lower	Upper
276	100		
277	25.8	0.0	55.1

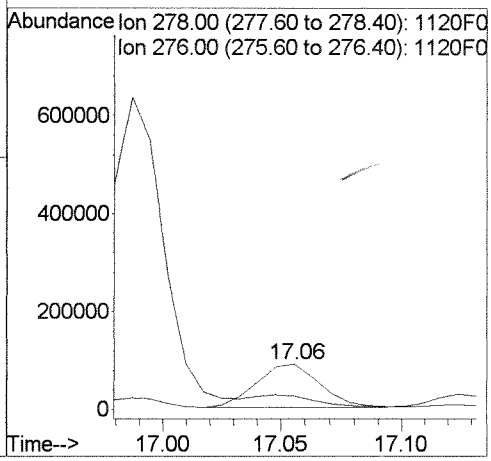


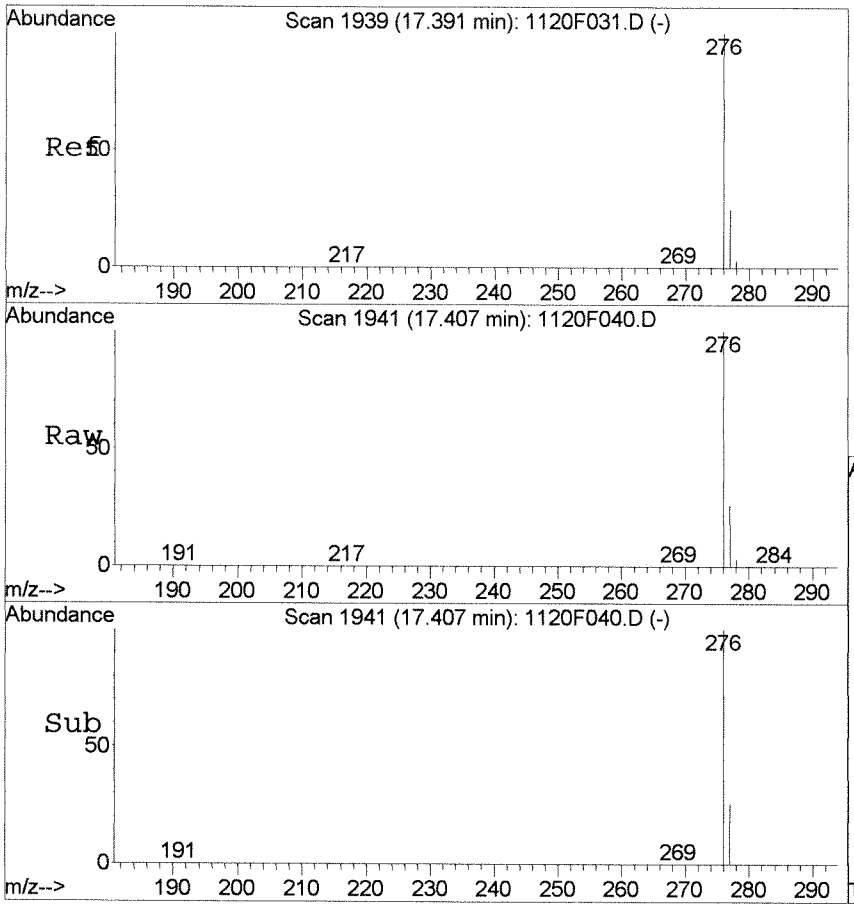


#56
Dibenz(a,h)anthracene
Concen: 105.48 ng/ml
RT: 17.06 min Scan# 1895
Delta R.T. -0.02 min
Lab File: 1120F040.D
Acq: 21 Nov 2009 3:25 am

Tgt Ion:278 Resp: 162512

Ion	Ratio	Lower	Upper
278	100		
276	24.5	0.0	52.1

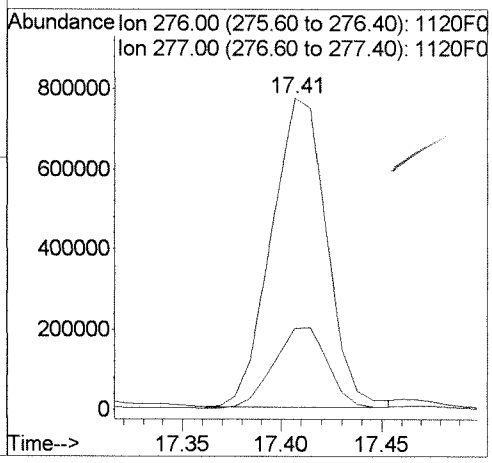




#57
Benzo(g,h,i)perylene
Concen: 880.12 ng/ml
RT: 17.41 min Scan# 1941
Delta R.T. -0.02 min
Lab File: 1120F040.D
Acq: 21 Nov 2009 3:25 am

Tgt Ion:276 Resp: 1470593

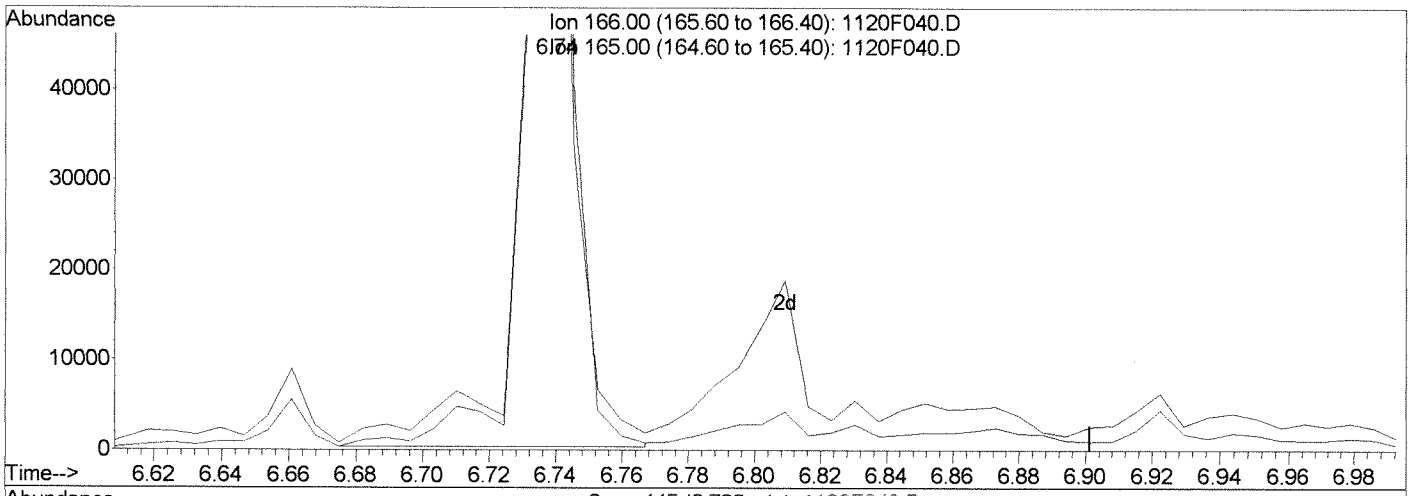
Ion	Ratio	Lower	Upper
276	100		
277	25.8	0.0	55.7

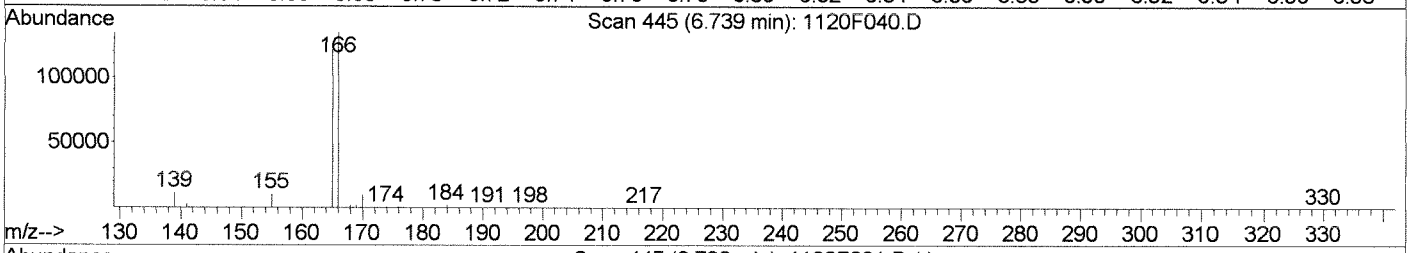


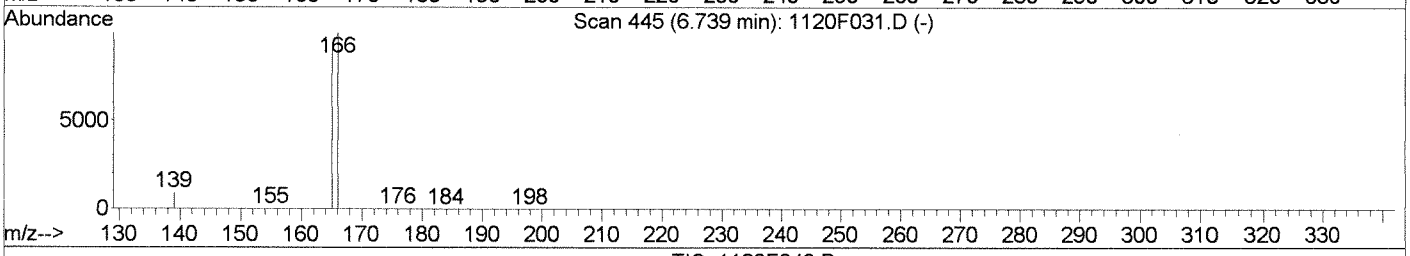
Quantitation Report (Qedit)

Data File : J:\MS11\DATA\112009\1120F040.D Vial: 37
Acq On : 21 Nov 2009 3:25 am Operator: LWeiskopf
Sample : K0909140-013 Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 23 8:36 2009 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1119ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Nov 23 08:36:00 2009
Response via : Multiple Level Calibration







TIC: 1120F040.D

(16) Fluorene (T)

6.74min 194.74ng/ml

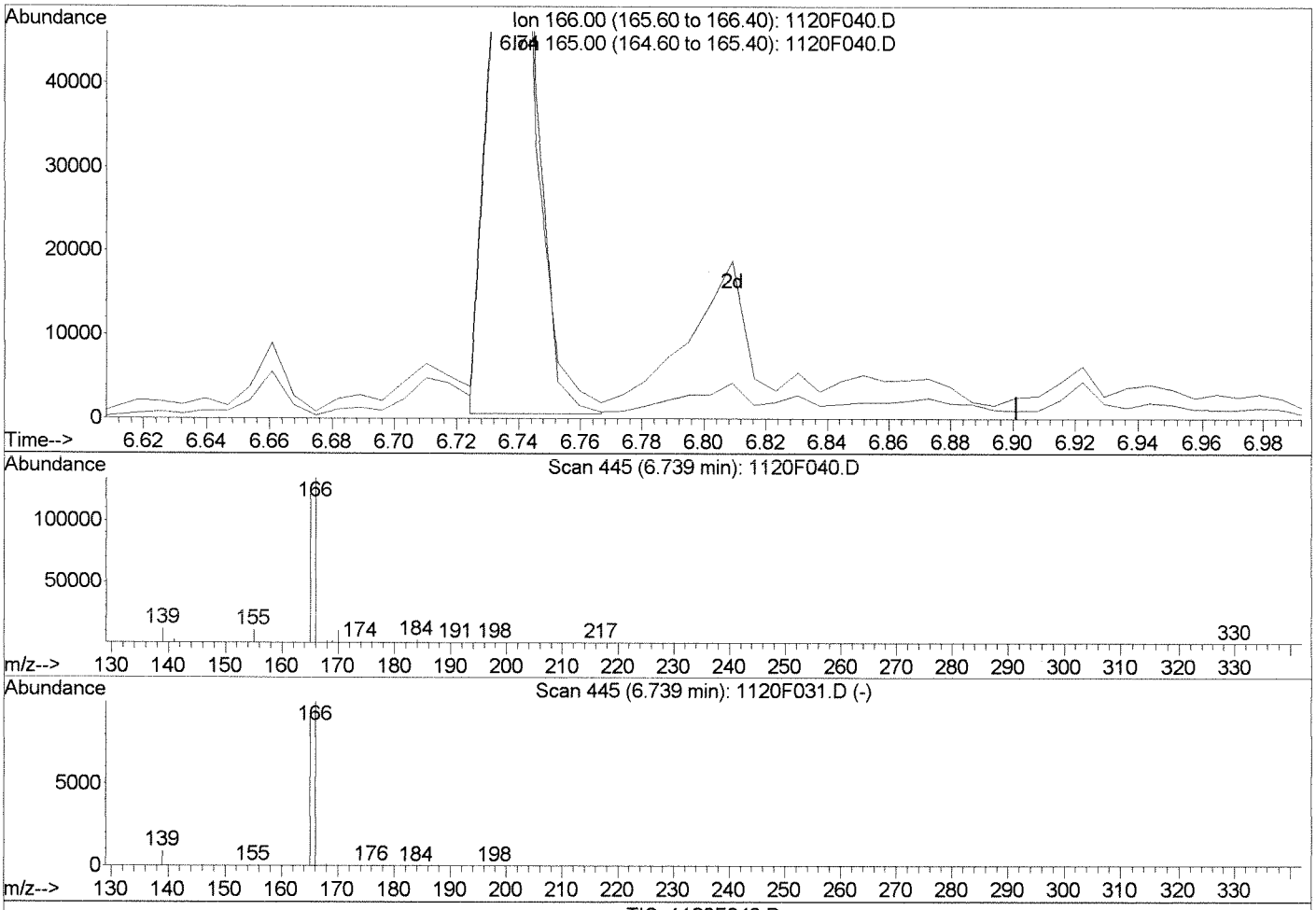
response 102277

Ion	Exp%	Act%
166.00	100	100
165.00	87.80	89.80
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\112009\1120F040.D Vial: 37
Acq On : 21 Nov 2009 3:25 am Operator: LWeiskopf
Sample : K0909140-013 Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 23 8:57 2009 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1119ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Nov 23 08:36:00 2009
Response via : Multiple Level Calibration



TIC: 1120F040.D

(16) Fluorene (T)

6.74min 181.65ng/ml m

response 95403

Ion	Exp%	Act%
166.00	100	100
165.00	87.80	90.17
0.00	0.00	0.00
0.00	0.00	0.00

OI 11/23/09 11-24-09

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	URS Corporation	**Service Request:**	K0909140
Project:	Boise St. Helens Pulp and Paper Mill-2009	**Date Collected:**	10/07/2009
Sample Matrix:	Sediment	**Date Received:**	10/08/2009

Polynuclear Aromatic Hydrocarbons

Sample Name:	M-1-A	**Units:**	ug/Kg
Lab Code:	K0909140-014	**Basis:**	Dry
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270C SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Naphthalene	**380**		2.9	0.60	1	11/10/09	11/21/09	KWG0910535	
2-Methylnaphthalene	**150**		2.9	0.46	1	11/10/09	11/21/09	KWG0910535	
Acenaphthylene	**44**		2.9	0.56	1	11/10/09	11/21/09	KWG0910535	
Acenaphthene	**120**		2.9	0.50	1	11/10/09	11/21/09	KWG0910535	
Fluorene	**150**		2.9	0.61	1	11/10/09	11/21/09	KWG0910535	
Dibenzofuran	**160**		2.9	0.63	1	11/10/09	11/21/09	KWG0910535	
Phenanthrene	**640**		2.9	1.4	1	11/10/09	11/21/09	KWG0910535	
Anthracene	**150**		2.9	0.55	1	11/10/09	11/21/09	KWG0910535	
Fluoranthene	**750**		2.9	0.98	1	11/10/09	11/21/09	KWG0910535	
Pyrene	**490**		2.9	0.76	1	11/10/09	11/21/09	KWG0910535	
Benz(a)anthracene	**180**		2.9	0.72	1	11/10/09	11/21/09	KWG0910535	
Chrysene	**270**		2.9	0.80	1	11/10/09	11/21/09	KWG0910535	
Benzo(b)fluoranthene	**240**		2.9	0.92	1	11/10/09	11/21/09	KWG0910535	
Benzo(k)fluoranthene	**82**		2.9	0.87	1	11/10/09	11/21/09	KWG0910535	
Benzo(a)pyrene	**170**		2.9	0.76	1	11/10/09	11/21/09	KWG0910535	
Indeno(1,2,3-cd)pyrene	**150**		2.9	0.87	1	11/10/09	11/21/09	KWG0910535	
Dibenz(a,h)anthracene	**26**		2.9	0.80	1	11/10/09	11/21/09	KWG0910535	
Benzo(g,h,i)perylene	**170**		2.9	0.85	1	11/10/09	11/21/09	KWG0910535	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	58	17-104	11/21/09	Acceptable
Fluoranthene-d10	62	27-106	11/21/09	Acceptable
Terphenyl-d14	53	35-109	11/21/09	Acceptable

Comments:

Exception Report

Data File: J:\MS11\DATA\112009\1120F041.D
Lab ID: K0909140-014
RunType: SMPL
Matrix: SEDIMENT

Date Acquired: 11/21/2009 03:52
Date Quantitated: 11/23/2009 08:58
Batch ID: KWG0911040
Analysis Method: 8270C SIM
ListJoinID: LJ5646

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Tune Window	NA	NA	NA	x	
Analytical Holding Time	NA	NA	NA	x	
Preparation Holding Time	NA	NA	NA	x	
Pre-Preparation Holding Time	NA	NA	NA	x	
ICAL Pass/Fail	NA	NA	NA	x	
ICAL Average RSD	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Initial Calibration Minimum RF	NA	NA	NA	x	
Initial Calibration SPCC/CCC	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA	x	
Continuing Calibration Minimum RF	NA	NA	NA	x	
Continuing Calibration SPCC/CCC	NA	NA	NA	x	
Method Blank	NA	NA	NA	x	
MB Surrogate Recovery	NA	NA	NA	x	
Lab Control Spike	NA	NA	NA	x	
Internal Standards	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Relative Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Primary Review: 11/23/09

Secondary Review: 11-24-09

Quantitation Report

Bottle ID:		**Tier:**	V	**Matrix:**	SEDIMENT
Prod Code:	8270C SIM PAH_S	**Collect Date:**	10/07/2009	**Receive Date:**	10/08/2009

Analysis Lot:	KWG0911040	**Prep Lot:**	KWG0910535	**Report Group:**	K0909140
Analysis Method:	8270C SIM	**Prep Method:**	EPA 3541		
Prep Ref:	865767	**Prep Date:**	11/10/2009		

Quant Method:	J:\MS11\METHODS\SIM\1119ALK.M	**Calibration ID:**	CAL9029
Title:	Polynuclear Aromatic Hydrocarbons	**Report List ID:**	LJ5646
Tune Ref:	J:\MS11\DATA\112009\1120F030.D	**Method ID:**	MJ253
MB Ref:	J:\MS11\DATA\111909\1119F041.D	**Quant based on Report List**	

Data File:	J:\MS11\DATA\112009\1120F041.D			**Instrument:**	MS11
Acqu Date:	11/21/2009 03:52	**Quant Date:**	11/23/2009 08:58	**Vial:**	38
Run Type:	SMPL			**Dilution:**	1.0
Lab ID:	K0909140-014			**Soln Conc. Units:**	ng/ml

Internal Standard Compounds

IS Ref	Parameter Name	RT	RT Dev	Quant Mass	Response	Solution Conc	Area Criteria
1	Naphthalene-d8	4.86	-0.01	136	159982	200.00	OK
2	Acenaphthene-d10	6.29	0.00	164	88560	200.00	OK
3	Phenanthrene-d10	7.52	0.00	188	180346	200.00	OK
4	Chrysene-d12	10.25	0.00	240	296874	200.00	OK
5	Perylene-d12	13.83	0.01	264	345790	200.00	OK

Surrogate Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	%Rec	%Rec Limits		Rpt?
2	Fluorene-d10	6.72	0.00	0.00	176	58026	116.69	58	17-104	OK	
3	Fluoranthene-d10	8.50	0.00	0.00	212	134676	123.52	62	27-106	OK	
4	Terphenyl-d14	8.89	0.00	0.00	244	129491	105.36	53	35-109	OK	

Target Compounds

Final Conc. Units: ug/Kg Dry Weight

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	Final Conc	Q	Rpt?
1	Naphthalene	4.88	-0.01	0.00	128	466877	663.45	380		
1	2-Methylnaphthalene	5.43	-0.01	0.00	142	135313	266.93	150		
2	Acenaphthylene	6.17	-0.01	0.00	152	56541	77.69	44		
2	Acenaphthene	6.31	-0.01	0.00	154	92615	214.26	120		
2	Dibenzofuran	6.46		0.00	168	184696	282.10	160		
2	Fluorene	6.74		0.00	166	146987**m**	268.41	150		
3	Phenanthrene	7.54		0.00	178	1090865	1,135	640		
3	Anthracene	7.59		0.00	178	246582	266.87	150		
3	Fluoranthene	8.52		0.00	202	1486044	1,329	750		
4	Pyrene	8.74	0.01	0.00	202	1368147	869.02	490		
4	Benz(a)anthracene	10.23		0.00	228	478053	315.21	180		
4	Chrysene	10.29		0.00	228	697680	481.70	270		
5	Benzo(b)fluoranthene	12.63	0.01	0.00	252	761475	422.63	240		

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Data File:	J:\MS11\DATA\112009\1120F041.D			**Instrument:**	MS11
Acqu Date:	11/21/2009 03:52	**Quant Date:**	11/23/2009 08:58	**Vial:**	38
Run Type:	SMPL			**Dilution:**	1.0
Lab ID:	K0909140-014			**Soln Conc. Units:**	ng/ml

Target Compounds **Final Conc. Units:** ug/Kg Dry Weight

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	Final Conc	Q	Rpt?
5	Benzo(k)fluoranthene	12.70		0.00	252	248248	145.40	82		
5	Benzo(a)pyrene	13.63	0.02	0.00	252	485901	306.12	170		
5	Indeno(1,2,3-cd)pyrene	16.98		0.00	276	386077	263.87	150		
5	Dibenz(a,h)anthracene	17.05		0.00	278	71036	46.59	26		
5	Benzo(g,h,i)perylene	17.40	0.01	0.00	276	488928	295.69	170		

Prep Amount:	18.19 g	**Dilution:**	1.0
Prep Final Vol:	10 ml	**Unit Factor:**	1
Solids:	97.2 %		

Final Concentration = ((Soln Conc x Prep Final Vol x Dilution) / (Prep Amount x Solids)) x Unit Factor

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\112009\1120F041.D Vial: 38
Acq On : 21 Nov 2009 3:52 am Operator: LWeiskopf
Sample : K0909140-014 Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 23 08:36:31 2009 Quant Results File: 1119ALK.RES

Quant Method : J:\MS11\METHODS\SIM\1119ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Nov 23 08:36:00 2009
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	4.86	136	159982	200.00	ng/ml	0.00
10) Acenaphthene-d10	6.29	164	88560	200.00	ng/ml	-0.01
22) Phenanthrene-d10	7.52	188	180346	200.00	ng/ml	0.00
37) Chrysene-d12	10.25	240	296874	200.00	ng/ml	-0.02
49) Perylene-d12	13.83	264	345790	200.00	ng/ml	-0.04
System Monitoring Compounds						
15) Fluorene-d10	6.72	176	58026	116.69	ng/ml	0.00
Spiked Amount 200.000			Recovery =	58.34%		
20) 2,4,6 Tribromophenol	0.00	330	0d	0.00	ng/ml	
Spiked Amount 375.000			Recovery =	0.00%		
36) Fluoranthene-d10	8.50	212	134676	123.52	ng/ml	0.00
Spiked Amount 200.000			Recovery =	61.76%		
42) Terphenyl-d14	8.89	244	129491	105.36	ng/ml	0.00
Spiked Amount 200.000			Recovery =	52.68%		
Target Compounds						Qvalue
2) Naphthalene	4.88	128	466877	663.45	ng/ml	97
3) 2-Methylnaphthalene	5.43	142	135313	266.93	ng/ml	96
4) 1-Methylnaphthalene	5.51	142	61977	127.46	ng/ml	93
5) Biphenyl	5.81	154	45578	75.57	ng/ml	99
6) 2,6-Dimethylnaphthalene	5.94	156	68710	147.48	ng/ml	98
11) Acenaphthylene	6.17	152	56541	77.69	ng/ml	97
12) Acenaphthene	6.31	154	92615	214.26	ng/ml	94
13) Dibenzofuran	6.46	168	184696	282.10	ng/ml	58
14) 2,3,5-Trimethylnaphthalene	6.63	170	30327	65.70	ng/ml	94
16) Fluorene	6.74	166	146987m	268.41	ng/ml	
23) Dibenzothiophene	7.43	184	88129	109.72	ng/ml	90
27) Phenanthrene	7.54	178	1090865	1134.53	ng/ml	99
28) Anthracene	7.59	178	246582	266.87	ng/ml	97
29) Carbazole	7.72	167	28681	36.34	ng/ml	88
30) 1-Methylphenanthrene	8.04	192	90844	121.37	ng/ml	96
35) Fluoranthene	8.52	202	1486044	1329.49	ng/ml	91
38) Pyrene	8.74	202	1368147	869.02	ng/ml	94
43) Benz(a)anthracene	10.23	228	478053	315.21	ng/ml	85
44) Chrysene	10.29	228	697680	481.70	ng/ml	96
50) Benzo(b)fluoranthene	12.63	252	761475	422.63	ng/ml	99
51) Benzo(k)fluoranthene	12.70	252	248248	145.40	ng/ml	99
52) Benzo(e)pyrene	13.46	252	425031	257.41	ng/ml	100
53) Benzo(a)pyrene	13.63	252	485901	306.12	ng/ml	99
54) Perylene	13.92	252	275641	175.84	ng/ml	94
55) Indeno(1,2,3-cd)pyrene	16.98	276	386077	263.87	ng/ml	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\112009\1120F041.D Vial: 38
Acq On : 21 Nov 2009 3:52 am Operator: LWeiskopf
Sample : K0909140-014 Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 23 08:36:31 2009 Quant Results File: 1119ALK.RES

Quant Method : J:\MS11\METHODS\SIM\1119ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Nov 23 08:36:00 2009
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

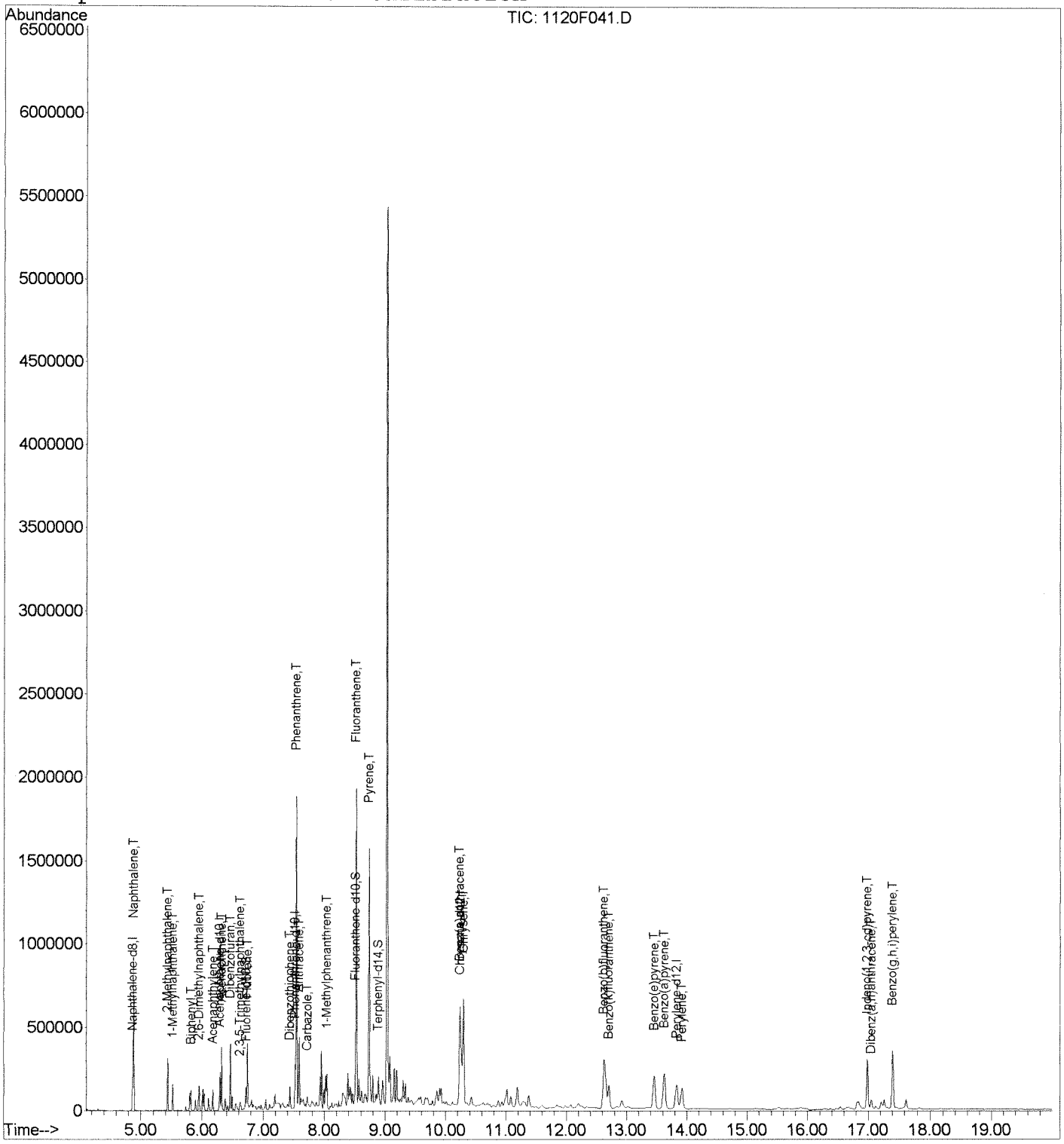
	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
56)	Dibenz(a,h)anthracene	17.05	278	71036	46.59	ng/ml	91
57)	Benzo(g,h,i)perylene	17.40	276	488928	295.69	ng/ml	98

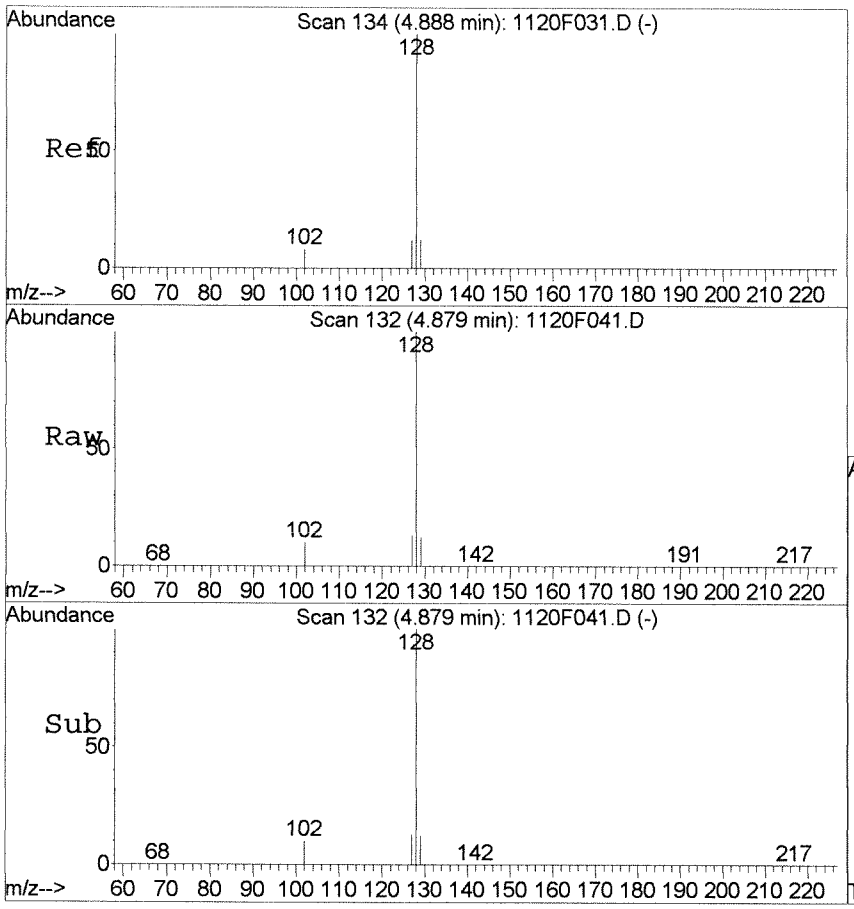
(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\112009\1120F041.D Vial: 38
Acq On : 21 Nov 2009 3:52 am Operator: LWeiskopf
Sample : K0909140-014 Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 23 8:58 2009 Quant Results File: 1119ALK.RES

Method : J:\MS11\METHODS\SIM\1119ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Nov 23 08:36:00 2009
Response via : Initial Calibration

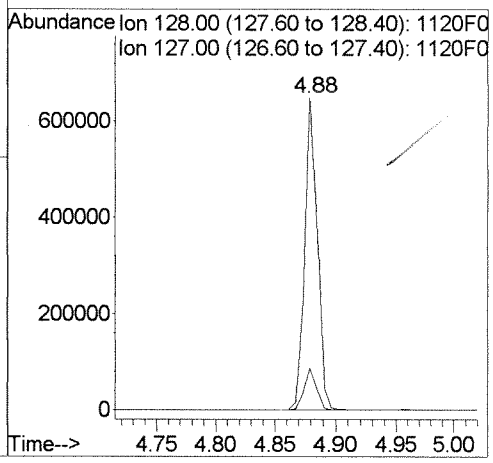


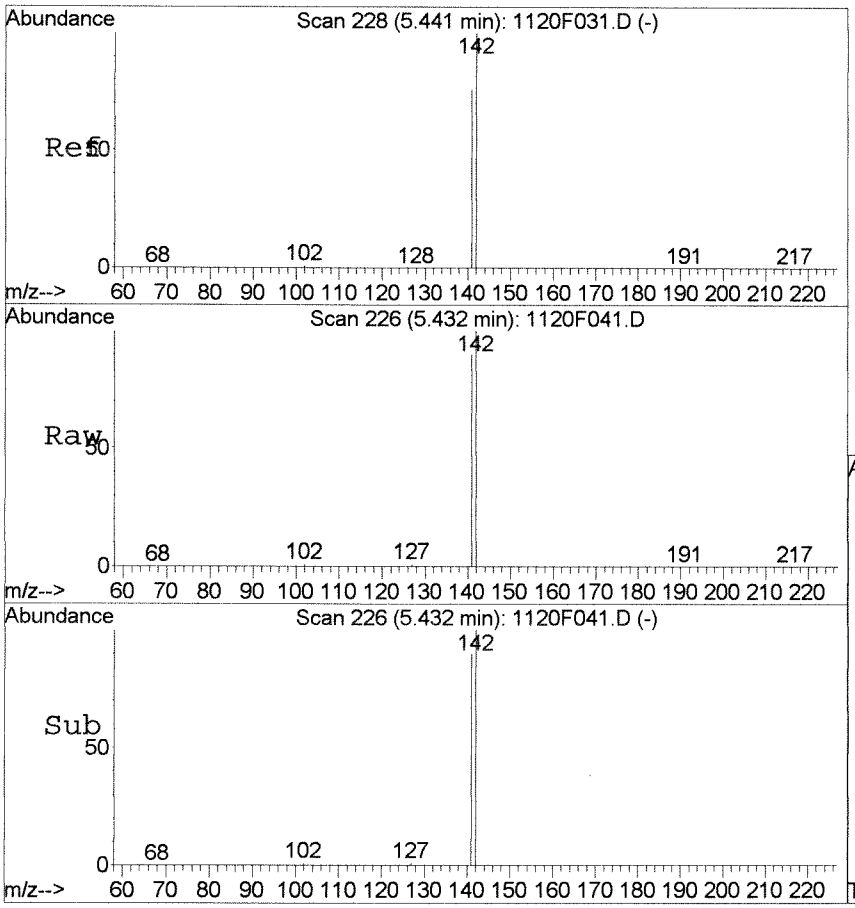


#2
Naphthalene
Concen: 663.45 ng/ml
RT: 4.88 min Scan# 132
Delta R.T. -0.01 min
Lab File: 1120F041.D
Acq: 21 Nov 2009 3:52 am

Tgt Ion:128 Resp: 466877

Ion	Ratio	Lower	Upper
128	100		
127	13.5	0.0	42.4

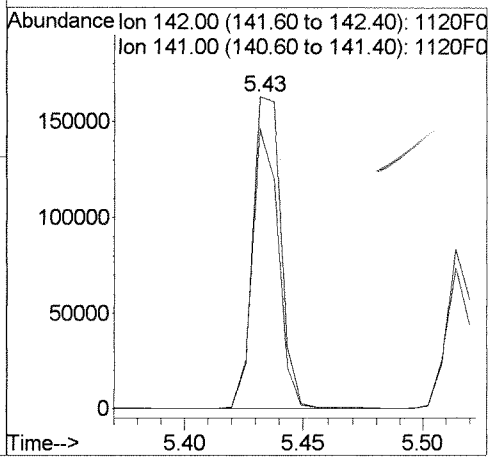


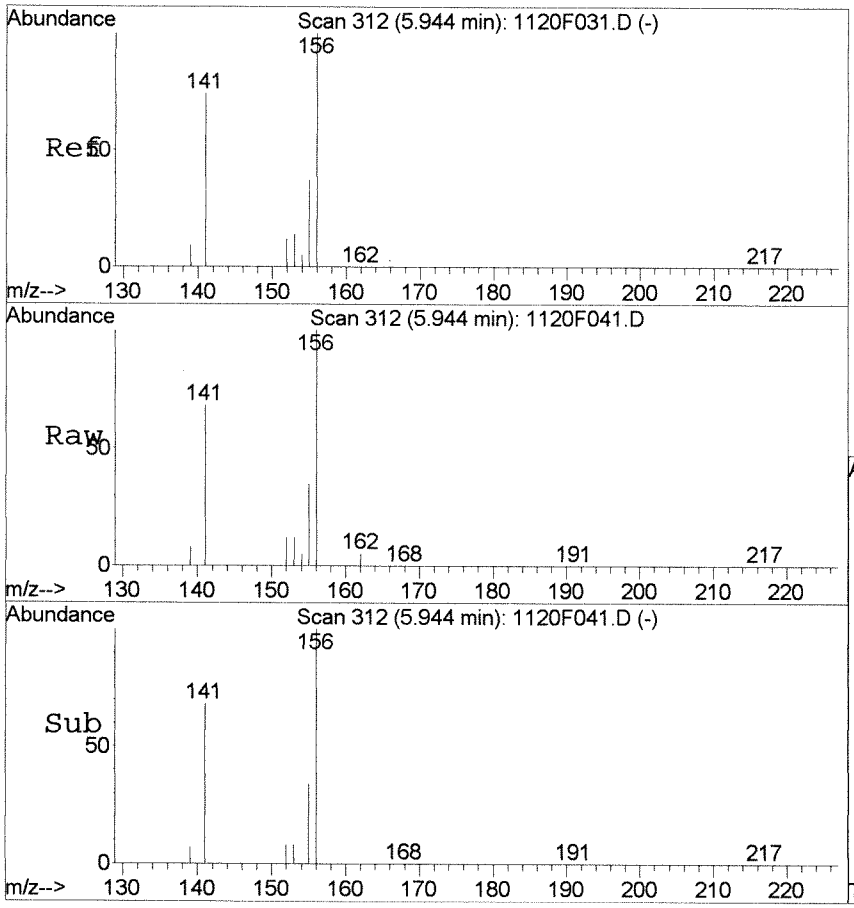


#3
2-Methylnaphthalene
Concen: 266.93 ng/ml
RT: 5.43 min Scan# 226
Delta R.T. -0.01 min
Lab File: 1120F041.D
Acq: 21 Nov 2009 3:52 am

Tgt Ion:142 Resp: 135313

Ion	Ratio	Lower	Upper
142	100		
141	89.8	56.1	116.1

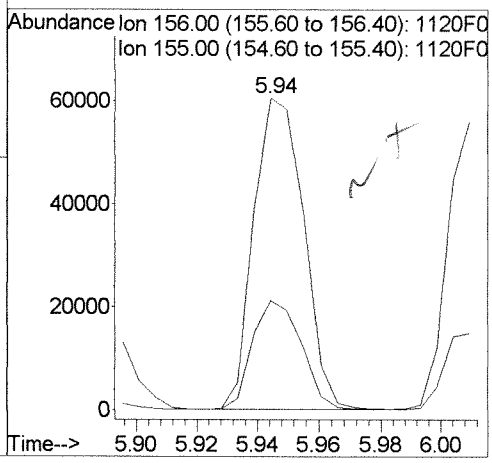


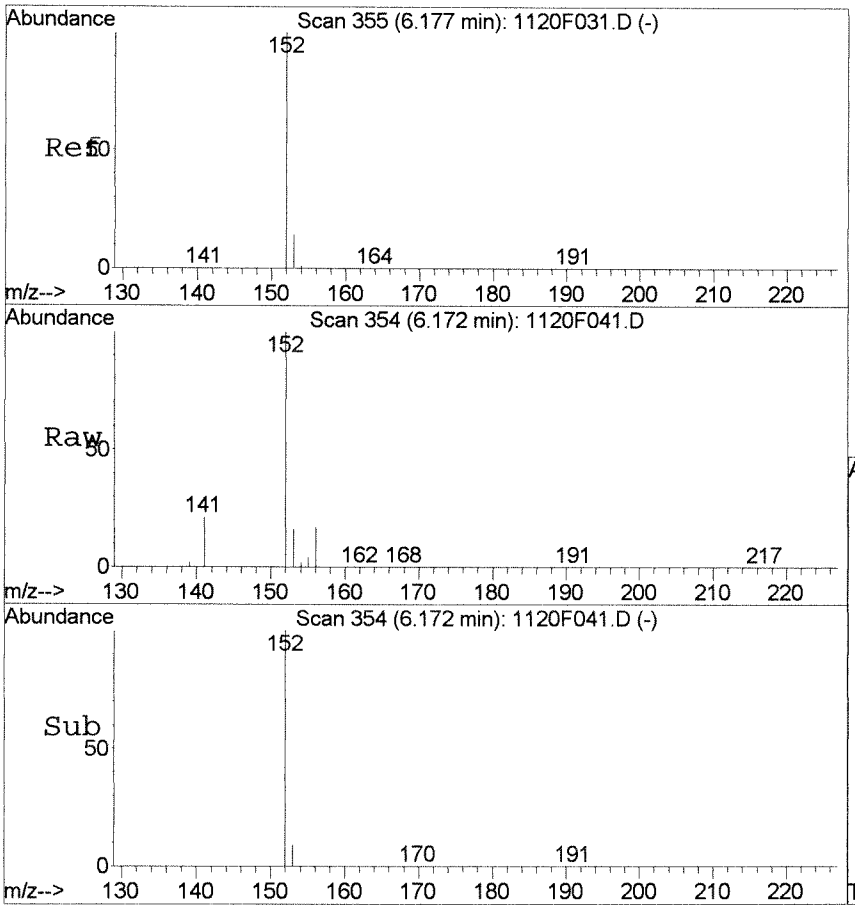


#6
2,6-Dimethylnaphthalene
Concen: 147.48 ng/ml
RT: 5.94 min Scan# 312
Delta R.T. -0.01 min
Lab File: 1120F041.D
Acq: 21 Nov 2009 3:52 am

Tgt Ion:156 Resp: 68710

Ion	Ratio	Lower	Upper
156	100		
155	34.9	3.7	63.7

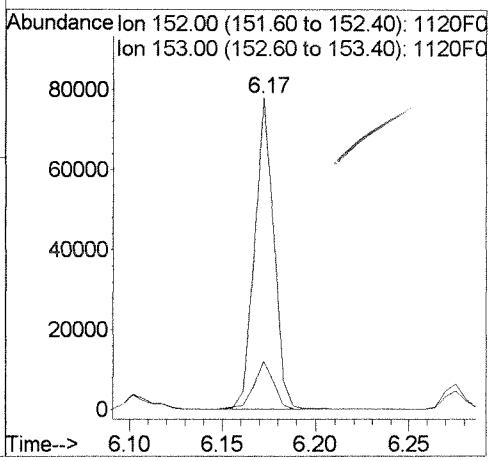


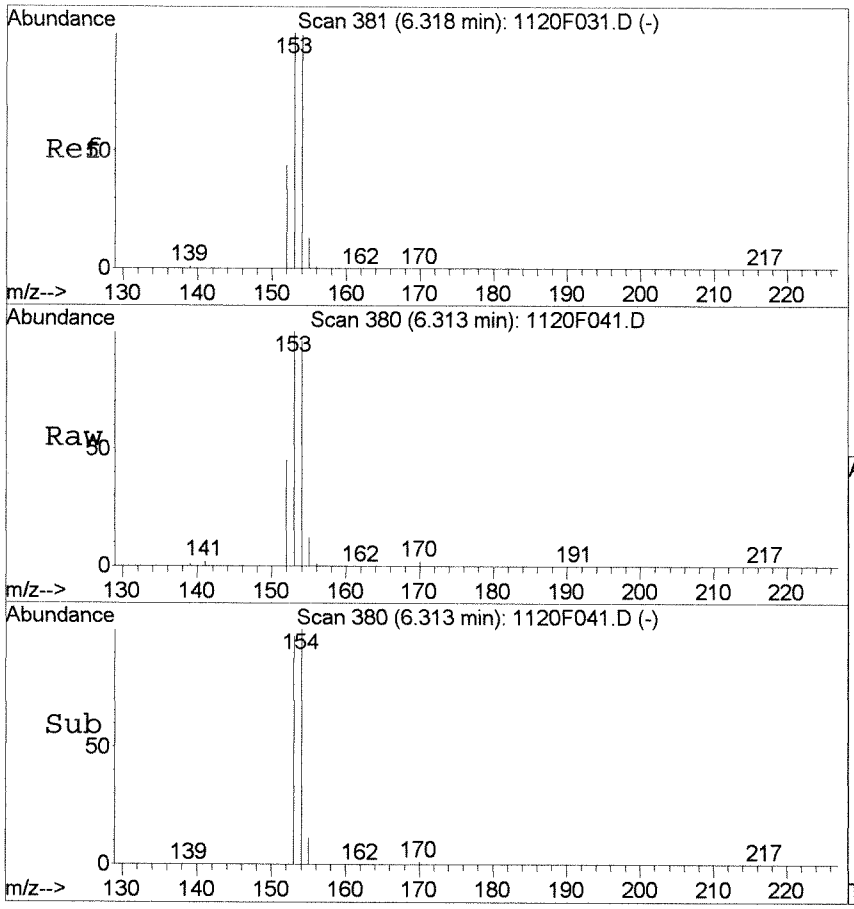


#11
Acenaphthylene
Concen: 77.69 ng/ml
RT: 6.17 min Scan# 354
Delta R.T. -0.01 min
Lab File: 1120F041.D
Acq: 21 Nov 2009 3:52 am

Tgt Ion:152 Resp: 56541

Ion	Ratio	Lower	Upper
152	100		
153	15.4	0.0	44.1

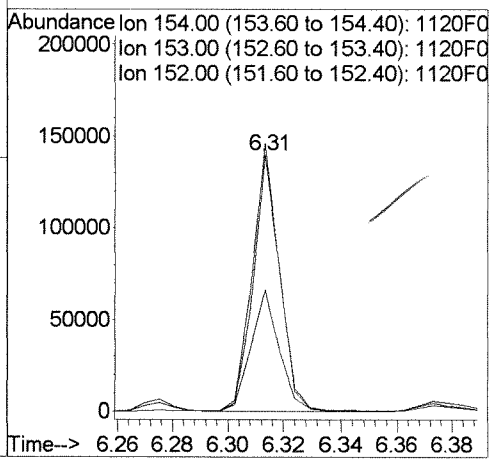


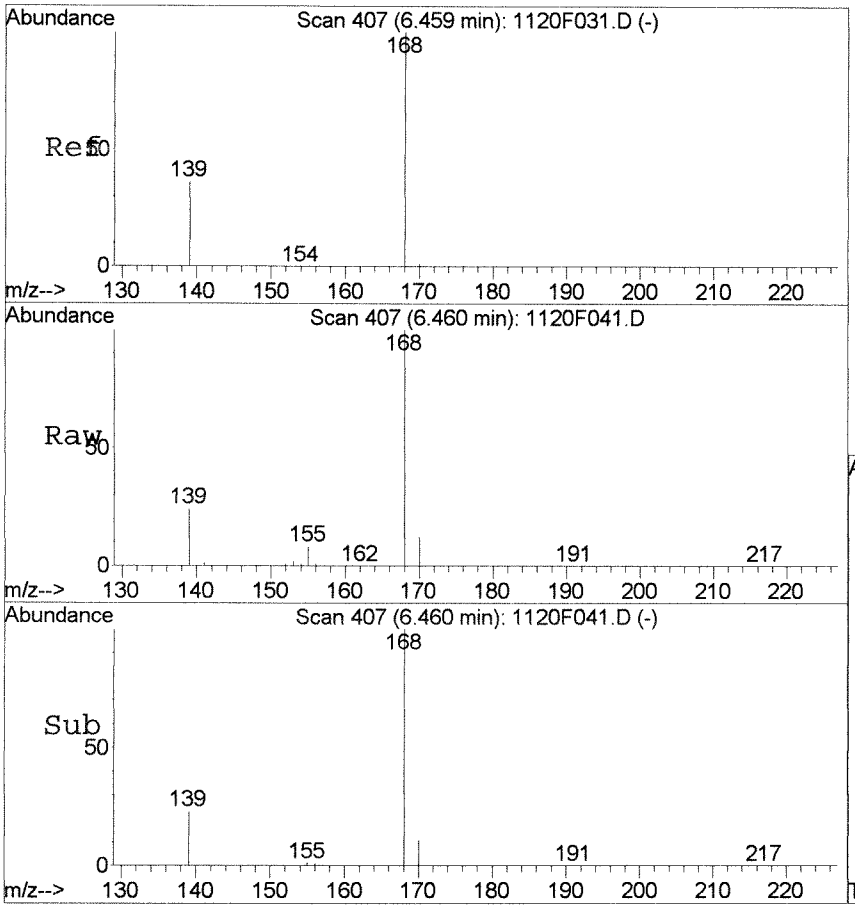


#12
Acenaphthene
Concen: 214.26 ng/ml
RT: 6.31 min Scan# 380
Delta R.T. -0.01 min
Lab File: 1120F041.D
Acq: 21 Nov 2009 3:52 am

Tgt Ion:154 Resp: 92615

Ion	Ratio	Lower	Upper
154	100		
153	104.5	77.8	137.8
152	47.3	24.7	84.7

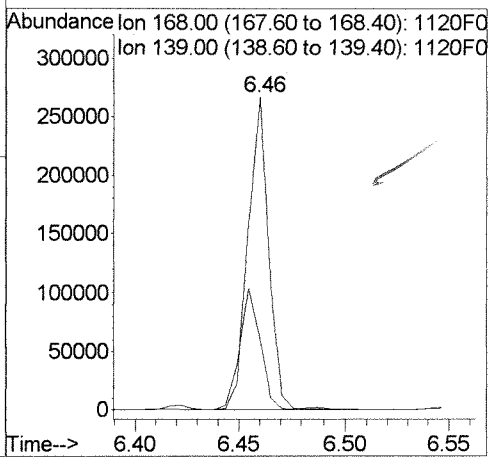


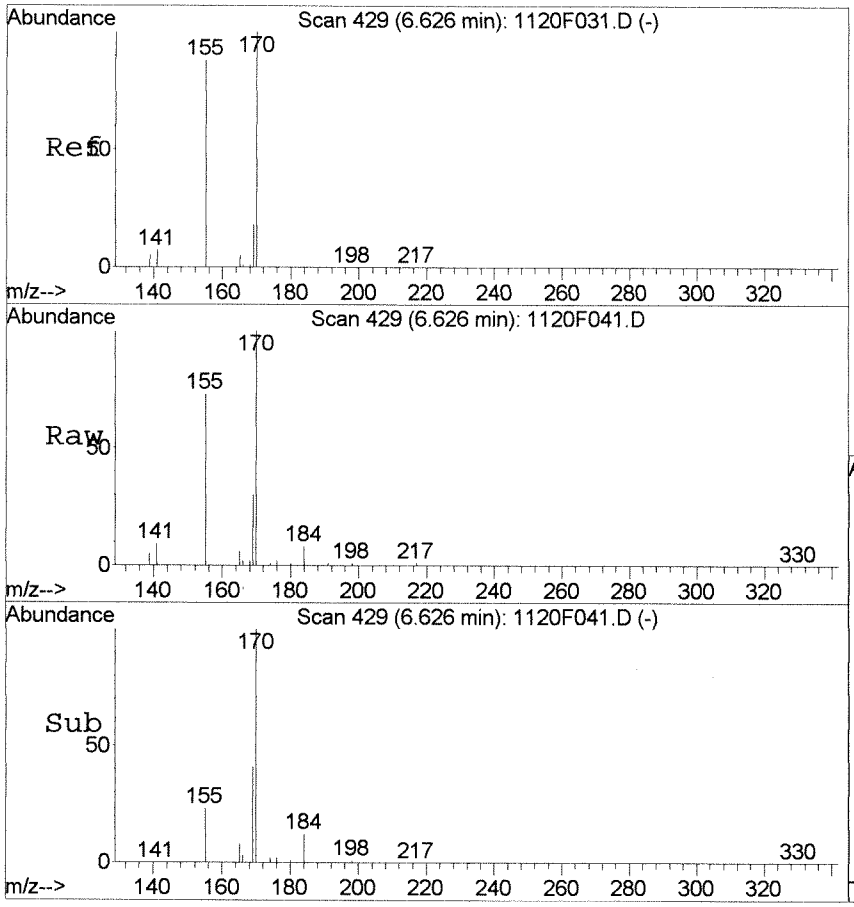


#13
Dibenzofuran
Concen: 282.10 ng/ml
RT: 6.46 min Scan# 407
Delta R.T. -0.00 min
Lab File: 1120F041.D
Acq: 21 Nov 2009 3:52 am

Tgt Ion:168 Resp: 184696

Ion	Ratio	Lower	Upper
168	100		
139	23.5	23.3	83.3

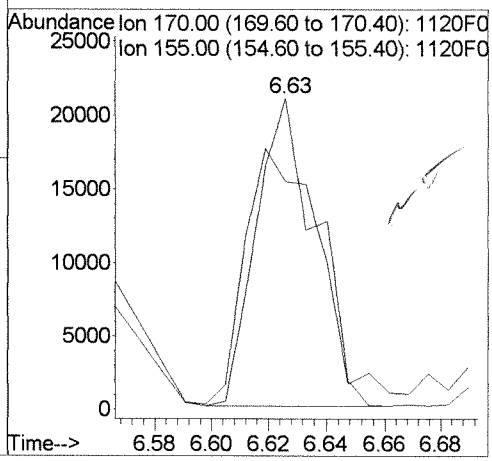


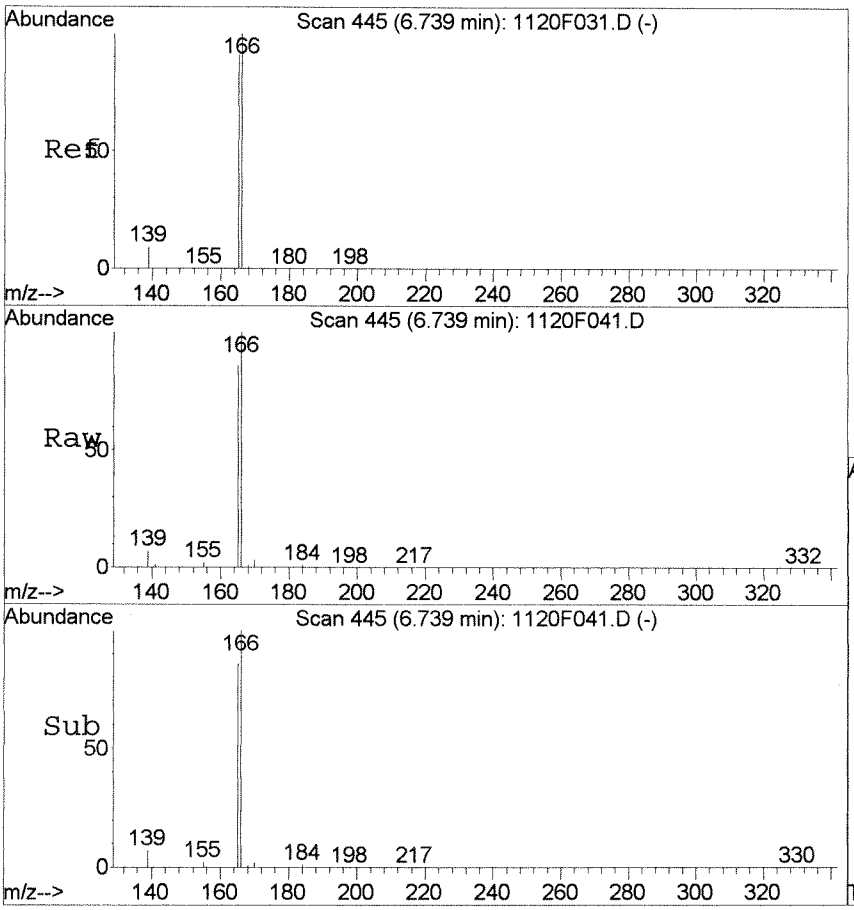


#14
2,3,5-Trimethylnaphthalene
Concen: 65.70 ng/ml
RT: 6.63 min Scan# 429
Delta R.T. -0.01 min
Lab File: 1120F041.D
Acq: 21 Nov 2009 3:52 am

Tgt Ion:170 Resp: 30327

Ion	Ratio	Lower	Upper
170	100		
155	72.6	48.2	108.2

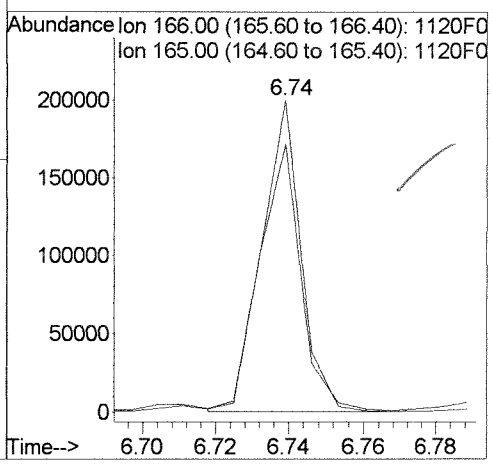


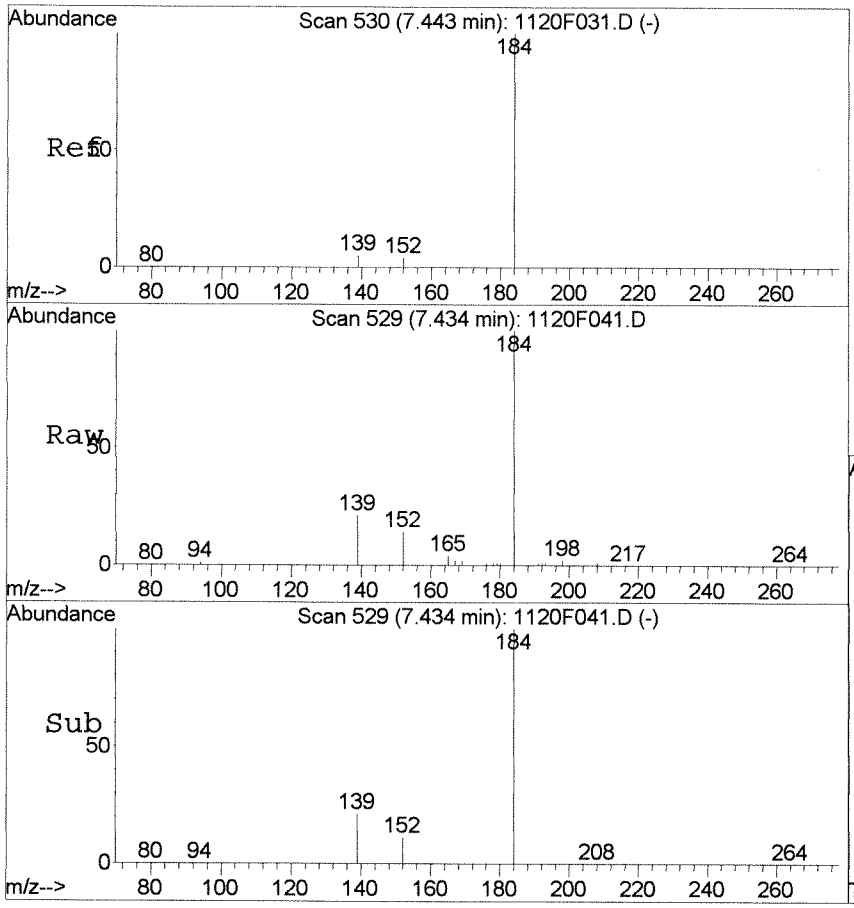


#16
Fluorene
Concen: 268.41 ng/ml m
RT: 6.74 min Scan# 445
Delta R.T. -0.01 min
Lab File: 1120F041.D
Acq: 21 Nov 2009 3:52 am

Tgt Ion:166 Resp: 146987

Ion	Ratio	Lower	Upper
166	100		
165	85.7	57.8	117.8

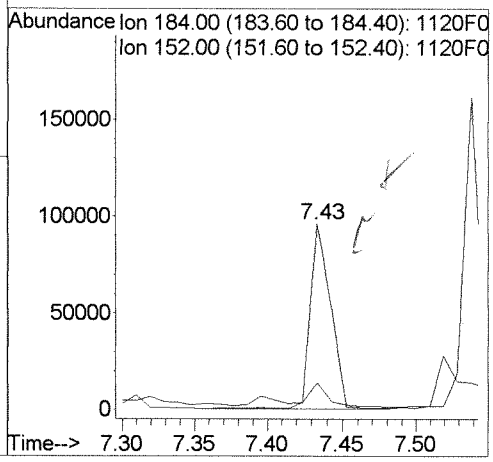


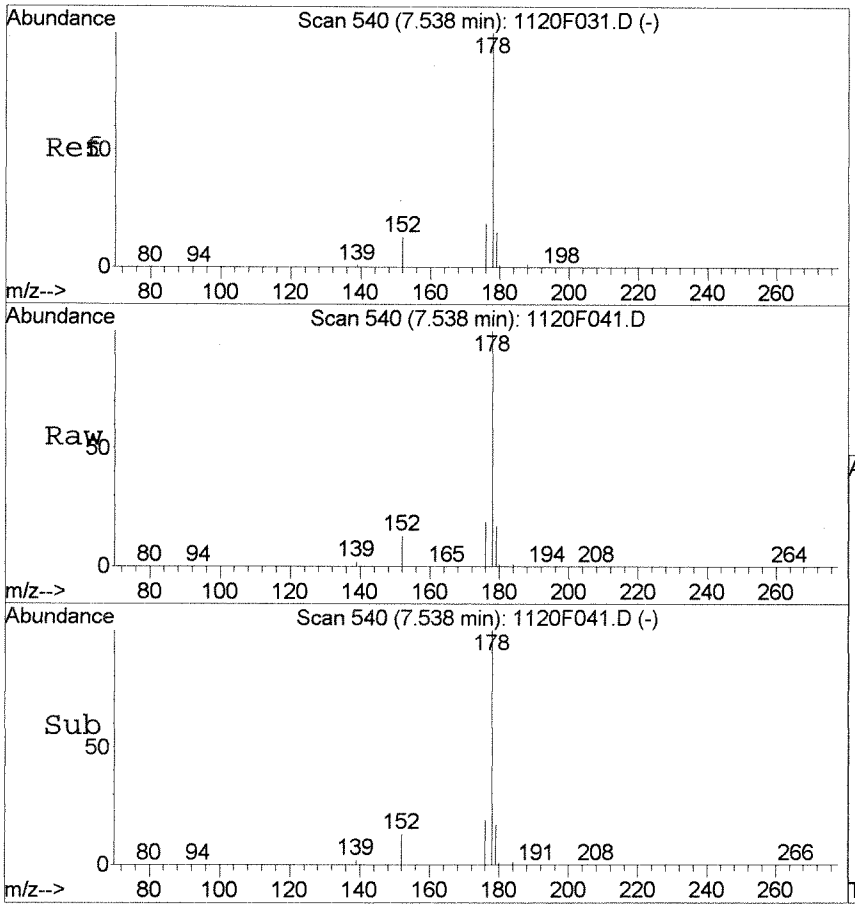


#23
Dibenzothiophene
Concen: 109.72 ng/ml
RT: 7.43 min Scan# 529
Delta R.T. -0.01 min
Lab File: 1120F041.D
Acq: 21 Nov 2009 3:52 am

Tgt Ion:184 Resp: 88129

Ion	Ratio	Lower	Upper
184	100		
152	13.0	0.0	39.4

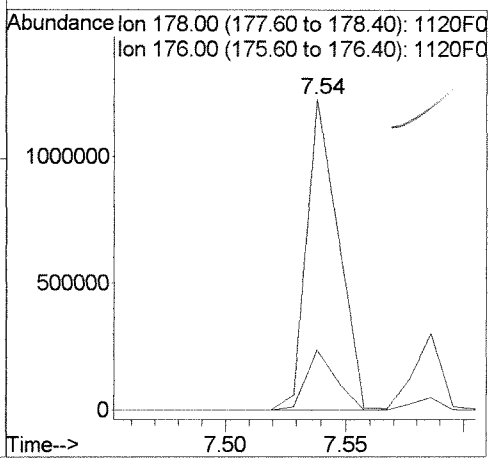


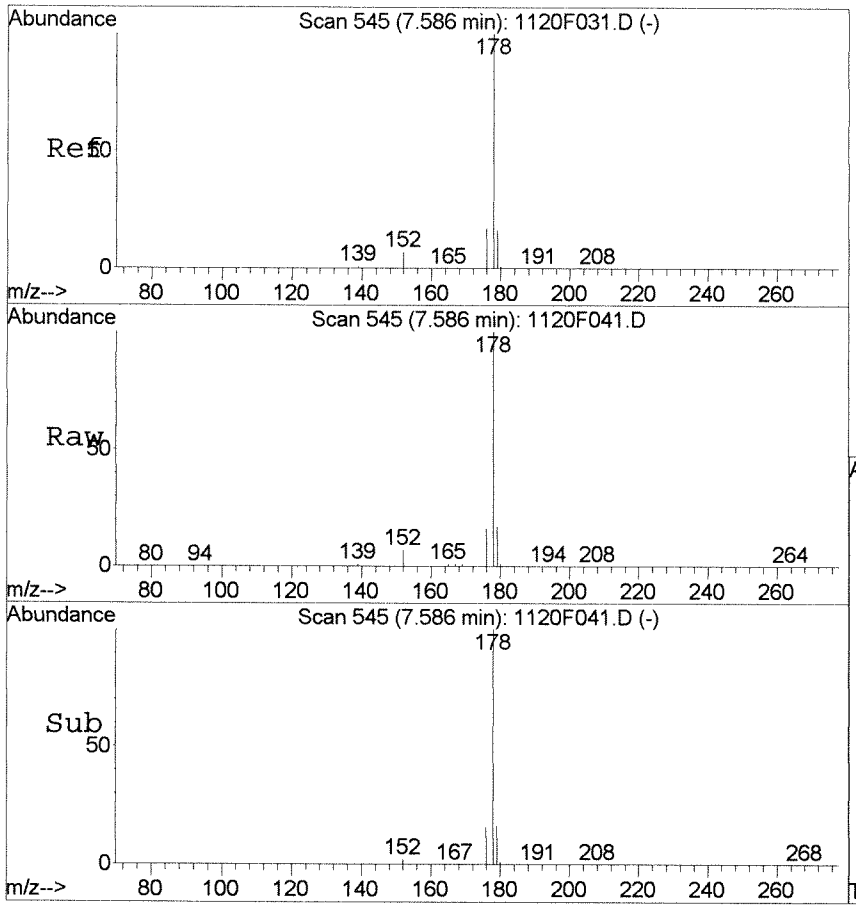


#27
Phenanthrene
Concen: 1134.53 ng/ml
RT: 7.54 min Scan# 540
Delta R.T. -0.01 min
Lab File: 1120F041.D
Acq: 21 Nov 2009 3:52 am

Tgt Ion:178 Resp: 1090865

Ion	Ratio	Lower	Upper
178	100		
176	19.3	0.0	49.6

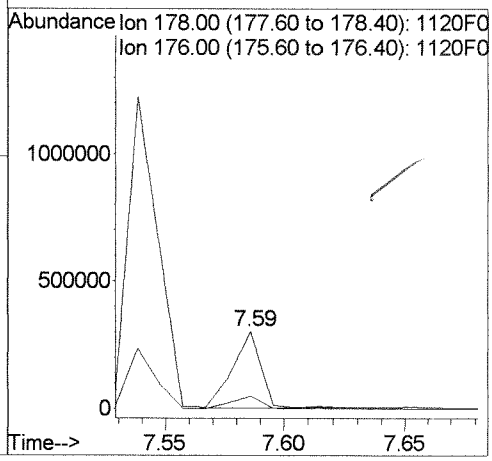


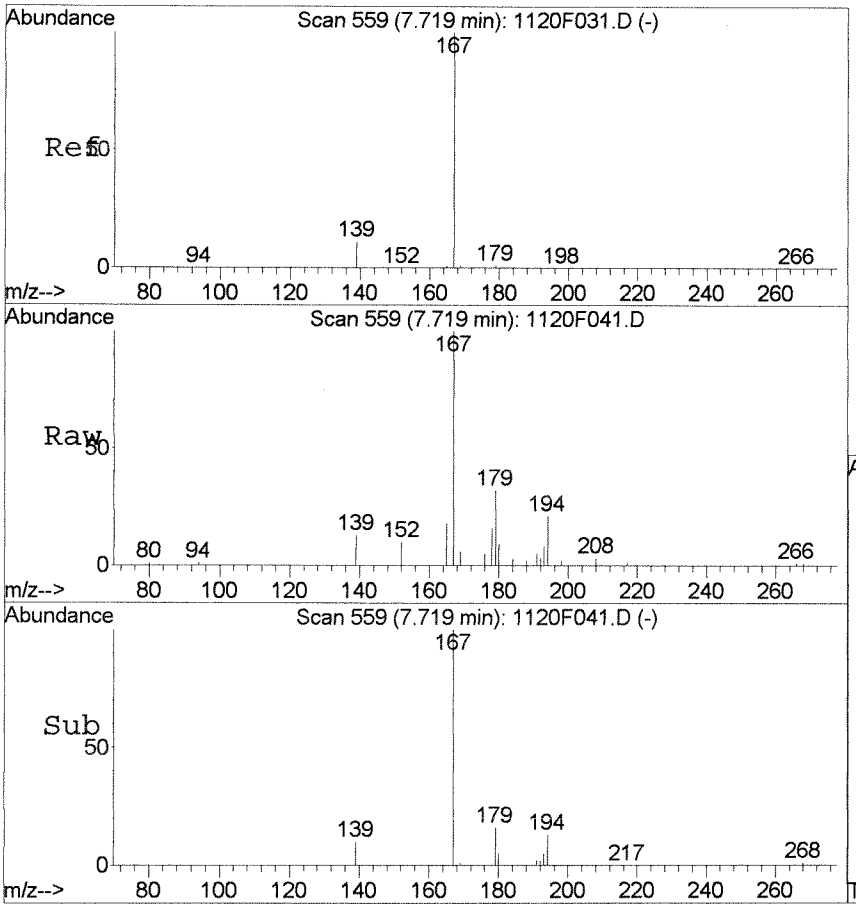


#28
Anthracene
Concen: 266.87 ng/ml
RT: 7.59 min Scan# 545
Delta R.T. 0.00 min
Lab File: 1120F041.D
Acq: 21 Nov 2009 3:52 am

Tgt Ion:178 Resp: 246582

Ion	Ratio	Lower	Upper
178	100		
176	16.3	0.0	47.6

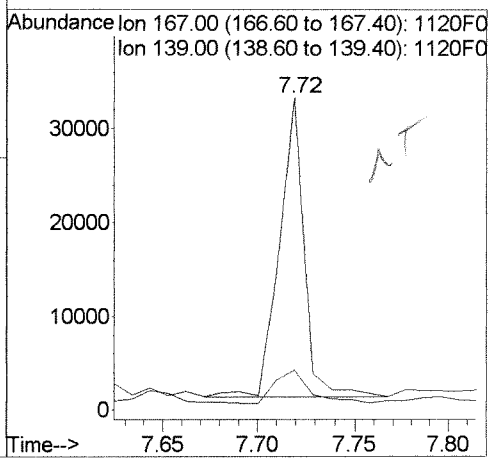


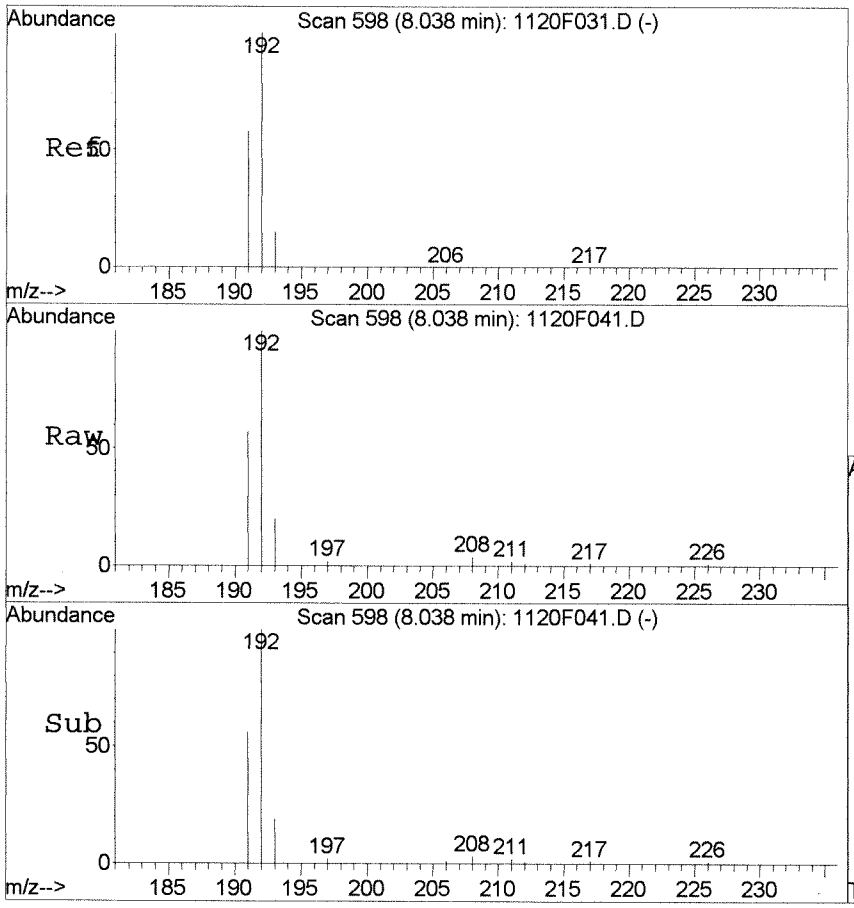


#29
Carbazole
Concen: 36.34 ng/ml
RT: 7.72 min Scan# 559
Delta R.T. -0.00 min
Lab File: 1120F041.D
Acq: 21 Nov 2009 3:52 am

Tgt Ion:167 Resp: 28681

Ion	Ratio	Lower	Upper
167	100		
139	10.8	0.0	45.7

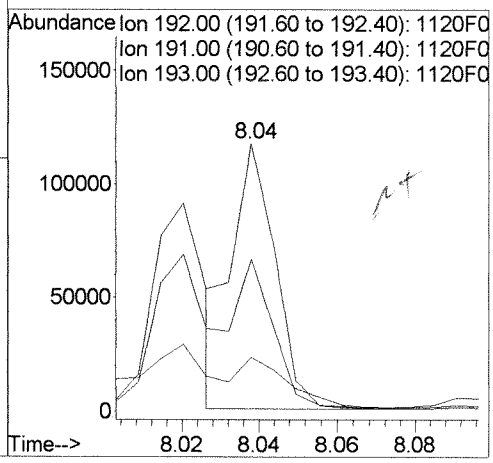


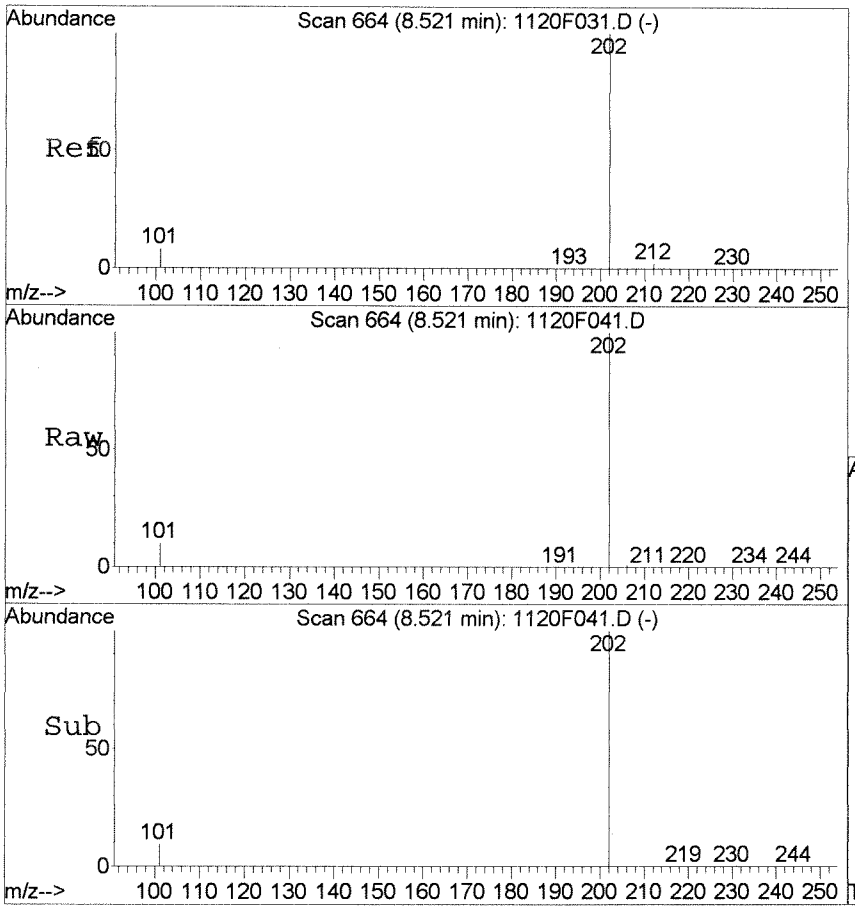


#30
1-Methylphenanthrene
Concen: 121.37 ng/ml
RT: 8.04 min Scan# 598
Delta R.T. -0.01 min
Lab File: 1120F041.D
Acq: 21 Nov 2009 3:52 am

Tgt Ion:192 Resp: 90844

Ion	Ratio	Lower	Upper
192	100		
191	55.8	23.0	83.0
193	18.8	0.0	47.0

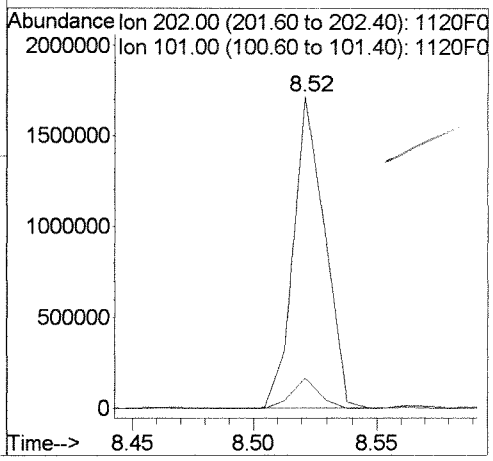


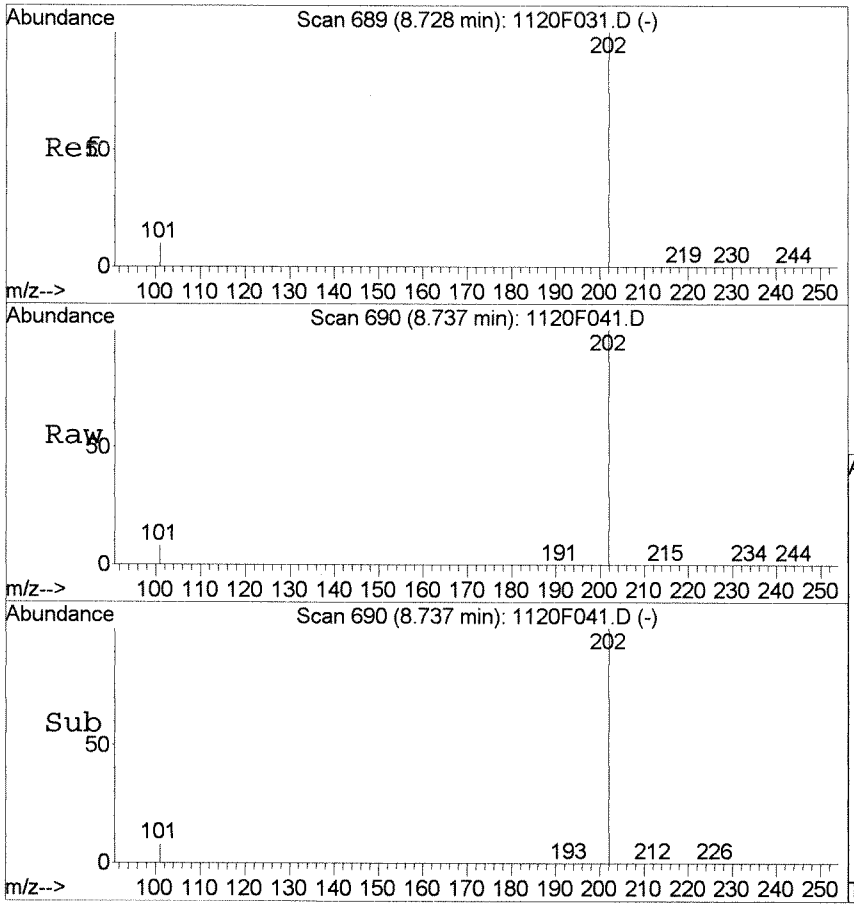


#35
Fluoranthene
Concen: 1329.49 ng/ml
RT: 8.52 min Scan# 664
Delta R.T. -0.01 min
Lab File: 1120F041.D
Acq: 21 Nov 2009 3:52 am

Tgt Ion:202 Resp: 1486044

Ion	Ratio	Lower	Upper
202	100		
101	9.7	0.0	36.5

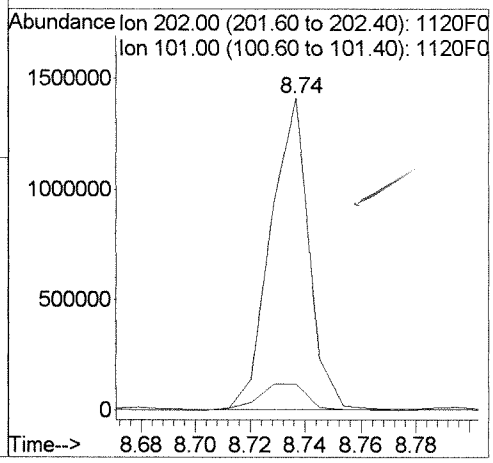


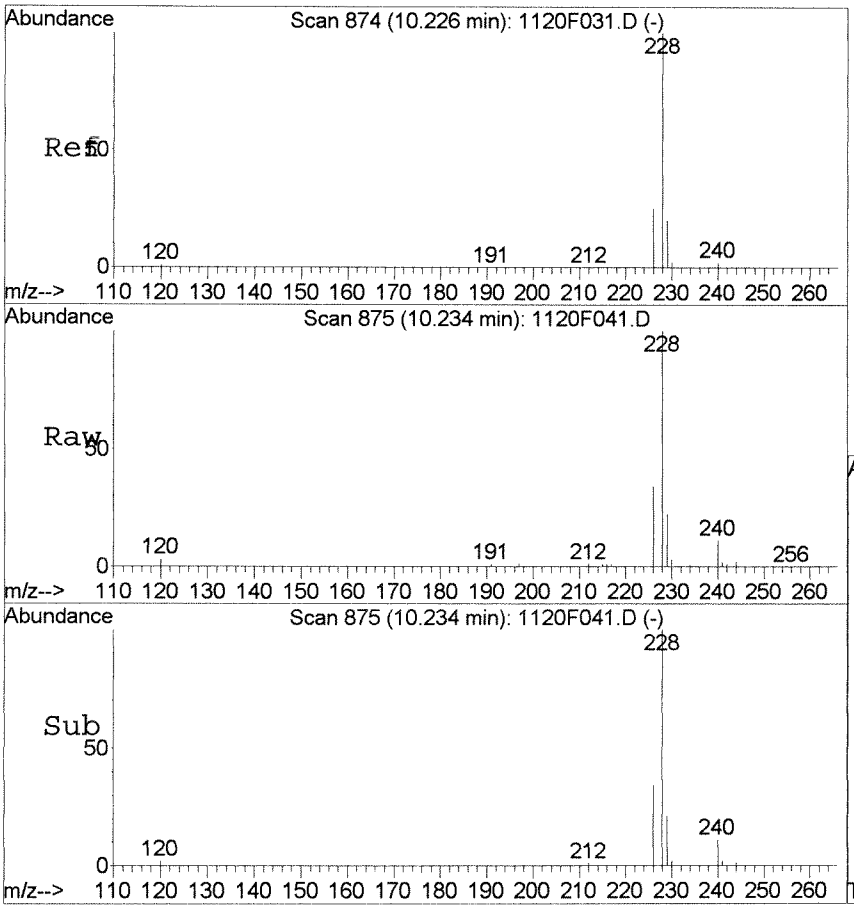


#38
Pyrene
Concen: 869.02 ng/ml
RT: 8.74 min Scan# 690
Delta R.T. -0.01 min
Lab File: 1120F041.D
Acq: 21 Nov 2009 3:52 am

Tgt Ion:202 Resp: 1368147

Ion	Ratio	Lower	Upper
202	100		
101	8.3	0.0	36.4

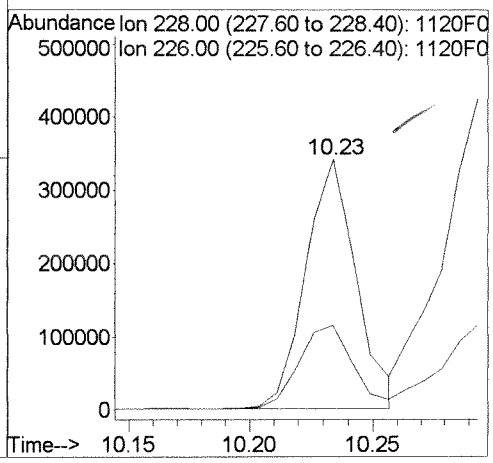


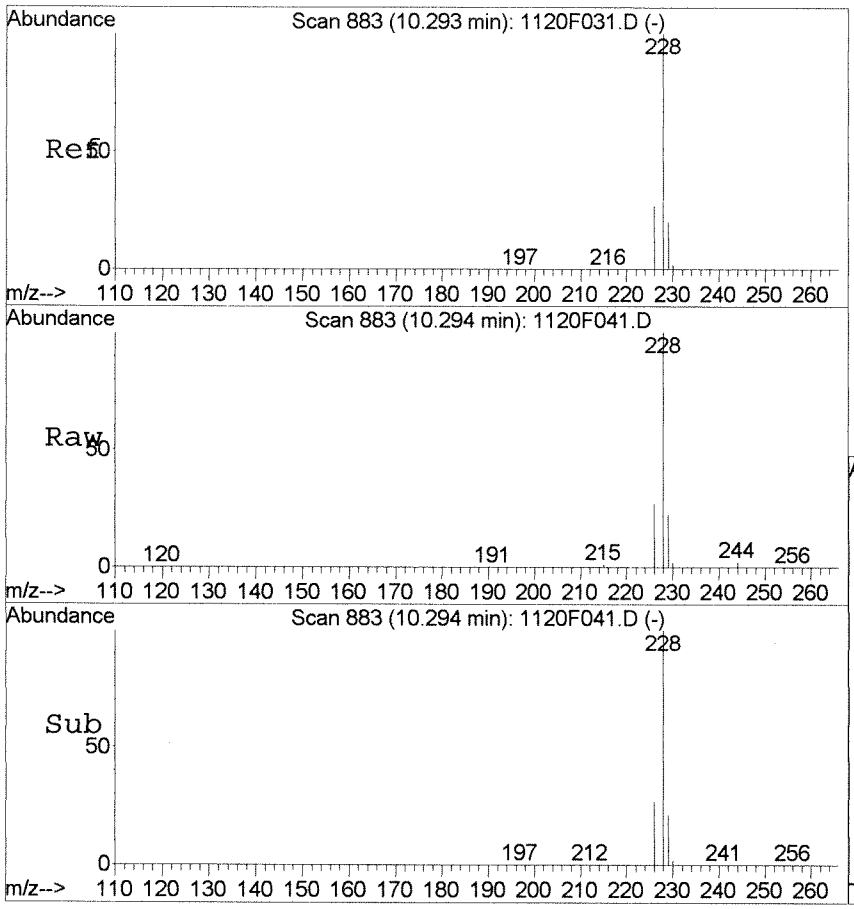


#43
Benz(a)anthracene
Concen: 315.21 ng/ml
RT: 10.23 min Scan# 875
Delta R.T. -0.02 min
Lab File: 1120F041.D
Acq: 21 Nov 2009 3:52 am

Tgt Ion:228 Resp: 478053

Ion	Ratio	Lower	Upper
228	100		
226	33.7	0.0	55.9

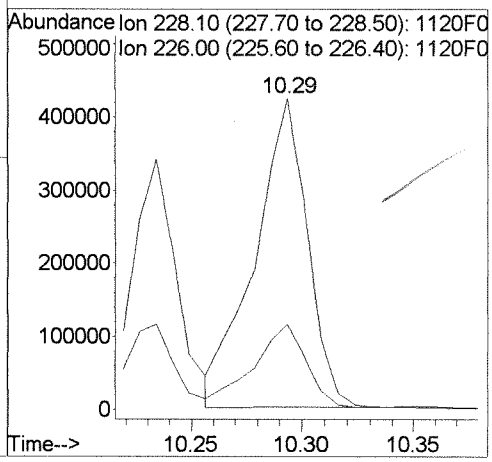


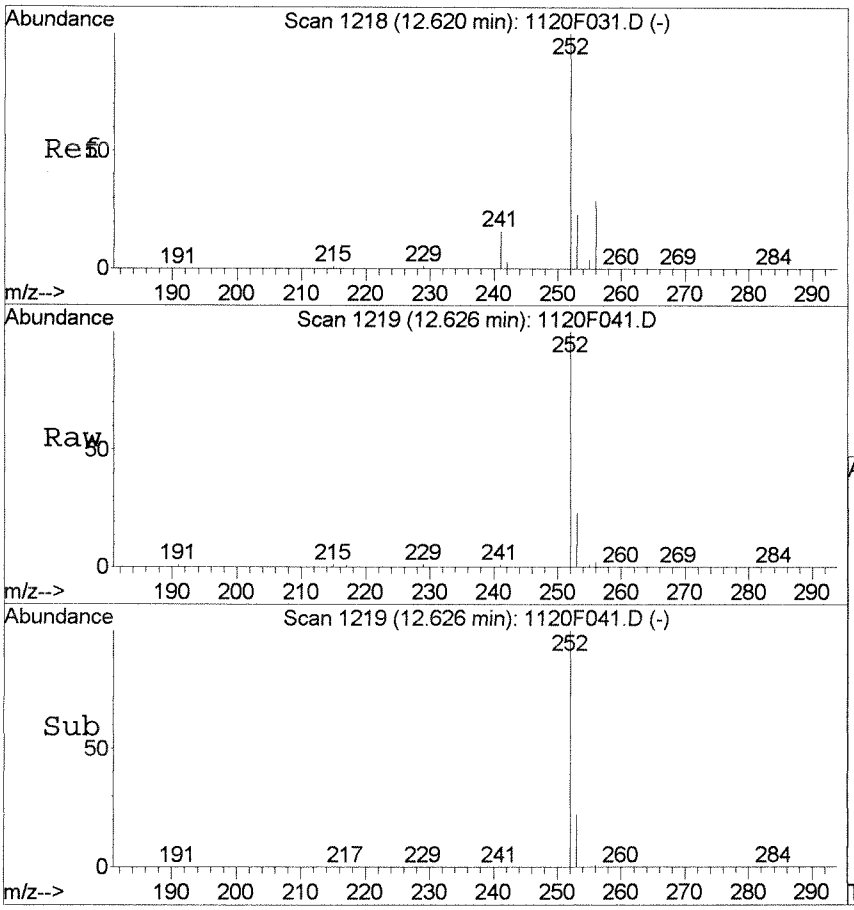


#44
Chrysene
Concen: 481.70 ng/ml
RT: 10.29 min Scan# 883
Delta R.T. -0.02 min
Lab File: 1120F041.D
Acq: 21 Nov 2009 3:52 am

Tgt Ion:228 Resp: 697680

Ion	Ratio	Lower	Upper
228	100		
226	26.9	0.0	58.8

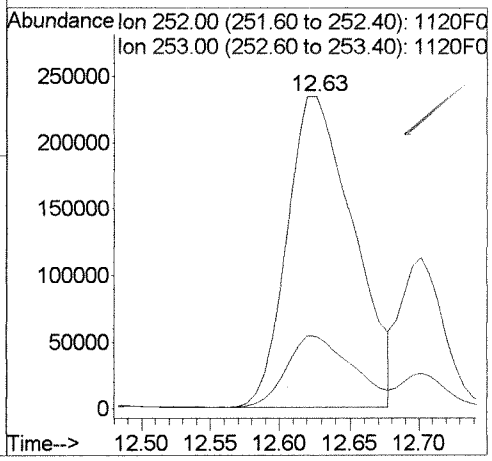


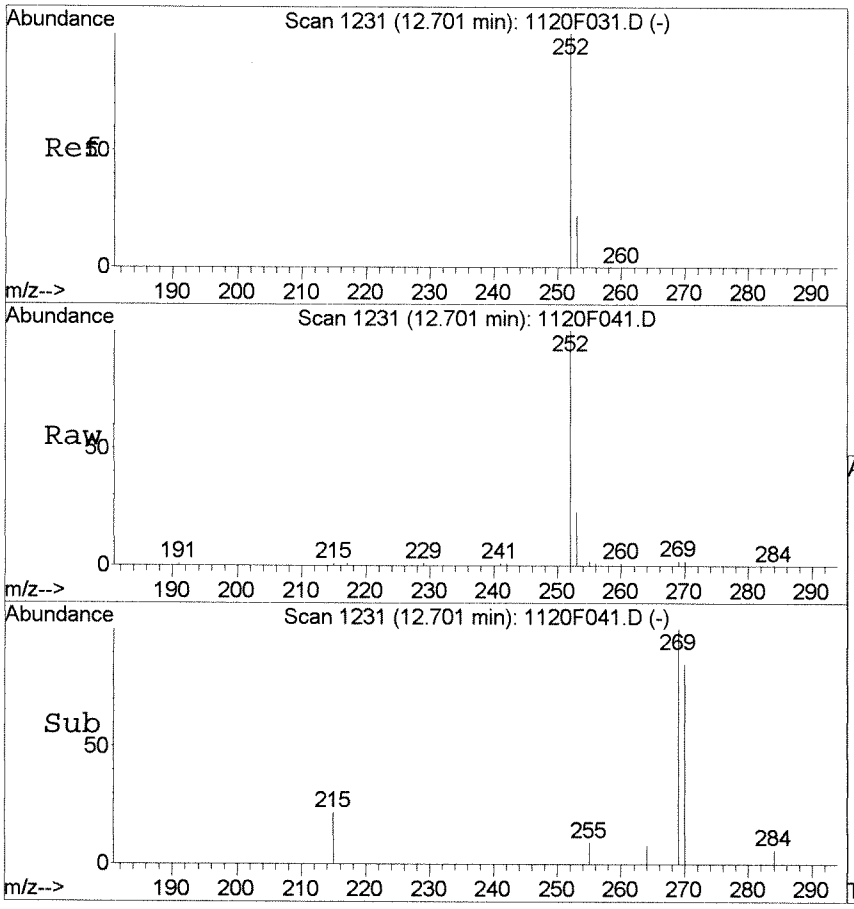


#50
Benzo(b)fluoranthene
Concen: 422.63 ng/ml
RT: 12.63 min Scan# 1219
Delta R.T. -0.03 min
Lab File: 1120F041.D
Acq: 21 Nov 2009 3:52 am

Tgt Ion:252 Resp: 761475

Ion	Ratio	Lower	Upper
252	100		
253	22.6	0.0	52.8

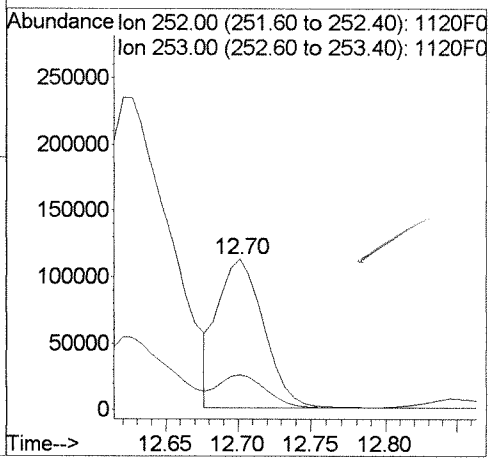


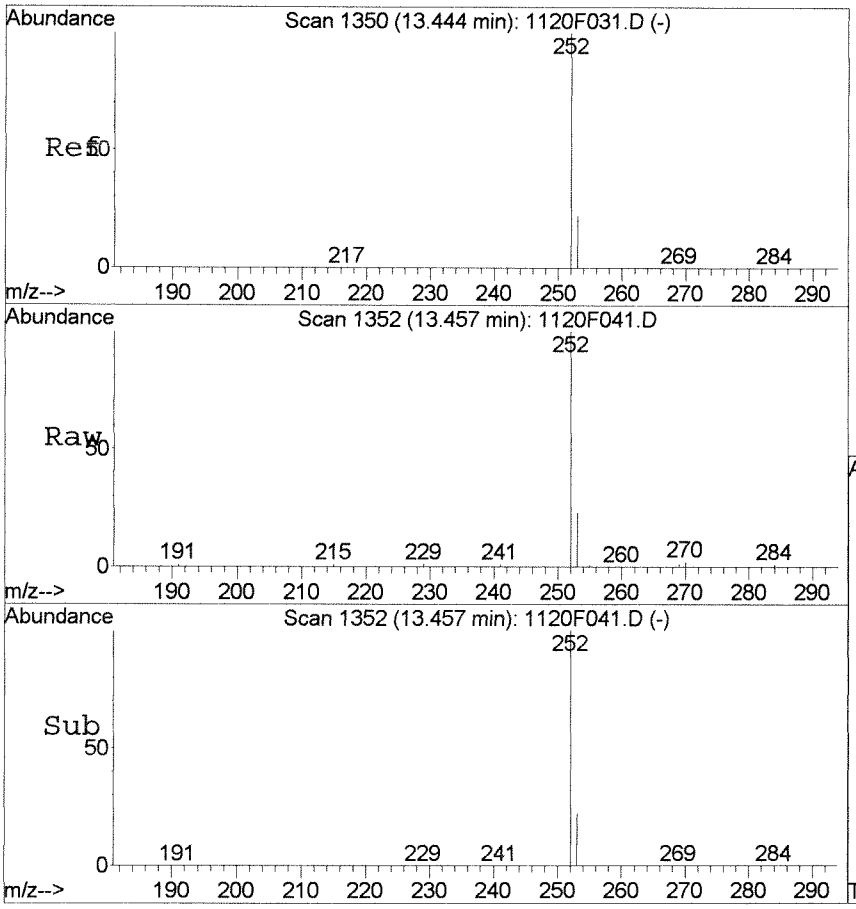


#51
Benzo(k)fluoranthene
Concen: 145.40 ng/ml
RT: 12.70 min Scan# 1231
Delta R.T. -0.04 min
Lab File: 1120F041.D
Acq: 21 Nov 2009 3:52 am

Tgt Ion:252 Resp: 248248

Ion	Ratio	Lower	Upper
252	100		
253	21.9	0.0	52.5

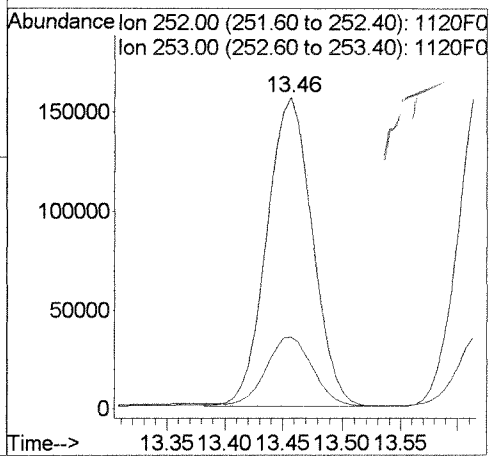


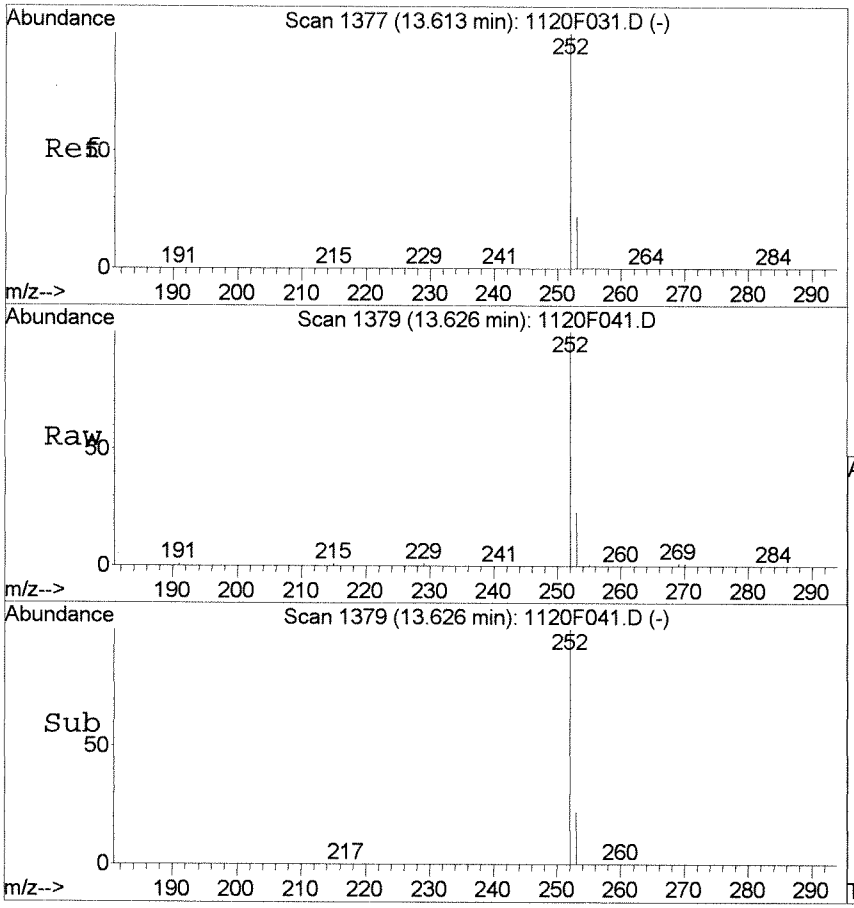


#52
Benzo(e)pyrene
Concen: 257.41 ng/ml
RT: 13.46 min Scan# 1352
Delta R.T. -0.04 min
Lab File: 1120F041.D
Acq: 21 Nov 2009 3:52 am

Tgt Ion:252 Resp: 425031

Ion	Ratio	Lower	Upper
252	100		
253	22.1	0.0	52.3

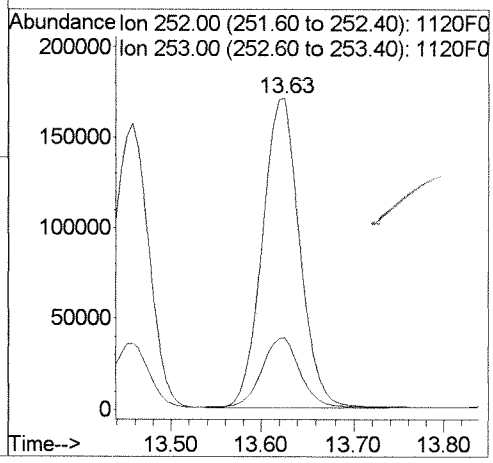


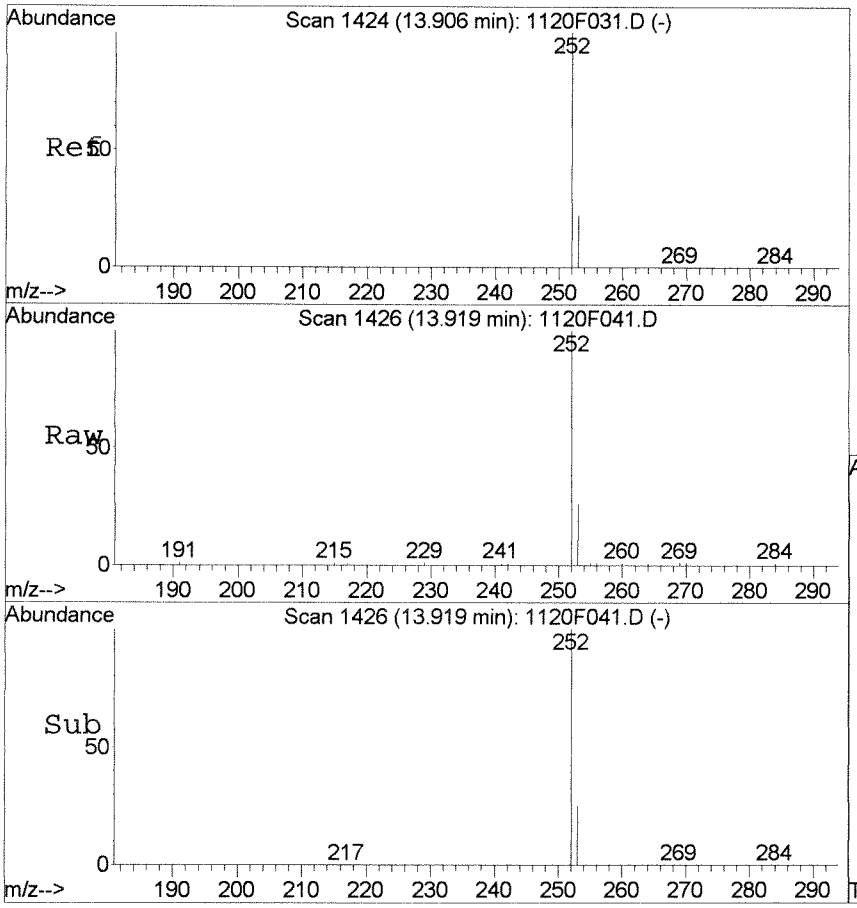


#53
Benzo(a)pyrene
Concen: 306.12 ng/ml
RT: 13.63 min Scan# 1379
Delta R.T. -0.04 min
Lab File: 1120F041.D
Acq: 21 Nov 2009 3:52 am

Tgt Ion:252 Resp: 485901

Ion	Ratio	Lower	Upper
252	100		
253	22.2	0.0	52.6

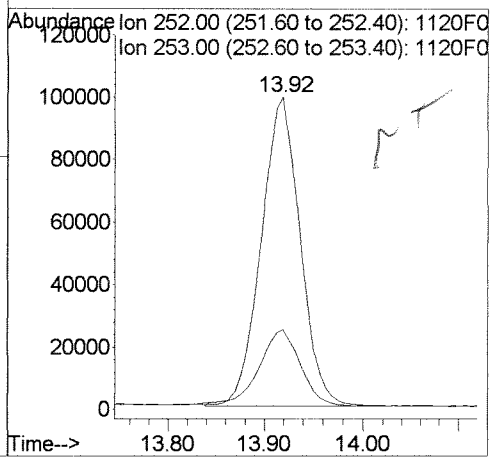


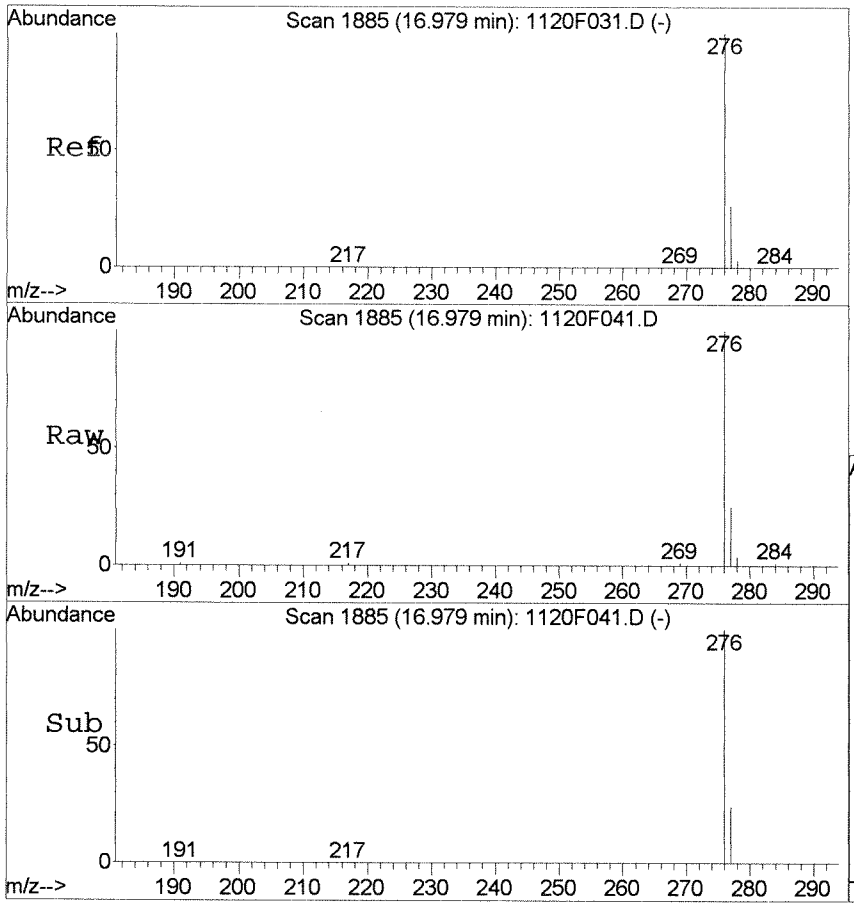


#54
Perylene
Concen: 175.84 ng/ml
RT: 13.92 min Scan# 1426
Delta R.T. -0.04 min
Lab File: 1120F041.D
Acq: 21 Nov 2009 3:52 am

Tgt Ion:252 Resp: 275641

Ion	Ratio	Lower	Upper
252	100		
253	24.9	0.0	52.0

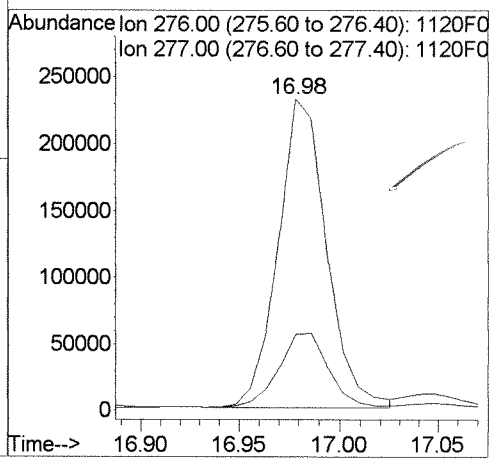


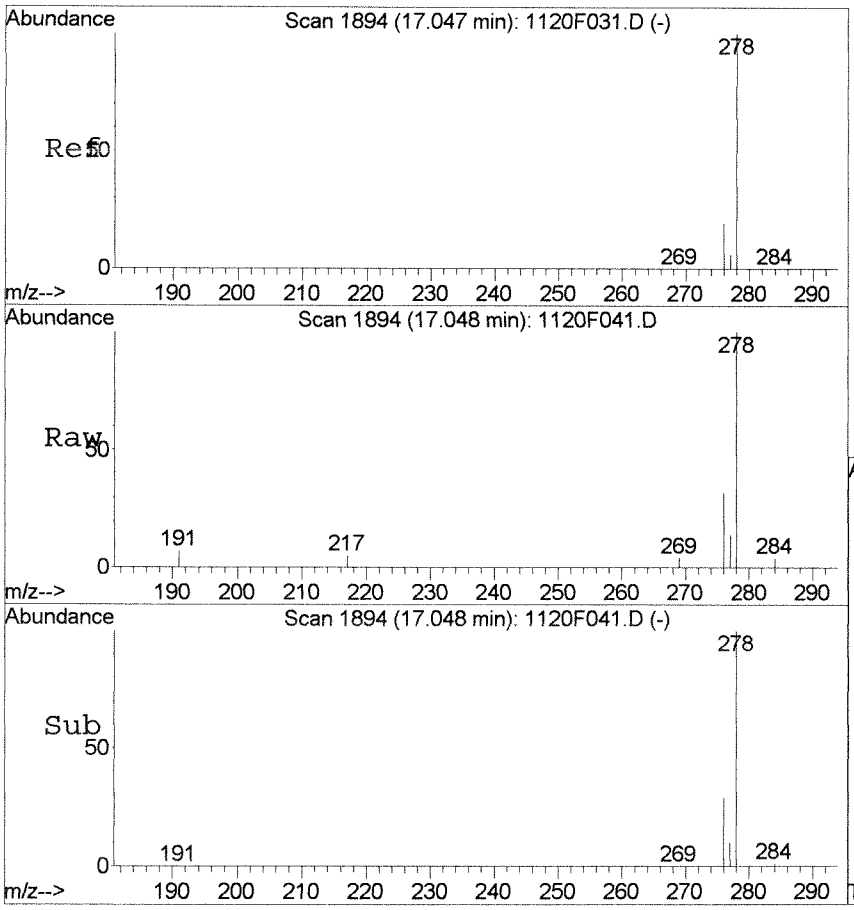


#55
Indeno(1,2,3-cd)pyrene
Concen: 263.87 ng/ml
RT: 16.98 min Scan# 1885
Delta R.T. -0.03 min
Lab File: 1120F041.D
Acq: 21 Nov 2009 3:52 am

Tgt Ion:276 Resp: 386077

Ion	Ratio	Lower	Upper
276	100		
277	23.9	0.0	55.1

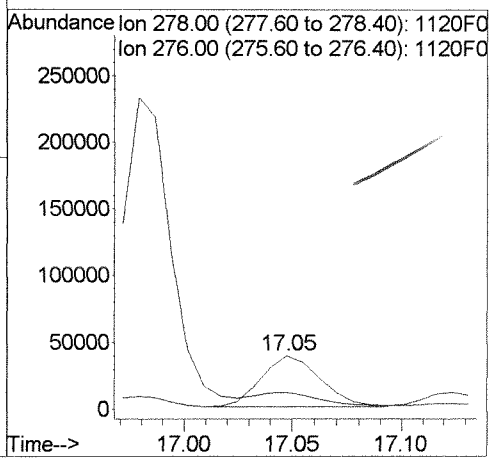


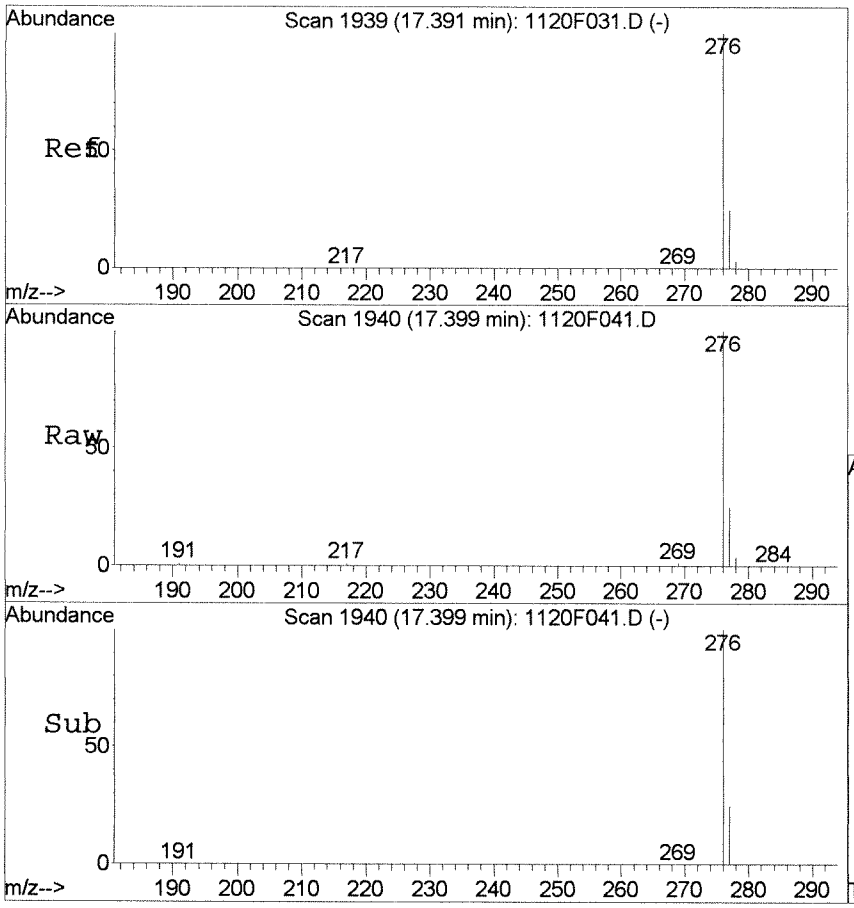


#56
Dibenz(a,h)anthracene
Concen: 46.59 ng/ml
RT: 17.05 min Scan# 1894
Delta R.T. -0.03 min
Lab File: 1120F041.D
Acq: 21 Nov 2009 3:52 am

Tgt Ion:278 Resp: 71036

Ion	Ratio	Lower	Upper
278	100		
276	26.3	0.0	52.1

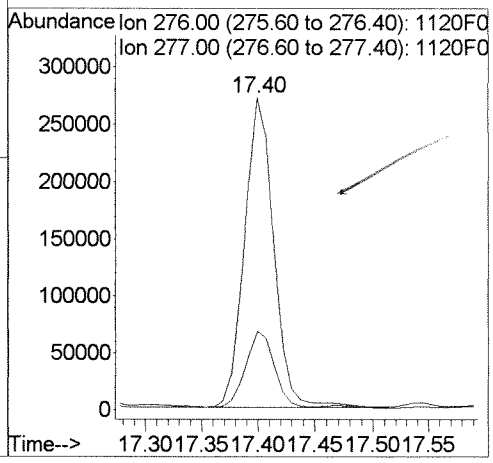




#57
Benzo(g,h,i)perylene
Concen: 295.69 ng/ml
RT: 17.40 min Scan# 1940
Delta R.T. -0.03 min
Lab File: 1120F041.D
Acq: 21 Nov 2009 3:52 am

Tgt Ion:276 Resp: 488928

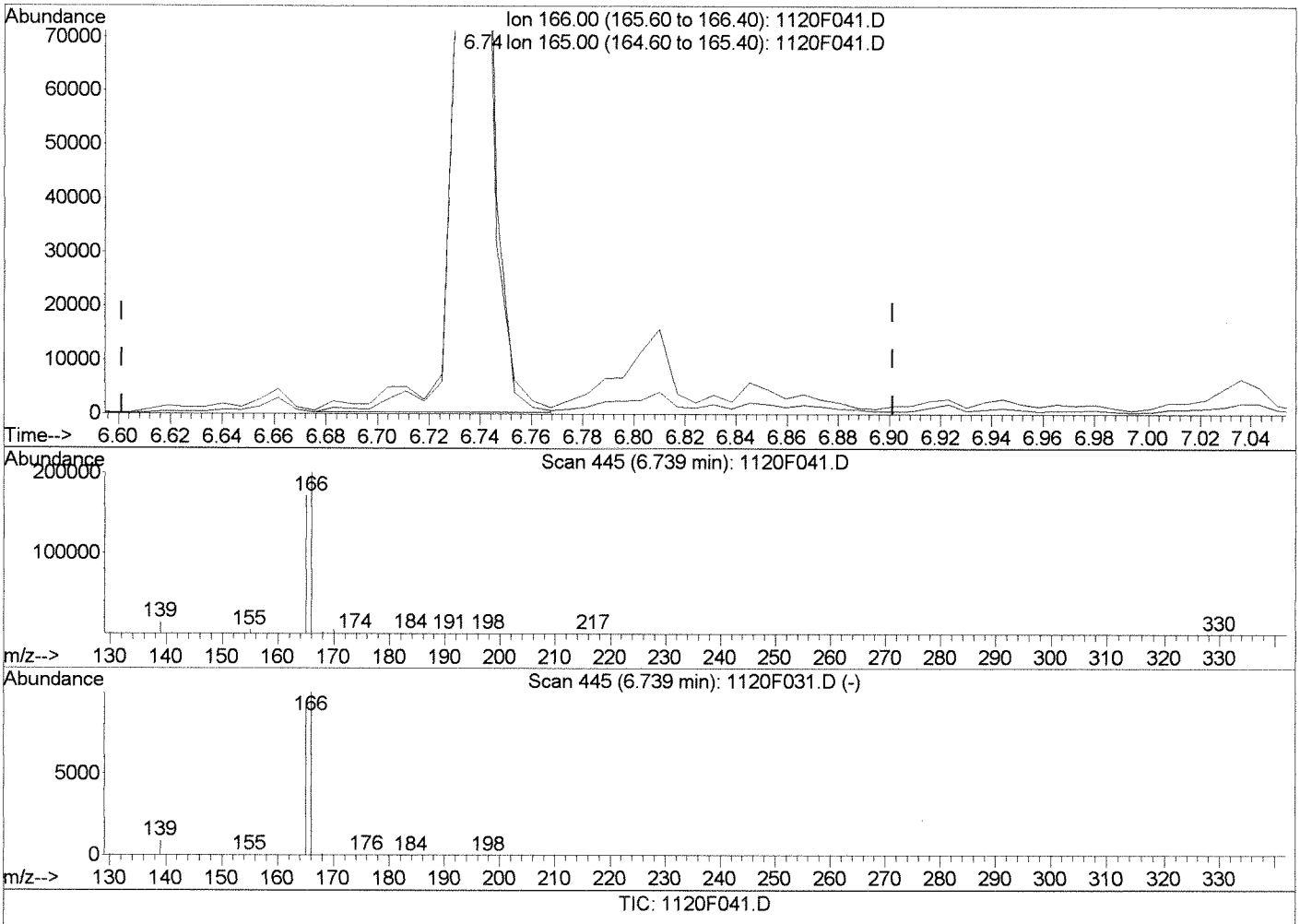
Ion	Ratio	Lower	Upper
276	100		
277	24.8	0.0	55.7



Quantitation Report (Qedit)

Data File : J:\MS11\DATA\112009\1120F041.D Vial: 38
Acq On : 21 Nov 2009 3:52 am Operator: LWeiskopf
Sample : K0909140-014 Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 23 8:36 2009 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1119ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Nov 23 08:36:00 2009
Response via : Multiple Level Calibration



TIC: 1120F041.D

(16) Fluorene (T)

6.74min 278.00ng/ml

response 152242

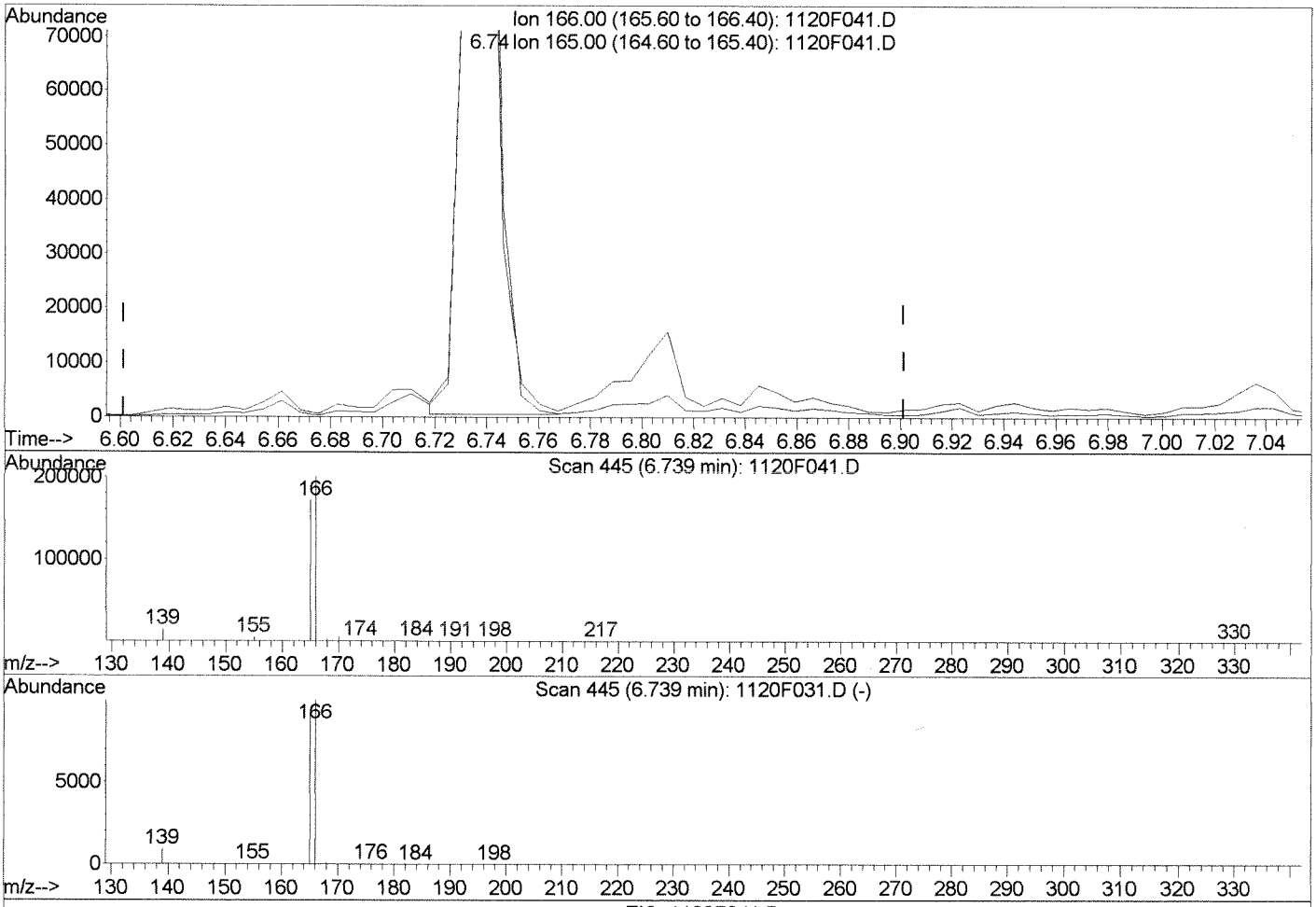
Ion	Exp%	Act%
166.00	100	100
165.00	87.80	85.55
0.00	0.00	0.00
0.00	0.00	0.00

1120F041.D 1119ALK.M Mon Nov 23 08:58:14 2009

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\112009\1120F041.D Vial: 38
Acq On : 21 Nov 2009 3:52 am Operator: LWeiskopf
Sample : K0909140-014 Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 23 8:58 2009 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1119ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Nov 23 08:36:00 2009
Response via : Multiple Level Calibration



TIC: 1120F041.D

(16) Fluorene (T)

6.74min 268.41ng/ml m

response 146987

Ion	Exp%	Act%
166.00	100	100
165.00	87.80	85.73
0.00	0.00	0.00
0.00	0.00	0.00

OK 11/23/09 11-24-09

1120F041.D 1119ALK.M Mon Nov 23 08:58:19 2009

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	URS Corporation	**Service Request:**	K0909140
Project:	Boise St. Helens Pulp and Paper Mill-2009	**Date Collected:**	09/28/2009
Sample Matrix:	Sediment	**Date Received:**	09/29/2009

Polynuclear Aromatic Hydrocarbons

Sample Name:	M-5-B	**Units:**	ug/Kg
Lab Code:	K0909140-015	**Basis:**	Dry
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270C SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Naphthalene	**92**		2.5	0.60	1	11/10/09	11/16/09	KWG0910535	
2-Methylnaphthalene	**25**		2.5	0.46	1	11/10/09	11/16/09	KWG0910535	
Acenaphthylene	**27**		2.5	0.56	1	11/10/09	11/16/09	KWG0910535	
Acenaphthene	**25**		2.5	0.50	1	11/10/09	11/16/09	KWG0910535	
Fluorene	**28**		2.5	0.61	1	11/10/09	11/16/09	KWG0910535	
Dibenzofuran	**19**		2.5	0.63	1	11/10/09	11/16/09	KWG0910535	
Phenanthrene	**120**		2.5	1.4	1	11/10/09	11/16/09	KWG0910535	
Anthracene	**23**		2.5	0.55	1	11/10/09	11/16/09	KWG0910535	
Fluoranthene	**190**		2.5	0.98	1	11/10/09	11/16/09	KWG0910535	
Pyrene	**170**		2.5	0.76	1	11/10/09	11/16/09	KWG0910535	
Benz(a)anthracene	**74**		2.5	0.72	1	11/10/09	11/16/09	KWG0910535	
Chrysene	**95**		2.5	0.80	1	11/10/09	11/16/09	KWG0910535	
Benzo(b)fluoranthene	**130**		2.5	0.92	1	11/10/09	11/16/09	KWG0910535	
Benzo(k)fluoranthene	**42**		2.5	0.87	1	11/10/09	11/16/09	KWG0910535	
Benzo(a)pyrene	**120**		2.5	0.76	1	11/10/09	11/16/09	KWG0910535	
Indeno(1,2,3-cd)pyrene	**110**		2.5	0.87	1	11/10/09	11/16/09	KWG0910535	
Dibenz(a,h)anthracene	**13**		2.5	0.80	1	11/10/09	11/16/09	KWG0910535	
Benzo(g,h,i)perylene	**120**		2.5	0.85	1	11/10/09	11/16/09	KWG0910535	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	76	17-104	11/16/09	Acceptable
Fluoranthene-d10	73	27-106	11/16/09	Acceptable
Terphenyl-d14	61	35-109	11/16/09	Acceptable

Comments:

Exception Report

Data File: J:\MS11\DATA\111609\1116F037.D
Lab ID: K0909140-015
RunType: SMPL
Matrix: SEDIMENT

Date Acquired: 11/16/2009 23:07
Date Quantitated: 11/18/2009 12:20
Batch ID: KWG0910855
Analysis Method: 8270C SIM
ListJoinID: LJ5646

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Tune Window	NA	NA	NA	x	
Analytical Holding Time	NA	NA	NA	x	
Preparation Holding Time	NA	NA	NA	x	
Pre-Preparation Holding Time	NA	NA	NA	x	
ICAL Pass/Fail	NA	NA	NA	x	
ICAL Average RSD	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Initial Calibration Minimum RF	NA	NA	NA	x	
Initial Calibration SPCC/CCC	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA	x	
Continuing Calibration Minimum RF	NA	NA	NA	x	
Continuing Calibration SPCC/CCC	NA	NA	NA	x	
Method Blank	NA	NA	NA	x	
MB Surrogate Recovery	NA	NA	NA	x	
Lab Control Spike	NA	NA	NA	x	
Duplicate Lab Control Spike	NA	NA	NA	x	
Internal Standards	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Relative Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Primary Review: 11/18/09

Secondary Review: 11-19-09

Quantitation Report

Bottle ID:		**Tier:**	V	**Matrix:**	SEDIMENT
Prod Code:	8270C SIM PAH_S	**Collect Date:**	09/28/2009	**Receive Date:**	09/29/2009

Analysis Lot:	KWG0910855	**Prep Lot:**	KWG0910535	**Report Group:**	K0909140
Analysis Method:	8270C SIM	**Prep Method:**	EPA 3541		
Prep Ref:	865768	**Prep Date:**	11/10/2009		

Quant Method:	J:\MS11\METHODS\SIM\1015ALK.M	**Calibration ID:**	CAL8928
Title:	Polynuclear Aromatic Hydrocarbons	**Report List ID:**	LJ5646
Tune Ref:	J:\MS11\DATA\111609\1116F032.D	**Method ID:**	MJ253
MB Ref:	J:\MS11\DATA\111609\1116F004.D	**Quant based on Report List**	

Data File:	J:\MS11\DATA\111609\1116F037.D			**Instrument:**	MS11
Acqu Date:	11/16/2009 23:07	**Quant Date:**	11/18/2009 12:20	**Vial:**	33
Run Type:	SMPL			**Dilution:**	1.0
Lab ID:	K0909140-015			**Soln Conc. Units:**	ng/ml

Internal Standard Compounds

IS Ref	Parameter Name	RT	RT Dev	Quant Mass	Response	Solution Conc	Area Criteria
1	Naphthalene-d8	4.63	0.00	136	174457	200.00	OK
2	Acenaphthene-d10	6.05	0.00	164	97076	200.00	OK
3	Phenanthrene-d10	7.27	0.00	188	171838	200.00	OK
4	Chrysene-d12	9.76	0.00	240	276696	200.00	OK
5	Perylene-d12	12.78	0.00	264	317266	200.00	OK

Surrogate Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	%Rec	%Rec Limits		Rpt?
2	Fluorene-d10	6.48	0.01	0.00	176	68621	151.51	76	17-104	OK	
3	Fluoranthene-d10	8.24	0.00	0.00	212	138664	145.62	73	27-106	OK	
4	Terphenyl-d14	8.59	0.01	0.00	244	139747	122.17	61	35-109	OK	

Target Compounds

Final Conc. Units: ug/Kg Dry Weight

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	Final Conc	Q	Rpt?
1	Naphthalene	4.65		0.00	128	149871	186.68	92		
1	2-Methylnaphthalene	5.21		0.00	142	27862	50.36	25		
2	Acenaphthylene	5.93		0.00	152	45384	53.88	27		
2	Acenaphthene	6.07		0.00	154	25072**m**	49.92	25		
2	Dibenzofuran	6.22		0.00	168	25901	38.34	19		
2	Fluorene	6.50		0.00	166	31075**m**	57.39	28		
3	Phenanthrene	7.29		0.00	178	233302	242.08	120		
3	Anthracene	7.33		0.00	178	43331	47.02	23		
3	Fluoranthene	8.25		0.00	202	408414	385.77	190		
4	Pyrene	8.44		0.00	202	507254	334.79	170		
4	Benz(a)anthracene	9.75		0.00	228	225599	150.01	74		
4	Chrysene	9.80		0.00	228	281326	192.05	95		
5	Benzo(b)fluoranthene	11.77		0.00	252	442538	267.39	130		

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Data File:	J:\MS11\DATA\111609\1116F037.D			**Instrument:**	MS11
Acqu Date:	11/16/2009 23:07	**Quant Date:**	11/18/2009 12:20	**Vial:**	33
Run Type:	SMPL			**Dilution:**	1.0
Lab ID:	K0909140-015			**Soln Conc. Units:**	ng/ml

Target Compounds

Final Conc. Units: ug/Kg Dry Weight

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	Final Conc	Q	Rpt?
5	Benzo(k)fluoranthene	11.83	-0.01	0.00	252	137662	84.43	42		
5	Benzo(a)pyrene	12.61		0.00	252	386976	246.88	120		
5	Indeno(1,2,3-cd)pyrene	16.34	0.01	0.00	276	315520	219.41	110		
5	Dibenz(a,h)anthracene	16.41		0.00	278	40452	26.11	13		
5	Benzo(g,h,i)perylene	16.82		0.00	276	415664	250.97	120		

Prep Amount:	20.79 g	**Dilution:**	1.0
Prep Final Vol:	10 ml	**Unit Factor:**	1
Solids:	97.2 %		

Final Concentration = ((Soln Conc x Prep Final Vol x Dilution) / (Prep Amount x Solids)) x Unit Factor

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\111609\1116F037.D Vial: 33
Acq On : 16 Nov 2009 11:07 pm Operator: LWeiskopf
Sample : K0909140-015 Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 18 12:17:44 2009 Quant Results File: 1015ALK.RES

Quant Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Wed Nov 18 12:17:22 2009
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	4.63	136	174457	200.00	ng/ml	0.00
10) Acenaphthene-d10	6.05	164	97076	200.00	ng/ml	0.00
22) Phenanthrene-d10	7.27	188	171838	200.00	ng/ml	0.00
37) Chrysene-d12	9.76	240	276696	200.00	ng/ml	0.00
49) Perylene-d12	12.78	264	317266	200.00	ng/ml	0.02
System Monitoring Compounds						
15) Fluorene-d10	6.48	176	68621	151.51	ng/ml	0.01
Spiked Amount 200.000			Recovery =	75.75%		
20) 2,4,6 Tribromophenol	0.00	330	0d	0.00	ng/ml	
Spiked Amount 375.000			Recovery =	0.00%		
36) Fluoranthene-d10	8.24	212	138664	145.62	ng/ml	0.00
Spiked Amount 200.000			Recovery =	72.81%		
42) Terphenyl-d14	8.59	244	139747	122.17	ng/ml	0.00
Spiked Amount 200.000			Recovery =	61.09%		
Target Compounds						Qvalue
2) Naphthalene	4.65	128	149871	186.68	ng/ml	98
3) 2-Methylnaphthalene	5.21	142	27862	50.36	ng/ml	93
4) 1-Methylnaphthalene	5.29	142	15284	25.98	ng/ml	97
5) Biphenyl	5.59	154	11718	18.57	ng/ml	100
6) 2,6-Dimethylnaphthalene	5.78	156	17014	39.11	ng/ml	89
11) Acenaphthylene	5.93	152	45384	53.88	ng/ml	100
12) Acenaphthene	6.07	154	25072m	49.92	ng/ml	
13) Dibenzofuran	6.22	168	25901	38.34	ng/ml	78
14) 2,3,5-Trimethylnaphthalene	6.38	170	10964	25.99	ng/ml	92
16) Fluorene	6.50	166	31075m	57.39	ng/ml	
23) Dibenzothiophene	7.18	184	15126	17.41	ng/ml	97
27) Phenanthrene	7.29	178	233302	242.08	ng/ml	95
28) Anthracene	7.33	178	43331	47.02	ng/ml	100
29) Carbazole	7.48	167	4849	6.16	ng/ml	97
30) 1-Methylphenanthrene	7.78	192	32398m	46.95	ng/ml	
35) Fluoranthene	8.25	202	408414	385.77	ng/ml	100
38) Pyrene	8.44	202	507254	334.79	ng/ml	95
43) Benz(a)anthracene	9.75	228	225599	150.01	ng/ml	51
44) Chrysene	9.80	228	281326	192.05	ng/ml	97
50) Benzo(b)fluoranthene	11.77	252	442538	267.39	ng/ml	99
51) Benzo(k)fluoranthene	11.83	252	137662	84.43	ng/ml	98
52) Benzo(e)pyrene	12.46	252	280022	180.67	ng/ml	99
53) Benzo(a)pyrene	12.61	252	386976	246.88	ng/ml	98
54) Perylene	12.84	252	242739	157.98	ng/ml	100
55) Indeno(1,2,3-cd)pyrene	16.34	276	315520	219.41	ng/ml	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\111609\1116F037.D Vial: 33
Acq On : 16 Nov 2009 11:07 pm Operator: LWeiskopf
Sample : K0909140-015 Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 18 12:17:44 2009 Quant Results File: 1015ALK.RES

Quant Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Wed Nov 18 12:17:22 2009
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

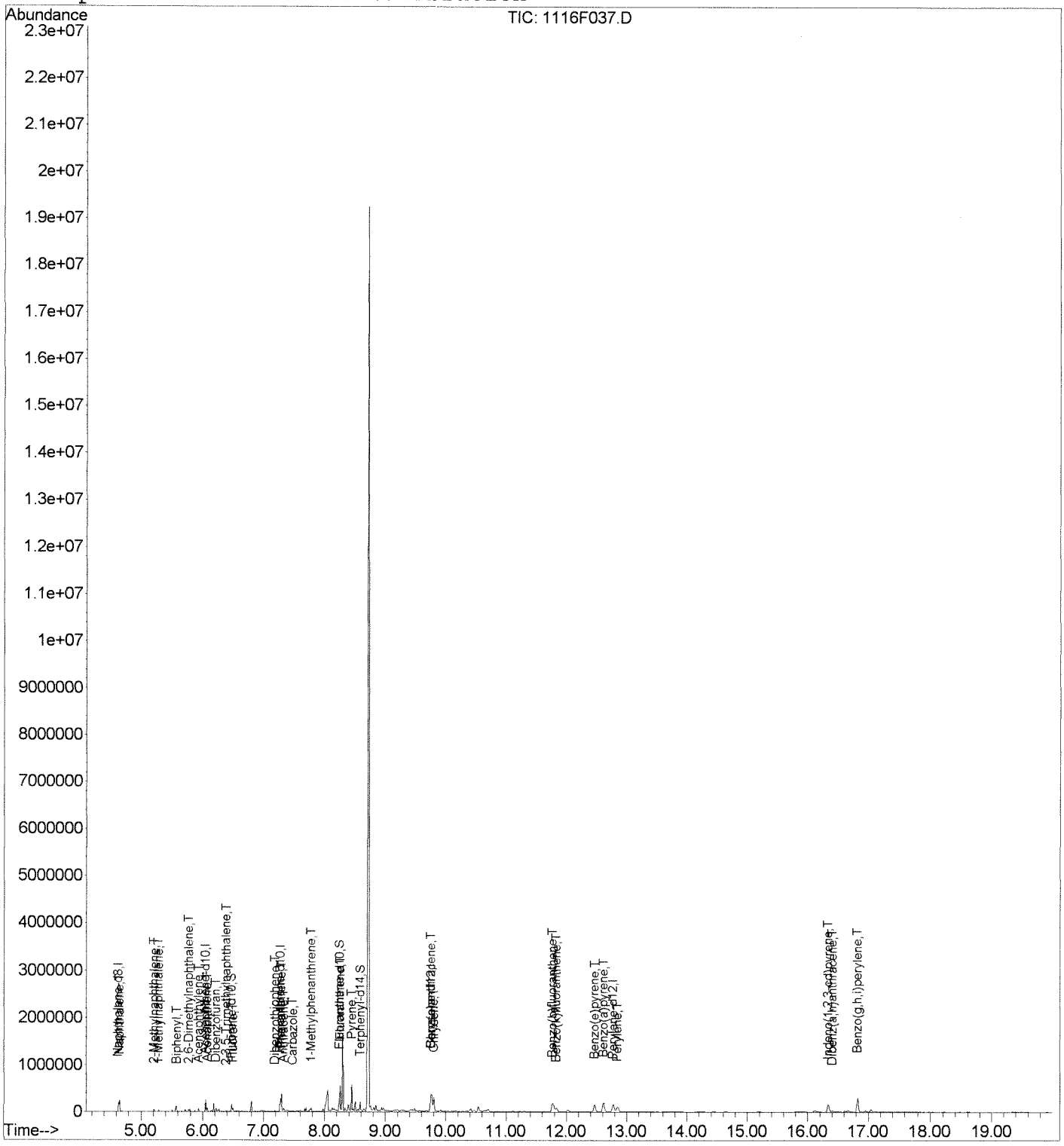
	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
56)	Dibenz(a,h)anthracene	16.41	278	40452	26.11	ng/ml	61
57)	Benzo(g,h,i)perylene	16.82	276	415664	250.97	ng/ml	99

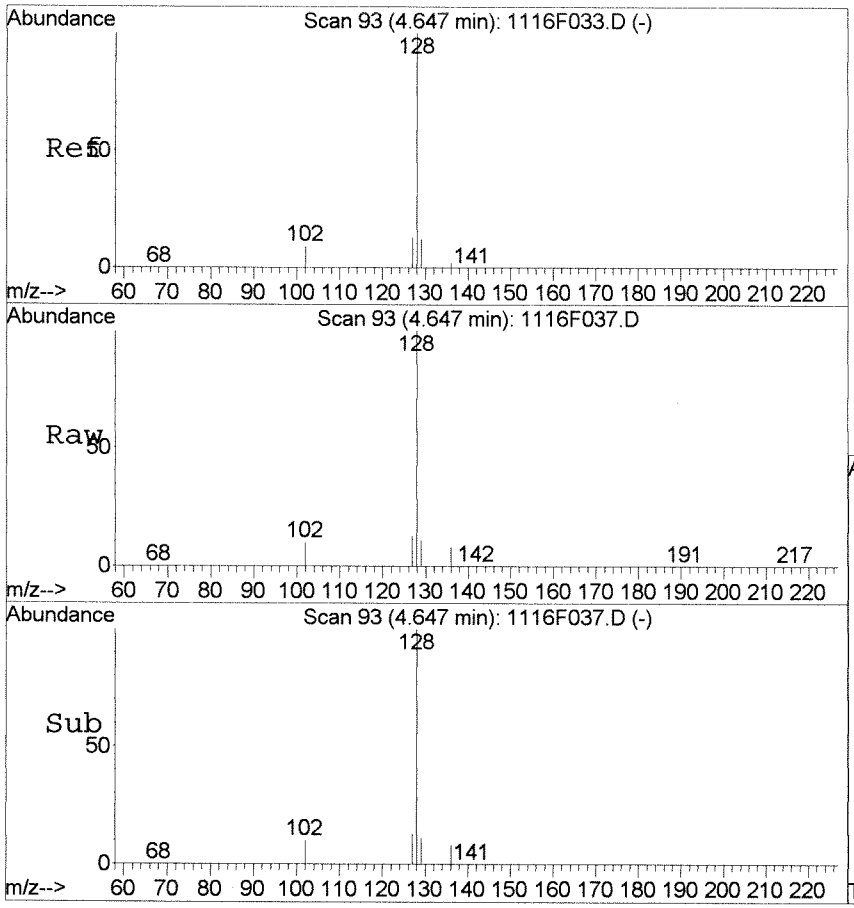
(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\111609\1116F037.D Vial: 33
Acq On : 16 Nov 2009 11:07 pm Operator: LWeiskopf
Sample : K0909140-015 Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 18 12:20 2009 Quant Results File: 1015ALK.RES

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Wed Nov 18 12:17:22 2009
Response via : Initial Calibration

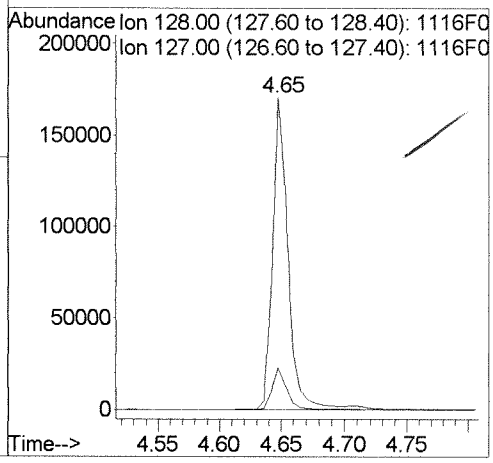


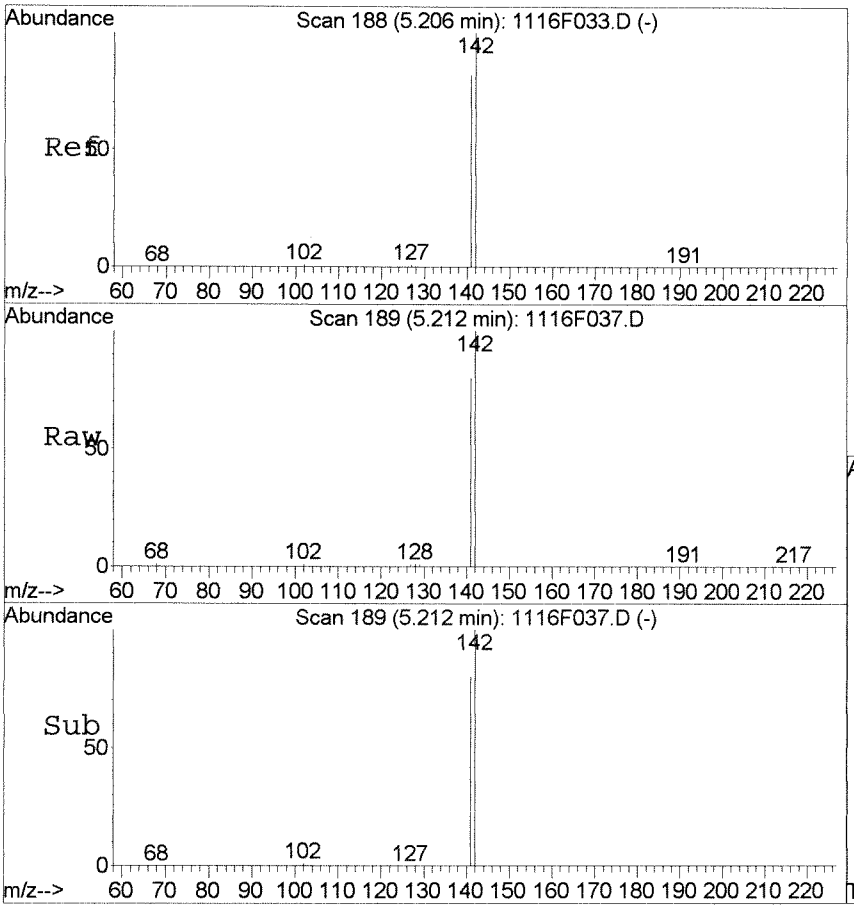


#2
Naphthalene
Concen: 186.68 ng/ml
RT: 4.65 min Scan# 93
Delta R.T. 0.01 min
Lab File: 1116F037.D
Acq: 16 Nov 2009 11:07 pm

Tgt Ion:128 Resp: 149871

Ion	Ratio	Lower	Upper
128	100		
127	13.3	0.0	42.4

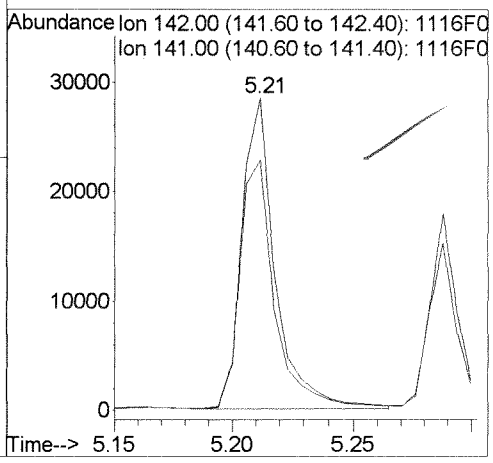


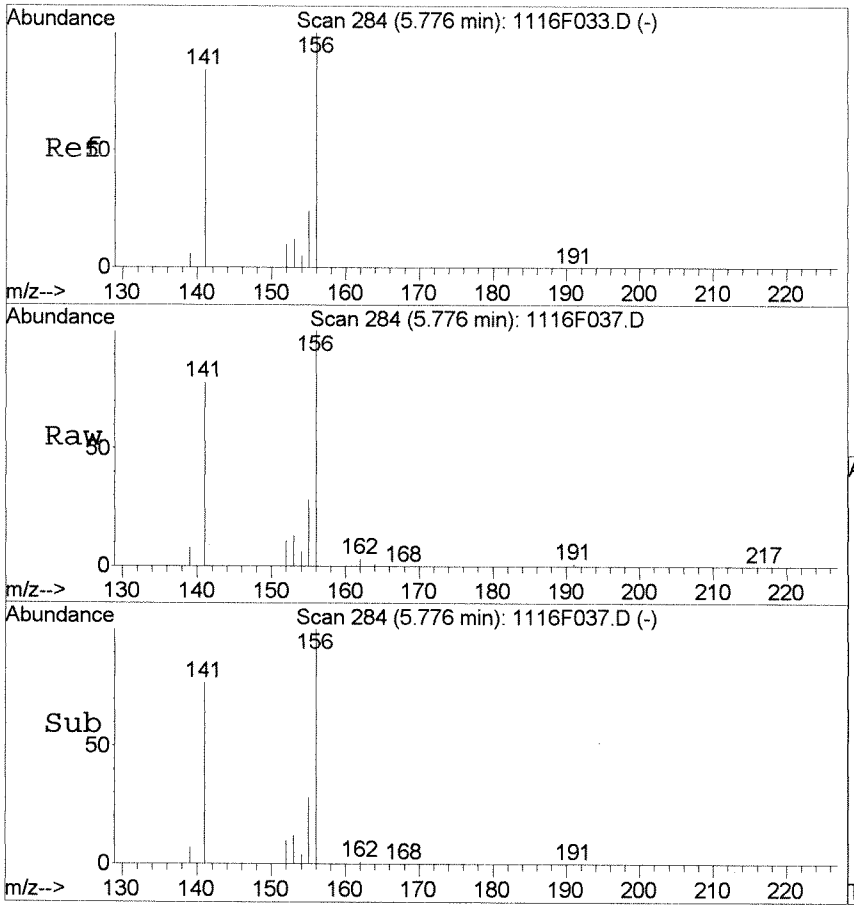


#3
2-Methylnaphthalene
Concen: 50.36 ng/ml
RT: 5.21 min Scan# 189
Delta R.T. 0.01 min
Lab File: 1116F037.D
Acq: 16 Nov 2009 11:07 pm

Tgt Ion:142 Resp: 27862

Ion	Ratio	Lower	Upper
142	100		
141	79.8	56.1	116.1

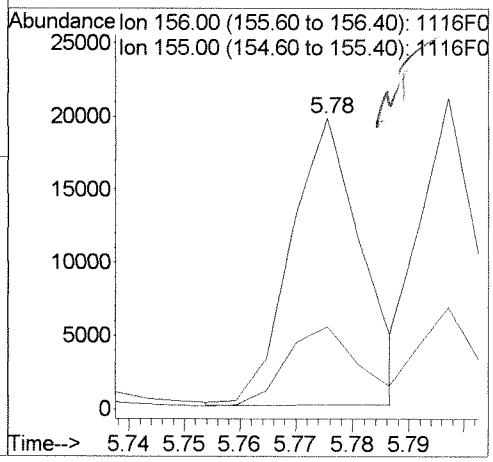


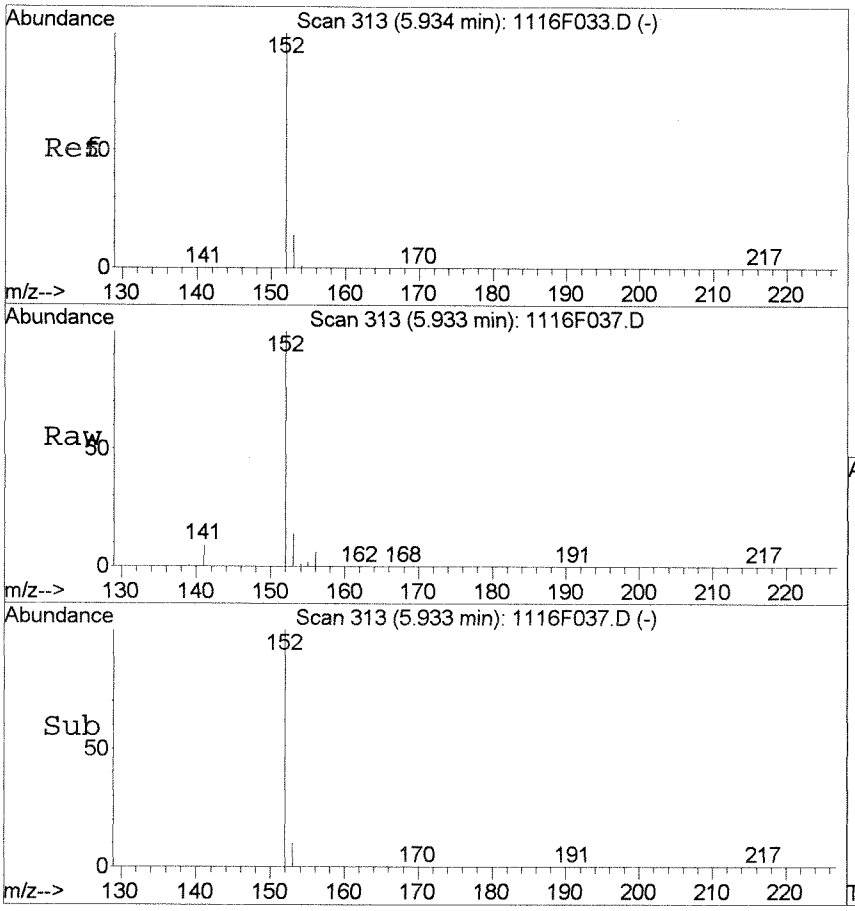


#6
2,6-Dimethylnaphthalene
Concen: 39.11 ng/ml
RT: 5.78 min Scan# 284
Delta R.T. 0.01 min
Lab File: 1116F037.D
Acq: 16 Nov 2009 11:07 pm

Tgt Ion:156 Resp: 17014

Ion	Ratio	Lower	Upper
156	100		
155	27.6	3.7	63.7

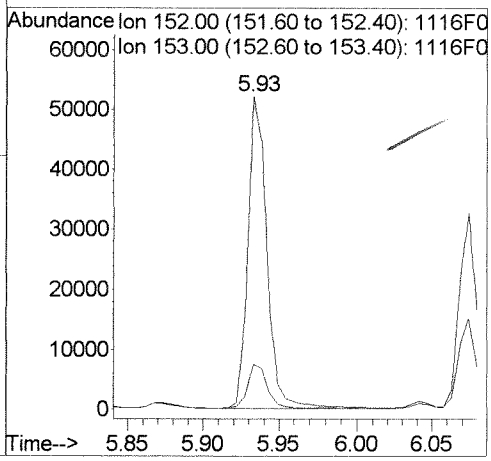


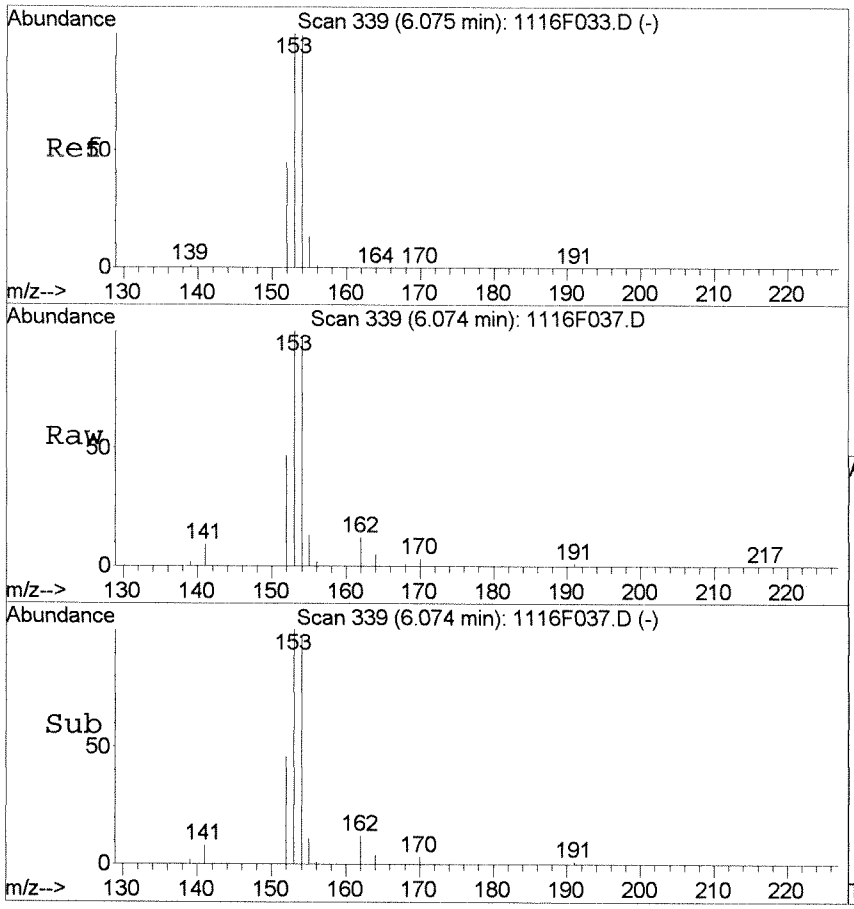


#11
Acenaphthylene
Concen: 53.88 ng/ml
RT: 5.93 min Scan# 313
Delta R.T. 0.01 min
Lab File: 1116F037.D
Acq: 16 Nov 2009 11:07 pm

Tgt Ion:152 Resp: 45384

Ion	Ratio	Lower	Upper
152	100		
153	14.2	0.0	44.1

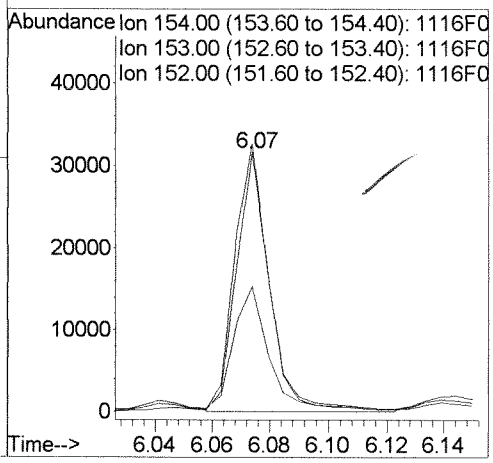


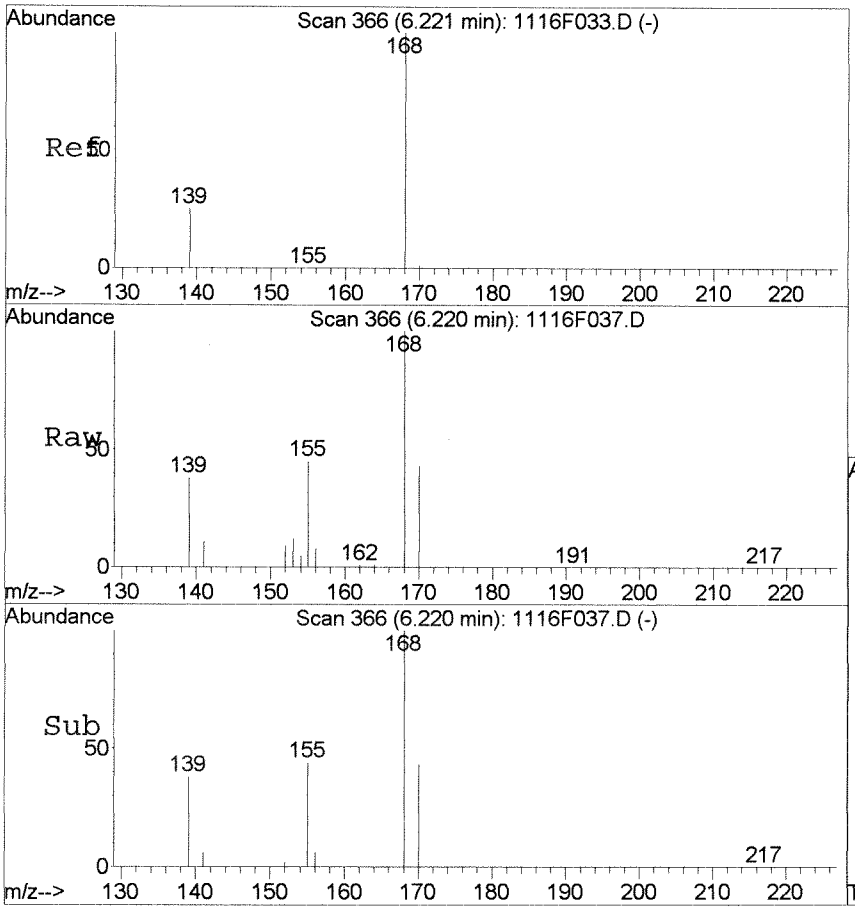


#12
Acenaphthene
Concen: 49.92 ng/ml m
RT: 6.07 min Scan# 339
Delta R.T. 0.01 min
Lab File: 1116F037.D
Acq: 16 Nov 2009 11:07 pm

Tgt Ion:154 Resp: 25072

Ion	Ratio	Lower	Upper
154	100		
153	103.5	77.8	137.8
152	48.4	24.7	84.7

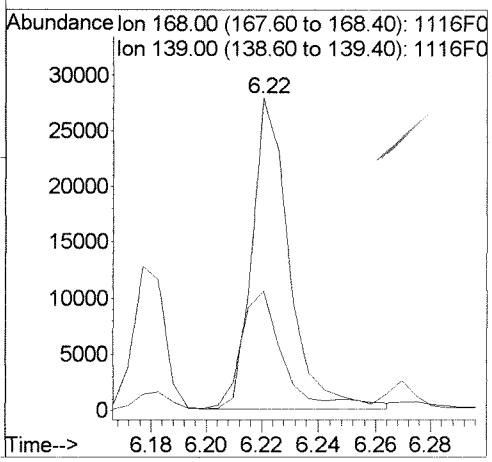


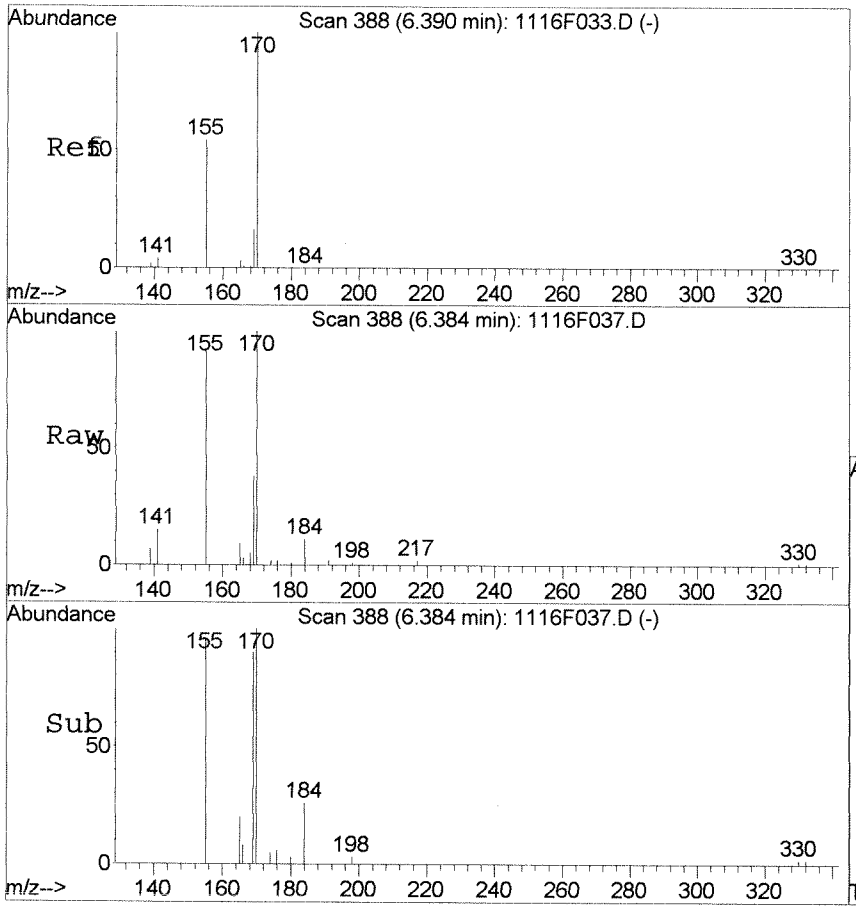


#13
Dibenzofuran
Concen: 38.34 ng/ml
RT: 6.22 min Scan# 366
Delta R.T. 0.01 min
Lab File: 1116F037.D
Acq: 16 Nov 2009 11:07 pm

Tgt Ion:168 Resp: 25901

Ion	Ratio	Lower	Upper
168	100		
139	37.5	23.3	83.3

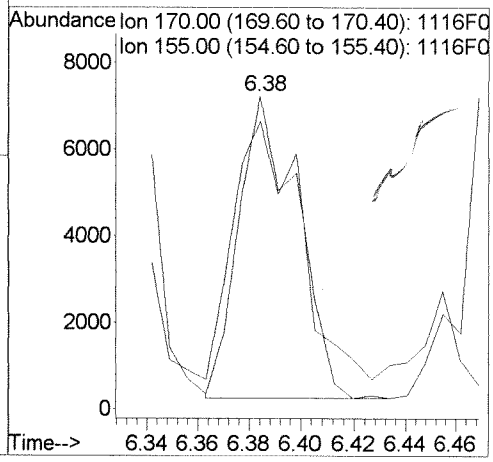


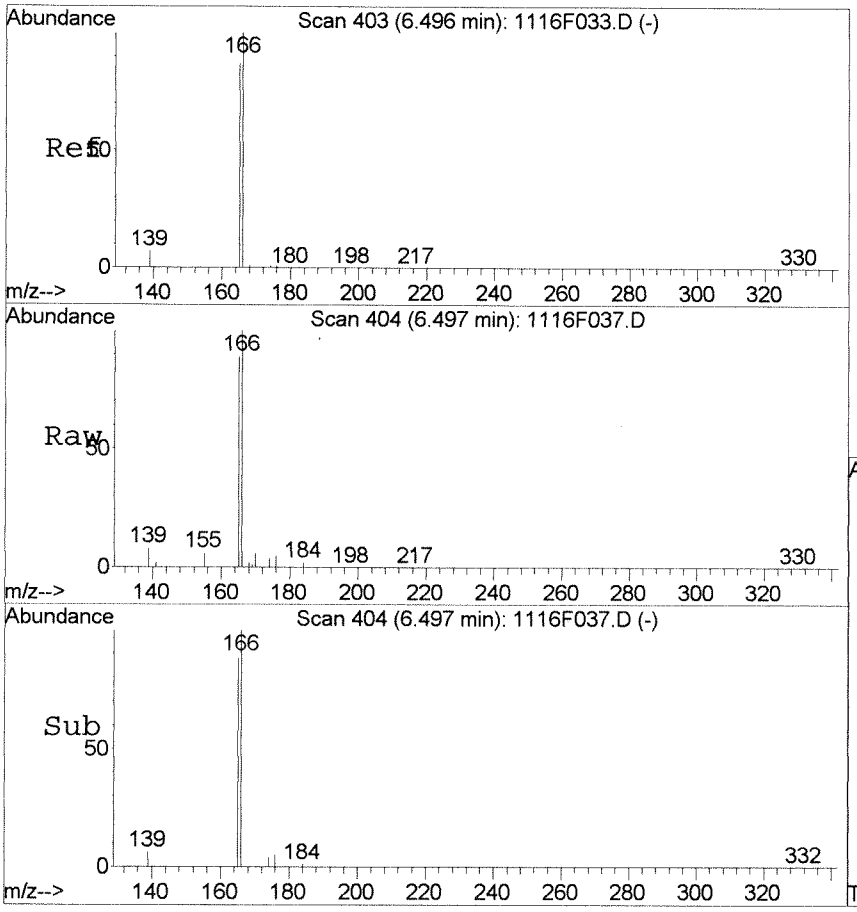


#14
2,3,5-Trimethylnaphthalene
Concen: 25.99 ng/ml
RT: 6.38 min Scan# 388
Delta R.T. 0.01 min
Lab File: 1116F037.D
Acq: 16 Nov 2009 11:07 pm

Tgt Ion:170 Resp: 10964

Ion	Ratio	Lower	Upper
170	100		
155	85.5	48.2	108.2

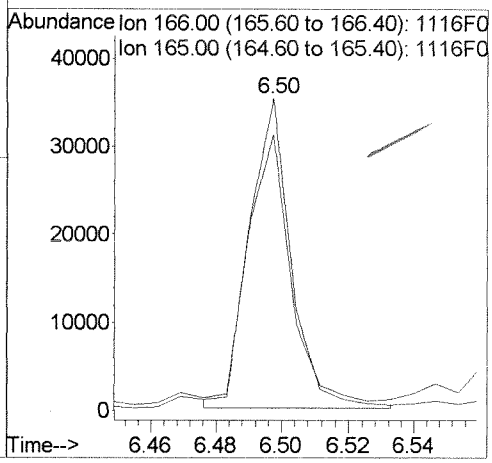


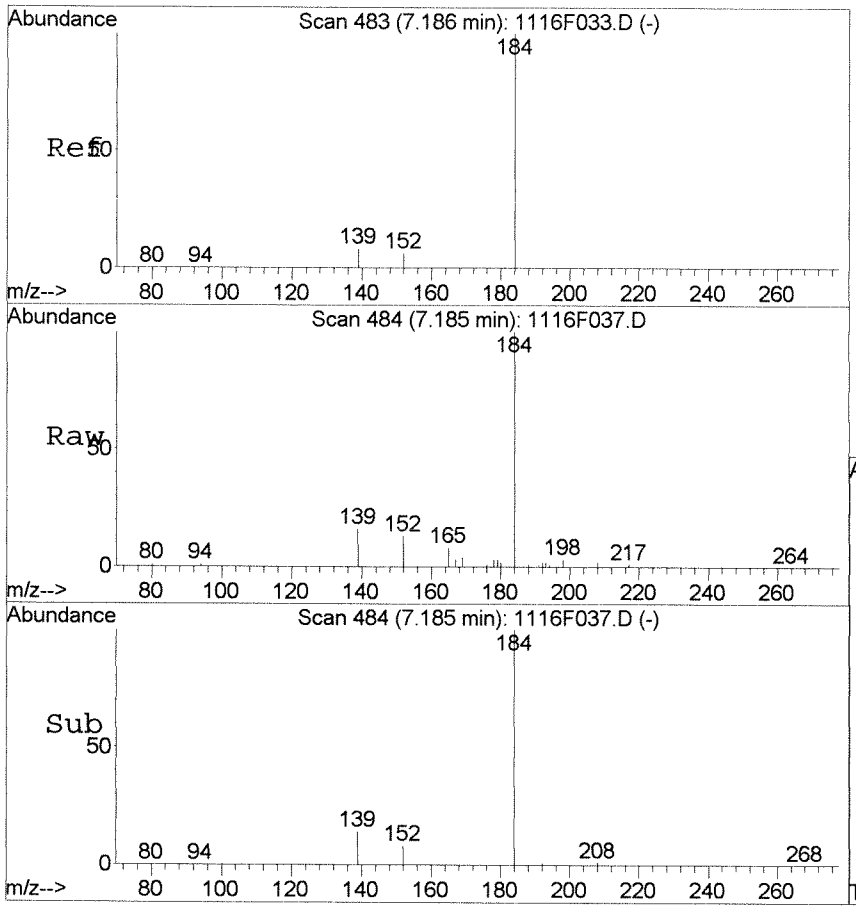


#16
Fluorene
Concen: 57.39 ng/ml m
RT: 6.50 min Scan# 404
Delta R.T. 0.01 min
Lab File: 1116F037.D
Acq: 16 Nov 2009 11:07 pm

Tgt Ion:166 Resp: 31075

Ion	Ratio	Lower	Upper
166	100		
165	88.5	57.8	117.8

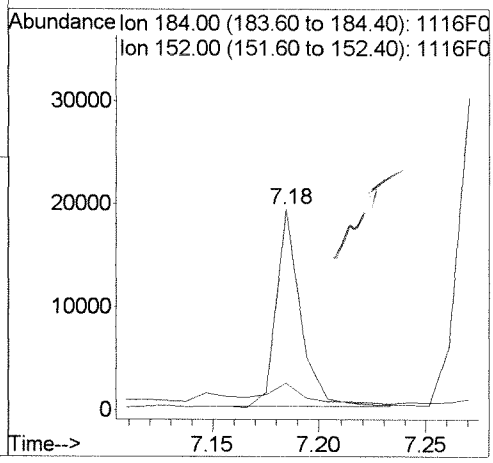


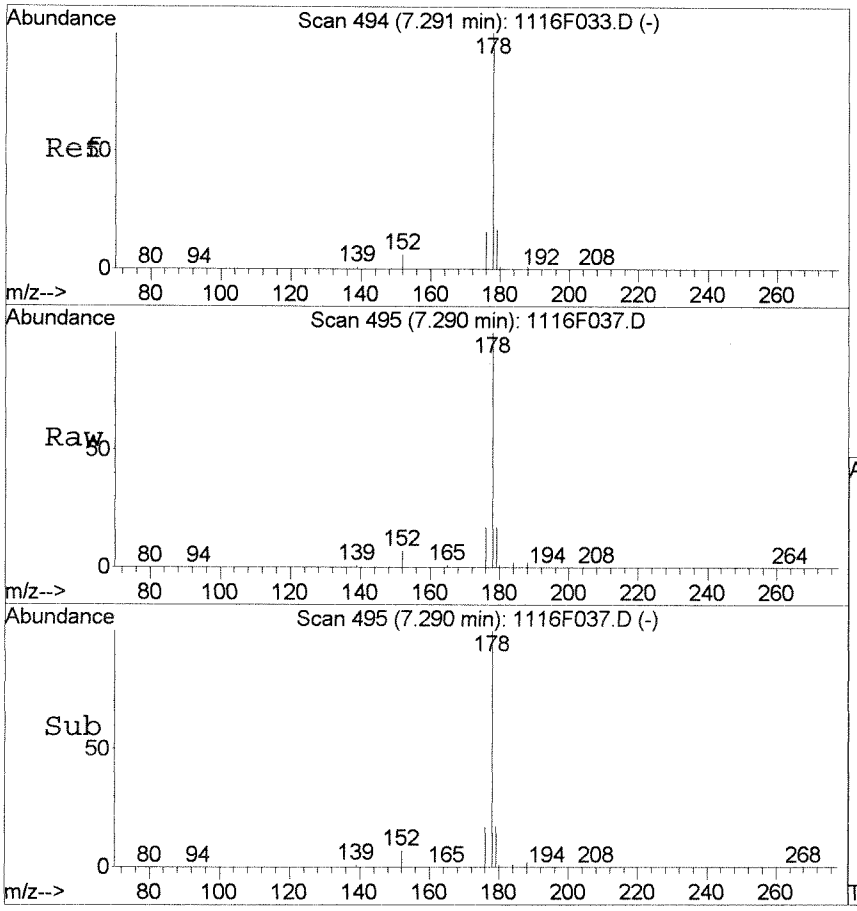


#23
Dibenzothiophene
Concen: 17.41 ng/ml
RT: 7.18 min Scan# 484
Delta R.T. 0.01 min
Lab File: 1116F037.D
Acq: 16 Nov 2009 11:07 pm

Tgt Ion:184 Resp: 15126

Ion	Ratio	Lower	Upper
184	100		
152	10.4	0.0	39.4

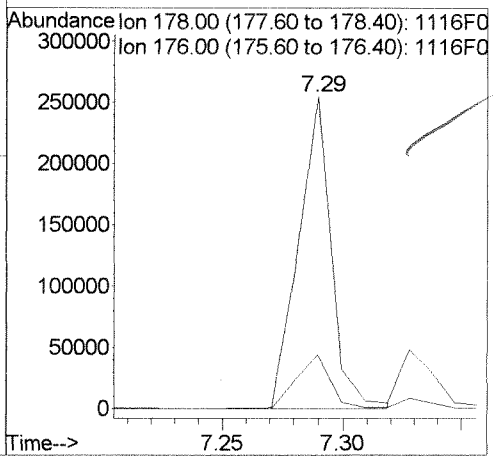


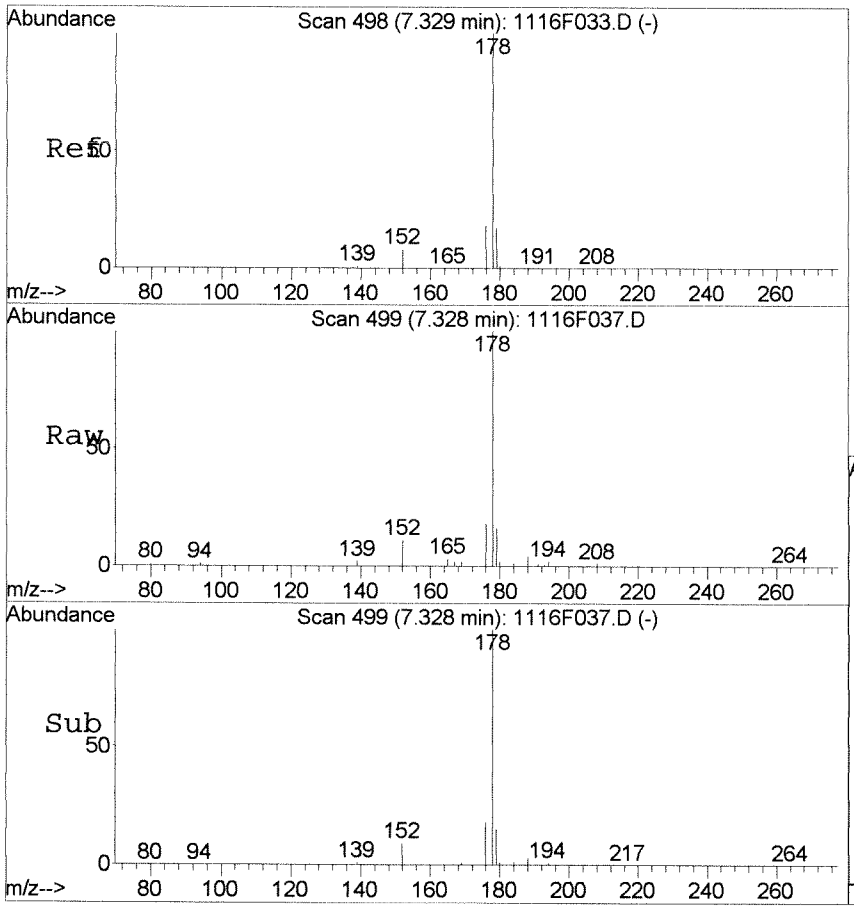


#27
Phenanthrene
Concen: 242.08 ng/ml
RT: 7.29 min Scan# 495
Delta R.T. 0.01 min
Lab File: 1116F037.D
Acq: 16 Nov 2009 11:07 pm

Tgt Ion:178 Resp: 233302

Ion	Ratio	Lower	Upper
178	100		
176	17.2	0.0	49.6

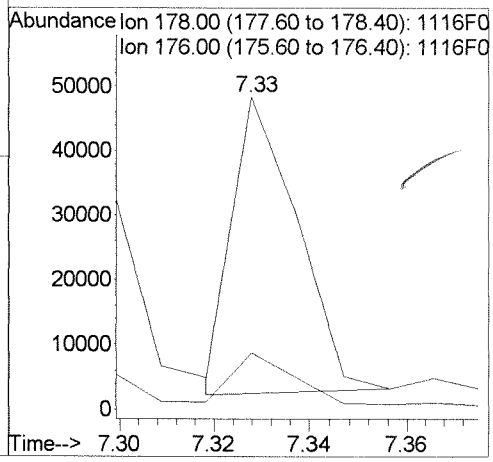


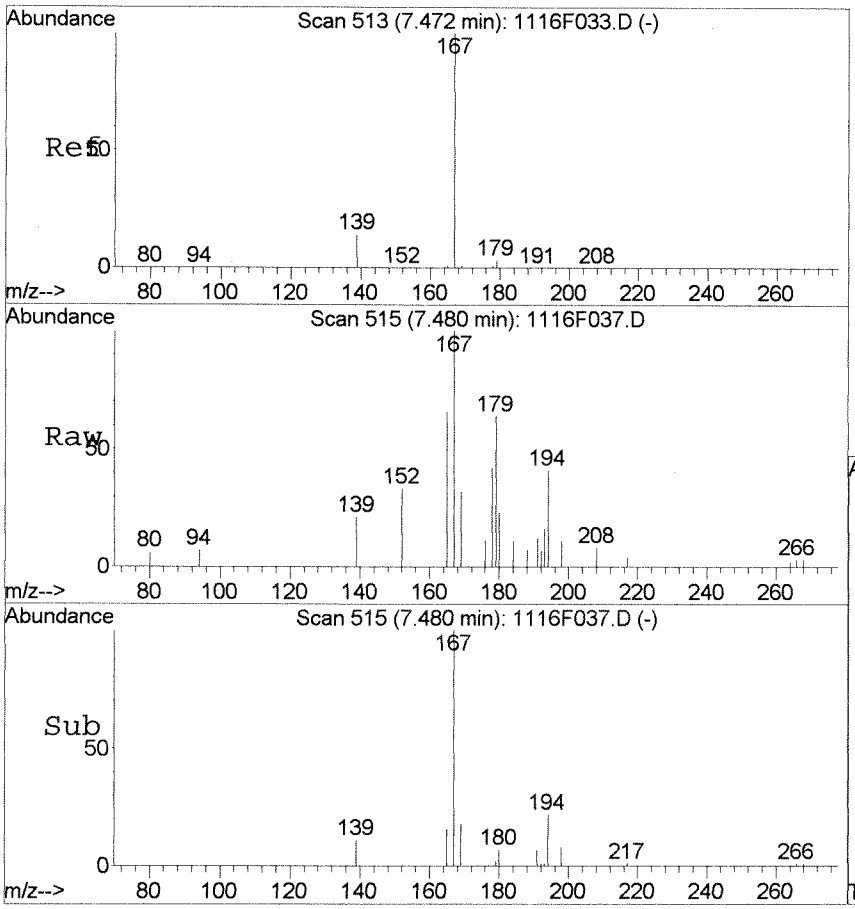


#28
Anthracene
Concen: 47.02 ng/ml
RT: 7.33 min Scan# 499
Delta R.T. 0.01 min
Lab File: 1116F037.D
Acq: 16 Nov 2009 11:07 pm

Tgt Ion:178 Resp: 43331

Ion	Ratio	Lower	Upper
178	100		
176	17.6	0.0	47.6

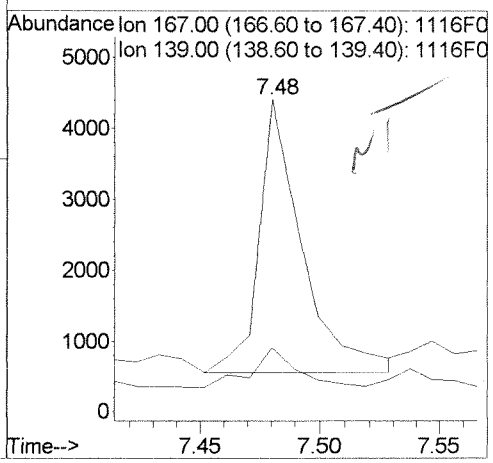


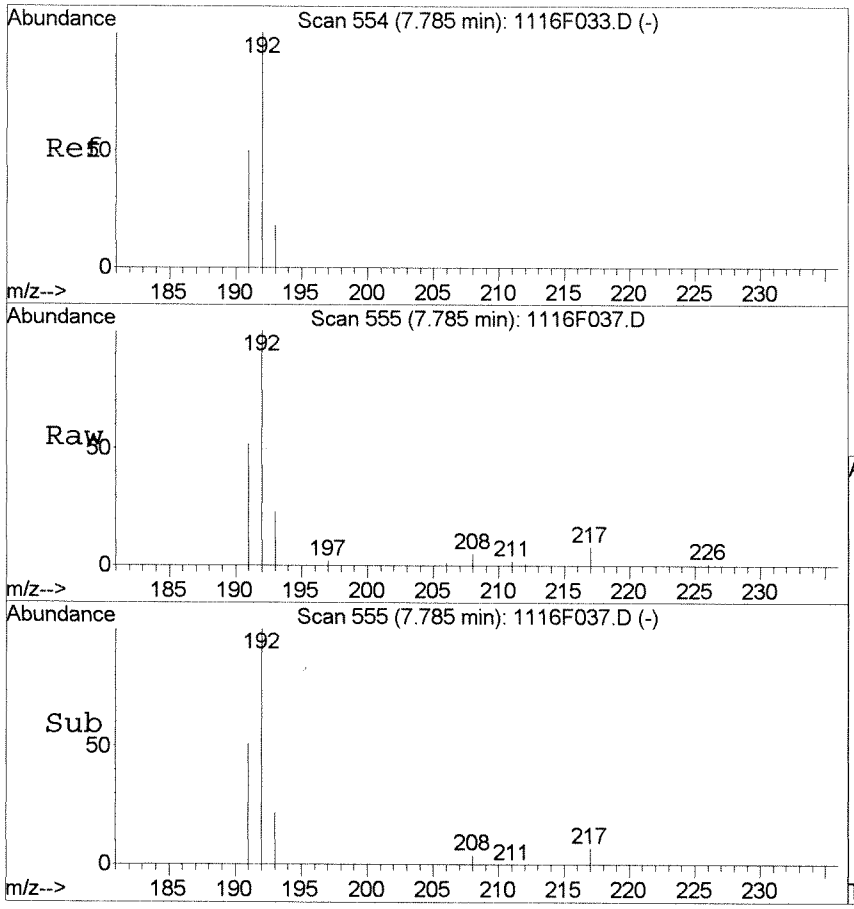


#29
Carbazole
Concen: 6.16 ng/ml
RT: 7.48 min Scan# 515
Delta R.T. 0.01 min
Lab File: 1116F037.D
Acq: 16 Nov 2009 11:07 pm

Tgt Ion:167 Resp: 4849

Ion	Ratio	Lower	Upper
167	100		
139	14.6	0.0	45.7

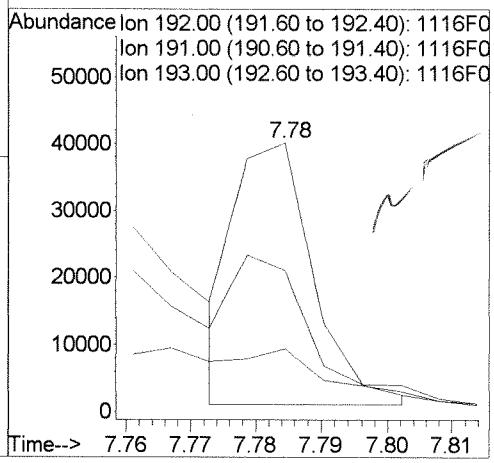


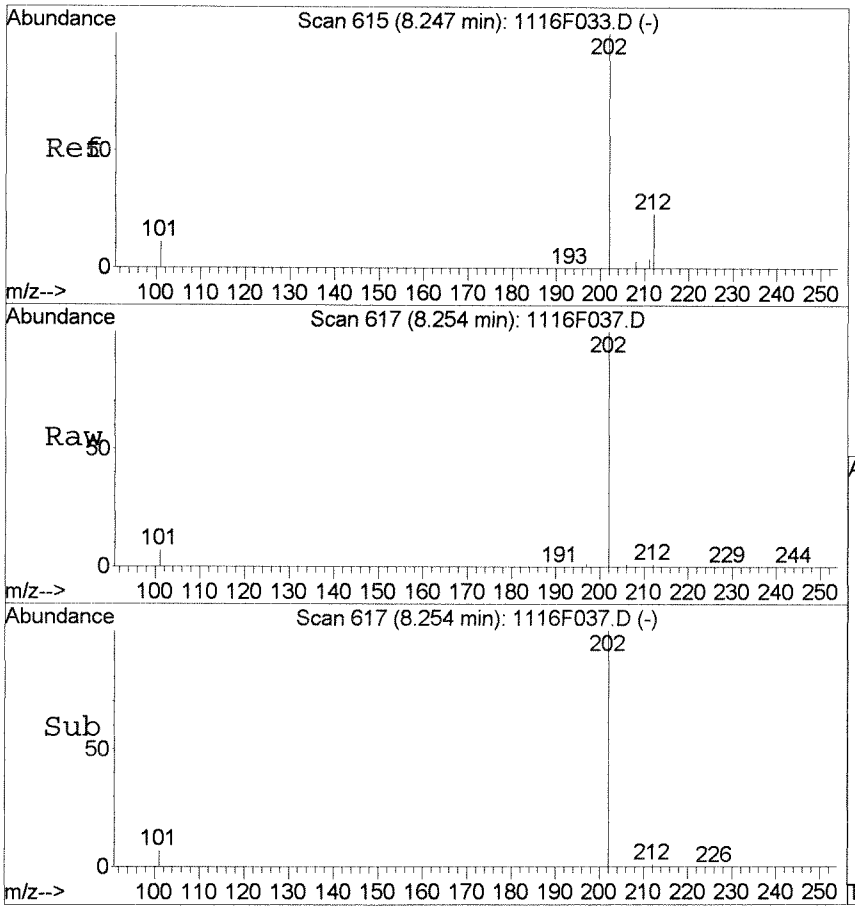


#30
1-Methylphenanthrene
Concen: 46.95 ng/ml m
RT: 7.78 min Scan# 555
Delta R.T. 0.01 min
Lab File: 1116F037.D
Acq: 16 Nov 2009 11:07 pm

Tgt Ion:192 Resp: 32398

Ion	Ratio	Lower	Upper
192	100		
191	52.3	23.0	83.0
193	23.4	0.0	47.0

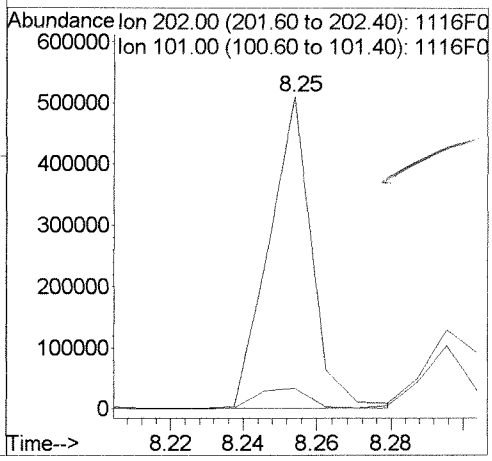


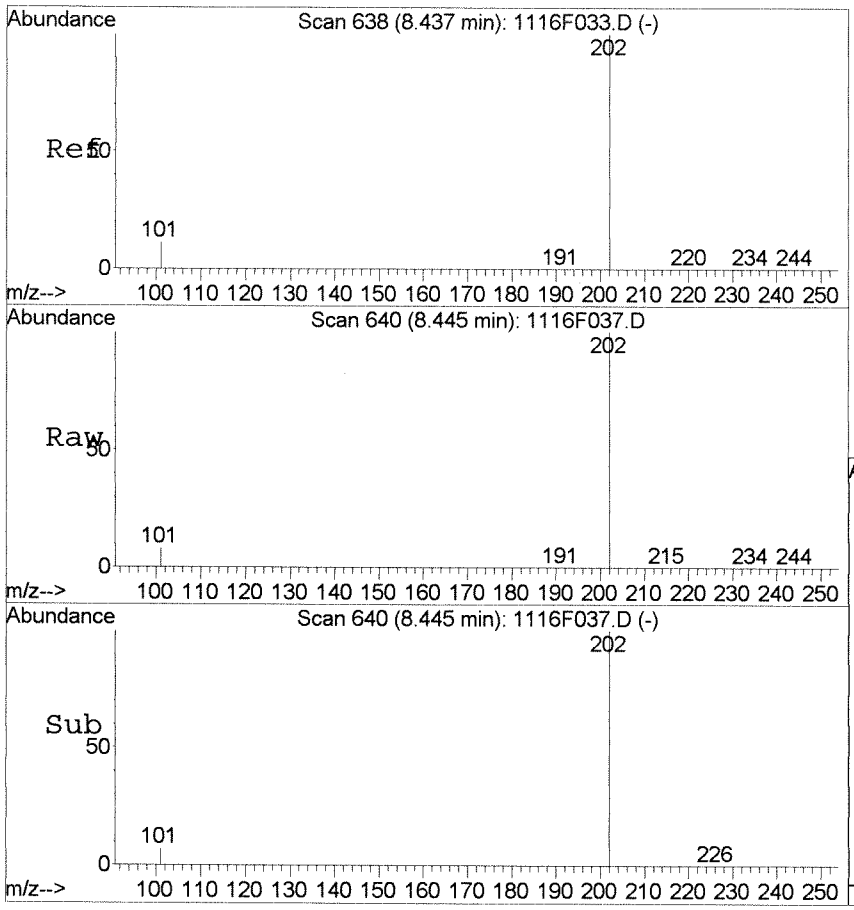


#35
Fluoranthene
Concen: 385.77 ng/ml
RT: 8.25 min Scan# 617
Delta R.T. 0.01 min
Lab File: 1116F037.D
Acq: 16 Nov 2009 11:07 pm

Tgt Ion:202 Resp: 408414

Ion	Ratio	Lower	Upper
202	100		
101	6.6	0.0	36.5

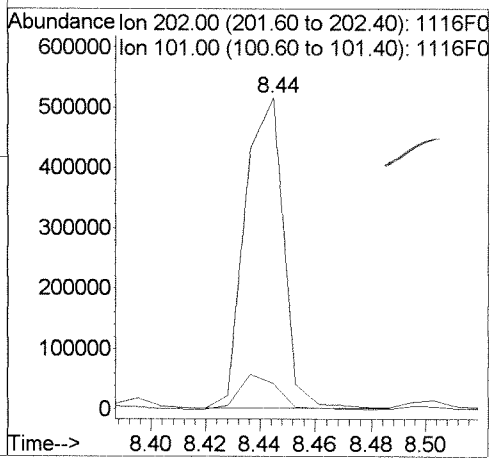


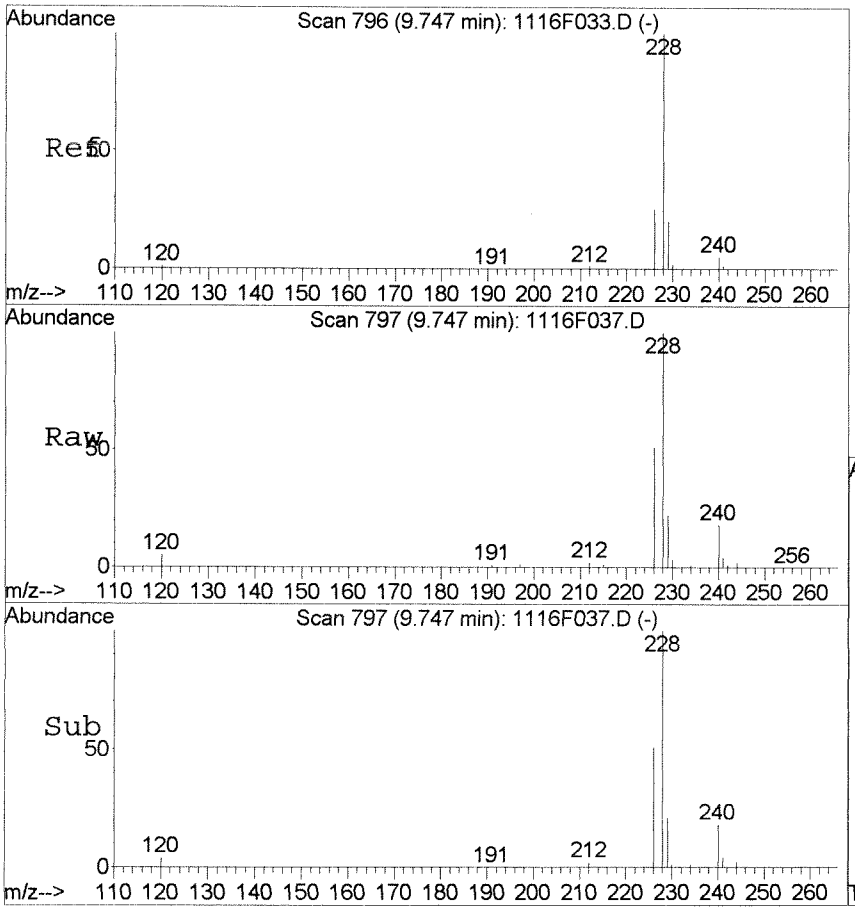


#38
Pyrene
Concen: 334.79 ng/ml
RT: 8.44 min Scan# 640
Delta R.T. 0.02 min
Lab File: 1116F037.D
Acq: 16 Nov 2009 11:07 pm

Tgt Ion:202 Resp: 507254

Ion	Ratio	Lower	Upper
202	100		
101	8.3	0.0	36.4

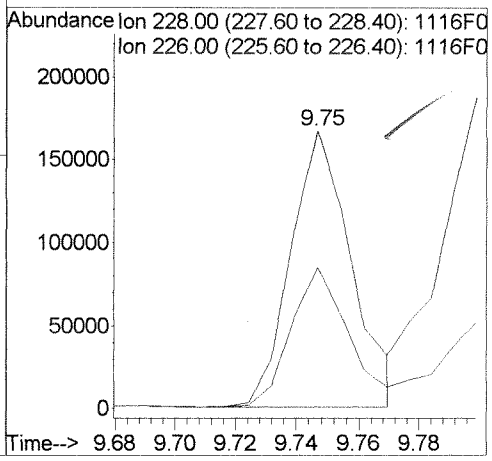


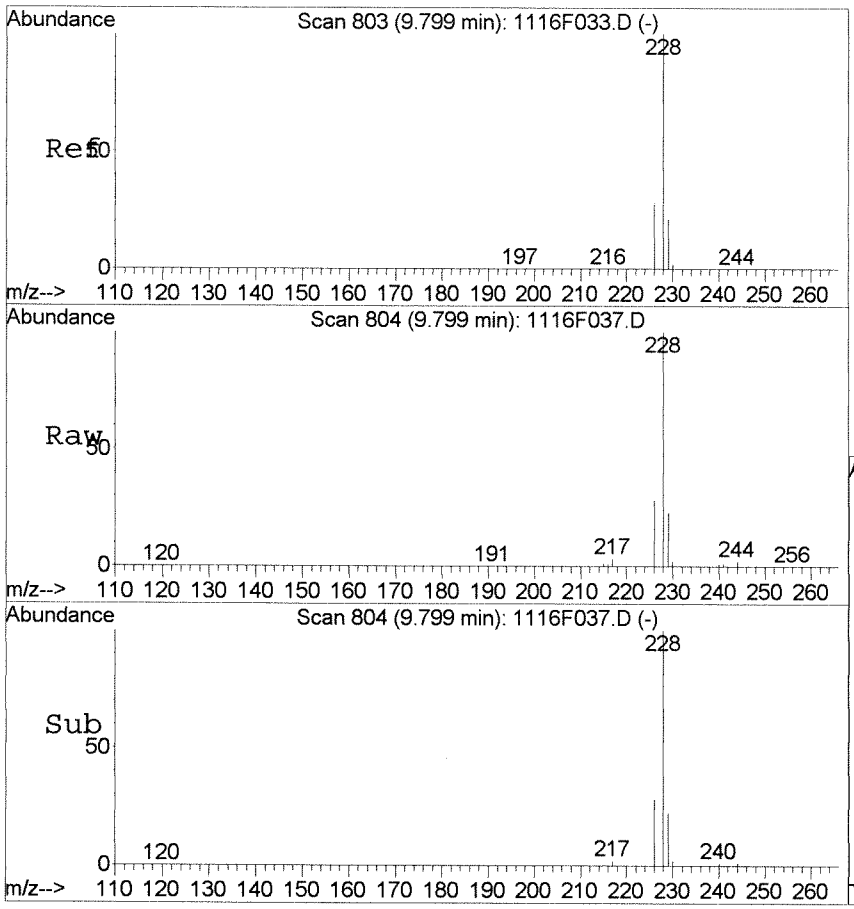


#43
Benz(a)anthracene
Concen: 150.01 ng/ml
RT: 9.75 min Scan# 797
Delta R.T. 0.01 min
Lab File: 1116F037.D
Acq: 16 Nov 2009 11:07 pm

Tgt Ion:228 Resp: 225599

Ion	Ratio	Lower	Upper
228	100		
226	50.6	0.0	55.9

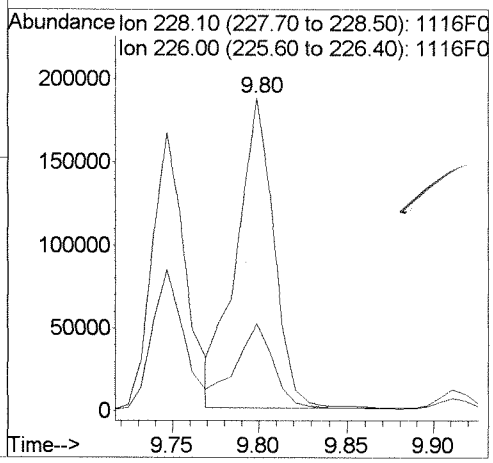


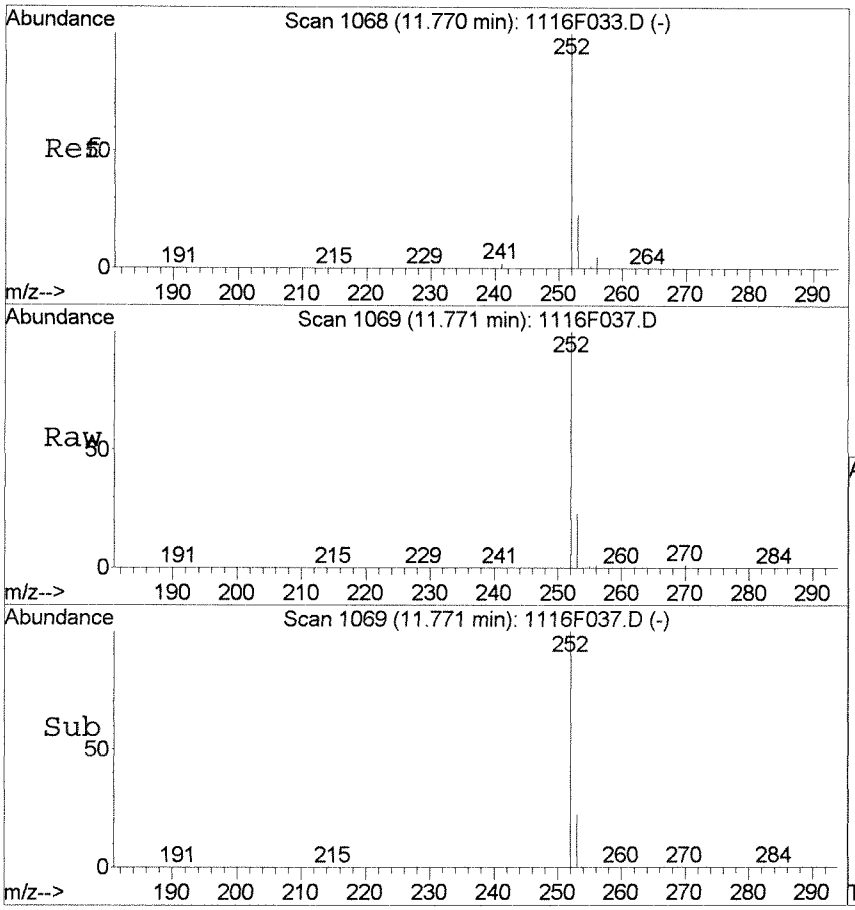


#44
Chrysene
Concen: 192.05 ng/ml
RT: 9.80 min Scan# 804
Delta R.T. 0.01 min
Lab File: 1116F037.D
Acq: 16 Nov 2009 11:07 pm

Tgt Ion:228 Resp: 281326

Ion	Ratio	Lower	Upper
228	100		
226	27.4	0.0	58.8

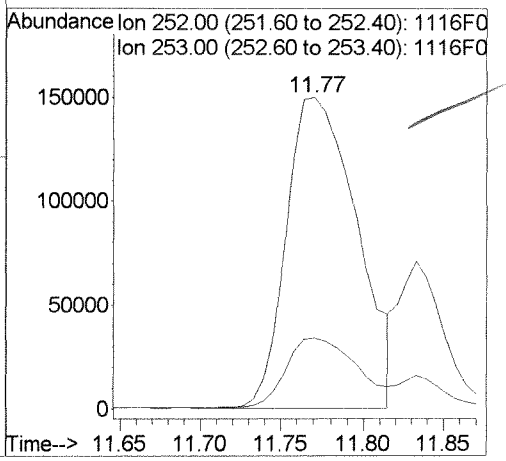


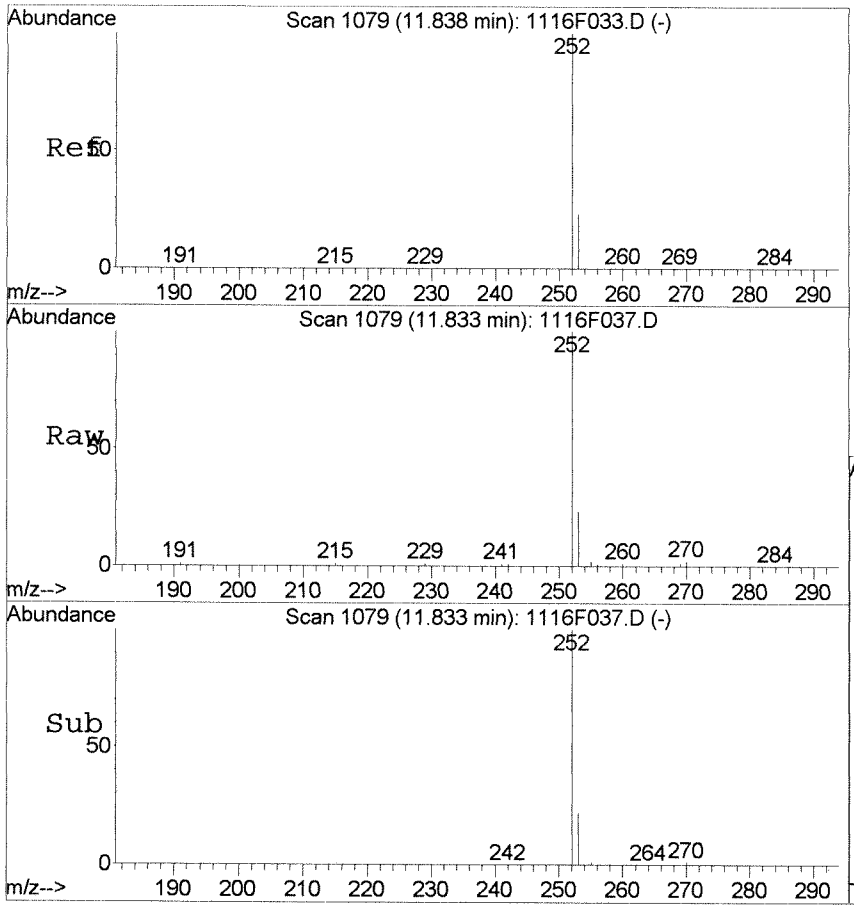


#50
Benzo(b)fluoranthene
Concen: 267.39 ng/ml
RT: 11.77 min Scan# 1069
Delta R.T. 0.02 min
Lab File: 1116F037.D
Acq: 16 Nov 2009 11:07 pm

Tgt Ion:252 Resp: 442538

Ion	Ratio	Lower	Upper
252	100		
253	22.3	0.0	52.8

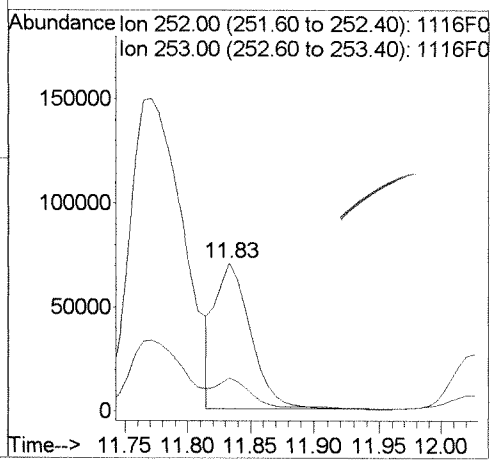


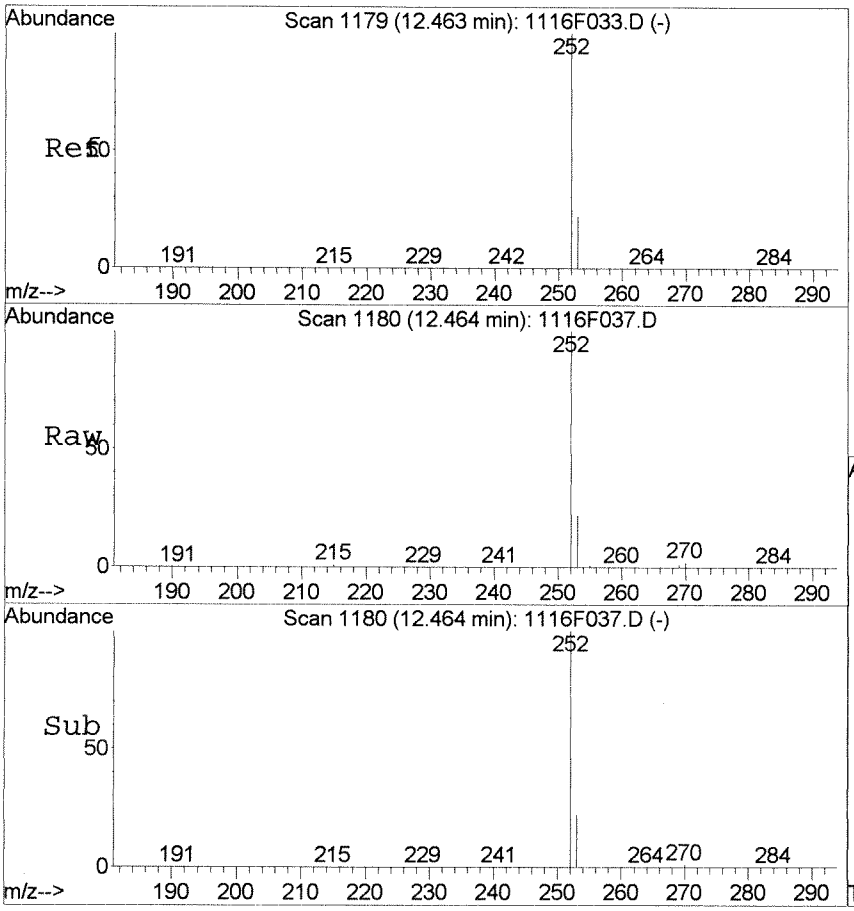


#51
Benzo(k)fluoranthene
Concen: 84.43 ng/ml
RT: 11.83 min Scan# 1079
Delta R.T. 0.02 min
Lab File: 1116F037.D
Acq: 16 Nov 2009 11:07 pm

Tgt Ion:252 Resp: 137662

Ion	Ratio	Lower	Upper
252	100		
253	21.4	0.0	52.5

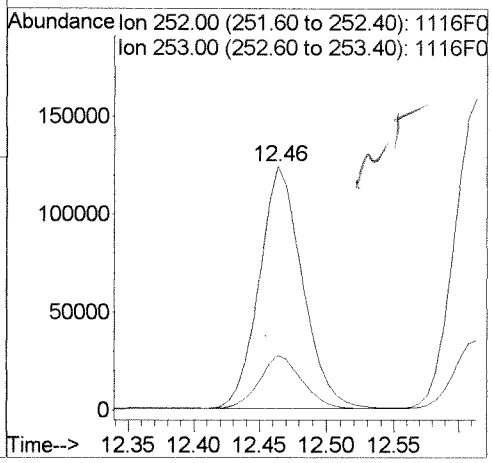


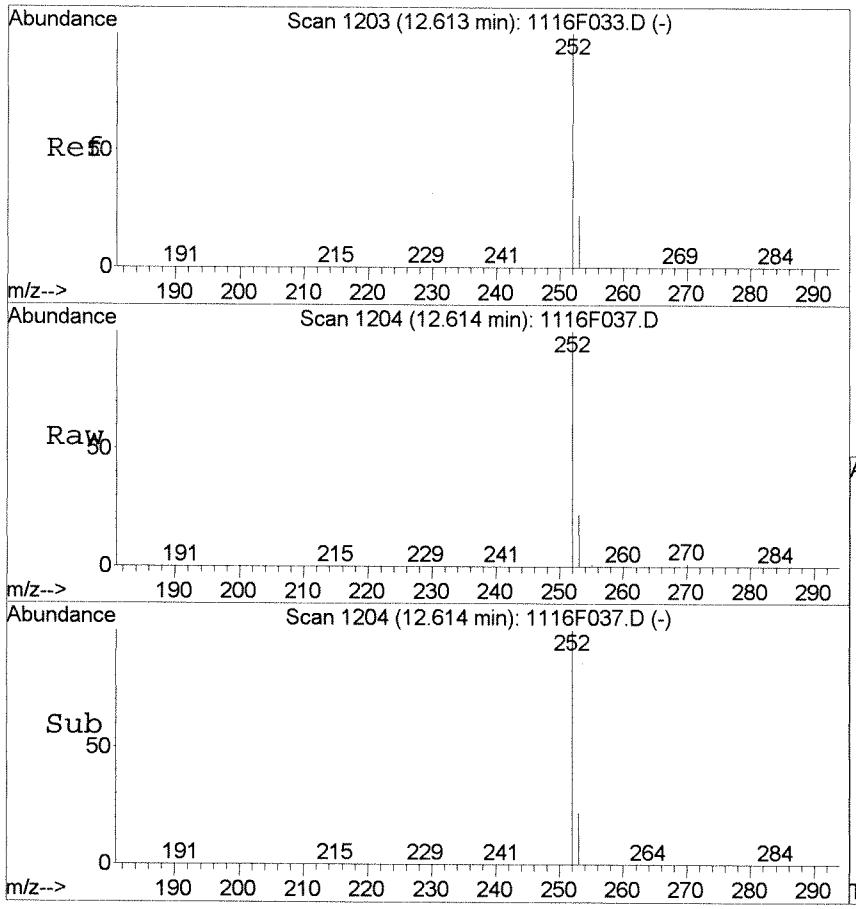


#52
Benzo(e)pyrene
Concen: 180.67 ng/ml
RT: 12.46 min Scan# 1180
Delta R.T. 0.02 min
Lab File: 1116F037.D
Acq: 16 Nov 2009 11:07 pm

Tgt Ion:252 Resp: 280022

Ion	Ratio	Lower	Upper
252	100		
253	21.8	0.0	52.3

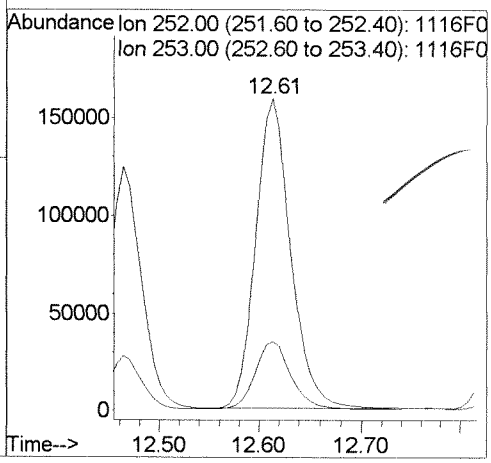


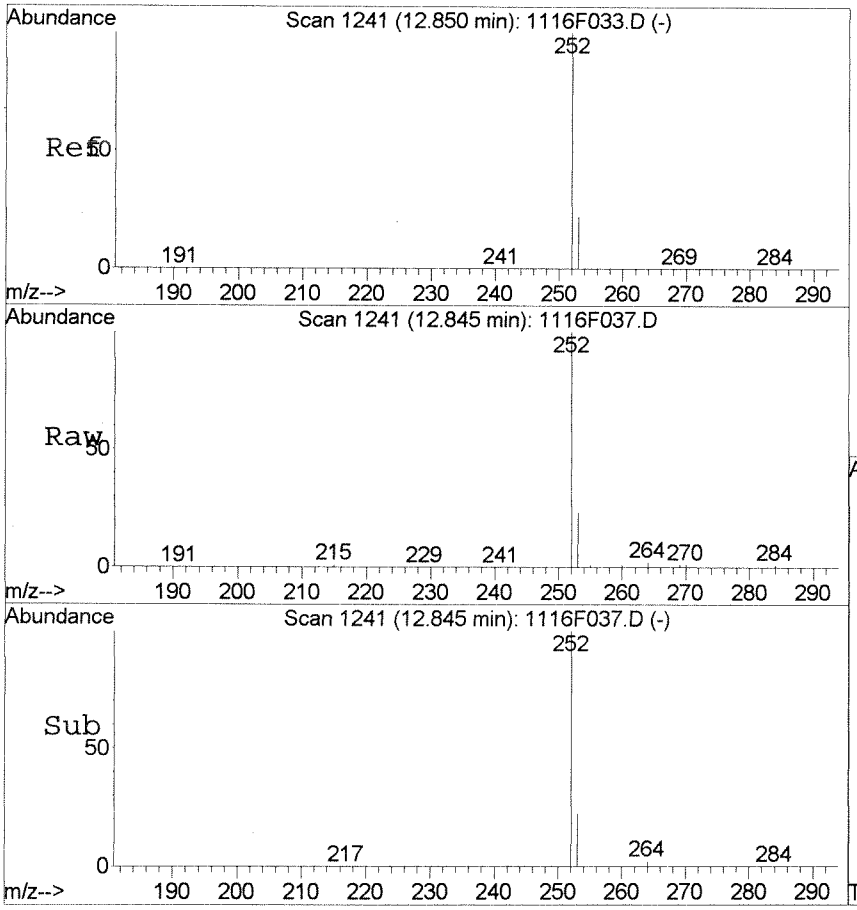


#53
Benzo(a)pyrene
Concen: 246.88 ng/ml
RT: 12.61 min Scan# 1204
Delta R.T. 0.02 min
Lab File: 1116F037.D
Acq: 16 Nov 2009 11:07 pm

Tgt Ion:252 Resp: 386976

Ion	Ratio	Lower	Upper
252	100		
253	21.8	0.0	52.6

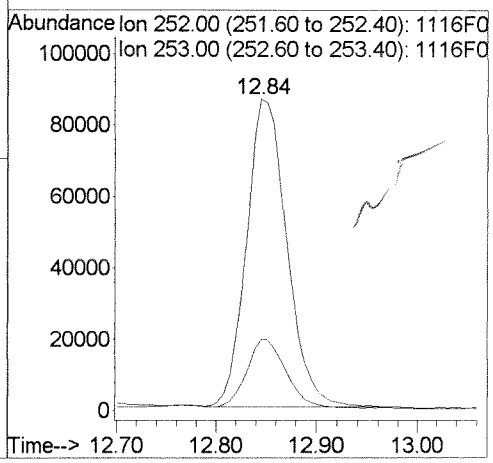


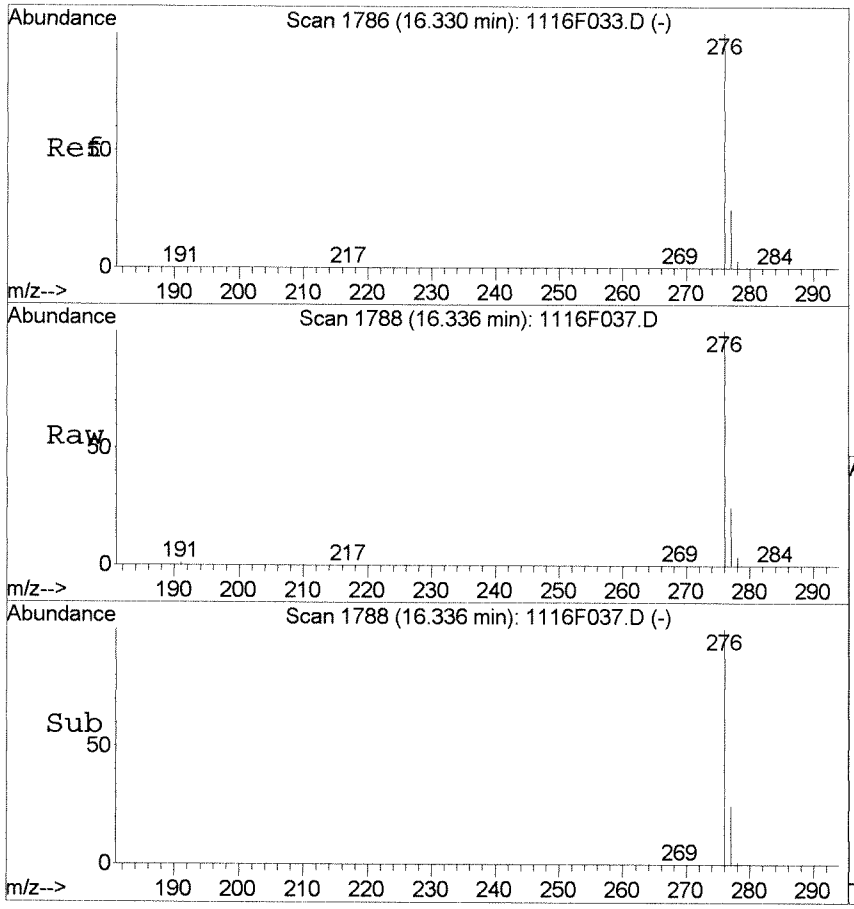


#54
Perylene
Concen: 157.98 ng/ml
RT: 12.84 min Scan# 1241
Delta R.T. 0.02 min
Lab File: 1116F037.D
Acq: 16 Nov 2009 11:07 pm

Tgt Ion:252 Resp: 242739

Ion	Ratio	Lower	Upper
252	100		
253	22.0	0.0	52.0

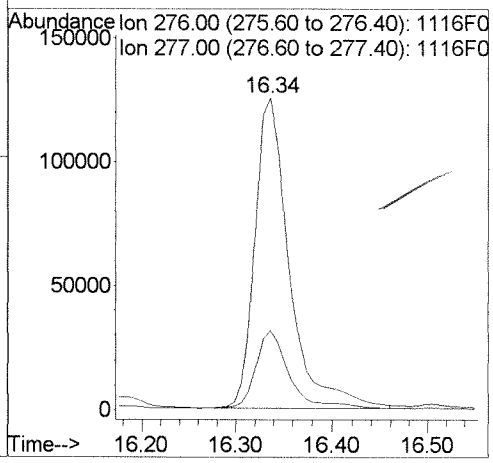


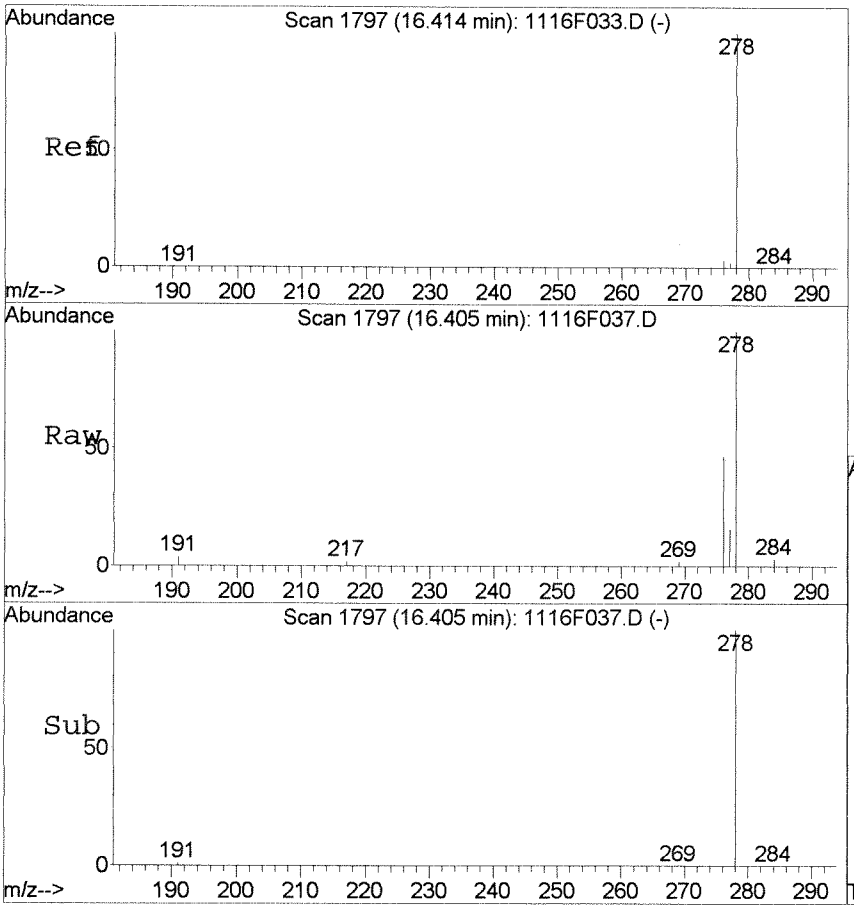


#55
Indeno(1,2,3-cd)pyrene
Concen: 219.41 ng/ml
RT: 16.34 min Scan# 1788
Delta R.T. 0.02 min
Lab File: 1116F037.D
Acq: 16 Nov 2009 11:07 pm

Tgt Ion:276 Resp: 315520

Ion	Ratio	Lower	Upper
276	100		
277	24.9	0.0	55.1

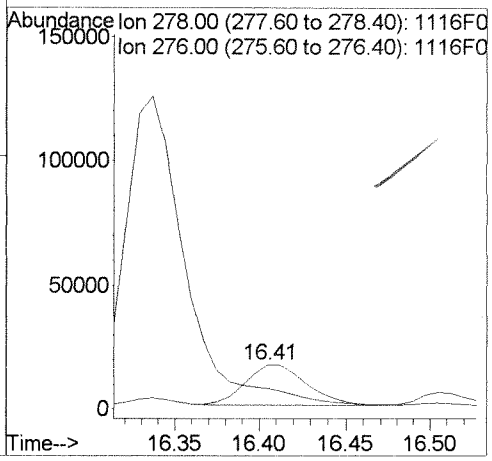


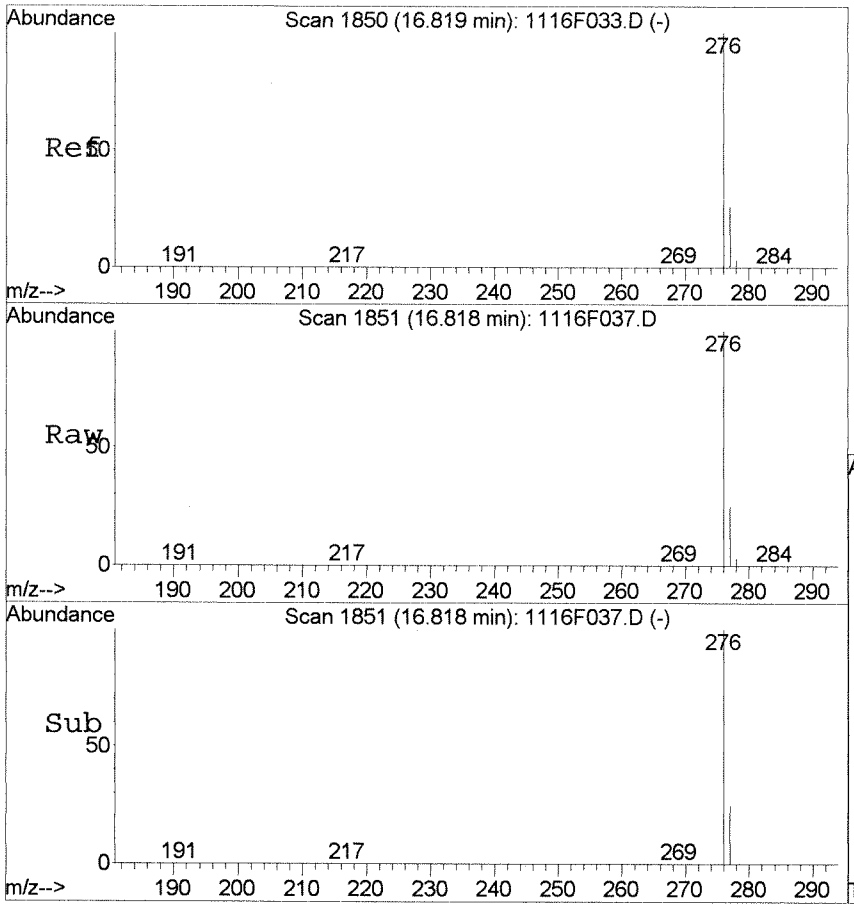


#56
Dibenz(a,h)anthracene
Concen: 26.11 ng/ml
RT: 16.41 min Scan# 1797
Delta R.T. 0.02 min
Lab File: 1116F037.D
Acq: 16 Nov 2009 11:07 pm

Tgt Ion:278 Resp: 40452

Ion	Ratio	Lower	Upper
278	100		
276	40.5	0.0	52.1

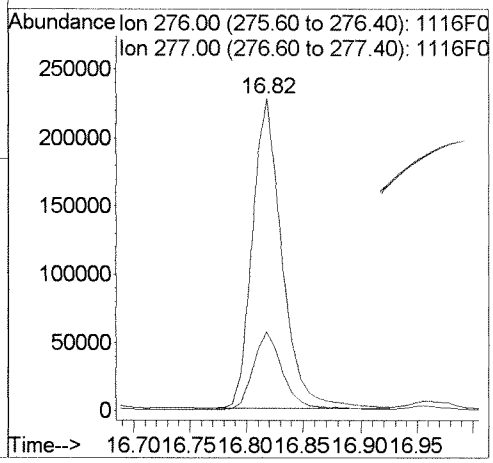




#57
Benzo(g,h,i)perylene
Concen: 250.97 ng/ml
RT: 16.82 min Scan# 1851
Delta R.T. 0.02 min
Lab File: 1116F037.D
Acq: 16 Nov 2009 11:07 pm

Tgt Ion:276 Resp: 415664

Ion	Ratio	Lower	Upper
276	100		
277	25.1	0.0	55.7



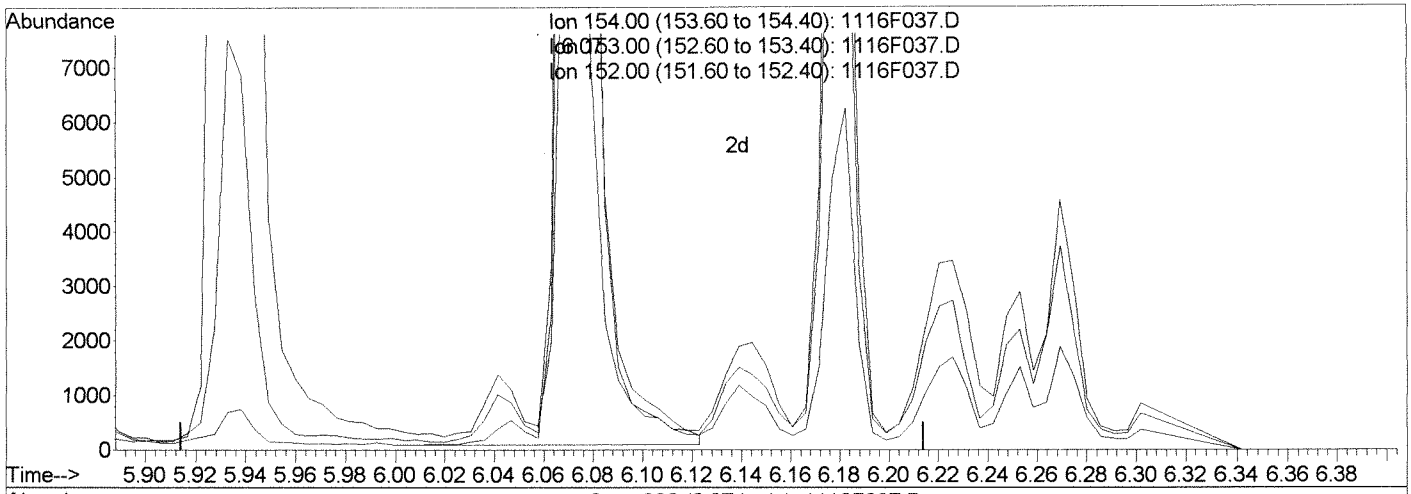
Quantitation Report (Qedit)

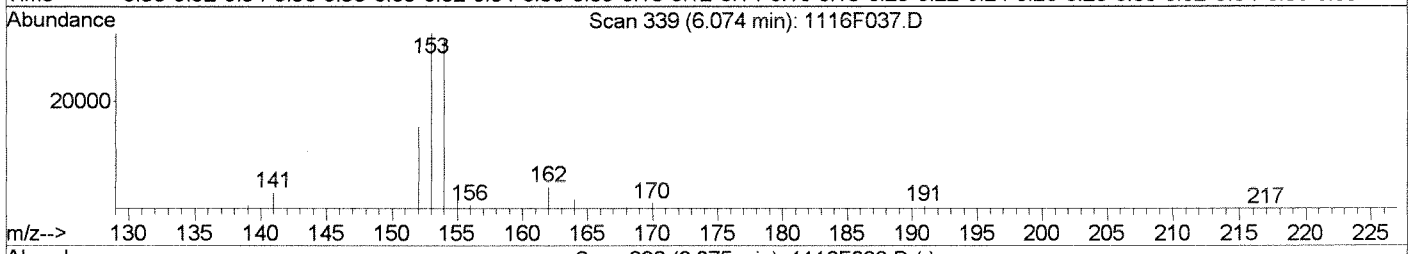
Data File : J:\MS11\DATA\111609\1116F037.D
Acq On : 16 Nov 2009 11:07 pm
Sample : K0909140-015
Misc :
MS Integration Params: RTEINT.P
Quant Time: Nov 18 12:17 2009

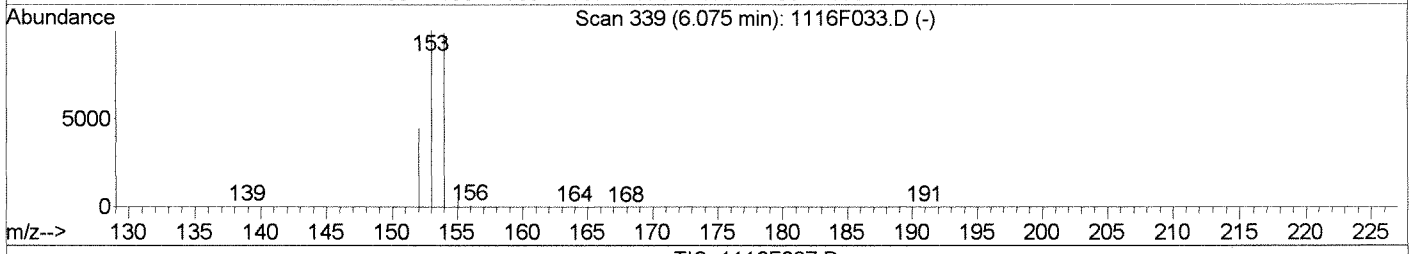
Vial: 33
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Wed Nov 18 12:17:22 2009
Response via : Multiple Level Calibration







TIC: 1116F037.D

(12) Acenaphthene (T)

6.07min 50.52ng/ml

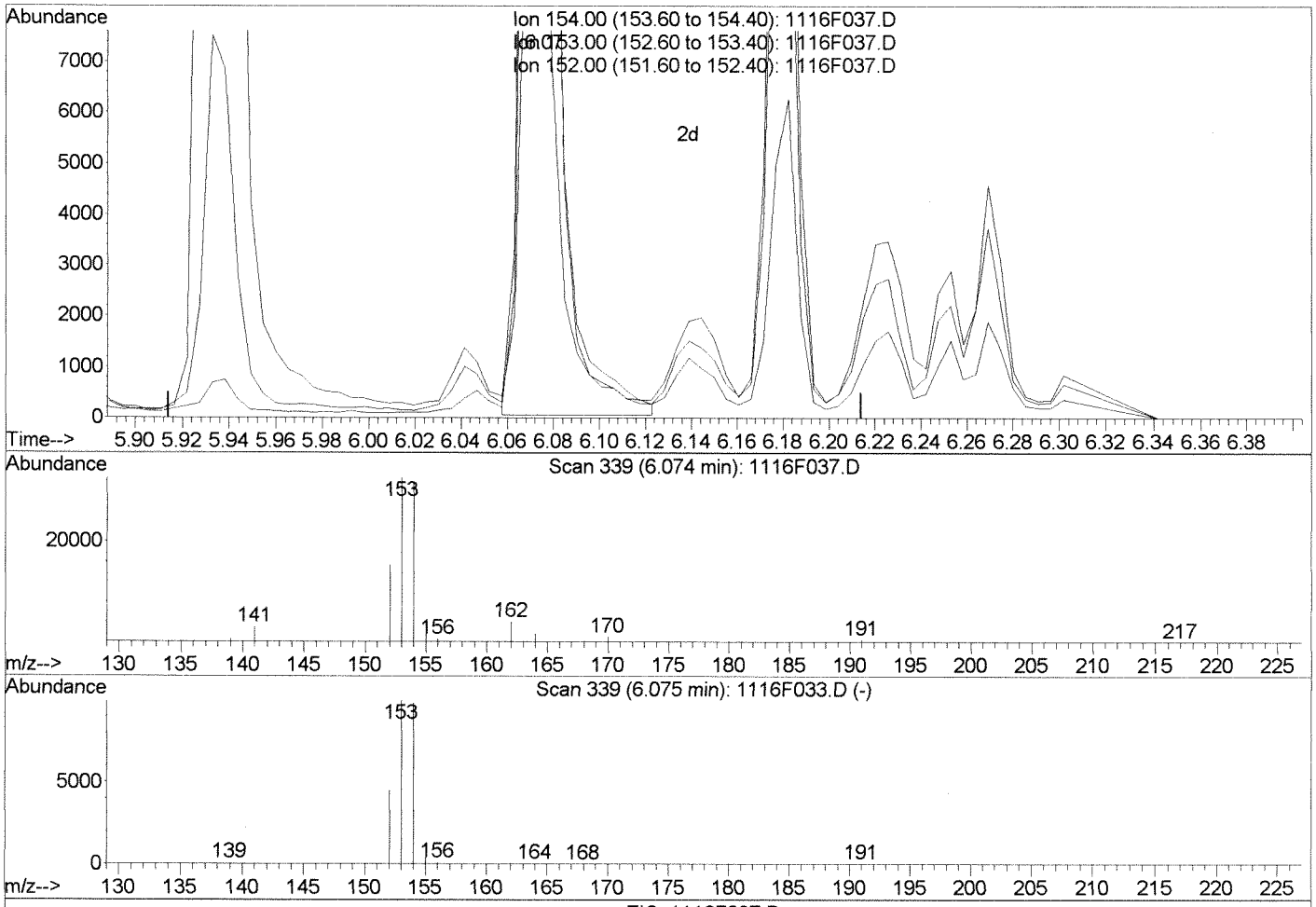
response 25375

Ion	Exp%	Act%
154.00	100	100
153.00	107.80	103.25
152.00	54.70	47.70
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\111609\1116F037.D Vial: 33
Acq On : 16 Nov 2009 11:07 pm Operator: LWeiskopf
Sample : K0909140-015 Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 18 12:20 2009 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Wed Nov 18 12:17:22 2009
Response via : Multiple Level Calibration



TIC: 1116F037.D

(12) Acenaphthene (T)

6.07min 49.92ng/ml m

response 25072

Ion	Exp%	Act%
154.00	100	100
153.00	107.80	103.52
152.00	54.70	48.42
0.00	0.00	0.00

OT 11/18/09

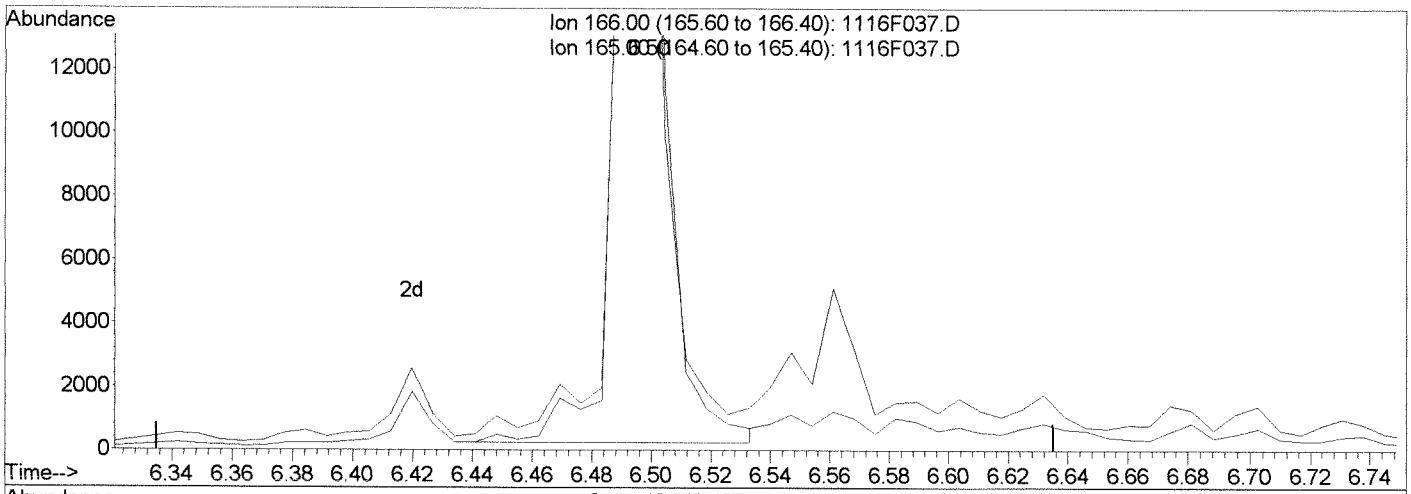
M 11-19-09

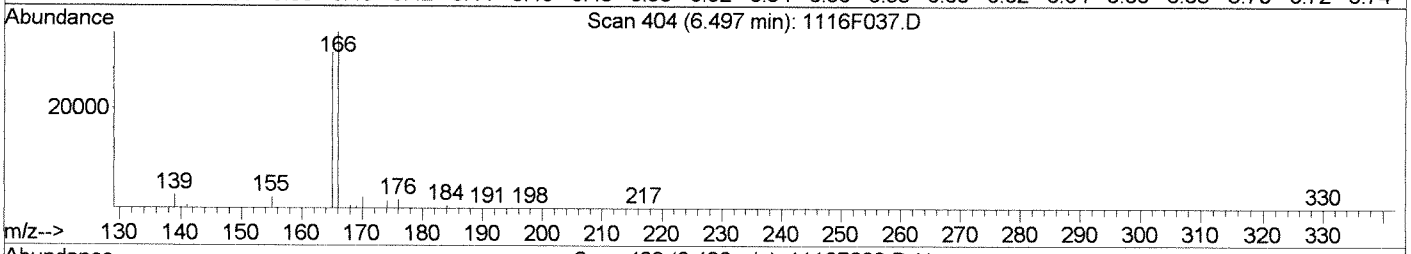
Quantitation Report (Qedit)

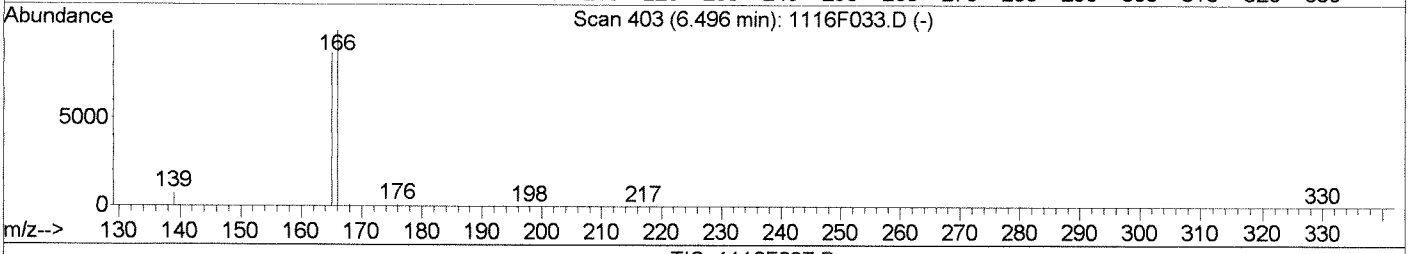
Data File : J:\MS11\DATA\111609\1116F037.D
Acq On : 16 Nov 2009 11:07 pm
Sample : K0909140-015
Misc :
MS Integration Params: RTEINT.P
Quant Time: Nov 18 12:20 2009

Vial: 33
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Wed Nov 18 12:17:22 2009
Response via : Multiple Level Calibration







TIC: 1116F037.D

(16) Fluorene (T)

6.50min 60.17ng/ml

response 32581

Ion	Exp%	Act%
166.00	100	100
165.00	87.80	87.70
0.00	0.00	0.00
0.00	0.00	0.00

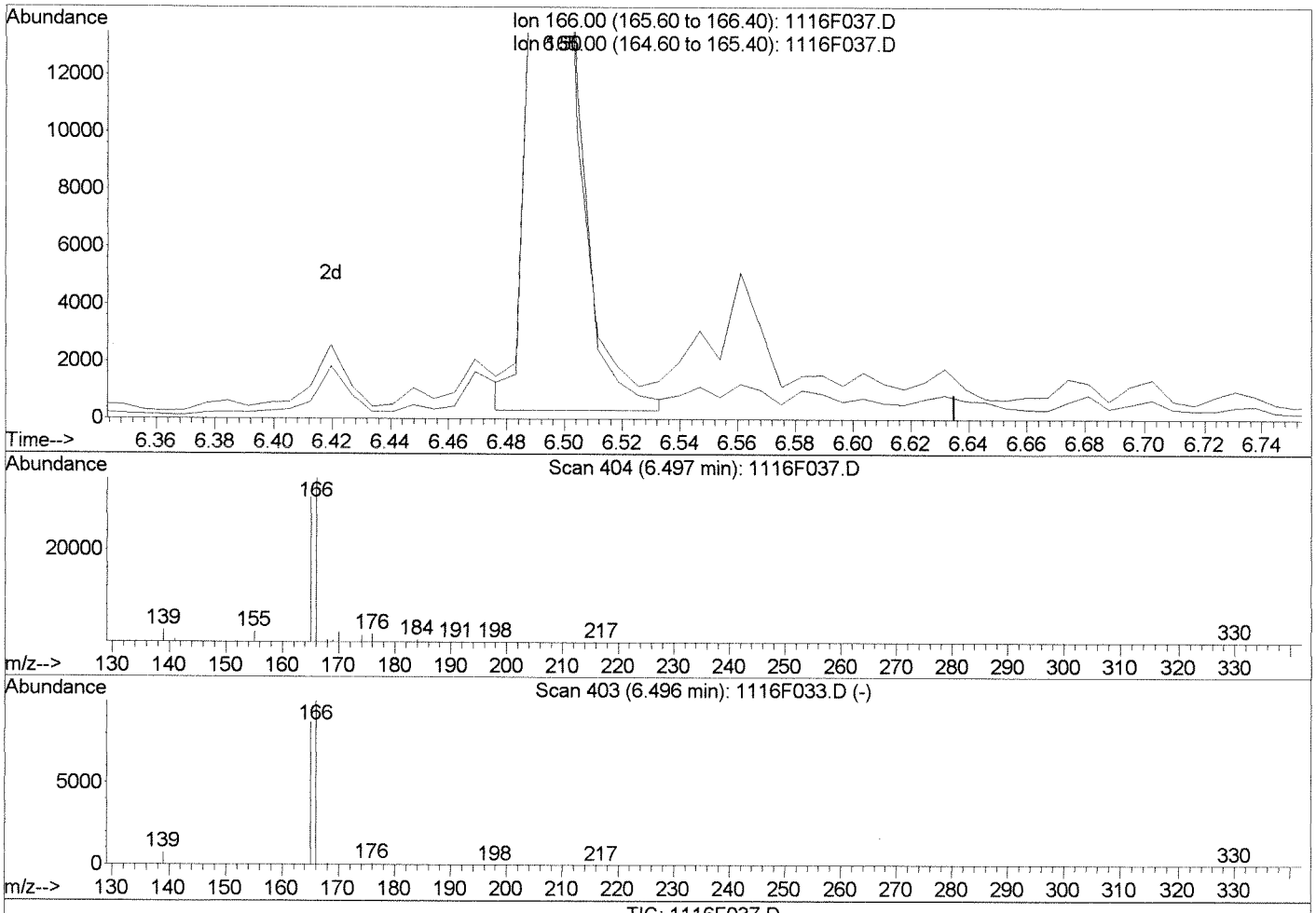
1116F037.D 1015ALK.M Wed Nov 18 12:20:36 2009

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\111609\1116F037.D
Acq On : 16 Nov 2009 11:07 pm
Sample : K0909140-015
Misc :
MS Integration Params: RTEINT.P
Quant Time: Nov 18 12:20 2009

Vial: 33
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Wed Nov 18 12:17:22 2009
Response via : Multiple Level Calibration



TIC: 1116F037.D

(16) Fluorene (T)

6.50min 57.39ng/ml m

response 31075

Ion	Exp%	Act%
166.00	100	100
165.00	87.80	88.51
0.00	0.00	0.00
0.00	0.00	0.00

OK Quiring 11-19-09

1116F037.D 1015ALK.M Wed Nov 18 12:20:44 2009

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	URS Corporation	**Service Request:**	K0909140
Project:	Boise St. Helens Pulp and Paper Mill-2009	**Date Collected:**	09/28/2009
Sample Matrix:	Sediment	**Date Received:**	09/29/2009

Polynuclear Aromatic Hydrocarbons

Sample Name:	M-5-A	**Units:**	ug/Kg
Lab Code:	K0909140-016	**Basis:**	Dry
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270C SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Naphthalene	**100**		2.5	0.60	1	11/10/09	11/16/09	KWG0910535	
2-Methylnaphthalene	**28**		2.5	0.46	1	11/10/09	11/16/09	KWG0910535	
Acenaphthylene	**29**		2.5	0.56	1	11/10/09	11/16/09	KWG0910535	
Acenaphthene	**22**		2.5	0.50	1	11/10/09	11/16/09	KWG0910535	
Fluorene	**30**		2.5	0.61	1	11/10/09	11/16/09	KWG0910535	
Dibenzofuran	**20**		2.5	0.63	1	11/10/09	11/16/09	KWG0910535	
Phenanthrene	**170**		2.5	1.4	1	11/10/09	11/16/09	KWG0910535	
Anthracene	**38**		2.5	0.55	1	11/10/09	11/16/09	KWG0910535	
Fluoranthene	**260**		2.5	0.98	1	11/10/09	11/16/09	KWG0910535	
Pyrene	**220**		2.5	0.76	1	11/10/09	11/16/09	KWG0910535	
Benz(a)anthracene	**96**		2.5	0.72	1	11/10/09	11/16/09	KWG0910535	
Chrysene	**120**		2.5	0.80	1	11/10/09	11/16/09	KWG0910535	
Benzo(b)fluoranthene	**170**		2.5	0.92	1	11/10/09	11/16/09	KWG0910535	
Benzo(k)fluoranthene	**51**		2.5	0.87	1	11/10/09	11/16/09	KWG0910535	
Benzo(a)pyrene	**150**		2.5	0.76	1	11/10/09	11/16/09	KWG0910535	
Indeno(1,2,3-cd)pyrene	**140**		2.5	0.87	1	11/10/09	11/16/09	KWG0910535	
Dibenz(a,h)anthracene	**17**		2.5	0.80	1	11/10/09	11/16/09	KWG0910535	
Benzo(g,h,i)perylene	**160**		2.5	0.85	1	11/10/09	11/16/09	KWG0910535	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	81	17-104	11/16/09	Acceptable
Fluoranthene-d10	81	27-106	11/16/09	Acceptable
Terphenyl-d14	66	35-109	11/16/09	Acceptable

Comments:

Exception Report

Data File: J:\MS11\DATA\111609\1116F038.D
Lab ID: K0909140-016
RunType: SMPL
Matrix: SEDIMENT

Date Acquired: 11/16/2009 23:33
Date Quantitated: 11/18/2009 12:22
Batch ID: KWG0910855
Analysis Method: 8270C SIM
ListJoinID: LJ5646

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Tune Window	NA	NA	NA	x	
Analytical Holding Time	NA	NA	NA	x	
Preparation Holding Time	NA	NA	NA	x	
Pre-Preparation Holding Time	NA	NA	NA	x	
ICAL Pass/Fail	NA	NA	NA	x	
ICAL Average RSD	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Initial Calibration Minimum RF	NA	NA	NA	x	
Initial Calibration SPCC/CCC	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA	x	
Continuing Calibration Minimum RF	NA	NA	NA	x	
Continuing Calibration SPCC/CCC	NA	NA	NA	x	
Method Blank	NA	NA	NA	x	
MB Surrogate Recovery	NA	NA	NA	x	
Lab Control Spike	NA	NA	NA	x	
Duplicate Lab Control Spike	NA	NA	NA	x	
Internal Standards	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Relative Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Primary Review: KW 11/19/09

Secondary Review: M 11-19-09

Quantitation Report

Bottle ID:		**Tier:**	V	**Matrix:**	SEDIMENT
Prod Code:	8270C SIM PAH_S	**Collect Date:**	09/28/2009	**Receive Date:**	09/29/2009

Analysis Lot:	KWG0910855	**Prep Lot:**	KWG0910535	**Report Group:**	K0909140
Analysis Method:	8270C SIM	**Prep Method:**	EPA 3541		
Prep Ref:	865769	**Prep Date:**	11/10/2009		

Quant Method:	J:\MS11\METHODS\SIM\1015ALK.M	**Calibration ID:**	CAL8928
Title:	Polynuclear Aromatic Hydrocarbons	**Report List ID:**	LJ5646
Tune Ref:	J:\MS11\DATA\111609\1116F032.D	**Method ID:**	MJ253
MB Ref:	J:\MS11\DATA\111609\1116F004.D	**Quant based on Report List**	

Data File:	J:\MS11\DATA\111609\1116F038.D			**Instrument:**	MS11
Acqu Date:	11/16/2009 23:33	**Quant Date:**	11/18/2009 12:22	**Vial:**	34
Run Type:	SMPL			**Dilution:**	1.0
Lab ID:	K0909140-016			**Soln Conc. Units:**	ng/ml

Internal Standard Compounds

IS Ref	Parameter Name	RT	RT Dev	Quant Mass	Response	Solution Conc	Area Criteria
1	Naphthalene-d8	4.63	0.00	136	184738	200.00	OK
2	Acenaphthene-d10	6.05	0.00	164	99421	200.00	OK
3	Phenanthrene-d10	7.27	0.00	188	172884	200.00	OK
4	Chrysene-d12	9.76	0.00	240	279376	200.00	OK
5	Perylene-d12	12.78	0.00	264	316616	200.00	OK

Surrogate Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	%Rec	%Rec Limits		Rpt?
2	Fluorene-d10	6.47	0.00	0.00	176	75093	161.89	81	17-104	OK	
3	Fluoranthene-d10	8.24	0.00	0.00	212	154264	161.02	81	27-106	OK	
4	Terphenyl-d14	8.59	0.01	0.00	244	152727	132.24	66	35-109	OK	

Target Compounds

Final Conc. Units: ug/Kg Dry Weight

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	Final Conc	Q	Rpt?
1	Naphthalene	4.65		0.00	128	172332	202.72	100		
1	2-Methylnaphthalene	5.21		0.00	142	33275	56.80	28		
2	Acenaphthylene	5.93		0.00	152	50201	58.19	29		
2	Acenaphthene	6.07		0.00	154	22680**m**	44.09	22		
2	Dibenzofuran	6.22		0.00	168	28354	40.98	20		
2	Fluorene	6.50		0.00	166	32804**m**	59.15	30		
3	Phenanthrene	7.29		0.00	178	328068	338.35	170		
3	Anthracene	7.33		0.00	178	70494**m**	76.03	38		
3	Fluoranthene	8.25		0.00	202	564594	530.06	260		
4	Pyrene	8.44		0.00	202	674948	441.20	220		
4	Benz(a)anthracene	9.75		0.00	228	291998	192.30	96		
4	Chrysene	9.80		0.00	228	365714	247.26	120		
5	Benzo(b)fluoranthene	11.77		0.00	252	552496	334.51	170		

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Data File:	J:\MS11\DATA\111609\1116F038.D			**Instrument:**	MS11
Acqu Date:	11/16/2009 23:33	**Quant Date:**	11/18/2009 12:22	**Vial:**	34
Run Type:	SMPL			**Dilution:**	1.0
Lab ID:	K0909140-016			**Soln Conc. Units:**	ng/ml

Target Compounds **Final Conc. Units:** ug/Kg Dry Weight

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	Final Conc	Q	Rpt?
5	Benzo(k)fluoranthene	11.83	-0.01	0.00	252	164550	101.12	51		
5	Benzo(a)pyrene	12.61		0.00	252	469220	299.96	150		
5	Indeno(1,2,3-cd)pyrene	16.34	0.01	0.00	276	396488	276.29	140		
5	Dibenz(a,h)anthracene	16.41		0.00	278	52550	33.99	17		
5	Benzo(g,h,i)perylene	16.81	-0.01	0.00	276	525795	318.12	160		

Prep Amount:	20.19 g	**Dilution:**	1.0
Prep Final Vol:	10 ml	**Unit Factor:**	1
Solids:	99.1 %		

Final Concentration = ((Soln Conc x Prep Final Vol x Dilution) / (Prep Amount x Solids)) x Unit Factor

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\111609\1116F038.D Vial: 34
Acq On : 16 Nov 2009 11:33 pm Operator: LWeiskopf
Sample : K0909140-016 Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 18 12:17:45 2009 Quant Results File: 1015ALK.RES

Quant Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Wed Nov 18 12:17:22 2009
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	4.63	136	184738	200.00	ng/ml	0.00
10) Acenaphthene-d10	6.05	164	99421	200.00	ng/ml	0.00
22) Phenanthrene-d10	7.27	188	172884	200.00	ng/ml	0.00
37) Chrysene-d12	9.76	240	279376	200.00	ng/ml	0.00
49) Perylene-d12	12.78	264	316616	200.00	ng/ml	0.02
System Monitoring Compounds						
15) Fluorene-d10	6.47	176	75093	161.89	ng/ml	0.00
Spiked Amount 200.000			Recovery =	80.94%		
20) 2,4,6 Tribromophenol	0.00	330	0d	0.00	ng/ml	
Spiked Amount 375.000			Recovery =	0.00%		
36) Fluoranthene-d10	8.24	212	154264	161.02	ng/ml	0.00
Spiked Amount 200.000			Recovery =	80.51%		
42) Terphenyl-d14	8.59	244	152727	132.24	ng/ml	0.00
Spiked Amount 200.000			Recovery =	66.12%		
Target Compounds						Qvalue
2) Naphthalene	4.65	128	172332	202.72	ng/ml	99
3) 2-Methylnaphthalene	5.21	142	33275	56.80	ng/ml	100
4) 1-Methylnaphthalene	5.29	142	22307	35.81	ng/ml	98
5) Biphenyl	5.58	154	14355	21.49	ng/ml	97
6) 2,6-Dimethylnaphthalene	5.78	156	32497	70.54	ng/ml	87
11) Acenaphthylene	5.93	152	50201	58.19	ng/ml	99
12) Acenaphthene	6.07	154	22680m	44.09	ng/ml	
13) Dibenzofuran	6.22	168	28354	40.98	ng/ml	71
14) 2,3,5-Trimethylnaphthalene	6.38	170	15651	36.22	ng/ml	98
16) Fluorene	6.50	166	32804m	59.15	ng/ml	
23) Dibenzothiophene	7.18	184	23705	27.12	ng/ml	100
27) Phenanthrene	7.29	178	328068	338.35	ng/ml	94
28) Anthracene	7.33	178	70494m	76.03	ng/ml	
29) Carbazole	7.48	167	10726	13.54	ng/ml	95
30) 1-Methylphenanthrene	7.78	192	36442	52.49	ng/ml	93
35) Fluoranthene	8.25	202	564594	530.06	ng/ml	98
38) Pyrene	8.44	202	674948	441.20	ng/ml	93
43) Benz(a)anthracene	9.75	228	291998	192.30	ng/ml	73
44) Chrysene	9.80	228	365714	247.26	ng/ml	97
50) Benzo(b)fluoranthene	11.77	252	552496	334.51	ng/ml	100
51) Benzo(k)fluoranthene	11.83	252	164550	101.12	ng/ml	97
52) Benzo(e)pyrene	12.46	252	351150	227.03	ng/ml	100
53) Benzo(a)pyrene	12.61	252	469220	299.96	ng/ml	99
54) Perylene	12.85	252	218224	142.31	ng/ml	100
55) Indeno(1,2,3-cd)pyrene	16.34	276	396488	276.29	ng/ml	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\111609\1116F038.D Vial: 34
Acq On : 16 Nov 2009 11:33 pm Operator: LWeiskopf
Sample : K0909140-016 Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 18 12:17:45 2009 Quant Results File: 1015ALK.RES

Quant Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Wed Nov 18 12:17:22 2009
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

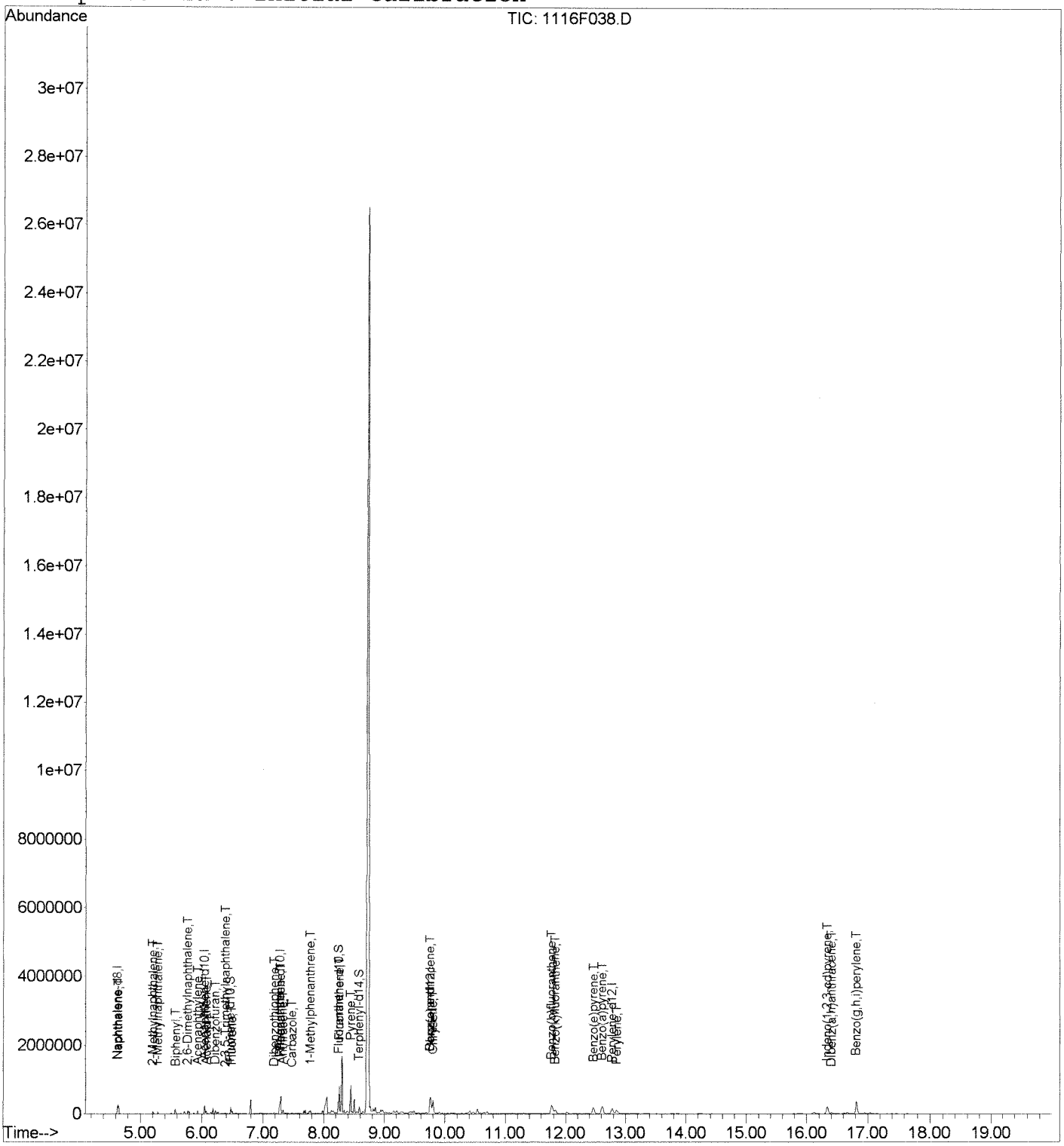
	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
56)	Dibenz(a,h)anthracene	16.41	278	52550	33.99	ng/ml	72
57)	Benzo(g,h,i)perylene	16.81	276	525795	318.12	ng/ml	98

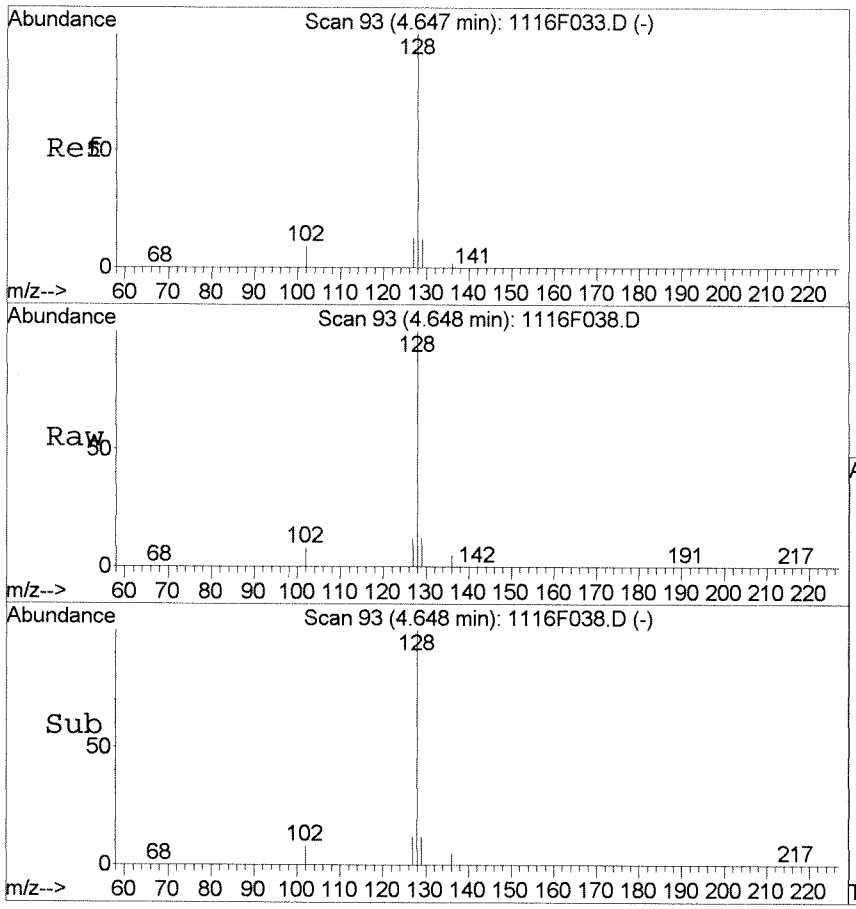
(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\111609\1116F038.D Vial: 34
Acq On : 16 Nov 2009 11:33 pm Operator: LWeiskopf
Sample : K0909140-016 Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 18 12:22 2009 Quant Results File: 1015ALK.RES

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Wed Nov 18 12:17:22 2009
Response via : Initial Calibration

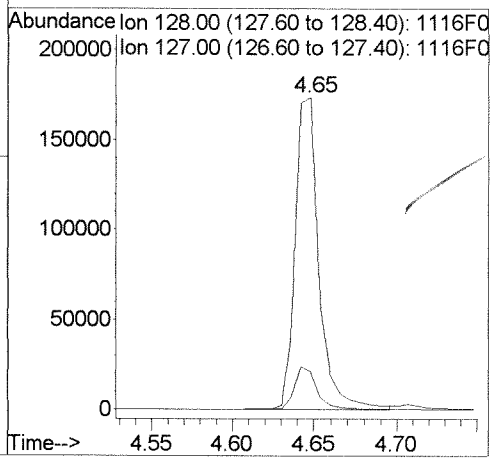


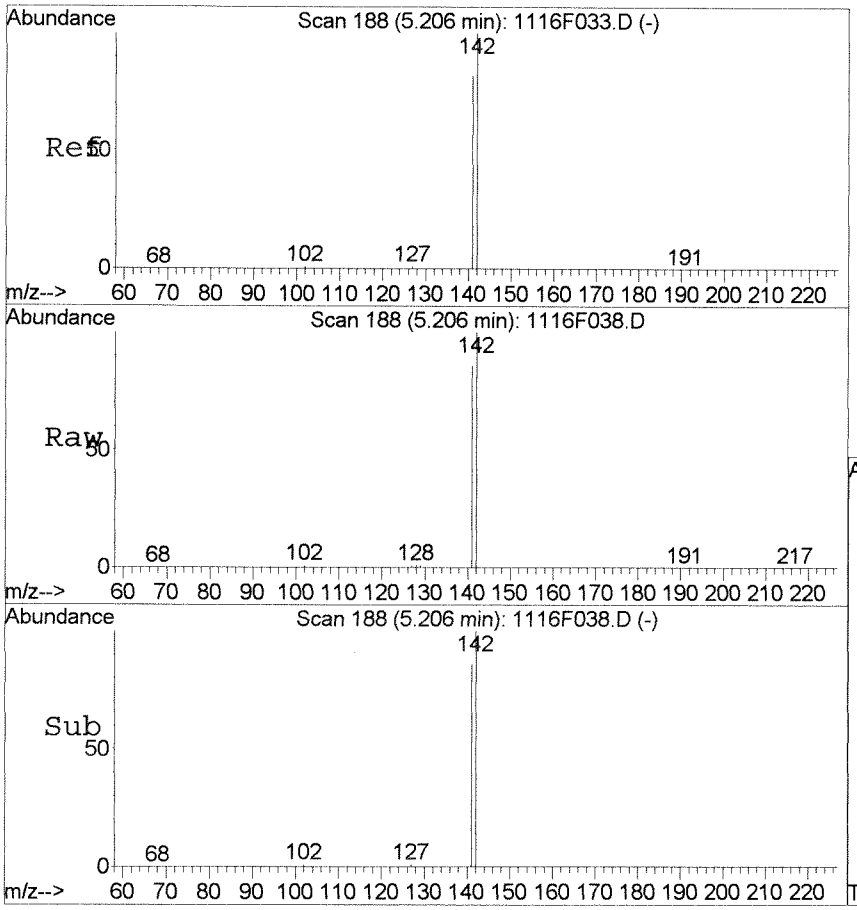


#2
Naphthalene
Concen: 202.72 ng/ml
RT: 4.65 min Scan# 93
Delta R.T. 0.01 min
Lab File: 1116F038.D
Acq: 16 Nov 2009 11:33 pm

Tgt Ion:128 Resp: 172332

Ion	Ratio	Lower	Upper
128	100		
127	12.1	0.0	42.4

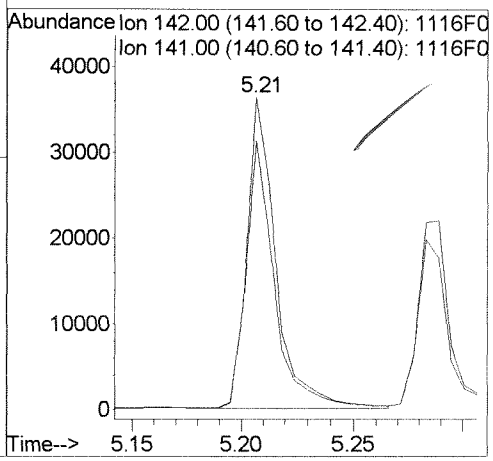


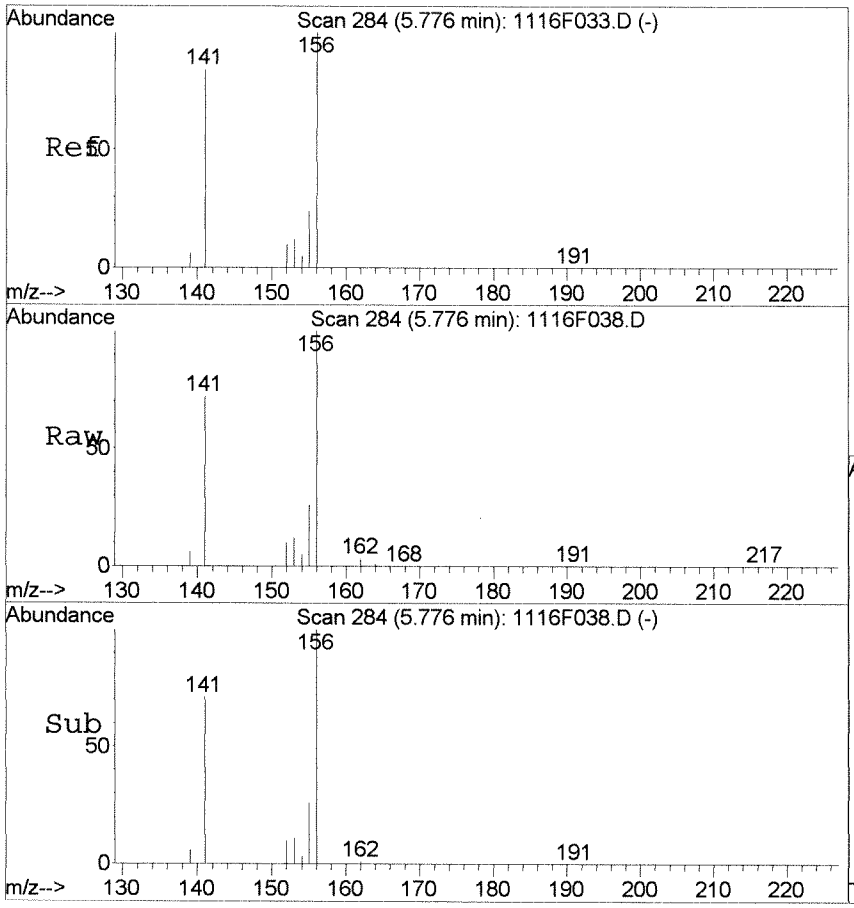


#3
2-Methylnaphthalene
Concen: 56.80 ng/ml
RT: 5.21 min Scan# 188
Delta R.T. 0.01 min
Lab File: 1116F038.D
Acq: 16 Nov 2009 11:33 pm

Tgt Ion:142 Resp: 33275

Ion	Ratio	Lower	Upper
142	100		
141	86.0	56.1	116.1

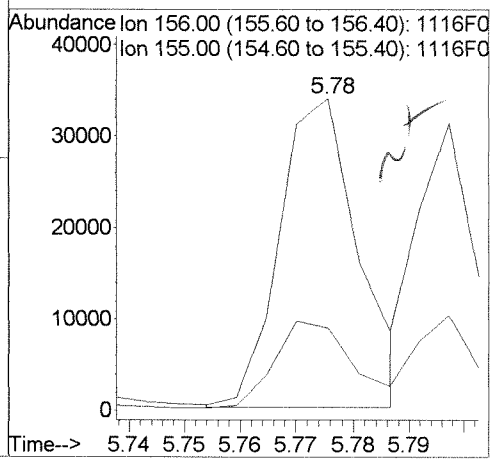


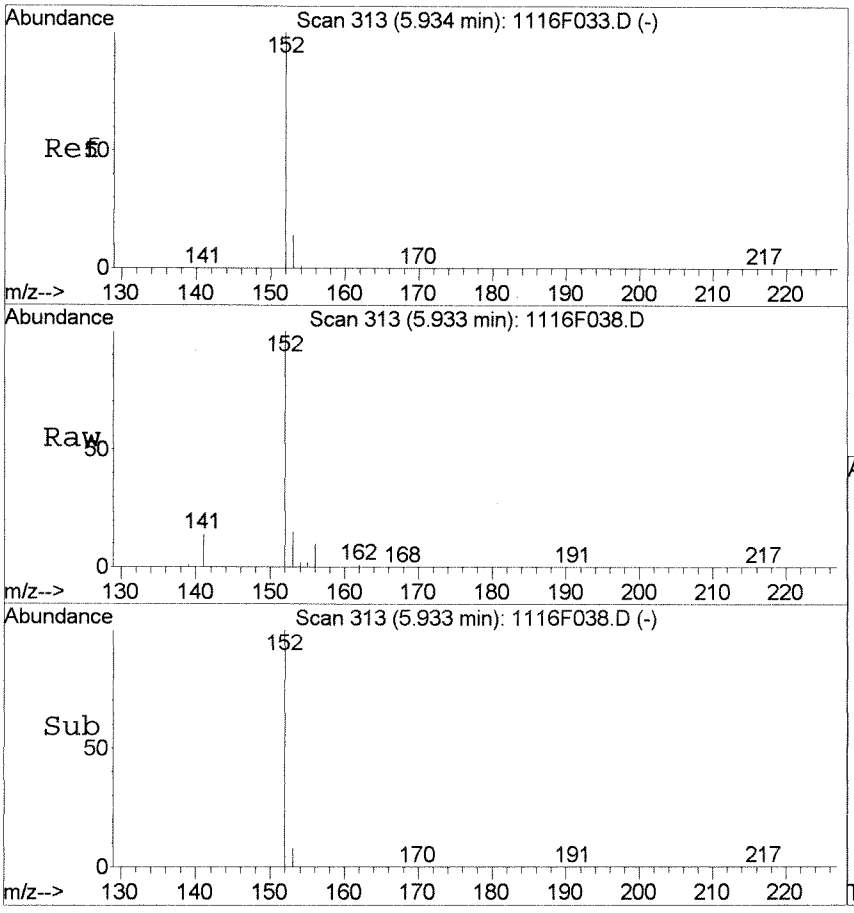


#6
2,6-Dimethylnaphthalene
Concen: 70.54 ng/ml
RT: 5.78 min Scan# 284
Delta R.T. 0.01 min
Lab File: 1116F038.D
Acq: 16 Nov 2009 11:33 pm

Tgt Ion:156 Resp: 32497

Ion	Ratio	Lower	Upper
156	100		
155	26.1	3.7	63.7

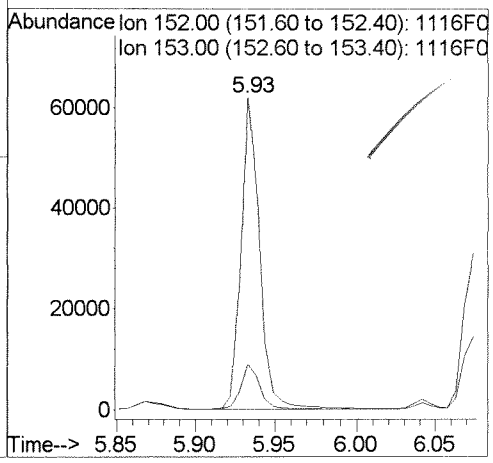


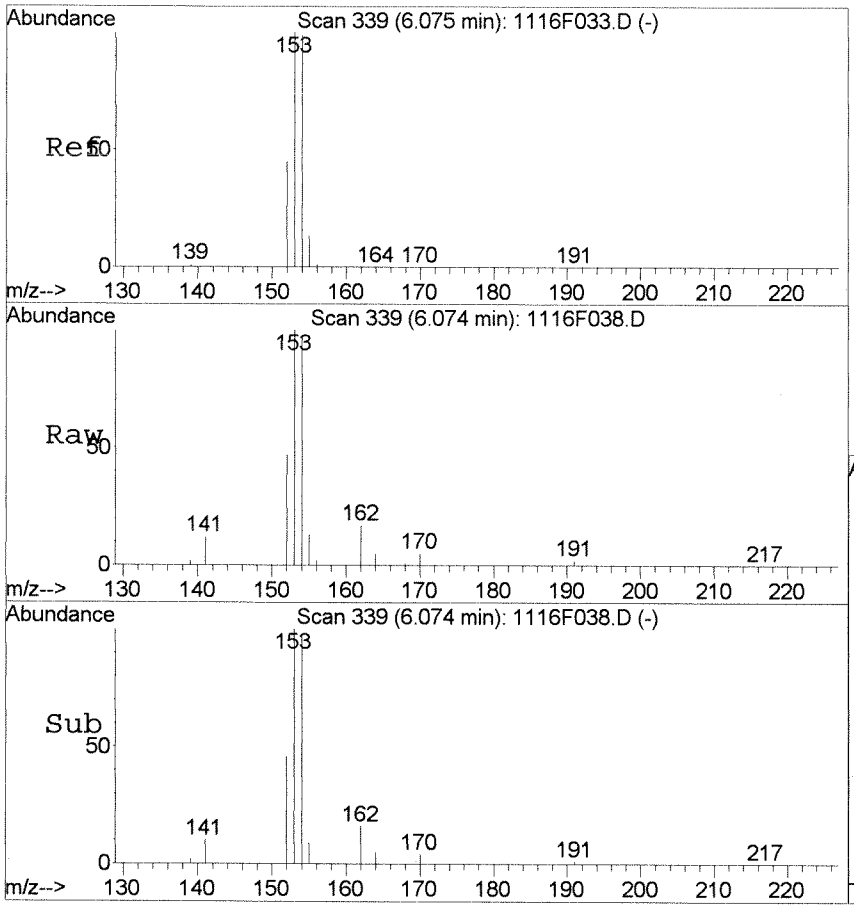


#11
Acenaphthylene
Concen: 58.19 ng/ml
RT: 5.93 min Scan# 313
Delta R.T. 0.01 min
Lab File: 1116F038.D
Acq: 16 Nov 2009 11:33 pm

Tgt Ion:152 Resp: 50201

Ion	Ratio	Lower	Upper
152	100		
153	14.3	0.0	44.1

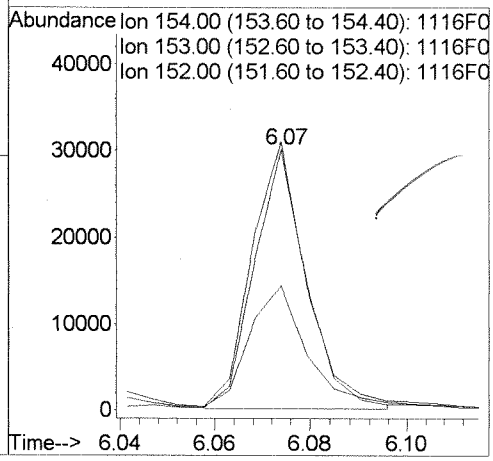


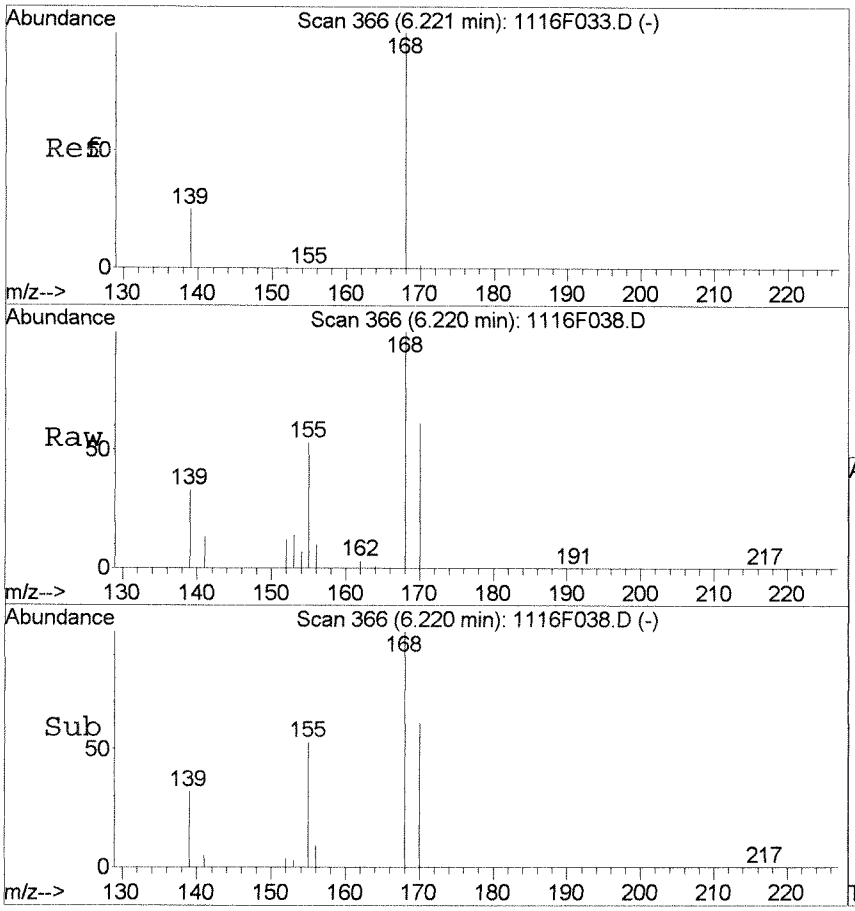


#12
Acenaphthene
Concen: 44.09 ng/ml m
RT: 6.07 min Scan# 339
Delta R.T. 0.01 min
Lab File: 1116F038.D
Acq: 16 Nov 2009 11:33 pm

Tgt Ion:154 Resp: 22680

Ion	Ratio	Lower	Upper
154	100		
153	103.1	77.8	137.8
152	48.0	24.7	84.7

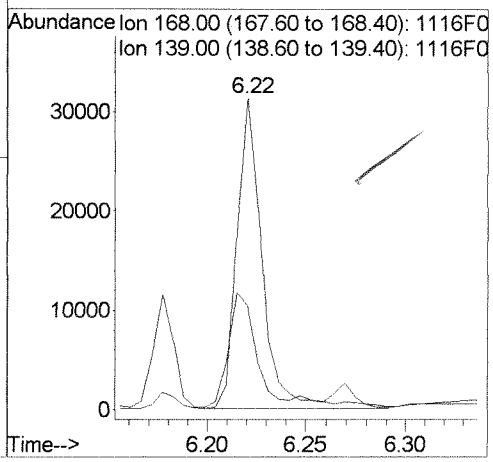


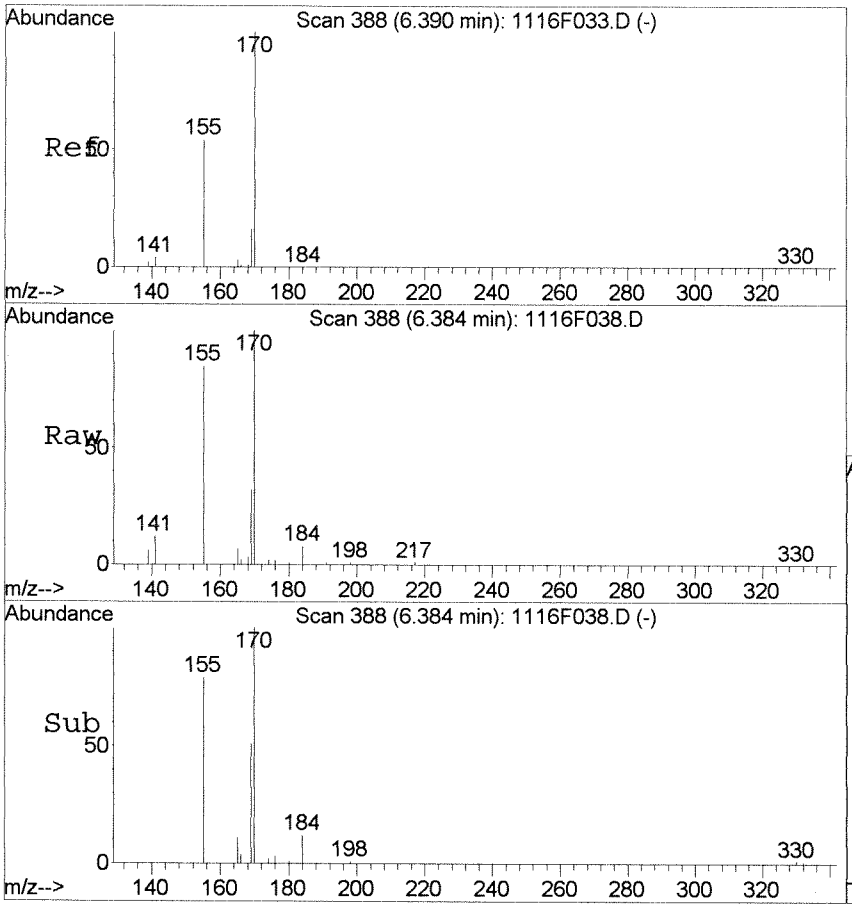


#13
Dibenzofuran
Concen: 40.98 ng/ml
RT: 6.22 min Scan# 366
Delta R.T. 0.01 min
Lab File: 1116F038.D
Acq: 16 Nov 2009 11:33 pm

Tgt Ion:168 Resp: 28354

Ion	Ratio	Lower	Upper
168	100		
139	32.6	23.3	83.3

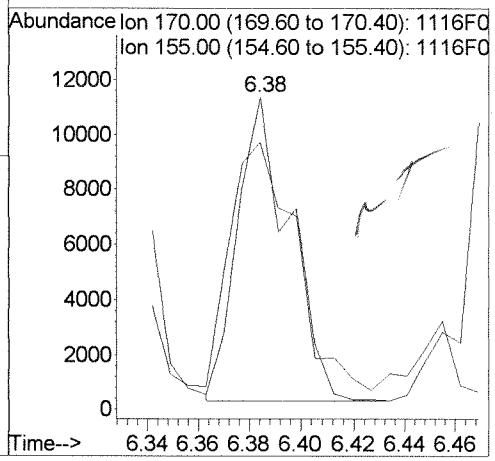


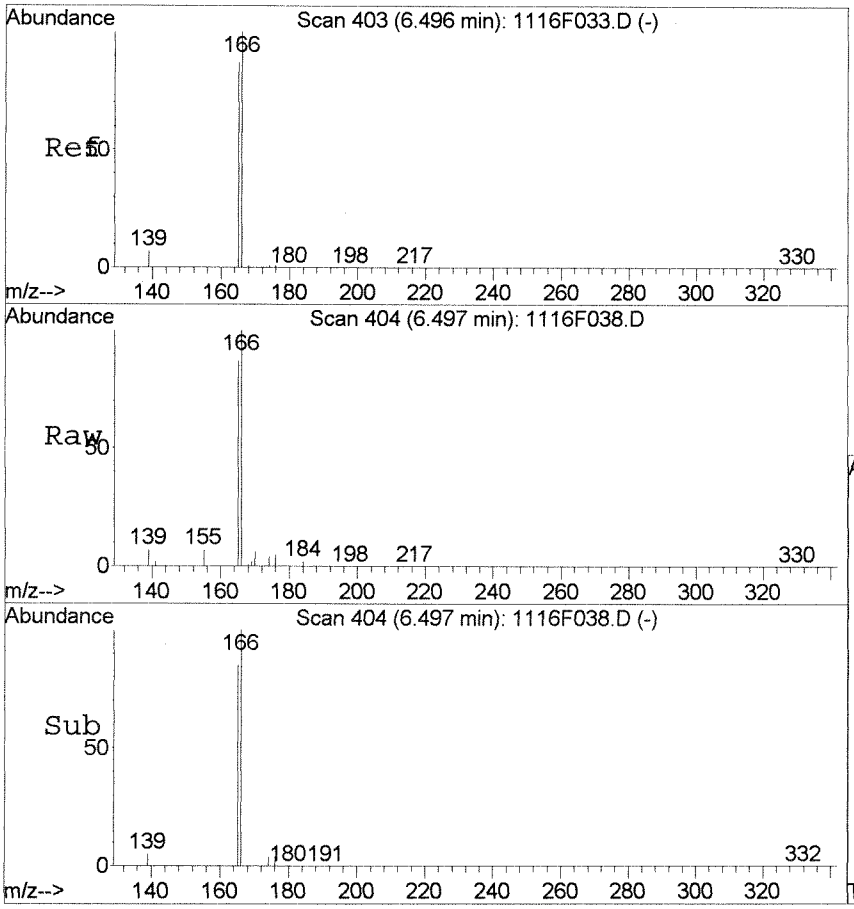


#14
2,3,5-Trimethylnaphthalene
Concen: 36.22 ng/ml
RT: 6.38 min Scan# 388
Delta R.T. 0.01 min
Lab File: 1116F038.D
Acq: 16 Nov 2009 11:33 pm

Tgt Ion:170 Resp: 15651

Ion	Ratio	Lower	Upper
170	100		
155	80.2	48.2	108.2

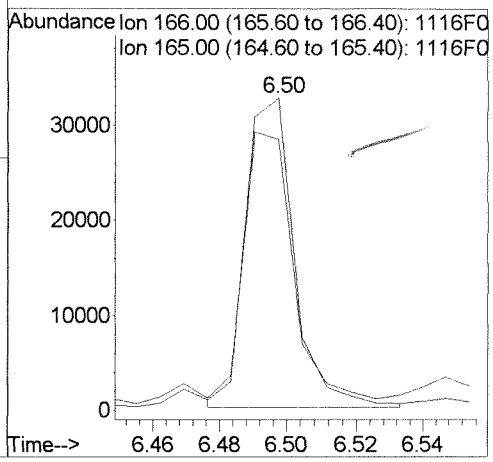


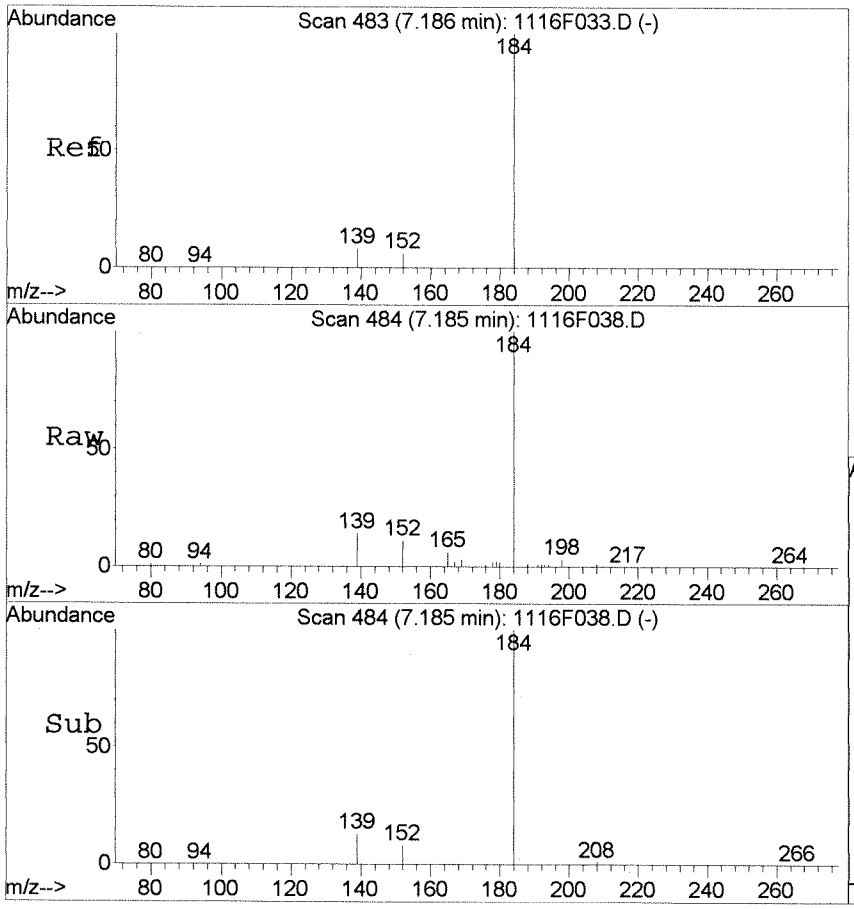


#16
Fluorene
Concen: 59.15 ng/ml m
RT: 6.50 min Scan# 404
Delta R.T. 0.01 min
Lab File: 1116F038.D
Acq: 16 Nov 2009 11:33 pm

Tgt Ion:166 Resp: 32804

Ion	Ratio	Lower	Upper
166	100		
165	86.8	57.8	117.8

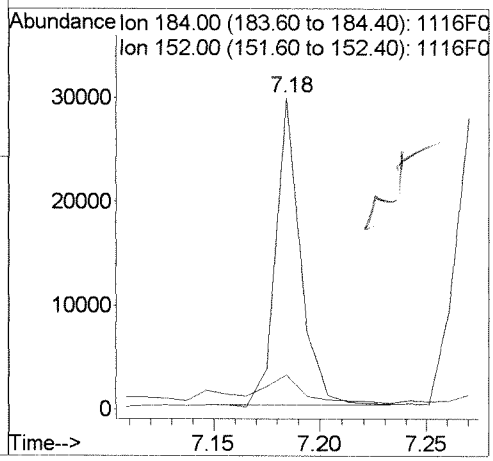


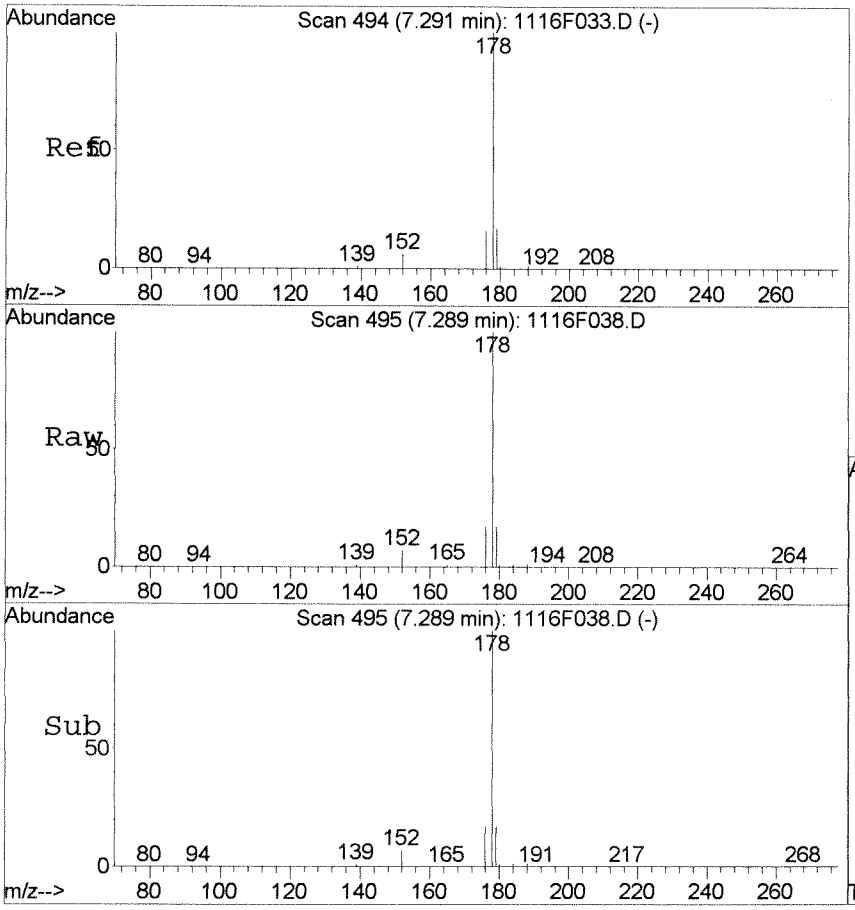


#23
Dibenzothiophene
Concen: 27.12 ng/ml
RT: 7.18 min Scan# 484
Delta R.T. 0.01 min
Lab File: 1116F038.D
Acq: 16 Nov 2009 11:33 pm

Tgt Ion:184 Resp: 23705

Ion	Ratio	Lower	Upper
184	100		
152	9.3	0.0	39.4

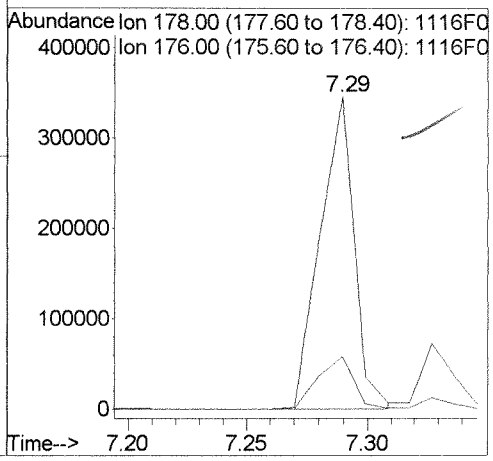


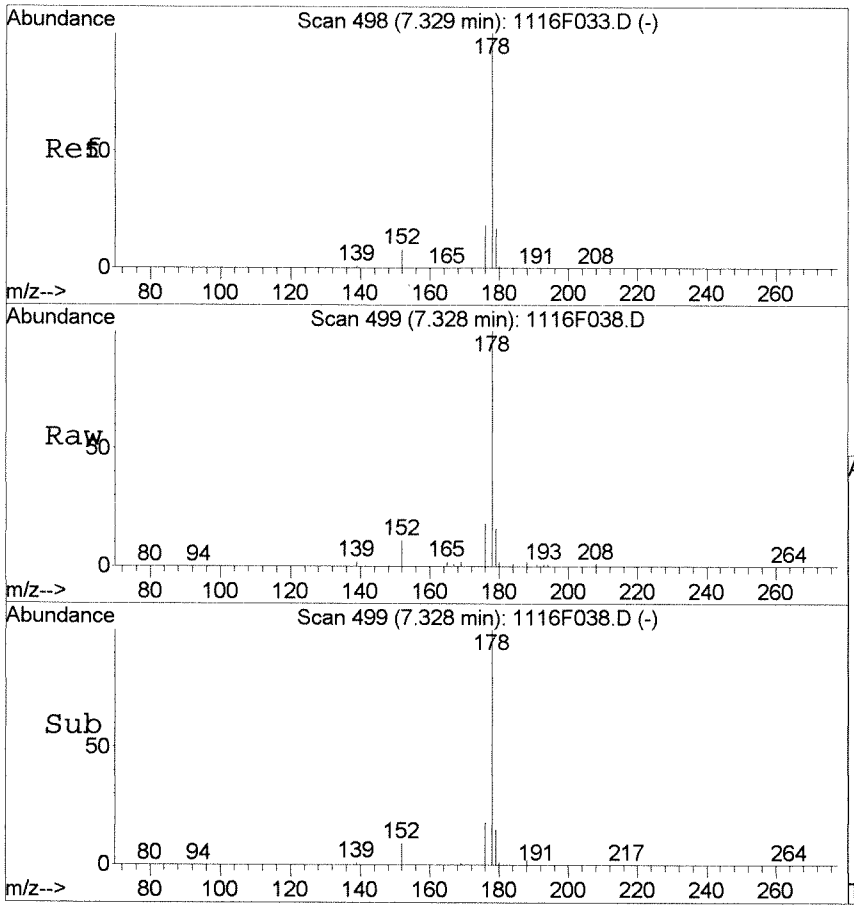


#27
Phenanthrene
Concen: 338.35 ng/ml
RT: 7.29 min Scan# 495
Delta R.T. 0.01 min
Lab File: 1116F038.D
Acq: 16 Nov 2009 11:33 pm

Tgt Ion:178 Resp: 328068

Ion	Ratio	Lower	Upper
178	100		
176	16.8	0.0	49.6

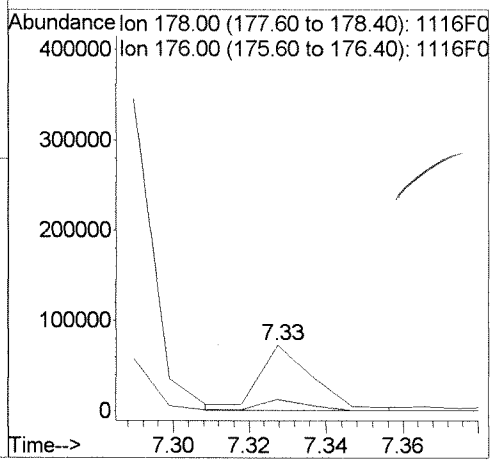


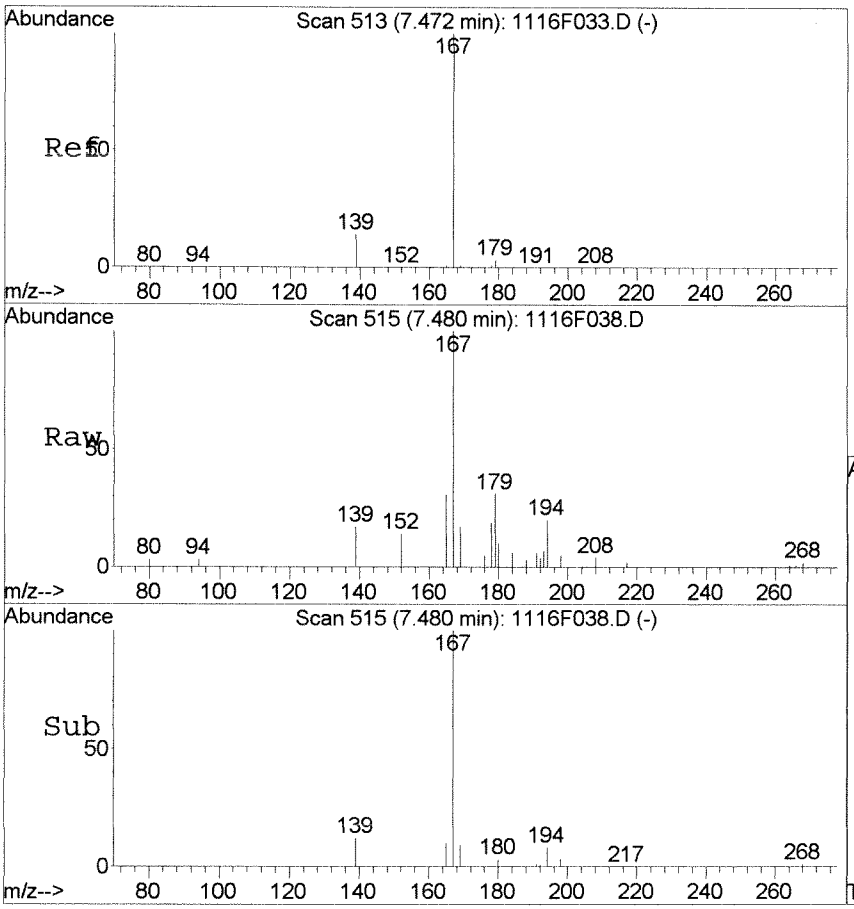


#28
Anthracene
Concen: 76.03 ng/ml m
RT: 7.33 min Scan# 499
Delta R.T. 0.01 min
Lab File: 1116F038.D
Acq: 16 Nov 2009 11:33 pm

Tgt Ion:178 Resp: 70494

Ion	Ratio	Lower	Upper
178	100		
176	17.8	0.0	47.6

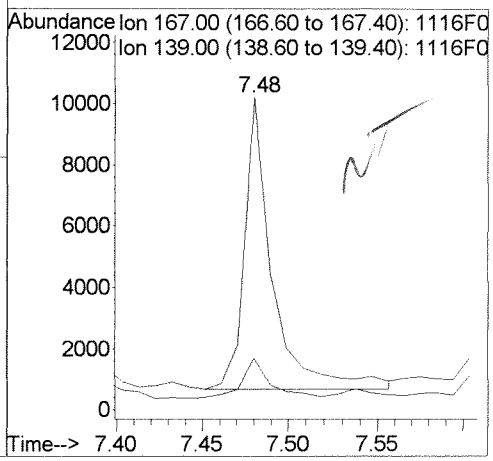


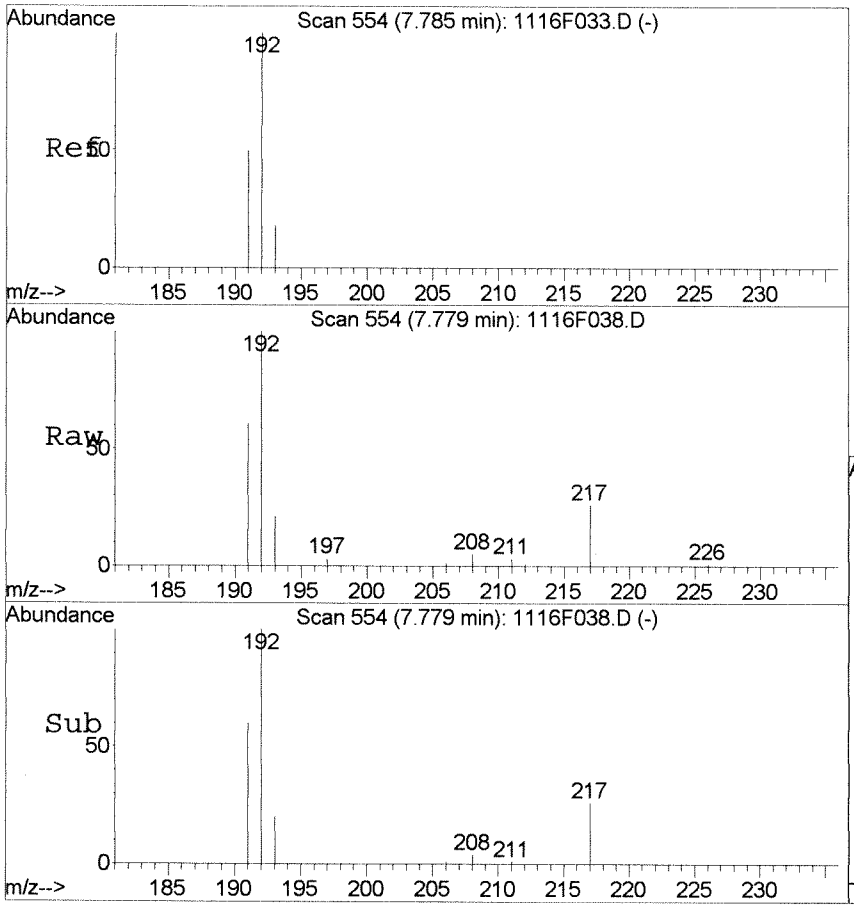


#29
Carbazole
Concen: 13.54 ng/ml
RT: 7.48 min Scan# 515
Delta R.T. 0.01 min
Lab File: 1116F038.D
Acq: 16 Nov 2009 11:33 pm

Tgt Ion:167 Resp: 10726

Ion	Ratio	Lower	Upper
167	100		
139	13.6	0.0	45.7

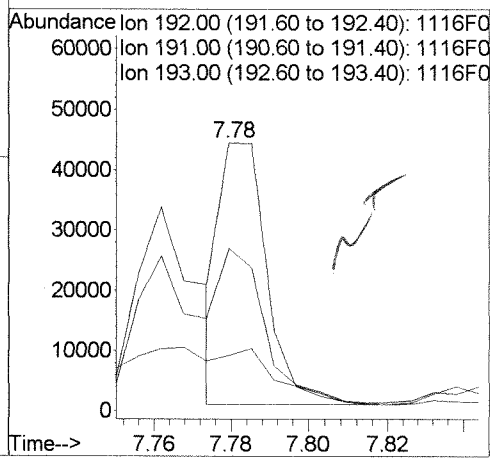


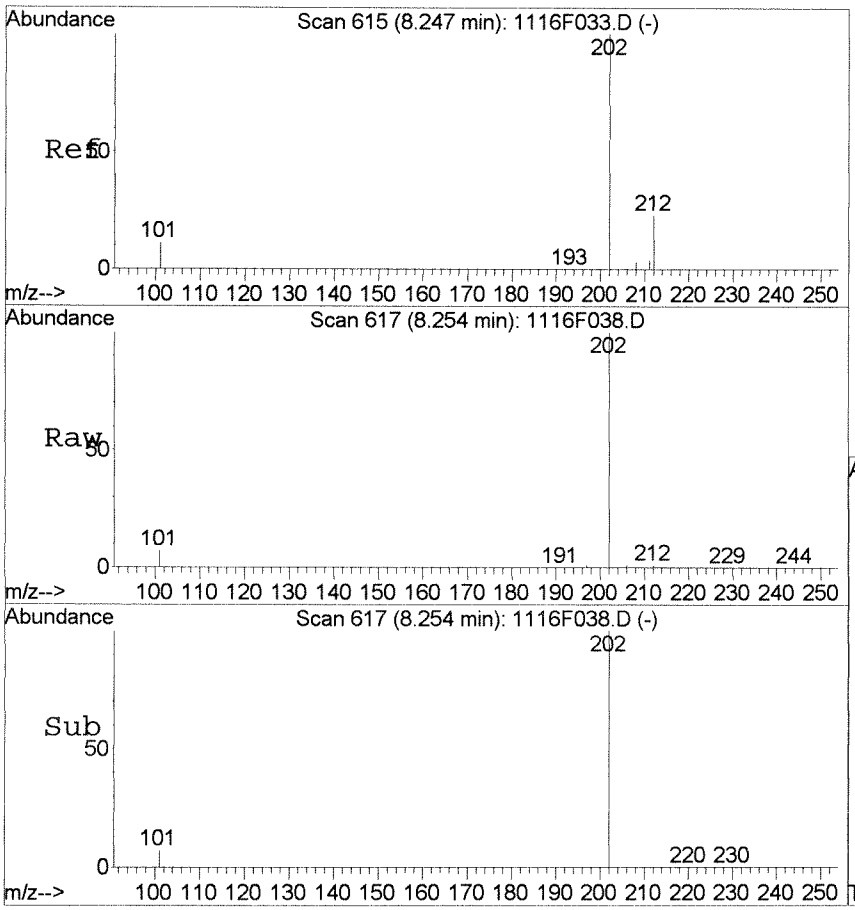


#30
1-Methylphenanthrene
Concen: 52.49 ng/ml
RT: 7.78 min Scan# 554
Delta R.T. 0.01 min
Lab File: 1116F038.D
Acq: 16 Nov 2009 11:33 pm

Tgt Ion:192 Resp: 36442

Ion	Ratio	Lower	Upper
192	100		
191	58.8	23.0	83.0
193	18.6	0.0	47.0

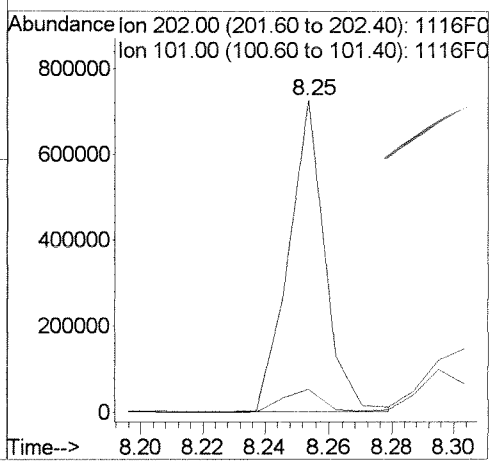


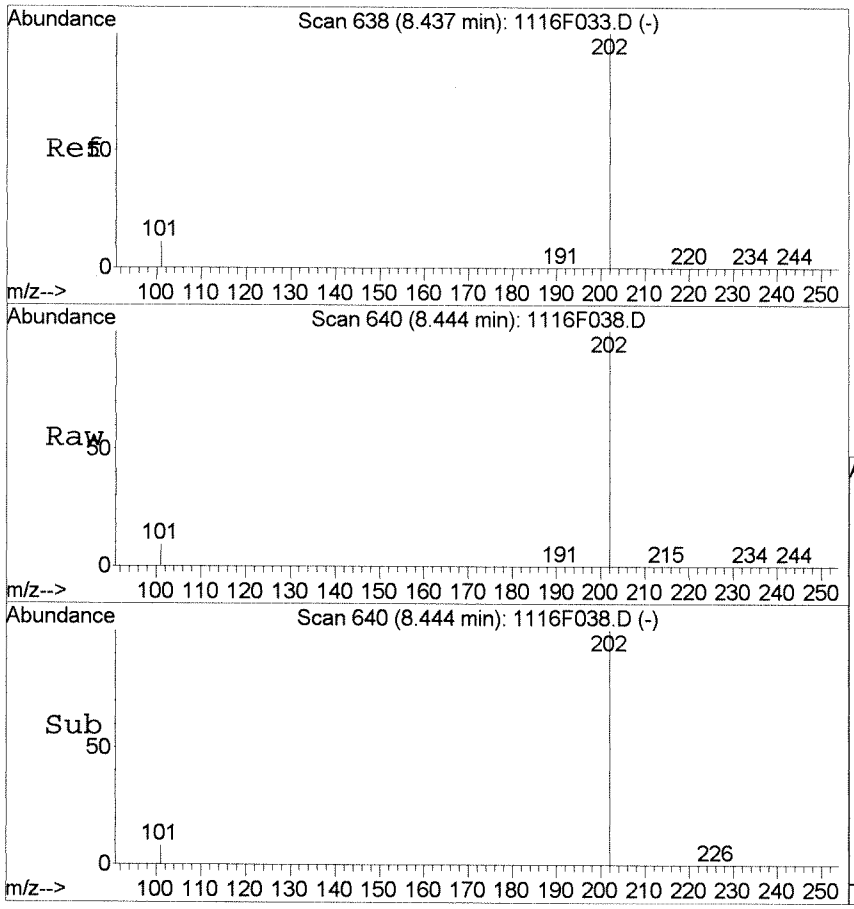


#35
Fluoranthene
Concen: 530.06 ng/ml
RT: 8.25 min Scan# 617
Delta R.T. 0.01 min
Lab File: 1116F038.D
Acq: 16 Nov 2009 11:33 pm

Tgt Ion:202 Resp: 564594

Ion	Ratio	Lower	Upper
202	100		
101	7.3	0.0	36.5

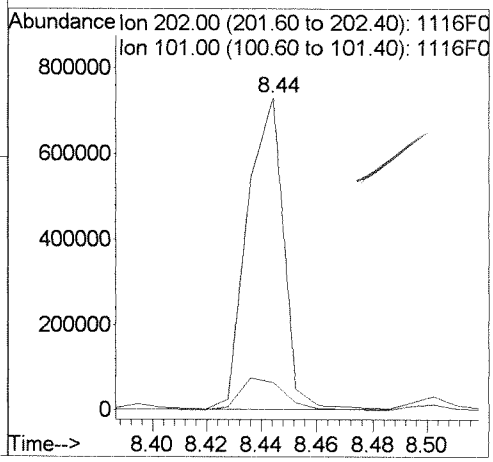


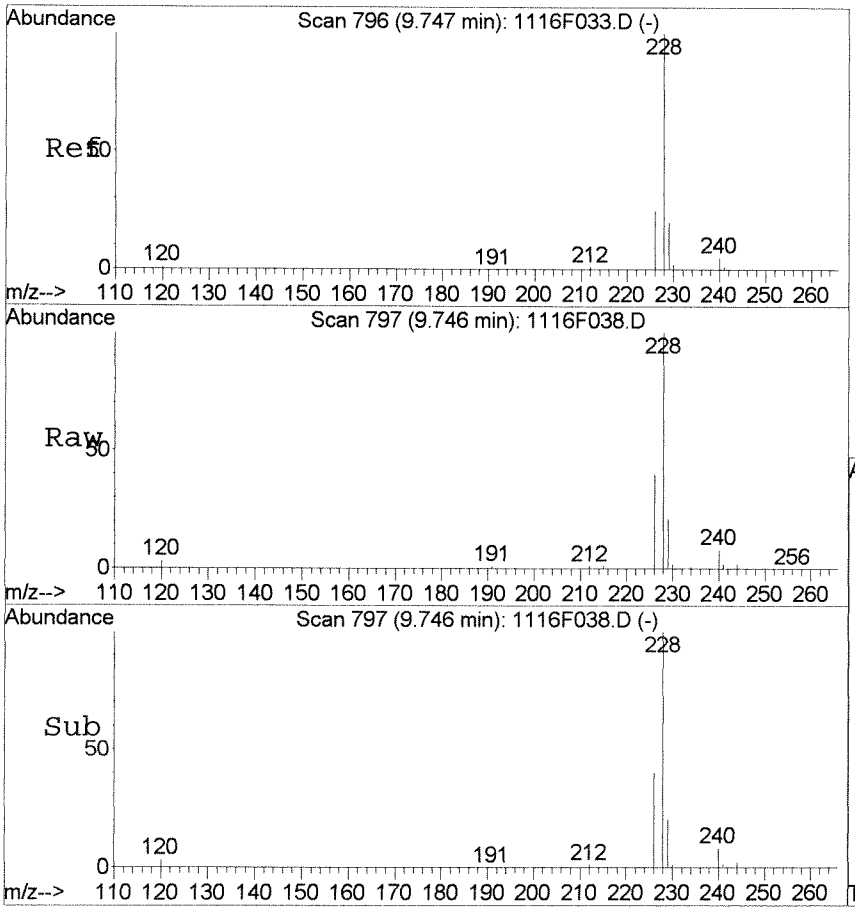


#38
Pyrene
Concen: 441.20 ng/ml
RT: 8.44 min Scan# 640
Delta R.T. 0.02 min
Lab File: 1116F038.D
Acq: 16 Nov 2009 11:33 pm

Tgt Ion:202 Resp: 674948

Ion	Ratio	Lower	Upper
202	100		
101	8.8	0.0	36.4

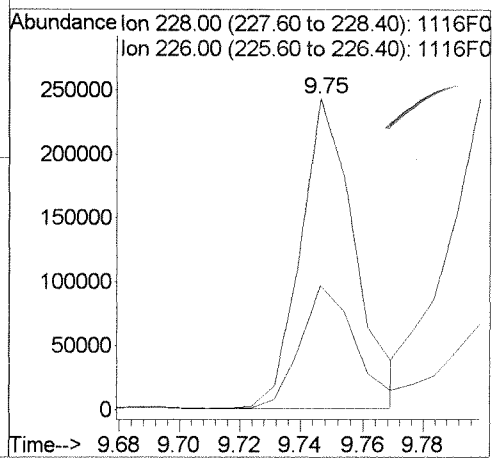


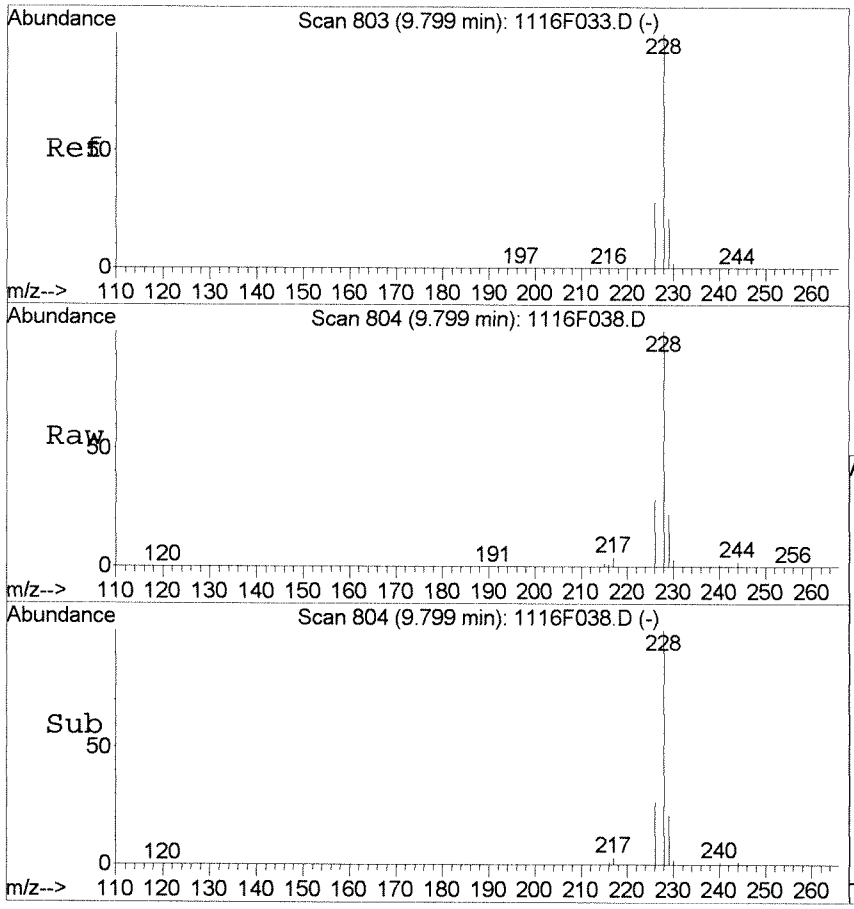


#43
Benz(a)anthracene
Concen: 192.30 ng/ml
RT: 9.75 min Scan# 797
Delta R.T. 0.01 min
Lab File: 1116F038.D
Acq: 16 Nov 2009 11:33 pm

Tgt Ion:228 Resp: 291998

Ion	Ratio	Lower	Upper
228	100		
226	39.7	0.0	55.9

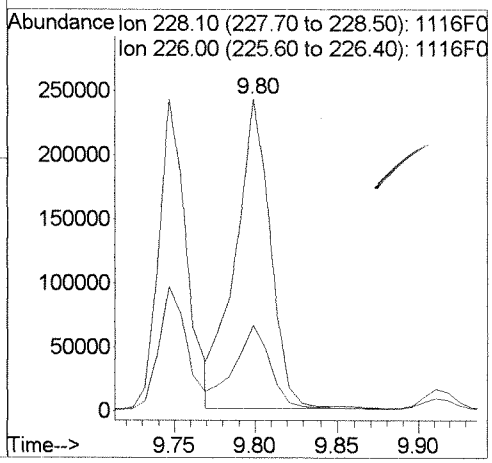


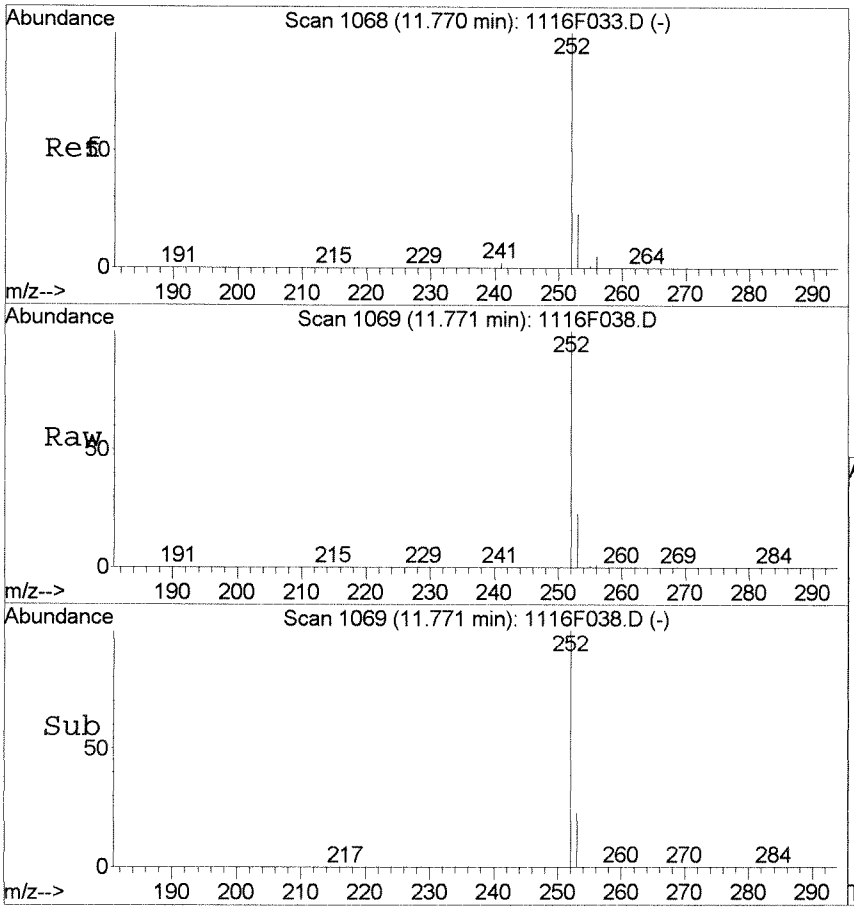


#44
Chrysene
Concen: 247.26 ng/ml
RT: 9.80 min Scan# 804
Delta R.T. 0.01 min
Lab File: 1116F038.D
Acq: 16 Nov 2009 11:33 pm

Tgt Ion:228 Resp: 365714

Ion	Ratio	Lower	Upper
228	100		
226	27.2	0.0	58.8

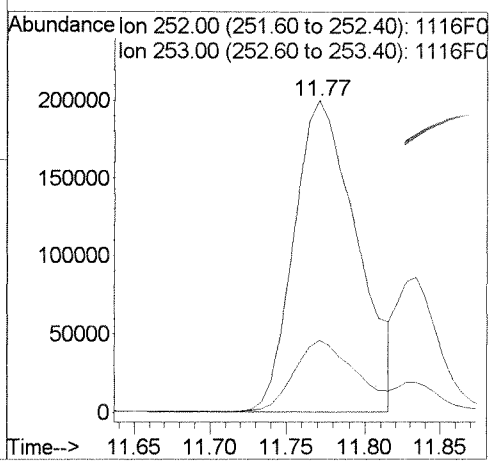


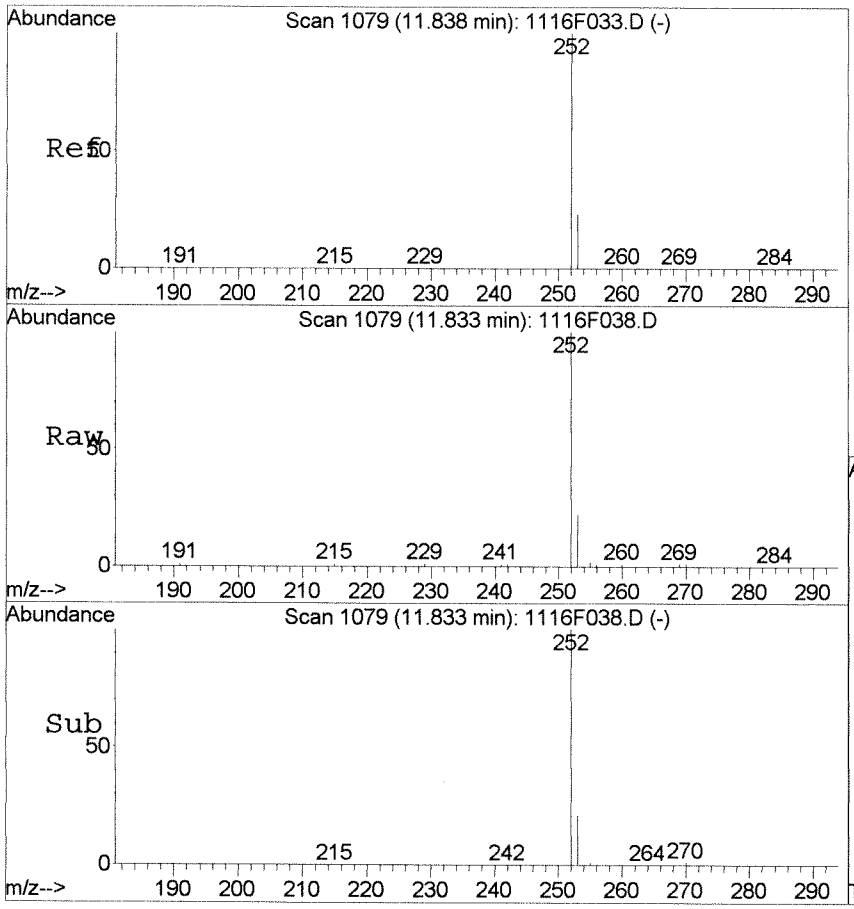


#50
Benzo(b)fluoranthene
Concen: 334.51 ng/ml
RT: 11.77 min Scan# 1069
Delta R.T. 0.03 min
Lab File: 1116F038.D
Acq: 16 Nov 2009 11:33 pm

Tgt Ion:252 Resp: 552496

Ion	Ratio	Lower	Upper
252	100		
253	22.7	0.0	52.8

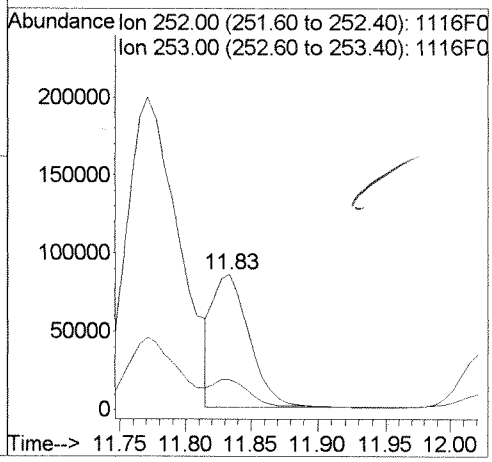


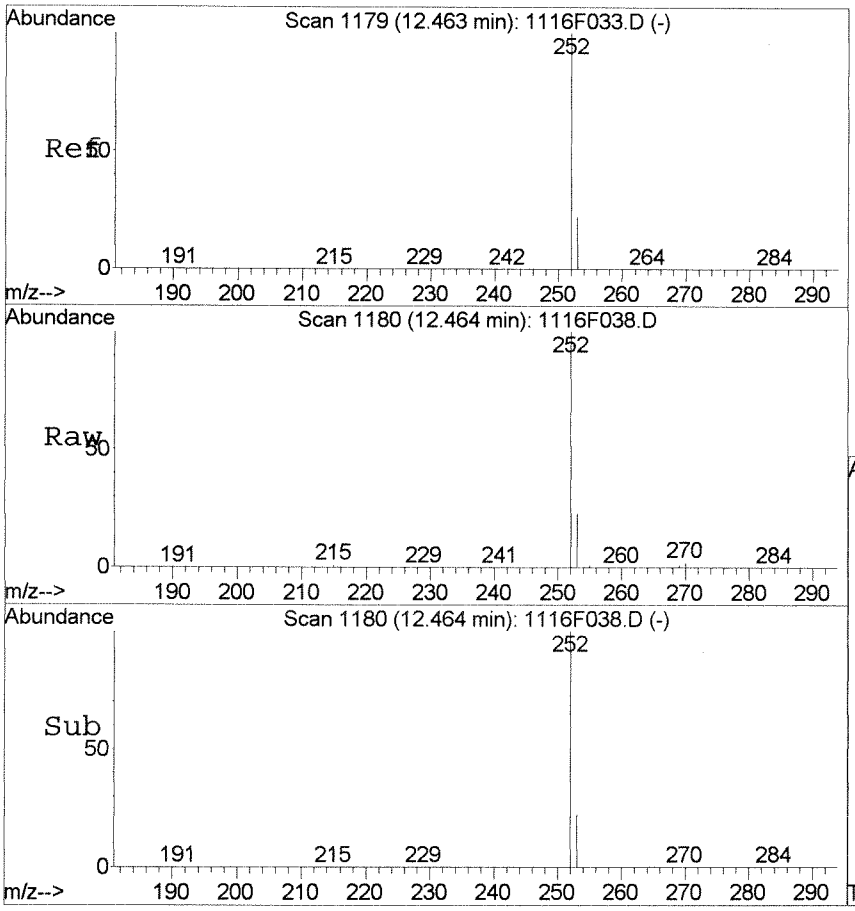


#51
Benzo(k)fluoranthene
Concen: 101.12 ng/ml
RT: 11.83 min Scan# 1079
Delta R.T. 0.02 min
Lab File: 1116F038.D
Acq: 16 Nov 2009 11:33 pm

Tgt Ion:252 Resp: 164550

Ion	Ratio	Lower	Upper
252	100		
253	21.2	0.0	52.5

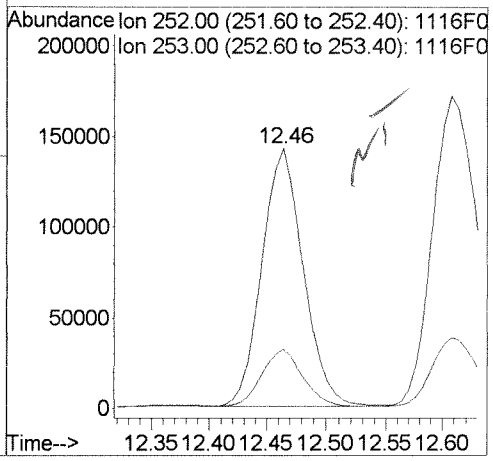


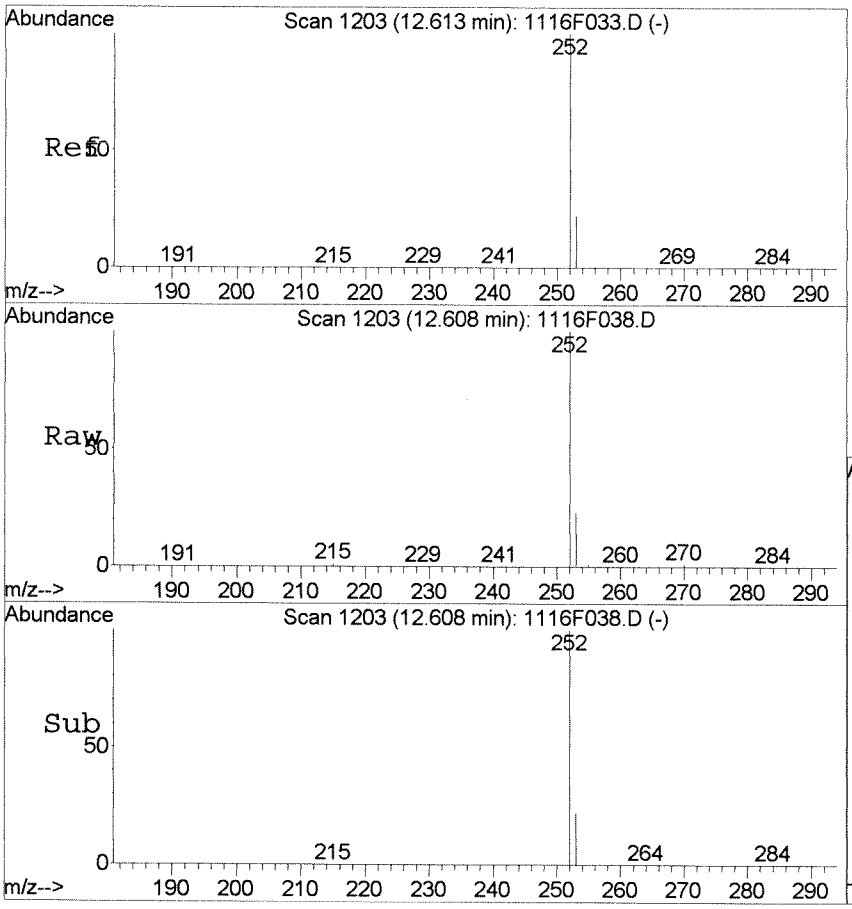


#52
Benzo(e)pyrene
Concen: 227.03 ng/ml
RT: 12.46 min Scan# 1180
Delta R.T. 0.03 min
Lab File: 1116F038.D
Acq: 16 Nov 2009 11:33 pm

Tgt Ion:252 Resp: 351150

Ion	Ratio	Lower	Upper
252	100		
253	22.1	0.0	52.3

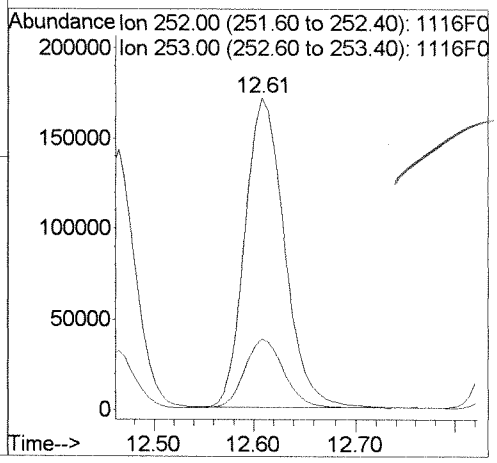


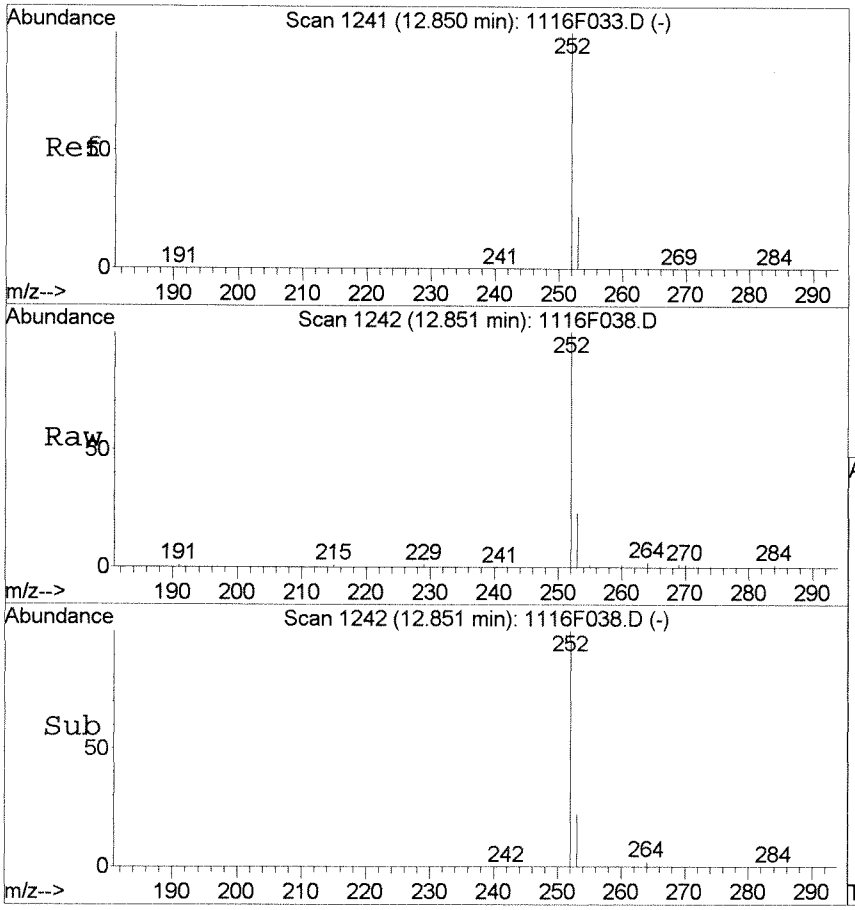


#53
Benzo(a)pyrene
Concen: 299.96 ng/ml
RT: 12.61 min Scan# 1203
Delta R.T. 0.02 min
Lab File: 1116F038.D
Acq: 16 Nov 2009 11:33 pm

Tgt Ion:252 Resp: 469220

Ion	Ratio	Lower	Upper
252	100		
253	22.2	0.0	52.6

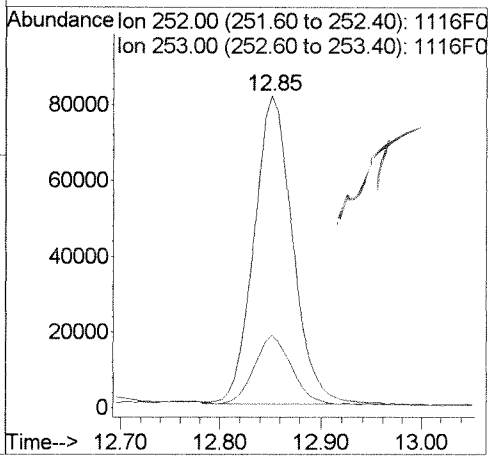


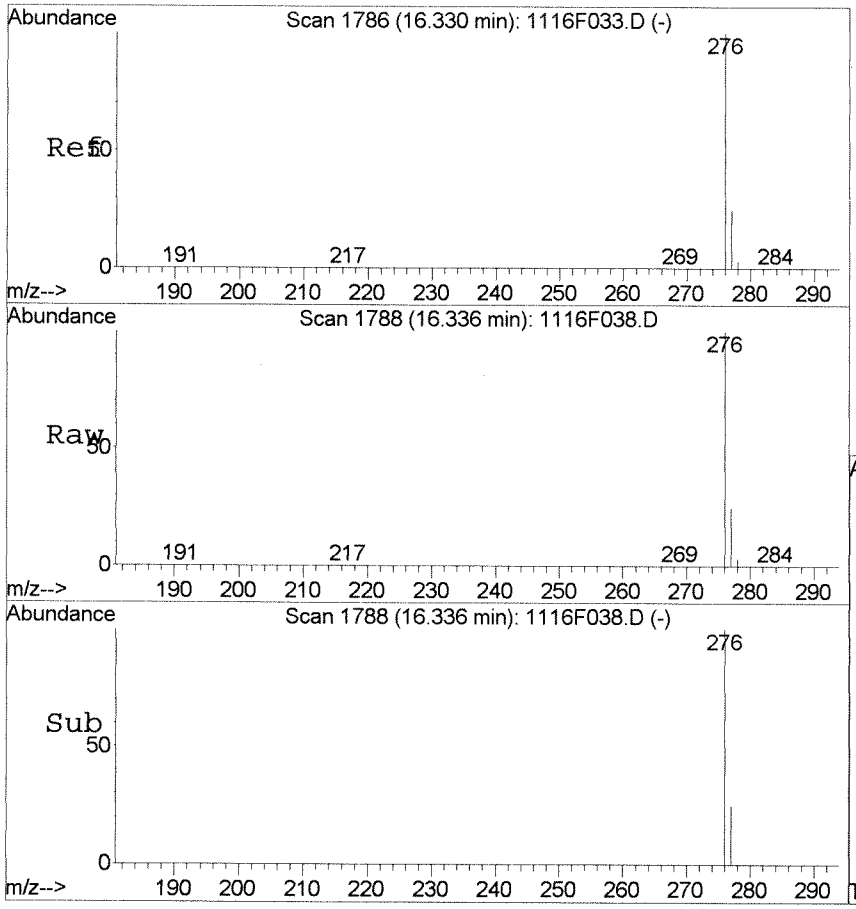


#54
Perylene
Concen: 142.31 ng/ml
RT: 12.85 min Scan# 1242
Delta R.T. 0.03 min
Lab File: 1116F038.D
Acq: 16 Nov 2009 11:33 pm

Tgt Ion:252 Resp: 218224

Ion	Ratio	Lower	Upper
252	100		
253	22.2	0.0	52.0

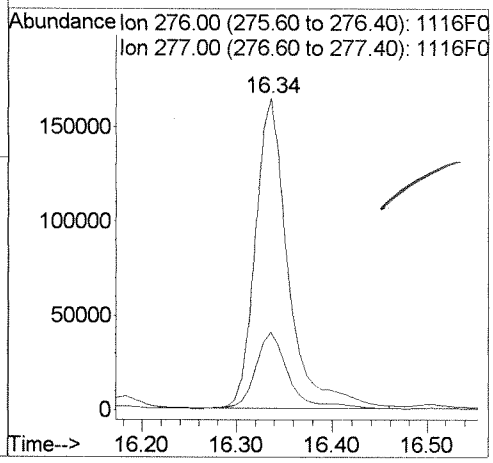


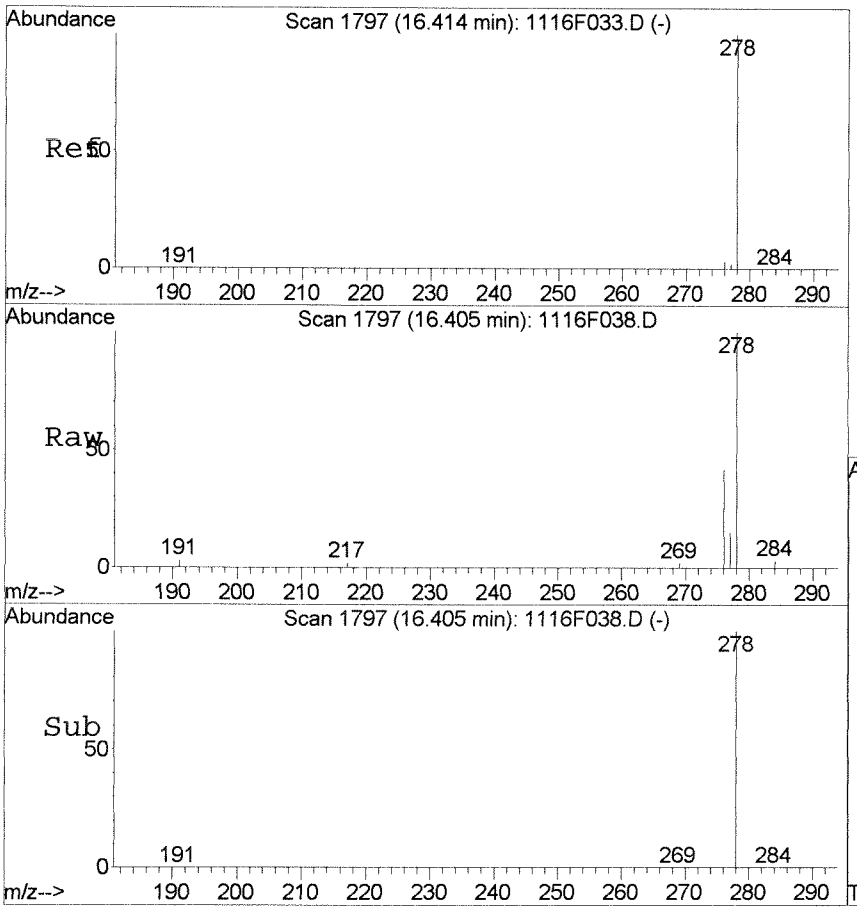


#55
Indeno(1,2,3-cd)pyrene
Concen: 276.29 ng/ml
RT: 16.34 min Scan# 1788
Delta R.T. 0.02 min
Lab File: 1116F038.D
Acq: 16 Nov 2009 11:33 pm

Tgt Ion:276 Resp: 396488

Ion	Ratio	Lower	Upper
276	100		
277	24.5	0.0	55.1

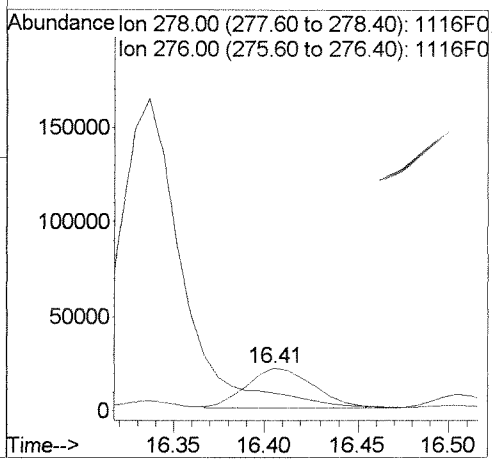


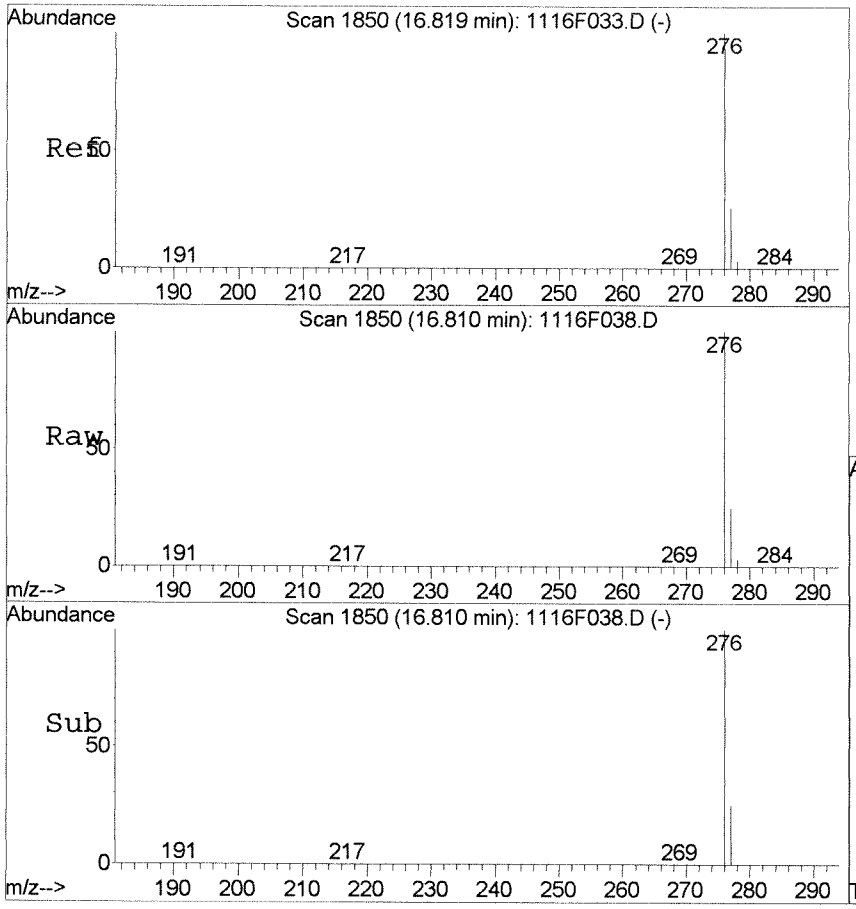


#56
Dibenz(a,h)anthracene
Concen: 33.99 ng/ml
RT: 16.41 min Scan# 1797
Delta R.T. 0.02 min
Lab File: 1116F038.D
Acq: 16 Nov 2009 11:33 pm

Tgt Ion:278 Resp: 52550

Ion	Ratio	Lower	Upper
278	100		
276	35.5	0.0	52.1

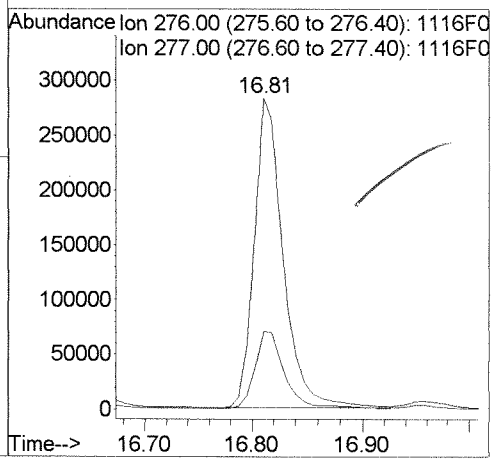




#57
Benzo(g,h,i)perylene
Concen: 318.12 ng/ml
RT: 16.81 min Scan# 1850
Delta R.T. 0.02 min
Lab File: 1116F038.D
Acq: 16 Nov 2009 11:33 pm

Tgt Ion:276 Resp: 525795

Ion	Ratio	Lower	Upper
276	100		
277	24.7	0.0	55.7

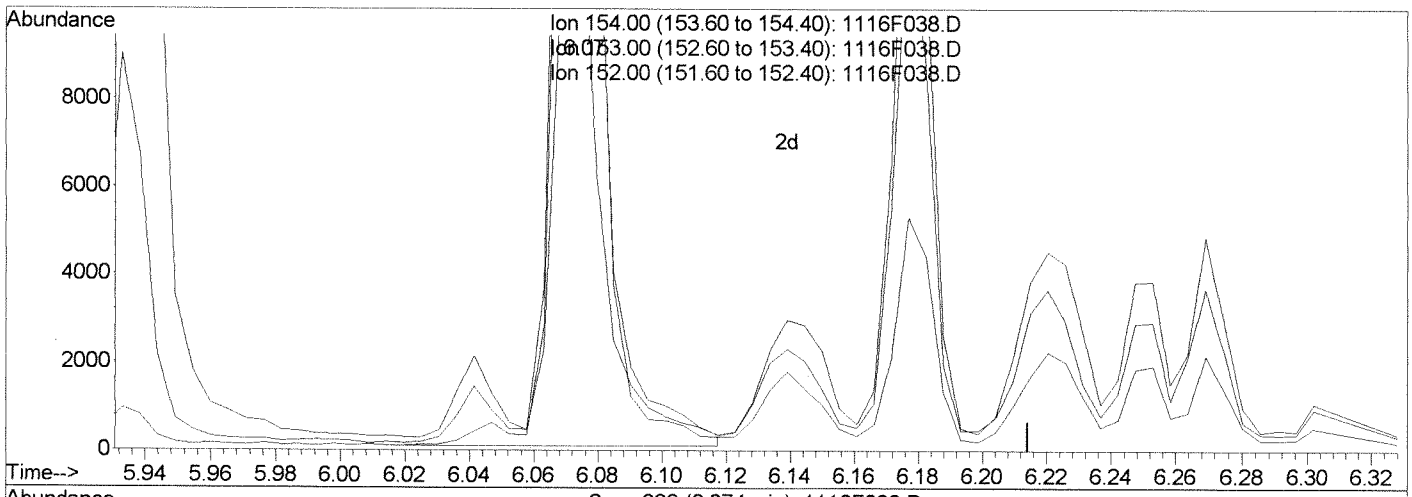


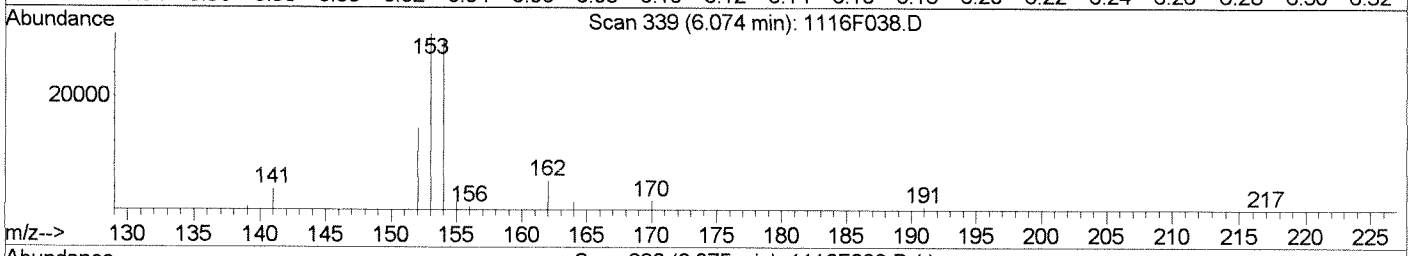
Quantitation Report (Qedit)

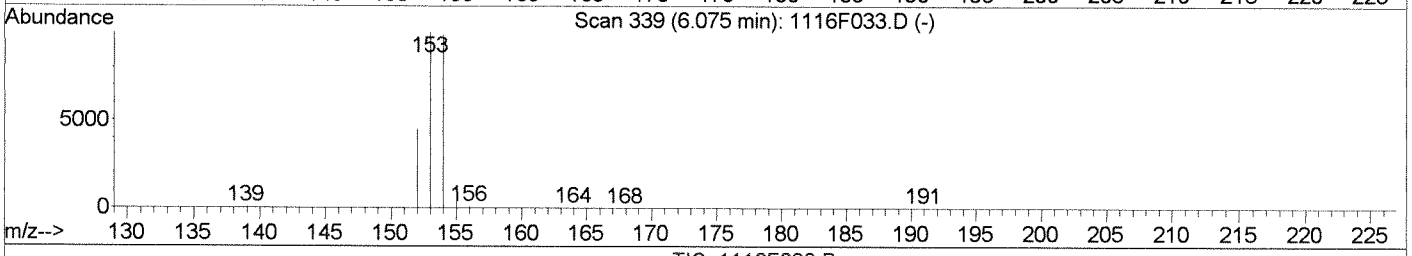
Data File : J:\MS11\DATA\111609\1116F038.D
Acq On : 16 Nov 2009 11:33 pm
Sample : K0909140-016
Misc :
MS Integration Params: RTEINT.P
Quant Time: Nov 18 12:17 2009

Vial: 34
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Wed Nov 18 12:17:22 2009
Response via : Multiple Level Calibration







TIC: 1116F038.D

(12) Acenaphthene (T)

6.07min 46.35ng/ml

response 23841

Ion	Exp%	Act%
154.00	100	100
153.00	107.80	102.79
152.00	54.70	47.10
0.00	0.00	0.00

OI 11/18/09

1116F038.D 1015ALK.M Wed Nov 18 12:22:25 2009

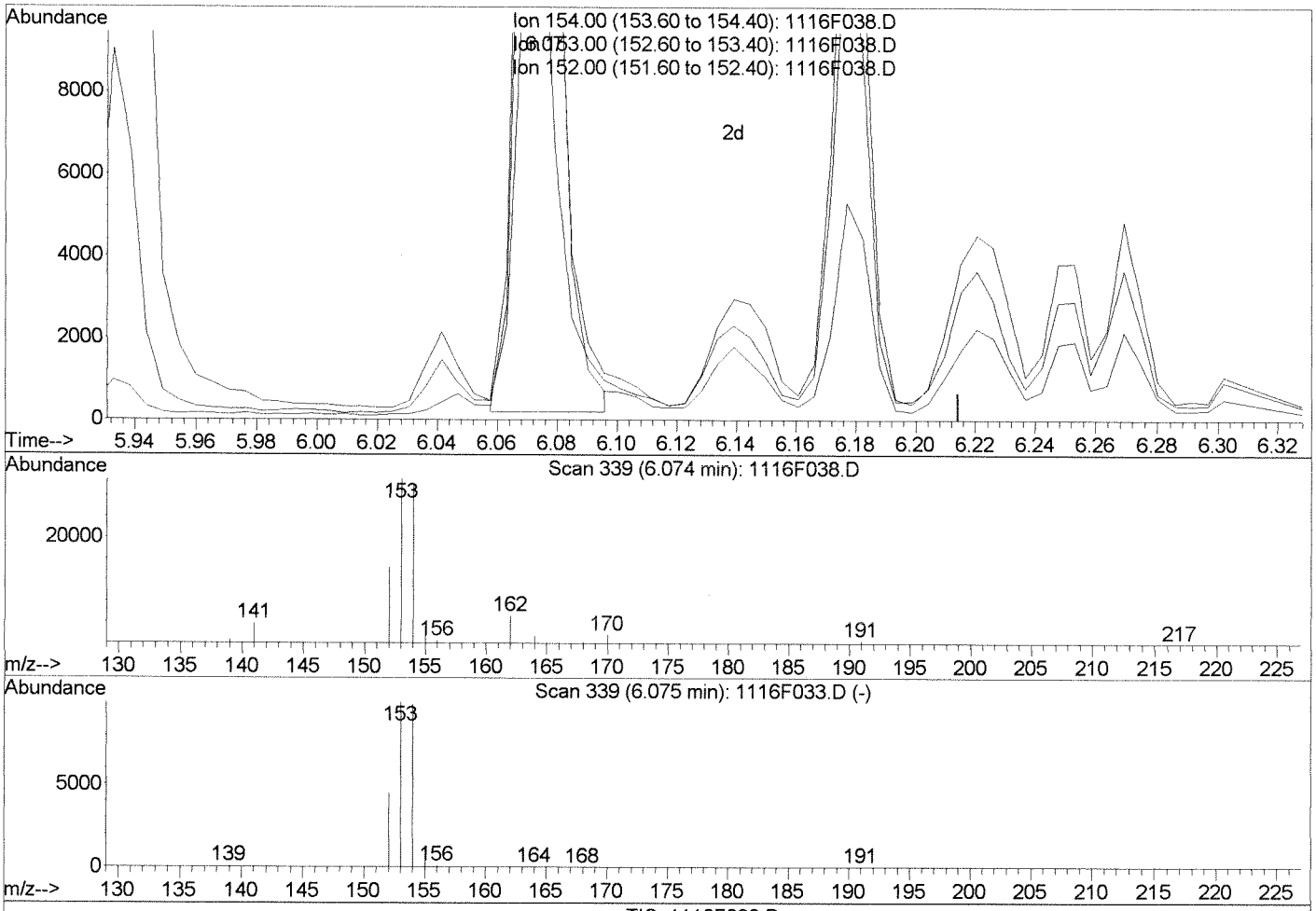
Quantitation Report (Qedit)

Data File : J:\MS11\DATA\111609\1116F038.D
Acq On : 16 Nov 2009 11:33 pm
Sample : K0909140-016
Misc :
MS Integration Params: RTEINT.P
Quant Time: Nov 18 12:22 2009

Vial: 34
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Wed Nov 18 12:17:22 2009
Response via : Multiple Level Calibration



TIC: 1116F038.D

(12) Acenaphthene (T)

6.07min 44.09ng/ml m

response 22680

Ion	Exp%	Act%
154.00	100	100
153.00	107.80	103.05
152.00	54.70	48.02
0.00	0.00	0.00

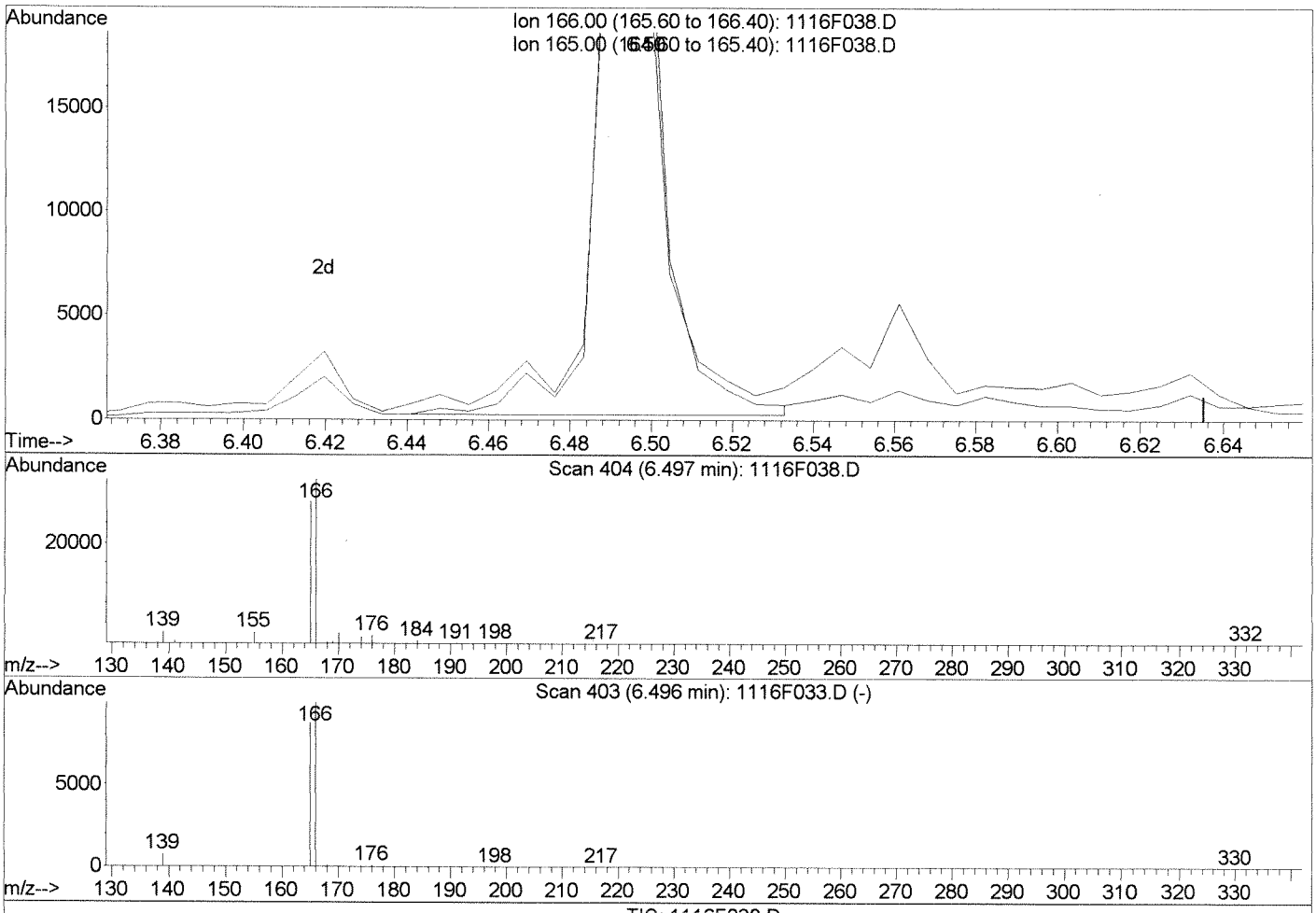
OI 11/18/09

11-19-09

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\111609\1116F038.D Vial: 34
Acq On : 16 Nov 2009 11:33 pm Operator: LWeiskopf
Sample : K0909140-016 Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 18 12:22 2009 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Wed Nov 18 12:17:22 2009
Response via : Multiple Level Calibration



(16) Fluorene (T)

6.50min 62.21ng/ml

response 34500

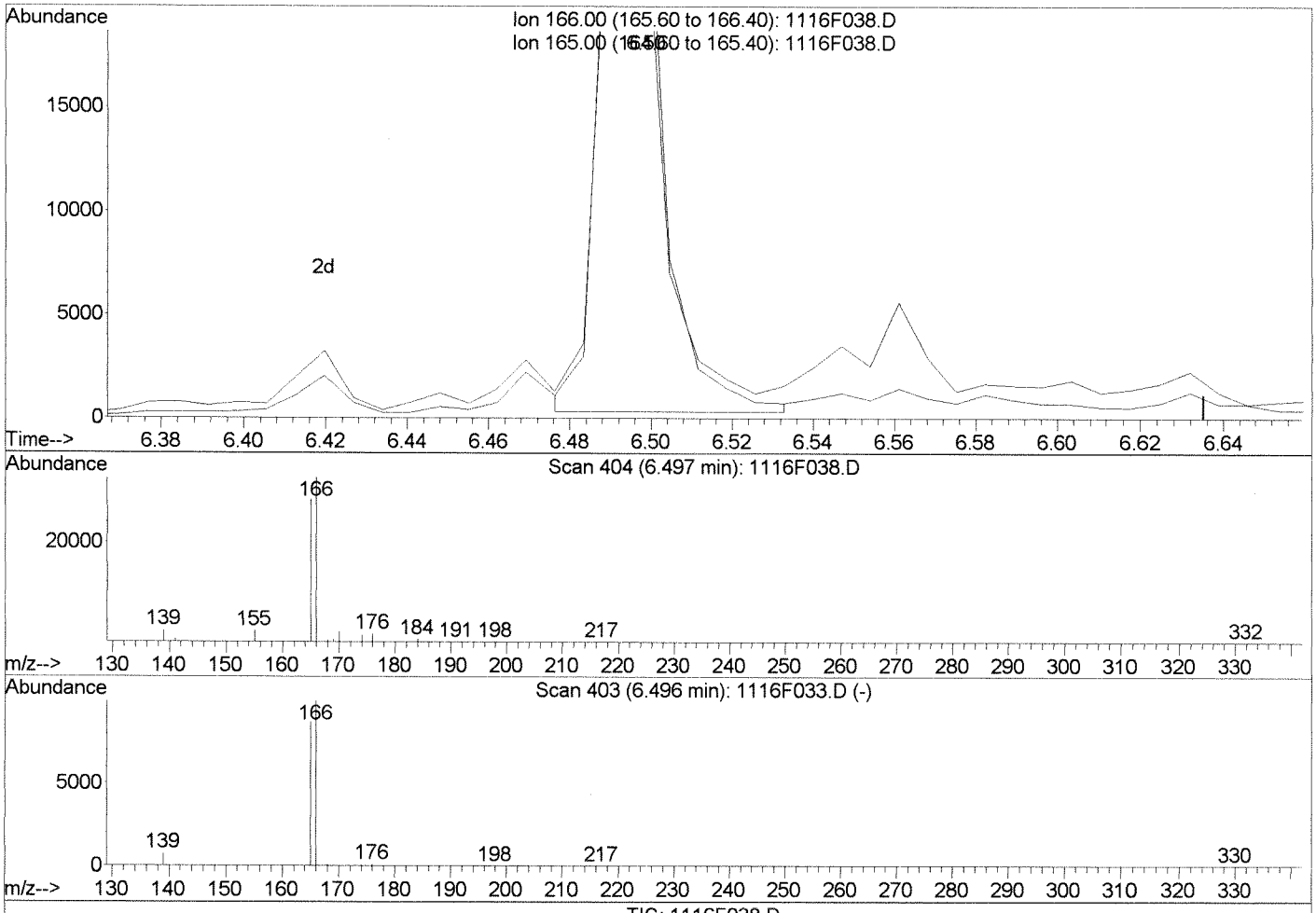
Ion	Exp%	Act%
166.00	100	100
165.00	87.80	85.18
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\111609\1116F038.D
Acq On : 16 Nov 2009 11:33 pm
Sample : K0909140-016
Misc :
MS Integration Params: RTEINT.P
Quant Time: Nov 18 12:22 2009

Vial: 34
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Wed Nov 18 12:17:22 2009
Response via : Multiple Level Calibration



TIC: 1116F038.D

(16) Fluorene (T)

6.50min 59.15ng/ml m

response 32804

Ion	Exp%	Act%
166.00	100	100
165.00	87.80	86.80
0.00	0.00	0.00
0.00	0.00	0.00

OI 11/18/09
M 11-19-09

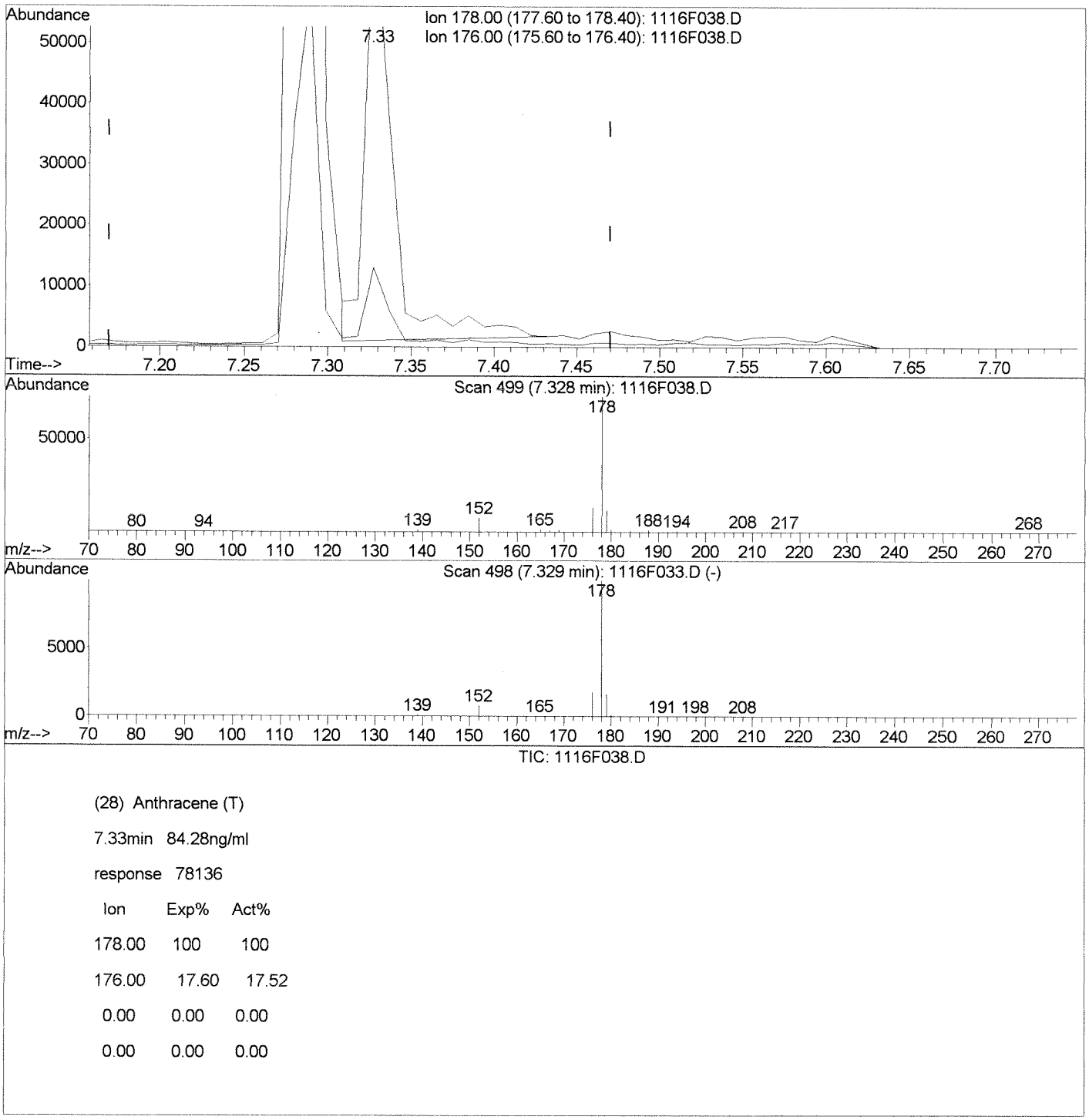
1116F038.D 1015ALK.M Wed Nov 18 12:22:39 2009

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\111609\1116F038.D
Acq On : 16 Nov 2009 11:33 pm
Sample : K0909140-016
Misc :
MS Integration Params: RTEINT.P
Quant Time: Nov 18 12:22 2009

Vial: 34
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Wed Nov 18 12:17:22 2009
Response via : Multiple Level Calibration



TIC: 1116F038.D

(28) Anthracene (T)

7.33min 84.28ng/ml

response 78136

Ion	Exp%	Act%
178.00	100	100
176.00	17.60	17.52
0.00	0.00	0.00
0.00	0.00	0.00

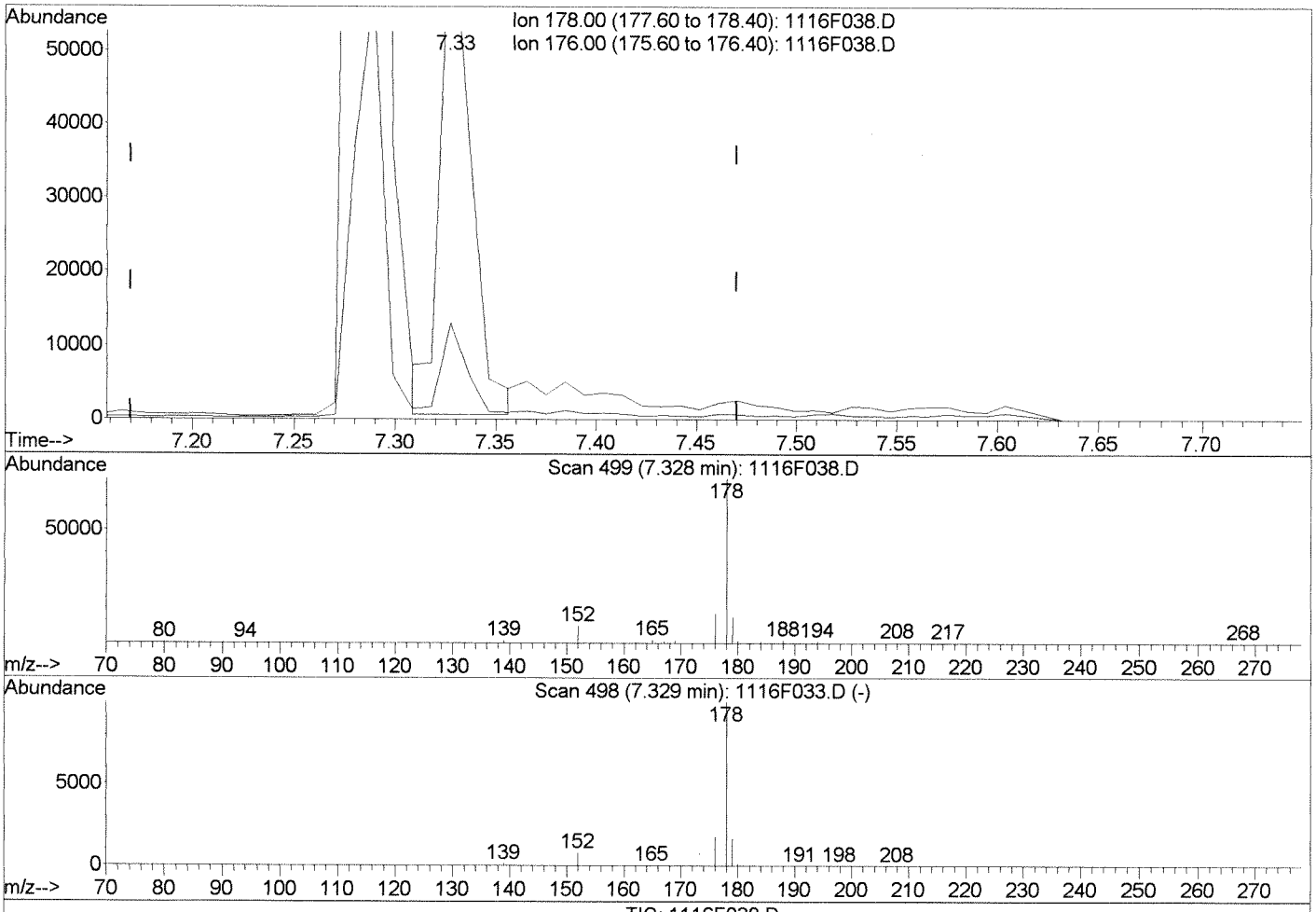
1116F038.D 1015ALK.M Wed Nov 18 12:22:48 2009

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\111609\1116F038.D
Acq On : 16 Nov 2009 11:33 pm
Sample : K0909140-016
Misc :
MS Integration Params: RTEINT.P
Quant Time: Nov 18 12:22 2009

Vial: 34
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Wed Nov 18 12:17:22 2009
Response via : Multiple Level Calibration



TIC: 1116F038.D

(28) Anthracene (T)

7.33min 76.03ng/ml m

response 70494

Ion	Exp%	Act%
178.00	100	100
176.00	17.60	17.85
0.00	0.00	0.00
0.00	0.00	0.00

OI 11/18/09
M 11-19-09

1116F038.D 1015ALK.M Wed Nov 18 12:22:54 2009

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009
Sample Matrix: Sediment

Service Request: K0909140
Date Collected: 09/28/2009
Date Received: 09/29/2009

Polynuclear Aromatic Hydrocarbons

Sample Name: M-5-C
Lab Code: K0909140-017

Units: ug/Kg
Basis: Dry

Extraction Method: EPA 3541
Analysis Method: 8270C SIM

Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Naphthalene	**110**		2.5	0.60	1	11/10/09	11/17/09	KWG0910535	
2-Methylnaphthalene	**35**		2.5	0.46	1	11/10/09	11/17/09	KWG0910535	
Acenaphthylene	**32**		2.5	0.56	1	11/10/09	11/17/09	KWG0910535	
Acenaphthene	**23**		2.5	0.50	1	11/10/09	11/17/09	KWG0910535	
Fluorene	**30**		2.5	0.61	1	11/10/09	11/17/09	KWG0910535	
Dibenzofuran	**20**		2.5	0.63	1	11/10/09	11/17/09	KWG0910535	
Phenanthrene	**170**		2.5	1.4	1	11/10/09	11/17/09	KWG0910535	
Anthracene	**35**		2.5	0.55	1	11/10/09	11/17/09	KWG0910535	
Fluoranthene	**270**		2.5	0.98	1	11/10/09	11/17/09	KWG0910535	
Pyrene	**220**		2.5	0.76	1	11/10/09	11/17/09	KWG0910535	
Benz(a)anthracene	**110**		2.5	0.72	1	11/10/09	11/17/09	KWG0910535	
Chrysene	**130**		2.5	0.80	1	11/10/09	11/17/09	KWG0910535	
Benzo(b)fluoranthene	**180**		2.5	0.92	1	11/10/09	11/17/09	KWG0910535	
Benzo(k)fluoranthene	**61**		2.5	0.87	1	11/10/09	11/17/09	KWG0910535	
Benzo(a)pyrene	**170**		2.5	0.76	1	11/10/09	11/17/09	KWG0910535	
Indeno(1,2,3-cd)pyrene	**140**		2.5	0.87	1	11/10/09	11/17/09	KWG0910535	
Dibenz(a,h)anthracene	**18**		2.5	0.80	1	11/10/09	11/17/09	KWG0910535	
Benzo(g,h,i)perylene	**160**		2.5	0.85	1	11/10/09	11/17/09	KWG0910535	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	82	17-104	11/17/09	Acceptable
Fluoranthene-d10	84	27-106	11/17/09	Acceptable
Terphenyl-d14	68	35-109	11/17/09	Acceptable

Comments:

Exception Report

Data File: J:\MS11\DATA\111609\1116F039.D
Lab ID: K0909140-017
RunType: SMPL
Matrix: SEDIMENT

Date Acquired: 11/17/2009 00:00
Date Quantitated: 11/18/2009 12:24
Batch ID: KWG0910855
Analysis Method: 8270C SIM
ListJoinID: LJ5646

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Tune Window	NA	NA	NA	x	
Analytical Holding Time	NA	NA	NA	x	
Preparation Holding Time	NA	NA	NA	x	
Pre-Preparation Holding Time	NA	NA	NA	x	
ICAL Pass/Fail	NA	NA	NA	x	
ICAL Average RSD	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Initial Calibration Minimum RF	NA	NA	NA	x	
Initial Calibration SPCC/CCC	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA	x	
Continuing Calibration Minimum RF	NA	NA	NA	x	
Continuing Calibration SPCC/CCC	NA	NA	NA	x	
Method Blank	NA	NA	NA	x	
MB Surrogate Recovery	NA	NA	NA	x	
Lab Control Spike	NA	NA	NA	x	
Duplicate Lab Control Spike	NA	NA	NA	x	
Internal Standards	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Relative Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Primary Review: 11/18/09

Secondary Review: 11-18-09

Quantitation Report

Bottle ID:		**Tier:**	V	**Matrix:**	SEDIMENT
Prod Code:	8270C SIM PAH_S	**Collect Date:**	09/28/2009	**Receive Date:**	09/29/2009

Analysis Lot:	KWG0910855	**Prep Lot:**	KWG0910535	**Report Group:**	K0909140
Analysis Method:	8270C SIM	**Prep Method:**	EPA 3541		
Prep Ref:	865770	**Prep Date:**	11/10/2009		

Quant Method:	J:\MS11\METHODS\SIM\1015ALK.M	**Calibration ID:**	CAL8928
Title:	Polynuclear Aromatic Hydrocarbons	**Report List ID:**	LJ5646
Tune Ref:	J:\MS11\DATA\111609\1116F032.D	**Method ID:**	MJ253
MB Ref:	J:\MS11\DATA\111609\1116F004.D	**Quant based on Report List**	

Data File:	J:\MS11\DATA\111609\1116F039.D			**Instrument:**	MS11
Acqu Date:	11/17/2009 00:00	**Quant Date:**	11/18/2009 12:24	**Vial:**	35
Run Type:	SMPL			**Dilution:**	1.0
Lab ID:	K0909140-017			**Soln Conc. Units:**	ng/ml

Internal Standard Compounds

IS Ref	Parameter Name	RT	RT Dev	Quant Mass	Response	Solution Conc	Area Criteria
1	Naphthalene-d8	4.63	0.00	136	178552	200.00	OK
2	Acenaphthene-d10	6.05	0.00	164	99436	200.00	OK
3	Phenanthrene-d10	7.27	0.00	188	163724	200.00	OK
4	Chrysene-d12	9.76	0.00	240	283303	200.00	OK
5	Perylene-d12	12.77	-0.01	264	324903	200.00	OK

Surrogate Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	%Rec	%Rec Limits		Rpt?
2	Fluorene-d10	6.47	0.00	0.00	176	76538	164.98	82	17-104	OK	
3	Fluoranthene-d10	8.24	0.00	0.00	212	153182	168.84	84	27-106	OK	
4	Terphenyl-d14	8.59	0.01	0.00	244	158477	135.31	68	35-109	OK	

Target Compounds

Final Conc. Units: ug/Kg Dry Weight

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	Final Conc	Q	Rpt?
1	Naphthalene	4.64	-0.01	0.00	128	177078	215.52	110		
1	2-Methylnaphthalene	5.21		0.00	142	39559	69.86	35		
2	Acenaphthylene	5.93		0.00	152	54923	63.65	32		
2	Acenaphthene	6.07		0.00	154	24052**m**	46.75	23		
2	Dibenzofuran	6.22		0.00	168	28245	40.82	20		
2	Fluorene	6.50		0.00	166	32937**m**	59.38	30		
3	Phenanthrene	7.28	-0.01	0.00	178	313261	341.15	170		
3	Anthracene	7.33		0.00	178	61351	69.88	35		
3	Fluoranthene	8.25		0.00	202	547696	542.96	270		
4	Pyrene	8.44		0.00	202	699692	451.04	220		
4	Benz(a)anthracene	9.75		0.00	228	341865	222.02	110		
4	Chrysene	9.80		0.00	228	406456	271.00	130		
5	Benzo(b)fluoranthene	11.77		0.00	252	610092	359.96	180		

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Data File:	J:\MS11\DATA\111609\1116F039.D			**Instrument:**	MS11
Acqu Date:	11/17/2009 00:00	**Quant Date:**	11/18/2009 12:24	**Vial:**	35
Run Type:	SMPL			**Dilution:**	1.0
Lab ID:	K0909140-017			**Soln Conc. Units:**	ng/ml

Target Compounds **Final Conc. Units:** ug/Kg Dry Weight

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	Final Conc	Q	Rpt?
5	Benzo(k)fluoranthene	11.83	-0.01	0.00	252	205514	123.08	61		
5	Benzo(a)pyrene	12.61		0.00	252	540054	336.44	170		
5	Indeno(1,2,3-cd)pyrene	16.33		0.00	276	406557**m**	276.08	140		
5	Dibenz(a,h)anthracene	16.40	-0.01	0.00	278	57815	36.44	18		
5	Benzo(g,h,i)perylene	16.81	-0.01	0.00	276	562046	331.37	160		

Prep Amount:	20.19 g	**Dilution:**	1.0
Prep Final Vol:	10 ml	**Unit Factor:**	1
Solids:	99.6 %		

Final Concentration = ((Soln Conc x Prep Final Vol x Dilution) / (Prep Amount x Solids)) x Unit Factor

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\111609\1116F039.D Vial: 35
Acq On : 17 Nov 2009 12:00 am Operator: LWeiskopf
Sample : K0909140-017 Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 18 12:17:46 2009 Quant Results File: 1015ALK.RES

Quant Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Wed Nov 18 12:17:22 2009
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	4.63	136	178552	200.00	ng/ml	0.00
10) Acenaphthene-d10	6.05	164	99436	200.00	ng/ml	0.00
22) Phenanthrene-d10	7.27	188	163724	200.00	ng/ml	0.00
37) Chrysene-d12	9.76	240	283303	200.00	ng/ml	0.00
49) Perylene-d12	12.77	264	324903	200.00	ng/ml	0.01
System Monitoring Compounds						
15) Fluorene-d10	6.47	176	76538	164.98	ng/ml	0.00
Spiked Amount 200.000			Recovery = 82.49%			
20) 2,4,6 Tribromophenol	0.00	330	0d	0.00	ng/ml	
Spiked Amount 375.000			Recovery = 0.00%			
36) Fluoranthene-d10	8.24	212	153182	168.84	ng/ml	0.00
Spiked Amount 200.000			Recovery = 84.42%			
42) Terphenyl-d14	8.59	244	158477	135.31	ng/ml	0.00
Spiked Amount 200.000			Recovery = 67.66%			
Target Compounds						Qvalue
2) Naphthalene	4.64	128	177078	215.52	ng/ml	98
3) 2-Methylnaphthalene	5.21	142	39559	69.86	ng/ml	93
4) 1-Methylnaphthalene	5.28	142	20209	33.57	ng/ml	92
5) Biphenyl	5.58	154	15504	24.01	ng/ml	99
6) 2,6-Dimethylnaphthalene	5.77	156	20684	46.46	ng/ml	90
11) Acenaphthylene	5.93	152	54923	63.65	ng/ml	99
12) Acenaphthene	6.07	154	24052m	46.75	ng/ml	
13) Dibenzofuran	6.22	168	28245	40.82	ng/ml#	54
14) 2,3,5-Trimethylnaphthalene	6.38	170	13090	30.29	ng/ml	96
16) Fluorene	6.50	166	32937m	59.38	ng/ml	
23) Dibenzothiophene	7.19	184	20205	24.41	ng/ml	93
27) Phenanthrene	7.28	178	313261	341.15	ng/ml	99
28) Anthracene	7.33	178	61351	69.88	ng/ml	98
29) Carbazole	7.48	167	8245	10.99	ng/ml	94
30) 1-Methylphenanthrene	7.78	192	42922	65.28	ng/ml	95
35) Fluoranthene	8.25	202	547696	542.96	ng/ml	86
38) Pyrene	8.44	202	699692	451.04	ng/ml	84
43) Benz(a)anthracene	9.75	228	341865	222.02	ng/ml	60
44) Chrysene	9.80	228	406456	271.00	ng/ml	96
50) Benzo(b)fluoranthene	11.77	252	610092	359.96	ng/ml	98
51) Benzo(k)fluoranthene	11.83	252	205514	123.08	ng/ml	99
52) Benzo(e)pyrene	12.46	252	391349	246.56	ng/ml	100
53) Benzo(a)pyrene	12.61	252	540054	336.44	ng/ml	100
54) Perylene	12.85	252	267772	170.17	ng/ml	100
55) Indeno(1,2,3-cd)pyrene	16.33	276	406557m	276.08	ng/ml	

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\111609\1116F039.D Vial: 35
Acq On : 17 Nov 2009 12:00 am Operator: LWeiskopf
Sample : K0909140-017 Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 18 12:17:46 2009 Quant Results File: 1015ALK.RES

Quant Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Wed Nov 18 12:17:22 2009
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

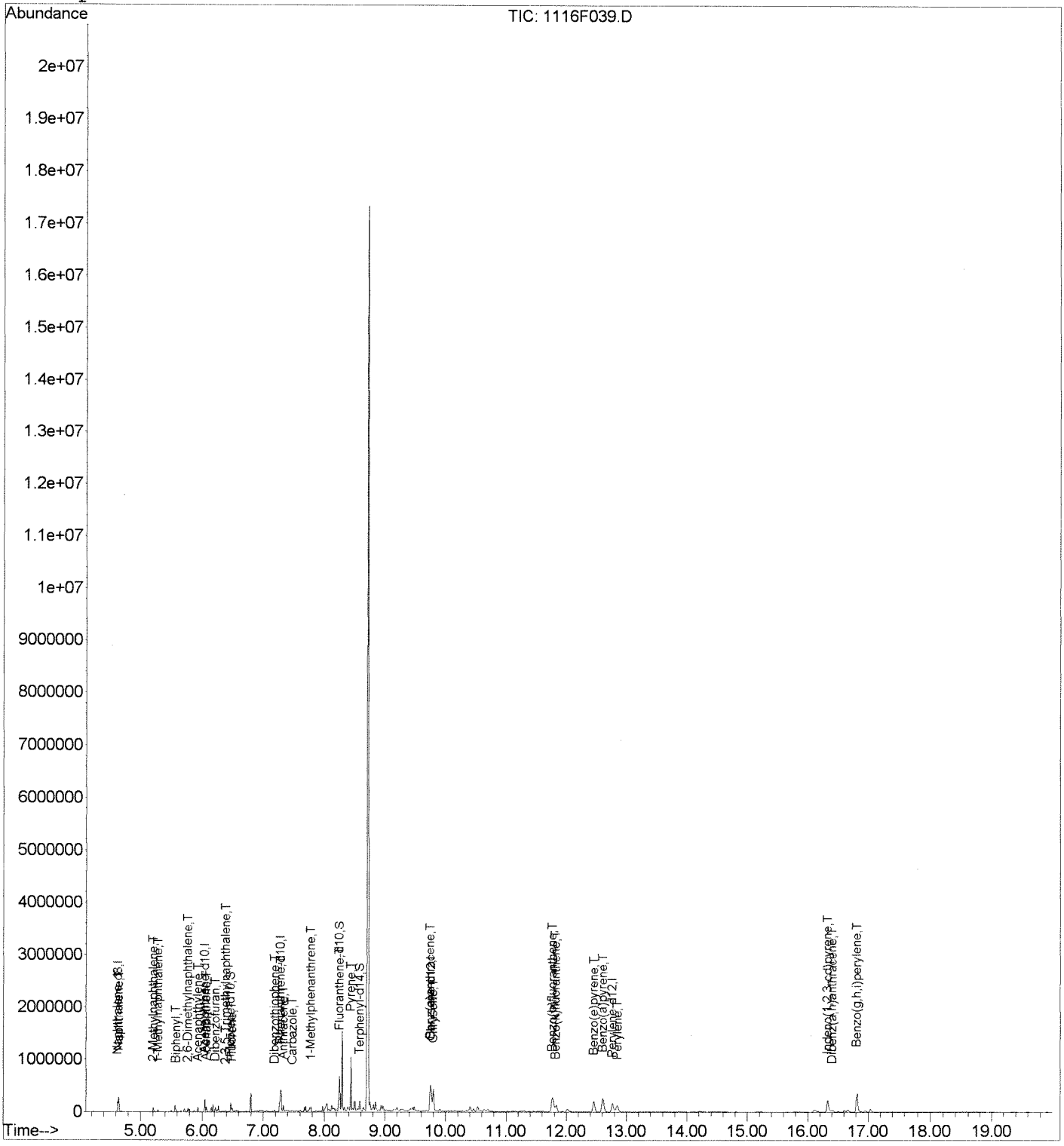
	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
56)	Dibenz(a,h)anthracene	16.40	278	57815	36.44	ng/ml	73
57)	Benzo(g,h,i)perylene	16.81	276	562046	331.37	ng/ml	98

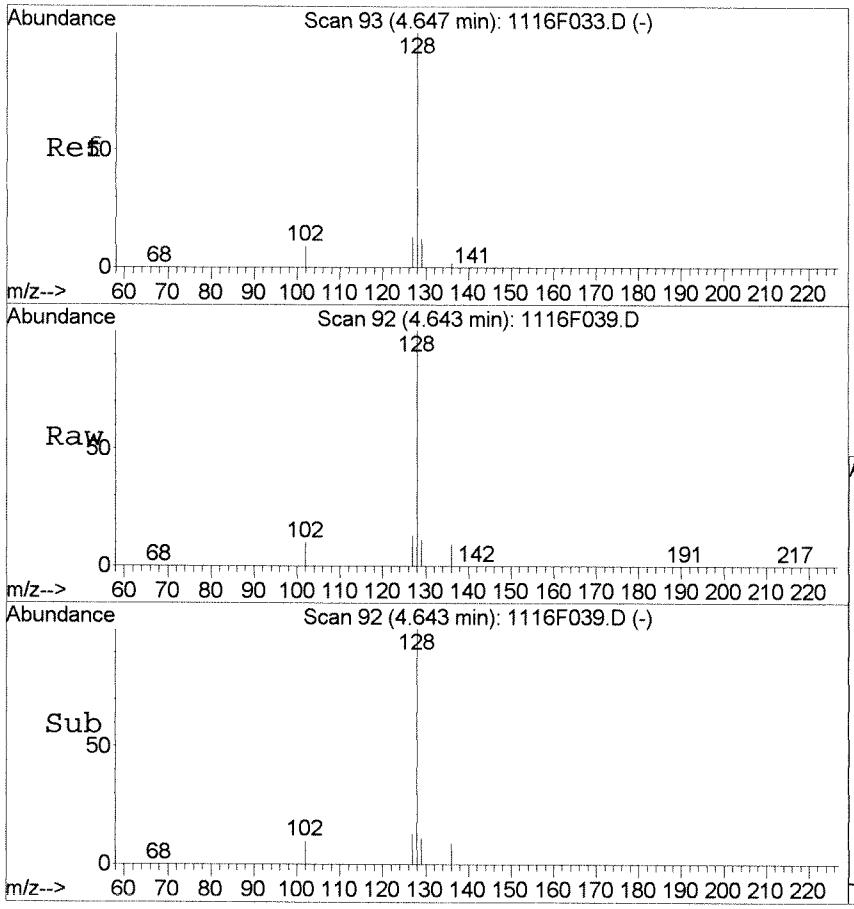
(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\111609\1116F039.D Vial: 35
Acq On : 17 Nov 2009 12:00 am Operator: LWeiskopf
Sample : K0909140-017 Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 18 12:24 2009 Quant Results File: 1015ALK.RES

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Wed Nov 18 12:17:22 2009
Response via : Initial Calibration

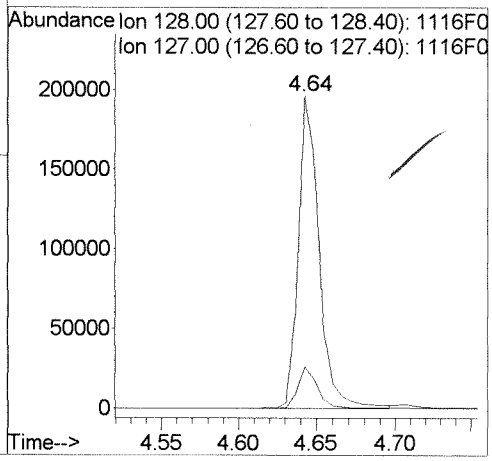


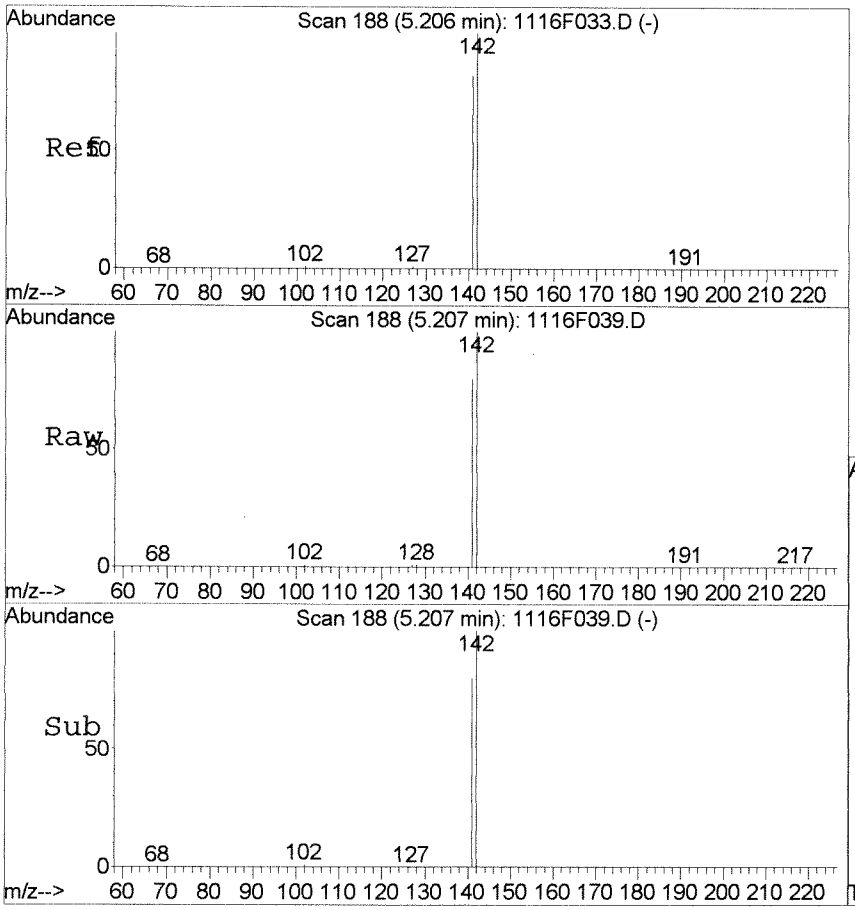


#2
Naphthalene
Concen: 215.52 ng/ml
RT: 4.64 min Scan# 92
Delta R.T. 0.01 min
Lab File: 1116F039.D
Acq: 17 Nov 2009 12:00 am

Tgt Ion:128 Resp: 177078

Ion	Ratio	Lower	Upper
128	100		
127	13.3	0.0	42.4

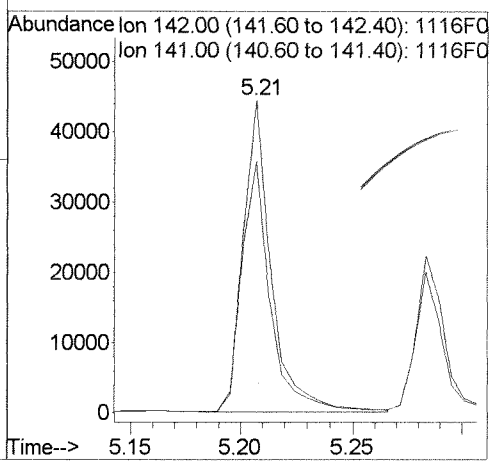


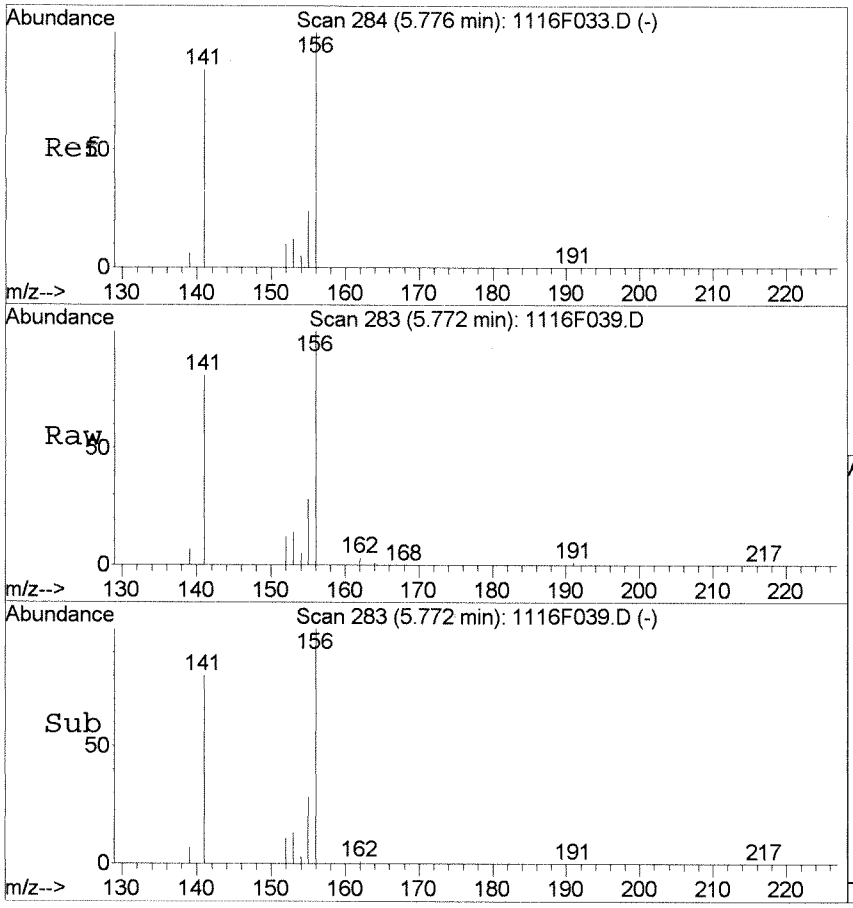


#3
2-Methylnaphthalene
Concen: 69.86 ng/ml
RT: 5.21 min Scan# 188
Delta R.T. 0.01 min
Lab File: 1116F039.D
Acq: 17 Nov 2009 12:00 am

Tgt Ion:142 Resp: 39559

Ion	Ratio	Lower	Upper
142	100		
141	80.1	56.1	116.1

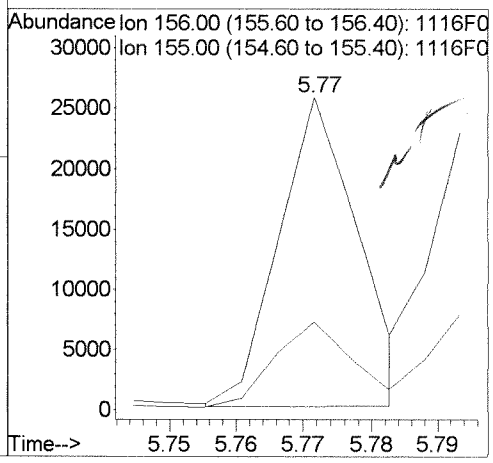


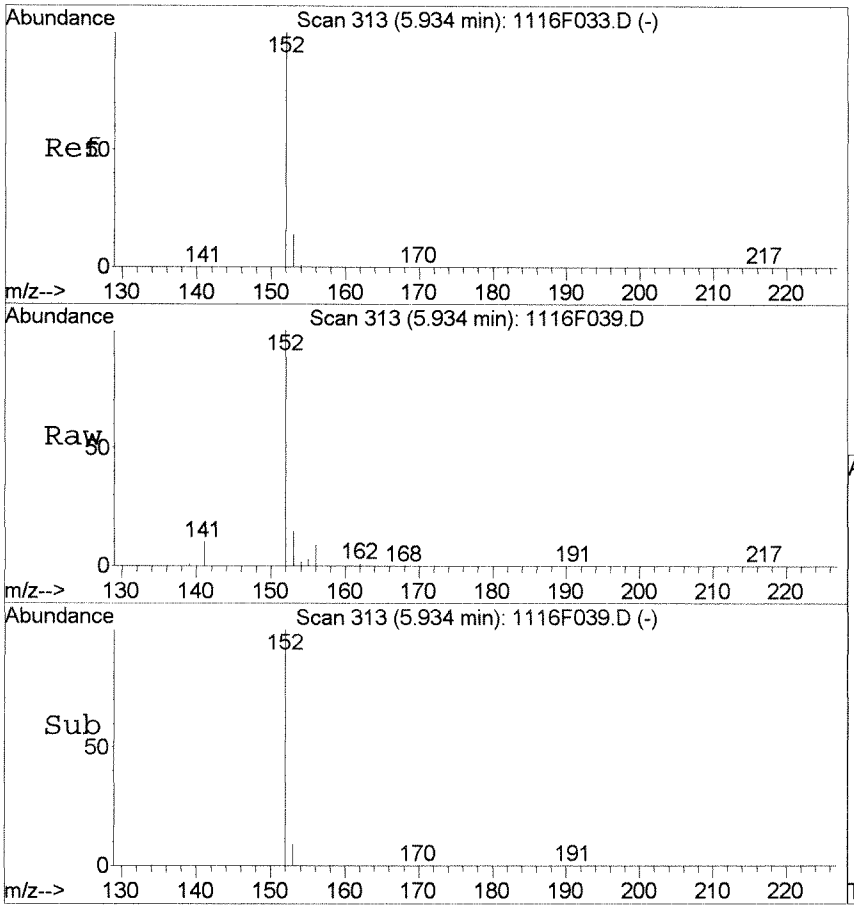


#6
2,6-Dimethylnaphthalene
Concen: 46.46 ng/ml
RT: 5.77 min Scan# 283
Delta R.T. 0.01 min
Lab File: 1116F039.D
Acq: 17 Nov 2009 12:00 am

Tgt Ion:156 Resp: 20684

Ion	Ratio	Lower	Upper
156	100		
155	27.7	3.7	63.7

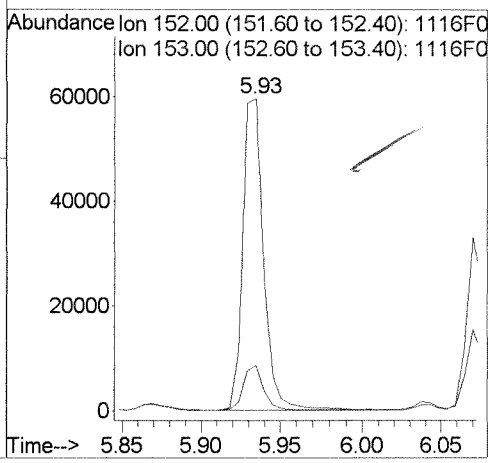


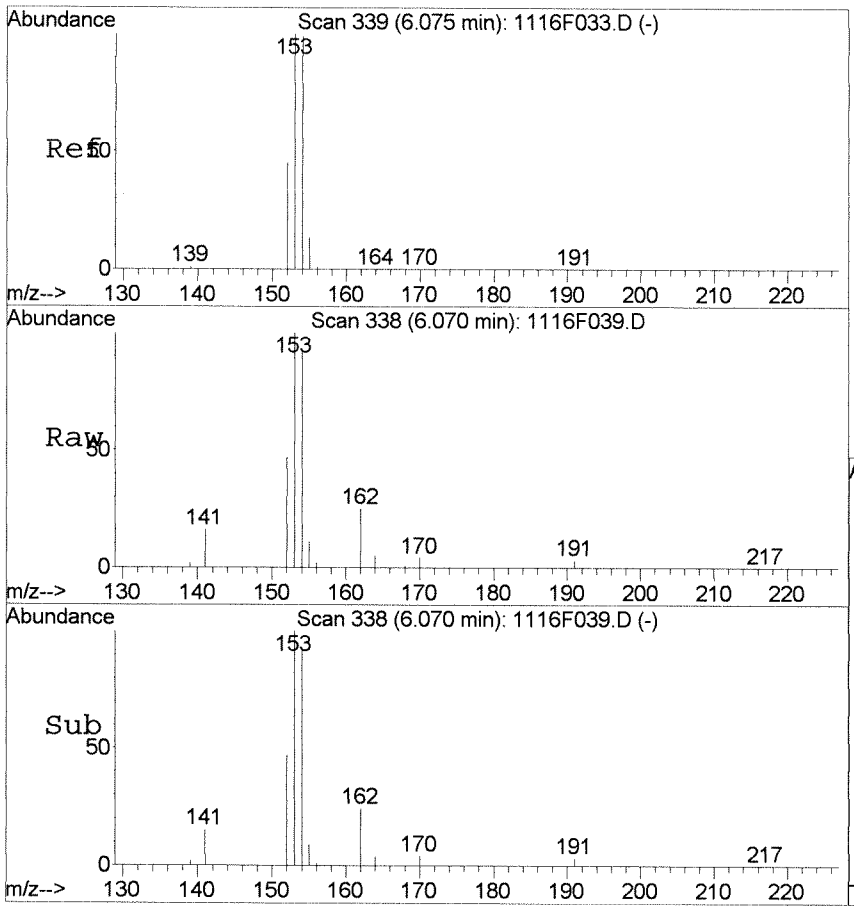


#11
Acenaphthylene
Concen: 63.65 ng/ml
RT: 5.93 min Scan# 313
Delta R.T. 0.01 min
Lab File: 1116F039.D
Acq: 17 Nov 2009 12:00 am

Tgt Ion:152 Resp: 54923

Ion	Ratio	Lower	Upper
152	100		
153	14.4	0.0	44.1

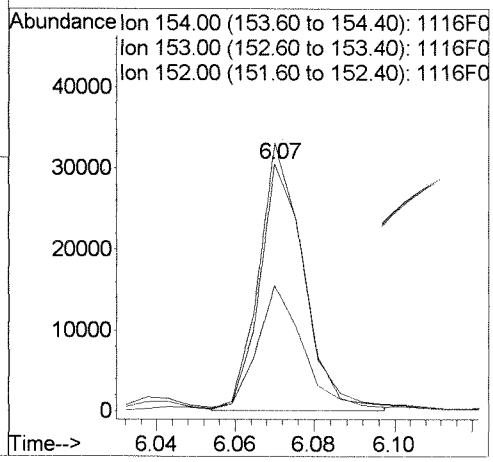


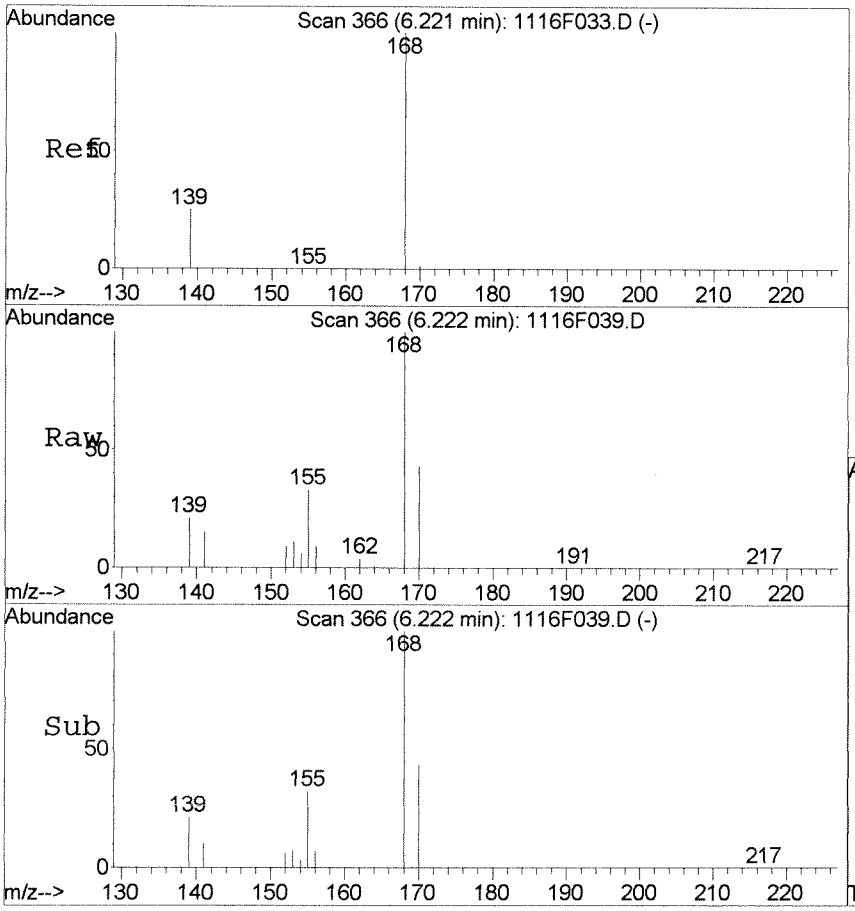


#12
Acenaphthene
Concen: 46.75 ng/ml m
RT: 6.07 min Scan# 338
Delta R.T. 0.01 min
Lab File: 1116F039.D
Acq: 17 Nov 2009 12:00 am

Tgt Ion:154 Resp: 24052

Ion	Ratio	Lower	Upper
154	100		
153	108.5	77.8	137.8
152	50.9	24.7	84.7

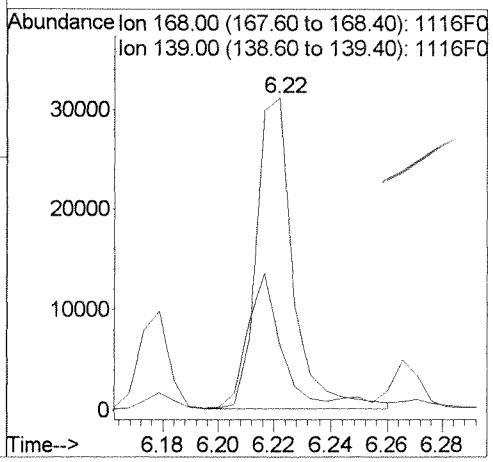


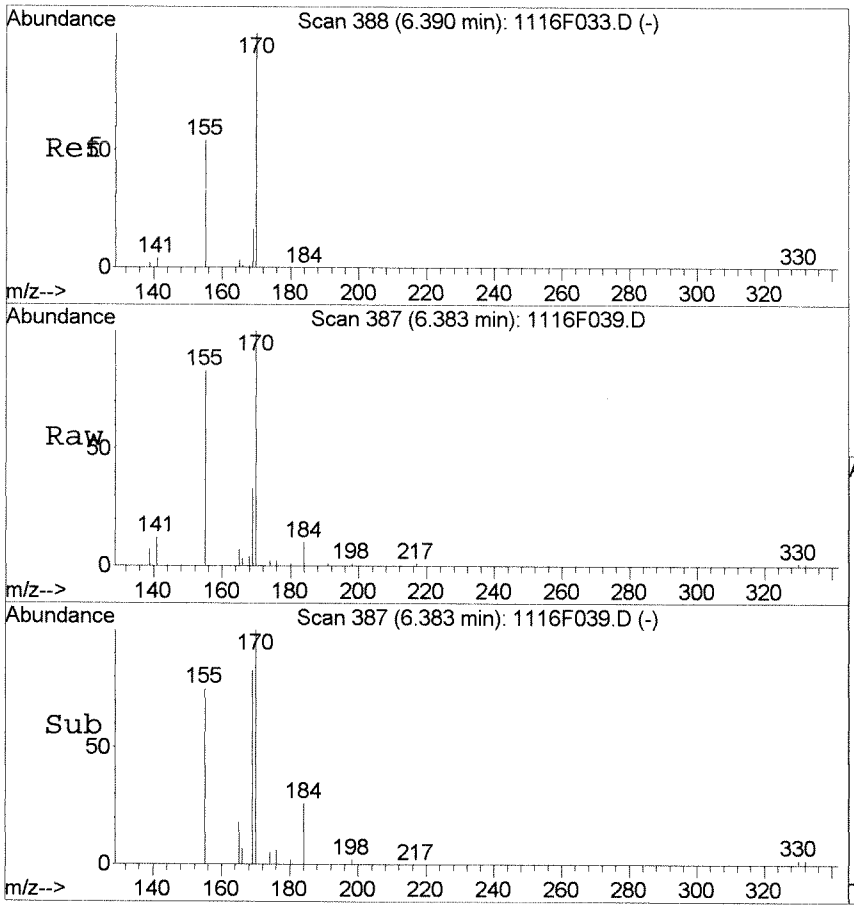


#13
Dibenzofuran
Concen: 40.82 ng/ml
RT: 6.22 min Scan# 366
Delta R.T. 0.01 min
Lab File: 1116F039.D
Acq: 17 Nov 2009 12:00 am

Tgt Ion:168 Resp: 28245

Ion	Ratio	Lower	Upper
168	100		
139	20.7	23.3	83.3#

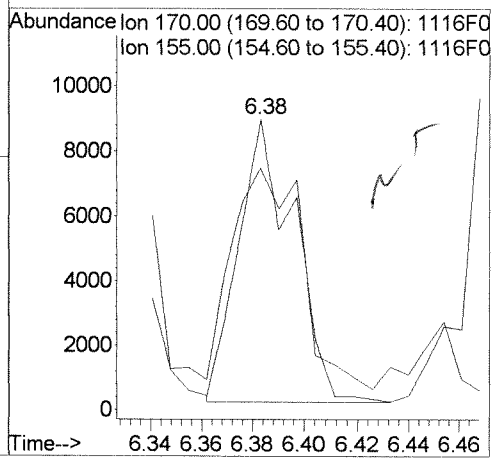


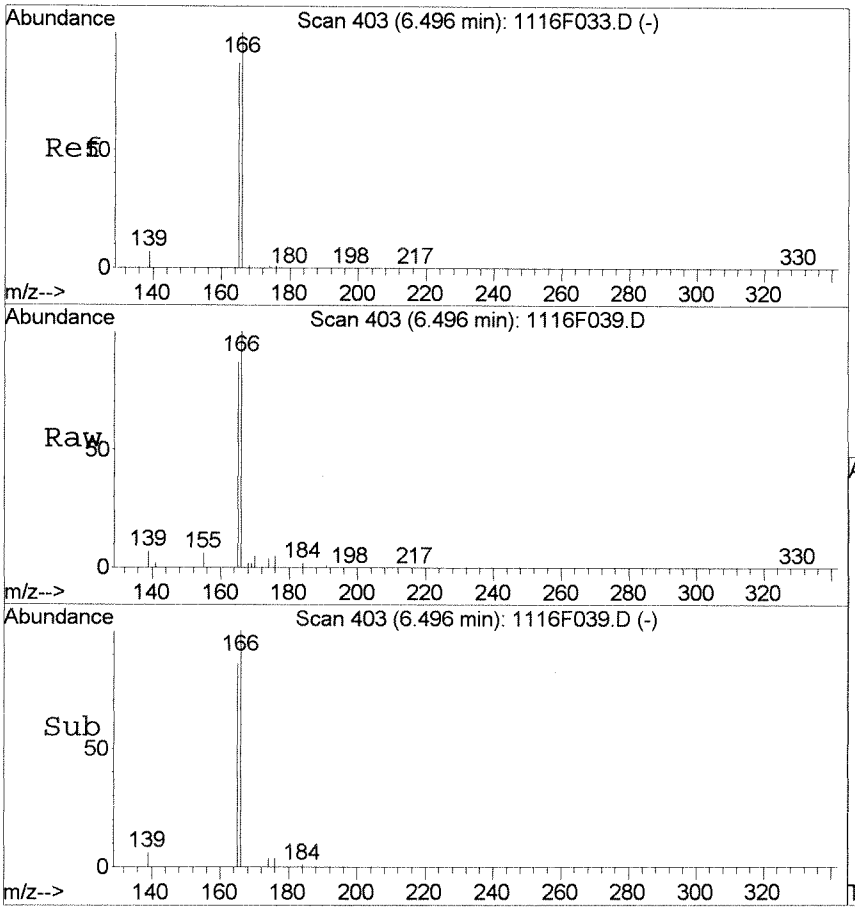


#14
2,3,5-Trimethylnaphthalene
Concen: 30.29 ng/ml
RT: 6.38 min Scan# 387
Delta R.T. 0.00 min
Lab File: 1116F039.D
Acq: 17 Nov 2009 12:00 am

Tgt Ion:170 Resp: 13090

Ion	Ratio	Lower	Upper
170	100		
155	75.0	48.2	108.2

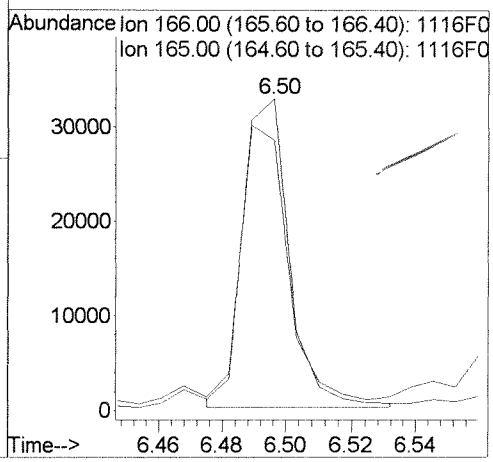


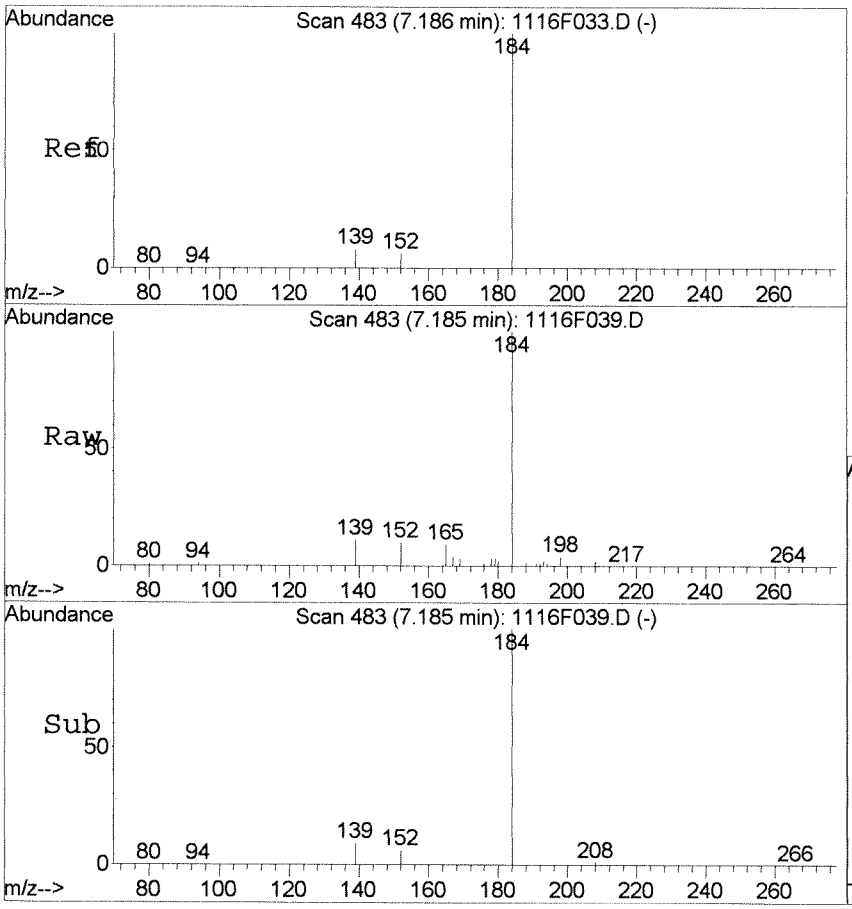


#16
Fluorene
Concen: 59.38 ng/ml m
RT: 6.50 min Scan# 403
Delta R.T. 0.01 min
Lab File: 1116F039.D
Acq: 17 Nov 2009 12:00 am

Tgt Ion:166 Resp: 32937

Ion	Ratio	Lower	Upper
166	100		
165	86.6	57.8	117.8

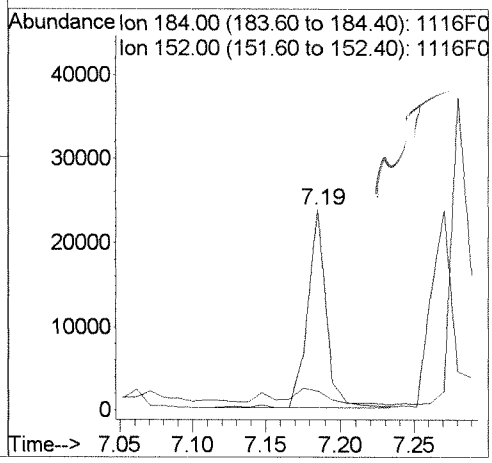


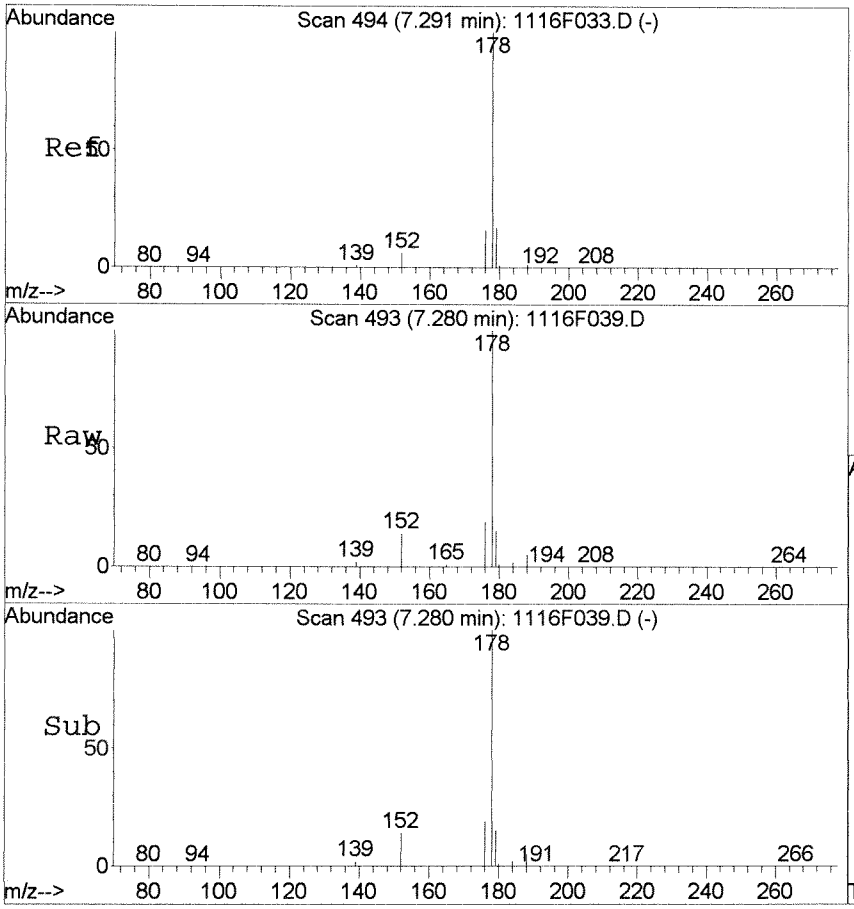


#23
Dibenzothiophene
Concen: 24.41 ng/ml
RT: 7.19 min Scan# 483
Delta R.T. 0.01 min
Lab File: 1116F039.D
Acq: 17 Nov 2009 12:00 am

Tgt Ion:184 Resp: 20205

Ion	Ratio	Lower	Upper
184	100		
152	6.8	0.0	39.4

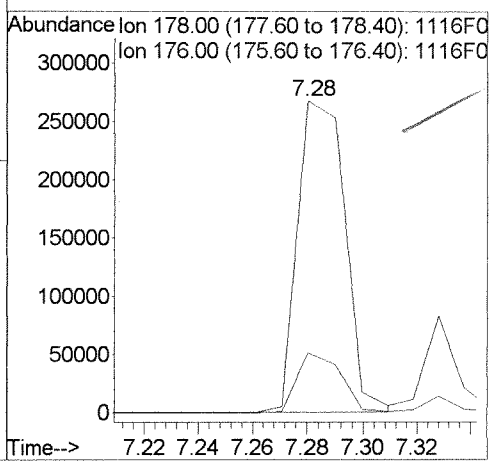


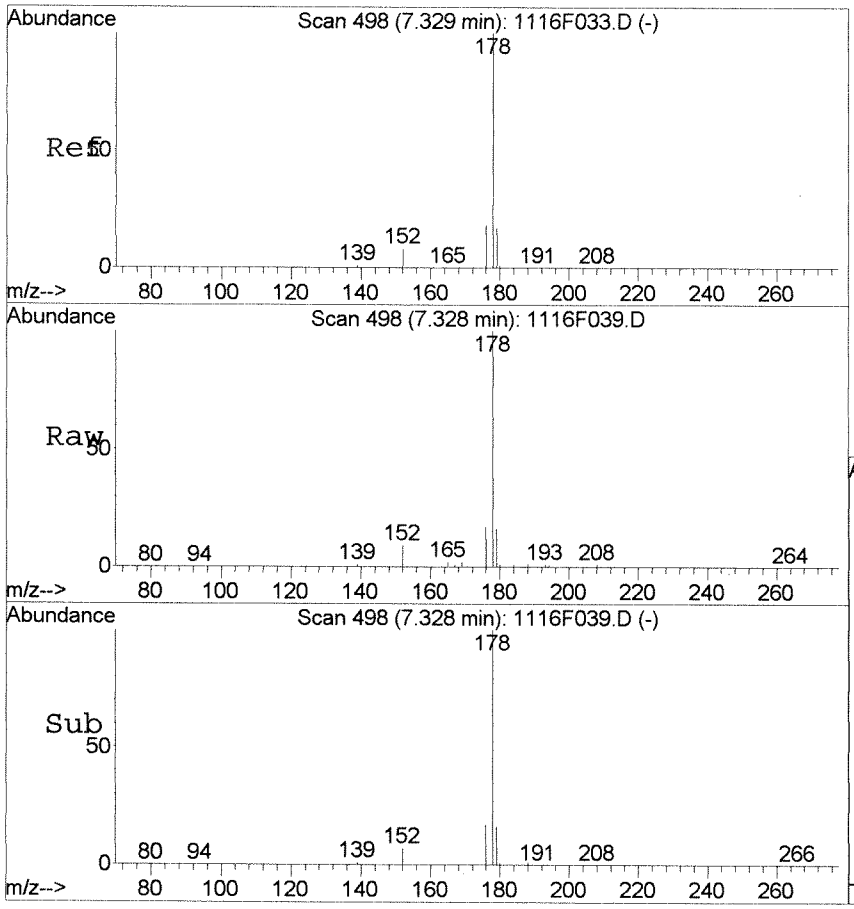


#27
Phenanthrene
Concen: 341.15 ng/ml
RT: 7.28 min Scan# 493
Delta R.T. -0.00 min
Lab File: 1116F039.D
Acq: 17 Nov 2009 12:00 am

Tgt Ion:178 Resp: 313261

Ion	Ratio	Lower	Upper
178	100		
176	19.2	0.0	49.6

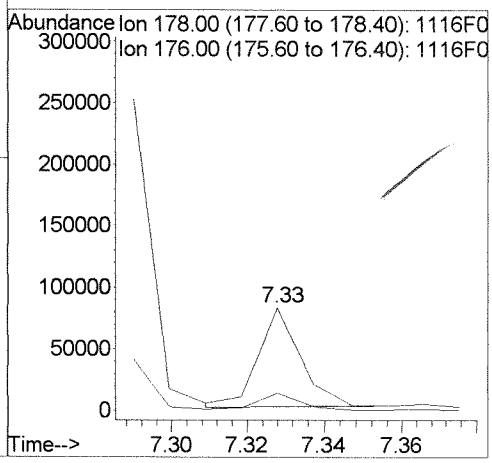


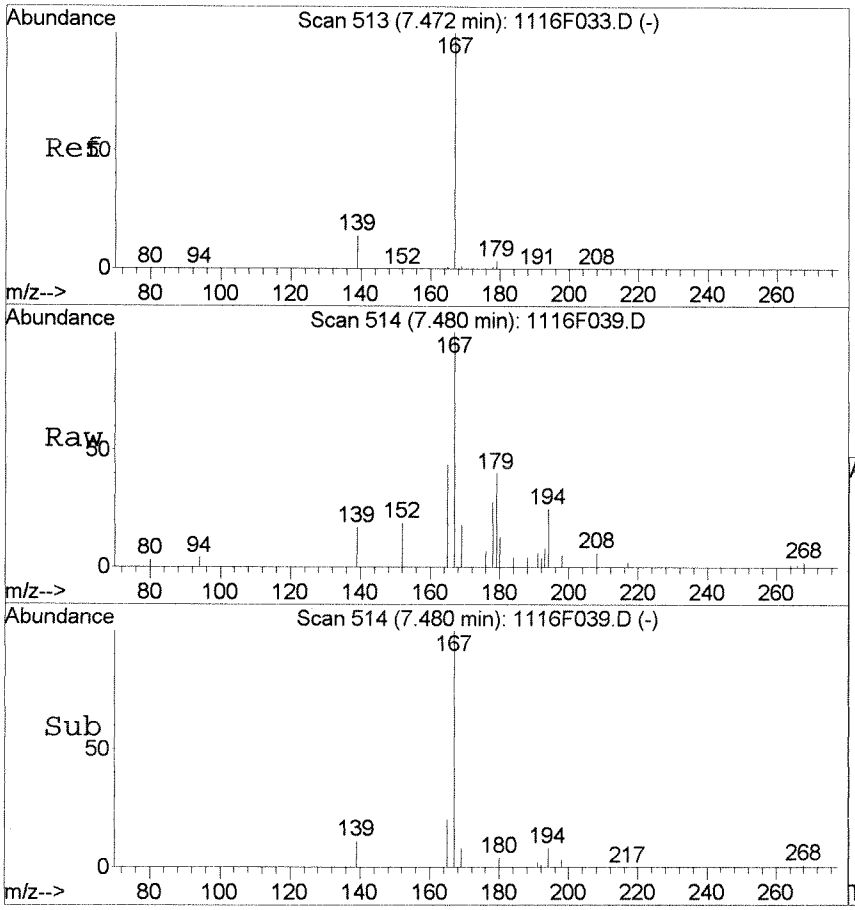


#28
Anthracene
Concen: 69.88 ng/ml
RT: 7.33 min Scan# 498
Delta R.T. 0.01 min
Lab File: 1116F039.D
Acq: 17 Nov 2009 12:00 am

Tgt Ion:178 Resp: 61351

Ion	Ratio	Lower	Upper
178	100		
176	16.8	0.0	47.6

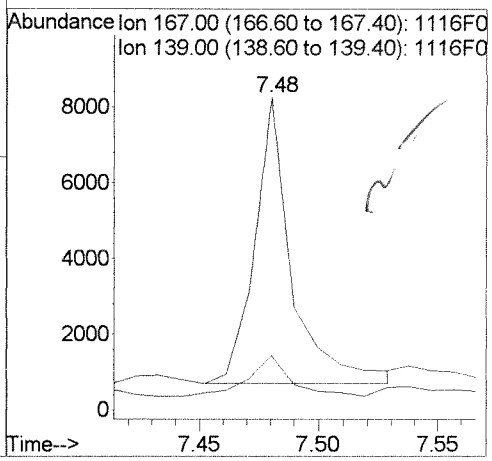


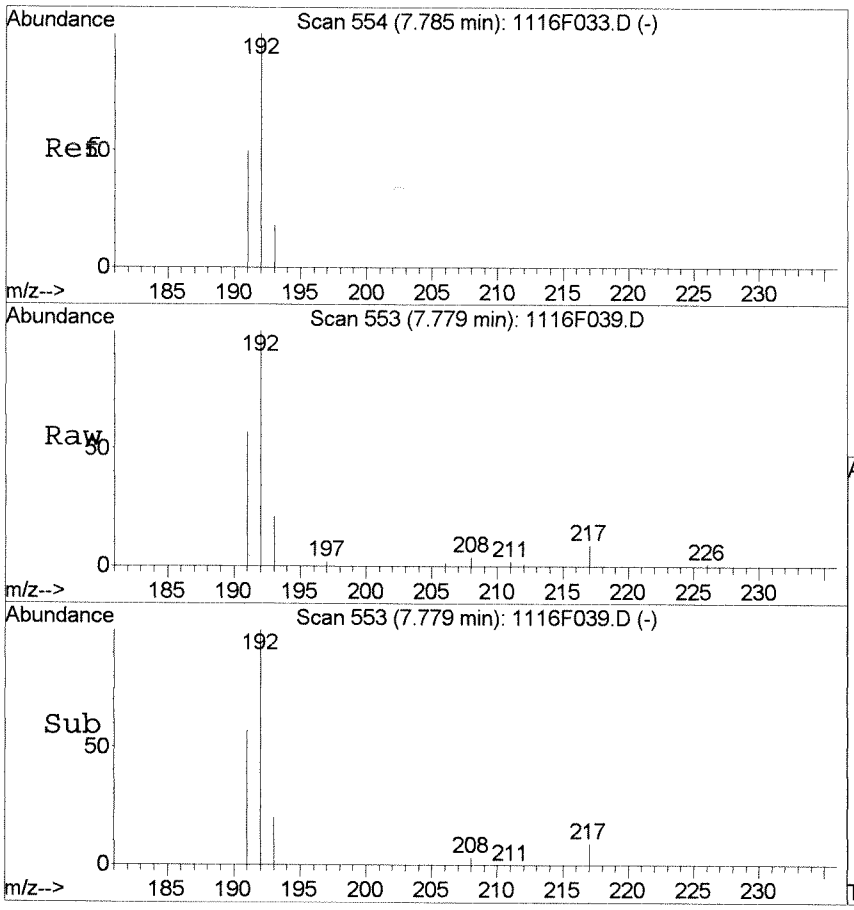


#29
Carbazole
Concen: 10.99 ng/ml
RT: 7.48 min Scan# 514
Delta R.T. 0.01 min
Lab File: 1116F039.D
Acq: 17 Nov 2009 12:00 am

Tgt Ion:167 Resp: 8245

Ion	Ratio	Lower	Upper
167	100		
139	13.1	0.0	45.7

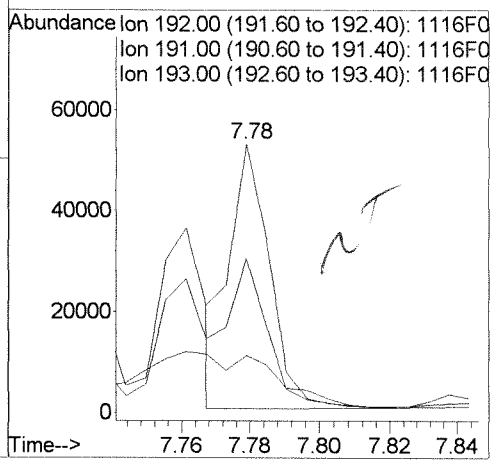


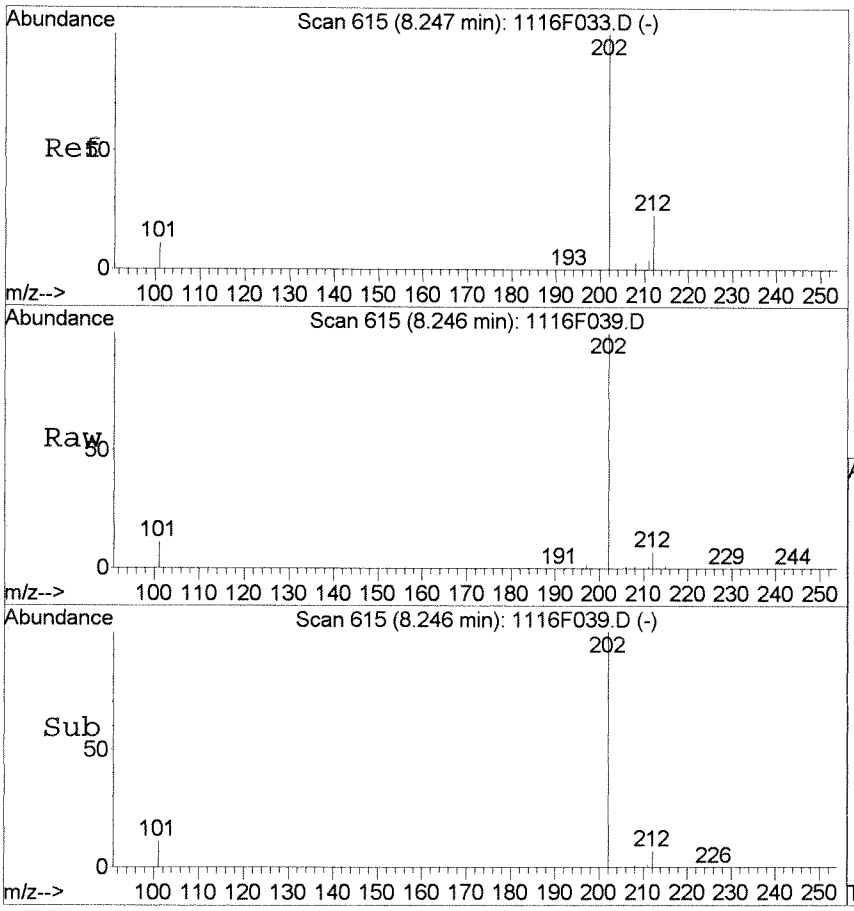


#30
1-Methylphenanthrene
Concen: 65.28 ng/ml
RT: 7.78 min Scan# 553
Delta R.T. 0.01 min
Lab File: 1116F039.D
Acq: 17 Nov 2009 12:00 am

Tgt Ion:192 Resp: 42922

Ion	Ratio	Lower	Upper
192	100		
191	56.2	23.0	83.0
193	19.5	0.0	47.0

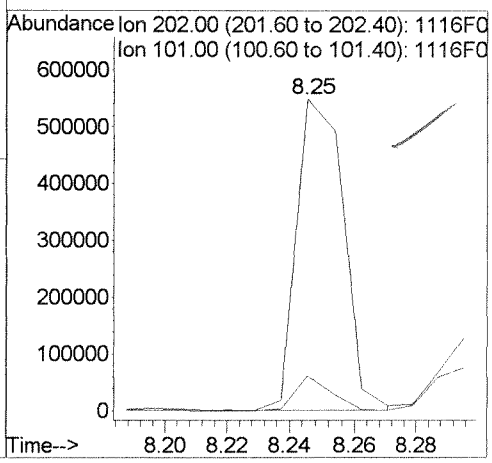


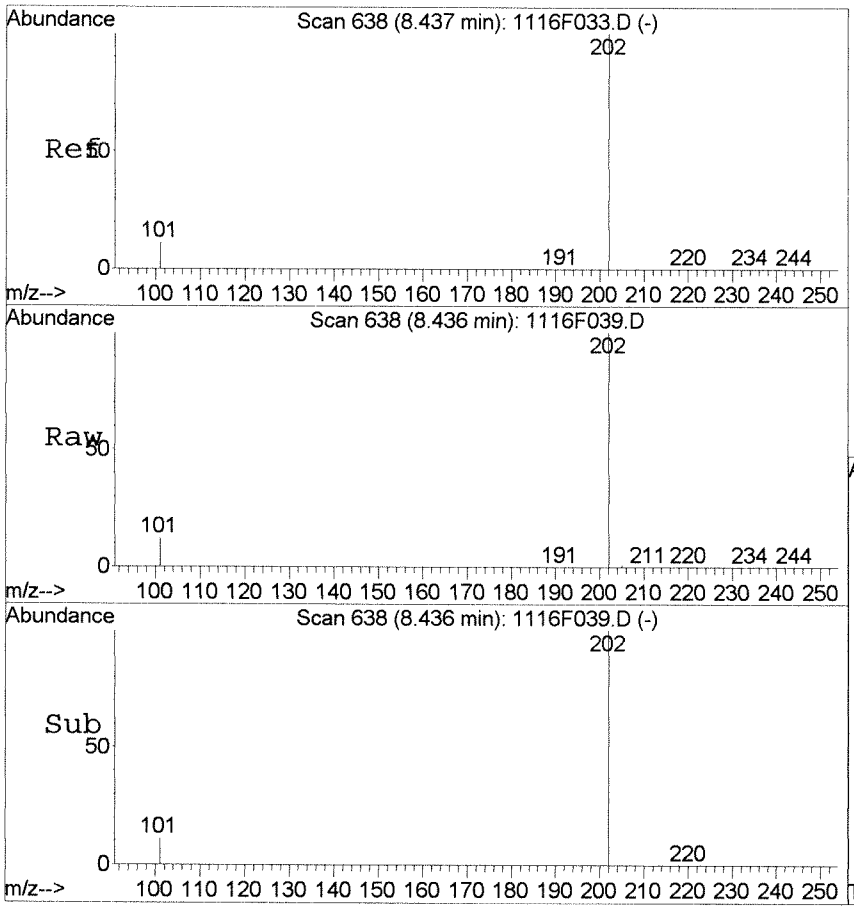


#35
Fluoranthene
Concen: 542.96 ng/ml
RT: 8.25 min Scan# 615
Delta R.T. -0.00 min
Lab File: 1116F039.D
Acq: 17 Nov 2009 12:00 am

Tgt Ion:202 Resp: 547696

Ion	Ratio	Lower	Upper
202	100		
101	11.2	0.0	36.5

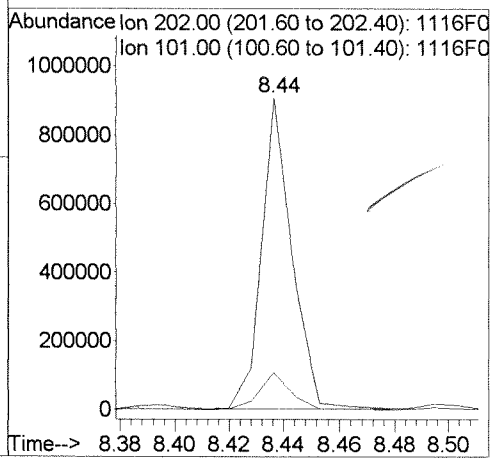


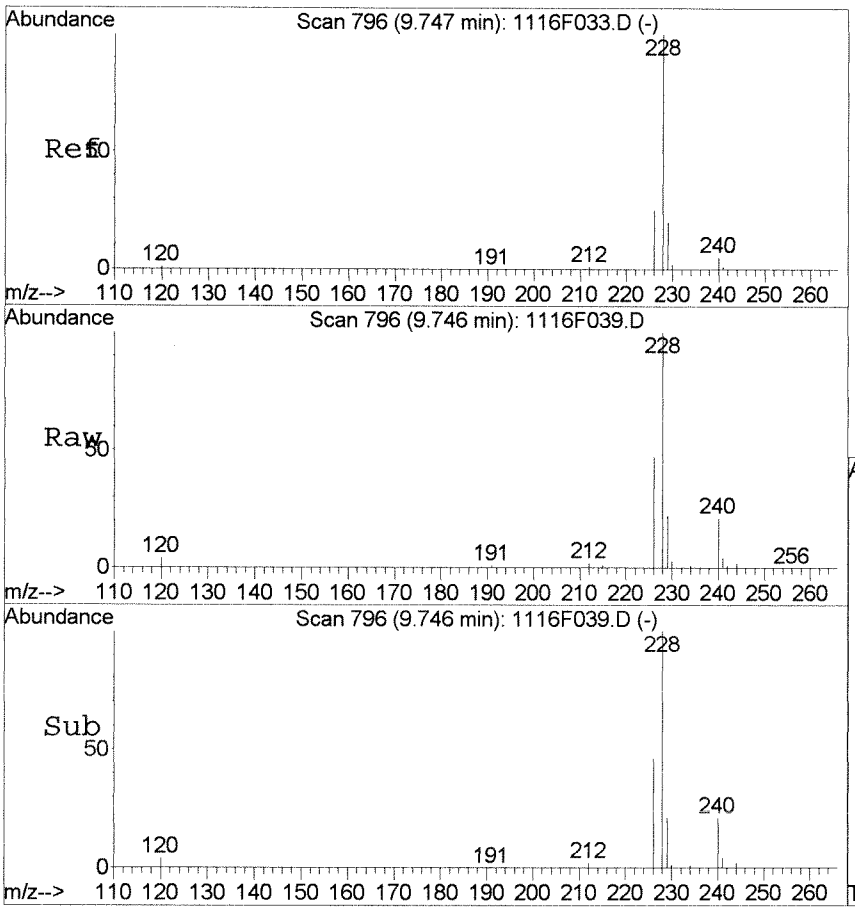


#38
Pyrene
Concen: 451.04 ng/ml
RT: 8.44 min Scan# 638
Delta R.T. 0.01 min
Lab File: 1116F039.D
Acq: 17 Nov 2009 12:00 am

Tgt Ion:202 Resp: 699692

Ion	Ratio	Lower	Upper
202	100		
101	11.8	0.0	36.4

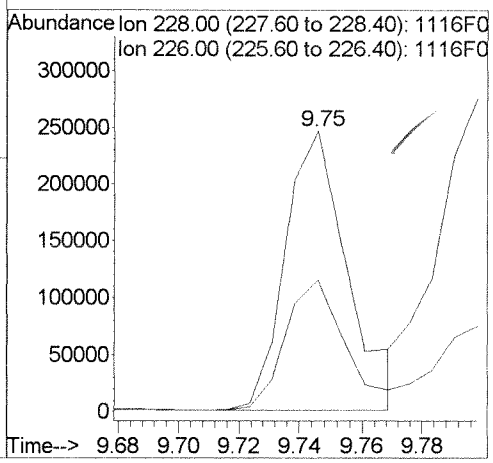


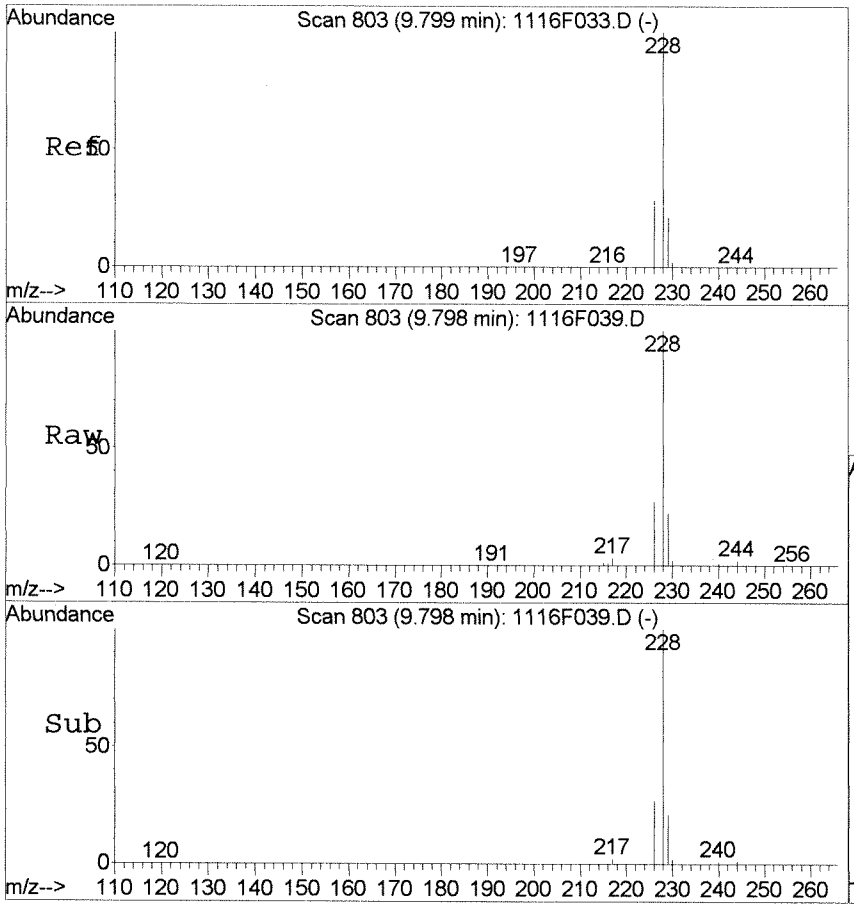


#43
Benz(a)anthracene
Concen: 222.02 ng/ml
RT: 9.75 min Scan# 796
Delta R.T. 0.01 min
Lab File: 1116F039.D
Acq: 17 Nov 2009 12:00 am

Tgt Ion:228 Resp: 341865

Ion	Ratio	Lower	Upper
228	100		
226	46.5	0.0	55.9

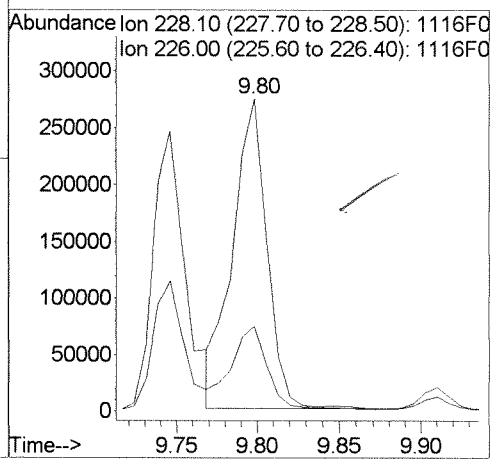


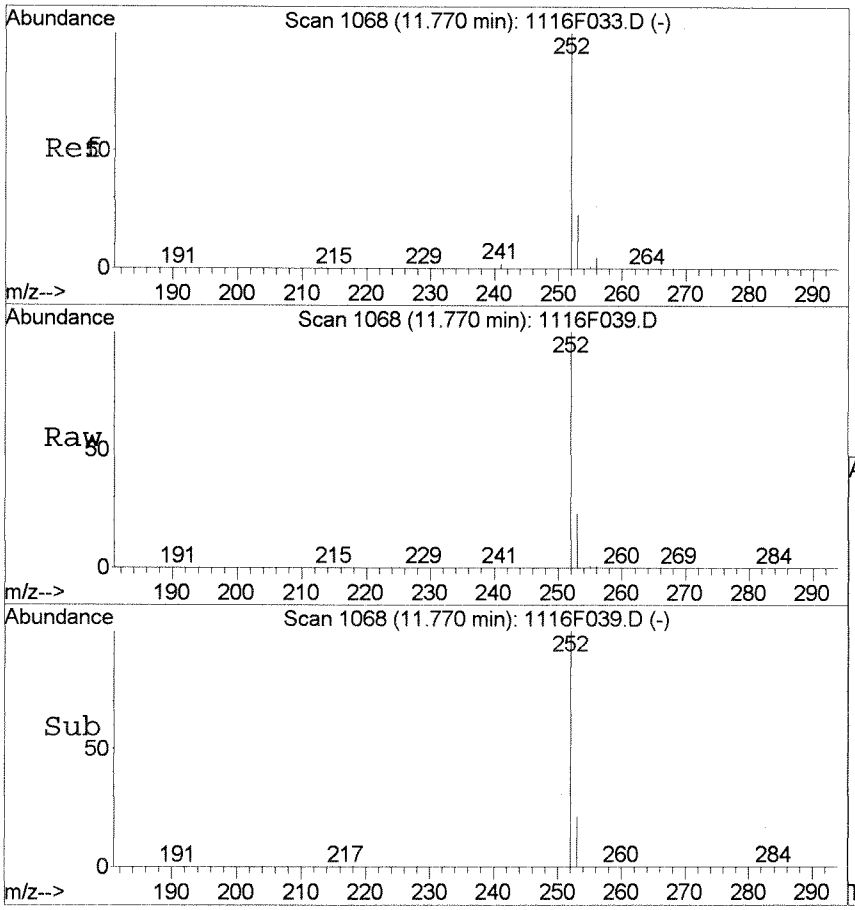


#44
Chrysene
Concen: 271.00 ng/ml
RT: 9.80 min Scan# 803
Delta R.T. 0.01 min
Lab File: 1116F039.D
Acq: 17 Nov 2009 12:00 am

Tgt Ion:228 Resp: 406456

Ion	Ratio	Lower	Upper
228	100		
226	26.8	0.0	58.8

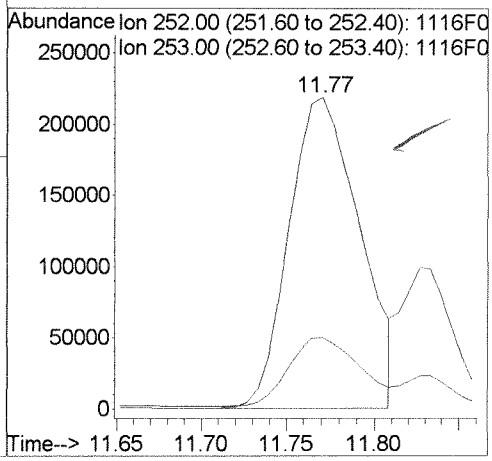


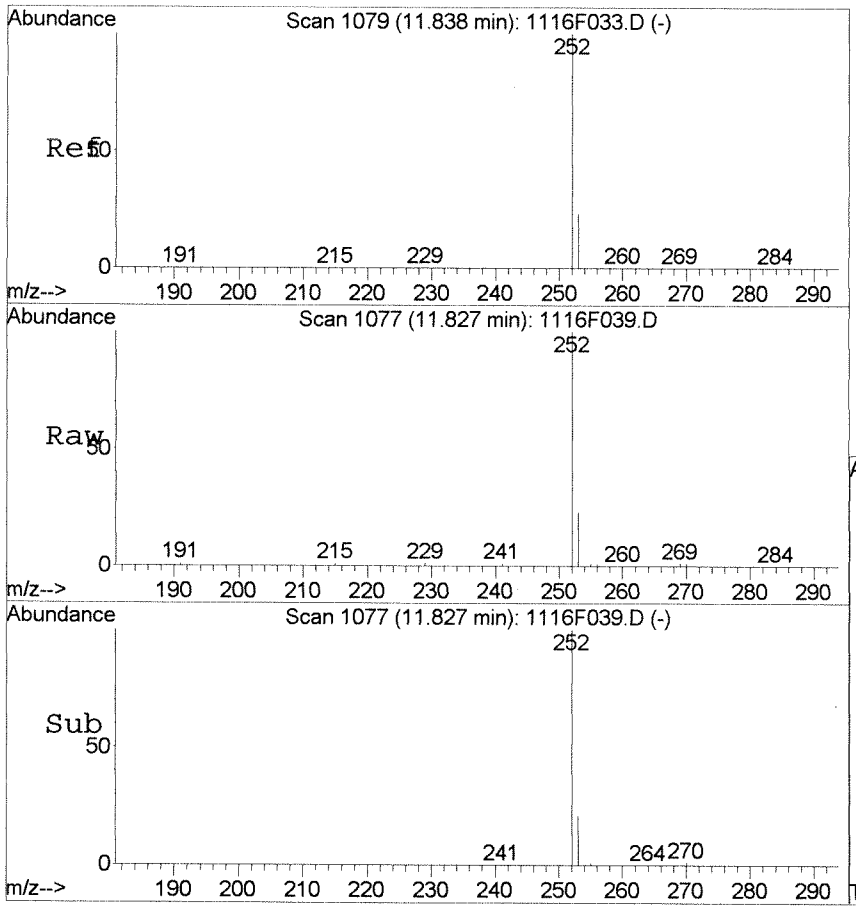


#50
Benzo(b)fluoranthene
Concen: 359.96 ng/ml
RT: 11.77 min Scan# 1068
Delta R.T. 0.02 min
Lab File: 1116F039.D
Acq: 17 Nov 2009 12:00 am

Tgt Ion:252 Resp: 610092

Ion	Ratio	Lower	Upper
252	100		
253	22.0	0.0	52.8

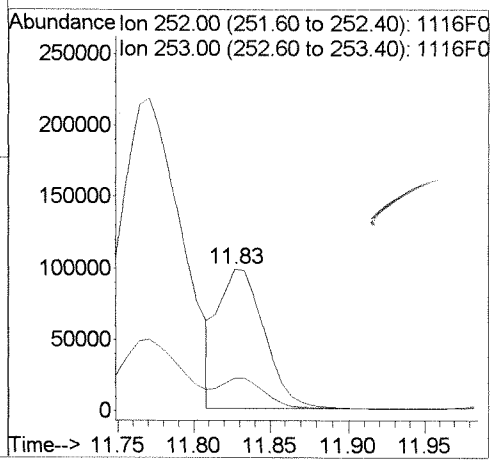


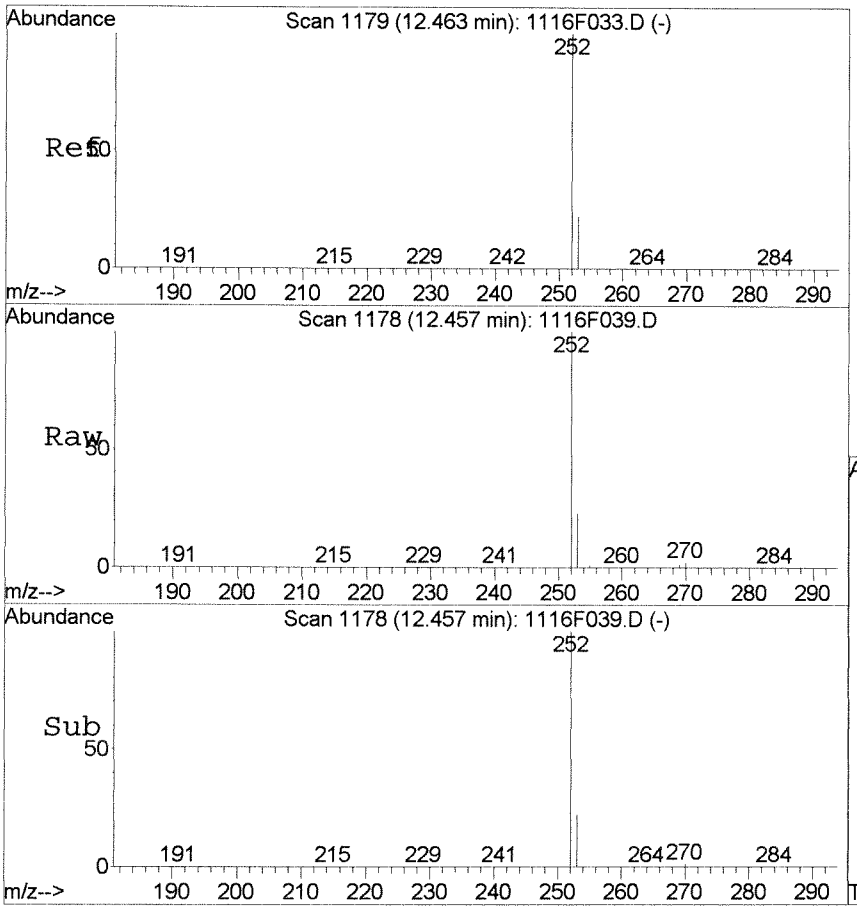


#51
Benzo(k)fluoranthene
Concen: 123.08 ng/ml
RT: 11.83 min Scan# 1077
Delta R.T. 0.01 min
Lab File: 1116F039.D
Acq: 17 Nov 2009 12:00 am

Tgt Ion:252 Resp: 205514

Ion	Ratio	Lower	Upper
252	100		
253	21.9	0.0	52.5

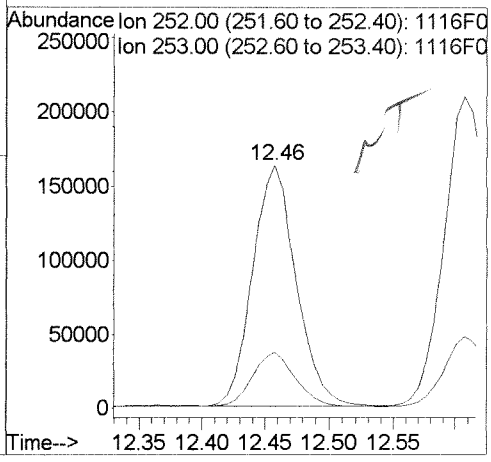


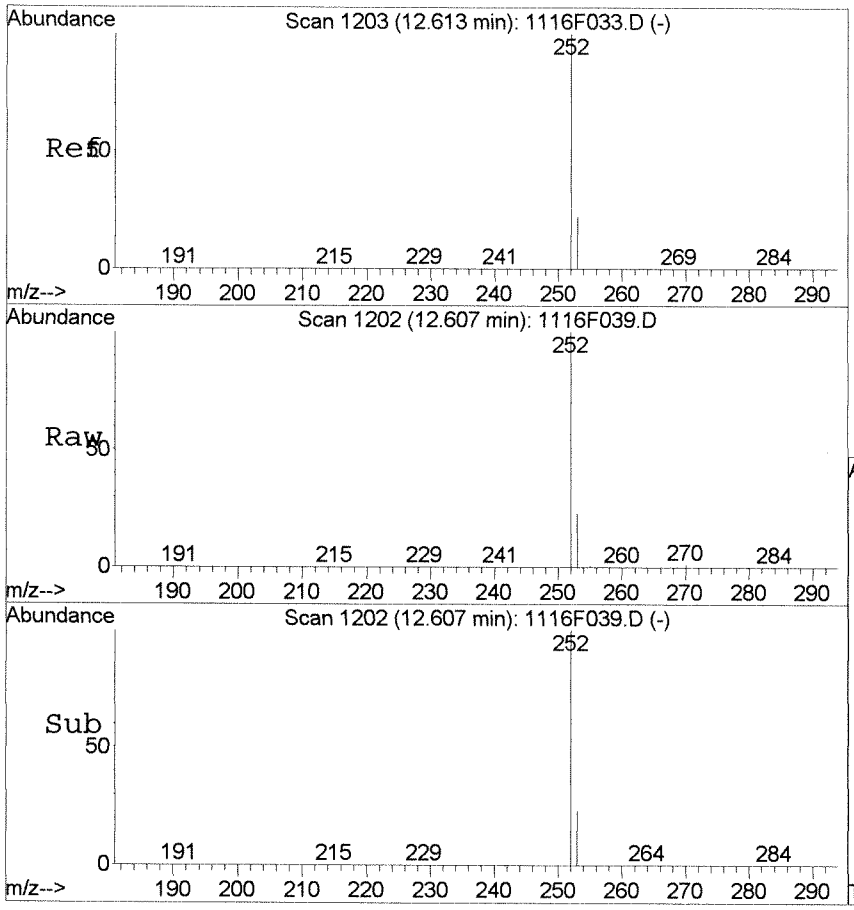


#52
Benzo(e)pyrene
Concen: 246.56 ng/ml
RT: 12.46 min Scan# 1178
Delta R.T. 0.02 min
Lab File: 1116F039.D
Acq: 17 Nov 2009 12:00 am

Tgt Ion:252 Resp: 391349

Ion	Ratio	Lower	Upper
252	100		
253	22.5	0.0	52.3

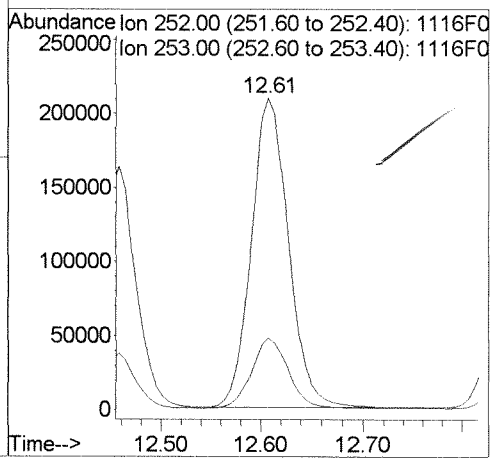


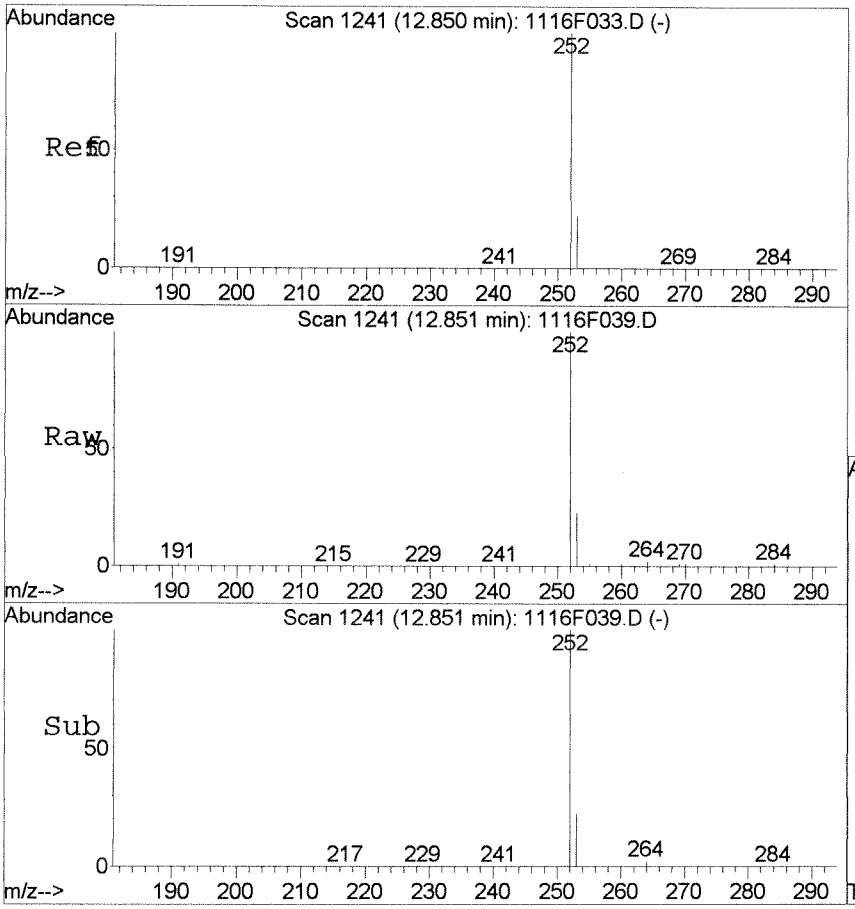


#53
Benzo(a)pyrene
Concen: 336.44 ng/ml
RT: 12.61 min Scan# 1202
Delta R.T. 0.02 min
Lab File: 1116F039.D
Acq: 17 Nov 2009 12:00 am

Tgt Ion:252 Resp: 540054

Ion	Ratio	Lower	Upper
252	100		
253	22.6	0.0	52.6

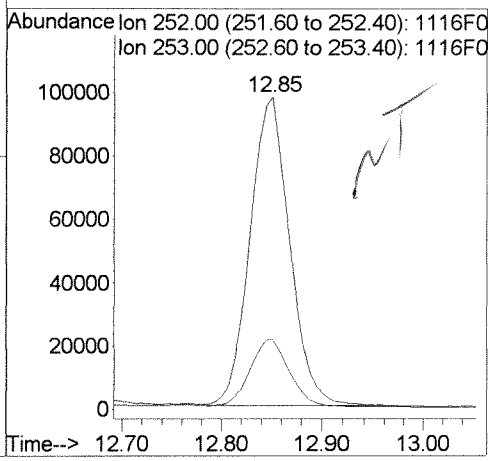


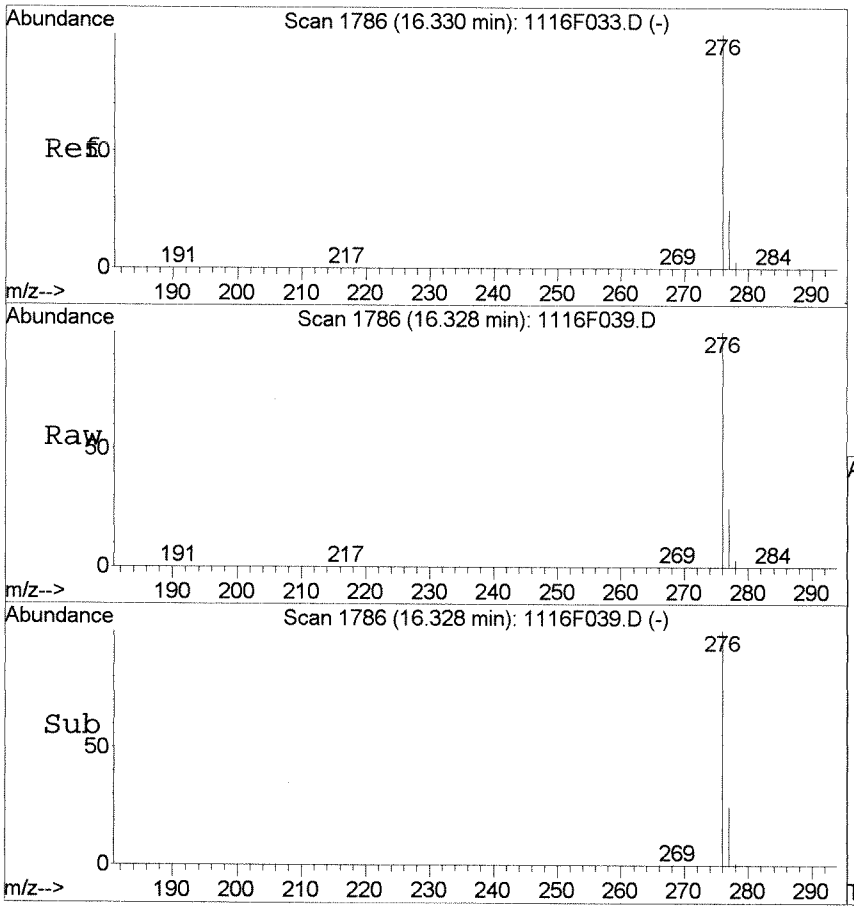


#54
Perylene
Concen: 170.17 ng/ml
RT: 12.85 min Scan# 1241
Delta R.T. 0.02 min
Lab File: 1116F039.D
Acq: 17 Nov 2009 12:00 am

Tgt Ion:252 Resp: 267772

Ion	Ratio	Lower	Upper
252	100		
253	22.2	0.0	52.0

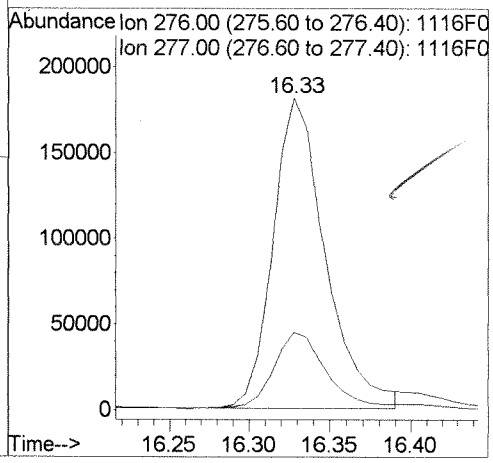


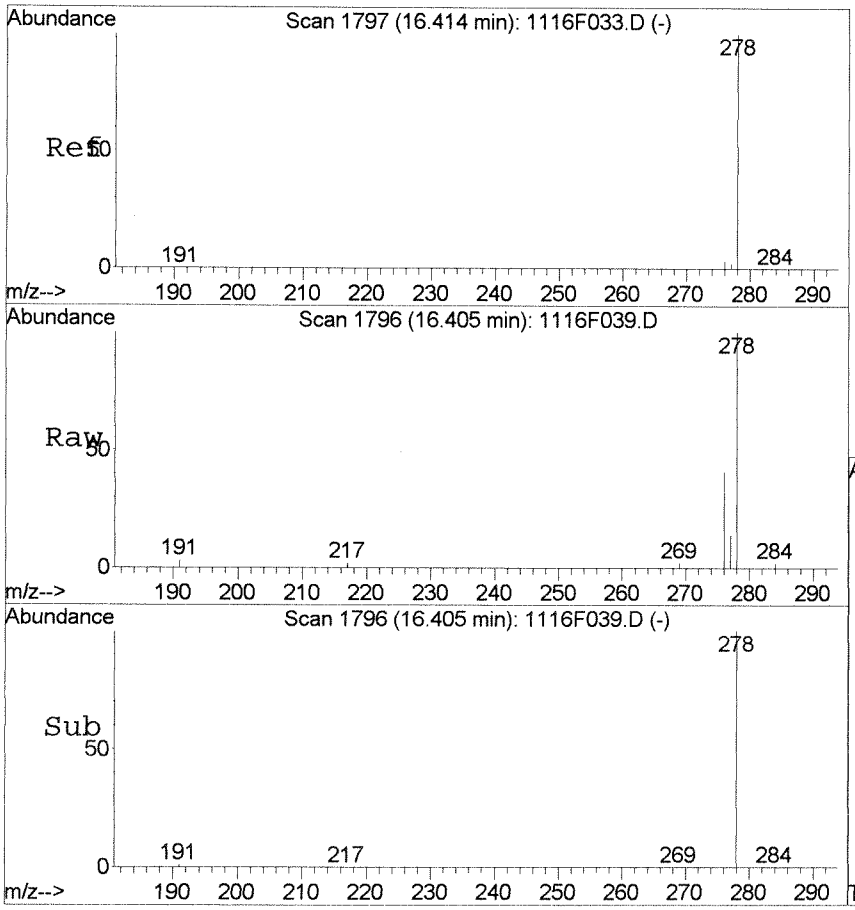


#55
Indeno(1,2,3-cd)pyrene
Concen: 276.08 ng/ml m
RT: 16.33 min Scan# 1786
Delta R.T. 0.02 min
Lab File: 1116F039.D
Acq: 17 Nov 2009 12:00 am

Tgt Ion:276 Resp: 406557

Ion	Ratio	Lower	Upper
276	100		
277	25.0	0.0	55.1

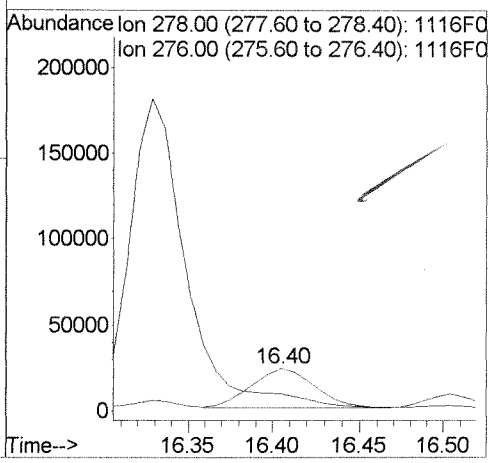


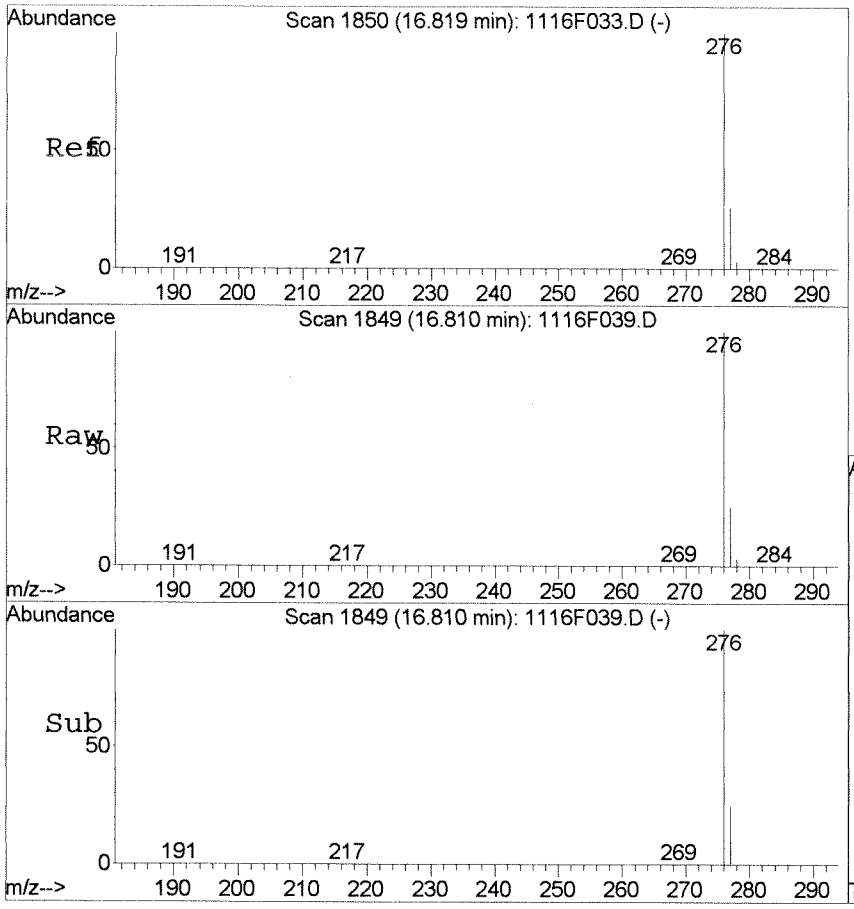


#56
Dibenz(a,h)anthracene
Concen: 36.44 ng/ml
RT: 16.40 min Scan# 1796
Delta R.T. 0.02 min
Lab File: 1116F039.D
Acq: 17 Nov 2009 12:00 am

Tgt Ion:278 Resp: 57815

Ion	Ratio	Lower	Upper
278	100		
276	35.0	0.0	52.1

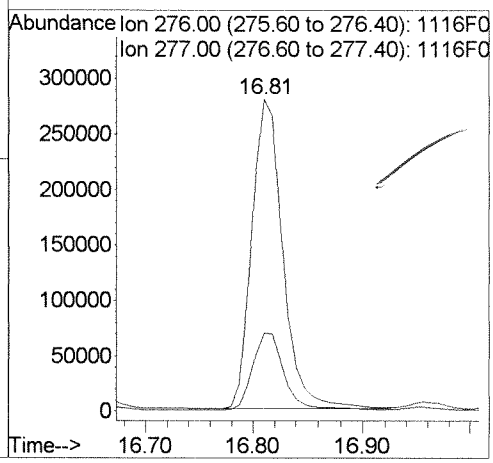




#57
Benzo(g,h,i)perylene
Concen: 331.37 ng/ml
RT: 16.81 min Scan# 1849
Delta R.T. 0.02 min
Lab File: 1116F039.D
Acq: 17 Nov 2009 12:00 am

Tgt Ion:276 Resp: 562046

Ion	Ratio	Lower	Upper
276	100		
277	24.9	0.0	55.7



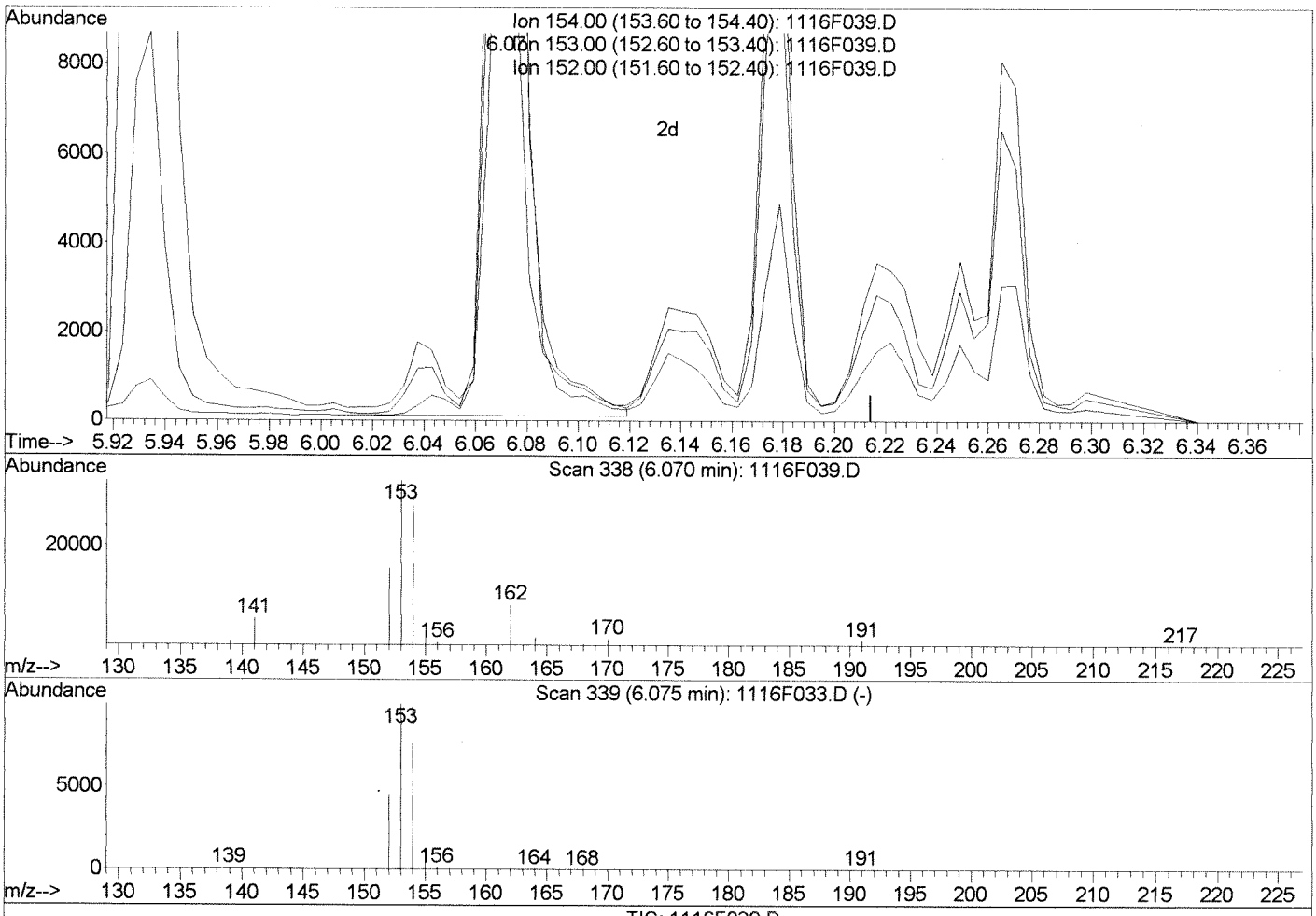
Quantitation Report (Qedit)

Data File : J:\MS11\DATA\111609\1116F039.D
Acq On : 17 Nov 2009 12:00 am
Sample : K0909140-017
Misc :
MS Integration Params: RTEINT.P
Quant Time: Nov 18 12:17 2009

Vial: 35
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Wed Nov 18 12:17:22 2009
Response via : Multiple Level Calibration



TIC: 1116F039.D

(12) Acenaphthene (T)

6.07min 48.35ng/ml

response 24872

Ion	Exp%	Act%
154.00	100	100
153.00	107.80	108.36
152.00	54.70	50.15
0.00	0.00	0.00

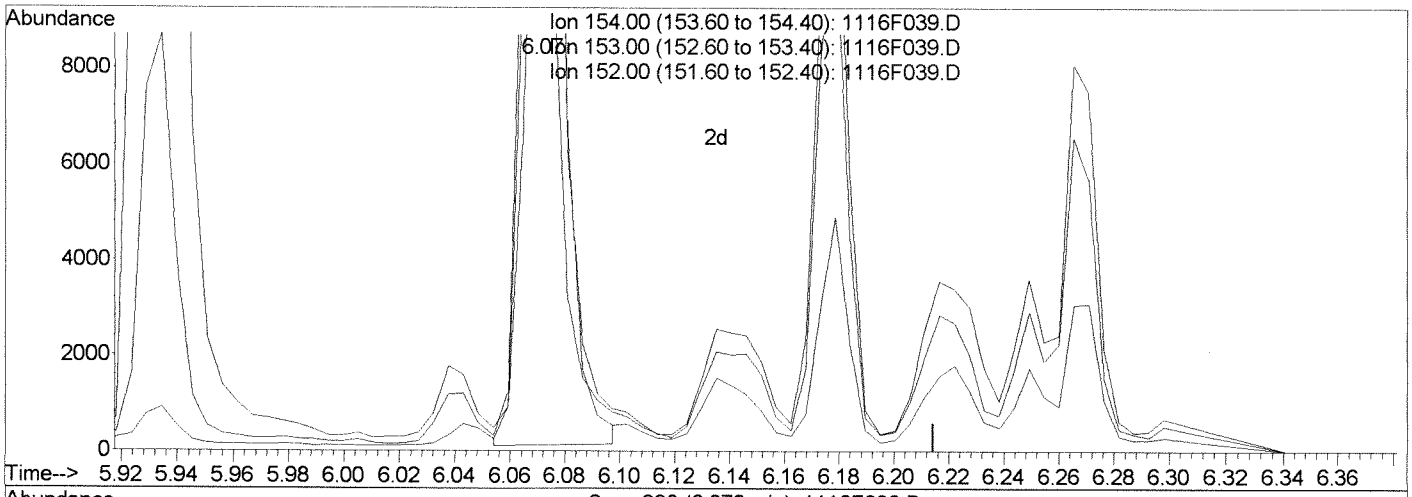
Quantitation Report (Qedit)

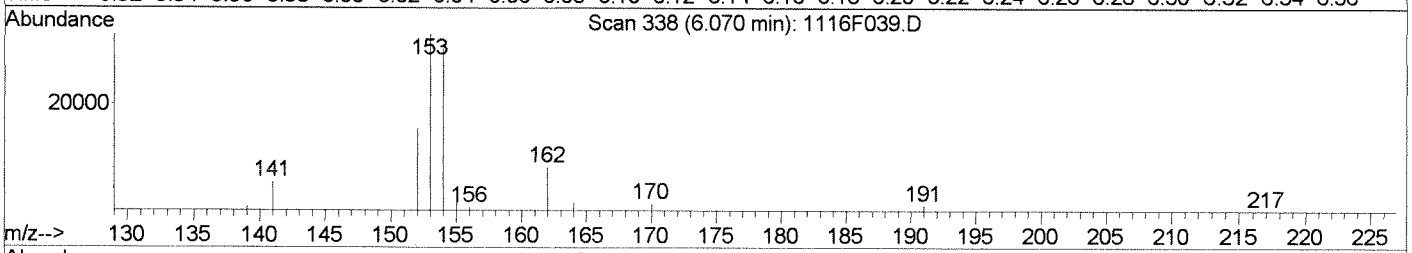
Data File : J:\MS11\DATA\111609\1116F039.D
Acq On : 17 Nov 2009 12:00 am
Sample : K0909140-017
Misc :
MS Integration Params: RTEINT.P
Quant Time: Nov 18 12:23 2009

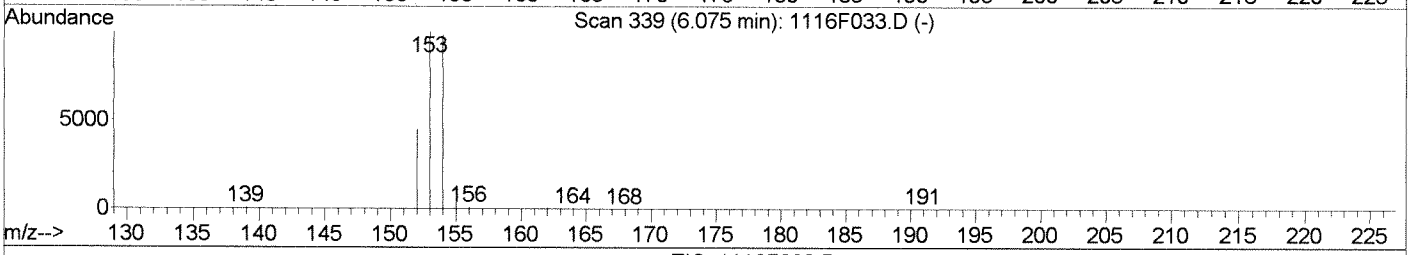
Vial: 35
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Wed Nov 18 12:17:22 2009
Response via : Multiple Level Calibration







TIC: 1116F039.D

(12) Acenaphthene (T)

6.07min 46.75ng/ml m

response 24052

Ion	Exp%	Act%
154.00	100	100
153.00	107.80	108.46
152.00	54.70	50.92
0.00	0.00	0.00

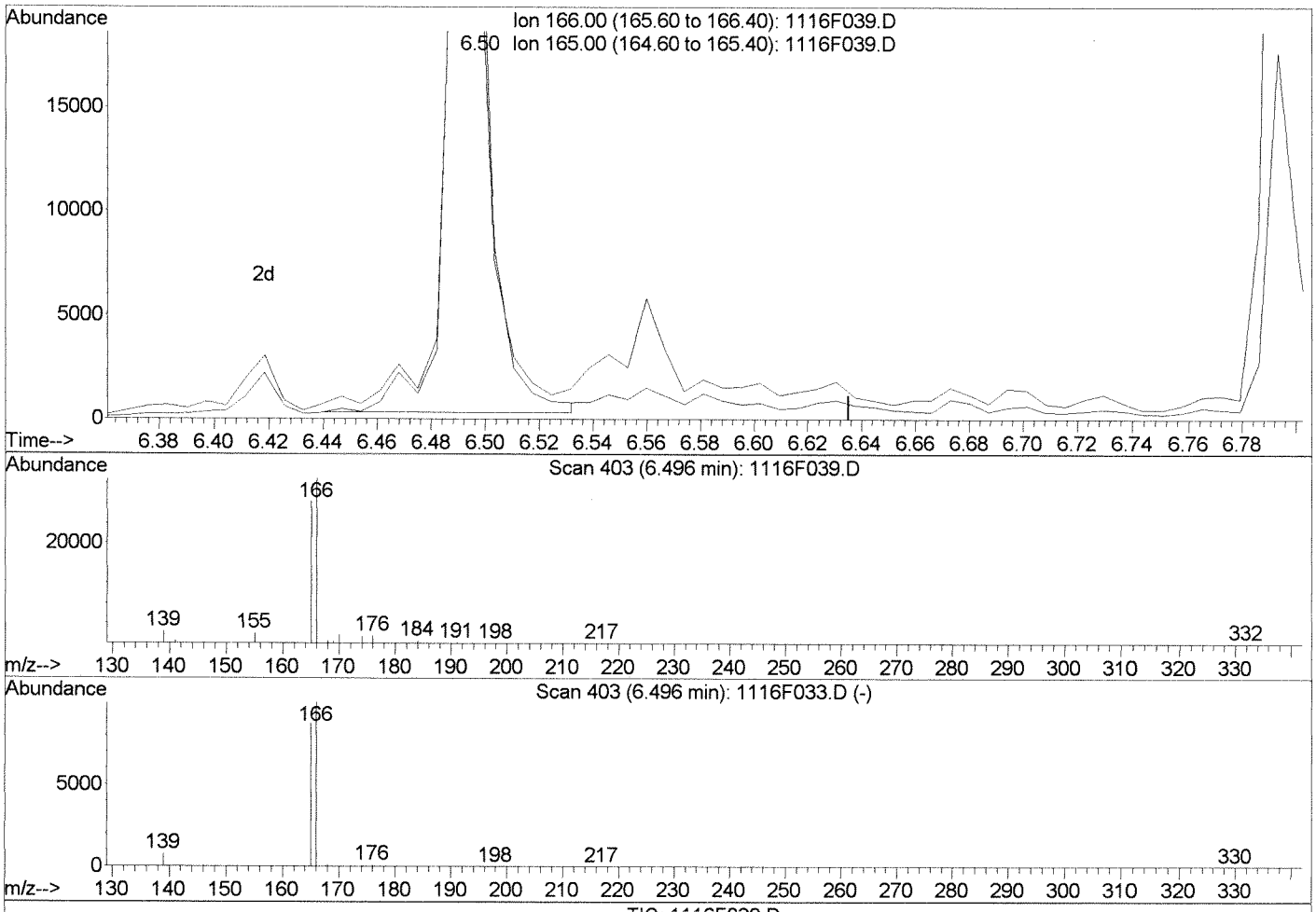
OT 11/18/09
M 11-19-09

1116F039.D 1015ALK.M Wed Nov 18 12:23:49 2009

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\111609\1116F039.D Vial: 35
Acq On : 17 Nov 2009 12:00 am Operator: LWeiskopf
Sample : K0909140-017 Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 18 12:23 2009 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Wed Nov 18 12:17:22 2009
Response via : Multiple Level Calibration



TIC: 1116F039.D

(16) Fluorene (T)

6.50min 62.56ng/ml

response 34700

Ion	Exp%	Act%
166.00	100	100
165.00	87.80	85.23
0.00	0.00	0.00
0.00	0.00	0.00

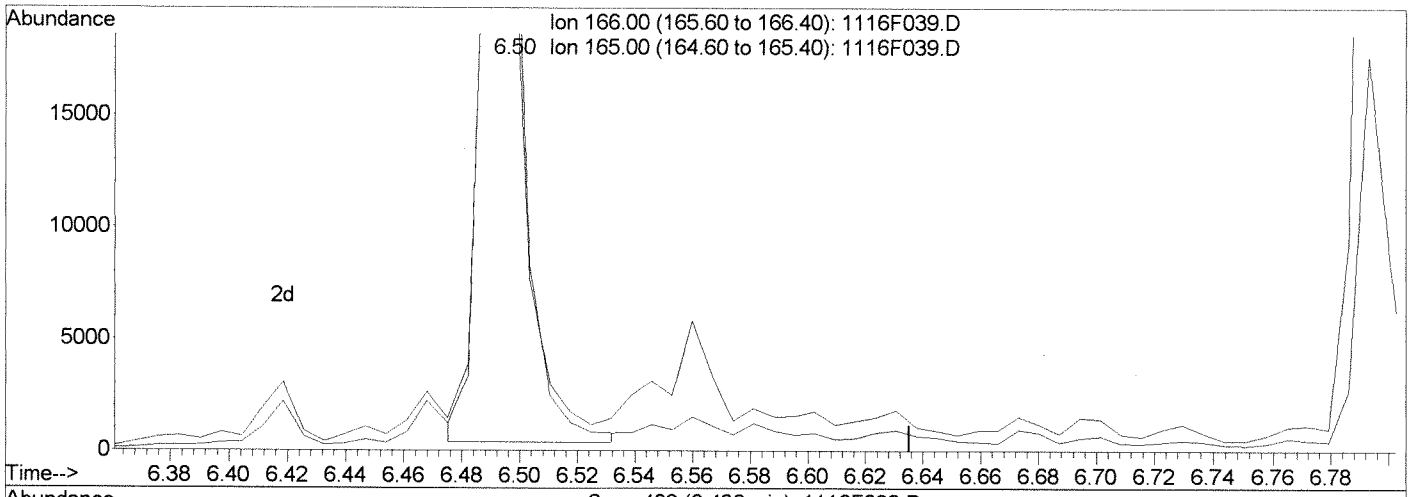
Quantitation Report (Qedit)

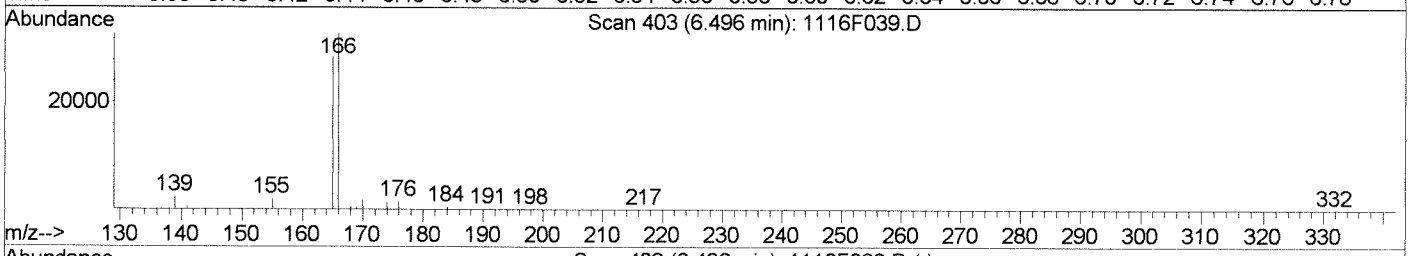
Data File : J:\MS11\DATA\111609\1116F039.D
Acq On : 17 Nov 2009 12:00 am
Sample : K0909140-017
Misc :
MS Integration Params: RTEINT.P
Quant Time: Nov 18 12:23 2009

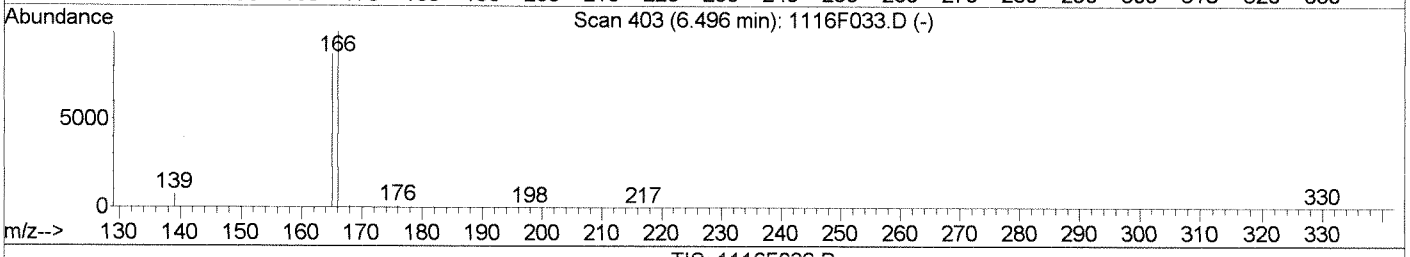
Vial: 35
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Wed Nov 18 12:17:22 2009
Response via : Multiple Level Calibration







TIC: 1116F039.D

(16) Fluorene (T)

6.50min 59.38ng/ml m

response 32937

Ion	Exp%	Act%
166.00	100	100
165.00	87.80	86.61
0.00	0.00	0.00
0.00	0.00	0.00

DI 11/18/09 11-19-09

1116F039.D 1015ALK.M Wed Nov 18 12:23:58 2009

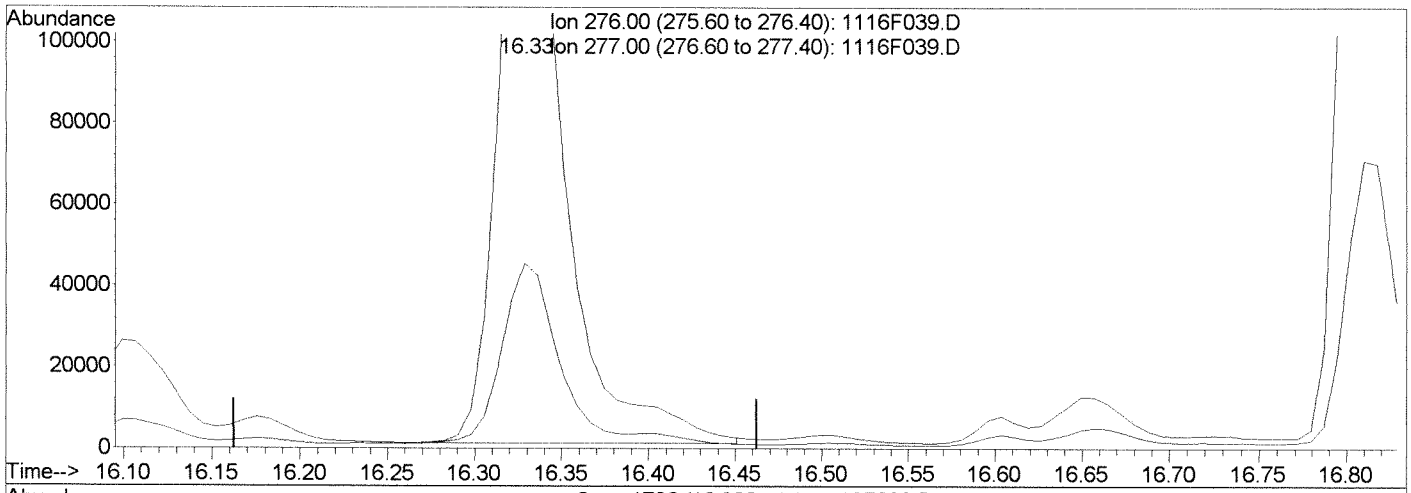
Quantitation Report (Qedit)

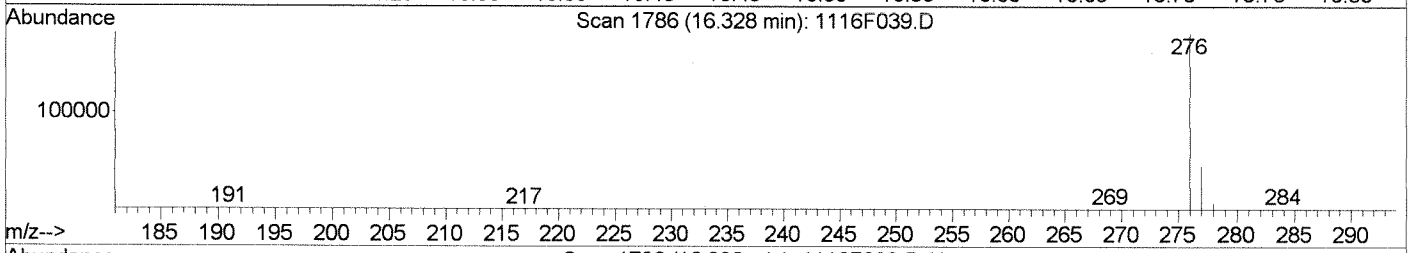
Data File : J:\MS11\DATA\111609\1116F039.D
Acq On : 17 Nov 2009 12:00 am
Sample : K0909140-017
Misc :
MS Integration Params: RTEINT.P
Quant Time: Nov 18 12:24 2009

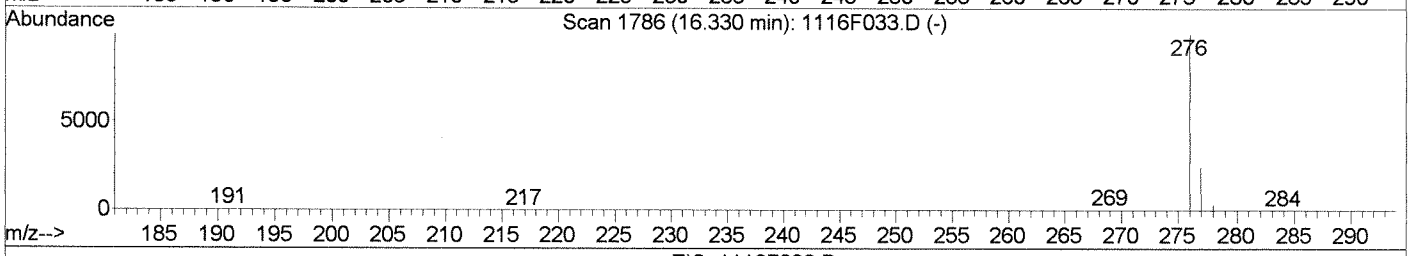
Vial: 35
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Wed Nov 18 12:17:22 2009
Response via : Multiple Level Calibration







TIC: 1116F039.D

(55) Indeno(1,2,3-cd)pyrene (T)

16.33min 289.17ng/ml

response 425833

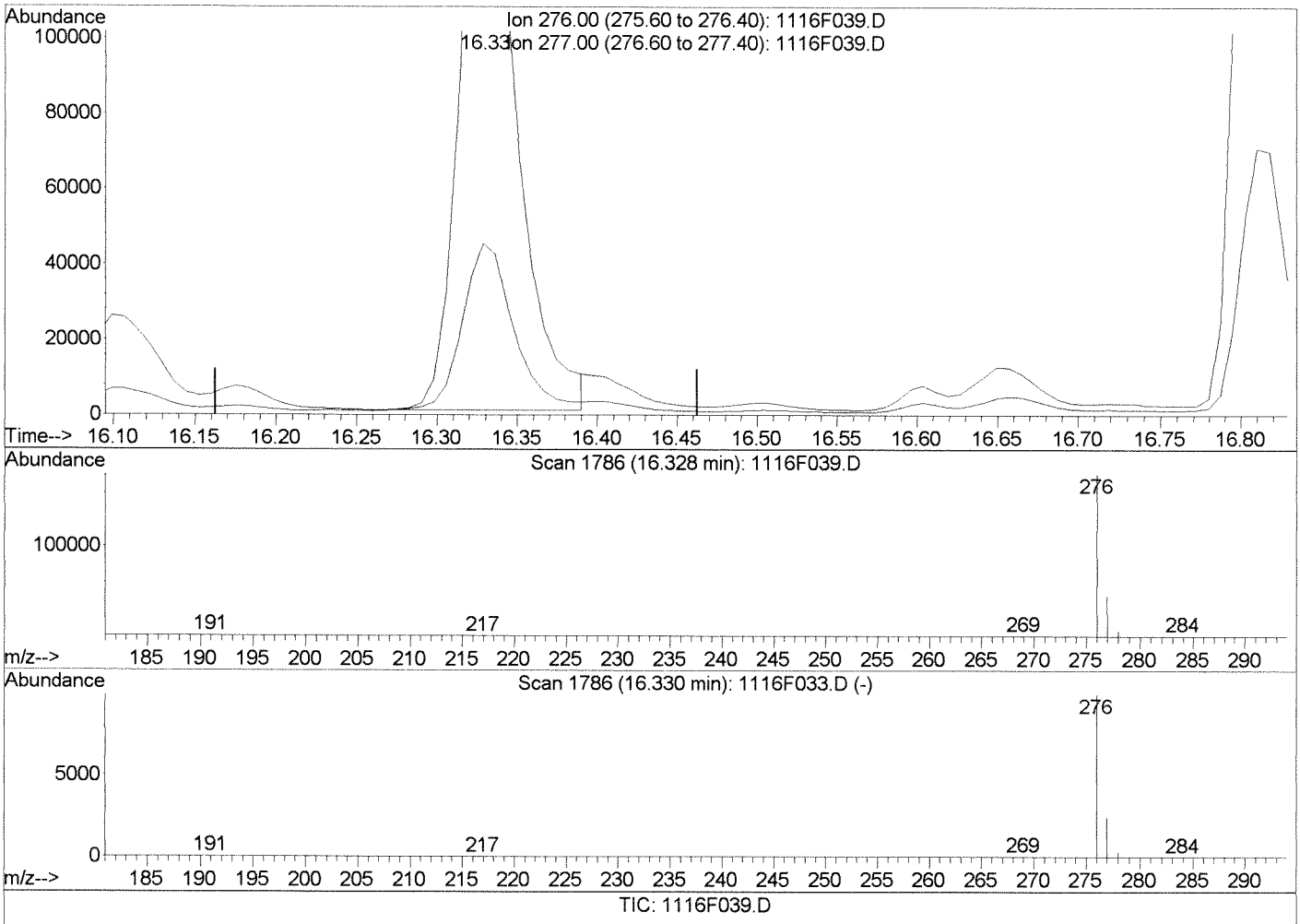
Ion	Exp%	Act%
276.00	100	100
277.00	25.10	24.56
0.00	0.00	0.00
0.00	0.00	0.00

1116F039.D 1015ALK.M Wed Nov 18 12:24:17 2009

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\111609\1116F039.D Vial: 35
Acq On : 17 Nov 2009 12:00 am Operator: LWeiskopf
Sample : K0909140-017 Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 18 12:24 2009 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Wed Nov 18 12:17:22 2009
Response via : Multiple Level Calibration



TIC: 1116F039.D

(55) Indeno(1,2,3-cd)pyrene (T)

16.33min 276.08ng/ml m

response 406557

Ion	Exp%	Act%
276.00	100	100
277.00	25.10	24.96
0.00	0.00	0.00
0.00	0.00	0.00

OI 11/18/09 11-19-09

1116F039.D 1015ALK.M Wed Nov 18 12:24:23 2009

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009
Sample Matrix: Sediment

Service Request: K0909140
Date Collected: 09/28/2009
Date Received: 09/29/2009

Polynuclear Aromatic Hydrocarbons

Sample Name: M-5-B2
Lab Code: K0909140-018

Units: ug/Kg
Basis: Dry

Extraction Method: EPA 3541
Analysis Method: 8270C SIM

Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Naphthalene	**110**		2.6	0.60	1	11/10/09	11/17/09	KWG0910535	
2-Methylnaphthalene	**26**		2.6	0.46	1	11/10/09	11/17/09	KWG0910535	
Acenaphthylene	**26**		2.6	0.56	1	11/10/09	11/17/09	KWG0910535	
Acenaphthene	**28**		2.6	0.50	1	11/10/09	11/17/09	KWG0910535	
Fluorene	**28**		2.6	0.61	1	11/10/09	11/17/09	KWG0910535	
Dibenzofuran	**18**		2.6	0.63	1	11/10/09	11/17/09	KWG0910535	
Phenanthrene	**160**		2.6	1.4	1	11/10/09	11/17/09	KWG0910535	
Anthracene	**31**		2.6	0.55	1	11/10/09	11/17/09	KWG0910535	
Fluoranthene	**250**		2.6	0.98	1	11/10/09	11/17/09	KWG0910535	
Pyrene	**210**		2.6	0.76	1	11/10/09	11/17/09	KWG0910535	
Benz(a)anthracene	**87**		2.6	0.72	1	11/10/09	11/17/09	KWG0910535	
Chrysene	**110**		2.6	0.80	1	11/10/09	11/17/09	KWG0910535	
Benzo(b)fluoranthene	**150**		2.6	0.92	1	11/10/09	11/17/09	KWG0910535	
Benzo(k)fluoranthene	**47**		2.6	0.87	1	11/10/09	11/17/09	KWG0910535	
Benzo(a)pyrene	**140**		2.6	0.76	1	11/10/09	11/17/09	KWG0910535	
Indeno(1,2,3-cd)pyrene	**120**		2.6	0.87	1	11/10/09	11/17/09	KWG0910535	
Dibenz(a,h)anthracene	**14**		2.6	0.80	1	11/10/09	11/17/09	KWG0910535	
Benzo(g,h,i)perylene	**140**		2.6	0.85	1	11/10/09	11/17/09	KWG0910535	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	72	17-104	11/17/09	Acceptable
Fluoranthene-d10	69	27-106	11/17/09	Acceptable
Terphenyl-d14	58	35-109	11/17/09	Acceptable

Comments:

Exception Report

Data File: J:\MS11\DATA\111609\1116F040.D
Lab ID: K0909140-018
RunType: SMPL
Matrix: SEDIMENT

Date Acquired: 11/17/2009 00:26
Date Quantitated: 11/18/2009 12:25
Batch ID: KWG0910855
Analysis Method: 8270C SIM
ListJoinID: LJ5646

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Tune Window	NA	NA	NA	x	
Analytical Holding Time	NA	NA	NA	x	
Preparation Holding Time	NA	NA	NA	x	
Pre-Preparation Holding Time	NA	NA	NA	x	
ICAL Pass/Fail	NA	NA	NA	x	
ICAL Average RSD	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Initial Calibration Minimum RF	NA	NA	NA	x	
Initial Calibration SPCC/CCC	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA	x	
Continuing Calibration Minimum RF	NA	NA	NA	x	
Continuing Calibration SPCC/CCC	NA	NA	NA	x	
Method Blank	NA	NA	NA	x	
MB Surrogate Recovery	NA	NA	NA	x	
Lab Control Spike	NA	NA	NA	x	
Duplicate Lab Control Spike	NA	NA	NA	x	
Internal Standards	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Relative Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Primary Review: 11/19/09

Secondary Review: 11/19/09

Quantitation Report

Bottle ID:		**Tier:**	V	**Matrix:**	SEDIMENT
Prod Code:	8270C SIM PAH_S	**Collect Date:**	09/28/2009	**Receive Date:**	09/29/2009

Analysis Lot:	KWG0910855	**Prep Lot:**	KWG0910535	**Report Group:**	K0909140
Analysis Method:	8270C SIM	**Prep Method:**	EPA 3541		
Prep Ref:	865771	**Prep Date:**	11/10/2009		

Quant Method:	J:\MS11\METHODS\SIM\1015ALK.M	**Calibration ID:**	CAL8928
Title:	Polynuclear Aromatic Hydrocarbons	**Report List ID:**	LJ5646
Tune Ref:	J:\MS11\DATA\111609\1116F032.D	**Method ID:**	MJ253
MB Ref:	J:\MS11\DATA\111609\1116F004.D	**Quant based on Report List**	

Data File:	J:\MS11\DATA\111609\1116F040.D			**Instrument:**	MS11
Acqu Date:	11/17/2009 00:26	**Quant Date:**	11/18/2009 12:25	**Vial:**	36
Run Type:	SMPL			**Dilution:**	1.0
Lab ID:	K0909140-018			**Soln Conc. Units:**	ng/ml

Internal Standard Compounds

IS Ref	Parameter Name	RT	RT Dev	Quant Mass	Response	Solution Conc	Area Criteria
1	Naphthalene-d8	4.63	0.00	136	180839	200.00	OK
2	Acenaphthene-d10	6.05	0.00	164	99837	200.00	OK
3	Phenanthrene-d10	7.26	-0.01	188	173965	200.00	OK
4	Chrysene-d12	9.76	0.00	240	295465	200.00	OK
5	Perylene-d12	12.76	-0.02	264	339252	200.00	OK

Surrogate Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	%Rec	%Rec Limits		Rpt?
2	Fluorene-d10	6.47	0.00	0.00	176	66728	143.25	72	17-104	OK	
3	Fluoranthene-d10	8.24	0.00	0.00	212	133699	138.69	69	27-106	OK	
4	Terphenyl-d14	8.59	0.01	0.00	244	141263	115.65	58	35-109	OK	

Target Compounds

Final Conc. Units: ug/Kg Dry Weight

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	Final Conc	Q	Rpt?
1	Naphthalene	4.64	-0.01	0.00	128	174294	209.44	110		
1	2-Methylnaphthalene	5.21		0.00	142	29842	52.03	26		
2	Acenaphthylene	5.93		0.00	152	43710	50.45	26		
2	Acenaphthene	6.07		0.00	154	28693**m**	55.55	28		
2	Dibenzofuran	6.22		0.00	168	24766	35.65	18		
2	Fluorene	6.49	-0.01	0.00	166	30457**m**	54.69	28		
3	Phenanthrene	7.28	-0.01	0.00	178	306825	314.47	160		
3	Anthracene	7.33		0.00	178	57942	62.11	31		
3	Fluoranthene	8.25		0.00	202	526921	491.62	250		
4	Pyrene	8.44		0.00	202	656141	405.55	210		
4	Benz(a)anthracene	9.75		0.00	228	276276	172.04	87		
4	Chrysene	9.80		0.00	228	352110	225.10	110		
5	Benzo(b)fluoranthene	11.76	-0.01	0.00	252	529730	299.33	150		

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Data File:	J:\MS11\DATA\111609\1116F040.D			**Instrument:**	MS11
Acqu Date:	11/17/2009 00:26	**Quant Date:**	11/18/2009 12:25	**Vial:**	36
Run Type:	SMPL			**Dilution:**	1.0
Lab ID:	K0909140-018			**Soln Conc. Units:**	ng/ml

Target Compounds **Final Conc. Units:** ug/Kg Dry Weight

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	Final Conc	Q	Rpt?
5	Benzo(k)fluoranthene	11.83	-0.01	0.00	252	161353	92.54	47		
5	Benzo(a)pyrene	12.61		0.00	252	459928	274.40	140		
5	Indeno(1,2,3-cd)pyrene	16.33		0.00	276	356233**m**	231.67	120		
5	Dibenz(a,h)anthracene	16.40	-0.01	0.00	278	45380	27.39	14		
5	Benzo(g,h,i)perylene	16.81	-0.01	0.00	276	493743	278.79	140		

Prep Amount:	20.27 g	**Dilution:**	1.0
Prep Final Vol:	10 ml	**Unit Factor:**	1
Solids:	97.5 %		

Final Concentration = ((Soln Conc x Prep Final Vol x Dilution) / (Prep Amount x Solids)) x Unit Factor

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\111609\1116F040.D Vial: 36
Acq On : 17 Nov 2009 12:26 am Operator: LWeiskopf
Sample : K0909140-018 Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 18 12:17:46 2009 Quant Results File: 1015ALK.RES

Quant Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Wed Nov 18 12:17:22 2009
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	4.63	136	180839	200.00	ng/ml	0.00
10) Acenaphthene-d10	6.05	164	99837	200.00	ng/ml	0.00
22) Phenanthrene-d10	7.26	188	173965	200.00	ng/ml	0.00
37) Chrysene-d12	9.76	240	295465	200.00	ng/ml	0.00
49) Perylene-d12	12.76	264	339252	200.00	ng/ml	0.00
System Monitoring Compounds						
15) Fluorene-d10	6.47	176	66728	143.25	ng/ml	0.00
Spiked Amount 200.000			Recovery =	71.63%		
20) 2,4,6 Tribromophenol	0.00	330	0d	0.00	ng/ml	
Spiked Amount 375.000			Recovery =	0.00%		
36) Fluoranthene-d10	8.24	212	133699	138.69	ng/ml	0.00
Spiked Amount 200.000			Recovery =	69.34%		
42) Terphenyl-d14	8.59	244	141263	115.65	ng/ml	0.02
Spiked Amount 200.000			Recovery =	57.83%		
Target Compounds						Qvalue
2) Naphthalene	4.64	128	174294	209.44	ng/ml	97
3) 2-Methylnaphthalene	5.21	142	29842	52.03	ng/ml	95
4) 1-Methylnaphthalene	5.28	142	15923	26.11	ng/ml	96
5) Biphenyl	5.58	154	14593	22.31	ng/ml	100
6) 2,6-Dimethylnaphthalene	5.77	156	15188	33.68	ng/ml	88
11) Acenaphthylene	5.93	152	43710	50.45	ng/ml	97
12) Acenaphthene	6.07	154	28693m	55.55	ng/ml	
13) Dibenzofuran	6.22	168	24766	35.65	ng/ml	80
14) 2,3,5-Trimethylnaphthalene	6.38	170	9655	22.25	ng/ml	96
16) Fluorene	6.49	166	30457m	54.69	ng/ml	
23) Dibenzothiophene	7.19	184	20440	23.24	ng/ml	92
27) Phenanthrene	7.28	178	306825	314.47	ng/ml	98
28) Anthracene	7.33	178	57942	62.11	ng/ml	98
29) Carbazole	7.48	167	6357	7.97	ng/ml	92
30) 1-Methylphenanthrene	7.78	192	35850	51.32	ng/ml	94
35) Fluoranthene	8.25	202	526921	491.62	ng/ml	99
38) Pyrene	8.44	202	656141	405.55	ng/ml	86
43) Benz(a)anthracene	9.75	228	276276	172.04	ng/ml	43
44) Chrysene	9.80	228	352110	225.10	ng/ml	98
50) Benzo(b)fluoranthene	11.76	252	529730	299.33	ng/ml	99
51) Benzo(k)fluoranthene	11.83	252	161353	92.54	ng/ml	97
52) Benzo(e)pyrene	12.46	252	324442	195.76	ng/ml	99
53) Benzo(a)pyrene	12.61	252	459928	274.40	ng/ml	100
54) Perylene	12.85	252	254717	155.03	ng/ml	100
55) Indeno(1,2,3-cd)pyrene	16.33	276	356233m	231.67	ng/ml	

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\111609\1116F040.D Vial: 36
Acq On : 17 Nov 2009 12:26 am Operator: LWeiskopf
Sample : K0909140-018 Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 18 12:17:46 2009 Quant Results File: 1015ALK.RES

Quant Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Wed Nov 18 12:17:22 2009
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

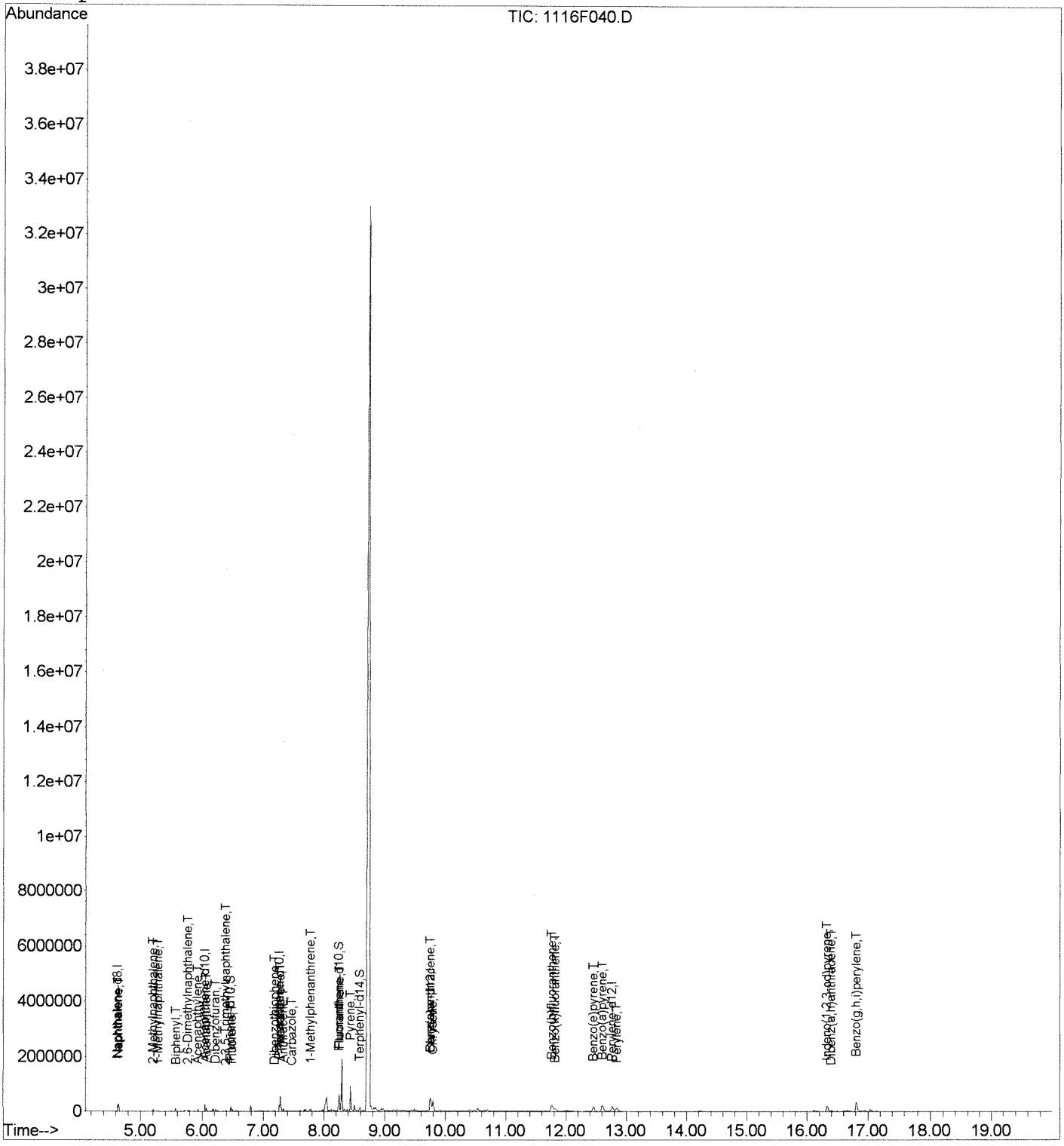
	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
56)	Dibenz(a,h)anthracene	16.40	278	45380	27.39	ng/ml	61
57)	Benzo(g,h,i)perylene	16.81	276	493743	278.79	ng/ml	99

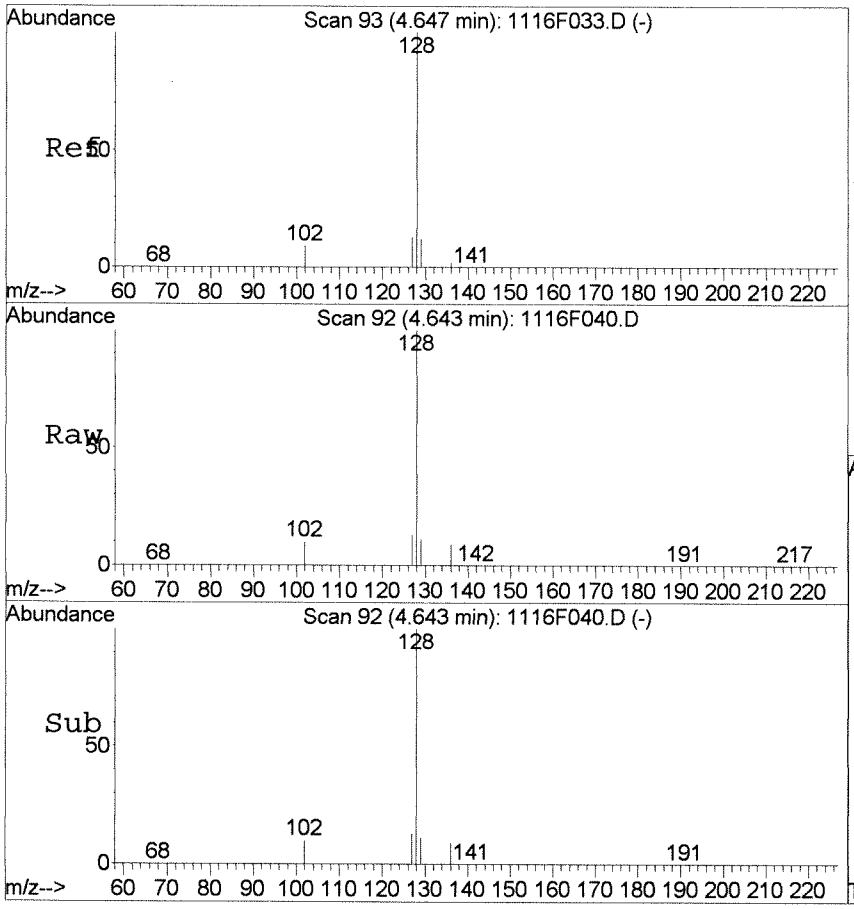
(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\111609\1116F040.D Vial: 36
Acq On : 17 Nov 2009 12:26 am Operator: LWeiskopf
Sample : K0909140-018 Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 18 12:25 2009 Quant Results File: 1015ALK.RES

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Wed Nov 18 12:17:22 2009
Response via : Initial Calibration

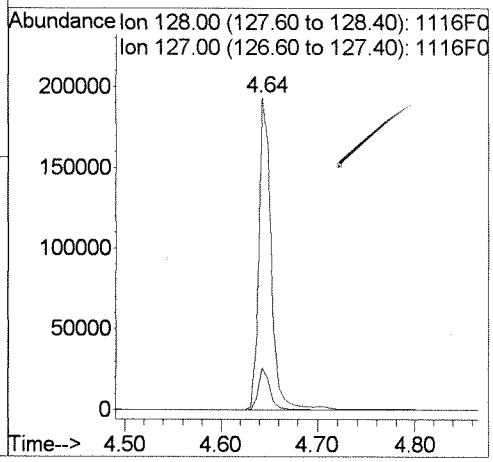


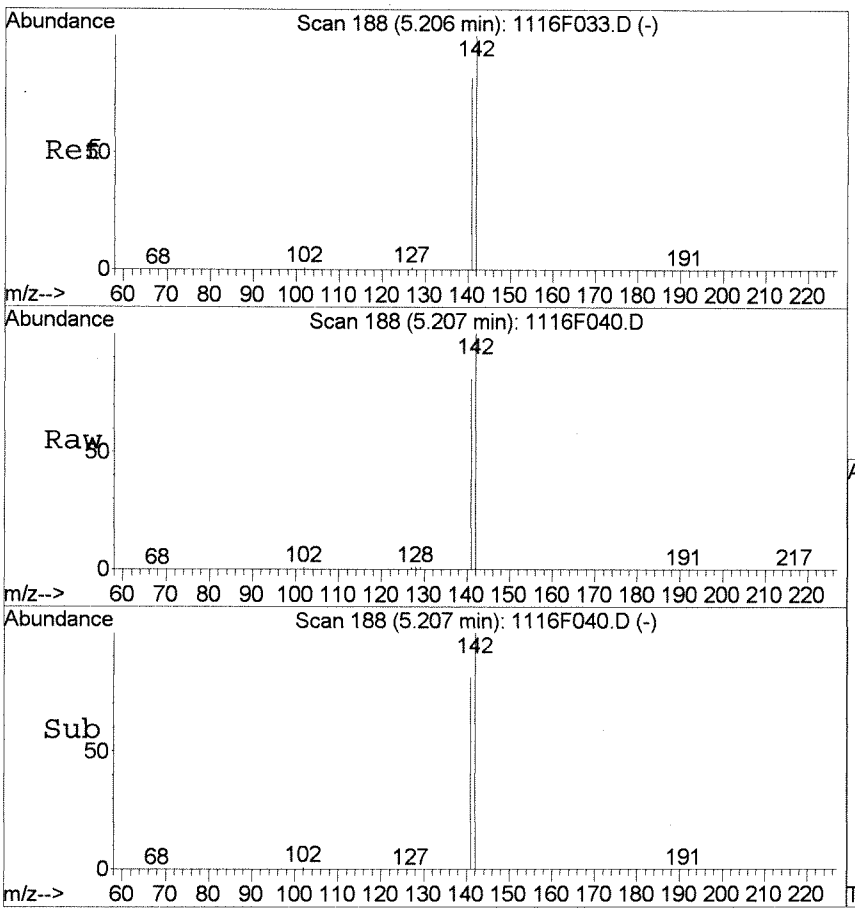


#2
Naphthalene
Concen: 209.44 ng/ml
RT: 4.64 min Scan# 92
Delta R.T. 0.01 min
Lab File: 1116F040.D
Acq: 17 Nov 2009 12:26 am

Tgt Ion:128 Resp: 174294

Ion	Ratio	Lower	Upper
128	100		
127	13.4	0.0	42.4

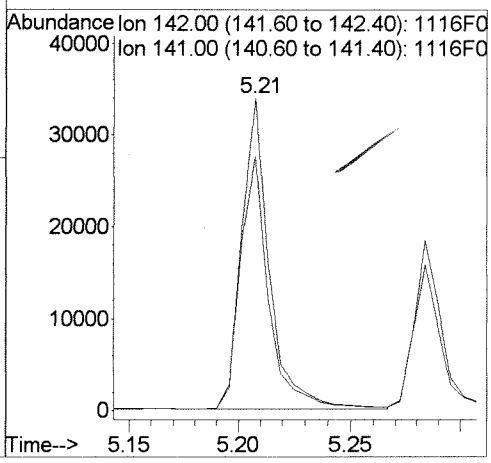


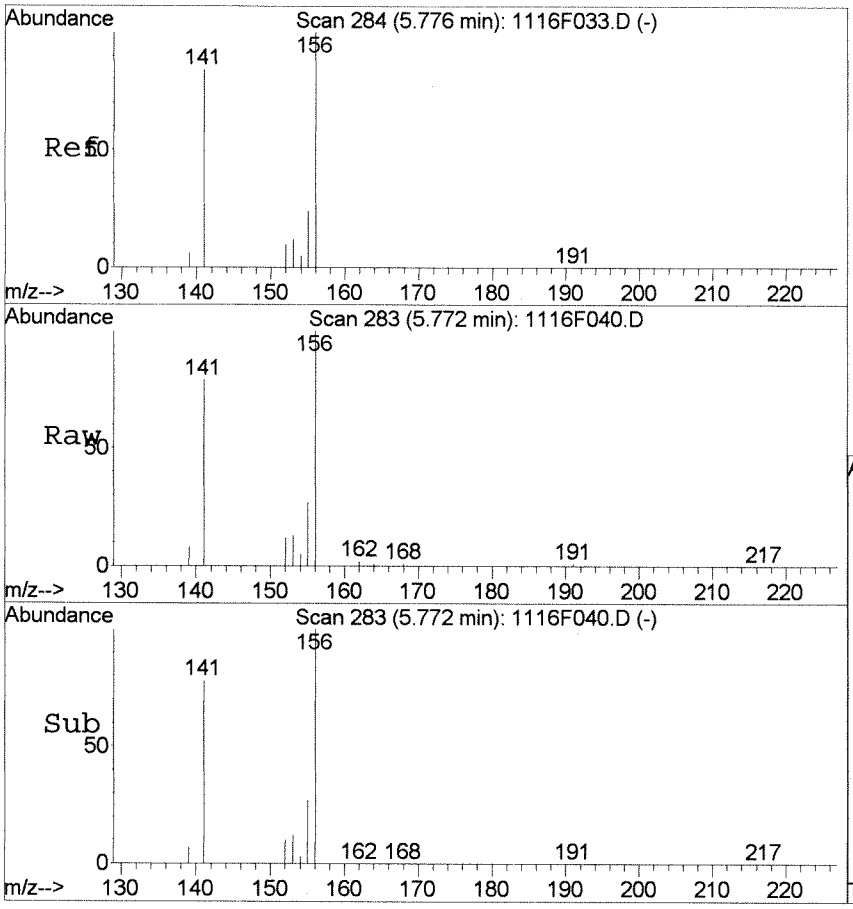


#3
2-Methylnaphthalene
Concen: 52.03 ng/ml
RT: 5.21 min Scan# 188
Delta R.T. 0.01 min
Lab File: 1116F040.D
Acq: 17 Nov 2009 12:26 am

Tgt Ion:142 Resp: 29842

Ion	Ratio	Lower	Upper
142	100		
141	81.1	56.1	116.1

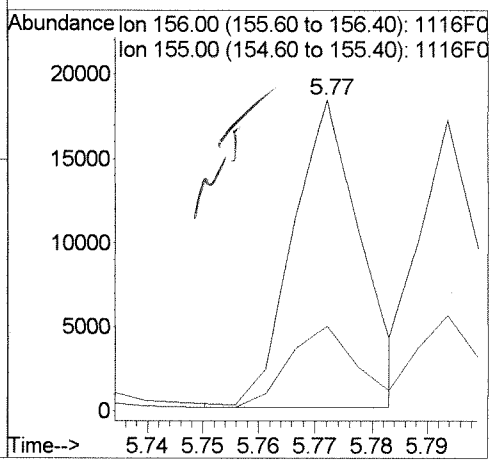


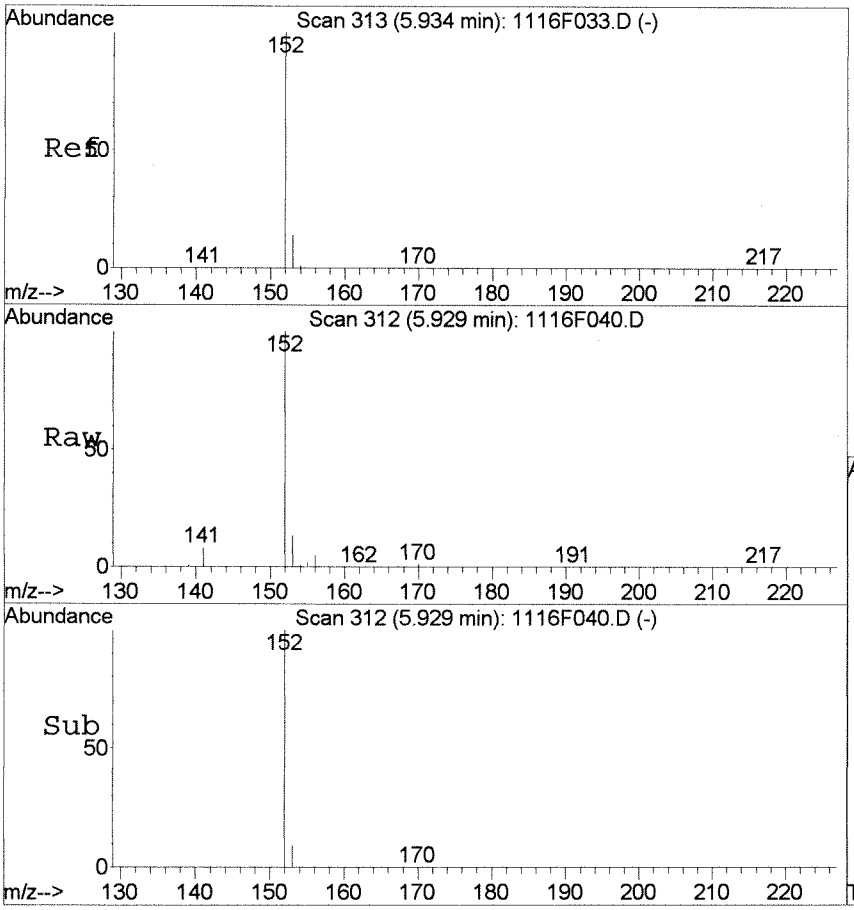


#6
2,6-Dimethylnaphthalene
Concen: 33.68 ng/ml
RT: 5.77 min Scan# 283
Delta R.T. 0.01 min
Lab File: 1116F040.D
Acq: 17 Nov 2009 12:26 am

Tgt Ion:156 Resp: 15188

Ion	Ratio	Lower	Upper
156	100		
155	26.9	3.7	63.7

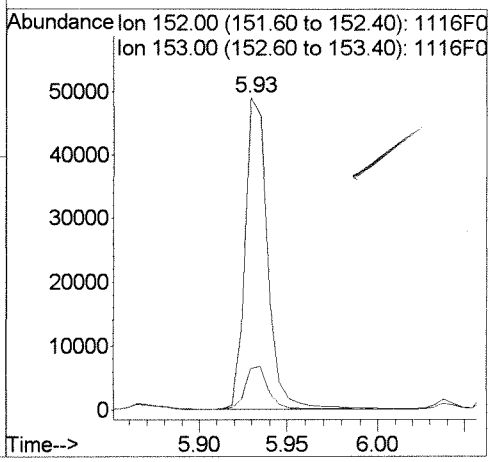


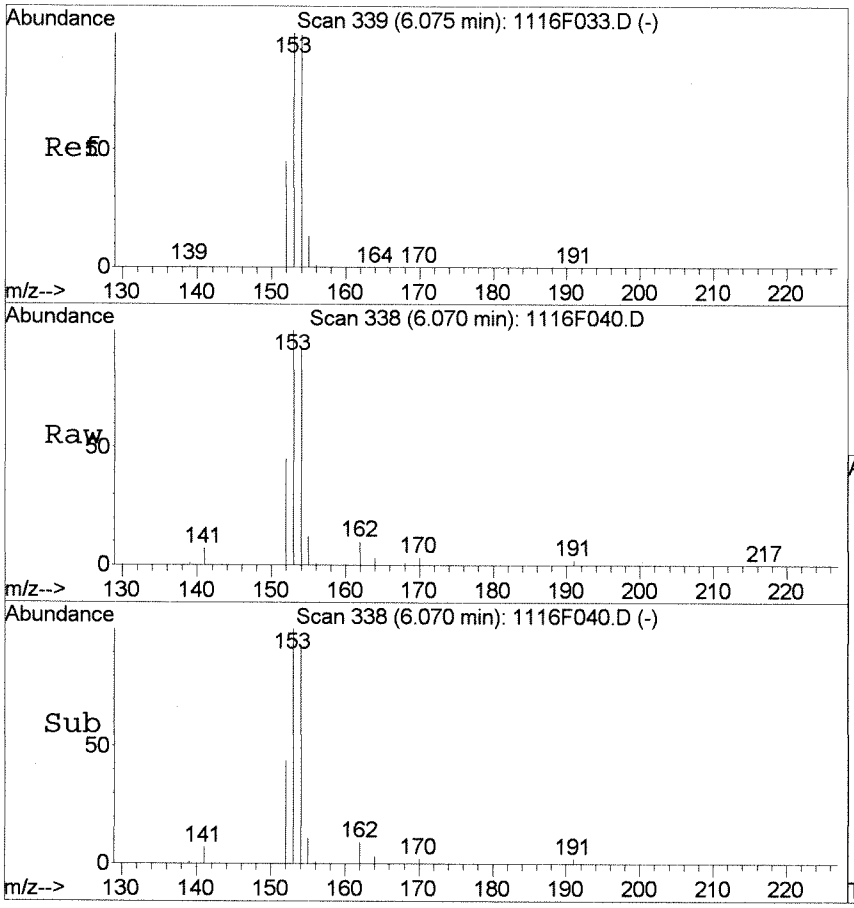


#11
Acenaphthylene
Concen: 50.45 ng/ml
RT: 5.93 min Scan# 312
Delta R.T. 0.01 min
Lab File: 1116F040.D
Acq: 17 Nov 2009 12:26 am

Tgt Ion:152 Resp: 43710

Ion	Ratio	Lower	Upper
152	100		
153	13.0	0.0	44.1

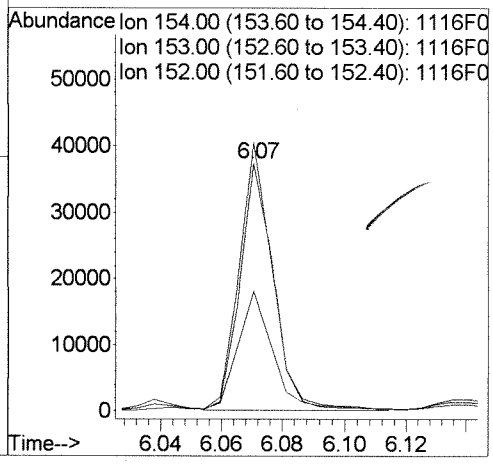


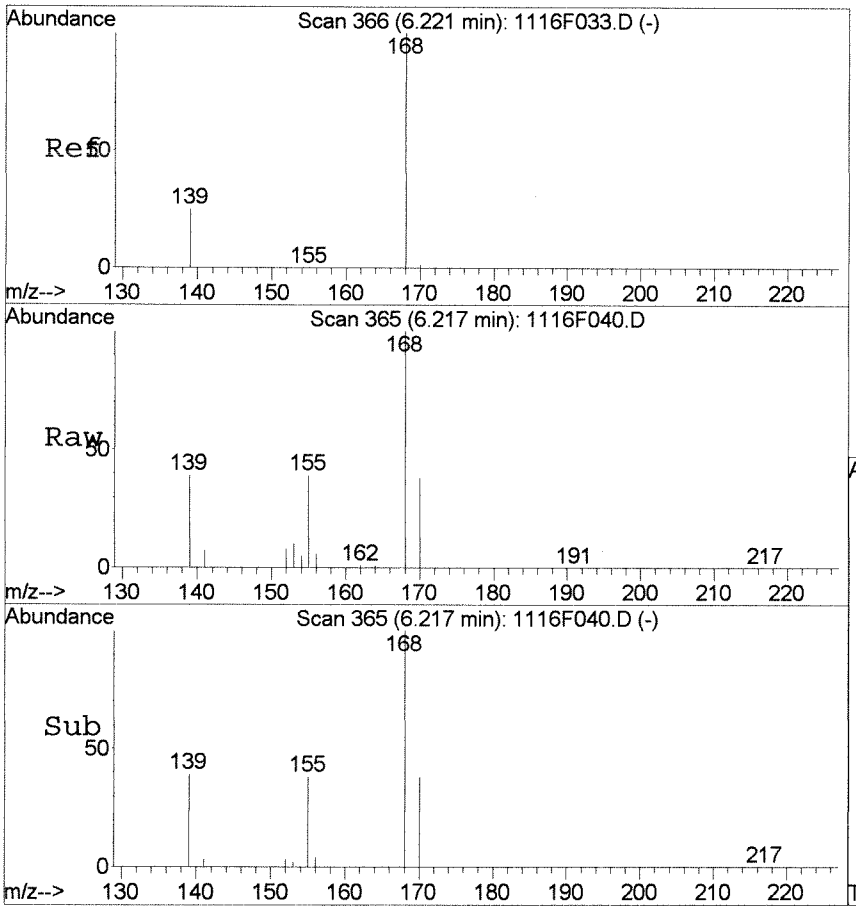


#12
Acenaphthene
Concen: 55.55 ng/ml m
RT: 6.07 min Scan# 338
Delta R.T. 0.01 min
Lab File: 1116F040.D
Acq: 17 Nov 2009 12:26 am

Tgt Ion:154 Resp: 28693

Ion	Ratio	Lower	Upper
154	100		
153	108.5	77.8	137.8
152	48.4	24.7	84.7

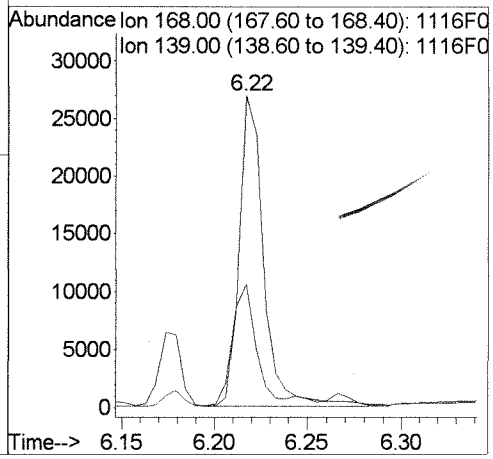


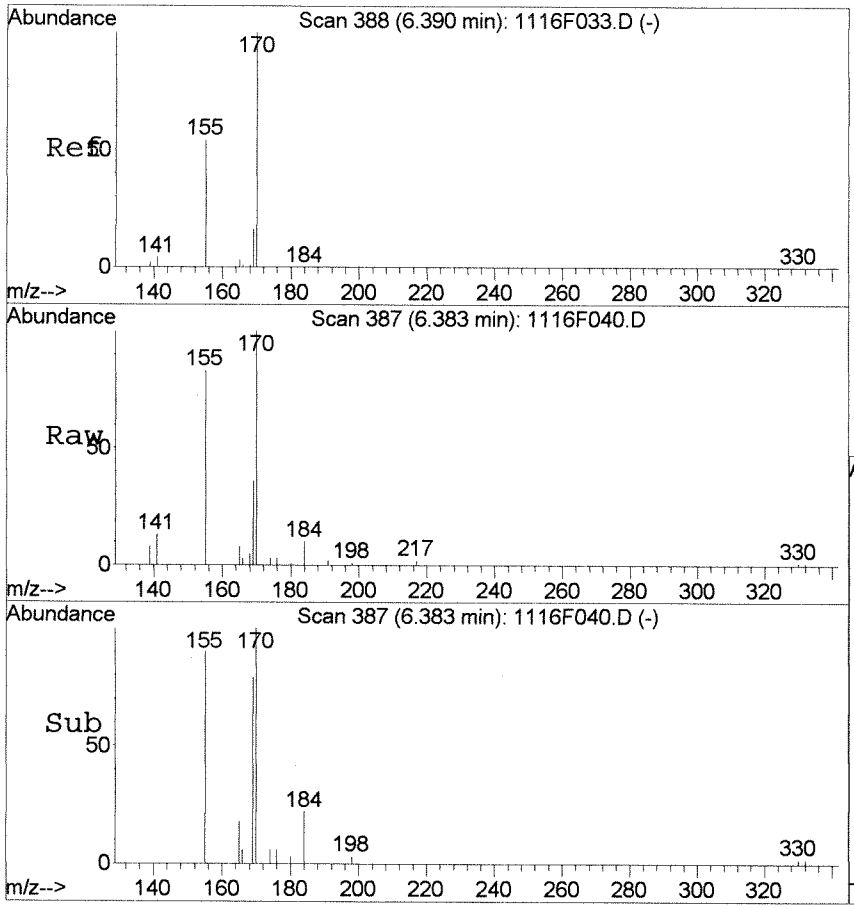


#13
Dibenzofuran
Concen: 35.65 ng/ml
RT: 6.22 min Scan# 365
Delta R.T. 0.01 min
Lab File: 1116F040.D
Acq: 17 Nov 2009 12:26 am

Tgt Ion:168 Resp: 24766

Ion	Ratio	Lower	Upper
168	100		
139	39.0	23.3	83.3

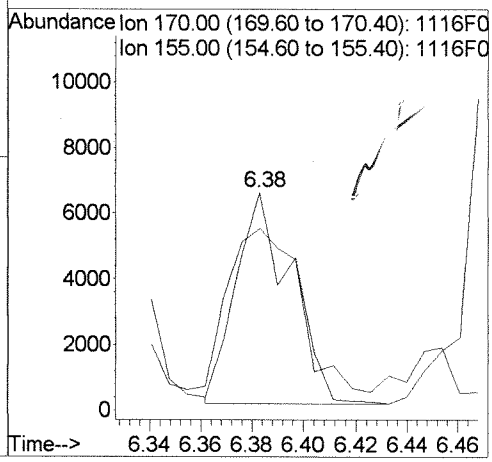


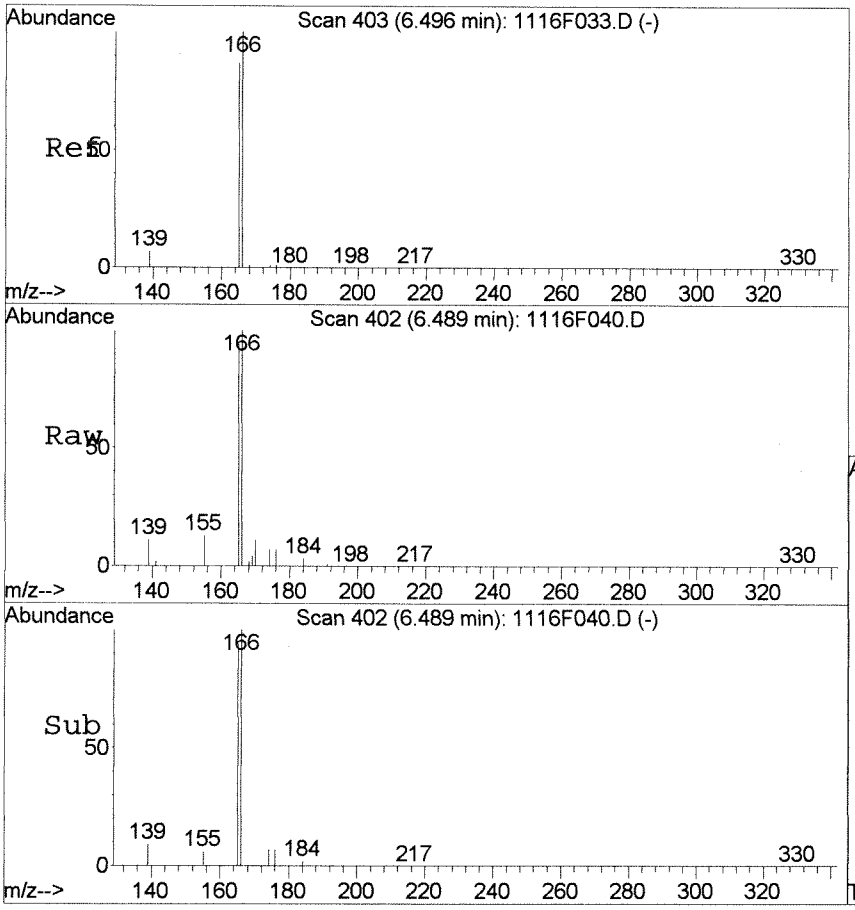


#14
2,3,5-Trimethylnaphthalene
Concen: 22.25 ng/ml
RT: 6.38 min Scan# 387
Delta R.T. 0.00 min
Lab File: 1116F040.D
Acq: 17 Nov 2009 12:26 am

Tgt Ion:170 Resp: 9655

Ion	Ratio	Lower	Upper
170	100		
155	74.7	48.2	108.2

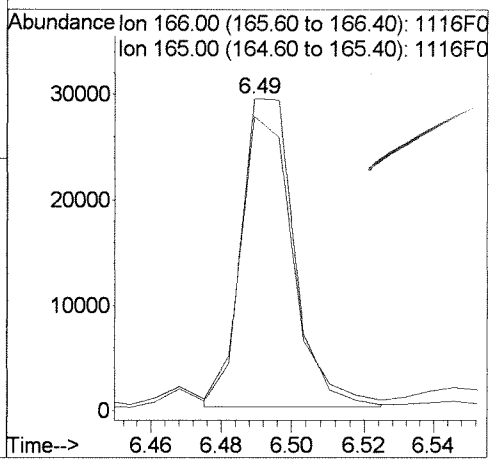


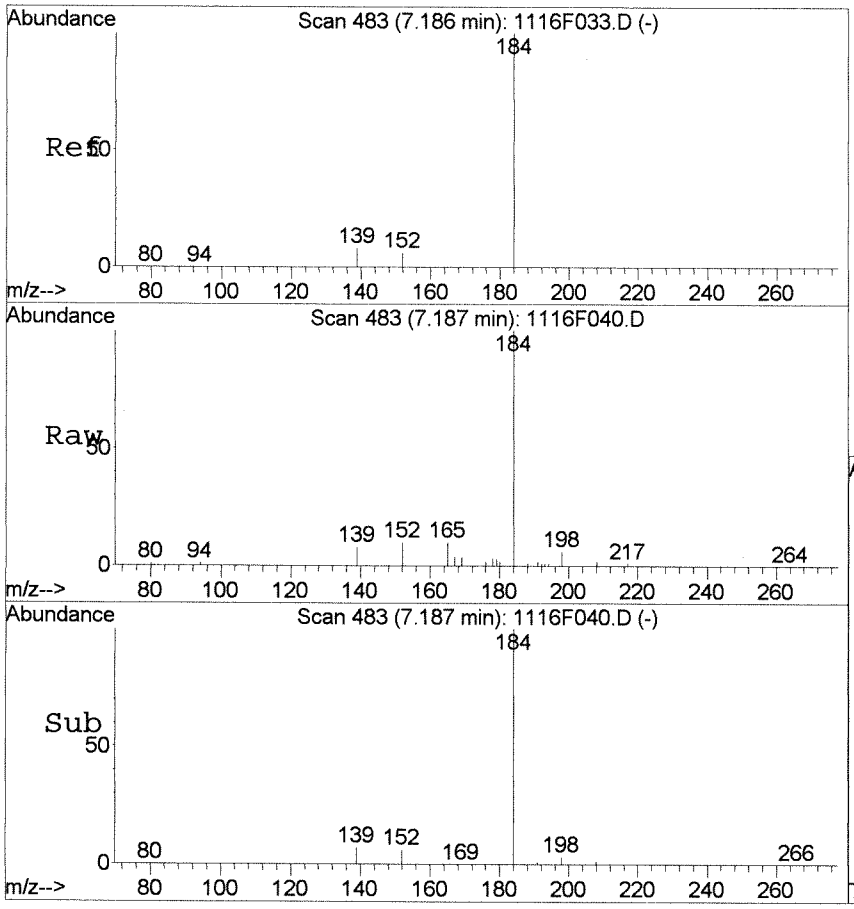


#16
Fluorene
Concen: 54.69 ng/ml m
RT: 6.49 min Scan# 402
Delta R.T. 0.00 min
Lab File: 1116F040.D
Acq: 17 Nov 2009 12:26 am

Tgt Ion:166 Resp: 30457

Ion	Ratio	Lower	Upper
166	100		
165	94.3	57.8	117.8

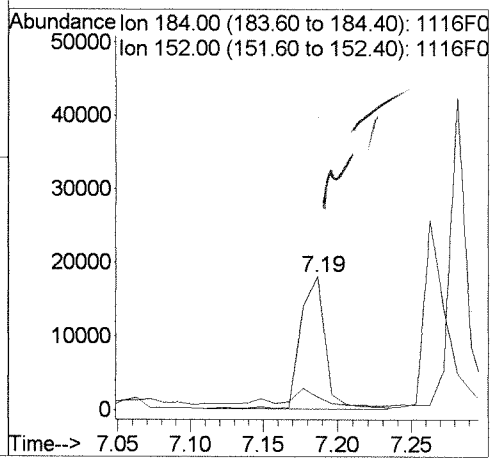


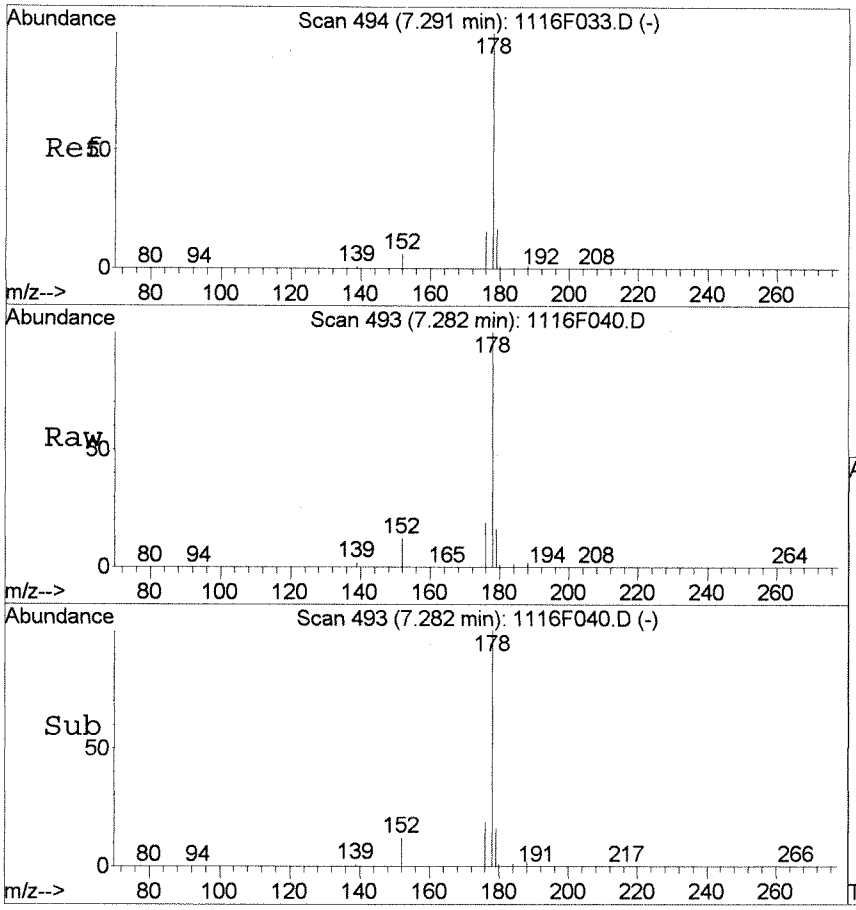


#23
Dibenzothiophene
Concen: 23.24 ng/ml
RT: 7.19 min Scan# 483
Delta R.T. 0.01 min
Lab File: 1116F040.D
Acq: 17 Nov 2009 12:26 am

Tgt Ion:184 Resp: 20440

Ion	Ratio	Lower	Upper
184	100		
152	6.5	0.0	39.4

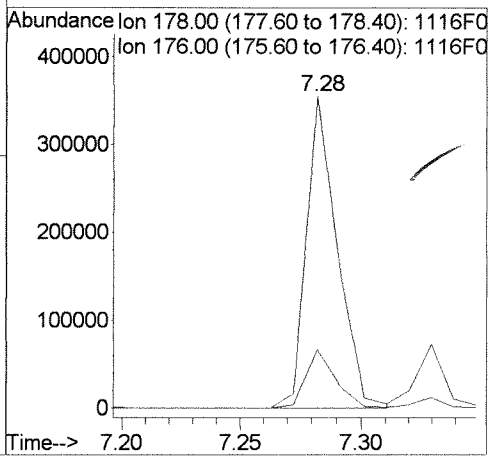


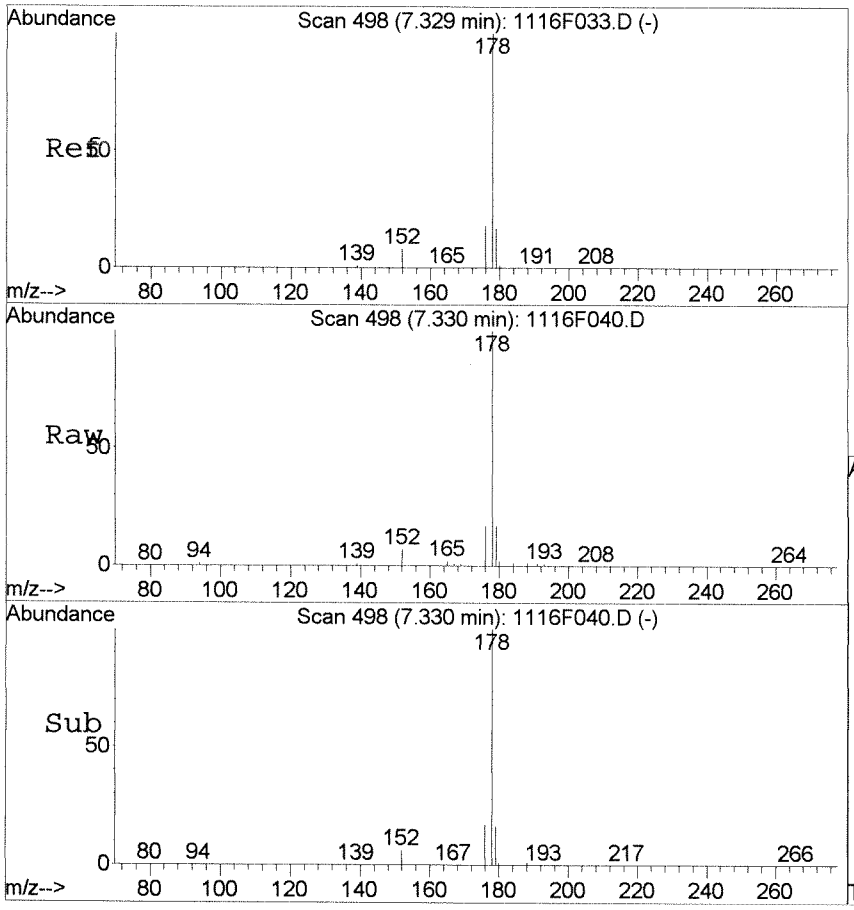


#27
Phenanthrene
Concen: 314.47 ng/ml
RT: 7.28 min Scan# 493
Delta R.T. -0.00 min
Lab File: 1116F040.D
Acq: 17 Nov 2009 12:26 am

Tgt Ion:178 Resp: 306825

Ion	Ratio	Lower	Upper
178	100		
176	18.8	0.0	49.6

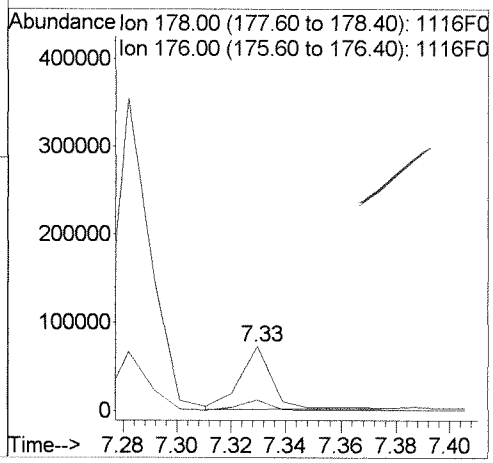


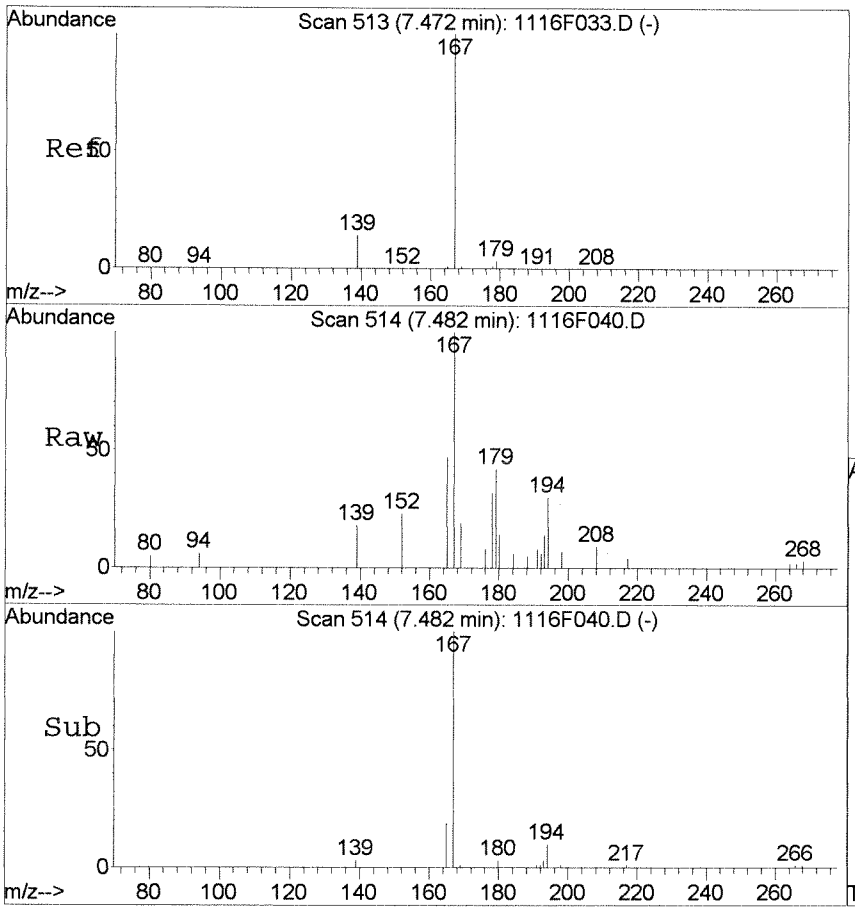


#28
Anthracene
Concen: 62.11 ng/ml
RT: 7.33 min Scan# 498
Delta R.T. 0.01 min
Lab File: 1116F040.D
Acq: 17 Nov 2009 12:26 am

Tgt Ion:178 Resp: 57942

Ion	Ratio	Lower	Upper
178	100		
176	16.6	0.0	47.6

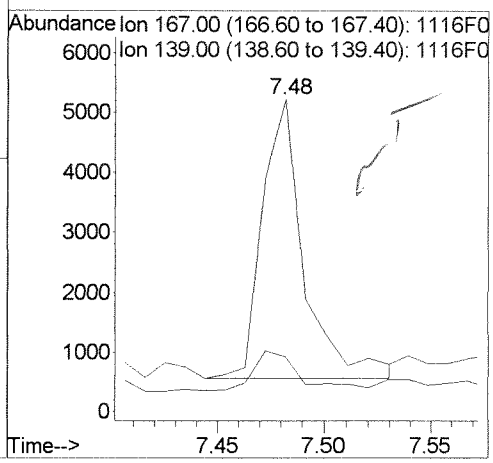


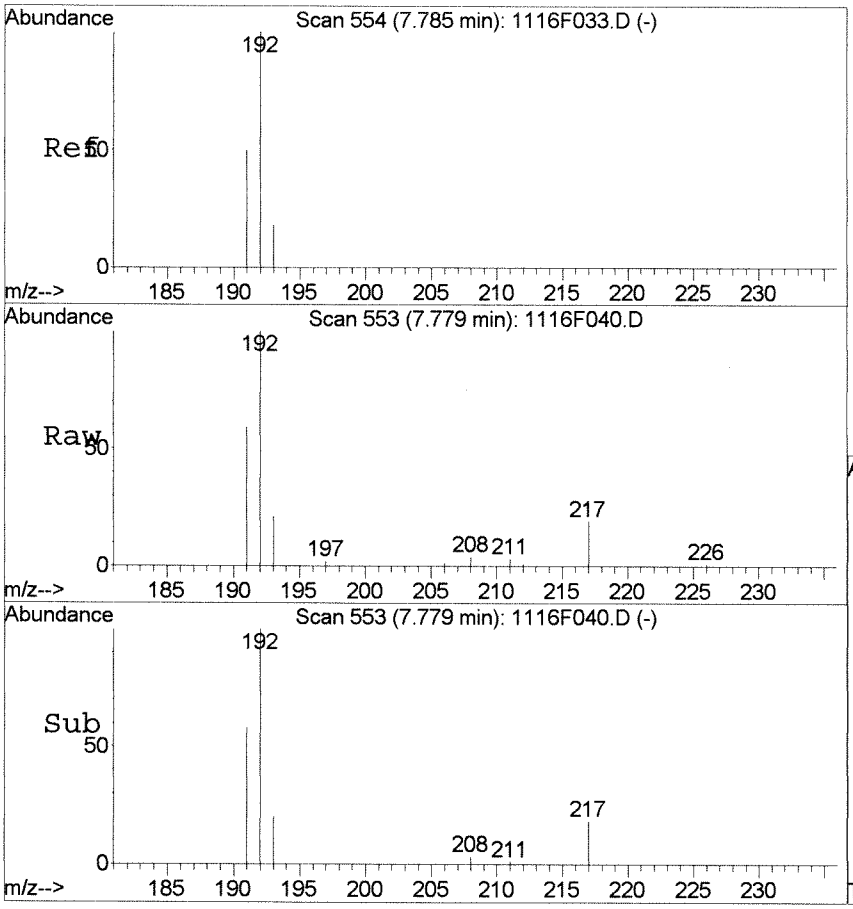


#29
Carbazole
Concen: 7.97 ng/ml
RT: 7.48 min Scan# 514
Delta R.T. 0.01 min
Lab File: 1116F040.D
Acq: 17 Nov 2009 12:26 am

Tgt Ion:167 Resp: 6357

Ion	Ratio	Lower	Upper
167	100		
139	12.2	0.0	45.7

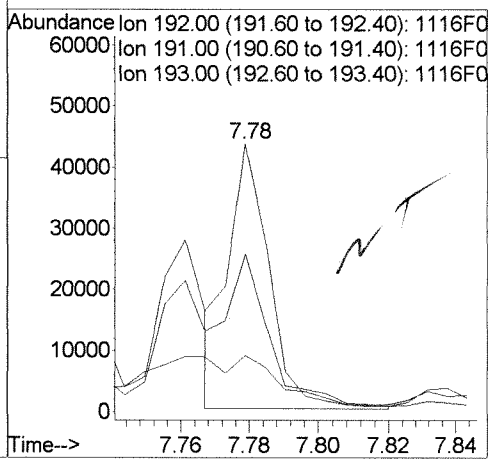


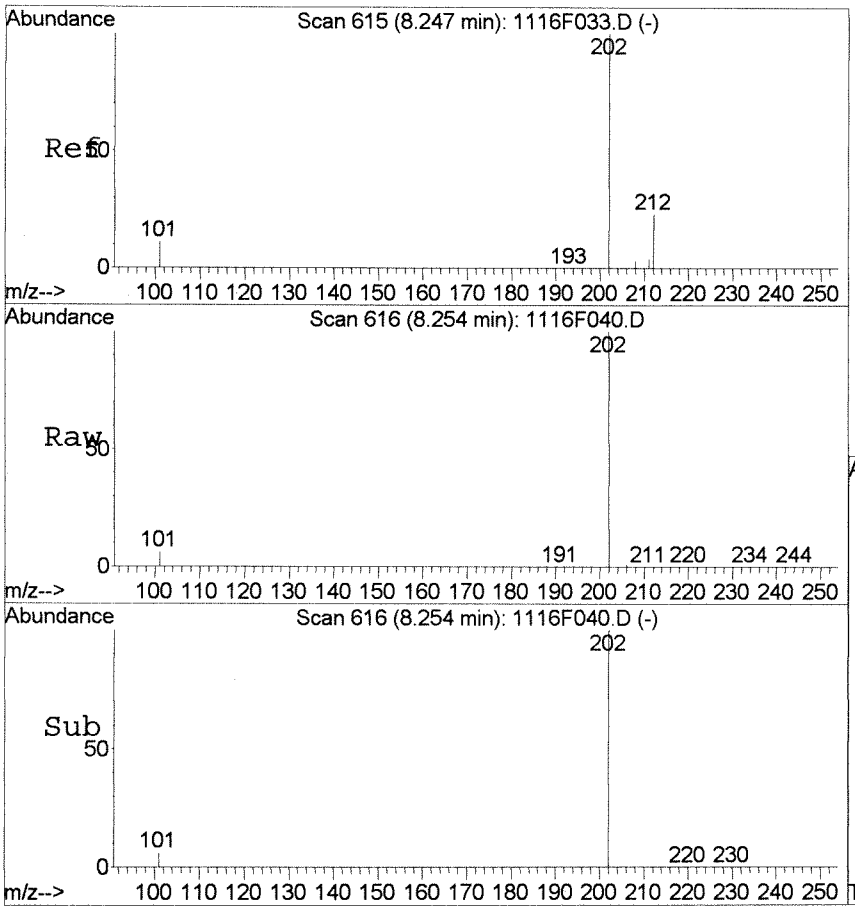


#30
1-Methylphenanthrene
Concen: 51.32 ng/ml
RT: 7.78 min Scan# 553
Delta R.T. 0.01 min
Lab File: 1116F040.D
Acq: 17 Nov 2009 12:26 am

Tgt Ion:192 Resp: 35850

Ion	Ratio	Lower	Upper
192	100		
191	57.3	23.0	83.0
193	19.1	0.0	47.0

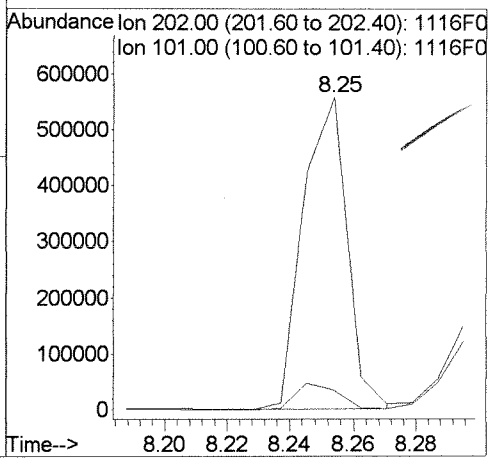


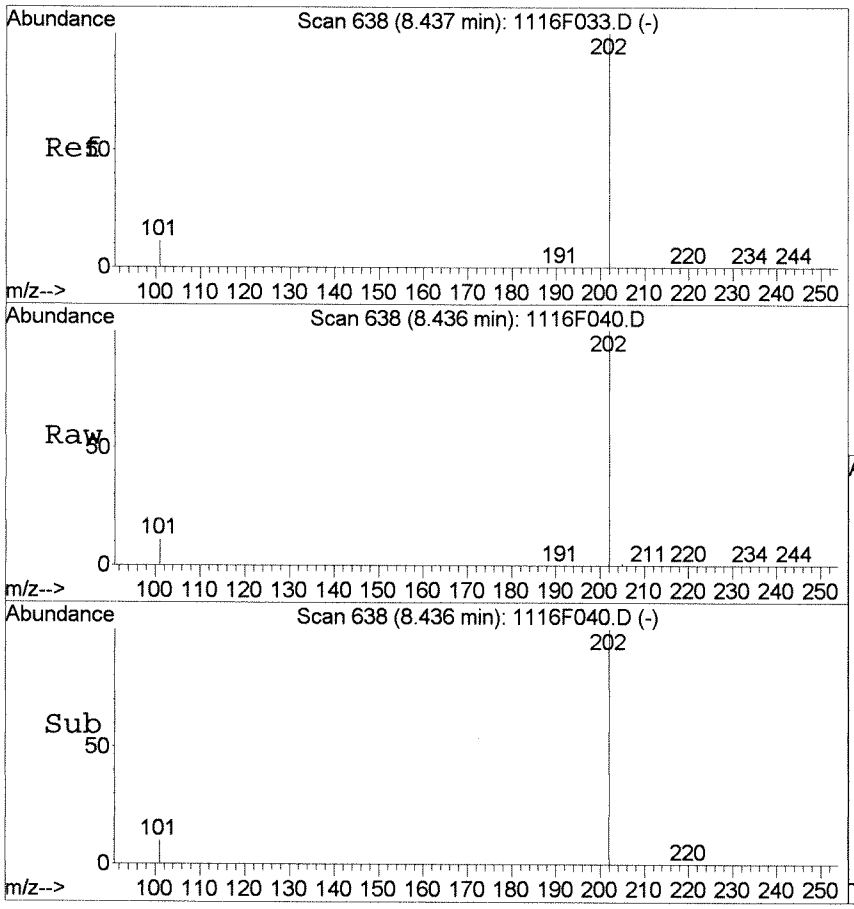


#35
Fluoranthene
Concen: 491.62 ng/ml
RT: 8.25 min Scan# 616
Delta R.T. 0.01 min
Lab File: 1116F040.D
Acq: 17 Nov 2009 12:26 am

Tgt Ion:202 Resp: 526921

Ion	Ratio	Lower	Upper
202	100		
101	6.2	0.0	36.5

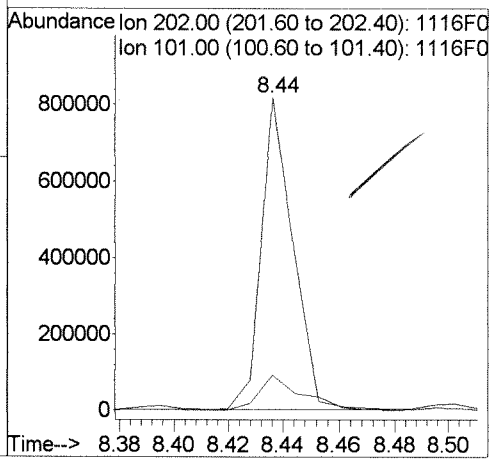


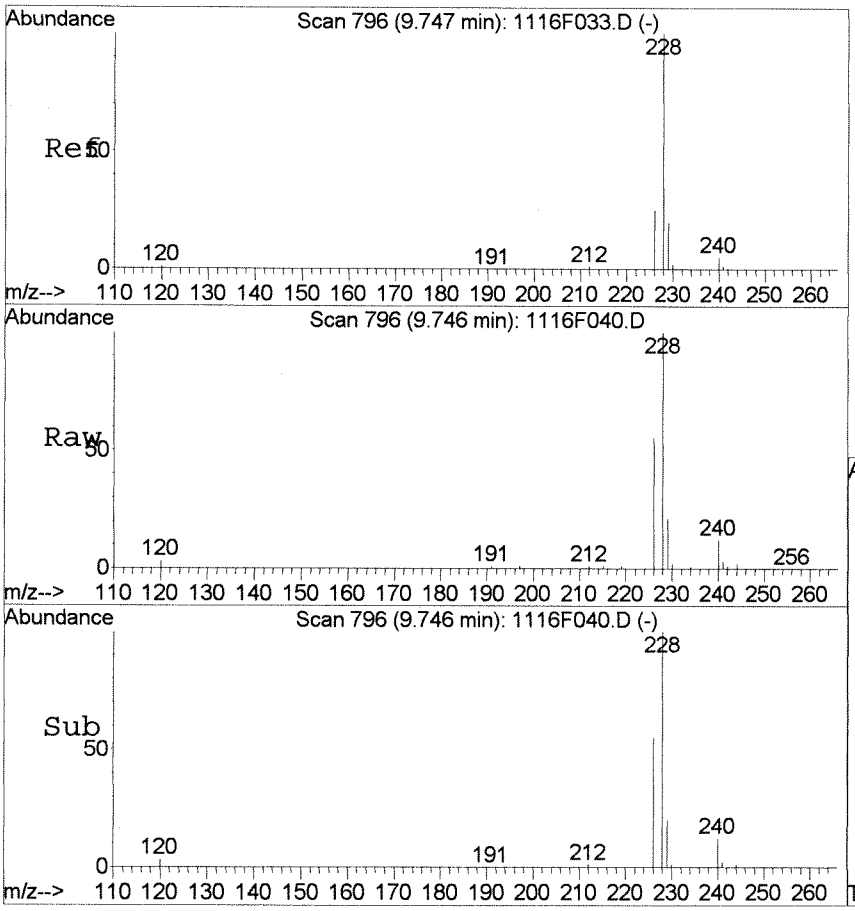


#38
Pyrene
Concen: 405.55 ng/ml
RT: 8.44 min Scan# 638
Delta R.T. 0.01 min
Lab File: 1116F040.D
Acq: 17 Nov 2009 12:26 am

Tgt Ion:202 Resp: 656141

Ion	Ratio	Lower	Upper
202	100		
101	11.3	0.0	36.4

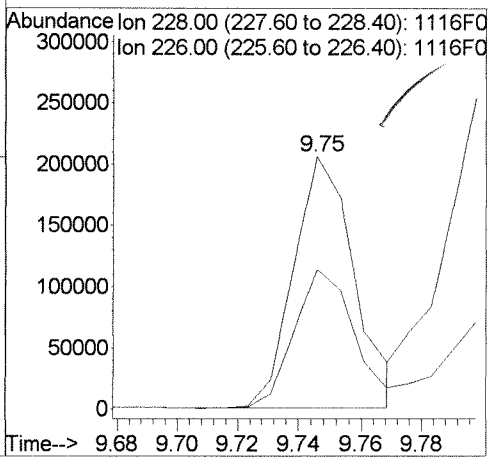


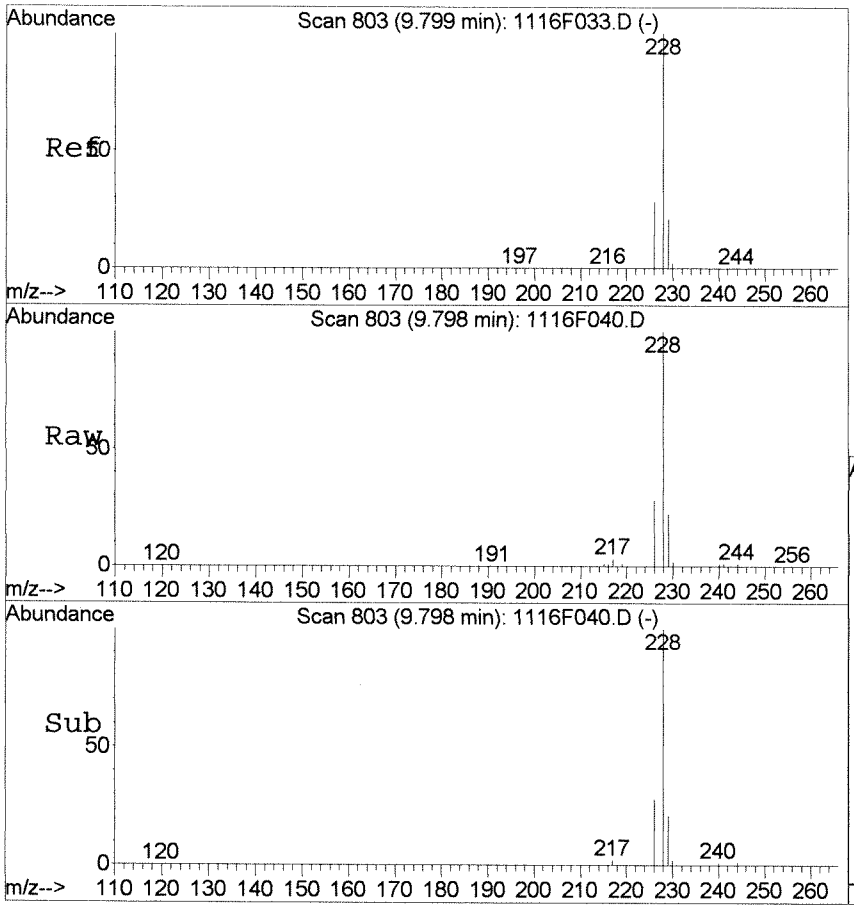


#43
Benz(a)anthracene
Concen: 172.04 ng/ml
RT: 9.75 min Scan# 796
Delta R.T. 0.01 min
Lab File: 1116F040.D
Acq: 17 Nov 2009 12:26 am

Tgt Ion:228 Resp: 276276

Ion	Ratio	Lower	Upper
228	100		
226	55.1	0.0	55.9

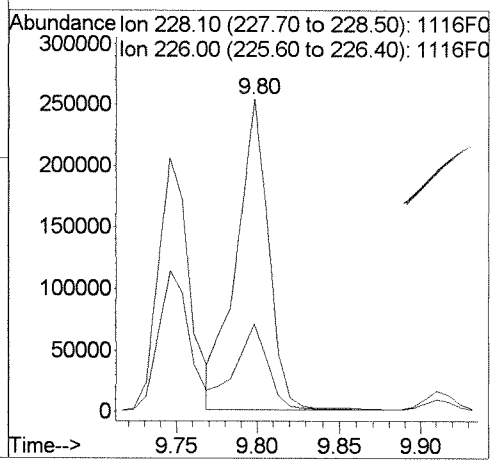


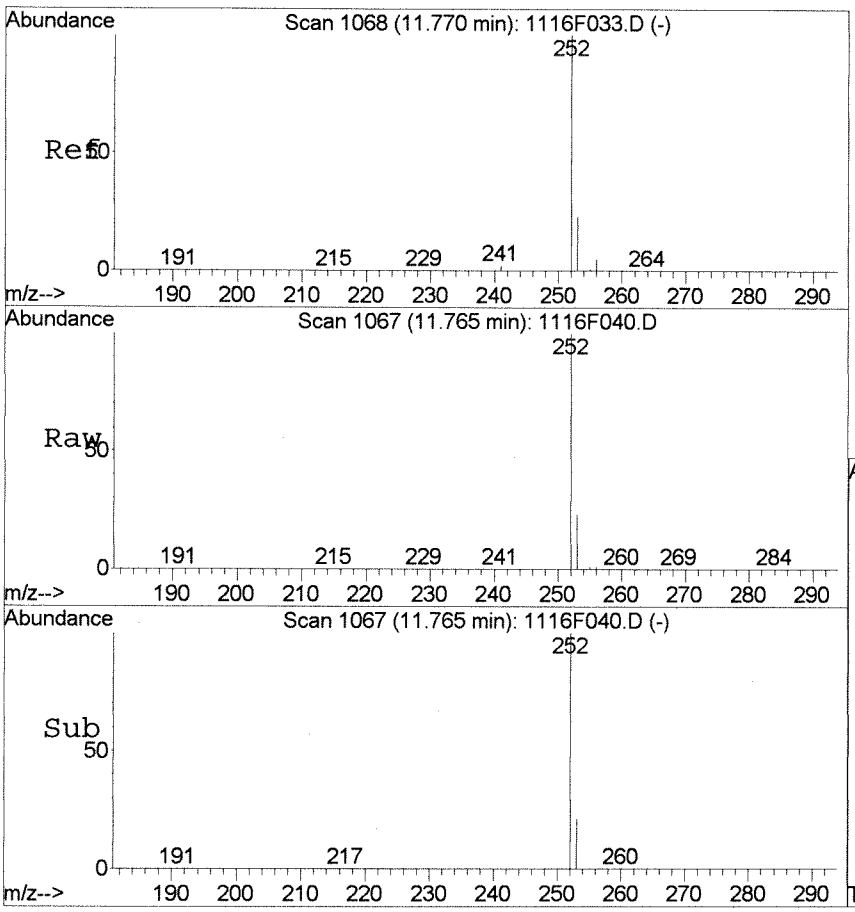


#44
Chrysene
Concen: 225.10 ng/ml
RT: 9.80 min Scan# 803
Delta R.T. 0.01 min
Lab File: 1116F040.D
Acq: 17 Nov 2009 12:26 am

Tgt Ion:228 Resp: 352110

Ion	Ratio	Lower	Upper
228	100		
226	27.6	0.0	58.8

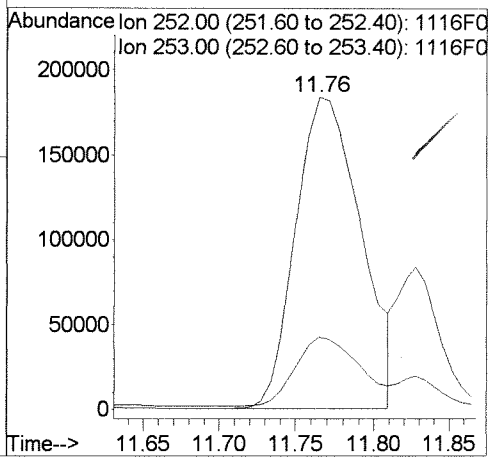


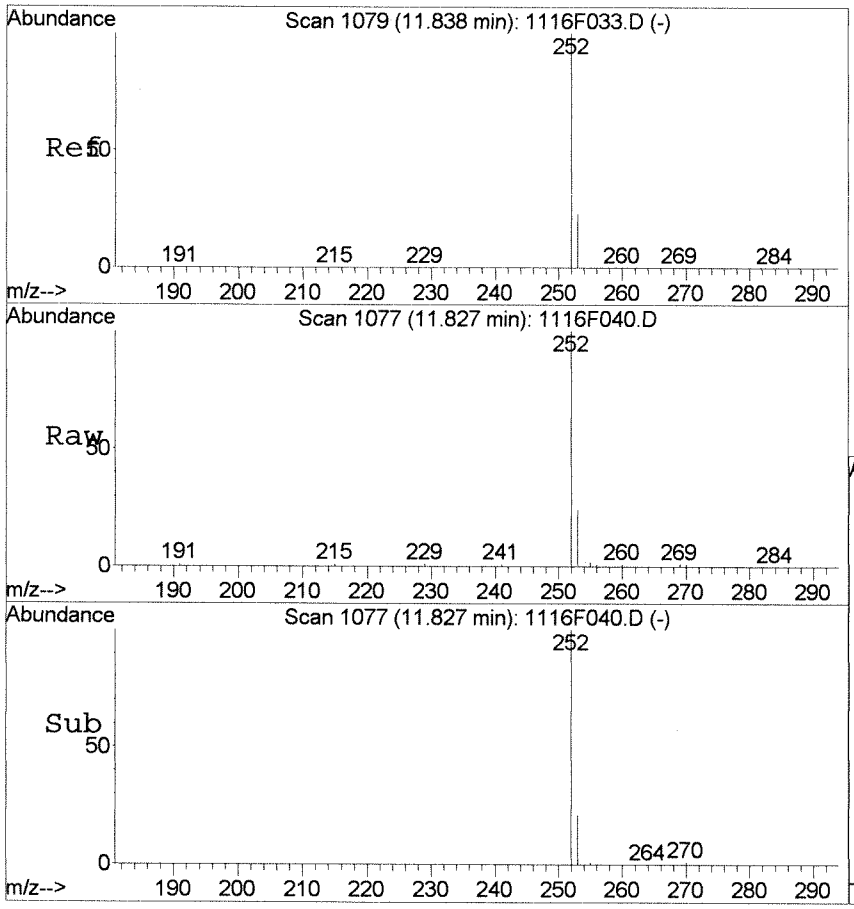


#50
Benzo(b)fluoranthene
Concen: 299.33 ng/ml
RT: 11.76 min Scan# 1067
Delta R.T. 0.02 min
Lab File: 1116F040.D
Acq: 17 Nov 2009 12:26 am

Tgt Ion:252 Resp: 529730

Ion	Ratio	Lower	Upper
252	100		
253	22.2	0.0	52.8

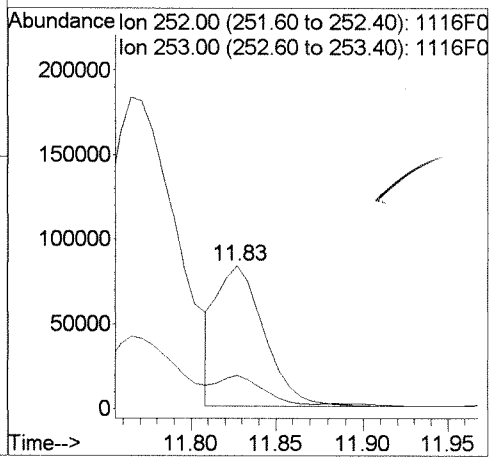


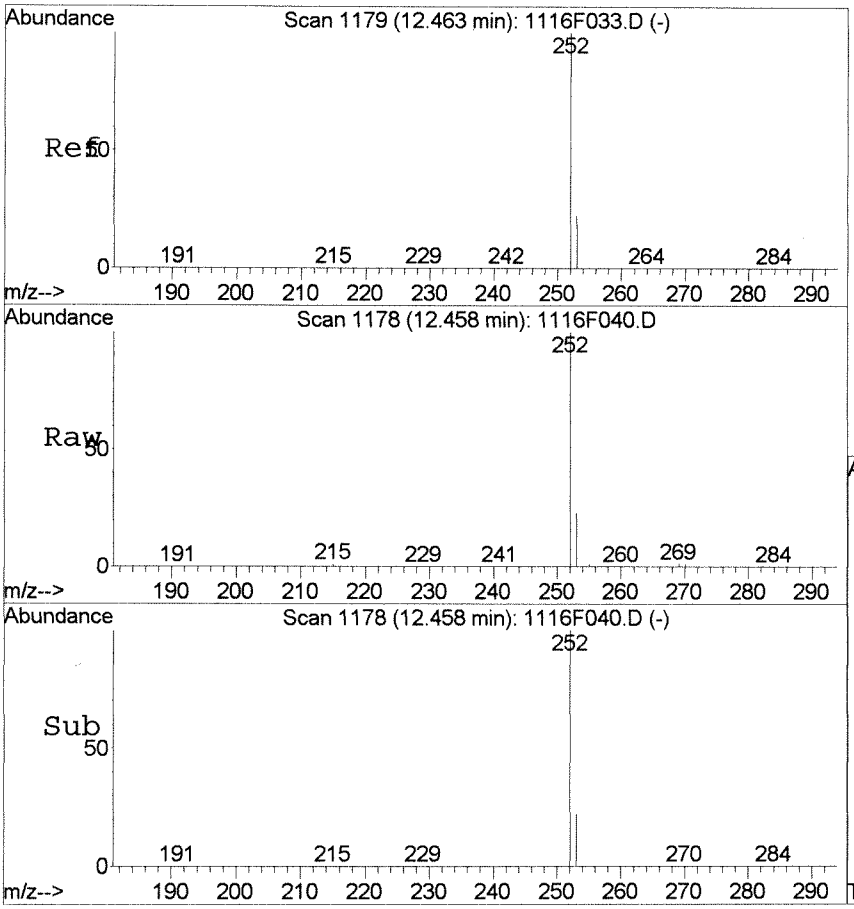


#51
Benzo(k)fluoranthene
Concen: 92.54 ng/ml
RT: 11.83 min Scan# 1077
Delta R.T. 0.01 min
Lab File: 1116F040.D
Acq: 17 Nov 2009 12:26 am

Tgt Ion:252 Resp: 161353

Ion	Ratio	Lower	Upper
252	100		
253	21.2	0.0	52.5

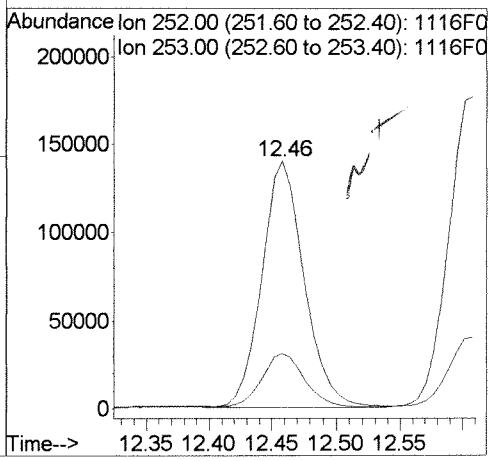


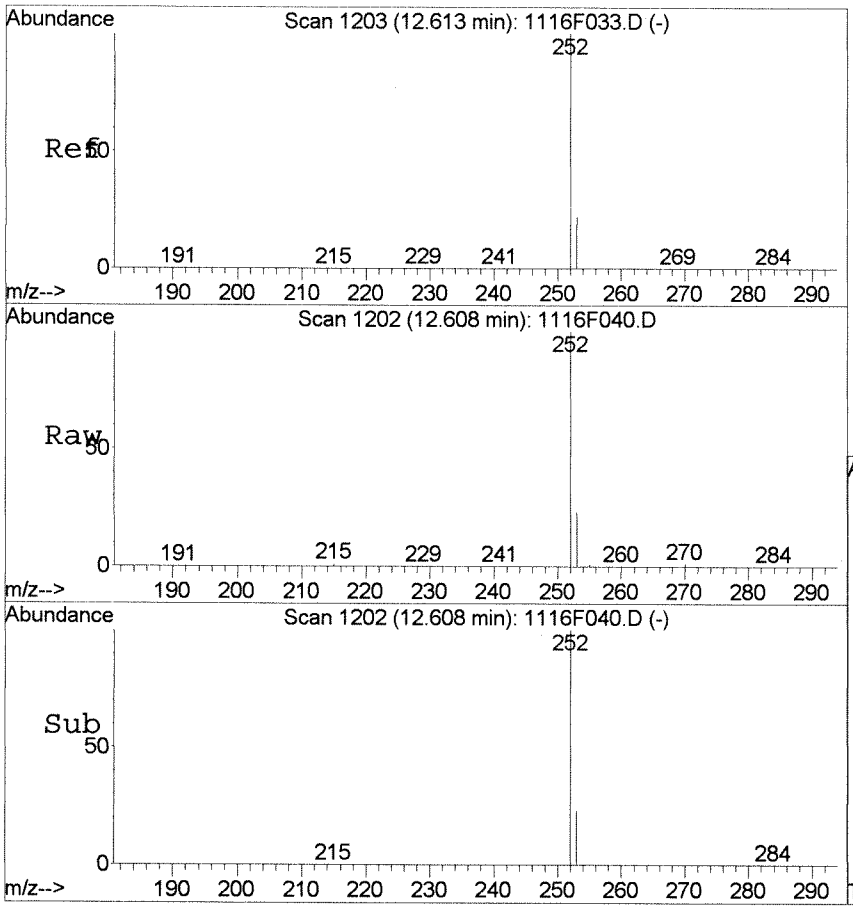


#52
Benzo(e)pyrene
Concen: 195.76 ng/ml
RT: 12.46 min Scan# 1178
Delta R.T. 0.02 min
Lab File: 1116F040.D
Acq: 17 Nov 2009 12:26 am

Tgt Ion:252 Resp: 324442

Ion	Ratio	Lower	Upper
252	100		
253	21.8	0.0	52.3

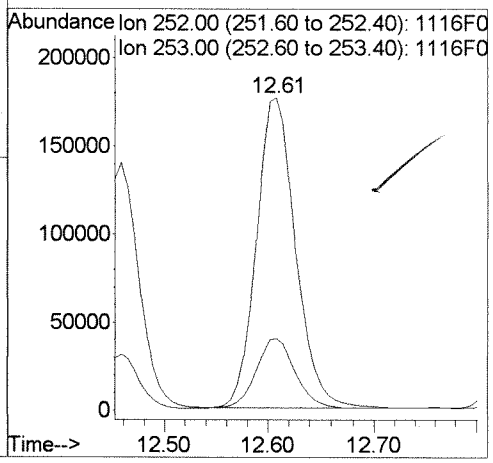


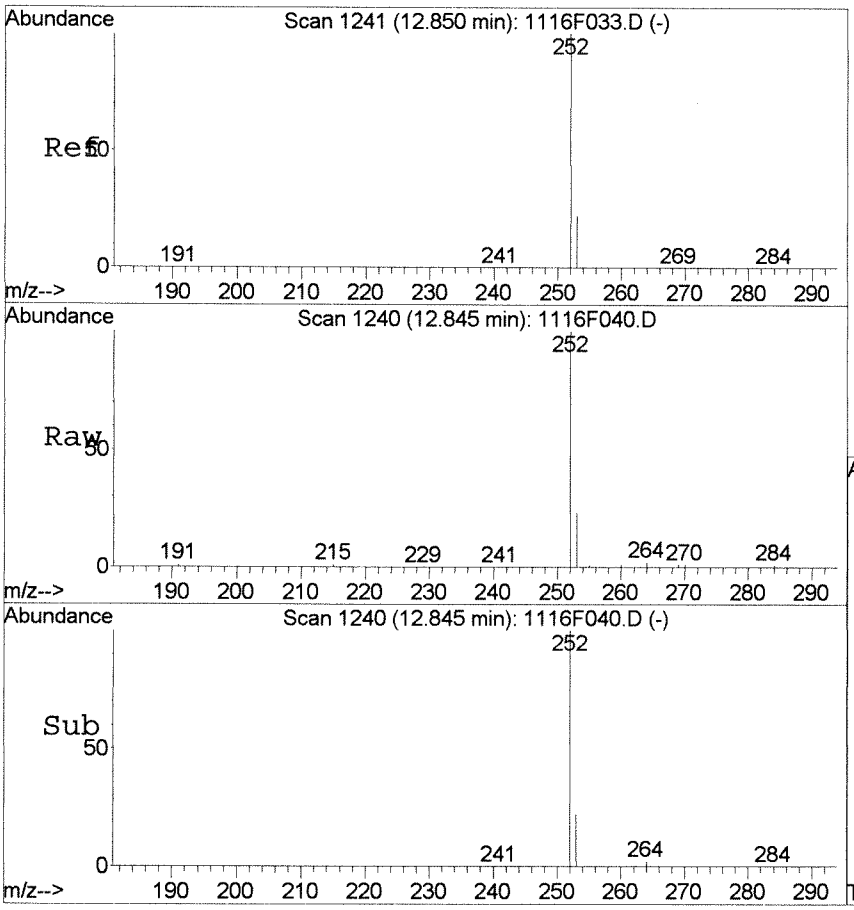


#53
Benzo(a)pyrene
Concen: 274.40 ng/ml
RT: 12.61 min Scan# 1202
Delta R.T. 0.02 min
Lab File: 1116F040.D
Acq: 17 Nov 2009 12:26 am

Tgt Ion:252 Resp: 459928

Ion	Ratio	Lower	Upper
252	100		
253	22.4	0.0	52.6

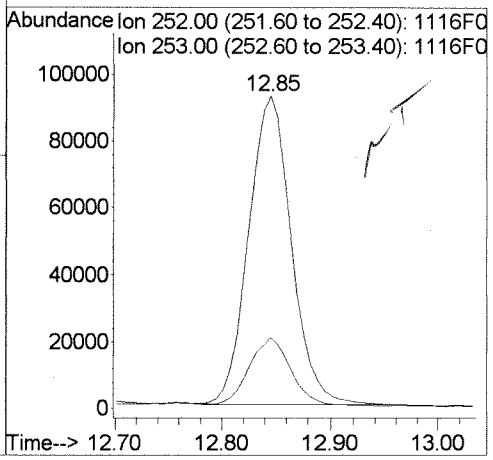


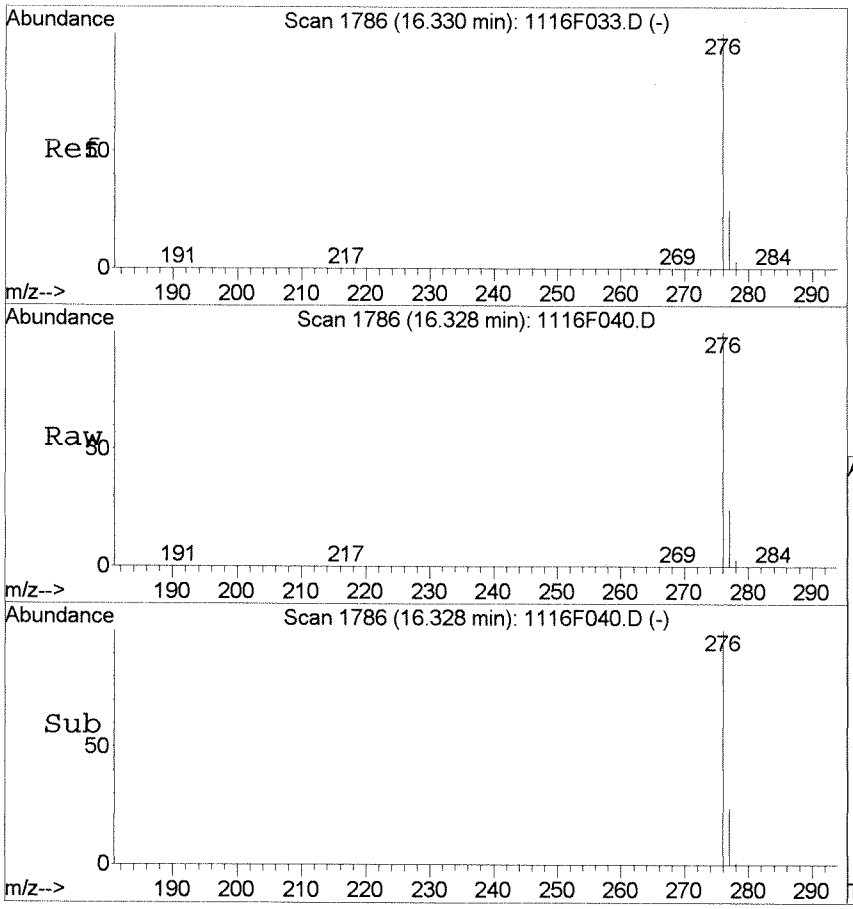


#54
Perylene
Concen: 155.03 ng/ml
RT: 12.85 min Scan# 1240
Delta R.T. 0.02 min
Lab File: 1116F040.D
Acq: 17 Nov 2009 12:26 am

Tgt Ion:252 Resp: 254717

Ion	Ratio	Lower	Upper
252	100		
253	22.1	0.0	52.0

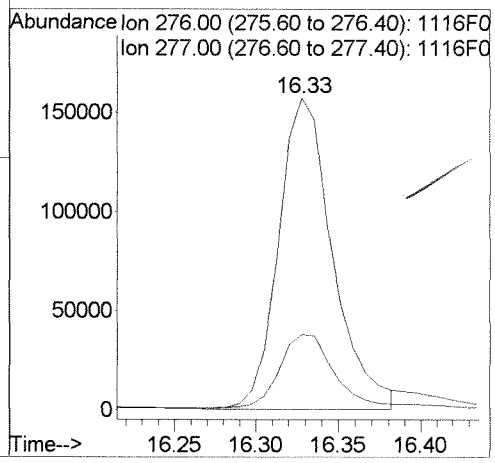


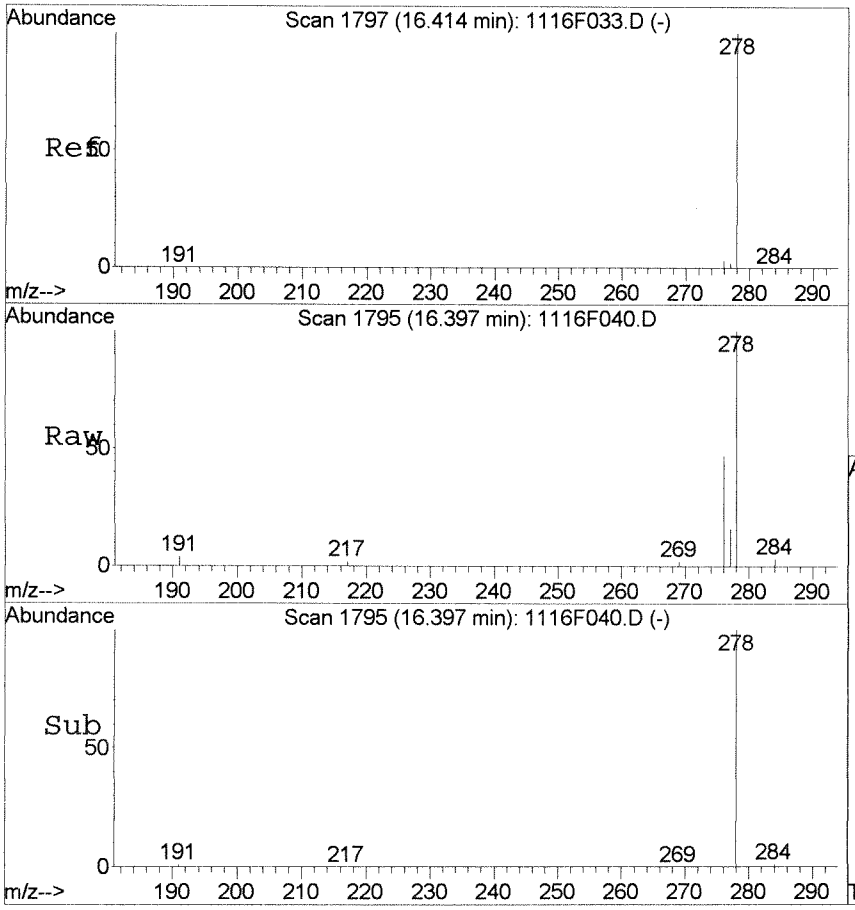


#55
Indeno(1,2,3-cd)pyrene
Concen: 231.67 ng/ml m
RT: 16.33 min Scan# 1786
Delta R.T. 0.02 min
Lab File: 1116F040.D
Acq: 17 Nov 2009 12:26 am

Tgt Ion:276 Resp: 356233

Ion	Ratio	Lower	Upper
276	100		
277	24.3	0.0	55.1

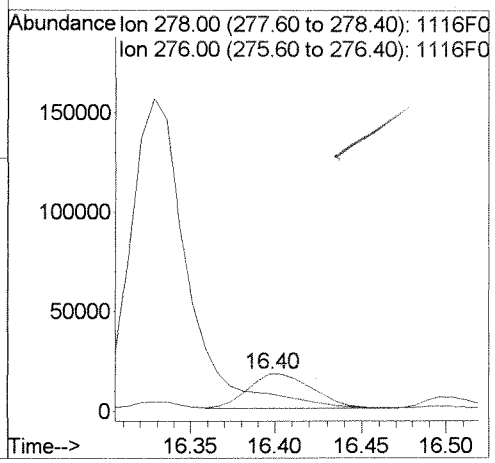


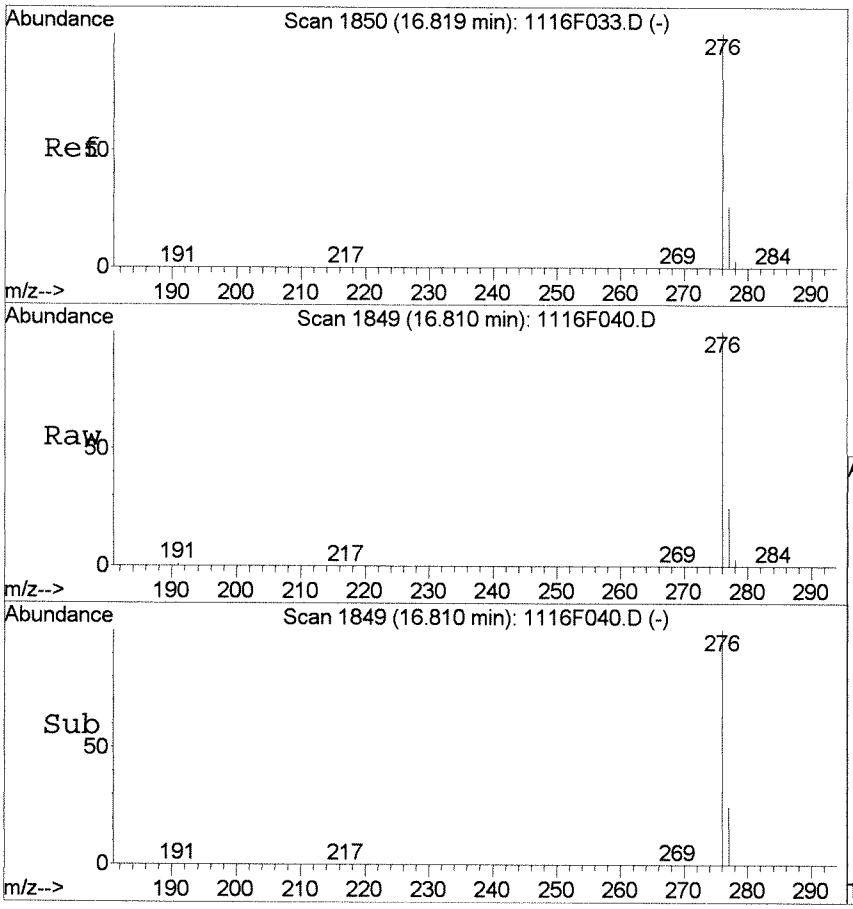


#56
Dibenz(a,h)anthracene
Concen: 27.39 ng/ml
RT: 16.40 min Scan# 1795
Delta R.T. 0.01 min
Lab File: 1116F040.D
Acq: 17 Nov 2009 12:26 am

Tgt Ion:278 Resp: 45380

Ion	Ratio	Lower	Upper
278	100		
276	40.9	0.0	52.1

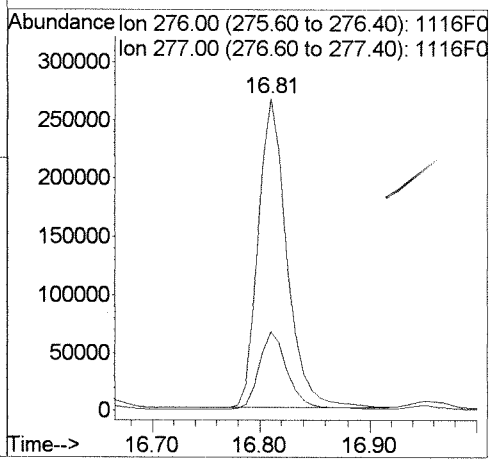




#57
Benzo(g,h,i)perylene
Concen: 278.79 ng/ml
RT: 16.81 min Scan# 1849
Delta R.T. 0.02 min
Lab File: 1116F040.D
Acq: 17 Nov 2009 12:26 am

Tgt Ion:276 Resp: 493743

Ion	Ratio	Lower	Upper
276	100		
277	25.3	0.0	55.7

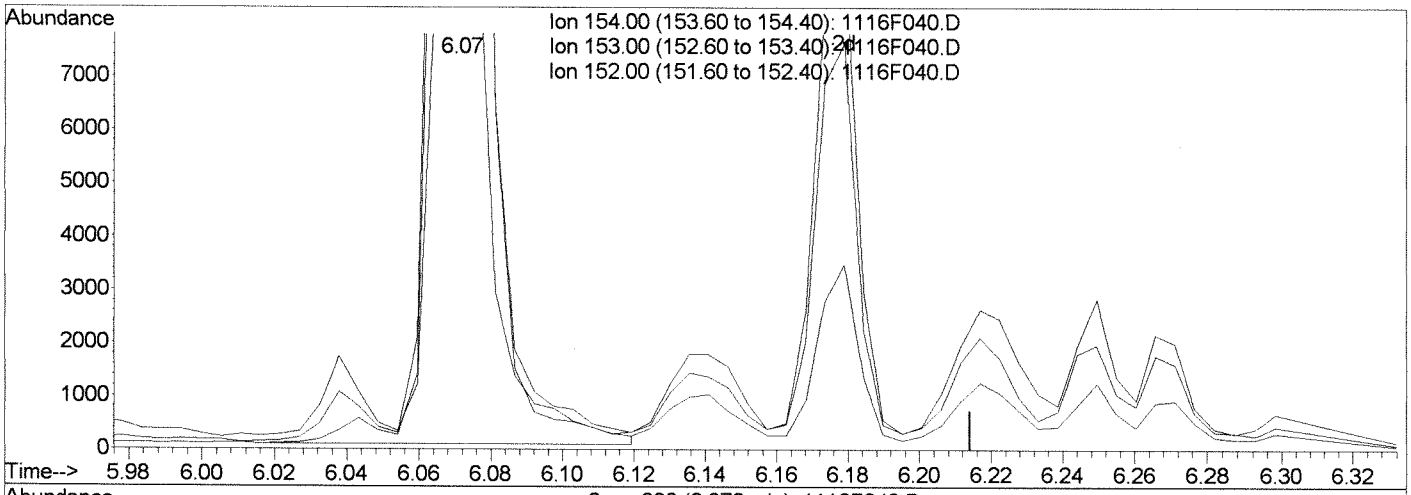


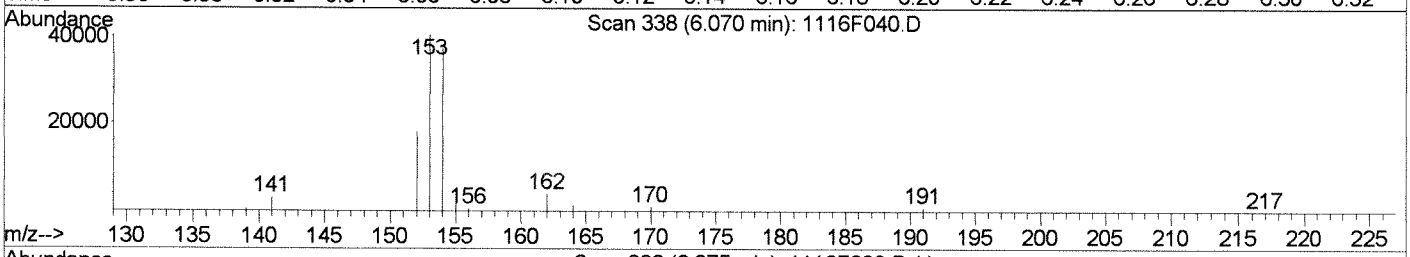
Quantitation Report (Qedit)

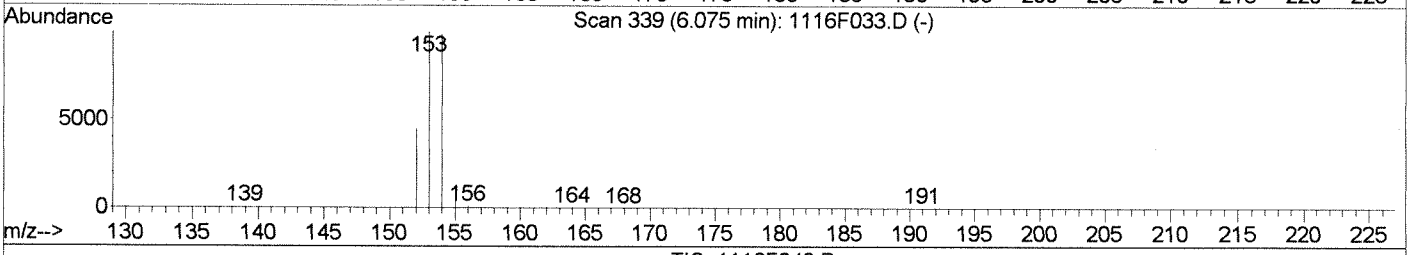
Data File : J:\MS11\DATA\111609\1116F040.D
Acq On : 17 Nov 2009 12:26 am
Sample : K0909140-018
Misc :
MS Integration Params: RTEINT.P
Quant Time: Nov 18 12:17 2009

Vial: 36
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Wed Nov 18 12:17:22 2009
Response via : Multiple Level Calibration







TIC: 1116F040.D

(12) Acenaphthene (T)

6.07min 56.71ng/ml

response 29291

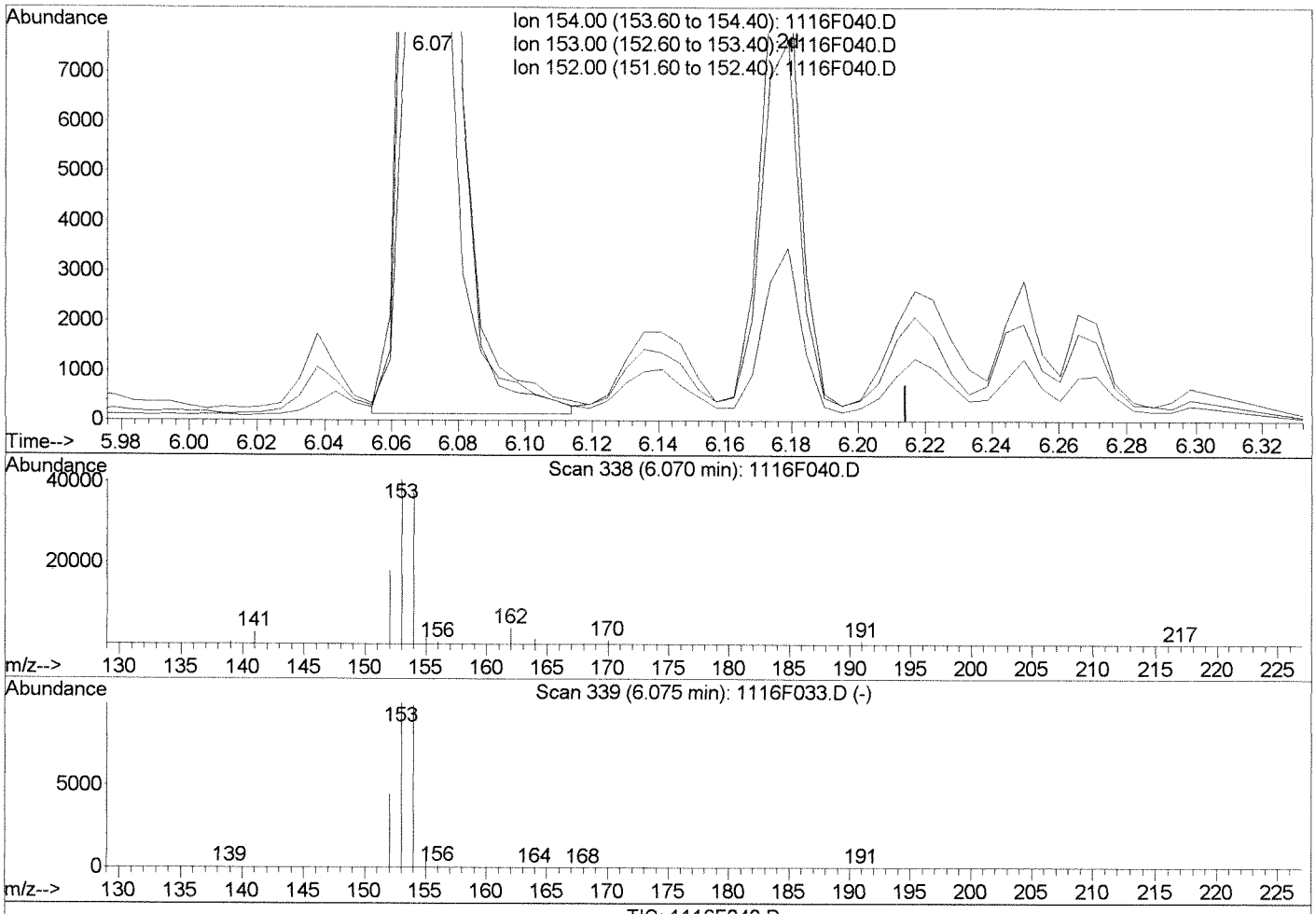
Ion	Exp%	Act%
154.00	100	100
153.00	107.80	108.41
152.00	54.70	47.89
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\111609\1116F040.D
Acq On : 17 Nov 2009 12:26 am
Sample : K0909140-018
Misc :
MS Integration Params: RTEINT.P
Quant Time: Nov 18 12:25 2009

Vial: 36
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Wed Nov 18 12:17:22 2009
Response via : Multiple Level Calibration



TIC: 1116F040.D

(12) Acenaphthene (T)

6.07min 55.55ng/ml m

response 28693

Ion	Exp%	Act%
154.00	100	100
153.00	107.80	108.53
152.00	54.70	48.44
0.00	0.00	0.00

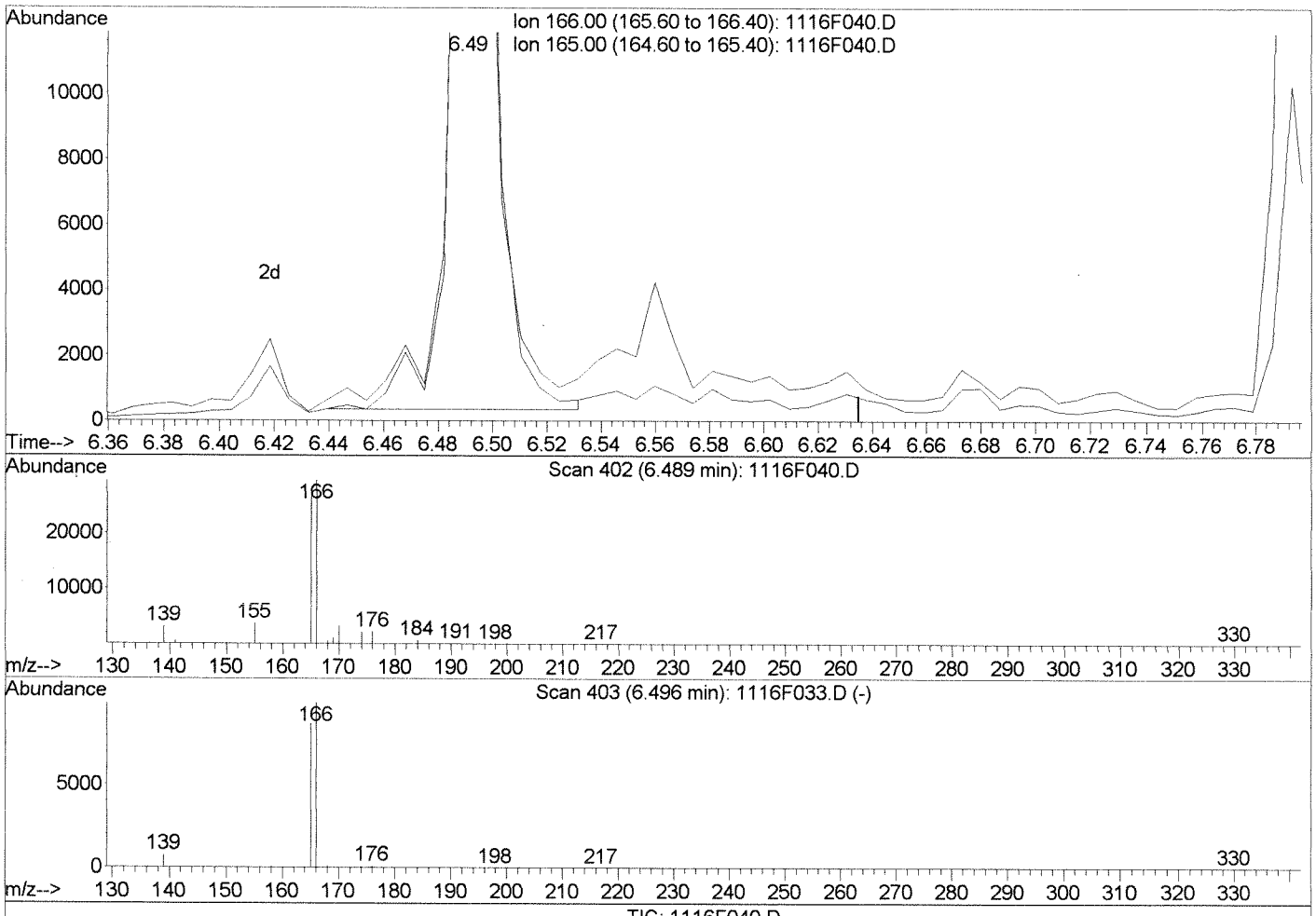
OI 11/18/09

M 11-19-09

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\111609\1116F040.D Vial: 36
Acq On : 17 Nov 2009 12:26 am Operator: LWeiskopf
Sample : K0909140-018 Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 18 12:25 2009 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Wed Nov 18 12:17:22 2009
Response via : Multiple Level Calibration



(16) Fluorene (T)

6.49min 57.32ng/ml

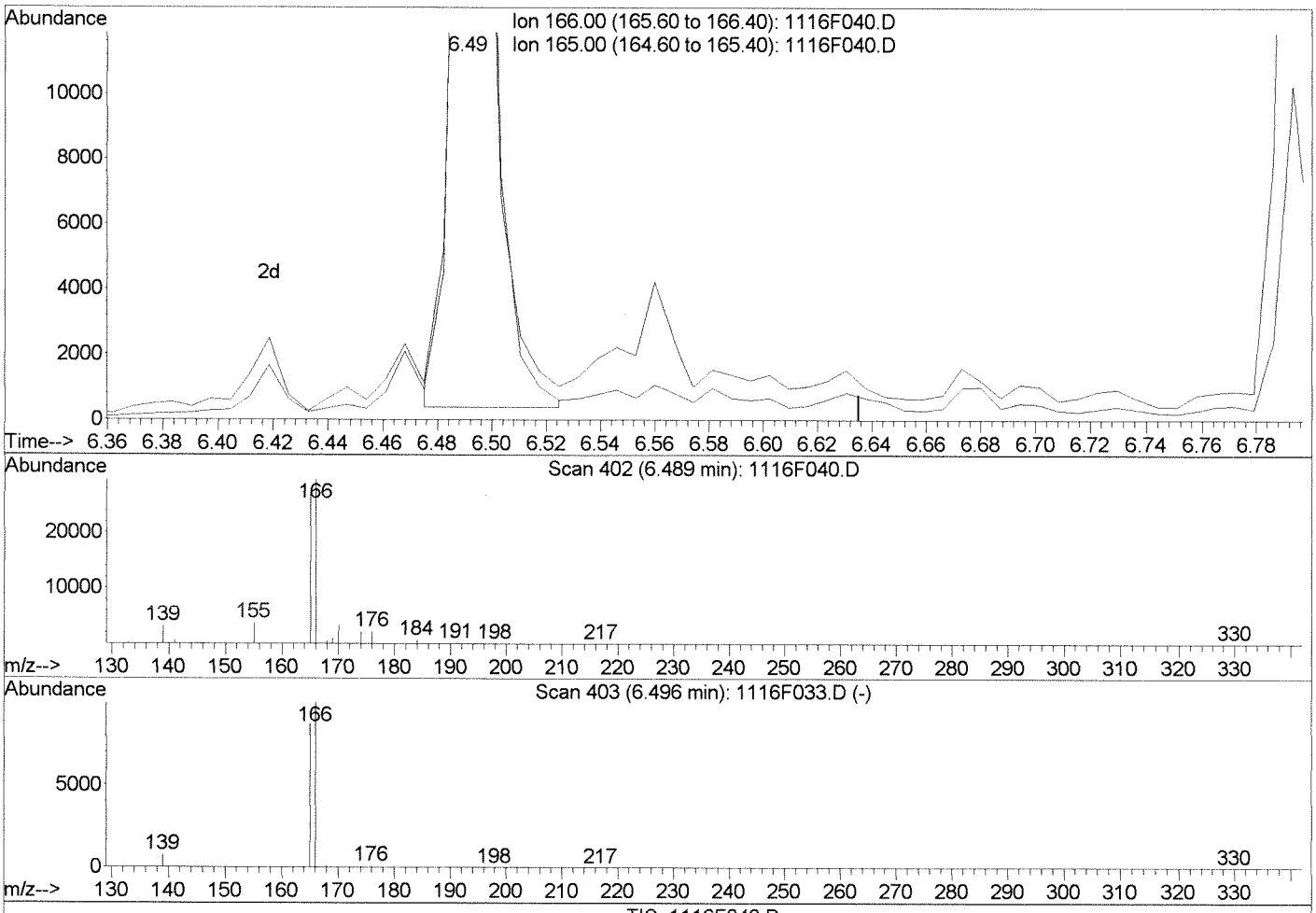
response 31921

Ion	Exp%	Act%
166.00	100	100
165.00	87.80	93.25
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\111609\1116F040.D Vial: 36
Acq On : 17 Nov 2009 12:26 am Operator: LWeiskopf
Sample : K0909140-018 Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 18 12:25 2009 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Wed Nov 18 12:17:22 2009
Response via : Multiple Level Calibration



(16) Fluorene (T)

6.49min 54.69ng/ml m

response 30457

Ion	Exp%	Act%
166.00	100	100
165.00	87.80	94.30
0.00	0.00	0.00
0.00	0.00	0.00

OI
11/18/09
11-19-09

1116F040.D 1015ALK.M Wed Nov 18 12:25:17 2009

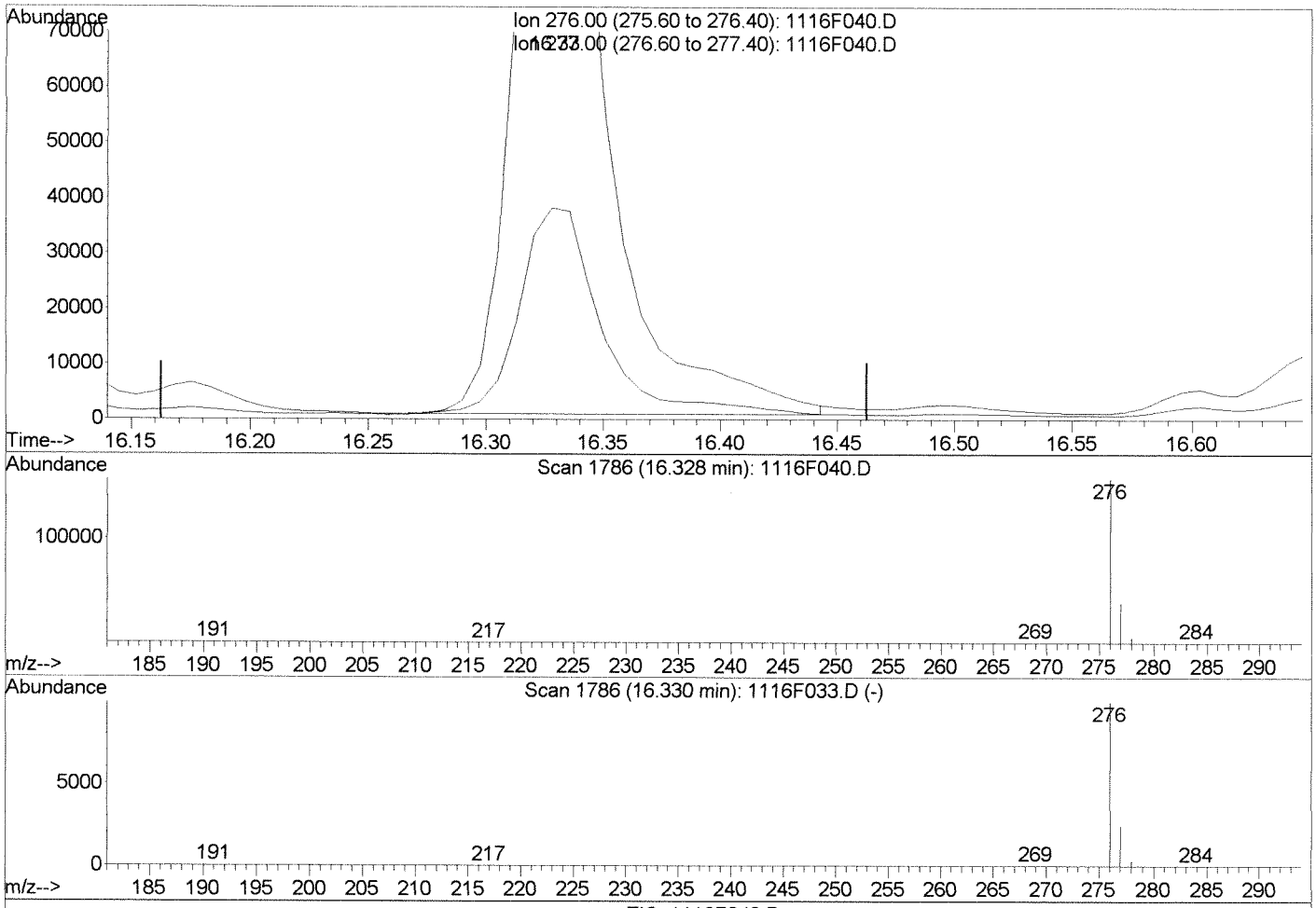
Quantitation Report (Qedit)

Data File : J:\MS11\DATA\111609\1116F040.D
Acq On : 17 Nov 2009 12:26 am
Sample : K0909140-018
Misc :
MS Integration Params: RTEINT.P
Quant Time: Nov 18 12:25 2009

Vial: 36
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Wed Nov 18 12:17:22 2009
Response via : Multiple Level Calibration



TIC: 1116F040.D

(55) Indeno(1,2,3-cd)pyrene (T)

16.33min 241.71ng/ml

response 371668

Ion	Exp%	Act%
276.00	100	100
277.00	25.10	23.90
0.00	0.00	0.00
0.00	0.00	0.00

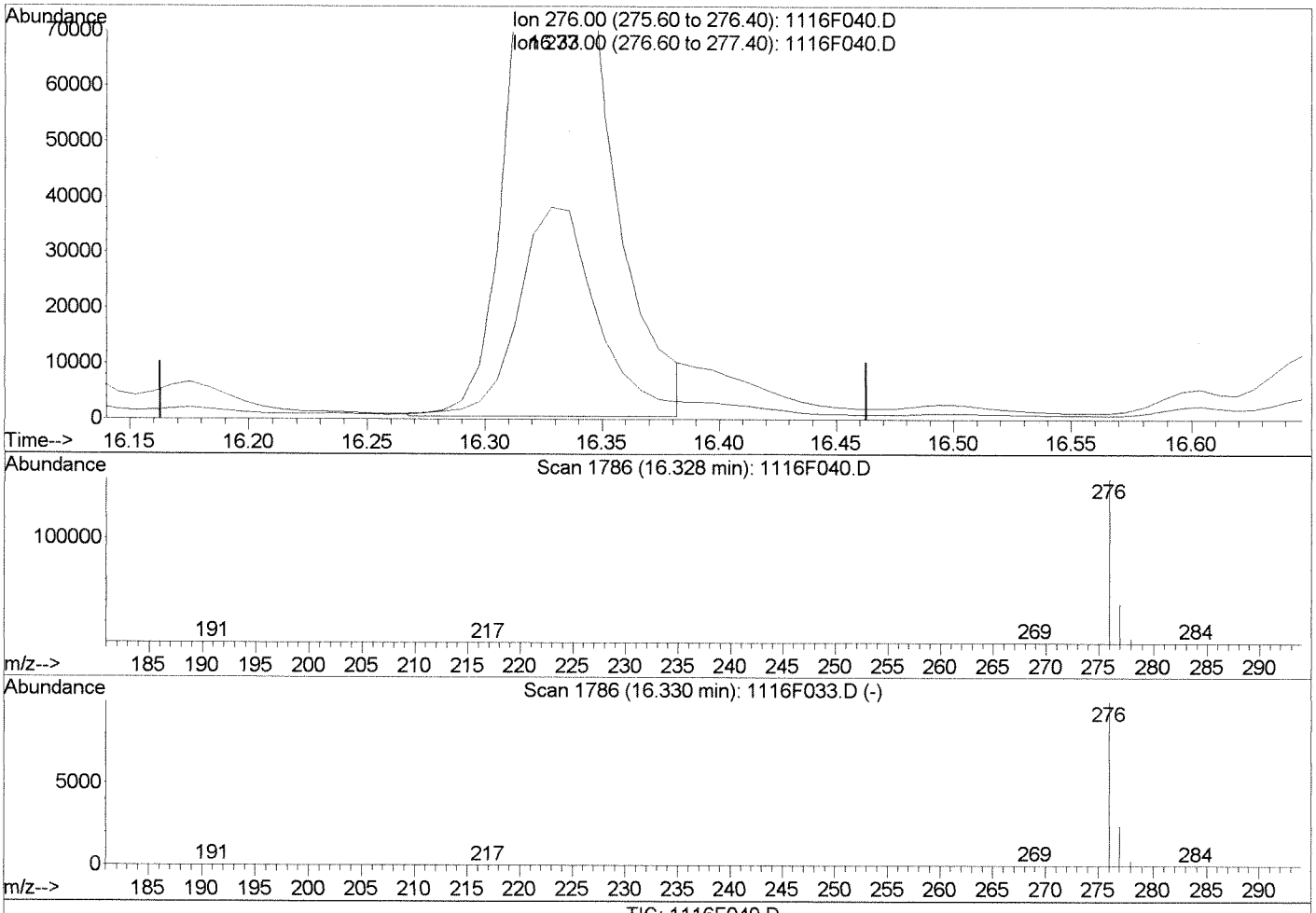
Quantitation Report (Qedit)

Data File : J:\MS11\DATA\111609\1116F040.D
Acq On : 17 Nov 2009 12:26 am
Sample : K0909140-018
Misc :
MS Integration Params: RTEINT.P
Quant Time: Nov 18 12:25 2009

Vial: 36
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Wed Nov 18 12:17:22 2009
Response via : Multiple Level Calibration



TIC: 1116F040.D

(55) Indeno(1,2,3-cd)pyrene (T)

16.33min 231.67ng/ml m

response 356233

Ion	Exp%	Act%
276.00	100	100
277.00	25.10	24.26
0.00	0.00	0.00
0.00	0.00	0.00

OK 11/18/09 11-19-09

1116F040.D 1015ALK.M Wed Nov 18 12:25:39 2009

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	URS Corporation	**Service Request:**	K0909140
Project:	Boise St. Helens Pulp and Paper Mill-2009	**Date Collected:**	10/09/2009
Sample Matrix:	Sediment	**Date Received:**	10/09/2009

Polynuclear Aromatic Hydrocarbons

Sample Name:	B-1-C	**Units:**	ug/Kg
Lab Code:	K0909140-019	**Basis:**	Dry
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270C SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Naphthalene	**8.1**		2.9	0.60	1	11/10/09	11/17/09	KWG0910535	
2-Methylnaphthalene	**2.9**	J	2.9	0.46	1	11/10/09	11/17/09	KWG0910535	
Acenaphthylene	**4.6**		2.9	0.56	1	11/10/09	11/17/09	KWG0910535	
Acenaphthene	**2.2**	J	2.9	0.50	1	11/10/09	11/17/09	KWG0910535	
Fluorene	**2.1**	J	2.9	0.61	1	11/10/09	11/17/09	KWG0910535	
Dibenzofuran	**1.2**	J	2.9	0.63	1	11/10/09	11/17/09	KWG0910535	
Phenanthrene	**25**		2.9	1.4	1	11/10/09	11/17/09	KWG0910535	
Anthracene	**5.6**		2.9	0.55	1	11/10/09	11/17/09	KWG0910535	
Fluoranthene	**73**		2.9	0.98	1	11/10/09	11/17/09	KWG0910535	
Pyrene	**78**		2.9	0.76	1	11/10/09	11/17/09	KWG0910535	
Benz(a)anthracene	**36**		2.9	0.72	1	11/10/09	11/17/09	KWG0910535	
Chrysene	**46**		2.9	0.80	1	11/10/09	11/17/09	KWG0910535	
Benzo(b)fluoranthene	**69**		2.9	0.92	1	11/10/09	11/17/09	KWG0910535	
Benzo(k)fluoranthene	**20**		2.9	0.87	1	11/10/09	11/17/09	KWG0910535	
Benzo(a)pyrene	**64**		2.9	0.76	1	11/10/09	11/17/09	KWG0910535	
Indeno(1,2,3-cd)pyrene	**57**		2.9	0.87	1	11/10/09	11/17/09	KWG0910535	
Dibenz(a,h)anthracene	**6.4**		2.9	0.80	1	11/10/09	11/17/09	KWG0910535	
Benzo(g,h,i)perylene	**69**		2.9	0.85	1	11/10/09	11/17/09	KWG0910535	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	79	17-104	11/17/09	Acceptable
Fluoranthene-d10	75	27-106	11/17/09	Acceptable
Terphenyl-d14	66	35-109	11/17/09	Acceptable

Comments:

Exception Report

Data File: J:\MS11\DATA\111609\1116F041.D
Lab ID: K0909140-019
RunType: SMPL
Matrix: SEDIMENT

Date Acquired: 11/17/2009 00:53
Date Quantitated: 11/18/2009 12:26
Batch ID: KWG0910855
Analysis Method: 8270C SIM
ListJoinID: LJ5646

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Tune Window	NA	NA	NA	x	
Analytical Holding Time	NA	NA	NA	x	
Preparation Holding Time	NA	NA	NA	x	
Pre-Preparation Holding Time	NA	NA	NA	x	
ICAL Pass/Fail	NA	NA	NA	x	
ICAL Average RSD	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Initial Calibration Minimum RF	NA	NA	NA	x	
Initial Calibration SPCC/CCC	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA	x	
Continuing Calibration Minimum RF	NA	NA	NA	x	
Continuing Calibration SPCC/CCC	NA	NA	NA	x	
Method Blank	NA	NA	NA	x	
MB Surrogate Recovery	NA	NA	NA	x	
Lab Control Spike	NA	NA	NA	x	
Duplicate Lab Control Spike	NA	NA	NA	x	
Internal Standards	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Relative Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Primary Review: 11/18/9
Secondary Review: 11-19-09

Quantitation Report

Bottle ID:		**Tier:**	V	**Matrix:**	SEDIMENT
Prod Code:	8270C SIM PAH_S	**Collect Date:**	10/09/2009	**Receive Date:**	10/09/2009

Analysis Lot:	KWG0910855	**Prep Lot:**	KWG0910535	**Report Group:**	K0909140
Analysis Method:	8270C SIM	**Prep Method:**	EPA 3541		
Prep Ref:	865753	**Prep Date:**	11/10/2009		

Quant Method:	J:\MS11\METHODS\SIM\1015ALK.M	**Calibration ID:**	CAL8928
Title:	Polynuclear Aromatic Hydrocarbons	**Report List ID:**	LJ5646
Tune Ref:	J:\MS11\DATA\111609\1116F032.D	**Method ID:**	MJ253
MB Ref:	J:\MS11\DATA\111609\1116F004.D	**Quant based on Report List**	

Data File:	J:\MS11\DATA\111609\1116F041.D			**Instrument:**	MS11
Acqu Date:	11/17/2009 00:53	**Quant Date:**	11/18/2009 12:26	**Vial:**	37
Run Type:	SMPL			**Dilution:**	1.0
Lab ID:	K0909140-019			**Soln Conc. Units:**	ng/ml

Internal Standard Compounds

IS Ref	Parameter Name	RT	RT Dev	Quant Mass	Response	Solution Conc	Area Criteria
1	Naphthalene-d8	4.63	0.00	136	164204	200.00	OK
2	Acenaphthene-d10	6.05	0.00	164	91027	200.00	OK
3	Phenanthrene-d10	7.27	0.00	188	167589	200.00	OK
4	Chrysene-d12	9.76	0.00	240	247415	200.00	OK
5	Perylene-d12	12.77	-0.01	264	275418	200.00	OK

Surrogate Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	%Rec	%Rec Limits		Rpt?
2	Fluorene-d10	6.47	0.00	0.00	176	66947	157.63	79	17-104	OK	
3	Fluoranthene-d10	8.24	0.00	0.00	212	139673	150.40	75	27-106	OK	
4	Terphenyl-d14	8.58	0.00	0.00	244	134310	131.31	66	35-109	OK	

Target Compounds

Final Conc. Units: ug/Kg Dry Weight

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	Final Conc	Q	Rpt?
1	Naphthalene	4.64	-0.01	0.00	128	10858**m**	14.37	8.1		
1	2-Methylnaphthalene	5.21		0.00	142	2676	5.14	2.9	J	
2	Acenaphthylene	5.93		0.00	152	6507	8.24	4.6		
2	Acenaphthene	6.08	0.01	0.00	154	1853	3.93	2.2	J	
2	Dibenzofuran	6.23	0.01	0.00	168	1323	2.09	1.2	J	
2	Fluorene	6.50		0.00	166	1856**m**	3.66	2.1	J	
3	Phenanthrene	7.29		0.00	178	41450	44.10	25		
3	Anthracene	7.33		0.00	178	8953**m**	9.96	5.6		
3	Fluoranthene	8.25		0.00	202	134116	129.89	73		
4	Pyrene	8.44		0.00	202	187398	138.32	78		
4	Benz(a)anthracene	9.75		0.00	228	85202	63.36	36		
4	Chrysene	9.79	-0.01	0.00	228	107002**m**	81.69	46		
5	Benzo(b)fluoranthene	11.76	-0.01	0.00	252	177577	123.60	69		

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Data File:	J:\MS11\DATA\111609\1116F041.D			**Instrument:**	MS11
Acqu Date:	11/17/2009 00:53	**Quant Date:**	11/18/2009 12:26	**Vial:**	37
Run Type:	SMPL			**Dilution:**	1.0
Lab ID:	K0909140-019			**Soln Conc. Units:**	ng/ml

Target Compounds **Final Conc. Units:** ug/Kg Dry Weight

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	Final Conc	Q	Rpt?
5	Benzo(k)fluoranthene	11.83	-0.01	0.00	252	50277	35.52	20		
5	Benzo(a)pyrene	12.61		0.00	252	153912	113.11	64		
5	Indeno(1,2,3-cd)pyrene	16.33		0.00	276	126384**m**	101.24	57		
5	Dibenz(a,h)anthracene	16.41		0.00	278	15427	11.47	6.4		
5	Benzo(g,h,i)perylene	16.81	-0.01	0.00	276	177114	123.19	69		

Prep Amount:	18.10 g	**Dilution:**	1.0
Prep Final Vol:	10 ml	**Unit Factor:**	1
Solids:	98.3 %		

Final Concentration = ((Soln Conc x Prep Final Vol x Dilution) / (Prep Amount x Solids)) x Unit Factor

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\111609\1116F041.D Vial: 37
Acq On : 17 Nov 2009 12:53 am Operator: LWeiskopf
Sample : K0909140-019 Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 18 12:17:47 2009 Quant Results File: 1015ALK.RES

Quant Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Wed Nov 18 12:17:22 2009
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	4.63	136	164204	200.00	ng/ml	0.00
10) Acenaphthene-d10	6.05	164	91027	200.00	ng/ml	0.00
22) Phenanthrene-d10	7.27	188	167589	200.00	ng/ml	0.00
37) Chrysene-d12	9.76	240	247415	200.00	ng/ml	0.00
49) Perylene-d12	12.77	264	275418	200.00	ng/ml	0.01
System Monitoring Compounds						
15) Fluorene-d10	6.47	176	66947	157.63	ng/ml	0.01
Spiked Amount 200.000			Recovery =	78.81%		
20) 2,4,6 Tribromophenol	0.00	330	0	0.00	ng/ml	
Spiked Amount 375.000			Recovery =	0.00%		
36) Fluoranthene-d10	8.24	212	139673	150.40	ng/ml	0.00
Spiked Amount 200.000			Recovery =	75.20%		
42) Terphenyl-d14	8.58	244	134310	131.31	ng/ml	0.00
Spiked Amount 200.000			Recovery =	65.66%		
Target Compounds						Qvalue
2) Naphthalene	4.64	128	10858m	14.37	ng/ml	
3) 2-Methylnaphthalene	5.21	142	2676	5.14	ng/ml	99
4) 1-Methylnaphthalene	5.28	142	1488	2.69	ng/ml	89
5) Biphenyl	5.58	154	1663	2.80	ng/ml	94
6) 2,6-Dimethylnaphthalene	5.78	156	1103	2.69	ng/ml	91
11) Acenaphthylene	5.93	152	6507	8.24	ng/ml	99
12) Acenaphthene	6.08	154	1853	3.93	ng/ml	88
13) Dibenzofuran	6.23	168	1323	2.09	ng/ml	62
14) 2,3,5-Trimethylnaphthalene	6.38	170	1015	2.57	ng/ml	89
16) Fluorene	6.50	166	1856m	3.66	ng/ml	
23) Dibenzothiophene	7.19	184	2337	2.76	ng/ml	95
27) Phenanthrene	7.29	178	41450	44.10	ng/ml	94
28) Anthracene	7.33	178	8953m	9.96	ng/ml	
29) Carbazole	7.48	167	915	1.19	ng/ml	99
30) 1-Methylphenanthrene	7.78	192	4043	6.01	ng/ml	95
35) Fluoranthene	8.25	202	134116	129.89	ng/ml	89
38) Pyrene	8.44	202	187398	138.32	ng/ml	52
43) Benz(a)anthracene	9.75	228	85202	63.36	ng/ml	62
44) Chrysene	9.79	228	107002m	81.69	ng/ml	
50) Benzo(b)fluoranthene	11.76	252	177577	123.60	ng/ml	97
51) Benzo(k)fluoranthene	11.83	252	50277	35.52	ng/ml	100
52) Benzo(e)pyrene	12.46	252	108020	80.28	ng/ml	97
53) Benzo(a)pyrene	12.61	252	153912	113.11	ng/ml	99
54) Perylene	12.84	252	104169	78.09	ng/ml	98
55) Indeno(1,2,3-cd)pyrene	16.33	276	126384m	101.24	ng/ml	

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\111609\1116F041.D Vial: 37
Acq On : 17 Nov 2009 12:53 am Operator: LWeiskopf
Sample : K0909140-019 Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 18 12:17:47 2009 Quant Results File: 1015ALK.RES

Quant Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Wed Nov 18 12:17:22 2009
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

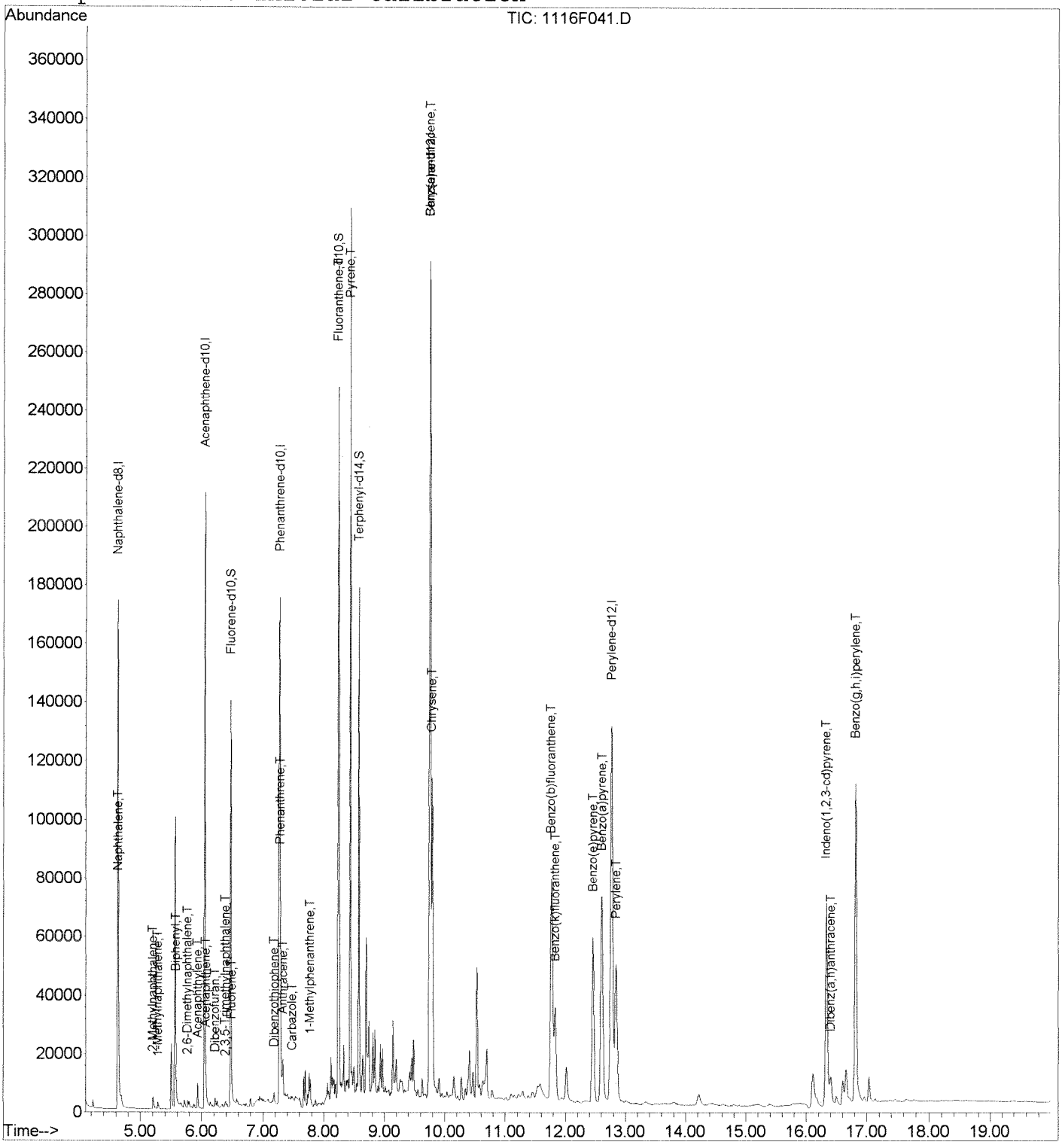
	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
56)	Dibenz(a,h)anthracene	16.41	278	15427	11.47	ng/ml	65
57)	Benzo(g,h,i)perylene	16.81	276	177114	123.19	ng/ml	98

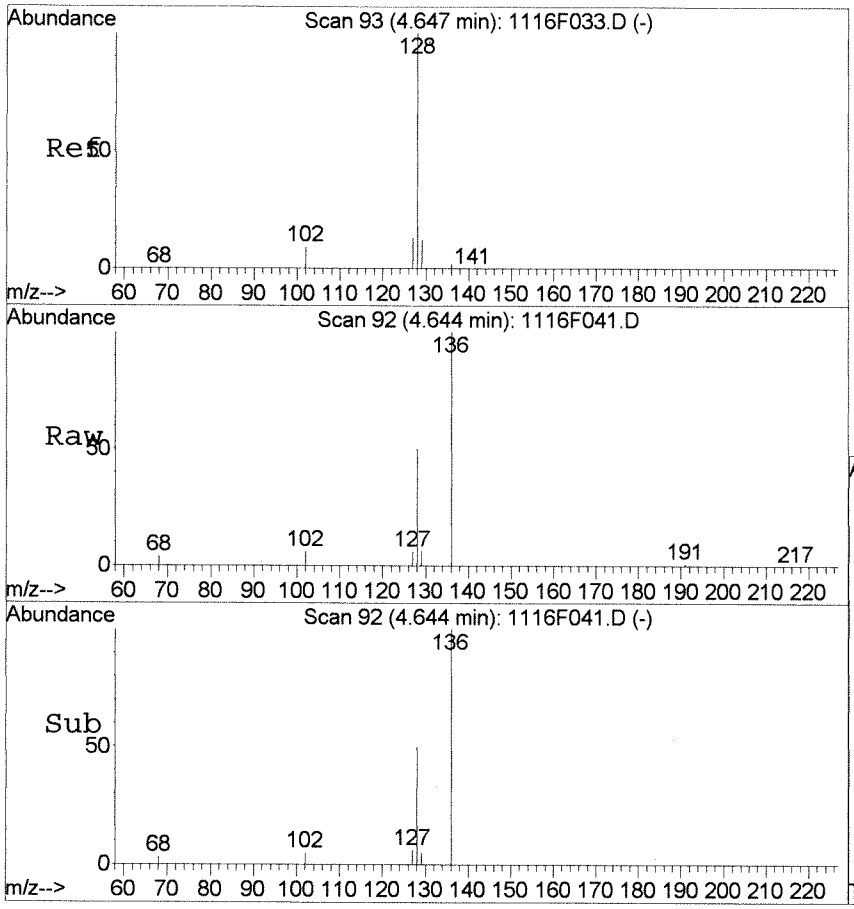
(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\111609\1116F041.D Vial: 37
Acq On : 17 Nov 2009 12:53 am Operator: LWeiskopf
Sample : K0909140-019 Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 18 12:26 2009 Quant Results File: 1015ALK.RES

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Wed Nov 18 12:17:22 2009
Response via : Initial Calibration

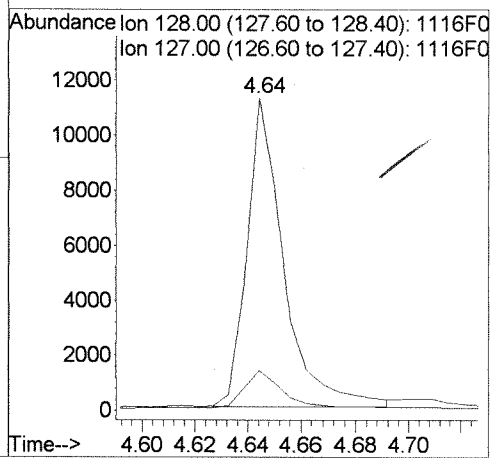


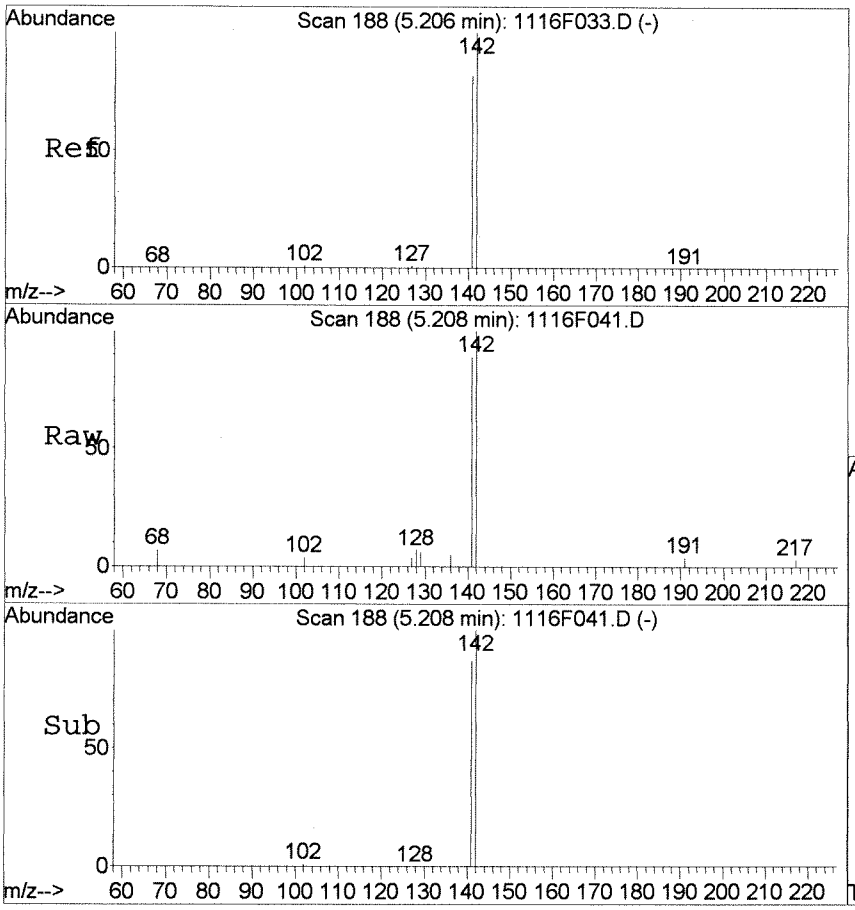


#2
Naphthalene
Concen: 14.37 ng/ml m
RT: 4.64 min Scan# 92
Delta R.T. 0.01 min
Lab File: 1116F041.D
Acq: 17 Nov 2009 12:53 am

Tgt Ion:128 Resp: 10858

Ion	Ratio	Lower	Upper
128	100		
127	12.9	0.0	42.4

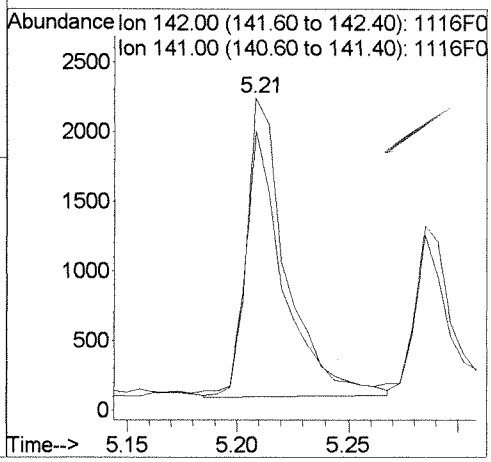


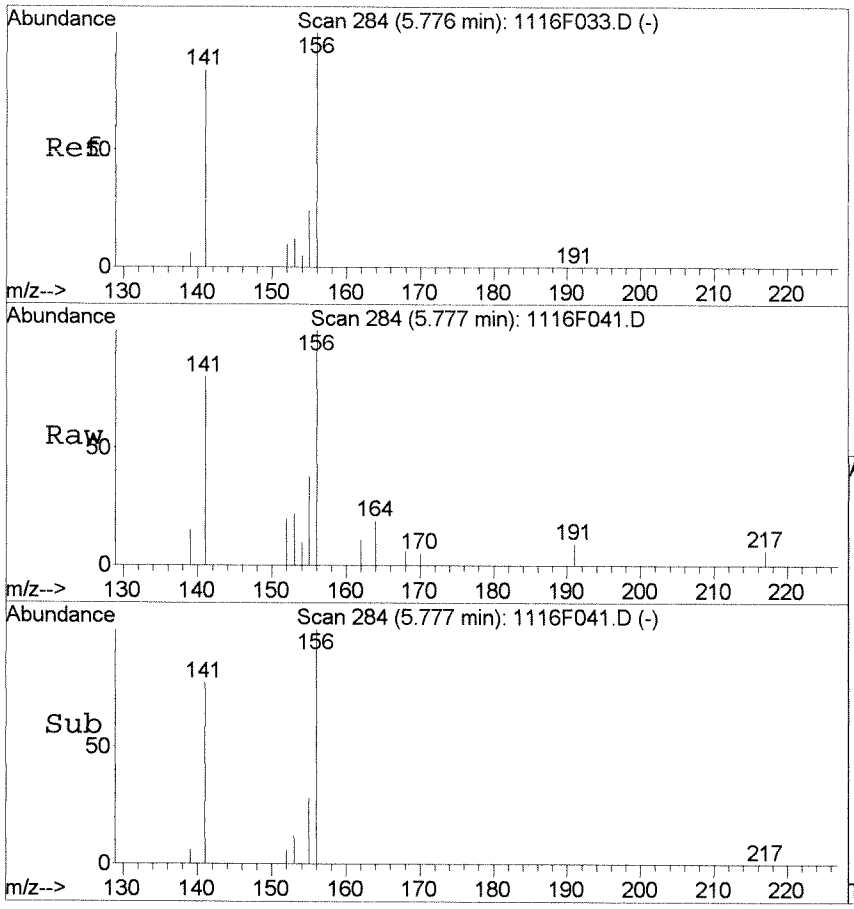


#3
2-Methylnaphthalene
Concen: 5.14 ng/ml
RT: 5.21 min Scan# 188
Delta R.T. 0.01 min
Lab File: 1116F041.D
Acq: 17 Nov 2009 12:53 am

Tgt Ion:142 Resp: 2676

Ion	Ratio	Lower	Upper
142	100		
141	87.4	56.1	116.1

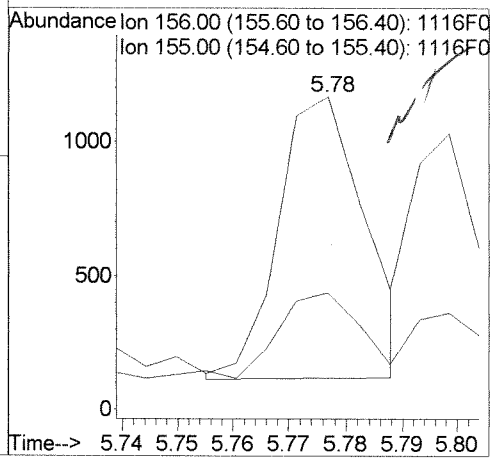


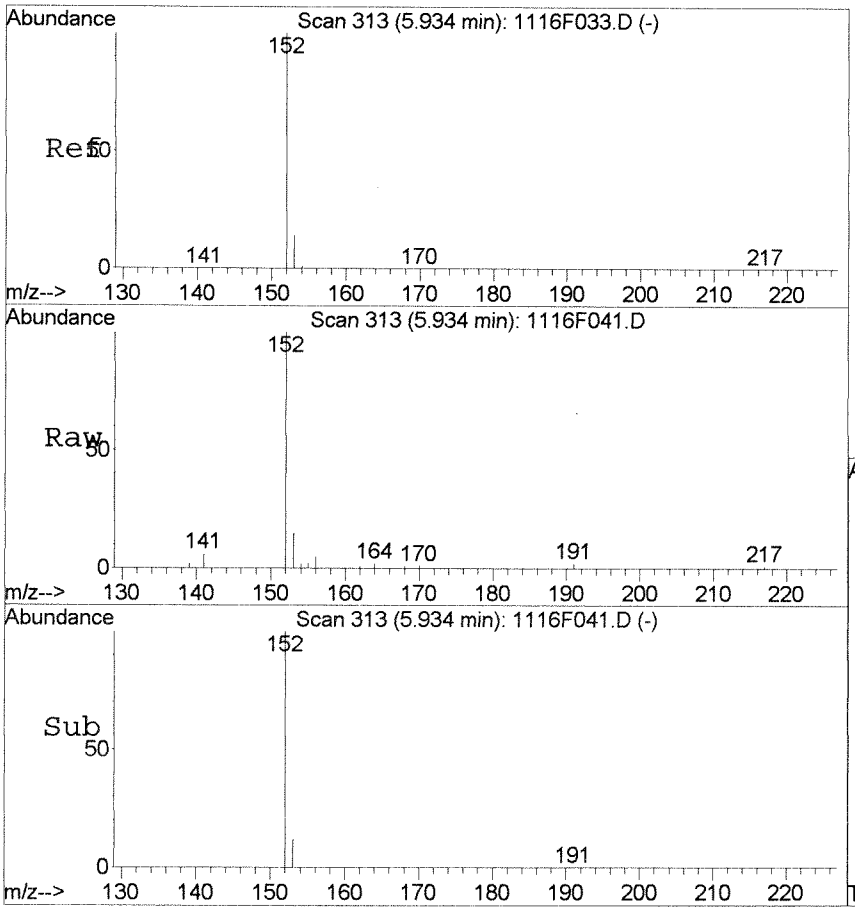


#6
2,6-Dimethylnaphthalene
Concen: 2.69 ng/ml
RT: 5.78 min Scan# 284
Delta R.T. 0.01 min
Lab File: 1116F041.D
Acq: 17 Nov 2009 12:53 am

Tgt Ion:156 Resp: 1103

Ion	Ratio	Lower	Upper
156	100		
155	28.3	3.7	63.7

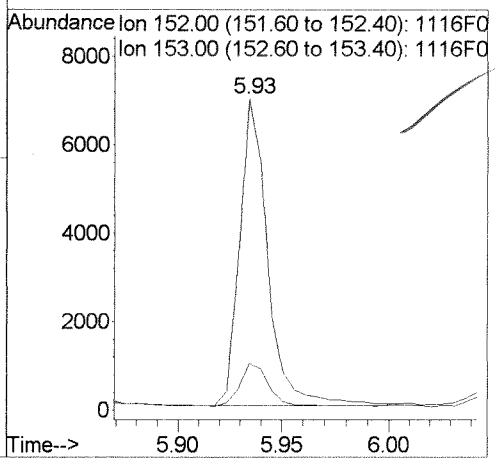


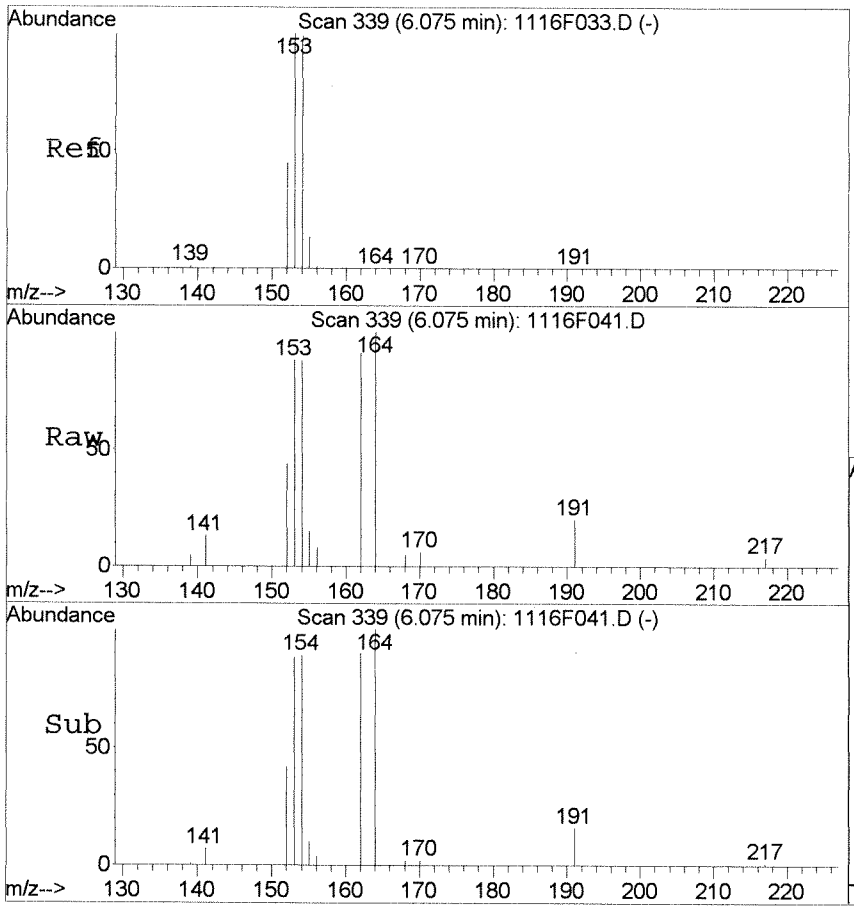


#11
Acenaphthylene
Concen: 8.24 ng/ml
RT: 5.93 min Scan# 313
Delta R.T. 0.01 min
Lab File: 1116F041.D
Acq: 17 Nov 2009 12:53 am

Tgt Ion:152 Resp: 6507

Ion	Ratio	Lower	Upper
152	100		
153	13.8	0.0	44.1

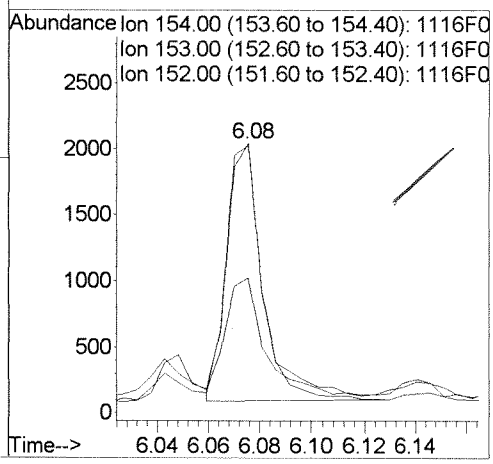


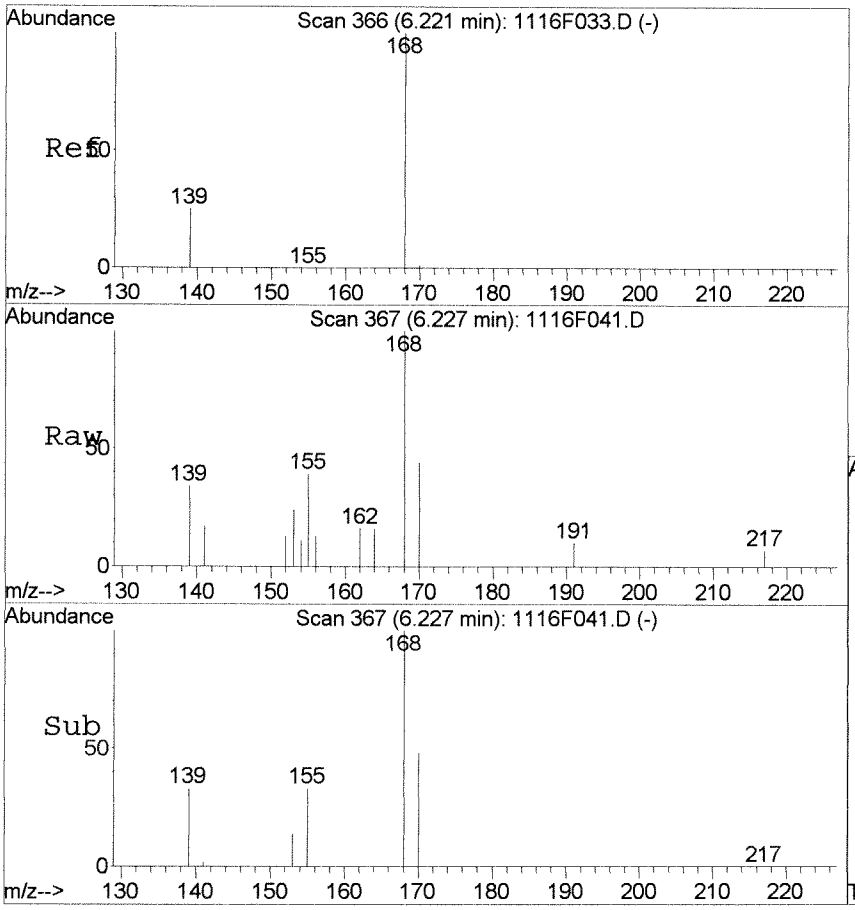


#12
Acenaphthene
Concen: 3.93 ng/ml
RT: 6.08 min Scan# 339
Delta R.T. 0.01 min
Lab File: 1116F041.D
Acq: 17 Nov 2009 12:53 am

Tgt Ion:154 Resp: 1853

Ion	Ratio	Lower	Upper
154	100		
153	96.4	77.8	137.8
152	45.0	24.7	84.7

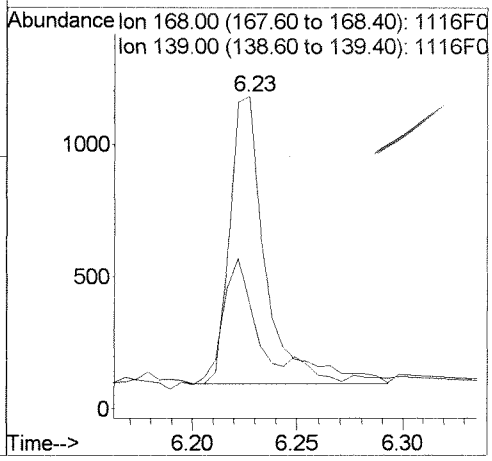


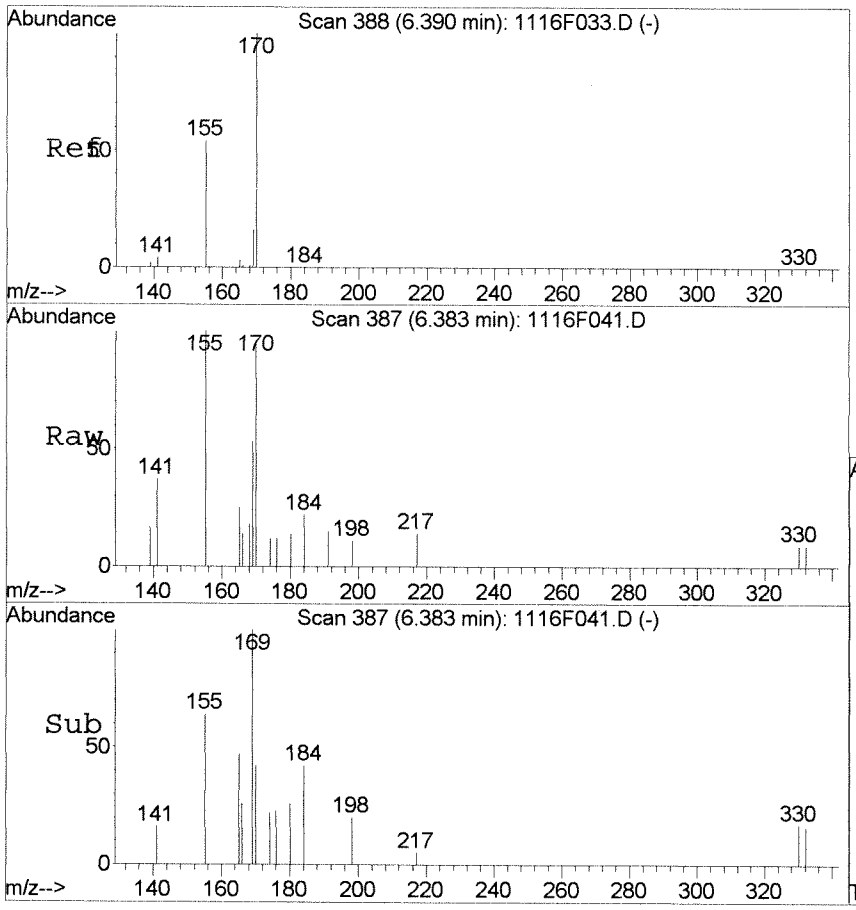


#13
Dibenzofuran
Concen: 2.09 ng/ml
RT: 6.23 min Scan# 367
Delta R.T. 0.02 min
Lab File: 1116F041.D
Acq: 17 Nov 2009 12:53 am

Tgt Ion:168 Resp: 1323

Ion	Ratio	Lower	Upper
168	100		
139	26.1	23.3	83.3

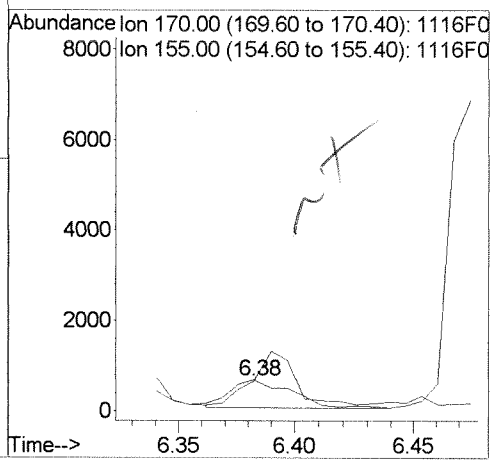


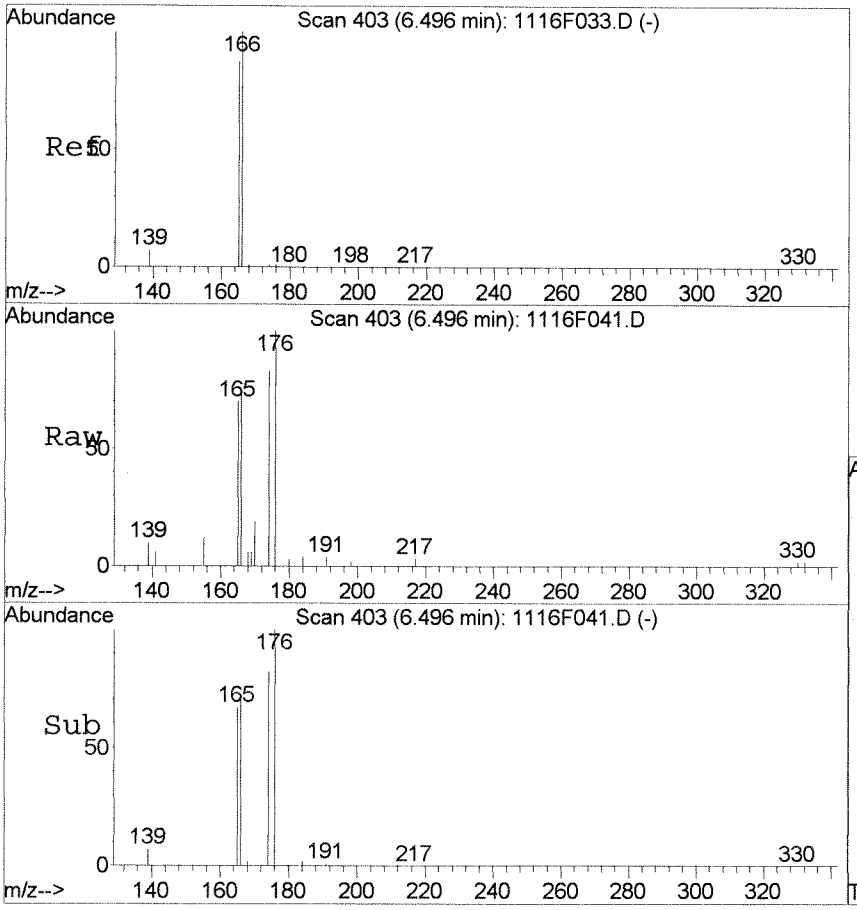


#14
2,3,5-Trimethylnaphthalene
Concen: 2.57 ng/ml
RT: 6.38 min Scan# 387
Delta R.T. 0.00 min
Lab File: 1116F041.D
Acq: 17 Nov 2009 12:53 am

Tgt Ion:170 Resp: 1015

Ion	Ratio	Lower	Upper
170	100		
155	88.1	48.2	108.2

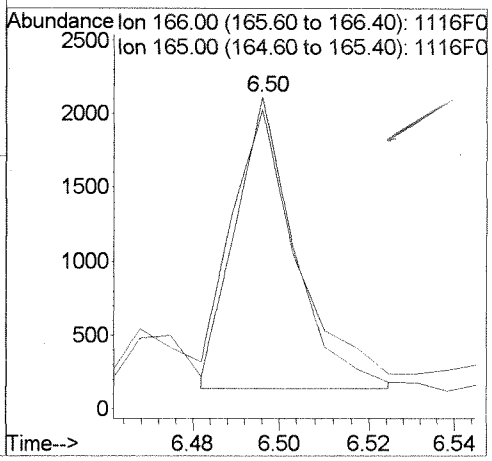


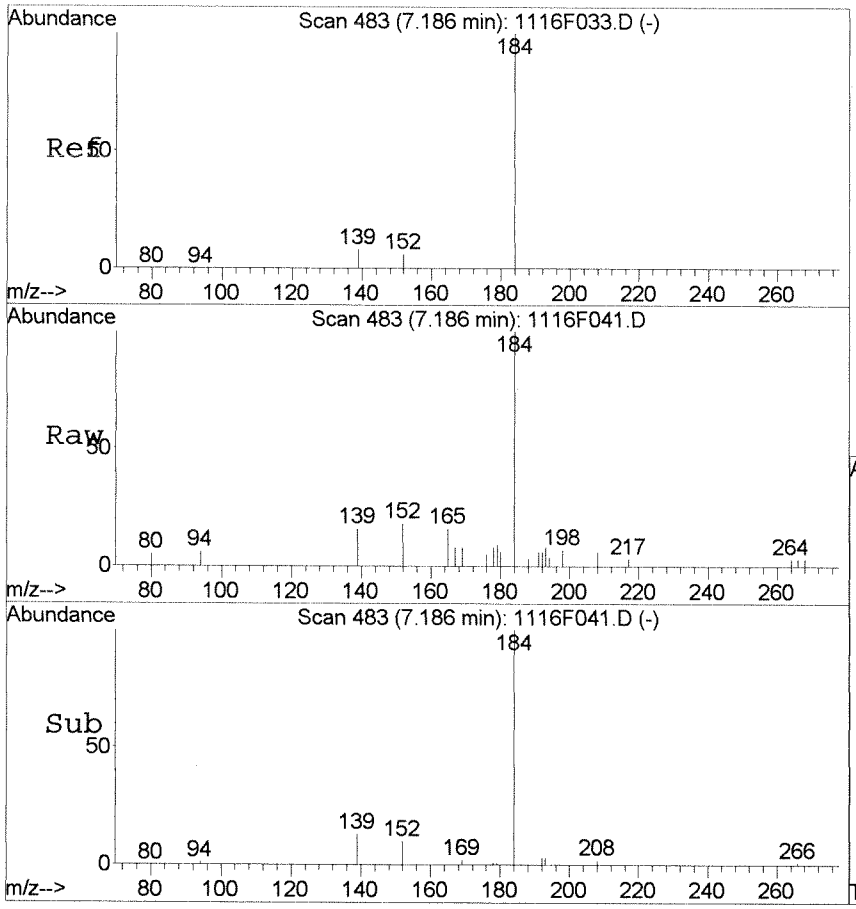


#16
Fluorene
Concen: 3.66 ng/ml m
RT: 6.50 min Scan# 403
Delta R.T. 0.01 min
Lab File: 1116F041.D
Acq: 17 Nov 2009 12:53 am

Tgt Ion:166 Resp: 1856

Ion	Ratio	Lower	Upper
166	100		
165	95.7	57.8	117.8

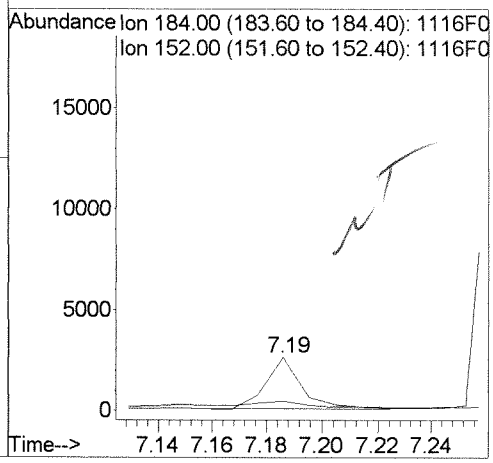


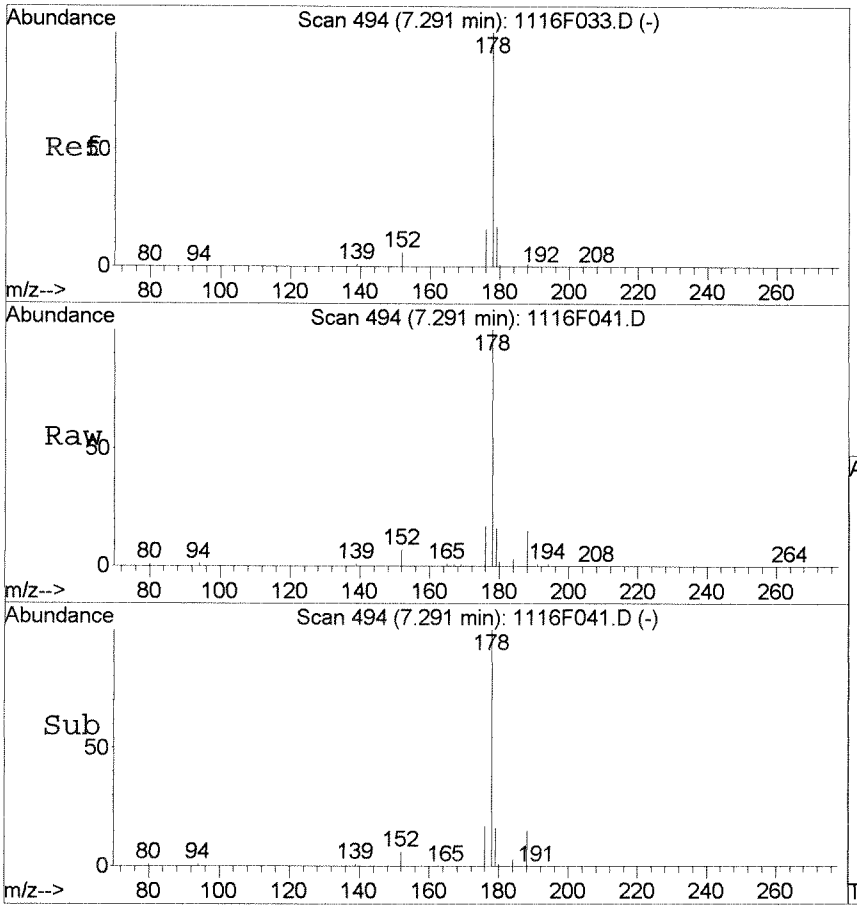


#23
Dibenzothiophene
Concen: 2.76 ng/ml
RT: 7.19 min Scan# 483
Delta R.T. 0.01 min
Lab File: 1116F041.D
Acq: 17 Nov 2009 12:53 am

Tgt Ion:184 Resp: 2337

Ion	Ratio	Lower	Upper
184	100		
152	11.3	0.0	39.4

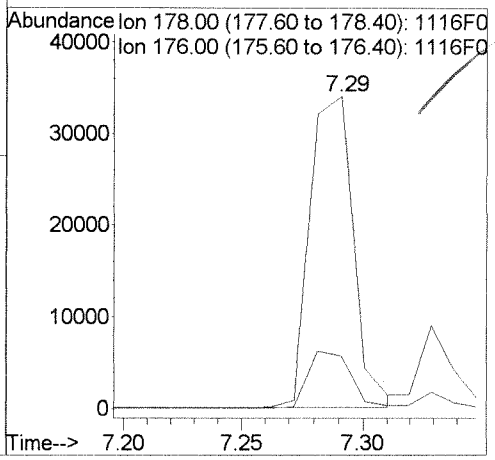


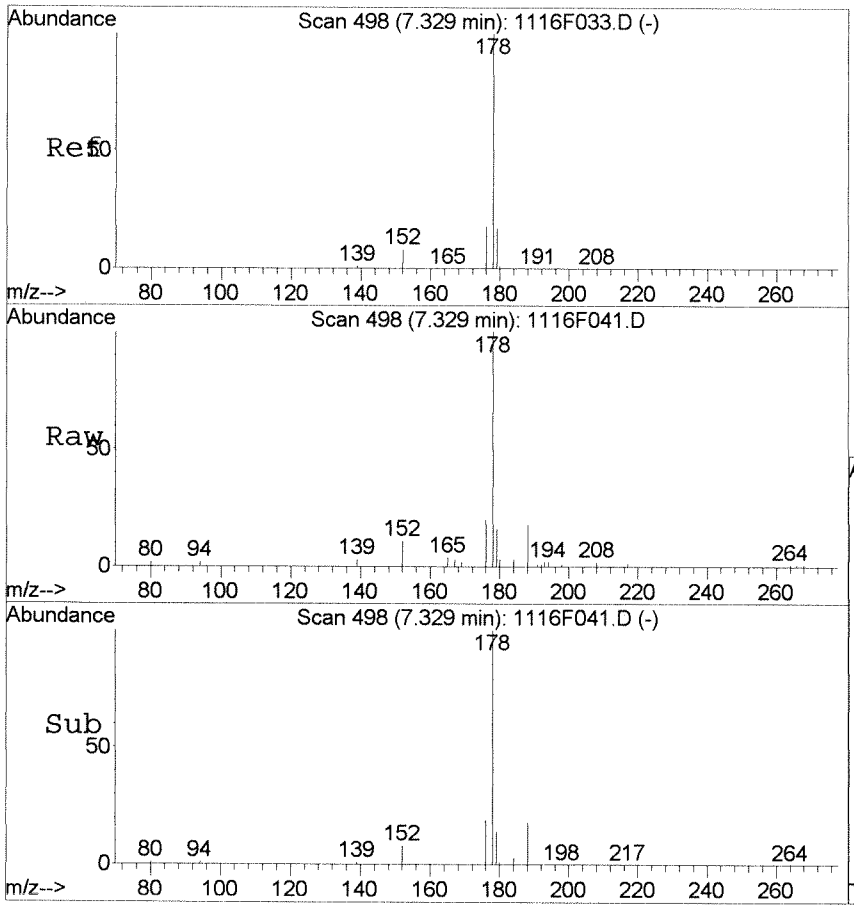


#27
Phenanthrene
Concen: 44.10 ng/ml
RT: 7.29 min Scan# 494
Delta R.T. 0.01 min
Lab File: 1116F041.D
Acq: 17 Nov 2009 12:53 am

Tgt Ion:178 Resp: 41450

Ion	Ratio	Lower	Upper
178	100		
176	16.7	0.0	49.6

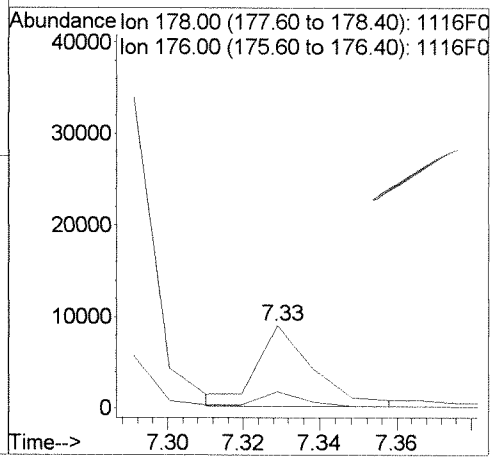


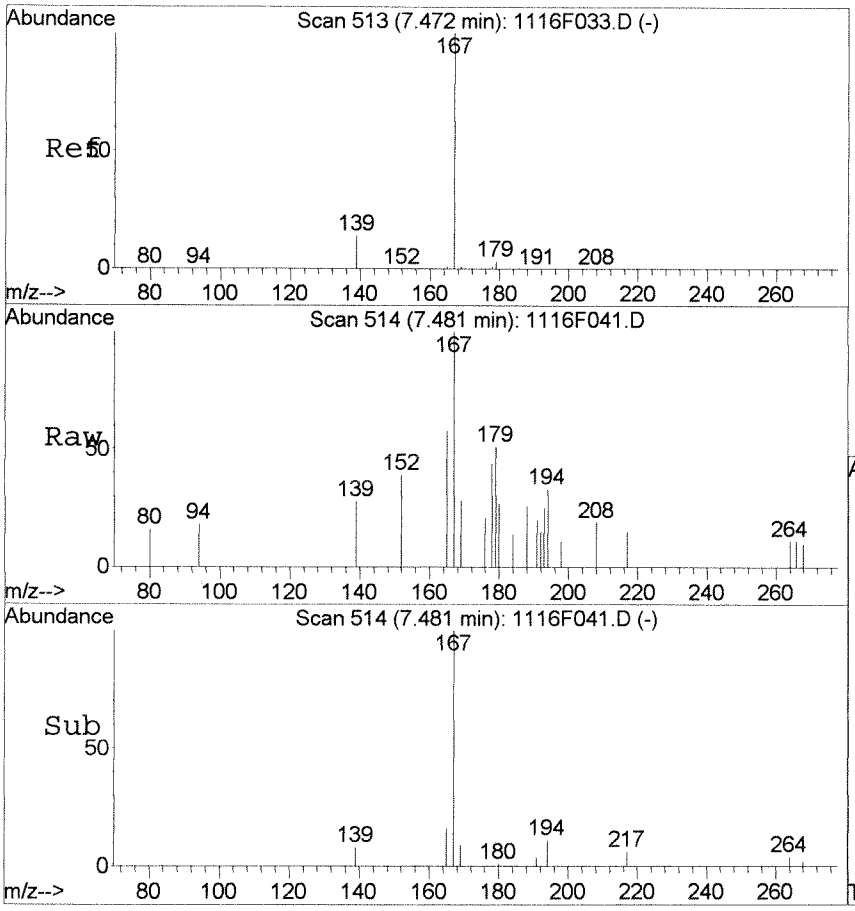


#28
Anthracene
Concen: 9.96 ng/ml m
RT: 7.33 min Scan# 498
Delta R.T. 0.01 min
Lab File: 1116F041.D
Acq: 17 Nov 2009 12:53 am

Tgt Ion:178 Resp: 8953

Ion	Ratio	Lower	Upper
178	100		
176	20.2	0.0	47.6

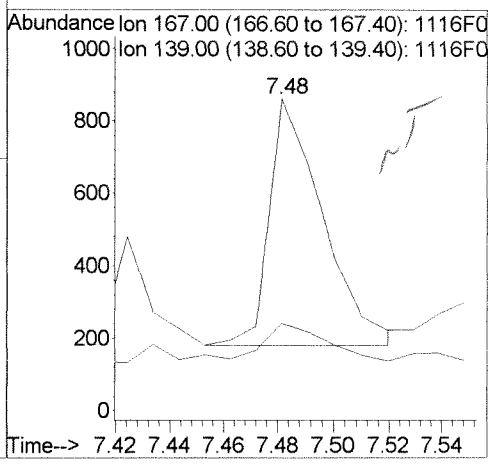


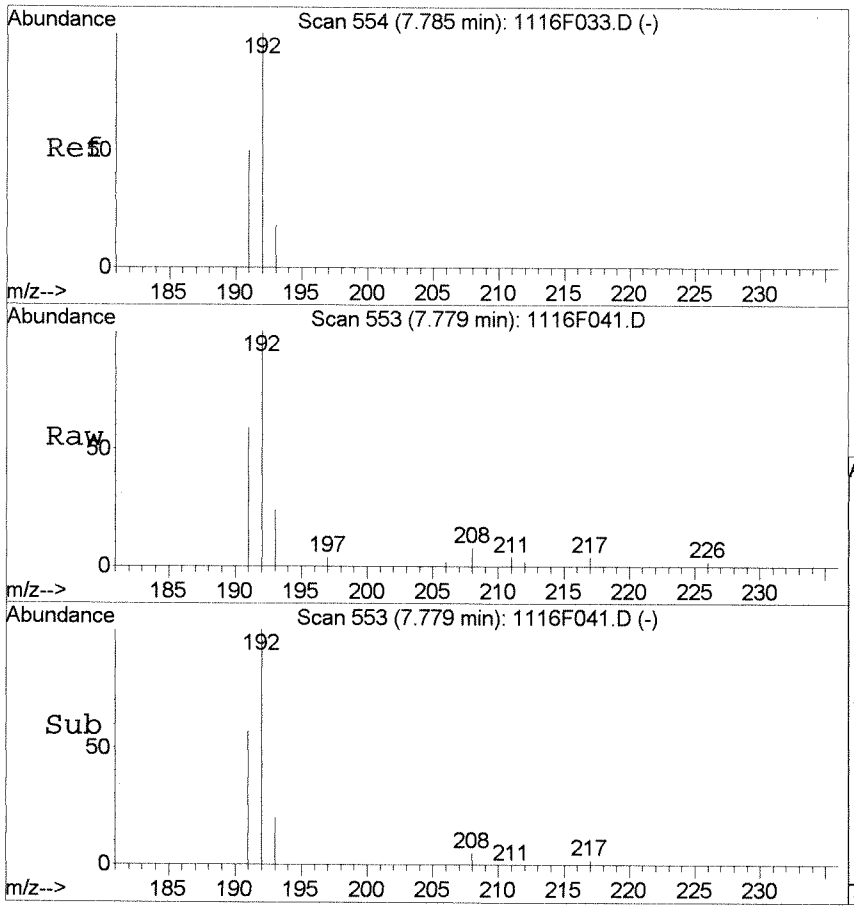


#29
Carbazole
Concen: 1.19 ng/ml
RT: 7.48 min Scan# 514
Delta R.T. 0.01 min
Lab File: 1116F041.D
Acq: 17 Nov 2009 12:53 am

Tgt Ion:167 Resp: 915

Ion	Ratio	Lower	Upper
167	100		
139	15.3	0.0	45.7

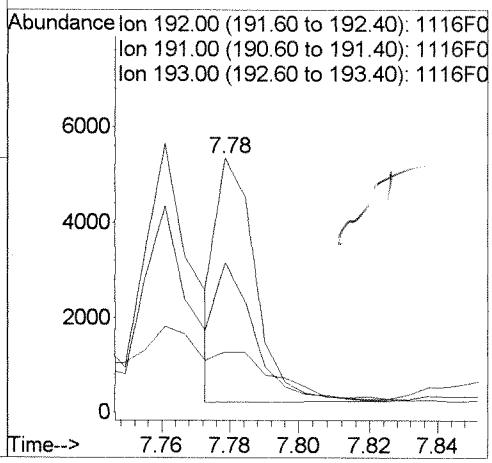


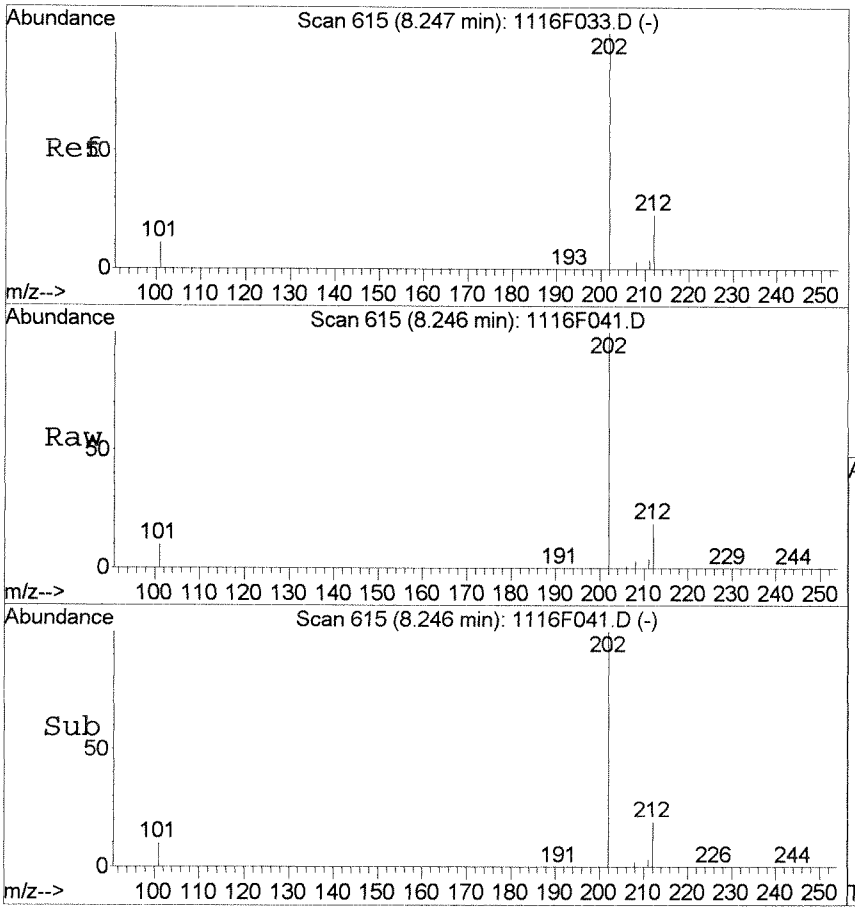


#30
1-Methylphenanthrene
Concen: 6.01 ng/ml
RT: 7.78 min Scan# 553
Delta R.T. 0.01 min
Lab File: 1116F041.D
Acq: 17 Nov 2009 12:53 am

Tgt Ion:192 Resp: 4043

Ion	Ratio	Lower	Upper
192	100		
191	56.4	23.0	83.0
193	19.4	0.0	47.0

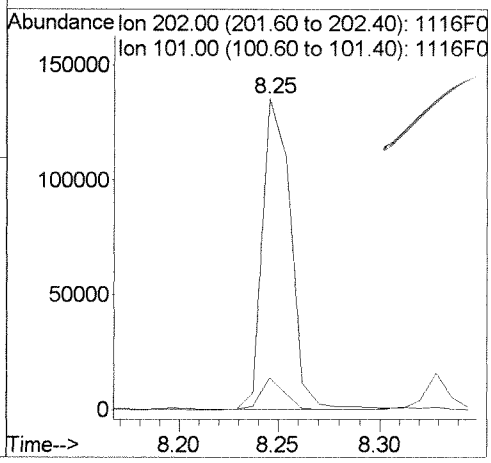


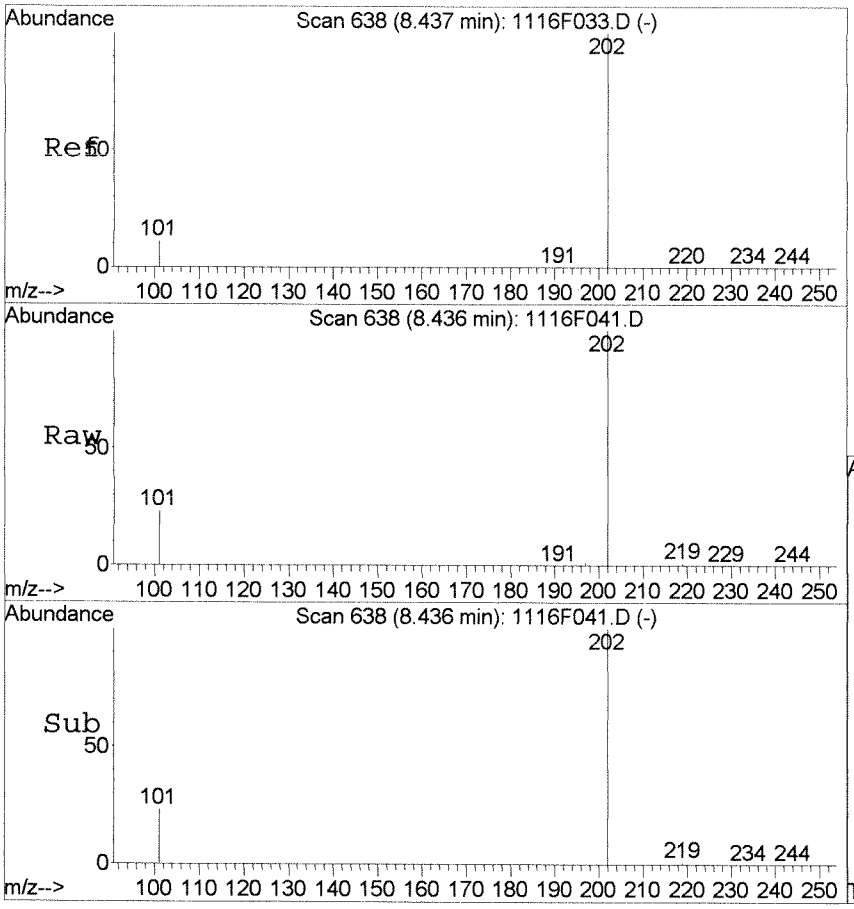


#35
Fluoranthene
Concen: 129.89 ng/ml
RT: 8.25 min Scan# 615
Delta R.T. -0.00 min
Lab File: 1116F041.D
Acq: 17 Nov 2009 12:53 am

Tgt Ion:202 Resp: 134116

Ion	Ratio	Lower	Upper
202	100		
101	10.1	0.0	36.5

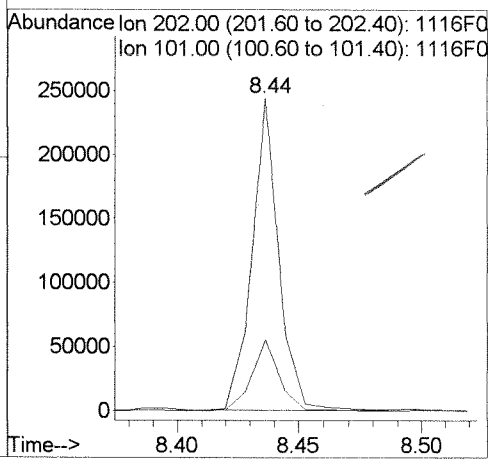


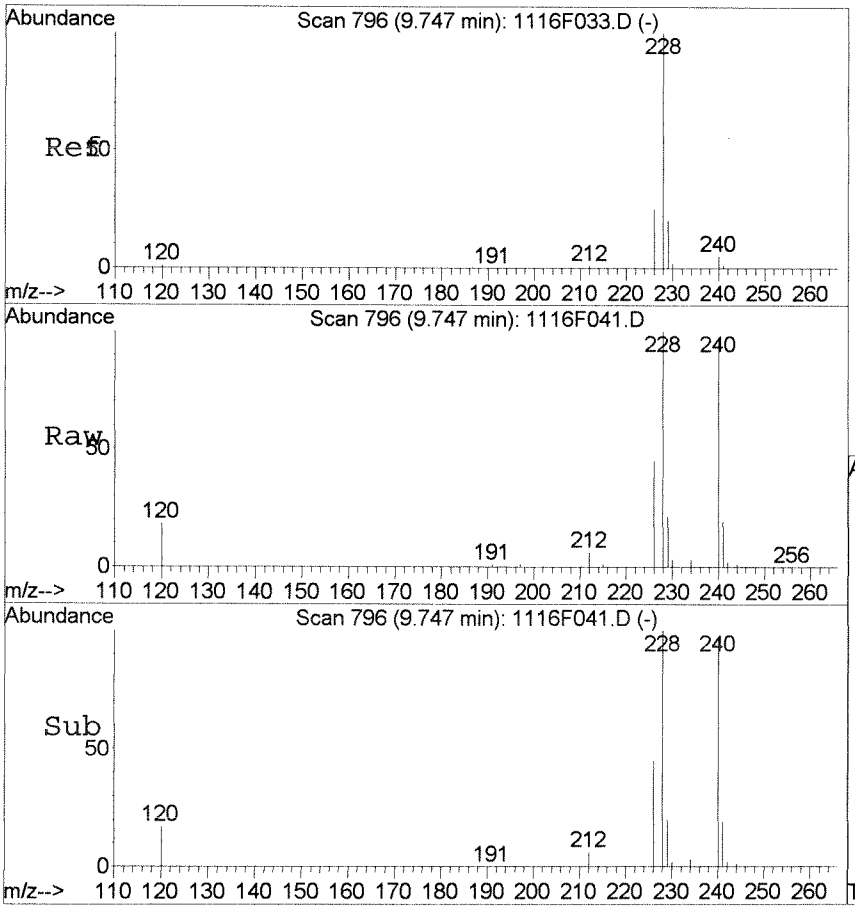


#38
Pyrene
Concen: 138.32 ng/ml
RT: 8.44 min Scan# 638
Delta R.T. 0.01 min
Lab File: 1116F041.D
Acq: 17 Nov 2009 12:53 am

Tgt Ion:202 Resp: 187398

Ion	Ratio	Lower	Upper
202	100		
101	22.8	0.0	36.4

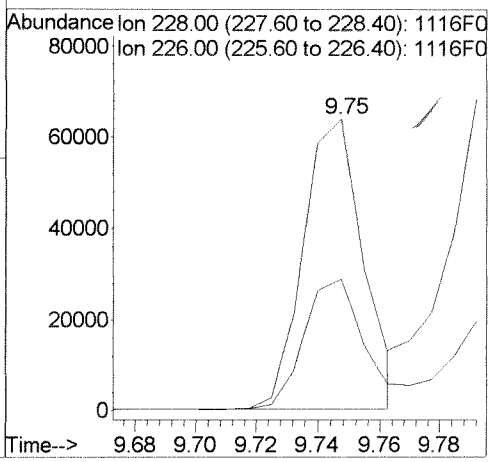


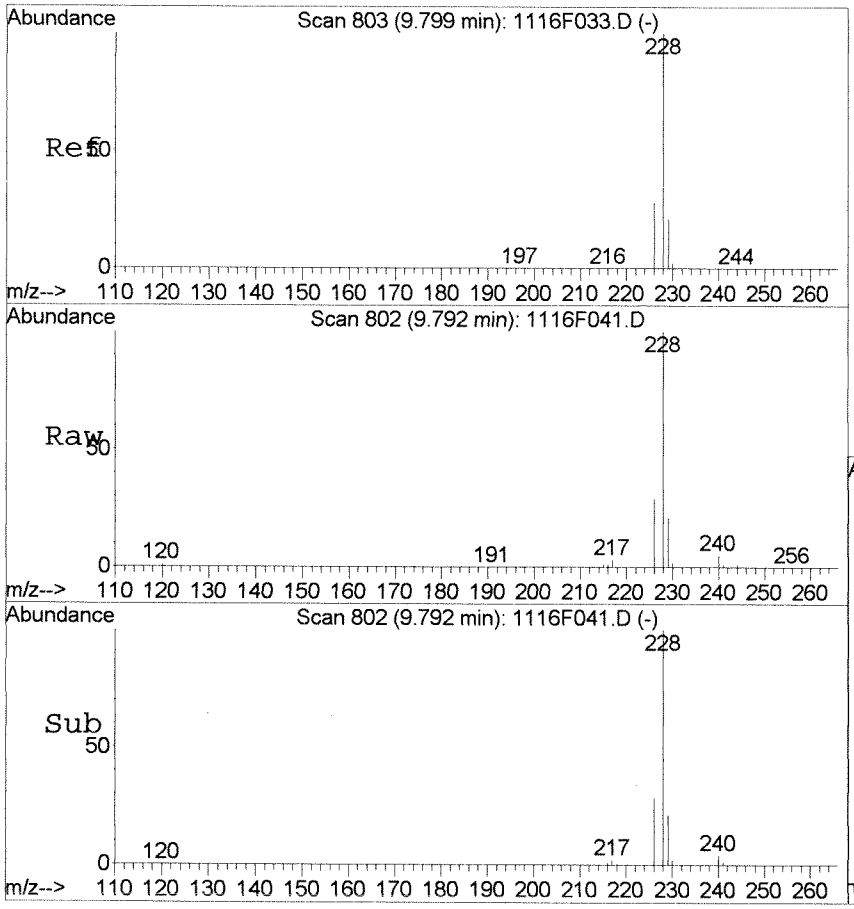


#43
Benz(a)anthracene
Concen: 63.36 ng/ml
RT: 9.75 min Scan# 796
Delta R.T. 0.01 min
Lab File: 1116F041.D
Acq: 17 Nov 2009 12:53 am

Tgt Ion:228 Resp: 85202

Ion	Ratio	Lower	Upper
228	100		
226	45.0	0.0	55.9

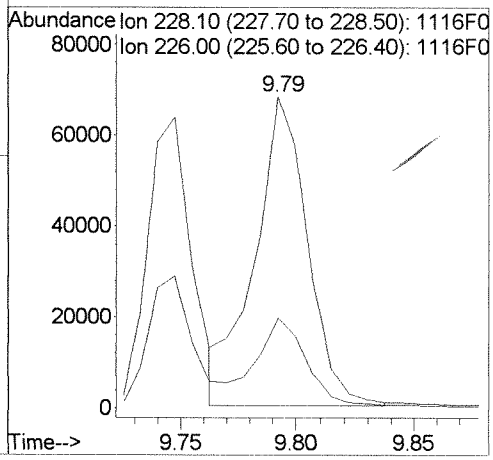


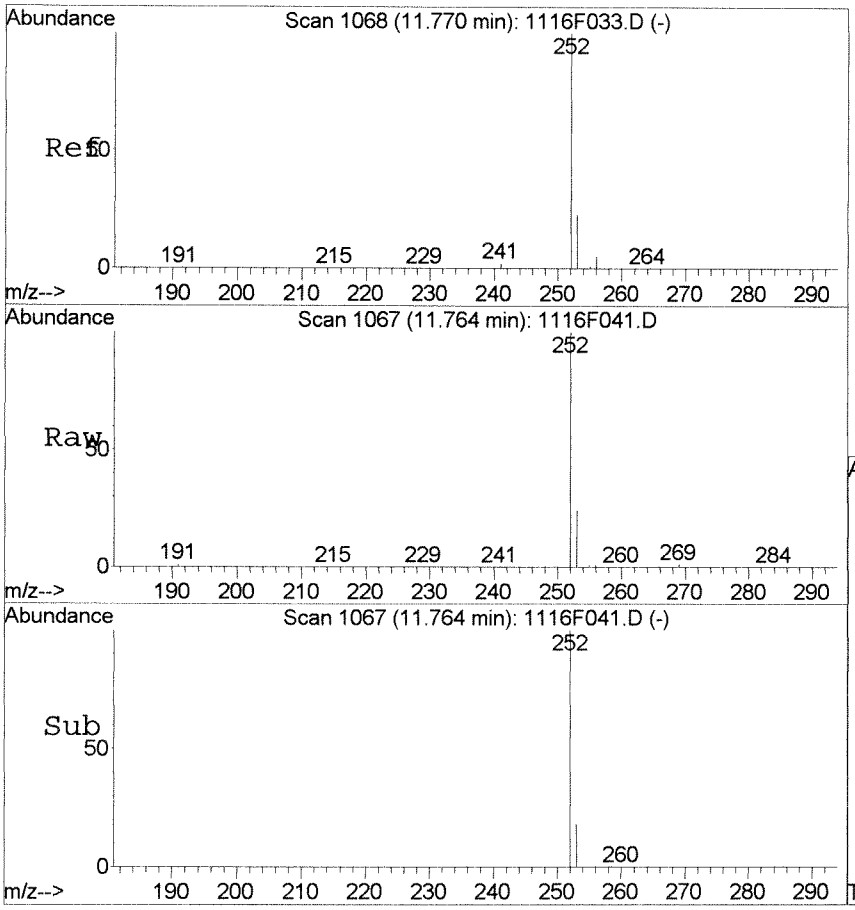


#44
Chrysene
Concen: 81.69 ng/ml m
RT: 9.79 min Scan# 802
Delta R.T. 0.00 min
Lab File: 1116F041.D
Acq: 17 Nov 2009 12:53 am

Tgt Ion:228 Resp: 107002

Ion	Ratio	Lower	Upper
228	100		
226	28.8	0.0	58.8

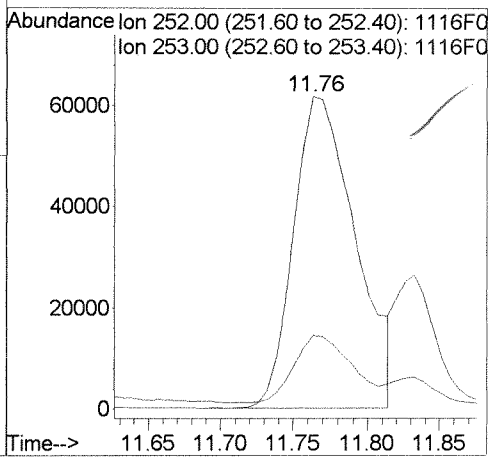


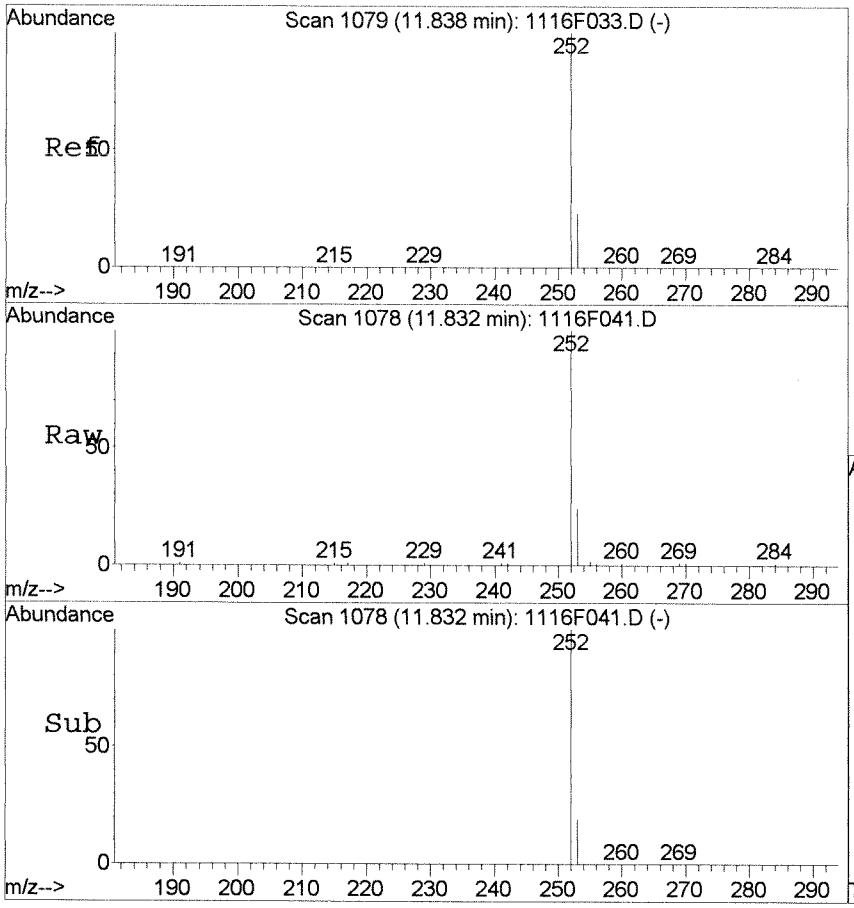


#50
Benzo(b)fluoranthene
Concen: 123.60 ng/ml
RT: 11.76 min Scan# 1067
Delta R.T. 0.02 min
Lab File: 1116F041.D
Acq: 17 Nov 2009 12:53 am

Tgt Ion:252 Resp: 177577

Ion	Ratio	Lower	Upper
252	100		
253	21.2	0.0	52.8

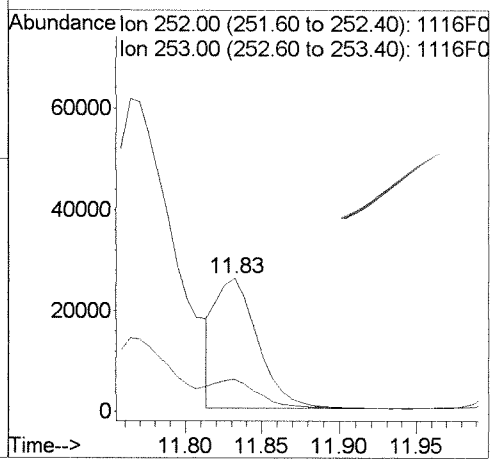


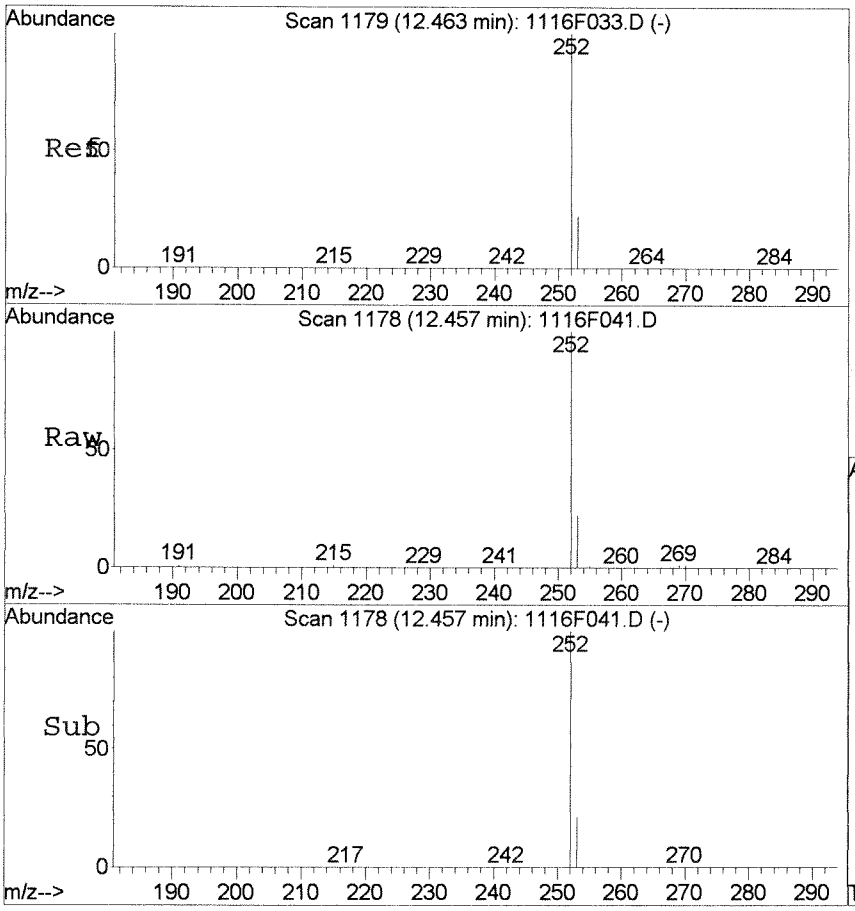


#51
Benzo(k)fluoranthene
Concen: 35.52 ng/ml
RT: 11.83 min Scan# 1078
Delta R.T. 0.02 min
Lab File: 1116F041.D
Acq: 17 Nov 2009 12:53 am

Tgt Ion:252 Resp: 50277

Ion	Ratio	Lower	Upper
252	100		
253	22.5	0.0	52.5

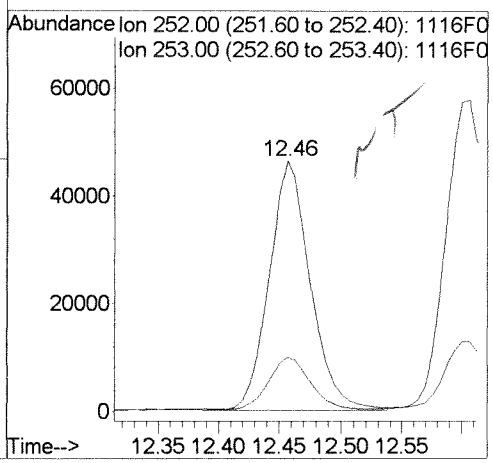


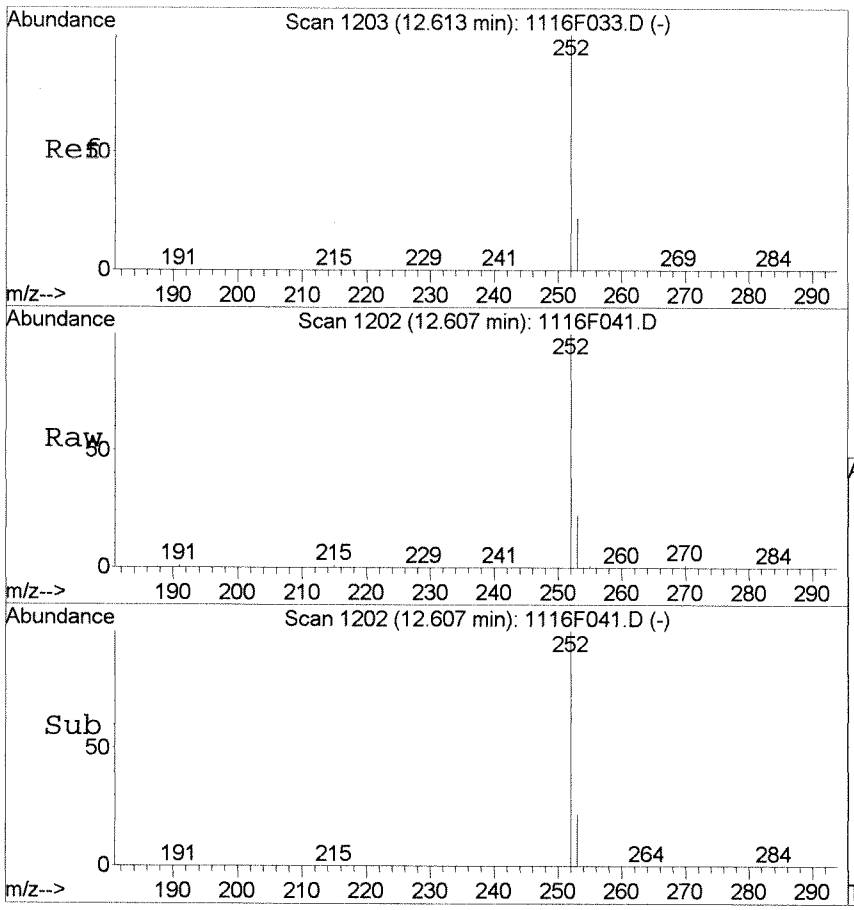


#52
Benzo(e)pyrene
Concen: 80.28 ng/ml
RT: 12.46 min Scan# 1178
Delta R.T. 0.02 min
Lab File: 1116F041.D
Acq: 17 Nov 2009 12:53 am

Tgt Ion:252 Resp: 108020

Ion	Ratio	Lower	Upper
252	100		
253	20.8	0.0	52.3

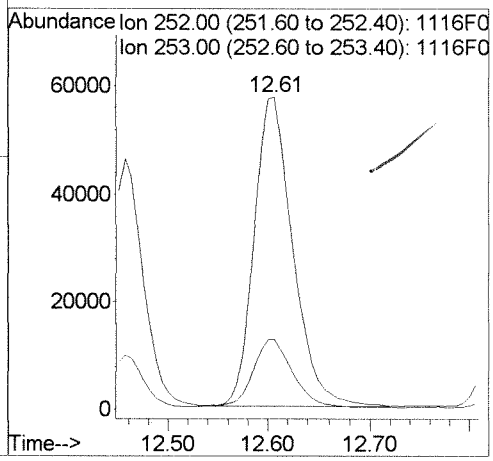


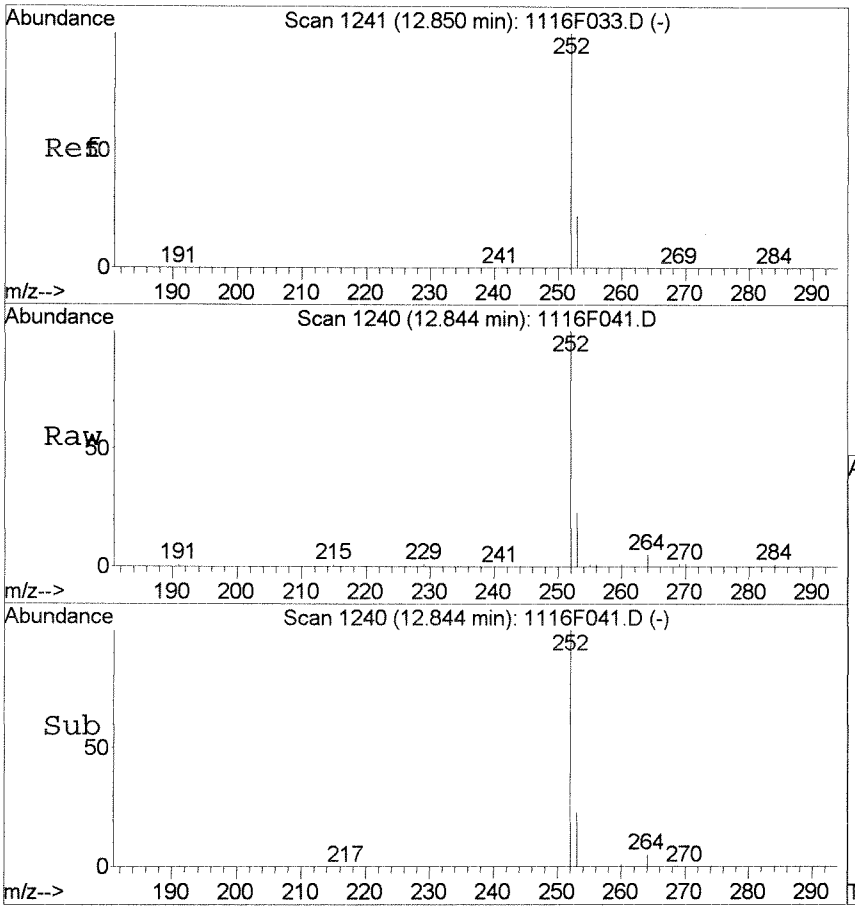


#53
Benzo(a)pyrene
Concen: 113.11 ng/ml
RT: 12.61 min Scan# 1202
Delta R.T. 0.02 min
Lab File: 1116F041.D
Acq: 17 Nov 2009 12:53 am

Tgt Ion:252 Resp: 153912

Ion	Ratio	Lower	Upper
252	100		
253	21.9	0.0	52.6

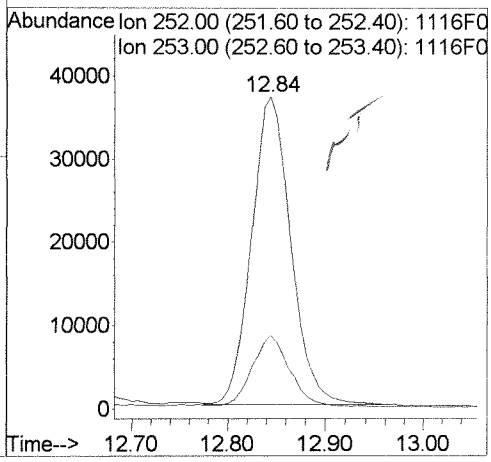


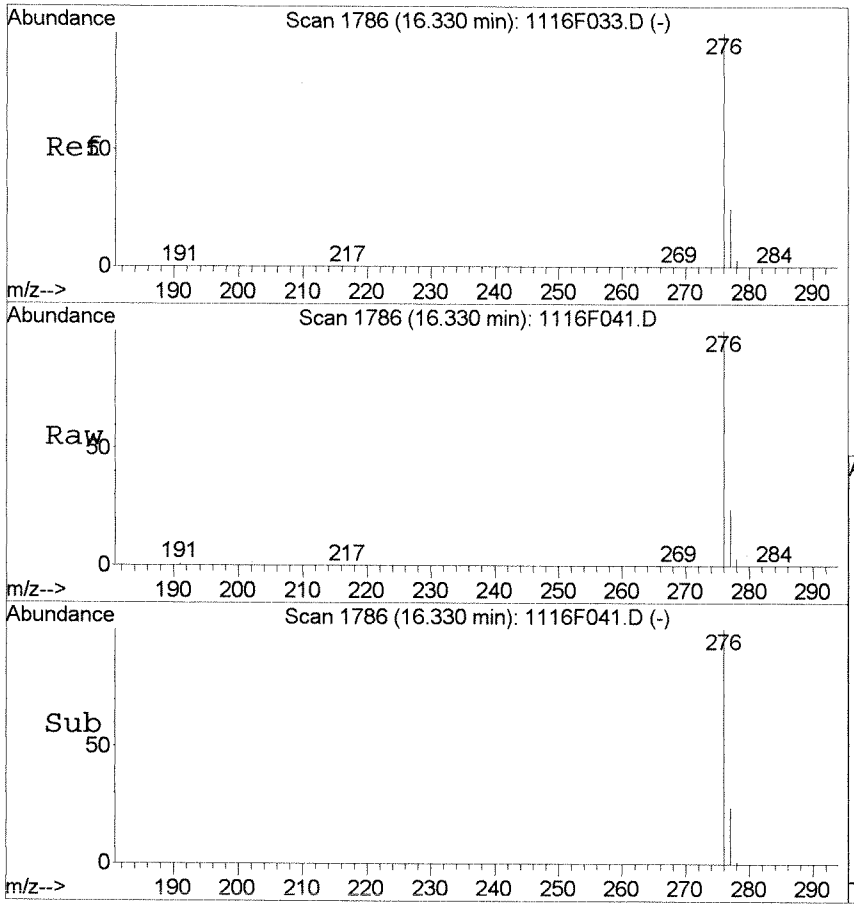


#54
Perylene
Concen: 78.09 ng/ml
RT: 12.84 min Scan# 1240
Delta R.T. 0.02 min
Lab File: 1116F041.D
Acq: 17 Nov 2009 12:53 am

Tgt Ion:252 Resp: 104169

Ion	Ratio	Lower	Upper
252	100		
253	22.9	0.0	52.0

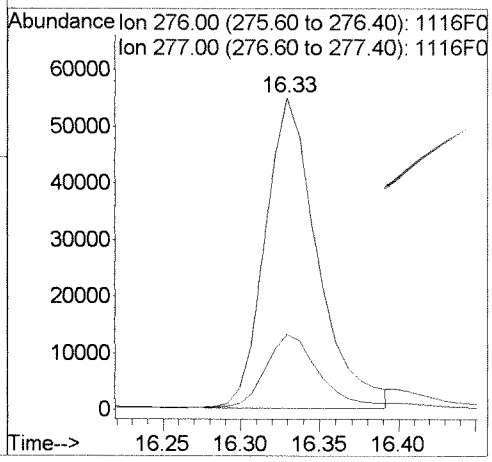


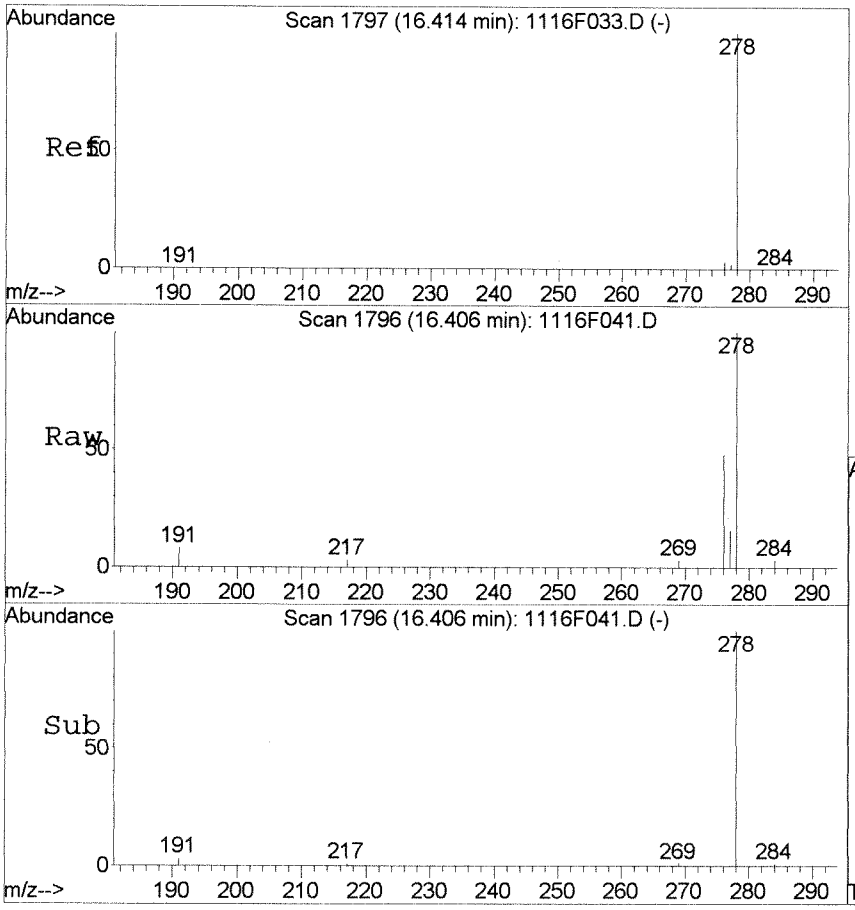


#55
Indeno(1,2,3-cd)pyrene
Concen: 101.24 ng/ml m
RT: 16.33 min Scan# 1786
Delta R.T. 0.02 min
Lab File: 1116F041.D
Acq: 17 Nov 2009 12:53 am

Tgt Ion:276 Resp: 126384

Ion	Ratio	Lower	Upper
276	100		
277	24.2	0.0	55.1

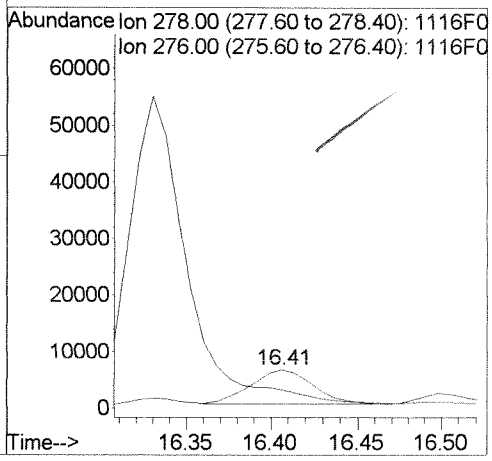


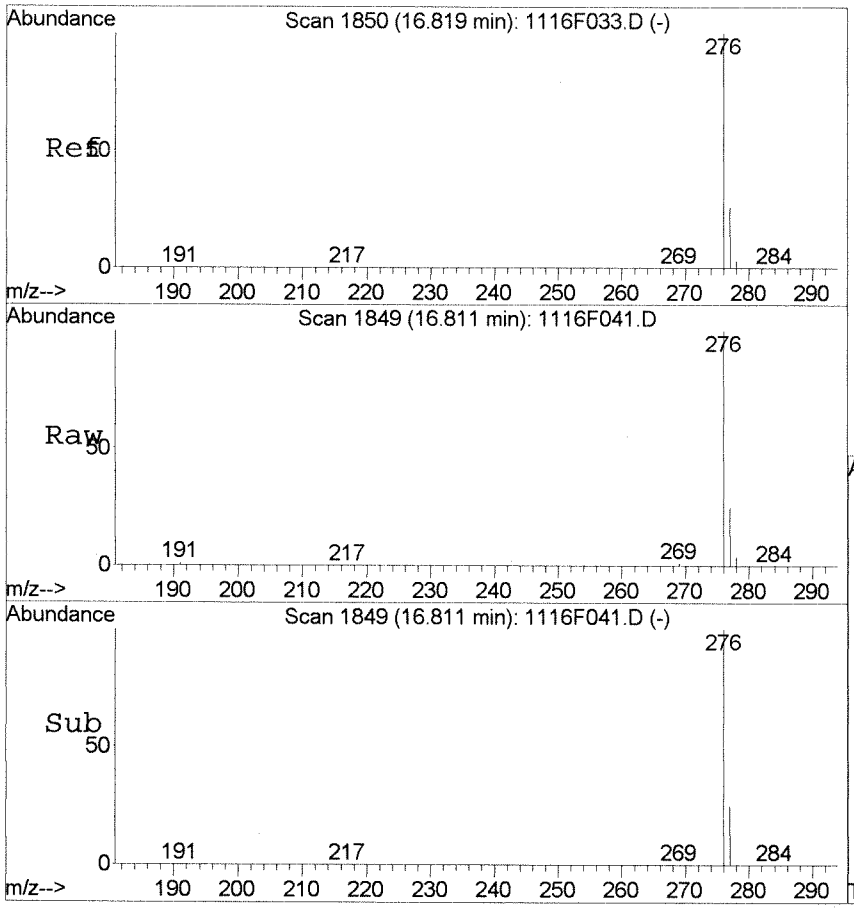


#56
Dibenz(a,h)anthracene
Concen: 11.47 ng/ml
RT: 16.41 min Scan# 1796
Delta R.T. 0.02 min
Lab File: 1116F041.D
Acq: 17 Nov 2009 12:53 am

Tgt Ion:278 Resp: 15427

Ion	Ratio	Lower	Upper
278	100		
276	39.0	0.0	52.1

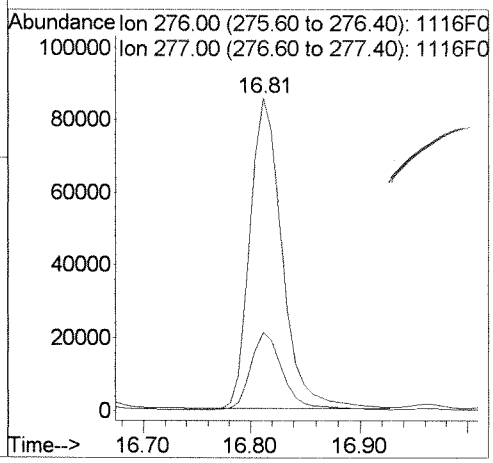




#57
Benzo(g,h,i)perylene
Concen: 123.19 ng/ml
RT: 16.81 min Scan# 1849
Delta R.T. 0.02 min
Lab File: 1116F041.D
Acq: 17 Nov 2009 12:53 am

Tgt Ion:276 Resp: 177114

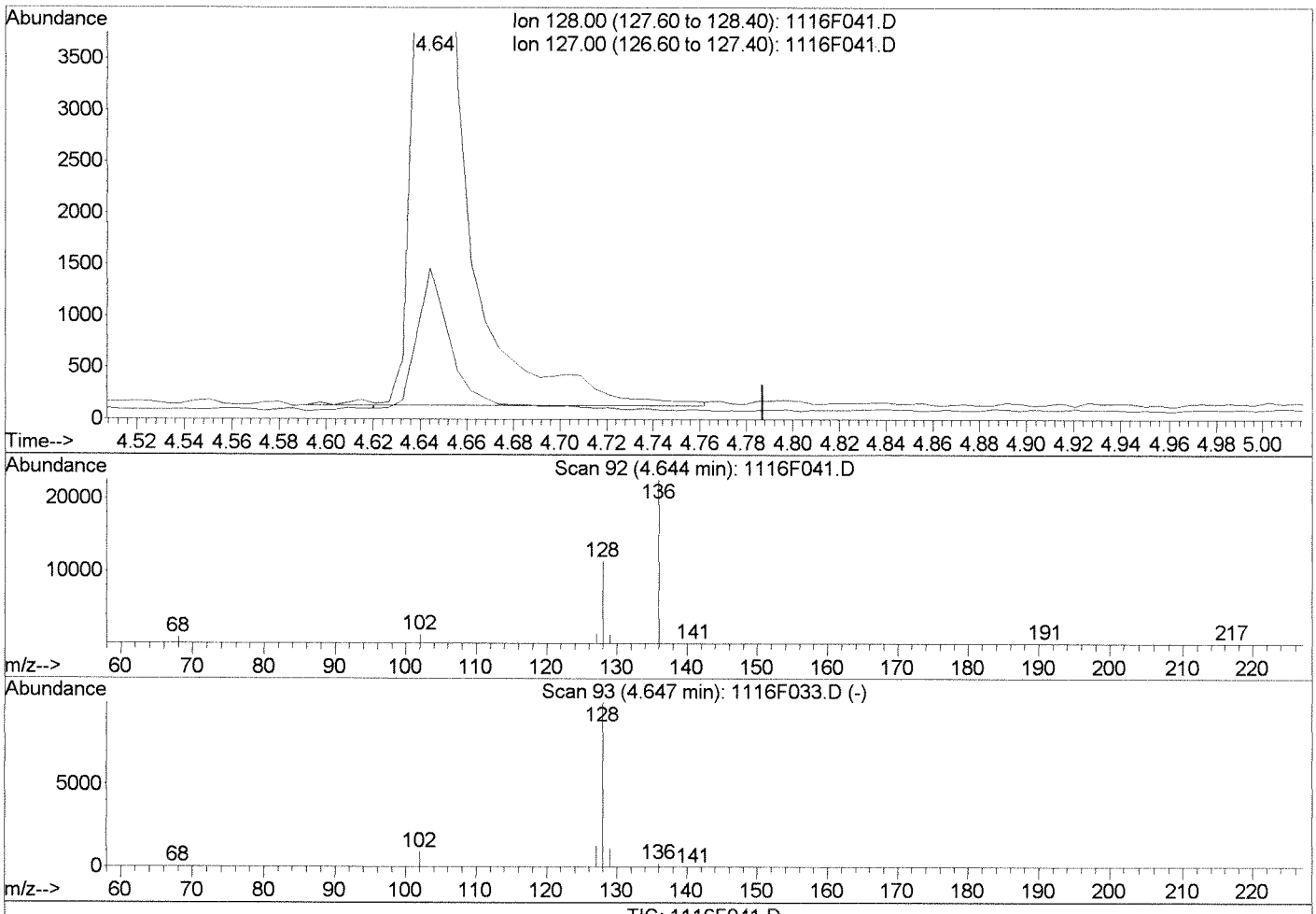
Ion	Ratio	Lower	Upper
276	100		
277	24.7	0.0	55.7



Quantitation Report (Qedit)

Data File : J:\MS11\DATA\111609\1116F041.D Vial: 37
Acq On : 17 Nov 2009 12:53 am Operator: LWeiskopf
Sample : K0909140-019 Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 18 12:17 2009 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Wed Nov 18 12:17:22 2009
Response via : Multiple Level Calibration



TIC: 1116F041.D

(2) Naphthalene (T)

4.64min 15.17ng/ml

response 11466

Ion	Exp%	Act%
128.00	100	100
127.00	12.40	12.31
0.00	0.00	0.00
0.00	0.00	0.00

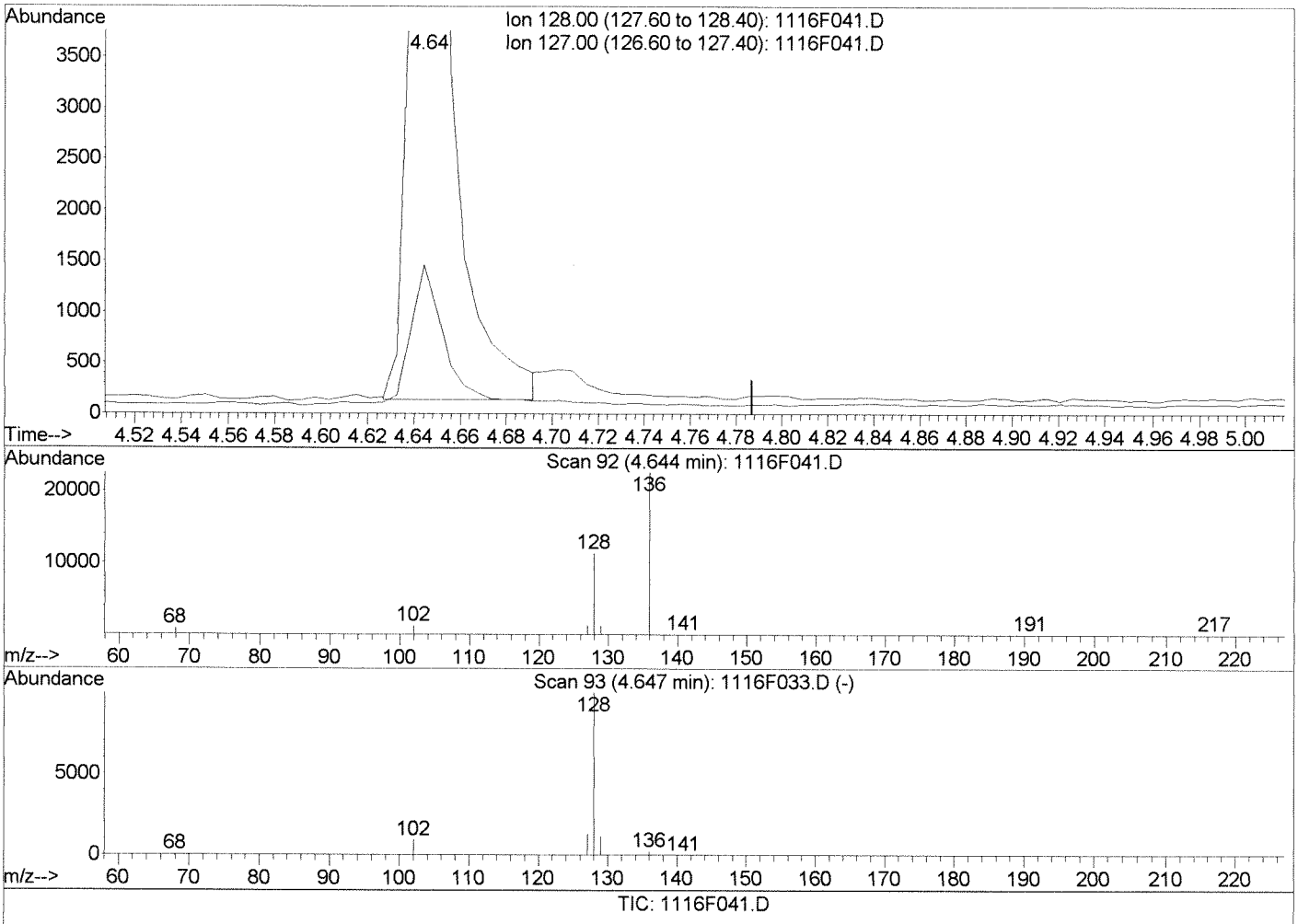
Quantitation Report (Qedit)

Data File : J:\MS11\DATA\111609\1116F041.D
Acq On : 17 Nov 2009 12:53 am
Sample : K0909140-019
Misc :
MS Integration Params: RTEINT.P
Quant Time: Nov 18 12:25 2009

Vial: 37
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Wed Nov 18 12:17:22 2009
Response via : Multiple Level Calibration



TIC: 1116F041.D

(2) Naphthalene (T)

4.64min 14.37ng/ml m

response 10858

Ion	Exp%	Act%
128.00	100	100
127.00	12.40	12.86
0.00	0.00	0.00
0.00	0.00	0.00

11/18/09

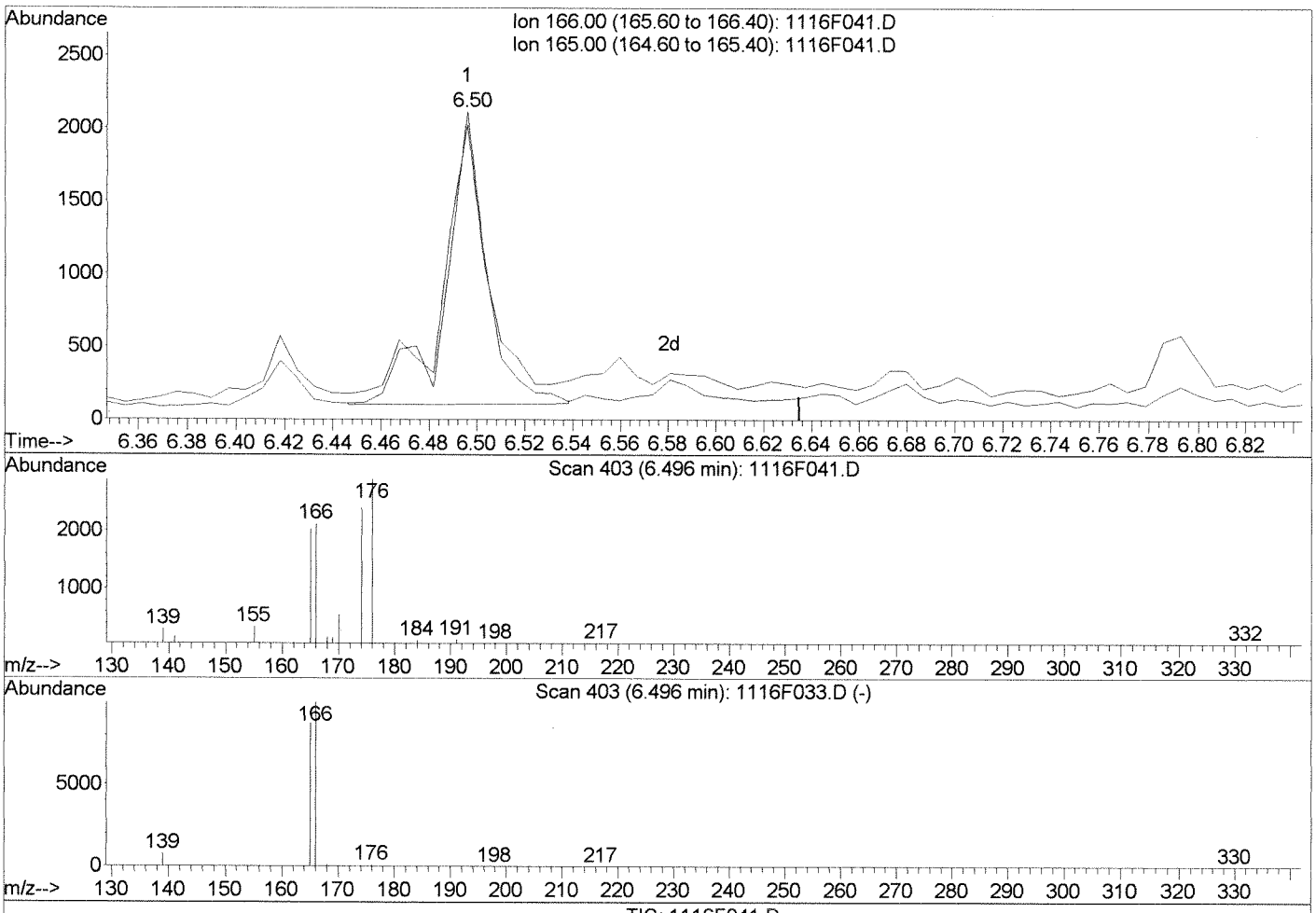
11-18-09

1116F041.D 1015ALK.M Wed Nov 18 12:25:56 2009

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\111609\1116F041.D Vial: 37
Acq On : 17 Nov 2009 12:53 am Operator: LWeiskopf
Sample : K0909140-019 Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 18 12:25 2009 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Wed Nov 18 12:17:22 2009
Response via : Multiple Level Calibration



TIC: 1116F041.D

(16) Fluorene (T)

6.50min 4.73ng/ml

response 2402

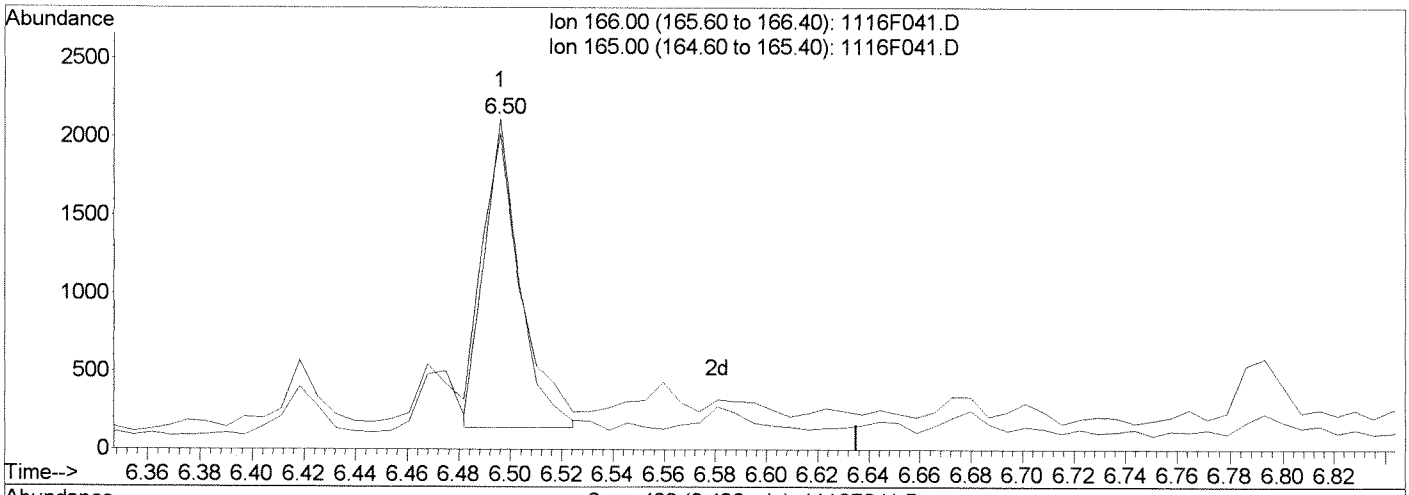
Ion	Exp%	Act%
166.00	100	100
165.00	87.80	92.27
0.00	0.00	0.00
0.00	0.00	0.00

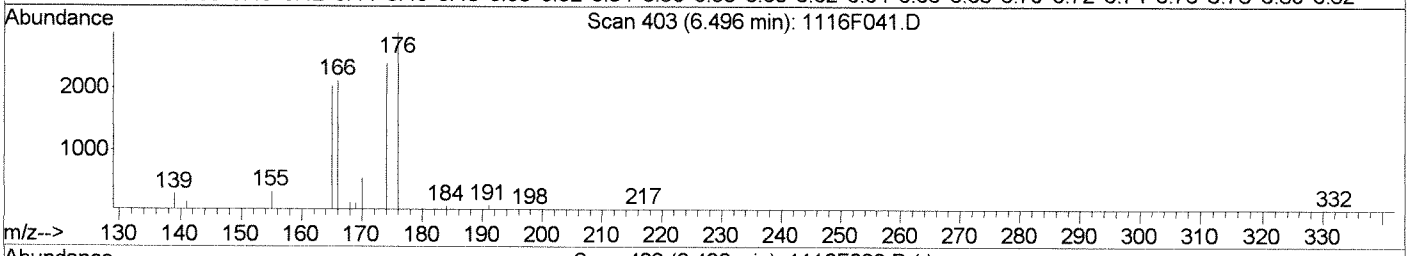
1116F041.D 1015ALK.M Wed Nov 18 12:26:05 2009

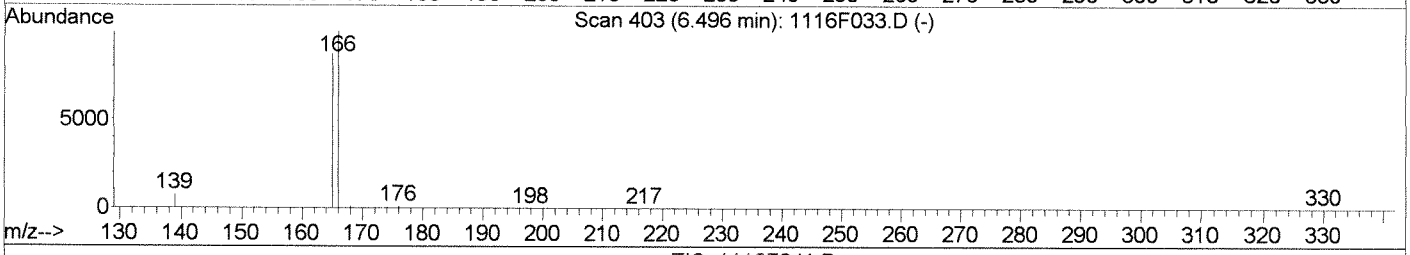
Quantitation Report (Qedit)

Data File : J:\MS11\DATA\111609\1116F041.D Vial: 37
Acq On : 17 Nov 2009 12:53 am Operator: LWeiskopf
Sample : K0909140-019 Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 18 12:26 2009 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Wed Nov 18 12:17:22 2009
Response via : Multiple Level Calibration







TIC: 1116F041.D

(16) Fluorene (T)

6.50min 3.66ng/ml m

response 1856

Ion	Exp%	Act%
166.00	100	100
165.00	87.80	95.74
0.00	0.00	0.00
0.00	0.00	0.00

11-19-09

11-19-09

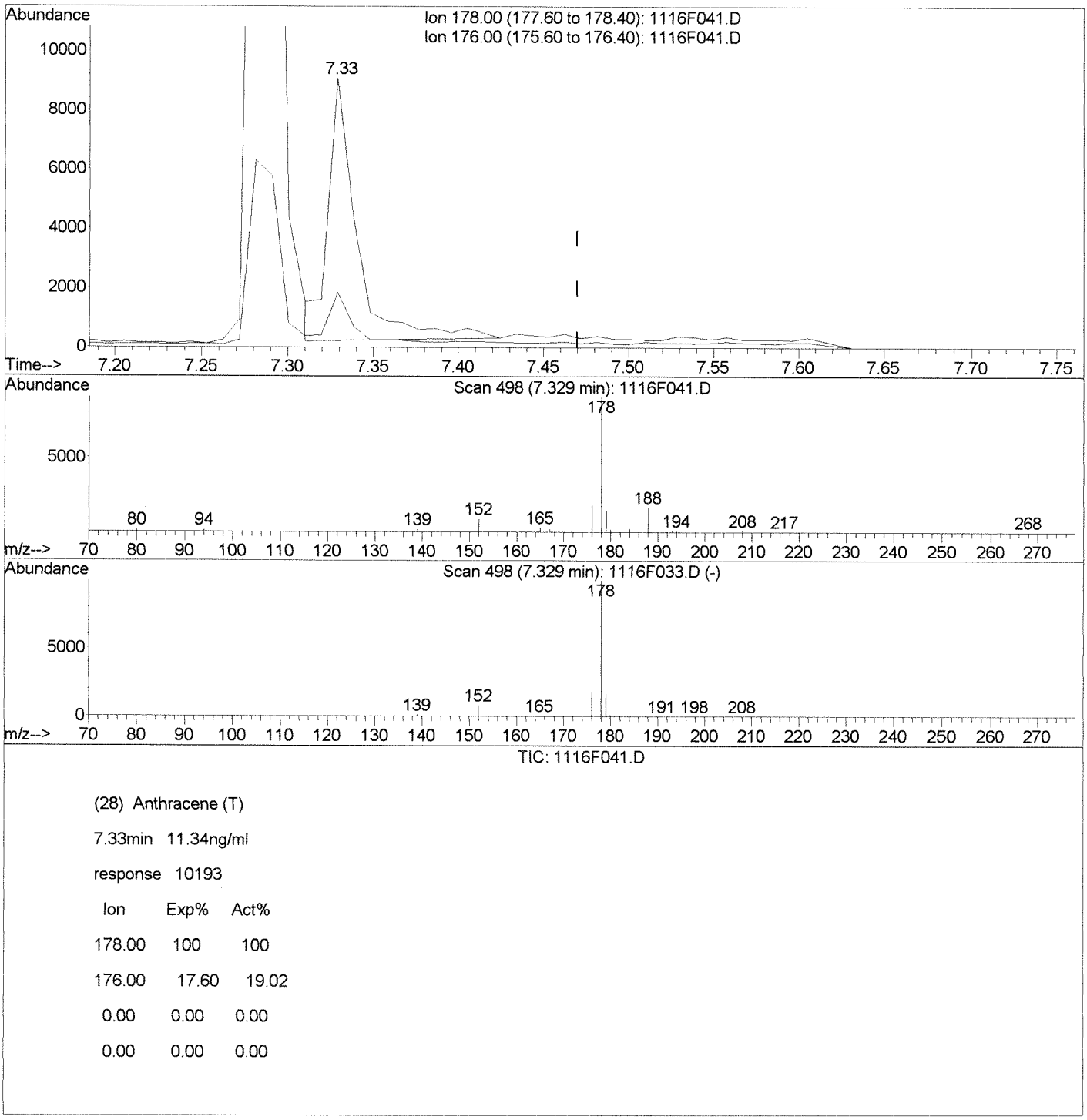
1116F041.D 1015ALK.M Wed Nov 18 12:26:10 2009

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\111609\1116F041.D
Acq On : 17 Nov 2009 12:53 am
Sample : K0909140-019
Misc :
MS Integration Params: RTEINT.P
Quant Time: Nov 18 12:26 2009

Vial: 37
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Wed Nov 18 12:17:22 2009
Response via : Multiple Level Calibration



(28) Anthracene (T)

7.33min 11.34ng/ml

response 10193

Ion	Exp%	Act%
178.00	100	100
176.00	17.60	19.02
0.00	0.00	0.00
0.00	0.00	0.00

1116F041.D 1015ALK.M Wed Nov 18 12:26:18 2009

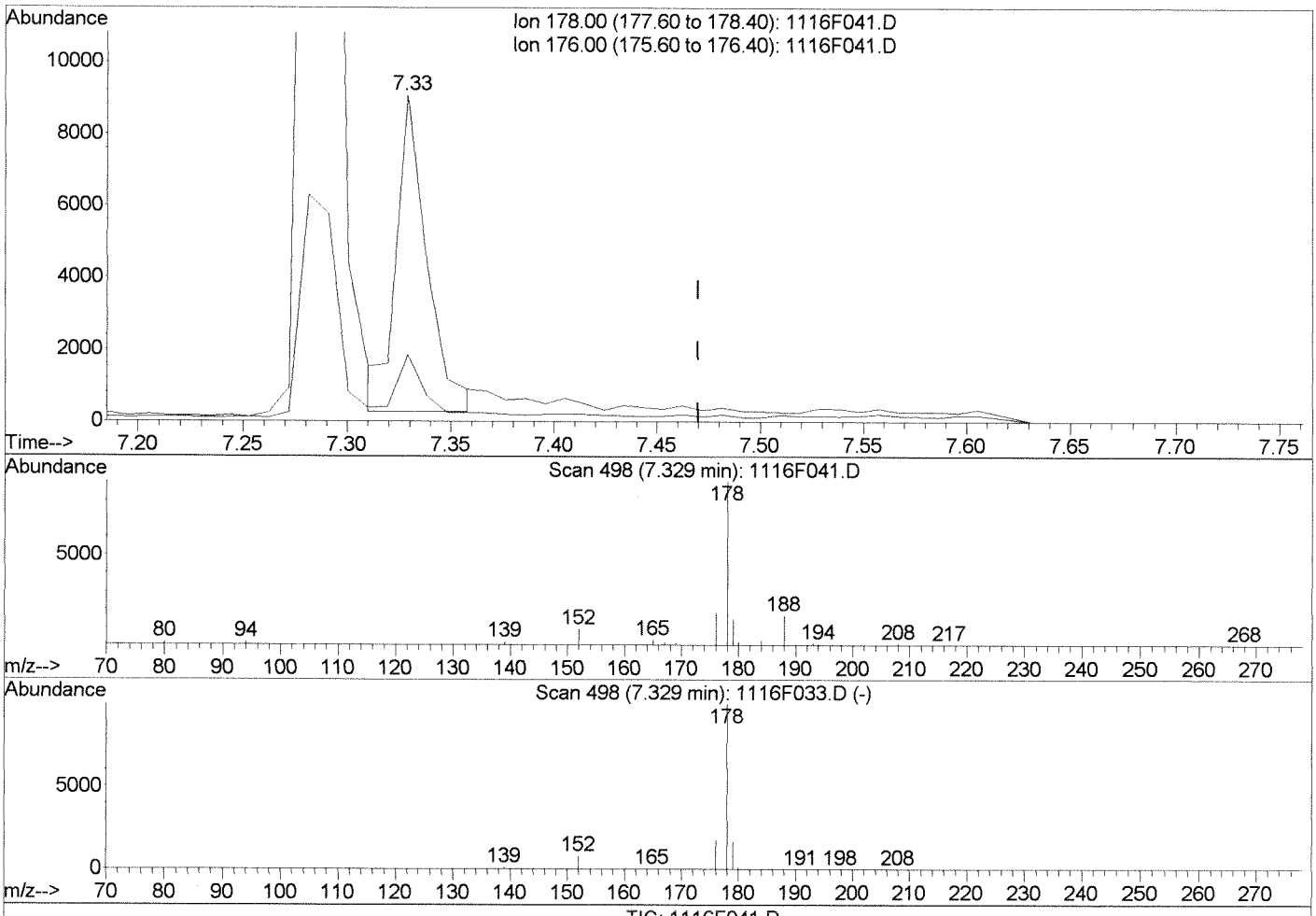
Quantitation Report (Qedit)

Data File : J:\MS11\DATA\111609\1116F041.D
Acq On : 17 Nov 2009 12:53 am
Sample : K0909140-019
Misc :
MS Integration Params: RTEINT.P
Quant Time: Nov 18 12:26 2009

Vial: 37
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Wed Nov 18 12:17:22 2009
Response via : Multiple Level Calibration



(28) Anthracene (T)

7.33min 9.96ng/ml m

response 8953

Ion	Exp%	Act%
178.00	100	100
176.00	17.60	20.20
0.00	0.00	0.00
0.00	0.00	0.00

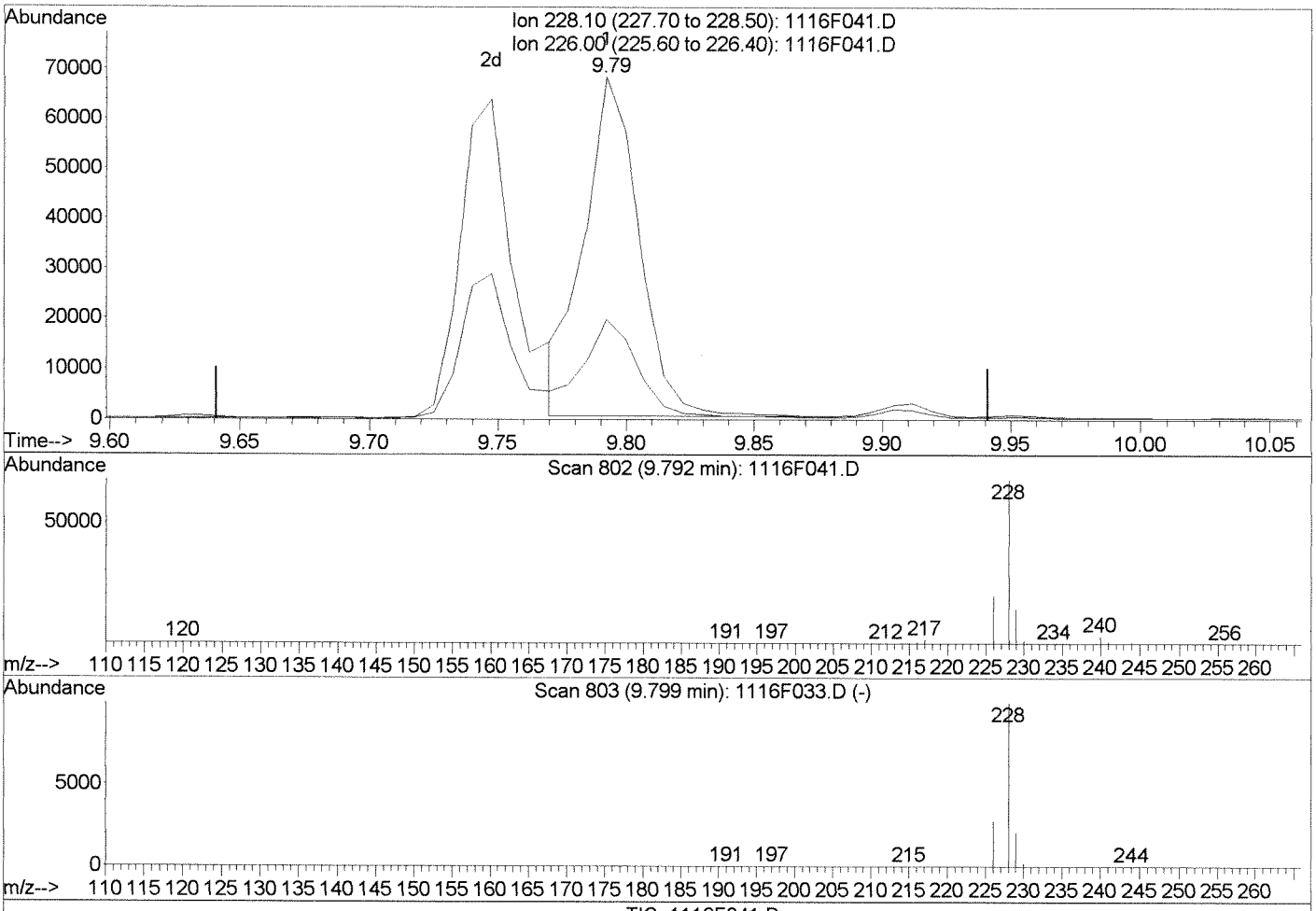
OI
11/18/09

1116F041.D 1015ALK.M Wed Nov 18 12:26:24 2009

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\111609\1116F041.D Vial: 37
Acq On : 17 Nov 2009 12:53 am Operator: LWeiskopf
Sample : K0909140-019 Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 18 12:26 2009 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Wed Nov 18 12:17:22 2009
Response via : Multiple Level Calibration



TIC: 1116F041.D

(44) Chrysene (T)

9.79min 76.86ng/ml

response 100670

Ion	Exp%	Act%
228.10	100	100
226.00	28.80	28.42
0.00	0.00	0.00
0.00	0.00	0.00

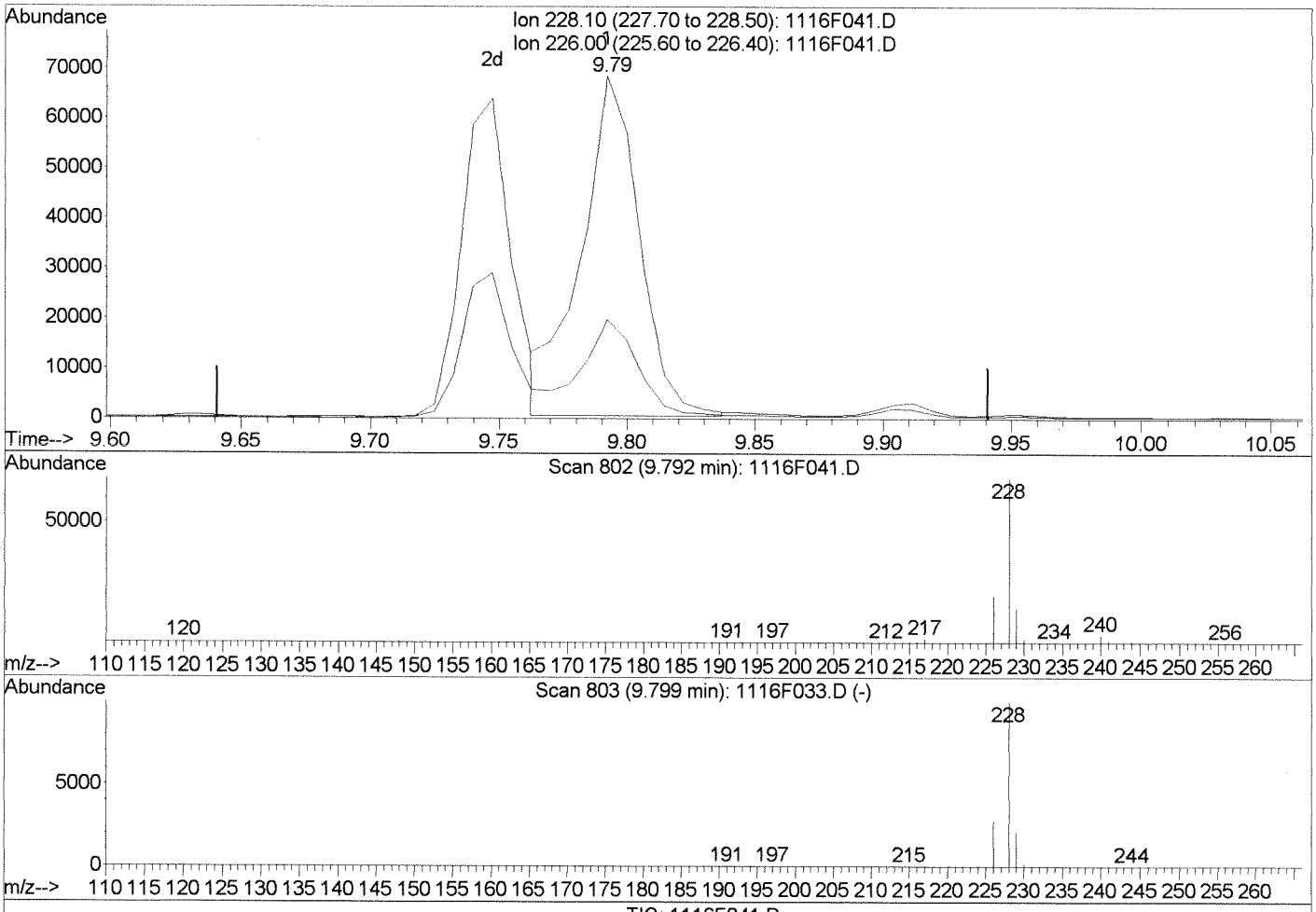
1116F041.D 1015ALK.M Wed Nov 18 12:26:33 2009

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\111609\1116F041.D
Acq On : 17 Nov 2009 12:53 am
Sample : K0909140-019
Misc :
MS Integration Params: RTEINT.P
Quant Time: Nov 18 12:26 2009

Vial: 37
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Wed Nov 18 12:17:22 2009
Response via : Multiple Level Calibration



TIC: 1116F041.D

(44) Chrysene (T)

9.79min 81.69ng/ml m

response 107002

Ion	Exp%	Act%
228.10	100	100
226.00	28.80	28.83
0.00	0.00	0.00
0.00	0.00	0.00

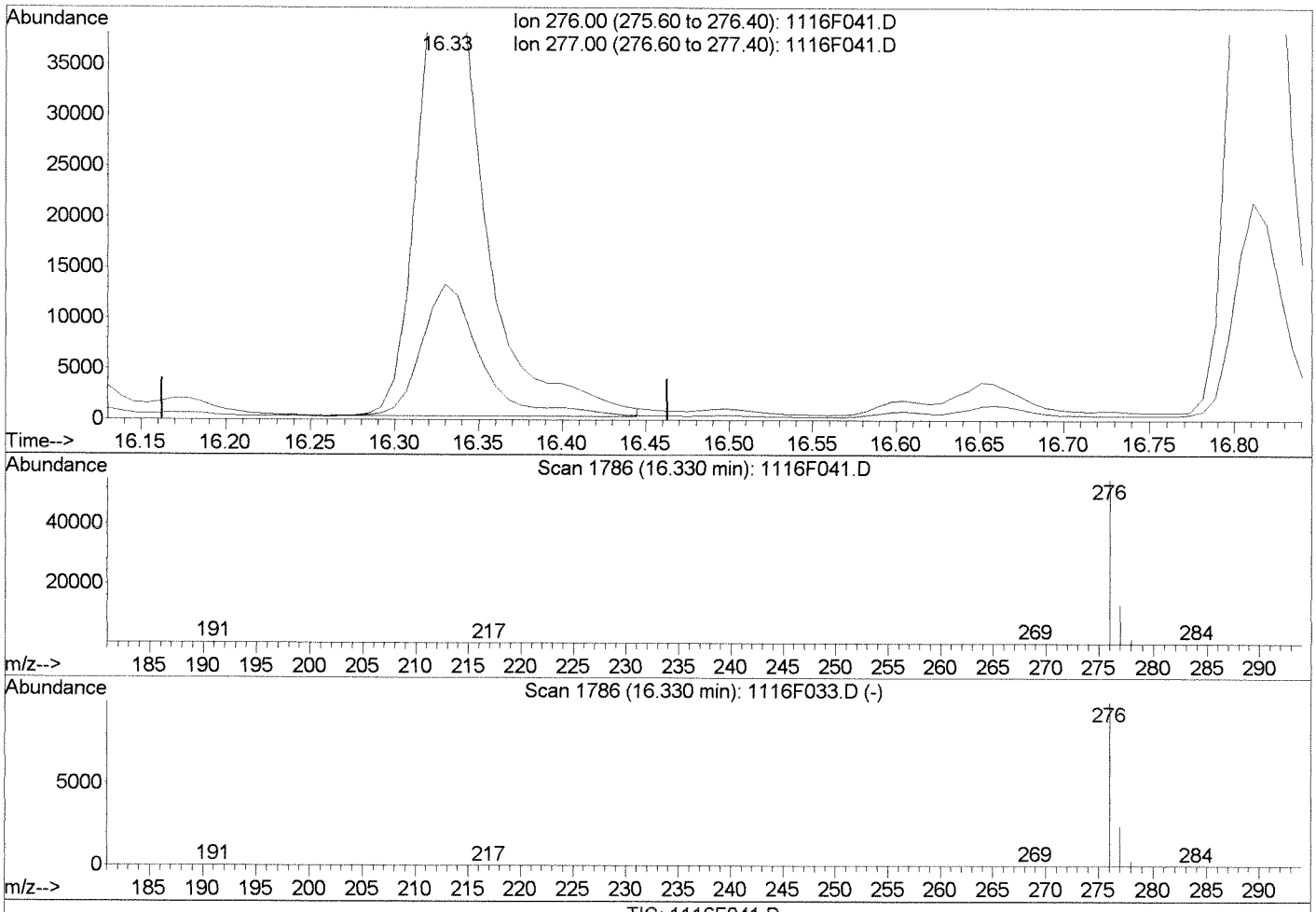
EC 11/18/09
M 11-19-09

1116F041.D 1015ALK.M Wed Nov 18 12:26:37 2009

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\111609\1116F041.D Vial: 37
Acq On : 17 Nov 2009 12:53 am Operator: LWeiskopf
Sample : K0909140-019 Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 18 12:26 2009 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Wed Nov 18 12:17:22 2009
Response via : Multiple Level Calibration



TIC: 1116F041.D

(55) Indeno(1,2,3-cd)pyrene (T)

16.33min 105.78ng/ml

response 132047

Ion	Exp%	Act%
276.00	100	100
277.00	25.10	23.80
0.00	0.00	0.00
0.00	0.00	0.00

1116F041.D 1015ALK.M Wed Nov 18 12:26:43 2009

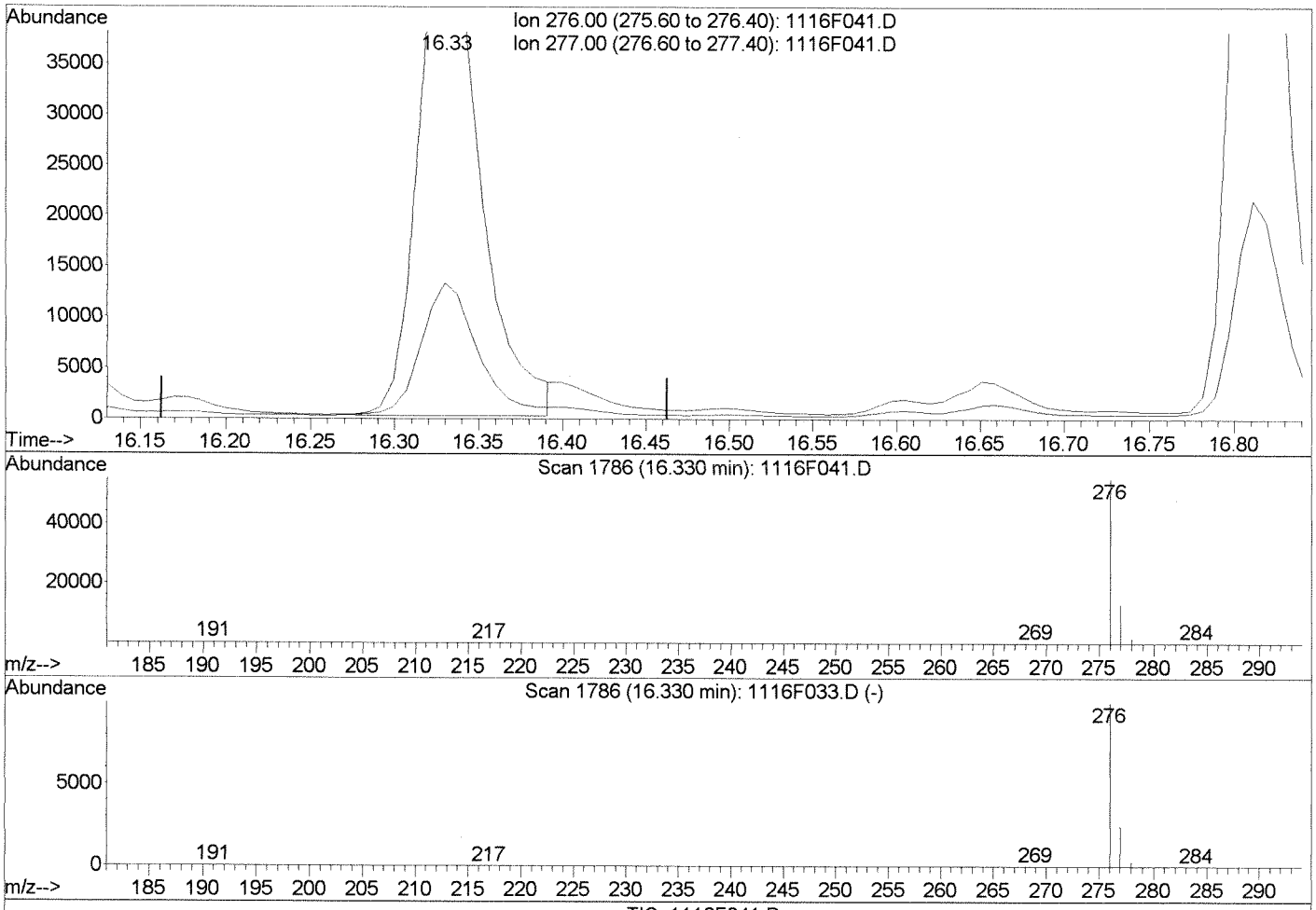
Quantitation Report (Qedit)

Data File : J:\MS11\DATA\111609\1116F041.D
Acq On : 17 Nov 2009 12:53 am
Sample : K0909140-019
Misc :
MS Integration Params: RTEINT.P
Quant Time: Nov 18 12:26 2009

Vial: 37
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Wed Nov 18 12:17:22 2009
Response via : Multiple Level Calibration



TIC: 1116F041.D

(55) Indeno(1,2,3-cd)pyrene (T)

16.33min 101.24ng/ml m

response 126384

Ion	Exp%	Act%
276.00	100	100
277.00	25.10	24.18
0.00	0.00	0.00
0.00	0.00	0.00

11/18/09

11-19-09

1116F041.D 1015ALK.M Wed Nov 18 12:26:49 2009

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	URS Corporation	**Service Request:**	K0909140
Project:	Boise St. Helens Pulp and Paper Mill-2009	**Date Collected:**	NA
Sample Matrix:	Sediment	**Date Received:**	NA

Polynuclear Aromatic Hydrocarbons

Sample Name:	Method Blank	**Units:**	ug/Kg
Lab Code:	KWG0910535-7	**Basis:**	Dry
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270C SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Naphthalene	**0.65**	J	2.5	0.60	1	11/10/09	11/16/09	KWG0910535	
2-Methylnaphthalene	ND	U	2.5	0.46	1	11/10/09	11/16/09	KWG0910535	
Acenaphthylene	ND	U	2.5	0.56	1	11/10/09	11/16/09	KWG0910535	
Acenaphthene	ND	U	2.5	0.50	1	11/10/09	11/16/09	KWG0910535	
Fluorene	ND	U	2.5	0.61	1	11/10/09	11/16/09	KWG0910535	
Dibenzofuran	ND	U	2.5	0.63	1	11/10/09	11/16/09	KWG0910535	
Phenanthrene	ND	U	2.5	1.4	1	11/10/09	11/16/09	KWG0910535	
Anthracene	ND	U	2.5	0.55	1	11/10/09	11/16/09	KWG0910535	
Fluoranthene	**1.7**	J	2.5	0.98	1	11/10/09	11/16/09	KWG0910535	
Pyrene	**1.7**	J	2.5	0.76	1	11/10/09	11/19/09	KWG0910535	
Benz(a)anthracene	ND	U	2.5	0.72	1	11/10/09	11/16/09	KWG0910535	
Chrysene	**0.94**	J	2.5	0.80	1	11/10/09	11/16/09	KWG0910535	
Benzo(b)fluoranthene	**0.92**	J	2.5	0.92	1	11/10/09	11/16/09	KWG0910535	
Benzo(k)fluoranthene	ND	U	2.5	0.87	1	11/10/09	11/16/09	KWG0910535	
Benzo(a)pyrene	ND	U	2.5	0.76	1	11/10/09	11/16/09	KWG0910535	
Indeno(1,2,3-cd)pyrene	ND	U	2.5	0.87	1	11/10/09	11/16/09	KWG0910535	
Dibenz(a,h)anthracene	ND	U	2.5	0.80	1	11/10/09	11/16/09	KWG0910535	
Benzo(g,h,i)perylene	ND	U	2.5	0.85	1	11/10/09	11/16/09	KWG0910535	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	66	17-104	11/16/09	Acceptable
Fluoranthene-d10	62	27-106	11/16/09	Acceptable
Terphenyl-d14	57	35-109	11/16/09	Acceptable

Comments:

Exception Report

Data File: J:\MS11\DATA\111609\1116F004.D
Lab ID: KWG0910535-7
RunType: MB
Matrix: SEDIMENT

Date Acquired: 11/16/2009 08:33
Date Quantitated: 11/18/2009 07:49
Batch ID: KWG0910827
Analysis Method: 8270C SIM
MethodJoinID: MJ139

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Tune Window	NA	NA	NA	x	
Analytical Holding Time	NA	NA	NA	x	
ICAL Pass/Fail	NA	NA	NA	x	
ICAL Average RSD	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Initial Calibration Minimum RF	NA	NA	NA	x	
Initial Calibration SPCC/CCC	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA		x
Continuing Calibration Minimum RF	NA	NA	NA	x	
Continuing Calibration SPCC/CCC	NA	NA	NA	x	
Internal Standards	NA	NA	NA	x	
Surrogates	NA	NA	NA		x
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Relative Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

K9140

K10843

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
Continuing Calibration Recovery	Pyrene	-20.3	NA	20	rerun
Surrogates	2,4,6-Tribromophenol	0	35	109	NT

Primary Review: 11/18/09

Secondary Review: LB 11/18/09

Quantitation Report

Bottle ID:		**Tier:**		**Matrix:**	SEDIMENT
Prod Code:	8270C SIM PAH_S	**Collect Date:**		**Receive Date:**	11/12/2009

Analysis Lot:	KWG0910827	**Prep Lot:**	KWG0910535	**Report Group:**	
Analysis Method:	8270C SIM	**Prep Method:**	EPA 3541		
Prep Ref:	865778	**Prep Date:**	11/10/2009		

Quant Method:	J:\MS11\METHODS\SIM\1015ALK.M	**Calibration ID:**	CAL8928
Title:			
Tune Ref:	J:\MS11\DATA\111609\1116F001.D	**Method ID:**	MJ139
MB Ref:		**Quant based on Method**	

Data File:	J:\MS11\DATA\111609\1116F004.D			**Instrument:**	MS11
Acqu Date:	11/16/2009 08:33	**Quant Date:**	11/18/2009 07:49	**Vial:**	2
Run Type:	MB			**Dilution:**	1.0
Lab ID:	KWG0910535-7			**Soln Conc. Units:**	ng/ml

Internal Standard Compounds

IS Ref	Parameter Name	RT	RT Dev	Quant Mass	Response	Solution Conc	Area Criteria
1	Naphthalene-d8	4.63	0.01	136	175332	200.00	OK
2	Acenaphthene-d10	6.04	0.00	164	91543	200.00	OK
3	Phenanthrene-d10	7.26	0.00	188	173595	200.00	OK
4	Chrysene-d12	9.75	0.00	240	252761	200.00	OK
5	Perylene-d12	12.76	0.01	264	230868	200.00	OK

Surrogate Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	%Rec	%Rec Limits		Rpt?
2	Fluorene-d10	6.47	0.01	0.00	176	56360	131.96	66	17-104	OK	
2	2,4,6-Tribromophenol			0.00	330	0		0	35-109	*	
3	Fluoranthene-d10	8.24	0.01	0.00	212	119727	124.46	62	27-106	OK	
4	Terphenyl-d14	8.58	0.01	0.00	244	118251	113.17	57	35-109	OK	

Target Compounds

Final Conc. Units: ug/Kg Wet Weight

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	Final Conc	Q	Rpt?
1	Naphthalene	4.64		0.00	128	1096**m**	1.36	0.654	J	
1	2-Methylnaphthalene	5.21	0.01	0.00	142	250**m**	0.4500	0.46	U	
1	1-Methylnaphthalene	5.28		0.00	142	111**m**	0.1900	0.51	U	
1	Biphenyl				154	0**d**		0.54	U	
1	2,6-Dimethylnaphthalene				156	0**d**		0.53	U	
1	C2-Naphthalenes				156	0		5.0	U	
1	C3-Naphthalenes				170	0		5.0	U	
1	C4-Naphthalenes				184	0		5.0	U	
2	Acenaphthylene				152	0**d**		0.56	U	
2	Acenaphthene	6.07	0.01	0.00	154	102**m**	0.2200	0.50	U	
2	Dibenzofuran	6.23	0.02	0.00	168	173**m**	0.2700	0.63	U	
2	2,3,5-Trimethylnaphthalene				170	0**d**		0.55	U	

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Data File:	J:\MS11\DATA\111609\1116F004.D			**Instrument:**	MS11
Acqu Date:	11/16/2009 08:33	**Quant Date:**	11/18/2009 07:49	**Vial:**	2
Run Type:	MB			**Dilution:**	1.0
Lab ID:	KWG0910535-7			**Soln Conc. Units:**	ng/ml

Target Compounds **Final Conc. Units:** ug/Kg Wet Weight

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	Final Conc	Q	Rpt?
2	Fluorene	6.50	0.01	0.00	166	143	0.2800	0.61	U	
2	C1-Fluorenes				180	0		5.0	U	
2	C2-Fluorenes				194	0		5.0	U	
2	C3-Fluorenes				208	0		5.0	U	
2	Pentachlorophenol				266	0**d**		2.9	U	
3	Dibenzothiophene				184	0**d**		0.30	U	
3	C1-Dibenzothiophenes				198	0		5.0	U	
3	C2-Dibenzothiophenes				212	0		5.0	U	
3	C3-Dibenzothiophenes				226	0		5.0	U	
3	Phenanthrene	7.28		0.00	178	1759	1.81	1.4	U	
3	Anthracene	7.33	0.01	0.00	178	311	0.3300	0.55	U	
3	Carbazole				167	0**d**		2.3	U	
3	1-Methylphenanthrene				192	0**d**		0.51	U	
3	C1-Phenanthrenes/Anthracenes				192	0		5.0	U	
3	C2-Phenanthrenes/Anthracenes				206	0		5.0	U	
3	C3-Phenanthrenes/Anthracenes				220	0		5.0	U	
3	C4-Phenanthrenes/Anthracenes				234	0		5.0	U	
3	Fluoranthene	8.25		0.00	202	3812	3.56	1.71	J	
4	Pyrene	8.44	0.01	0.00	202	3967	2.87	1.38	J	
4	C1-Fluoranthenes/Pyrenes				216	0		5.0	U	
4	C2-Fluoranthenes/Pyrenes				230	0		5.0	U	
4	C3-Fluoranthenes/Pyrenes				244	0		5.0	U	
4	Benz(a)anthracene	9.75	0.02	0.00	228	1702	1.24	0.72	U	
4	Chrysene	9.79	0.01	0.00	228	2616	1.95	0.938	J	
4	C1-Chrysenes				242	0		5.0	U	
4	C2-Chrysenes				256	0		5.0	U	
4	C3-Chrysenes				270	0		5.0	U	
4	C4-Chrysenes				284	0		5.0	U	
5	Benzo(b)fluoranthene	11.77	0.02	0.00	252	2318	1.92	0.924	J	
5	Benzo(k)fluoranthene	11.82	0.01	0.00	252	663**m**	0.5600	0.87	U	
5	Benzo(e)pyrene	12.46	0.03	0.00	252	1444	1.28	0.616	J	
5	Benzo(a)pyrene	12.60	0.01	0.00	252	807	0.7100	0.76	U	
5	Perylene				252	0**d**		0.72	U	
5	Indeno(1,2,3-cd)pyrene	16.37	0.06	0.00	276	955	0.9100	0.87	U	
5	Dibenz(a,h)anthracene	16.44	0.05	0.00	278	374**m**	0.3300	0.80	U	
5	Benzo(g,h,i)perylene	16.83	0.03	0.00	276	1724	1.43	0.85	U	

Prep Amount:	20.79 g	**Dilution:**	1.0
Prep Final Vol:	10 ml	**Unit Factor:**	1
Solids:	%		

Final Concentration = ((Soln Conc x Prep Final Vol x Dilution) / (Prep Amount x Solids)) x Unit Factor

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\111609\1116F004.D Vial: 2
Acq On : 16 Nov 2009 8:33 am Operator: LWeiskopf
Sample : KWG0910535-7 MB Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 18 07:45:42 2009 Quant Results File: 1015ALK.RES

Quant Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Wed Nov 18 07:45:20 2009
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

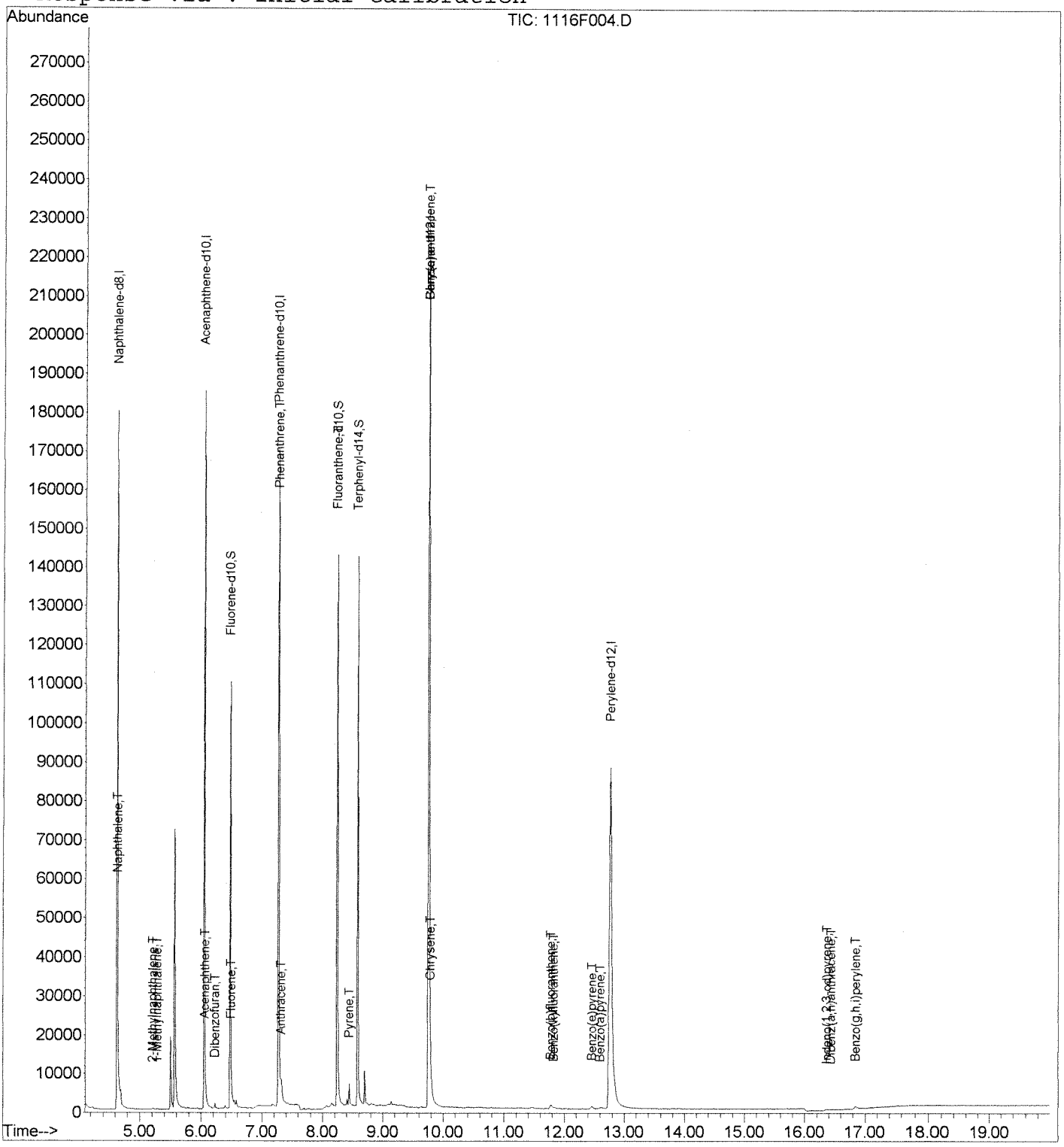
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	4.63	136	175332	200.00	ng/ml	0.00
10) Acenaphthene-d10	6.04	164	91543	200.00	ng/ml	0.00
22) Phenanthrene-d10	7.26	188	173595	200.00	ng/ml	0.00
37) Chrysene-d12	9.75	240	252761	200.00	ng/ml	0.00
49) Perylene-d12	12.76	264	230868	200.00	ng/ml	0.00
System Monitoring Compounds						
15) Fluorene-d10	6.47	176	56360	131.96	ng/ml	0.00
Spiked Amount 200.000			Recovery = 65.98%			
20) 2,4,6 Tribromophenol	0.00	330	0	0.00	ng/ml	
Spiked Amount 375.000			Recovery = 0.00%			
36) Fluoranthene-d10	8.24	212	119727	124.46	ng/ml	0.00
Spiked Amount 200.000			Recovery = 62.23%			
42) Terphenyl-d14	8.58	244	118251	113.17	ng/ml	0.00
Spiked Amount 200.000			Recovery = 56.58%			
Target Compounds						Qvalue
2) Naphthalene	4.64	128	1096m	1.36	ng/ml	
3) 2-Methylnaphthalene	5.21	142	250m	0.45	ng/ml	
4) 1-Methylnaphthalene	5.28	142	111m	0.19	ng/ml	
12) Acenaphthene	6.07	154	102m	0.22	ng/ml	
13) Dibenzofuran	6.23	168	173m	0.27	ng/ml	
16) Fluorene	6.50	166	143	0.28	ng/ml	75
27) Phenanthrene	7.28	178	1759	1.81	ng/ml	95
28) Anthracene	7.33	178	311	0.33	ng/ml	69
35) Fluoranthene	8.25	202	3812	3.56	ng/ml	91
38) Pyrene	8.44	202	3967	2.87	ng/ml	12
43) Benz(a)anthracene	9.75	228	1702	1.24	ng/ml	90
44) Chrysene	9.79	228	2616	1.95	ng/ml	92
50) Benzo(b)fluoranthene	11.77	252	2318	1.92	ng/ml	91
51) Benzo(k)fluoranthene	11.82	252	663m	0.56	ng/ml	
52) Benzo(e)pyrene	12.46	252	1444	1.28	ng/ml	94
53) Benzo(a)pyrene	12.60	252	807	0.71	ng/ml	92
55) Indeno(1,2,3-cd)pyrene	16.37	276	955	0.91	ng/ml	87
56) Dibenz(a,h)anthracene	16.44	278	374m	0.33	ng/ml	
57) Benzo(g,h,i)perylene	16.83	276	1724	1.43	ng/ml	96

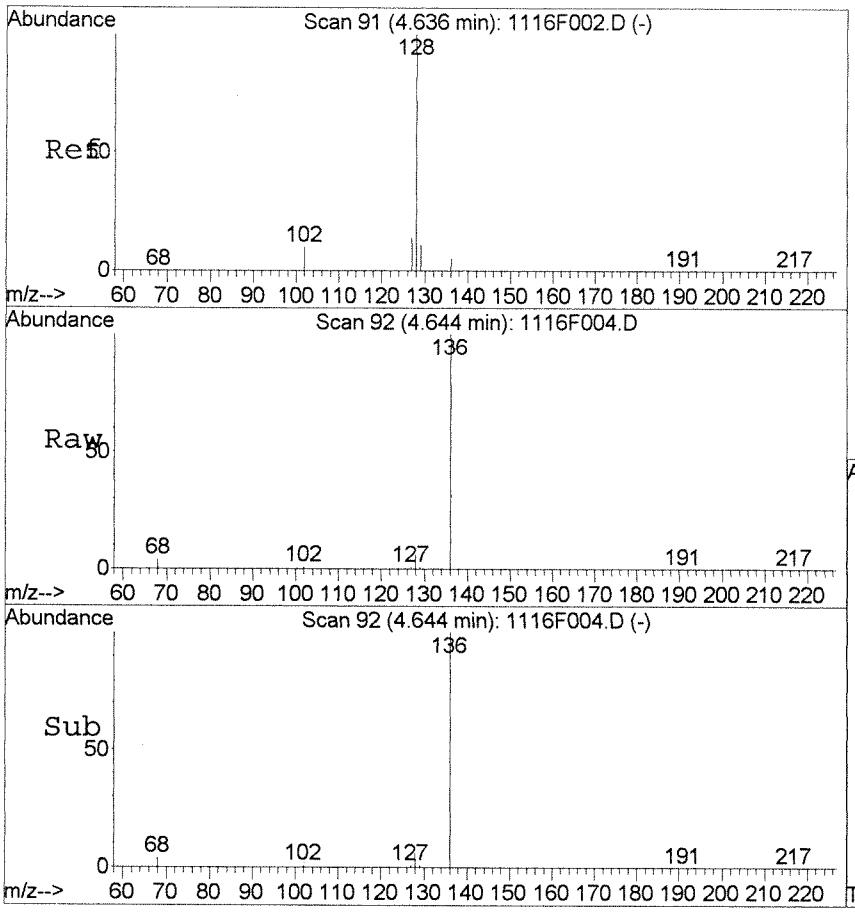
(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\111609\1116F004.D Vial: 2
Acq On : 16 Nov 2009 8:33 am Operator: LWeiskopf
Sample : KWG0910535-7 MB Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 18 7:49 2009 Quant Results File: 1015ALK.RES

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Wed Nov 18 07:45:20 2009
Response via : Initial Calibration

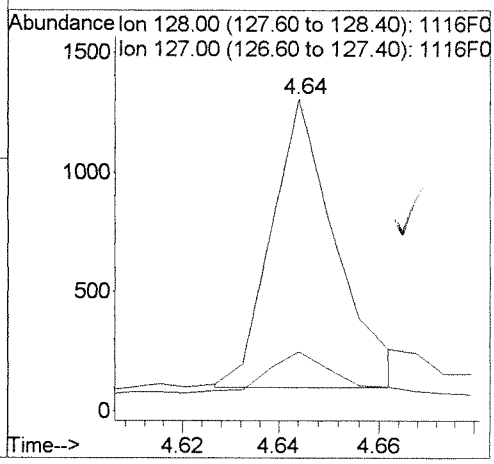


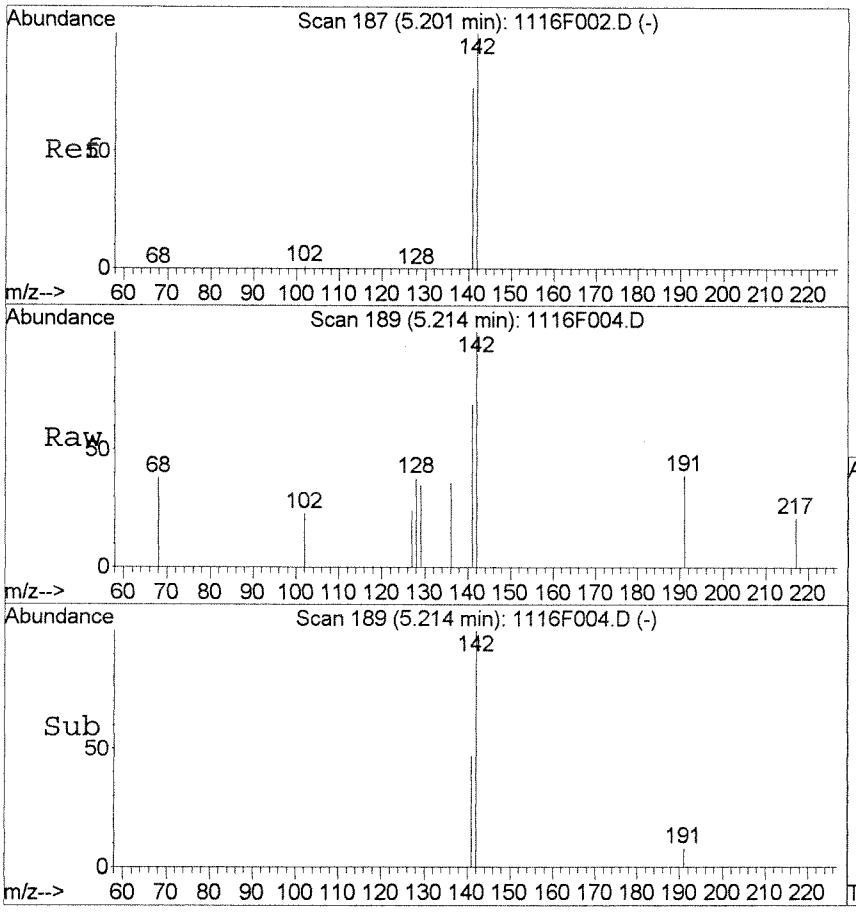


#2
Naphthalene
Concen: 1.36 ng/ml m
RT: 4.64 min Scan# 92
Delta R.T. 0.01 min
Lab File: 1116F004.D
Acq: 16 Nov 2009 8:33 am

Tgt Ion:128 Resp: 1096

Ion	Ratio	Lower	Upper
128	100		
127	19.1	0.0	42.4

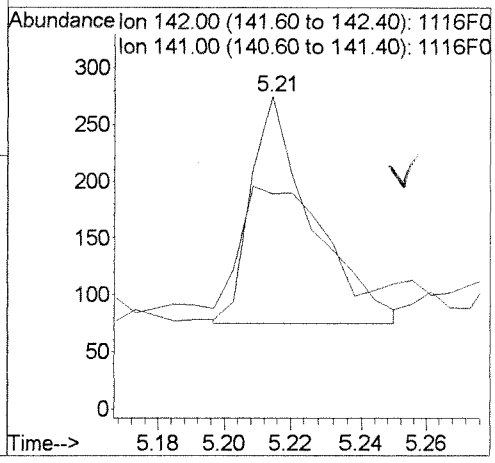


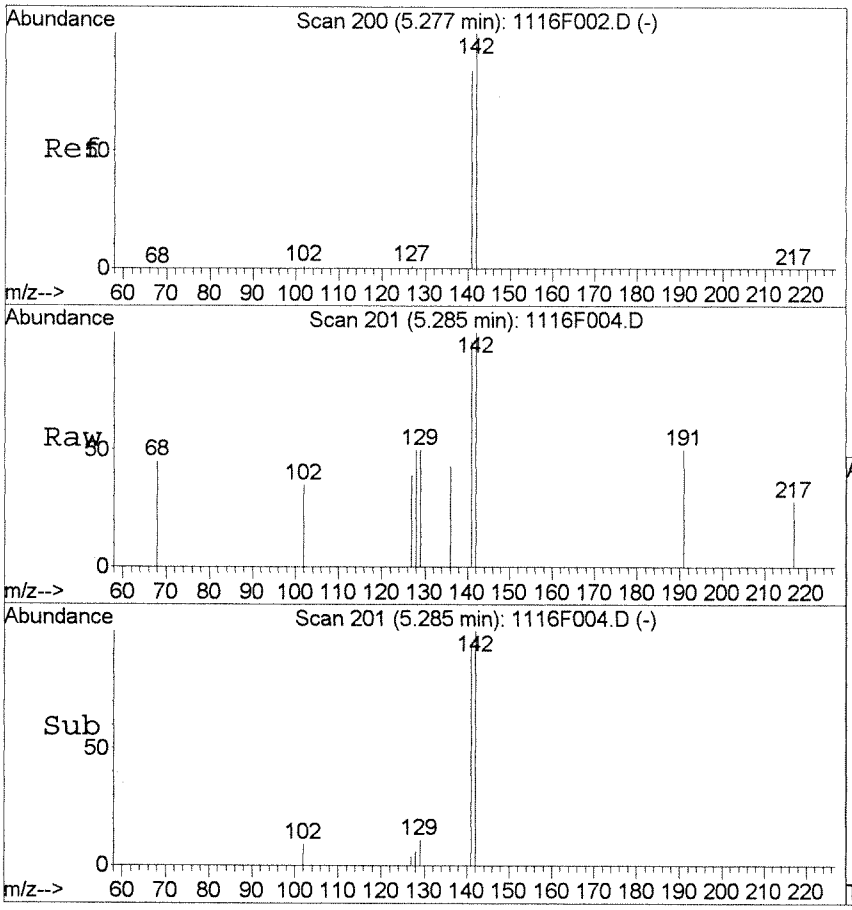


#3
2-Methylnaphthalene
Concen: 0.45 ng/ml m
RT: 5.21 min Scan# 189
Delta R.T. 0.01 min
Lab File: 1116F004.D
Acq: 16 Nov 2009 8:33 am

Tgt Ion:142 Resp: 250

Ion	Ratio	Lower	Upper
142	100		
141	68.7	56.1	116.1

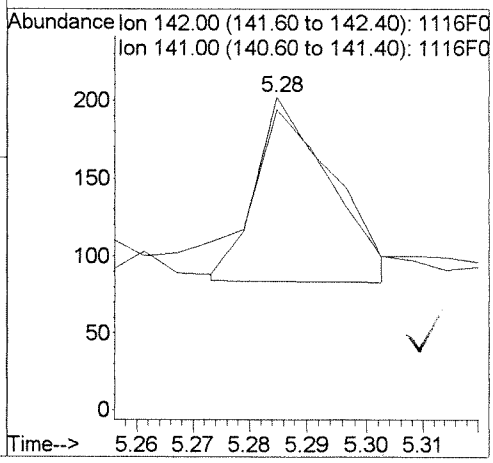


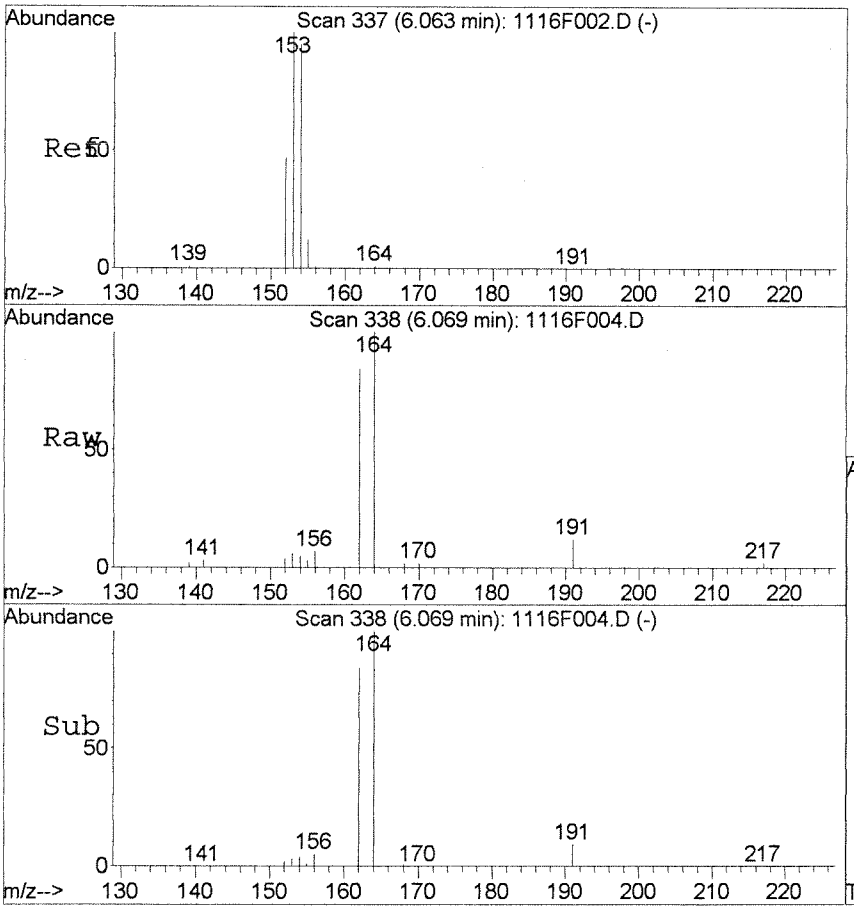


#4
1-Methylnaphthalene
Concen: 0.19 ng/ml m
RT: 5.28 min Scan# 201
Delta R.T. 0.01 min
Lab File: 1116F004.D
Acq: 16 Nov 2009 8:33 am

Tgt Ion:142 Resp: 111

Ion	Ratio	Lower	Upper
142	100		
141	96.0	51.7	111.7

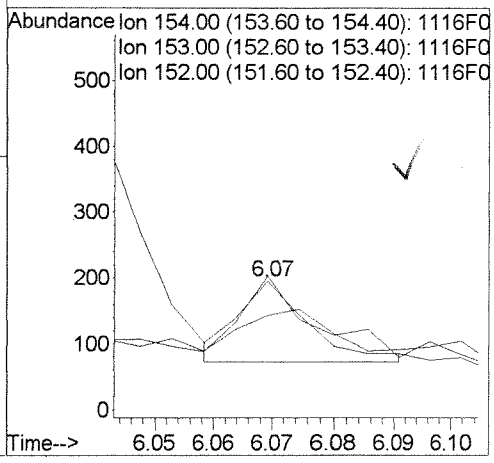


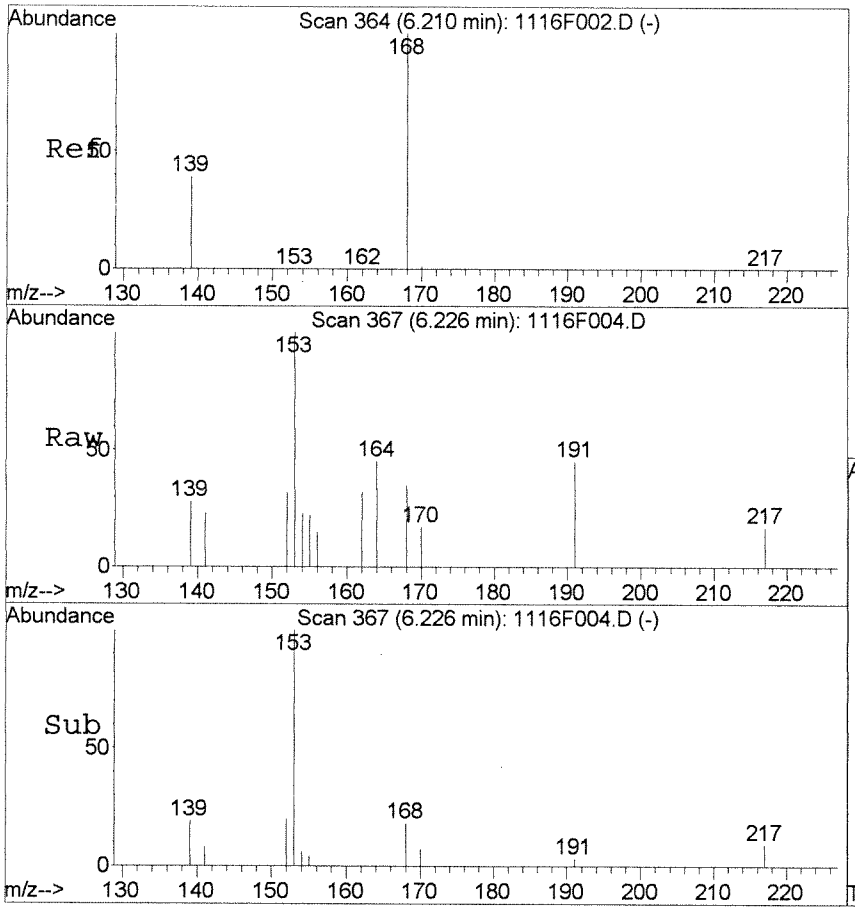


#12
Acenaphthene
Concen: 0.22 ng/ml m
RT: 6.07 min Scan# 338
Delta R.T. 0.00 min
Lab File: 1116F004.D
Acq: 16 Nov 2009 8:33 am

Tgt Ion:154 Resp: 102

Ion	Ratio	Lower	Upper
154	100		
153	104.1	77.8	137.8
152	73.3	24.7	84.7

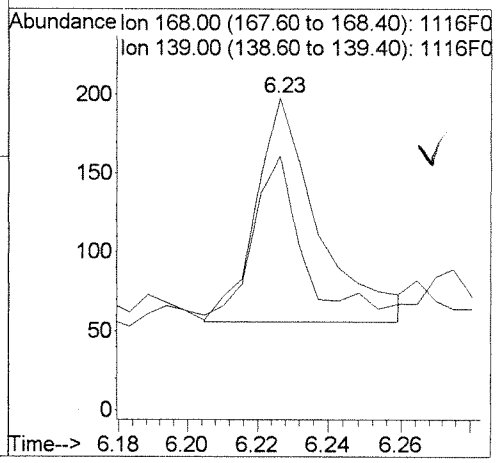


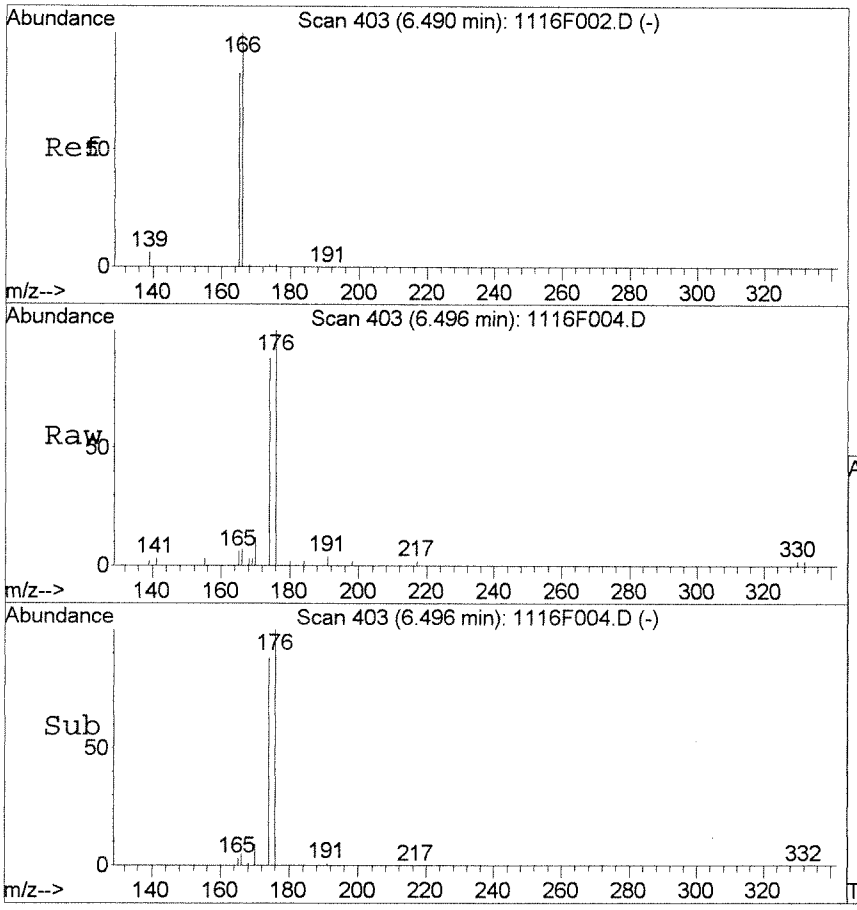


#13
Dibenzofuran
Concen: 0.27 ng/ml m
RT: 6.23 min Scan# 367
Delta R.T. 0.02 min
Lab File: 1116F004.D
Acq: 16 Nov 2009 8:33 am

Tgt Ion:168 Resp: 173

Ion	Ratio	Lower	Upper
168	100		
139	81.3	23.3	83.3

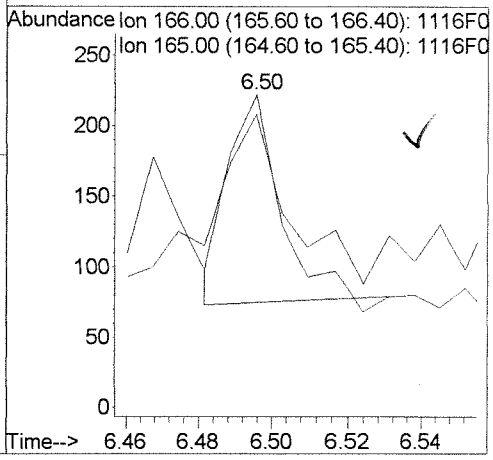


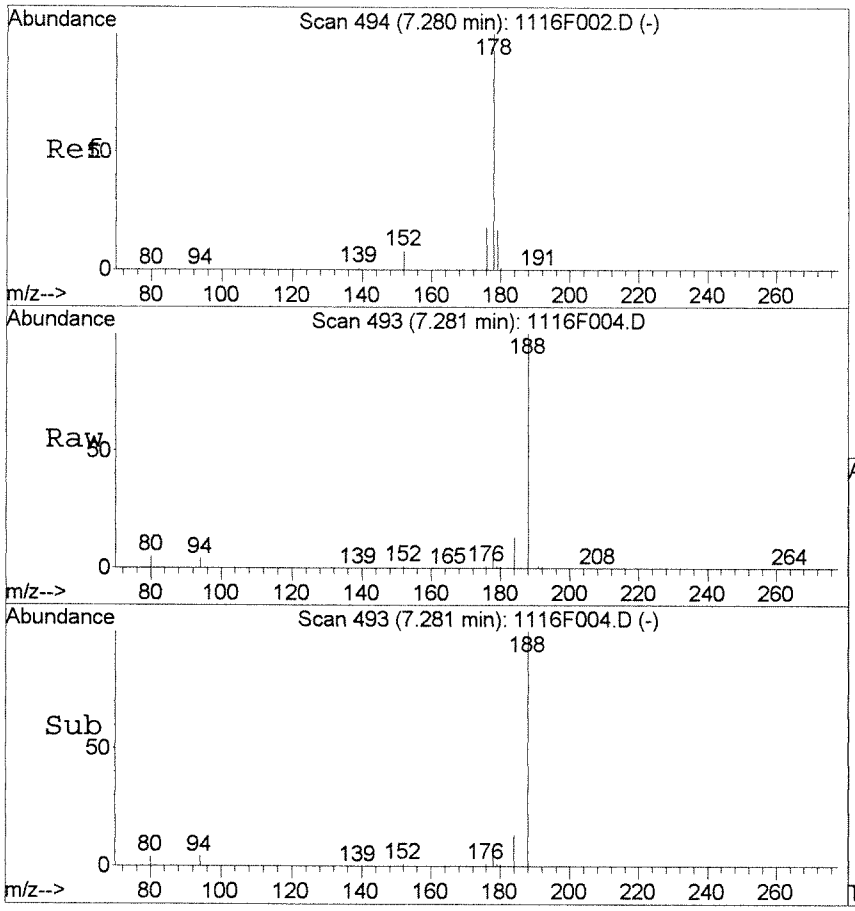


#16
Fluorene
Concen: 0.28 ng/ml
RT: 6.50 min Scan# 403
Delta R.T. 0.01 min
Lab File: 1116F004.D
Acq: 16 Nov 2009 8:33 am

Tgt Ion:166 Resp: 143

Ion	Ratio	Lower	Upper
166	100		
165	65.0	57.8	117.8

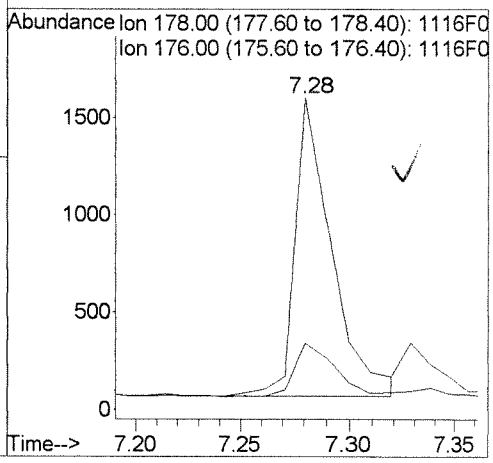


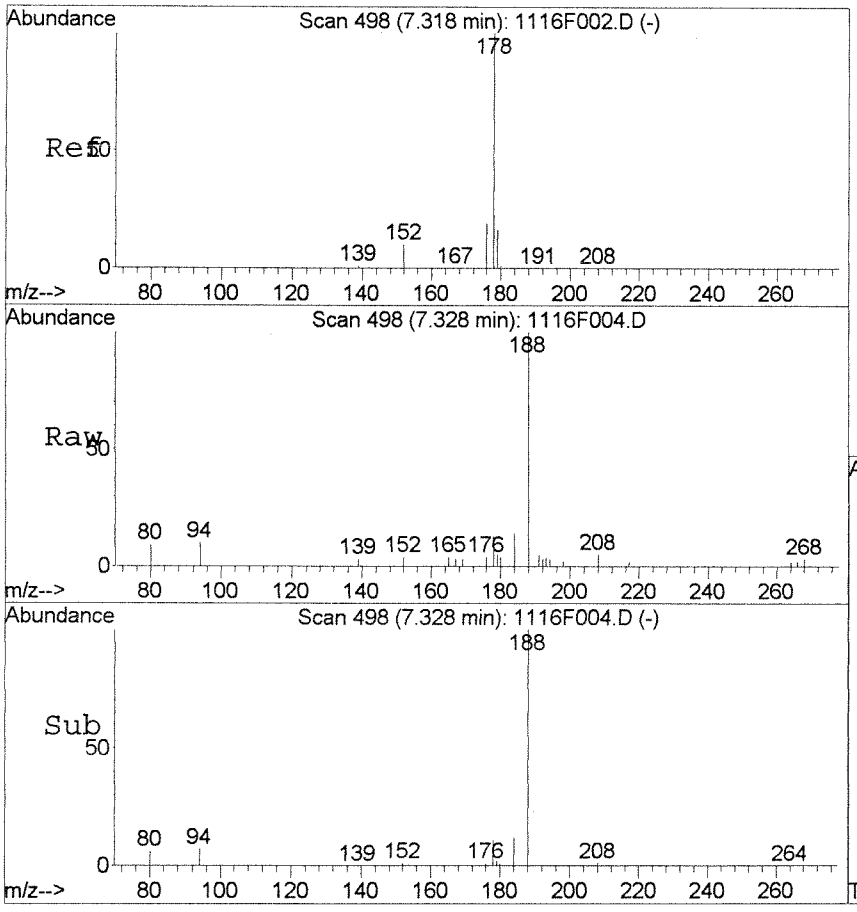


#27
Phenanthrene
Concen: 1.81 ng/ml
RT: 7.28 min Scan# 493
Delta R.T. -0.00 min
Lab File: 1116F004.D
Acq: 16 Nov 2009 8:33 am

Tgt Ion:178 Resp: 1759

Ion	Ratio	Lower	Upper
178	100		
176	17.4	0.0	49.6

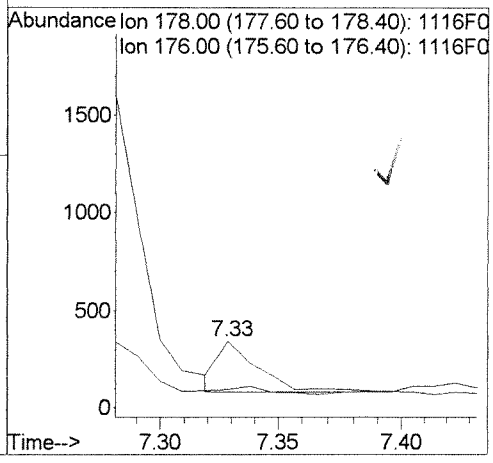


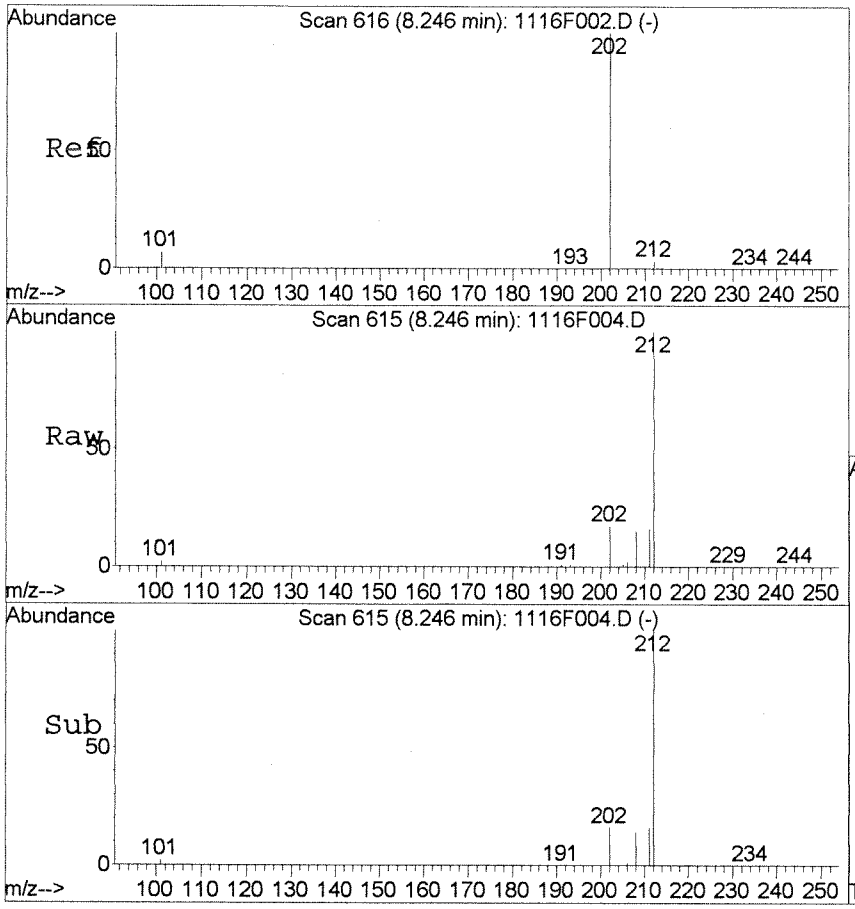


#28
Anthracene
Concen: 0.33 ng/ml
RT: 7.33 min Scan# 498
Delta R.T. 0.01 min
Lab File: 1116F004.D
Acq: 16 Nov 2009 8:33 am

Tgt Ion:178 Resp: 311

Ion	Ratio	Lower	Upper
178	100		
176	3.8	0.0	47.6

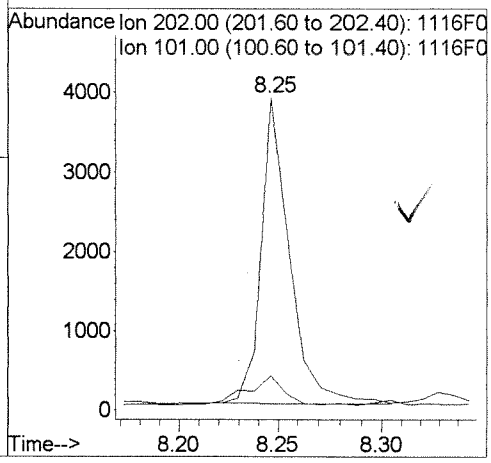


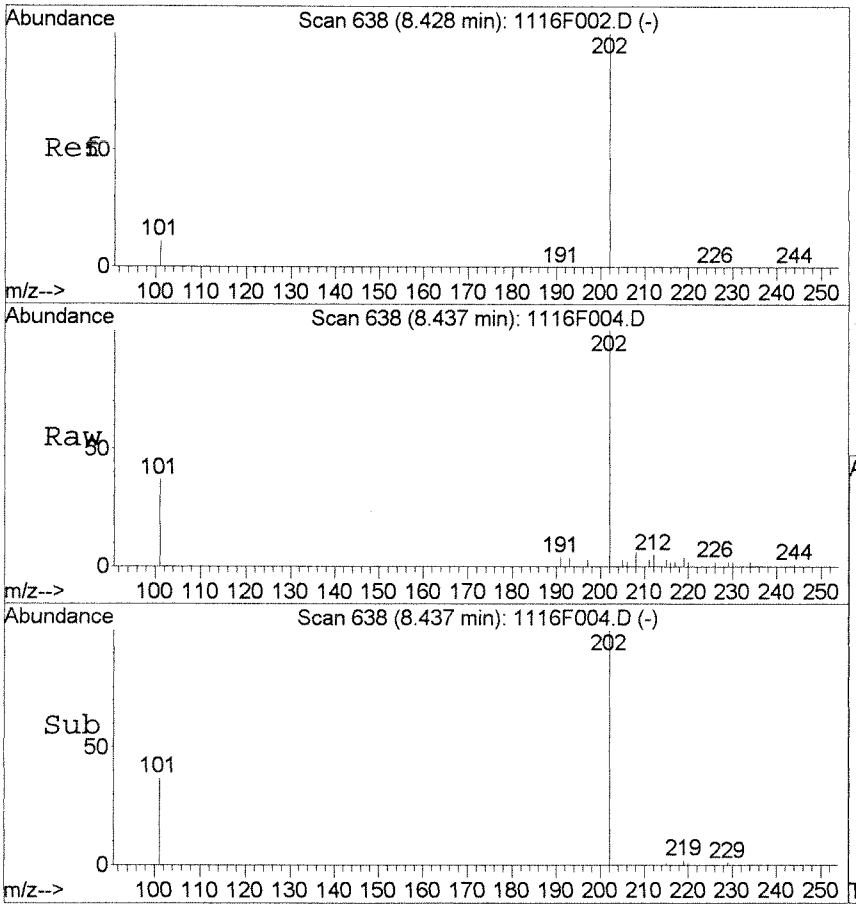


#35
Fluoranthene
Concen: 3.56 ng/ml
RT: 8.25 min Scan# 615
Delta R.T. 0.00 min
Lab File: 1116F004.D
Acq: 16 Nov 2009 8:33 am

Tgt Ion:202 Resp: 3812

Ion	Ratio	Lower	Upper
202	100		
101	9.4	0.0	36.5

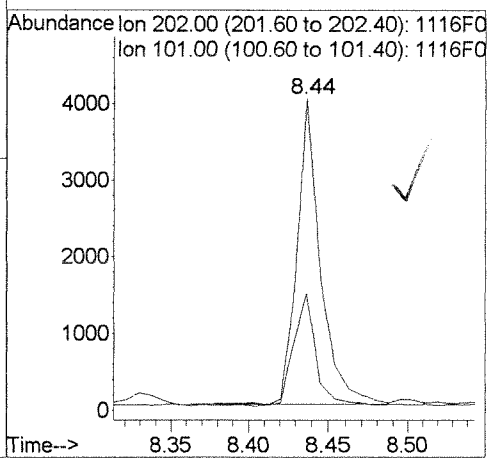


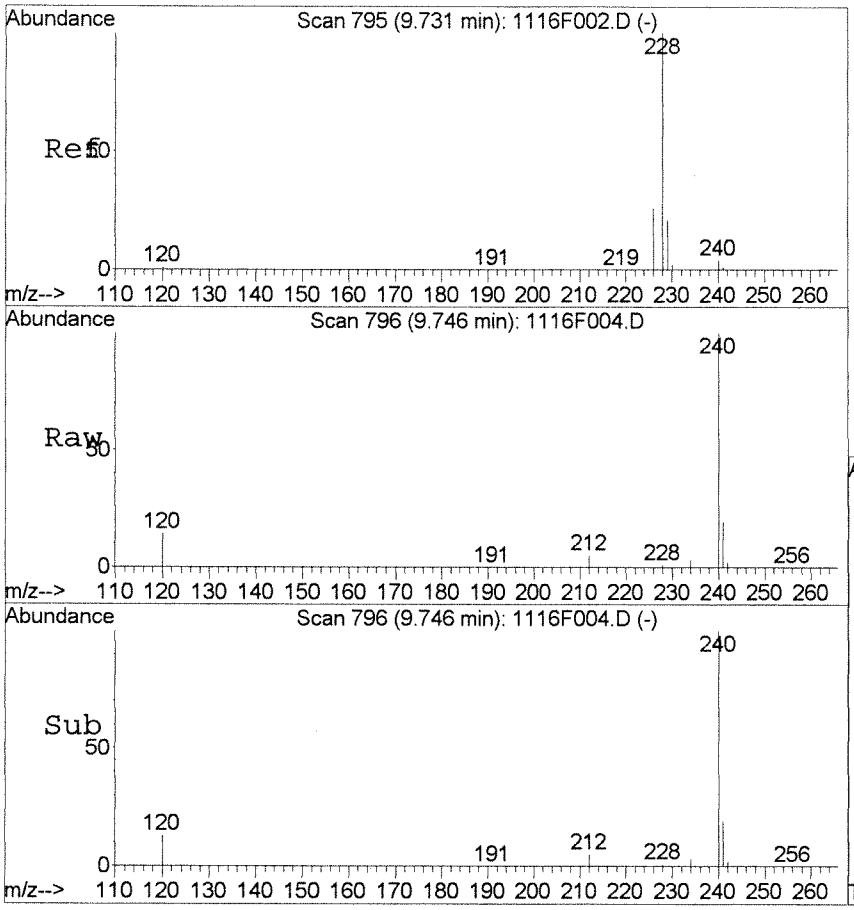


#38
Pyrene
Concen: 2.87 ng/ml
RT: 8.44 min Scan# 638
Delta R.T. 0.01 min
Lab File: 1116F004.D
Acq: 16 Nov 2009 8:33 am

Tgt Ion:202 Resp: 3967

Ion	Ratio	Lower	Upper
202	100		
101	36.2	0.0	36.4

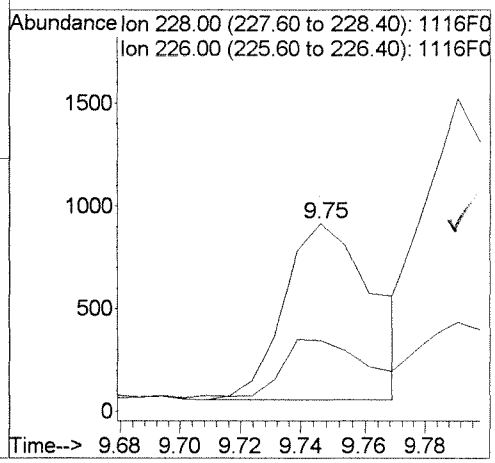


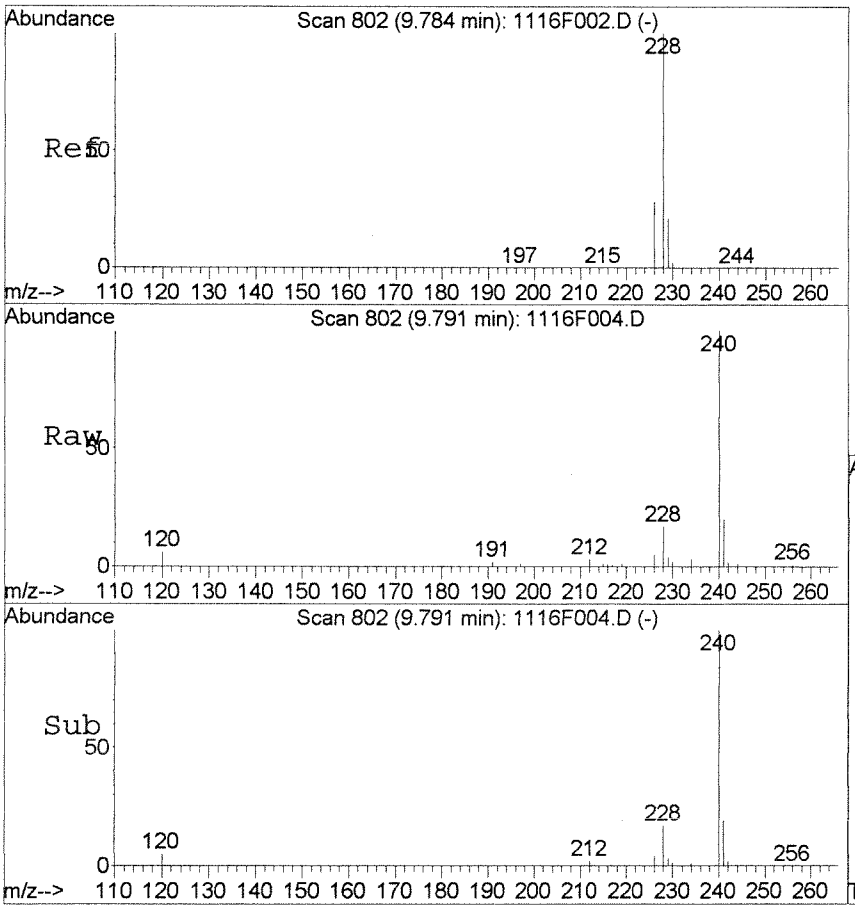


#43
Benz(a)anthracene
Concen: 1.24 ng/ml
RT: 9.75 min Scan# 796
Delta R.T. 0.01 min
Lab File: 1116F004.D
Acq: 16 Nov 2009 8:33 am

Tgt Ion:228 Resp: 1702

Ion	Ratio	Lower	Upper
228	100		
226	31.1	0.0	55.9

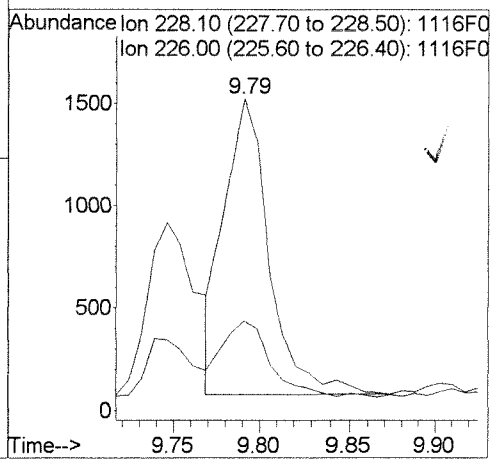


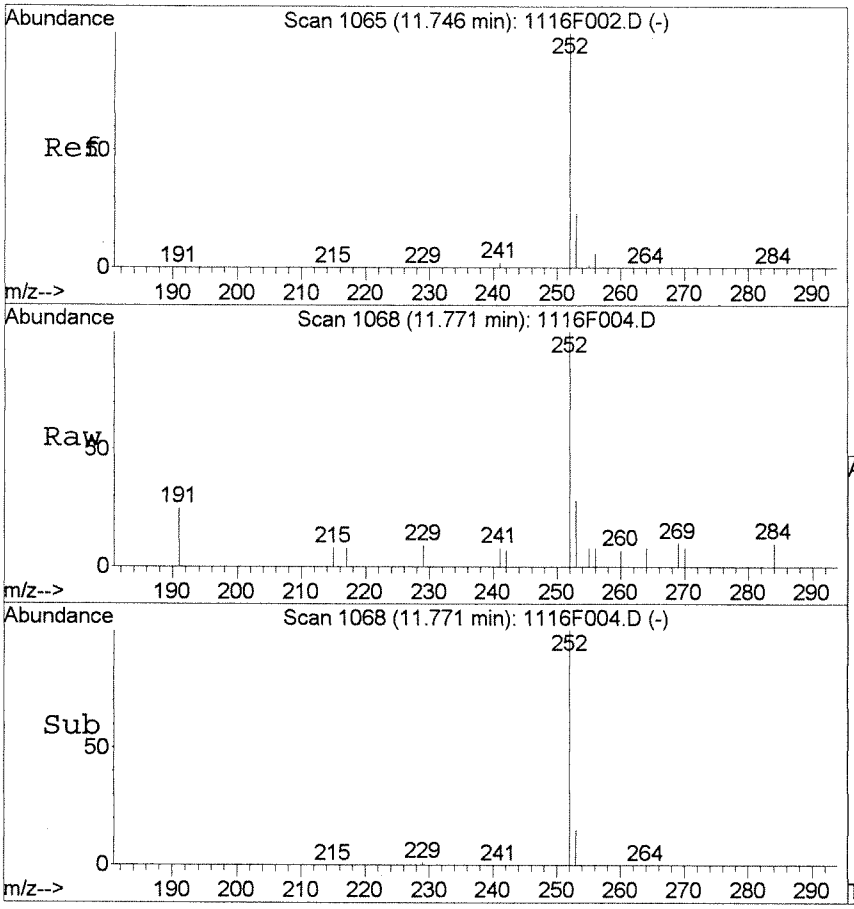


#44
Chrysene
Concen: 1.95 ng/ml
RT: 9.79 min Scan# 802
Delta R.T. 0.00 min
Lab File: 1116F004.D
Acq: 16 Nov 2009 8:33 am

Tgt Ion:228 Resp: 2616

Ion	Ratio	Lower	Upper
228	100		
226	24.8	0.0	58.8

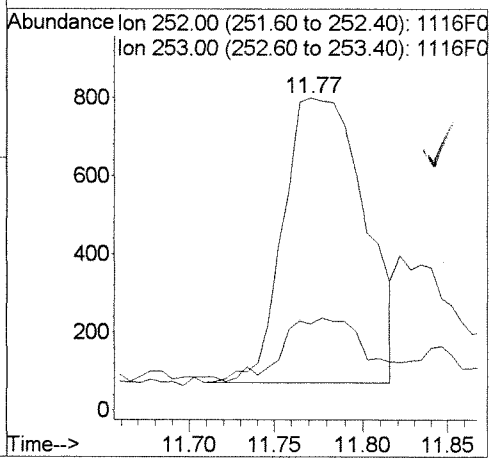


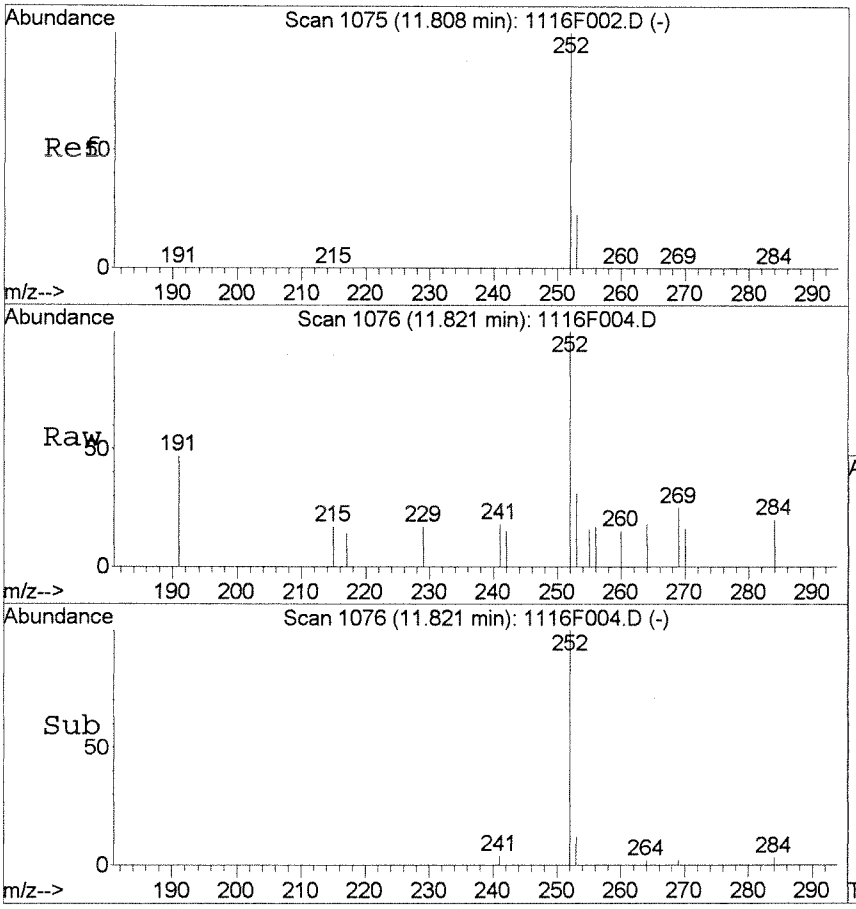


#50
Benzo(b)fluoranthene
Concen: 1.92 ng/ml
RT: 11.77 min Scan# 1068
Delta R.T. 0.03 min
Lab File: 1116F004.D
Acq: 16 Nov 2009 8:33 am

Tgt Ion:252 Resp: 2318

Ion	Ratio	Lower	Upper
252	100		
253	18.7	0.0	52.8

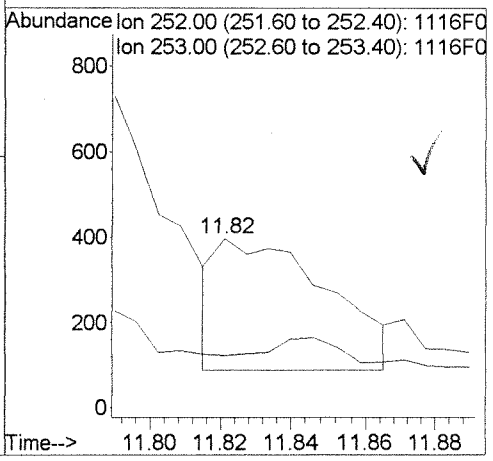


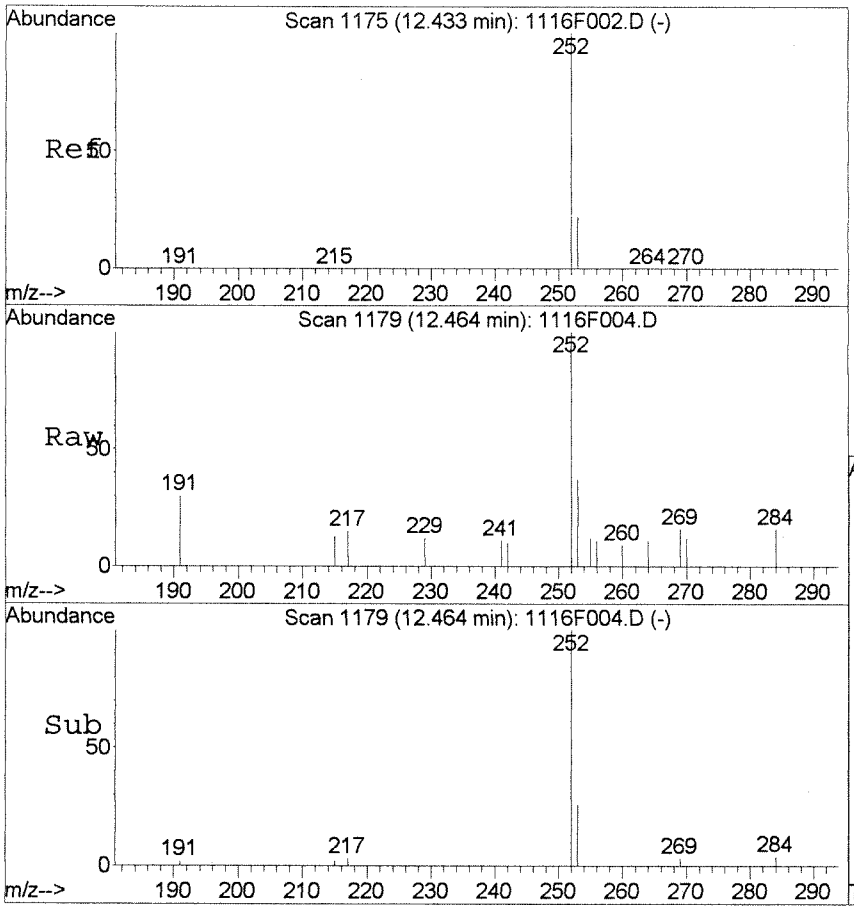


#51
Benzo(k)fluoranthene
Concen: 0.56 ng/ml m
RT: 11.82 min Scan# 1076
Delta R.T. 0.01 min
Lab File: 1116F004.D
Acq: 16 Nov 2009 8:33 am

Tgt Ion:252 Resp: 663

Ion	Ratio	Lower	Upper
252	100		
253	31.0	0.0	52.5

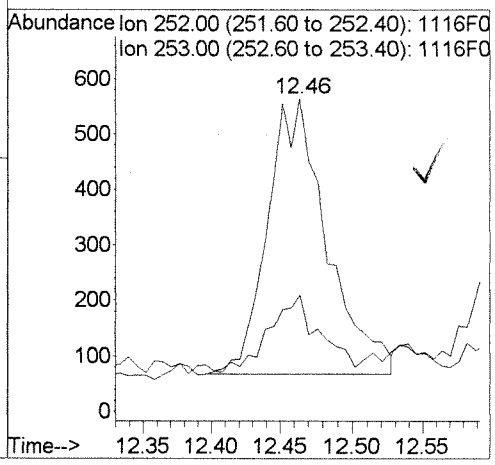


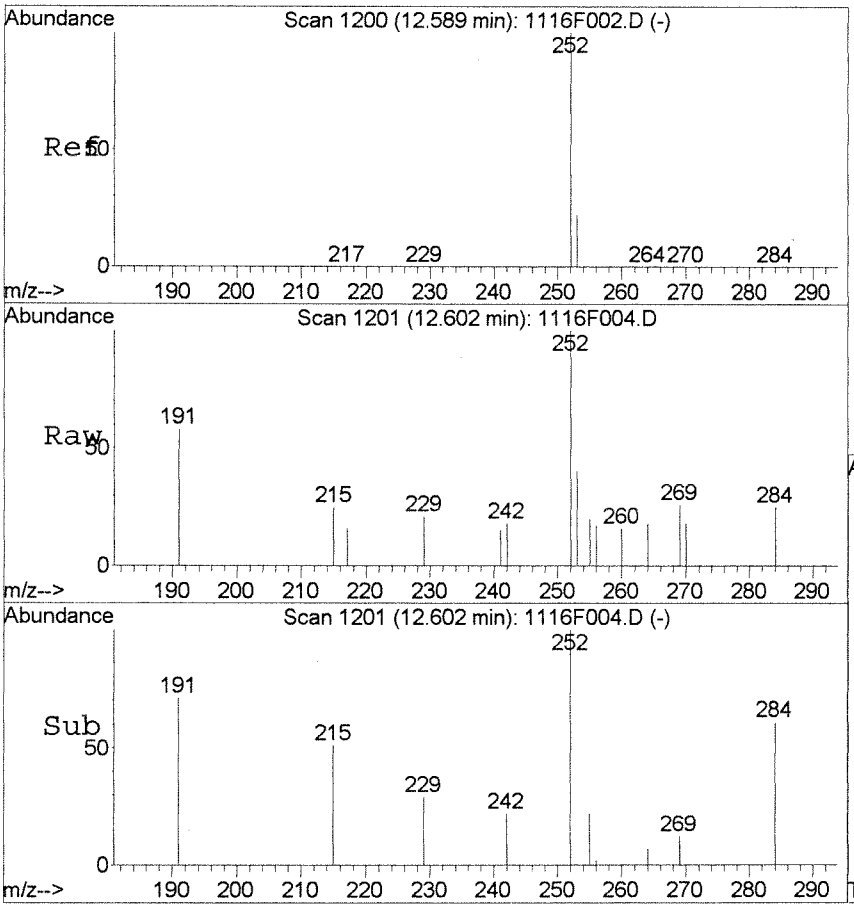


#52
Benzo(e)pyrene
Concen: 1.28 ng/ml
RT: 12.46 min Scan# 1179
Delta R.T. 0.03 min
Lab File: 1116F004.D
Acq: 16 Nov 2009 8:33 am

Tgt Ion:252 Resp: 1444

Ion	Ratio	Lower	Upper
252	100		
253	25.2	0.0	52.3

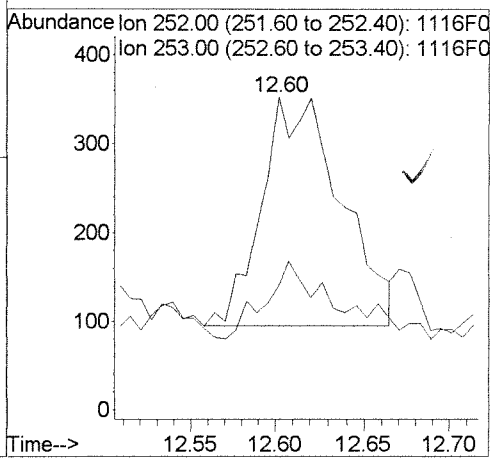


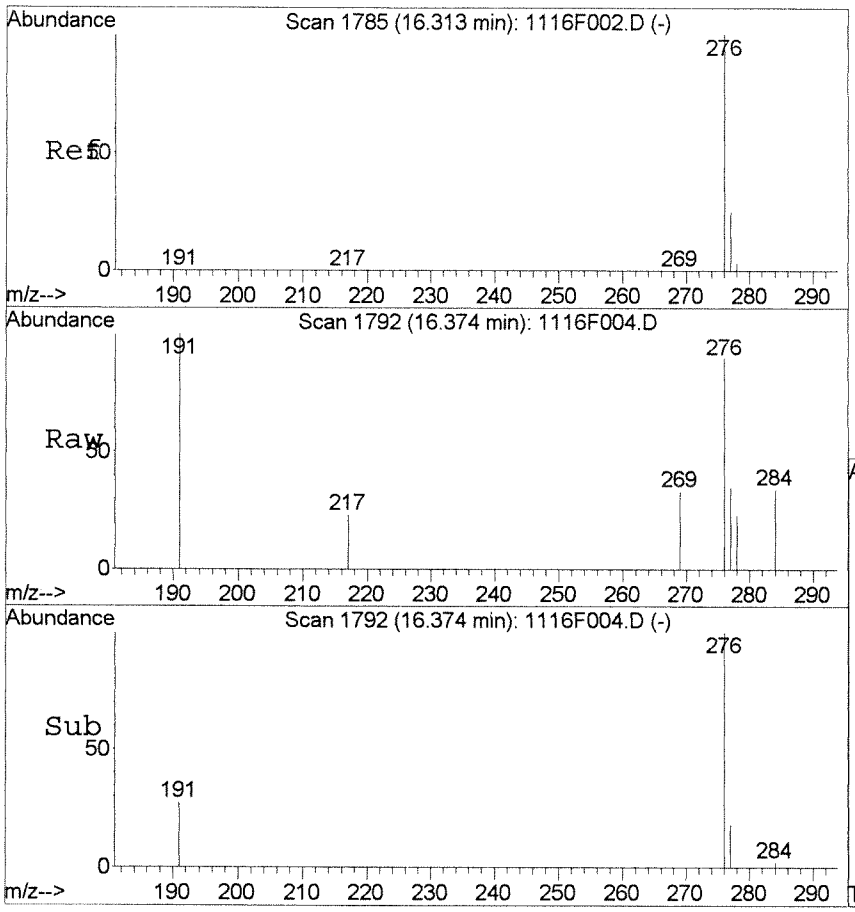


#53
Benzo(a)pyrene
Concen: 0.71 ng/ml
RT: 12.60 min Scan# 1201
Delta R.T. 0.01 min
Lab File: 1116F004.D
Acq: 16 Nov 2009 8:33 am

Tgt Ion:252 Resp: 807

Ion	Ratio	Lower	Upper
252	100		
253	18.7	0.0	52.6

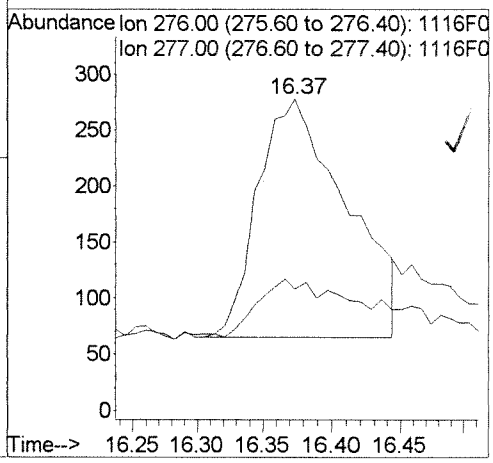


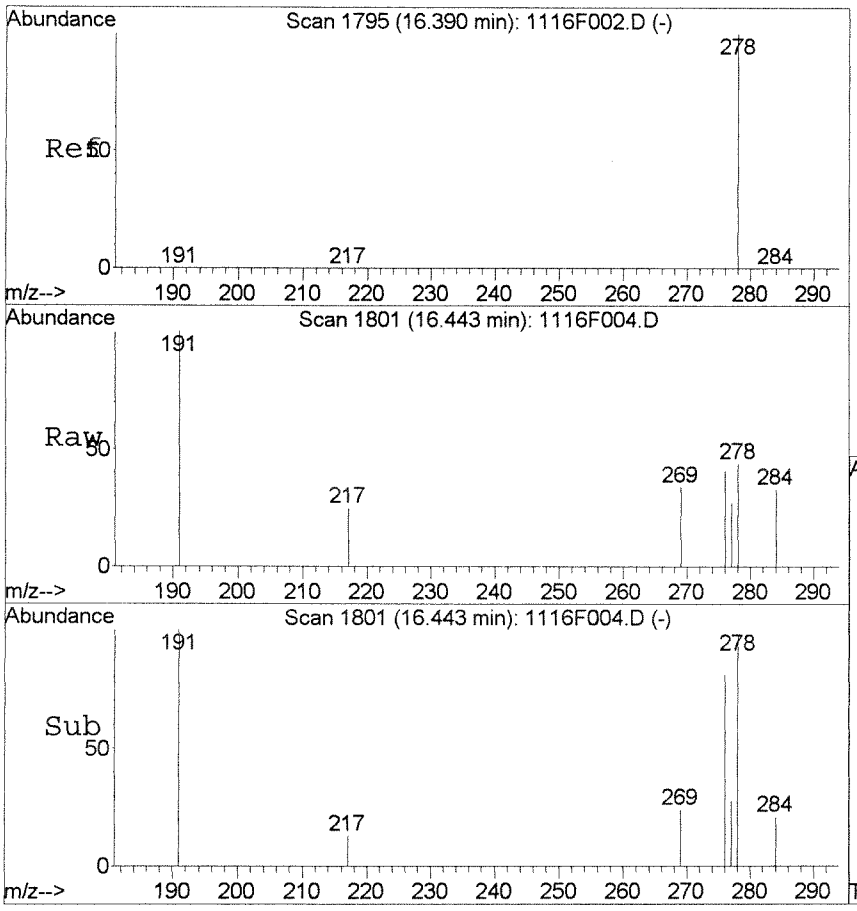


#55
Indeno(1,2,3-cd)pyrene
Concen: 0.91 ng/ml
RT: 16.37 min Scan# 1792
Delta R.T. 0.06 min
Lab File: 1116F004.D
Acq: 16 Nov 2009 8:33 am

Tgt Ion:276 Resp: 955

Ion	Ratio	Lower	Upper
276	100		
277	18.8	0.0	55.1

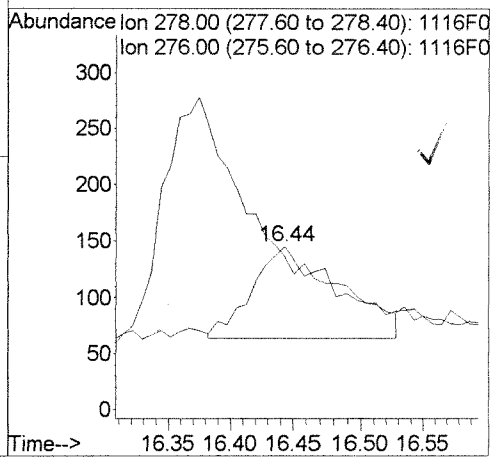


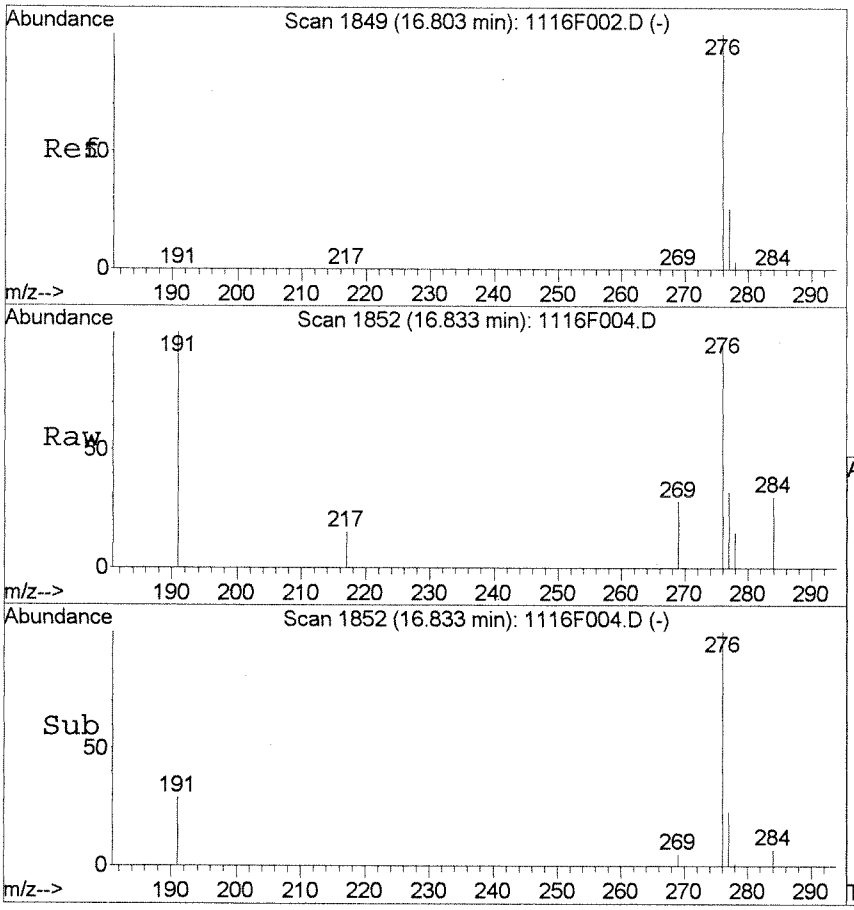


#56
Dibenz(a,h)anthracene
Concen: 0.33 ng/ml m
RT: 16.44 min Scan# 1801
Delta R.T. 0.05 min
Lab File: 1116F004.D
Acq: 16 Nov 2009 8:33 am

Tgt Ion:278 Resp: 374

Ion	Ratio	Lower	Upper
278	100		
276	93.8	0.0	52.1#

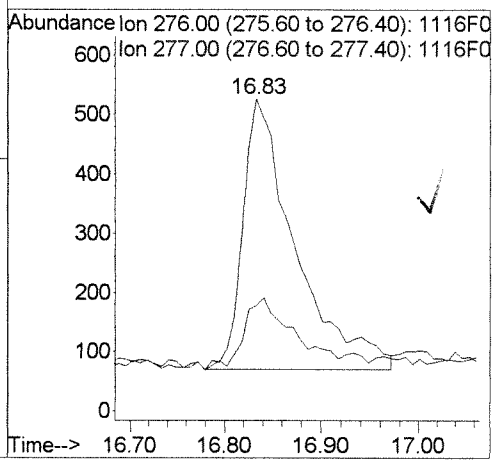




#57
Benzo(g,h,i)perylene
Concen: 1.43 ng/ml
RT: 16.83 min Scan# 1852
Delta R.T. 0.04 min
Lab File: 1116F004.D
Acq: 16 Nov 2009 8:33 am

Tgt Ion:276 Resp: 1724

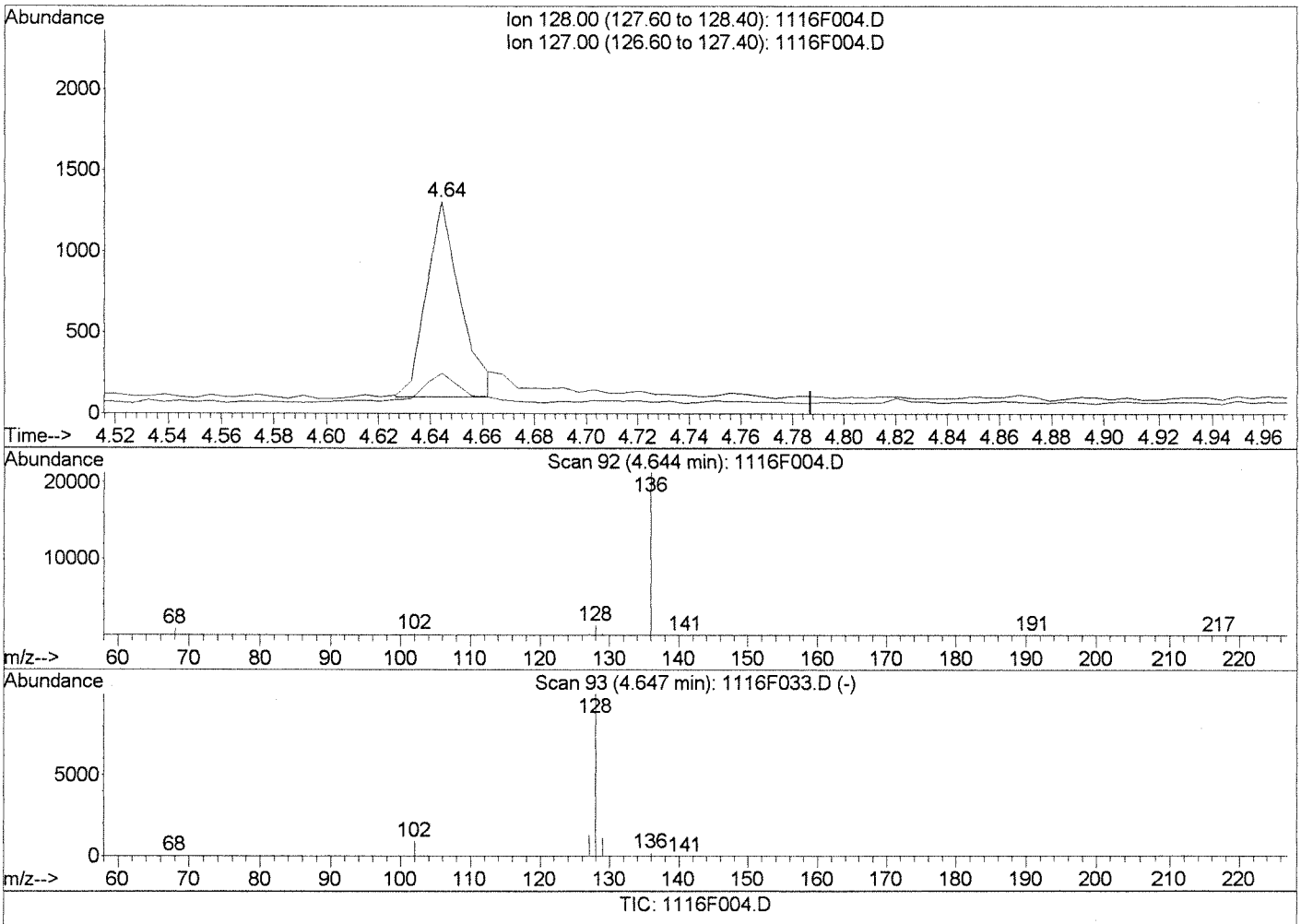
Ion	Ratio	Lower	Upper
276	100		
277	23.9	0.0	55.7



Quantitation Report (Qedit)

Data File : J:\MS11\DATA\111609\1116F004.D Vial: 2
Acq On : 16 Nov 2009 8:33 am Operator: LWeiskopf
Sample : KWG0910535-7 MB Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 18 7:49 2009 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Tue Nov 17 11:03:16 2009
Response via : Multiple Level Calibration



TIC: 1116F004.D

(2) Naphthalene (T)

4.64min 1.36ng/ml m

response 1096

Ion	Exp%	Act%
128.00	100	100
127.00	12.40	19.08
0.00	0.00	0.00
0.00	0.00	0.00

OI

RW 11/19/09

LB

11/19/09

1116F004.D 1015ALK.M Thu Nov 19 05:09:42 2009

Exception Report

Data File: J:\MS11\DATA\111909\1119F041.D
Lab ID: KWG0910535-7
RunType: MB
Matrix: SEDIMENT

Date Acquired: 11/19/2009 23:27
Date Quantitated: 11/20/2009 12:15
Batch ID: KWG0910976
Analysis Method: 8270C SIM
MethodJoinID: MJ139

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Tune Window	NA	NA	NA	x	
Analytical Holding Time	NA	NA	NA	x	
ICAL Pass/Fail	NA	NA	NA	x	
ICAL Average RSD	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Initial Calibration Minimum RF	NA	NA	NA	x	
Initial Calibration SPCC/CCC	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA		x
Continuing Calibration Minimum RF	NA	NA	NA	x	
Continuing Calibration SPCC/CCC	NA	NA	NA	x	
Internal Standards	NA	NA	NA	x	
Surrogates	NA	NA	NA		x
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Relative Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

K9140
K10843

for pyrene only

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
Continuing Calibration Recovery	2,4,6-Tribromophenol	33.8	NA	20	MJ
Surrogates	2,4,6-Tribromophenol	0	35	109	MJ

Primary Review: 11/21/09
Secondary Review: 11/23/09

Quantitation Report

Bottle ID:		**Tier:**		**Matrix:**	SEDIMENT
Prod Code:	8270C SIM PAH_S	**Collect Date:**		**Receive Date:**	11/12/2009

Analysis Lot:	KWG0910976	**Prep Lot:**	KWG0910535	**Report Group:**	
Analysis Method:	8270C SIM	**Prep Method:**	EPA 3541		
		Prep Date:	11/10/2009		
Prep Ref:	865778				

Quant Method:	J:\MS11\METHODS\SIM\1119ALK.M	**Calibration ID:**	CAL9029
Title:			
Tune Ref:	J:\MS11\DATA\111909\1119F038.D	**Method ID:**	MJ139
MB Ref:		**Quant based on Method**	

Data File:	J:\MS11\DATA\111909\1119F041.D			**Instrument:**	MS11
Acqu Date:	11/19/2009 23:27	**Quant Date:**	11/20/2009 12:15	**Vial:**	29
Run Type:	MB			**Dilution:**	1.0
Lab ID:	KWG0910535-7			**Soln Conc. Units:**	ng/ml

Internal Standard Compounds

IS Ref	Parameter Name	RT	RT Dev	Quant Mass	Response	Solution Conc	Area Criteria
1	Naphthalene-d8	4.88	0.00	136	144862	200.00	OK
2	Acenaphthene-d10	6.30	0.00	164	81589	200.00	OK
3	Phenanthrene-d10	7.54	0.00	188	158799	200.00	OK
4	Chrysene-d12	10.26	-0.01	240	198433	200.00	OK
5	Perylene-d12	13.86	0.00	264	191436	200.00	OK

Surrogate Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	%Rec	%Rec Limits		Rpt?
2	Fluorene-d10	6.72	0.00	0.00	176	52379	114.34	57	17-104	OK	NR
2	2,4,6-Tribromophenol			0.00	330	0**d**		0	35-109	*	
3	Fluoranthene-d10	8.51	-0.01	0.00	212	108017	112.51	56	27-106	OK	NR
4	Terphenyl-d14	8.90	0.00	0.00	244	99384	120.98	60	35-109	OK	NR

Target Compounds

Final Conc. Units: ug/Kg Wet Weight

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	Final Conc	Q	Rpt?
1	Naphthalene	4.90		0.00	128	1146	1.80	0.866	J	NR
1	2-Methylnaphthalene	5.45		0.00	142	235	0.5100	0.46	U	NR
1	1-Methylnaphthalene	5.53		0.00	142	117**m**	0.2700	0.51	U	
1	Biphenyl	5.82		0.00	154	212**m**	0.3900	0.54	U	
1	2,6-Dimethylnaphthalene				156	0**d**		0.53	U	
2	Acenaphthylene	6.18		0.00	152	184**m**	0.2700	0.56	U	NR
2	Acenaphthene	6.32	-0.01	0.00	154	114	0.2900	0.50	U	NR
2	Dibenzofuran	6.47		0.00	168	141	0.2300	0.63	U	NR
2	2,3,5-Trimethylnaphthalene				170	0**d**		0.55	U	
2	Fluorene	6.75		0.00	166	128**m**	0.2500	0.61	U	NR
2	Pentachlorophenol				266	0**d**		2.9	U	
3	Dibenzothiophene				184	0**d**		0.30	U	

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Data File:	J:\MS11\DATA\111909\1119F041.D			**Instrument:**	MS11
Acqu Date:	11/19/2009 23:27	**Quant Date:**	11/20/2009 12:15	**Vial:**	29
Run Type:	MB			**Dilution:**	1.0
Lab ID:	KWG0910535-7			**Soln Conc. Units:**	ng/ml

Target Compounds

Final Conc. Units: ug/Kg Wet Weight

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	Final Conc	Q	Rpt?
3	Phenanthrene	7.55		0.00	178	1735	2.05	1.4	U	NR
3	Anthracene	7.60		0.00	178	334	0.4100	0.55	U	NR
3	Carbazole				167	0**d**		2.3	U	
3	1-Methylphenanthrene				192	0**d**		0.51	U	
3	Fluoranthene	8.53		0.00	202	3422	3.48	1.67	J	NR
4	Pyrene	8.75	0.01	0.00	202	3823	3.63	1.75	J	
4	Benz(a)anthracene	10.26	0.01	0.00	228	1312	1.29	0.72	U	NR
4	Chrysene	10.31		0.00	228	1764**m**	1.82	0.875	J	NR
5	Benzo(b)fluoranthene	12.64		0.00	252	2166	2.17	1.04	J	NR
5	Benzo(k)fluoranthene	12.73		0.00	252	542	0.5700	0.87	U	NR
5	Benzo(e)pyrene	13.48	-0.01	0.00	252	1262	1.38	0.664	J	
5	Benzo(a)pyrene	13.65	-0.01	0.00	252	957	1.09	0.76	U	NR
5	Perylene	13.94	-0.01	0.00	252	278	0.3200	0.72	U	
5	Indeno(1,2,3-cd)pyrene	16.99		0.00	276	863	1.07	0.87	U	NR
5	Dibenz(a,h)anthracene	17.06	-0.01	0.00	278	210	0.2500	0.80	U	NR
5	Benzo(g,h,i)perylene	17.41		0.00	276	1288	1.41	0.85	U	NR

Prep Amount:	20.79 g	**Dilution:**	1.0
Prep Final Vol:	10 ml	**Unit Factor:**	1
Solids:	%		

Final Concentration = ((Soln Conc x Prep Final Vol x Dilution) / (Prep Amount x Solids)) x Unit Factor

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\111909\1119F041.D Vial: 29
Acq On : 19 Nov 2009 11:27 pm Operator: LWeiskopf
Sample : KWG0910535-7 MB Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 20 11:02:18 2009 Quant Results File: 1119ALK.RES

Quant Method : J:\MS11\METHODS\SIM\1119ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Fri Nov 20 09:17:56 2009
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

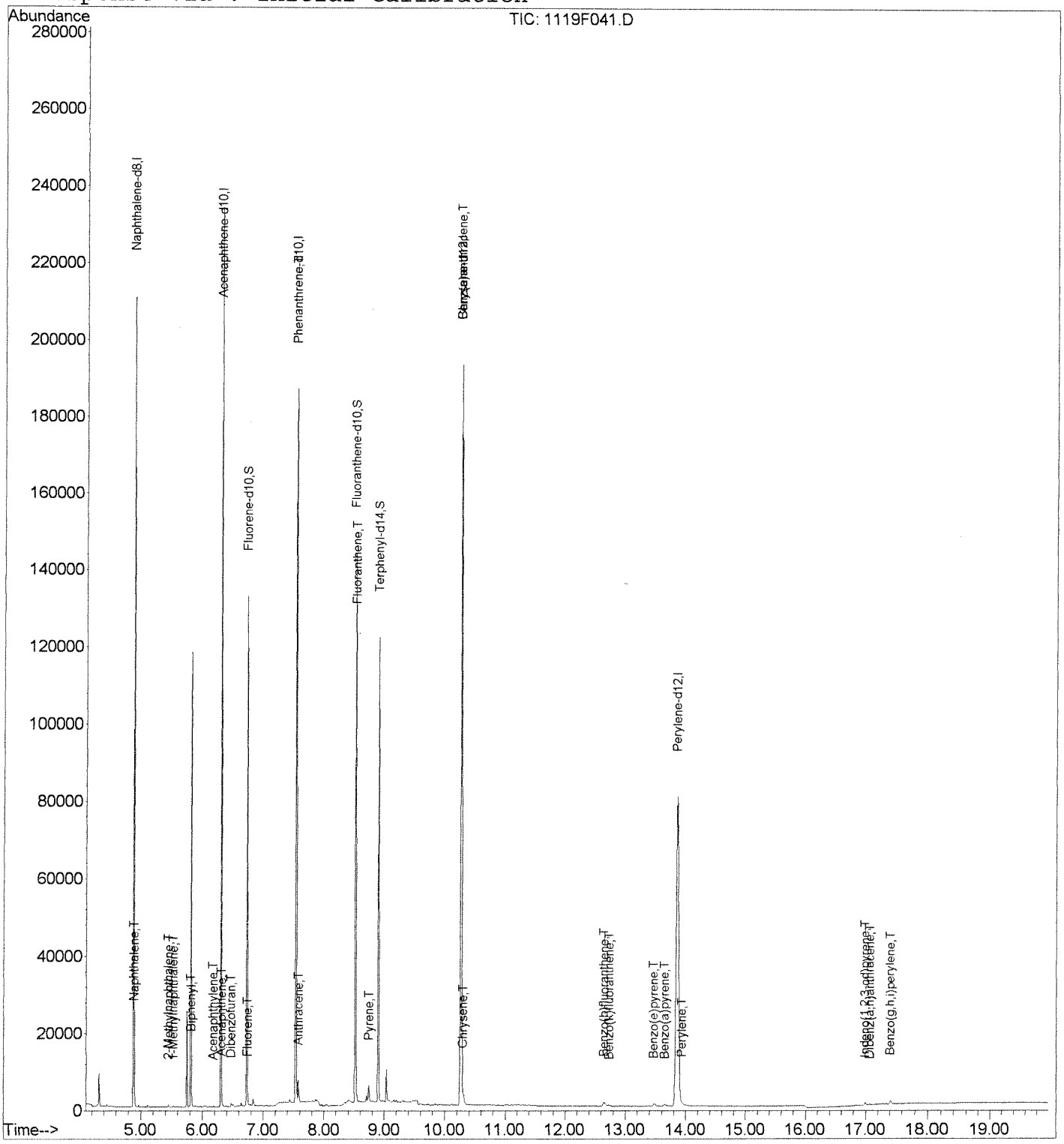
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	4.88	136	144862	200.00	ng/ml	0.00
10) Acenaphthene-d10	6.30	164	81589	200.00	ng/ml	0.00
22) Phenanthrene-d10	7.54	188	158799	200.00	ng/ml	0.02
37) Chrysene-d12	10.26	240	198433	200.00	ng/ml	0.00
49) Perylene-d12	13.86	264	191436	200.00	ng/ml	-0.01
System Monitoring Compounds						
15) Fluorene-d10	6.72	176	52379	114.34	ng/ml	0.00
Spiked Amount 200.000			Recovery = 57.17%			
20) 2,4,6 Tribromophenol	0.00	330	0d	0.00	ng/ml	
Spiked Amount 375.000			Recovery = 0.00%			
36) Fluoranthene-d10	8.51	212	108017	112.51	ng/ml	0.00
Spiked Amount 200.000			Recovery = 56.26%			
42) Terphenyl-d14	8.90	244	99384	120.98	ng/ml	0.00
Spiked Amount 200.000			Recovery = 60.49%			
Target Compounds						Qvalue
2) Naphthalene	4.90	128	1146	1.80	ng/ml	98
3) 2-Methylnaphthalene	5.45	142	235	0.51	ng/ml	90
4) 1-Methylnaphthalene	5.53	142	117m	0.27	ng/ml	
5) Biphenyl	5.82	154	212m	0.39	ng/ml	
11) Acenaphthylene	6.18	152	184m	0.27	ng/ml	
12) Acenaphthene	6.32	154	114	0.29	ng/ml	78
13) Dibenzofuran	6.47	168	141	0.23	ng/ml	94
16) Fluorene	6.75	166	128m	0.25	ng/ml	
27) Phenanthrene	7.55	178	1735	2.05	ng/ml	99
28) Anthracene	7.60	178	334	0.41	ng/ml	99
35) Fluoranthene	8.53	202	3422	3.48	ng/ml	94
38) Pyrene	8.75	202	3823	3.63	ng/ml	95
43) Benz(a)anthracene	10.26	228	1312	1.29	ng/ml	99
44) Chrysene	10.31	228	1764m	1.82	ng/ml	
50) Benzo(b)fluoranthene	12.64	252	2166	2.17	ng/ml	92
51) Benzo(k)fluoranthene	12.73	252	542	0.57	ng/ml	100
52) Benzo(e)pyrene	13.48	252	1262	1.38	ng/ml	96
53) Benzo(a)pyrene	13.65	252	957	1.09	ng/ml	83
54) Perylene	13.94	252	278	0.32	ng/ml	88
55) Indeno(1,2,3-cd)pyrene	16.99	276	863	1.07	ng/ml	94
56) Dibenz(a,h)anthracene	17.06	278	210	0.25	ng/ml	93
57) Benzo(g,h,i)perylene	17.41	276	1288	1.41	ng/ml	94

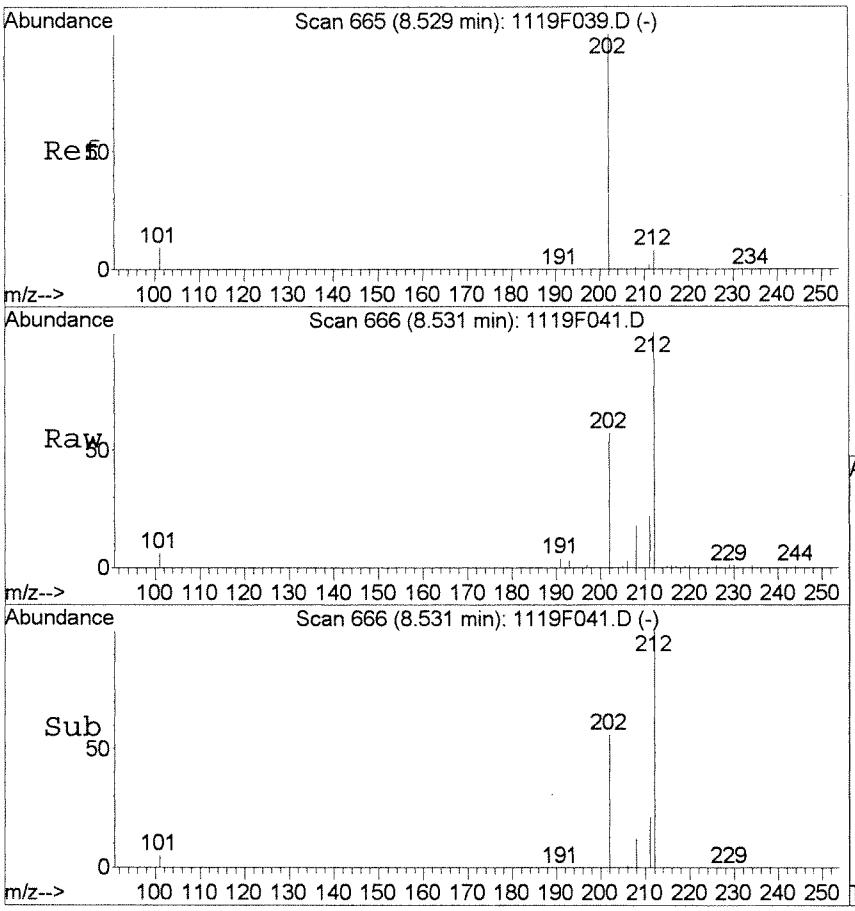
(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\111909\1119F041.D Vial: 29
Acq On : 19 Nov 2009 11:27 pm Operator: LWeiskopf
Sample : KWG0910535-7 MB Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 20 12:15 2009 Quant Results File: 1119ALK.RES

Method : J:\MS11\METHODS\SIM\1119ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Fri Nov 20 12:01:24 2009
Response via : Initial Calibration

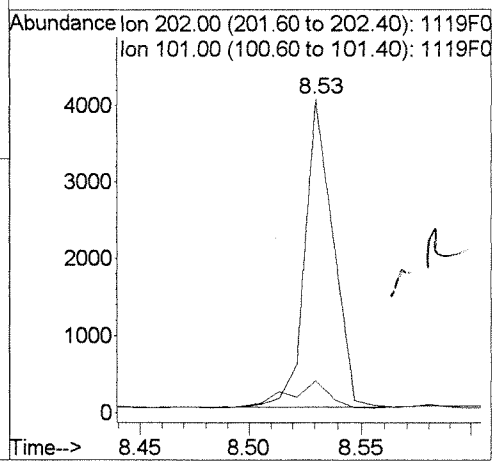


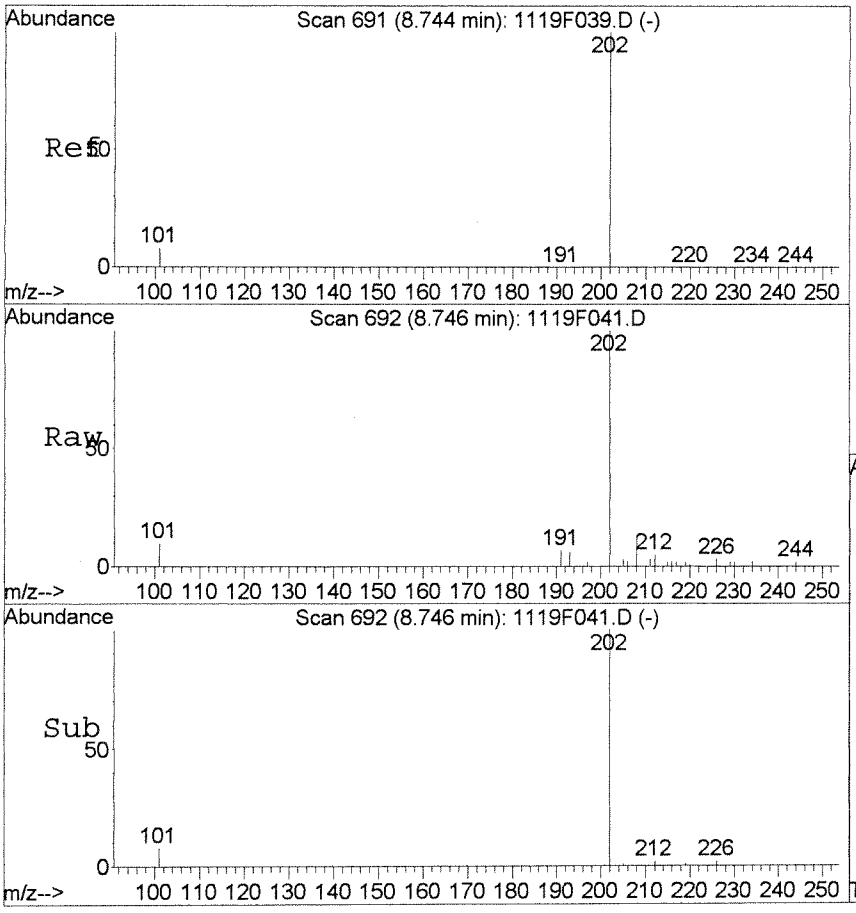


#35
Fluoranthene
Concen: 3.48 ng/ml
RT: 8.53 min Scan# 666
Delta R.T. -0.00 min
Lab File: 1119F041.D
Acq: 19 Nov 2009 11:27 pm

Tgt Ion:202 Resp: 3422

Ion	Ratio	Lower	Upper
202	100		
101	8.6	0.0	36.5

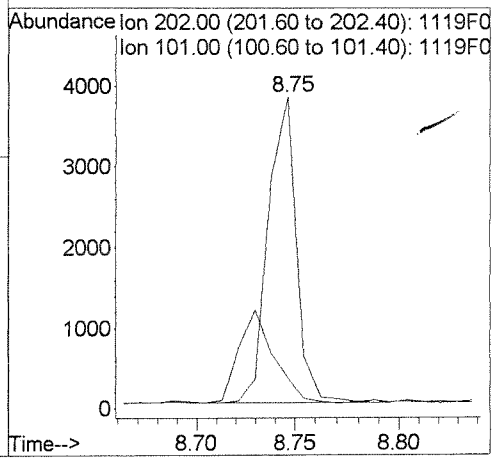


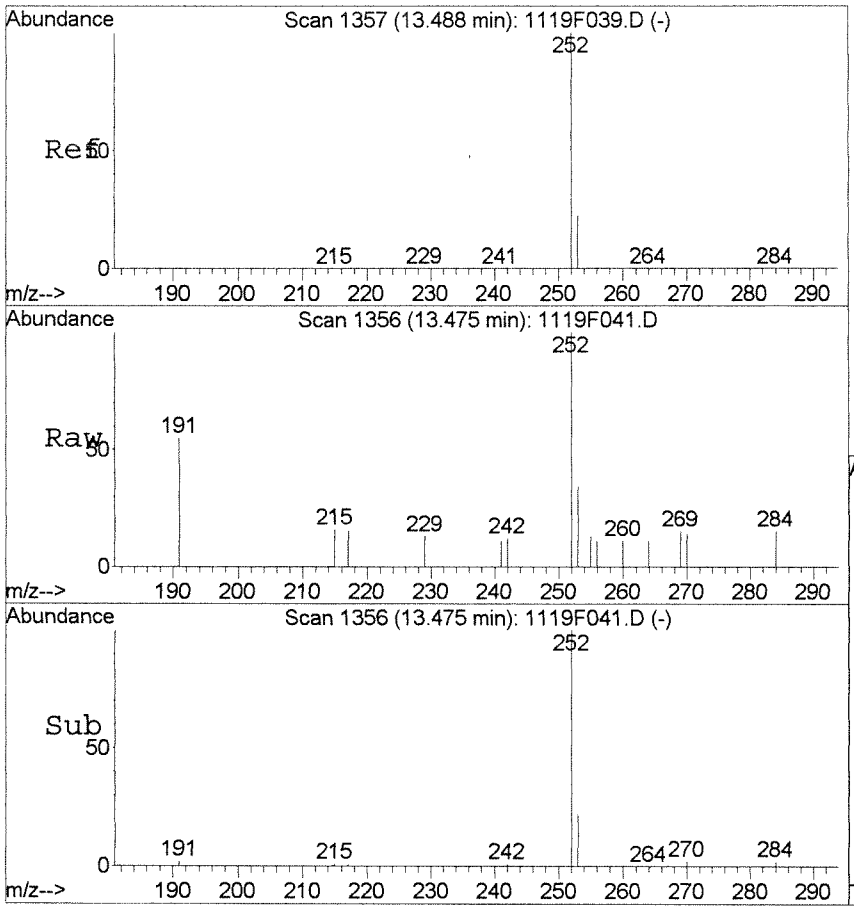


#38
Pyrene
Concen: 3.63 ng/ml
RT: 8.75 min Scan# 692
Delta R.T. 0.00 min
Lab File: 1119F041.D
Acq: 19 Nov 2009 11:27 pm

Tgt Ion:202 Resp: 3823

Ion	Ratio	Lower	Upper
202	100		
101	8.3	0.0	36.4

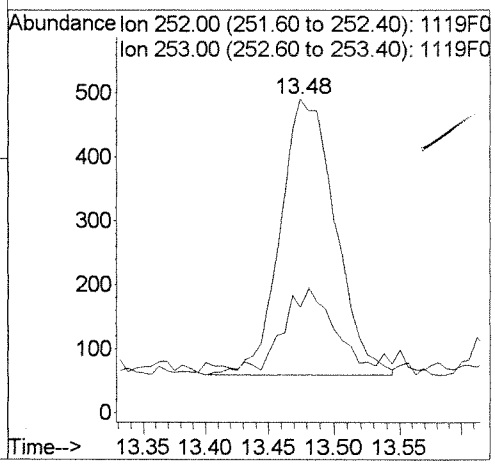


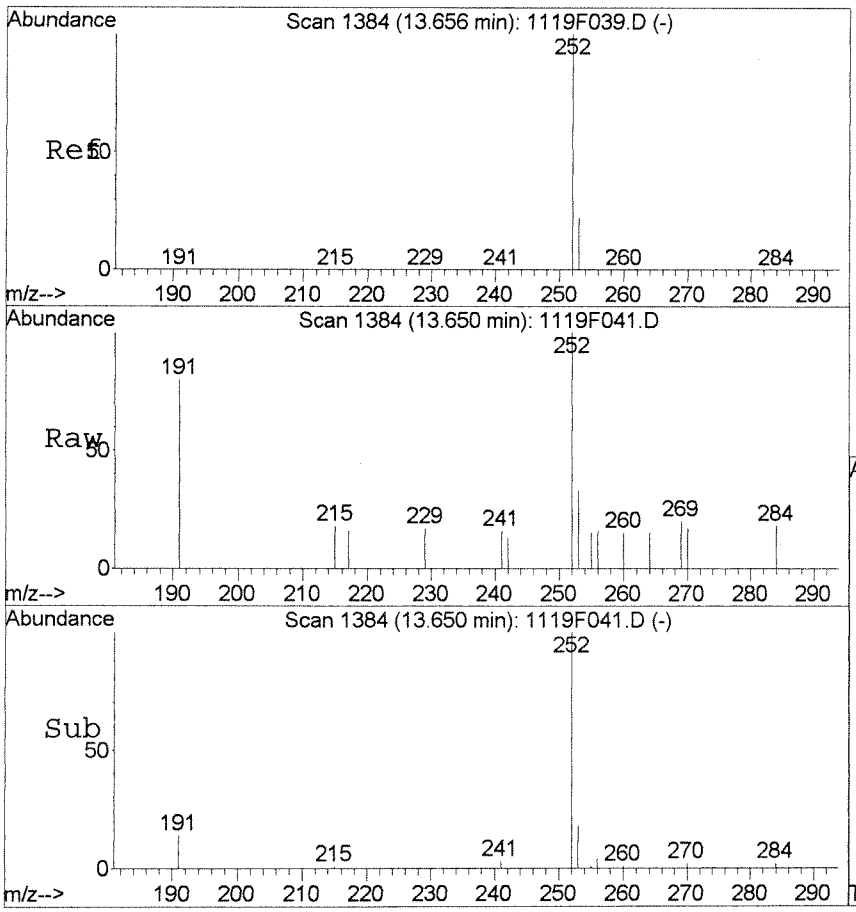


#52
Benzo(e)pyrene
Concen: 1.38 ng/ml
RT: 13.48 min Scan# 1356
Delta R.T. -0.02 min
Lab File: 1119F041.D
Acq: 19 Nov 2009 11:27 pm

Tgt Ion:252 Resp: 1262

Ion	Ratio	Lower	Upper
252	100		
253	20.4	0.0	52.3

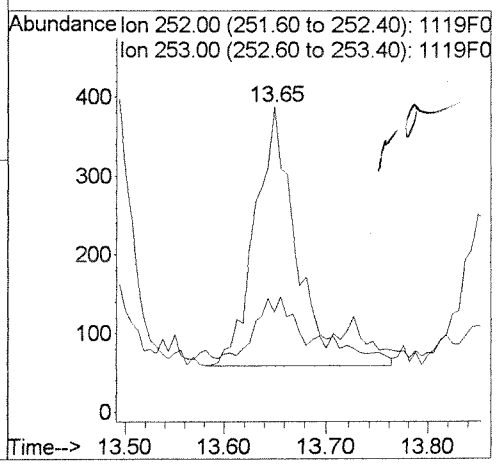




#53
Benzo(a)pyrene
Concen: 1.09 ng/ml
RT: 13.65 min Scan# 1384
Delta R.T. -0.02 min
Lab File: 1119F041.D
Acq: 19 Nov 2009 11:27 pm

Tgt Ion:252 Resp: 957

Ion	Ratio	Lower	Upper
252	100		
253	14.6	0.0	52.6



COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	URS Corporation	**Service Request:**	K0909140
Project:	Boise St. Helens Pulp and Paper Mill-2009	**Date Collected:**	10/06/2009
Sample Matrix:	Sediment	**Date Received:**	10/07/2009

Polynuclear Aromatic Hydrocarbons

Sample Name:	M-2-AMS	**Units:**	ug/Kg
Lab Code:	KWG0910535-1	**Basis:**	Dry
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270C SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Naphthalene	**1050**	E	2.6	0.60	1	11/10/09	11/17/09	KWG0910535	
2-Methylnaphthalene	**818**		2.6	0.46	1	11/10/09	11/17/09	KWG0910535	
Acenaphthylene	**436**		2.6	0.56	1	11/10/09	11/17/09	KWG0910535	
Acenaphthene	**386**		2.6	0.50	1	11/10/09	11/17/09	KWG0910535	
Fluorene	**526**		2.6	0.61	1	11/10/09	11/17/09	KWG0910535	
Dibenzofuran	**357**		2.6	0.63	1	11/10/09	11/17/09	KWG0910535	
Phenanthrene	**1520**	E	2.6	1.4	1	11/10/09	11/17/09	KWG0910535	
Anthracene	**363**		2.6	0.55	1	11/10/09	11/17/09	KWG0910535	
Fluoranthene	**1350**	E	2.6	0.98	1	11/10/09	11/17/09	KWG0910535	
Pyrene	**1120**	E	2.6	0.76	1	11/10/09	11/17/09	KWG0910535	
Benz(a)anthracene	**346**		2.6	0.72	1	11/10/09	11/17/09	KWG0910535	
Chrysene	**484**		2.6	0.80	1	11/10/09	11/17/09	KWG0910535	
Benzo(b)fluoranthene	**364**		2.6	0.92	1	11/10/09	11/17/09	KWG0910535	
Benzo(k)fluoranthene	**142**		2.6	0.87	1	11/10/09	11/17/09	KWG0910535	
Benzo(a)pyrene	**282**		2.6	0.76	1	11/10/09	11/17/09	KWG0910535	
Indeno(1,2,3-cd)pyrene	**155**		2.6	0.87	1	11/10/09	11/17/09	KWG0910535	
Dibenz(a,h)anthracene	**61.5**		2.6	0.80	1	11/10/09	11/17/09	KWG0910535	
Benzo(g,h,i)perylene	**226**		2.6	0.85	1	11/10/09	11/17/09	KWG0910535	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	84	17-104	11/17/09	Acceptable
Fluoranthene-d10	96	27-106	11/17/09	Acceptable
Terphenyl-d14	55	35-109	11/17/09	Acceptable

Comments:

Exception Report

Data File: J:\MS11\DATA\111609\1116F053.D
Lab ID: KWG0910535-1 -- K0909140-006MS
RunType: MS
Matrix: SEDIMENT

Date Acquired: 11/17/2009 06:11
Date Quantitated: 11/18/2009 12:46
Batch ID: KWG0910855
Analysis Method: 8270C SIM
MethodJoinID: MJ139

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Tune Window	NA	NA	NA	x	
Analytical Holding Time	NA	NA	NA	x	
ICAL Pass/Fail	NA	NA	NA	x	
ICAL Average RSD	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Initial Calibration Minimum RF	NA	NA	NA	x	
Initial Calibration SPCC/CCC	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA		x
Continuing Calibration Minimum RF	NA	NA	NA	x	
Continuing Calibration SPCC/CCC	NA	NA	NA	x	
Internal Standards	NA	NA	NA	x	
Surrogates	NA	NA	NA		x
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Relative Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA		x
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Batch QC
K10843

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
Continuing Calibration Recovery	2,4,6-Tribromophenol	88.9	NA	20	M1
	2,3,5-Trimethylnaphthalene	23.4	NA	20	
Surrogates	2,4,6-Tribromophenol	0	35	109	
Above Highest ICAL Level	Pyrene	2213.99	NA	2000	E flag
	Fluoranthene	2658.20	NA	2000	
	2,3,5-Trimethylnaphthalene	3485.08	NA	2000	
	2,6-Dimethylnaphthalene	3695.86	NA	2000	
	Phenanthrene	2993.47	NA	2000	
	Naphthalene	2068.86	NA	2000	

Primary Review: 11/18/09
Secondary Review: 11-19-09

Quantitation Report

Bottle ID:		**Tier:**		**Matrix:**	SEDIMENT
Prod Code:	8270C SIM PAH_S	**Collect Date:**		**Receive Date:**	11/12/2009

Analysis Lot:	KWG0910855	**Prep Lot:**	KWG0910535	**Report Group:**	
Analysis Method:	8270C SIM	**Prep Method:**	EPA 3541		
Prep Ref:	865772	**Prep Date:**	11/10/2009		

Quant Method:	J:\MS11\METHODS\SIM\1015ALK.M	**Calibration ID:**	CAL8928
Title:			
Tune Ref:	J:\MS11\DATA\111609\1116F032.D	**Method ID:**	MJ139
MB Ref:	J:\MS11\DATA\111609\1116F004.D	**Quant based on Method**	

Data File:	J:\MS11\DATA\111609\1116F053.D			**Instrument:**	MS11
Acqu Date:	11/17/2009 06:11	**Quant Date:**	11/18/2009 12:46	**Vial:**	1
Run Type:	MS			**Dilution:**	1.0
Lab ID:	KWG0910535-1 -- K0909140-006MS			**Soln Conc. Units:**	ng/ml

Internal Standard Compounds

IS Ref	Parameter Name	RT	RT Dev	Quant Mass	Response	Solution Conc	Area Criteria
1	Naphthalene-d8	4.62	-0.01	136	138732	200.00	OK
2	Acenaphthene-d10	6.04	-0.01	164	70766	200.00	OK
3	Phenanthrene-d10	7.26	-0.01	188	132263	200.00	OK
4	Chrysene-d12	9.77	0.01	240	239950	200.00	OK
5	Perylene-d12	12.79	0.01	264	248946	200.00	OK

Surrogate Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	%Rec	%Rec Limits	Rpt?
2	Fluorene-d10	6.47	0.00	0.00	176	55419**m**	167.85	84	17-104 OK	
2	2,4,6-Tribromophenol			0.00	330	0**d**		0	35-109 *	
3	Fluoranthene-d10	8.24	0.00	0.00	212	141178**m**	192.62	96	27-106 OK	
4	Terphenyl-d14	8.59	0.01	0.00	244	109346	110.23	55	35-109 OK	

Target Compounds

Final Conc. Units: ug/Kg Dry Weight

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	Final Conc	Q	Rpt?
1	Naphthalene	4.64	-0.01	0.00	128	1320776	2,069	1050	E	
1	2-Methylnaphthalene	5.20	-0.01	0.00	142	709514	1,613	818		
1	1-Methylnaphthalene	5.28	-0.01	0.00	142	399800	854.71	433		
1	Biphenyl	5.58		0.00	154	258093	514.45	261		
1	2,6-Dimethylnaphthalene	5.77	-0.01	0.00	156	1278551	3,696	1870	E	
1	C2-Naphthalenes				156	0		5.0	U	
1	C3-Naphthalenes				170	0		5.0	U	
1	C4-Naphthalenes				184	0		5.0	U	
2	Acenaphthylene	5.93		0.00	152	527880	859.63	436		
2	Acenaphthene	6.07		0.00	154	278737	761.33	386		
2	Dibenzofuran	6.22		0.00	168	346641	703.89	357		
2	2,3,5-Trimethylnaphthalene	6.38	-0.01	0.00	170	1071839	3,485	1770	E	

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Data File:	J:\MS11\DATA\111609\1116F053.D		**Instrument:** MS11
Acqu Date:	11/17/2009 06:11	**Quant Date:** 11/18/2009 12:46	**Vial:** 1
Run Type:	MS		**Dilution:** 1.0
Lab ID:	KWG0910535-1 -- K0909140-006MS		**Soln Conc. Units:** ng/ml

Target Compounds

Final Conc. Units: ug/Kg Dry Weight

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	Final Conc	Q	Rpt?
2	Fluorene	6.49	-0.01	0.00	166	409561**m**	1,038	526		
2	C1-Fluorenes				180	0		5.0	U	
2	C2-Fluorenes				194	0		5.0	U	
2	C3-Fluorenes				208	0		5.0	U	
2	Pentachlorophenol				266	0**d**		2.9	U	
3	Dibenzothiophene	7.18	-0.01	0.00	184	490369**m**	733.34	372		
3	C1-Dibenzothiophenes				198	0		5.0	U	
3	C2-Dibenzothiophenes				212	0		5.0	U	
3	C3-Dibenzothiophenes				226	0		5.0	U	
3	Phenanthrene	7.28	-0.01	0.00	178	2220554	2,993	1520	E	
3	Anthracene	7.33		0.00	178	507323	715.26	363		
3	Carbazole	7.47		0.00	167	251273	414.47	210		
3	1-Methylphenanthrene	7.78	-0.01	0.00	192	827021	1,557	789		
3	C1-Phenanthrenes/Anthracenes				192	0		5.0	U	
3	C2-Phenanthrenes/Anthracenes				206	0		5.0	U	
3	C3-Phenanthrenes/Anthracenes				220	0		5.0	U	
3	C4-Phenanthrenes/Anthracenes				234	0		5.0	U	
3	Fluoranthene	8.25		0.00	202	2166124	2,658	1350	E	
4	Pyrene	8.44		0.00	202	2908978**m**	2,214	1120	E	
4	C1-Fluoranthenes/Pyrenes				216	0		5.0	U	
4	C2-Fluoranthenes/Pyrenes				230	0		5.0	U	
4	C3-Fluoranthenes/Pyrenes				244	0		5.0	U	
4	Benz(a)anthracene	9.76	0.01	0.00	228	888839	681.55	346		
4	Chrysene	9.80		0.00	228	1213910	955.59	484		
4	C1-Chrysenes				242	0		5.0	U	
4	C2-Chrysenes				256	0		5.0	U	
4	C3-Chrysenes				270	0		5.0	U	
4	C4-Chrysenes				284	0		5.0	U	
5	Benzo(b)fluoranthene	11.78	0.01	0.00	252	932891	718.36	364		
5	Benzo(k)fluoranthene	11.84		0.00	252	359159	280.72	142		
5	Benzo(e)pyrene	12.48	0.02	0.00	252	850886	699.66	355		
5	Benzo(a)pyrene	12.63	0.02	0.00	252	684984	556.93	282		
5	Perylene	12.86	0.01	0.00	252	440006	364.94	185		
5	Indeno(1,2,3-cd)pyrene	16.34	0.01	0.00	276	344429	305.25	155		
5	Dibenz(a,h)anthracene	16.41		0.00	278	147591	121.41	61.5		
5	Benzo(g,h,i)perylene	16.82		0.00	276	578328	445.01	226		

Prep Amount:	20.17 g	**Dilution:**	1.0
Prep Final Vol:	10 ml	**Unit Factor:**	1
Solids:	97.8 %		

Final Concentration = ((Soln Conc x Prep Final Vol x Dilution) / (Prep Amount x Solids)) x Unit Factor

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\111609\1116F053.D
Acq On : 17 Nov 2009 6:11 am
Sample : K0909140-006MS
Misc :
MS Integration Params: RTEINT.P
Quant Time: Nov 18 12:17:58 2009

Vial: 1
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00
Quant Results File: 1015ALK.RES

Quant Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Wed Nov 18 12:17:22 2009
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	4.62	136	138732	200.00	ng/ml	0.00
10) Acenaphthene-d10	6.04	164	70766	200.00	ng/ml	0.00
22) Phenanthrene-d10	7.26	188	132263	200.00	ng/ml	0.00
37) Chrysene-d12	9.77	240	239950	200.00	ng/ml	0.02
49) Perylene-d12	12.79	264	248946	200.00	ng/ml	0.03
System Monitoring Compounds						
15) Fluorene-d10	6.47	176	55419m	167.85	ng/ml	0.00
Spiked Amount 200.000			Recovery =	83.92%		
20) 2,4,6 Tribromophenol	0.00	330	0d	0.00	ng/ml	
Spiked Amount 375.000			Recovery =	0.00%		
36) Fluoranthene-d10	8.24	212	141178m	192.62	ng/ml	0.00
Spiked Amount 200.000			Recovery =	96.31%		
42) Terphenyl-d14	8.59	244	109346	110.23	ng/ml	0.00
Spiked Amount 200.000			Recovery =	55.12%		
Target Compounds						Qvalue
2) Naphthalene	4.64	128	1320776	2068.86	ng/ml	96
3) 2-Methylnaphthalene	5.20	142	709514	1612.63	ng/ml	90
4) 1-Methylnaphthalene	5.28	142	399800	854.71	ng/ml	97
5) Biphenyl	5.58	154	258093	514.45	ng/ml	98
6) 2,6-Dimethylnaphthalene	5.77	156	1278551	3695.86	ng/ml	89
11) Acenaphthylene	5.93	152	527880	859.63	ng/ml	88
12) Acenaphthene	6.07	154	278737	761.33	ng/ml	91
13) Dibenzofuran	6.22	168	346641	703.89	ng/ml	71
14) 2,3,5-Trimethylnaphthalene	6.38	170	1071839	3485.08	ng/ml	94
16) Fluorene	6.49	166	409561m	1037.54	ng/ml	
23) Dibenzothiophene	7.18	184	490369m	733.34	ng/ml	
27) Phenanthrene	7.28	178	2220554	2993.47	ng/ml	96
28) Anthracene	7.33	178	507323	715.26	ng/ml	97
29) Carbazole	7.47	167	251273	414.47	ng/ml	92
30) 1-Methylphenanthrene	7.78	192	827021	1557.03	ng/ml	88
35) Fluoranthene	8.25	202	2166124	2658.20	ng/ml	90
38) Pyrene	8.44	202	2908978m	2213.99	ng/ml	
43) Benz(a)anthracene	9.76	228	888839	681.55	ng/ml	67
44) Chrysene	9.80	228	1213910	955.59	ng/ml	100
50) Benzo(b)fluoranthene	11.78	252	932891	718.36	ng/ml	100
51) Benzo(k)fluoranthene	11.84	252	359159	280.72	ng/ml	96
52) Benzo(e)pyrene	12.48	252	850886	699.66	ng/ml	98
53) Benzo(a)pyrene	12.63	252	684984	556.93	ng/ml	99
54) Perylene	12.86	252	440006	364.94	ng/ml	99
55) Indeno(1,2,3-cd)pyrene	16.34	276	344429	305.25	ng/ml	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\111609\1116F053.D
Acq On : 17 Nov 2009 6:11 am
Sample : K0909140-006MS
Misc :
MS Integration Params: RTEINT.P
Quant Time: Nov 18 12:17:58 2009

Vial: 1
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00
Quant Results File: 1015ALK.RES

Quant Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Wed Nov 18 12:17:22 2009
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
56) Dibenz(a,h)anthracene	16.41	278	147591	121.41	ng/ml	83
57) Benzo(g,h,i)perylene	16.82	276	578328	445.01	ng/ml	100

(#) = qualifier out of range (m) = manual integration

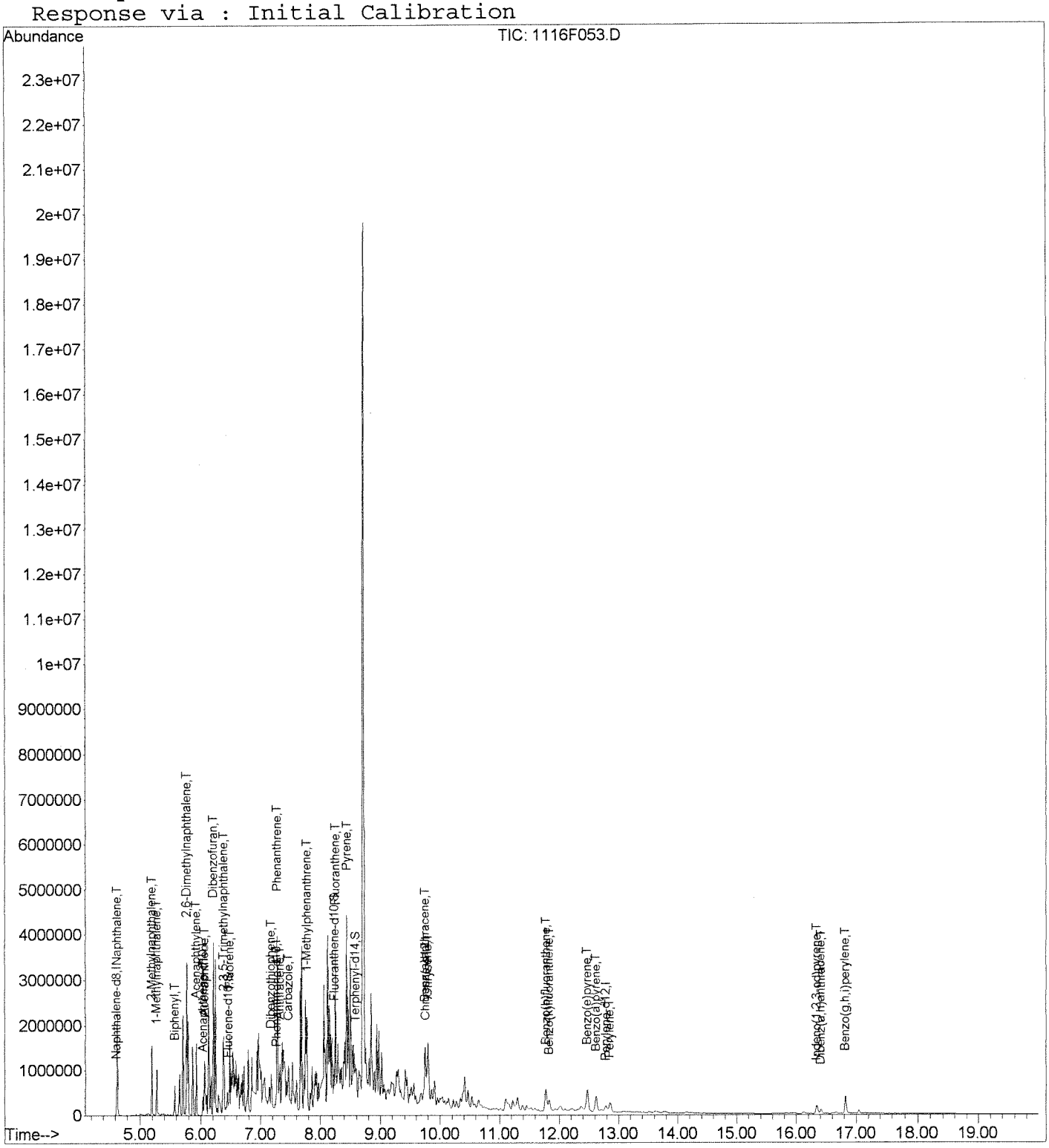
Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\111609\1116F053.D
Acq On : 17 Nov 2009 6:11 am
Sample : K0909140-006MS
Misc :
MS Integration Params: RTEINT.P
Quant Time: Nov 18 12:46 2009

Vial: 1
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00

Quant Results File: 1015ALK.RES

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Tue Nov 17 11:03:16 2009
Response via : Initial Calibration

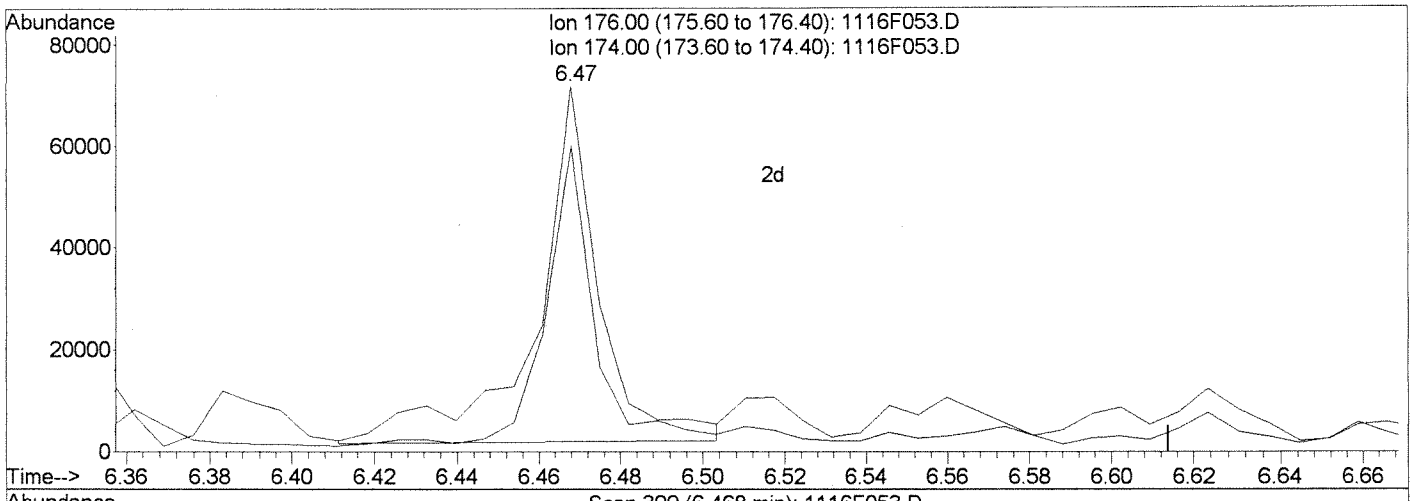


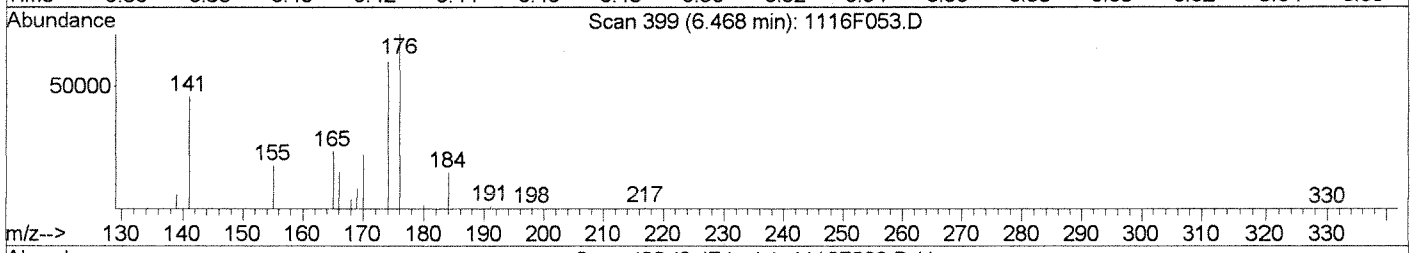
Quantitation Report (Qedit)

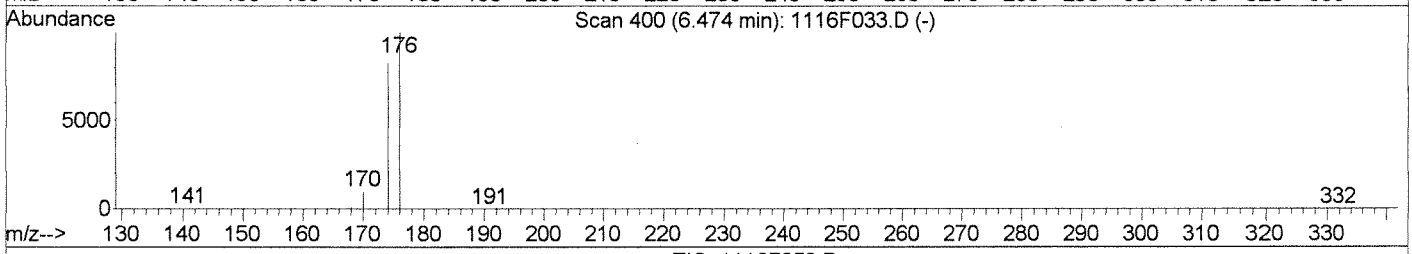
Data File : J:\MS11\DATA\111609\1116F053.D
Acq On : 17 Nov 2009 6:11 am
Sample : K0909140-006MS
Misc :
MS Integration Params: RTEINT.P
Quant Time: Nov 18 12:17 2009

Vial: 1
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Tue Nov 17 11:03:16 2009
Response via : Multiple Level Calibration







TIC: 1116F053.D

(15) Fluorene-d10 (S)

6.47min 229.84ng/ml

response 75886

Ion	Exp%	Act%
176.00	100	100
174.00	85.50	84.62
0.00	0.00	0.00
0.00	0.00	0.00

1116F053.D 1015ALK.M Wed Nov 18 12:46:05 2009

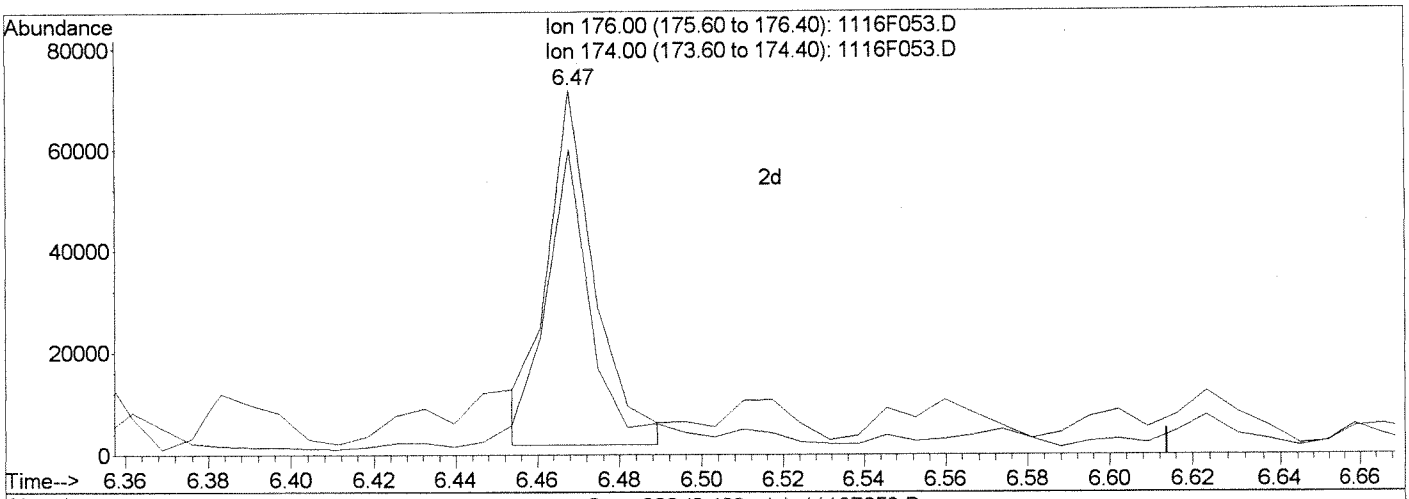
Quantitation Report (Qedit)

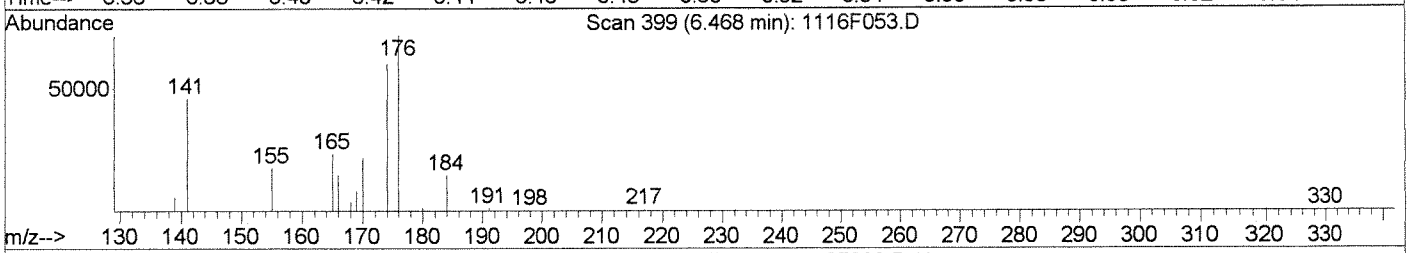
Data File : J:\MS11\DATA\111609\1116F053.D
Acq On : 17 Nov 2009 6:11 am
Sample : K0909140-006MS
Misc :
MS Integration Params: RTEINT.P
Quant Time: Nov 18 12:46 2009

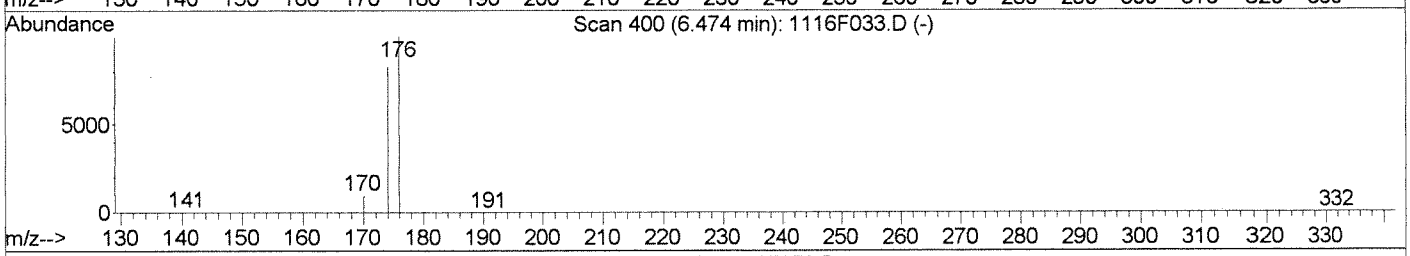
Vial: 1
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Tue Nov 17 11:03:16 2009
Response via : Multiple Level Calibration







TIC: 1116F053.D

(15) Fluorene-d10 (S)

6.47min 167.85ng/ml m

response 55419

Ion	Exp%	Act%
176.00	100	100
174.00	85.50	83.68
0.00	0.00	0.00
0.00	0.00	0.00

OI 11/18/09

11-19-09

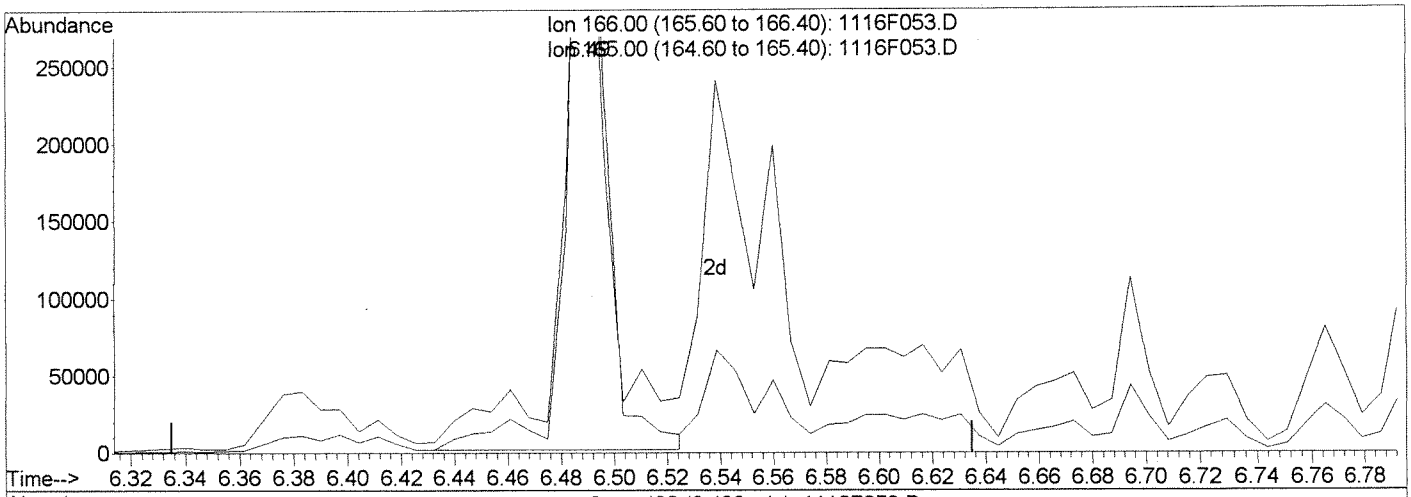
1116F053.D 1015ALK.M Wed Nov 18 12:46:09 2009

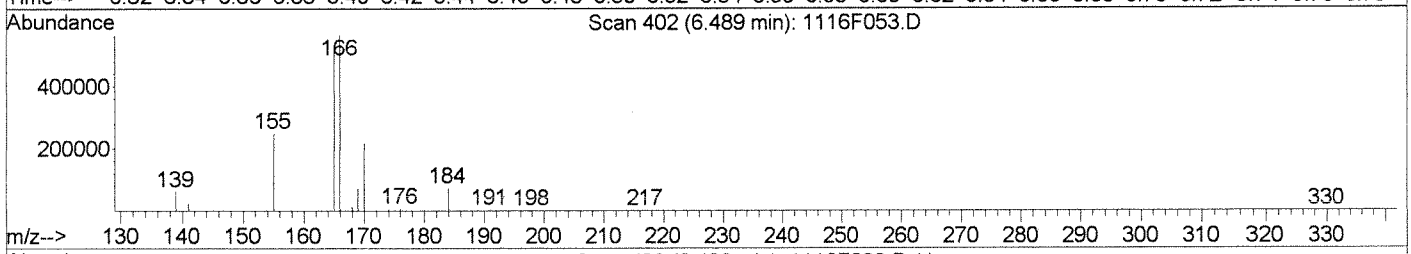
Quantitation Report (Qedit)

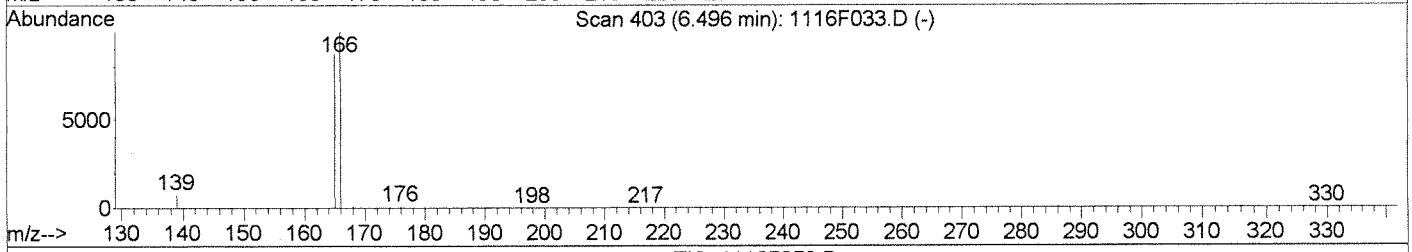
Data File : J:\MS11\DATA\111609\1116F053.D
Acq On : 17 Nov 2009 6:11 am
Sample : K0909140-006MS
Misc :
MS Integration Params: RTEINT.P
Quant Time: Nov 18 12:46 2009

Vial: 1
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Tue Nov 17 11:03:16 2009
Response via : Multiple Level Calibration







TIC: 1116F053.D

(16) Fluorene (T)

6.49min 1157.13ng/ml

response 456766

Ion	Exp%	Act%
166.00	100	100
165.00	87.80	92.44
0.00	0.00	0.00
0.00	0.00	0.00

1116F053.D 1015ALK.M Wed Nov 18 12:46:14 2009

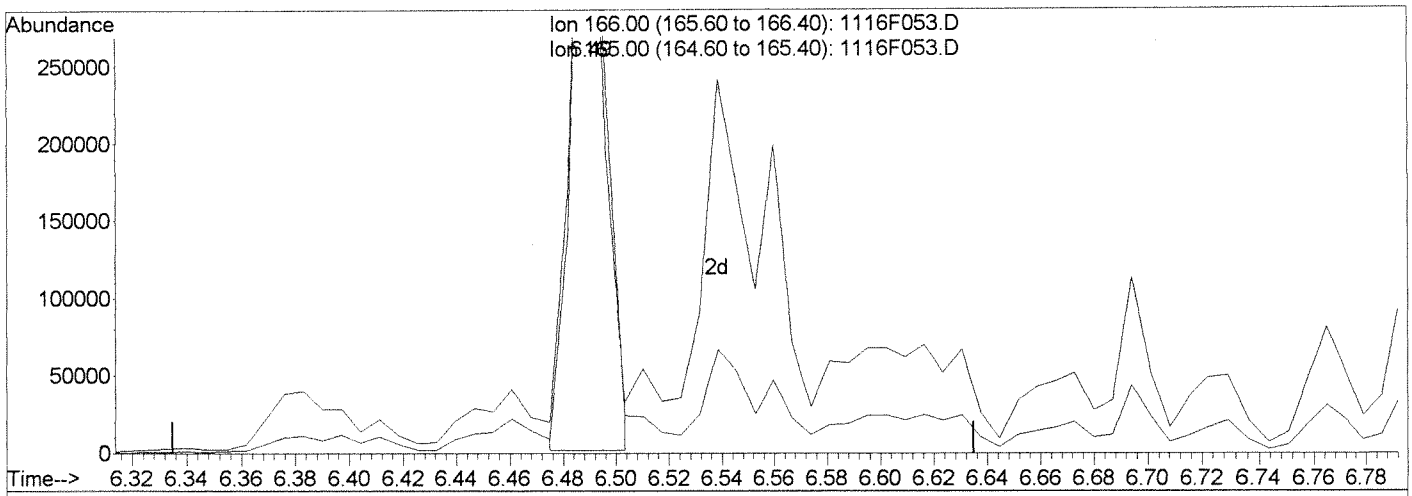
Quantitation Report (Qedit)

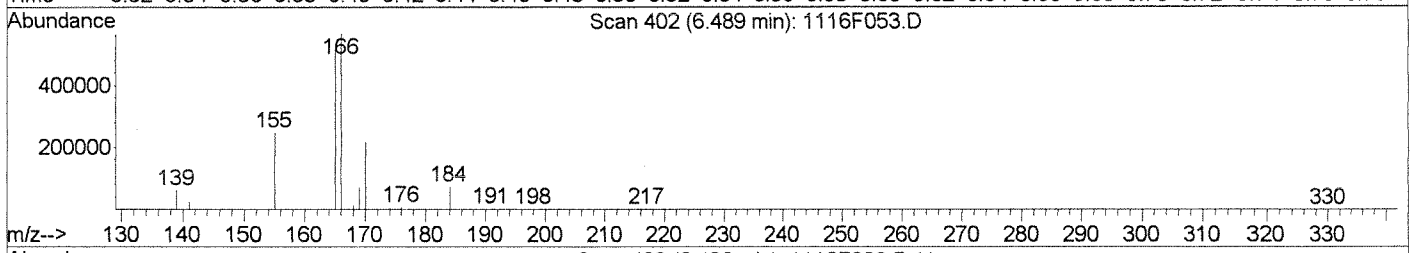
Data File : J:\MS11\DATA\111609\1116F053.D
Acq On : 17 Nov 2009 6:11 am
Sample : K0909140-006MS
Misc :
MS Integration Params: RTEINT.P
Quant Time: Nov 18 12:46 2009

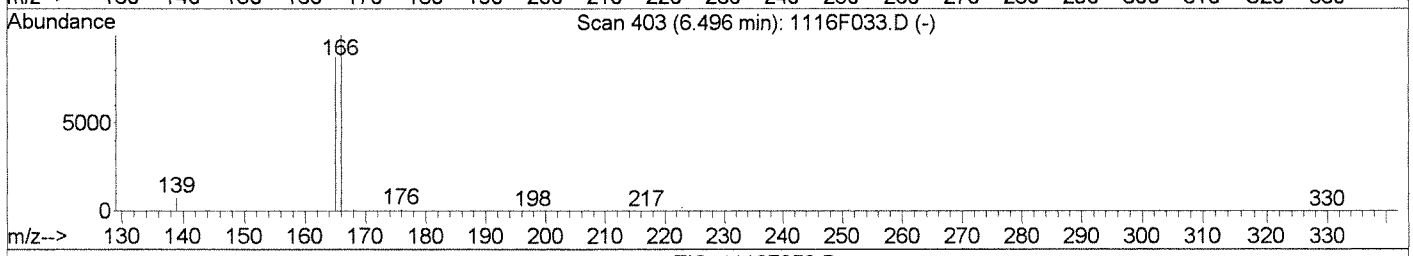
Vial: 1
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Tue Nov 17 11:03:16 2009
Response via : Multiple Level Calibration







TIC: 1116F053.D

(16) Fluorene (T)

6.49min 1037.54ng/ml m

response 409561

Ion	Exp%	Act%
166.00	100	100
165.00	87.80	93.32
0.00	0.00	0.00
0.00	0.00	0.00

0-I 11/18/09

11-19-09

1116F053.D 1015ALK.M Wed Nov 18 12:46:19 2009

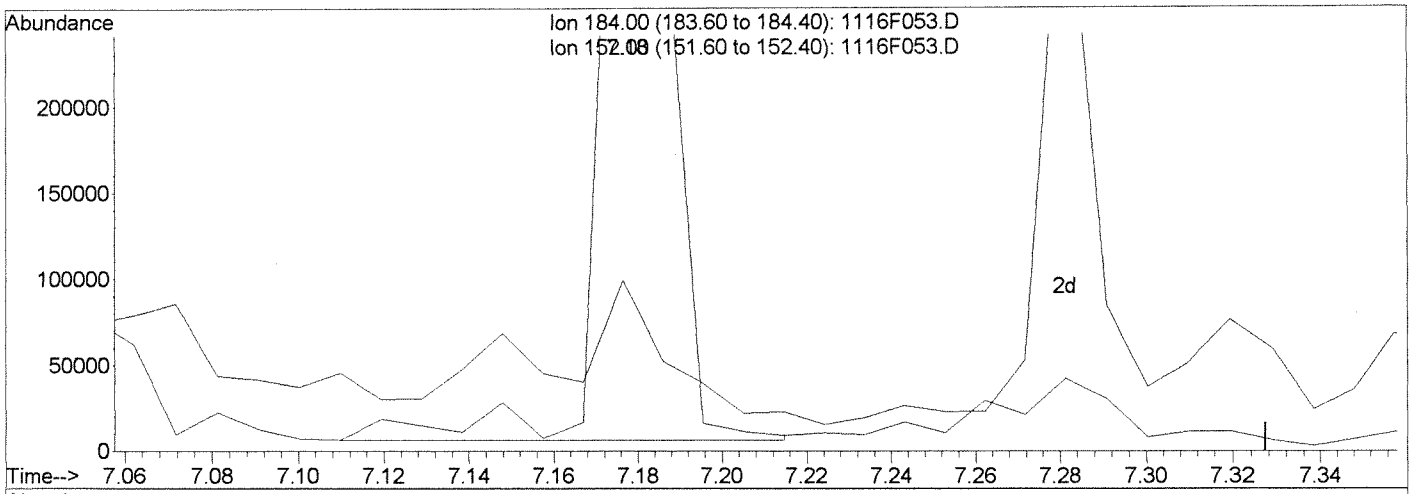
Quantitation Report (Qedit)

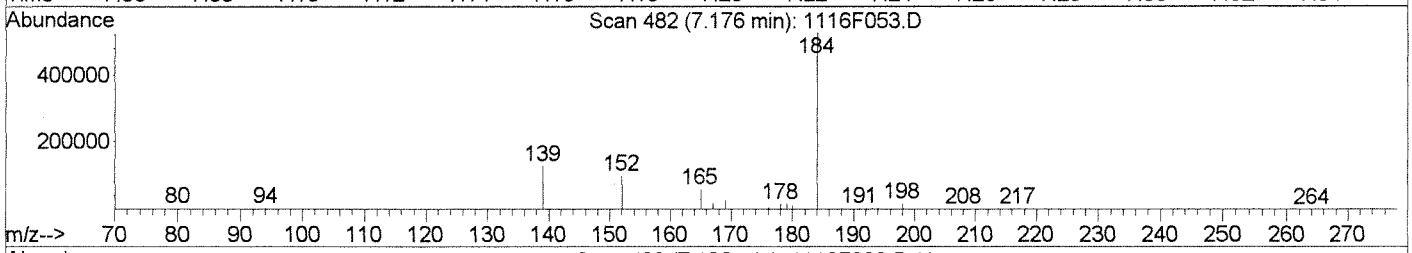
Data File : J:\MS11\DATA\111609\1116F053.D
Acq On : 17 Nov 2009 6:11 am
Sample : K0909140-006MS
Misc :
MS Integration Params: RTEINT.P
Quant Time: Nov 18 12:46 2009

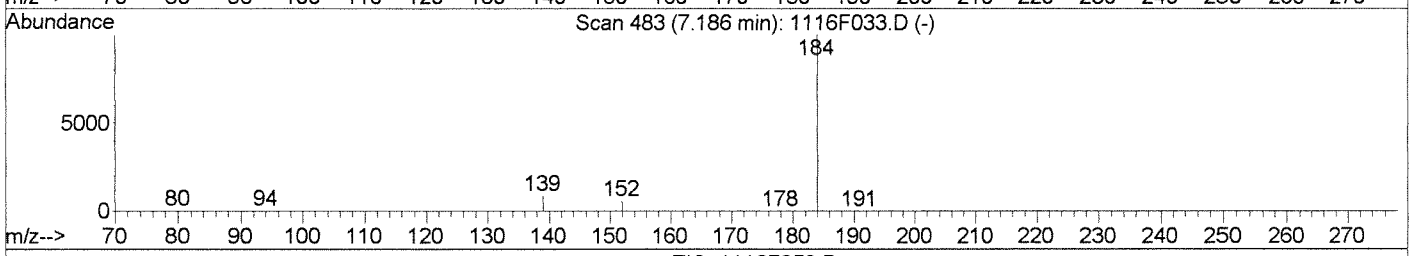
Vial: 1
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Tue Nov 17 11:03:16 2009
Response via : Multiple Level Calibration







TIC: 1116F053.D

(23) Dibenzothiophene (T)

7.18min 793.85ng/ml

response 530831

Ion	Exp%	Act%
184.00	100	100
152.00	9.40	14.74
0.00	0.00	0.00
0.00	0.00	0.00

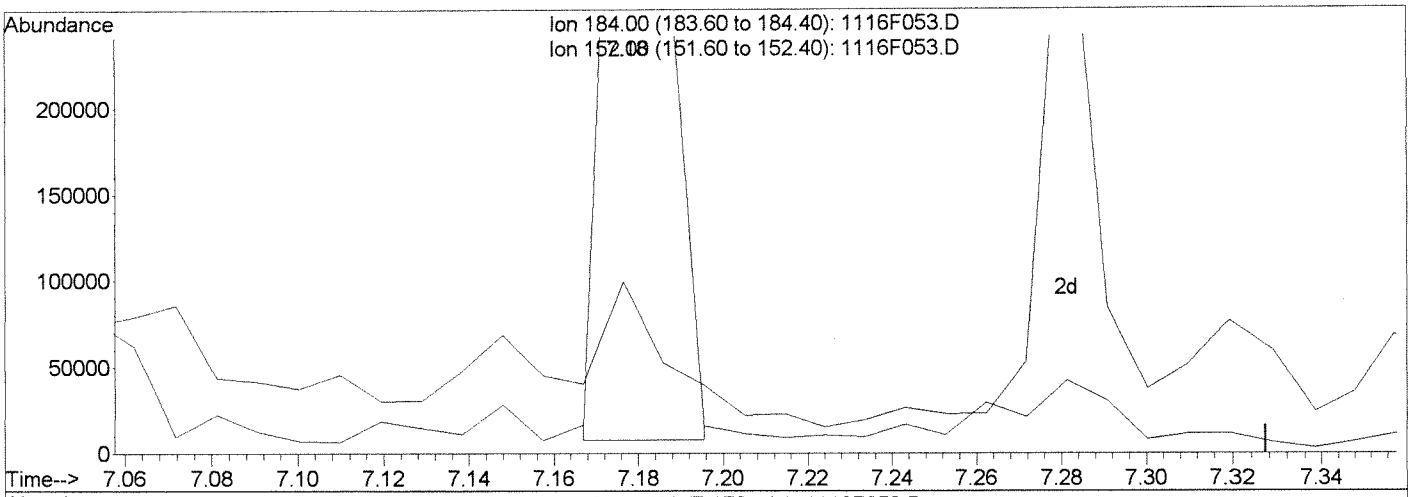
1116F053.D 1015ALK.M Wed Nov 18 12:46:27 2009

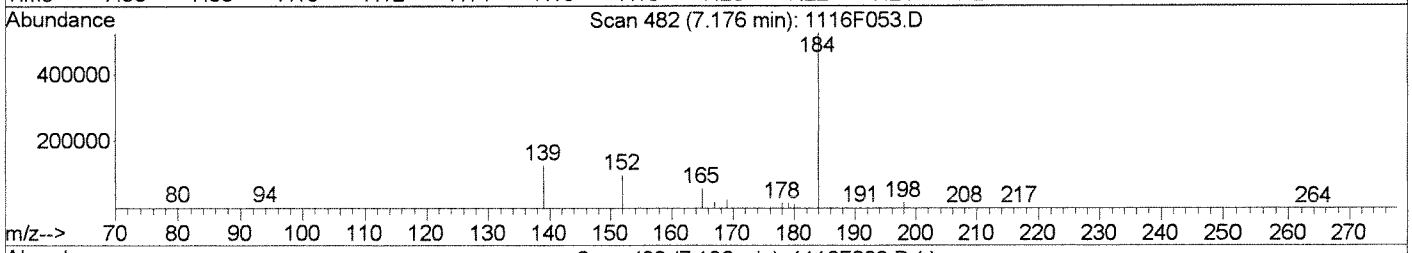
Quantitation Report (Qedit)

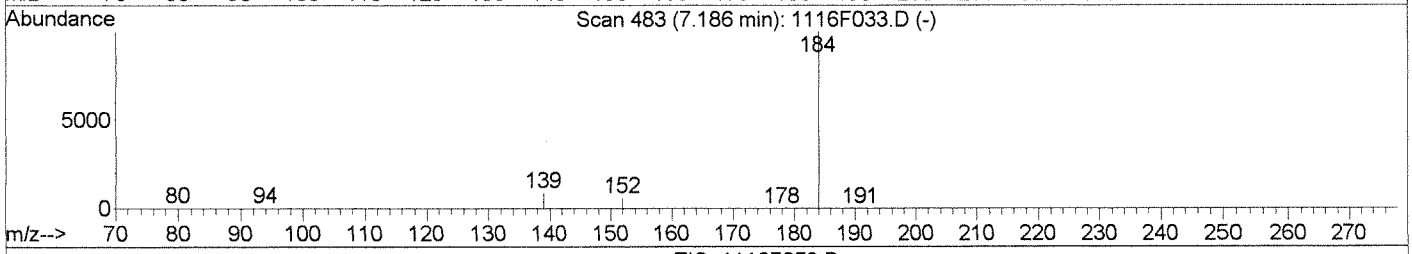
Data File : J:\MS11\DATA\111609\1116F053.D
Acq On : 17 Nov 2009 6:11 am
Sample : K0909140-006MS
Misc :
MS Integration Params: RTEINT.P
Quant Time: Nov 18 12:46 2009

Vial: 1
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Tue Nov 17 11:03:16 2009
Response via : Multiple Level Calibration







TIC: 1116F053.D

(23) Dibenzothiophene (T)

7.18min 733.34ng/ml m

response 490369

Ion	Exp%	Act%
184.00	100	100
152.00	9.40	18.90
0.00	0.00	0.00
0.00	0.00	0.00

OT 11/18/09

M 11-19-09

1116F053.D 1015ALK.M Wed Nov 18 12:46:32 2009

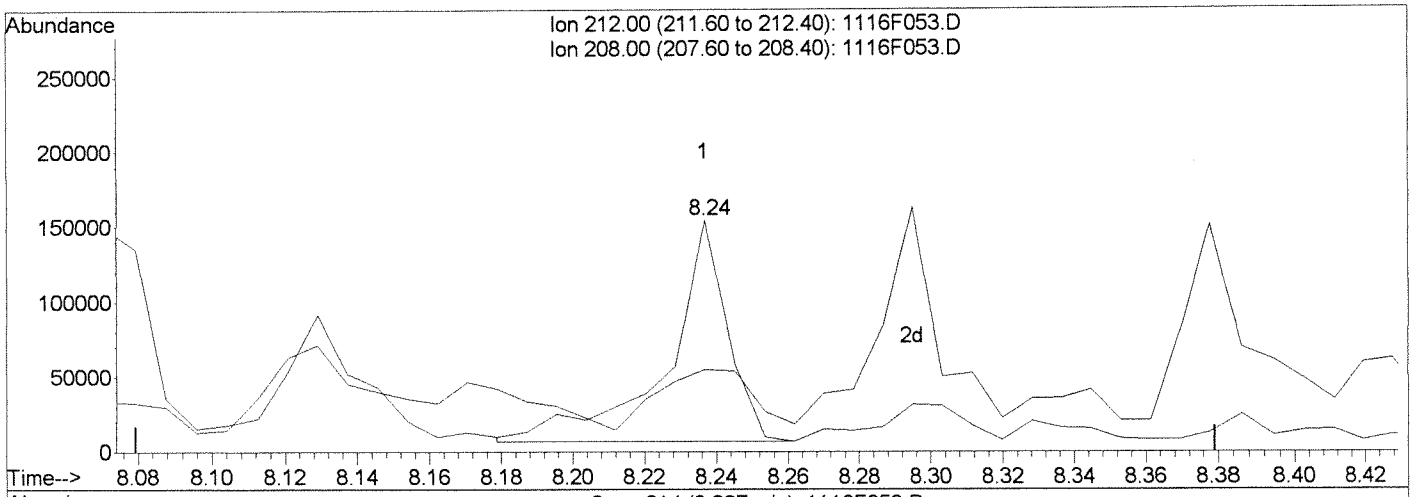
Quantitation Report (Qedit)

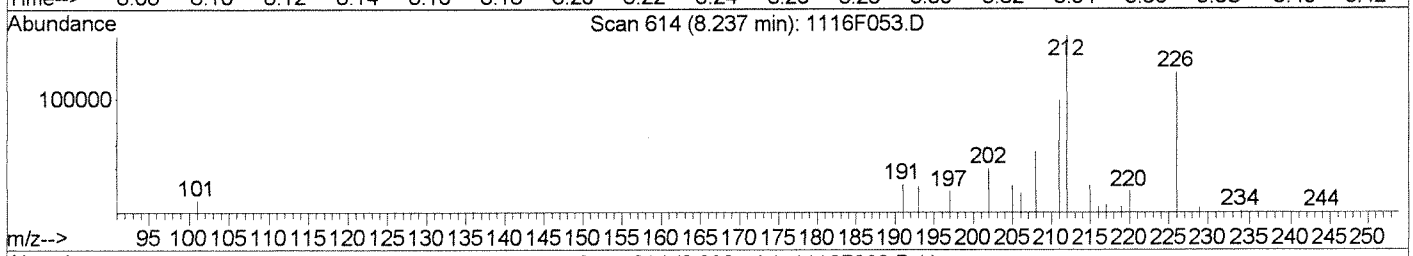
Data File : J:\MS11\DATA\111609\1116F053.D
Acq On : 17 Nov 2009 6:11 am
Sample : K0909140-006MS
Misc :
MS Integration Params: RTEINT.P
Quant Time: Nov 18 12:46 2009

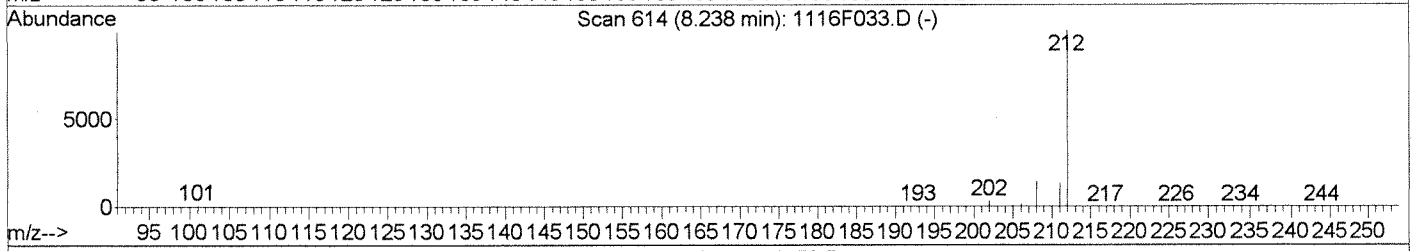
Vial: 1
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Tue Nov 17 11:03:16 2009
Response via : Multiple Level Calibration







TIC: 1116F053.D

(36) Fluoranthene-d10 (S)

8.24min 235.07ng/ml

response 172293

Ion	Exp%	Act%
212.00	100	100
208.00	15.50	24.62
0.00	0.00	0.00
0.00	0.00	0.00

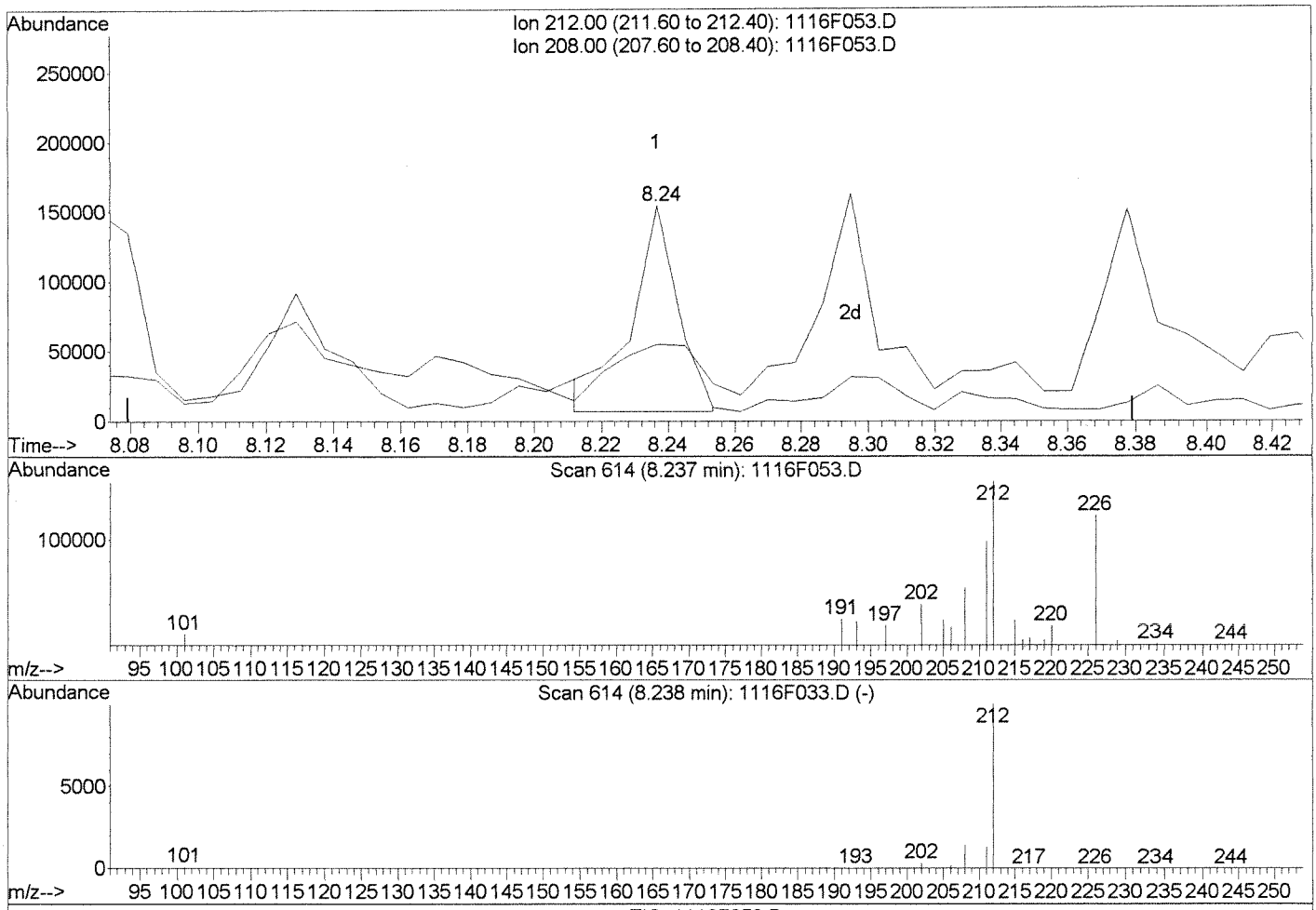
Quantitation Report (Qedit)

Data File : J:\MS11\DATA\111609\1116F053.D
Acq On : 17 Nov 2009 6:11 am
Sample : K0909140-006MS
Misc :
MS Integration Params: RTEINT.P
Quant Time: Nov 18 12:46 2009

Vial: 1
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Tue Nov 17 11:03:16 2009
Response via : Multiple Level Calibration



TIC: 1116F053.D

(36) Fluoranthene-d10 (S)

8.24min 192.62ng/ml m

response 141178

Ion	Exp%	Act%
212.00	100	100
208.00	15.50	35.55
0.00	0.00	0.00
0.00	0.00	0.00

OI 11/18/09 11-18-09

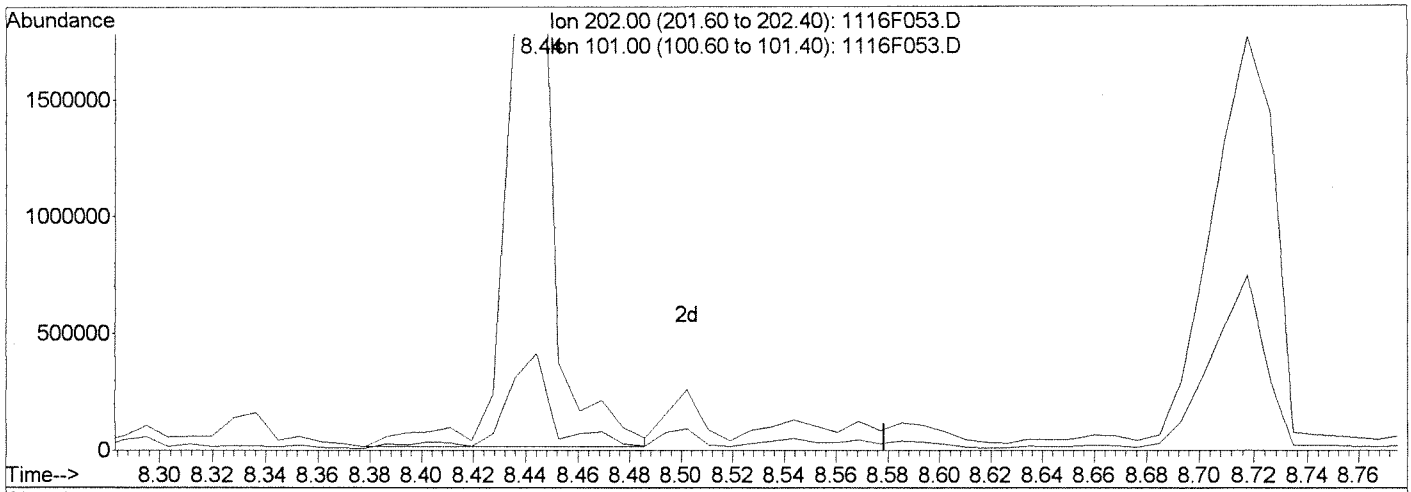
1116F053.D 1015ALK.M Wed Nov 18 12:46:46 2009

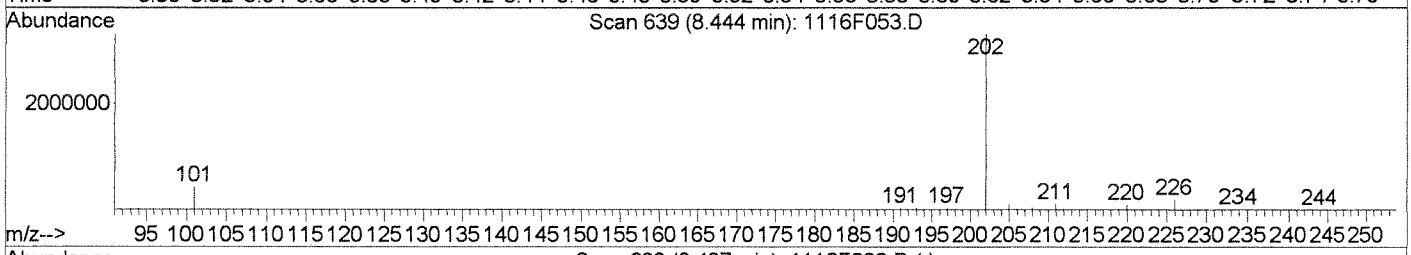
Quantitation Report (Qedit)

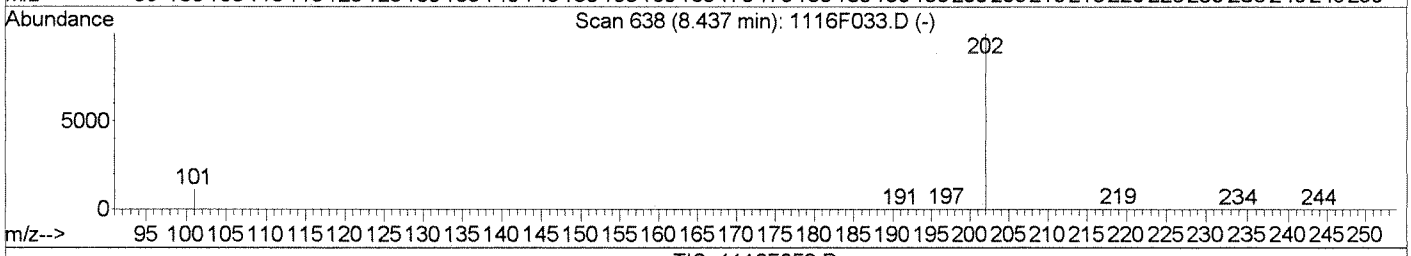
Data File : J:\MS11\DATA\111609\1116F053.D
Acq On : 17 Nov 2009 6:11 am
Sample : K0909140-006MS
Misc :
MS Integration Params: RTEINT.P
Quant Time: Nov 18 12:46 2009

Vial: 1
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Tue Nov 17 11:03:16 2009
Response via : Multiple Level Calibration







TIC: 1116F053.D

(38) Pyrene (T)

8.44min 2435.74ng/ml

response 3200337

Ion	Exp%	Act%
202.00	100	100
101.00	6.40	12.34
0.00	0.00	0.00
0.00	0.00	0.00

1116F053.D 1015ALK.M Wed Nov 18 12:46:51 2009

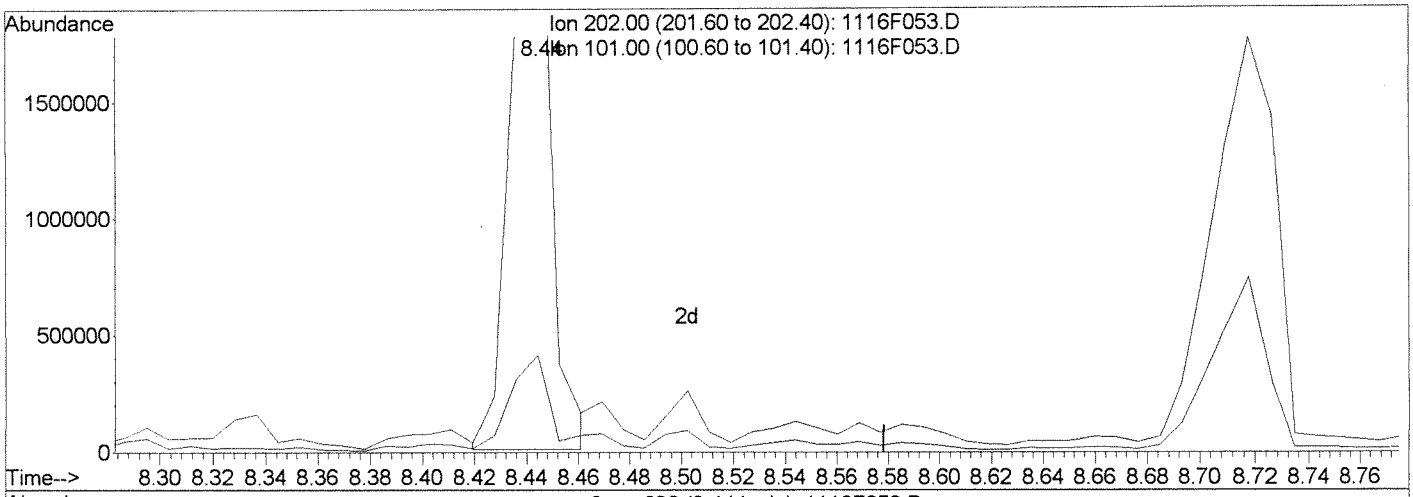
Quantitation Report (Qedit)

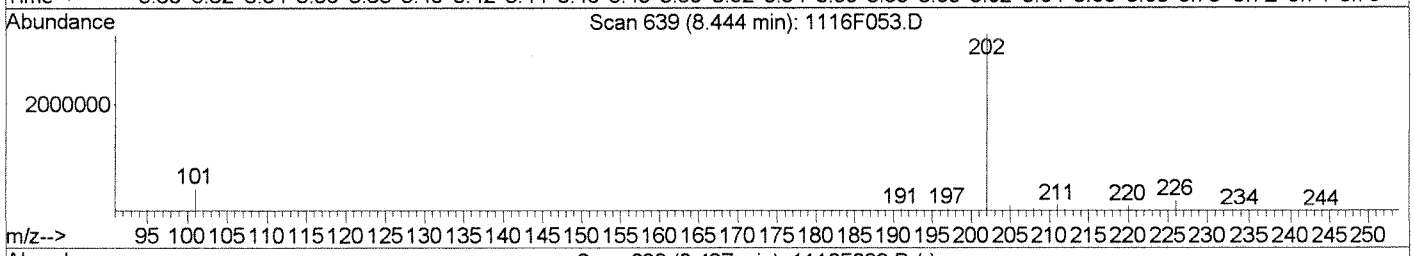
Data File : J:\MS11\DATA\111609\1116F053.D
Acq On : 17 Nov 2009 6:11 am
Sample : K0909140-006MS
Misc :
MS Integration Params: RTEINT.P
Quant Time: Nov 18 12:46 2009

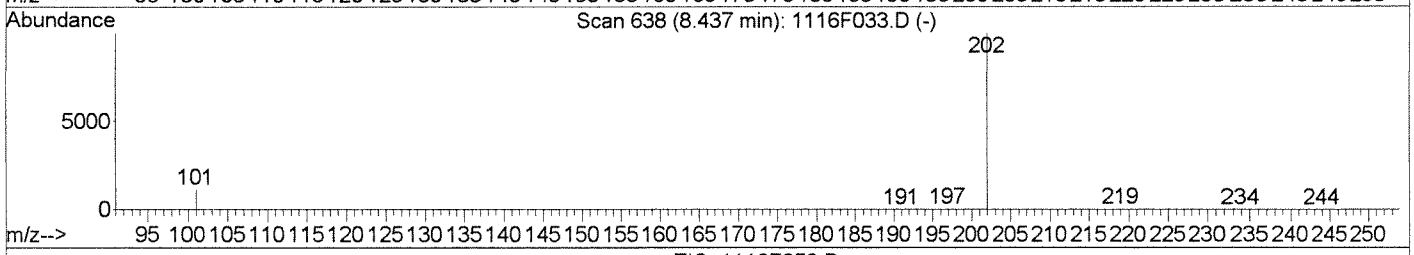
Vial: 1
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Tue Nov 17 11:03:16 2009
Response via : Multiple Level Calibration







TIC: 1116F053.D

(38) Pyrene (T)

8.44min 2213.99ng/ml m

response 2908978

Ion	Exp%	Act%
202.00	100	100
101.00	6.40	12.52
0.00	0.00	0.00
0.00	0.00	0.00

OK 11/18/09
M 11-19-09

1116F053.D 1015ALK.M Wed Nov 18 12:46:55 2009

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	URS Corporation	**Service Request:**	K0909140
Project:	Boise St. Helens Pulp and Paper Mill-2009	**Date Collected:**	10/06/2009
Sample Matrix:	Sediment	**Date Received:**	10/07/2009

Polynuclear Aromatic Hydrocarbons

Sample Name:	M-2-ADMS	**Units:**	ug/Kg
Lab Code:	KWG0910535-2	**Basis:**	Dry
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270C SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Naphthalene	**1080**	E	2.6	0.60	1	11/10/09	11/17/09	KWG0910535	
2-Methylnaphthalene	**816**		2.6	0.46	1	11/10/09	11/17/09	KWG0910535	
Acenaphthylene	**434**		2.6	0.56	1	11/10/09	11/17/09	KWG0910535	
Acenaphthene	**386**		2.6	0.50	1	11/10/09	11/17/09	KWG0910535	
Fluorene	**541**		2.6	0.61	1	11/10/09	11/17/09	KWG0910535	
Dibenzofuran	**356**		2.6	0.63	1	11/10/09	11/17/09	KWG0910535	
Phenanthrene	**1480**	E	2.6	1.4	1	11/10/09	11/17/09	KWG0910535	
Anthracene	**351**		2.6	0.55	1	11/10/09	11/17/09	KWG0910535	
Fluoranthene	**1200**	E	2.6	0.98	1	11/10/09	11/17/09	KWG0910535	
Pyrene	**1040**	E	2.6	0.76	1	11/10/09	11/17/09	KWG0910535	
Benz(a)anthracene	**329**		2.6	0.72	1	11/10/09	11/17/09	KWG0910535	
Chrysene	**487**		2.6	0.80	1	11/10/09	11/17/09	KWG0910535	
Benzo(b)fluoranthene	**353**		2.6	0.92	1	11/10/09	11/17/09	KWG0910535	
Benzo(k)fluoranthene	**140**		2.6	0.87	1	11/10/09	11/17/09	KWG0910535	
Benzo(a)pyrene	**264**		2.6	0.76	1	11/10/09	11/17/09	KWG0910535	
Indeno(1,2,3-cd)pyrene	**150**		2.6	0.87	1	11/10/09	11/17/09	KWG0910535	
Dibenz(a,h)anthracene	**64.1**		2.6	0.80	1	11/10/09	11/17/09	KWG0910535	
Benzo(g,h,i)perylene	**210**		2.6	0.85	1	11/10/09	11/17/09	KWG0910535	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	84	17-104	11/17/09	Acceptable
Fluoranthene-d10	99	27-106	11/17/09	Acceptable
Terphenyl-d14	53	35-109	11/17/09	Acceptable

Comments:

Exception Report

Data File: J:\MS11\DATA\111609\1116F054.D
Lab ID: KWG0910535-2 -- K0909140-006DMS
RunType: DMS
Matrix: SEDIMENT

Date Acquired: 11/17/2009 06:37
Date Quantitated: 11/18/2009 12:48
Batch ID: KWG0910855
Analysis Method: 8270C SIM
MethodJoinID: MJ139

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Tune Window	NA	NA	NA	x	
Analytical Holding Time	NA	NA	NA	x	
ICAL Pass/Fail	NA	NA	NA	x	
ICAL Average RSD	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Initial Calibration Minimum RF	NA	NA	NA	x	
Initial Calibration SPCC/CCC	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA		x
Continuing Calibration Minimum RF	NA	NA	NA	x	
Continuing Calibration SPCC/CCC	NA	NA	NA	x	
Internal Standards	NA	NA	NA	x	
Surrogates	NA	NA	NA		x
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Relative Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA		x
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Batch QC
K10843

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
Continuing Calibration Recovery	2,4,6-Tribromophenol	88.9	NA	20	NT
	2,3,5-Trimethylnaphthalene	23.4	NA	20	
Surrogates	2,4,6-Tribromophenol	0	35	109	
Above Highest ICAL Level	Pyrene	2056.08	NA	2000	E flag
	Fluoranthene	2375.56	NA	2000	
	2,3,5-Trimethylnaphthalene	3553.47	NA	2000	
	2,6-Dimethylnaphthalene	3656.21	NA	2000	
	Phenanthrene	2917.29	NA	2000	
	Naphthalene	2136.22	NA	2000	

Primary Review: 11/18/09
Secondary Review: 11-19-09

Quantitation Report

Bottle ID:		**Tier:**		**Matrix:**	SEDIMENT
Prod Code:	8270C SIM PAH_S	**Collect Date:**		**Receive Date:**	11/12/2009

Analysis Lot:	KWG0910855	**Prep Lot:**	KWG0910535	**Report Group:**	
Analysis Method:	8270C SIM	**Prep Method:**	EPA 3541		
Prep Ref:	865773	**Prep Date:**	11/10/2009		

Quant Method:	J:\MS11\METHODS\SIM\1015ALK.M	**Calibration ID:**	CAL8928
Title:			
Tune Ref:	J:\MS11\DATA\111609\1116F032.D	**Method ID:**	MJ139
MB Ref:	J:\MS11\DATA\111609\1116F004.D	**Quant based on Method**	

Data File:	J:\MS11\DATA\111609\1116F054.D			**Instrument:**	MS11
Acqu Date:	11/17/2009 06:37	**Quant Date:**	11/18/2009 12:48	**Vial:**	2
Run Type:	DMS			**Dilution:**	1.0
Lab ID:	KWG0910535-2 -- K0909140-006DMS			**Soln Conc. Units:**	ng/ml

Internal Standard Compounds

IS Ref	Parameter Name	RT	RT Dev	Quant Mass	Response	Solution Conc	Area Criteria
1	Naphthalene-d8	4.62	-0.01	136	155307	200.00	OK
2	Acenaphthene-d10	6.04	-0.01	164	77297	200.00	OK
3	Phenanthrene-d10	7.26	-0.01	188	143742	200.00	OK
4	Chrysene-d12	9.77	0.01	240	263231	200.00	OK
5	Perylene-d12	12.79	0.01	264	270780	200.00	OK

Surrogate Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	%Rec	%Rec Limits	Rpt?
2	Fluorene-d10	6.47	0.00	0.00	176	60844**m**	168.71	84	17-104	OK
2	2,4,6-Tribromophenol			0.00	330	0**d**		0	35-109	*
3	Fluoranthene-d10	8.24	0.00	0.00	212	158380**m**	198.83	99	27-106	OK
4	Terphenyl-d14	8.59	0.01	0.00	244	116430	106.99	53	35-109	OK

Target Compounds

Final Conc. Units: ug/Kg Dry Weight

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	Final Conc	Q	Rpt?
1	Naphthalene	4.64	-0.01	0.00	128	1526714	2,136	1080	E	
1	2-Methylnaphthalene	5.20	-0.01	0.00	142	792588	1,609	816		
1	1-Methylnaphthalene	5.28	-0.01	0.00	142	450373	860.07	436		
1	Biphenyl	5.58		0.00	154	284409	506.40	257		
1	2,6-Dimethylnaphthalene	5.77	-0.01	0.00	156	1415951	3,656	1850	E	
1	C2-Naphthalenes				156	0		5.0	U	
1	C3-Naphthalenes				170	0		5.0	U	
1	C4-Naphthalenes				184	0		5.0	U	
2	Acenaphthylene	5.93		0.00	152	574149	855.98	434		
2	Acenaphthene	6.07		0.00	154	304806	762.19	386		
2	Dibenzofuran	6.22		0.00	168	378197	703.08	356		
2	2,3,5-Trimethylnaphthalene	6.38	-0.01	0.00	170	1193731	3,553	1800	E	

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Data File:	J:\MS11\DATA\111609\1116F054.D		**Instrument:** MS11
Acqu Date:	11/17/2009 06:37	**Quant Date:** 11/18/2009 12:48	**Vial:** 2
Run Type:	DMS		**Dilution:** 1.0
Lab ID:	KWG0910535-2 -- K0909140-006DMS		**Soln Conc. Units:** ng/ml

Target Compounds **Final Conc. Units:** ug/Kg Dry Weight

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	Final Conc	Q	Rpt?
2	Fluorene	6.49	-0.01	0.00	166	460238**m**	1,067	541		
2	C1-Fluorenes				180	0		5.0	U	
2	C2-Fluorenes				194	0		5.0	U	
2	C3-Fluorenes				208	0		5.0	U	
2	Pentachlorophenol				266	0**d**		2.9	U	
3	Dibenzothiophene	7.18	-0.01	0.00	184	514025**m**	707.33	359		
3	C1-Dibenzothiophenes				198	0		5.0	U	
3	C2-Dibenzothiophenes				212	0		5.0	U	
3	C3-Dibenzothiophenes				226	0		5.0	U	
3	Phenanthrene	7.28	-0.01	0.00	178	2351864	2,917	1480	E	
3	Anthracene	7.33		0.00	178	534366	693.22	351		
3	Carbazole	7.47		0.00	167	267470	405.95	206		
3	1-Methylphenanthrene	7.78	-0.01	0.00	192	901464	1,562	792		
3	C1-Phenanthrenes/Anthracenes				192	0		5.0	U	
3	C2-Phenanthrenes/Anthracenes				206	0		5.0	U	
3	C3-Phenanthrenes/Anthracenes				220	0		5.0	U	
3	C4-Phenanthrenes/Anthracenes				234	0		5.0	U	
3	Fluoranthene	8.25		0.00	202	2103808	2,376	1200	E	
4	Pyrene	8.45	0.01	0.00	202	2963607**m**	2,056	1040	E	
4	C1-Fluoranthenes/Pyrenes				216	0		5.0	U	
4	C2-Fluoranthenes/Pyrenes				230	0		5.0	U	
4	C3-Fluoranthenes/Pyrenes				244	0		5.0	U	
4	Benz(a)anthracene	9.75		0.00	228	929920**m**	649.98	329		
4	Chrysene	9.81	0.01	0.00	228	1339776**m**	961.39	487		
4	C1-Chrysenes				242	0		5.0	U	
4	C2-Chrysenes				256	0		5.0	U	
4	C3-Chrysenes				270	0		5.0	U	
4	C4-Chrysenes				284	0		5.0	U	
5	Benzo(b)fluoranthene	11.78	0.01	0.00	252	984908	697.26	353		
5	Benzo(k)fluoranthene	11.85	0.01	0.00	252	384356	276.19	140		
5	Benzo(e)pyrene	12.48	0.02	0.00	252	887120	670.63	340		
5	Benzo(a)pyrene	12.63	0.02	0.00	252	697362	521.27	264		
5	Perylene	12.86	0.01	0.00	252	454304	346.42	176		
5	Indeno(1,2,3-cd)pyrene	16.35	0.02	0.00	276	362308	295.20	150		
5	Dibenz(a,h)anthracene	16.42	0.01	0.00	278	167173	126.43	64.1		
5	Benzo(g,h,i)perylene	16.83	0.01	0.00	276	585763	414.39	210		

Prep Amount:	20.17 g	**Dilution:**	1.0
Prep Final Vol:	10 ml	**Unit Factor:**	1
Solids:	97.8 %		

Final Concentration = ((Soln Conc x Prep Final Vol x Dilution) / (Prep Amount x Solids)) x Unit Factor

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Quantitation Report

Bottle ID:		**Tier:**		**Matrix:**	SEDIMENT
Prod Code:	8270C SIM PAH_S	**Collect Date:**		**Receive Date:**	11/12/2009

Analysis Lot:	KWG0910855	**Prep Lot:**	KWG0910535	**Report Group:**	
Analysis Method:	8270C SIM	**Prep Method:**	EPA 3541		
Prep Ref:	865773	**Prep Date:**	11/10/2009		

Quant Method:	J:\MS11\METHODS\SIM\1015ALK.M	**Calibration ID:**	CAL8928
Title:			
Tune Ref:	J:\MS11\DATA\111609\1116F032.D	**Method ID:**	MJ253
MB Ref:	J:\MS11\DATA\111609\1116F004.D	**Quant based on Method**	

Data File:	J:\MS11\DATA\111609\1116F054.D			**Instrument:**	MS11
Acqu Date:	11/17/2009 06:37	**Quant Date:**	11/18/2009 12:48	**Vial:**	2
Run Type:	DMS			**Dilution:**	1.0
Lab ID:	KWG0910535-2 -- K0909140-006DMS			**Soln Conc. Units:**	ng/ml

Internal Standard Compounds

IS Ref	Parameter Name	RT	RT Dev	Quant Mass	Response	Solution Conc	Area Criteria
1	Naphthalene-d8	4.62	-0.01	136	155307	200.00	OK
2	Acenaphthene-d10	6.04	-0.01	164	77297	200.00	OK
3	Phenanthrene-d10	7.26	-0.01	188	143742	200.00	OK
4	Chrysene-d12	9.77	0.01	240	263231	200.00	OK
5	Perylene-d12	12.79	0.01	264	270780	200.00	OK

Surrogate Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	%Rec	%Rec Limits		Rpt?
2	Fluorene-d10	6.47	0.00	0.00	176	60844**m**	168.71	84	17-104	OK	
3	Fluoranthene-d10	8.24	0.00	0.00	212	158380**m**	198.83	99	27-106	OK	
4	Terphenyl-d14	8.59	0.01	0.00	244	116430	106.99	53	35-109	OK	

Target Compounds

Final Conc. Units: ug/Kg Dry Weight

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	Final Conc	Q	Rpt?
1	Naphthalene	4.64	-0.01	0.00	128	1526714	2,136	1080	E	
1	2-Methylnaphthalene	5.20	-0.01	0.00	142	792588	1,609	816		
1	1-Methylnaphthalene	5.28	-0.01	0.00	142	450373	860.07	436		
1	Biphenyl	5.58		0.00	154	284409	506.40	257		
1	2,6-Dimethylnaphthalene	5.77	-0.01	0.00	156	1415951	3,656	1850	E	
1	C2-Naphthalenes				156	0		5.0	U	
1	C3-Naphthalenes				170	0		5.0	U	
1	C4-Naphthalenes				184	0		5.0	U	
2	Acenaphthylene	5.93		0.00	152	574149	855.98	434		
2	Acenaphthene	6.07		0.00	154	304806	762.19	386		
2	Dibenzofuran	6.22		0.00	168	378197	703.08	356		
2	2,3,5-Trimethylnaphthalene	6.38	-0.01	0.00	170	1193731	3,553	1800	E	
2	Fluorene	6.49	-0.01	0.00	166	460238**m**	1,067	541		

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Data File:	J:\MS11\DATA\111609\1116F054.D			**Instrument:**	MS11
Acqu Date:	11/17/2009 06:37	**Quant Date:**	11/18/2009 12:48	**Vial:**	2
Run Type:	DMS			**Dilution:**	1.0
Lab ID:	KWG0910535-2 -- K0909140-006DMS			**Soln Conc. Units:**	ng/ml

Target Compounds **Final Conc. Units:** ug/Kg Dry Weight

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	Final Conc	Q	Rpt?
2	C1-Fluorenes				180	0		5.0	U	
2	C2-Fluorenes				194	0		5.0	U	
2	C3-Fluorenes				208	0		5.0	U	
3	Dibenzothiophene	7.18	-0.01	0.00	184	514025**m**	707.33	359		
3	C1-Dibenzothiophenes				198	0		5.0	U	
3	C2-Dibenzothiophenes				212	0		5.0	U	
3	C3-Dibenzothiophenes				226	0		5.0	U	
3	Phenanthrene	7.28	-0.01	0.00	178	2351864	2,917	1480	E	
3	Anthracene	7.33		0.00	178	534366	693.22	351		
3	Carbazole	7.47		0.00	167	267470	405.95	206		
3	1-Methylphenanthrene	7.78	-0.01	0.00	192	901464	1,562	792		
3	C1-Phenanthrenes/Anthracenes				192	0		5.0	U	
3	C2-Phenanthrenes/Anthracenes				206	0		5.0	U	
3	C3-Phenanthrenes/Anthracenes				220	0		5.0	U	
3	C4-Phenanthrenes/Anthracenes				234	0		5.0	U	
3	Fluoranthene	8.25		0.00	202	2103808	2,376	1200	E	
4	Pyrene	8.45	0.01	0.00	202	2963607**m**	2,056	1040	E	
4	C1-Fluoranthenes/Pyrenes				216	0		5.0	U	
4	Benz(a)anthracene	9.75		0.00	228	929920**m**	649.98	329		
4	Chrysene	9.81	0.01	0.00	228	1339776**m**	961.39	487		
4	C1-Chrysenes				242	0		5.0	U	
4	C2-Chrysenes				256	0		5.0	U	
4	C3-Chrysenes				270	0		5.0	U	
4	C4-Chrysenes				284	0		5.0	U	
5	Benzo(b)fluoranthene	11.78	0.01	0.00	252	984908	697.26	353		
5	Benzo(k)fluoranthene	11.85	0.01	0.00	252	384356	276.19	140		
5	Benzo(e)pyrene	12.48	0.02	0.00	252	887120	670.63	340		
5	Benzo(a)pyrene	12.63	0.02	0.00	252	697362	521.27	264		
5	Perylene	12.86	0.01	0.00	252	454304	346.42	176		
5	Indeno(1,2,3-cd)pyrene	16.35	0.02	0.00	276	362308	295.20	150		
5	Dibenz(a,h)anthracene	16.42	0.01	0.00	278	167173	126.43	64.1		
5	Benzo(g,h,i)perylene	16.83	0.01	0.00	276	585763	414.39	210		

Prep Amount:	20.17 g	**Dilution:**	1.0
Prep Final Vol:	10 ml	**Unit Factor:**	1
Solids:	97.8 %		

Final Concentration = ((Soln Conc x Prep Final Vol x Dilution) / (Prep Amount x Solids)) x Unit Factor

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\111609\1116F054.D
Acq On : 17 Nov 2009 6:37 am
Sample : K0909140-006DMS
Misc :
MS Integration Params: RTEINT.P
Quant Time: Nov 18 12:17:59 2009

Vial: 2
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00
Quant Results File: 1015ALK.RES

Quant Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Wed Nov 18 12:17:22 2009
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	4.62	136	155307	200.00	ng/ml	0.00
10) Acenaphthene-d10	6.04	164	77297	200.00	ng/ml	0.00
22) Phenanthrene-d10	7.26	188	143742	200.00	ng/ml	0.00
37) Chrysene-d12	9.77	240	263231	200.00	ng/ml	0.02
49) Perylene-d12	12.79	264	270780	200.00	ng/ml	0.03
System Monitoring Compounds						
15) Fluorene-d10	6.47	176	60844m	168.71	ng/ml	0.00
Spiked Amount 200.000			Recovery = 84.36%			
20) 2,4,6 Tribromophenol	0.00	330	0d	0.00	ng/ml	
Spiked Amount 375.000			Recovery = 0.00%			
36) Fluoranthene-d10	8.24	212	158380m	198.83	ng/ml	0.00
Spiked Amount 200.000			Recovery = 99.42%			
42) Terphenyl-d14	8.59	244	116430	106.99	ng/ml	0.00
Spiked Amount 200.000			Recovery = 53.49%			
Target Compounds						Qvalue
2) Naphthalene	4.64	128	1526714	2136.22	ng/ml	94
3) 2-Methylnaphthalene	5.20	142	792588	1609.18	ng/ml	93
4) 1-Methylnaphthalene	5.28	142	450373	860.07	ng/ml	95
5) Biphenyl	5.58	154	284409	506.40	ng/ml	99
6) 2,6-Dimethylnaphthalene	5.77	156	1415951	3656.21	ng/ml	91
11) Acenaphthylene	5.93	152	574149	855.98	ng/ml	87
12) Acenaphthene	6.07	154	304806	762.19	ng/ml	90
13) Dibenzofuran	6.22	168	378197	703.08	ng/ml	73
14) 2,3,5-Trimethylnaphthalene	6.38	170	1193731	3553.47	ng/ml	96
16) Fluorene	6.49	166	460238m	1067.41	ng/ml	
23) Dibenzothiophene	7.18	184	514025m	707.33	ng/ml	
27) Phenanthrene	7.28	178	2351864	2917.29	ng/ml	96
28) Anthracene	7.33	178	534366	693.22	ng/ml	97
29) Carbazole	7.47	167	267470	405.95	ng/ml	92
30) 1-Methylphenanthrene	7.78	192	901464	1561.65	ng/ml	92
35) Fluoranthene	8.25	202	2103808	2375.56	ng/ml	90
38) Pyrene	8.45	202	2963607m	2056.08	ng/ml	
43) Benz(a)anthracene	9.75	228	929920m	649.98	ng/ml	
44) Chrysene	9.81	228	1339776m	961.39	ng/ml	
50) Benzo(b)fluoranthene	11.78	252	984908	697.26	ng/ml	100
51) Benzo(k)fluoranthene	11.85	252	384356	276.19	ng/ml	95
52) Benzo(e)pyrene	12.48	252	887120	670.63	ng/ml	97
53) Benzo(a)pyrene	12.63	252	697362	521.27	ng/ml	99
54) Perylene	12.86	252	454304	346.42	ng/ml	99
55) Indeno(1,2,3-cd)pyrene	16.35	276	362308	295.20	ng/ml	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\111609\1116F054.D Vial: 2
Acq On : 17 Nov 2009 6:37 am Operator: LWeiskopf
Sample : K0909140-006DMS Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 18 12:17:59 2009 Quant Results File: 1015ALK.RES

Quant Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Wed Nov 18 12:17:22 2009
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
56)	Dibenz(a,h)anthracene	16.42	278	167173	126.43	ng/ml	89
57)	Benzo(g,h,i)perylene	16.83	276	585763	414.39	ng/ml	99

(#) = qualifier out of range (m) = manual integration

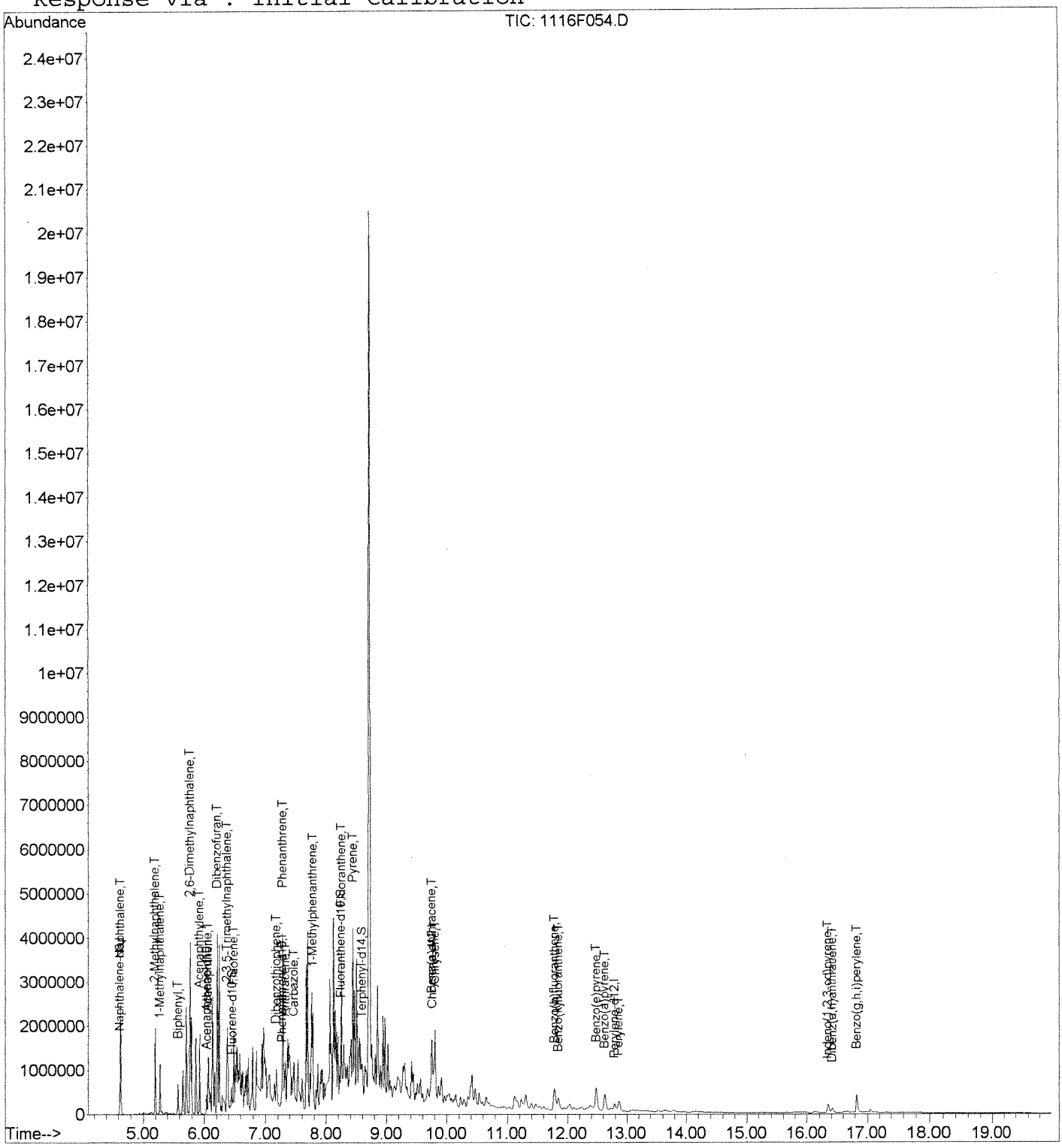
Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\111609\1116F054.D
Acq On : 17 Nov 2009 6:37 am
Sample : K0909140-006DMS
Misc :
MS Integration Params: RTEINT.P
Quant Time: Nov 18 12:48 2009

Vial: 2
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00

Quant Results File: 1015ALK.RES

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Tue Nov 17 11:03:16 2009
Response via : Initial Calibration



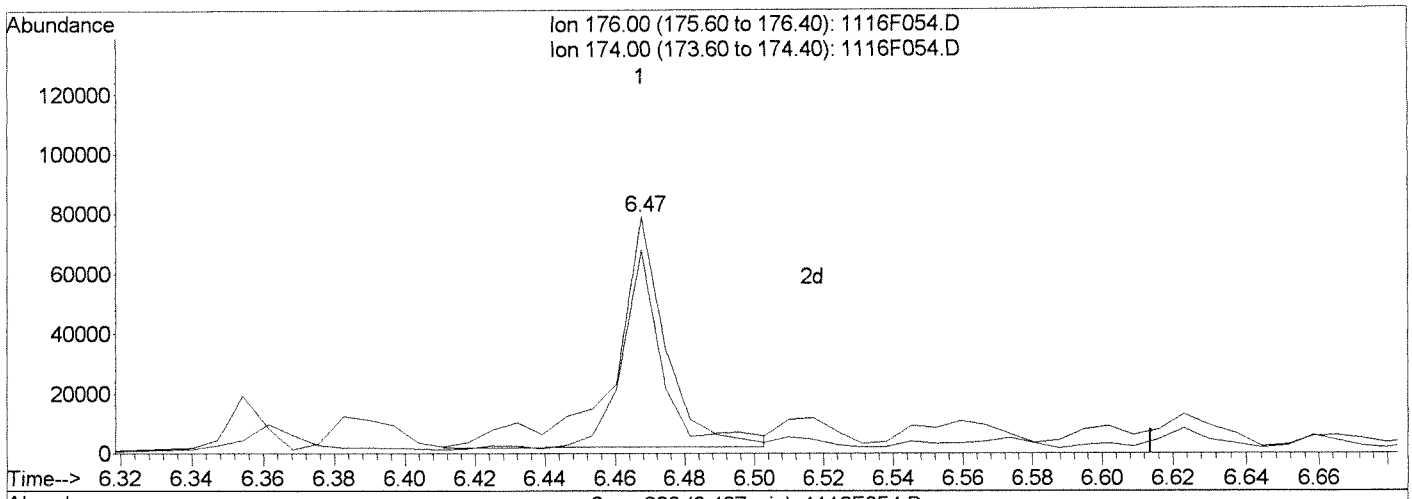
Quantitation Report (Qedit)

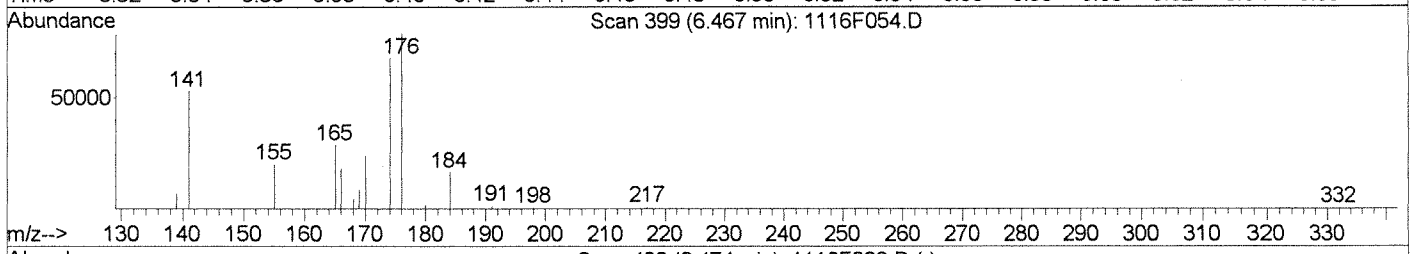
Data File : J:\MS11\DATA\111609\1116F054.D
Acq On : 17 Nov 2009 6:37 am
Sample : K0909140-006DMS
Misc :
MS Integration Params: RTEINT.P
Quant Time: Nov 18 12:18 2009

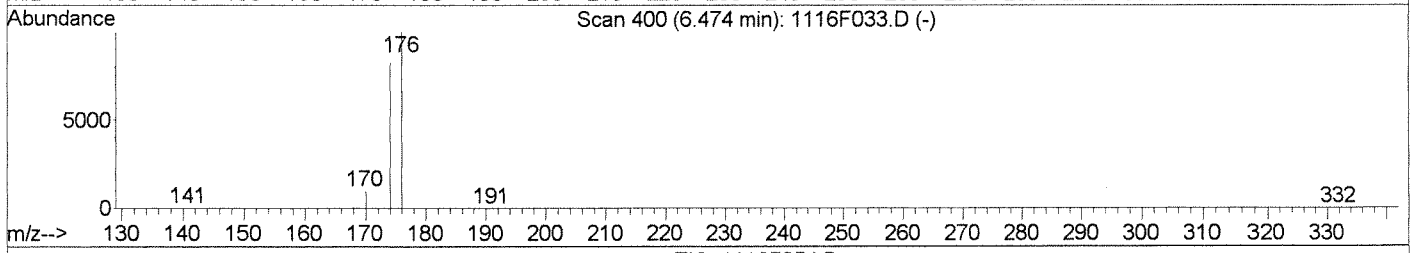
Vial: 2
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Tue Nov 17 11:03:16 2009
Response via : Multiple Level Calibration







TIC: 1116F054.D

(15) Fluorene-d10 (S)

6.47min 230.85ng/ml

response 83253

Ion	Exp%	Act%
176.00	100	100
174.00	85.50	86.84
0.00	0.00	0.00
0.00	0.00	0.00

1116F054.D 1015ALK.M Wed Nov 18 12:47:16 2009

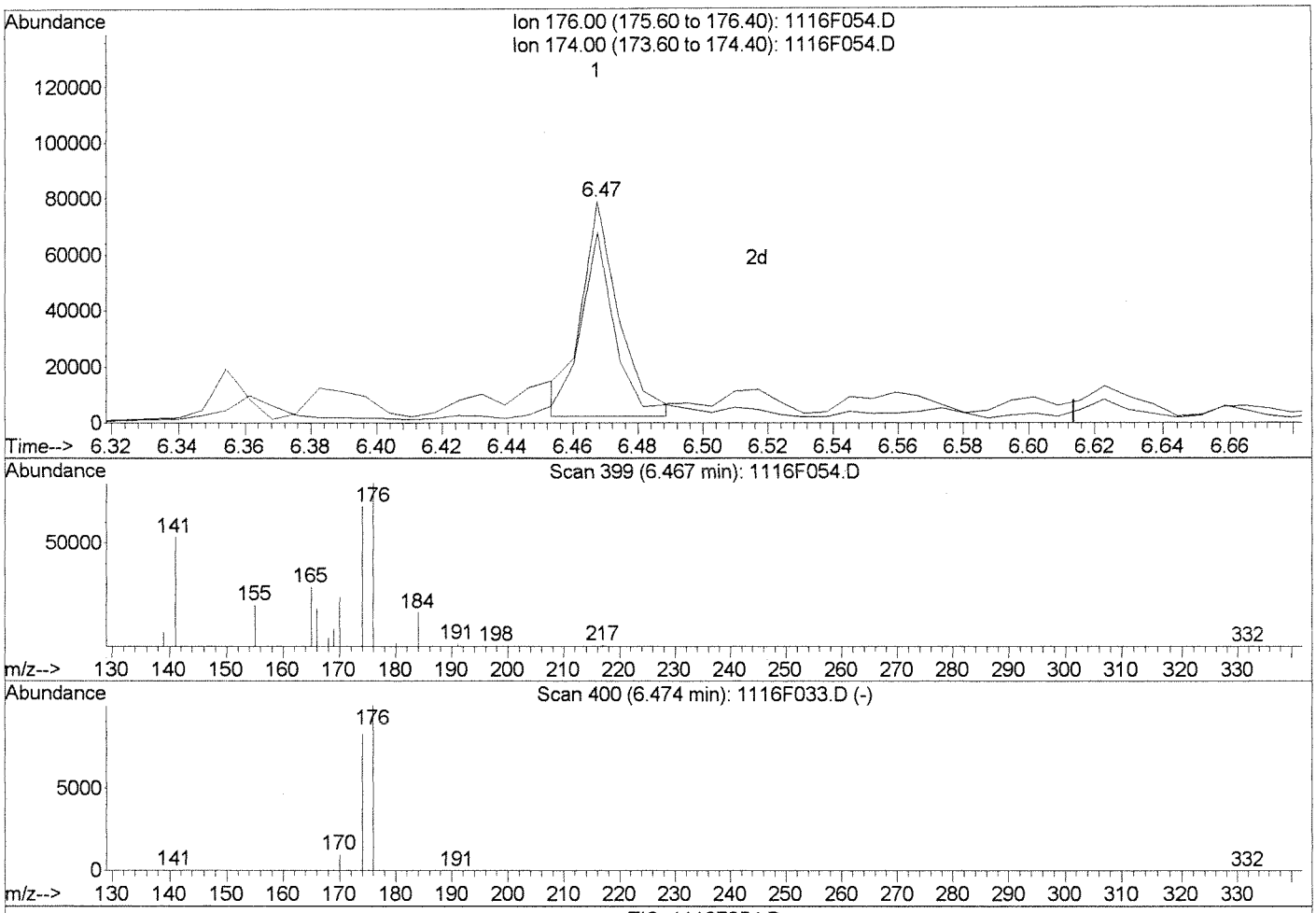
Quantitation Report (Qedit)

Data File : J:\MS11\DATA\111609\1116F054.D
Acq On : 17 Nov 2009 6:37 am
Sample : K0909140-006DMS
Misc :
MS Integration Params: RTEINT.P
Quant Time: Nov 18 12:47 2009

Vial: 2
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Tue Nov 17 11:03:16 2009
Response via : Multiple Level Calibration



TIC: 1116F054.D

(15) Fluorene-d10 (S)

6.47min 168.71ng/ml m

response 60844

Ion	Exp%	Act%
176.00	100	100
174.00	85.50	85.92
0.00	0.00	0.00
0.00	0.00	0.00

OI 11/18/09

11-19-09

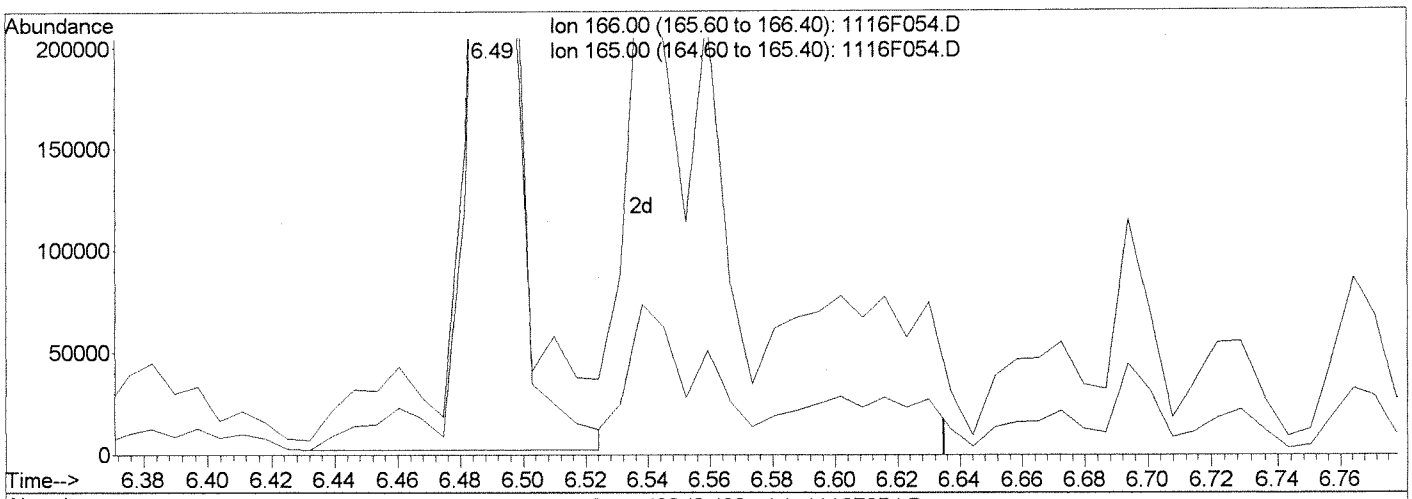
1116F054.D 1015ALK.M Wed Nov 18 12:47:20 2009

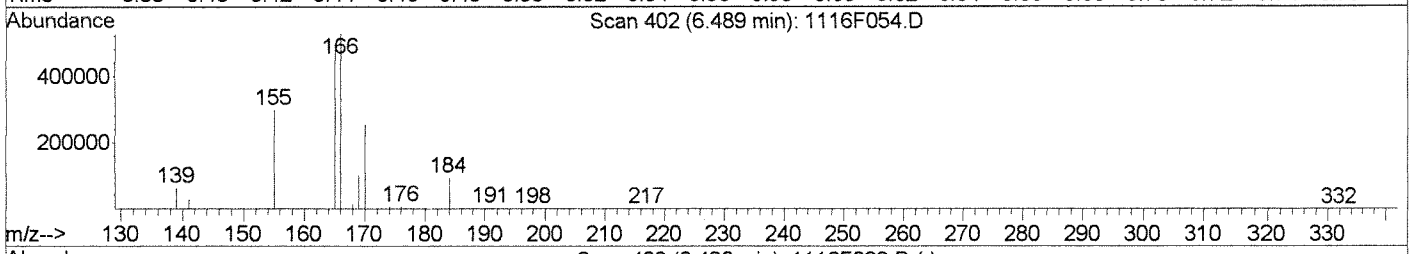
Quantitation Report (Qedit)

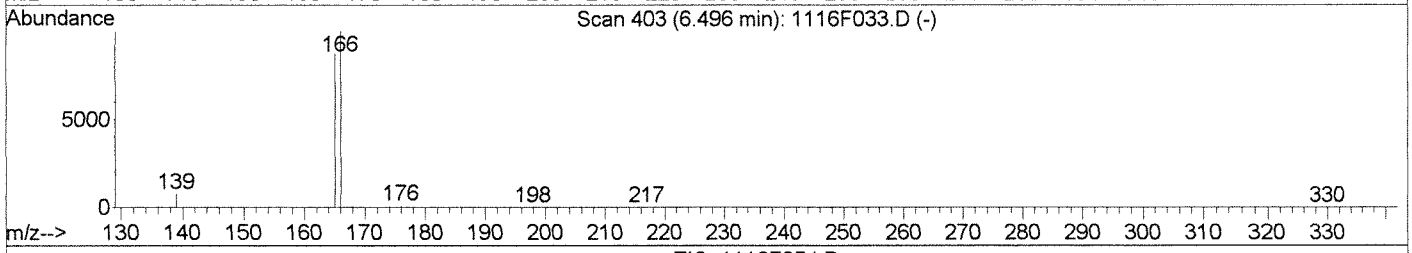
Data File : J:\MS11\DATA\111609\1116F054.D
Acq On : 17 Nov 2009 6:37 am
Sample : K0909140-006DMS
Misc :
MS Integration Params: RTEINT.P
Quant Time: Nov 18 12:47 2009

Vial: 2
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Tue Nov 17 11:03:16 2009
Response via : Multiple Level Calibration







TIC: 1116F054.D

(16) Fluorene (T)

6.49min 1135.35ng/ml

response 489533

Ion	Exp%	Act%
166.00	100	100
165.00	87.80	93.75
0.00	0.00	0.00
0.00	0.00	0.00

1116F054.D 1015ALK.M Wed Nov 18 12:47:23 2009

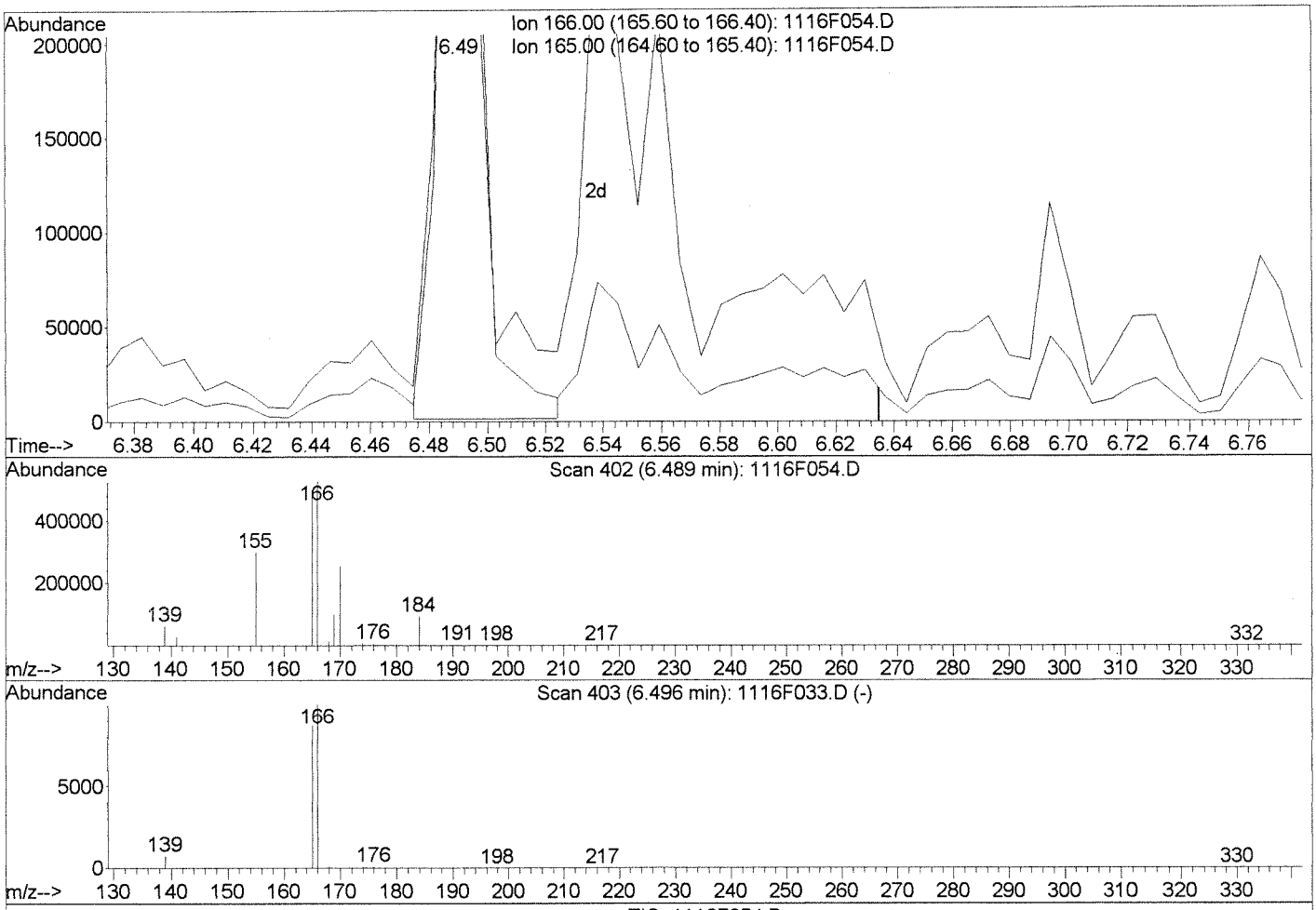
Quantitation Report (Qedit)

Data File : J:\MS11\DATA\111609\1116F054.D
Acq On : 17 Nov 2009 6:37 am
Sample : K0909140-006DMS
Misc :
MS Integration Params: RTEINT.P
Quant Time: Nov 18 12:47 2009

Vial: 2
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Tue Nov 17 11:03:16 2009
Response via : Multiple Level Calibration



TIC: 1116F054.D

(16) Fluorene (T)

6.49min 1067.41ng/ml m

response 460238

Ion	Exp%	Act%
166.00	100	100
165.00	87.80	94.70
0.00	0.00	0.00
0.00	0.00	0.00

OT 11/18/09
11-19-09

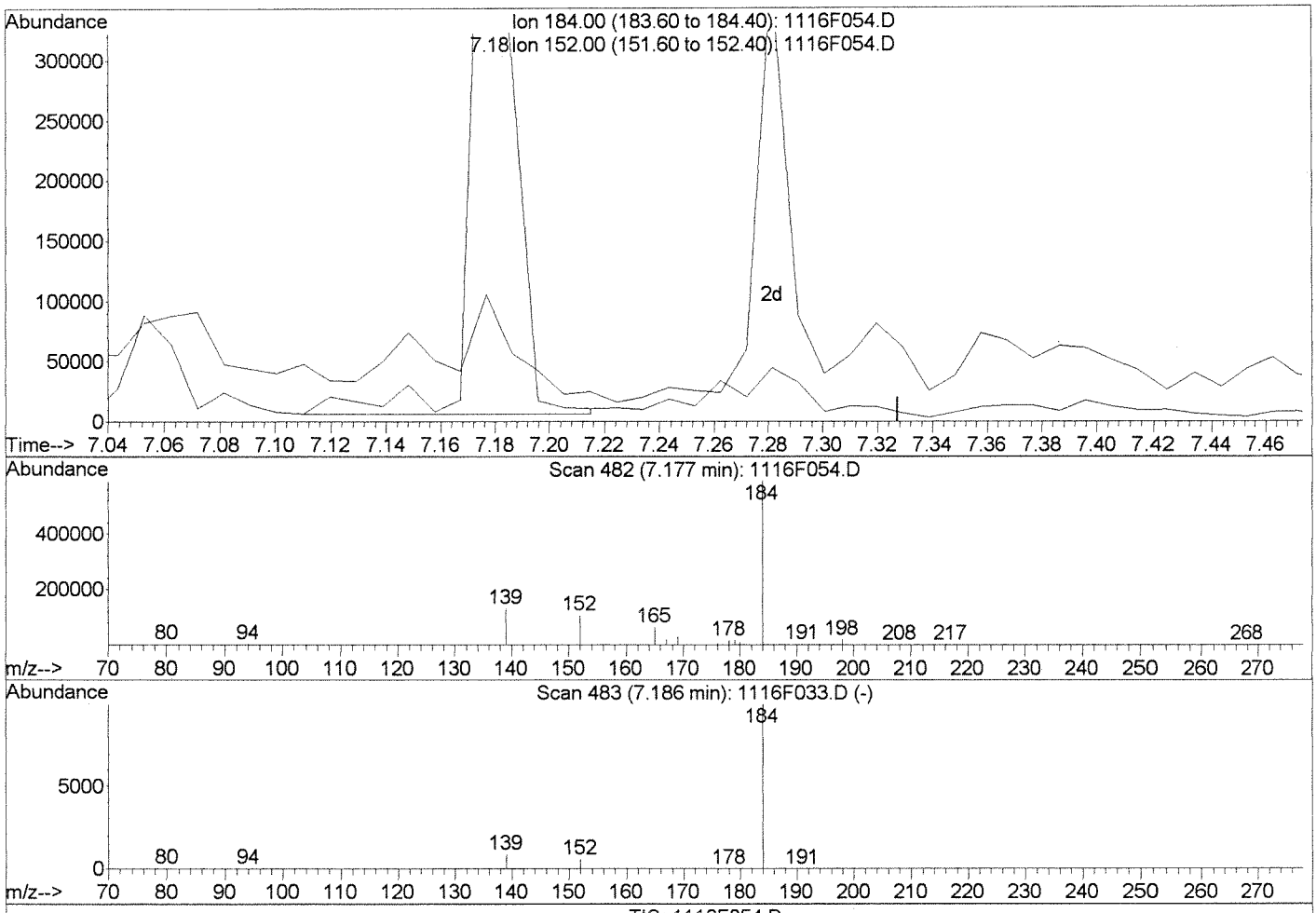
Quantitation Report (Qedit)

Data File : J:\MS11\DATA\111609\1116F054.D
Acq On : 17 Nov 2009 6:37 am
Sample : K0909140-006DMS
Misc :
MS Integration Params: RTEINT.P
Quant Time: Nov 18 12:47 2009

Vial: 2
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Tue Nov 17 11:03:16 2009
Response via : Multiple Level Calibration



(23) Dibenzothiophene (T)

7.18min 759.19ng/ml

response 551713

Ion	Exp%	Act%
184.00	100	100
152.00	9.40	13.85
0.00	0.00	0.00
0.00	0.00	0.00

1116F054.D 1015ALK.M Wed Nov 18 12:47:34 2009

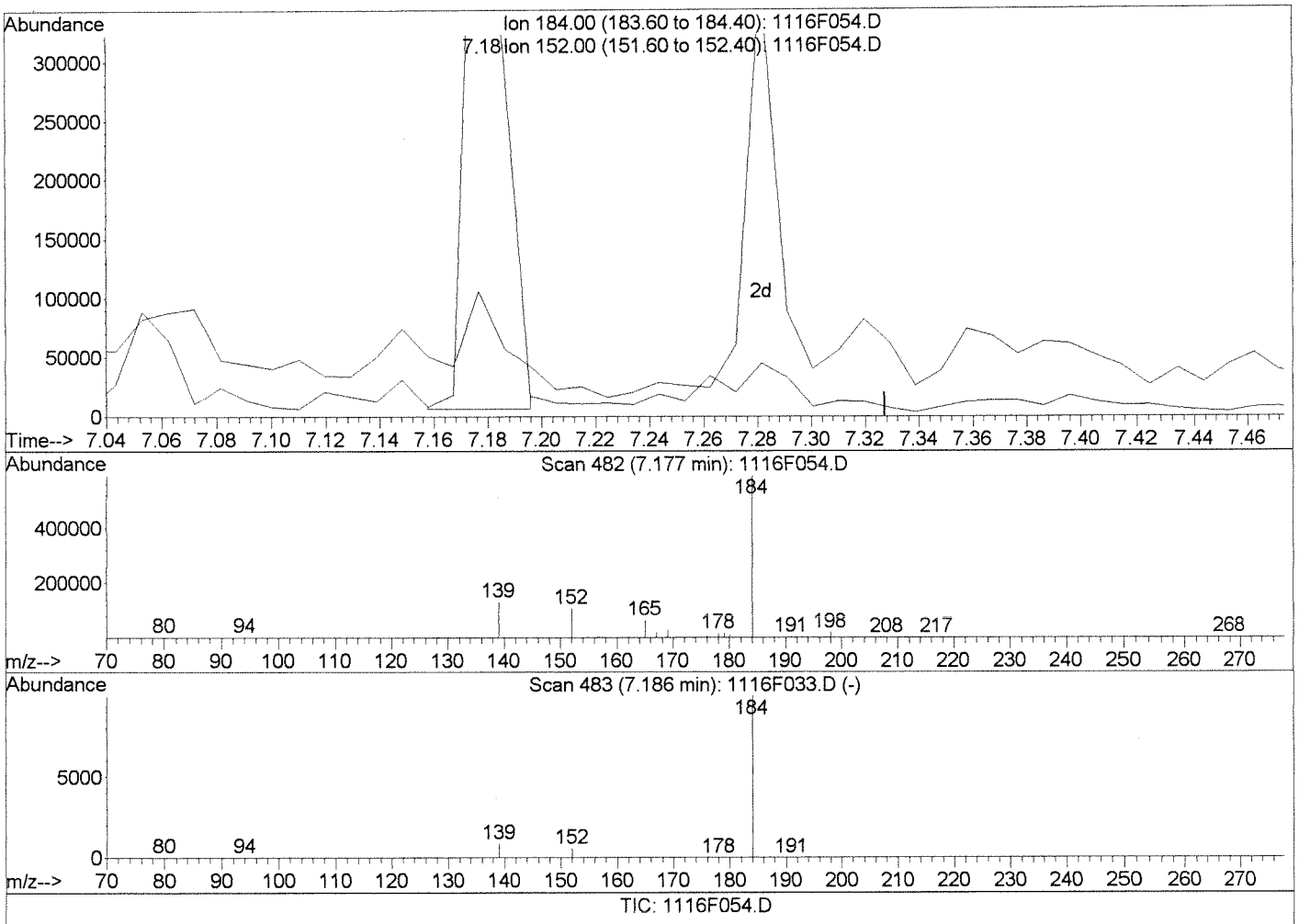
Quantitation Report (Qedit)

Data File : J:\MS11\DATA\111609\1116F054.D
Acq On : 17 Nov 2009 6:37 am
Sample : K0909140-006DMS
Misc :
MS Integration Params: RTEINT.P
Quant Time: Nov 18 12:47 2009

Vial: 2
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Tue Nov 17 11:03:16 2009
Response via : Multiple Level Calibration



TIC: 1116F054.D

(23) Dibenzothiophene (T)

7.18min 707.33ng/ml m

response 514025

Ion	Exp%	Act%
184.00	100	100
152.00	9.40	17.92
0.00	0.00	0.00
0.00	0.00	0.00

DF 11/18/09

11/19/09

1116F054.D 1015ALK.M Wed Nov 18 12:47:38 2009

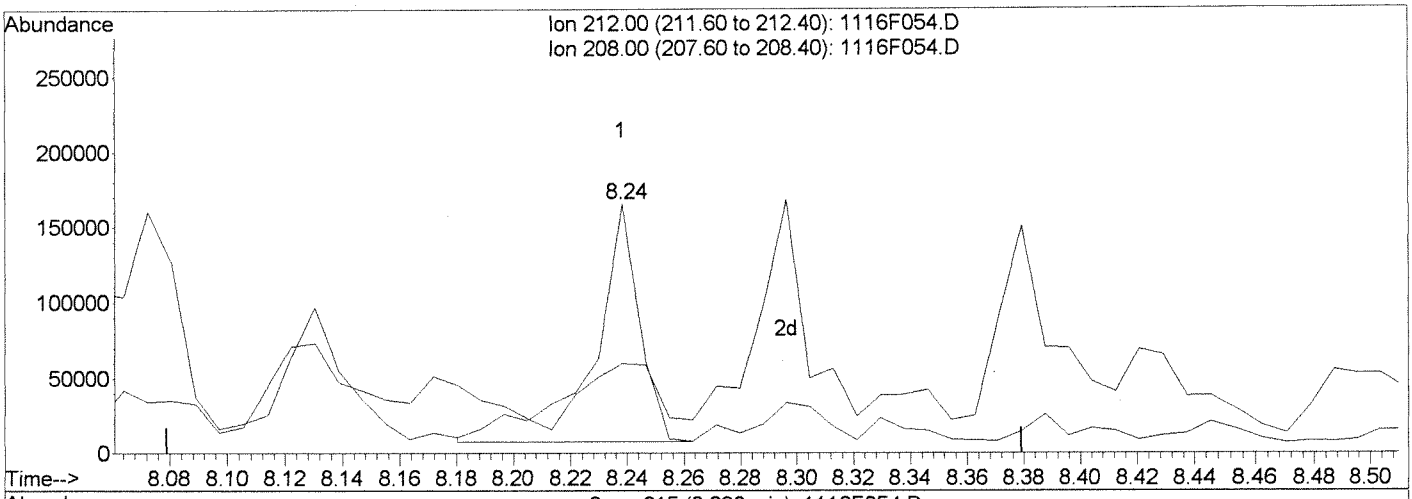
Quantitation Report (Qedit)

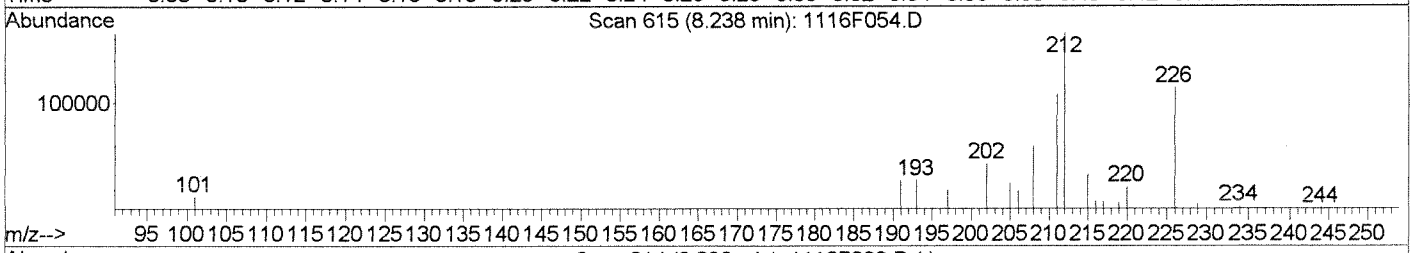
Data File : J:\MS11\DATA\111609\1116F054.D
Acq On : 17 Nov 2009 6:37 am
Sample : K0909140-006DMS
Misc :
MS Integration Params: RTEINT.P
Quant Time: Nov 18 12:47 2009

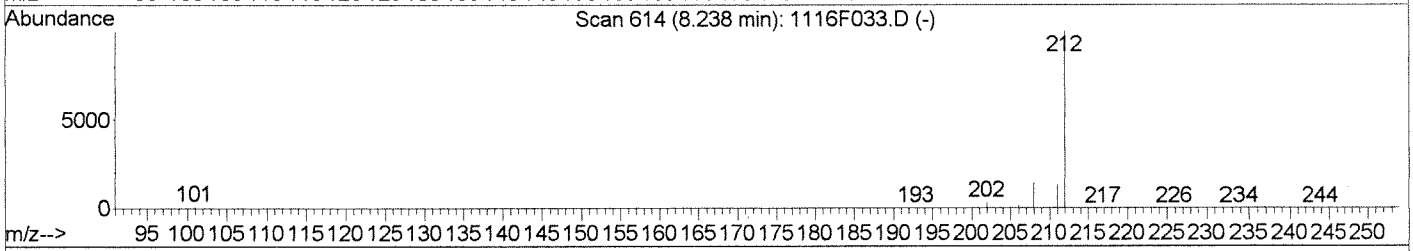
Vial: 2
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Tue Nov 17 11:03:16 2009
Response via : Multiple Level Calibration







TIC: 1116F054.D

(36) Fluoranthene-d10 (S)

8.24min 228.96ng/ml

response 182380

Ion	Exp%	Act%
212.00	100	100
208.00	15.50	23.87
0.00	0.00	0.00
0.00	0.00	0.00

1116F054.D 1015ALK.M Wed Nov 18 12:47:45 2009

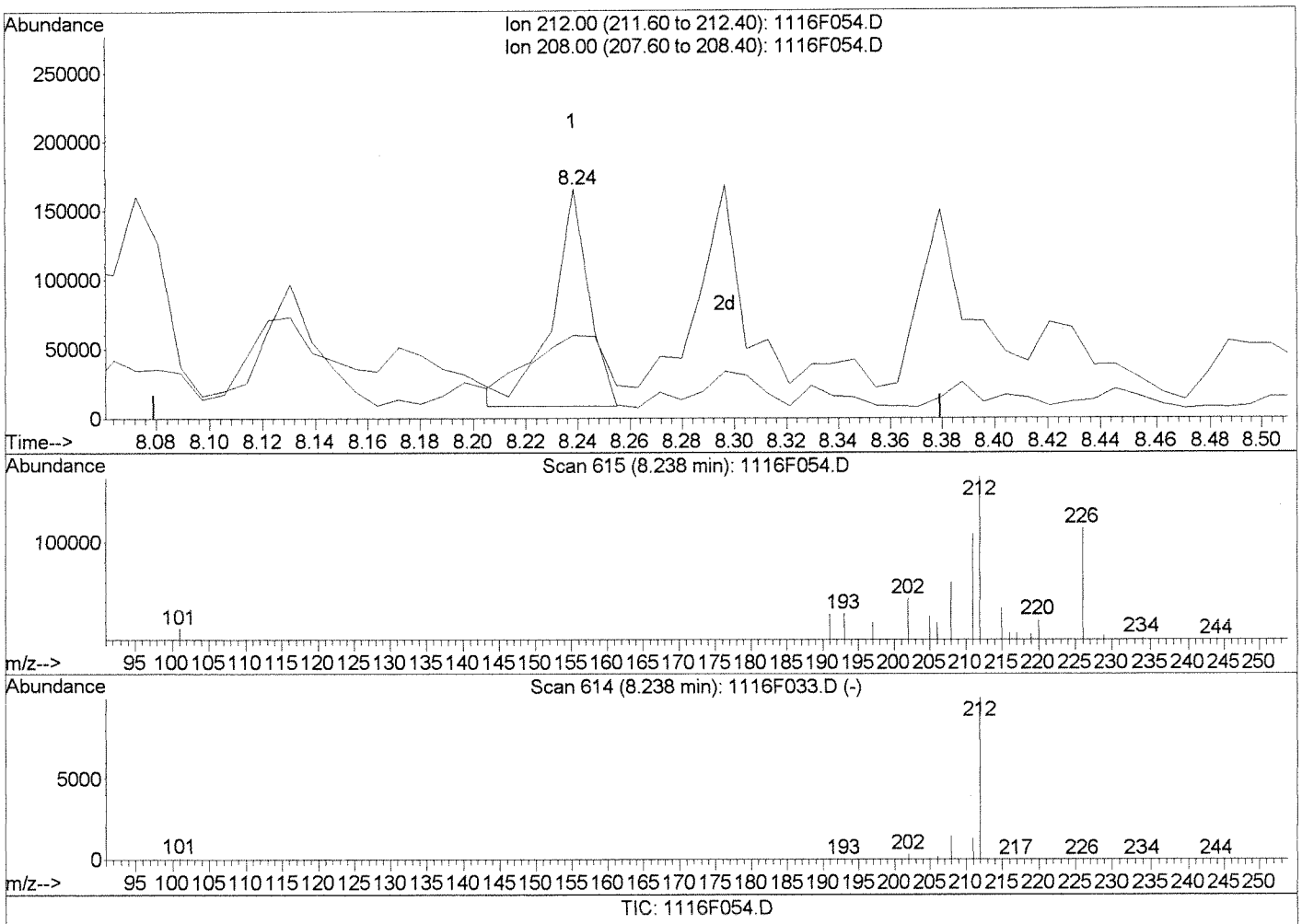
Quantitation Report (Qedit)

Data File : J:\MS11\DATA\111609\1116F054.D
Acq On : 17 Nov 2009 6:37 am
Sample : K0909140-006DMS
Misc :
MS Integration Params: RTEINT.P
Quant Time: Nov 18 12:47 2009

Vial: 2
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Tue Nov 17 11:03:16 2009
Response via : Multiple Level Calibration



TIC: 1116F054.D

(36) Fluoranthene-d10 (S)

8.24min 198.83ng/ml m

response 158380

Ion	Exp%	Act%
212.00	100	100
208.00	15.50	36.10
0.00	0.00	0.00
0.00	0.00	0.00

OK 11/18/09
M 11-19-09

1116F054.D 1015ALK.M Wed Nov 18 12:47:49 2009

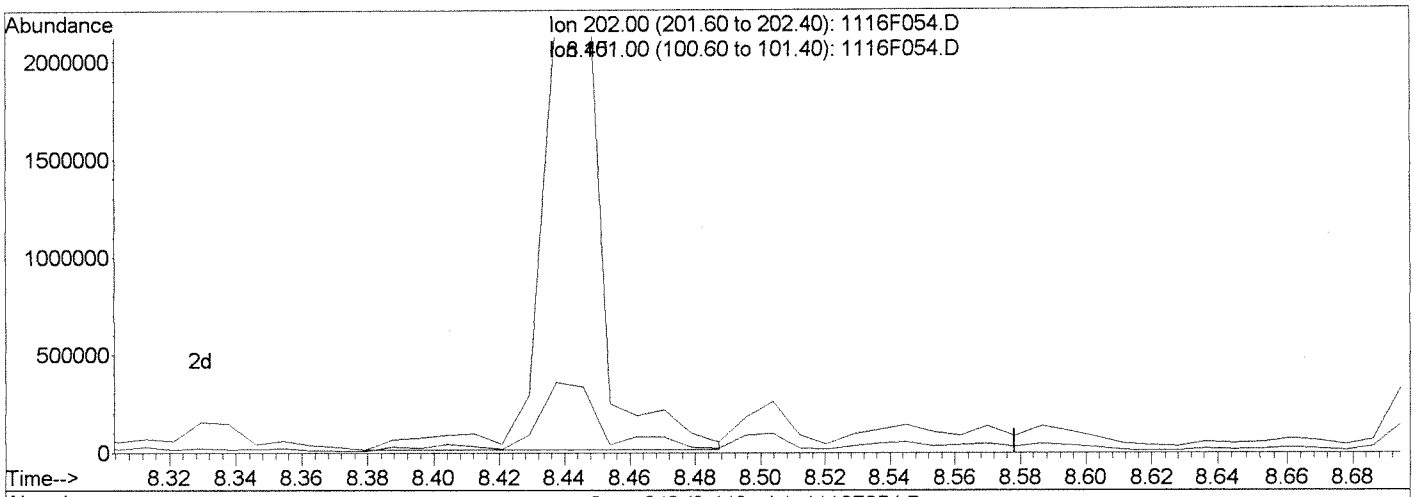
Quantitation Report (Qedit)

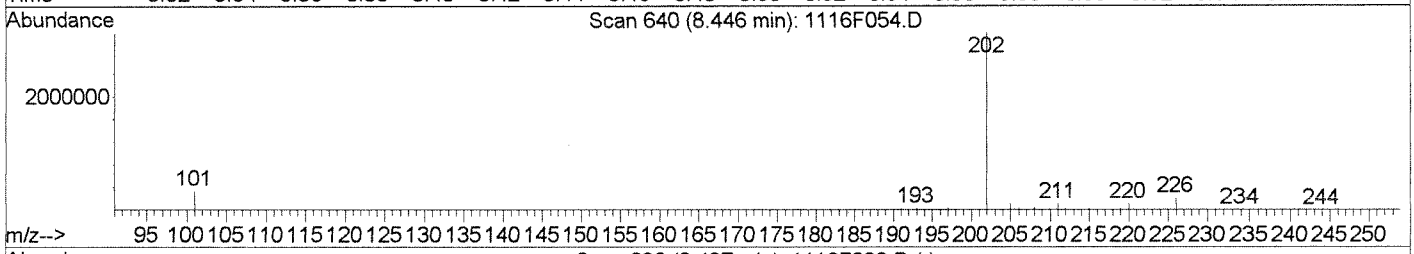
Data File : J:\MS11\DATA\111609\1116F054.D
Acq On : 17 Nov 2009 6:37 am
Sample : K0909140-006DMS
Misc :
MS Integration Params: RTEINT.P
Quant Time: Nov 18 12:47 2009

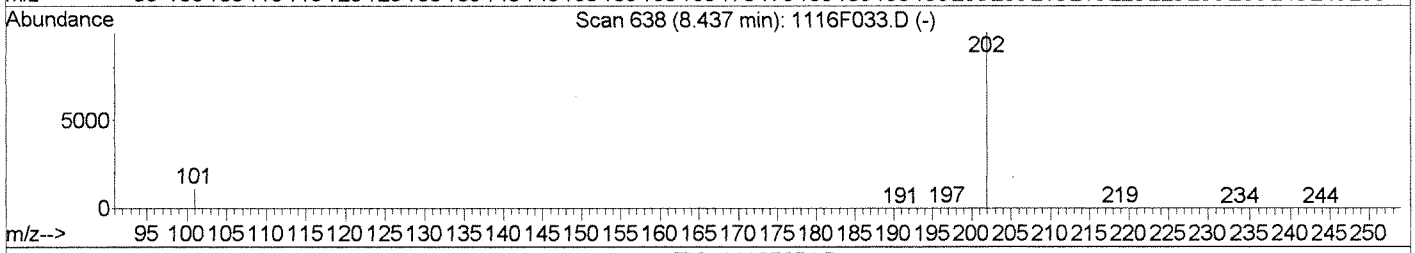
Vial: 2
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Tue Nov 17 11:03:16 2009
Response via : Multiple Level Calibration







TIC: 1116F054.D

(38) Pyrene (T)

8.45min 2270.06ng/ml

response 3272040

Ion	Exp%	Act%
202.00	100	100
101.00	6.40	10.53
0.00	0.00	0.00
0.00	0.00	0.00

1116F054.D 1015ALK.M Wed Nov 18 12:47:54 2009

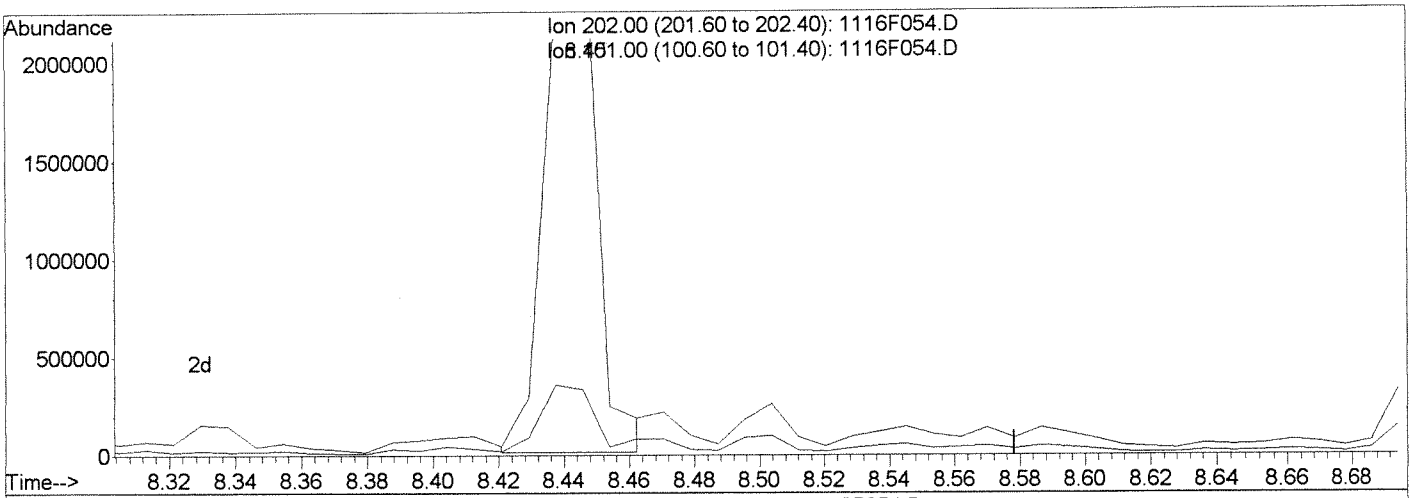
Quantitation Report (Qedit)

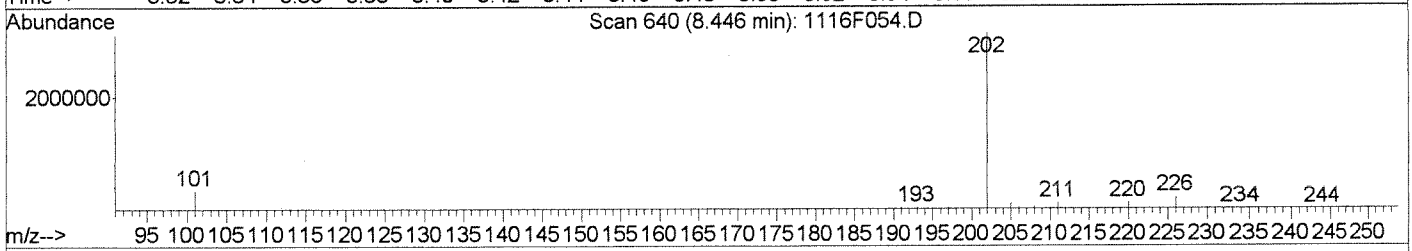
Data File : J:\MS11\DATA\111609\1116F054.D
Acq On : 17 Nov 2009 6:37 am
Sample : K0909140-006DMS
Misc :
MS Integration Params: RTEINT.P
Quant Time: Nov 18 12:47 2009

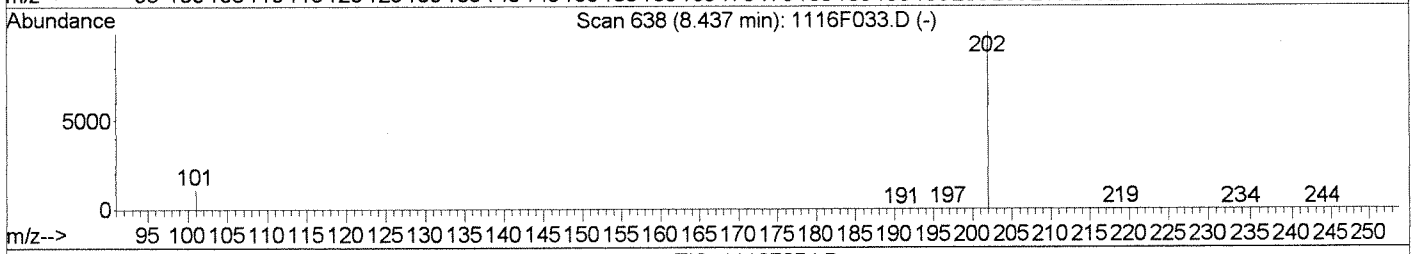
Vial: 2
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Tue Nov 17 11:03:16 2009
Response via : Multiple Level Calibration







TIC: 1116F054.D

(38) Pyrene (T)

8.45min 2056.08ng/ml m

response 2963607

Ion	Exp%	Act%
202.00	100	100
101.00	6.40	10.75
0.00	0.00	0.00
0.00	0.00	0.00

OI 11/18/09

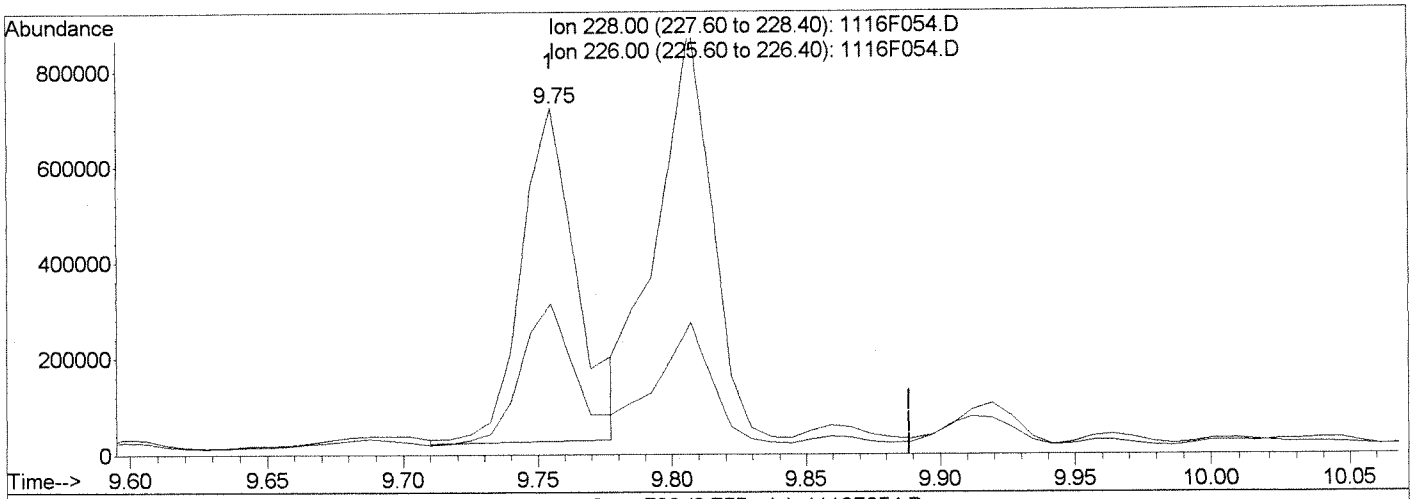
1116F054.D 1015ALK.M Wed Nov 18 12:47:59 2009

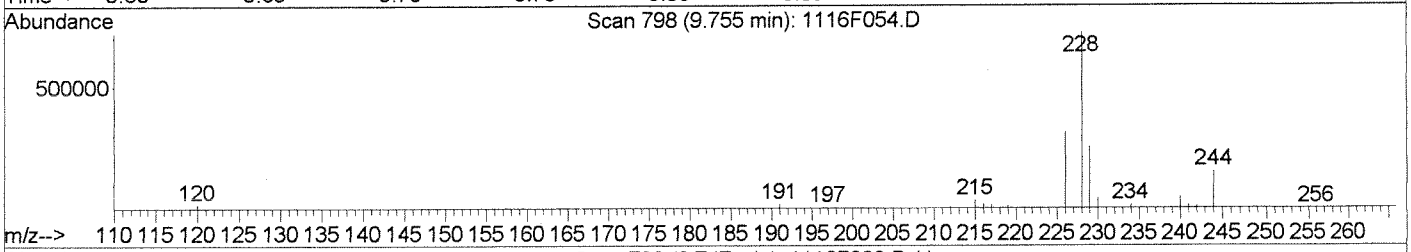
Data File : J:\MS11\DATA\111609\1116F054.D
Acq On : 17 Nov 2009 6:37 am
Sample : K0909140-006DMS
Misc :
MS Integration Params: RTEINT.P
Quant Time: Nov 18 12:47 2009

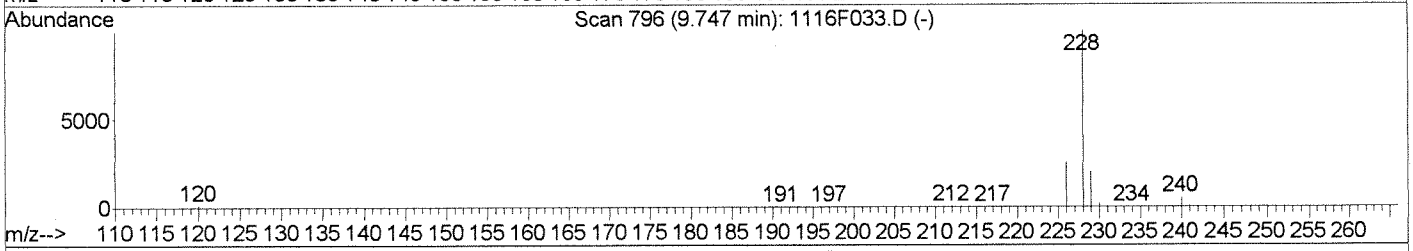
Vial: 2
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Tue Nov 17 11:03:16 2009
Response via : Multiple Level Calibration







TIC: 1116F054.D

(43) Benz(a)anthracene (T)

9.75min 700.21ng/ml

response 1001782

Ion	Exp%	Act%
228.00	100	100
226.00	25.90	42.38
0.00	0.00	0.00
0.00	0.00	0.00

1116F054.D 1015ALK.M Wed Nov 18 12:48:05 2009

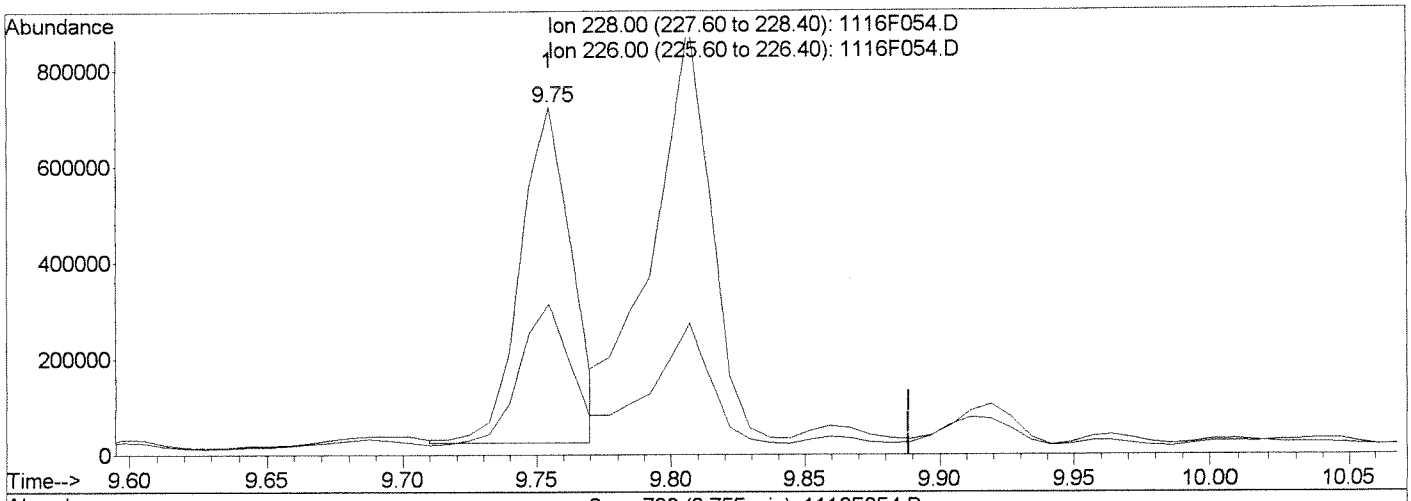
Quantitation Report (Qedit)

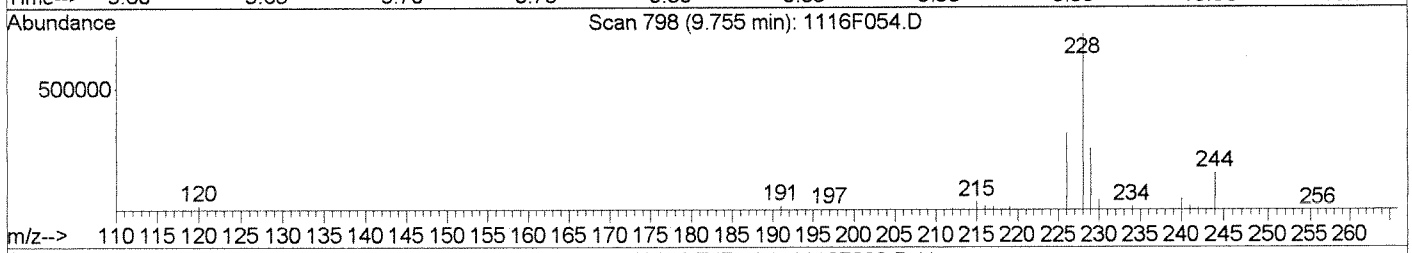
Data File : J:\MS11\DATA\111609\1116F054.D
Acq On : 17 Nov 2009 6:37 am
Sample : K0909140-006DMS
Misc :
MS Integration Params: RTEINT.P
Quant Time: Nov 18 12:48 2009

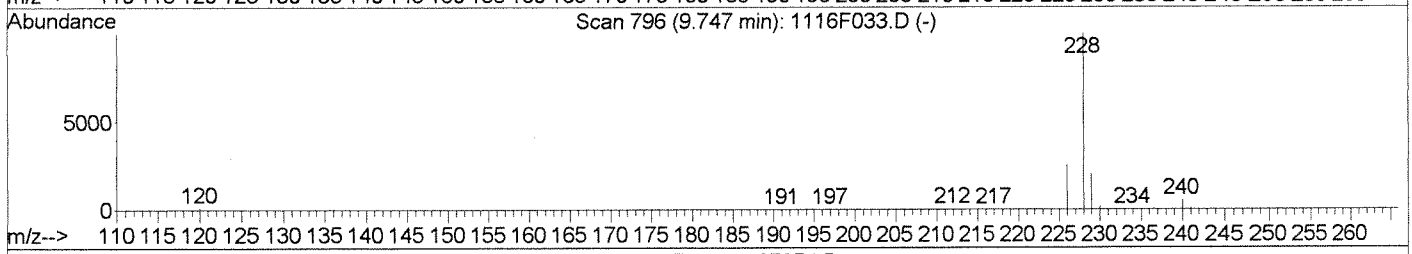
Vial: 2
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Tue Nov 17 11:03:16 2009
Response via : Multiple Level Calibration







TIC: 1116F054.D

(43) Benz(a)anthracene (T)

9.75min 649.98ng/ml m

response 929920

Ion	Exp%	Act%
228.00	100	100
226.00	25.90	43.38
0.00	0.00	0.00
0.00	0.00	0.00

D.I 11/18/09
11-19-09

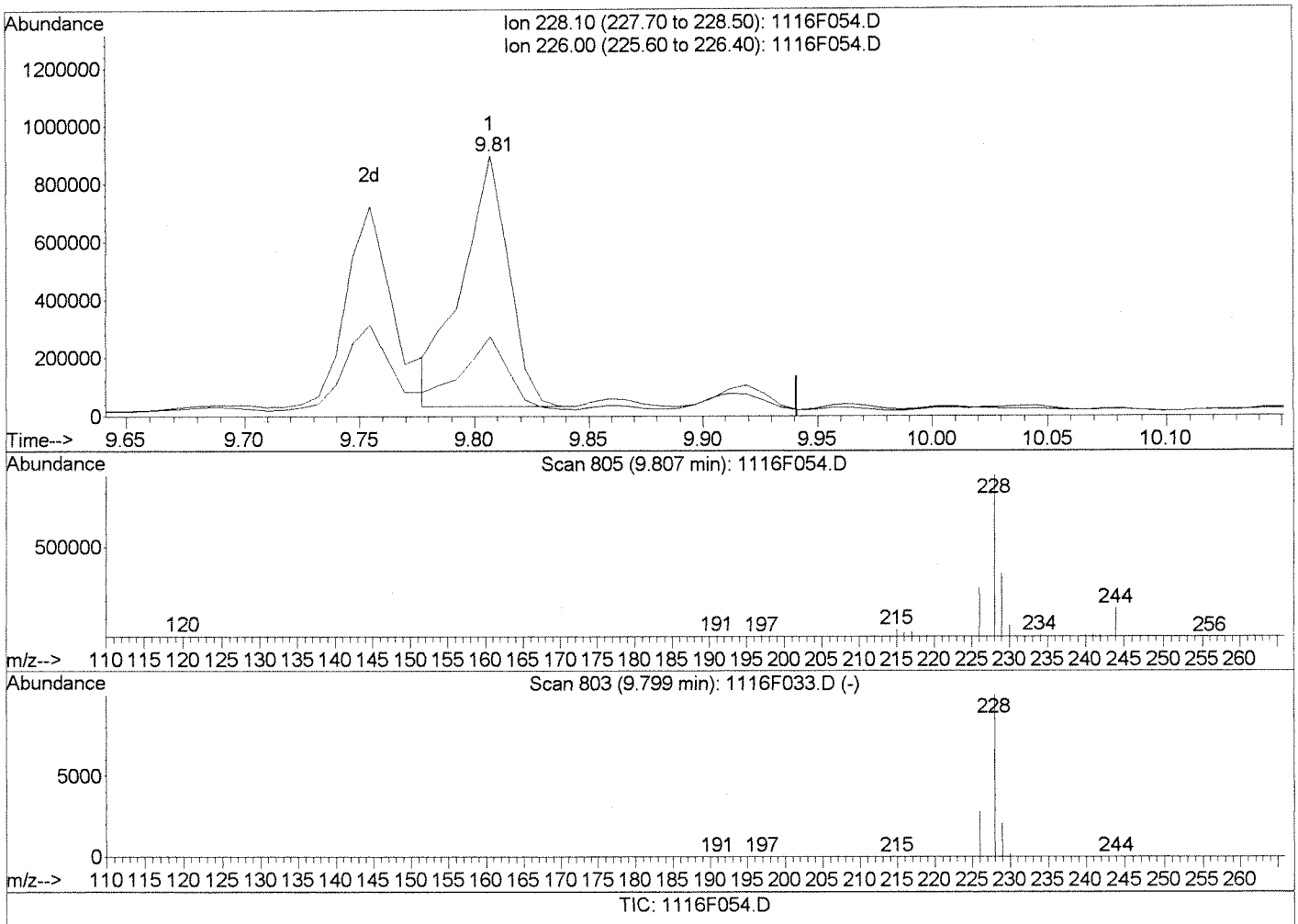
1116F054.D 1015ALK.M Wed Nov 18 12:48:12 2009

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\111609\1116F054.D
Acq On : 17 Nov 2009 6:37 am
Sample : K0909140-006DMS
Misc :
MS Integration Params: RTEINT.P
Quant Time: Nov 18 12:48 2009

Vial: 2
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Tue Nov 17 11:03:16 2009
Response via : Multiple Level Calibration



TIC: 1116F054.D

(44) Chrysene (T)

9.81min 871.14ng/ml

response 1214011

Ion	Exp%	Act%
228.10	100	100
226.00	28.80	28.95
0.00	0.00	0.00
0.00	0.00	0.00

1116F054.D 1015ALK.M Wed Nov 18 12:48:17 2009

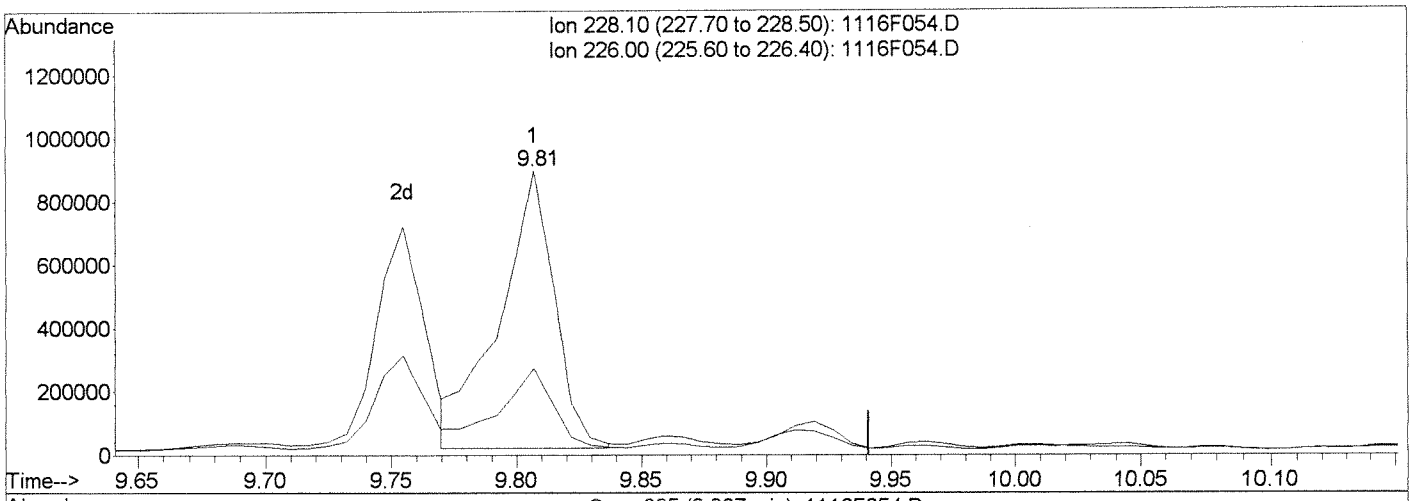
Quantitation Report (Qedit)

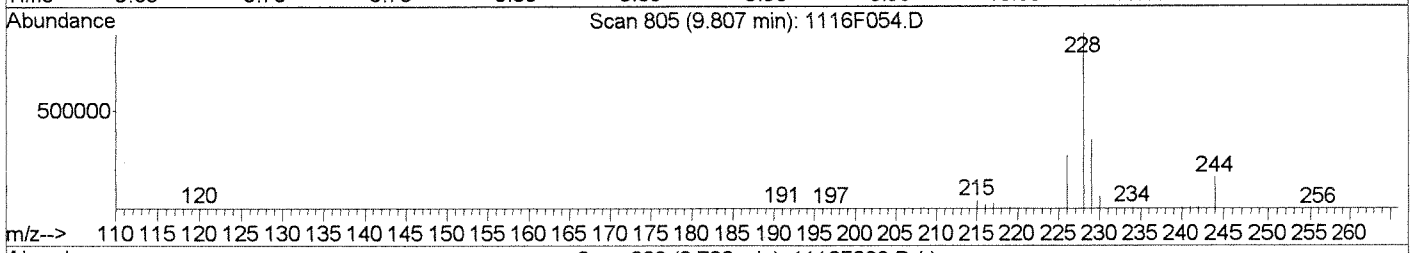
Data File : J:\MS11\DATA\111609\1116F054.D
Acq On : 17 Nov 2009 6:37 am
Sample : K0909140-006DMS
Misc :
MS Integration Params: RTEINT.P
Quant Time: Nov 18 12:48 2009

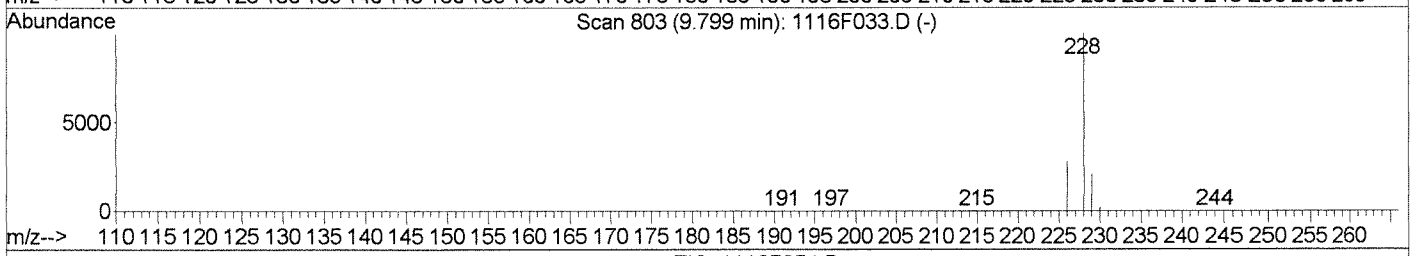
Vial: 2
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Tue Nov 17 11:03:16 2009
Response via : Multiple Level Calibration







TIC: 1116F054.D

(44) Chrysene (T)

9.81min 961.39ng/ml m

response 1339776

Ion	Exp%	Act%
228.10	100	100
226.00	28.80	30.41
0.00	0.00	0.00
0.00	0.00	0.00

EC 11/18/09
M 11-19-09

1116F054.D 1015ALK.M Wed Nov 18 12:48:22 2009

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	URS Corporation	**Service Request:**	K0909140
Project:	Boise St. Helens Pulp and Paper Mill-2009	**Date Collected:**	NA
Sample Matrix:	Sediment	**Date Received:**	NA

Polynuclear Aromatic Hydrocarbons

Sample Name:	Lab Control Sample	**Units:**	ug/Kg
Lab Code:	KWG0910535-5	**Basis:**	Dry
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270C SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Naphthalene	**302**		5.0	0.60	1	11/10/09	11/20/09	KWG0910535	
2-Methylnaphthalene	**273**		5.0	0.46	1	11/10/09	11/20/09	KWG0910535	
Acenaphthylene	**321**		5.0	0.56	1	11/10/09	11/20/09	KWG0910535	
Acenaphthene	**326**		5.0	0.50	1	11/10/09	11/20/09	KWG0910535	
Fluorene	**334**		5.0	0.61	1	11/10/09	11/20/09	KWG0910535	
Dibenzofuran	**331**		5.0	0.63	1	11/10/09	11/20/09	KWG0910535	
Phenanthrene	**299**		5.0	1.4	1	11/10/09	11/20/09	KWG0910535	
Anthracene	**313**		5.0	0.55	1	11/10/09	11/20/09	KWG0910535	
Fluoranthene	**329**		5.0	0.98	1	11/10/09	11/20/09	KWG0910535	
Pyrene	**273**		5.0	0.76	1	11/10/09	11/20/09	KWG0910535	
Benz(a)anthracene	**293**		5.0	0.72	1	11/10/09	11/20/09	KWG0910535	
Chrysene	**302**		5.0	0.80	1	11/10/09	11/20/09	KWG0910535	
Benzo(b)fluoranthene	**322**		5.0	0.92	1	11/10/09	11/20/09	KWG0910535	
Benzo(k)fluoranthene	**341**		5.0	0.87	1	11/10/09	11/20/09	KWG0910535	
Benzo(a)pyrene	**322**		5.0	0.76	1	11/10/09	11/20/09	KWG0910535	
Indeno(1,2,3-cd)pyrene	**320**		5.0	0.87	1	11/10/09	11/20/09	KWG0910535	
Dibenz(a,h)anthracene	**316**		5.0	0.80	1	11/10/09	11/20/09	KWG0910535	
Benzo(g,h,i)perylene	**333**		5.0	0.85	1	11/10/09	11/20/09	KWG0910535	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	59	17-104	11/20/09	Acceptable
Fluoranthene-d10	57	27-106	11/20/09	Acceptable
Terphenyl-d14	55	35-109	11/20/09	Acceptable

Comments:

Exception Report

Data File: J:\MS11\DATA\111909\1119F045.D
Lab ID: KWG0910535-5
RunType: LCS
Matrix: SEDIMENT

Date Acquired: 11/20/2009 01:13
Date Quantitated: 11/20/2009 12:18
Batch ID: KWG0910976
Analysis Method: 8270C SIM
MethodJoinID: MJ139

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Tune Window	NA	NA	NA	x	
Analytical Holding Time	NA	NA	NA	x	
ICAL Pass/Fail	NA	NA	NA	x	
ICAL Average RSD	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Initial Calibration Minimum RF	NA	NA	NA	x	
Initial Calibration SPCC/CCC	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA		x
Continuing Calibration Minimum RF	NA	NA	NA	x	
Continuing Calibration SPCC/CCC	NA	NA	NA	x	
Internal Standards	NA	NA	NA	x	
Surrogates	NA	NA	NA		x
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Relative Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

K9140
K10843
IPR#3

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
Continuing Calibration Recovery	2,4,6-Tribromophenol	33.8	NA	20	NA
Surrogates	2,4,6-Tribromophenol	0	35	109	

Primary Review: 11/24/09
Secondary Review: 11-23-09

Quantitation Report

Bottle ID:		**Tier:**		**Matrix:**	SEDIMENT
Prod Code:	8270C SIM PAH_S	**Collect Date:**		**Receive Date:**	11/12/2009

Analysis Lot:	KWG0910976	**Prep Lot:**	KWG0910535	**Report Group:**	
Analysis Method:	8270C SIM	**Prep Method:**	EPA 3541		
Prep Ref:	865776	**Prep Date:**	11/10/2009		

Quant Method:	J:\MS11\METHODS\SIM\1119ALK.M	**Calibration ID:**	CAL9029
Title:			
Tune Ref:	J:\MS11\DATA\111909\1119F038.D	**Method ID:**	MJ139
MB Ref:	J:\MS11\DATA\111909\1119F041.D	**Quant based on Method**	

Data File:	J:\MS11\DATA\111909\1119F045.D			**Instrument:**	MS11
Acqu Date:	11/20/2009 01:13	**Quant Date:**	11/20/2009 12:18	**Vial:**	33
Run Type:	LCS			**Dilution:**	1.0
Lab ID:	KWG0910535-5			**Soln Conc. Units:**	ng/ml

Internal Standard Compounds

IS Ref	Parameter Name	RT	RT Dev	Quant Mass	Response	Solution Conc	Area Criteria
1	Naphthalene-d8	4.88	0.00	136	134262	200.00	OK
2	Acenaphthene-d10	6.30	0.00	164	74336	200.00	OK
3	Phenanthrene-d10	7.54	0.00	188	149193	200.00	OK
4	Chrysene-d12	10.27	0.00	240	216776	200.00	OK
5	Perylene-d12	13.87	0.01	264	212846	200.00	OK

Surrogate Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	%Rec	%Rec Limits		Rpt?
2	Fluorene-d10	6.73	0.01	0.00	176	49058	117.54	59	17-104	OK	
2	2,4,6-Tribromophenol			0.00	330	0**d**		0	35-109	*	
3	Fluoranthene-d10	8.52	0.00	0.00	212	103564	114.82	57	27-106	OK	
4	Terphenyl-d14	8.90	0.00	0.00	244	98131	109.35	55	35-109	OK	

Target Compounds

Final Conc. Units: ug/Kg Wet Weight

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	Final Conc	Q	Rpt?
1	Naphthalene	4.90		0.00	128	178289	301.89	302		
1	2-Methylnaphthalene	5.45		0.00	142	116068	272.83	273		
1	1-Methylnaphthalene	5.53		0.00	142	128022	313.71	314		
1	Biphenyl	5.83	0.01	0.00	154	161438	318.94	319		
1	2,6-Dimethylnaphthalene	5.96	0.01	0.00	156	123437	315.71	316		
2	Acenaphthylene	6.18		0.00	152	195839	320.60	321		
2	Acenaphthene	6.33		0.00	154	118264	325.94	326		
2	Dibenzofuran	6.47		0.00	168	181915**m**	331.02	331		
2	2,3,5-Trimethylnaphthalene	6.64		0.00	170	127708	329.59	330		
2	Fluorene	6.75		0.00	166	153544	334.03	334		
2	Pentachlorophenol				266	0**d**		2.9	U	
3	Dibenzothiophene	7.45		0.00	184	117329	176.57	177		

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Data File:	J:\MS11\DATA\111909\1119F045.D			**Instrument:**	MS11
Acqu Date:	11/20/2009 01:13	**Quant Date:**	11/20/2009 12:18	**Vial:**	33
Run Type:	LCS			**Dilution:**	1.0
Lab ID:	KWG0910535-5			**Soln Conc. Units:**	ng/ml

Target Compounds **Final Conc. Units:** ug/Kg Wet Weight

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	Final Conc	Q	Rpt?
3	Phenanthrene	7.56	0.01	0.00	178	237440	298.51	299		
3	Anthracene	7.59	-0.01	0.00	178	239544	313.39	313		
3	Carbazole	7.73		0.00	167	193658	296.63	297		
3	1-Methylphenanthrene	8.05		0.00	192	198257	320.18	320		
3	Fluoranthene	8.53		0.00	202	304243	329.03	329		
4	Pyrene	8.75	0.01	0.00	202	313365	272.59	273		
4	Benz(a)anthracene	10.25		0.00	228	324203	292.75	293		
4	Chrysene	10.31		0.00	228	319169	301.79	302		
5	Benzo(b)fluoranthene	12.65	0.01	0.00	252	356995	321.90	322		
5	Benzo(k)fluoranthene	12.73		0.00	252	357864	340.51	341		
5	Benzo(e)pyrene	13.49		0.00	252	344168	338.63	339		
5	Benzo(a)pyrene	13.66		0.00	252	314687	322.08	322		
5	Perylene	13.96	0.01	0.00	252	285539	295.93	296		
5	Indeno(1,2,3-cd)pyrene	16.99		0.00	276	288590	320.44	320		
5	Dibenz(a,h)anthracene	17.07		0.00	278	296184	315.60	316		
5	Benzo(g,h,i)perylene	17.41		0.00	276	338947	333.02	333		

Prep Amount:	10.00 g	**Dilution:**	1.0
Prep Final Vol:	10 ml	**Unit Factor:**	1
Solids:	%		

Final Concentration = ((Soln Conc x Prep Final Vol x Dilution) / (Prep Amount x Solids)) x Unit Factor

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\111909\1119F045.D Vial: 33
Acq On : 20 Nov 2009 1:13 am Operator: LWeiskopf
Sample : KWG0910535-5 LCS Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 20 11:02:21 2009 Quant Results File: 1119ALK.RES

Quant Method : J:\MS11\METHODS\SIM\1119ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Fri Nov 20 09:17:56 2009
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	4.88	136	134262	200.00	ng/ml	0.00
10) Acenaphthene-d10	6.30	164	74336	200.00	ng/ml	0.00
22) Phenanthrene-d10	7.54	188	149193	200.00	ng/ml	0.02
37) Chrysene-d12	10.27	240	216776	200.00	ng/ml	0.00
49) Perylene-d12	13.87	264	212846	200.00	ng/ml	0.00
System Monitoring Compounds						
15) Fluorene-d10	6.73	176	49058	117.54	ng/ml	0.00
Spiked Amount 200.000			Recovery = 58.77%			
20) 2,4,6 Tribromophenol	0.00	330	0d	0.00	ng/ml	
Spiked Amount 375.000			Recovery = 0.00%			
36) Fluoranthene-d10	8.52	212	103564	114.82	ng/ml	0.00
Spiked Amount 200.000			Recovery = 57.41%			
42) Terphenyl-d14	8.90	244	98131	109.35	ng/ml	0.00
Spiked Amount 200.000			Recovery = 54.67%			
Target Compounds						Qvalue
2) Naphthalene	4.90	128	178289	301.89	ng/ml	99
3) 2-Methylnaphthalene	5.45	142	116068	272.83	ng/ml	97
4) 1-Methylnaphthalene	5.53	142	128022	313.71	ng/ml	99
5) Biphenyl	5.83	154	161438	318.94	ng/ml	96
6) 2,6-Dimethylnaphthalene	5.96	156	123437	315.71	ng/ml	96
11) Acenaphthylene	6.18	152	195839	320.60	ng/ml	97
12) Acenaphthene	6.33	154	118264	325.94	ng/ml	90
13) Dibenzofuran	6.47	168	181915m	331.02	ng/ml	
14) 2,3,5-Trimethylnaphthalene	6.64	170	127708	329.59	ng/ml	71
16) Fluorene	6.75	166	153544	334.03	ng/ml	96
23) Dibenzothiophene	7.45	184	117329	176.57	ng/ml	87
27) Phenanthrene	7.56	178	237440	298.51	ng/ml	93
28) Anthracene	7.59	178	239544	313.39	ng/ml	99
29) Carbazole	7.73	167	193658	296.63	ng/ml	91
30) 1-Methylphenanthrene	8.05	192	198257	320.18	ng/ml	94
35) Fluoranthene	8.53	202	304243	329.03	ng/ml	91
38) Pyrene	8.75	202	313365	272.59	ng/ml	94
43) Benz(a)anthracene	10.25	228	324203	292.75	ng/ml	99
44) Chrysene	10.31	228	319169	301.79	ng/ml	96
50) Benzo(b)fluoranthene	12.65	252	356995	321.90	ng/ml	98
51) Benzo(k)fluoranthene	12.73	252	357864	340.51	ng/ml	99
52) Benzo(e)pyrene	13.49	252	344168	338.63	ng/ml	99
53) Benzo(a)pyrene	13.66	252	314687	322.08	ng/ml	99
54) Perylene	13.96	252	285539	295.93	ng/ml	100
55) Indeno(1,2,3-cd)pyrene	16.99	276	288590	320.44	ng/ml	96

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\111909\1119F045.D Vial: 33
Acq On : 20 Nov 2009 1:13 am Operator: LWeiskopf
Sample : KWG0910535-5 LCS Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 20 11:02:21 2009 Quant Results File: 1119ALK.RES

Quant Method : J:\MS11\METHODS\SIM\1119ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Fri Nov 20 09:17:56 2009
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

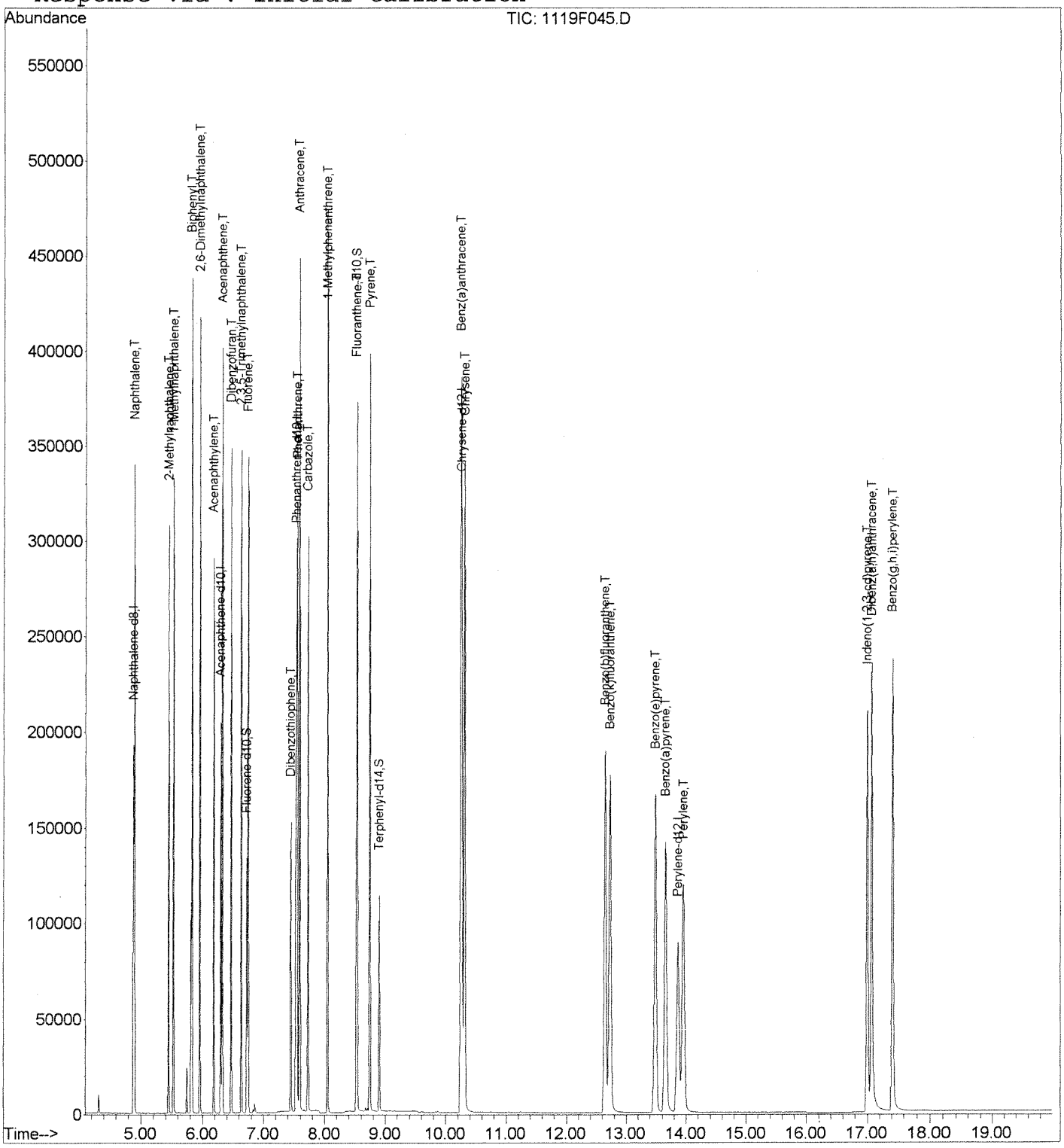
	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
56)	Dibenz(a,h)anthracene	17.07	278	296184	315.60	ng/ml	98
57)	Benzo(g,h,i)perylene	17.41	276	338947	333.02	ng/ml	97

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\111909\1119F045.D Vial: 33
Acq On : 20 Nov 2009 1:13 am Operator: LWeiskopf
Sample : KWG0910535-5 LCS Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 20 12:18 2009 Quant Results File: 1119ALK.RES

Method : J:\MS11\METHODS\SIM\1119ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Fri Nov 20 12:01:24 2009
Response via : Initial Calibration



1119F045.D 1119ALK.M Fri Nov 20 12:18:52 2009 Page 3

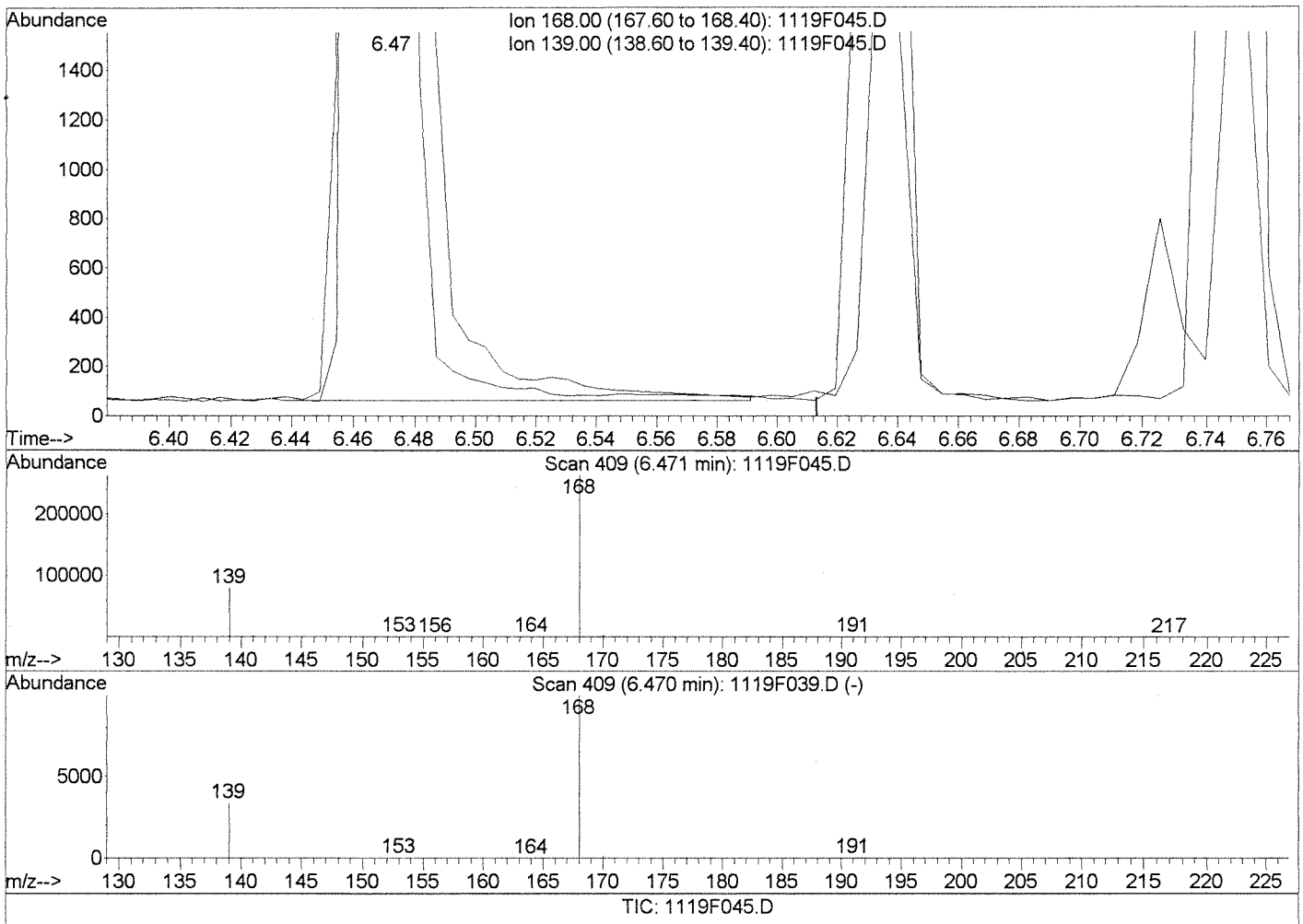
Quantitation Report (Qedit)

Data File : J:\MS11\DATA\111909\1119F045.D
Acq On : 20 Nov 2009 1:13 am
Sample : KWG0910535-5 LCS
Misc :
MS Integration Params: RTEINT.P
Quant Time: Nov 20 11:02 2009

Vial: 33
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1119ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Fri Nov 20 12:01:24 2009
Response via : Multiple Level Calibration



TIC: 1119F045.D

(13) Dibenzofuran (T)

6.47min 450.14ng/ml

response 247381

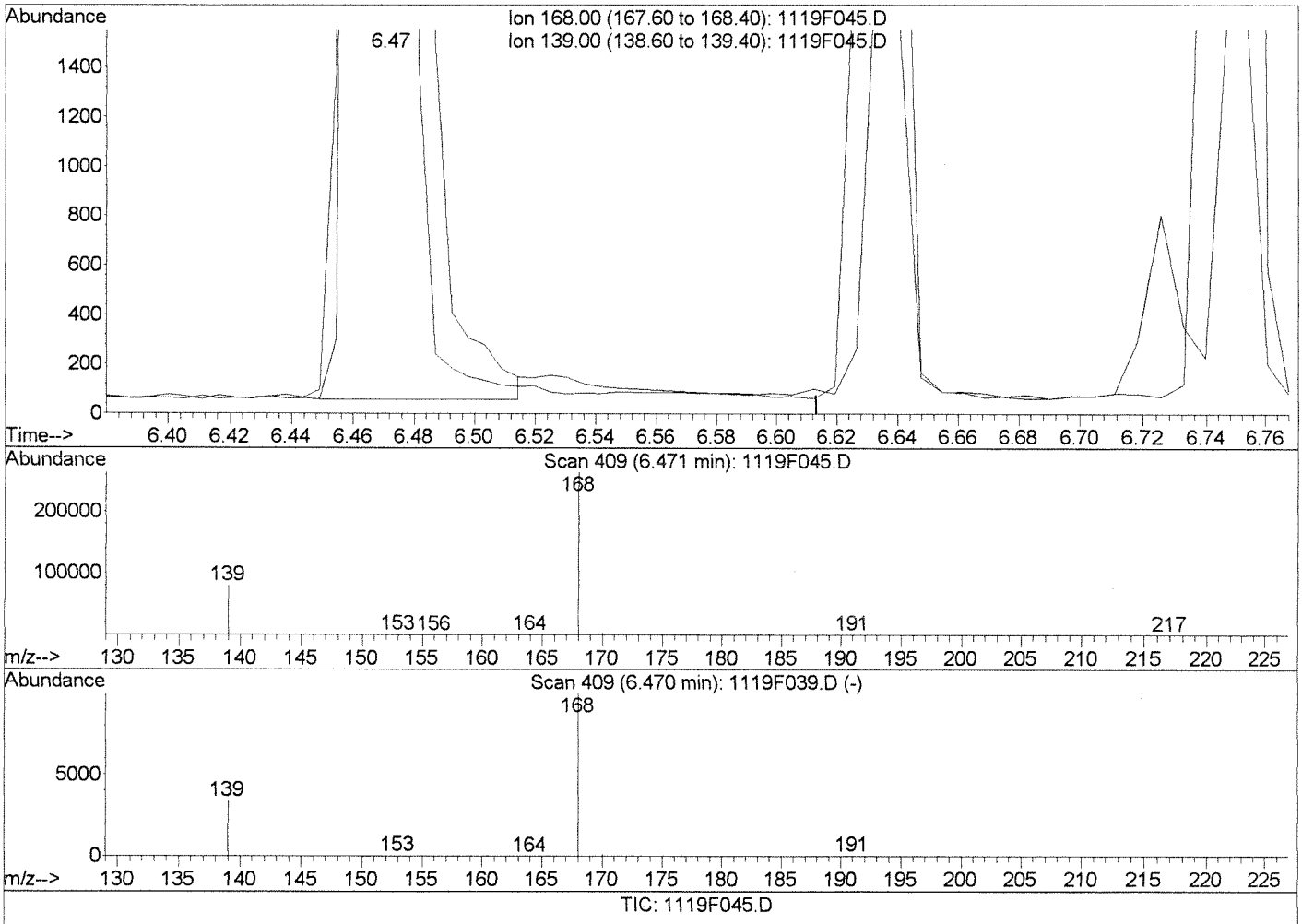
Ion	Exp%	Act%
168.00	100	100
139.00	53.30	30.01
0.00	0.00	0.00
0.00	0.00	0.00

1119F045.D 1119ALK.M Fri Nov 20 12:17:55 2009

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\111909\1119F045.D Vial: 33
Acq On : 20 Nov 2009 1:13 am Operator: LWeiskopf
Sample : KWG0910535-5 LCS Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 20 12:17 2009 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1119ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Fri Nov 20 12:01:24 2009
Response via : Multiple Level Calibration



TIC: 1119F045.D

(13) Dibenzofuran (T)

6.47min 331.02ng/ml m

response 181915

Ion	Exp%	Act%
168.00	100	100
139.00	53.30	30.03
0.00	0.00	0.00
0.00	0.00	0.00

OI 11/21/19

1+13-04

1119F045.D 1119ALK.M Fri Nov 20 12:18:01 2009

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009
Sample Matrix: Sediment

Service Request: K0909140
Date Collected: NA
Date Received: NA

Polynuclear Aromatic Hydrocarbons

Sample Name: Duplicate Lab Control Sample
Lab Code: KWG0910535-6

Units: ug/Kg
Basis: Dry

Extraction Method: EPA 3541
Analysis Method: 8270C SIM

Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Naphthalene	**365**		5.0	0.60	1	11/10/09	11/20/09	KWG0910535	
2-Methylnaphthalene	**334**		5.0	0.46	1	11/10/09	11/20/09	KWG0910535	
Acenaphthylene	**398**		5.0	0.56	1	11/10/09	11/20/09	KWG0910535	
Acenaphthene	**404**		5.0	0.50	1	11/10/09	11/20/09	KWG0910535	
Fluorene	**413**		5.0	0.61	1	11/10/09	11/20/09	KWG0910535	
Dibenzofuran	**408**		5.0	0.63	1	11/10/09	11/20/09	KWG0910535	
Phenanthrene	**372**		5.0	1.4	1	11/10/09	11/20/09	KWG0910535	
Anthracene	**408**		5.0	0.55	1	11/10/09	11/20/09	KWG0910535	
Fluoranthene	**425**		5.0	0.98	1	11/10/09	11/20/09	KWG0910535	
Pyrene	**341**		5.0	0.76	1	11/10/09	11/20/09	KWG0910535	
Benz(a)anthracene	**373**		5.0	0.72	1	11/10/09	11/20/09	KWG0910535	
Chrysene	**384**		5.0	0.80	1	11/10/09	11/20/09	KWG0910535	
Benzo(b)fluoranthene	**406**		5.0	0.92	1	11/10/09	11/20/09	KWG0910535	
Benzo(k)fluoranthene	**422**		5.0	0.87	1	11/10/09	11/20/09	KWG0910535	
Benzo(a)pyrene	**403**		5.0	0.76	1	11/10/09	11/20/09	KWG0910535	
Indeno(1,2,3-cd)pyrene	**389**		5.0	0.87	1	11/10/09	11/20/09	KWG0910535	
Dibenz(a,h)anthracene	**382**		5.0	0.80	1	11/10/09	11/20/09	KWG0910535	
Benzo(g,h,i)perylene	**400**		5.0	0.85	1	11/10/09	11/20/09	KWG0910535	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	68	17-104	11/20/09	Acceptable
Fluoranthene-d10	70	27-106	11/20/09	Acceptable
Terphenyl-d14	66	35-109	11/20/09	Acceptable

Comments:

Exception Report

Data File: J:\MS11\DATA\111909\1119F046.D
Lab ID: KWG0910535-6
RunType: DLCS
Matrix: SEDIMENT

Date Acquired: 11/20/2009 01:40
Date Quantitated: 11/20/2009 12:18
Batch ID: KWG0910976
Analysis Method: 8270C SIM
MethodJoinID: MJ139

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Tune Window	NA	NA	NA	x	
Analytical Holding Time	NA	NA	NA	x	
ICAL Pass/Fail	NA	NA	NA	x	
ICAL Average RSD	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Initial Calibration Minimum RF	NA	NA	NA	x	
Initial Calibration SPCC/CCC	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA		x
Continuing Calibration Minimum RF	NA	NA	NA	x	
Continuing Calibration SPCC/CCC	NA	NA	NA	x	
Internal Standards	NA	NA	NA	x	
Surrogates	NA	NA	NA		x
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Relative Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

K9140
K10843
IPR#4

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
Continuing Calibration Recovery	2,4,6-Tribromophenol	33.8	NA	20	NJ
Surrogates	2,4,6-Tribromophenol	0	35	109	J

Primary Review: 11/19/09
Secondary Review: 11-23-09

Quantitation Report

Bottle ID:		**Tier:**		**Matrix:**	SEDIMENT
Prod Code:	8270C SIM PAH_S	**Collect Date:**		**Receive Date:**	11/12/2009

Analysis Lot:	KWG0910976	**Prep Lot:**	KWG0910535	**Report Group:**	
Analysis Method:	8270C SIM	**Prep Method:**	EPA 3541		
Prep Ref:	865777	**Prep Date:**	11/10/2009		

Quant Method:	J:\MS11\METHODS\SIM\1119ALK.M	**Calibration ID:**	CAL9029
Title:			
Tune Ref:	J:\MS11\DATA\111909\1119F038.D	**Method ID:**	MJ139
MB Ref:	J:\MS11\DATA\111909\1119F041.D	**Quant based on Method**	

Data File:	J:\MS11\DATA\111909\1119F046.D			**Instrument:**	MS11
Acqu Date:	11/20/2009 01:40	**Quant Date:**	11/20/2009 12:18	**Vial:**	34
Run Type:	DLCS			**Dilution:**	1.0
Lab ID:	KWG0910535-6			**Soln Conc. Units:**	ng/ml

Internal Standard Compounds

IS Ref	Parameter Name	RT	RT Dev	Quant Mass	Response	Solution Conc	Area Criteria
1	Naphthalene-d8	4.88	0.00	136	141912	200.00	OK
2	Acenaphthene-d10	6.30	0.00	164	78201	200.00	OK
3	Phenanthrene-d10	7.54	0.00	188	152157	200.00	OK
4	Chrysene-d12	10.27	0.00	240	231625	200.00	OK
5	Perylene-d12	13.86	0.00	264	231102	200.00	OK

Surrogate Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	%Rec	%Rec Limits		Rpt?
2	Fluorene-d10	6.72	0.00	0.00	176	59857	136.32	68	17-104	OK	
2	2,4,6-Tribromophenol			0.00	330	0d		0	35-109	*	
3	Fluoranthene-d10	8.52	0.00	0.00	212	128914	140.14	70	27-106	OK	
4	Terphenyl-d14	8.90	0.00	0.00	244	126700	132.14	66	35-109	OK	

Target Compounds

Final Conc. Units: ug/Kg Wet Weight

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	Final Conc	Q	Rpt?
1	Naphthalene	4.89	-0.01	0.00	128	227561	364.55	365		
1	2-Methylnaphthalene	5.45		0.00	142	150011	333.61	334		
1	1-Methylnaphthalene	5.53		0.00	142	163647	379.39	379		
1	Biphenyl	5.82		0.00	154	208273	389.29	389		
1	2,6-Dimethylnaphthalene	5.95		0.00	156	160080	387.35	387		
2	Acenaphthylene	6.18		0.00	152	255454	397.52	398		
2	Acenaphthene	6.33		0.00	154	154146	403.84	404		
2	Dibenzofuran	6.47		0.00	168	235971m	408.16	408		
2	2,3,5-Trimethylnaphthalene	6.64		0.00	170	164633	403.89	404		
2	Fluorene	6.75		0.00	166	199843	413.27	413		
2	Pentachlorophenol				266	0d		2.9	U	
3	Dibenzothiophene	7.45		0.00	184	163058	240.61	241		

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Data File:	J:\MS11\DATA\111909\1119F046.D			**Instrument:**	MS11
Acqu Date:	11/20/2009 01:40	**Quant Date:**	11/20/2009 12:18	**Vial:**	34
Run Type:	DLCS			**Dilution:**	1.0
Lab ID:	KWG0910535-6			**Soln Conc. Units:**	ng/ml

Target Compounds **Final Conc. Units:** ug/Kg Wet Weight

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	Final Conc	Q	Rpt?
3	Phenanthrene	7.55		0.00	178	302110	372.41	372		
3	Anthracene	7.60		0.00	178	317982	407.90	408		
3	Carbazole	7.73		0.00	167	264524	397.28	397		
3	1-Methylphenanthrene	8.05		0.00	192	260060	411.80	412		
3	Fluoranthene	8.54	0.01	0.00	202	400932	425.15	425		
4	Pyrene	8.74		0.00	202	418647	340.83	341		
4	Benz(a)anthracene	10.25		0.00	228	441786	373.36	373		
4	Chrysene	10.32	0.01	0.00	228	434175	384.21	384		
5	Benzo(b)fluoranthene	12.64		0.00	252	488562	405.73	406		
5	Benzo(k)fluoranthene	12.73		0.00	252	481295	421.78	422		
5	Benzo(e)pyrene	13.49		0.00	252	467803	423.91	424		
5	Benzo(a)pyrene	13.66		0.00	252	427978	403.43	403		
5	Perylene	13.95		0.00	252	393735	375.83	376		
5	Indeno(1,2,3-cd)pyrene	16.99		0.00	276	380752	389.37	389		
5	Dibenz(a,h)anthracene	17.07		0.00	278	389473	382.22	382		
5	Benzo(g,h,i)perylene	17.42	0.01	0.00	276	441885	399.86	400		

Prep Amount:	10.00 g	**Dilution:**	1.0
Prep Final Vol:	10 ml	**Unit Factor:**	1
Solids:	%		

Final Concentration = ((Soln Conc x Prep Final Vol x Dilution) / (Prep Amount x Solids)) x Unit Factor

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\111909\1119F046.D
Acq On : 20 Nov 2009 1:40 am
Sample : KWG0910535-6 DLCS
Misc :
MS Integration Params: RTEINT.P
Quant Time: Nov 20 11:02:22 2009

Vial: 34
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00
Quant Results File: 1119ALK.RES

Quant Method : J:\MS11\METHODS\SIM\1119ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Fri Nov 20 09:17:56 2009
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	4.88	136	141912	200.00	ng/ml	0.00
10) Acenaphthene-d10	6.30	164	78201	200.00	ng/ml	0.00
22) Phenanthrene-d10	7.54	188	152157	200.00	ng/ml	0.02
37) Chrysene-d12	10.27	240	231625	200.00	ng/ml	0.00
49) Perylene-d12	13.86	264	231102	200.00	ng/ml	0.00
System Monitoring Compounds						
15) Fluorene-d10	6.72	176	59857	136.32	ng/ml	0.00
Spiked Amount 200.000			Recovery =	68.16%		
20) 2,4,6 Tribromophenol	0.00	330	0d	0.00	ng/ml	
Spiked Amount 375.000			Recovery =	0.00%		
36) Fluoranthene-d10	8.52	212	128914	140.14	ng/ml	0.00
Spiked Amount 200.000			Recovery =	70.07%		
42) Terphenyl-d14	8.90	244	126700	132.14	ng/ml	0.00
Spiked Amount 200.000			Recovery =	66.07%		
Target Compounds						Qvalue
2) Naphthalene	4.89	128	227561	364.55	ng/ml	100
3) 2-Methylnaphthalene	5.45	142	150011	333.61	ng/ml	99
4) 1-Methylnaphthalene	5.53	142	163647	379.39	ng/ml	97
5) Biphenyl	5.82	154	208273	389.29	ng/ml	96
6) 2,6-Dimethylnaphthalene	5.95	156	160080	387.35	ng/ml	97
11) Acenaphthylene	6.18	152	255454	397.52	ng/ml	98
12) Acenaphthene	6.33	154	154146	403.84	ng/ml	90
13) Dibenzofuran	6.47	168	235971m	408.16	ng/ml	
14) 2,3,5-Trimethylnaphthalene	6.64	170	164633	403.89	ng/ml	81
16) Fluorene	6.75	166	199843	413.27	ng/ml	99
23) Dibenzothiophene	7.45	184	163058	240.61	ng/ml	86
27) Phenanthrene	7.55	178	302110	372.41	ng/ml	100
28) Anthracene	7.60	178	317982	407.90	ng/ml	99
29) Carbazole	7.73	167	264524	397.28	ng/ml	91
30) 1-Methylphenanthrene	8.05	192	260060	411.80	ng/ml	93
35) Fluoranthene	8.54	202	400932	425.15	ng/ml	98
38) Pyrene	8.74	202	418647	340.83	ng/ml	92
43) Benz(a)anthracene	10.25	228	441786	373.36	ng/ml	99
44) Chrysene	10.32	228	434175	384.21	ng/ml	97
50) Benzo(b)fluoranthene	12.64	252	488562	405.73	ng/ml	99
51) Benzo(k)fluoranthene	12.73	252	481295	421.78	ng/ml	100
52) Benzo(e)pyrene	13.49	252	467803	423.91	ng/ml	100
53) Benzo(a)pyrene	13.66	252	427978	403.43	ng/ml	99
54) Perylene	13.95	252	393735	375.83	ng/ml	99
55) Indeno(1,2,3-cd)pyrene	16.99	276	380752	389.37	ng/ml	97

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\111909\1119F046.D Vial: 34
Acq On : 20 Nov 2009 1:40 am Operator: LWeiskopf
Sample : KWG0910535-6 DLCS Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 20 11:02:22 2009 Quant Results File: 1119ALK.RES

Quant Method : J:\MS11\METHODS\SIM\1119ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Fri Nov 20 09:17:56 2009
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
56)	Dibenz(a,h)anthracene	17.07	278	389473	382.22	ng/ml	97
57)	Benzo(g,h,i)perylene	17.42	276	441885	399.86	ng/ml	98

(#) = qualifier out of range (m) = manual integration

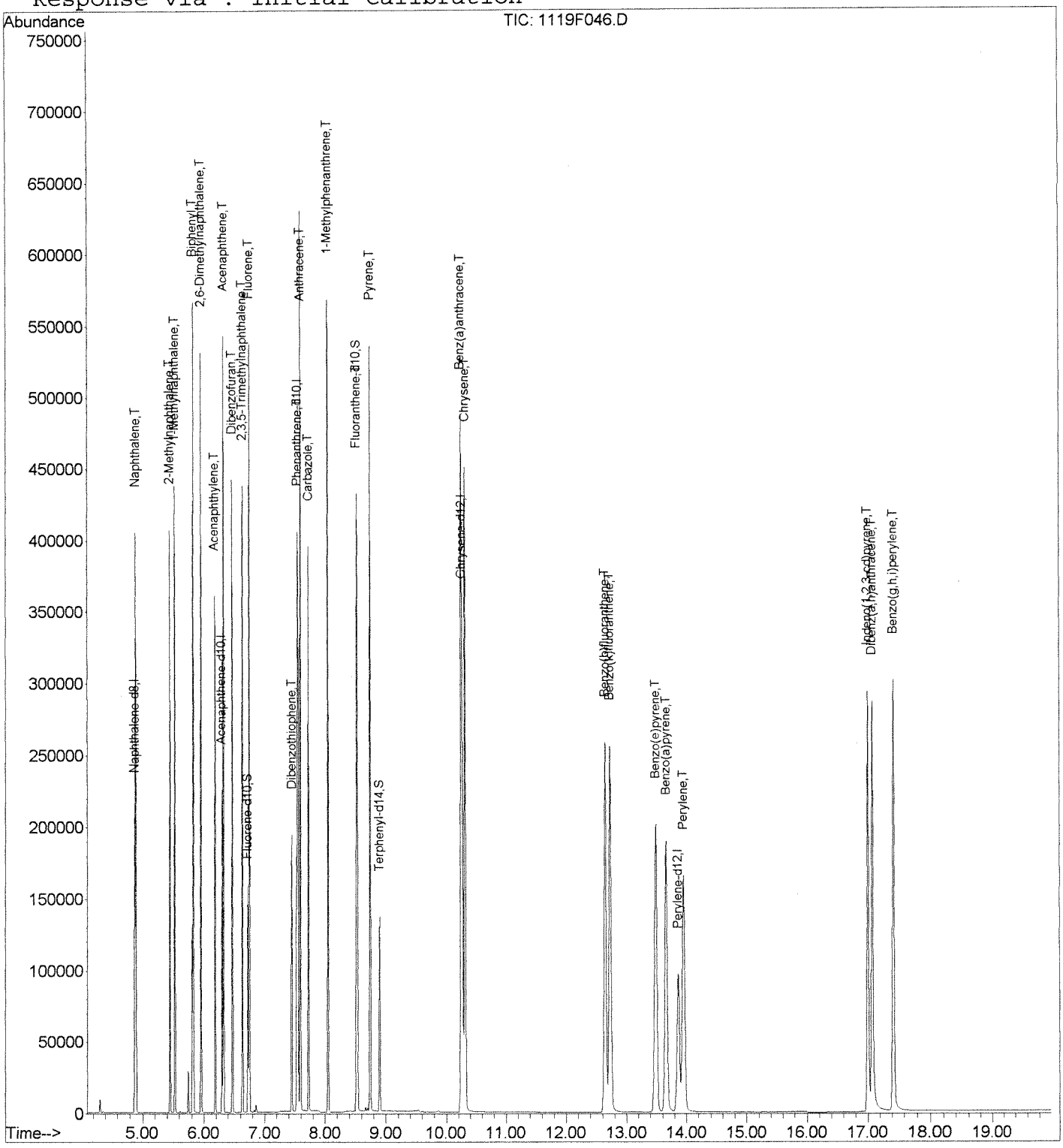
Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\111909\1119F046.D
Acq On : 20 Nov 2009 1:40 am
Sample : KWG0910535-6 DLCS
Misc :
MS Integration Params: RTEINT.P
Quant Time: Nov 20 12:18 2009

Vial: 34
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00

Quant Results File: 1119ALK.RES

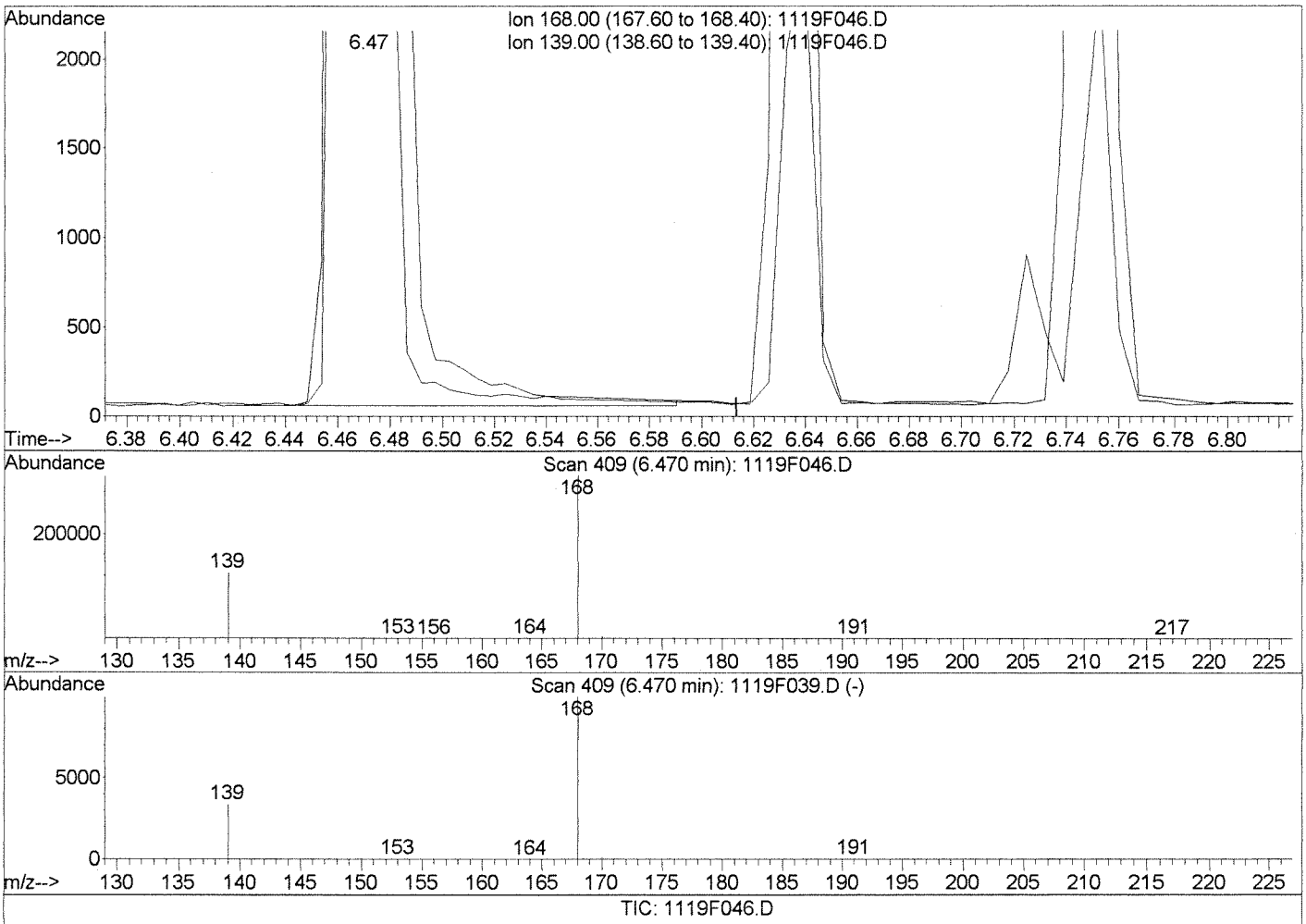
Method : J:\MS11\METHODS\SIM\1119ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Fri Nov 20 12:01:24 2009
Response via : Initial Calibration



Quantitation Report (Qedit)

Data File : J:\MS11\DATA\111909\1119F046.D Vial: 34
Acq On : 20 Nov 2009 1:40 am Operator: LWeiskopf
Sample : KWG0910535-6 DLCS Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 20 11:02 2009 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1119ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Fri Nov 20 12:01:24 2009
Response via : Multiple Level Calibration



TIC: 1119F046.D

(13) Dibenzofuran (T)

6.47min 535.75ng/ml

response 309732

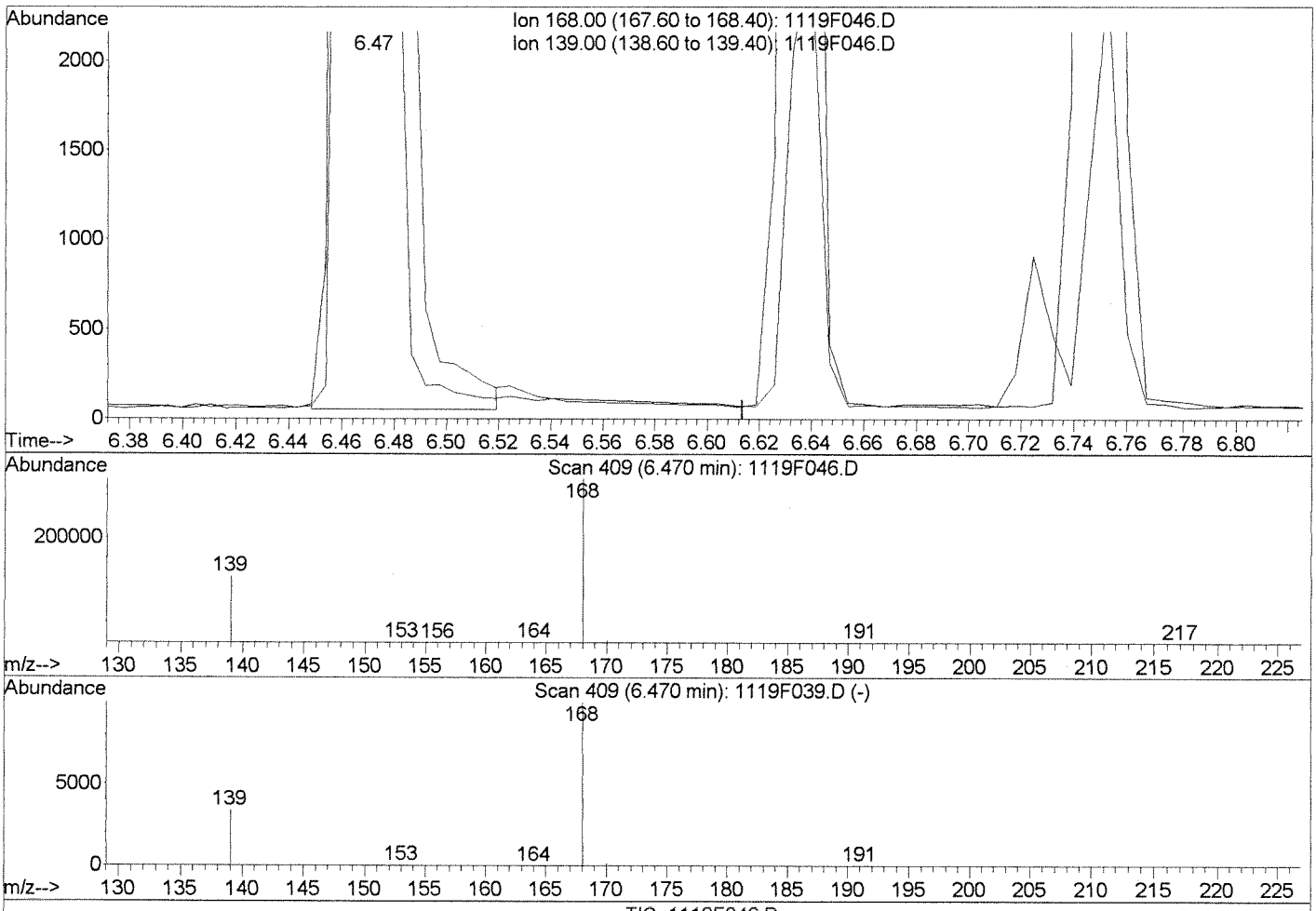
Ion	Exp%	Act%
168.00	100	100
139.00	53.30	40.09
0.00	0.00	0.00
0.00	0.00	0.00

1119F046.D 1119ALK.M Fri Nov 20 12:18:19 2009

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\111909\1119F046.D Vial: 34
Acq On : 20 Nov 2009 1:40 am Operator: LWeiskopf
Sample : KWG0910535-6 DLCS Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 20 12:18 2009 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1119ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Fri Nov 20 12:01:24 2009
Response via : Multiple Level Calibration



TIC: 1119F046.D

(13) Dibenzofuran (T)

6.47min 408.16ng/ml m

response 235971

Ion	Exp%	Act%
168.00	100	100
139.00	53.30	40.10
0.00	0.00	0.00
0.00	0.00	0.00

DI
11/21/19
M 1+23 DT

1119F046.D 1119ALK.M Fri Nov 20 12:18:24 2009

Organic Analysis:
Polynuclear Aromatic Hydrocarbons

Validation Package

Standards Data

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Results

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0909140
Date Analyzed: 11/16/2009
Time Analyzed: 07:10

Tune Summary
Polynuclear Aromatic Hydrocarbons

File ID: J:\MS11\DATA\111609\1116F001.D
Instrument ID: MS11
Column:

Analysis Method: 8270C SIM
Analysis Lot: KWG0910827

Target Mass	Relative to Mass	Lower Limit%	Upper Limit%	Relative Abundance %	Raw Abundance	Result Pass/Fail
51	198	10	80	37.6	181120	PASS
68	69	0	2	0.0	0	PASS
69	198	0	100	39.1	188096	PASS
70	69	0	2	0.8	1437	PASS
127	198	10	80	48.0	231296	PASS
197	198	0	2	0.0	0	PASS
198	442	30	100	50.2	481408	PASS
199	198	5	9	6.6	31616	PASS
275	198	10	60	35.4	170624	PASS
365	442	1	50	2.6	24560	PASS
441	443	0	100	71.6	139840	PASS
442	442	100	100	100.0	959296	PASS
443	442	15	24	20.4	195328	PASS

Sample Name	Lab Code	File ID	Date Analyzed	Time Analyzed	Q
Continuing Calibration Verification	KWG0910827-2	J:\MS11\DATA\111609\1116F002.D	11/16/2009	07:37	
Method Blank	KWG0910535-7	J:\MS11\DATA\111609\1116F004.D	11/16/2009	08:33	
M-2-A	K0909140-006	J:\MS11\DATA\111609\1116F014.D	11/16/2009	12:57	

Results flagged with an asterisk (*) indicate the analysis performed outside specified tune window

Exception Report

Data File: J:\MS11\DATA\111609\1116F001.D
Lab ID: KWG0910827-1
RunType: DFTPP
Matrix: WATER

Date Acquired: 11/16/2009 07:10
Date Quantitated:
Batch ID: KWG0910827
Analysis Method: 8270C SIM
ListJoinID: LJ4769

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Tune Ion Ratio	NA	NA	NA	x	

Primary Review: 11/18/09

Secondary Review: LB 11/18/09

Quantitation Report

Bottle ID:		**Tier:**		**Matrix:**	WATER
Prod Code:	8270C SIM	**Collect Date:**		**Receive Date:**	11/18/2009

Analysis Lot:	KWG0910827	**Prep Lot:**		**Report Group:**	
Analysis Method:	DFTPP	**Prep Method:**			
Prep Ref:		**Prep Date:**			

Quant Method:	J:\MS11\METHODS\SIM\DFTPPPAH.M	**Calibration ID:**	CAL8928
Title:		**Report List ID:**	LJ1965
Tune Ref:		**Method ID:**	MJ190
MB Ref:		**Quant based on Report List**	

Data File:	J:\MS11\DATA\111609\1116F001.D			**Instrument:**	MS11
Acqu Date:	11/16/2009 07:10	**Quant Date:**		**Vial:**	1
Run Type:	DFTPP			**Dilution:**	1.0
Lab ID:	KWG0910827-1			**Soln Conc. Units:**	

Tune Results

Target Mass	Relative to Mass	Lower Limit%	Upper Limit%	Relative Abundance %	Raw Abundance	Result Pass/Fail
51	198	10	80	37.6	181120	Pass
68	69	0	2	0.0	0	Pass
69	198	0	100	39.1	188096	Pass
70	69	0	2	0.8	1437	Pass
127	198	10	80	48.0	231296	Pass
197	198	0	2	0.0	0	Pass
198	442	30	100	50.2	481408	Pass
199	198	5	9	6.6	31616	Pass
275	198	10	60	35.4	170624	Pass
365	442	1	50	2.6	24560	Pass
441	443	0.01	100	71.6	139840	Pass
442	442	100	100	100.0	959296	Pass
443	442	15	24	20.4	195328	Pass

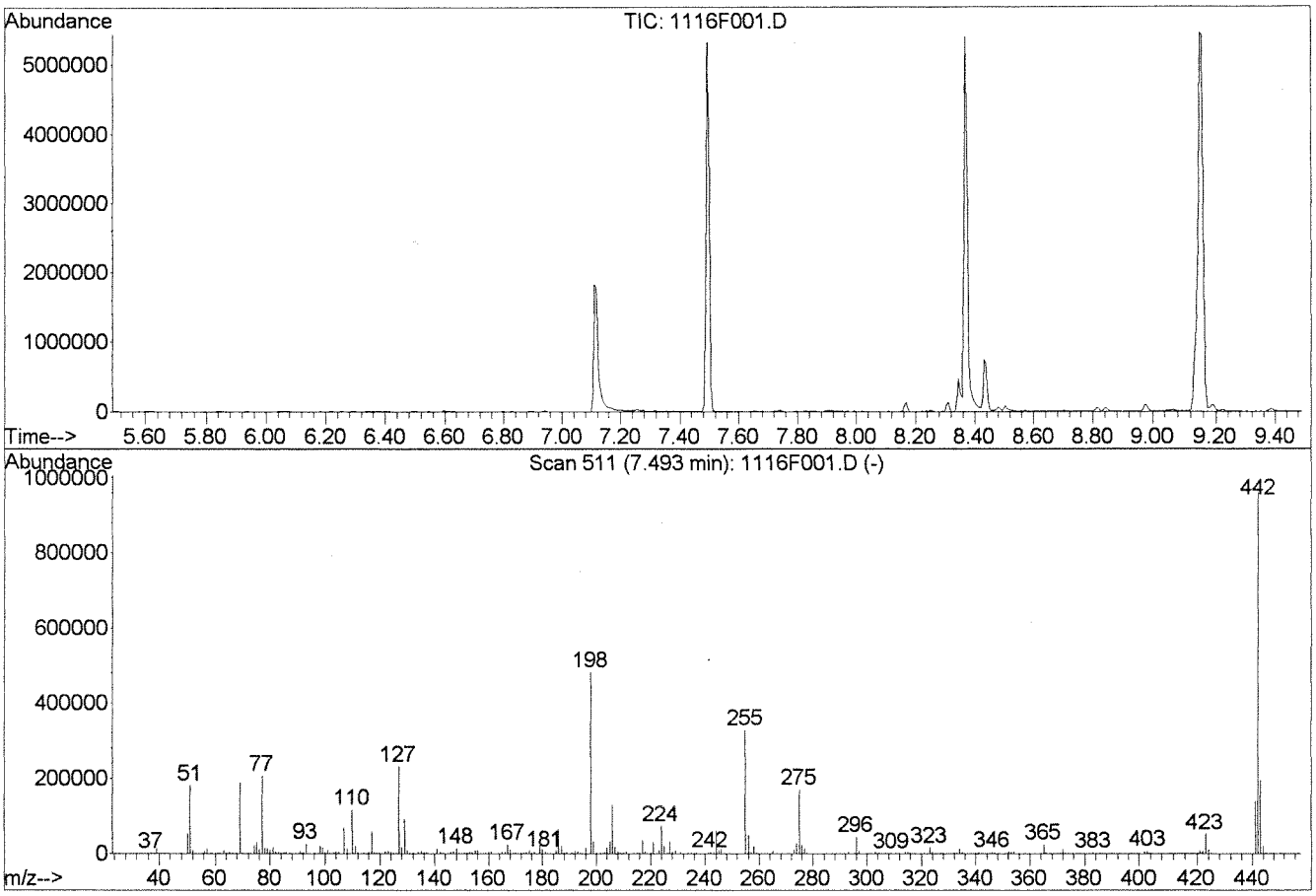
U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Data File : J:\MS11\DATA\111609\1116F001.D
Acq On : 16 Nov 2009 7:10 am
Sample : DFTPP @ 3.0ug/mL | SVM30-40C
Misc :
MS Integration Params: RTEINT.P
Method : J:\MS11\METHODS\SIM\DFTPPPAH.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS

Vial: 1
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00



Spectrum Information: Scan 511

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	10	80	37.6	181120	PASS
68	69	0.00	2	0.0	0	PASS
70	69	0.00	2	0.8	1437	PASS
127	198	10	80	48.0	231296	PASS
197	198	0.00	2	0.0	0	PASS
198	442	30	100	50.2	481408	PASS
199	198	5	9	6.6	31616	PASS
275	198	10	60	35.4	170624	PASS
365	442	1	50	2.6	24560	PASS
441	443	0.01	100	71.6	139840	PASS
442	442	30	100	100.0	959296	PASS
443	442	15	24	20.4	195328	PASS

Scan 511 (7.493 min): 1116F001.D
DFTPP @ 3.0ug/mL | SVM30-40C
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
37.00	1186	56.10	5551	75.10	29168	87.00	2555
38.20	2704	57.10	11814	76.10	10829	91.10	5543
39.10	13919	61.10	2576	77.10	206400	92.10	3766
40.05	1046	62.00	2332	78.10	13682	93.00	26696
41.20	633	63.10	8059	79.10	14984	93.90	1500
45.10	639	64.00	1231	80.00	9781	95.10	598
50.10	52472	65.10	3638	81.00	15080	96.10	1219
51.10	181120	69.00	188096	82.00	3378	97.10	999
52.10	9221	70.00	1437	83.10	3560	98.10	20152
53.00	519	73.10	1772	85.00	2653	99.10	14995
55.10	1119	74.10	21320	86.00	4724	100.10	1537

Scan 511 (7.493 min): 1116F001.D
DFTPP @ 3.0ug/mL | SVM30-40C
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
101.00	8808	117.00	57144	129.00	91808	142.00	3223
103.00	2832	118.00	4248	130.00	8776	143.00	2644
104.00	6394	118.90	649	131.00	2155	144.00	762
105.00	5229	120.00	945	132.10	1141	145.00	1099
107.00	67288	121.10	690	134.00	3097	146.00	2994
108.00	12456	122.00	4959	135.00	7652	147.00	5804
110.00	116368	123.00	7890	136.00	3607	148.00	13657
111.00	19064	124.00	3490	137.00	2921	149.00	2770
112.00	2104	125.00	2532	138.10	834	150.10	864
113.00	801	127.00	231296	140.00	1177	151.10	1667
116.00	4037	128.00	17328	141.00	13036	151.90	1381

Scan 511 (7.493 min): 1116F001.D
DFTPP @ 3.0ug/mL | SVM30-40C
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
153.00	3964	164.00	1109	175.10	8943	187.00	21032
153.90	3443	165.00	3910	175.90	2301	188.00	2378
155.00	7394	166.00	4541	177.00	4724	189.00	4279
156.00	9376	167.00	24071	179.00	21296	190.10	918
157.00	2303	168.00	11227	180.00	12413	191.00	2172
157.90	1740	169.00	2134	181.00	5655	192.00	6915
159.00	2114	170.00	1175	182.10	1223	193.00	6255
160.00	4232	170.90	881	183.00	649	194.00	1629
161.00	5051	172.00	1728	183.80	823	195.00	881
162.00	1208	173.00	2467	185.00	8358	196.00	16245
163.00	536	174.00	4743	186.00	65320	198.00	481408

Scan 511 (7.493 min): 1116F001.D
DFTPP @ 3.0ug/mL | SVM30-40C
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
198.90	31616	211.10	4792	226.10	2594	237.00	2249
199.90	2561	212.10	1217	227.00	32568	239.00	1019
201.50	2614	215.00	1886	228.00	4701	240.00	972
203.00	3742	216.00	3096	229.00	8190	241.00	2267
204.00	17168	217.00	35144	229.90	814	242.00	3658
205.00	32768	218.00	4322	231.00	3198	243.10	4270
206.00	130000	220.10	1495	232.00	684	244.00	61720
207.00	18968	221.00	29864	233.00	630	245.00	8456
208.00	4867	223.00	8589	234.00	2335	246.00	12742
209.00	1698	224.00	73336	235.00	2683	247.00	2493
210.10	2289	225.00	20248	236.00	1413	249.00	2917

Scan 511 (7.493 min): 1116F001.D
DFTPP @ 3.0ug/mL | SVM30-40C
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
250.10	562	265.90	1302	279.10	677	298.00	710
250.90	799	267.80	694	283.00	1164	302.00	905
252.00	546	270.00	604	284.00	1055	303.00	6106
253.20	1260	271.00	711	285.00	2209	304.10	1905
255.00	327872	272.00	887	289.00	544	308.10	837
256.00	48648	272.90	10365	291.90	541	309.00	673
257.00	3536	274.00	28240	293.00	3638	310.10	907
258.00	19432	275.00	170624	293.90	1001	314.00	3177
258.90	2611	276.00	21624	295.00	1204	314.90	4717
263.90	182	277.00	14718	296.00	44656	316.00	2972
265.00	7918	277.90	2614	297.00	6573	317.00	642

Scan 511 (7.493 min): 1116F001.D
DFTPP @ 3.0ug/mL | SVM30-40C
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
321.00	1503	342.10	613	370.90	1388	404.00	1813
322.00	1106	346.00	3471	372.00	11259	421.00	6524
323.00	16784	347.10	745	373.00	2922	422.00	5325
324.00	2921	352.10	5748	383.10	2713	423.00	51808
326.90	2988	353.00	3829	384.00	934	424.00	10048
328.00	2173	354.00	5466	390.00	1507	424.90	1163
332.10	1593	354.80	1057	391.00	1284	441.00	139840
333.00	1609	359.00	673	391.90	833	442.00	959296
334.00	13033	365.00	24560	400.90	729	443.00	195328
335.00	3127	365.90	3922	402.00	5054	444.00	18968
341.10	1845	370.00	743	403.00	7755	445.00	1942

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Results

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0909140
Date Analyzed: 11/16/2009
Time Analyzed: 20:54

Tune Summary
Polynuclear Aromatic Hydrocarbons

File ID: J:\MS11\DATA\111609\1116F032.D
Instrument ID: MS11
Column:

Analysis Method: 8270C SIM
Analysis Lot: KWG0910855

Target Mass	Relative to Mass	Lower Limit%	Upper Limit%	Relative Abundance %	Raw Abundance	Result Pass/Fail
51	198	10	80	43.5	193344	PASS
68	69	0	2	0.0	0	PASS
69	198	0	100	45.2	200832	PASS
70	69	0	2	0.4	863	PASS
127	198	10	80	50.3	223488	PASS
197	198	0	2	0.0	0	PASS
198	442	30	100	63.1	444224	PASS
199	198	5	9	7.4	32816	PASS
275	198	10	60	32.5	144512	PASS
365	442	1	50	2.8	19936	PASS
441	443	0	100	69.8	103368	PASS
442	442	100	100	100.0	703616	PASS
443	442	15	24	21.0	148032	PASS

Sample Name	Lab Code	File ID	Date Analyzed	Time Analyzed	Q
Continuing Calibration Verification	KWG0910855-2	J:\MS11\DATA\111609\1116F033.D	11/16/2009	21:21	
M-5-B	K0909140-015	J:\MS11\DATA\111609\1116F037.D	11/16/2009	23:07	
M-5-A	K0909140-016	J:\MS11\DATA\111609\1116F038.D	11/16/2009	23:33	
M-5-C	K0909140-017	J:\MS11\DATA\111609\1116F039.D	11/17/2009	00:00	
M-5-B2	K0909140-018	J:\MS11\DATA\111609\1116F040.D	11/17/2009	00:26	
B-1-C	K0909140-019	J:\MS11\DATA\111609\1116F041.D	11/17/2009	00:53	
M-2-AMS	KWG0910535-1	J:\MS11\DATA\111609\1116F053.D	11/17/2009	06:11	
M-2-ADMS	KWG0910535-2	J:\MS11\DATA\111609\1116F054.D	11/17/2009	06:37	
M-2-A	K0909140-006	J:\MS11\DATA\111609\1116F055.D	11/17/2009	07:04	

Results flagged with an asterisk (*) indicate the analysis performed outside specified tune window

Exception Report

Data File: J:\MS11\DATA\111609\1116F032.D
Lab ID: KWG0910855-1
RunType: DFTPP
Matrix: WATER

Date Acquired: 11/16/2009 20:54
Date Quantitated:
Batch ID: KWG0910855
Analysis Method: 8270C SIM
ListJoinID: LJ4769

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Tune Ion Ratio	NA	NA	NA	x	

Primary Review: 11/18/09

Secondary Review: 11-19-09

Quantitation Report

Bottle ID:		**Tier:**		**Matrix:**	WATER
Prod Code:	8270C SIM	**Collect Date:**		**Receive Date:**	11/18/2009

Analysis Lot:	KWG0910855	**Prep Lot:**		**Report Group:**	
Analysis Method:	DFTPP	**Prep Method:**			
Prep Ref:		**Prep Date:**			

Quant Method:	J:\MS11\METHODS\SIM\DFTPPPAH.M	**Calibration ID:**	CAL8928
Title:		**Report List ID:**	LJ1965
Tune Ref:		**Method ID:**	MJ190
MB Ref:		**Quant based on Report List**	

Data File:	J:\MS11\DATA\111609\1116F032.D			**Instrument:**	MS11
Acqu Date:	11/16/2009 20:54	**Quant Date:**		**Vial:**	29
Run Type:	DFTPP			**Dilution:**	1.0
Lab ID:	KWG0910855-1			**Soln Conc. Units:**	

Tune Results

Target Mass	Relative to Mass	Lower Limit%	Upper Limit%	Relative Abundance %	Raw Abundance	Result Pass/Fail
51	198	10	80	43.5	193344	Pass
68	69	0	2	0.0	0	Pass
69	198	0	100	45.2	200832	Pass
70	69	0	2	0.4	863	Pass
127	198	10	80	50.3	223488	Pass
197	198	0	2	0.0	0	Pass
198	442	30	100	63.1	444224	Pass
199	198	5	9	7.4	32816	Pass
275	198	10	60	32.5	144512	Pass
365	442	1	50	2.8	19936	Pass
441	443	0.01	100	69.8	103368	Pass
442	442	100	100	100.0	703616	Pass
443	442	15	24	21.0	148032	Pass

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

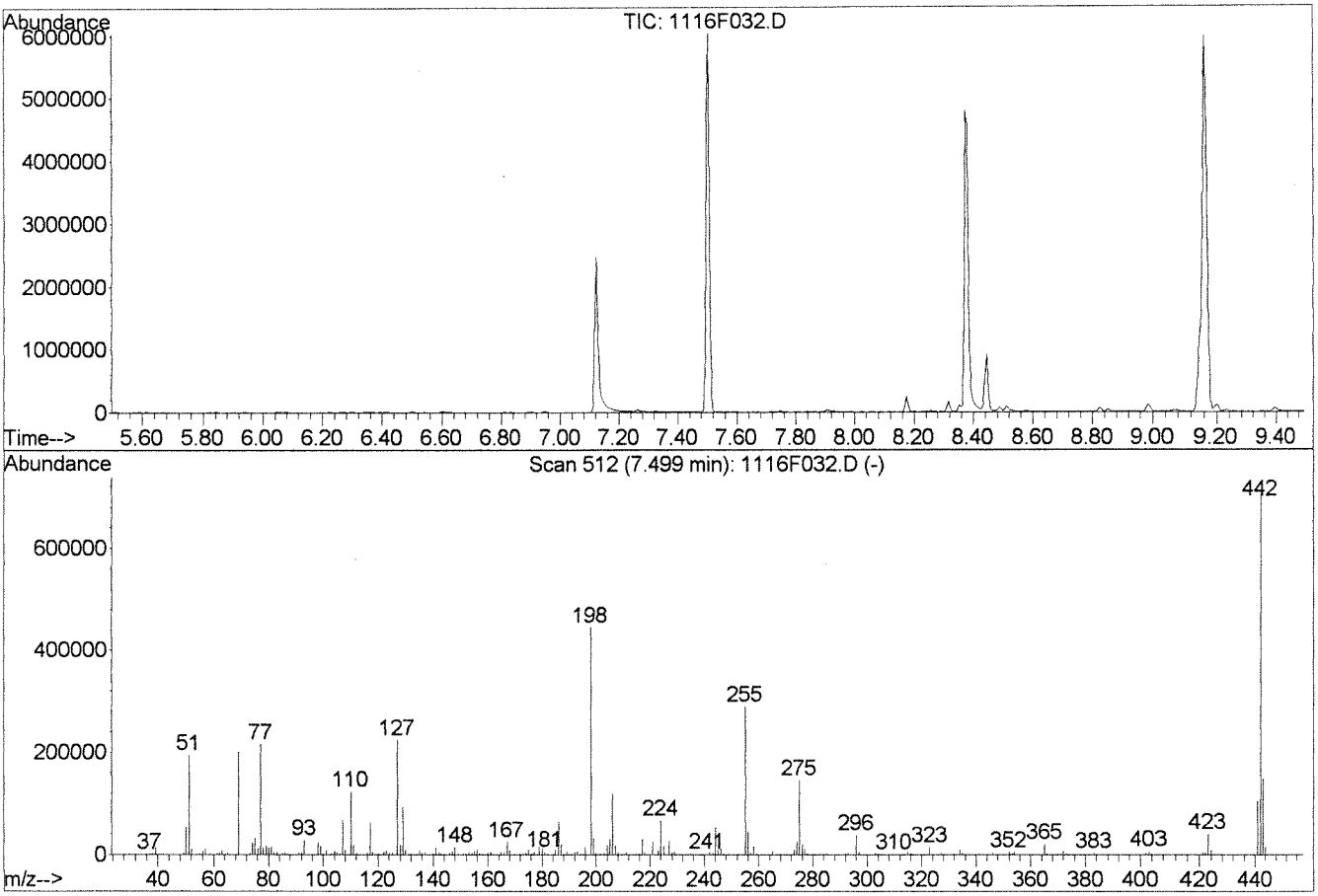
D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

DFTPP

Data File : J:\MS11\DATA\111609\1116F032.D
Acq On : 16 Nov 2009 8:54 pm
Sample : DFTPP @ 3.0ug/mL | SVM30-40C
Misc :
MS Integration Params: RTEINT.P
Method : J:\MS11\METHODS\SIM\DFTPPPAH.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS

Vial: 29
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00



Spectrum Information: Scan 512

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	10	80	43.5	193344	PASS
68	69	0.00	2	0.0	0	PASS
70	69	0.00	2	0.4	863	PASS
127	198	10	80	50.3	223488	PASS
197	198	0.00	2	0.0	0	PASS
198	442	30	100	63.1	444224	PASS
199	198	5	9	7.4	32816	PASS
275	198	10	60	32.5	144512	PASS
365	442	1	50	2.8	19936	PASS
441	443	0.01	100	69.8	103368	PASS
442	442	30	100	100.0	703616	PASS
443	442	15	24	21.0	148032	PASS

1116F032.D DFTPPPAH.M Wed Nov 18 12:16:44 2009

Scan 512 (7.499 min): 1116F032.D
DFTPP @ 3.0ug/mL | SVM30-40C
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
37.10	1000	58.00	945	75.00	32312	87.10	1897
38.10	3347	61.10	2446	76.20	11818	88.00	881
39.10	14743	62.10	3265	77.10	215360	89.10	777
41.10	209	63.10	8524	78.10	13776	91.10	3546
49.10	2464	64.10	1469	79.10	16054	92.10	4400
50.10	53016	65.10	4534	80.00	12877	93.00	27320
51.10	193344	67.10	543	81.10	15746	94.10	2007
52.10	10385	69.00	200832	82.00	4037	96.10	1271
55.20	1183	70.10	863	83.10	3869	97.00	1402
56.10	6367	73.10	2433	85.10	3178	98.00	23424
57.00	11782	74.10	22800	86.00	4627	99.00	15756

Scan 512 (7.499 min): 1116F032.D
DFTPP @ 3.0ug/mL | SVM30-40C
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
99.90	1287	113.20	600	128.00	19160	138.00	569
101.00	7834	114.00	505	129.00	91672	139.00	674
103.00	2628	116.00	4392	130.00	8461	140.10	1728
104.00	6132	117.00	61768	131.00	1651	141.00	12715
105.10	5755	118.00	5279	132.10	1231	142.10	3887
106.10	2731	120.00	1063	133.10	667	142.90	2658
107.00	66584	122.10	4869	134.00	2366	144.00	816
108.10	9483	123.00	7487	135.00	7227	144.90	672
110.00	122112	124.00	2905	136.00	3076	145.10	693
111.00	18040	125.10	3420	137.10	3619	146.00	3091
112.10	2484	127.00	223488	137.80	548	147.00	6109

Scan 512 (7.499 min): 1116F032.D
DFTPP @ 3.0ug/mL | SVM30-40C
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
148.00	13596	159.00	1912	169.90	1006	181.00	5411
149.00	2942	160.00	3445	171.10	881	182.10	910
150.10	890	161.00	5297	172.00	2446	184.10	1469
151.00	2135	161.90	1675	173.10	2512	185.00	9247
151.80	1280	162.90	635	174.10	4447	186.00	63784
153.00	4044	163.80	539	175.00	9679	187.00	19608
154.10	2941	164.90	5220	176.10	2816	188.10	1966
155.00	7235	166.00	3515	177.00	4674	189.00	5159
156.00	9082	167.10	24185	178.10	1689	190.00	999
157.00	2515	168.00	9184	179.00	16095	190.90	1704
158.00	2113	169.00	1987	180.00	12296	191.20	1601

Scan 512 (7.499 min): 1116F032.D
DFTPP @ 3.0ug/mL | SVM30-40C
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
192.10	5282	205.00	29216	219.00	630	232.90	591
193.00	6446	206.00	119304	221.00	25024	234.00	1954
194.10	1639	207.10	17360	223.00	7326	235.00	2071
195.00	1044	208.00	3856	224.00	65776	235.90	1517
196.00	14559	208.90	1117	225.00	16712	236.90	2167
198.00	444224	210.20	2178	227.00	26416	238.90	1370
199.00	32816	211.00	4501	228.00	3744	240.10	749
200.00	3202	214.90	849	229.00	6180	241.00	1835
201.40	3043	216.00	2765	229.90	936	242.00	3716
203.00	3138	217.00	31336	231.10	1583	243.10	3879
204.00	17504	218.00	4037	231.90	552	244.00	53576

Scan 512 (7.499 min): 1116F032.D
DFTPP @ 3.0ug/mL | SVM30-40C
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
245.00	8451	258.00	16440	274.00	24312	294.00	863
246.00	11072	259.00	2462	275.00	144512	296.00	37888
247.00	2164	259.90	512	276.00	20720	297.00	5599
248.00	594	261.00	524	276.90	11117	298.00	665
249.00	2216	263.95	149	277.90	2407	302.00	778
250.90	647	265.00	5839	283.00	1664	303.00	4410
251.90	568	265.90	614	284.00	891	304.00	1273
252.80	909	270.00	606	285.10	2091	307.90	779
255.00	288832	270.90	722	289.00	539	309.90	723
256.00	42728	271.90	907	292.00	983	314.00	1872
257.00	3395	273.00	9318	293.00	2931	314.90	4869

Scan 512 (7.499 min): 1116F032.D
DFTPP @ 3.0ug/mL | SVM30-40C
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
316.10	2790	335.00	3058	369.80	901	404.00	1937
320.90	1106	340.90	1542	371.00	1139	421.00	4197
322.00	649	341.90	545	372.00	7457	421.90	4649
323.00	14519	346.00	3202	373.00	2555	423.00	40408
324.00	2333	347.00	678	383.00	3215	424.00	8795
326.00	511	352.00	4781	384.00	749	425.00	1035
327.00	2658	353.10	3150	390.00	1539	441.00	103368
328.00	805	354.00	5018	391.10	1032	442.00	703616
332.00	1037	354.90	1168	401.10	506	443.00	148032
333.00	1062	365.00	19936	402.00	3659	444.00	15240
334.00	8985	365.90	2684	403.00	6383	445.10	961

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Results

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0909140
Date Analyzed: 11/19/2009
Time Analyzed: 22:07

Tune Summary
Polynuclear Aromatic Hydrocarbons

File ID: J:\MS11\DATA\111909\1119F038.D
Instrument ID: MS11
Column:

Analysis Method: 8270C SIM
Analysis Lot: KWG0910976

Target Mass	Relative to Mass	Lower Limit%	Upper Limit%	Relative Abundance %	Raw Abundance	Result Pass/Fail
51	198	10	80	29.5	112312	PASS
68	69	0	2	0.0	0	PASS
69	198	0	100	30.9	117664	PASS
70	69	0	2	0.8	939	PASS
127	198	10	80	41.5	158144	PASS
197	198	0	2	0.0	0	PASS
198	442	30	100	36.0	381120	PASS
199	198	5	9	6.8	25808	PASS
275	198	10	60	39.9	151936	PASS
365	442	1	50	2.6	27392	PASS
441	443	0	100	70.8	151616	PASS
442	442	100	100	100.0	1058304	PASS
443	442	15	24	20.2	214208	PASS

Sample Name	Lab Code	File ID	Date Analyzed	Time Analyzed	Q
Continuing Calibration Verification	KWG0910976-2	J:\MS11\DATA\111909\1119F039.D	11/19/2009	22:34	
Method Blank	KWG0910535-7	J:\MS11\DATA\111909\1119F041.D	11/19/2009	23:27	
Lab Control Sample	KWG0910535-5	J:\MS11\DATA\111909\1119F045.D	11/20/2009	01:13	
Duplicate Lab Control Sample	KWG0910535-6	J:\MS11\DATA\111909\1119F046.D	11/20/2009	01:40	
M-4-A	K0909140-001	J:\MS11\DATA\111909\1119F052.D	11/20/2009	04:19	
M-4-B	K0909140-002	J:\MS11\DATA\111909\1119F053.D	11/20/2009	04:46	
M-4-C	K0909140-003	J:\MS11\DATA\111909\1119F054.D	11/20/2009	05:12	
M-1-B	K0909140-004	J:\MS11\DATA\111909\1119F055.D	11/20/2009	05:39	

Results flagged with an asterisk (*) indicate the analysis performed outside specified tune window

Exception Report

Data File: J:\MS11\DATA\111909\1119F038.D
Lab ID: KWG0910976-1
RunType: DFTPP
Matrix: WATER

Date Acquired: 11/19/2009 22:07
Date Quantitated:
Batch ID: KWG0910976
Analysis Method: 8270C SIM
ListJoinID: LJ8980

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Tune Ion Ratio	NA	NA	NA	x	

Primary Review: 11/21/9

Secondary Review: 11-23-09

Quantitation Report

Bottle ID:		**Tier:**		**Matrix:**	WATER
Prod Code:	8270C SIM	**Collect Date:**		**Receive Date:**	11/20/2009

Analysis Lot:	KWG0910976	**Prep Lot:**		**Report Group:**	
Analysis Method:	DFTPP	**Prep Method:**			
Prep Ref:		**Prep Date:**			

Quant Method:	J:\MS11\METHODS\SIM\DFTPPPAH.M	**Calibration ID:**	CAL9029
Title:		**Report List ID:**	LJ1965
Tune Ref:		**Method ID:**	MJ190
MB Ref:		**Quant based on Report List**	

Data File:	J:\MS11\DATA\111909\1119F038.D			**Instrument:**	MS11
Acqu Date:	11/19/2009 22:07	**Quant Date:**		**Vial:**	26
Run Type:	DFTPP			**Dilution:**	1.0
Lab ID:	KWG0910976-1			**Soln Conc. Units:**	

Tune Results

Target Mass	Relative to Mass	Lower Limit%	Upper Limit%	Relative Abundance %	Raw Abundance	Result Pass/Fail
51	198	10	80	29.5	112312	Pass
68	69	0	2	0.0	0	Pass
69	198	0	100	30.9	117664	Pass
70	69	0	2	0.8	939	Pass
127	198	10	80	41.5	158144	Pass
197	198	0	2	0.0	0	Pass
198	442	30	100	36.0	381120	Pass
199	198	5	9	6.8	25808	Pass
275	198	10	60	39.9	151936	Pass
365	442	1	50	2.6	27392	Pass
441	443	0.01	100	70.8	151616	Pass
442	442	100	100	100.0	1058304	Pass
443	442	15	24	20.2	214208	Pass

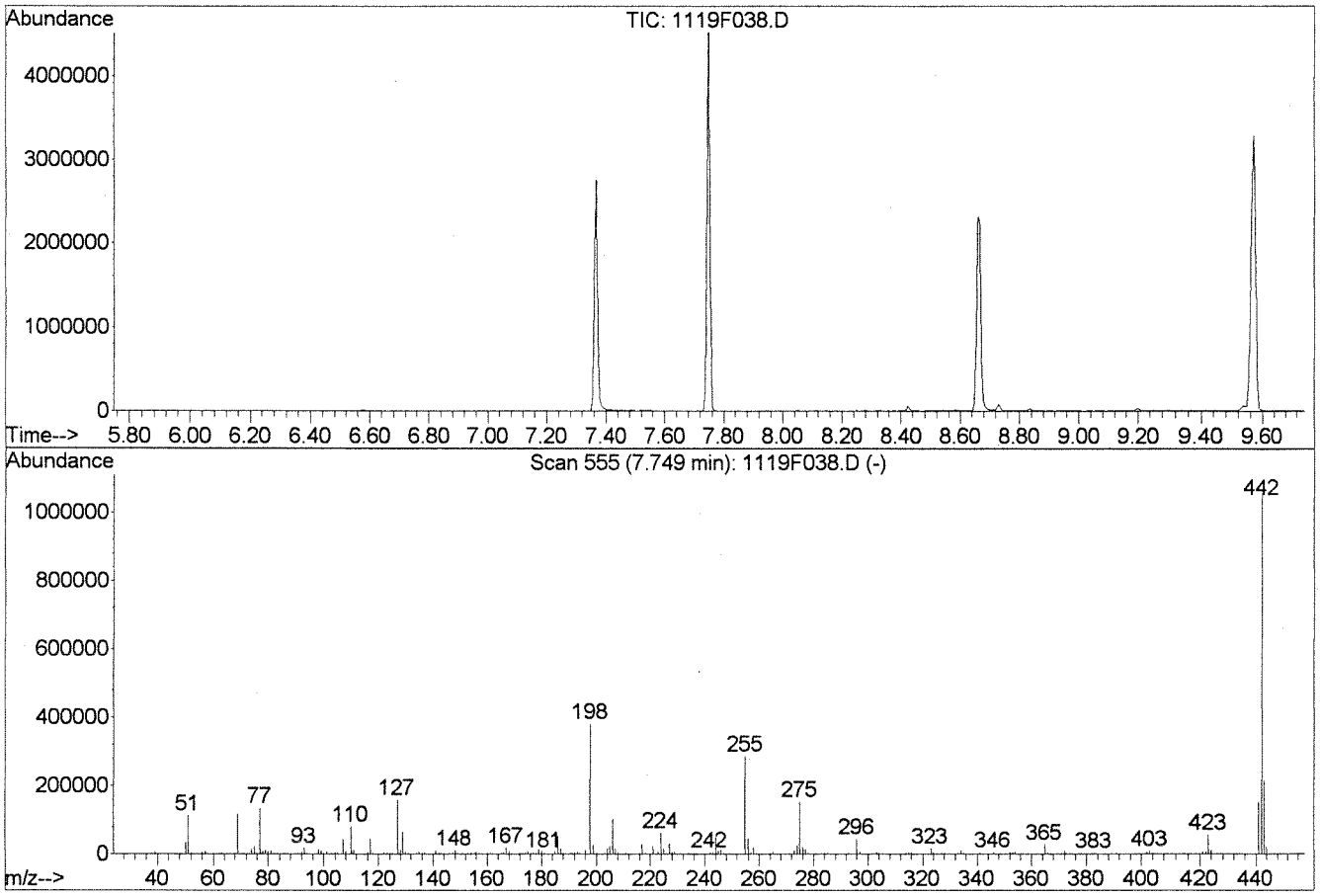
U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Data File : J:\MS11\DATA\111909\1119F038.D
Acq On : 19 Nov 2009 10:07 pm
Sample : DFTPP @ 3.0ug/mL | SVM30-59A
Misc :
MS Integration Params: RTEINT.P
Method : J:\MS11\METHODS\SIM\DFTPPPAH.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS

Vial: 26
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00



Spectrum Information: Scan 555

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	10	80	29.5	112312	PASS
68	69	0.00	2	0.0	0	PASS
70	69	0.00	2	0.8	939	PASS
127	198	10	80	41.5	158144	PASS
197	198	0.00	2	0.0	0	PASS
198	442	30	100	36.0	381120	PASS
199	198	5	9	6.8	25808	PASS
275	198	10	60	39.9	151936	PASS
365	442	1	50	2.6	27392	PASS
441	443	0.01	100	70.8	151616	PASS
442	442	30	100	100.0	1058304	PASS
443	442	15	24	20.2	214208	PASS

1119F038.D DFTPPPAH.M Fri Nov 20 12:00:37 2009

Scan 555 (7.749 min): 1119F038.D
DFTPP @ 3.0ug/mL | SVM30-59A
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
38.00	1702	62.00	1899	79.00	11051	93.00	17784
39.10	8592	63.10	4579	80.00	7399	94.00	1491
44.10	35	63.90	574	81.00	10063	95.90	565
50.10	34792	65.10	2214	82.10	2375	98.00	14539
51.10	112312	69.00	117664	83.10	2344	99.00	10144
52.10	5093	70.10	939	85.10	1820	100.00	869
54.90	550	73.10	1372	86.00	3538	101.10	5176
56.00	3511	74.00	14583	87.10	1826	103.00	1800
57.10	7663	75.10	20200	87.90	558	104.00	4991
58.20	522	77.10	133888	91.00	2557	105.00	4280
61.10	1477	78.10	8352	92.10	3110	107.00	43656

Scan 555 (7.749 min): 1119F038.D
DFTPP @ 3.0ug/mL | SVM30-59A
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
108.00	7772	125.00	1861	139.90	965	151.00	1678
110.00	80816	127.00	158144	141.00	9650	152.00	714
111.00	11666	128.00	12047	142.00	2773	153.00	3357
112.00	1465	129.00	66072	143.10	2063	154.00	2211
116.00	3599	129.90	5330	144.00	511	155.10	4987
117.00	44224	131.00	1270	144.90	611	156.00	6225
117.90	2237	133.90	2486	146.00	1707	157.00	1412
119.90	534	135.00	6355	147.10	4637	158.00	1965
122.00	3284	136.00	3012	148.00	10715	159.00	1311
123.10	4846	137.00	3167	149.00	2324	160.00	2972
124.00	2263	137.90	592	150.00	668	161.00	4897

Scan 555 (7.749 min): 1119F038.D
DFTPP @ 3.0ug/mL | SVM30-59A
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
161.90	1528	175.00	8318	186.00	54768	195.00	778
165.00	3463	176.10	2647	187.00	14958	196.00	11810
166.00	3058	177.00	5058	187.90	1368	197.90	381120
167.00	18384	178.00	1394	188.90	3530	199.00	25808
168.00	8450	179.00	13758	189.80	579	200.00	2252
169.00	1458	180.00	8921	190.30	534	201.60	1795
170.10	628	181.10	4885	190.90	1781	202.10	1109
170.90	986	182.10	693	191.30	1424	203.00	3622
172.00	2014	182.60	670	192.00	4511	204.00	15189
172.90	2004	184.10	1369	193.10	6060	205.00	23072
174.00	4301	185.00	7791	193.90	1284	206.00	102056

Scan 555 (7.749 min): 1119F038.D
DFTPP @ 3.0ug/mL | SVM30-59A
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
206.95	14745	221.00	22992	234.00	1642	246.00	11966
208.00	3562	223.00	6533	234.90	2126	246.90	1968
209.00	1192	224.00	61552	236.00	1178	248.10	564
210.10	1770	225.00	16108	236.90	2126	249.00	1993
211.00	4934	226.00	2159	239.00	890	249.90	515
212.10	1153	227.00	29424	240.00	1119	251.90	576
212.90	522	227.90	3397	240.90	1777	252.90	1385
215.00	1422	228.90	6426	242.00	3919	255.00	285312
215.90	2362	230.10	845	242.90	3200	256.00	44160
216.90	28352	230.90	2164	244.00	51520	257.00	3279
218.00	3048	232.10	700	245.00	6681	258.00	18808

Scan 555 (7.749 min): 1119F038.D
DFTPP @ 3.0ug/mL | SVM30-59A
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
259.00	2862	276.00	19216	297.00	6031	316.00	3849
260.00	556	277.00	13420	297.90	585	320.90	1478
261.00	561	278.00	1753	300.90	616	321.80	1048
265.00	5989	283.00	2023	302.10	849	323.00	15883
265.80	1509	283.90	1160	303.00	5125	324.00	3126
269.90	601	285.00	2630	304.00	1737	326.90	3128
270.90	578	286.00	529	307.90	1009	328.10	1472
271.90	1005	292.10	723	310.00	532	332.00	1083
272.90	8857	293.00	2791	313.00	649	333.00	1846
274.00	24648	294.00	697	314.10	2031	334.00	10761
275.00	151936	296.00	42976	314.90	4524	335.10	3239

Scan 555 (7.749 min): 1119F038.D
DFTPP @ 3.0ug/mL | SVM30-59A
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
336.00	580	372.00	9678	415.00	608		
341.00	1859	372.90	2893	421.00	6968		
342.10	874	382.90	2645	422.00	6853		
346.00	3900	384.00	1088	423.00	55832		
352.00	4570	389.90	1487	424.00	11104		
353.00	4785	391.00	1523	424.90	1347		
354.00	6345	391.90	885	441.00	151616		
355.00	1313	400.90	772	442.00	1058304		
364.90	27392	402.00	5001	443.00	214208		
365.90	3605	403.00	8398	444.00	18712		
371.00	1598	404.00	2576	444.90	1131		

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Results

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0909140
Date Analyzed: 11/20/2009
Time Analyzed: 23:00

Tune Summary
Polynuclear Aromatic Hydrocarbons

File ID: J:\MS11\DATA\112009\1120F030.D
Instrument ID: MS11
Column:

Analysis Method: 8270C SIM
Analysis Lot: KWG0911040

Target Mass	Relative to Mass	Lower Limit%	Upper Limit%	Relative Abundance %	Raw Abundance	Result Pass/Fail
441	443	0	100	71.4	132160	PASS
442	442	100	100	100.0	930240	PASS
443	442	15	24	19.9	185216	PASS
51	198	10	80	37.9	175552	PASS
68	69	0	2	0.0	0	PASS
69	198	0	100	40.2	186176	PASS
70	69	0	2	0.0	0	PASS
127	198	10	80	47.3	219072	PASS
197	198	0	2	0.0	0	PASS
198	442	30	100	49.8	462912	PASS
199	198	5	9	7.7	35648	PASS
275	198	10	60	35.5	164288	PASS
365	442	1	50	2.6	23984	PASS

Sample Name	Lab Code	File ID	Date Analyzed	Time Analyzed	Q
Continuing Calibration Verification	KWG0911040-2	J:\MS11\DATA\112009\1120F031.D	11/20/2009	23:26	
M-2-C	K0909140-005	J:\MS11\DATA\112009\1120F033.D	11/21/2009	00:19	
M-3-B	K0909140-007	J:\MS11\DATA\112009\1120F034.D	11/21/2009	00:46	
M-2-B	K0909140-008	J:\MS11\DATA\112009\1120F035.D	11/21/2009	01:13	
M-1-C	K0909140-009	J:\MS11\DATA\112009\1120F036.D	11/21/2009	01:39	
M-3-C	K0909140-010	J:\MS11\DATA\112009\1120F037.D	11/21/2009	02:06	
B-1-A	K0909140-011	J:\MS11\DATA\112009\1120F038.D	11/21/2009	02:32	
B-1-B	K0909140-012	J:\MS11\DATA\112009\1120F039.D	11/21/2009	02:59	
M-3-A	K0909140-013	J:\MS11\DATA\112009\1120F040.D	11/21/2009	03:25	
M-1-A	K0909140-014	J:\MS11\DATA\112009\1120F041.D	11/21/2009	03:52	

Results flagged with an asterisk (*) indicate the analysis performed outside specified tune window

Exception Report

Data File: J:\MS11\DATA\112009\1120F030.D
Lab ID: KWG0911040-1
RunType: DFTPP
Matrix: WATER

Date Acquired: 11/20/2009 23:00
Date Quantitated:
Batch ID: KWG0911040
Analysis Method: 8270C SIM
ListJoinID: LJ4434

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Tune Ion Ratio	NA	NA	NA	x	

Primary Review: 11/23/09

Secondary Review: 11-24-09

Quantitation Report

Bottle ID:		**Tier:**		**Matrix:**	WATER
Prod Code:	8270C SIM	**Collect Date:**		**Receive Date:**	11/23/2009

Analysis Lot:	KWG0911040	**Prep Lot:**		**Report Group:**	
Analysis Method:	DFTPP	**Prep Method:**			
Prep Ref:		**Prep Date:**			

Quant Method:	J:\MS11\METHODS\SIM\DFTPPPAH.M	**Calibration ID:**	CAL9029
Title:		**Report List ID:**	LJ1965
Tune Ref:		**Method ID:**	MJ190
MB Ref:		**Quant based on Report List**	

Data File:	J:\MS11\DATA\112009\1120F030.D			**Instrument:**	MS11
Acqu Date:	11/20/2009 23:00	**Quant Date:**		**Vial:**	27
Run Type:	DFTPP			**Dilution:**	1.0
Lab ID:	KWG0911040-1			**Soln Conc. Units:**	

Tune Results

Target Mass	Relative to Mass	Lower Limit%	Upper Limit%	Relative Abundance %	Raw Abundance	Result Pass/Fail
51	198	10	80	37.9	175552	Pass
68	69	0	2	0.0	0	Pass
69	198	0	100	40.2	186176	Pass
70	69	0	2	0.0	0	Pass
127	198	10	80	47.3	219072	Pass
197	198	0	2	0.0	0	Pass
198	442	30	100	49.8	462912	Pass
199	198	5	9	7.7	35648	Pass
275	198	10	60	35.5	164288	Pass
365	442	1	50	2.6	23984	Pass
441	443	0.01	100	71.4	132160	Pass
442	442	100	100	100.0	930240	Pass
443	442	15	24	19.9	185216	Pass

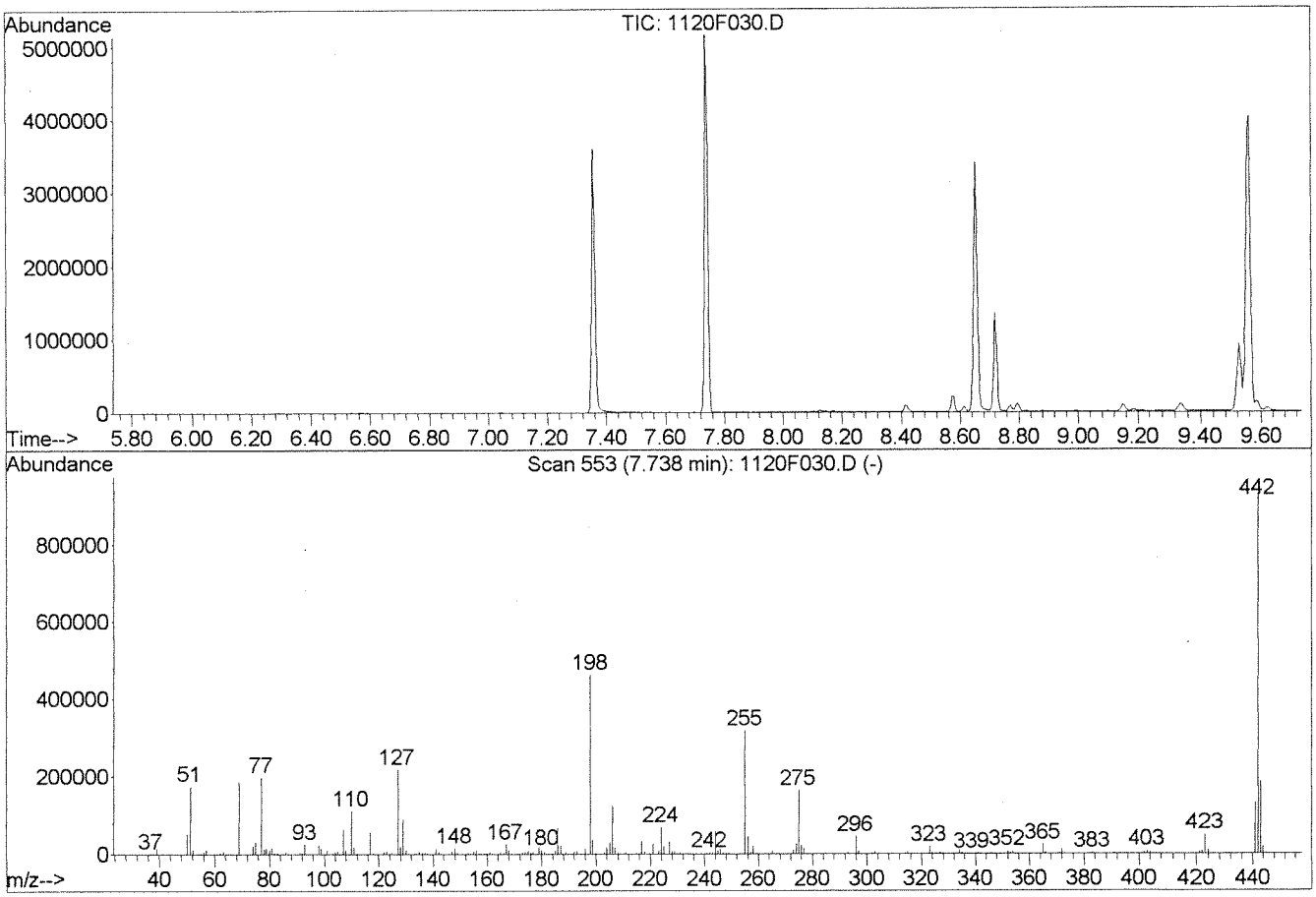
U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Data File : J:\MS11\DATA\112009\1120F030.D
Acq On : 20 Nov 2009 11:00 pm
Sample : DFTPP @ 3.0ug/mL | SVM30-59A
Misc :
MS Integration Params: RTEINT.P
Method : J:\MS11\METHODS\SIM\DFTPPPAH.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS

Vial: 27
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00



Spectrum Information: Scan 553

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	10	80	37.9	175552	PASS
68	69	0.00	2	0.0	0	PASS
70	69	0.00	2	0.0	0	PASS
127	198	10	80	47.3	219072	PASS
197	198	0.00	2	0.0	0	PASS
198	442	30	100	49.8	462912	PASS
199	198	5	9	7.7	35648	PASS
275	198	10	60	35.5	164288	PASS
365	442	1	50	2.6	23984	PASS
441	443	0.01	100	71.4	132160	PASS
442	442	30	100	100.0	930240	PASS
443	442	15	24	19.9	185216	PASS

1120F030.D DFTPPPAH.M Mon Nov 23 08:35:23 2009

Scan 553 (7.738 min): 1120F030.D
DFTPP @ 3.0ug/mL | SVM30-59A
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
37.10	1101	55.10	1811	74.10	21480	87.10	2181
38.10	2414	56.10	5280	75.00	31768	88.10	630
39.10	15377	57.00	11917	77.10	197056	91.00	4202
40.05	335	61.00	2670	78.10	13662	92.10	4050
41.10	277	62.00	3483	79.00	16243	93.00	25648
43.20	701	63.10	7449	80.10	10205	94.00	1536
44.10	628	63.90	725	81.00	15932	95.00	911
50.10	52064	65.00	3499	82.00	4258	96.00	1167
51.10	175552	67.10	670	83.10	3443	98.00	23632
52.10	9508	69.00	186176	85.00	2341	99.00	14786
53.00	533	73.10	1772	86.00	5163	100.10	1552

Scan 553 (7.738 min): 1120F030.D
DFTPP @ 3.0ug/mL | SVM30-59A
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
101.00	9237	118.00	4286	130.00	9771	141.00	12766
103.10	3152	118.80	652	131.00	1624	142.10	4166
104.00	6583	120.00	970	131.90	786	143.00	2661
105.00	6239	121.00	648	133.10	782	144.00	860
107.00	64144	122.00	5272	133.90	2389	144.80	511
108.00	9853	123.00	7415	135.00	7182	146.00	2435
110.00	111640	124.00	2920	136.10	3340	147.00	6518
111.00	17344	124.90	3661	137.00	3393	148.00	15177
112.00	2343	127.00	219072	138.00	1545	149.00	3008
113.00	1159	128.00	18432	139.00	708	150.00	625
117.00	58048	129.00	89240	139.90	1192	151.00	1576

Scan 553 (7.738 min): 1120F030.D
DFTPP @ 3.0ug/mL | SVM30-59A
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
151.60	1073	162.00	1661	174.00	5636	186.00	67432
152.20	682	164.00	501	175.00	9096	187.00	21256
153.00	3757	165.00	5389	176.00	3762	187.90	2038
154.00	3065	166.10	3830	176.90	4760	189.00	4753
155.00	6742	167.00	25848	178.00	1271	190.00	619
156.00	10166	168.00	10327	179.00	18000	191.00	1975
157.00	1607	169.00	1613	180.00	10266	192.00	5439
157.90	2568	170.10	1017	181.00	6381	193.00	6693
159.00	1789	171.00	1087	182.10	661	194.00	2043
160.00	2989	171.90	2489	183.90	2016	195.10	1169
161.00	5529	173.00	3359	185.00	8591	196.00	13500

Scan 553 (7.738 min): 1120F030.D
DFTPP @ 3.0ug/mL | SVM30-59A
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
198.00	462912	209.00	1883	227.00	31384	239.00	1388
198.90	35648	210.40	2386	228.00	4830	240.00	1093
200.00	2137	211.00	4276	228.90	6247	240.90	1976
200.70	834	215.00	1393	230.00	721	242.00	3604
201.30	2542	215.90	2465	231.00	3547	243.00	4364
203.00	3798	216.90	33720	231.90	667	244.00	59120
204.00	16888	218.00	4784	233.90	2235	245.00	8631
205.00	29520	221.00	26272	235.00	2171	246.00	12619
206.00	123208	223.00	8639	235.90	1379	247.10	2901
207.00	17027	224.00	69048	237.00	2637	248.90	2332
208.00	4716	225.00	20352	237.90	550	249.90	721

Scan 553 (7.738 min): 1120F030.D
DFTPP @ 3.0ug/mL | SVM30-59A
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
250.90	548	265.90	1396	284.00	1108	303.00	4954
252.10	918	270.90	697	285.00	2128	304.10	1597
253.10	1568	271.90	1140	286.10	556	309.90	626
255.00	318272	273.00	10433	289.00	763	313.90	2545
256.00	45704	274.00	27432	290.90	715	314.90	4898
257.00	2974	275.00	164288	292.10	618	316.00	2756
258.00	19472	276.00	21296	293.00	2839	320.90	1943
259.00	3673	276.90	13312	293.90	782	321.90	790
259.90	587	278.00	2334	296.00	45552	323.00	18024
264.10	588	279.10	533	297.00	6754	324.00	3685
265.00	7443	283.00	1726	302.00	780	325.00	600

Scan 553 (7.738 min): 1120F030.D
DFTPP @ 3.0ug/mL | SVM30-59A
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
327.00	3148	346.80	648	383.00	2666	423.00	49016
327.90	1650	352.00	6772	383.80	890	424.00	10042
329.00	513	353.00	3486	390.00	1343	425.10	824
332.00	1589	354.00	5894	391.10	1137	441.00	132160
333.00	1732	355.10	1182	392.10	856	442.00	930240
334.00	10872	365.00	23984	400.90	739	443.00	185216
335.00	2910	365.90	4045	401.90	4203	444.00	18328
338.90	580	370.00	805	403.00	6759	444.90	1438
341.00	2697	371.00	1786	404.00	2655		
341.90	614	372.00	12382	421.00	5513		
345.90	3312	372.90	2793	422.00	5977		

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Results

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0909140
Calibration Date: 10/15/2009

Initial Calibration Summary
Polynuclear Aromatic Hydrocarbons

Calibration ID: CAL8928
Instrument ID: MS11

Column: MS

Level ID	File ID
A	J:\MS11\DATA\101509\1015F003.D
B	J:\MS11\DATA\101509\1015F004.D
C	J:\MS11\DATA\101509\1015F005.D
D	J:\MS11\DATA\101509\1015F006.D
E	J:\MS11\DATA\101509\1015F007.D
F	J:\MS11\DATA\101509\1015F008.D
G	J:\MS11\DATA\101509\1015F009.D
H	J:\MS11\DATA\101509\1015F010.D
I	J:\MS11\DATA\101509\1015F011.D
J	J:\MS11\DATA\101509\1015F012.D

Analyte Name	Level ID	Amt	RRF	Level ID	Amt	RRF	Level ID	Amt	RRF	Level ID	Amt	RRF	Level ID	Amt	RRF
Naphthalene	A	2.0	0.900	B	4.0	1.01	C	8.0	0.978	D	20	0.978	E	100	0.990
	F	200	1.00	G	400	0.933	H	1000	0.866	I	1600	0.797	J	2000	0.750
2-Methylnaphthalene	A	2.0	0.595	B	4.0	0.667	C	8.0	0.611	D	20	0.632	E	100	0.636
	F	200	0.691	G	400	0.677	H	1000	0.651	I	1600	0.614	J	2000	0.569
Acenaphthylene	A	2.0	1.65	B	4.0	1.79	C	8.0	1.69	D	20	1.86	E	100	1.82
	F	200	1.90	G	400	1.85	H	1000	1.72	I	1600	1.57	J	2000	1.51
Acenaphthene	A	2.0	1.12	B	4.0	1.09	C	8.0	1.02	D	20	1.11	E	100	1.07
	F	200	1.08	G	400	1.05	H	1000	0.991	I	1600	0.930	J	2000	0.886
Fluorene	A	2.0	1.26	B	4.0	1.20	C	8.0	1.13	D	20	1.20	E	100	1.16
	F	200	1.19	G	400	1.11	H	1000	1.02	I	1600	0.968	J	2000	0.909
Dibenzofuran	A	2.0	1.43	B	4.0	1.44	C	8.0	1.37	D	20	1.46	E	100	1.47
	F	200	1.52	G	400	1.45	H	1000	1.34	I	1600	1.25	J	2000	1.19
Phenanthrene	A	2.0	1.35	B	4.0	1.21	C	8.0	1.10	D	20	1.13	E	100	1.14
	F	200	1.19	G	400	1.13	H	1000	1.06	I	1600	0.987	J	2000	0.927
Anthracene	A	2.0	1.14	B	4.0	1.09	C	8.0	1.06	D	20	1.06	E	100	1.11
	F	200	1.21	G	400	1.12	H	1000	1.06	I	1600	0.965	J	2000	0.927
Fluoranthene	A	2.0	1.47	B	4.0	1.41	C	8.0	1.24	D	20	1.25	E	100	1.26
	F	200	1.33	G	400	1.23	H	1000	1.14	I	1600	1.02	J	2000	0.981
Pyrene	A	2.0	1.27	B	4.0	1.13	C	8.0	1.08	D	20	1.14	E	100	1.07
	F	200	1.17	G	400	1.11	H	1000	1.07	I	1600	0.978	J	2000	0.926
Benz(a)anthracene	A	2.0	1.42	B	4.0	1.21	C	8.0	1.02	D	20	1.04	E	100	1.01
	F	200	1.11	G	400	1.06	H	1000	1.05	I	1600	0.989	J	2000	0.965
Chrysene	A	2.0	1.16	B	4.0	1.18	C	8.0	1.07	D	20	1.09	E	100	1.04
	F	200	1.09	G	400	1.07	H	1000	1.03	I	1600	0.945	J	2000	0.914
Benzo(b)fluoranthene	A	2.0	1.17	B	4.0	1.03	C	8.0	0.989	D	20	1.01	E	100	1.00
	F	200	1.11	G	400	1.06	H	1000	1.07	I	1600	1.02	J	2000	0.956
Benzo(k)fluoranthene	A	2.0	1.01	B	4.0	1.03	C	8.0	0.997	D	20	1.04	E	100	1.03
	F	200	1.09	G	400	1.06	H	1000	1.07	I	1600	1.02	J	2000	0.942

Results flagged with an asterisk (*) indicate values outside control criteria.

† **SPCC Compound** ‡ **CCC Compound**

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0909140
Calibration Date: 10/15/2009

Initial Calibration Summary
Polynuclear Aromatic Hydrocarbons

Calibration ID: CAL8928
Instrument ID: MS11

Column: MS

Analyte Name	Level ID	Amt	RRF	Level ID	Amt	RRF	Level ID	Amt	RRF	Level ID	Amt	RRF	Level ID	Amt	RRF
Benzo(a)pyrene	A	2.0	1.13	B	4.0	1.05	C	8.0	0.899	D	20	0.941	E	100	0.937
	F	200	1.01	G	400	0.994	H	1000	1.02	I	1600	0.971	J	2000	0.923
Indeno(1,2,3-cd)pyrene	A	2.0	0.970	B	4.0	0.947	C	8.0	0.806	D	20	0.888	E	100	0.893
	F	200	0.962	G	400	0.925	H	1000	0.938	I	1600	0.884	J	2000	0.851
Dibenz(a,h)anthracene	A	2.0	1.02	B	4.0	1.01	C	8.0	0.876	D	20	0.970	E	100	0.966
	F	200	1.02	G	400	1.00	H	1000	1.01	I	1600	0.967	J	2000	0.918
Benzo(g,h,i)perylene	A	2.0	1.11	B	4.0	1.09	C	8.0	1.06	D	20	1.09	E	100	1.05
	F	200	1.09	G	400	1.05	H	1000	1.02	I	1600	0.967	J	2000	0.918
Fluorene-d10	A	2.0	1.06	B	4.0	1.05	C	8.0	0.892	D	20	0.996	E	100	0.945
	F	200	0.989	G	400	0.924	H	1000	0.863	I	1600	0.831	J	2000	0.778
Fluoranthene-d10				B	4.0	1.42	C	8.0	1.09	D	20	1.10	E	100	1.10
	F	200	1.18	G	400	1.13	H	1000	1.07	I	1600	0.960	J	2000	0.921
Terphenyl-d14				B	4.0	1.05	C	8.0	0.790	D	20	0.866	E	100	0.800
	F	200	0.870	G	400	0.825	H	1000	0.794	I	1600	0.736	J	2000	0.708

Results flagged with an asterisk (*) indicate values outside control criteria.

† **SPCC Compound** ‡ **CCC Compound**

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0909140
Calibration Date: 10/15/2009

Initial Calibration Summary
Polynuclear Aromatic Hydrocarbons

Calibration ID: CAL8928
Instrument ID: MS11

Column: MS

Analyte Name	Compound Type	Calibration Evaluation					RRF Evaluation		
		Fit Type	Eval.	Eval. Result	Q	Control Criteria	Average RRF	Q	Minimum RRF
Naphthalene	MS	AverageRF	% RSD	9.8		≤ 15	0.920		0.01
2-Methylnaphthalene	MS	AverageRF	% RSD	6.0		≤ 15	0.634		0.01
Acenaphthylene	MS	AverageRF	% RSD	7.4		≤ 15	1.74		0.01
Acenaphthene	MS	AverageRF	% RSD	7.6		≤ 15	1.03		0.01
Fluorene	MS	AverageRF	% RSD	10.2		≤ 15	1.12		0.01
Dibenzofuran	MS	AverageRF	% RSD	7.4		≤ 15	1.39		0.01
Phenanthrene	MS	AverageRF	% RSD	10.5		≤ 15	1.12		0.01
Anthracene	MS	AverageRF	% RSD	7.6		≤ 15	1.07		0.01
Fluoranthene	MS	AverageRF	% RSD	12.5		≤ 15	1.23		0.01
Pyrene	MS	AverageRF	% RSD	8.7		≤ 15	1.10		0.01
Benz(a)anthracene	MS	AverageRF	% RSD	12.3		≤ 15	1.09		0.01
Chrysene	MS	AverageRF	% RSD	7.9		≤ 15	1.06		0.01
Benzo(b)fluoranthene	MS	AverageRF	% RSD	6.1		≤ 15	1.04		0.01
Benzo(k)fluoranthene	MS	AverageRF	% RSD	4.1		≤ 15	1.03		0.01
Benzo(a)pyrene	MS	AverageRF	% RSD	7.0		≤ 15	0.988		0.01
Indeno(1,2,3-cd)pyrene	MS	AverageRF	% RSD	5.7		≤ 15	0.907		0.01
Dibenz(a,h)anthracene	MS	AverageRF	% RSD	5.0		≤ 15	0.977		0.01
Benzo(g,h,i)perylene	MS	AverageRF	% RSD	5.8		≤ 15	1.04		0.01
Fluorene-d10	SURR	AverageRF	% RSD	10.0		≤ 15	0.933		0.01
Fluoranthene-d10	SURR	AverageRF	% RSD	12.8		≤ 15	1.11		0.01
Terphenyl-d14	SURR	AverageRF	% RSD	12.1		≤ 15	0.827		0.01

Results flagged with an asterisk (*) indicate values outside control criteria.

† SPCC Compound **‡ CCC Compound**

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Results

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0909140
Calibration Date: 10/15/2009
Date Analyzed: 10/15/2009

Second Source Calibration Verification
Polynuclear Aromatic Hydrocarbons

Calibration Type: Internal Standard
Analysis Method: 8270C SIM

Calibration ID: CAL8928
Units: ng/ml

File ID: J:\MS11\DATA\101509\1015G014.D

Analyte Name	Expected	Result	Average RF	SSV RF	%D	%Drift	Criteria	Curve Fit
Naphthalene	400	390	0.920	0.904	-2	NA	± 20 %	AverageRF
2-Methylnaphthalene	400	410	0.634	0.650	3	NA	± 20 %	AverageRF
Acenaphthylene	400	440	1.74	1.92	10	NA	± 20 %	AverageRF
Acenaphthene	400	420	1.03	1.09	6	NA	± 20 %	AverageRF
Fluorene	400	420	1.12	1.16	4	NA	± 20 %	AverageRF
Dibenzofuran	400	440	1.39	1.52	9	NA	± 20 %	AverageRF
Phenanthrene	400	400	1.12	1.11	-1	NA	± 20 %	AverageRF
Anthracene	400	420	1.07	1.14	6	NA	± 20 %	AverageRF
Fluoranthene	400	400	1.23	1.22	-1	NA	± 20 %	AverageRF
Pyrene	400	360	1.10	0.987	-10	NA	± 20 %	AverageRF
Benz(a)anthracene	400	360	1.09	0.966	-11	NA	± 20 %	AverageRF
Chrysene	400	370	1.06	0.969	-8	NA	± 20 %	AverageRF
Benzo(b)fluoranthene	400	400	1.04	1.06	1	NA	± 20 %	AverageRF
Benzo(k)fluoranthene	400	410	1.03	1.06	3	NA	± 20 %	AverageRF
Benzo(a)pyrene	400	390	0.988	0.965	-2	NA	± 20 %	AverageRF
Indeno(1,2,3-cd)pyrene	400	380	0.907	0.870	-4	NA	± 20 %	AverageRF
Dibenz(a,h)anthracene	400	380	0.977	0.936	-4	NA	± 20 %	AverageRF
Benzo(g,h,i)perylene	400	380	1.04	0.996	-5	NA	± 20 %	AverageRF

Results flagged with an asterisk (*) indicate values outside control criteria.

† SPCC Compound **‡ CCC Compound**

Injection Log

Directory: J:\MS11\DATA\101509

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	1	1015F001.D	1.	DFTPP @ 3.0ug/mL | SVM30-24C		15 Oct 2009 06:3
2	2	1015F002.D	1.	IB		15 Oct 2009 07:0
3	3	1015F003.D	1.	SIM-PAH ICAL @.002/.05ug/mL | SVM29-21C		15 Oct 2009 07:3
4	4	1015F004.D	1.	SIM-PAH ICAL @.004/0.1ug/mL | SVM29-21D		15 Oct 2009 08:0
5	5	1015F005.D	1.	SIM-PAH ICAL @.008/0.2ug/mL | SVM29-21E		15 Oct 2009 08:2
6	6	1015F006.D	1.	SIM-PAH ICAL @0.02/0.4ug/mL | SVM29-21F		15 Oct 2009 08:5
7	7	1015F007.D	1.	SIM-PAH ICAL @0.1/0.6ug/mL | SVM29-21G		15 Oct 2009 09:2
8	8	1015F008.D	1.	SIM-PAH ICAL @0.2/0.8ug/mL | SVM29-21H		15 Oct 2009 09:4
9	9	1015F009.D	1.	SIM-PAH ICAL @0.4/1.0ug/mL | SVM29-21I		15 Oct 2009 10:1
10	10	1015F010.D	1.	SIM-PAH ICAL @1.0/2.0ug/mL | SVM29-21J		15 Oct 2009 10:4
11	11	1015F011.D	1.	SIM-PAH ICAL @1.6/2.4ug/mL | SVM29-21K		15 Oct 2009 11:0
12	12	1015F012.D	1.	SIM-PAH ICAL @2.0/3.0ug/mL | SVM29-21L		15 Oct 2009 11:3
13	1	1015F013.D	1.	DFTPP @ 3.0ug/mL | SVM30-24C		15 Oct 2009 13:3
14	2	1015F014.D	1.	SIM-PAH ICV @ 0.4ug/mL | SVM30-24D		15 Oct 2009 14:0
15	1	1015F015.D	1.	KWG0908523-4 MB (NR)		15 Oct 2009 14:2

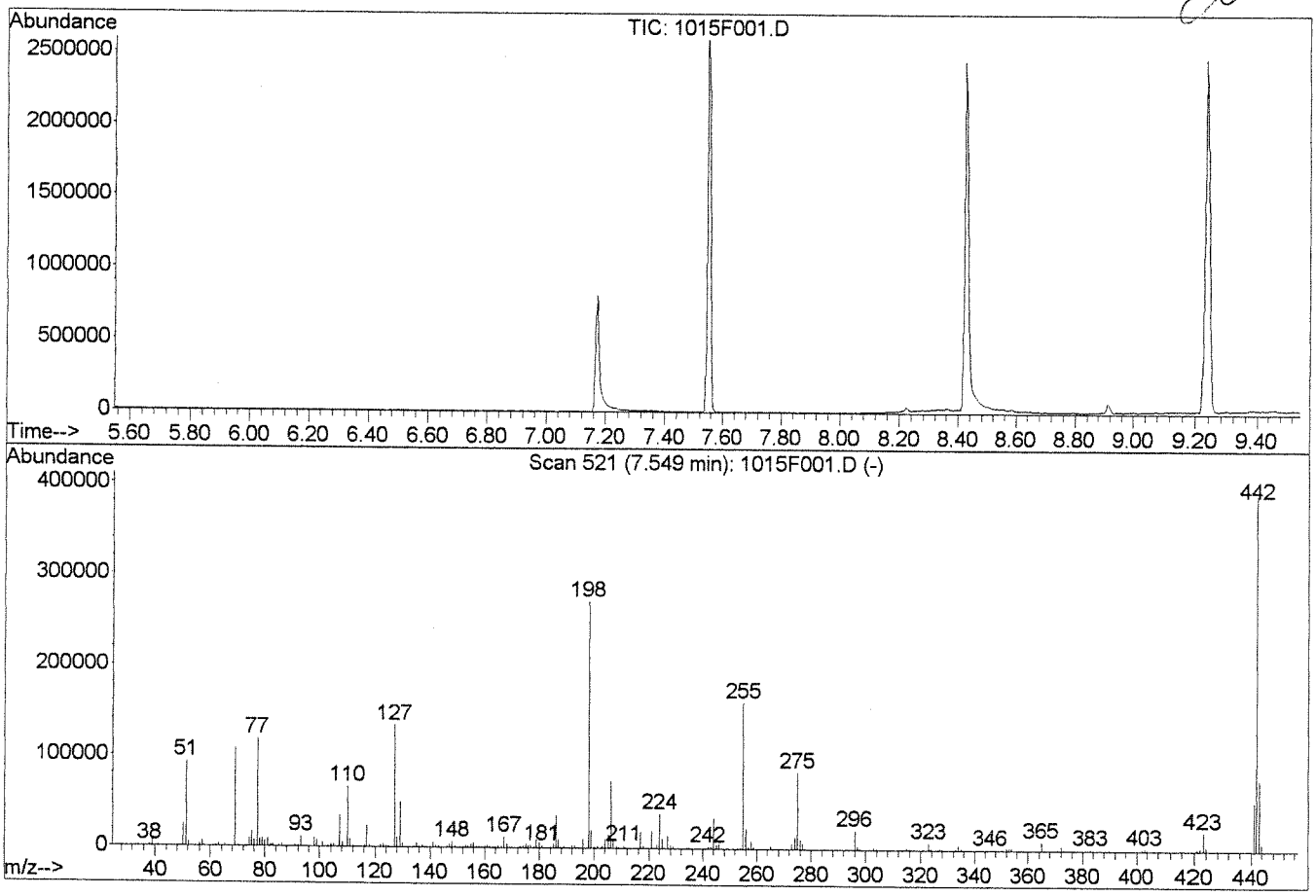
CAL8928
SIM-PAH-PCP ICAL
10/19/09

DFTPP

Data File : J:\MS11\DATA\101509\1015F001.D
Acq On : 15 Oct 2009 6:34 am
Sample : DFTPP @ 3.0ug/mL | SVM30-24C
Misc :
MS Integration Params: RTEINT.P
Method : J:\MS11\METHODS\SIM\DFTPPPAH.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS

Vial: 1
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00

10/19/09



Spectrum Information: Scan 521

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	10	80	34.1	92616	PASS
68	69	0.00	2	0.0	0	PASS
70	69	0.00	2	0.7	714	PASS
127	198	10	80	49.3	133824	PASS
197	198	0.00	2	0.0	0	PASS
198	442	30	100	69.4	271296	PASS
199	198	5	9	7.2	19600	PASS
275	198	10	60	30.8	83528	PASS
365	442	1	50	2.4	9359	PASS
441	443	0.01	100	69.2	53024	PASS
442	442	30	100	100.0	390784	PASS
443	442	15	24	19.6	76664	PASS

1015F001.D DFTPPPAH.M Thu Oct 15 14:35:46 2009

Scan 521 (7.549 min): 1015F001.D
DFTPP @ 3.0ug/mL | SVM30-24C
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
38.10	1277	62.00	1284	78.10	8529	93.00	11078
39.10	7527	63.00	3795	79.00	8956	94.10	866
40.10	515	64.10	769	80.00	6622	95.10	764
41.10	805	65.10	2228	81.10	9267	96.10	547
49.10	926	69.00	107832	82.10	2295	98.00	9567
50.10	24024	70.00	714	83.00	2455	99.00	7379
51.10	92616	73.20	832	85.00	1326	100.20	611
52.10	4524	74.10	9413	86.10	2672	101.00	4663
56.10	2936	75.00	16400	87.00	1063	102.90	1076
57.00	6448	76.10	7034	91.00	2285	104.00	2789
61.10	1029	77.10	117712	92.00	1805	105.00	2851

Scan 521 (7.549 min): 1015F001.D
DFTPP @ 3.0ug/mL | SVM30-24C
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
107.00	34456	124.00	1425	137.00	2067	151.10	988
108.10	5119	125.00	1769	138.10	694	152.10	612
110.00	65896	127.00	133824	140.00	636	153.00	2709
111.00	8515	128.00	11159	141.00	5382	153.90	1735
112.00	1453	129.00	49128	142.00	2086	155.00	4106
116.10	2022	130.00	4453	143.00	1449	156.00	5465
117.00	23824	131.10	1055	143.90	600	157.10	1185
118.00	2157	131.90	608	146.00	1256	158.00	1487
120.00	516	134.10	1195	147.00	3371	159.00	689
121.90	2516	135.00	5236	148.00	6228	160.00	2232
123.00	3405	136.00	1547	149.00	1700	161.00	2760

Scan 521 (7.549 min): 1015F001.D
DFTPP @ 3.0ug/mL | SVM30-24C
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
161.90	1177	175.90	2260	187.00	9762	201.40	2247
165.00	2615	176.90	2722	187.90	613	203.00	2161
166.10	1279	178.10	749	189.00	1923	204.00	9893
167.00	11891	179.00	9093	190.90	971	205.00	14763
168.00	4255	180.00	6201	191.90	3028	206.00	73072
169.00	813	181.00	2803	193.00	3395	207.00	9976
170.00	762	181.90	552	194.00	758	208.10	2102
172.10	1311	183.00	503	196.00	9642	208.90	819
173.00	1619	184.00	574	197.90	271296	210.90	3139
174.00	2452	185.00	4609	199.00	19600	211.60	1158
175.10	4752	186.00	35744	200.00	1647	214.80	668

Scan 521 (7.549 min): 1015F001.D
DFTPP @ 3.0ug/mL | SVM30-24C
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
216.00	1209	230.90	1345	246.00	5435	265.80	430
216.90	17904	234.00	1307	247.00	1150	271.00	618
217.90	2924	235.00	1375	248.90	1585	272.90	5422
221.00	19480	235.90	821	253.00	644	274.00	13100
223.00	4279	236.90	872	253.90	697	275.00	83528
224.00	38144	239.10	707	255.00	160512	276.00	10245
225.00	10306	240.90	1100	256.00	23000	276.90	6239
226.10	1160	242.00	2134	257.00	2001	278.00	1191
227.00	13967	242.90	2362	257.90	8402	285.00	1764
228.00	2757	244.00	33664	258.90	2046	292.90	1634
228.90	2585	245.00	4261	265.00	3318	296.00	20848

Scan 521 (7.549 min): 1015F001.D
DFTPP @ 3.0ug/mL | SVM30-24C
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
297.00	3605	332.10	503	370.90	620	423.00	19952
303.00	2521	332.70	627	372.00	4417	424.00	4477
304.10	566	334.00	4724	373.00	876	441.00	53024
314.00	1207	335.00	1496	382.90	1613	442.00	390784
314.90	2302	341.00	806	389.80	789	443.00	76664
315.90	1498	346.00	1263	391.90	612	444.00	7774
320.80	581	352.10	2432	401.90	1336		
323.00	8071	353.00	1715	403.00	2688		
323.90	1660	353.90	2520	403.90	1180		
327.00	1471	364.90	9359	420.90	2482		
328.00	743	365.90	1447	422.00	2994		

10/19/19

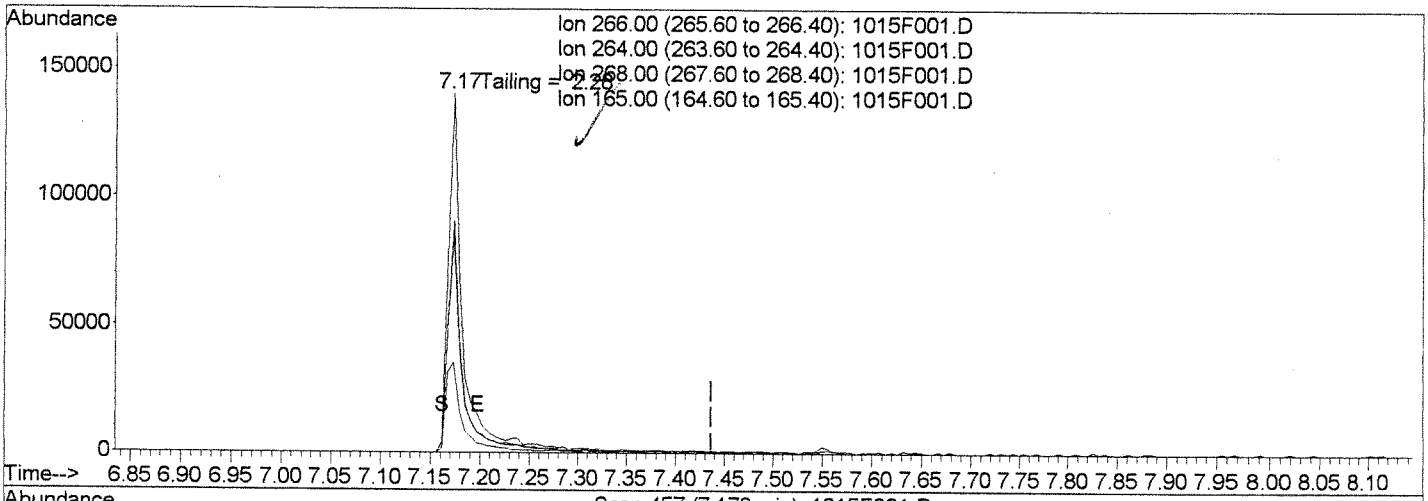
Quantitation Report (Qedit)

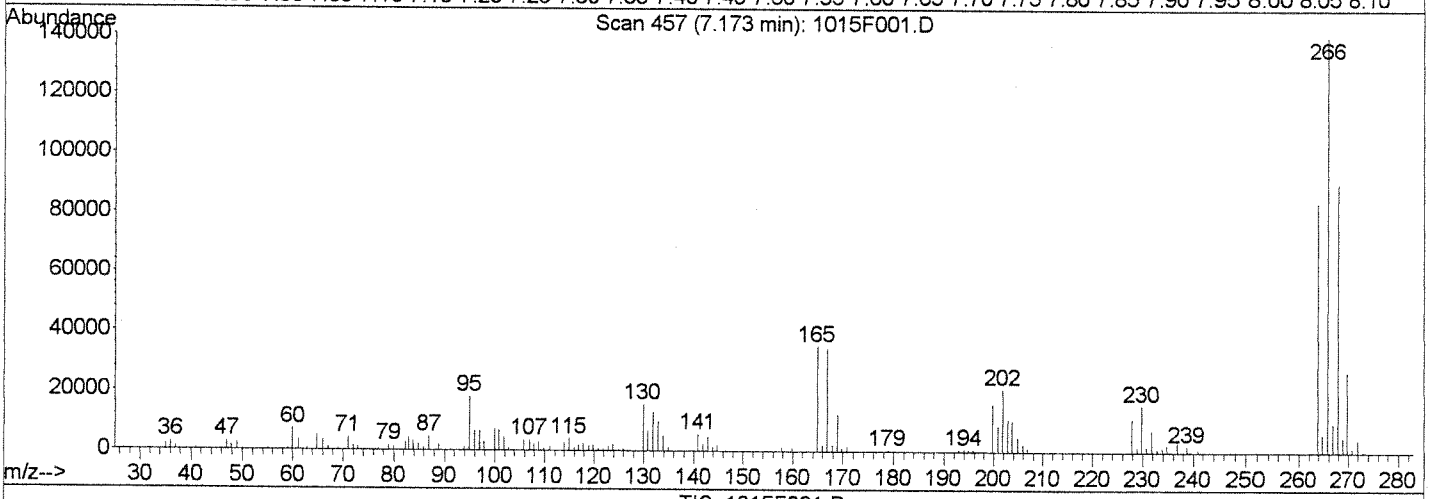
Data File : J:\MS11\DATA\101509\1015F001.D
Acq On : 15 Oct 2009 6:34 am
Sample : DFTPP @ 3.0ug/mL | SVM30-24C
Misc :
MS Integration Params: RTEINT.P
Quant Time: Oct 15 12:43 2009

Vial: 1
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\DFTPPPAH.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Tue Oct 12 13:33:42 2004
Response via : Single Level Calibration





TIC: 1015F001.D

(1) Pentachlorophenol

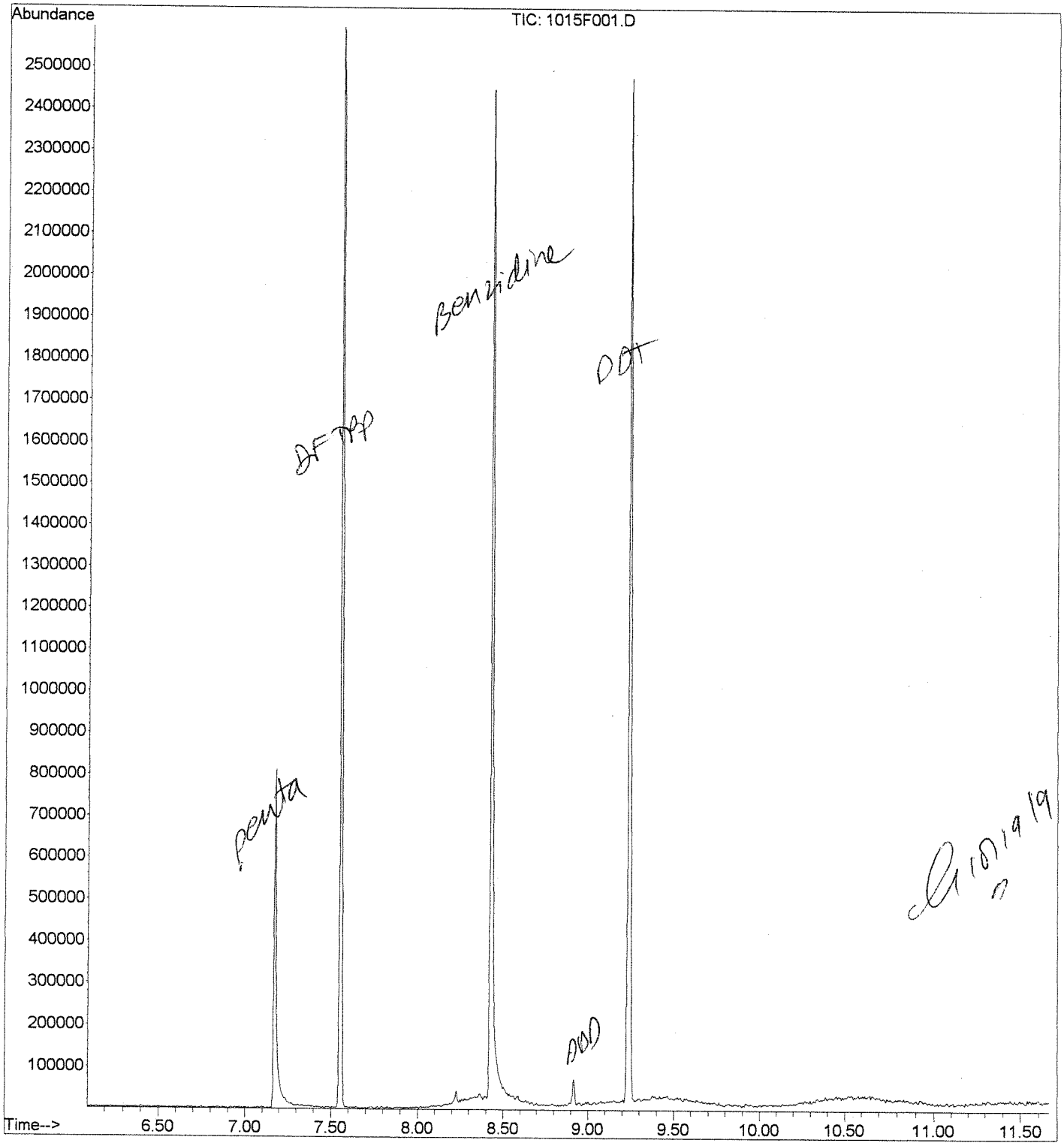
6.94min 0.00ng/ml

response 0

Ion	Exp%	Act%
266.00	100	0.00
264.00	64.50	0.00#
268.00	63.70	0.00#
165.00	28.70	0.00

10/19/09

File : J:\MS11\DATA\101509\1015F001.D
Operator : LWeiskopf
Acquired : 15 Oct 2009 6:34 am using AcqMethod SIMLOC
Instrument : MS11
Sample Name: DFTPP @ 3.0ug/mL | SVM30-24C
Misc Info :
Vial Number: 1



1	4.735	rVB	0.065		13236	4.723	4.788
2	7.173	rBV	0.153		892492	7.138	7.291
3	7.414	rVB	0.059		9804	7.402	7.461
4	7.485	rBV	0.041		7275	7.461	7.502
5	7.549	rVV	0.082		2093557	7.526	7.608
6	7.732	rVB	0.047		6468	7.708	7.755
7	7.826	rVB	0.047		5522	7.808	7.855
8	7.990	rBV	0.059		8088	7.949	8.008
9	8.166	rBV	0.024		6118	8.149	8.172
10	8.225	rVV	0.047		33200	8.196	8.243
11	8.425	rVB	0.165		2473150	8.407	8.572
12	8.789	rVB	0.047		8907	8.771	8.818
13	8.912	rBV	0.059		66194	8.877	8.936
14	8.954	rVB	0.029		8332	8.936	8.965
15	8.989	rBV	0.029	DDD	10420	8.965	8.995
16	9.042	rBV	0.029		5083	9.024	9.054
17	9.077	rBV	0.047		11102	9.054	9.101
18	9.236	rBV	0.094	DDT	2334351	9.189	9.283
19	9.377	rBV	0.041		14113	9.359	9.400
20	9.823	rBV	0.041		8023	9.800	9.841
21	9.917	rBV	0.041		11243	9.900	9.941
22	10.135	rBV	0.029		6682	10.129	10.158
23	10.252	rVB	0.041		7467	10.217	10.258
24	10.270	rBV	0.035		11619	10.258	10.293
25	10.340	rBV	0.041		15019	10.311	10.352
26	10.922	rVB	0.024		6379	10.916	10.940
27	11.075	rVB	0.029		5854	11.057	11.086
28	11.186	rBV	0.018		5513	11.180	11.198
29	11.286	rVB	0.024		5727	11.280	11.304
30	11.316	rBV	0.035		11001	11.304	11.339
31	11.498	rVB	0.047		12468	11.486	11.533
32	11.539	rBV	0.029		12187	11.533	11.562
33	12.062	rBV	0.029		6376	12.044	12.073
34	12.485	rVB	0.047		14850	12.473	12.520
35	12.532	rBV	0.029		7097	12.520	12.549
36	12.767	rVB	0.041		5189	12.755	12.796
37	12.837	rBV	0.029		5504	12.820	12.849
38	13.090	rBV	0.024		5402	13.078	13.102
39	13.155	rBV	0.041		7892	13.143	13.184
40	14.007	rBV	0.029		6739	13.995	14.024
41	14.465	rBV	0.029		5573	14.447	14.477
42	14.565	rVB	0.035		7861	14.553	14.588
43	14.635	rVB	0.024		6059	14.623	14.647
44	14.653	rBV	0.018		7149	14.647	14.665
45	14.747	rBV	0.041		11125	14.723	14.764
46	15.487	rVB	0.029		9274	15.475	15.505
47	15.857	rVB	0.029		10199	15.840	15.869

DDT Breakdown = 0.4 %

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\101509\1015F002.D
Acq On : 15 Oct 2009 7:09 am
Sample : IB
Misc :
MS Integration Params: RTEINT.P
Quant Time: Oct 15 13:11:25 2009

Vial: 2
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00

Quant Results File: 1015ALK.RES

Quant Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 12:27:11 2009
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	4.68	136	170700	200.00	ng/ml	0.00
10) Acenaphthene-d10	6.10	164	95879	200.00	ng/ml	0.00
22) Phenanthrene-d10	7.32	188	154112	200.00	ng/ml	0.00
37) Chrysene-d12	9.85	240	190694	200.00	ng/ml	0.00
49) Perylene-d12	12.93	264	203645	200.00	ng/ml	-0.02
System Monitoring Compounds						
15) Fluorene-d10	0.00	176	0	0.00	ng/ml	
Spiked Amount 200.000			Recovery =	0.00%		
20) 2,4,6 Tribromophenol	0.00	330	0d	0.00	ng/ml	
Spiked Amount 375.000			Recovery =	0.00%		
36) Fluoranthene-d10	0.00	212	0d	0.00	ng/ml	
Spiked Amount 200.000			Recovery =	0.00%		
42) Terphenyl-d14	0.00	244	0d	0.00	ng/ml	
Spiked Amount 200.000			Recovery =	0.00%		

Target Compounds Qvalue

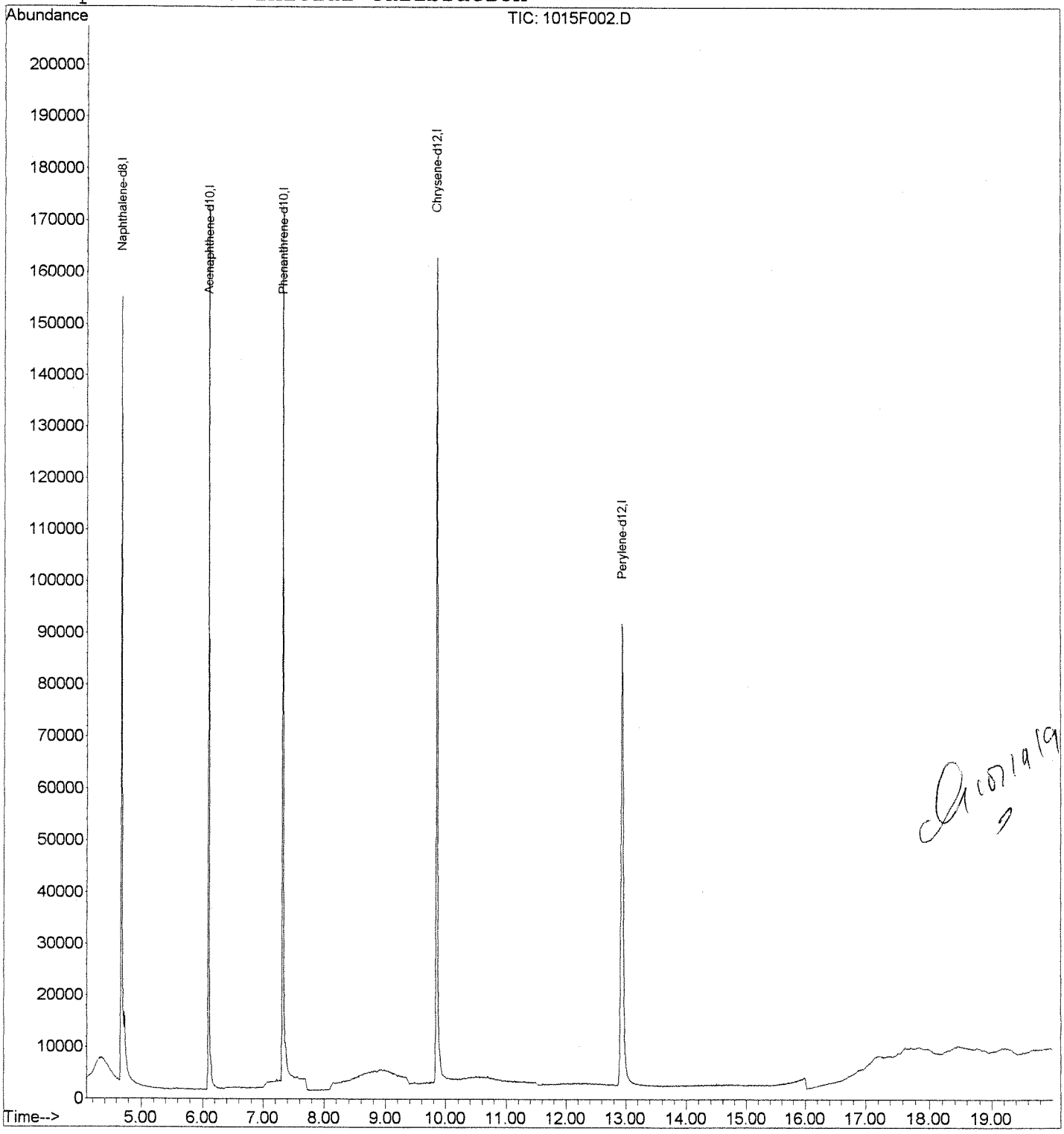
10/19/19

(#) = qualifier out of range (m) = manual integration
1015F002.D 1015ALK.M Thu Oct 15 13:13:08 2009 Page 1

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\101509\1015F002.D Vial: 2
Acq On : 15 Oct 2009 7:09 am Operator: LWeiskopf
Sample : IB Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 15 13:12 2009 Quant Results File: 1015ALK.RES

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 12:27:11 2009
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\101509\1015F003.D Vial: 3
Acq On : 15 Oct 2009 7:35 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @.002/.05ug/mL | SVM29-21C Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 15 07:58:13 2009 Quant Results File: 1015ALK.RES

Quant Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 06:04:30 2009
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	4.68	136	189497	200.00	ng/ml	0.00
10) Acenaphthene-d10	6.10	164	101590	200.00	ng/ml	0.00
22) Phenanthrene-d10	7.32	188	154756	200.00	ng/ml	0.00
37) Chrysene-d12	9.85	240	188852	200.00	ng/ml	0.00
49) Perylene-d12	12.93	264	208905	200.00	ng/ml	-0.02
System Monitoring Compounds						
15) Fluorene-d10	6.53	176	1079	1.68	ng/ml	0.01
Spiked Amount 200.000			Recovery =	0.84%		
20) 2,4,6 Tribromophenol	6.77	330	222m	2.09	ng/ml	0.01
Spiked Amount 375.000			Recovery =	0.56%		
36) Fluoranthene-d10	8.30	212	2261m	2.41	ng/ml	0.00
Spiked Amount 200.000			Recovery =	1.21%		
42) Terphenyl-d14	8.64	244	2011m	2.46	ng/ml	0.00
Spiked Amount 200.000			Recovery =	1.23%		
Target Compounds						Qvalue
2) Naphthalene	4.69	128	1705m	1.83	ng/ml	
3) 2-Methylnaphthalene	5.28	142	1127	1.46	ng/ml	96
4) 1-Methylnaphthalene	5.34	142	1547	1.93	ng/ml	91
5) Biphenyl	5.64	154	1535	1.16	ng/ml	84
6) 2,6-Dimethylnaphthalene	5.77	156	1004	1.05	ng/ml	98
11) Acenaphthylene	5.98	152	1677m	1.97	ng/ml	
12) Acenaphthene	6.13	154	1138	2.11	ng/ml	93
13) Dibenzofuran	6.28	168	1452	1.72	ng/ml	65
14) 2,3,5-Trimethylnaphthalene	6.44	170	932m	1.56	ng/ml	
16) Fluorene	6.56	166	1282	1.66	ng/ml	92
21) Pentachlorophenol	7.21	266	897	14.14	ng/ml	99
23) Dibenzothiophene	7.24	184	1599	1.98	ng/ml	86
27) Phenanthrene	7.34	178	2083	2.22	ng/ml	96
28) Anthracene	7.39	178	1768m	2.06	ng/ml	
29) Carbazole	7.54	167	1412m	1.99	ng/ml	
30) 1-Methylphenanthrene	7.84	192	1391	1.78	ng/ml	95
35) Fluoranthene	8.31	202	2273	2.12	ng/ml	95
38) Pyrene	8.49	202	2393m	2.18	ng/ml	
43) Benz(a)anthracene	9.84	228	2674	2.54	ng/ml	98
44) Chrysene	9.89	228	2190	2.12	ng/ml	82
50) Benzo(b)fluoranthene	11.91	252	2453	2.14	ng/ml	91
51) Benzo(k)fluoranthene	11.98	252	2109	1.91	ng/ml	98
52) Benzo(e)pyrene	12.62	252	2207	2.10	ng/ml	96
53) Benzo(a)pyrene	12.76	252	2359	2.30	ng/ml	92
54) Perylene	13.01	252	2242	2.28	ng/ml	91

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\101509\1015F003.D Vial: 3
Acq On : 15 Oct 2009 7:35 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @.002/.05ug/mL | SVM29-21C Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 15 07:58:13 2009 Quant Results File: 1015ALK.RES

Quant Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 06:04:30 2009
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

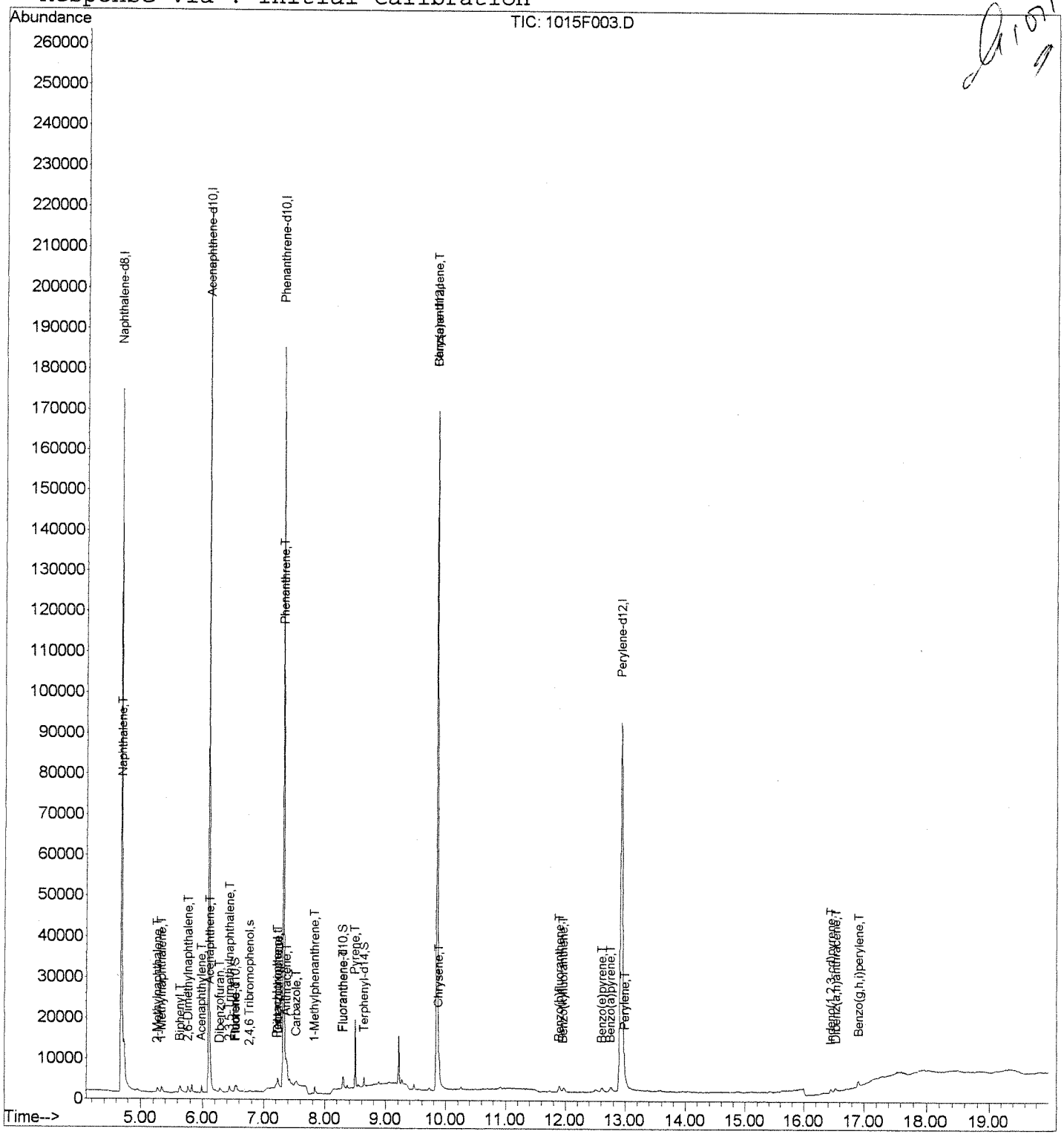
	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
55)	Indeno(1,2,3-cd)pyrene	16.45	276	2027	2.36	ng/ml	97
56)	Dibenz(a,h)anthracene	16.54	278	2141m	2.25	ng/ml	
57)	Benzo(g,h,i)perylene	16.91	276	2312m	2.17	ng/ml	

(#) = qualifier out of range (m) = manual integration
1015F003.D 1015ALK.M Thu Oct 15 10:47:31 2009 Page 2

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\101509\1015F003.D Vial: 3
Acq On : 15 Oct 2009 7:35 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @.002/.05ug/mL | SVM29-21C Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 15 10:47 2009 Quant Results File: 1015ALK.RES

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 10:46:38 2009
Response via : Initial Calibration

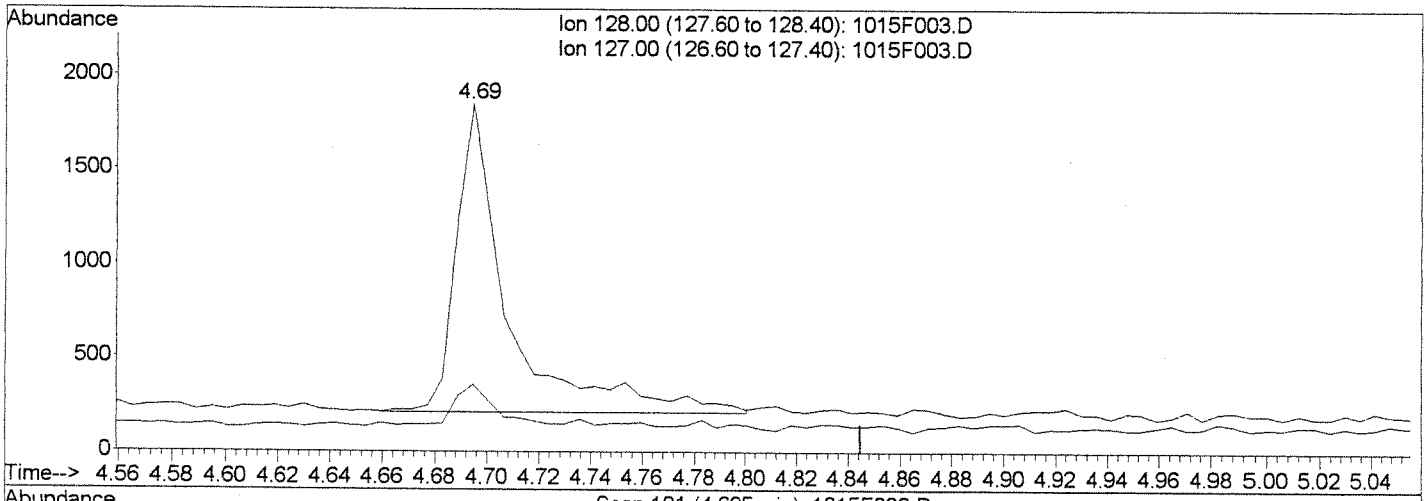


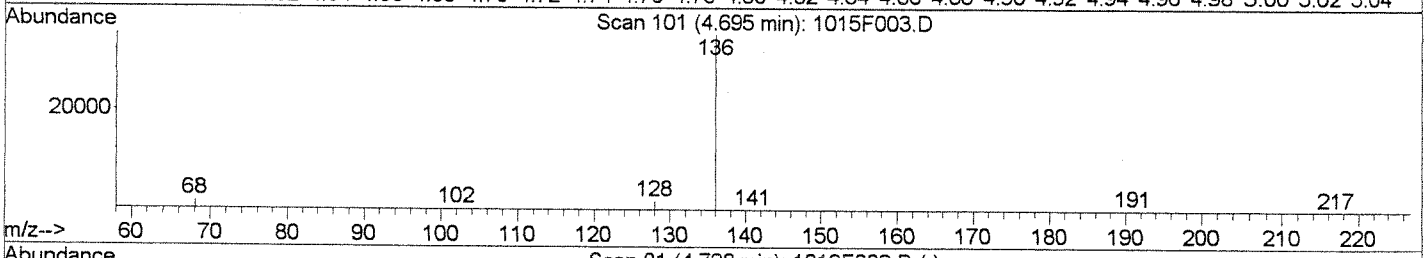
1015F003.D 1015ALK.M Thu Oct 15 10:47:32 2009 Page 3

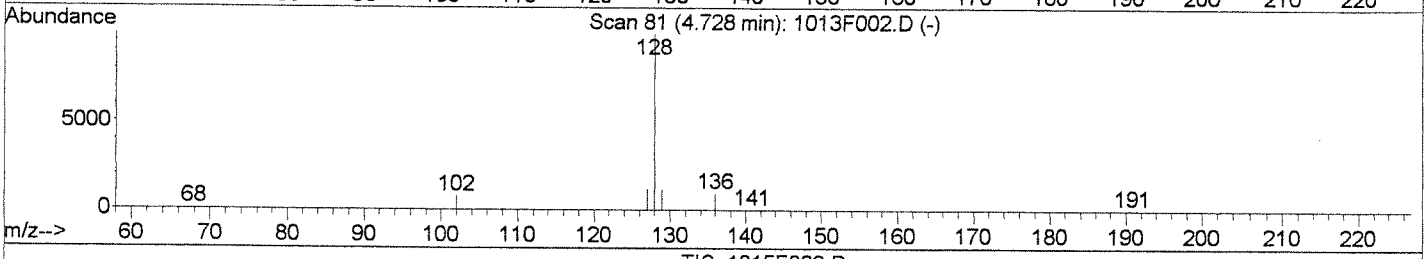
Quantitation Report (Qedit)

Data File : J:\MS11\DATA\101509\1015F003.D Vial: 3
Acq On : 15 Oct 2009 7:35 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @.002/.05ug/mL | SVM29-21C Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 15 7:58 2009 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 06:04:30 2009
Response via : Multiple Level Calibration







TIC: 1015F003.D

(2) Naphthalene (T)

4.69min 2.41ng/ml

response 2241

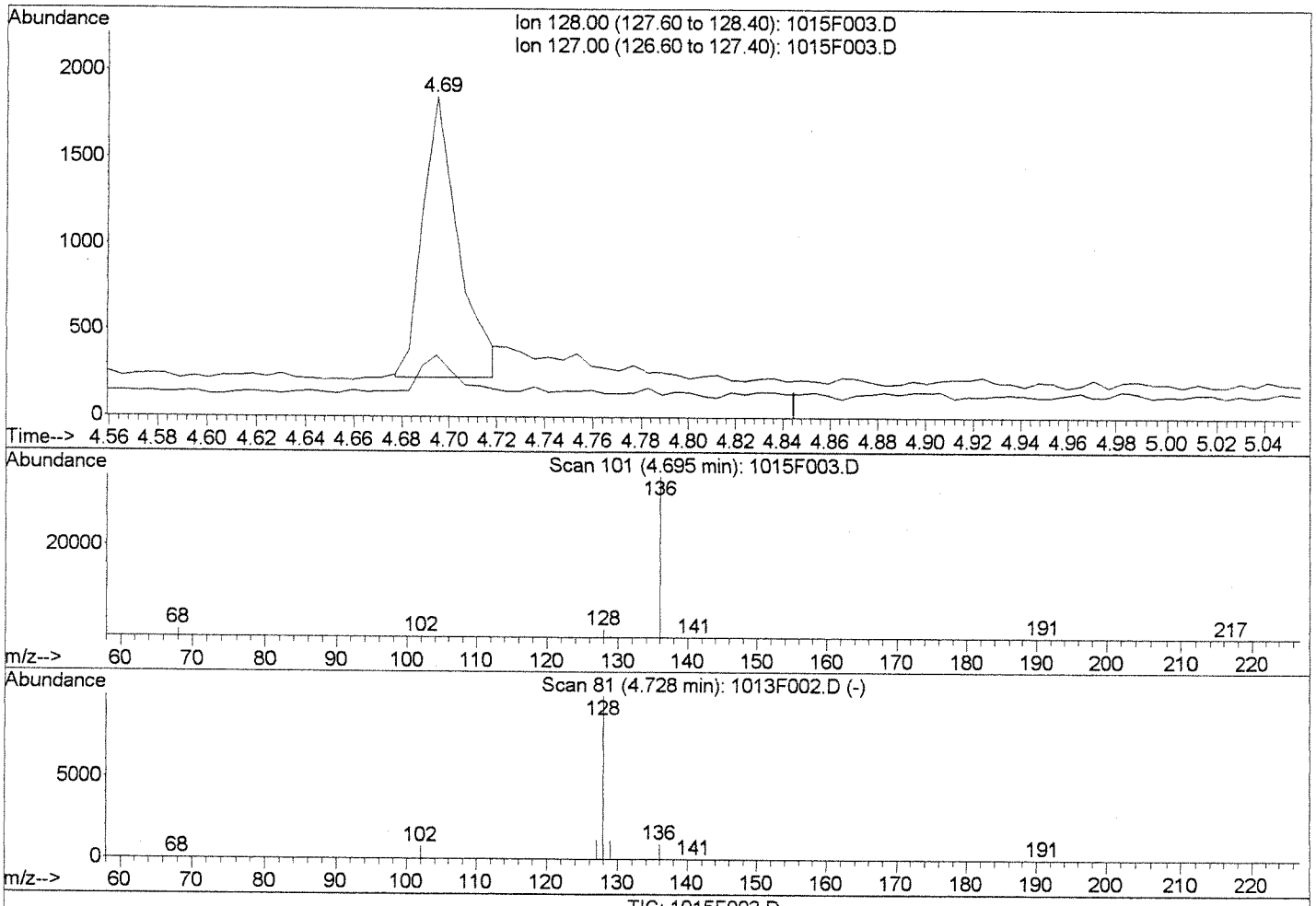
Ion	Exp%	Act%
128.00	100	100
127.00	12.40	12.80
0.00	0.00	0.00
0.00	0.00	0.00

1015F003.D 1015ALK.M Thu Oct 15 10:35:26 2009

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\101509\1015F003.D Vial: 3
Acq On : 15 Oct 2009 7:35 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @.002/.05ug/mL | SVM29-21C Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 15 10:35 2009 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 06:04:30 2009
Response via : Multiple Level Calibration



(2) Naphthalene (T)

4.69min 1.83ng/ml m

response 1705

Ion	Exp%	Act%
128.00	100	100
127.00	12.40	19.08
0.00	0.00	0.00
0.00	0.00	0.00

OI 10/19/09

1015F003.D 1015ALK.M Thu Oct 15 10:35:30 2009

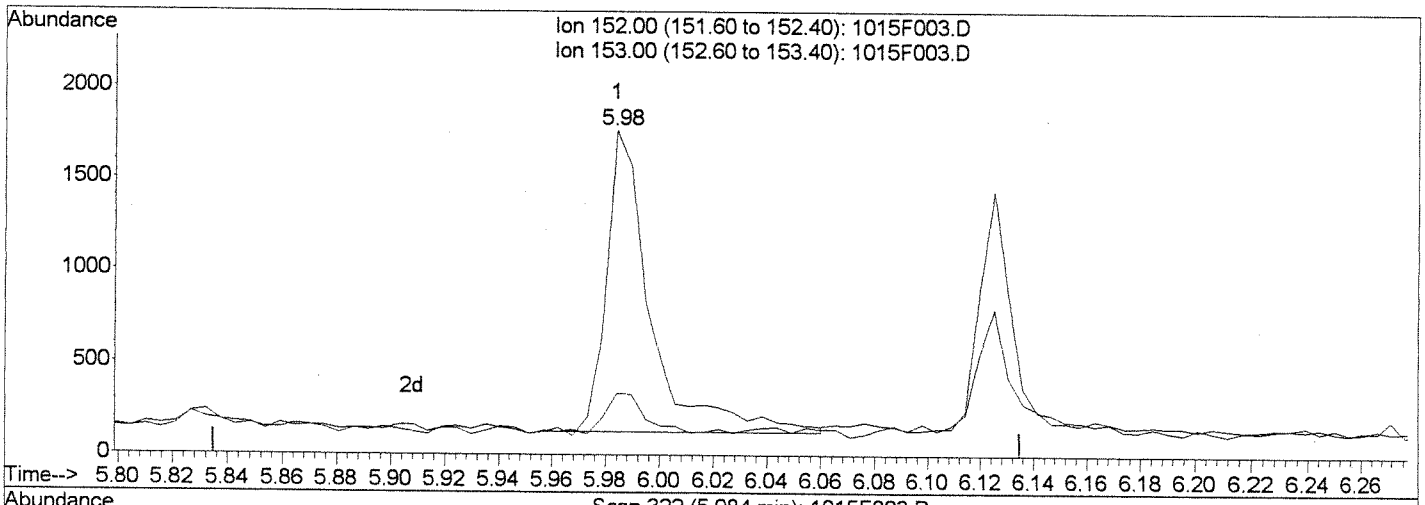
Quantitation Report (Qedit)

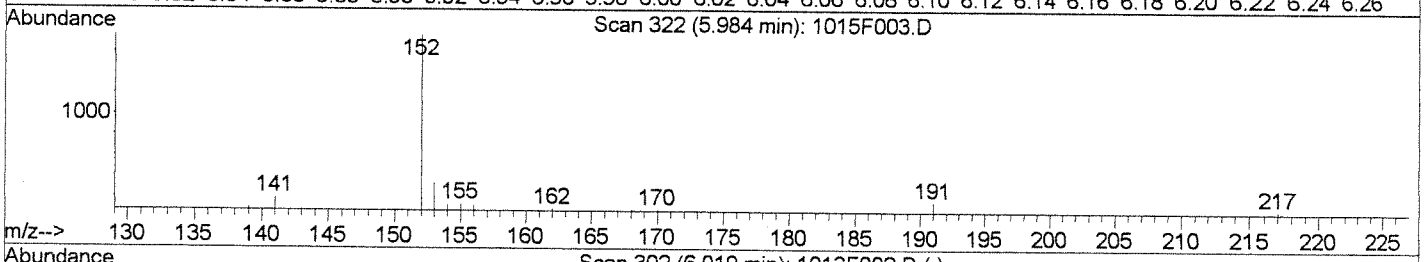
Data File : J:\MS11\DATA\101509\1015F003.D
Acq On : 15 Oct 2009 7:35 am
Sample : SIM-PAH ICAL @.002/.05ug/mL | SVM29-21C
Misc :
MS Integration Params: RTEINT.P
Quant Time: Oct 15 10:35 2009

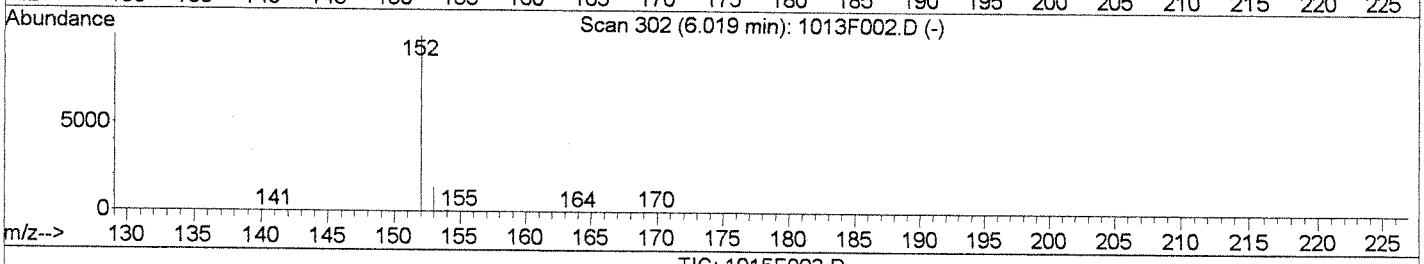
Vial: 3
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 06:04:30 2009
Response via : Multiple Level Calibration







TIC: 1015F003.D

(11) Acenaphthylene (T)

5.98min 2.20ng/ml

response 1874

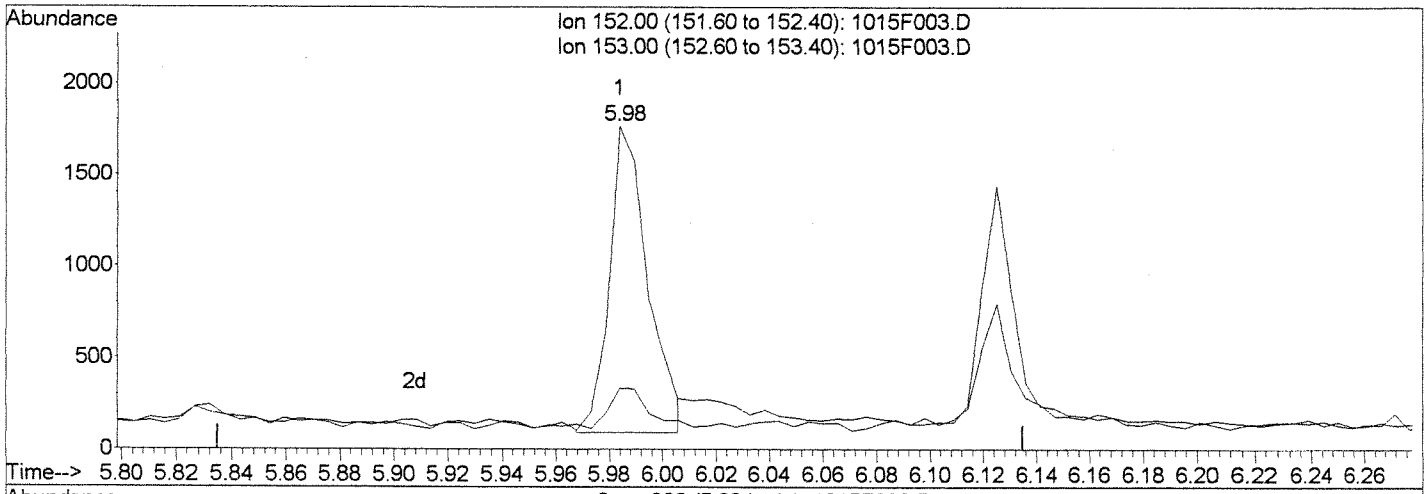
Ion	Exp%	Act%
152.00	100	100
153.00	14.10	12.25
0.00	0.00	0.00
0.00	0.00	0.00

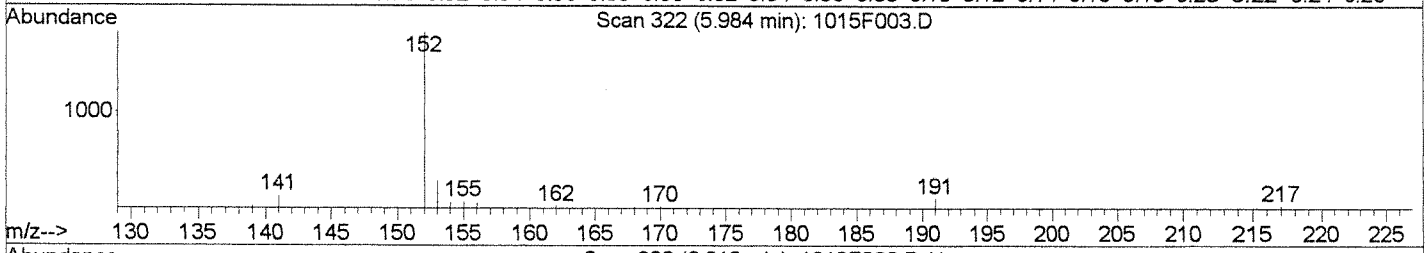
1015F003.D 1015ALK.M Thu Oct 15 10:35:51 2009

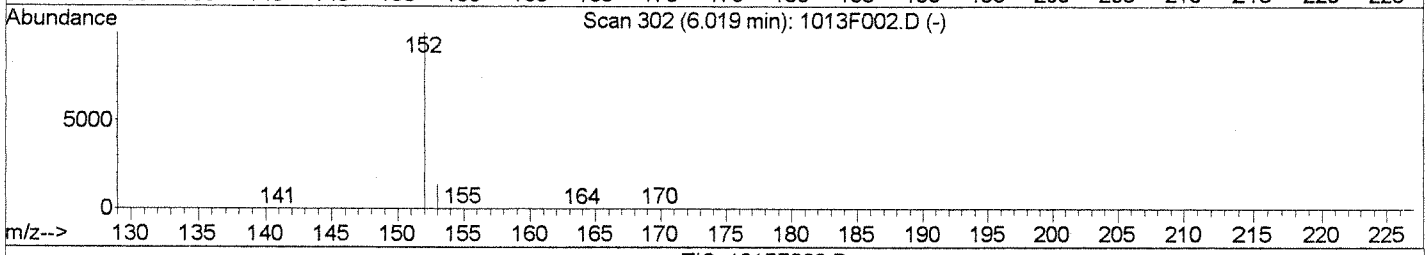
Quantitation Report (Qedit)

Data File : J:\MS11\DATA\101509\1015F003.D Vial: 3
Acq On : 15 Oct 2009 7:35 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @.002/.05ug/mL | SVM29-21C Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 15 10:35 2009 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 06:04:30 2009
Response via : Multiple Level Calibration







TIC: 1015F003.D

(11) Acenaphthylene (T)

5.98min 1.97ng/ml m

response 1677

Ion	Exp%	Act%
152.00	100	100
153.00	14.10	18.85
0.00	0.00	0.00
0.00	0.00	0.00

OI 10/19/09

1015F003.D 1015ALK.M Thu Oct 15 10:35:56 2009

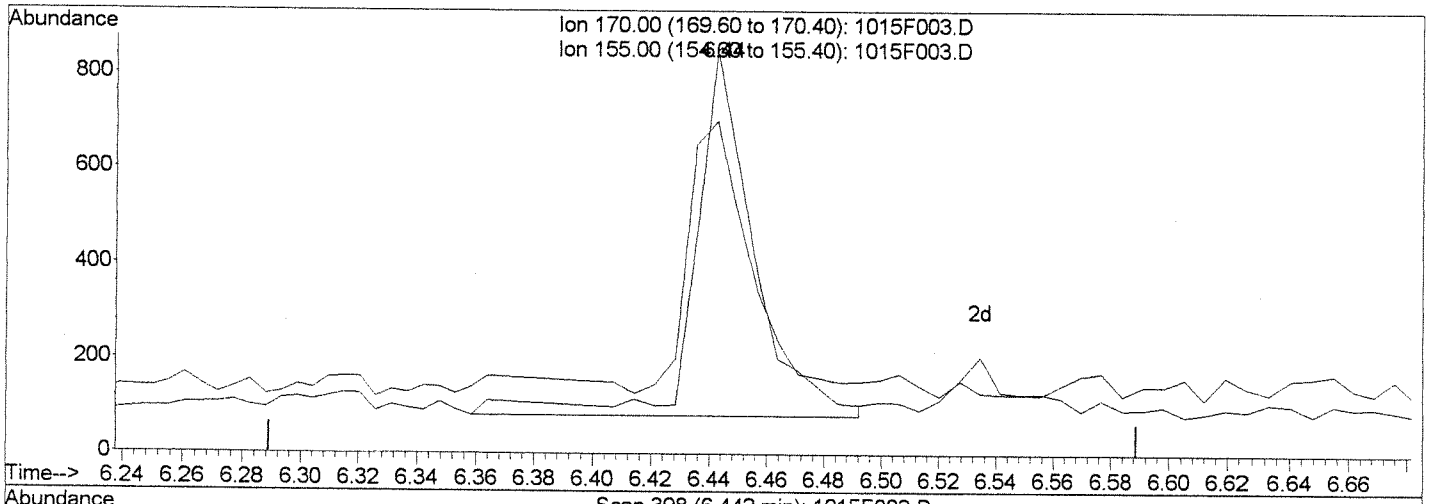
Quantitation Report (Qedit)

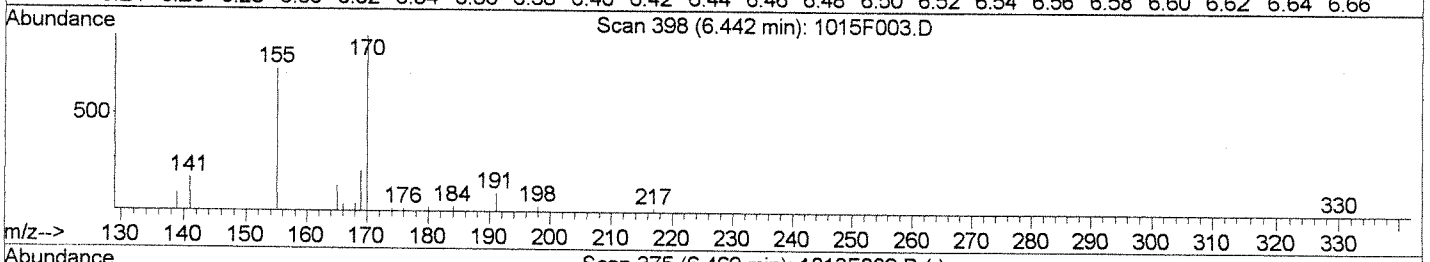
Data File : J:\MS11\DATA\101509\1015F003.D
Acq On : 15 Oct 2009 7:35 am
Sample : SIM-PAH ICAL @.002/.05ug/mL | SVM29-21C
Misc :
MS Integration Params: RTEINT.P
Quant Time: Oct 15 10:35 2009

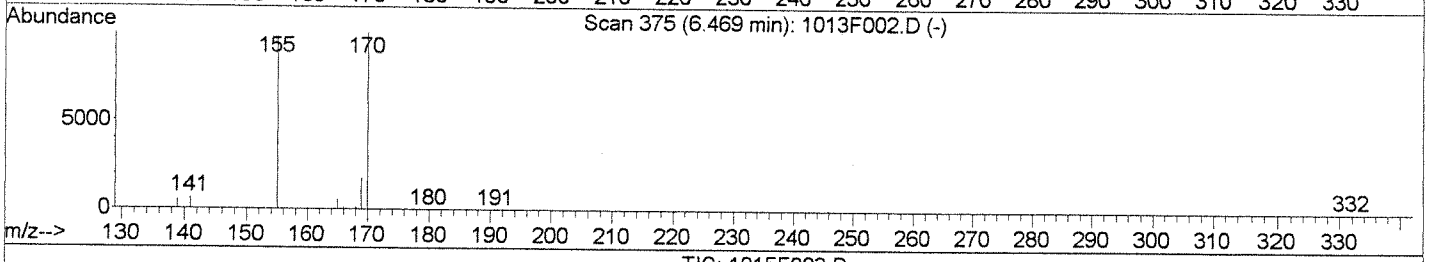
Vial: 3
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 06:04:30 2009
Response via : Multiple Level Calibration







TIC: 1015F003.D

(14) 2,3,5-Trimethylnaphthalene (T)

6.44min 2.34ng/ml

response 1396

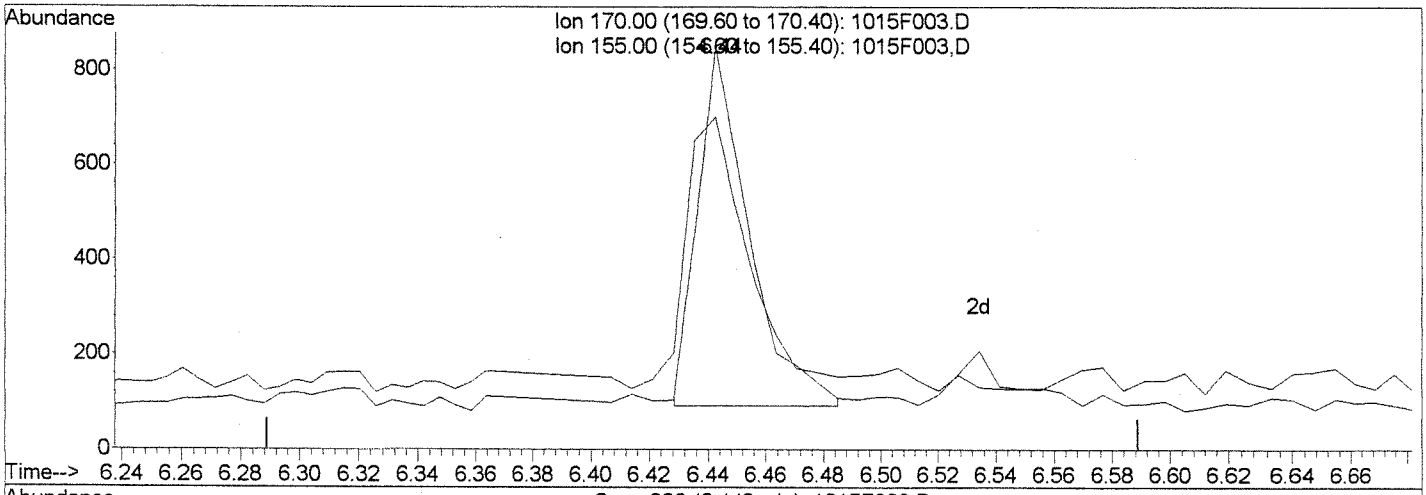
Ion	Exp%	Act%
170.00	100	100
155.00	78.20	72.73
0.00	0.00	0.00
0.00	0.00	0.00

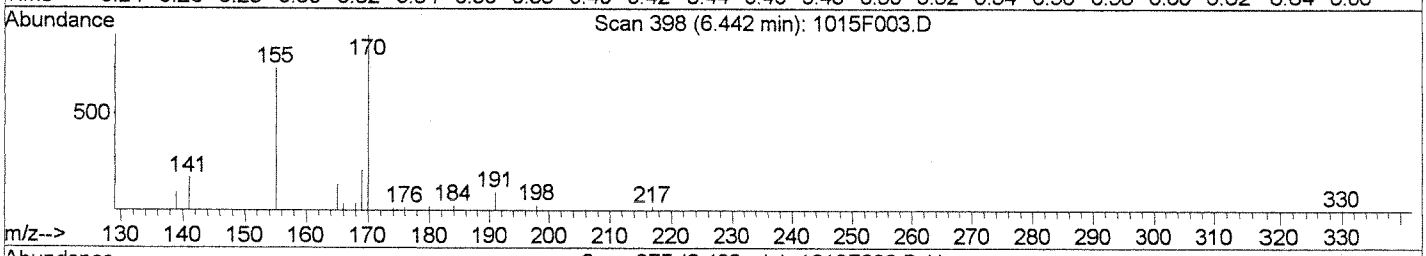
1015F003.D 1015ALK.M Thu Oct 15 10:36:05 2009

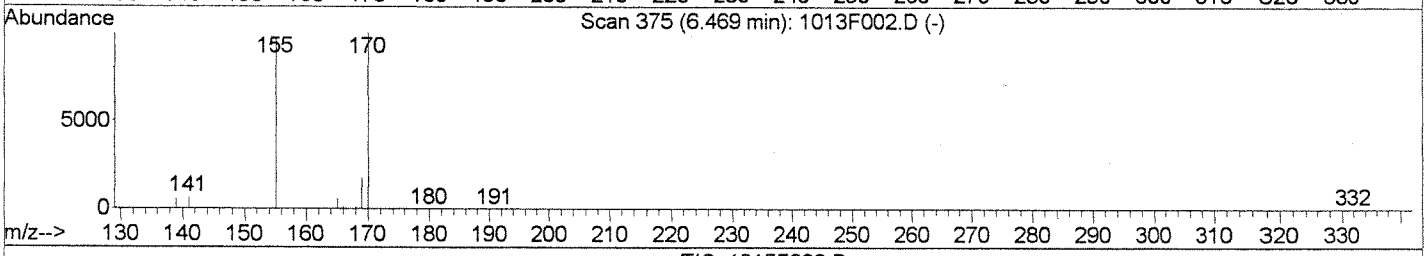
Quantitation Report (Qedit)

Data File : J:\MS11\DATA\101509\1015F003.D Vial: 3
Acq On : 15 Oct 2009 7:35 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @.002/.05ug/mL | SVM29-21C Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 15 10:36 2009 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 06:04:30 2009
Response via : Multiple Level Calibration







TIC: 1015F003.D

(14) 2,3,5-Trimethylnaphthalene (T)

6.44min 1.56ng/ml m

response 932

Ion	Exp%	Act%
170.00	100	100
155.00	78.20	82.37
0.00	0.00	0.00
0.00	0.00	0.00

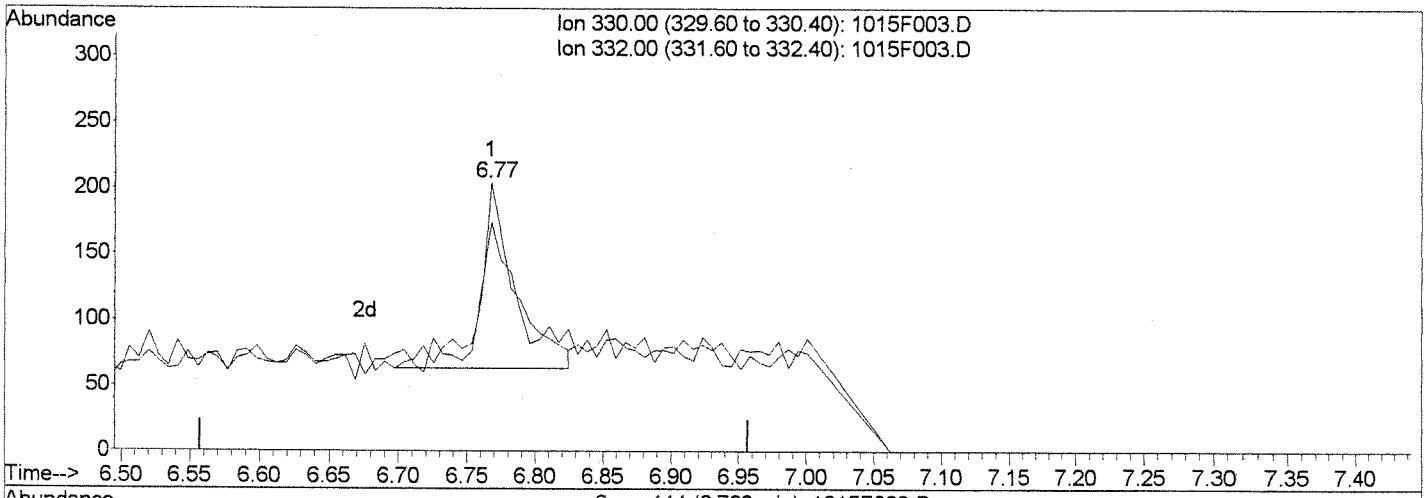
OI 10/19/09

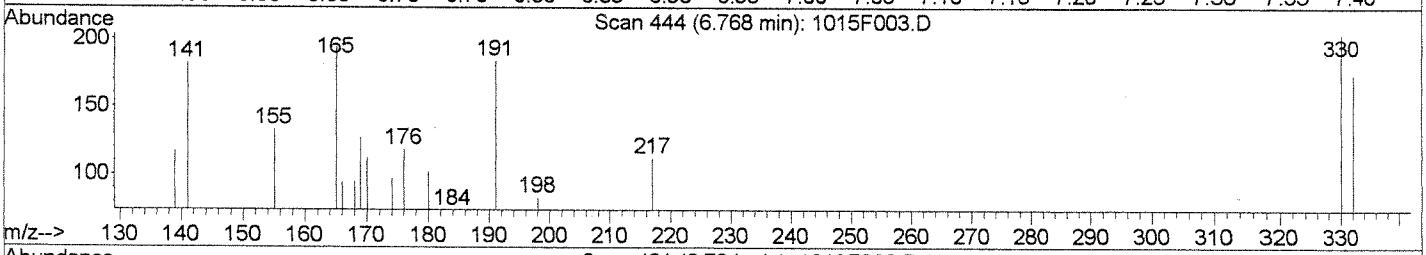
1015F003.D 1015ALK.M Thu Oct 15 10:36:10 2009

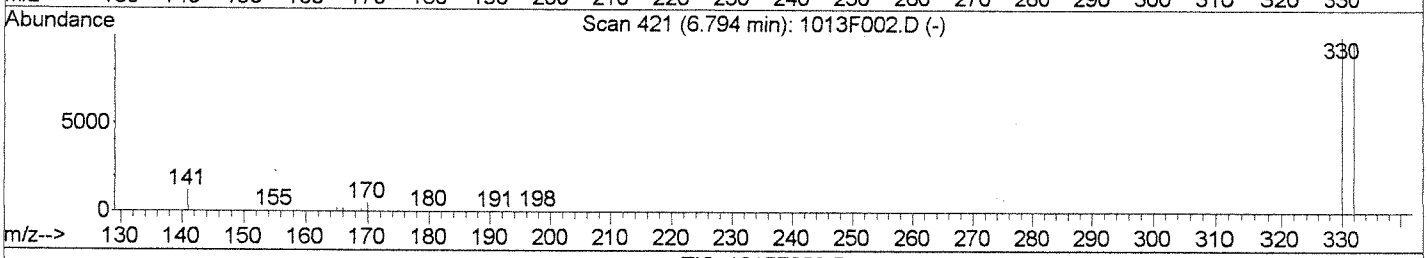
Quantitation Report (Qedit)

Data File : J:\MS11\DATA\101509\1015F003.D Vial: 3
Acq On : 15 Oct 2009 7:35 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @.002/.05ug/mL | SVM29-21C Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 15 10:36 2009 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 06:04:30 2009
Response via : Multiple Level Calibration







TIC: 1015F003.D

(20) 2,4,6 Tribromophenol (s)

6.77min 2.52ng/ml

response 268

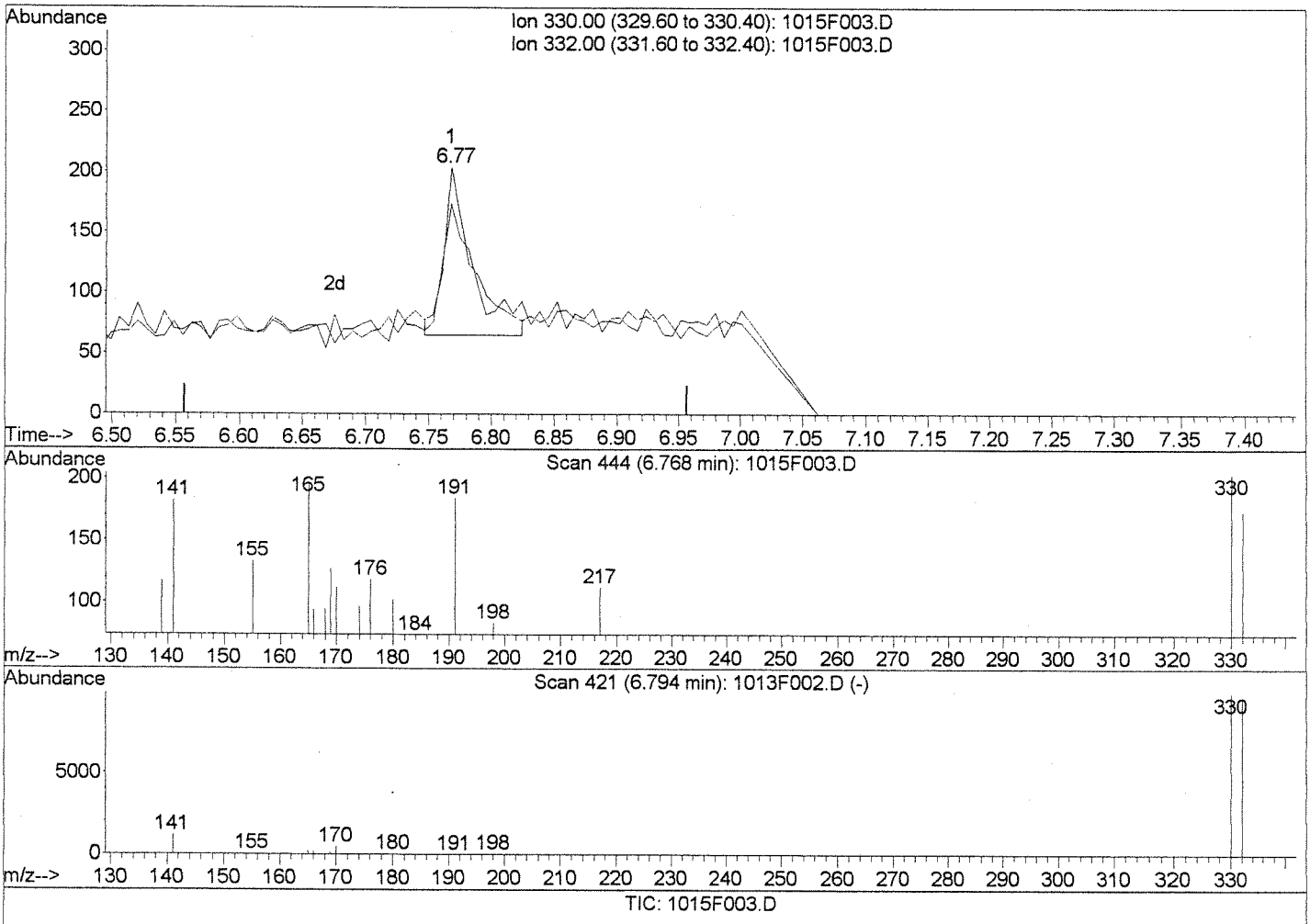
Ion	Exp%	Act%
330.00	100	100
332.00	105.30	70.92#
0.00	0.00	0.00
0.00	0.00	0.00

1015F003.D 1015ALK.M Thu Oct 15 10:36:18 2009

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\101509\1015F003.D Vial: 3
Acq On : 15 Oct 2009 7:35 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @.002/.05ug/mL | SVM29-21C Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 15 10:36 2009 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 06:04:30 2009
Response via : Multiple Level Calibration



TIC: 1015F003.D

(20) 2,4,6 Tribromophenol (s)

6.77min 2.09ng/ml m

response 222

Ion	Exp%	Act%
330.00	100	100
332.00	105.30	85.29#
0.00	0.00	0.00
0.00	0.00	0.00

01 10/19/19

1015F003.D 1015ALK.M Thu Oct 15 10:36:24 2009

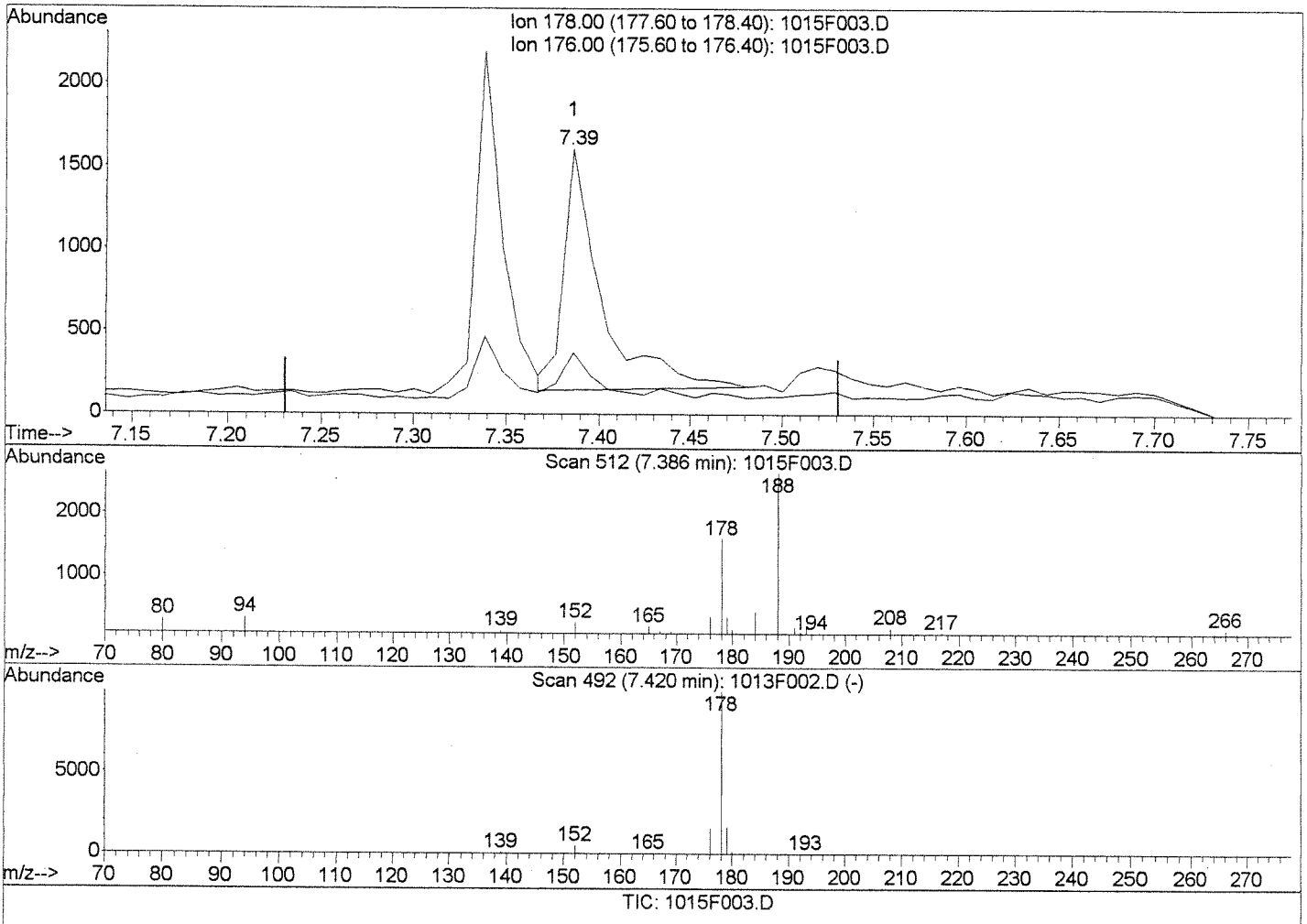
Quantitation Report (Qedit)

Data File : J:\MS11\DATA\101509\1015F003.D
Acq On : 15 Oct 2009 7:35 am
Sample : SIM-PAH ICAL @.002/.05ug/mL | SVM29-21C
Misc :
MS Integration Params: RTEINT.P
Quant Time: Oct 15 10:36 2009

Vial: 3
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 06:04:30 2009
Response via : Multiple Level Calibration



TIC: 1015F003.D

(28) Anthracene (T)

7.39min 2.41ng/ml

response 2066

Ion	Exp%	Act%
178.00	100	100
176.00	17.60	18.86
0.00	0.00	0.00
0.00	0.00	0.00

1015F003.D 1015ALK.M Thu Oct 15 10:36:33 2009

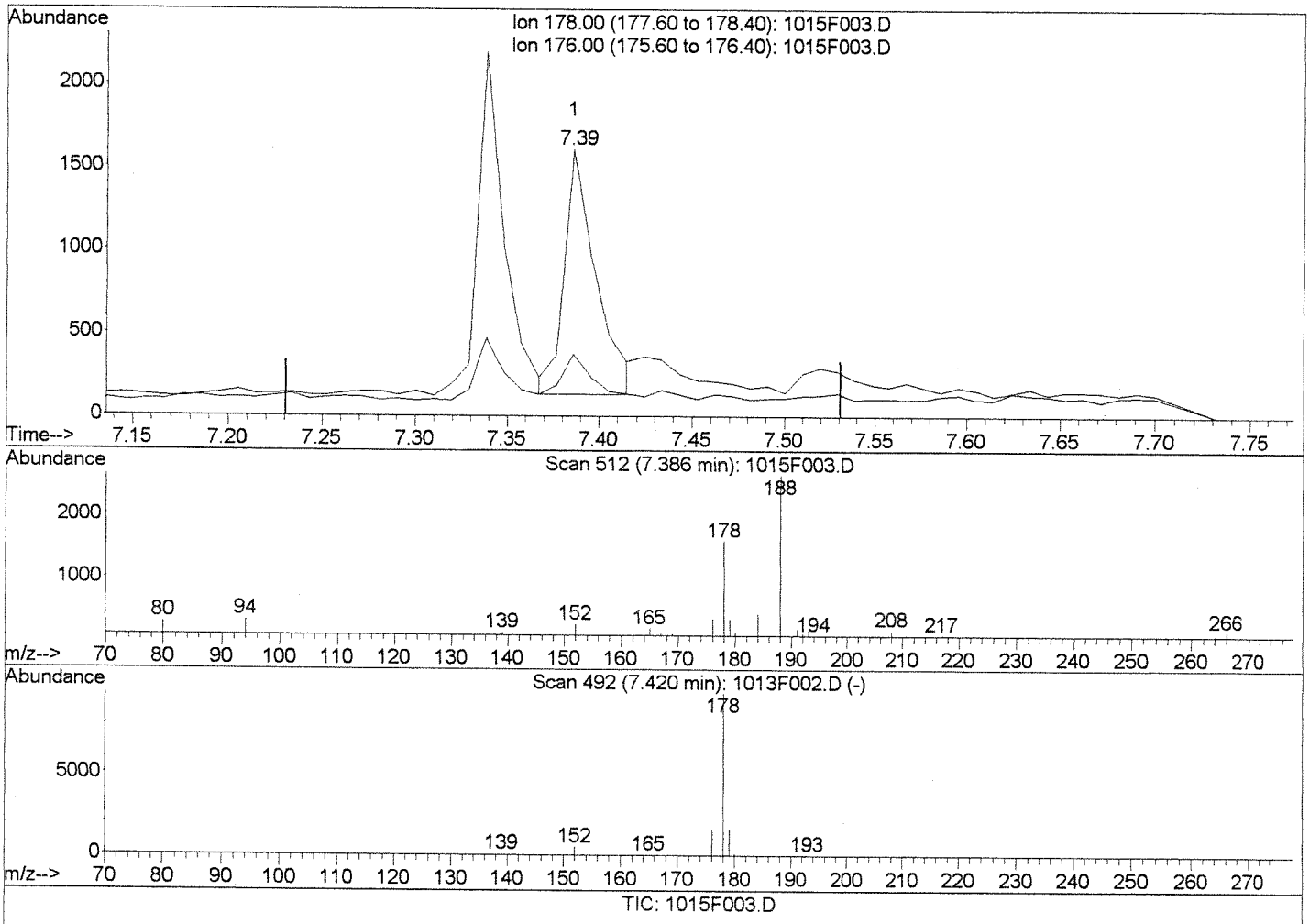
Quantitation Report (Qedit)

Data File : J:\MS11\DATA\101509\1015F003.D
Acq On : 15 Oct 2009 7:35 am
Sample : SIM-PAH ICAL @.002/.05ug/mL | SVM29-21C
Misc :
MS Integration Params: RTEINT.P
Quant Time: Oct 15 10:36 2009

Vial: 3
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 06:04:30 2009
Response via : Multiple Level Calibration



TIC: 1015F003.D

(28) Anthracene (T)

7.39min 2.06ng/ml m

response 1768

Ion	Exp%	Act%
178.00	100	100
176.00	17.60	23.16
0.00	0.00	0.00
0.00	0.00	0.00

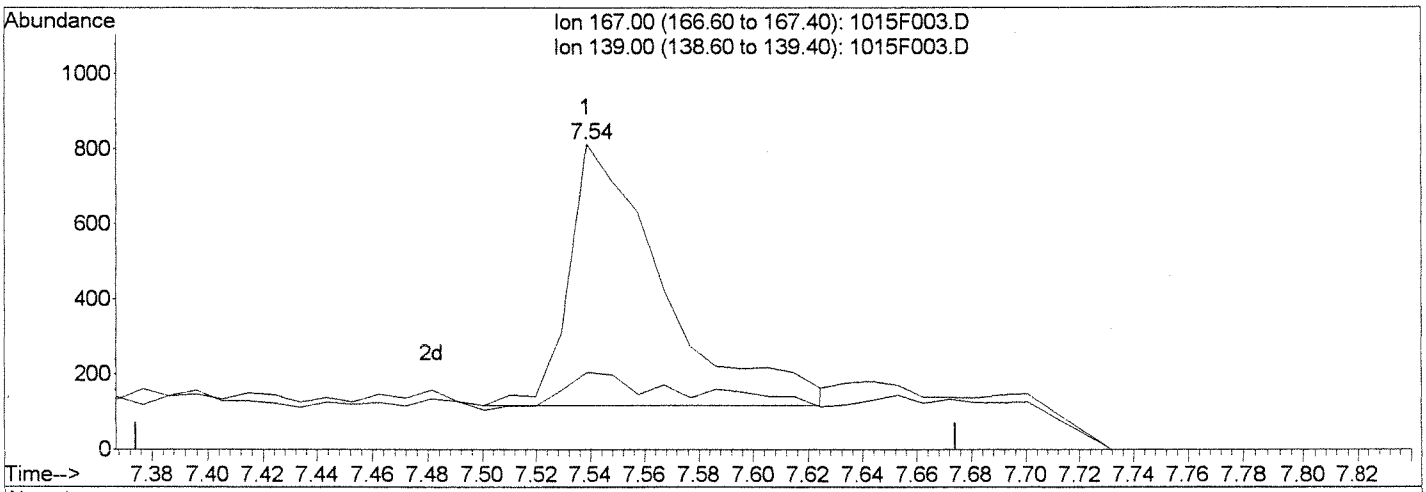
OI 10/19/09

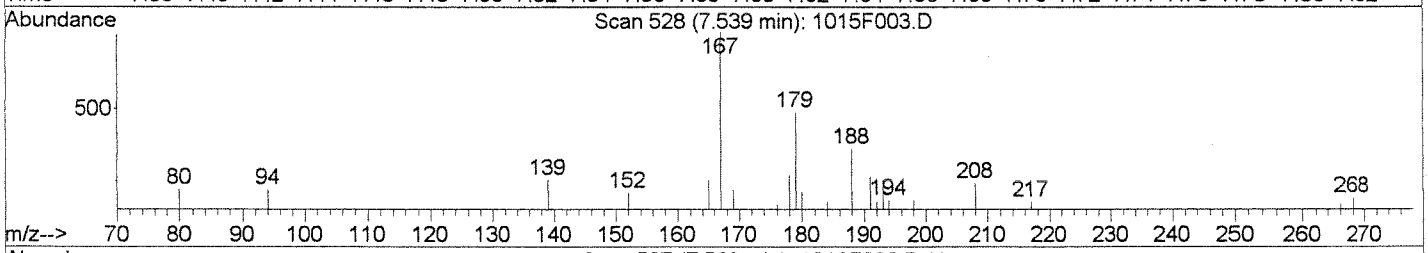
1015F003.D 1015ALK.M Thu Oct 15 10:36:38 2009

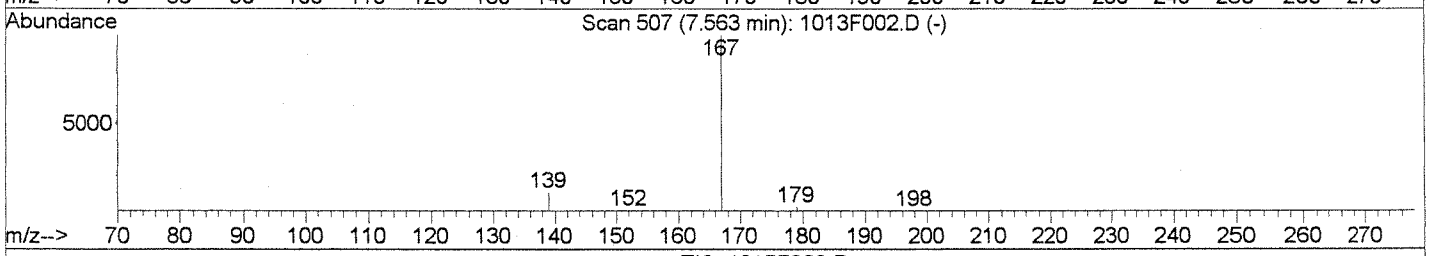
Quantitation Report (Qedit)

Data File : J:\MS11\DATA\101509\1015F003.D Vial: 3
Acq On : 15 Oct 2009 7:35 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @.002/.05ug/mL | SVM29-21C Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 15 10:36 2009 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 06:04:30 2009
Response via : Multiple Level Calibration







TIC: 1015F003.D

(29) Carbazole (T)

7.54min 2.37ng/ml

response 1683

Ion	Exp%	Act%
167.00	100	100
139.00	15.70	14.37
0.00	0.00	0.00
0.00	0.00	0.00

1015F003.D 1015ALK.M Thu Oct 15 10:36:44 2009

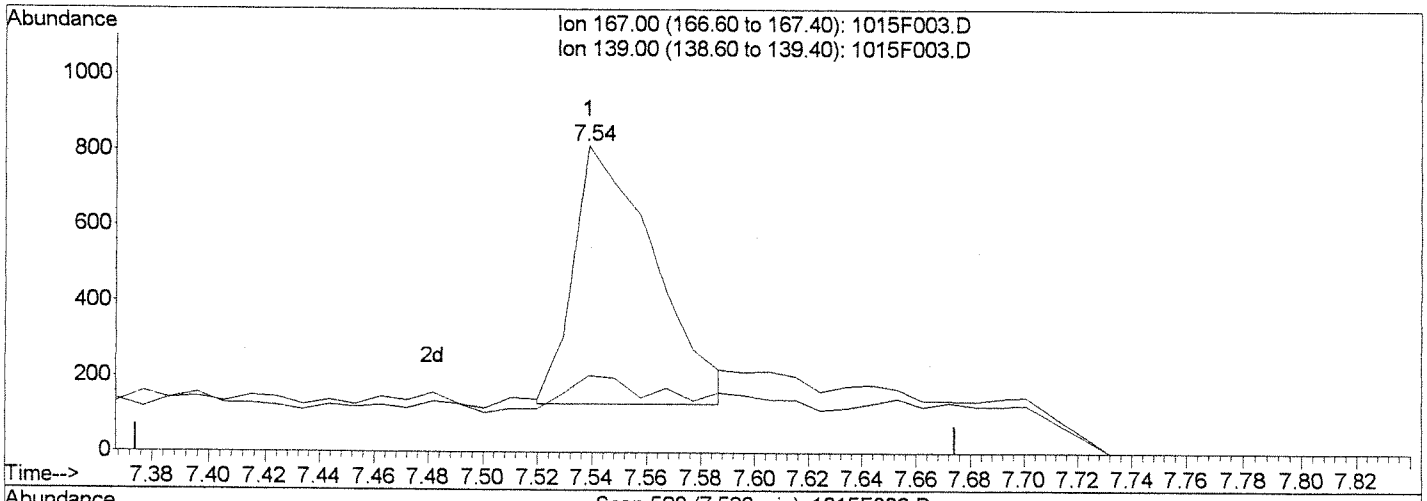
Quantitation Report (Qedit)

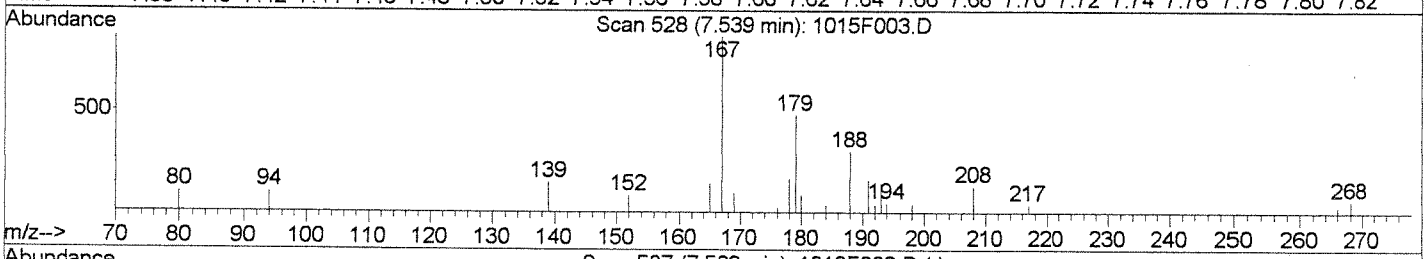
Data File : J:\MS11\DATA\101509\1015F003.D
Acq On : 15 Oct 2009 7:35 am
Sample : SIM-PAH ICAL @.002/.05ug/mL | SVM29-21C
Misc :
MS Integration Params: RTEINT.P
Quant Time: Oct 15 10:36 2009

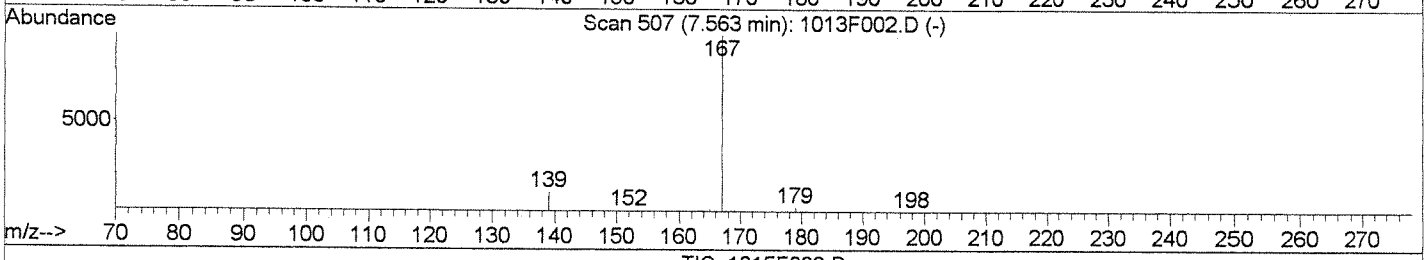
Vial: 3
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 06:04:30 2009
Response via : Multiple Level Calibration







TIC: 1015F003.D

(29) Carbazole (T)

7.54min 1.99ng/ml m

response 1412

Ion	Exp%	Act%
167.00	100	100
139.00	15.70	25.22
0.00	0.00	0.00
0.00	0.00	0.00

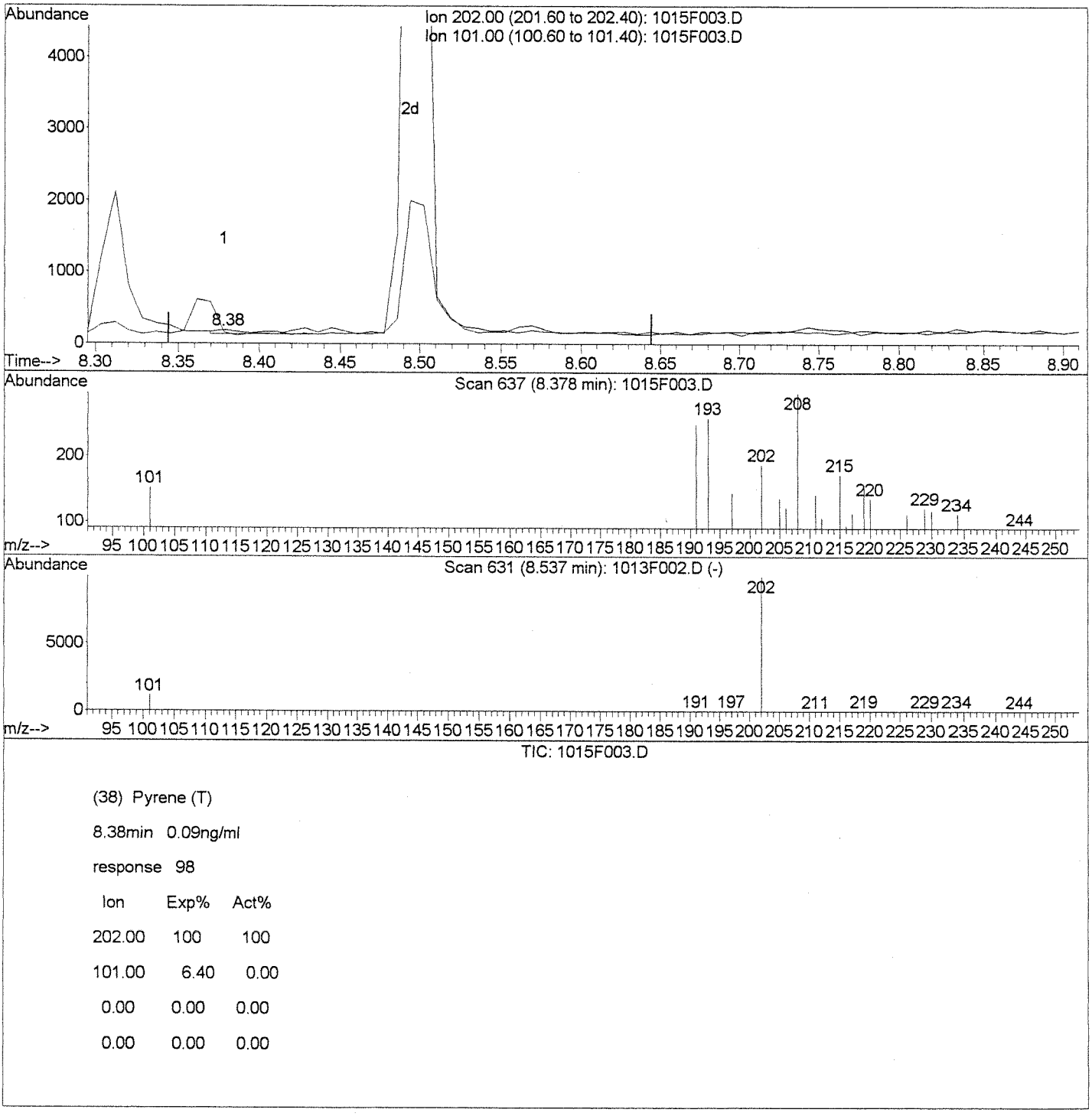
OI 10/19/09

1015F003.D 1015ALK.M Thu Oct 15 10:36:52 2009

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\101509\1015F003.D Vial: 3
Acq On : 15 Oct 2009 7:35 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @.002/.05ug/mL | SVM29-21C Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 15 10:36 2009 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 06:04:30 2009
Response via : Multiple Level Calibration



(38) Pyrene (T)

8.38min 0.09ng/ml

response 98

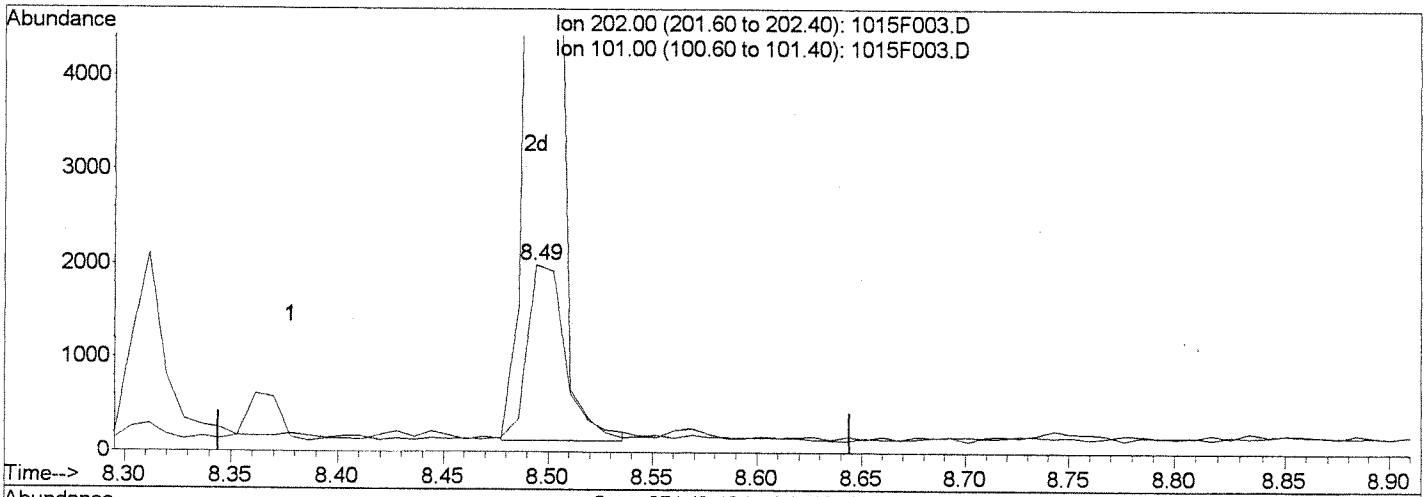
Ion	Exp%	Act%
202.00	100	100
101.00	6.40	0.00
0.00	0.00	0.00
0.00	0.00	0.00

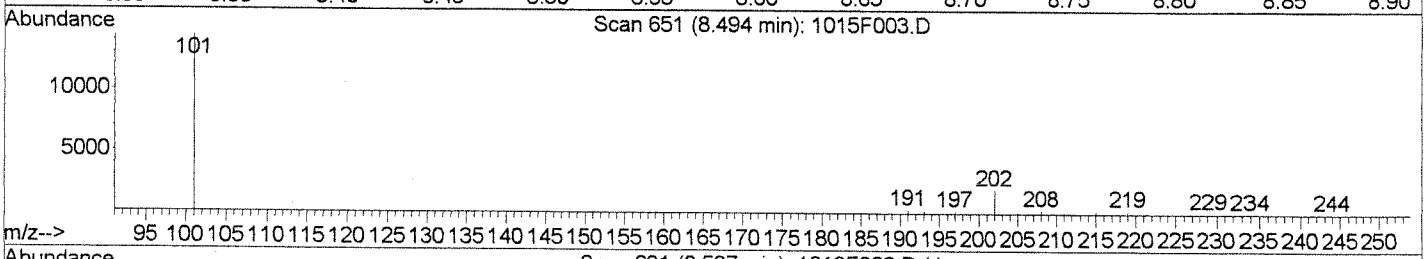
1015F003.D 1015ALK.M Thu Oct 15 10:37:02 2009

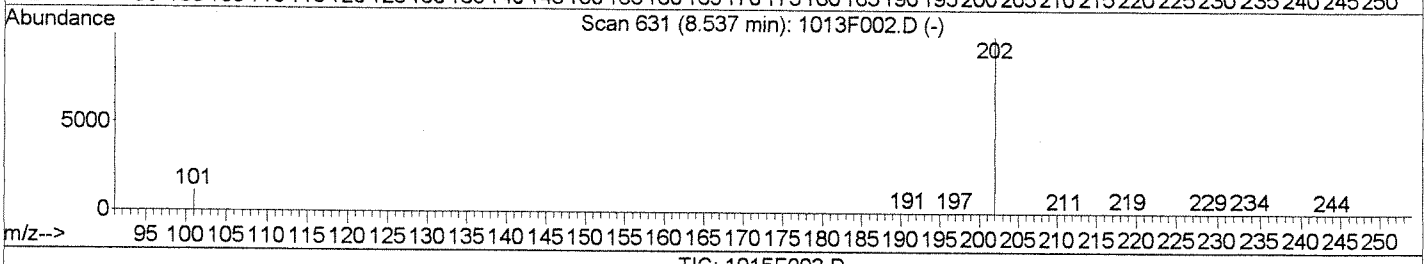
Quantitation Report (Qedit)

Data File : J:\MS11\DATA\101509\1015F003.D Vial: 3
Acq On : 15 Oct 2009 7:35 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @.002/.05ug/mL | SVM29-21C Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 15 10:37 2009 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 06:04:30 2009
Response via : Multiple Level Calibration







TIC: 1015F003.D

(38) Pyrene (T)

8.49min 2.18ng/ml m

response 2393

Ion	Exp%	Act%
202.00	100	100
101.00	6.40	718.61#
0.00	0.00	0.00
0.00	0.00	0.00

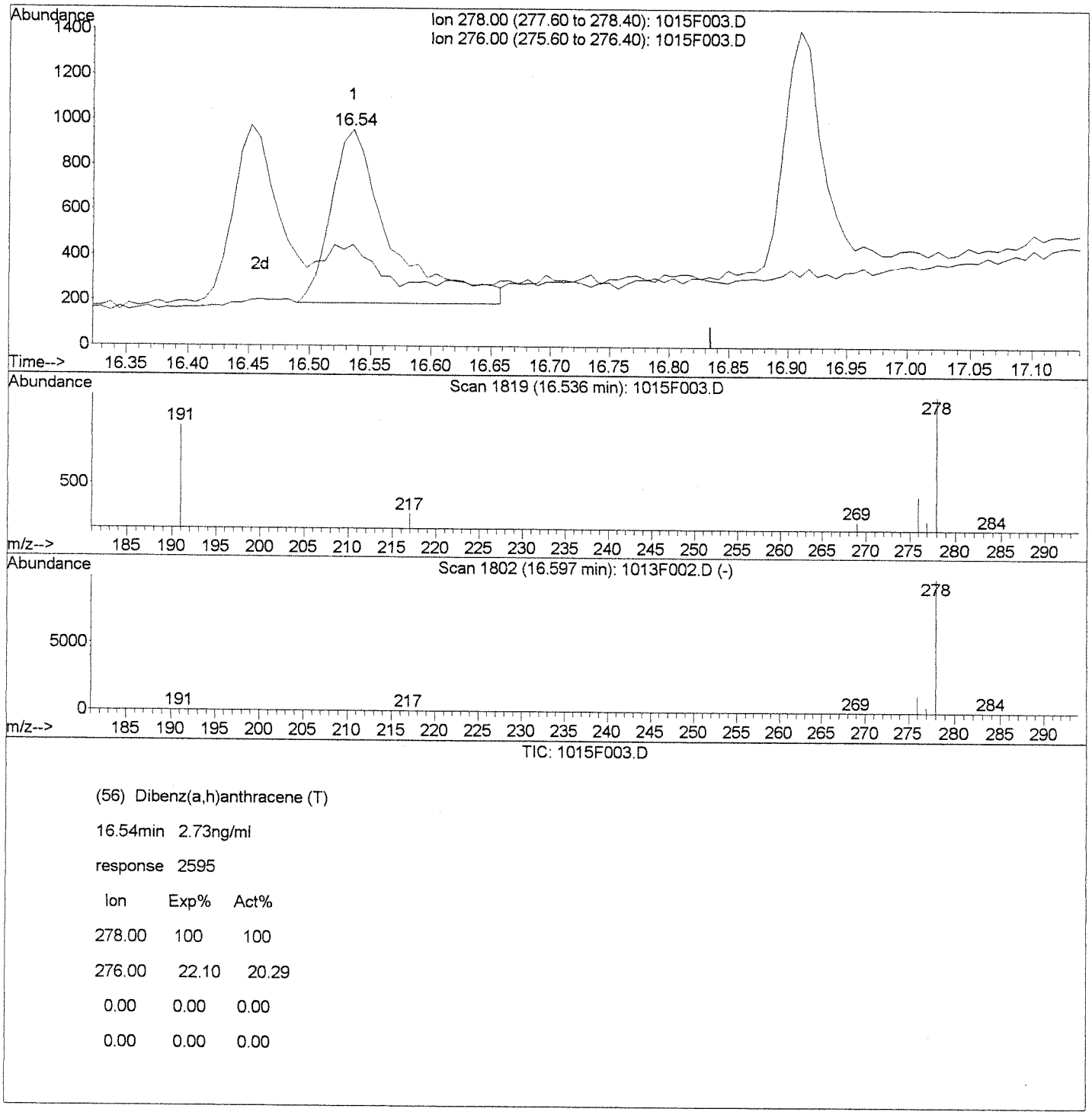
1015F003.D 1015ALK.M Thu Oct 15 10:37:07 2009

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\101509\1015F003.D
Acq On : 15 Oct 2009 7:35 am
Sample : SIM-PAH ICAL @.002/.05ug/mL | SVM29-21C
Misc :
MS Integration Params: RTEINT.P
Quant Time: Oct 15 10:37 2009

Vial: 3
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 06:04:30 2009
Response via : Multiple Level Calibration



(56) Dibenz(a,h)anthracene (T)

16.54min 2.73ng/ml

response 2595

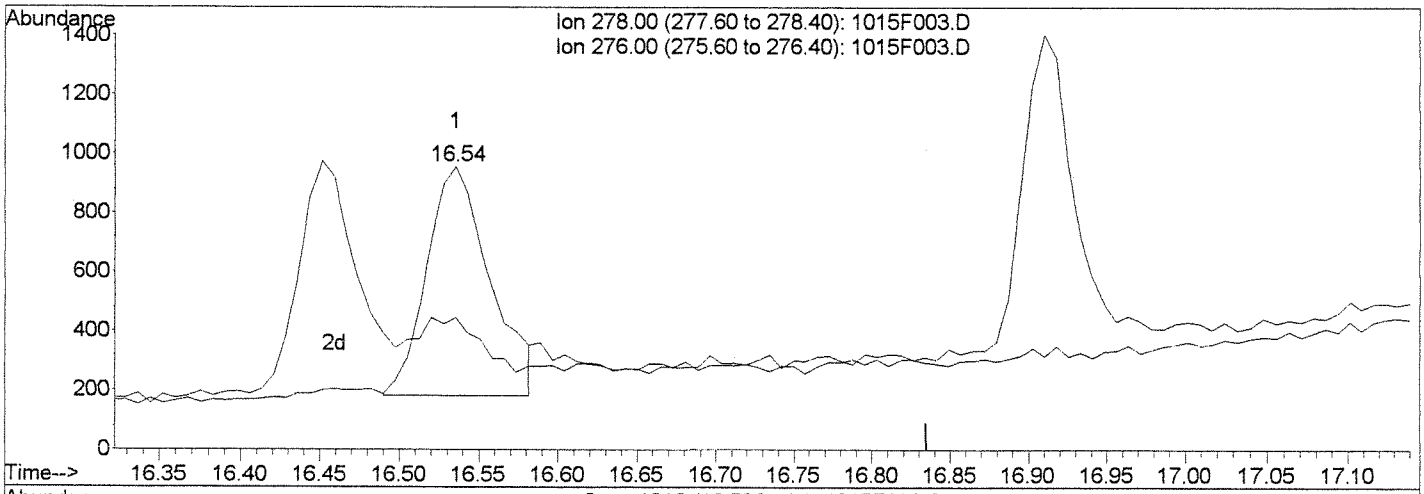
Ion	Exp%	Act%
278.00	100	100
276.00	22.10	20.29
0.00	0.00	0.00
0.00	0.00	0.00

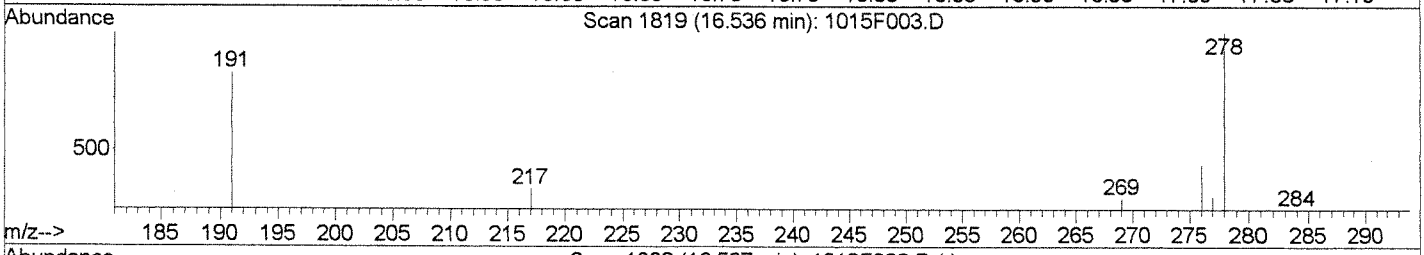
1015F003.D 1015ALK.M Thu Oct 15 10:37:22 2009

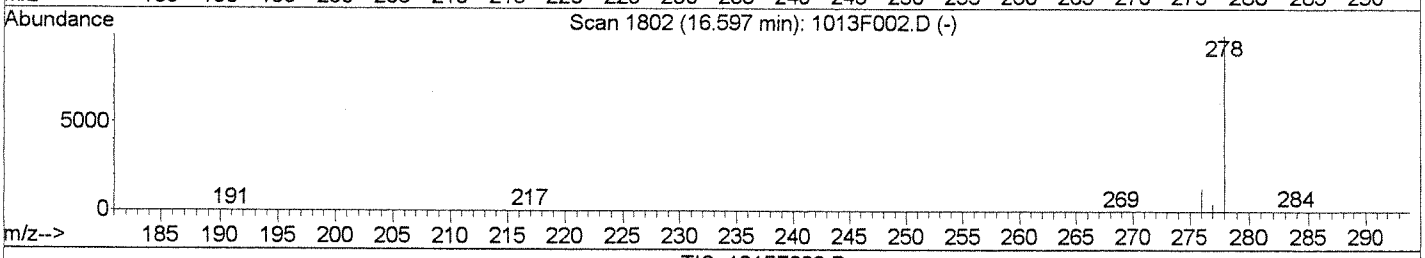
Quantitation Report (Qedit)

Data File : J:\MS11\DATA\101509\1015F003.D Vial: 3
Acq On : 15 Oct 2009 7:35 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @.002/.05ug/mL | SVM29-21C Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 15 10:37 2009 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 06:04:30 2009
Response via : Multiple Level Calibration







TIC: 1015F003.D

(56) Dibenz(a,h)anthracene (T)

16.54min 2.25ng/ml m

response 2141

Ion	Exp%	Act%
278.00	100	100
276.00	22.10	46.55
0.00	0.00	0.00
0.00	0.00	0.00

OI 10/19/09

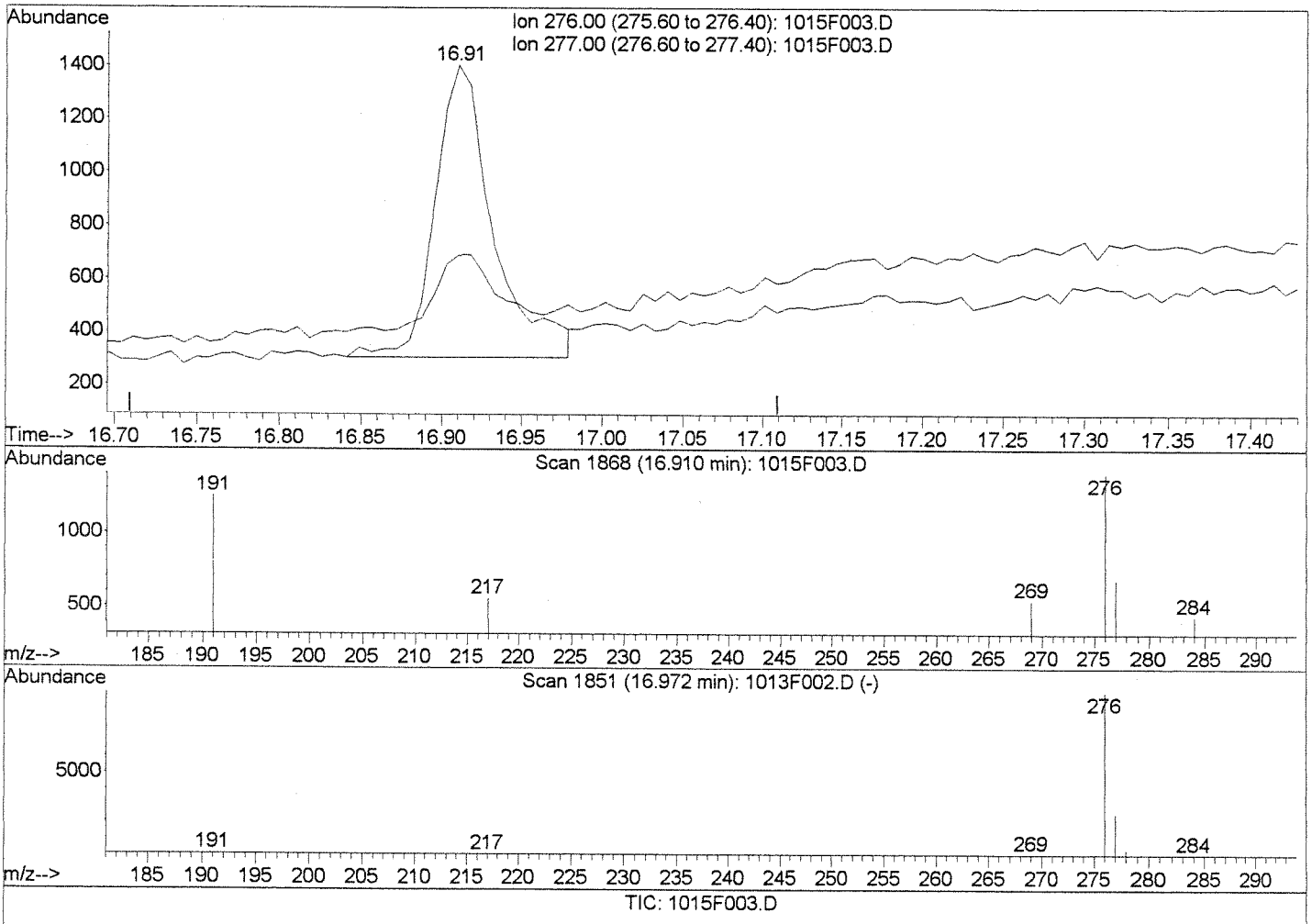
1015F003.D 1015ALK.M Thu Oct 15 10:37:27 2009

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\101509\1015F003.D
Acq On : 15 Oct 2009 7:35 am
Sample : SIM-PAH ICAL @.002/.05ug/mL | SVM29-21C
Misc :
MS Integration Params: RTEINT.P
Quant Time: Oct 15 10:37 2009

Vial: 3
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 06:04:30 2009
Response via : Multiple Level Calibration



(57) Benzo(g,h,i)perylene (T)

16.91min 2.62ng/ml

response 2786

Ion	Exp%	Act%
276.00	100	100
277.00	25.70	26.18
0.00	0.00	0.00
0.00	0.00	0.00

1015F003.D 1015ALK.M Thu Oct 15 10:37:34 2009

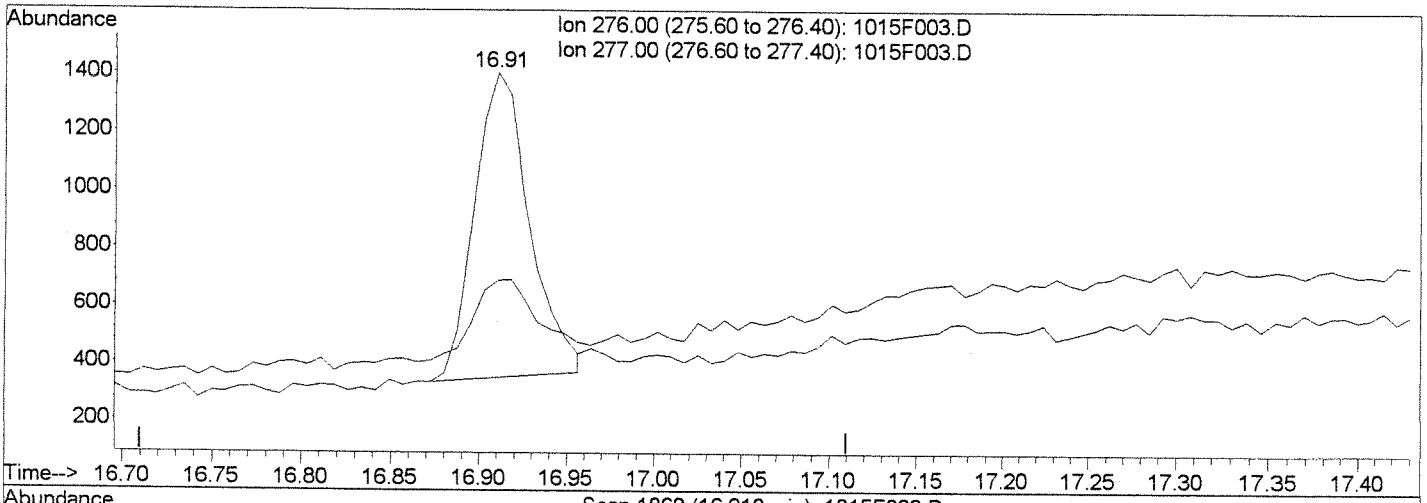
Quantitation Report (Qedit)

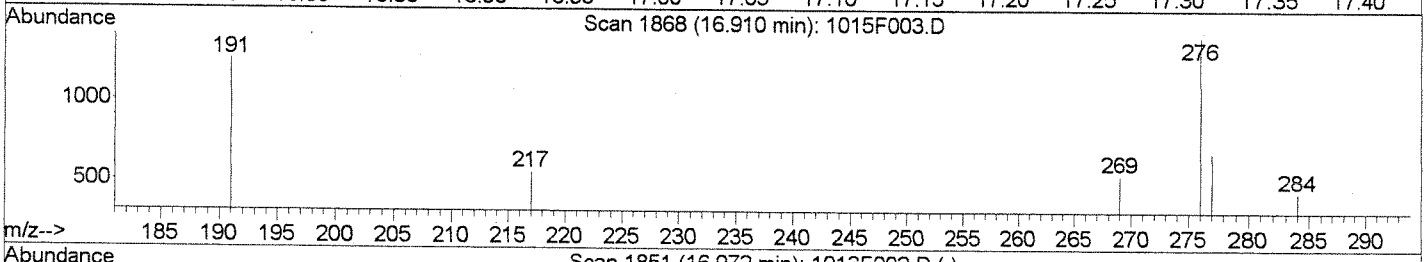
Data File : J:\MS11\DATA\101509\1015F003.D
Acq On : 15 Oct 2009 7:35 am
Sample : SIM-PAH ICAL @.002/.05ug/mL | SVM29-21C
Misc :
MS Integration Params: RTEINT.P
Quant Time: Oct 15 10:37 2009

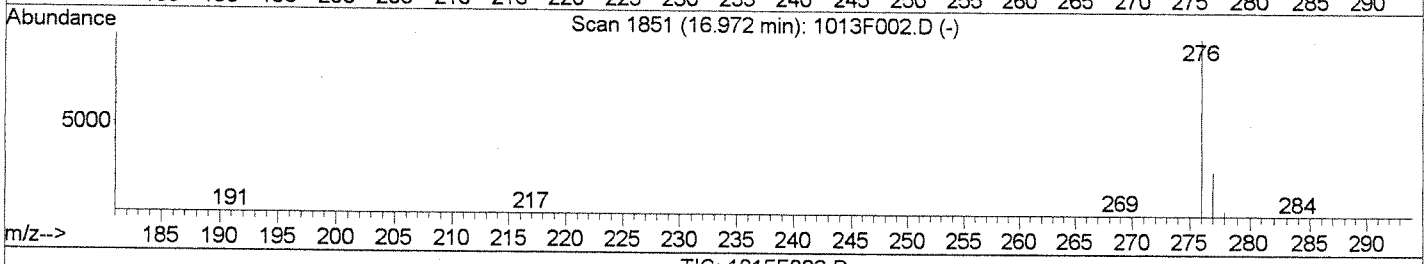
Vial: 3
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 06:04:30 2009
Response via : Multiple Level Calibration







TIC: 1015F003.D

(57) Benzo(g,h,i)perylene (T)

16.91min 2.17ng/ml m

response 2312

Ion	Exp%	Act%
276.00	100	100
277.00	25.70	48.97
0.00	0.00	0.00
0.00	0.00	0.00

OI 10/19/09

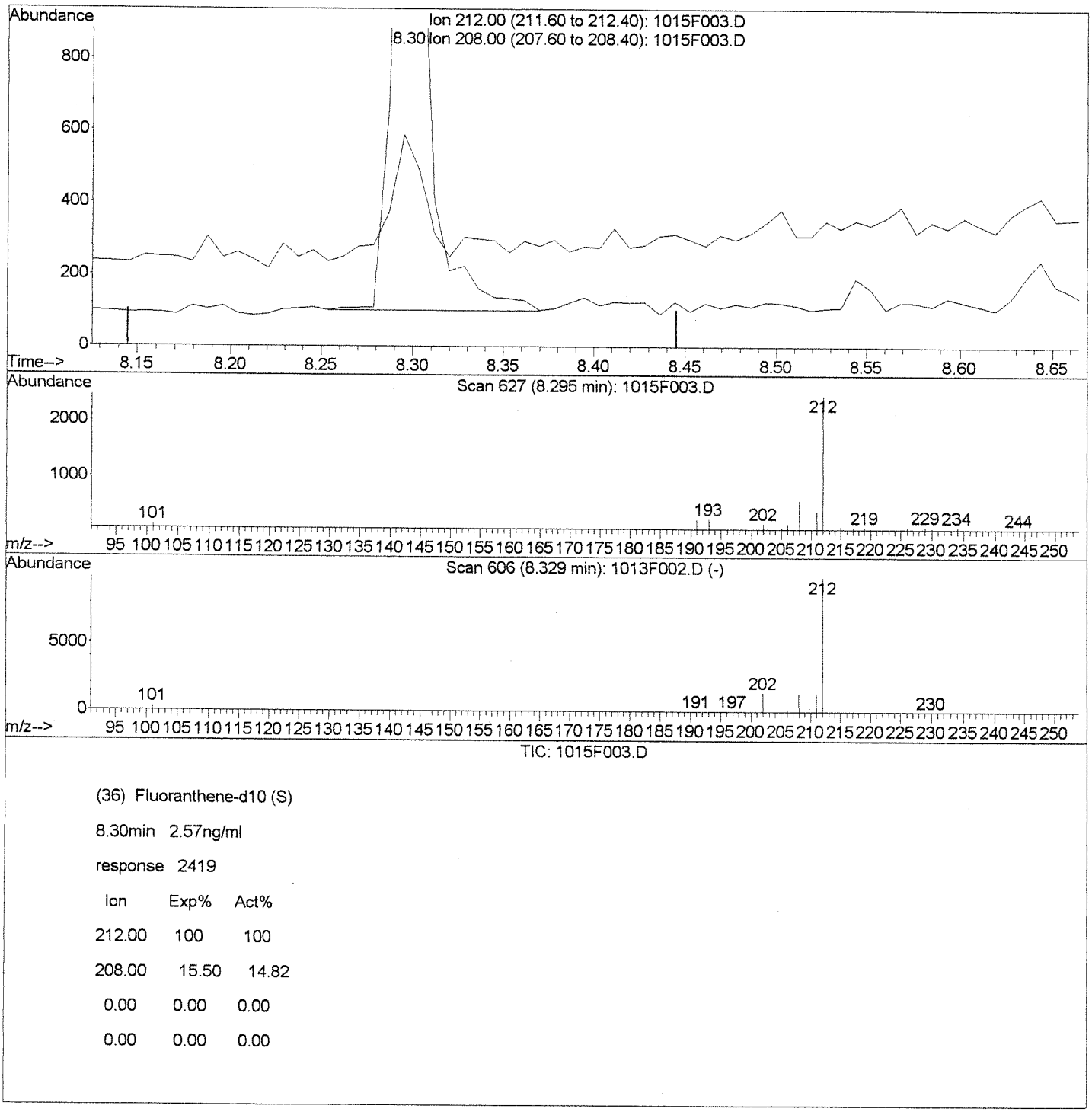
1015F003.D 1015ALK.M Thu Oct 15 10:37:40 2009

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\101509\1015F003.D
Acq On : 15 Oct 2009 7:35 am
Sample : SIM-PAH ICAL @.002/.05ug/mL | SVM29-21C
Misc :
MS Integration Params: RTEINT.P
Quant Time: Oct 15 10:37 2009

Vial: 3
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 10:46:38 2009
Response via : Multiple Level Calibration



TIC: 1015F003.D

(36) Fluoranthene-d10 (S)

8.30min 2.57ng/ml

response 2419

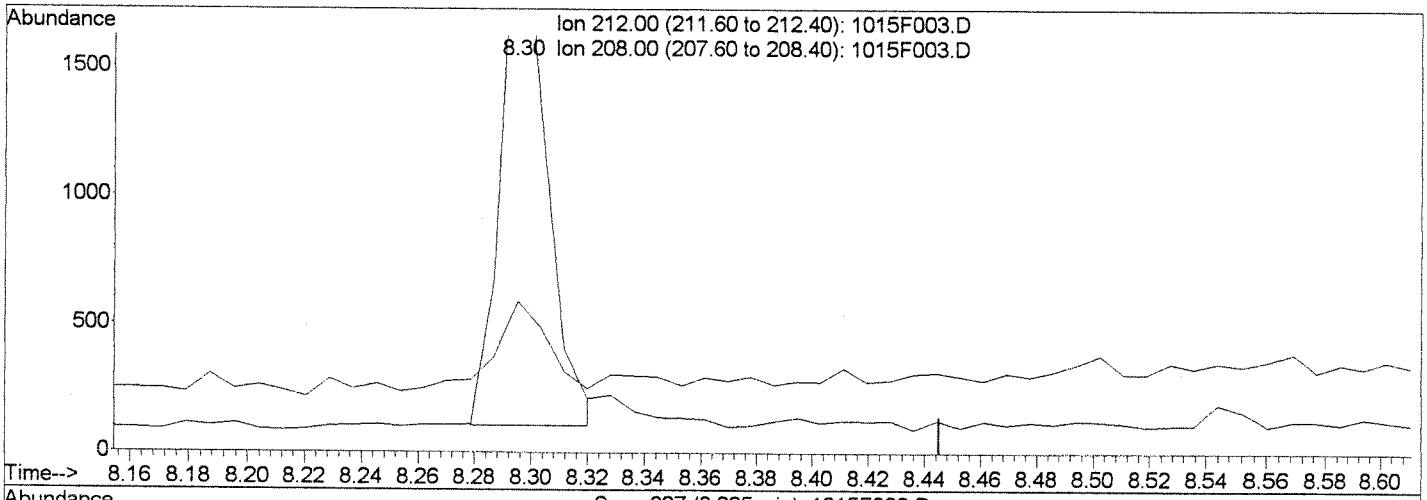
Ion	Exp%	Act%
212.00	100	100
208.00	15.50	14.82
0.00	0.00	0.00
0.00	0.00	0.00

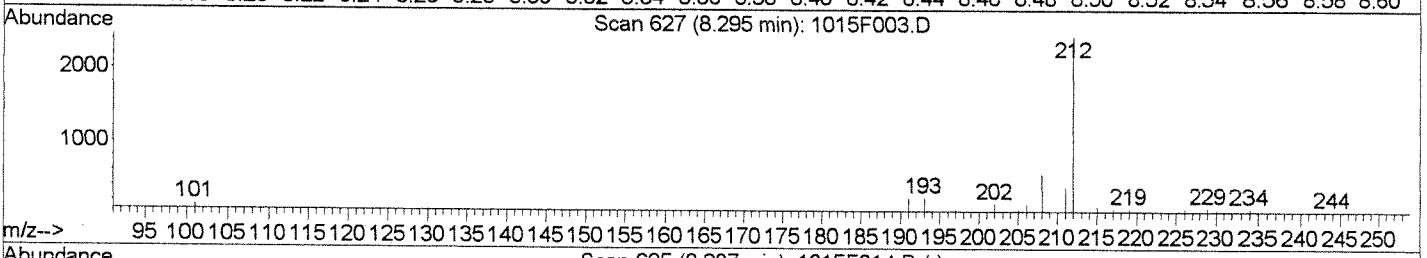
1015F003.D 1015ALK.M Thu Oct 15 10:47:03 2009

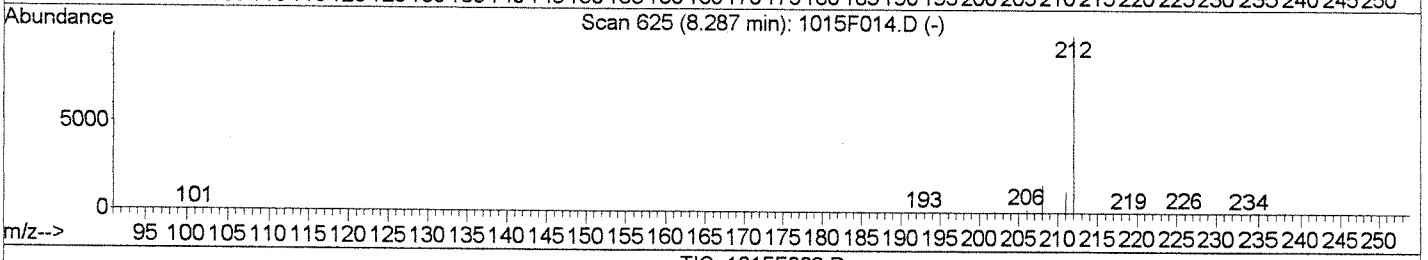
Quantitation Report (Qedit)

Data File : J:\MS11\DATA\101509\1015F003.D Vial: 3
Acq On : 15 Oct 2009 7:35 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @.002/.05ug/mL | SVM29-21C Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 15 10:47 2009 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 12:27:11 2009
Response via : Multiple Level Calibration







TIC: 1015F003.D

(36) Fluoranthene-d10 (S)

8.30min 2.41ng/ml m

response 2261

Ion	Exp%	Act%
212.00	100	100
208.00	15.50	23.84
0.00	0.00	0.00
0.00	0.00	0.00

OI 10/19/09

1015F003.D 1015ALK.M Mon Oct 19 08:20:36 2009

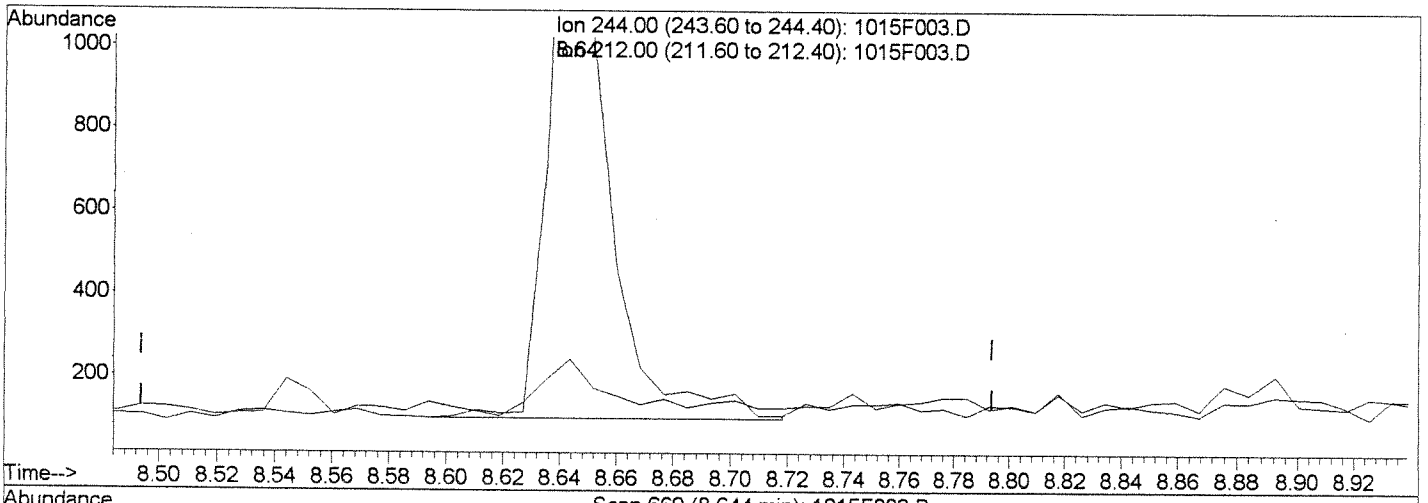
Quantitation Report (Qedit)

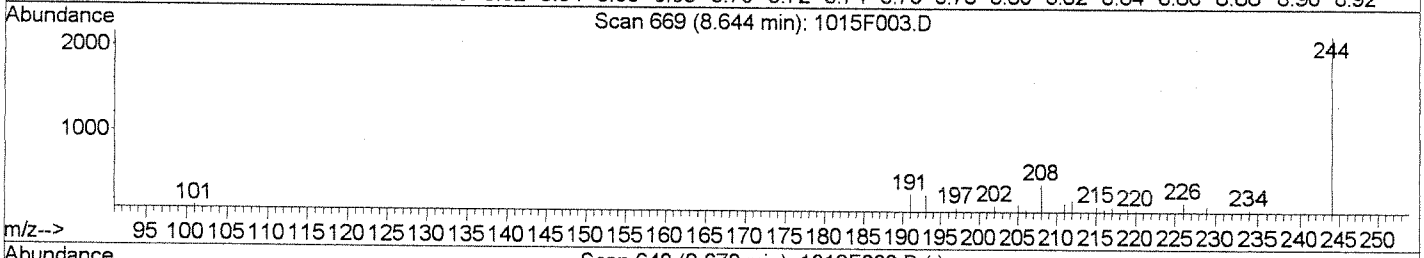
Data File : J:\MS11\DATA\101509\1015F003.D
Acq On : 15 Oct 2009 7:35 am
Sample : SIM-PAH ICAL @.002/.05ug/mL | SVM29-21C
Misc :
MS Integration Params: RTEINT.P
Quant Time: Oct 15 10:47 2009

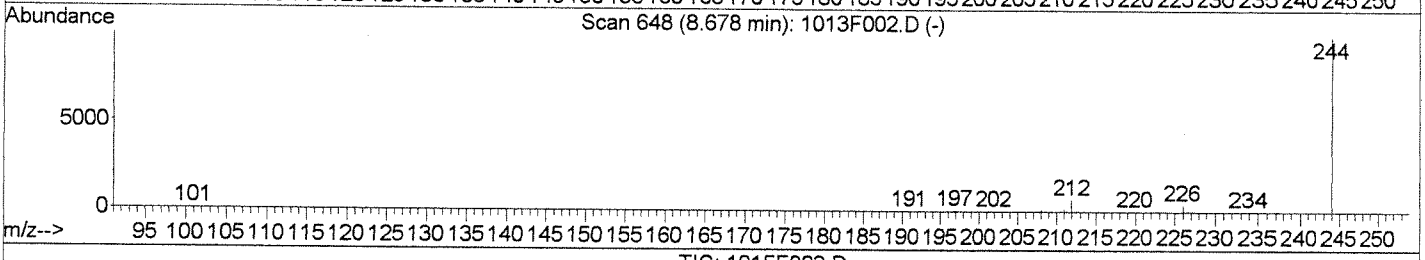
Vial: 3
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 10:46:38 2009
Response via : Multiple Level Calibration







TIC: 1015F003.D

(42) Terphenyl-d14 (S)

8.64min 2.65ng/ml

response 2172

Ion	Exp%	Act%
244.00	100	100
212.00	10.20	5.62
0.00	0.00	0.00
0.00	0.00	0.00

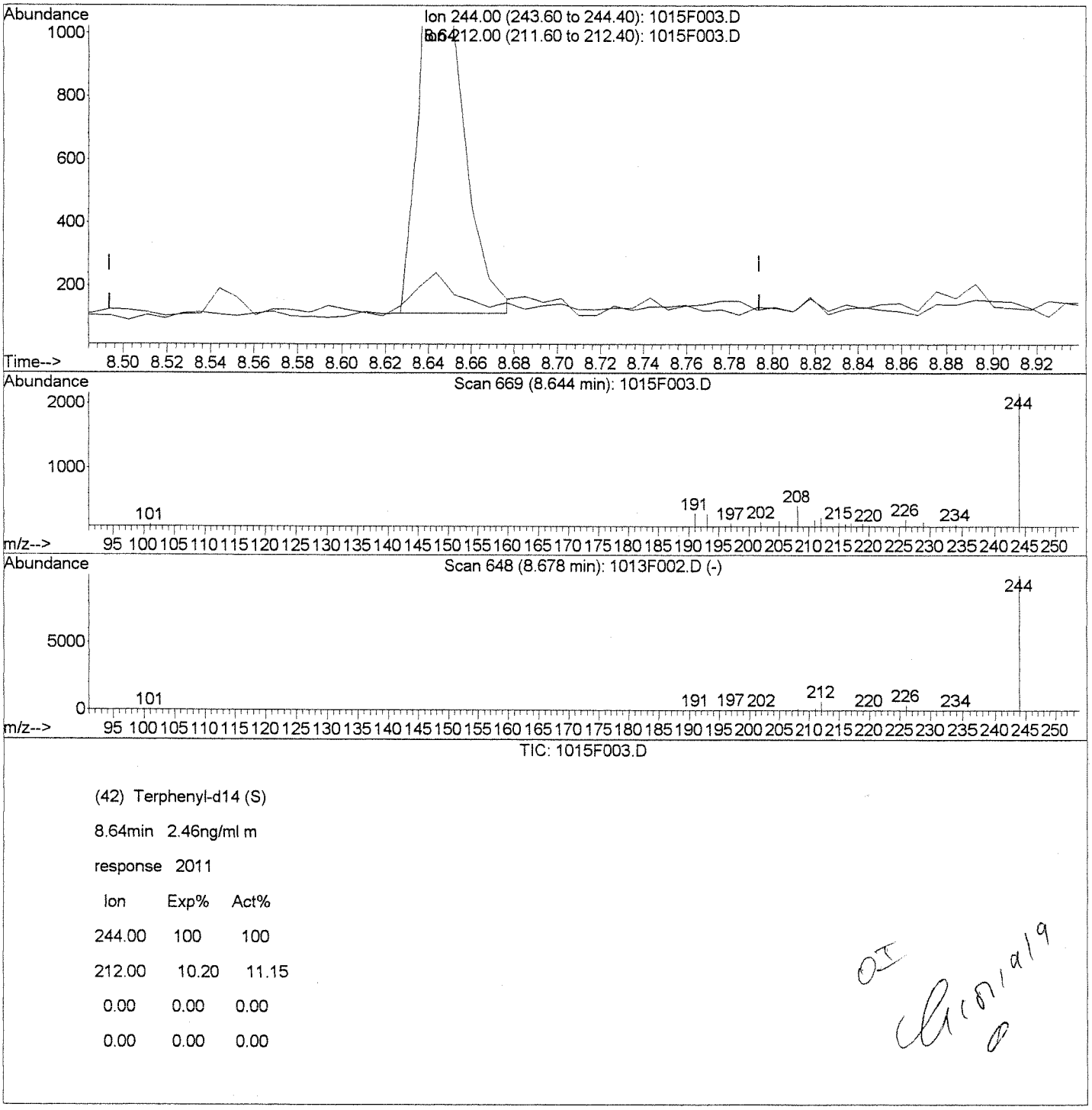
OI Original

1015F003.D 1015ALK.M Thu Oct 15 10:47:15 2009

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\101509\1015F003.D Vial: 3
Acq On : 15 Oct 2009 7:35 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @.002/.05ug/mL | SVM29-21C Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 15 10:47 2009 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 10:46:38 2009
Response via : Multiple Level Calibration



TIC: 1015F003.D

(42) Terphenyl-d14 (S)

8.64min 2.46ng/ml m

response 2011

Ion	Exp%	Act%
244.00	100	100
212.00	10.20	11.15
0.00	0.00	0.00
0.00	0.00	0.00

OI 10/14/09

1015F003.D 1015ALK.M Thu Oct 15 10:47:22 2009

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\101509\1015F004.D Vial: 4
Acq On : 15 Oct 2009 8:02 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @.004/0.1ug/mL | SVM29-21D Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 15 08:34:37 2009 Quant Results File: 1015ALK.RES

Quant Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 06:04:30 2009
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	4.68	136	193139	200.00	ng/ml	0.00
10) Acenaphthene-d10	6.10	164	105158	200.00	ng/ml	0.00
22) Phenanthrene-d10	7.32	188	158753	200.00	ng/ml	0.00
37) Chrysene-d12	9.84	240	197967	200.00	ng/ml	-0.01
49) Perylene-d12	12.93	264	215163	200.00	ng/ml	-0.02
System Monitoring Compounds						
15) Fluorene-d10	6.53	176	2211	3.32	ng/ml	0.01
Spiked Amount 200.000			Recovery =	1.66%		
20) 2,4,6 Tribromophenol	6.77	330	448	4.07	ng/ml	0.01
Spiked Amount 375.000			Recovery =	1.09%		
36) Fluoranthene-d10	8.30	212	4496m	4.66	ng/ml	0.00
Spiked Amount 200.000			Recovery =	2.33%		
42) Terphenyl-d14	8.64	244	4167m	4.86	ng/ml	0.00
Spiked Amount 200.000			Recovery =	2.43%		
Target Compounds						Qvalue
2) Naphthalene	4.69	128	3901m	4.11	ng/ml	
3) 2-Methylnaphthalene	5.27	142	2576	3.28	ng/ml	89
4) 1-Methylnaphthalene	5.34	142	2871	3.51	ng/ml	97
5) Biphenyl	5.64	154	3014	2.24	ng/ml	93
6) 2,6-Dimethylnaphthalene	5.77	156	1809	1.86	ng/ml	92
11) Acenaphthylene	5.99	152	3763m	4.27	ng/ml	
12) Acenaphthene	6.12	154	2296	4.12	ng/ml	87
13) Dibenzofuran	6.28	168	3021	3.46	ng/ml	69
14) 2,3,5-Trimethylnaphthalene	6.44	170	1977	3.20	ng/ml	99
16) Fluorene	6.56	166	2521	3.16	ng/ml	93
21) Pentachlorophenol	7.20	266	2723	41.46	ng/ml	99
23) Dibenzothiophene	7.24	184	3199	3.86	ng/ml	89
27) Phenanthrene	7.34	178	3852	4.00	ng/ml	95
28) Anthracene	7.39	178	3446m	3.91	ng/ml	
29) Carbazole	7.54	167	2980	4.09	ng/ml	93
30) 1-Methylphenanthrene	7.84	192	2658	3.32	ng/ml	94
35) Fluoranthene	8.31	202	4484	4.07	ng/ml	95
38) Pyrene	8.50	202	4493	3.90	ng/ml#	1
43) Benz(a)anthracene	9.83	228	4772	4.32	ng/ml	97
44) Chrysene	9.89	228	4687	4.34	ng/ml	94
50) Benzo(b)fluoranthene	11.91	252	4439	3.77	ng/ml	96
51) Benzo(k)fluoranthene	11.98	252	4415	3.87	ng/ml	98
52) Benzo(e)pyrene	12.62	252	4481	4.15	ng/ml	98
53) Benzo(a)pyrene	12.76	252	4534	4.28	ng/ml	87
54) Perylene	13.01	252	4318	4.26	ng/ml	91

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\101509\1015F004.D Vial: 4
Acq On : 15 Oct 2009 8:02 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @.004/0.1ug/mL | SVM29-21D Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 15 08:34:37 2009 Quant Results File: 1015ALK.RES

Quant Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 06:04:30 2009
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

10/19

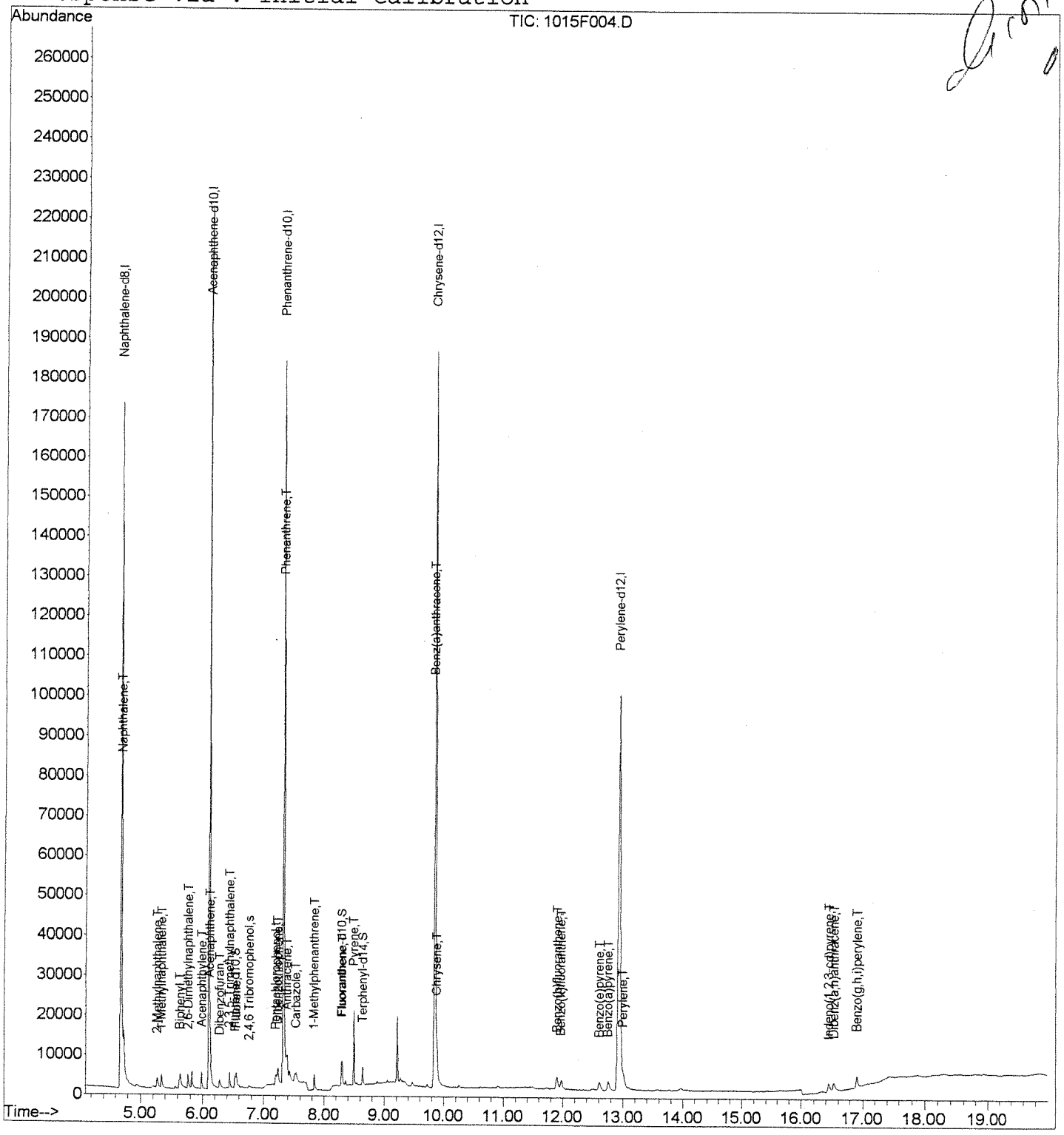
	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
55)	Indeno(1,2,3-cd)pyrene	16.45	276	4076	4.61	ng/ml	99
56)	Dibenz(a,h)anthracene	16.53	278	4364	4.46	ng/ml	97
57)	Benzo(g,h,i)perylene	16.91	276	4693m	4.28	ng/ml	

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\101509\1015F004.D Vial: 4
Acq On : 15 Oct 2009 8:02 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @.004/0.1ug/mL | SVM29-21D Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 15 10:39 2009 Quant Results File: 1015ALK.RES

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 06:04:30 2009
Response via : Initial Calibration

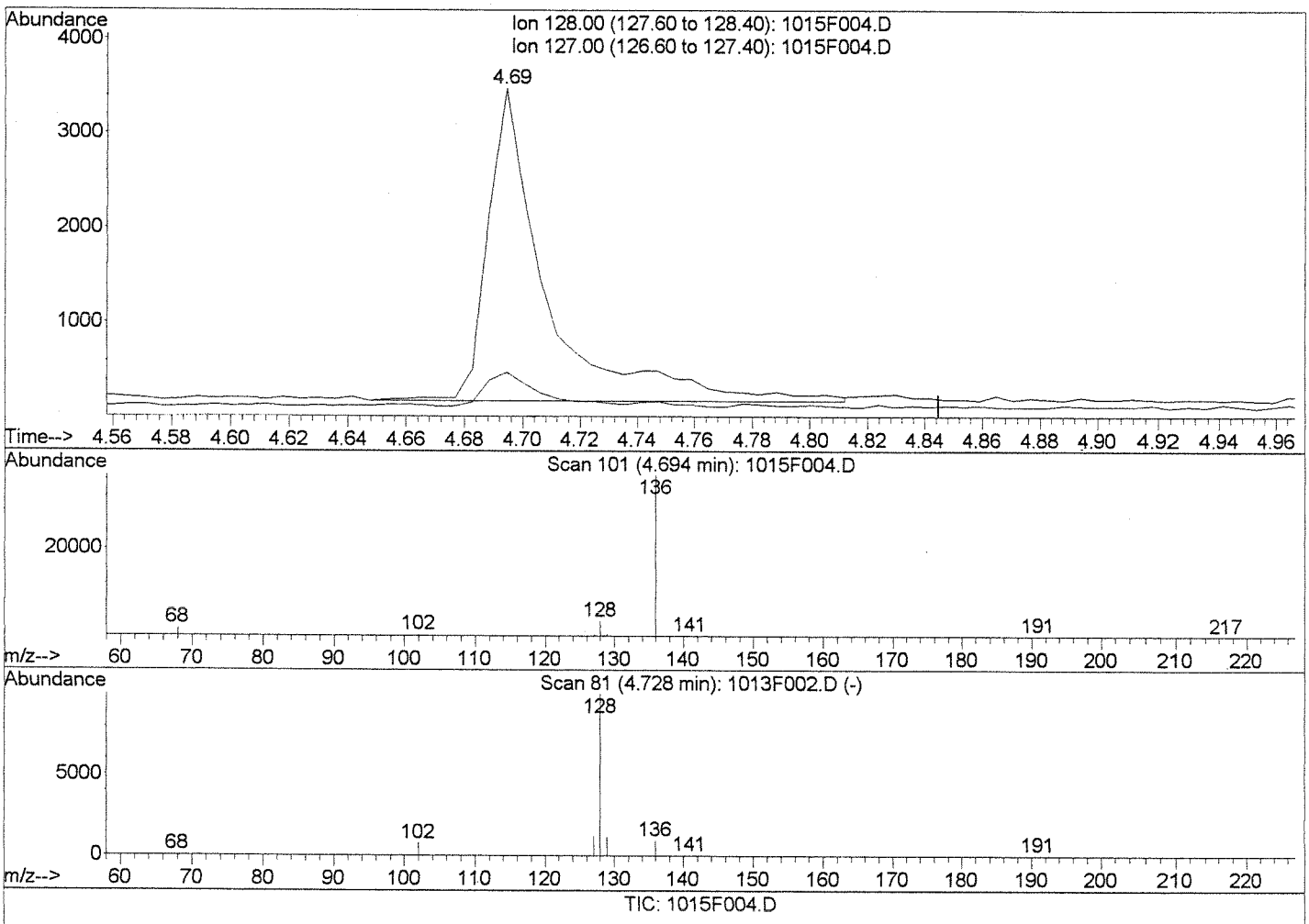


1015F004.D 1015ALK.M Thu Oct 15 10:44:00 2009 Page 3

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\101509\1015F004.D Vial: 4
Acq On : 15 Oct 2009 8:02 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @.004/0.1ug/mL | SVM29-21D Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 15 8:34 2009 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 06:04:30 2009
Response via : Multiple Level Calibration



TIC: 1015F004.D

(2) Naphthalene (T)

4.69min 4.92ng/ml

response 4664

Ion	Exp%	Act%
128.00	100	100
127.00	12.40	10.75
0.00	0.00	0.00
0.00	0.00	0.00

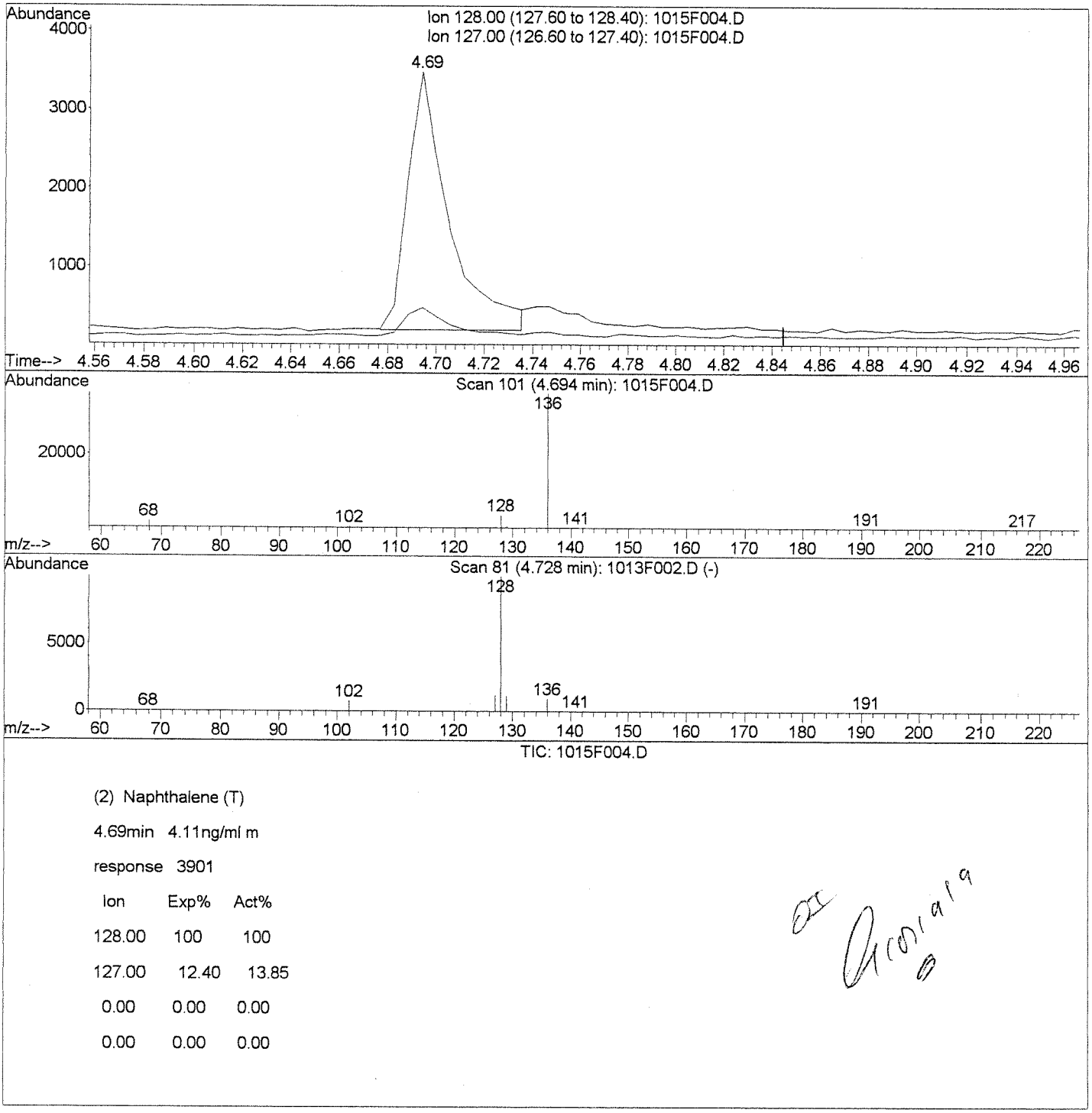
1015F004.D 1015ALK.M Thu Oct 15 10:37:50 2009

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\101509\1015F004.D
Acq On : 15 Oct 2009 8:02 am
Sample : SIM-PAH ICAL @.004/0.1ug/mL | SVM29-21D
Misc :
MS Integration Params: RTEINT.P
Quant Time: Oct 15 10:37 2009

Vial: 4
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 06:04:30 2009
Response via : Multiple Level Calibration



(2) Naphthalene (T)

4.69min 4.11ng/ml m

response 3901

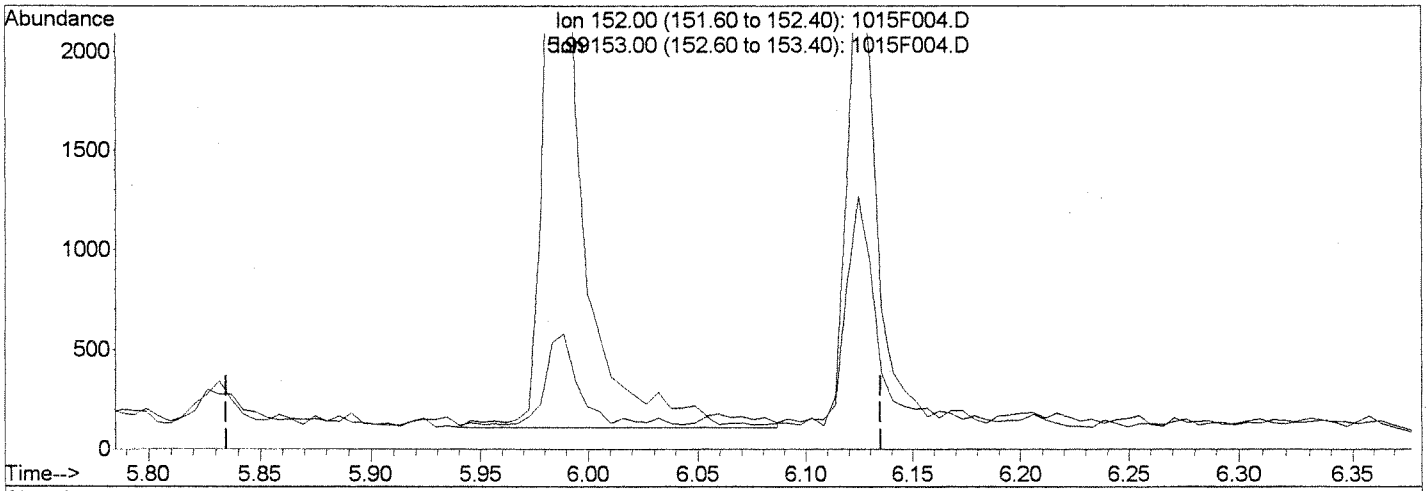
Ion	Exp%	Act%
128.00	100	100
127.00	12.40	13.85
0.00	0.00	0.00
0.00	0.00	0.00

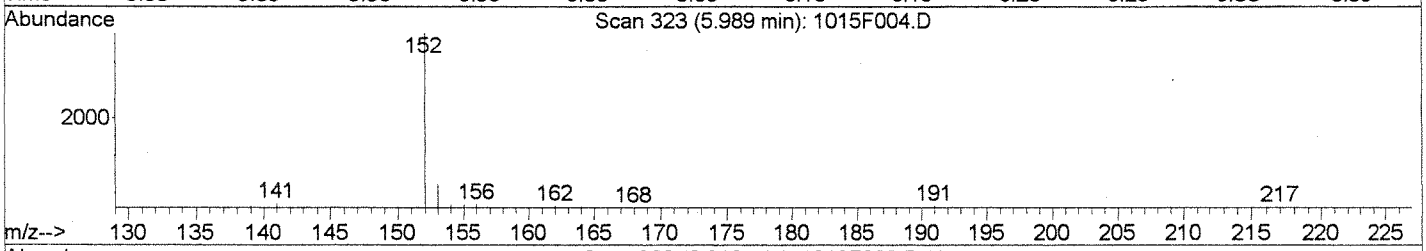
1015F004.D 1015ALK.M Thu Oct 15 10:37:56 2009

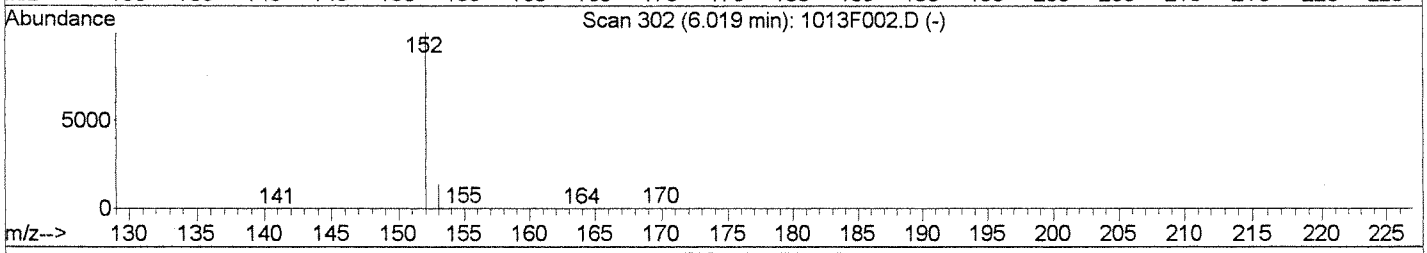
Quantitation Report (Qedit)

Data File : J:\MS11\DATA\101509\1015F004.D Vial: 4
Acq On : 15 Oct 2009 8:02 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @.004/0.1ug/mL | SVM29-21D Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 15 10:37 2009 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 06:04:30 2009
Response via : Multiple Level Calibration







TIC: 1015F004.D

(11) Acenaphthylene (T)

5.99min 4.69ng/ml

response 4133

Ion	Exp%	Act%
152.00	100	100
153.00	14.10	12.29
0.00	0.00	0.00
0.00	0.00	0.00

1015F004.D 1015ALK.M Thu Oct 15 10:38:03 2009

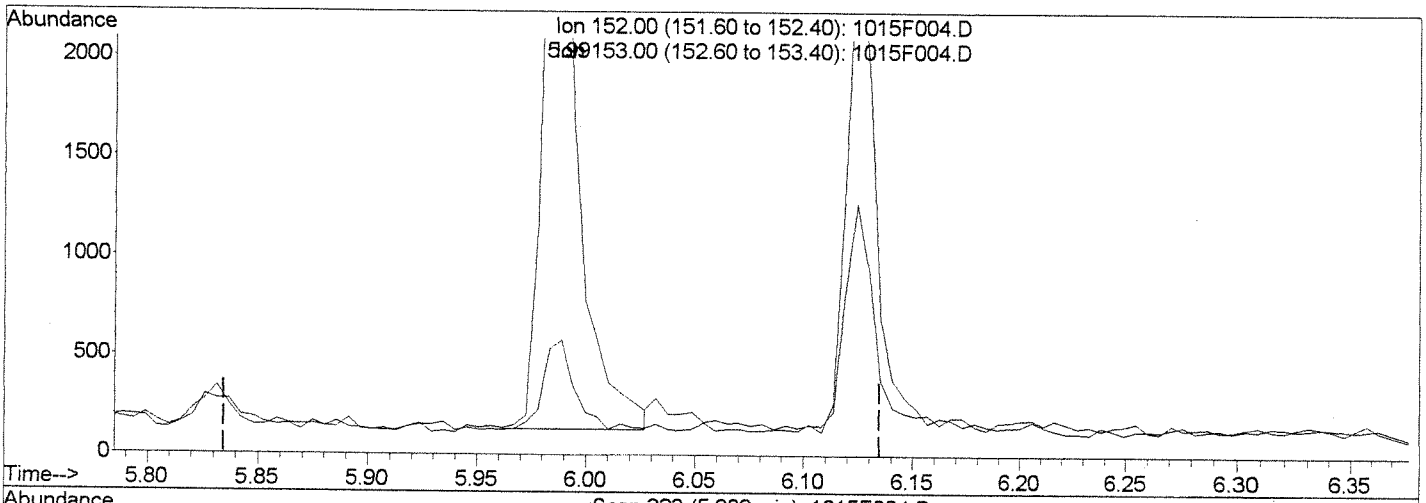
Quantitation Report (Qedit)

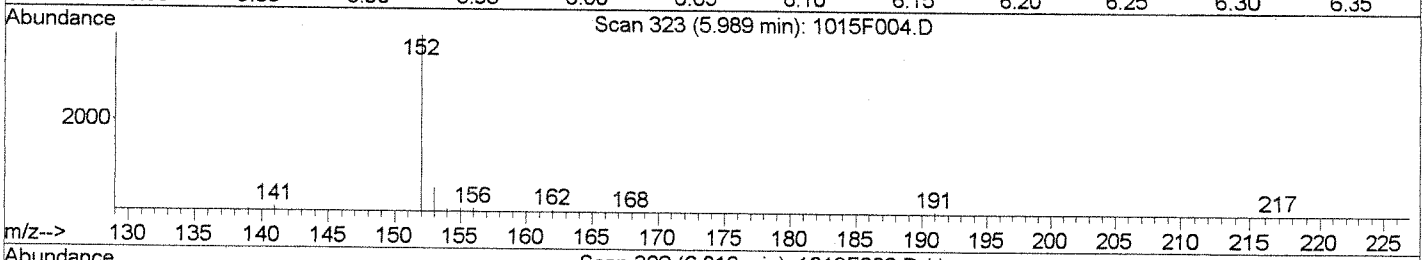
Data File : J:\MS11\DATA\101509\1015F004.D
Acq On : 15 Oct 2009 8:02 am
Sample : SIM-PAH ICAL @.004/0.1ug/mL | SVM29-21D
Misc :
MS Integration Params: RTEINT.P
Quant Time: Oct 15 10:38 2009

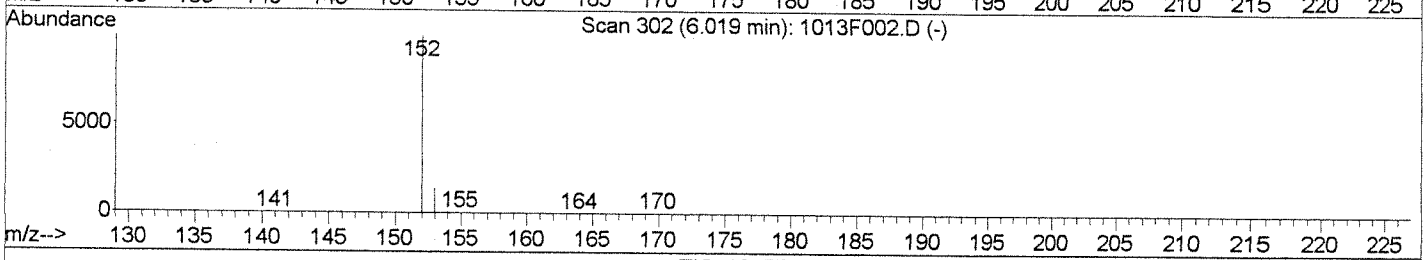
Vial: 4
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 06:04:30 2009
Response via : Multiple Level Calibration







TIC: 1015F004.D

(11) Acenaphthylene (T)

5.99min 4.27ng/ml m

response 3763

Ion	Exp%	Act%
152.00	100	100
153.00	14.10	15.13
0.00	0.00	0.00
0.00	0.00	0.00

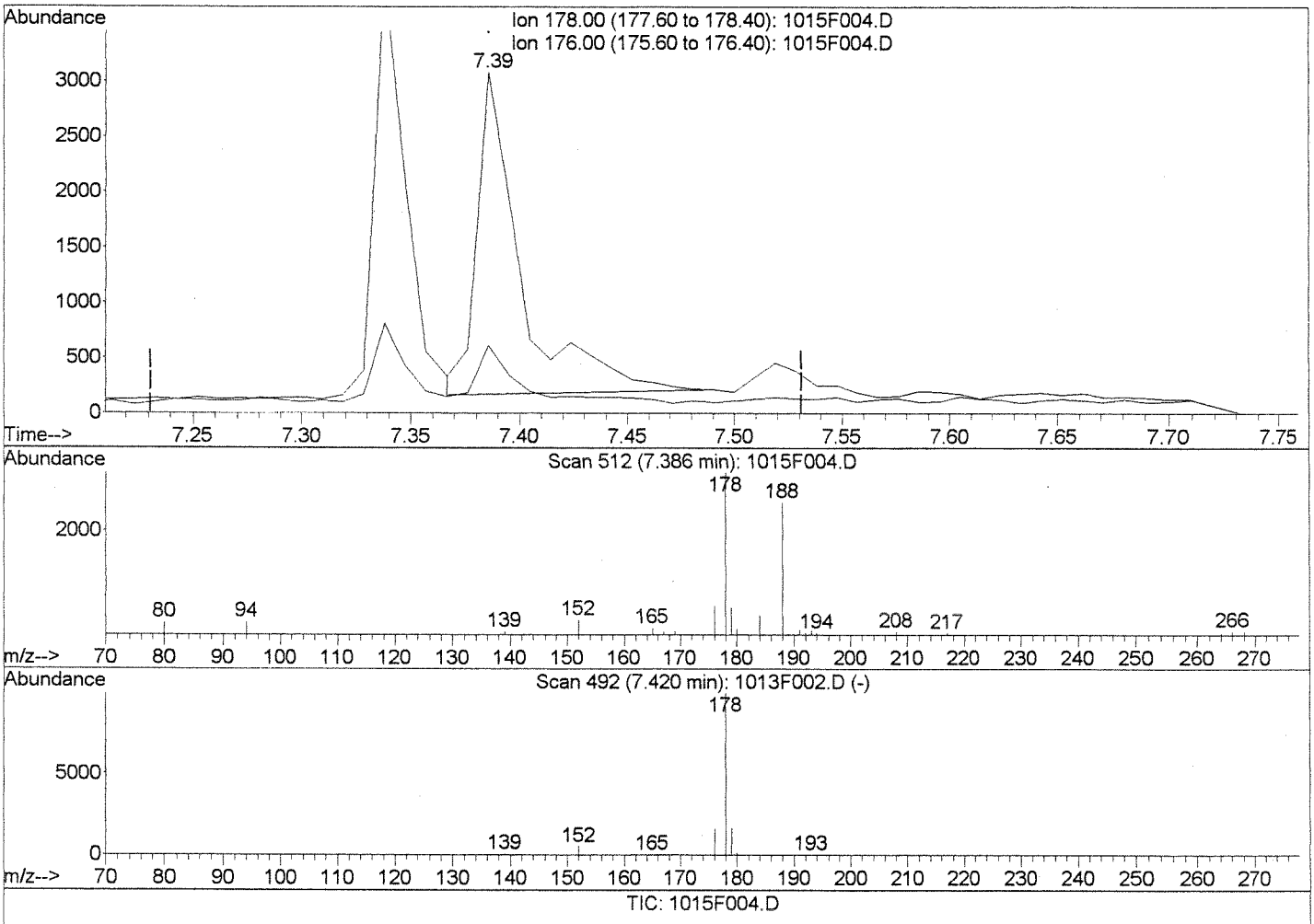
OK 10/19/09

1015F004.D 1015ALK.M Thu Oct 15 10:38:10 2009

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\101509\1015F004.D Vial: 4
Acq On : 15 Oct 2009 8:02 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @.004/0.1ug/mL | SVM29-21D Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 15 10:38 2009 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 06:04:30 2009
Response via : Multiple Level Calibration



TIC: 1015F004.D

(28) Anthracene (T)

7.39min 4.62ng/ml

response 4064

Ion	Exp%	Act%
178.00	100	100
176.00	17.60	17.93
0.00	0.00	0.00
0.00	0.00	0.00

1015F004.D 1015ALK.M Thu Oct 15 10:38:22 2009

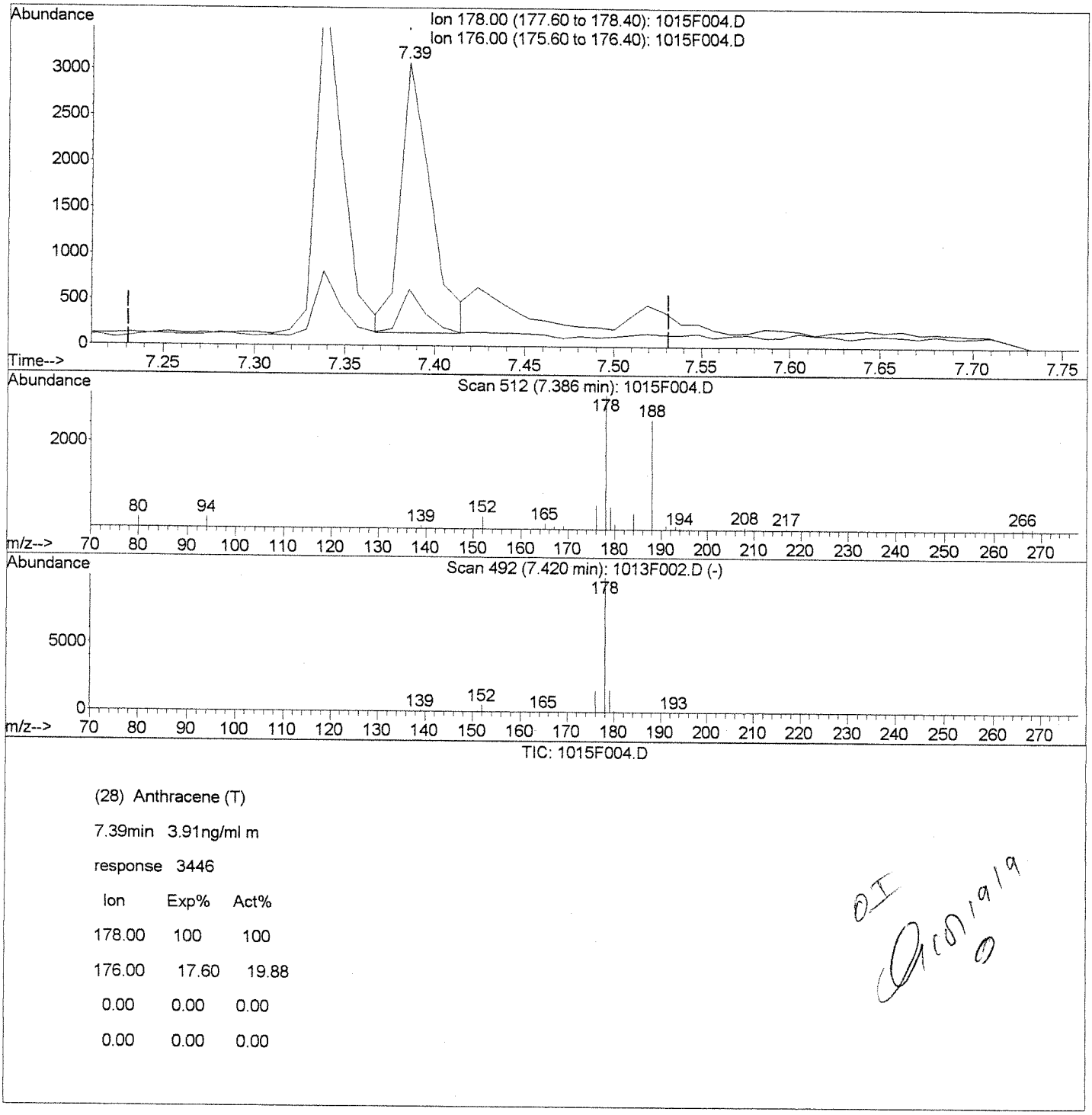
Quantitation Report (Qedit)

Data File : J:\MS11\DATA\101509\1015F004.D
Acq On : 15 Oct 2009 8:02 am
Sample : SIM-PAH ICAL @.004/0.1ug/mL | SVM29-21D
Misc :
MS Integration Params: RTEINT.P
Quant Time: Oct 15 10:38 2009

Vial: 4
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 06:04:30 2009
Response via : Multiple Level Calibration



TIC: 1015F004.D

(28) Anthracene (T)

7.39min 3.91ng/ml m

response 3446

Ion	Exp%	Act%
178.00	100	100
176.00	17.60	19.88
0.00	0.00	0.00
0.00	0.00	0.00

DI 10/19/09

1015F004.D 1015ALK.M Thu Oct 15 10:38:28 2009

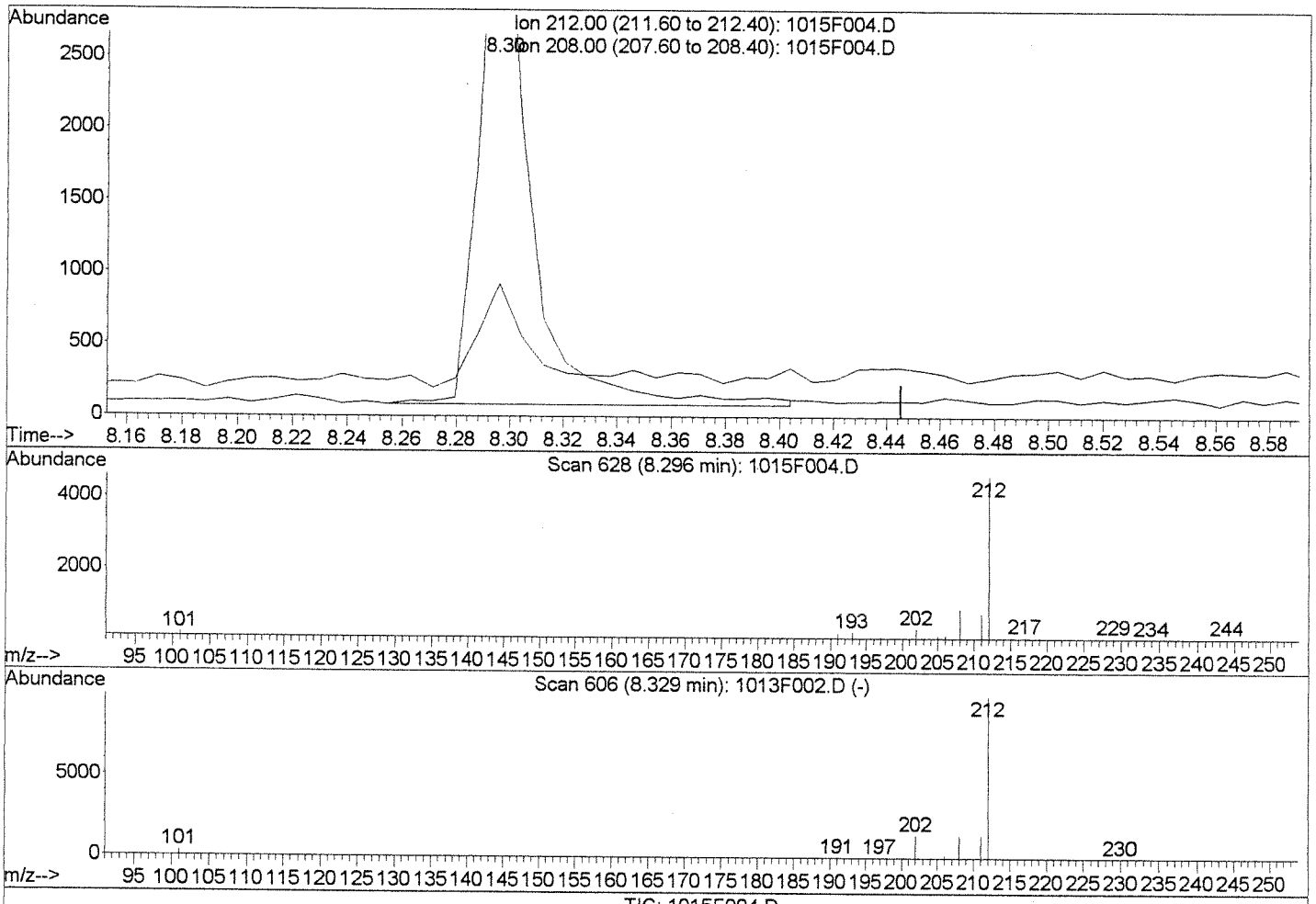
Quantitation Report (Qedit)

Data File : J:\MS11\DATA\101509\1015F004.D
Acq On : 15 Oct 2009 8:02 am
Sample : SIM-PAH ICAL @.004/0.1ug/mL | SVM29-21D
Misc :
MS Integration Params: RTEINT.P
Quant Time: Oct 15 10:38 2009

Vial: 4
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 06:04:30 2009
Response via : Multiple Level Calibration



TIC: 1015F004.D

(36) Fluoranthene-d10 (S)

8.30min 5.13ng/ml

response 4946

Ion	Exp%	Act%
212.00	100	100
208.00	15.50	14.90
0.00	0.00	0.00
0.00	0.00	0.00

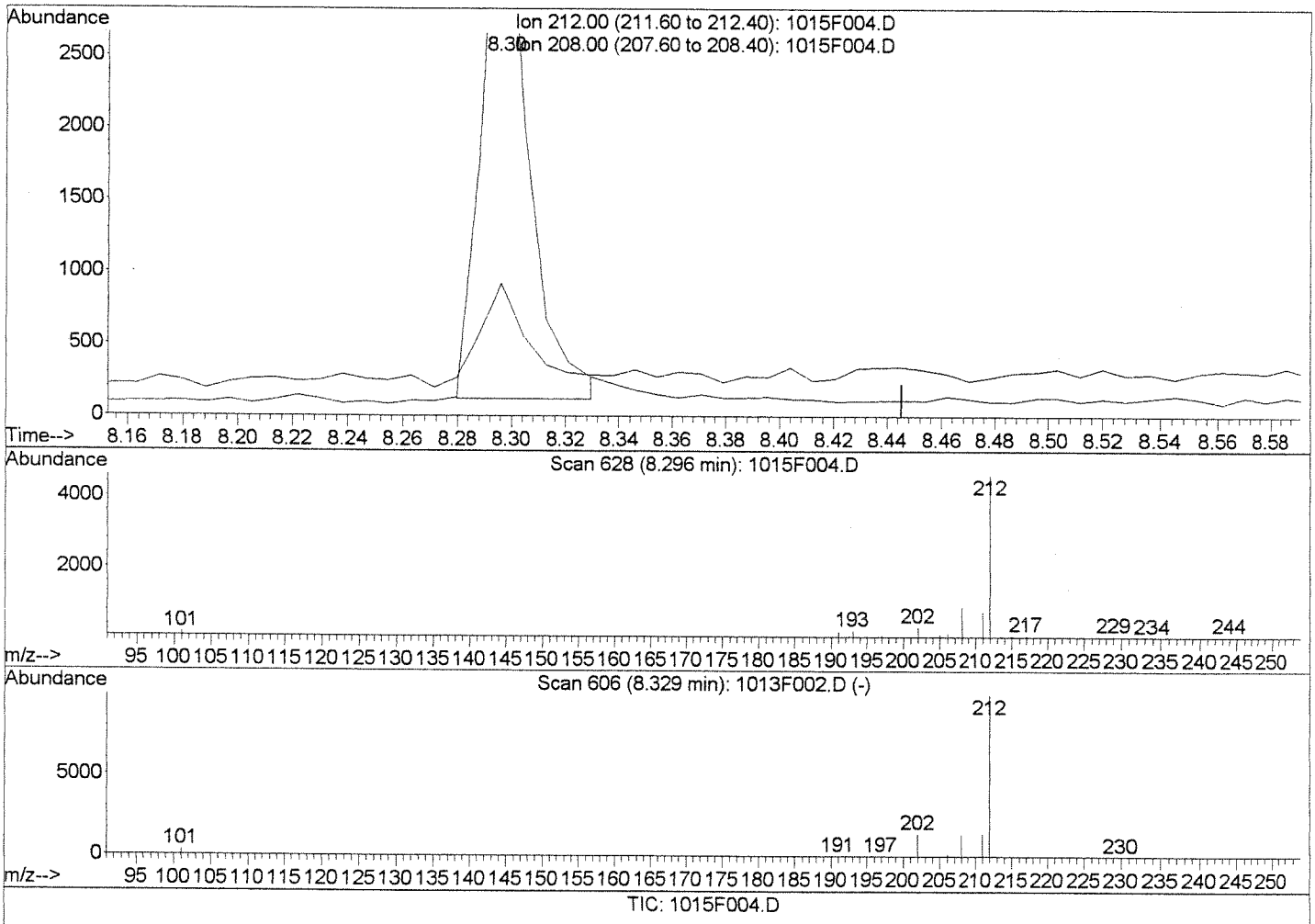
1015F004.D 1015ALK.M Thu Oct 15 10:38:39 2009

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\101509\1015F004.D
Acq On : 15 Oct 2009 8:02 am
Sample : SIM-PAH ICAL @.004/0.1ug/mL | SVM29-21D
Misc :
MS Integration Params: RTEINT.P
Quant Time: Oct 15 10:38 2009

Vial: 4
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 06:04:30 2009
Response via : Multiple Level Calibration



TIC: 1015F004.D

(36) Fluoranthene-d10 (S)

8.30min 4.66ng/ml m

response 4496

Ion	Exp%	Act%
212.00	100	100
208.00	15.50	20.00
0.00	0.00	0.00
0.00	0.00	0.00

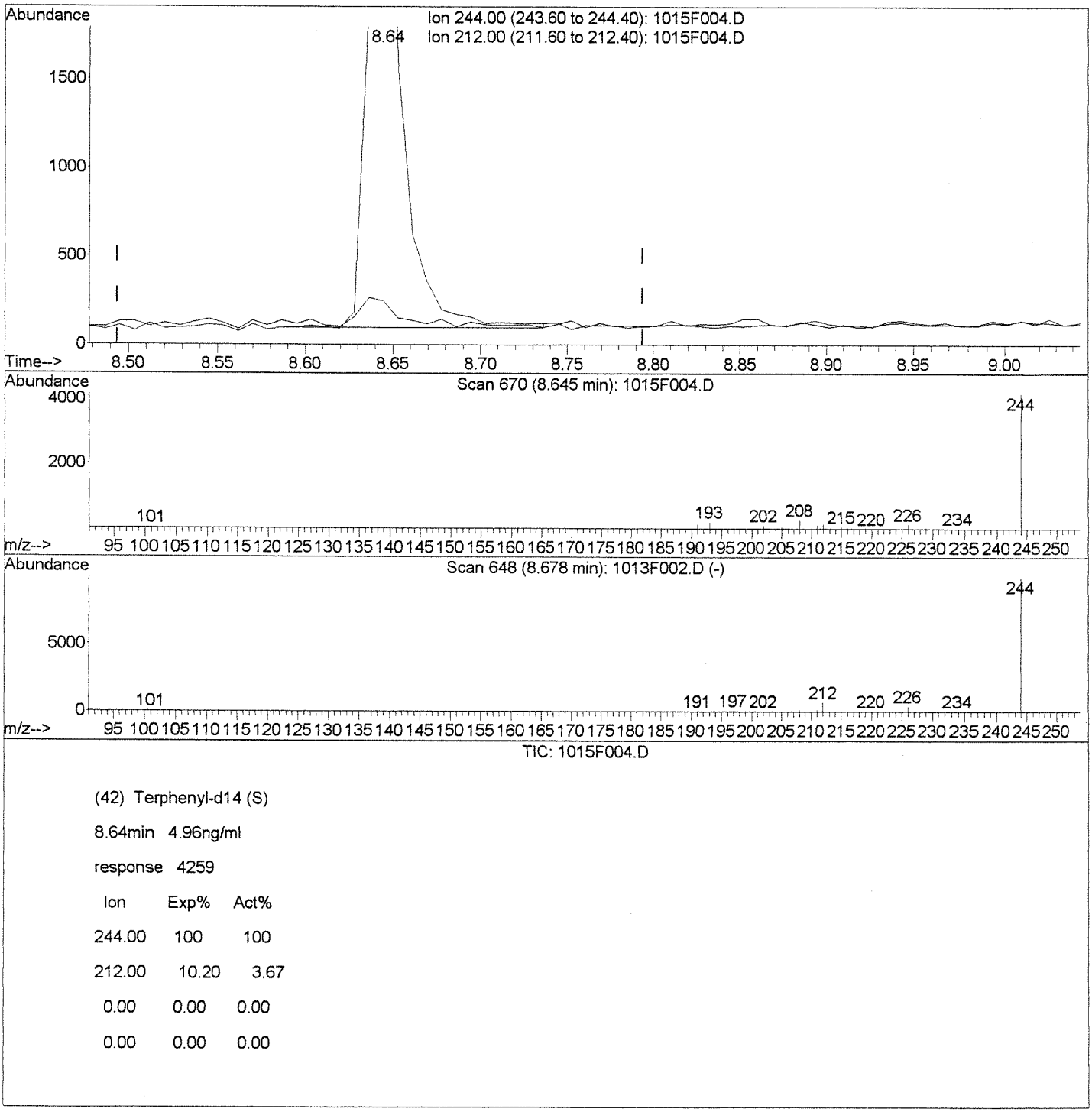
DF 10/19/09

1015F004.D 1015ALK.M Thu Oct 15 10:38:46 2009

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\101509\1015F004.D Vial: 4
Acq On : 15 Oct 2009 8:02 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @.004/0.1ug/mL | SVM29-21D Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 15 10:38 2009 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 06:04:30 2009
Response via : Multiple Level Calibration



(42) Terphenyl-d14 (S)

8.64min 4.96ng/ml

response 4259

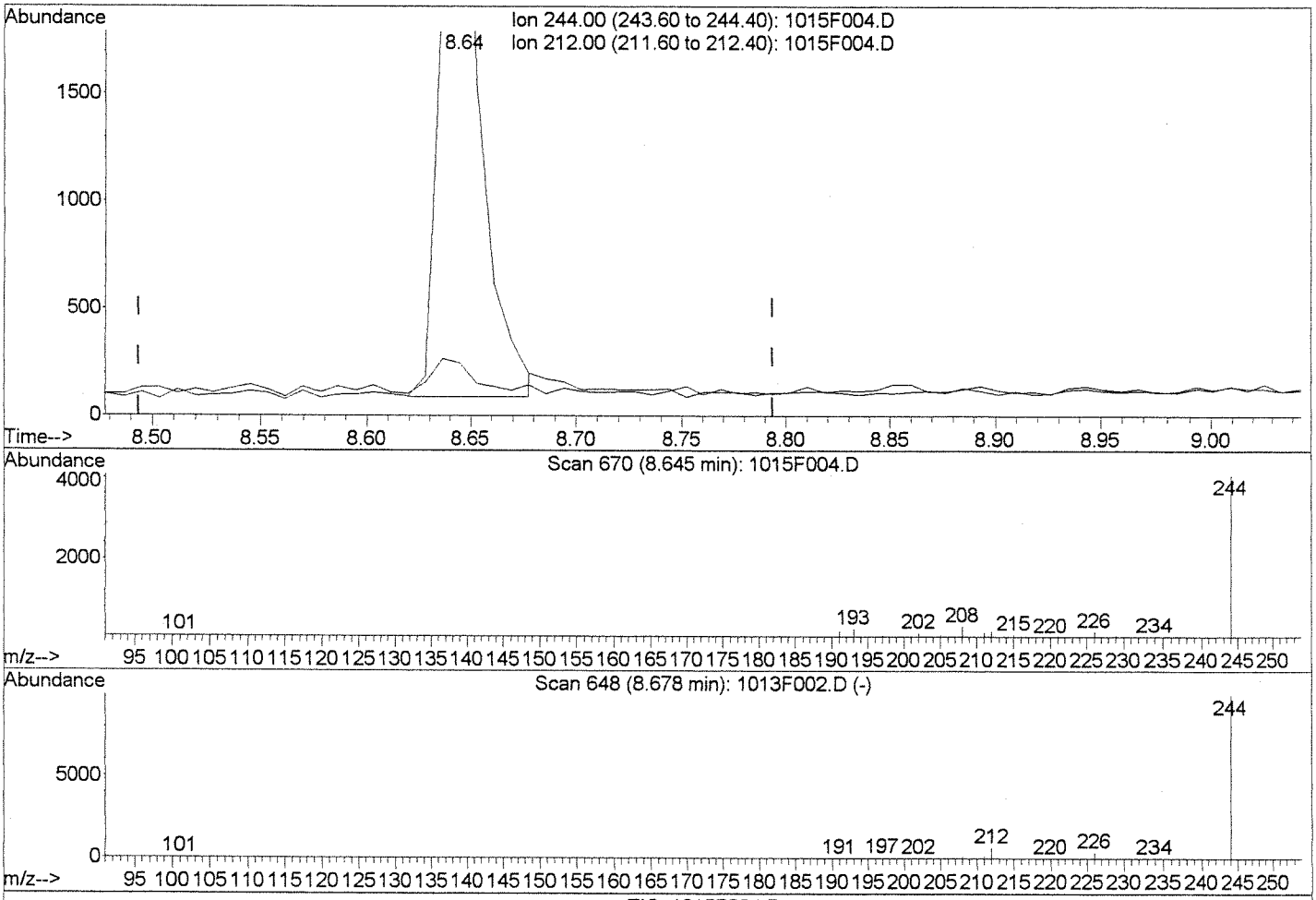
Ion	Exp%	Act%
244.00	100	100
212.00	10.20	3.67
0.00	0.00	0.00
0.00	0.00	0.00

1015F004.D 1015ALK.M Thu Oct 15 10:38:54 2009

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\101509\1015F004.D Vial: 4
Acq On : 15 Oct 2009 8:02 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @.004/0.1ug/mL | SVM29-21D Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 15 10:39 2009 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 06:04:30 2009
Response via : Multiple Level Calibration



TIC: 1015F004.D

(42) Terphenyl-d14 (S)

8.64min 4.86ng/ml m

response 4167

Ion	Exp%	Act%
244.00	100	100
212.00	10.20	6.01
0.00	0.00	0.00
0.00	0.00	0.00

DI 10/19/09

1015F004.D 1015ALK.M Thu Oct 15 10:39:08 2009

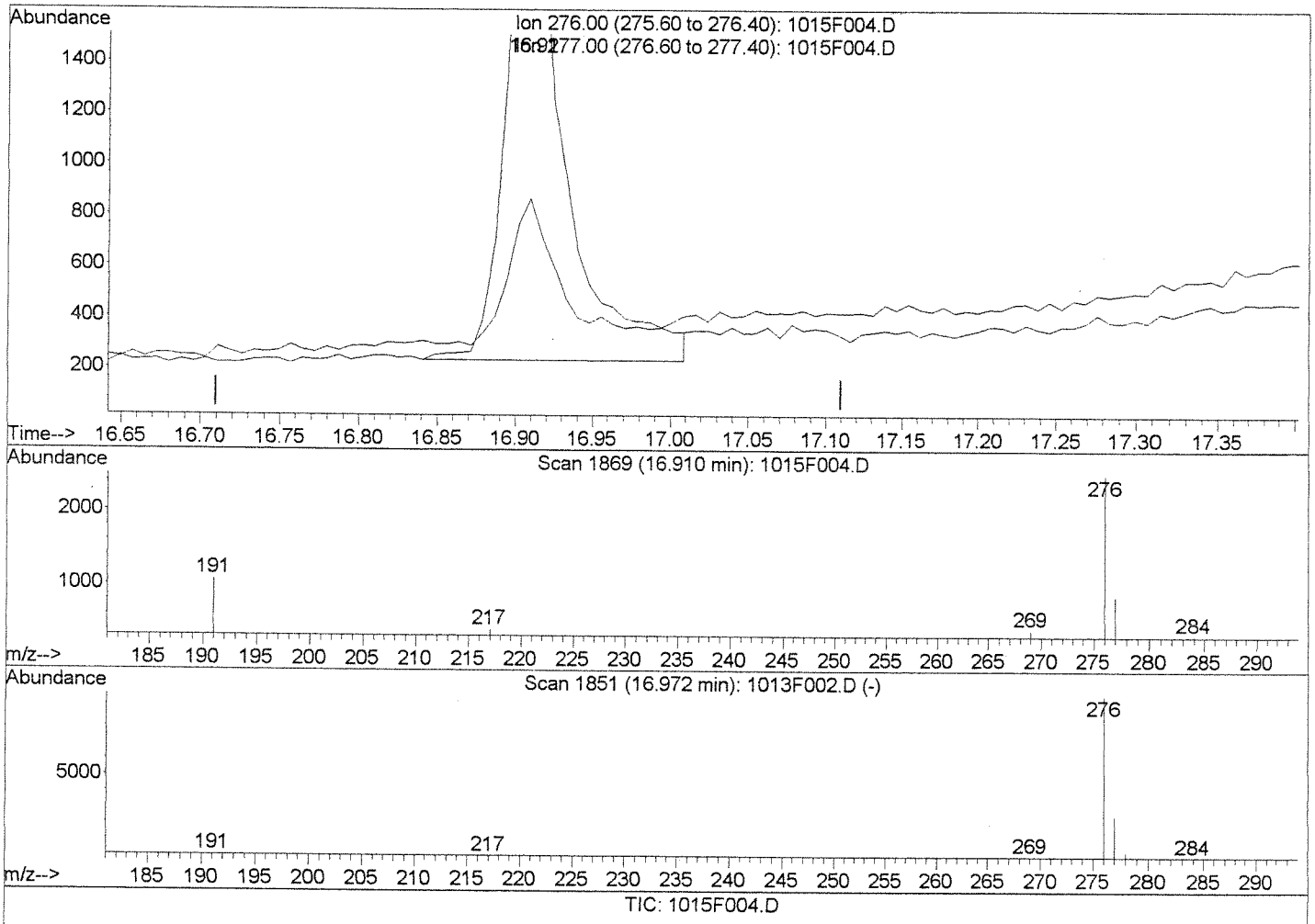
Quantitation Report (Qedit)

Data File : J:\MS11\DATA\101509\1015F004.D
Acq On : 15 Oct 2009 8:02 am
Sample : SIM-PAH ICAL @.004/0.1ug/mL | SVM29-21D
Misc :
MS Integration Params: RTEINT.P
Quant Time: Oct 15 10:39 2009

Vial: 4
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 06:04:30 2009
Response via : Multiple Level Calibration



(57) Benzo(g,h,i)perylene (T)

16.91min 4.82ng/ml

response 5283

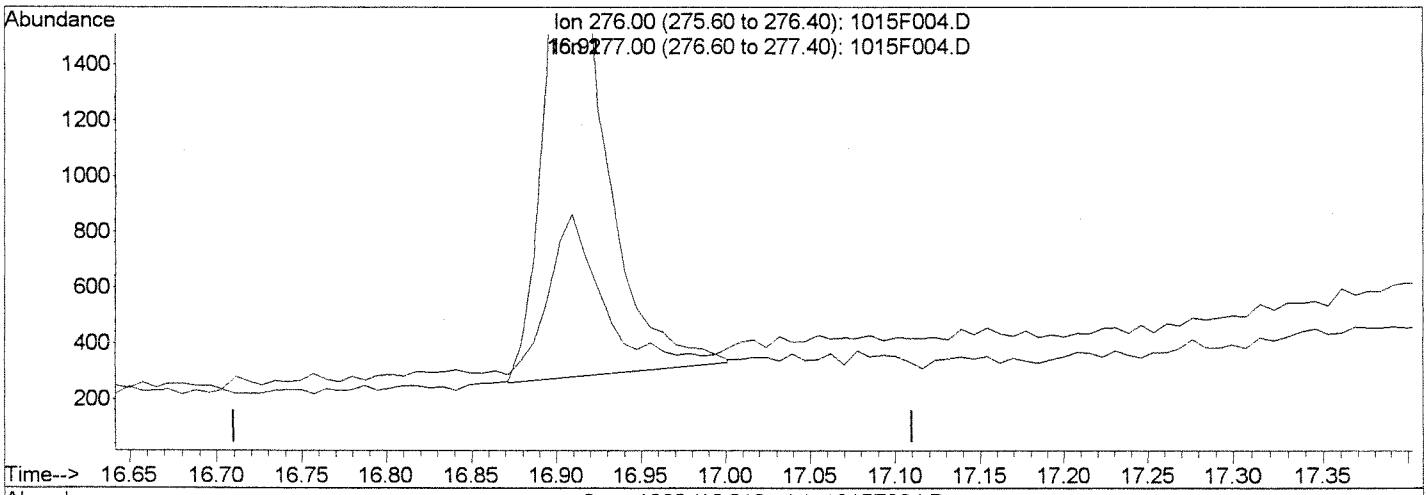
Ion	Exp%	Act%
276.00	100	100
277.00	25.70	24.62
0.00	0.00	0.00
0.00	0.00	0.00

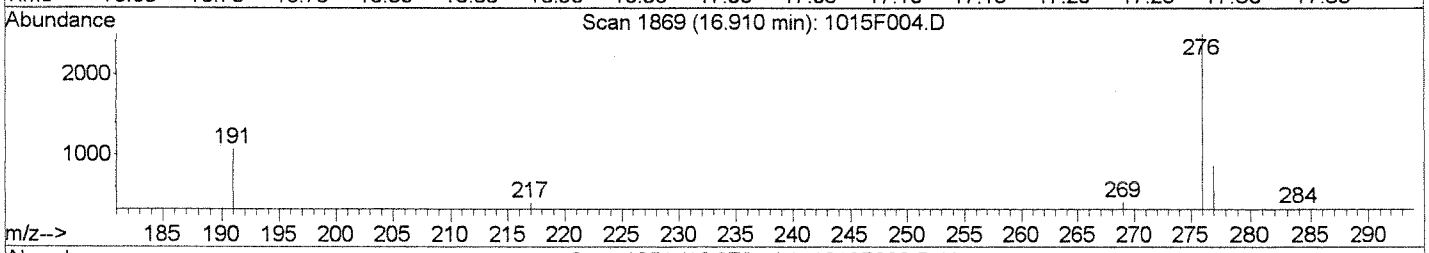
1015F004.D 1015ALK.M Thu Oct 15 10:39:23 2009

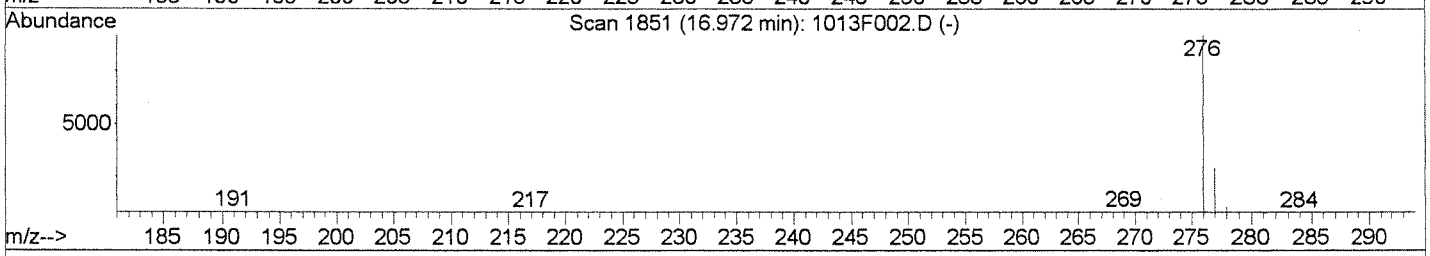
Quantitation Report (Qedit)

Data File : J:\MS11\DATA\101509\1015F004.D Vial: 4
Acq On : 15 Oct 2009 8:02 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @.004/0.1ug/mL | SVM29-21D Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 15 10:39 2009 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 06:04:30 2009
Response via : Multiple Level Calibration







TIC: 1015F004.D

(57) Benzo(g,h,i)perylene (T)

16.91min 4.28ng/ml m

response 4693

Ion	Exp%	Act%
276.00	100	100
277.00	25.70	34.56
0.00	0.00	0.00
0.00	0.00	0.00

DT 10/19/09

1015F004.D 1015ALK.M Thu Oct 15 10:39:28 2009

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\101509\1015F005.D Vial: 5
Acq On : 15 Oct 2009 8:28 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @.008/0.2ug/mL | SVM29-21E Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 15 08:49:14 2009 Quant Results File: 1015ALK.RES

Quant Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 06:04:30 2009
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	4.68	136	189975	200.00	ng/ml	0.00
10) Acenaphthene-d10	6.10	164	103627	200.00	ng/ml	0.00
22) Phenanthrene-d10	7.32	188	156924	200.00	ng/ml	0.00
37) Chrysene-d12	9.84	240	184570	200.00	ng/ml	-0.01
49) Perylene-d12	12.93	264	201106	200.00	ng/ml	-0.02
System Monitoring Compounds						
15) Fluorene-d10	6.53	176	3696	5.63	ng/ml	0.01
Spiked Amount 200.000			Recovery =	2.81%		
20) 2,4,6 Tribromophenol	6.77	330	672	6.19	ng/ml	0.01
Spiked Amount 375.000			Recovery =	1.65%		
36) Fluoranthene-d10	8.30	212	6830	7.16	ng/ml	0.00
Spiked Amount 200.000			Recovery =	3.58%		
42) Terphenyl-d14	8.64	244	5829	7.29	ng/ml	0.00
Spiked Amount 200.000			Recovery =	3.65%		
Target Compounds						Qvalue
2) Naphthalene	4.70	128	7433m	7.97	ng/ml	
3) 2-Methylnaphthalene	5.27	142	4645	6.01	ng/ml	93
4) 1-Methylnaphthalene	5.34	142	5409	6.73	ng/ml	95
5) Biphenyl	5.64	154	5681	4.29	ng/ml	99
6) 2,6-Dimethylnaphthalene	5.77	156	3648	3.82	ng/ml	97
11) Acenaphthylene	5.98	152	6986m	8.04	ng/ml	
12) Acenaphthene	6.12	154	4229m	7.70	ng/ml	
13) Dibenzofuran	6.28	168	5673	6.59	ng/ml	67
14) 2,3,5-Trimethylnaphthalene	6.44	170	3649m	6.00	ng/ml	
16) Fluorene	6.56	166	4704	5.98	ng/ml	91
21) Pentachlorophenol	7.20	266	5928	91.59	ng/ml	99
23) Dibenzothiophene	7.24	184	6050	7.39	ng/ml	89
27) Phenanthrene	7.34	178	6899	7.25	ng/ml	93
28) Anthracene	7.39	178	6648m	7.64	ng/ml	
29) Carbazole	7.54	167	5491	7.62	ng/ml	99
30) 1-Methylphenanthrene	7.84	192	4929	6.23	ng/ml	96
35) Fluoranthene	8.31	202	7801	7.16	ng/ml	89
38) Pyrene	8.50	202	8006	7.46	ng/ml	46
43) Benz(a)anthracene	9.84	228	7505	7.28	ng/ml	97
44) Chrysene	9.88	228	7910	7.85	ng/ml	97
50) Benzo(b)fluoranthene	11.91	252	7955	7.22	ng/ml	91
51) Benzo(k)fluoranthene	11.98	252	8021	7.53	ng/ml	90
52) Benzo(e)pyrene	12.62	252	7414	7.34	ng/ml	97
53) Benzo(a)pyrene	12.76	252	7232	7.31	ng/ml	98
54) Perylene	13.01	252	7359	7.76	ng/ml	96

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\101509\1015F005.D Vial: 5
Acq On : 15 Oct 2009 8:28 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @.008/0.2ug/mL | SVM29-21E Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 15 08:49:14 2009 Quant Results File: 1015ALK.RES

Quant Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 06:04:30 2009
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
55)	Indeno(1,2,3-cd)pyrene	16.44	276	6486	7.85	ng/ml	98
56)	Dibenz(a,h)anthracene	16.53	278	7047	7.70	ng/ml	95
57)	Benzo(g,h,i)perylene	16.90	276	8511	8.31	ng/ml	95

(#) = qualifier out of range (m) = manual integration

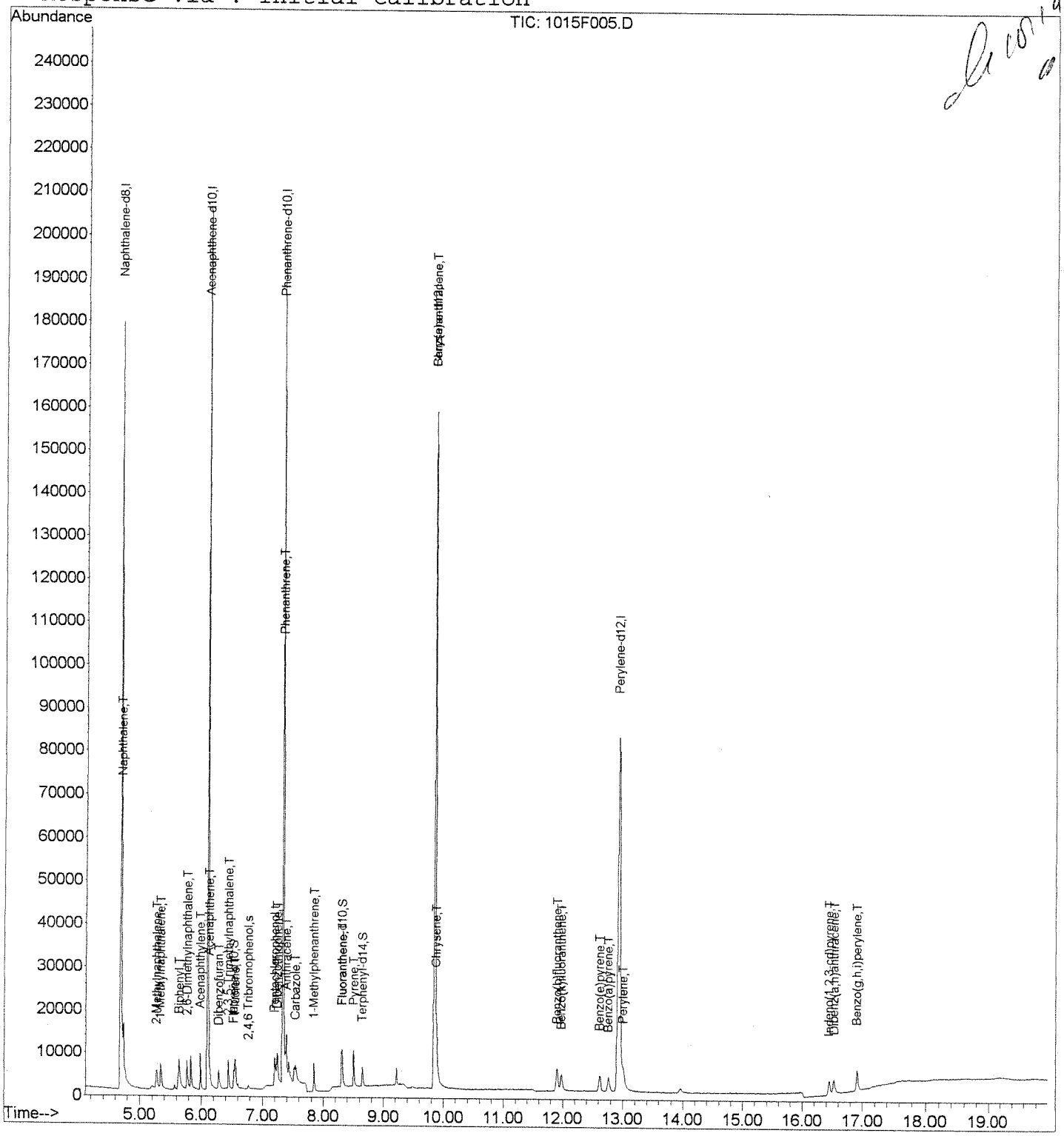
Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\101509\1015F005.D
Acq On : 15 Oct 2009 8:28 am
Sample : SIM-PAH ICAL @.008/0.2ug/mL | SVM29-21E
Misc :
MS Integration Params: RTEINT.P
Quant Time: Oct 15 10:40 2009

Vial: 5
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00

Quant Results File: 1015ALK.RES

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 06:04:30 2009
Response via : Initial Calibration



1015F005.D 1015ALK.M Thu Oct 15 10:44:02 2009 Page 3

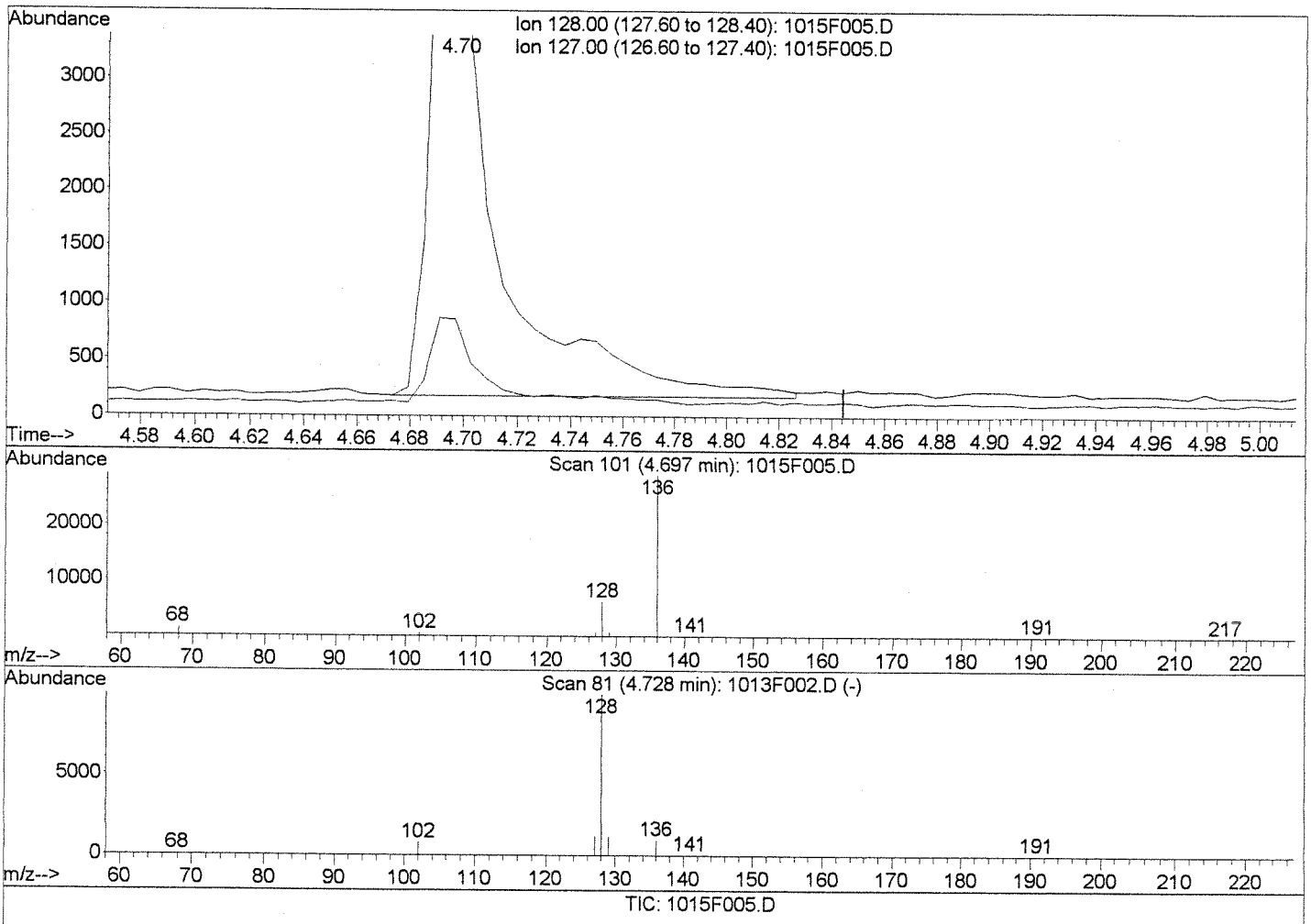
Quantitation Report (Qedit)

Data File : J:\MS11\DATA\101509\1015F005.D
Acq On : 15 Oct 2009 8:28 am
Sample : SIM-PAH ICAL @.008/0.2ug/mL | SVM29-21E
Misc :
MS Integration Params: RTEINT.P
Quant Time: Oct 15 8:49 2009

Vial: 5
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 06:04:30 2009
Response via : Multiple Level Calibration



TIC: 1015F005.D

(2) Naphthalene (T)

4.70min 9.01ng/ml

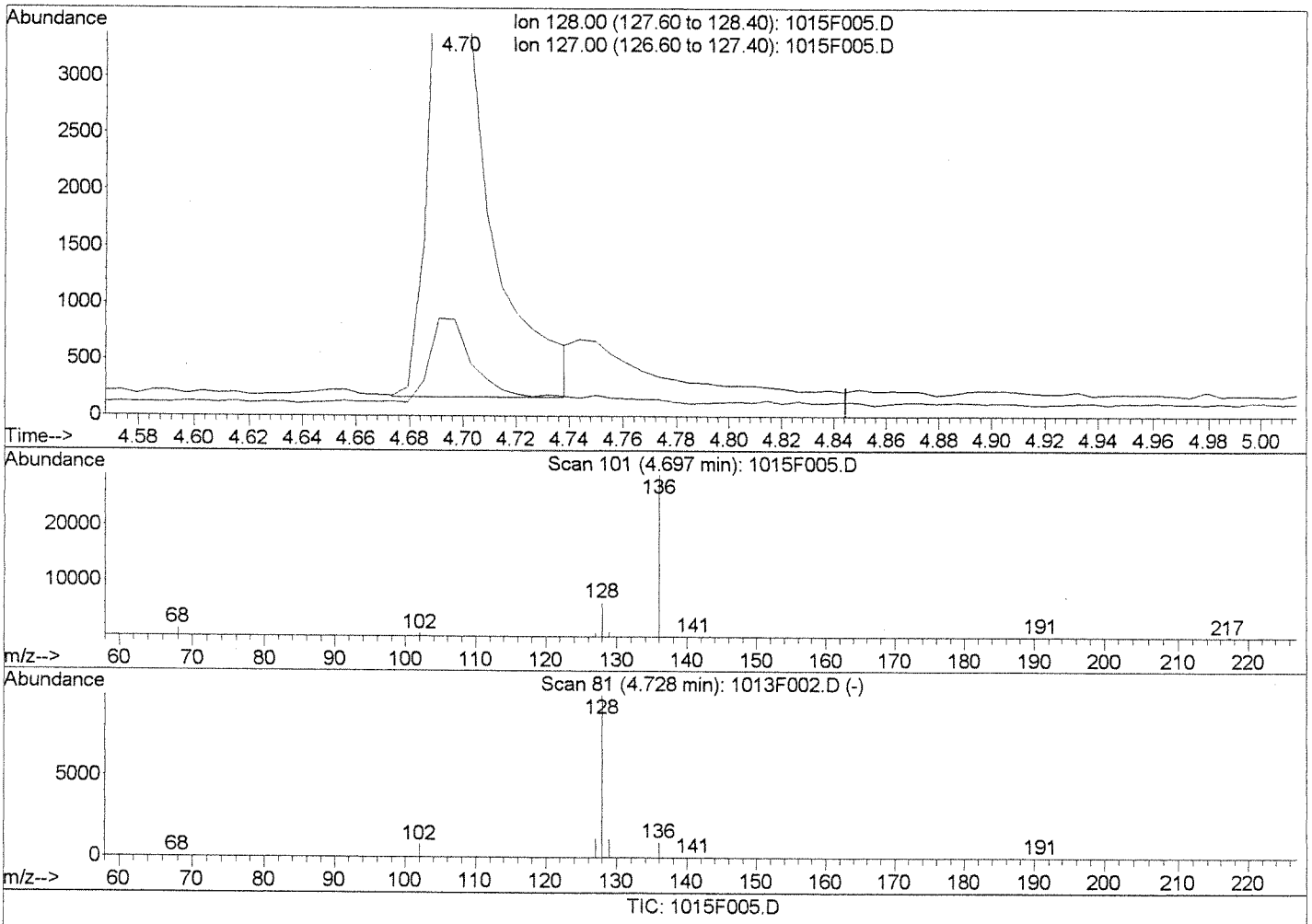
response 8398

Ion	Exp%	Act%
128.00	100	100
127.00	12.40	11.74
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\101509\1015F005.D Vial: 5
Acq On : 15 Oct 2009 8:28 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @.008/0.2ug/mL | SVM29-21E Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 15 10:39 2009 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 06:04:30 2009
Response via : Multiple Level Calibration



TIC: 1015F005.D

(2) Naphthalene (T)

4.70min 7.97ng/ml m

response 7433

Ion	Exp%	Act%
128.00	100	100
127.00	12.40	13.48
0.00	0.00	0.00
0.00	0.00	0.00

OI Acenaphthene

1015F005.D 1015ALK.M Thu Oct 15 10:39:49 2009

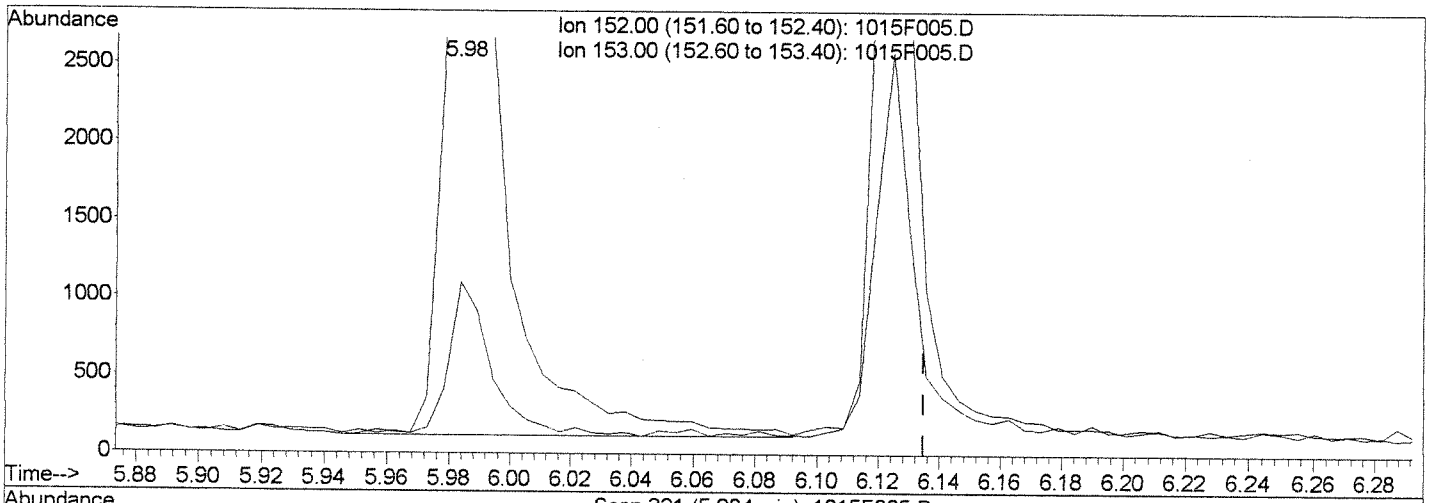
Quantitation Report (Qedit)

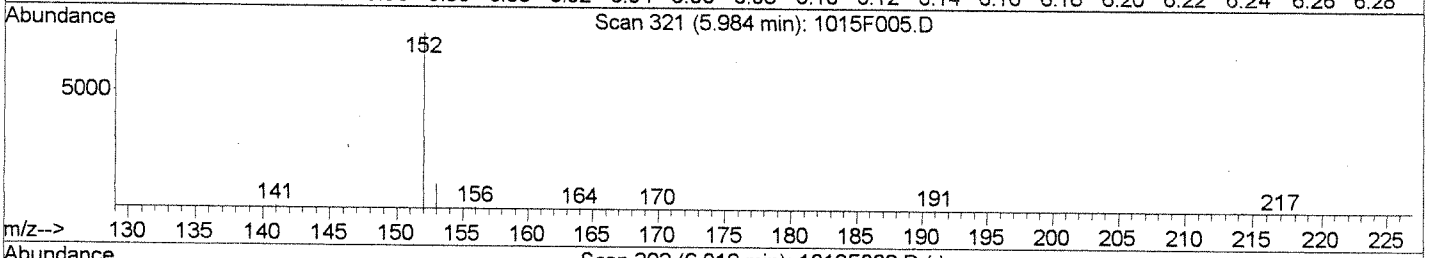
Data File : J:\MS11\DATA\101509\1015F005.D
Acq On : 15 Oct 2009 8:28 am
Sample : SIM-PAH ICAL @.008/0.2ug/mL | SVM29-21E
Misc :
MS Integration Params: RTEINT.P
Quant Time: Oct 15 10:39 2009

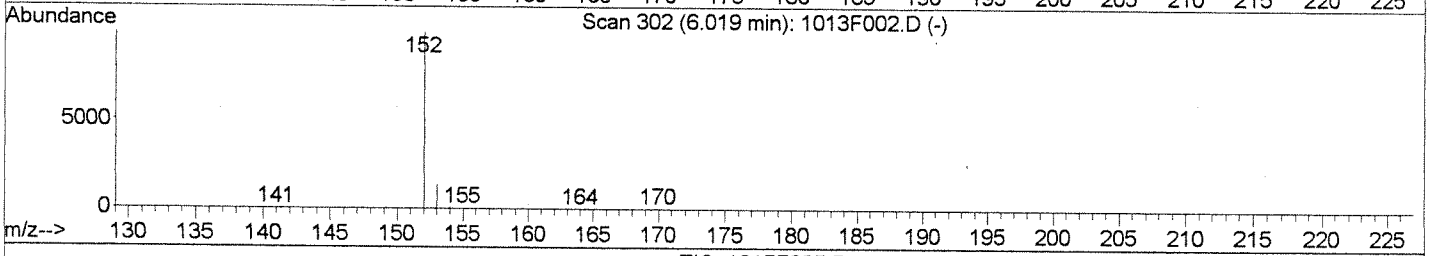
Vial: 5
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 06:04:30 2009
Response via : Multiple Level Calibration







TIC: 1015F005.D

(11) Acenaphthylene (T)

5.98min 8.38ng/ml

response 7281

Ion	Exp%	Act%
152.00	100	100
153.00	14.10	13.26
0.00	0.00	0.00
0.00	0.00	0.00

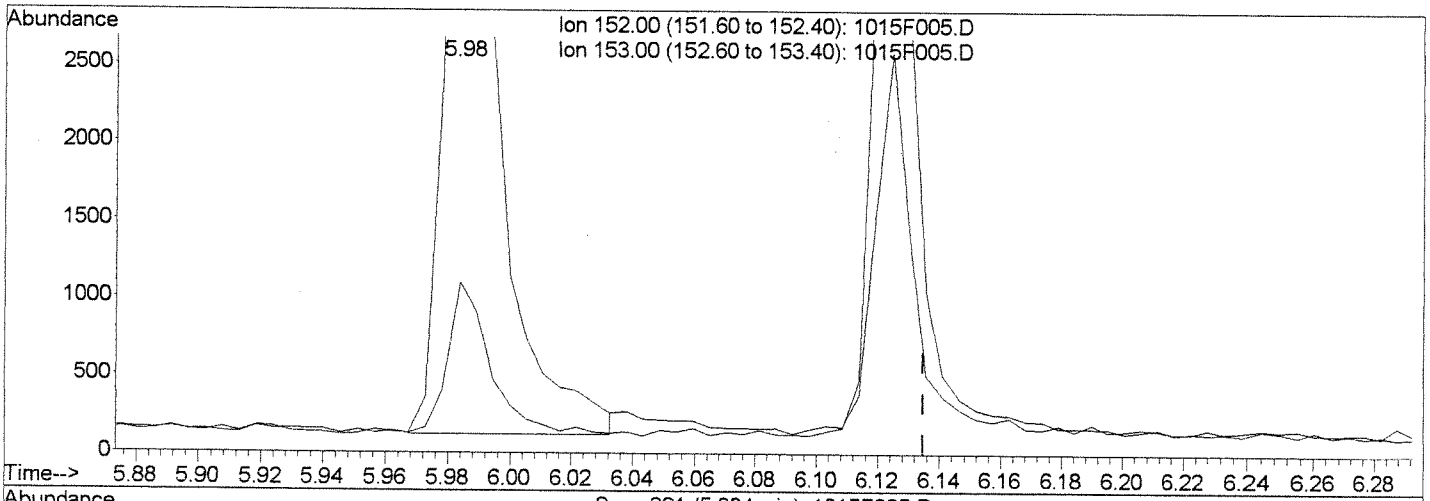
Quantitation Report (Qedit)

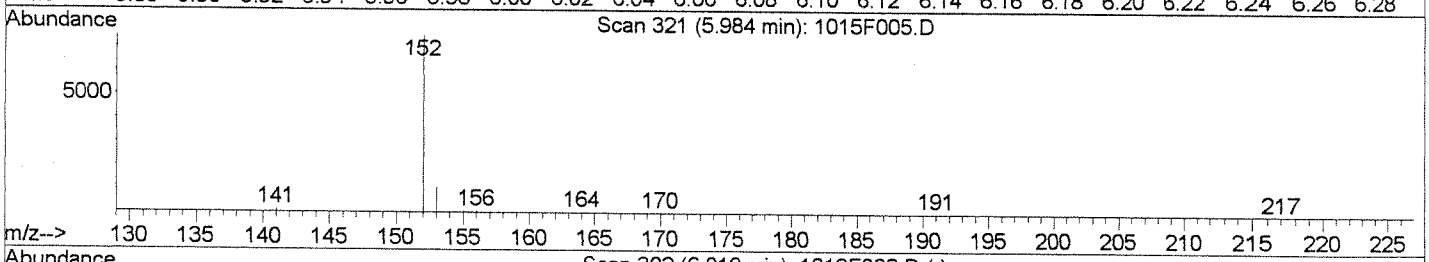
Data File : J:\MS11\DATA\101509\1015F005.D
Acq On : 15 Oct 2009 8:28 am
Sample : SIM-PAH ICAL @.008/0.2ug/mL | SVM29-21E
Misc :
MS Integration Params: RTEINT.P
Quant Time: Oct 15 10:40 2009

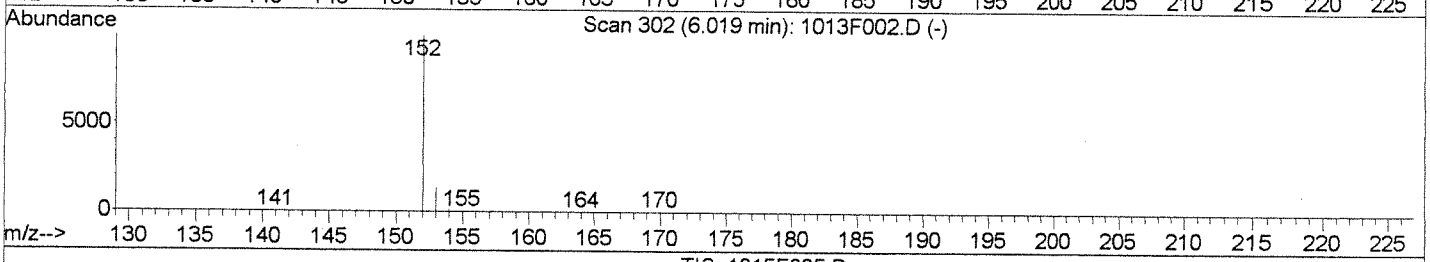
Vial: 5
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 06:04:30 2009
Response via : Multiple Level Calibration







TIC: 1015F005.D

(11) Acenaphthylene (T)

5.98min 8.04ng/ml m

response 6986

Ion	Exp%	Act%
152.00	100	100
153.00	14.10	14.71
0.00	0.00	0.00
0.00	0.00	0.00

OK 10/19/09

1015F005.D 1015ALK.M Thu Oct 15 10:40:03 2009

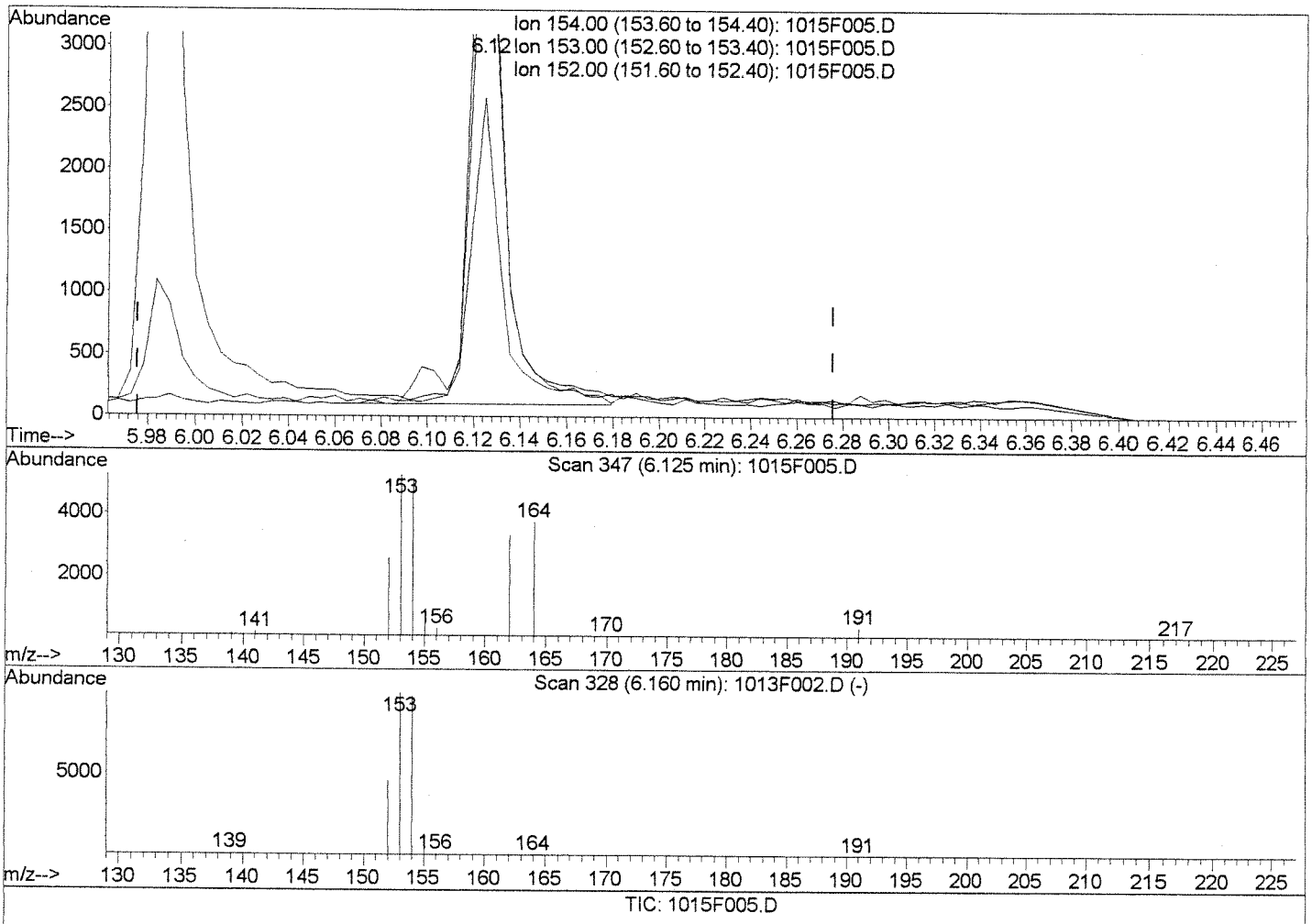
Quantitation Report (Qedit)

Data File : J:\MS11\DATA\101509\1015F005.D
Acq On : 15 Oct 2009 8:28 am
Sample : SIM-PAH ICAL @.008/0.2ug/mL | SVM29-21E
Misc :
MS Integration Params: RTEINT.P
Quant Time: Oct 15 10:40 2009

Vial: 5
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 06:04:30 2009
Response via : Multiple Level Calibration



TIC: 1015F005.D

(12) Acenaphthene (T)

6.12min 8.27ng/ml

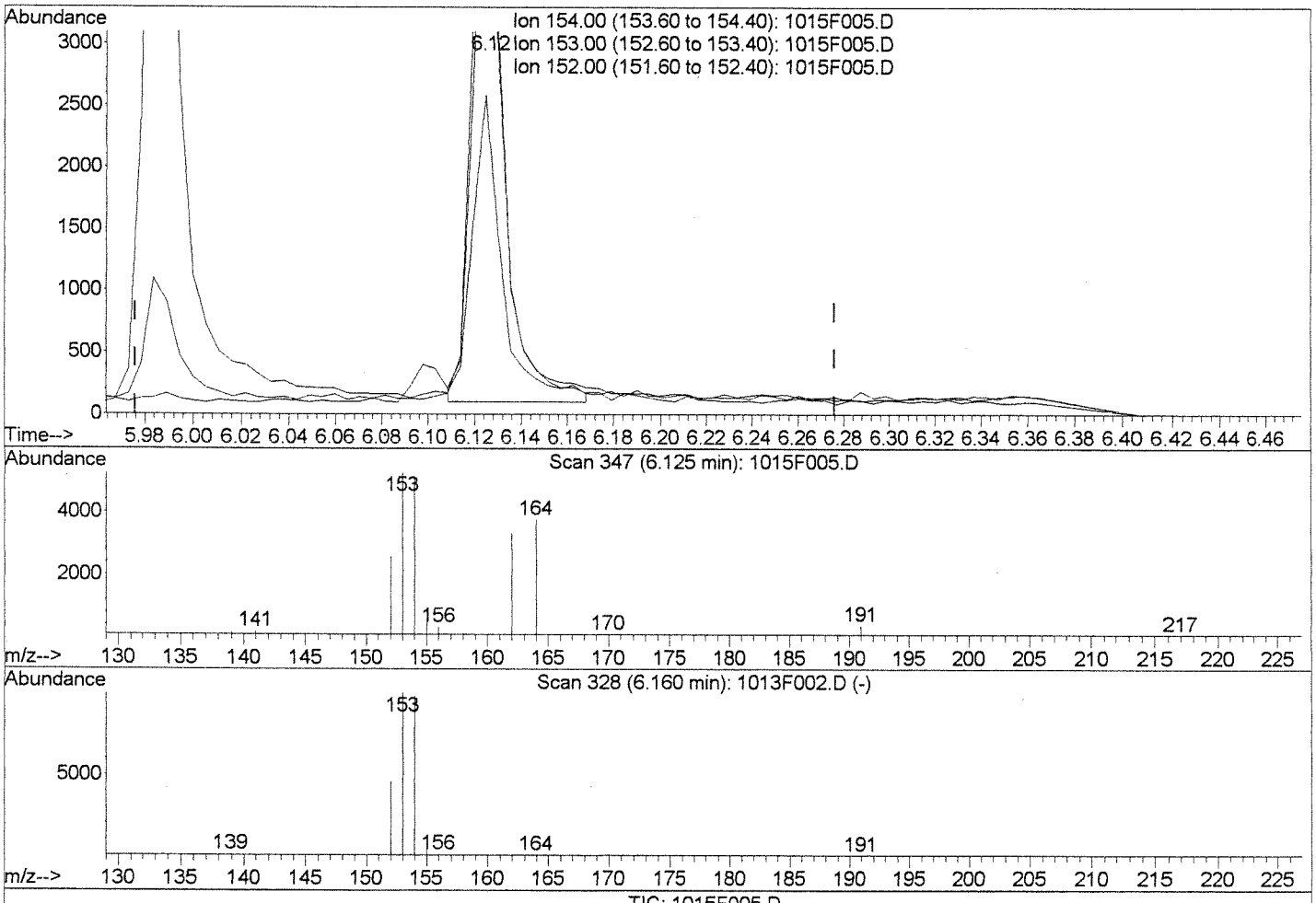
response 4543

Ion	Exp%	Act%
154.00	100	100
153.00	107.80	101.29
152.00	54.70	47.60
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\101509\1015F005.D Vial: 5
Acq On : 15 Oct 2009 8:28 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @.008/0.2ug/mL | SVM29-21E Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 15 10:40 2009 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 06:04:30 2009
Response via : Multiple Level Calibration



TIC: 1015F005.D

(12) Acenaphthene (T)

6.12min 7.70ng/ml m

response 4229

Ion	Exp%	Act%
154.00	100	100
153.00	107.80	102.49
152.00	54.70	50.29
0.00	0.00	0.00

1015F005.D 1015ALK.M Thu Oct 15 10:40:20 2009

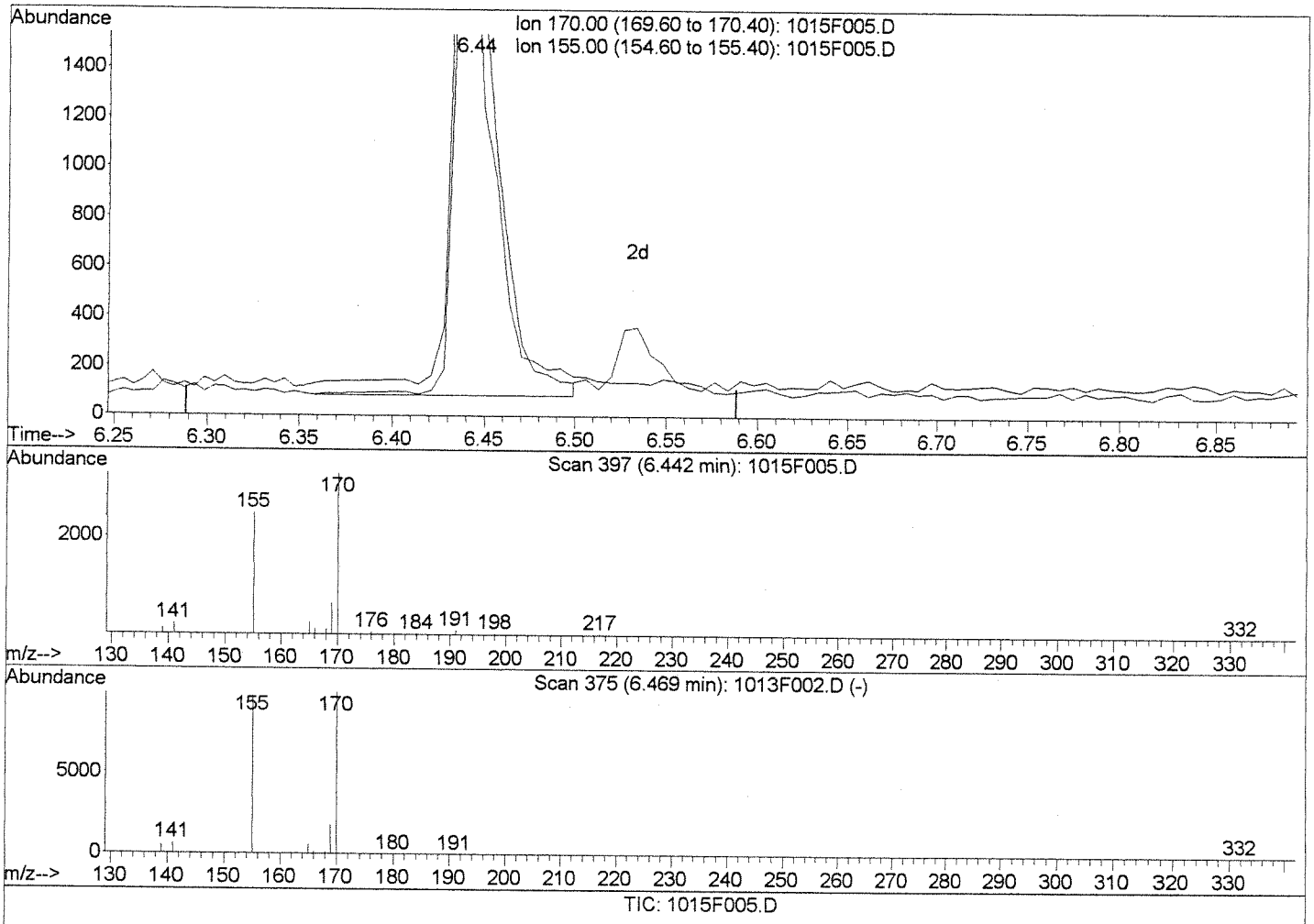
Quantitation Report (Qedit)

Data File : J:\MS11\DATA\101509\1015F005.D
Acq On : 15 Oct 2009 8:28 am
Sample : SIM-PAH ICAL @.008/0.2ug/mL | SVM29-21E
Misc :
MS Integration Params: RTEINT.P
Quant Time: Oct 15 10:40 2009

Vial: 5
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 06:04:30 2009
Response via : Multiple Level Calibration



(14) 2,3,5-Trimethylnaphthalene (T)

6.44min 8.02ng/ml

response 4874

Ion	Exp%	Act%
170.00	100	100
155.00	78.20	73.71
0.00	0.00	0.00
0.00	0.00	0.00

1015F005.D 1015ALK.M Thu Oct 15 10:40:28 2009

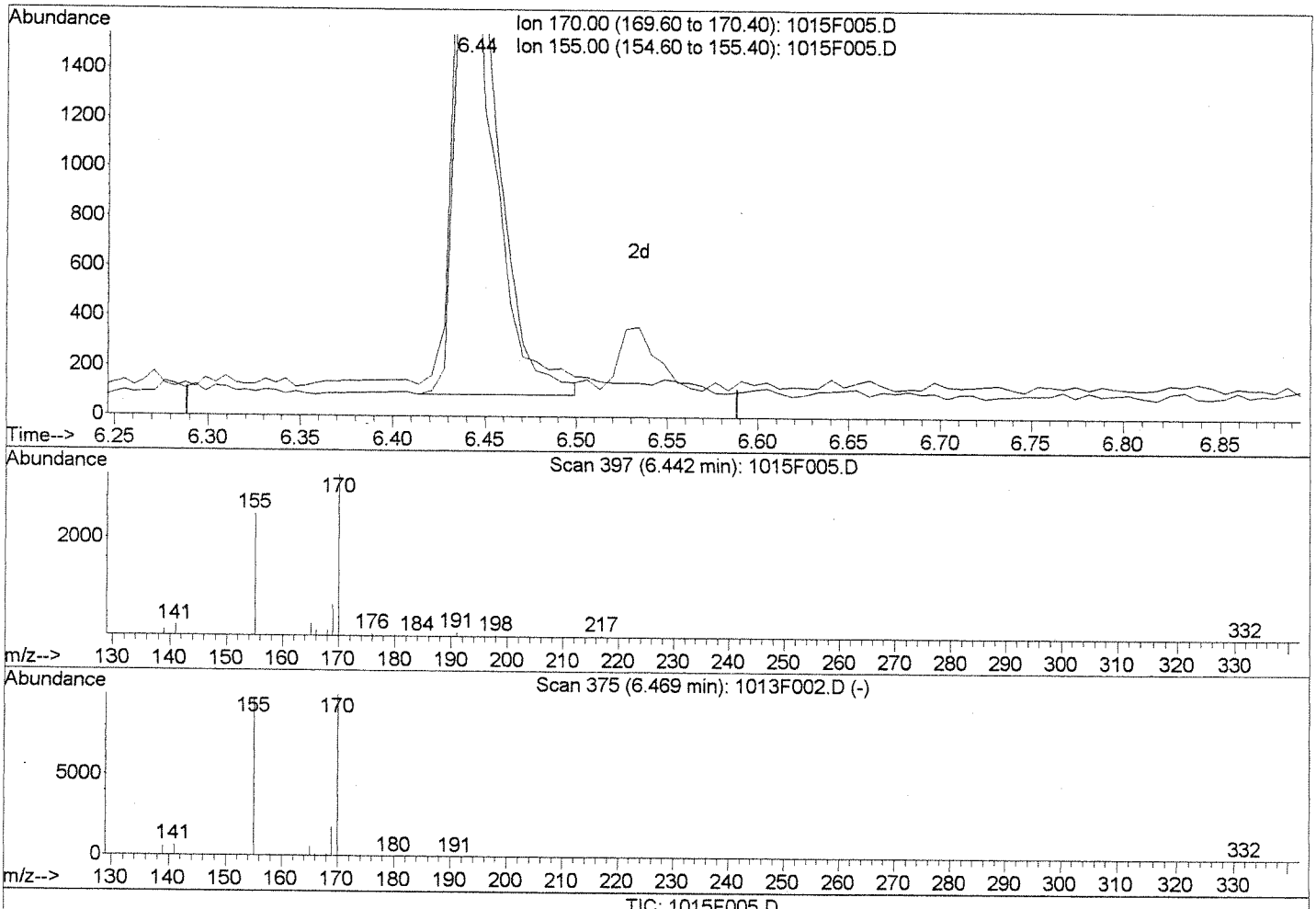
Quantitation Report (Qedit)

Data File : J:\MS11\DATA\101509\1015F005.D
Acq On : 15 Oct 2009 8:28 am
Sample : SIM-PAH ICAL @.008/0.2ug/mL | SVM29-21E
Misc :
MS Integration Params: RTEINT.P
Quant Time: Oct 15 10:40 2009

Vial: 5
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 06:04:30 2009
Response via : Multiple Level Calibration



(14) 2,3,5-Trimethylnaphthalene (T)

6.44min 6.00ng/ml m

response 3649

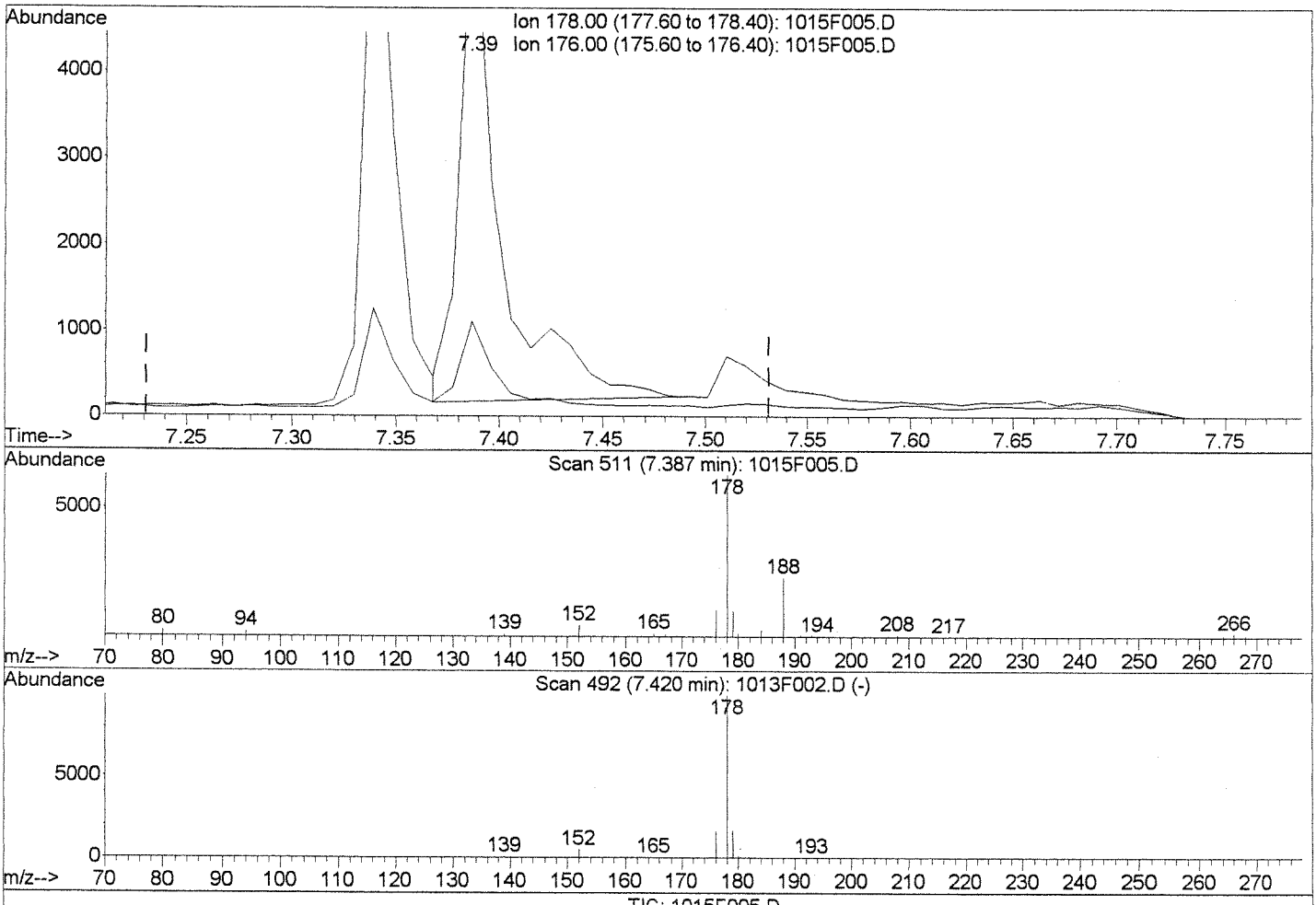
Ion	Exp%	Act%
170.00	100	100
155.00	78.20	75.80
0.00	0.00	0.00
0.00	0.00	0.00

1015F005.D 1015ALK.M Thu Oct 15 10:40:33 2009

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\101509\1015F005.D Vial: 5
Acq On : 15 Oct 2009 8:28 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @.008/0.2ug/mL | SVM29-21E Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 15 10:40 2009 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 06:04:30 2009
Response via : Multiple Level Calibration



TIC: 1015F005.D

(28) Anthracene (T)

7.39min 8.93ng/ml

response 7769

Ion	Exp%	Act%
178.00	100	100
176.00	17.60	16.14
0.00	0.00	0.00
0.00	0.00	0.00

1015F005.D 1015ALK.M Thu Oct 15 10:40:42 2009

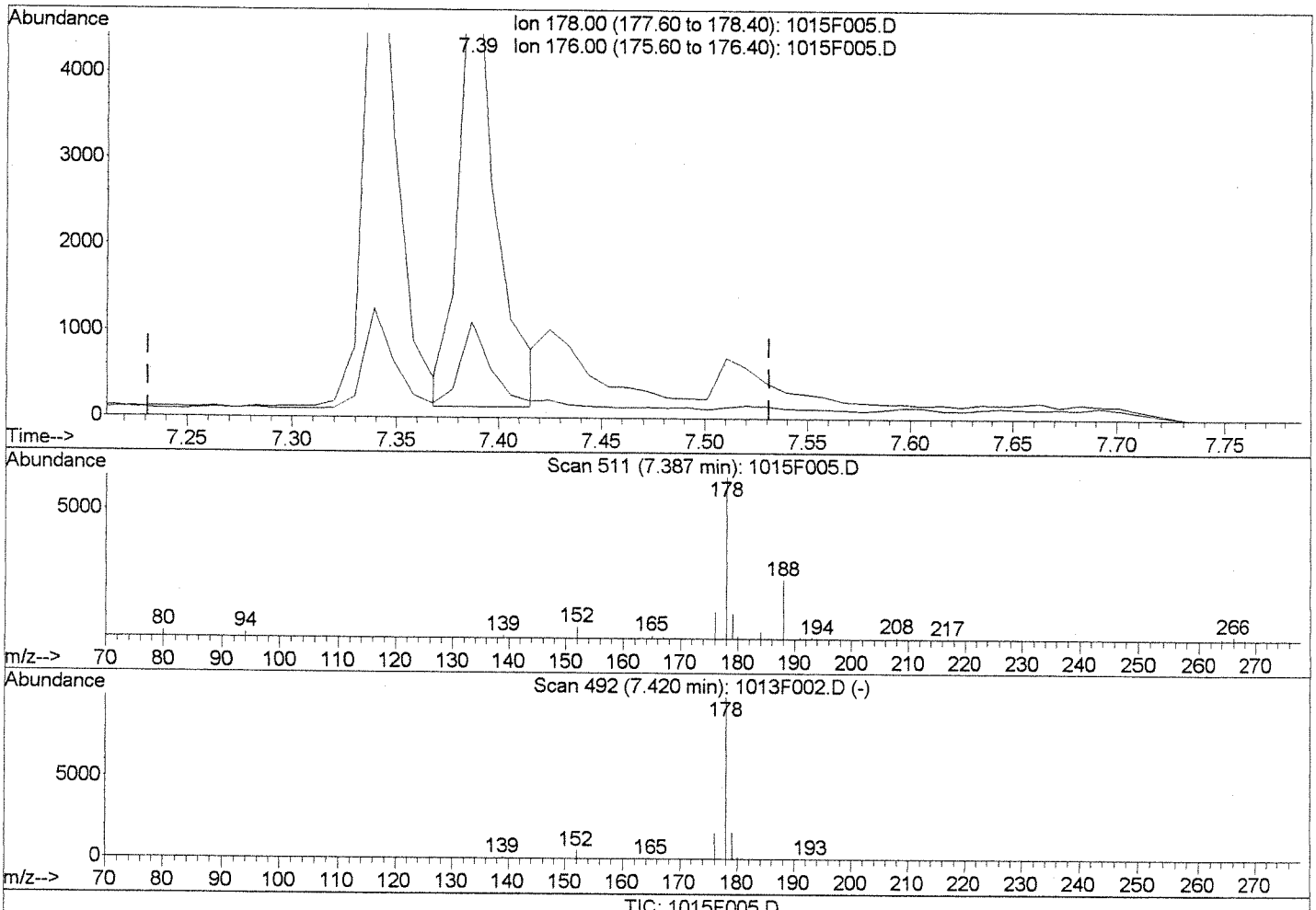
Quantitation Report (Qedit)

Data File : J:\MS11\DATA\101509\1015F005.D
Acq On : 15 Oct 2009 8:28 am
Sample : SIM-PAH ICAL @.008/0.2ug/mL | SVM29-21E
Misc :
MS Integration Params: RTEINT.P
Quant Time: Oct 15 10:40 2009

Vial: 5
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 06:04:30 2009
Response via : Multiple Level Calibration



TIC: 1015F005.D

(28) Anthracene (T)

7.39min 7.64ng/ml m

response 6648

Ion	Exp%	Act%
178.00	100	100
176.00	17.60	17.59
0.00	0.00	0.00
0.00	0.00	0.00

OT 10/8/19

1015F005.D 1015ALK.M Thu Oct 15 10:40:48 2009

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\101509\1015F006.D Vial: 6
Acq On : 15 Oct 2009 8:55 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @0.02/0.4ug/mL | SVM29-21F Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 15 09:18:36 2009 Quant Results File: 1015ALK.RES

Quant Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 06:04:30 2009
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	4.68	136	217756	200.00	ng/ml	0.00
10) Acenaphthene-d10	6.10	164	110985	200.00	ng/ml	0.00
22) Phenanthrene-d10	7.32	188	170430	200.00	ng/ml	0.00
37) Chrysene-d12	9.84	240	191508	200.00	ng/ml	-0.01
49) Perylene-d12	12.93	264	208153	200.00	ng/ml	-0.03
System Monitoring Compounds						
15) Fluorene-d10	6.53	176	11050	15.71	ng/ml	0.00
Spiked Amount 200.000			Recovery =	7.86%		
20) 2,4,6 Tribromophenol	6.77	330	1934	16.64	ng/ml	0.01
Spiked Amount 375.000			Recovery =	4.44%		
36) Fluoranthene-d10	8.30	212	18788	18.15	ng/ml	0.00
Spiked Amount 200.000			Recovery =	9.07%		
42) Terphenyl-d14	8.64	244	16578	19.97	ng/ml	0.00
Spiked Amount 200.000			Recovery =	9.98%		
Target Compounds						Qvalue
2) Naphthalene	4.70	128	21293	19.92	ng/ml	99
3) 2-Methylnaphthalene	5.26	142	13763	15.53	ng/ml	99
4) 1-Methylnaphthalene	5.34	142	15089	16.37	ng/ml	96
5) Biphenyl	5.64	154	15851	10.45	ng/ml	99
6) 2,6-Dimethylnaphthalene	5.76	156	10556	9.64	ng/ml	96
11) Acenaphthylene	5.98	152	20602	22.14	ng/ml	97
12) Acenaphthene	6.13	154	12357	21.00	ng/ml	92
13) Dibenzofuran	6.28	168	16208	17.58	ng/ml#	58
14) 2,3,5-Trimethylnaphthalene	6.44	170	10550	16.20	ng/ml	71
16) Fluorene	6.55	166	13293	15.77	ng/ml	95
21) Pentachlorophenol	7.19	266	22623	326.37	ng/ml	96
23) Dibenzothiophene	7.23	184	17252	19.41	ng/ml	96
27) Phenanthrene	7.34	178	19222	18.61	ng/ml	97
28) Anthracene	7.39	178	18047m	19.09	ng/ml	
29) Carbazole	7.53	167	15611	19.95	ng/ml	91
30) 1-Methylphenanthrene	7.84	192	13816	16.08	ng/ml	96
35) Fluoranthene	8.30	202	21224	17.93	ng/ml	84
38) Pyrene	8.49	202	21879	19.65	ng/ml	46
43) Benz(a)anthracene	9.83	228	19936	18.64	ng/ml	98
44) Chrysene	9.88	228	20928	20.01	ng/ml	99
50) Benzo(b)fluoranthene	11.90	252	21041	18.46	ng/ml	98
51) Benzo(k)fluoranthene	11.97	252	21582	19.57	ng/ml	99
52) Benzo(e)pyrene	12.61	252	19516	18.67	ng/ml	97
53) Benzo(a)pyrene	12.76	252	19584	19.12	ng/ml	99
54) Perylene	13.01	252	19758	20.13	ng/ml	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\101509\1015F006.D Vial: 6
Acq On : 15 Oct 2009 8:55 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @0.02/0.4ug/mL | SVM29-21F Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 15 09:18:36 2009 Quant Results File: 1015ALK.RES

Quant Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 06:04:30 2009
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

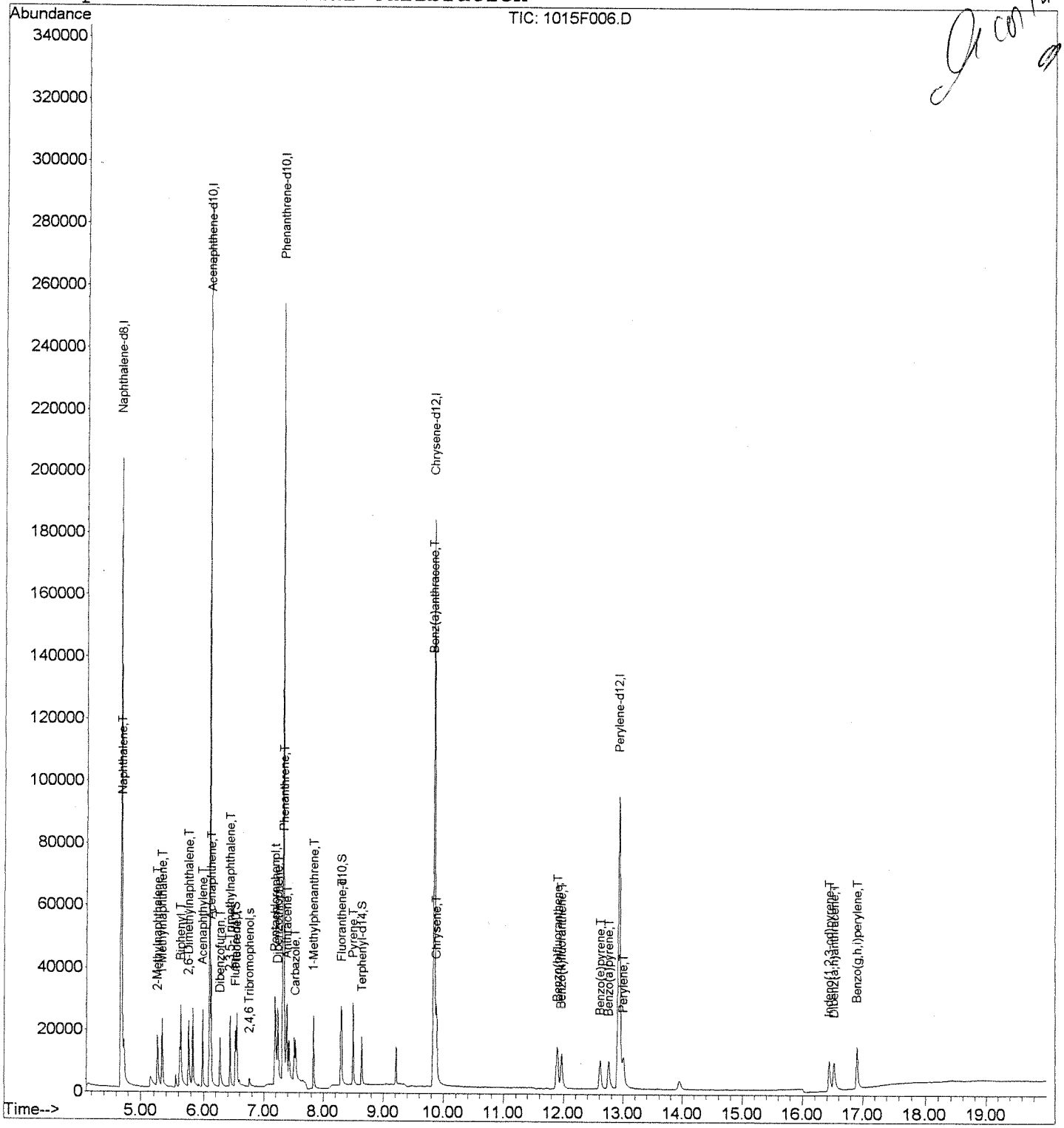
	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
55)	Indeno(1,2,3-cd)pyrene	16.44	276	18481	21.61	ng/ml	97
56)	Dibenz(a,h)anthracene	16.52	278	20184	21.32	ng/ml	93
57)	Benzo(g,h,i)perylene	16.90	276	22783	21.49	ng/ml	97

(#) = qualifier out of range (m) = manual integration
1015F006.D 1015ALK.M Thu Oct 15 10:44:04 2009 Page 2

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\101509\1015F006.D Vial: 6
Acq On : 15 Oct 2009 8:55 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @0.02/0.4ug/mL | SVM29-21F Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 15 10:41 2009 Quant Results File: 1015ALK.RES

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 06:04:30 2009
Response via : Initial Calibration



1015F006.D 1015ALK.M Thu Oct 15 10:44:05 2009 Page 3

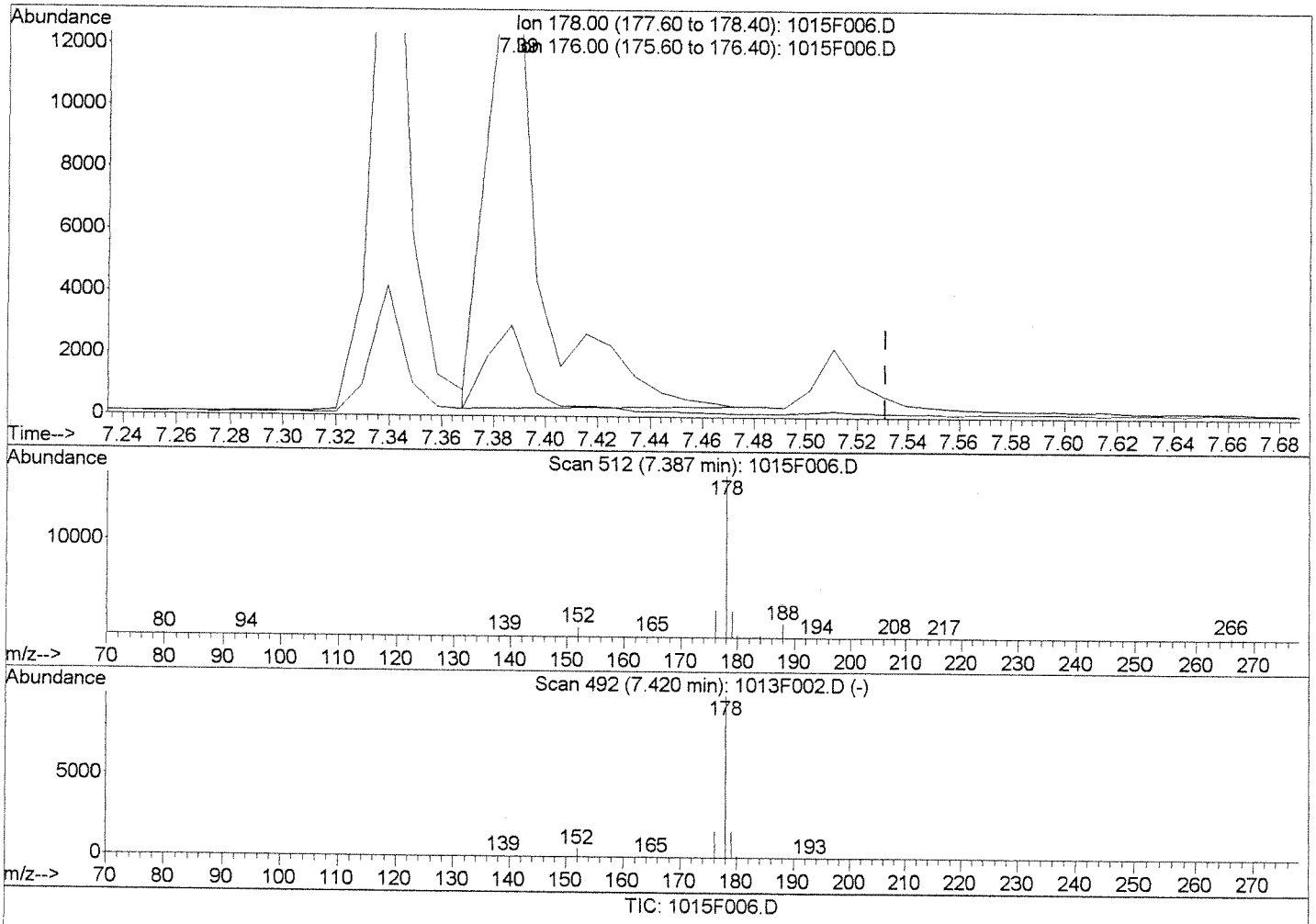
Quantitation Report (Qedit)

Data File : J:\MS11\DATA\101509\1015F006.D
Acq On : 15 Oct 2009 8:55 am
Sample : SIM-PAH ICAL @0.02/0.4ug/mL | SVM29-21F
Misc :
MS Integration Params: RTEINT.P
Quant Time: Oct 15 9:18 2009

Vial: 6
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 06:04:30 2009
Response via : Multiple Level Calibration



TIC: 1015F006.D

(28) Anthracene (T)

7.39min 22.75ng/ml

response 21504

Ion	Exp%	Act%
178.00	100	100
176.00	17.60	16.86
0.00	0.00	0.00
0.00	0.00	0.00

1015F006.D 1015ALK.M Thu Oct 15 10:41:29 2009

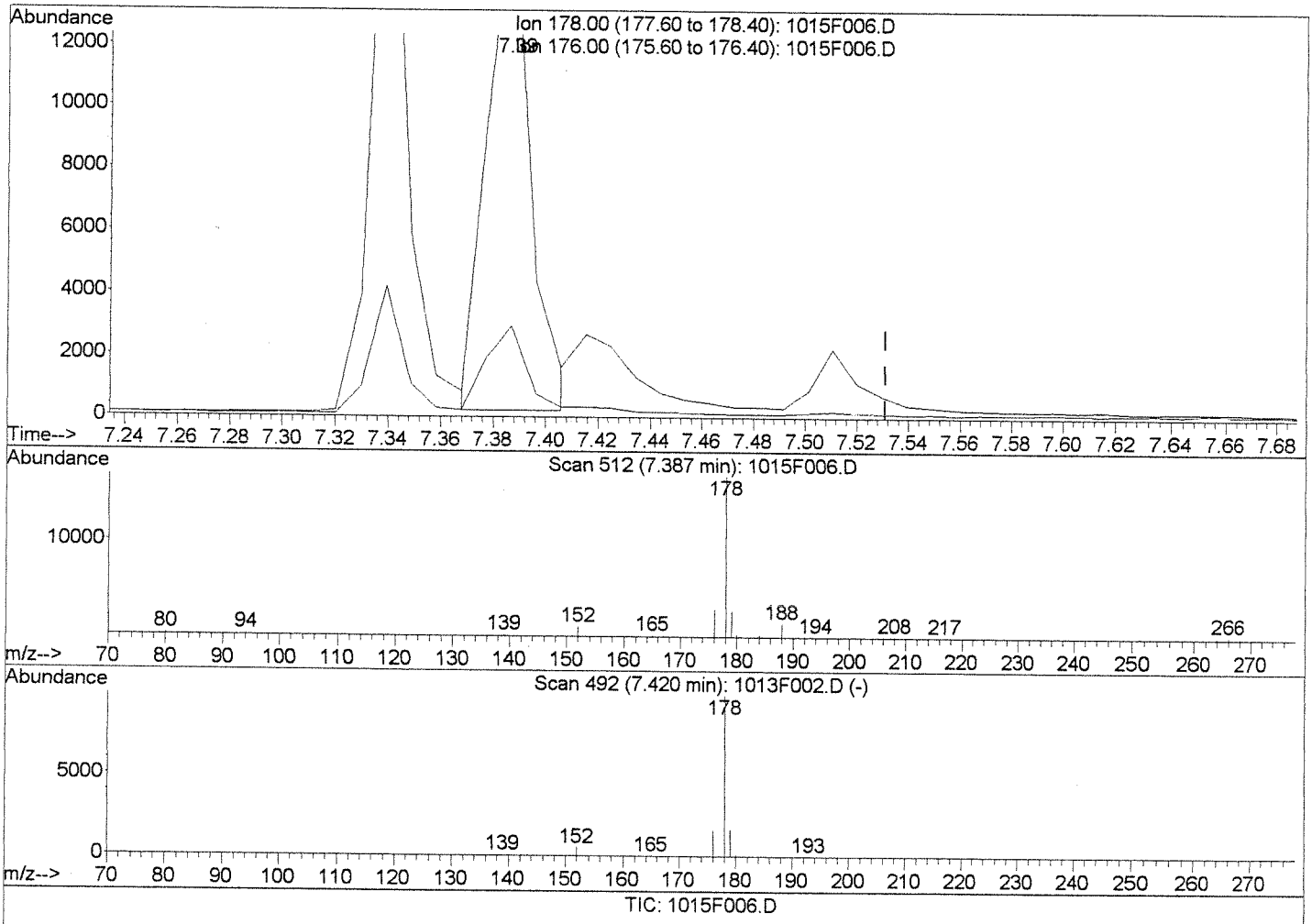
Quantitation Report (Qedit)

Data File : J:\MS11\DATA\101509\1015F006.D
Acq On : 15 Oct 2009 8:55 am
Sample : SIM-PAH ICAL @0.02/0.4ug/mL | SVM29-21F
Misc :
MS Integration Params: RTEINT.P
Quant Time: Oct 15 10:41 2009

Vial: 6
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 06:04:30 2009
Response via : Multiple Level Calibration



TIC: 1015F006.D

(28) Anthracene (T)

7.39min 19.09ng/ml m

response 18047

Ion	Exp%	Act%
178.00	100	100
176.00	17.60	17.19
0.00	0.00	0.00
0.00	0.00	0.00

DI QC 10/19

1015F006.D 1015ALK.M Thu Oct 15 10:41:34 2009

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\101509\1015F007.D Vial: 7
Acq On : 15 Oct 2009 9:21 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @0.1/0.6ug/mL | SVM29-21G Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 15 09:47:31 2009 Quant Results File: 1015ALK.RES

Quant Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 06:04:30 2009
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	4.68	136	275640	200.00	ng/ml	0.00
10) Acenaphthene-d10	6.10	164	130790	200.00	ng/ml	0.00
22) Phenanthrene-d10	7.32	188	184534	200.00	ng/ml	0.00
37) Chrysene-d12	9.84	240	218674	200.00	ng/ml	-0.01
49) Perylene-d12	12.92	264	234802	200.00	ng/ml	-0.03
System Monitoring Compounds						
15) Fluorene-d10	6.53	176	61797	74.57	ng/ml	0.00
Spiked Amount 200.000			Recovery = 37.28%			
20) 2,4,6 Tribromophenol	6.76	330	11108	81.12	ng/ml	0.00
Spiked Amount 375.000			Recovery = 21.63%			
36) Fluoranthene-d10	8.29	212	101568	90.60	ng/ml	0.00
Spiked Amount 200.000			Recovery = 45.30%			
42) Terphenyl-d14	8.64	244	87521	92.33	ng/ml	0.00
Spiked Amount 200.000			Recovery = 46.16%			
Target Compounds						Qvalue
2) Naphthalene	4.69	128	136437	100.84	ng/ml	97
3) 2-Methylnaphthalene	5.25	142	87662	78.14	ng/ml	99
4) 1-Methylnaphthalene	5.34	142	89106	76.39	ng/ml	99
5) Biphenyl	5.63	154	96879	50.46	ng/ml	99
6) 2,6-Dimethylnaphthalene	5.76	156	67277	48.53	ng/ml	100
11) Acenaphthylene	5.98	152	119132	108.65	ng/ml	98
12) Acenaphthene	6.12	154	69787	100.64	ng/ml	91
13) Dibenzofuran	6.27	168	96415	88.72	ng/ml	61
14) 2,3,5-Trimethylnaphthalene	6.43	170	58744m	76.55	ng/ml	
16) Fluorene	6.55	166	76165	76.68	ng/ml	100
21) Pentachlorophenol	7.19	266	38487	471.15	ng/ml	98
23) Dibenzothiophene	7.23	184	97710	101.55	ng/ml	97
27) Phenanthrene	7.34	178	105476	94.29	ng/ml	95
28) Anthracene	7.38	178	102232m	99.88	ng/ml	
29) Carbazole	7.53	167	86602	102.23	ng/ml	86
30) 1-Methylphenanthrene	7.84	192	76685	82.45	ng/ml	98
35) Fluoranthene	8.31	202	116280	90.75	ng/ml	94
38) Pyrene	8.50	202	117437	92.35	ng/ml	82
43) Benz(a)anthracene	9.83	228	110893	90.83	ng/ml	98
44) Chrysene	9.88	228	113260	94.84	ng/ml	98
50) Benzo(b)fluoranthene	11.89	252	117879	91.68	ng/ml	98
51) Benzo(k)fluoranthene	11.96	252	120862	97.15	ng/ml	99
52) Benzo(e)pyrene	12.61	252	111209	94.29	ng/ml	99
53) Benzo(a)pyrene	12.76	252	109991	95.22	ng/ml	98
54) Perylene	13.00	252	107217	96.83	ng/ml	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\101509\1015F007.D Vial: 7
Acq On : 15 Oct 2009 9:21 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @0.1/0.6ug/mL | SVM29-21G Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 15 09:47:31 2009 Quant Results File: 1015ALK.RES

Quant Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 06:04:30 2009
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

10/19

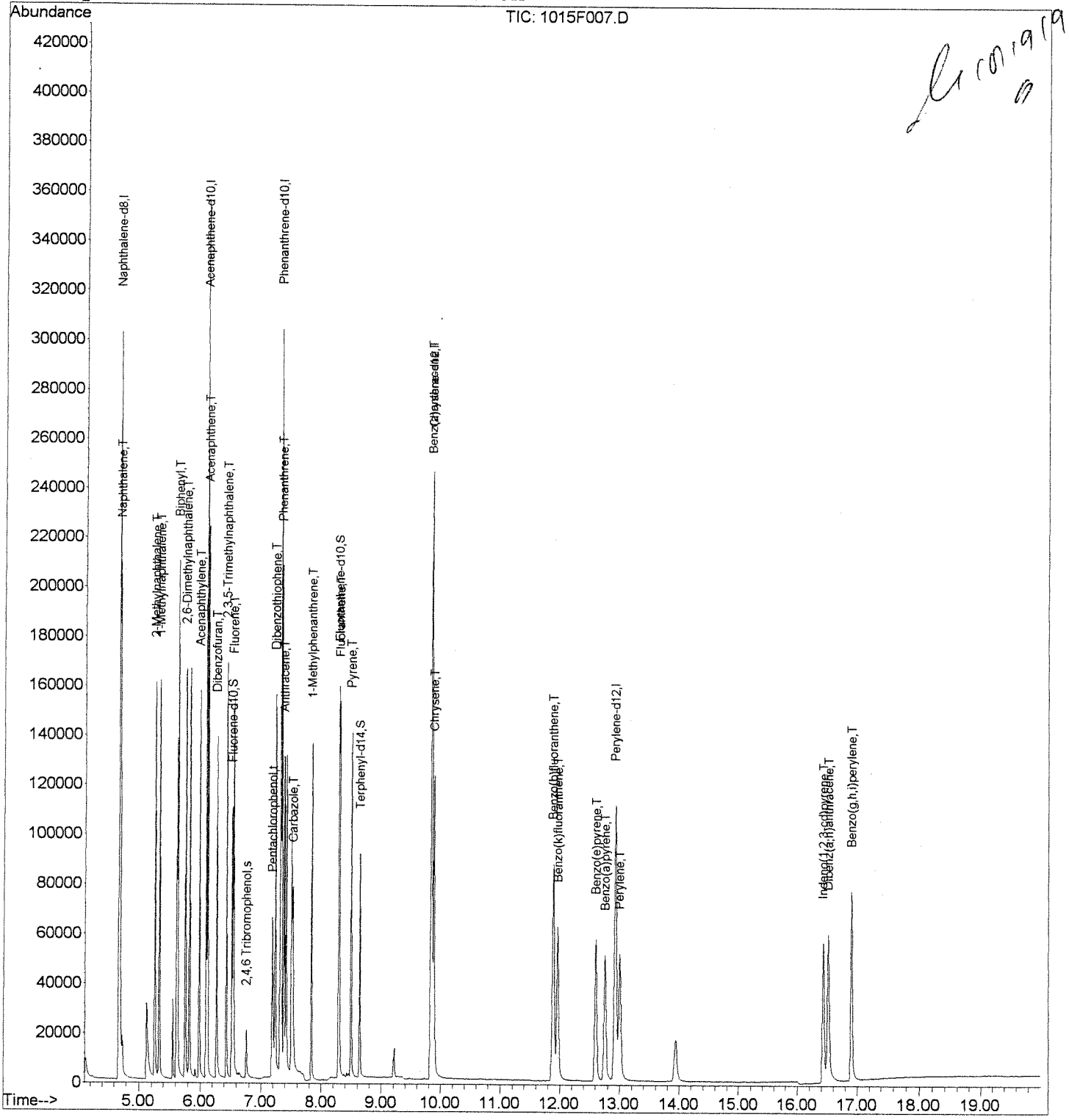
	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
55)	Indeno(1,2,3-cd)pyrene	16.43	276	104843	108.67	ng/ml	97
56)	Dibenz(a,h)anthracene	16.51	278	113422	106.18	ng/ml	94
57)	Benzo(g,h,i)perylene	16.90	276	123073	102.93	ng/ml	95

(#) = qualifier out of range (m) = manual integration
1015F007.D 1015ALK.M Thu Oct 15 10:44:07 2009 Page 2

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\101509\1015F007.D Vial: 7
Acq On : 15 Oct 2009 9:21 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @0.1/0.6ug/mL | SVM29-21G Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 15 10:42 2009 Quant Results File: 1015ALK.RES

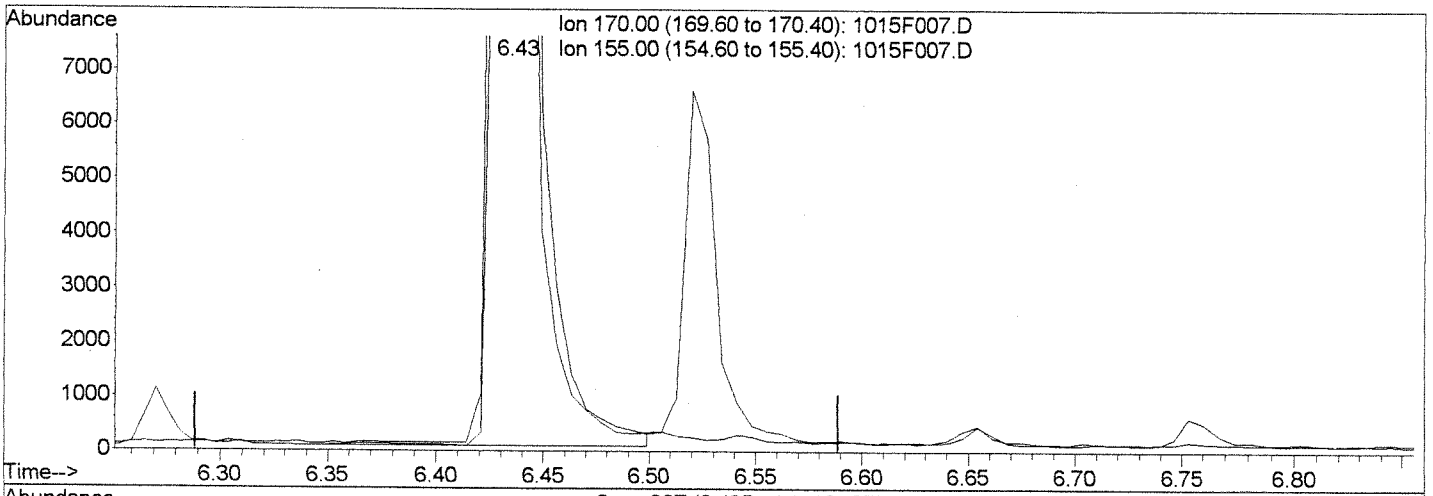
Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 06:04:30 2009
Response via : Initial Calibration

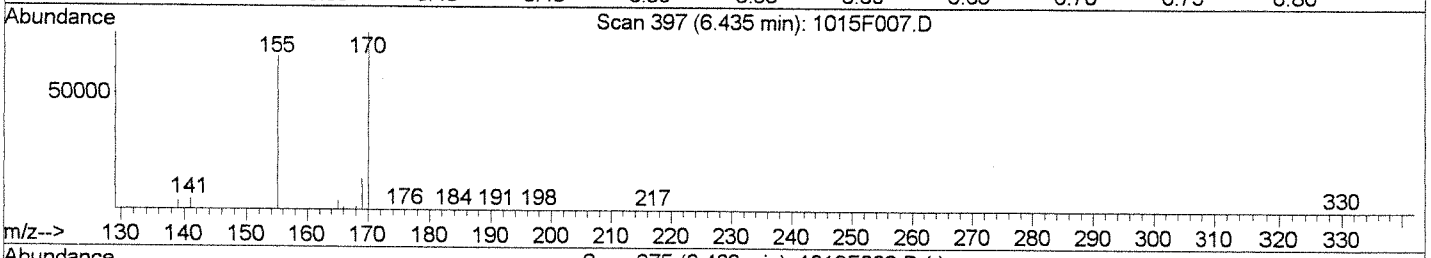


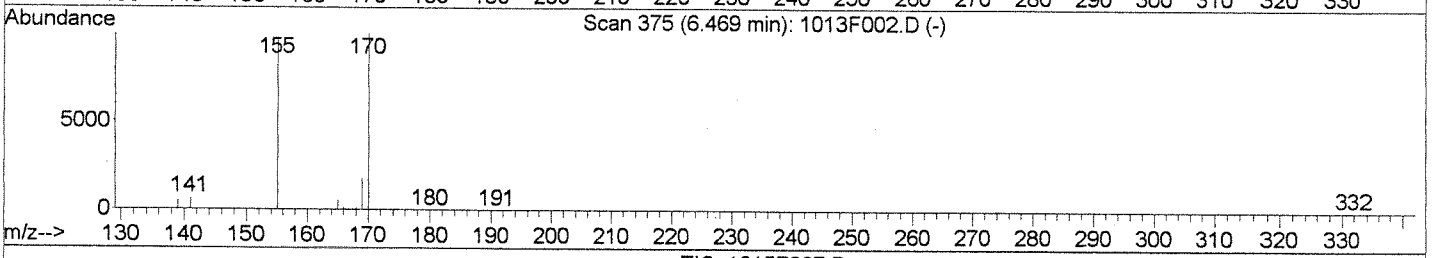
Quantitation Report (Qedit)

Data File : J:\MS11\DATA\101509\1015F007.D Vial: 7
Acq On : 15 Oct 2009 9:21 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @0.1/0.6ug/mL | SVM29-21G Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 15 9:47 2009 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 06:04:30 2009
Response via : Multiple Level Calibration







TIC: 1015F007.D

(14) 2,3,5-Trimethylnaphthalene (T)

6.43min 94.28ng/ml

response 72348

Ion	Exp%	Act%
170.00	100	100
155.00	78.20	86.68
0.00	0.00	0.00
0.00	0.00	0.00

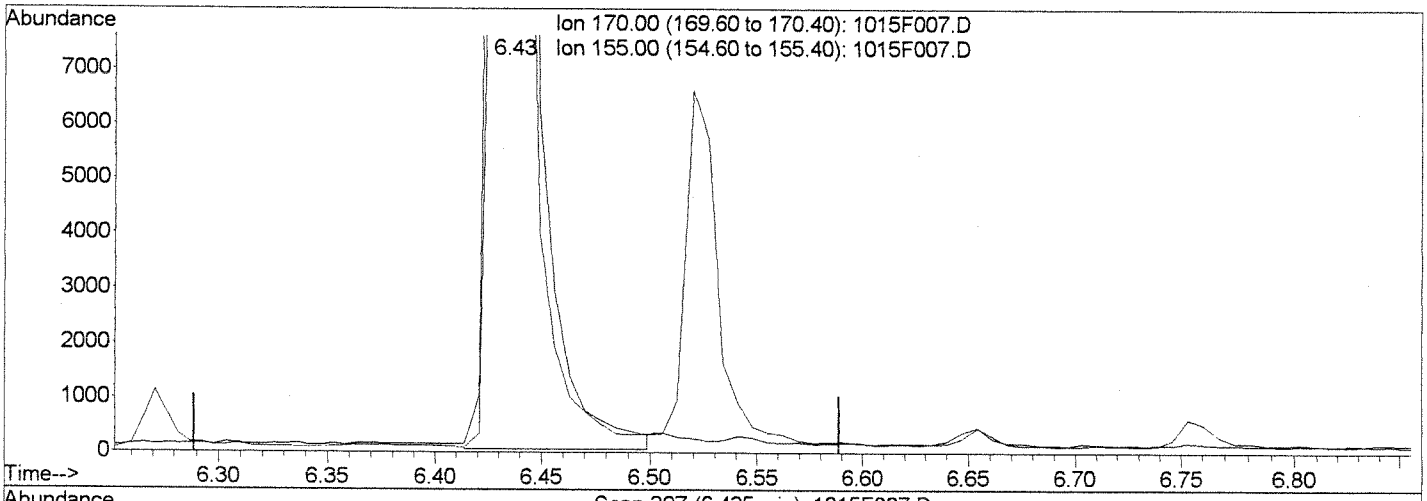
Quantitation Report (Qedit)

Data File : J:\MS11\DATA\101509\1015F007.D
Acq On : 15 Oct 2009 9:21 am
Sample : SIM-PAH ICAL @0.1/0.6ug/mL | SVM29-21G
Misc :
MS Integration Params: RTEINT.P
Quant Time: Oct 15 10:42 2009

Vial: 7
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 06:04:30 2009
Response via : Multiple Level Calibration



TIC: 1015F007.D

(14) 2,3,5-Trimethylnaphthalene (T)

6.43min 76.55ng/ml m

response 58744

Ion	Exp%	Act%
170.00	100	100
155.00	78.20	86.74
0.00	0.00	0.00
0.00	0.00	0.00

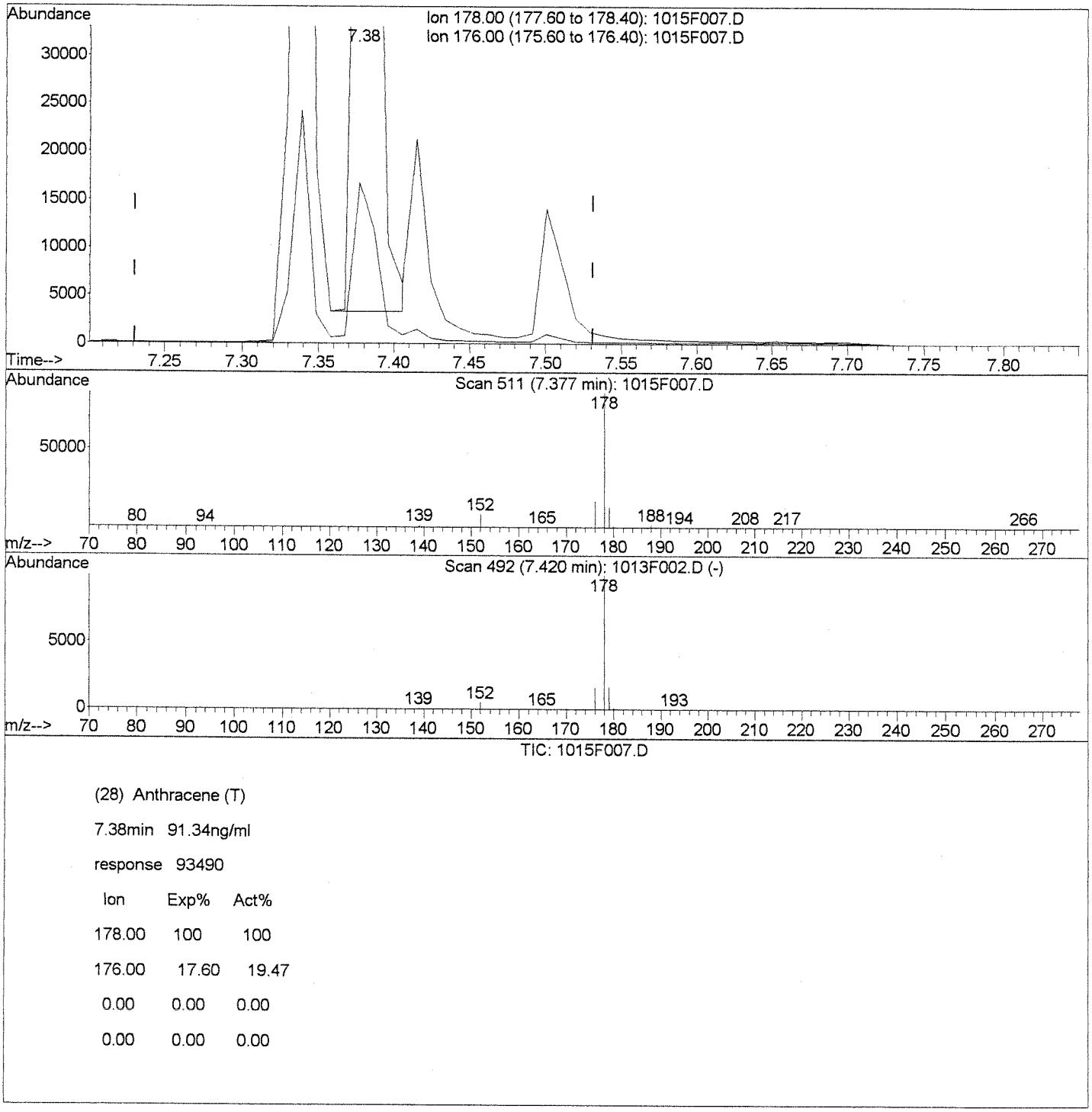
OK 10/19

1015F007.D 1015ALK.M Thu Oct 15 10:42:04 2009

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\101509\1015F007.D Vial: 7
Acq On : 15 Oct 2009 9:21 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @0.1/0.6ug/mL | SVM29-21G Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 15 10:42 2009 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 06:04:30 2009
Response via : Multiple Level Calibration



(28) Anthracene (T)

7.38min 91.34ng/ml

response 93490

Ion	Exp%	Act%
178.00	100	100
176.00	17.60	19.47
0.00	0.00	0.00
0.00	0.00	0.00

1015F007.D 1015ALK.M Thu Oct 15 10:42:13 2009

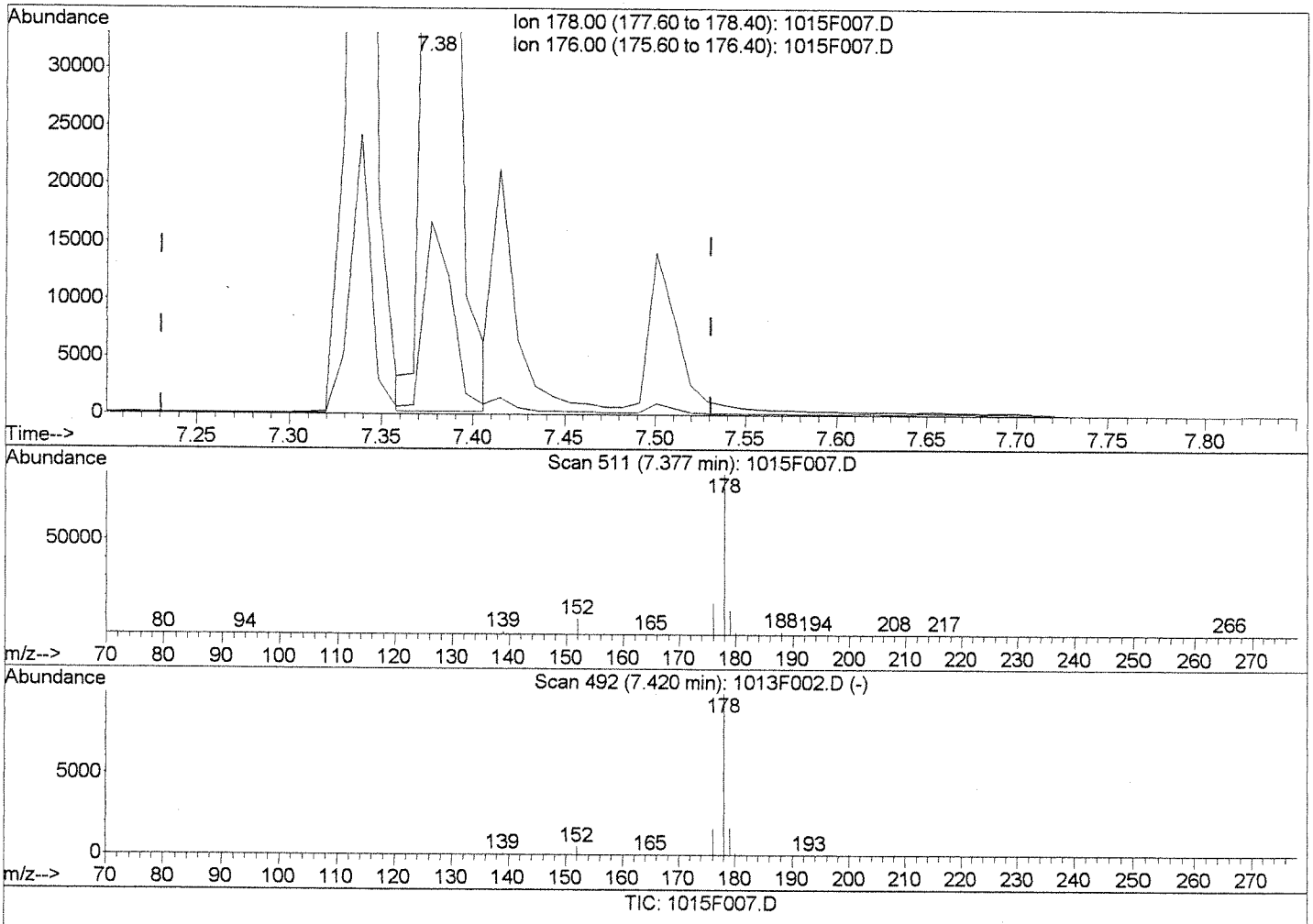
Quantitation Report (Qedit)

Data File : J:\MS11\DATA\101509\1015F007.D
Acq On : 15 Oct 2009 9:21 am
Sample : SIM-PAH ICAL @0.1/0.6ug/mL | SVM29-21G
Misc :
MS Integration Params: RTEINT.P
Quant Time: Oct 15 10:42 2009

Vial: 7
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 06:04:30 2009
Response via : Multiple Level Calibration



TIC: 1015F007.D

(28) Anthracene (T)

7.38min 99.88ng/ml m

response 102232

Ion	Exp%	Act%
178.00	100	100
176.00	17.60	19.47
0.00	0.00	0.00
0.00	0.00	0.00

IC 10/19/9

1015F007.D 1015ALK.M Thu Oct 15 10:42:18 2009

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\101509\1015F008.D Vial: 8
Acq On : 15 Oct 2009 9:47 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @0.2/0.8ug/mL | SVM29-21H Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 15 10:09:10 2009 Quant Results File: 1015ALK.RES

Quant Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 06:04:30 2009
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	4.68	136	288006	200.00	ng/ml	0.00
10) Acenaphthene-d10	6.10	164	141311	200.00	ng/ml	0.00
22) Phenanthrene-d10	7.32	188	188148	200.00	ng/ml	0.00
37) Chrysene-d12	9.84	240	219822	200.00	ng/ml	-0.01
49) Perylene-d12	12.92	264	239067	200.00	ng/ml	-0.04
System Monitoring Compounds						
15) Fluorene-d10	6.52	176	139816	156.16	ng/ml	0.00
Spiked Amount 200.000			Recovery = 78.08%			
20) 2,4,6 Tribromophenol	6.76	330	25049	169.31	ng/ml	0.00
Spiked Amount 375.000			Recovery = 45.15%			
36) Fluoranthene-d10	8.29	212	222944	195.06	ng/ml	0.00
Spiked Amount 200.000			Recovery = 97.53%			
42) Terphenyl-d14	8.64	244	191179	200.62	ng/ml	0.00
Spiked Amount 200.000			Recovery = 100.31%			
Target Compounds						Qvalue
2) Naphthalene	4.69	128	288585	204.14	ng/ml	98
3) 2-Methylnaphthalene	5.25	142	198891	169.68	ng/ml	94
4) 1-Methylnaphthalene	5.33	142	195644	160.52	ng/ml	90
5) Biphenyl	5.63	154	215637	107.48	ng/ml	98
6) 2,6-Dimethylnaphthalene	5.76	156	153539	106.00	ng/ml	99
11) Acenaphthylene	5.98	152	268008	226.24	ng/ml	99
12) Acenaphthene	6.12	154	152358	203.36	ng/ml	91
13) Dibenzofuran	6.27	168	214611	182.77	ng/ml#	58
14) 2,3,5-Trimethylnaphthalene	6.44	170	128443	154.91	ng/ml	85
16) Fluorene	6.54	166	167859	156.41	ng/ml	97
21) Pentachlorophenol	7.19	266	59801	677.56	ng/ml	99
23) Dibenzothiophene	7.23	184	213434	217.56	ng/ml	99
27) Phenanthrene	7.34	178	223291	195.78	ng/ml	97
28) Anthracene	7.39	178	227009m	217.53	ng/ml	
29) Carbazole	7.52	167	188666	218.43	ng/ml	98
30) 1-Methylphenanthrene	7.83	192	164078	173.02	ng/ml	95
35) Fluoranthene	8.30	202	249343	190.85	ng/ml	93
38) Pyrene	8.50	202	256559	200.69	ng/ml	83
43) Benz(a)anthracene	9.83	228	243818	198.66	ng/ml	98
44) Chrysene	9.88	228	239548	199.54	ng/ml	98
50) Benzo(b)fluoranthene	11.89	252	266421	203.52	ng/ml	99
51) Benzo(k)fluoranthene	11.96	252	261370	206.34	ng/ml	98
52) Benzo(e)pyrene	12.60	252	242073	201.59	ng/ml	99
53) Benzo(a)pyrene	12.75	252	242319	206.03	ng/ml	99
54) Perylene	13.00	252	236159	209.48	ng/ml	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\101509\1015F008.D Vial: 8
Acq On : 15 Oct 2009 9:47 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @0.2/0.8ug/mL | SVM29-21H Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 15 10:09:10 2009 Quant Results File: 1015ALK.RES

Quant Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 06:04:30 2009
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

Qcon/a19

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
55)	Indeno(1,2,3-cd)pyrene	16.43	276	229908	234.06	ng/ml	97
56)	Dibenz(a,h)anthracene	16.51	278	243268	223.68	ng/ml	98
57)	Benzo(g,h,i)perylene	16.89	276	259652	213.29	ng/ml	95

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

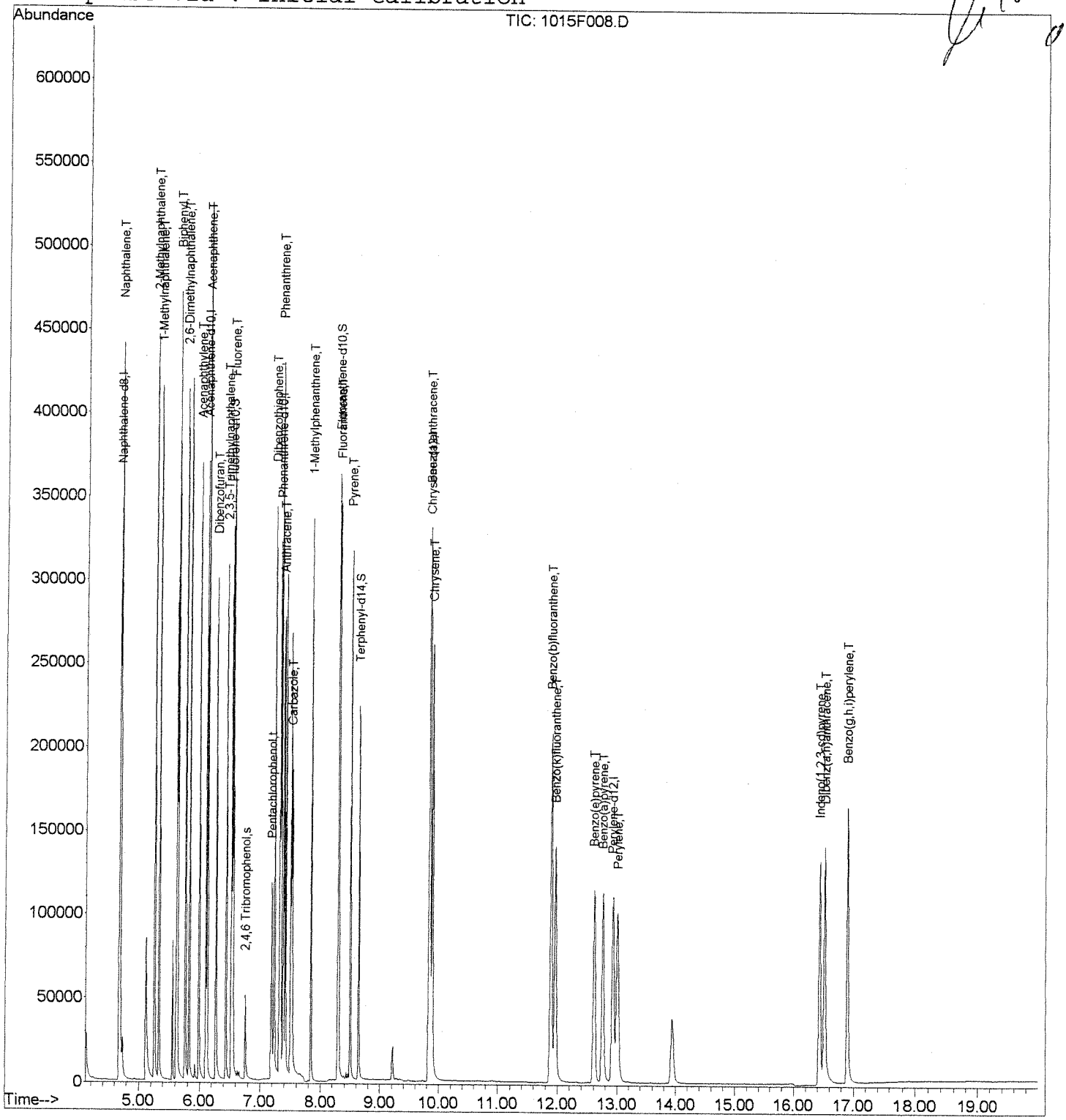
Data File : J:\MS11\DATA\101509\1015F008.D
Acq On : 15 Oct 2009 9:47 am
Sample : SIM-PAH ICAL @0.2/0.8ug/mL | SVM29-21H
Misc :
MS Integration Params: RTEINT.P
Quant Time: Oct 15 10:42 2009

Vial: 8
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00

Quant Results File: 1015ALK.RES

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 06:04:30 2009
Response via : Initial Calibration

10/19/09



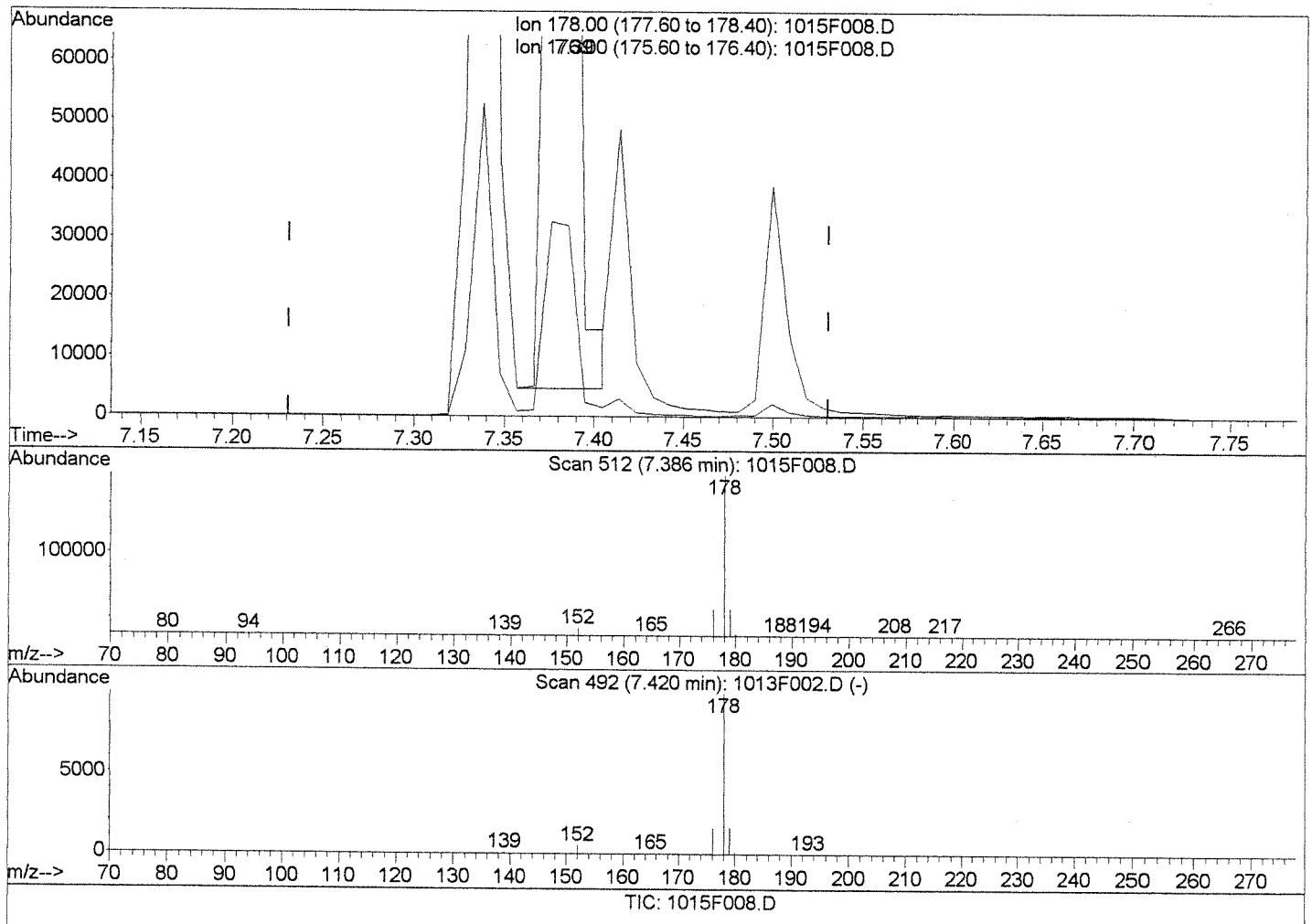
Quantitation Report (Qedit)

Data File : J:\MS11\DATA\101509\1015F008.D
Acq On : 15 Oct 2009 9:47 am
Sample : SIM-PAH ICAL @0.2/0.8ug/mL | SVM29-21H
Misc :
MS Integration Params: RTEINT.P
Quant Time: Oct 15 10:09 2009

Vial: 8
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 06:04:30 2009
Response via : Multiple Level Calibration



TIC: 1015F008.D

(28) Anthracene (T)

7.39min 206.18ng/ml

response 215159

Ion	Exp%	Act%
178.00	100	100
176.00	17.60	16.29
0.00	0.00	0.00
0.00	0.00	0.00

1015F008.D 1015ALK.M Thu Oct 15 10:42:49 2009

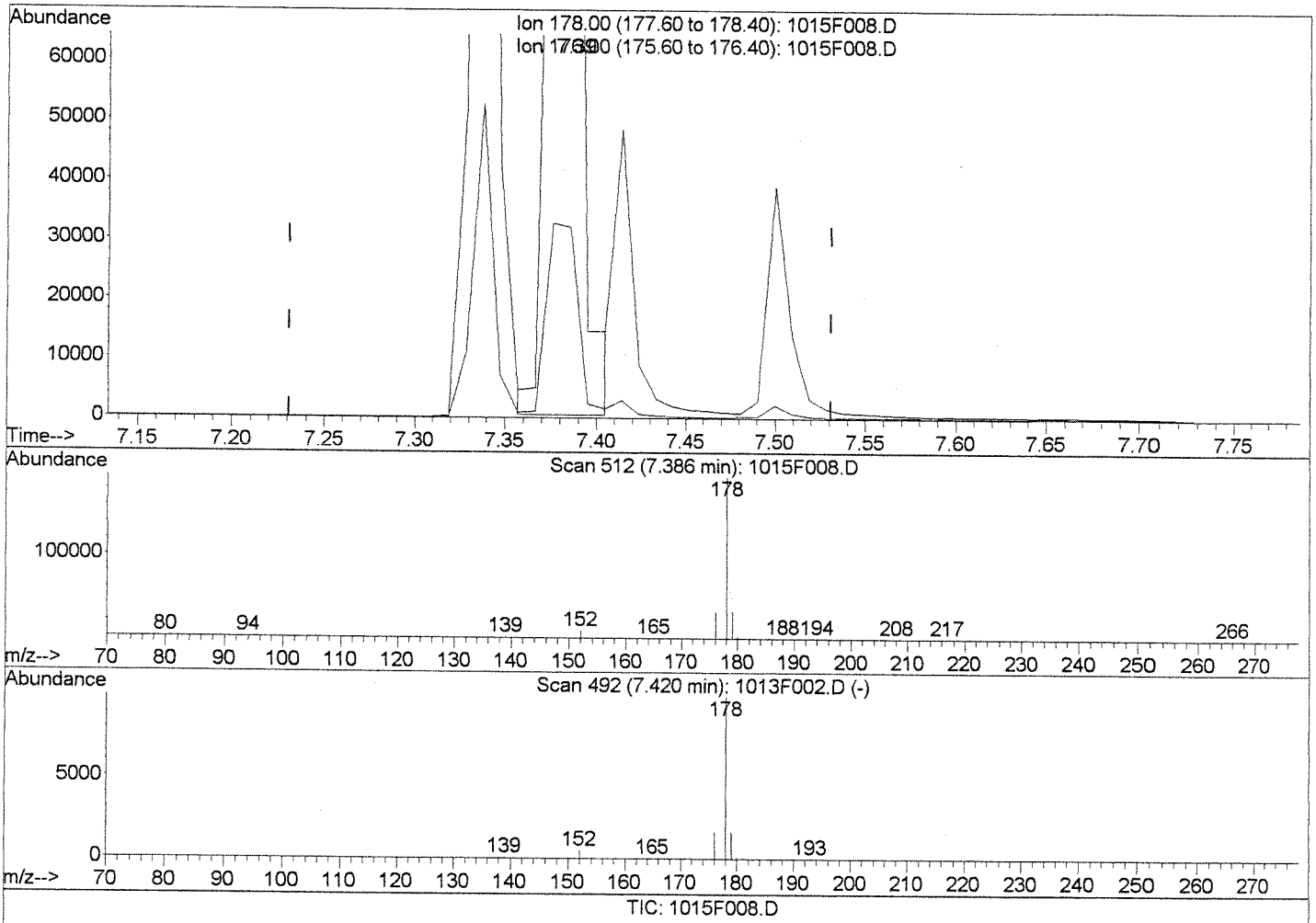
Quantitation Report (Qedit)

Data File : J:\MS11\DATA\101509\1015F008.D
Acq On : 15 Oct 2009 9:47 am
Sample : SIM-PAH ICAL @0.2/0.8ug/mL | SVM29-21H
Misc :
MS Integration Params: RTEINT.P
Quant Time: Oct 15 10:42 2009

Vial: 8
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 06:04:30 2009
Response via : Multiple Level Calibration



TIC: 1015F008.D

(28) Anthracene (T)

7.39min 217.53ng/ml m

response 227009

Ion	Exp%	Act%
178.00	100	100
176.00	17.60	16.36
0.00	0.00	0.00
0.00	0.00	0.00

IC acceptable 9

1015F008.D 1015ALK.M Thu Oct 15 10:42:56 2009

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\101509\1015F009.D Vial: 9
Acq On : 15 Oct 2009 10:14 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @0.4/1.0ug/mL | SVM29-21I Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 15 10:35:09 2009 Quant Results File: 1015ALK.RES

Quant Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 06:04:30 2009
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	4.67	136	287363	200.00	ng/ml	0.00
10) Acenaphthene-d10	6.10	164	143632	200.00	ng/ml	0.00
22) Phenanthrene-d10	7.32	188	187662	200.00	ng/ml	0.00
37) Chrysene-d12	9.84	240	216839	200.00	ng/ml	-0.01
49) Perylene-d12	12.92	264	240902	200.00	ng/ml	-0.04
System Monitoring Compounds						
15) Fluorene-d10	6.52	176	265510	291.75	ng/ml	0.00
Spiked Amount 200.000			Recovery = 145.88%			
20) 2,4,6 Tribromophenol	6.75	330	49873	331.66	ng/ml	0.00
Spiked Amount 375.000			Recovery = 88.44%			
36) Fluoranthene-d10	8.29	212	425034	372.83	ng/ml	0.00
Spiked Amount 200.000			Recovery = 186.41%			
42) Terphenyl-d14	8.64	244	357629	380.45	ng/ml	0.00
Spiked Amount 200.000			Recovery = 190.22%			
Target Compounds						Qvalue
2) Naphthalene	4.69	128	536074	380.05	ng/ml	100
3) 2-Methylnaphthalene	5.25	142	389059	332.66	ng/ml	91
4) 1-Methylnaphthalene	5.33	142	379432	312.01	ng/ml	98
5) Biphenyl	5.63	154	422863	211.24	ng/ml	98
6) 2,6-Dimethylnaphthalene	5.76	156	304760	210.86	ng/ml	95
11) Acenaphthylene	5.98	152	531018	441.01	ng/ml	100
12) Acenaphthene	6.12	154	301750	396.26	ng/ml	89
13) Dibenzofuran	6.27	168	415549	348.18	ng/ml#	52
14) 2,3,5-Trimethylnaphthalene	6.44	170	248204	294.52	ng/ml	81
16) Fluorene	6.54	166	319602	292.99	ng/ml	97
21) Pentachlorophenol	7.18	266	74476	830.20	ng/ml	98
23) Dibenzothiophene	7.23	184	400208	409.01	ng/ml	100
27) Phenanthrene	7.34	178	423586	372.35	ng/ml	97
28) Anthracene	7.38	178	418687m	402.25	ng/ml	
29) Carbazole	7.52	167	366748	425.71	ng/ml	96
30) 1-Methylphenanthrene	7.83	192	306048	323.56	ng/ml	97
35) Fluoranthene	8.30	202	461273	353.98	ng/ml	93
38) Pyrene	8.50	202	480187	380.79	ng/ml	87
43) Benz(a)anthracene	9.83	228	459908	379.87	ng/ml	98
44) Chrysene	9.88	228	462701	390.73	ng/ml	99
50) Benzo(b)fluoranthene	11.89	252	511080	387.45	ng/ml	100
51) Benzo(k)fluoranthene	11.96	252	508670	398.51	ng/ml	99
52) Benzo(e)pyrene	12.60	252	477002	394.20	ng/ml	100
53) Benzo(a)pyrene	12.75	252	479006	404.18	ng/ml	100
54) Perylene	13.00	252	469808	413.55	ng/ml	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\101509\1015F009.D Vial: 9
Acq On : 15 Oct 2009 10:14 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @0.4/1.0ug/mL | SVM29-21I Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 15 10:35:09 2009 Quant Results File: 1015ALK.RES

Quant Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 06:04:30 2009
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
55)	Indeno(1,2,3-cd)pyrene	16.42	276	445826	450.41	ng/ml	98
56)	Dibenz(a,h)anthracene	16.51	278	481832	439.66	ng/ml	99
57)	Benzo(g,h,i)perylene	16.89	276	506439	412.84	ng/ml	99

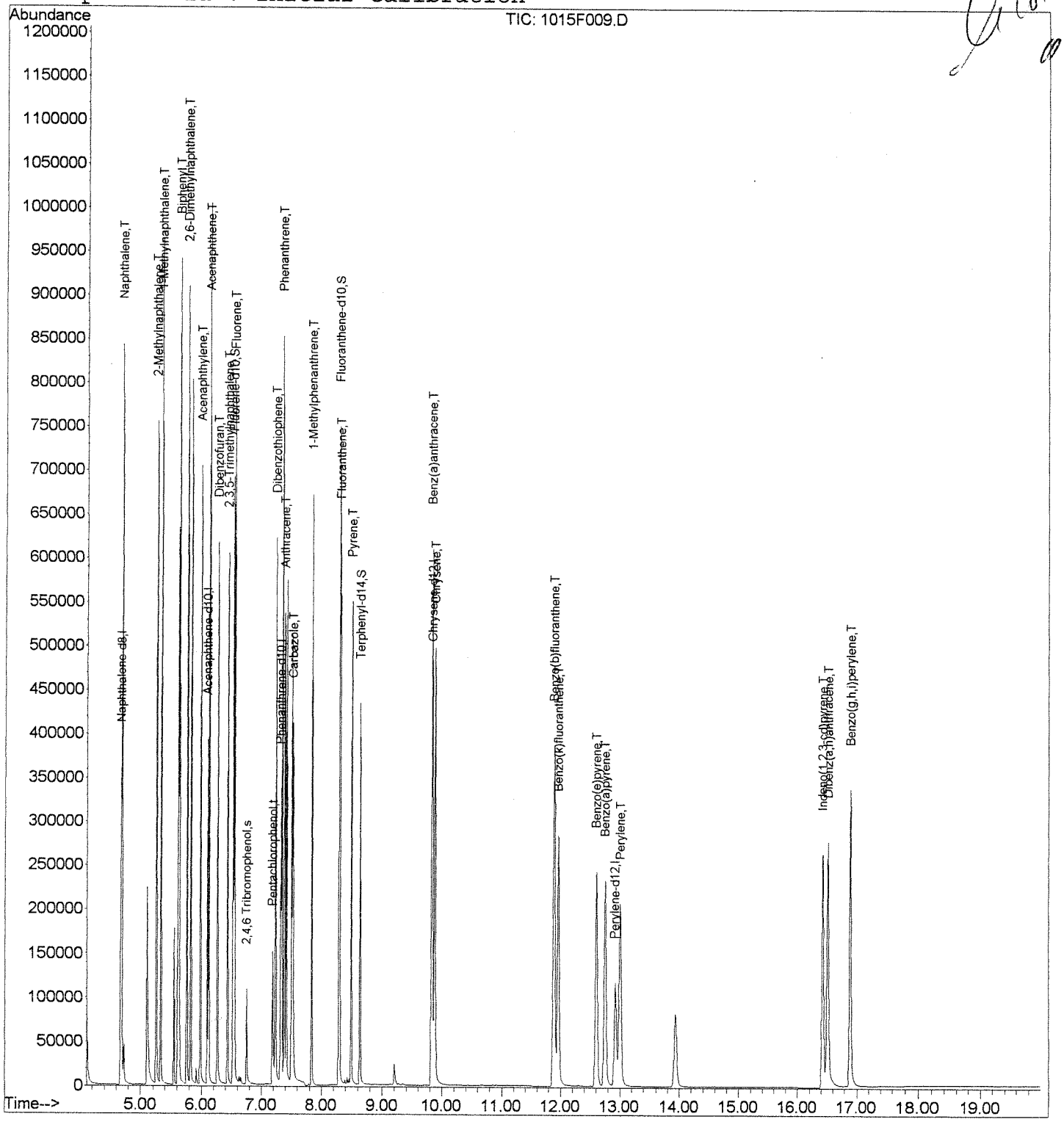
(#) = qualifier out of range (m) = manual integration
1015F009.D 1015ALK.M Thu Oct 15 10:44:12 2009 Page 2

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\101509\1015F009.D Vial: 9
Acq On : 15 Oct 2009 10:14 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @0.4/1.0ug/mL | SVM29-21I Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 15 10:43 2009 Quant Results File: 1015ALK.RES

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 06:04:30 2009
Response via : Initial Calibration

10/19/19



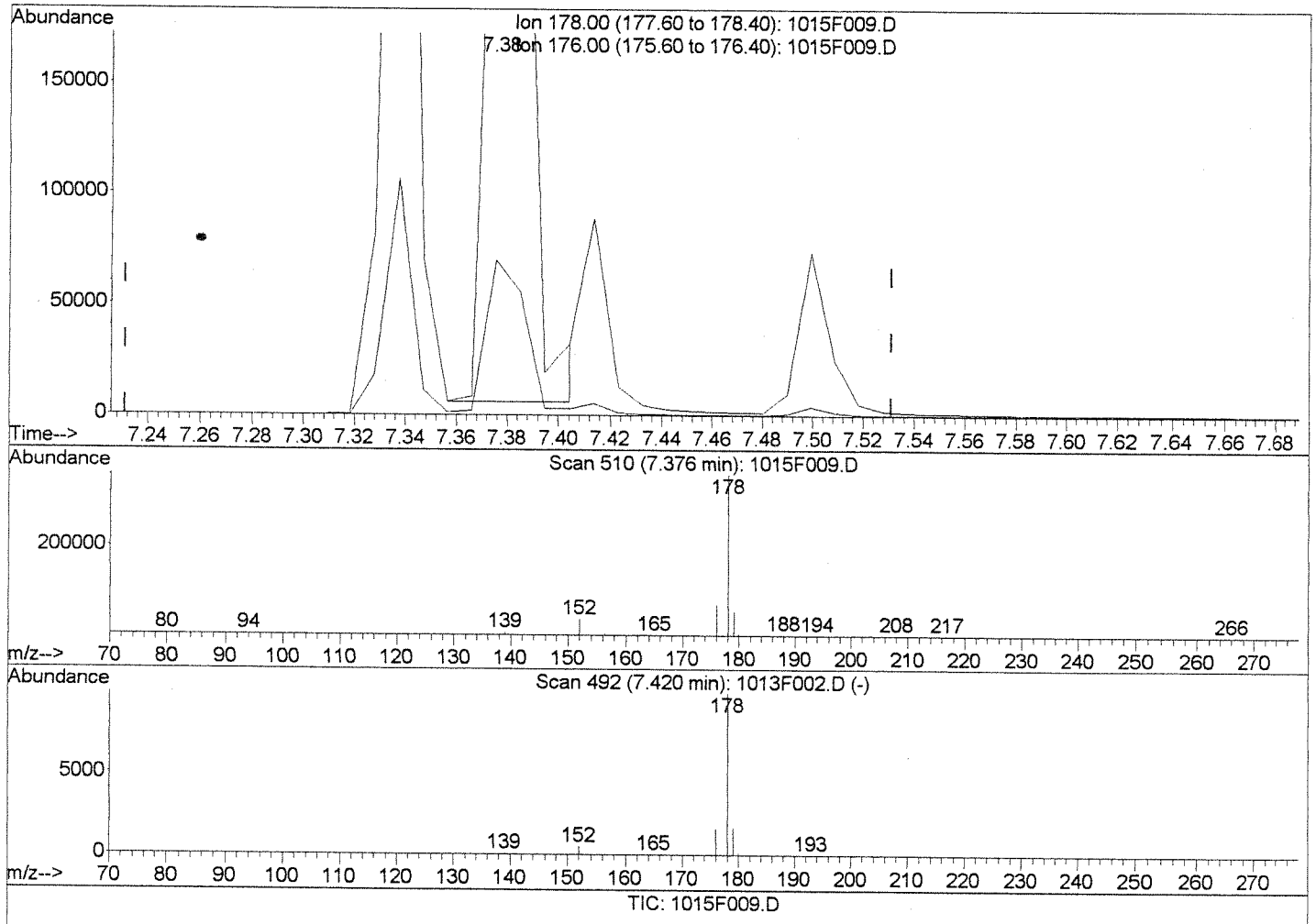
Quantitation Report (Qedit)

Data File : J:\MS11\DATA\101509\1015F009.D
Acq On : 15 Oct 2009 10:14 am
Sample : SIM-PAH ICAL @0.4/1.0ug/mL | SVM29-21I
Misc :
MS Integration Params: RTEINT.P
Quant Time: Oct 15 10:35 2009

Vial: 9
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 06:04:30 2009
Response via : Multiple Level Calibration



TIC: 1015F009.D

(28) Anthracene (T)

7.38min 406.70ng/ml

response 423318

Ion	Exp%	Act%
178.00	100	100
176.00	17.60	19.14
0.00	0.00	0.00
0.00	0.00	0.00

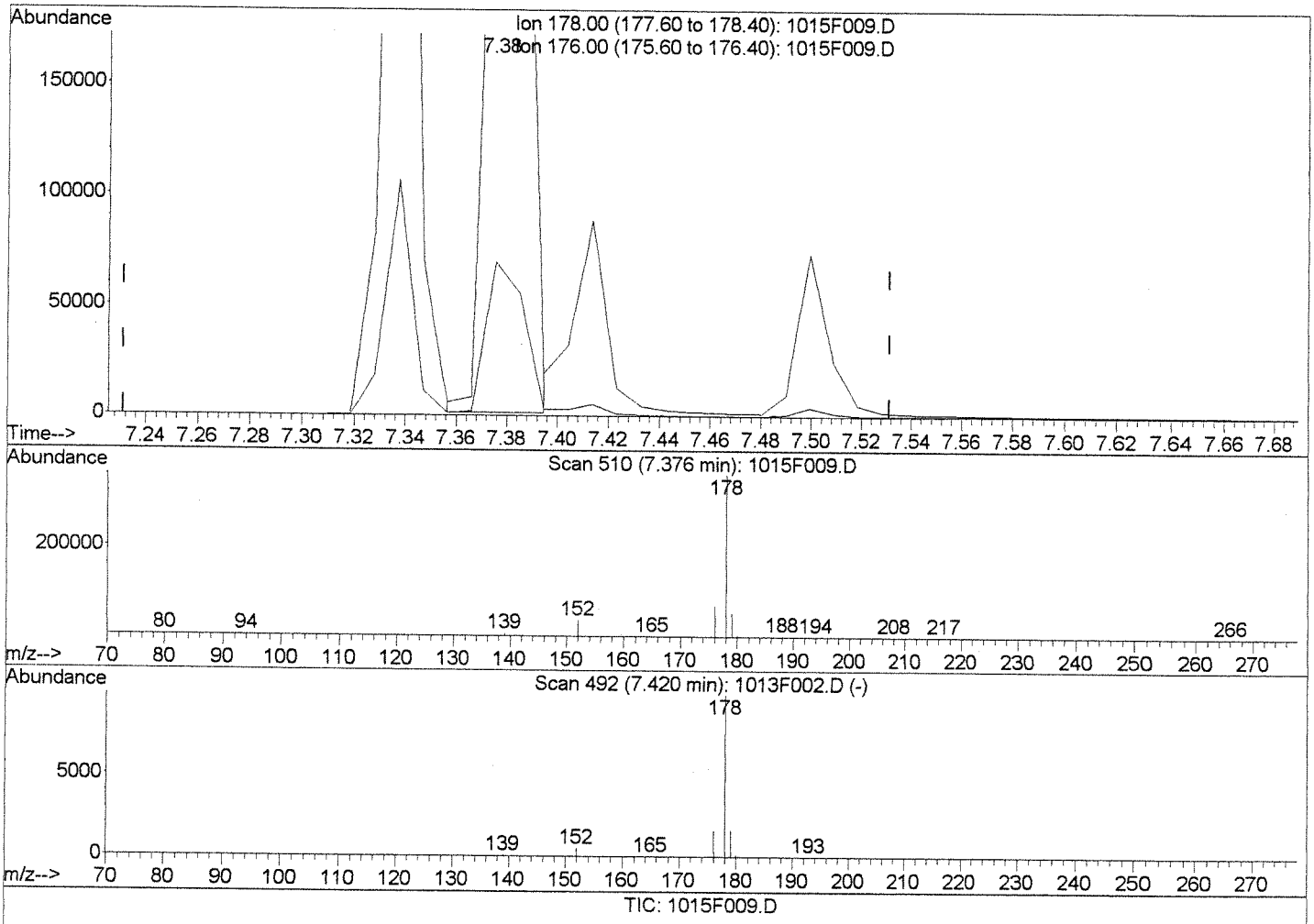
Quantitation Report (Qedit)

Data File : J:\MS11\DATA\101509\1015F009.D
Acq On : 15 Oct 2009 10:14 am
Sample : SIM-PAH ICAL @0.4/1.0ug/mL | SVM29-21I
Misc :
MS Integration Params: RTEINT.P
Quant Time: Oct 15 10:43 2009

Vial: 9
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 06:04:30 2009
Response via : Multiple Level Calibration



TIC: 1015F009.D

(28) Anthracene (T)

7.38min 402.25ng/ml m

response 418687

Ion	Exp%	Act%
178.00	100	100
176.00	17.60	19.13
0.00	0.00	0.00
0.00	0.00	0.00

OT Qual 10/19

1015F009.D 1015ALK.M Thu Oct 15 10:43:30 2009

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\101509\1015F010.D Vial: 10
Acq On : 15 Oct 2009 10:40 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @1.0/2.0ug/mL | SVM29-21J Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 15 11:03:05 2009 Quant Results File: 1015ALK.RES

Quant Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 10:47:53 2009
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	4.67	136	303059	200.00	ng/ml	0.00
10) Acenaphthene-d10	6.10	164	150532	200.00	ng/ml	0.00
22) Phenanthrene-d10	7.32	188	186300	200.00	ng/ml	0.00
37) Chrysene-d12	9.84	240	207069	200.00	ng/ml	-0.01
49) Perylene-d12	12.93	264	225429	200.00	ng/ml	-0.03
System Monitoring Compounds						
15) Fluorene-d10	6.52	176	649306	880.37	ng/ml	0.00
Spiked Amount 200.000			Recovery =	440.18%		
20) 2,4,6 Tribromophenol	6.75	330	128284	925.84	ng/ml	0.00
Spiked Amount 375.000			Recovery =	246.89%		
36) Fluoranthene-d10	8.29	212	995524	881.61	ng/ml	0.00
Spiked Amount 200.000			Recovery =	440.81%		
42) Terphenyl-d14	8.64	244	822430	887.22	ng/ml	0.00
Spiked Amount 200.000			Recovery =	443.61%		
Target Compounds						Qvalue
2) Naphthalene	4.69	128	1312435	892.87	ng/ml	96
3) 2-Methylnaphthalene	5.25	142	986673	1010.98	ng/ml	89
4) 1-Methylnaphthalene	5.33	142	966758	902.15	ng/ml	97
5) Biphenyl	5.63	154	1058892	931.16	ng/ml	99
6) 2,6-Dimethylnaphthalene	5.76	156	780522	1025.94	ng/ml	96
11) Acenaphthylene	5.98	152	1295480	960.15	ng/ml	98
12) Acenaphthene	6.12	154	745546	919.45	ng/ml	88
13) Dibenzofuran	6.27	168	1006262	923.46	ng/ml	79
14) 2,3,5-Trimethylnaphthalene	6.44	170	609302	891.05	ng/ml	78
16) Fluorene	6.54	166	768465	865.43	ng/ml	100
21) Pentachlorophenol	7.19	266	171245	2632.81	ng/ml	99
23) Dibenzothiophene	7.23	184	933649	964.21	ng/ml	97
27) Phenanthrene	7.34	178	985788	898.51	ng/ml	98
28) Anthracene	7.38	178	985179m	952.10	ng/ml	
29) Carbazole	7.52	167	881543	1009.81	ng/ml	96
30) 1-Methylphenanthrene	7.83	192	722218	927.66	ng/ml	98
35) Fluoranthene	8.30	202	1059282	866.79	ng/ml	94
38) Pyrene	8.50	202	1108094	939.15	ng/ml	89
43) Benz(a)anthracene	9.83	228	1091273	938.38	ng/ml	100
44) Chrysene	9.88	228	1066113	936.09	ng/ml	99
50) Benzo(b)fluoranthene	11.89	252	1207756	1015.69	ng/ml	97
51) Benzo(k)fluoranthene	11.96	252	1208203	1035.24	ng/ml	98
52) Benzo(e)pyrene	12.61	252	1134193	1019.82	ng/ml	99
53) Benzo(a)pyrene	12.75	252	1148958	1024.12	ng/ml	100
54) Perylene	13.00	252	1127778	1027.44	ng/ml	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\101509\1015F010.D Vial: 10
Acq On : 15 Oct 2009 10:40 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @1.0/2.0ug/mL | SVM29-21J Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 15 11:03:05 2009 Quant Results File: 1015ALK.RES

Quant Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 10:47:53 2009
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

10/19/09

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
55)	Indeno(1,2,3-cd)pyrene	16.42	276	1056961	1026.98	ng/ml	100
56)	Dibenz(a,h)anthracene	16.50	278	1142928	1033.43	ng/ml	95
57)	Benzo(g,h,i)perylene	16.89	276	1149599	947.45	ng/ml	99

(#) = qualifier out of range (m) = manual integration

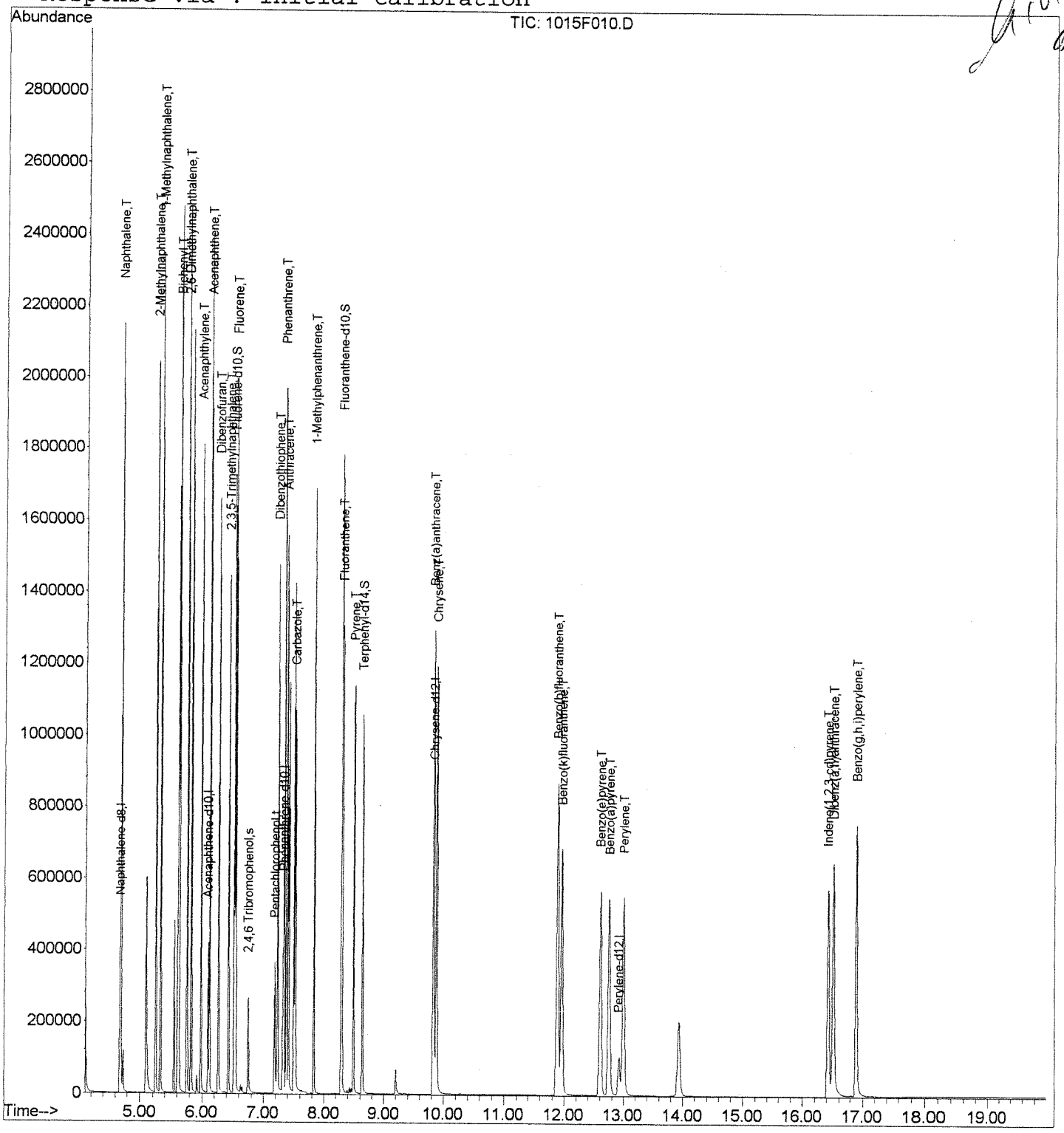
Data File : J:\MS11\DATA\101509\1015F010.D
Acq On : 15 Oct 2009 10:40 am
Sample : SIM-PAH ICAL @1.0/2.0ug/mL | SVM29-21J
Misc :
MS Integration Params: RTEINT.P
Quant Time: Oct 15 11:03 2009

Vial: 10
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00

Quant Results File: 1015ALK.RES

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 12:27:11 2009
Response via : Initial Calibration

10/19/09



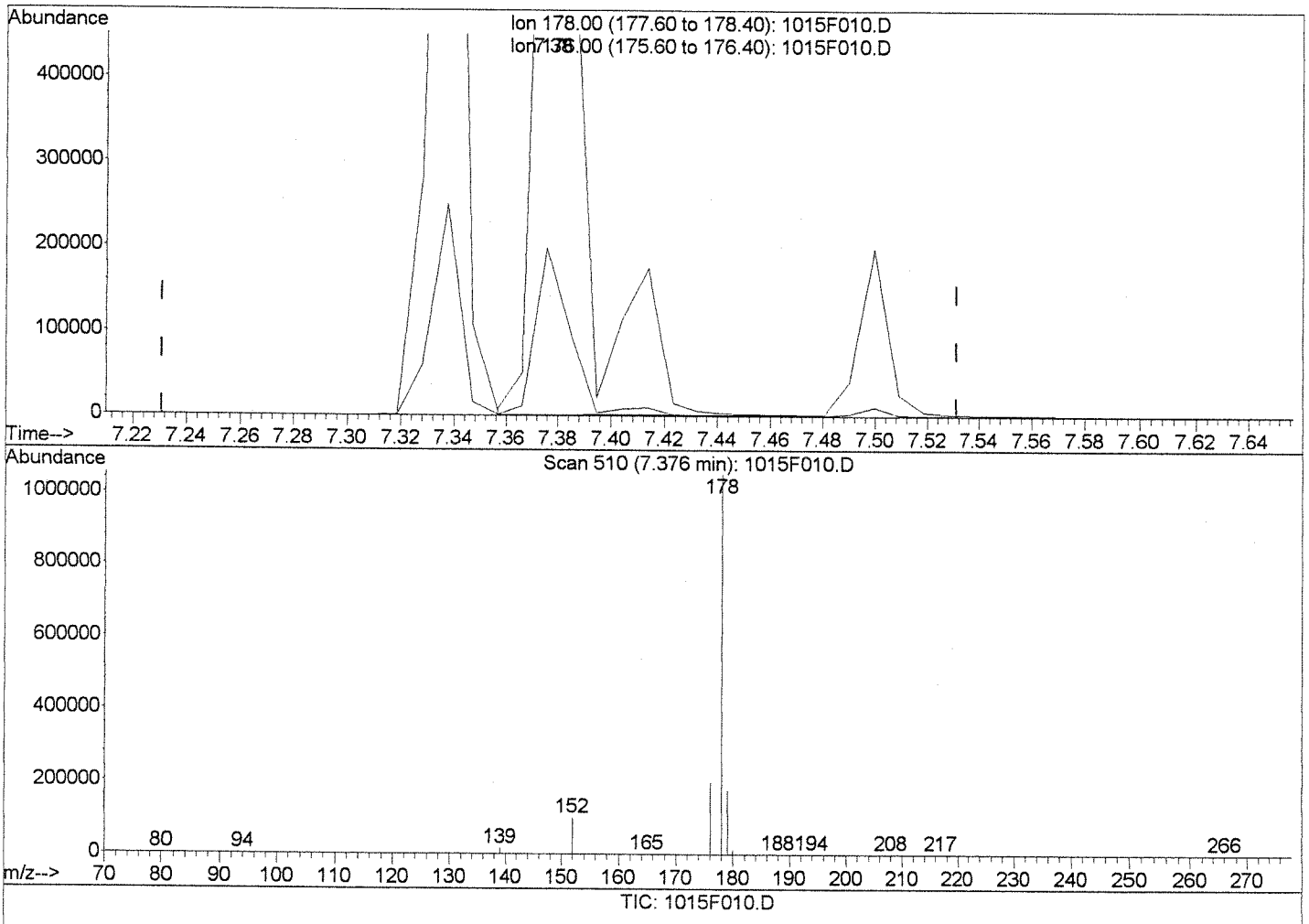
Quantitation Report (Qedit)

Data File : J:\MS11\DATA\101509\1015F010.D
Acq On : 15 Oct 2009 10:40 am
Sample : SIM-PAH ICAL @1.0/2.0ug/mL | SVM29-21J
Misc :
MS Integration Params: RTEINT.P
Quant Time: Oct 15 11:03 2009

Vial: 10
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 10:47:53 2009
Response via : Multiple Level Calibration



(28) Anthracene (T)

7.38min 1121.72ng/ml

response 1160695

Ion	Exp%	Act%
178.00	100	100
176.00	17.60	18.81
0.00	0.00	0.00
0.00	0.00	0.00

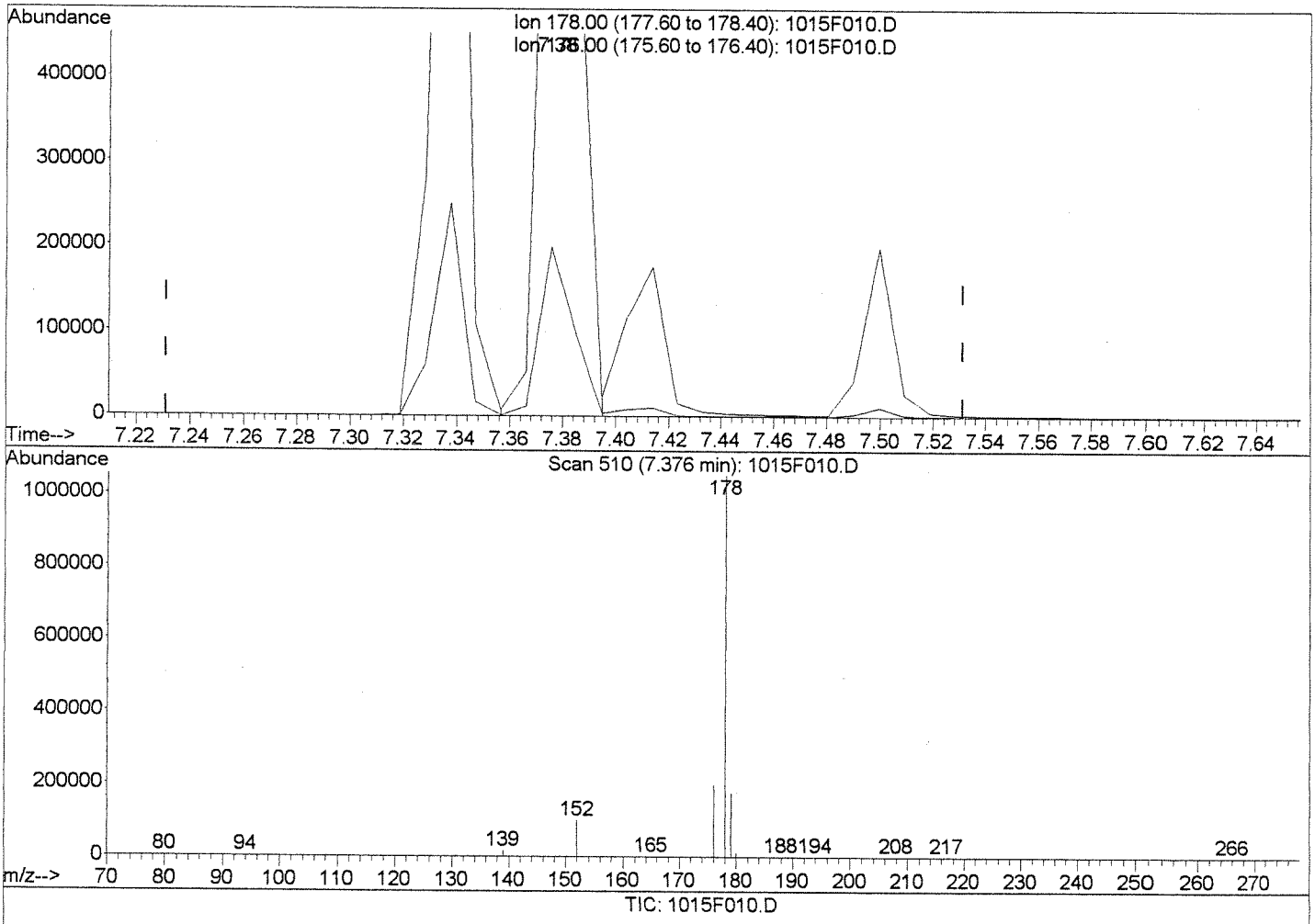
Quantitation Report (Qedit)

Data File : J:\MS11\DATA\101509\1015F010.D
Acq On : 15 Oct 2009 10:40 am
Sample : SIM-PAH ICAL @1.0/2.0ug/mL | SVM29-21J
Misc :
MS Integration Params: RTEINT.P
Quant Time: Oct 15 11:03 2009

Vial: 10
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 10:47:53 2009
Response via : Multiple Level Calibration



TIC: 1015F010.D

(28) Anthracene (T)

7.38min 952.10ng/ml m

response 985179

Ion	Exp%	Act%
178.00	100	100
176.00	17.60	18.81
0.00	0.00	0.00
0.00	0.00	0.00

DT 10/19/09

1015F010.D 1015ALK.M Thu Oct 15 11:03:33 2009

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\101509\1015F011.D Vial: 11
Acq On : 15 Oct 2009 11:07 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @1.6/2.4ug/mL | SVM29-21K Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 15 12:25:10 2009 Quant Results File: 1015ALK.RES

Quant Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 11:04:18 2009
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	4.67	136	299901	200.00	ng/ml	0.00
10) Acenaphthene-d10	6.10	164	156734	200.00	ng/ml	0.00
22) Phenanthrene-d10	7.32	188	196963	200.00	ng/ml	0.00
37) Chrysene-d12	9.84	240	217657	200.00	ng/ml	-0.02
49) Perylene-d12	12.92	264	235230	200.00	ng/ml	-0.04
System Monitoring Compounds						
15) Fluorene-d10	6.52	176	1041696	1377.10	ng/ml	0.00
Spiked Amount 200.000			Recovery = 688.55%			
20) 2,4,6 Tribromophenol	6.75	330	214389	1499.95	ng/ml	0.00
Spiked Amount 375.000			Recovery = 399.99%			
36) Fluoranthene-d10	8.29	212	1512629	1286.06	ng/ml	0.00
Spiked Amount 200.000			Recovery = 643.03%			
42) Terphenyl-d14	8.64	244	1282319	1334.86	ng/ml	0.00
Spiked Amount 200.000			Recovery = 667.43%			
Target Compounds						Qvalue
2) Naphthalene	4.69	128	1912241	1332.46	ng/ml	94
3) 2-Methylnaphthalene	5.25	142	1473502	1523.61	ng/ml	92
4) 1-Methylnaphthalene	5.33	142	1443380	1377.96	ng/ml	95
5) Biphenyl	5.63	154	1629907	1460.96	ng/ml	93
6) 2,6-Dimethylnaphthalene	5.76	156	1227141	1624.71	ng/ml	94
11) Acenaphthylene	5.98	152	1974317	1412.41	ng/ml	95
12) Acenaphthene	6.12	154	1165648	1394.70	ng/ml	95
13) Dibenzofuran	6.27	168	1573542	1400.31	ng/ml	64
14) 2,3,5-Trimethylnaphthalene	6.44	170	991171	1411.37	ng/ml	79
16) Fluorene	6.54	166	1214243	1335.82	ng/ml	97
21) Pentachlorophenol	7.19	266	215822	3049.04	ng/ml	98
23) Dibenzothiophene	7.23	184	1502519	1474.29	ng/ml	95
27) Phenanthrene	7.34	178	1555394	1358.17	ng/ml	100
28) Anthracene	7.38	178	1519934m	1397.74	ng/ml	
29) Carbazole	7.52	167	1329533	1438.77	ng/ml	97
30) 1-Methylphenanthrene	7.83	192	1135110	1391.66	ng/ml	96
35) Fluoranthene	8.30	202	1607938	1265.58	ng/ml	92
38) Pyrene	8.50	202	1702515	1383.28	ng/ml	89
43) Benz(a)anthracene	9.83	228	1721423	1419.17	ng/ml	99
44) Chrysene	9.88	228	1645108	1385.27	ng/ml	99
50) Benzo(b)fluoranthene	11.90	252	1920275	1544.58	ng/ml	96
51) Benzo(k)fluoranthene	11.96	252	1914377	1565.08	ng/ml	97
52) Benzo(e)pyrene	12.61	252	1796615	1544.31	ng/ml	96
53) Benzo(a)pyrene	12.75	252	1828167	1556.94	ng/ml	98
54) Perylene	13.00	252	1809248	1574.21	ng/ml	97

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\101509\1015F011.D Vial: 11
Acq On : 15 Oct 2009 11:07 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @1.6/2.4ug/mL | SVM29-21K Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 15 12:25:10 2009 Quant Results File: 1015ALK.RES

Quant Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 11:04:18 2009
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

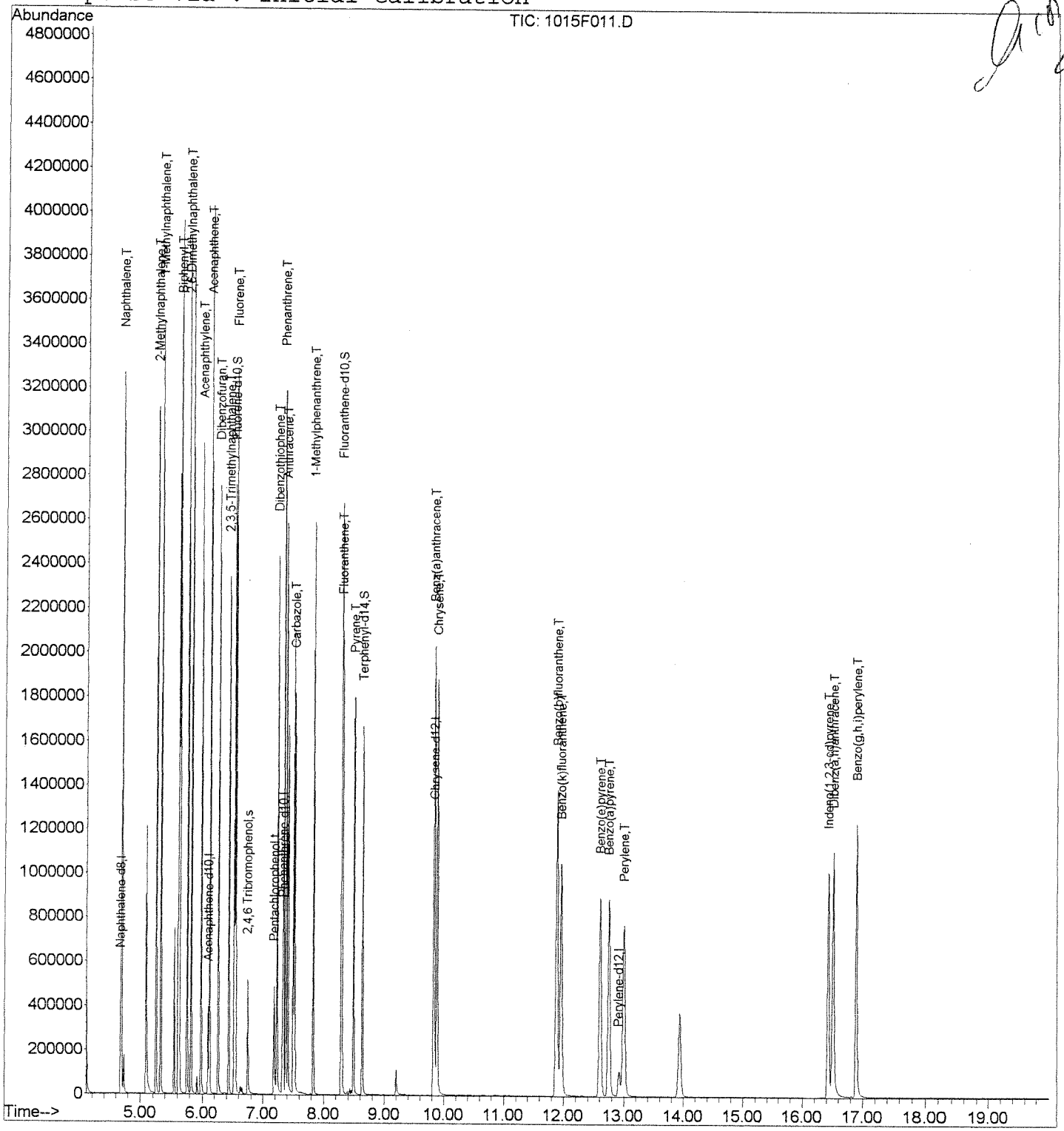
	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
55)	Indeno(1,2,3-cd)pyrene	16.43	276	1664446	1544.64	ng/ml	97
56)	Dibenz(a,h)anthracene	16.51	278	1818853	1569.51	ng/ml	97
57)	Benzo(g,h,i)perylene	16.89	276	1820008	1446.99	ng/ml	98

(#) = qualifier out of range (m) = manual integration
1015F011.D 1015ALK.M Thu Oct 15 13:09:51 2009 Page 2

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\101509\1015F011.D Vial: 11
Acq On : 15 Oct 2009 11:07 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @1.6/2.4ug/mL | SVM29-21K Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 15 12:25 2009 Quant Results File: 1015ALK.RES

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 12:27:11 2009
Response via : Initial Calibration

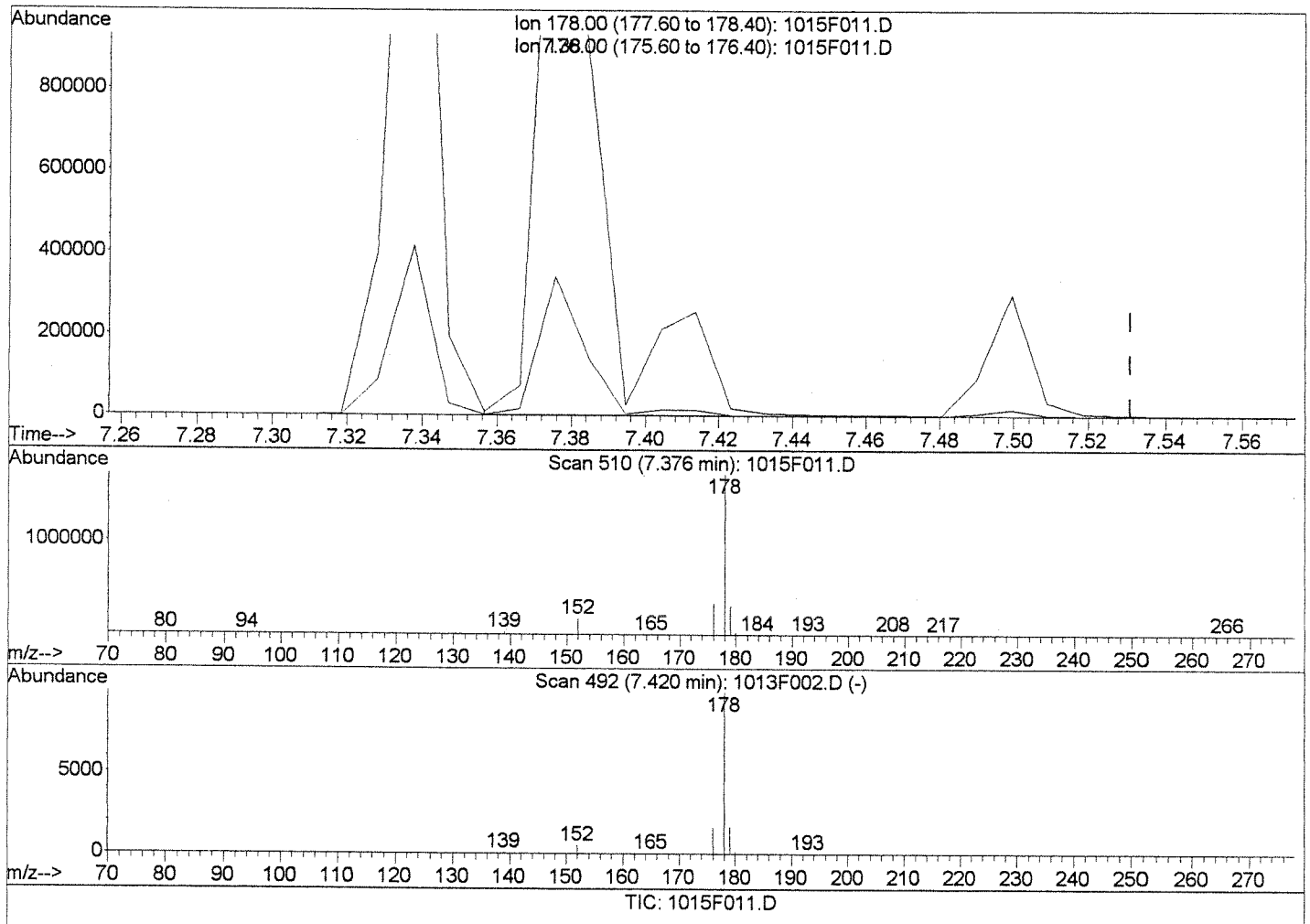


1015F011.D 1015ALK.M Thu Oct 15 13:09:52 2009 Page 3

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\101509\1015F011.D Vial: 11
Acq On : 15 Oct 2009 11:07 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @1.6/2.4ug/mL | SVM29-21K Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 15 12:25 2009 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 11:04:18 2009
Response via : Multiple Level Calibration



TIC: 1015F011.D

(28) Anthracene (T)

7.38min 1653.50ng/ml

response 1798049

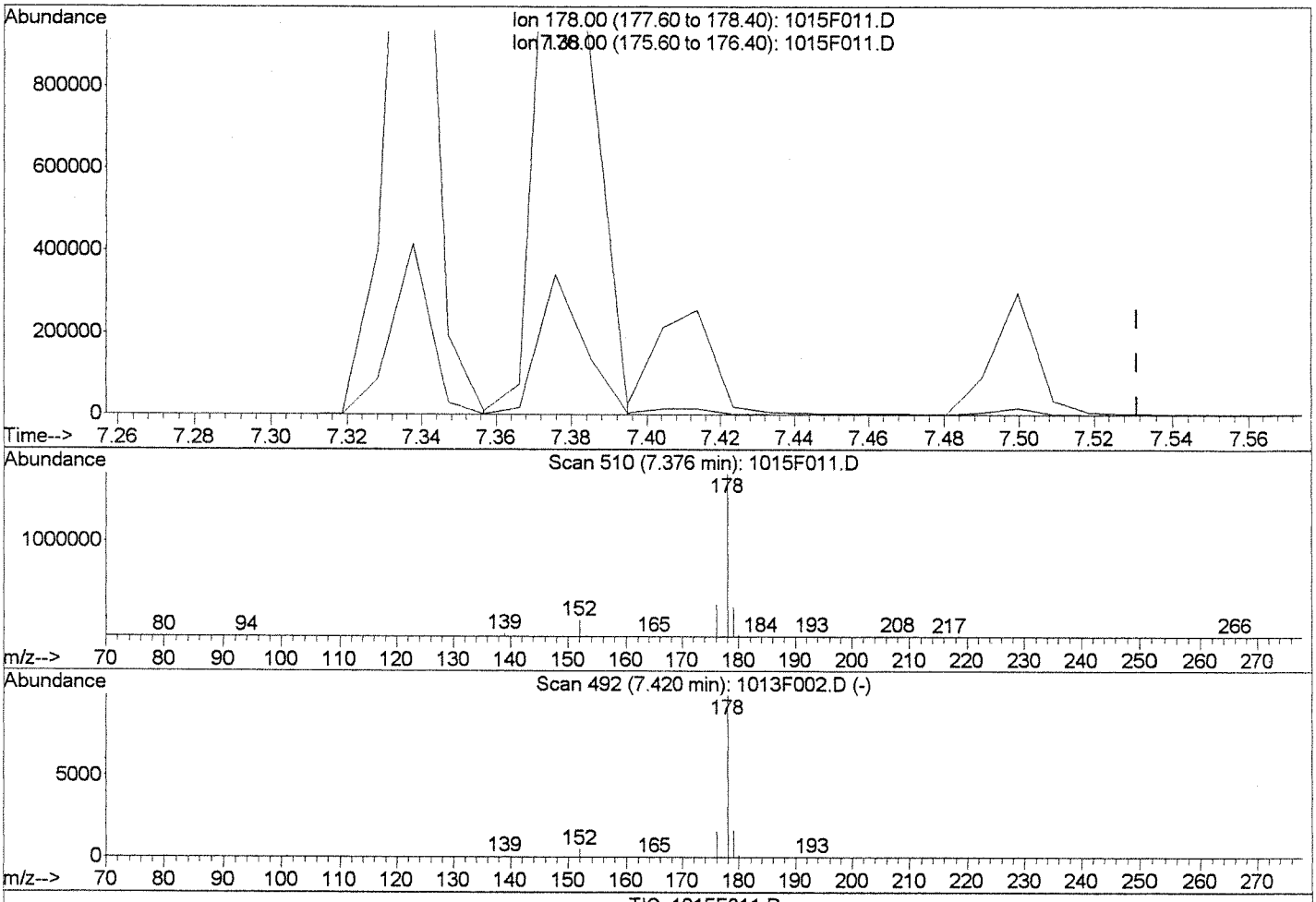
Ion	Exp%	Act%
178.00	100	100
176.00	17.60	19.92
0.00	0.00	0.00
0.00	0.00	0.00

1015F011.D 1015ALK.M Thu Oct 15 12:25:32 2009

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\101509\1015F011.D Vial: 11
Acq On : 15 Oct 2009 11:07 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @1.6/2.4ug/mL | SVM29-21K Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 15 12:25 2009 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 11:04:18 2009
Response via : Multiple Level Calibration



TIC: 1015F011.D

(28) Anthracene (T)

7.38min 1397.74ng/ml m

response 1519934

Ion	Exp%	Act%
178.00	100	100
176.00	17.60	19.92
0.00	0.00	0.00
0.00	0.00	0.00

OK Gloria

1015F011.D 1015ALK.M Thu Oct 15 12:25:35 2009

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\101509\1015F012.D Vial: 12
Acq On : 15 Oct 2009 11:33 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @2.0/3.0ug/mL | SVM29-21L Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 15 12:25:11 2009 Quant Results File: 1015ALK.RES

Quant Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 11:04:18 2009
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	4.67	136	356401	200.00	ng/ml	0.00
10) Acenaphthene-d10	6.10	164	166220	200.00	ng/ml	0.00
22) Phenanthrene-d10	7.32	188	205523	200.00	ng/ml	0.00
37) Chrysene-d12	9.84	240	232376	200.00	ng/ml	-0.01
49) Perylene-d12	12.93	264	263447	200.00	ng/ml	-0.03
System Monitoring Compounds						
15) Fluorene-d10	6.52	176	1293992	1613.01	ng/ml	0.00
Spiked Amount 200.000			Recovery = 806.50%			
20) 2,4,6 Tribromophenol	6.75	330	276165	1821.89	ng/ml	0.00
Spiked Amount 375.000			Recovery = 485.84%			
36) Fluoranthene-d10	8.29	212	1893508	1542.84	ng/ml	0.00
Spiked Amount 200.000			Recovery = 771.42%			
42) Terphenyl-d14	8.64	244	1645209	1604.14	ng/ml	0.00
Spiked Amount 200.000			Recovery = 802.07%			
Target Compounds						Qvalue
2) Naphthalene	4.69	128	2672828	1567.19	ng/ml	95
3) 2-Methylnaphthalene	5.25	142	2027891	1764.44	ng/ml	100
4) 1-Methylnaphthalene	5.33	142	1972277	1584.39	ng/ml	97
5) Biphenyl	5.63	154	2142361	1615.87	ng/ml	96
6) 2,6-Dimethylnaphthalene	5.76	156	1589982	1771.38	ng/ml	92
11) Acenaphthylene	5.98	152	2511550	1694.20	ng/ml	94
12) Acenaphthene	6.12	154	1472392	1661.18	ng/ml	98
13) Dibenzofuran	6.27	168	1981150	1662.43	ng/ml	73
14) 2,3,5-Trimethylnaphthalene	6.44	170	1217450	1634.64	ng/ml	75
16) Fluorene	6.54	166	1510172	1566.56	ng/ml	99
21) Pentachlorophenol	7.19	266	291502	3883.19	ng/ml	98
23) Dibenzothiophene	7.23	184	1806371	1698.62	ng/ml	97
27) Phenanthrene	7.34	178	1905138	1594.28	ng/ml	99
28) Anthracene	7.38	178	1905875m	1679.66	ng/ml	
29) Carbazole	7.52	167	1679284	1741.57	ng/ml	97
30) 1-Methylphenanthrene	7.83	192	1408973	1655.47	ng/ml	94
35) Fluoranthene	8.30	202	2015927	1520.62	ng/ml	92
38) Pyrene	8.49	202	2152430	1638.06	ng/ml	70
43) Benz(a)anthracene	9.83	228	2242351	1731.54	ng/ml	98
44) Chrysene	9.88	228	2123053	1674.48	ng/ml	98
50) Benzo(b)fluoranthene	11.90	252	2519783	1809.72	ng/ml	95
51) Benzo(k)fluoranthene	11.96	252	2480773	1810.90	ng/ml	95
52) Benzo(e)pyrene	12.61	252	2377784	1824.95	ng/ml	97
53) Benzo(a)pyrene	12.76	252	2431455	1848.94	ng/ml	98
54) Perylene	13.00	252	2390569	1857.23	ng/ml	96

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\101509\1015F012.D Vial: 12
Acq On : 15 Oct 2009 11:33 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @2.0/3.0ug/mL | SVM29-21L Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 15 12:25:11 2009 Quant Results File: 1015ALK.RES

Quant Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 11:04:18 2009
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

10/19/09

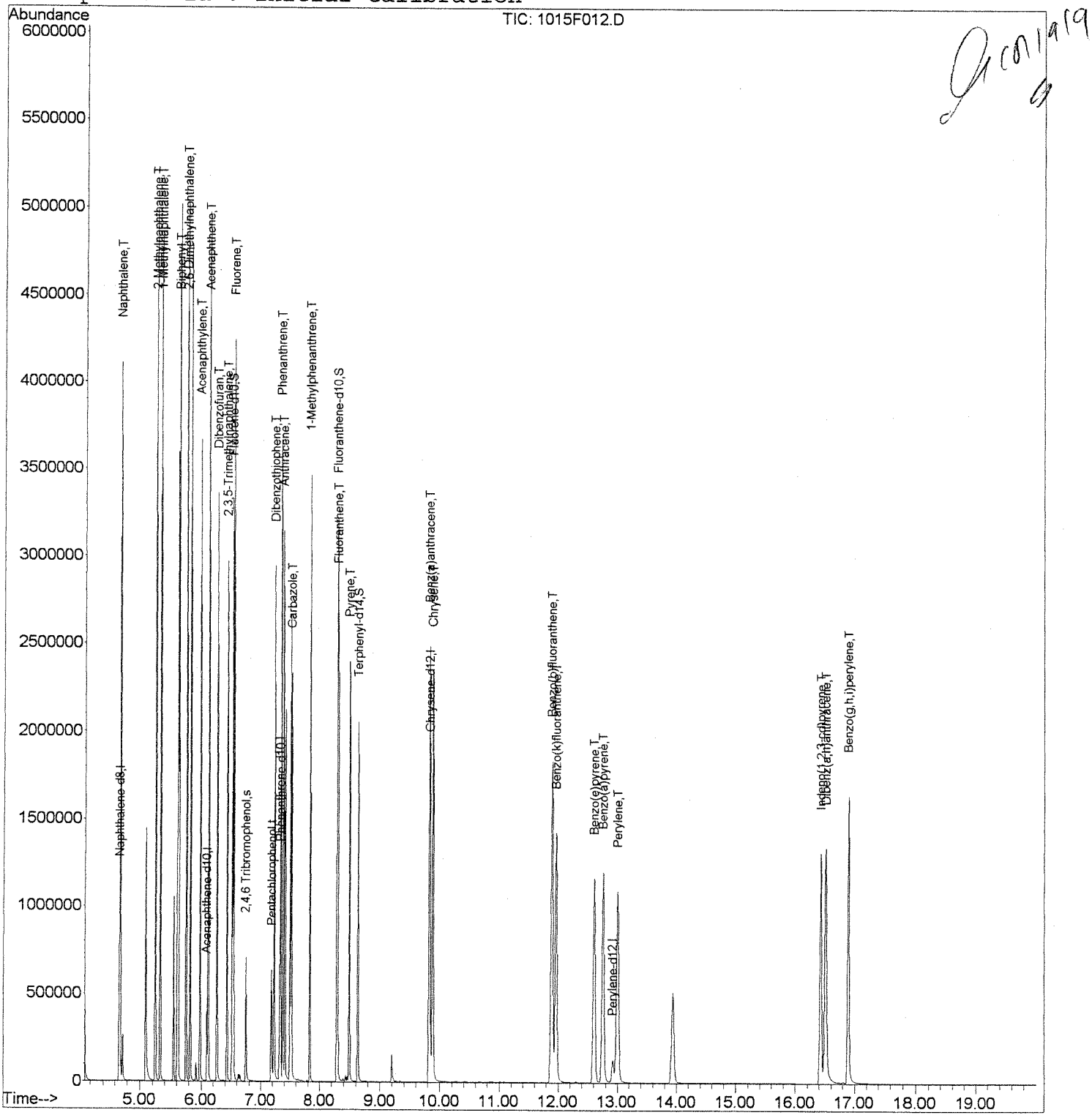
	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
55)	Indeno(1,2,3-cd)pyrene	16.43	276	2242317	1858.04	ng/ml	99
56)	Dibenz(a,h)anthracene	16.52	278	2417632	1862.76	ng/ml	97
57)	Benzo(g,h,i)perylene	16.89	276	2419042	1717.25	ng/ml	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\101509\1015F012.D Vial: 12
Acq On : 15 Oct 2009 11:33 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @2.0/3.0ug/mL | SVM29-21L Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 15 12:25 2009 Quant Results File: 1015ALK.RES

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 12:27:11 2009
Response via : Initial Calibration

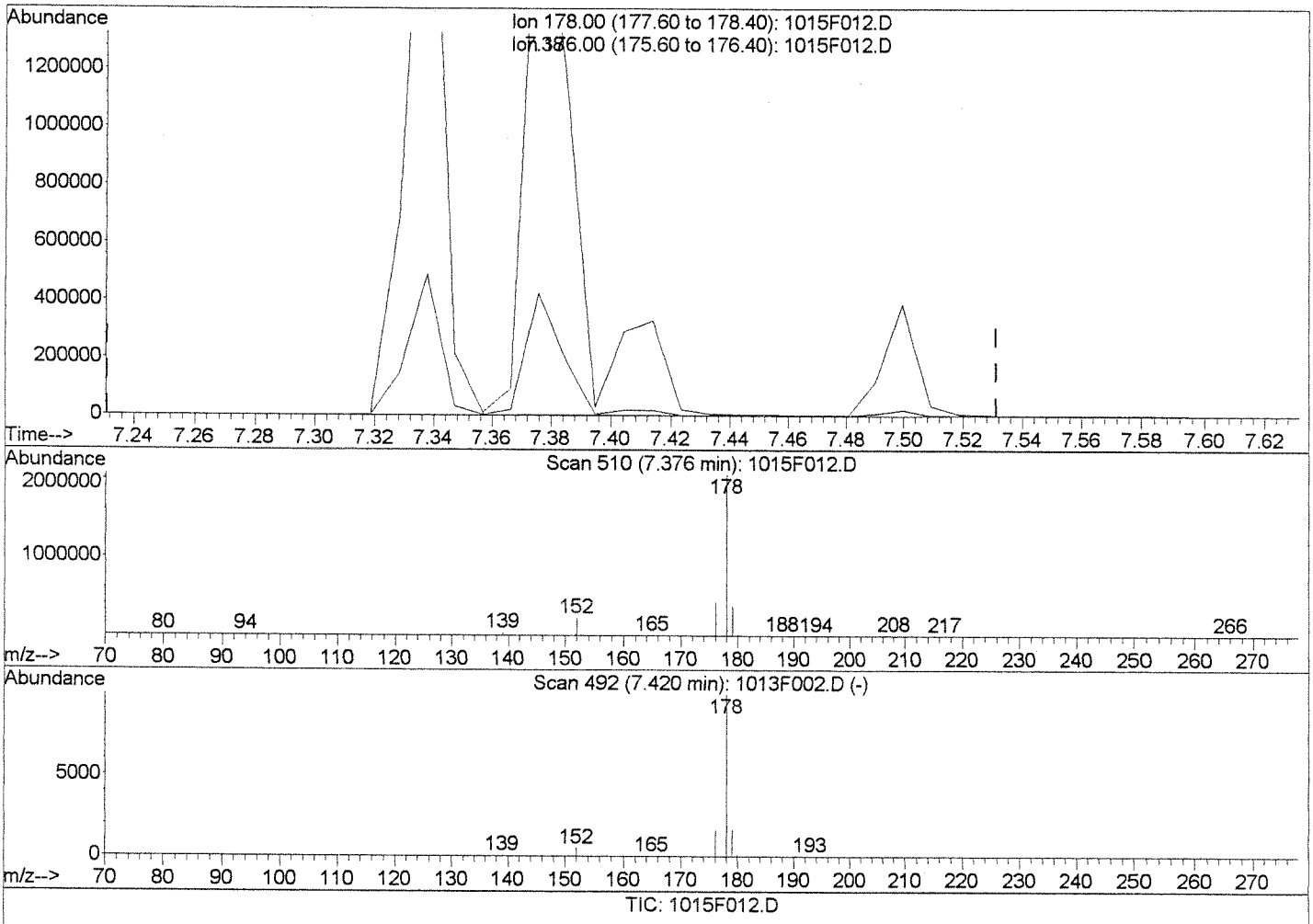


1015F012.D 1015ALK.M Thu Oct 15 13:10:37 2009 Page 3

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\101509\1015F012.D Vial: 12
Acq On : 15 Oct 2009 11:33 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @2.0/3.0ug/mL | SVM29-21L Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 15 12:25 2009 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 11:04:18 2009
Response via : Multiple Level Calibration



TIC: 1015F012.D

(28) Anthracene (T)

7.38min 2003.97ng/ml

response 2273867

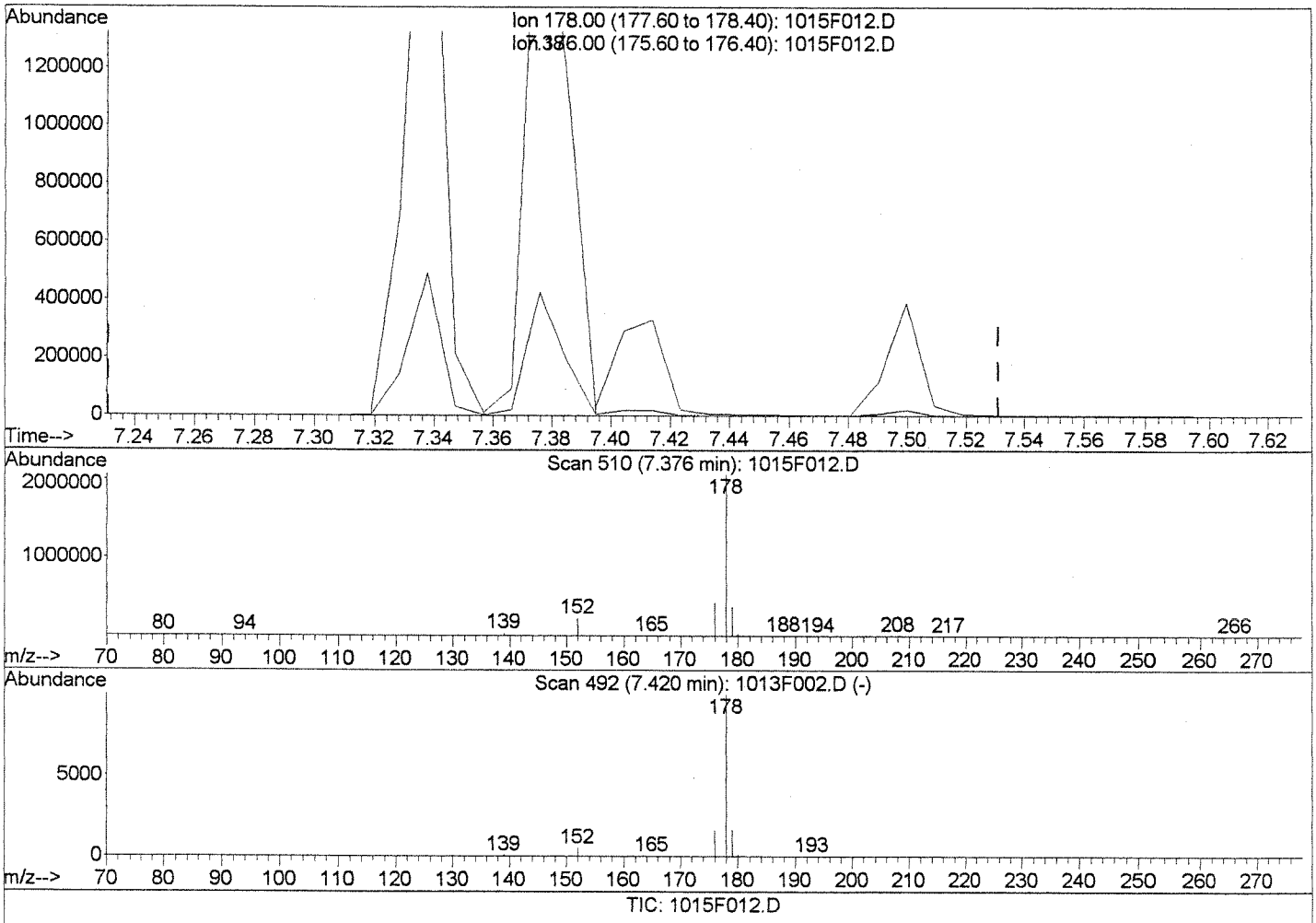
Ion	Exp%	Act%
178.00	100	100
176.00	17.60	20.54
0.00	0.00	0.00
0.00	0.00	0.00

1015F012.D 1015ALK.M Thu Oct 15 12:25:55 2009

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\101509\1015F012.D Vial: 12
Acq On : 15 Oct 2009 11:33 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @2.0/3.0ug/mL | SVM29-21L Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 15 12:25 2009 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 11:04:18 2009
Response via : Multiple Level Calibration



TIC: 1015F012.D

(28) Anthracene (T)

7.38min 1679.66ng/ml m

response 1905875

Ion	Exp%	Act%
178.00	100	100
176.00	17.60	20.54
0.00	0.00	0.00
0.00	0.00	0.00

OI 10/19/09

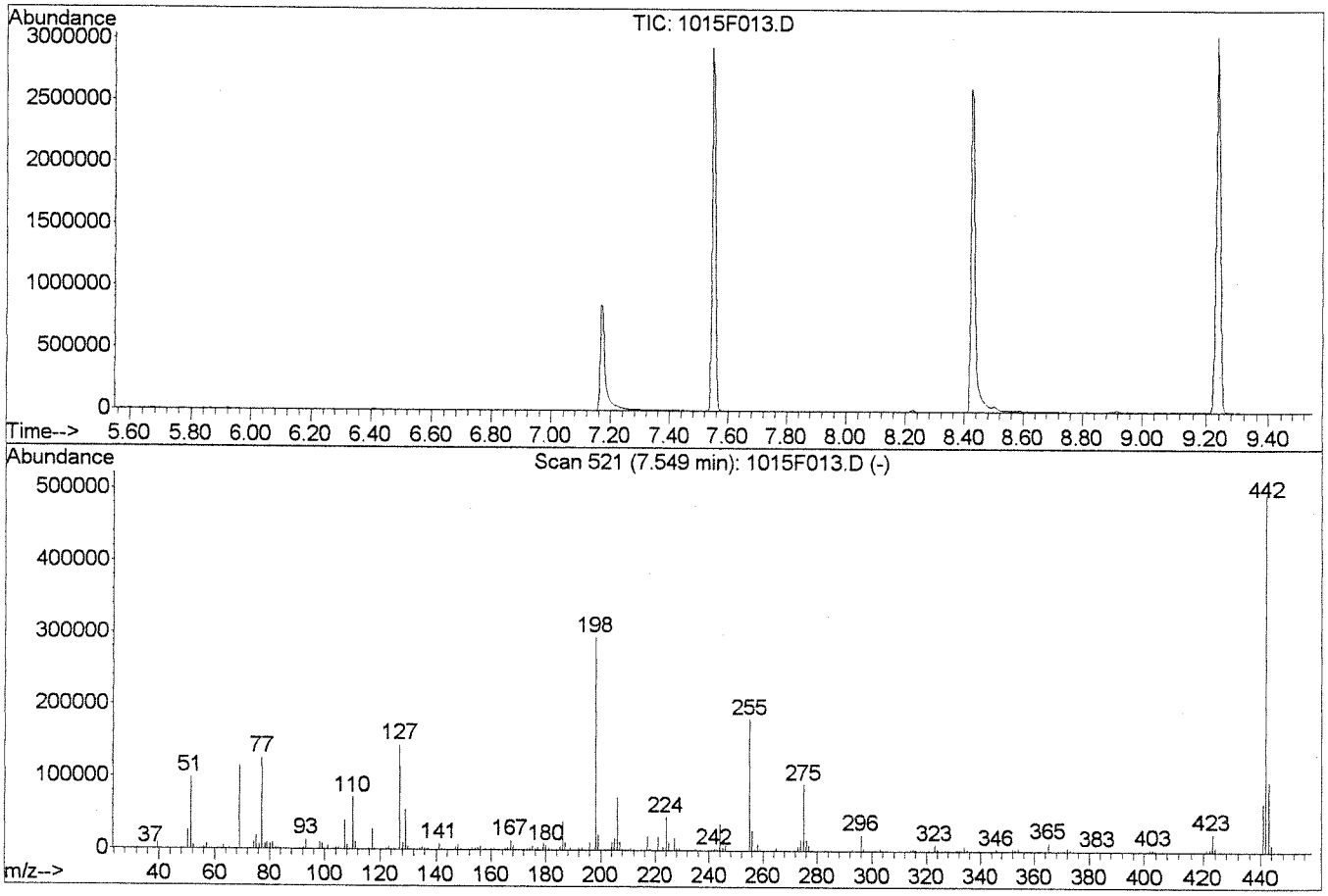
1015F012.D 1015ALK.M Thu Oct 15 12:25:59 2009

DFTPP

Data File : J:\MS11\DATA\101509\1015F013.D
Acq On : 15 Oct 2009 1:35 pm
Sample : DFTPP @ 3.0ug/mL | SVM30-24C
Misc :
MS Integration Params: RTEINT.P
Method : J:\MS11\METHODS\SIM\DFTPPPAH.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS

Vial: 1
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00

10/19/09



Spectrum Information: Scan 521

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	10	80	33.6	98952	PASS
68	69	0.00	2	0.0	0	PASS
70	69	0.00	2	0.5	545	PASS
127	198	10	80	49.0	144448	PASS
197	198	0.00	2	0.0	0	PASS
198	442	30	100	59.3	294848	PASS
199	198	5	9	7.2	21200	PASS
275	198	10	60	30.9	91248	PASS
365	442	1	50	2.3	11490	PASS
441	443	0.01	100	69.6	67288	PASS
442	442	30	100	100.0	496960	PASS
443	442	15	24	19.5	96744	PASS

1015F013.D DFTPPPAH.M Thu Oct 15 14:37:13 2009

Scan 521 (7.549 min): 1015F013.D
DFTPP @ 3.0ug/mL | SVM30-24C
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
37.10	509	63.00	4112	80.00	7310	94.00	1306
38.10	1177	65.00	2349	81.00	8572	96.10	766
39.10	7831	69.00	113968	82.10	1858	98.00	10162
40.00	567	70.00	545	83.10	2242	99.00	7883
50.10	25368	73.00	1185	84.00	993	100.00	719
51.10	98952	74.10	10247	85.10	1145	101.00	5431
52.10	5034	75.00	18048	86.00	1997	103.00	1288
56.00	3302	76.10	6107	87.00	1355	104.10	2762
57.00	6826	77.10	125248	91.00	1772	105.00	2626
61.00	1315	78.10	7403	92.00	1729	105.90	900
62.00	1370	79.00	8963	93.00	13515	107.00	39984

Scan 521 (7.549 min): 1015F013.D
DFTPP @ 3.0ug/mL | SVM30-24C
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
108.00	6072	123.00	3849	136.00	2347	149.00	1714
109.00	1348	124.00	1691	137.00	1845	151.40	960
110.00	72072	125.00	1835	138.10	620	153.00	2434
111.00	10347	127.00	144448	140.00	663	154.10	1507
111.90	1161	128.00	10022	141.00	8393	155.00	4087
115.90	1673	129.00	54576	142.00	1999	156.00	5723
117.00	27680	130.00	4375	143.10	1345	157.10	915
117.90	1832	131.00	987	145.00	638	157.90	1687
119.10	538	132.00	631	146.10	1305	159.00	858
120.10	612	134.00	1560	147.00	3377	160.00	1839
122.00	2321	135.00	3913	148.00	7125	161.00	2753

Scan 521 (7.549 min): 1015F013.D
DFTPP @ 3.0ug/mL | SVM30-24C
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
162.10	811	175.00	5487	187.00	10983	201.50	2215
163.00	612	176.10	1968	188.00	1499	202.90	2185
165.00	3087	177.00	3310	189.00	2573	204.00	10432
166.00	2716	177.90	838	191.00	995	205.00	16002
167.00	13481	179.00	10083	191.90	3854	206.00	72504
168.00	6535	180.00	6573	193.10	3585	207.00	11124
169.00	1338	181.10	3179	194.00	736	208.00	2309
171.00	731	182.10	994	196.00	10570	209.00	853
172.00	1297	183.90	928	197.90	294848	210.10	1000
173.00	1601	185.00	4834	198.90	21200	210.90	2609
174.00	2498	186.00	39264	200.00	1318	212.10	924

Scan 521 (7.549 min): 1015F013.D
DFTPP @ 3.0ug/mL | SVM30-24C
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
214.90	804	229.00	2785	242.90	2495	258.00	8839
216.10	1722	230.00	679	244.00	37128	259.00	2023
216.90	19248	231.10	1214	245.00	4531	259.80	582
218.00	2200	233.90	1331	246.00	6904	264.00	868
220.90	19816	234.90	1580	246.90	1055	264.90	3904
223.00	5066	235.90	947	249.00	1245	265.85	304
224.00	46064	236.90	1230	253.00	738	273.00	6038
225.00	10933	238.90	713	253.90	1500	274.00	15462
226.00	806	239.80	667	255.00	181632	275.00	91248
227.00	16880	240.90	834	256.00	28512	276.00	13926
228.00	2889	242.00	2556	257.00	2374	277.00	6937

Scan 521 (7.549 min): 1015F013.D
DFTPP @ 3.0ug/mL | SVM30-24C
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
278.00	1186	304.00	979	333.00	1233	371.00	1034
283.10	796	314.00	1046	334.00	6634	372.00	4480
285.10	1653	315.00	2864	335.10	1573	373.00	1695
292.00	543	316.00	2142	341.00	697	382.90	1432
292.90	1904	321.00	1104	345.90	2419	390.00	978
293.90	510	322.10	503	352.00	2637	390.90	731
295.00	904	323.00	8026	352.90	2257	402.00	2162
296.00	22200	324.00	2176	354.00	3132	403.00	3062
296.90	3407	326.90	1334	365.00	11490	403.90	1386
300.90	557	327.90	708	366.00	1263	421.00	3256
303.00	2289	332.10	679	370.00	520	422.00	3417

Scan 521 (7.549 min): 1015F013.D
DFTPP @ 3.0ug/mL | SVM30-24C
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
422.90	24832						
424.00	5572						
441.00	67288						
442.00	496960						
443.00	96744						
444.00	9624						
445.00	827						

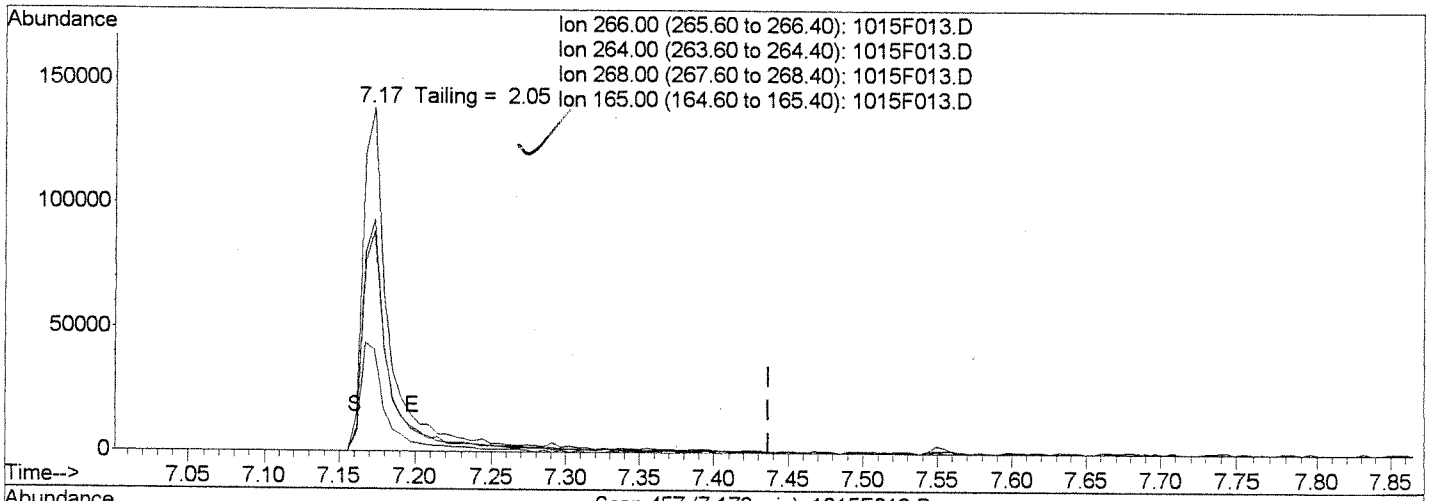
Quantitation Report (Qedit)

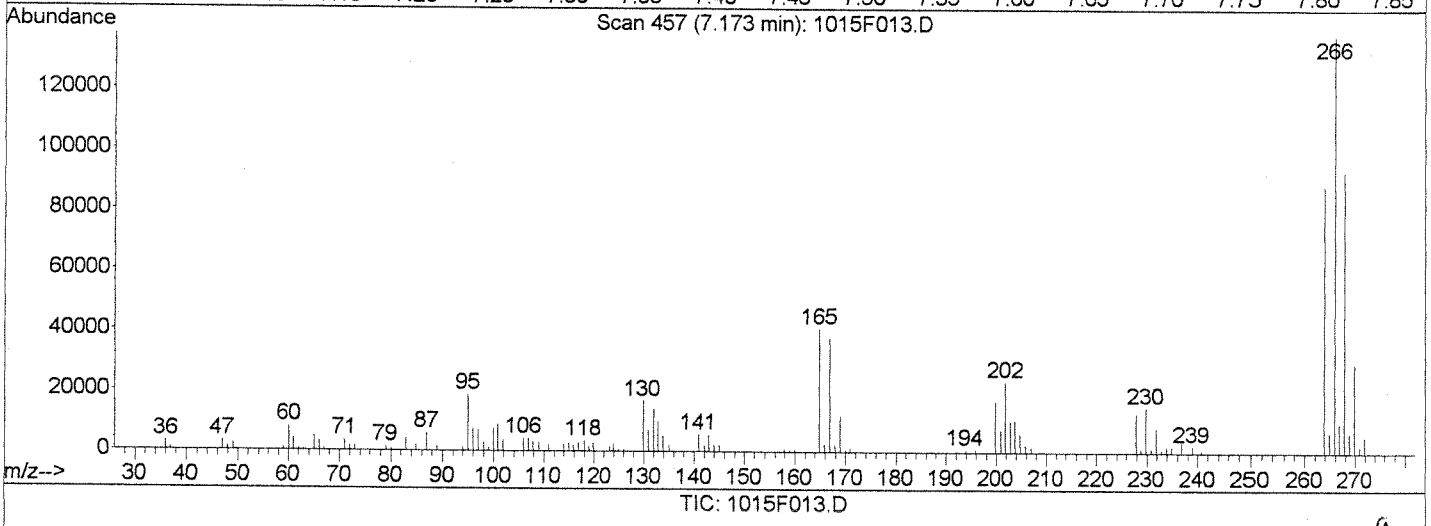
Data File : J:\MS11\DATA\101509\1015F013.D
Acq On : 15 Oct 2009 1:35 pm
Sample : DFTPP @ 3.0ug/mL | SVM30-24C
Misc :
MS Integration Params: RTEINT.P
Quant Time: Oct 15 14:37 2009

Vial: 1
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\DFTPPPAH.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Tue Oct 12 13:33:42 2004
Response via : Single Level Calibration





TIC: 1015F013.D

(1) Pentachlorophenol

6.94min 0.00ng/ml

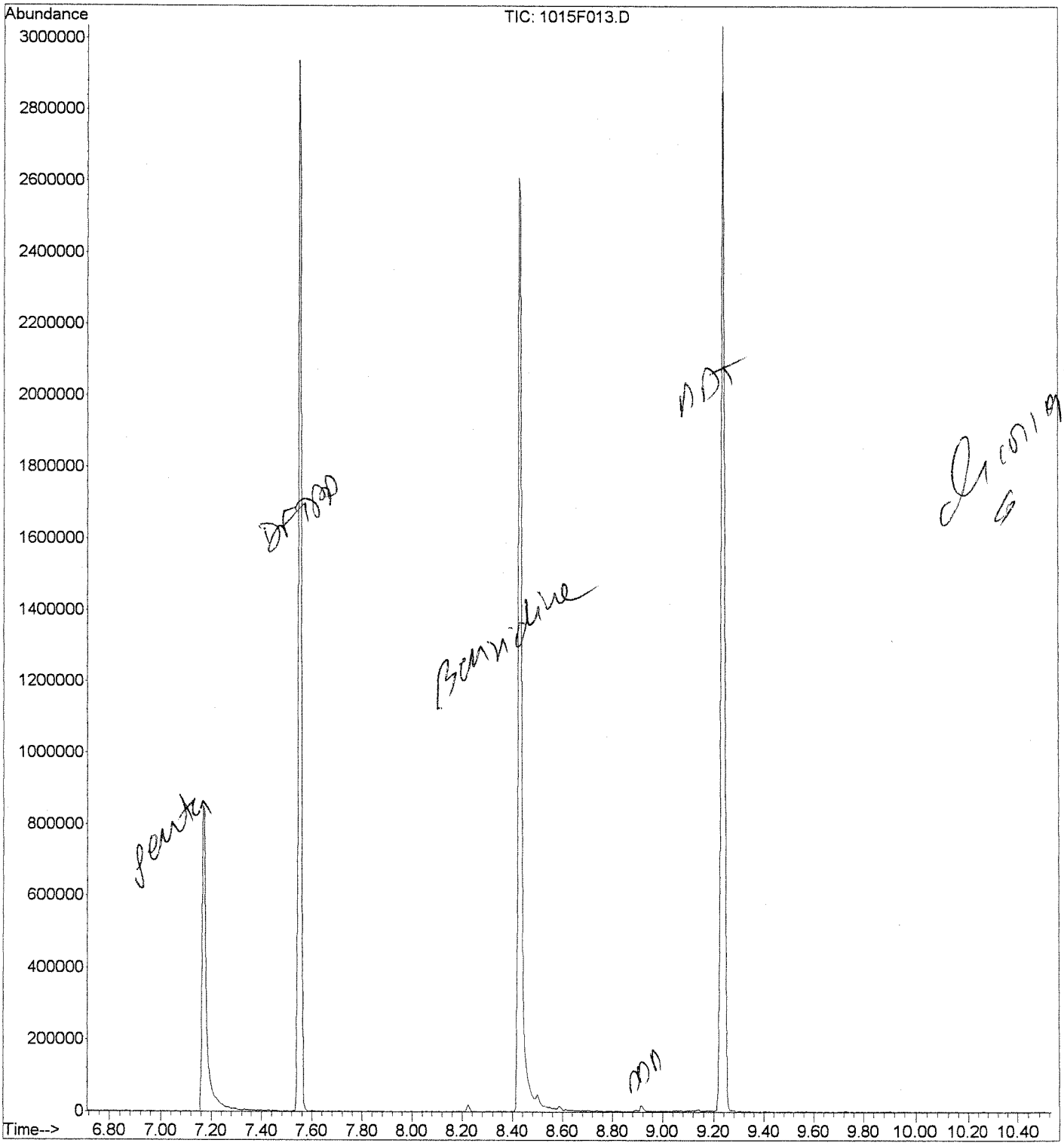
response 0

Ion	Exp%	Act%
266.00	100	0.00
264.00	64.50	0.00#
268.00	63.70	0.00#
165.00	28.70	0.00

10/19

1015F013.D DFTPPPAH.M Thu Oct 15 14:37:28 2009

File : J:\MS11\DATA\101509\1015F013.D
Operator : LWeiskopf
Acquired : 15 Oct 2009 1:35 pm using AcqMethod SIMLOC
Instrument : MS11
Sample Name: DFTPP @ 3.0ug/mL | SVM30-24C
Misc Info :
Vial Number: 1



1	6.409	rBV	0.071		5185	6.386	6.456
2	7.167	rBV	0.135		1055179	7.150	7.285
3	7.332	rVB	0.059		8536	7.320	7.379
4	7.549	rVB	0.071		2417880	7.520	7.590
5	8.225	rBV	0.041		16163	8.201	8.243
6	8.425	rBV	0.106		2687157	8.384	8.489
7	8.589	rVB	0.029		8562	8.577	8.607
8	8.912	rBV	0.088	DDD	23691	8.854	8.942
9	9.141	rBV	0.071		9305	9.083	9.153
10	9.235	rVB	0.094	DDT	2830824	9.200	9.294
11	11.891	rBB	0.076		7907	11.850	11.926
12	13.619	rBV	0.076		5376	13.572	13.648
13	15.651	rVB	0.071		6722	15.610	15.681
14	16.592	rBV	0.047		12034	16.562	16.609
15	17.032	rVB	0.035		5307	17.009	17.044
16	17.062	rBV	0.035		7755	17.044	17.079
17	17.091	rBV	0.029		5206	17.079	17.109
18	17.208	rBV	0.065		13712	17.185	17.250
19	17.367	rBV	0.035		6546	17.350	17.385
20	17.790	rBV	0.053		18270	17.773	17.825
21	18.290	rVB	0.041		9001	18.284	18.325
22	18.337	rBV	0.024		5727	18.325	18.348
23	18.654	rBV	0.035		5578	18.642	18.677
24	18.813	rBV	0.047		10207	18.801	18.848

DDT Breakdown = 0.8%

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\101509\1015G014.D Vial: 2
Acq On : 15 Oct 2009 2:01 pm Operator: LWeiskopf
Sample : SIM-PAH ICV @ 0.4ug/mL | SVM30-24D Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 19 07:43:39 2009 Quant Results File: 1015ALK.RES

Quant Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 12:27:11 2009
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	4.67	136	284923	200.00	ng/ml	0.00
10) Acenaphthene-d10	6.10	164	128857	200.00	ng/ml	0.00
22) Phenanthrene-d10	7.32	188	179667	200.00	ng/ml	0.00
37) Chrysene-d12	9.84	240	232351	200.00	ng/ml	-0.01
49) Perylene-d12	12.93	264	237713	200.00	ng/ml	-0.03
System Monitoring Compounds						
15) Fluorene-d10	6.52	176	243796	405.51	ng/ml	0.00
Spiked Amount 200.000			Recovery = 202.75%			
20) 2,4,6 Tribromophenol	6.75	330	57557	497.35	ng/ml	0.00
Spiked Amount 375.000			Recovery = 132.63%			
36) Fluoranthene-d10	8.29	212	395345	397.08	ng/ml	0.00
Spiked Amount 200.000			Recovery = 198.54%			
42) Terphenyl-d14	8.64	244	411780	428.69	ng/ml	0.00
Spiked Amount 200.000			Recovery = 214.35%			
Target Compounds						Qvalue
2) Naphthalene	4.69	128	515189	392.93	ng/ml	100
3) 2-Methylnaphthalene	5.25	142	370519	410.05	ng/ml	97
4) 1-Methylnaphthalene	5.33	142	362743	377.59	ng/ml	99
5) Biphenyl	5.63	154	403530	391.64	ng/ml	97
6) 2,6-Dimethylnaphthalene	5.76	156	284952	401.07	ng/ml	98
11) Acenaphthylene	5.98	152	493809	441.62	ng/ml	99
12) Acenaphthene	6.12	154	281819	422.73	ng/ml	96
13) Dibenzofuran	6.27	168	392740	437.97	ng/ml	74
14) 2,3,5-Trimethylnaphthalene	6.44	170	235397	420.34	ng/ml	89
16) Fluorene	6.54	166	299278	416.37	ng/ml	97
21) Pentachlorophenol	7.19	266	70295	1136.61	ng/ml	97
23) Dibenzothiophene	7.23	184	384180	422.95	ng/ml	89
27) Phenanthrene	7.34	178	398946	395.91	ng/ml	95
28) Anthracene	7.38	178	408610m	424.09	ng/ml	
29) Carbazole	7.52	167	359898	437.01	ng/ml	92
30) 1-Methylphenanthrene	7.83	192	296053	410.32	ng/ml	97
35) Fluoranthene	8.30	202	437721	395.43	ng/ml	94
38) Pyrene	8.49	202	458850	360.65	ng/ml	87
43) Benz(a)anthracene	9.83	228	448848	355.42	ng/ml	98
44) Chrysene	9.88	228	450481	366.21	ng/ml	98
50) Benzo(b)fluoranthene	11.89	252	501874	404.72	ng/ml	100
51) Benzo(k)fluoranthene	11.96	252	504664	413.08	ng/ml	99
52) Benzo(e)pyrene	12.60	252	465988	401.27	ng/ml	99
53) Benzo(a)pyrene	12.75	252	458701	390.57	ng/ml	99
54) Perylene	13.00	252	459372	399.01	ng/ml	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\101509\1015G014.D Vial: 2
Acq On : 15 Oct 2009 2:01 pm Operator: LWeiskopf
Sample : SIM-PAH ICV @ 0.4ug/mL | SVM30-24D Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 19 07:43:39 2009 Quant Results File: 1015ALK.RES

Quant Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 12:27:11 2009
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

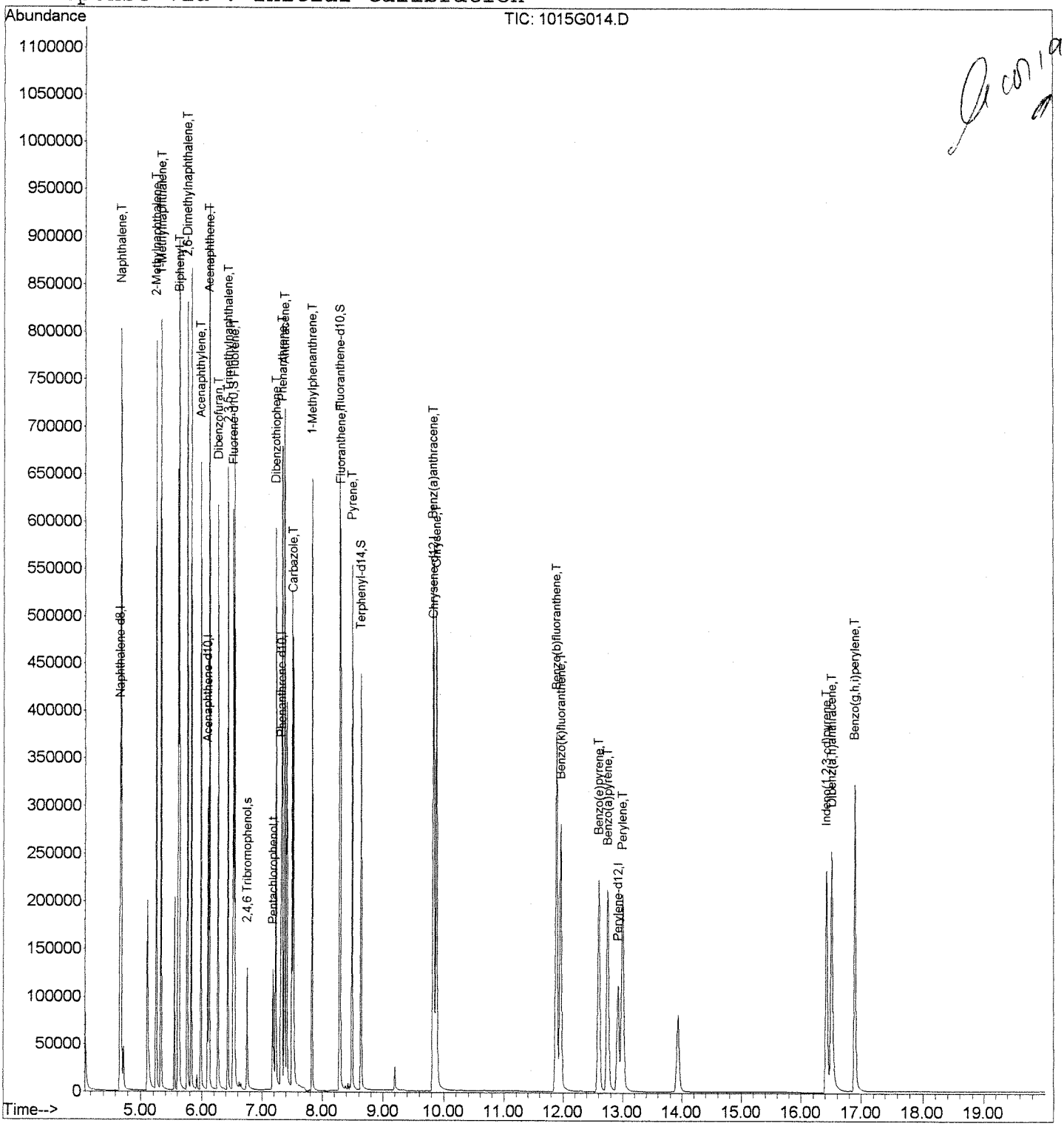
	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
55)	Indeno(1,2,3-cd)pyrene	16.42	276	413688	383.95	ng/ml	99
56)	Dibenz(a,h)anthracene	16.51	278	445222	383.54	ng/ml	93
57)	Benzo(g,h,i)perylene	16.89	276	473486	381.55	ng/ml	98

(#) = qualifier out of range (m) = manual integration
1015G014.D 1015ALK.M Mon Oct 19 07:44:02 2009 Page 2

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\101509\1015G014.D Vial: 2
Acq On : 15 Oct 2009 2:01 pm Operator: LWeiskopf
Sample : SIM-PAH ICV @ 0.4ug/mL | SVM30-24D Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 19 7:43 2009 Quant Results File: 1015ALK.RES

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 12:27:11 2009
Response via : Initial Calibration



10/19

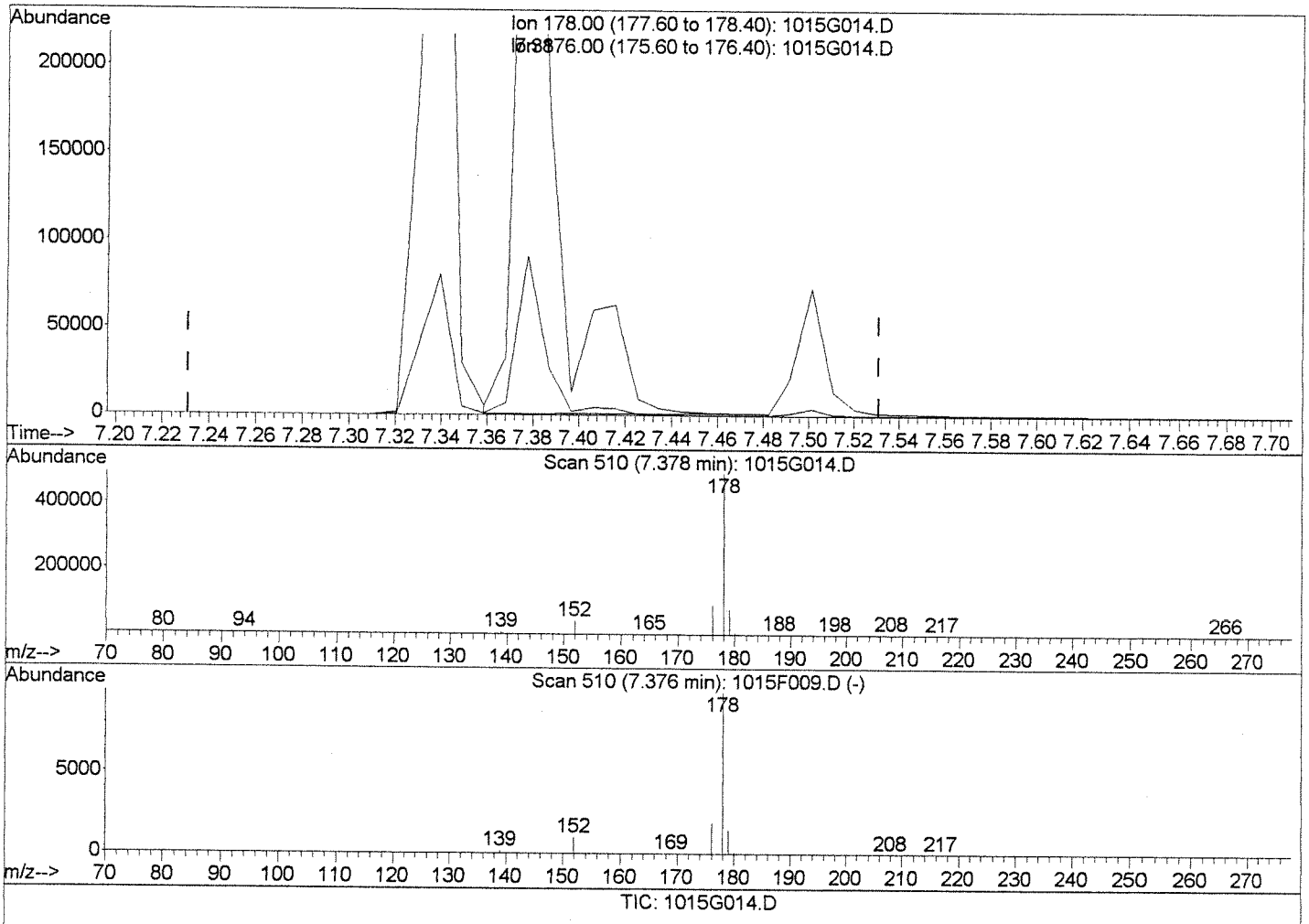
Quantitation Report (Qedit)

Data File : J:\MS11\DATA\101509\1015G014.D
Acq On : 15 Oct 2009 2:01 pm
Sample : SIM-PAH ICV @ 0.4ug/mL | SVM30-24D
Misc :
MS Integration Params: RTEINT.P
Quant Time: Oct 19 7:43 2009

Vial: 2
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 12:27:11 2009
Response via : Multiple Level Calibration



(28) Anthracene (T)

7.38min 502.70ng/ml

response 484352

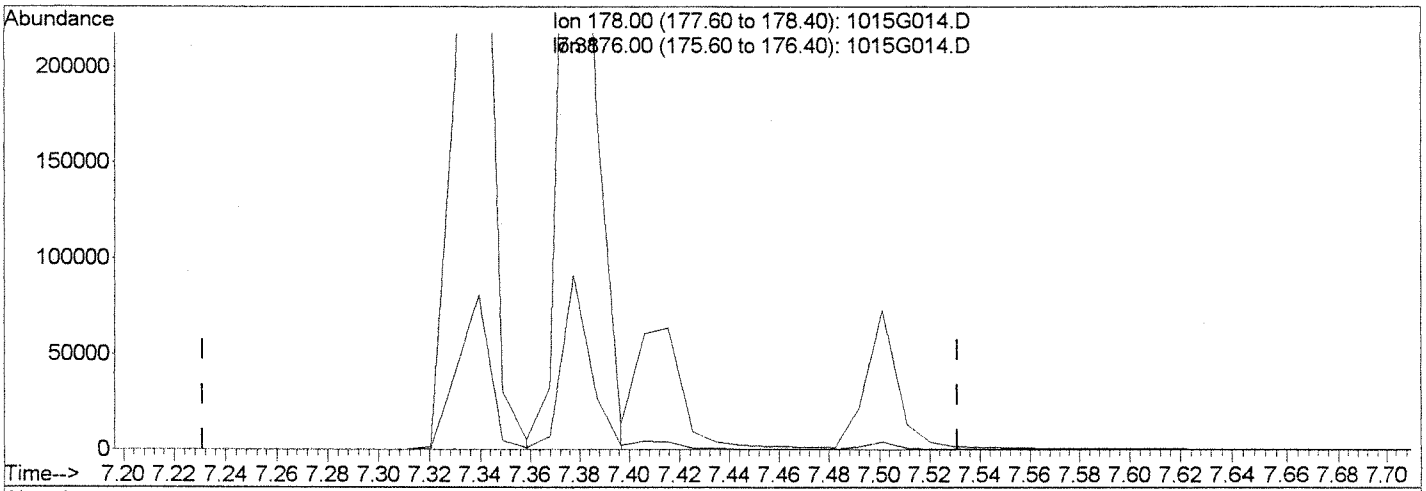
Ion	Exp%	Act%
178.00	100	100
176.00	17.60	18.43
0.00	0.00	0.00
0.00	0.00	0.00

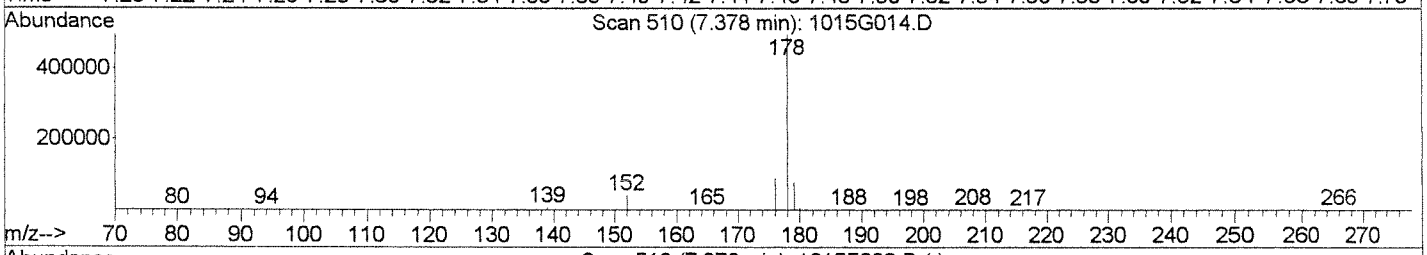
1015G014.D 1015ALK.M Mon Oct 19 07:43:53 2009

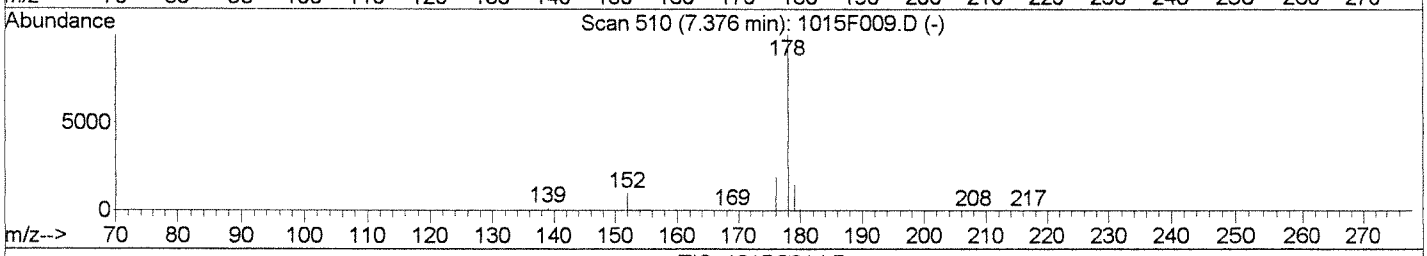
Quantitation Report (Qedit)

Data File : J:\MS11\DATA\101509\1015G014.D Vial: 2
Acq On : 15 Oct 2009 2:01 pm Operator: LWeiskopf
Sample : SIM-PAH ICV @ 0.4ug/mL | SVM30-24D Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 19 7:43 2009 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 12:27:11 2009
Response via : Multiple Level Calibration







TIC: 1015G014.D

(28) Anthracene (T)

7.38min 424.09ng/ml m

response 408610

Ion	Exp%	Act%
178.00	100	100
176.00	17.60	18.43
0.00	0.00	0.00
0.00	0.00	0.00

OI 10/19/09

1015G014.D 1015ALK.M Mon Oct 19 07:43:56 2009

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Results

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0909140
Calibration Date: 11/19/2009

Initial Calibration Summary
Polynuclear Aromatic Hydrocarbons

Calibration ID: CAL9029
Instrument ID: MS11

Column: MS

Level ID	File ID	Level ID	File ID
A	J:\MS11\DATA\111909\1119F003.D	E	J:\MS11\DATA\111909\1119F007.D
B	J:\MS11\DATA\111909\1119F004.D	F	J:\MS11\DATA\111909\1119F008.D
C	J:\MS11\DATA\111909\1119F005.D	G	J:\MS11\DATA\111909\1119F009.D
D	J:\MS11\DATA\111909\1119F006.D		

Analyte Name	Level ID	Amt	RRF	Level ID	Amt	RRF	Level ID	Amt	RRF	Level ID	Amt	RRF	Level ID	Amt	RRF
Naphthalene	A	4.0	0.974	B	20	0.912	C	100	0.882	D	200	0.914	E	400	0.873
	F	1000	0.842	G	2000	0.761									
2-Methylnaphthalene	A	4.0	0.673	B	20	0.647	C	100	0.635	D	200	0.662	E	400	0.628
	F	1000	0.615	G	2000	0.576									
Acenaphthylene	A	4.0	1.76	B	20	1.65	C	100	1.66	D	200	1.73	E	400	1.65
	F	1000	1.62	G	2000	1.44									
Acenaphthene	A	4.0	1.00	B	20	0.994	C	100	0.976	D	200	1.03	E	400	0.978
	F	1000	0.969	G	2000	0.886									
Fluorene	A	4.0	1.30	B	20	1.26	C	100	1.26	D	200	1.30	E	400	1.24
	F	1000	1.20	G	2000	1.11									
Dibenzofuran	A	4.0	1.58	B	20	1.50	C	100	1.51	D	200	1.56	E	400	1.48
	F	1000	1.44	G	2000	1.29									
Phenanthrene	A	4.0	1.21	B	20	1.12	C	100	1.06	D	200	1.10	E	400	1.03
	F	1000	1.03	G	2000	0.910									
Anthracene	A	4.0	1.03	B	20	1.00	C	100	1.05	D	200	1.09	E	400	1.04
	F	1000	1.04	G	2000	0.926									
Fluoranthene	A	4.0	1.33	B	20	1.30	C	100	1.27	D	200	1.38	E	400	1.26
	F	1000	1.15	G	2000	0.996									
Pyrene	A	4.0	1.23	B	20	1.20	C	100	1.07	D	200	1.06	E	400	0.984
	F	1000	0.965	G	2000	0.920									
Benz(a)anthracene	A	4.0	1.13	B	20	0.988	C	100	0.976	D	200	1.05	E	400	1.04
	F	1000	1.03	G	2000	0.937									
Chrysene	A	4.0	1.03	B	20	0.982	C	100	0.953	D	200	1.02	E	400	0.989
	F	1000	0.971	G	2000	0.883									
Benzo(b)fluoranthene	A	4.0	1.07	B	20	0.988	C	100	1.01	D	200	1.10	E	400	1.06
	F	1000	1.07	G	2000	0.985									
Benzo(k)fluoranthene	A	4.0	0.956	B	20	0.928	C	100	0.958	D	200	1.05	E	400	1.03
	F	1000	1.04	G	2000	0.952									
Benzo(a)pyrene	A	4.0	0.930	B	20	0.850	C	100	0.851	D	200	0.949	E	400	0.946
	F	1000	0.985	G	2000	0.915									

Results flagged with an asterisk (*) indicate values outside control criteria.

† **SPCC Compound** ‡ **CCC Compound**

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0909140
Calibration Date: 11/19/2009

Initial Calibration Summary
Polynuclear Aromatic Hydrocarbons

Calibration ID: CAL9029
Instrument ID: MS11

Column: MS

Analyte Name	Level ID	Amt	RRF	Level ID	Amt	RRF	Level ID	Amt	RRF	Level ID	Amt	RRF	Level ID	Amt	RRF
Indeno(1,2,3-cd)pyrene	A	4.0	0.924	B	20	0.833	C	100	0.809	D	200	0.861	E	400	0.831
	F	1000	0.869	G	2000	0.797									
Dibenz(a,h)anthracene	A	4.0	0.926	B	20	0.869	C	100	0.855	D	200	0.895	E	400	0.859
	F	1000	0.917	G	2000	0.852									
Benzo(g,h,i)perylene	A	4.0	1.08	B	20	0.996	C	100	0.928	D	200	0.978	E	400	0.924
	F	1000	0.939	G	2000	0.852									
Fluorene-d10	A	4.0	1.20	B	20	1.14	C	100	1.12	D	200	1.17	E	400	1.11
	F	1000	1.09	G	2000	1.02									
Fluoranthene-d10				B	20	1.26	C	100	1.24	D	200	1.32	E	400	1.25
	F	1000	1.16	G	2000	1.03									
Terphenyl-d14				B	20	0.919	C	100	0.826	D	200	0.868	E	400	0.816
	F	1000	0.794	G	2000	0.744									

Results flagged with an asterisk (*) indicate values outside control criteria.

† **SPCC Compound** ‡ **CCC Compound**

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0909140
Calibration Date: 11/19/2009

Initial Calibration Summary
Polynuclear Aromatic Hydrocarbons

Calibration ID: CAL9029
Instrument ID: MS11

Column: MS

Analyte Name	Compound Type	Calibration Evaluation					RRF Evaluation		
		Fit Type	Eval.	Eval. Result	Q	Control Criteria	Average RRF	Q	Minimum RRF
Naphthalene	MS	AverageRF	% RSD	7.6		≤ 15	0.880		0.01
2-Methylnaphthalene	MS	AverageRF	% RSD	5.1		≤ 15	0.634		0.01
Acenaphthylene	MS	AverageRF	% RSD	6.3		≤ 15	1.64		0.01
Acenaphthene	MS	AverageRF	% RSD	4.5		≤ 15	0.976		0.01
Fluorene	MS	AverageRF	% RSD	5.2		≤ 15	1.24		0.01
Dibenzofuran	MS	AverageRF	% RSD	6.6		≤ 15	1.48		0.01
Phenanthrene	MS	AverageRF	% RSD	8.7		≤ 15	1.07		0.01
Anthracene	MS	AverageRF	% RSD	5.1		≤ 15	1.02		0.01
Fluoranthene	MS	AverageRF	% RSD	10.3		≤ 15	1.24		0.01
Pyrene	MS	AverageRF	% RSD	11.0		≤ 15	1.06		0.01
Benz(a)anthracene	MS	AverageRF	% RSD	6.1		≤ 15	1.02		0.01
Chrysene	MS	AverageRF	% RSD	5.1		≤ 15	0.976		0.01
Benzo(b)fluoranthene	MS	AverageRF	% RSD	4.5		≤ 15	1.04		0.01
Benzo(k)fluoranthene	MS	AverageRF	% RSD	5.0		≤ 15	0.988		0.01
Benzo(a)pyrene	MS	AverageRF	% RSD	5.5		≤ 15	0.918		0.01
Indeno(1,2,3-cd)pyrene	MS	AverageRF	% RSD	5.1		≤ 15	0.846		0.01
Dibenz(a,h)anthracene	MS	AverageRF	% RSD	3.5		≤ 15	0.882		0.01
Benzo(g,h,i)perylene	MS	AverageRF	% RSD	7.4		≤ 15	0.956		0.01
Fluorene-d10	SURR	AverageRF	% RSD	5.2		≤ 15	1.12		0.01
Fluoranthene-d10	SURR	AverageRF	% RSD	8.5		≤ 15	1.21		0.01
Terphenyl-d14	SURR	AverageRF	% RSD	7.3		≤ 15	0.828		0.01

Results flagged with an asterisk (*) indicate values outside control criteria.

† SPCC Compound **‡ CCC Compound**

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Results

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0909140
Calibration Date: 11/19/2009
Date Analyzed: 11/19/2009

Second Source Calibration Verification
Polynuclear Aromatic Hydrocarbons

Calibration Type: Internal Standard
Analysis Method: 8270C SIM

Calibration ID: CAL9029
Units: ng/ml

File ID: J:\MS11\DATA\111909\1119F011.D

Analyte Name	Expected	Result	Average RF	SSV RF	%D	%Drift	Criteria	Curve Fit
Naphthalene	400	380	0.880	0.840	-4	NA	± 20 %	AverageRF
2-Methylnaphthalene	400	380	0.634	0.609	-4	NA	± 20 %	AverageRF
Acenaphthylene	400	410	1.64	1.68	2	NA	± 20 %	AverageRF
Acenaphthene	400	400	0.976	0.984	1	NA	± 20 %	AverageRF
Fluorene	400	400	1.24	1.22	-1	NA	± 20 %	AverageRF
Dibenzofuran	400	390	1.48	1.42	-4	NA	± 20 %	AverageRF
Phenanthrene	400	360	1.07	0.956	-10	NA	± 20 %	AverageRF
Anthracene	400	370	1.02	0.949	-7	NA	± 20 %	AverageRF
Fluoranthene	400	350	1.24	1.08	-13	NA	± 20 %	AverageRF
Pyrene	400	350	1.06	0.934	-12	NA	± 20 %	AverageRF
Benz(a)anthracene	400	350	1.02	0.884	-13	NA	± 20 %	AverageRF
Chrysene	400	360	0.976	0.878	-10	NA	± 20 %	AverageRF
Benzo(b)fluoranthene	400	390	1.04	1.01	-4	NA	± 20 %	AverageRF
Benzo(k)fluoranthene	400	390	0.988	0.967	-2	NA	± 20 %	AverageRF
Benzo(a)pyrene	400	380	0.918	0.864	-6	NA	± 20 %	AverageRF
Indeno(1,2,3-cd)pyrene	400	370	0.846	0.792	-6	NA	± 20 %	AverageRF
Dibenz(a,h)anthracene	400	370	0.882	0.820	-7	NA	± 20 %	AverageRF
Benzo(g,h,i)perylene	400	370	0.956	0.892	-7	NA	± 20 %	AverageRF

Results flagged with an asterisk (*) indicate values outside control criteria.

† ***SPCC Compound*** ‡ ***CCC Compound***

Injection Log

Directory: J:\MS11\DATA\111909

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	1	1119F001.D	1.	DFTPP @ 3.0ug/mL | SVM30-59A		19 Nov 2009 05:5
2	2	1119F002.D	1.	IB		19 Nov 2009 06:2
3	3	1119F003.D	1.	SIM-PAH ICAL @.004/0.1ug/mL | SVM29-21D		19 Nov 2009 06:4
4	4	1119F004.D	1.	SIM-PAH ICAL @0.02/0.4ug/mL | SVM29-21F		19 Nov 2009 07:1
5	5	1119F005.D	1.	SIM-PAH ICAL @0.1/0.6ug/mL | SVM29-21G		19 Nov 2009 07:4
6	6	1119F006.D	1.	SIM-PAH ICAL @0.2/0.8ug/mL | SVM29-21H		19 Nov 2009 08:0
7	7	1119F007.D	1.	SIM-PAH ICAL @0.4/1.0ug/mL | SVM29-21I		19 Nov 2009 08:3
8	8	1119F008.D	1.	SIM-PAH ICAL @1.0/2.0ug/mL | SVM29-21J		19 Nov 2009 09:0
9	9	1119F009.D	1.	SIM-PAH ICAL @2.0/3.0ug/mL | SVM29-21L		19 Nov 2009 09:2
10	1	1119F010.D	1.	DFTPP @ 3.0ug/mL | SVM30-59A		19 Nov 2009 09:5
11	2	1119F011.D	1.	SIM-PAH ICV @ 0.4ug/mL | SVM30- 60M		19 Nov 2009 10:2
12	1	1119F012.D	1.	SIM-PAH CCV @ 0.4ug/mL | SVM30-59B		19 Nov 2009 10:4
13	2	1119F013.D	1.	KWG0910447-3 MB		19 Nov 2009 11:1
14	3	1119F014.D	1.	KWG0910545-3 MB		19 Nov 2009 11:4
15	4	1119F015.D	1.	K0910313-018		19 Nov 2009 12:0
16	5	1119F016.D	1.	K0910931-001		19 Nov 2009 12:3

CAL 9029 / 1119 ALK. M / SIM-PAH-PCP ICAL

CAL 9028 / 1119 ULL. M / SIM-PAH-ULL ICAL

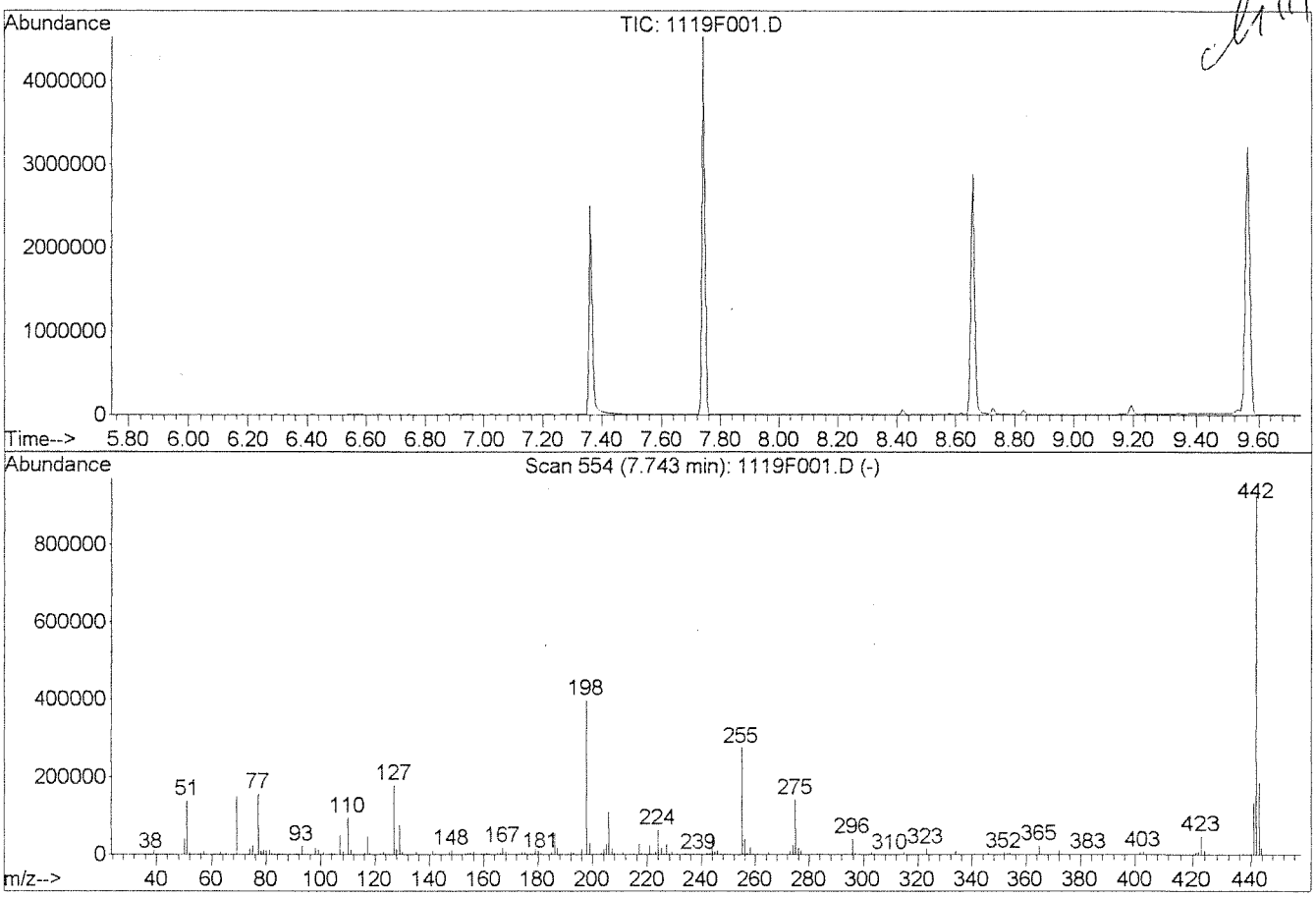
KW 11/20/09

LB 11/24/09

Data File : J:\MS11\DATA\111909\1119F001.D
Acq On : 19 Nov 2009 5:55 am
Sample : DFTPP @ 3.0ug/mL | SVM30-59A
Misc :
MS Integration Params: RTEINT.P
Method : J:\MS11\METHODS\SIM\DFTPPPAH.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS

Vial: 1
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00

11/24/2019



Spectrum Information: Scan 554

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	10	80	34.8	138304	PASS
68	69	0.00	2	0.0	0	PASS
70	69	0.00	2	0.7	1020	PASS
127	198	10	80	45.0	178944	PASS
197	198	0.00	2	0.0	0	PASS
198	442	30	100	42.8	397568	PASS
199	198	5	9	7.3	28992	PASS
275	198	10	60	35.6	141440	PASS
365	442	1	50	2.5	23432	PASS
441	443	0.01	100	71.9	134080	PASS
442	442	30	100	100.0	928064	PASS
443	442	15	24	20.1	186496	PASS

1119F001.D DFTPPPAH.M Thu Nov 19 08:24:47 2009

LB 11/24/09

Scan 554 (7.743 min): 1119F001.D
DFTPP @ 3.0ug/mL | SVM30-59A
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
37.20	626	58.00	625	75.00	23968	91.00	2953
38.10	2278	61.00	2468	77.10	156864	92.00	3194
39.10	10611	62.00	2619	78.10	10032	93.00	21656
40.00	348	63.00	6283	79.00	11995	94.10	1639
50.10	39184	64.10	988	80.00	9958	95.00	719
51.10	138304	65.10	3056	81.00	12401	96.00	1069
52.10	6088	67.20	646	82.10	3312	98.00	16552
53.20	598	69.00	149120	83.00	2945	99.00	11716
55.10	1486	70.00	1020	84.90	2175	100.00	1133
56.00	4364	72.90	1749	85.90	3957	101.00	6170
57.10	8540	74.00	15860	87.00	1585	103.10	2046

Scan 554 (7.743 min): 1119F001.D
DFTPP @ 3.0ug/mL | SVM30-59A
Modified:subtracted

11/2019

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
104.00	4907	121.90	3220	135.00	6277	147.00	5474
105.00	4413	123.00	6218	136.00	2503	148.00	11818
107.00	51496	124.00	3013	137.00	3174	149.00	2386
108.00	8175	125.10	2427	138.00	937	150.00	386
110.00	95352	127.00	178944	139.00	699	151.10	1807
111.00	13862	128.00	14610	140.00	1130	152.20	845
112.00	1649	129.00	74728	141.00	10599	153.00	3095
116.10	3961	130.00	6474	141.90	3227	154.00	2789
117.00	47936	131.00	1255	143.00	2104	155.00	5273
118.00	3240	132.00	676	144.10	872	156.00	7808
120.00	676	134.10	1988	146.00	2285	157.10	1773

Scan 554 (7.743 min): 1119F001.D
DFTPP @ 3.0ug/mL | SVM30-59A
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
158.00	1479	168.00	7987	179.00	15157	190.90	1654
159.00	2017	169.00	1742	180.00	10564	192.00	4910
160.00	3042	170.00	765	181.00	4864	193.00	5621
161.00	4838	170.80	1254	181.90	670	194.00	1284
161.80	1100	171.90	1597	184.00	1267	195.00	714
162.00	1033	173.00	2427	185.00	7140	196.00	13028
163.00	537	174.00	4465	186.00	56088	197.90	397568
164.20	924	175.00	7447	187.00	15828	198.90	28992
165.00	4415	175.90	1861	187.90	1633	200.10	2081
166.00	3012	177.00	3746	188.90	4306	200.80	632
167.00	19184	178.00	1890	190.00	574	201.40	1818

Scan 554 (7.743 min): 1119F001.D
DFTPP @ 3.0ug/mL | SVM30-59A
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
203.10	3825	221.00	23168	232.90	701	245.00	7284
204.00	15750	223.00	6076	234.00	2274	245.90	9992
205.00	26192	224.00	63624	234.90	2026	246.90	2201
206.00	109104	225.00	16376	236.00	1387	247.90	543
206.95	14749	226.00	1883	237.00	1970	248.90	2203
208.00	4366	227.00	26704	239.00	1529	252.10	584
208.90	1394	227.90	2913	240.00	1121	252.90	1276
210.90	4591	229.00	6497	241.00	1128	255.00	274112
215.00	1609	229.80	597	241.90	3578	255.90	39856
216.90	27992	231.00	2469	243.00	3824	256.90	2986
218.00	4279	232.00	504	244.00	52608	258.00	17824

LB
11/24/09

Scan 554 (7.743 min): 1119F001.D
DFTPP @ 3.0ug/mL | SVM30-59A
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
258.90	2854	276.00	18824	297.90	655	315.90	2755
260.80	773	277.00	12200	299.95	195	320.80	1210
263.90	596	278.00	2089	301.00	1029	322.00	981
264.90	6753	283.00	1728	302.10	947	323.00	16066
265.80	856	283.90	1240	303.00	5307	324.00	2646
267.90	568	285.00	1891	303.90	1491	327.00	2632
270.90	704	288.90	749	308.00	1198	328.00	1808
272.00	1200	293.00	2759	309.00	737	332.00	1191
272.90	8869	294.10	651	309.90	544	332.90	1320
273.90	22912	295.90	41336	313.90	2060	334.00	10518
274.90	141440	296.90	5537	314.90	5572	335.00	2668

Scan 554 (7.743 min): 1119F001.D
DFTPP @ 3.0ug/mL | SVM30-59A
Modified:subtracted

11/20/19

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
341.00	2120	369.90	1058	402.90	7600	443.90	17080
342.00	611	370.90	1593	404.00	2246	445.00	893
346.00	3920	372.00	11232	405.00	589		
347.00	536	373.00	3117	420.90	5210		
351.90	4876	383.00	2877	421.90	6099		
353.00	3988	383.80	638	422.90	48456		
354.00	5062	389.90	1785	424.00	10075		
355.00	1274	390.80	643	425.00	751		
358.80	621	392.00	690	441.00	134080		
364.90	23432	400.90	773	442.00	928064		
365.90	3601	401.90	4886	443.00	186496		

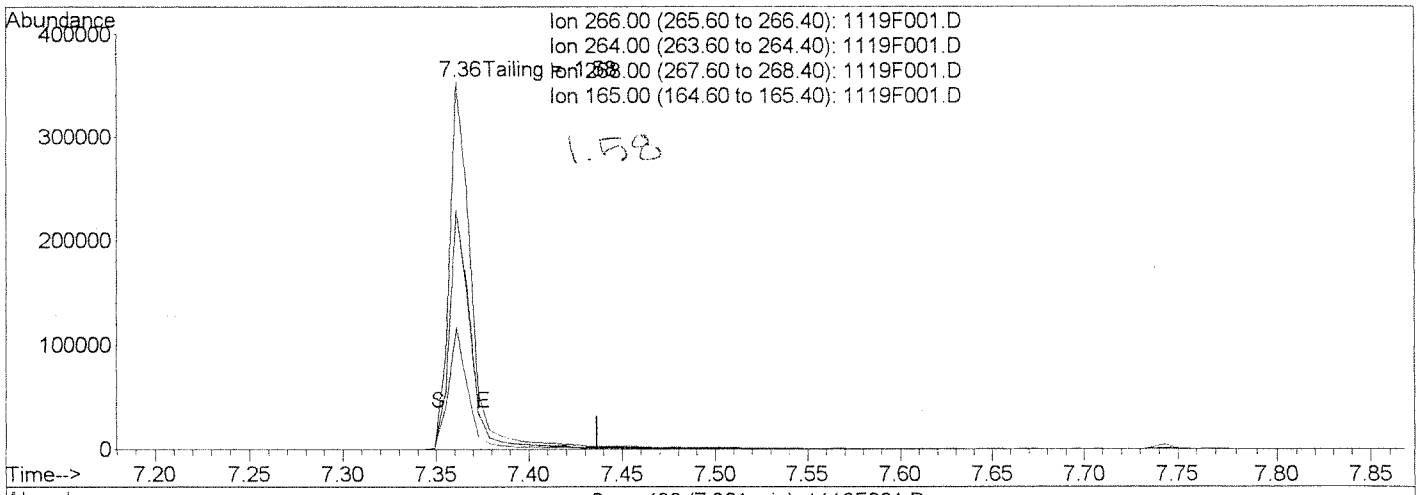
LB
11/24/09

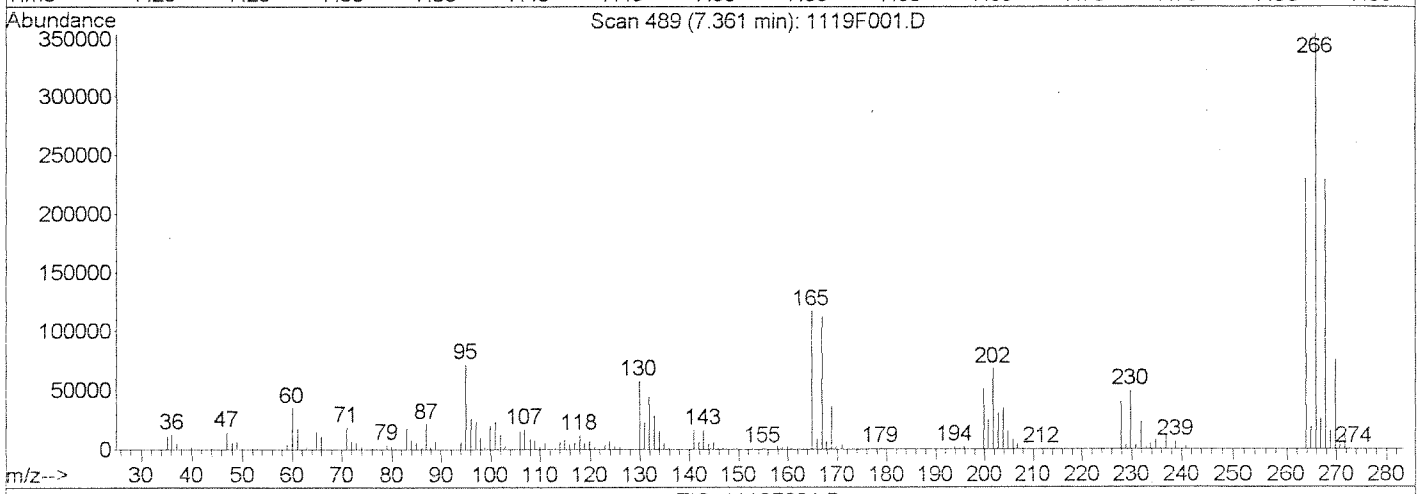
Quantitation Report (Qedit)

Data File : J:\MS11\DATA\111909\1119F001.D
Acq On : 19 Nov 2009 5:55 am
Sample : DFTPP @ 3.0ug/mL | SVM30-59A
Misc :
MS Integration Params: RTEINT.P
Quant Time: Nov 19 8:24 2009

Vial: 1
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\DFTPPPAH.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Tue Oct 12 13:33:42 2004
Response via : Single Level Calibration





TIC: 1119F001.D

(1) Pentachlorophenol

6.94min 0.00ng/ml

response 0

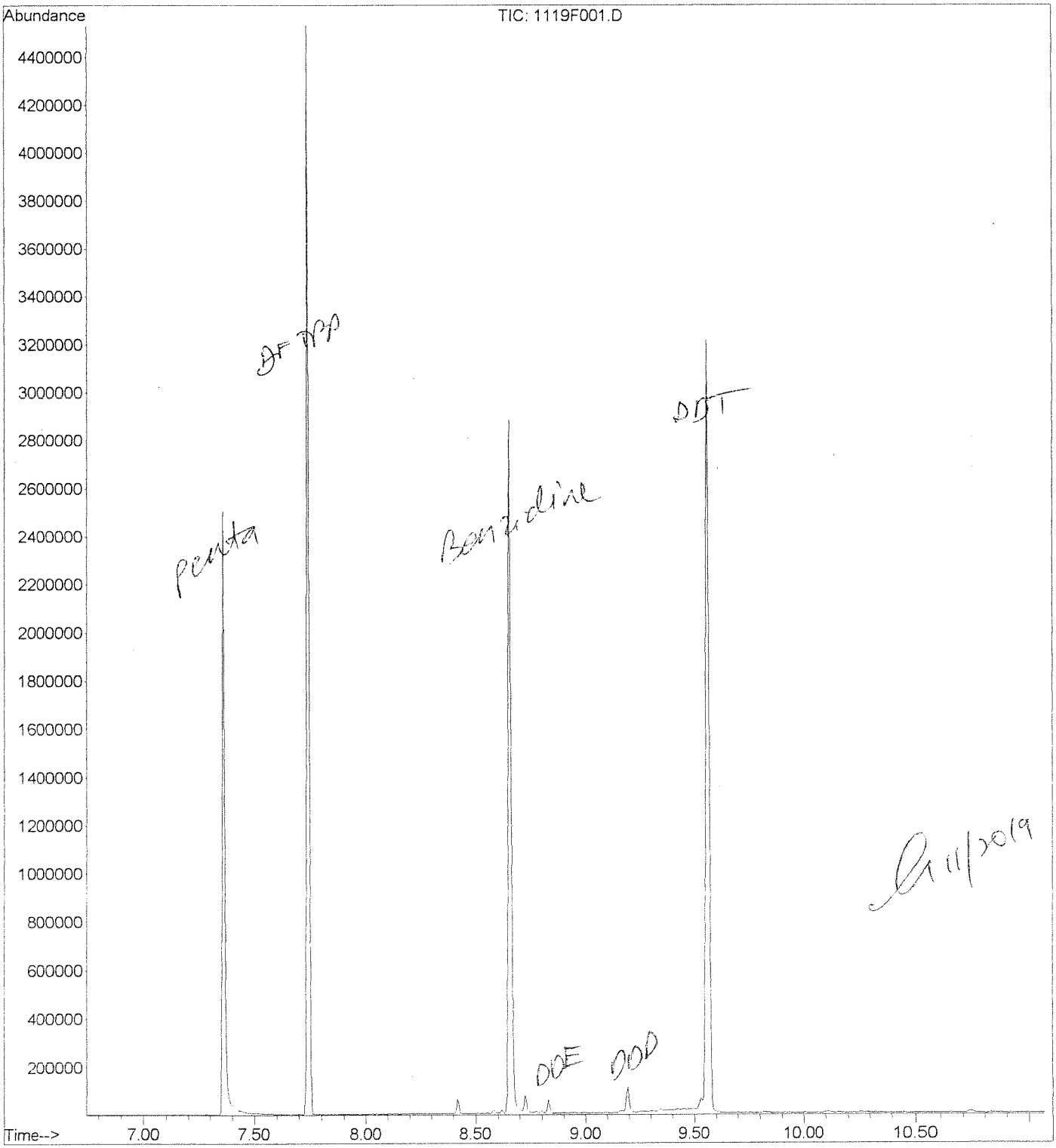
Ion	Exp%	Act%
266.00	100	0.00
264.00	64.50	0.00#
268.00	63.70	0.00#
165.00	28.70	0.00

11/19/2009

1119F001.D DFTPPPAH.M Thu Nov 19 08:24:58 2009

LB 11/24/09

File : J:\MS11\DATA\111909\1119F001.D
Operator : LWeiskopf
Acquired : 19 Nov 2009 5:55 am using AcqMethod SIMLOC
Instrument : MS11
Sample Name: DFTPP @ 3.0ug/mL | SVM30-59A
Misc Info :
Vial Number: 1



LB
11/24/09

1	4.858	rVB	0.041		5182	4.840	4.882
2	4.964	rVB	0.047		6436	4.934	4.981
3	6.574	rVB	0.047		7987	6.550	6.597
4	7.361	rBV	0.165		1972696	7.337	7.502
5	7.743	rBV	0.071		3119856	7.719	7.790
6	8.419	rVB	0.047		43539	8.401	8.448
7	8.583	rVB	0.047		13352	8.560	8.607
8	8.618	rBV	0.024		10642	8.607	8.630
9	8.659	rBV	0.082		2673813	8.630	8.712
10	8.724	rVB	0.041		58762	8.712	8.753
11	8.830	rVB	0.047	DOE	40271	8.818	8.865
12	9.194	rBV	0.088	DDD	113684	9.141	9.229
13	9.259	rVV	0.041	DOE	5783	9.247	9.288
14	9.347	rBV	0.035	DDD	10024	9.323	9.359
15	9.564	rVB	0.118	DOT	3445453	9.506	9.623
16	9.823	rVB	0.047		7928	9.811	9.858
17	10.111	rBV	0.065		14985	10.075	10.140
18	10.158	rVB	0.041		6430	10.146	10.187
19	10.745	rVB	0.071		13682	10.710	10.781
20	10.828	rBV	0.029		5017	10.810	10.839
21	10.875	rVB	0.047		5363	10.863	10.910
22	11.521	rVB	0.088		16411	11.480	11.568
23	11.932	rBV	0.041		6855	11.903	11.944
24	12.484	rVB	0.076		14057	12.449	12.526
25	13.477	rBV	0.041		5112	13.471	13.513
26	13.706	rVB	0.082		13246	13.671	13.753
27	14.006	rBV	0.053		5084	13.989	14.041
28	15.252	rBV	0.082		15695	15.193	15.275
29	15.739	rBV	0.047		6973	15.722	15.769
30	15.963	rBV	0.041		7562	15.927	15.969
31	16.256	rBV	0.041		8047	16.245	16.286
32	16.415	rBV	0.088		44728	16.380	16.468
33	16.509	rBV	0.029		8065	16.503	16.533
34	16.991	rBV	0.123		126859	16.944	17.067
35	17.091	rVB	0.059		42295	17.067	17.126

11/1/2019

4.3%

DOT Breakdown = 0.5%

11/1/2019

11/24/09

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\111909\1119F002.D Vial: 2
Acq On : 19 Nov 2009 6:22 am Operator: LWeiskopf
Sample : IB Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 19 06:42:12 2009 Quant Results File: 1119ALK.RES

Quant Method : J:\MS11\METHODS\SIM\1119ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Wed Nov 18 13:17:02 2009
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	4.88	136	191862	200.00	ng/ml	0.00
10) Acenaphthene-d10	6.30	164	104457	200.00	ng/ml	0.00
22) Phenanthrene-d10	7.53	188	217853	200.00	ng/ml	0.00
37) Chrysene-d12	10.26	240	271792	200.00	ng/ml	0.00
49) Perylene-d12	13.84	264	273066	200.00	ng/ml	-0.02
System Monitoring Compounds						
15) Fluorene-d10	0.00	176	0d	0.00	ng/ml	
Spiked Amount 200.000			Recovery =	0.00%		
20) 2,4,6 Tribromophenol	0.00	330	0d	0.00	ng/ml	
Spiked Amount 375.000			Recovery =	0.00%		
36) Fluoranthene-d10	0.00	212	0d	0.00	ng/ml	
Spiked Amount 200.000			Recovery =	0.00%		
42) Terphenyl-d14	8.89	244	461	0.34	ng/ml	0.00
Spiked Amount 200.000			Recovery =	0.17%		
Target Compounds						Qvalue
21) Pentachlorophenol	7.40	266	1039m	1.17	ng/ml	
43) Benz(a)anthracene	10.26	228	913	0.58	ng/ml	72
44) Chrysene	10.30	228	350	0.23	ng/ml	87
50) Benzo(b)fluoranthene	12.63	252	591	0.34	ng/ml	73
51) Benzo(k)fluoranthene	12.72	252	398	0.24	ng/ml	91
52) Benzo(e)pyrene	13.46	252	324	0.21	ng/ml	74
53) Benzo(a)pyrene	13.71	252	656m	0.44	ng/ml	
55) Indeno(1,2,3-cd)pyrene	16.99	276	510m	0.36	ng/ml	
56) Dibenz(a,h)anthracene	17.06	278	388m	0.26	ng/ml	
57) Benzo(g,h,i)perylene	17.41	276	717	0.44	ng/ml	98

< 1/2 MRL

11/2019

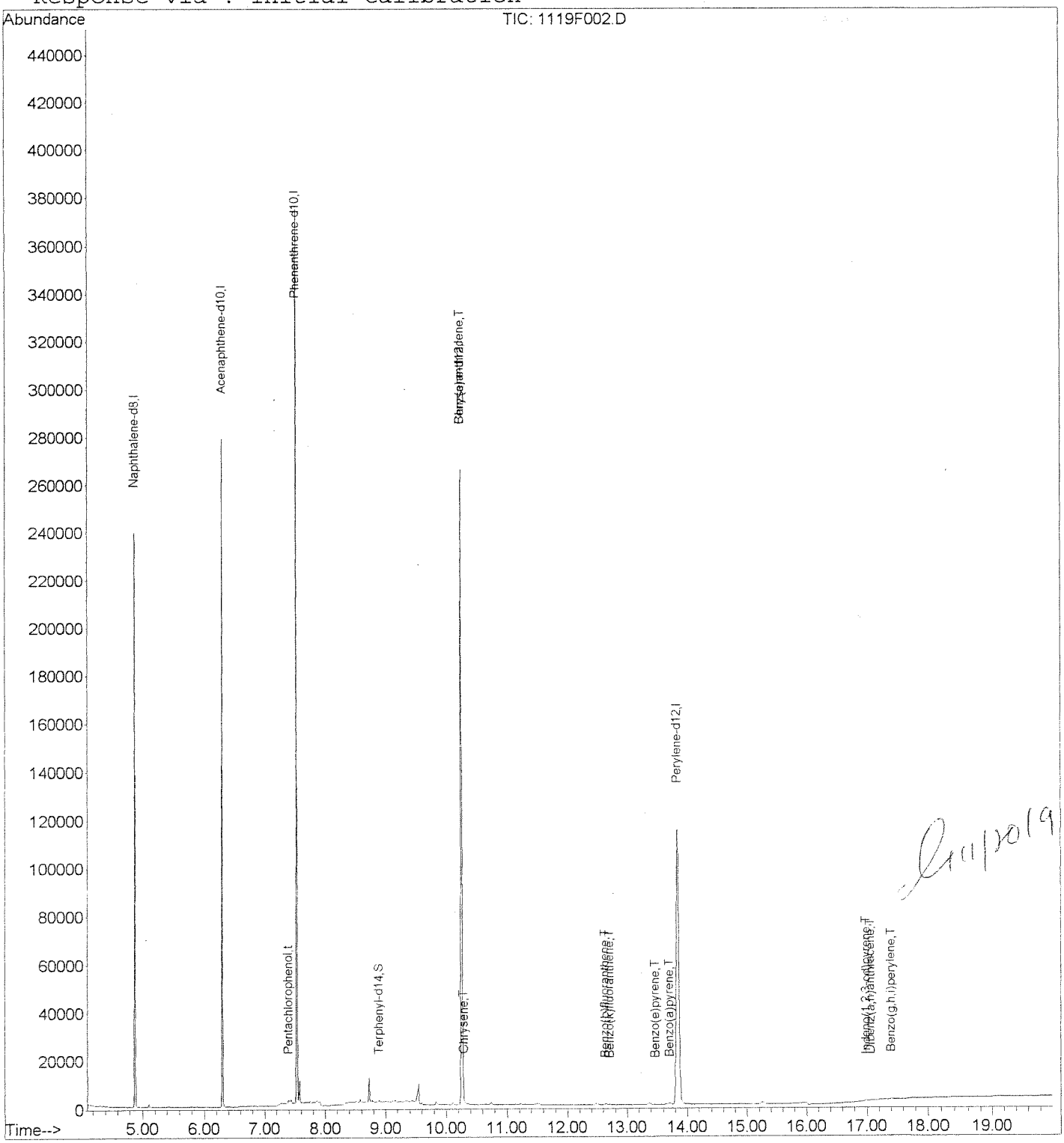
(#) = qualifier out of range (m) = manual integration
1119F002.D 1119ALK.M Thu Nov 19 08:19:01 2009 Page 1

LB 11/24/09

Quantitation Report (QT Reviewed)

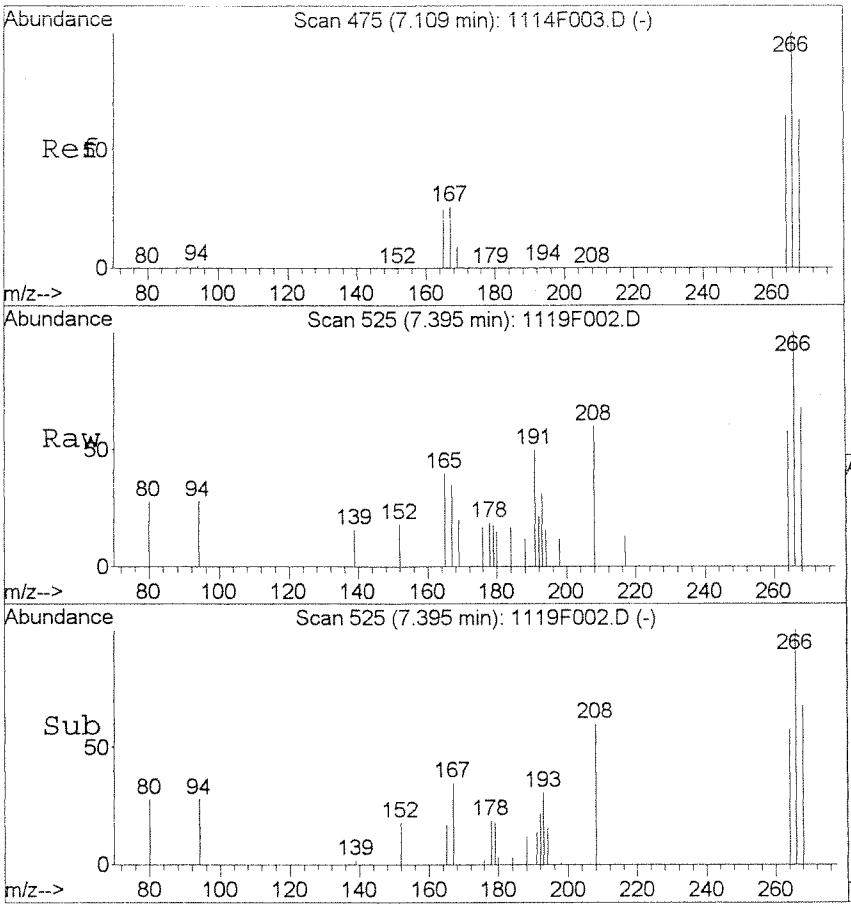
Data File : J:\MS11\DATA\111909\1119F002.D Vial: 2
Acq On : 19 Nov 2009 6:22 am Operator: LWeiskopf
Sample : IB Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 19 8:18 2009 Quant Results File: 1119ALK.RES

Method : J:\MS11\METHODS\SIM\1119ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Wed Nov 18 13:17:02 2009
Response via : Initial Calibration



11/20/19

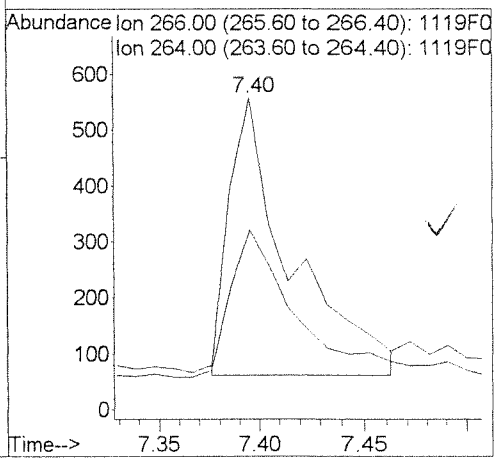
LB 11/24/09



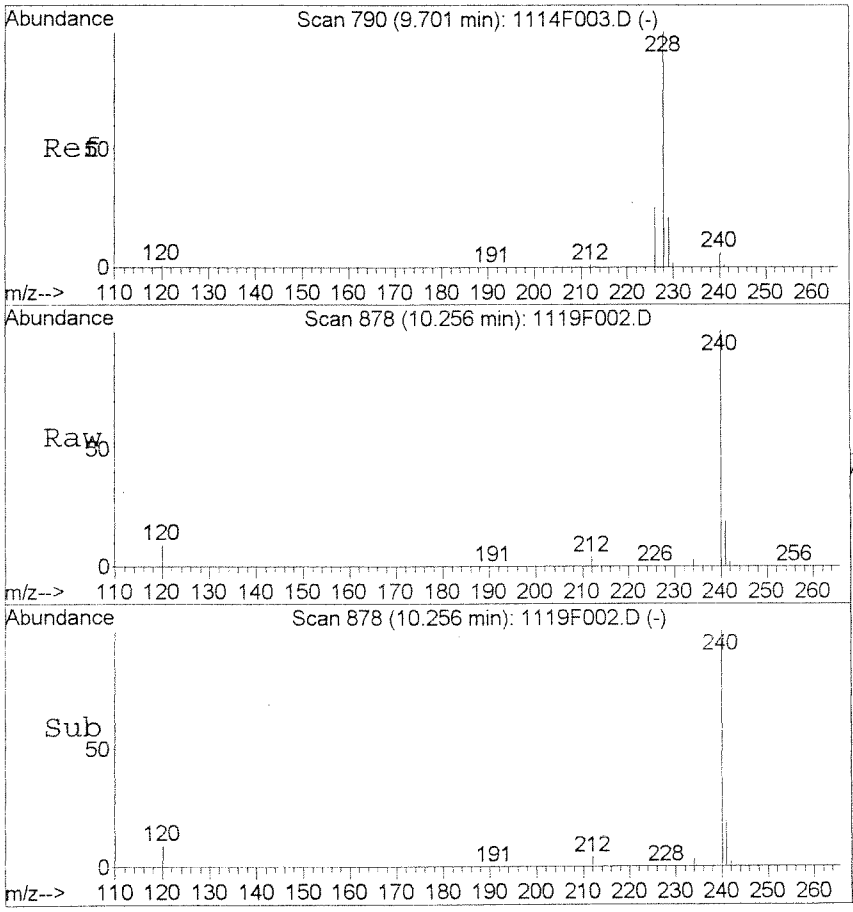
#21
Pentachlorophenol
Concen: 1.17 ng/ml m
RT: 7.40 min Scan# 525
Delta R.T. 0.03 min
Lab File: 1119F002.D
Acq: 19 Nov 2009 6:22 am

Tgt Ion:266 Resp: 1039

Ion	Ratio	Lower	Upper
266	100		
264	57.5	41.2	81.2



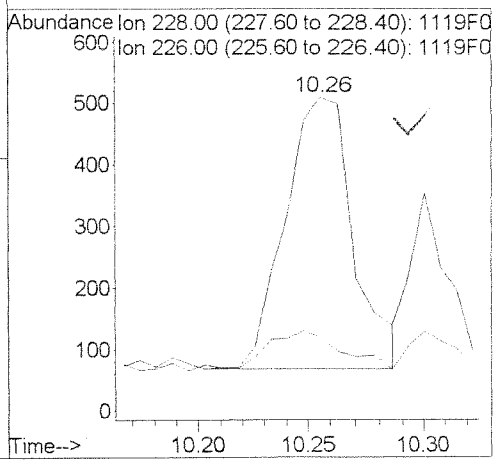
11/20/09



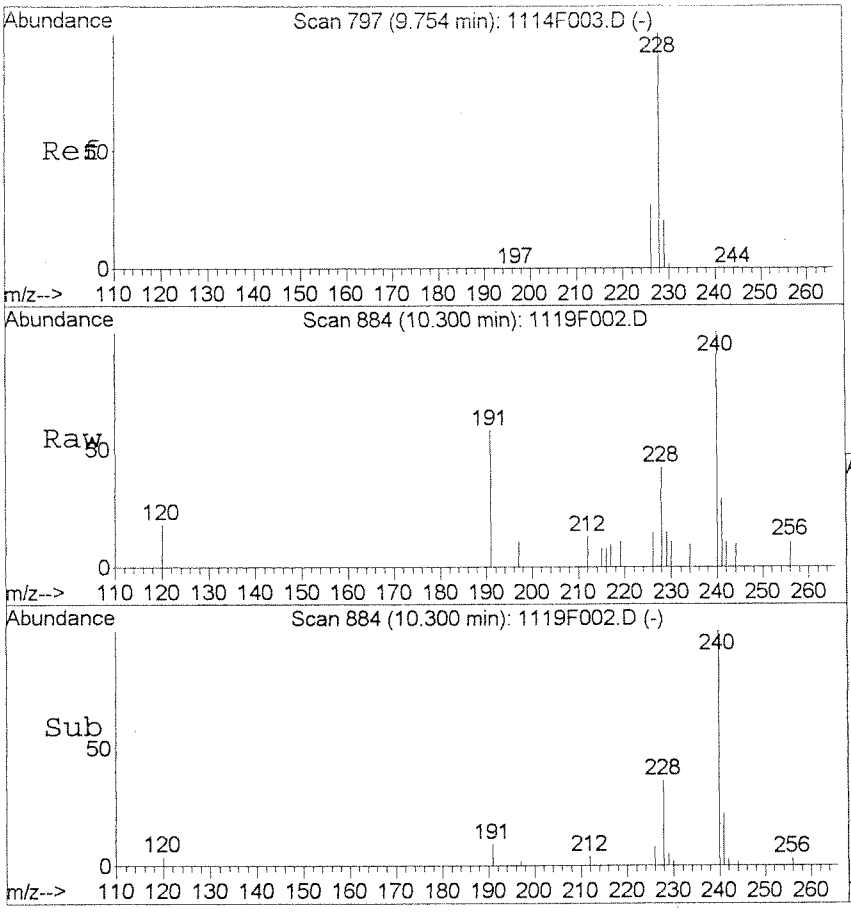
#43
Benz(a)anthracene
Concen: 0.58 ng/ml
RT: 10.26 min Scan# 878
Delta R.T. 0.00 min
Lab File: 1119F002.D
Acq: 19 Nov 2009 6:22 am

Tgt Ion:228 Resp: 913

Ion	Ratio	Lower	Upper
228	100		
226	11.8	0.0	55.9



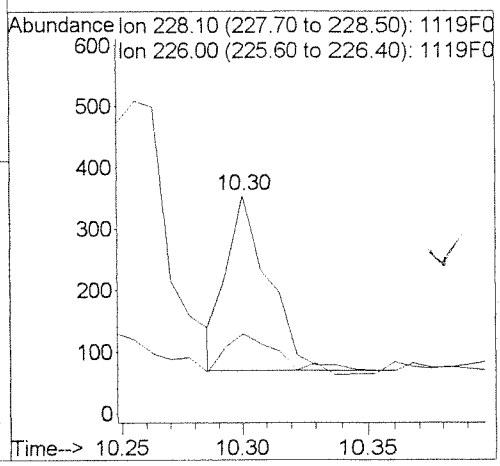
11/24/09



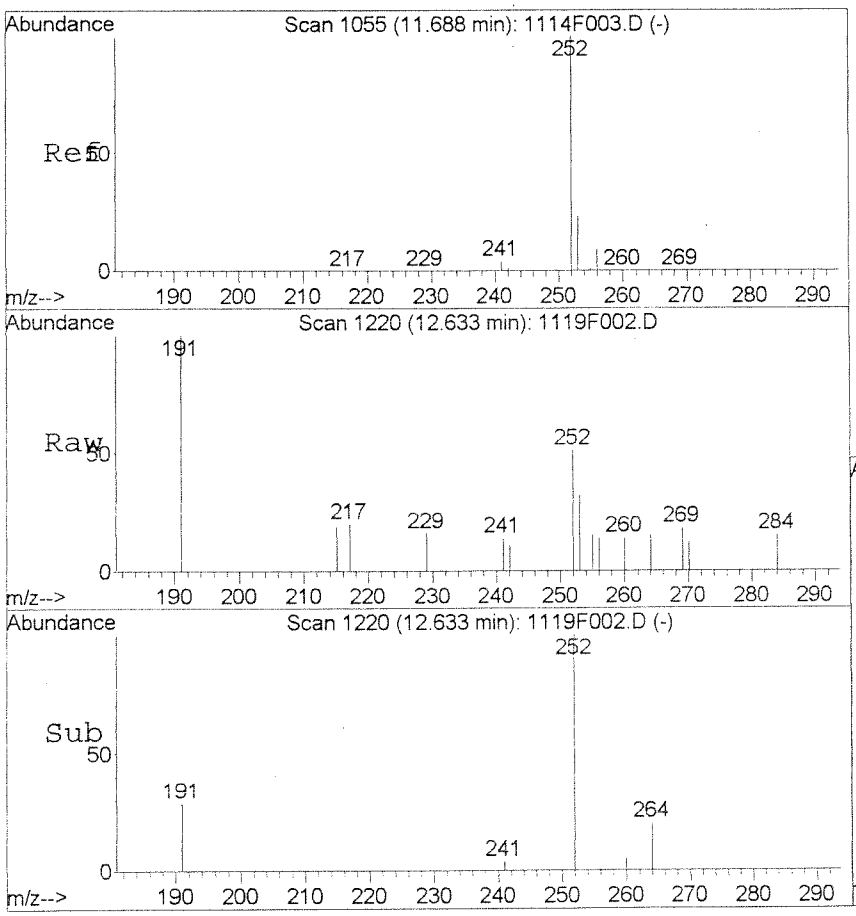
#44
Chrysene
Concen: 0.23 ng/ml
RT: 10.30 min Scan# 884
Delta R.T. -0.01 min
Lab File: 1119F002.D
Acq: 19 Nov 2009 6:22 am

Tgt Ion:228 Resp: 350

Ion	Ratio	Lower	Upper
228	100		
226	21.7	0.0	58.8



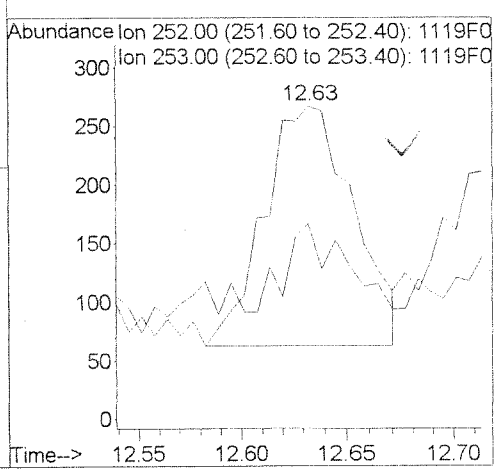
11/20/09



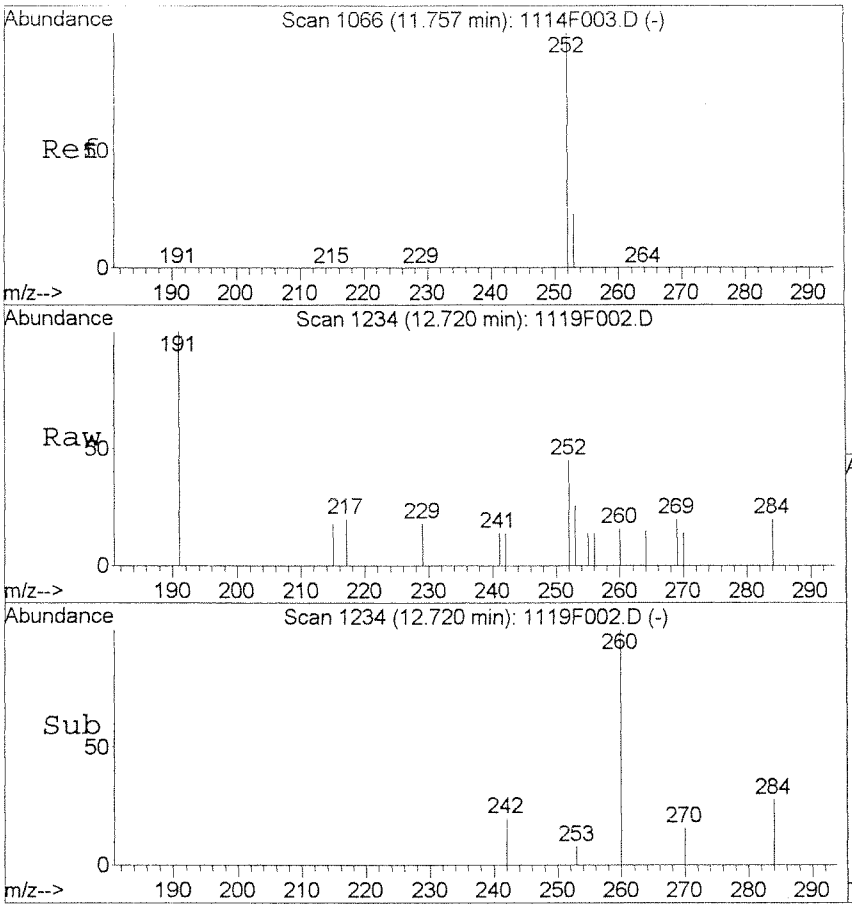
#50
Benzo(b)fluoranthene
Concen: 0.34 ng/ml
RT: 12.63 min Scan# 1220
Delta R.T. -0.02 min
Lab File: 1119F002.D
Acq: 19 Nov 2009 6:22 am

Tgt Ion:252 Resp: 591

Ion	Ratio	Lower	Upper
252	100		
253	35.8	0.0	52.8



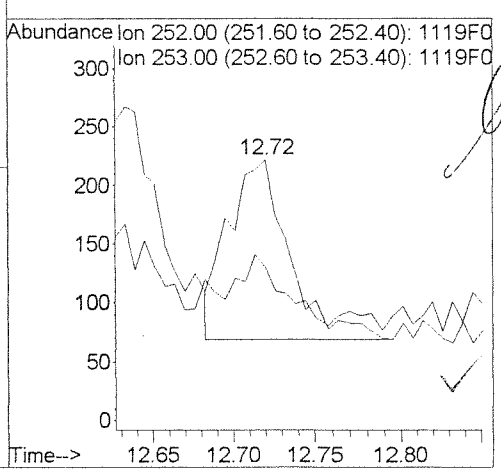
11/24/09



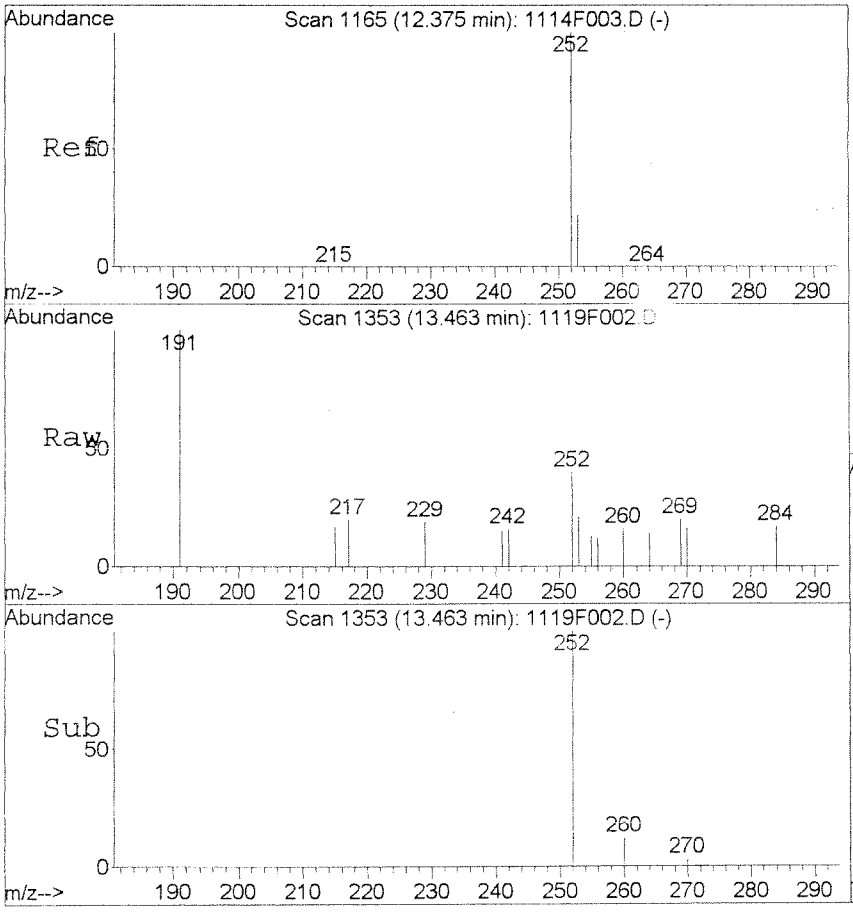
#51
Benzo(k)fluoranthene
Concen: 0.24 ng/ml
RT: 12.72 min Scan# 1234
Delta R.T. -0.02 min
Lab File: 1119F002.D
Acq: 19 Nov 2009 6:22 am

Tgt Ion:252 Resp: 398

Ion	Ratio	Lower	Upper
252	100		
253	26.8	0.0	52.5



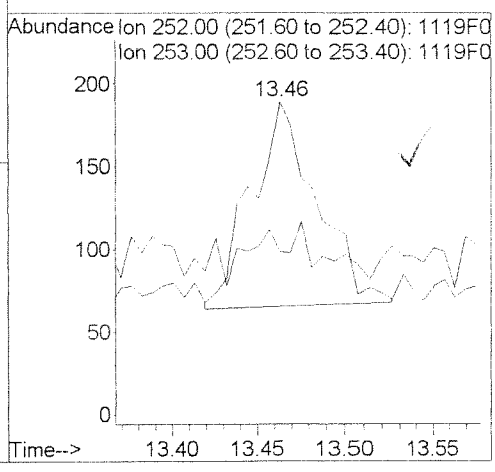
11/20/19



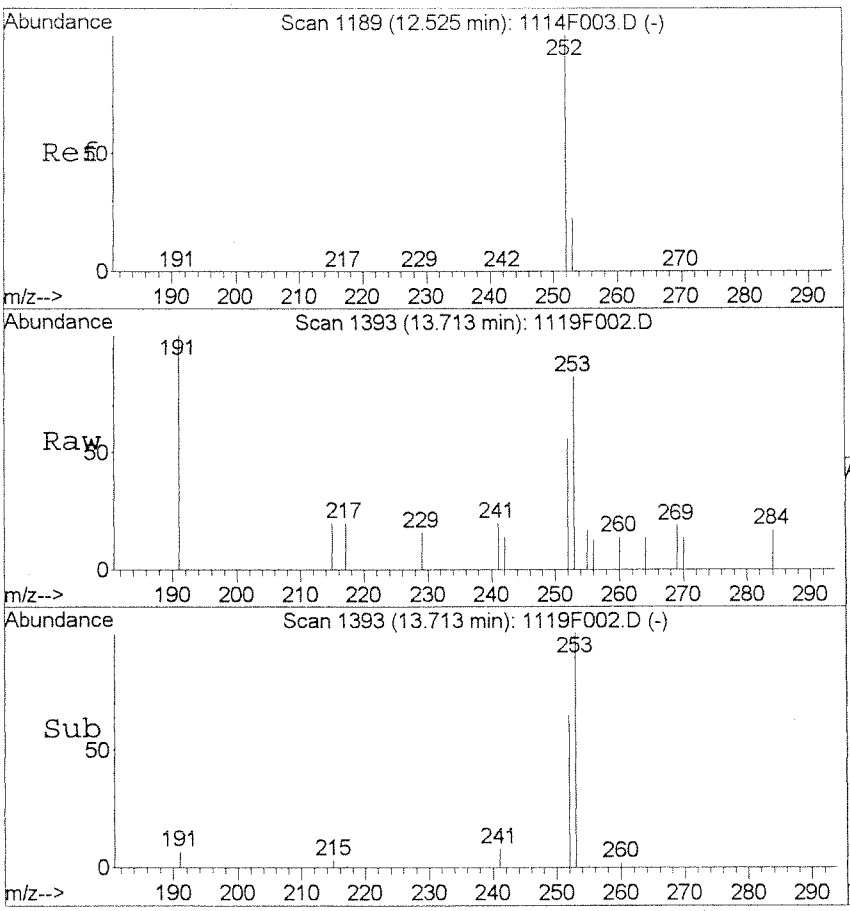
#52
Benzo(e)pyrene
Concen: 0.21 ng/ml
RT: 13.46 min Scan# 1353
Delta R.T. -0.03 min
Lab File: 1119F002.D
Acq: 19 Nov 2009 6:22 am

Tgt Ion:252 Resp: 324

Ion	Ratio	Lower	Upper
252	100		
253	9.9	0.0	52.3



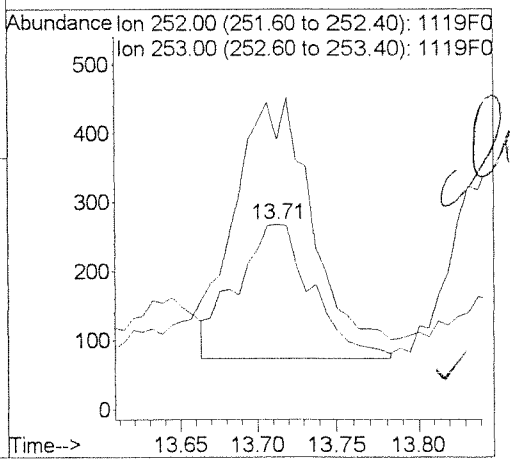
LB 11/24/09



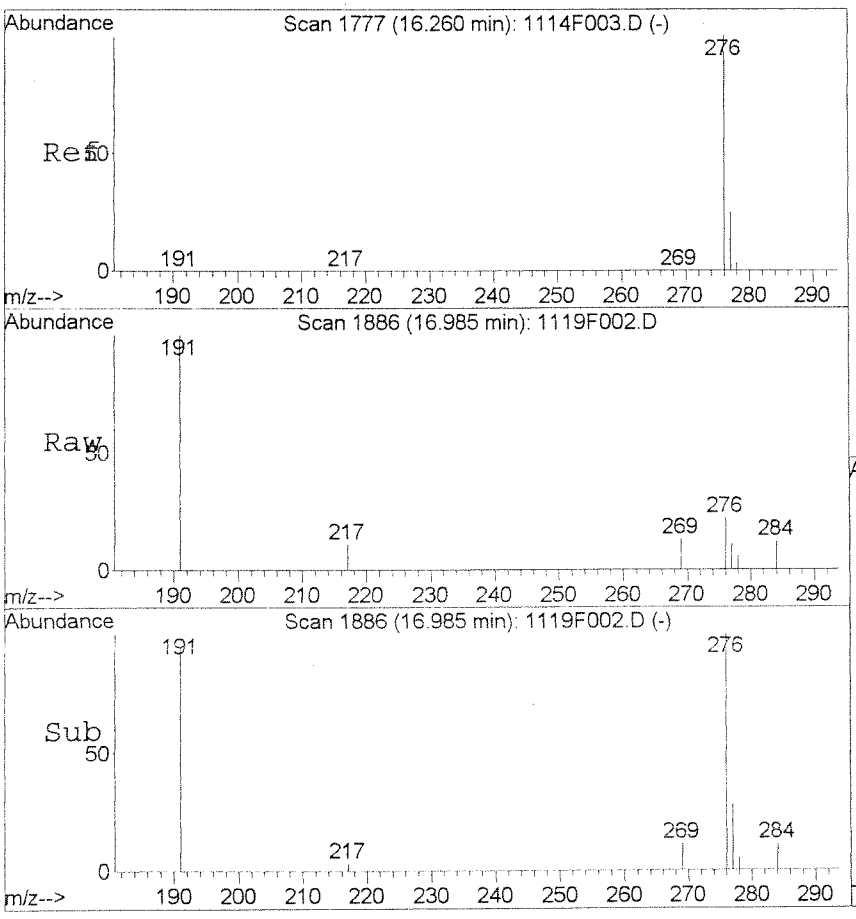
#53
Benzo(a)pyrene
Concen: 0.44 ng/ml m
RT: 13.71 min Scan# 1393
Delta R.T. 0.05 min
Lab File: 1119F002.D
Acq: 19 Nov 2009 6:22 am

Tgt Ion:252 Resp: 656

Ion	Ratio	Lower	Upper
252	100		
253	145.9	0.0	52.6#



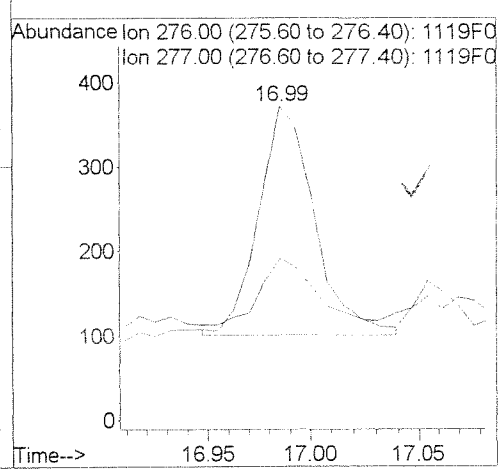
11/20/09



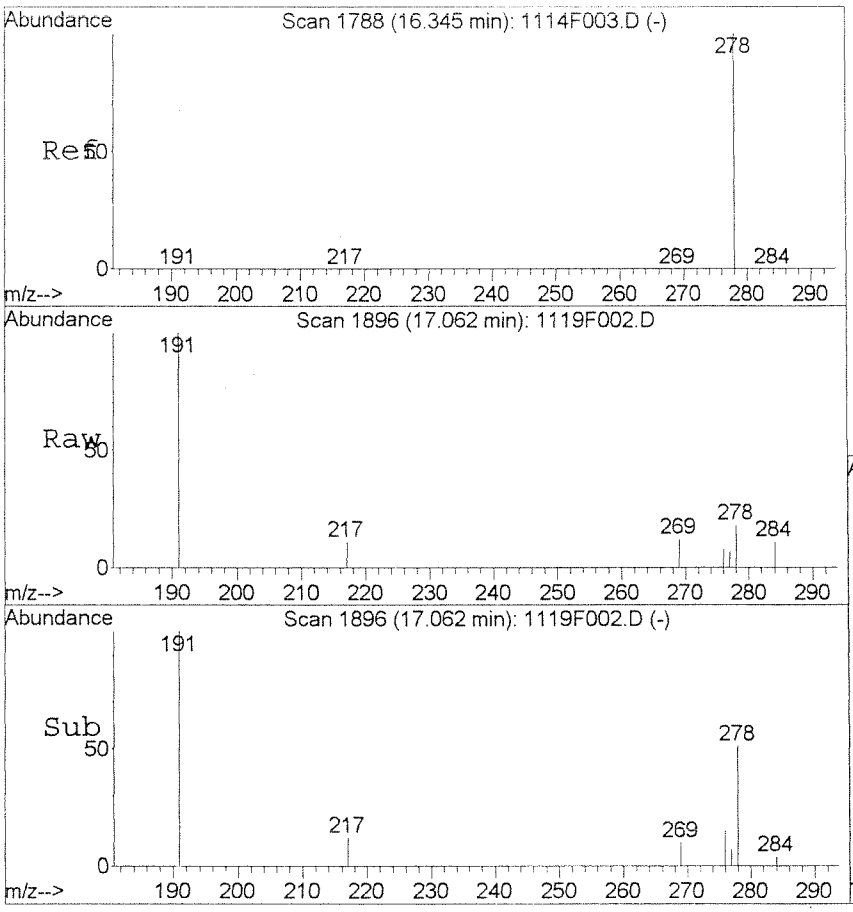
#55
Indeno(1,2,3-cd)pyrene
Concen: 0.36 ng/ml m
RT: 16.99 min Scan# 1886
Delta R.T. -0.02 min
Lab File: 1119F002.D
Acq: 19 Nov 2009 6:22 am

Tgt Ion:276 Resp: 510

Ion	Ratio	Lower	Upper
276	100		
277	51.3	0.0	55.1



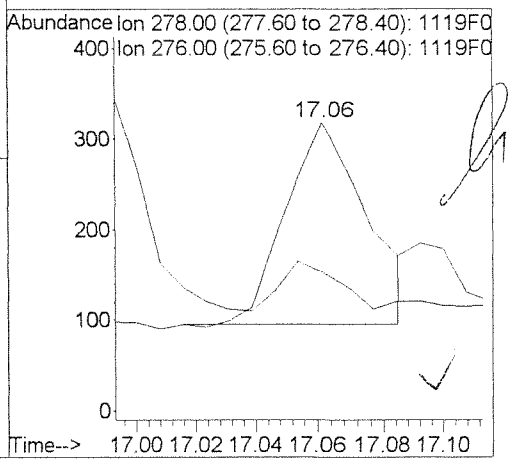
11/24/09



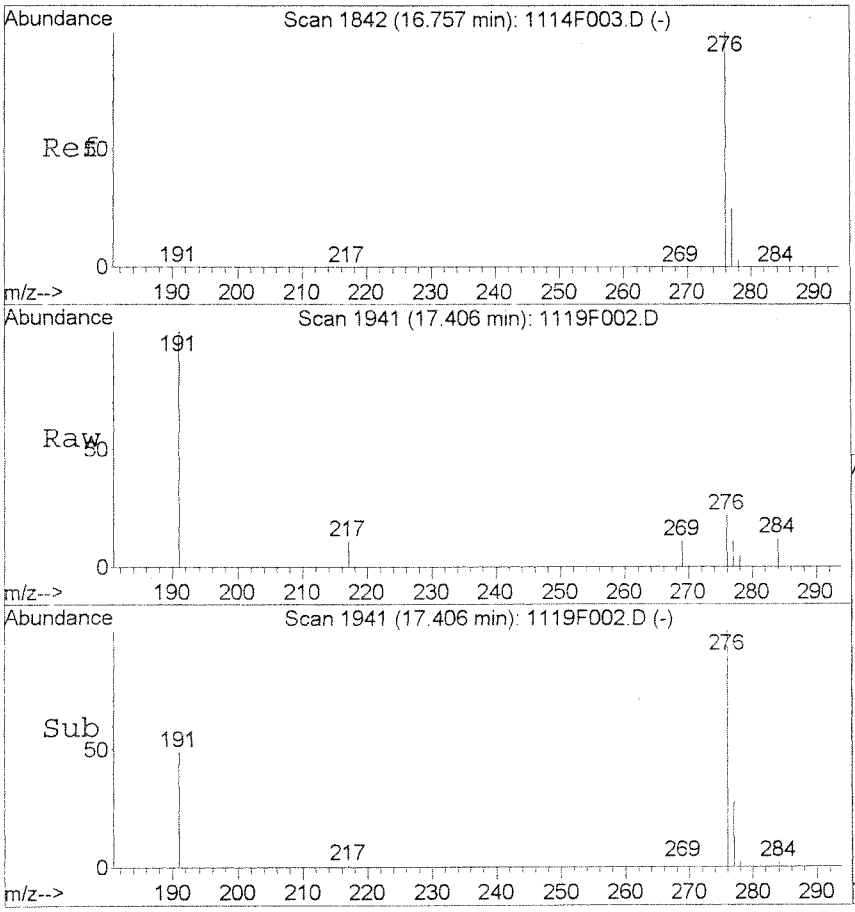
#56
Dibenz(a,h)anthracene
Concen: 0.26 ng/ml m
RT: 17.06 min Scan# 1896
Delta R.T. -0.01 min
Lab File: 1119F002.D
Acq: 19 Nov 2009 6:22 am

Tgt Ion:278 Resp: 388

Ion	Ratio	Lower	Upper
278	100		
276	48.1	0.0	52.1



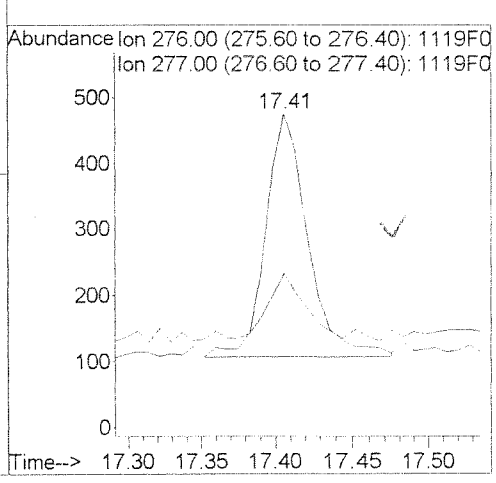
11/20/09



#57
Benzo(g,h,i)perylene
Concen: 0.44 ng/ml
RT: 17.41 min Scan# 1941
Delta R.T. -0.02 min
Lab File: 1119F002.D
Acq: 19 Nov 2009 6:22 am

Tgt Ion:276 Resp: 717

Ion	Ratio	Lower	Upper
276	100		
277	26.6	0.0	55.7



11/24/09

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\111909\1119F003.D Vial: 3
Acq On : 19 Nov 2009 6:48 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @.004/0.1ug/mL | SVM29-21D Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 19 07:23:32 2009 Quant Results File: 1119ALK.RES

Quant Method : J:\MS11\METHODS\SIM\1119ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Wed Nov 18 13:17:02 2009
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

11/20/09

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	4.88	136	149516	200.00	ng/ml	0.00
10) Acenaphthene-d10	6.30	164	84969	200.00	ng/ml	0.00
22) Phenanthrene-d10	7.53	188	161350	200.00	ng/ml	0.00
37) Chrysene-d12	10.26	240	189448	200.00	ng/ml	0.00
49) Perylene-d12	13.84	264	198832	200.00	ng/ml	-0.03
System Monitoring Compounds						
15) Fluorene-d10	6.72	176	2040	4.21	ng/ml	0.00
Spiked Amount 200.000			Recovery =	2.11%		
20) 2,4,6 Tribromophenol	6.96	330	538	4.42	ng/ml	0.00
Spiked Amount 375.000			Recovery =	1.18%		
36) Fluoranthene-d10	8.51	212	5309	5.64	ng/ml	0.00
Spiked Amount 200.000			Recovery =	2.82%		
42) Terphenyl-d14	8.89	244	4484	4.69	ng/ml	0.00
Spiked Amount 200.000			Recovery =	2.35%		
Target Compounds						Qvalue
2) Naphthalene	4.89	128	2913	3.62	ng/ml	96
3) 2-Methylnaphthalene	5.44	142	2011	3.54	ng/ml	95
4) 1-Methylnaphthalene	5.52	142	1927	3.83	ng/ml	96
5) Biphenyl	5.82	154	2468	3.86	ng/ml	97
6) 2,6-Dimethylnaphthalene	5.95	156	1823	3.70	ng/ml	87
11) Acenaphthylene	6.18	152	2990	3.40	ng/ml	91
12) Acenaphthene	6.32	154	1707	3.22	ng/ml	89
13) Dibenzofuran	6.47	168	2681	3.53	ng/ml	77
14) 2,3,5-Trimethylnaphthalene	6.63	170	1902	3.56	ng/ml	100
16) Fluorene	6.75	166	2201	3.46	ng/ml	93
21) Pentachlorophenol	7.38	266	8922	12.40	ng/ml	93
23) Dibenzothiophene	7.44	184	3013	3.53	ng/ml	95
27) Phenanthrene	7.55	178	3902	3.95	ng/ml	94
28) Anthracene	7.59	178	3309m	2.99	ng/ml	
29) Carbazole	7.73	167	2903	3.41	ng/ml	83
30) 1-Methylphenanthrene	8.04	192	2883	3.79	ng/ml	99
35) Fluoranthene	8.53	202	4277	3.79	ng/ml	97
38) Pyrene	8.74	202	4660	4.23	ng/ml	66
43) Benz(a)anthracene	10.24	228	4286	3.90	ng/ml	96
44) Chrysene	10.30	228	3914	3.71	ng/ml	99
50) Benzo(b)fluoranthene	12.63	252	4257	3.39	ng/ml	95
51) Benzo(k)fluoranthene	12.71	252	3802	3.20	ng/ml	100
52) Benzo(e)pyrene	13.47	252	3846	3.49	ng/ml	97
53) Benzo(a)pyrene	13.64	252	3698	3.40	ng/ml	99
54) Perylene	13.93	252	3487	3.30	ng/ml	99

(#) = qualifier out of range (m) = manual integration
1119F003.D 1119ALK.M Thu Nov 19 08:17:39 2009 Page 1

LB 11/24/09

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\111909\1119F003.D Vial: 3
Acq On : 19 Nov 2009 6:48 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @.004/0.1ug/mL | SVM29-21D Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 19 07:23:32 2009 Quant Results File: 1119ALK.RES

Quant Method : J:\MS11\METHODS\SIM\1119ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Wed Nov 18 13:17:02 2009
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

11/10/09

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
55)	Indeno(1,2,3-cd)pyrene	16.99	276	3674	3.57	ng/ml	96
56)	Dibenz(a,h)anthracene	17.06	278	3681	3.44	ng/ml	98
57)	Benzo(g,h,i)perylene	17.41	276	4289	3.64	ng/ml	99

(#) = qualifier out of range (m) = manual integration
1119F003.D 1119ALK.M Thu Nov 19 08:17:39 2009 Page 2

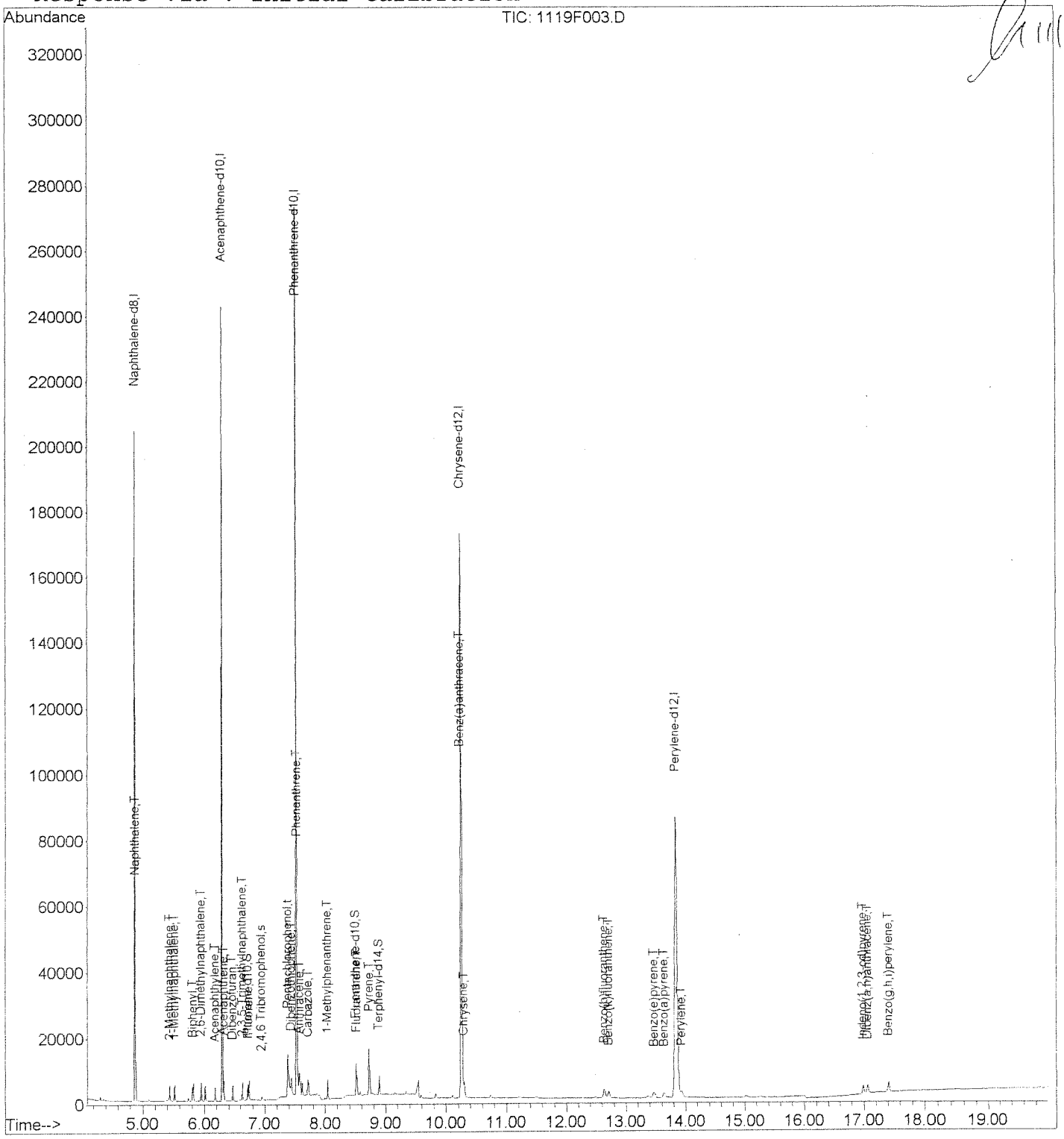
LB 11/24/09

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\111909\1119F003.D Vial: 3
Acq On : 19 Nov 2009 6:48 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @.004/0.1ug/mL | SVM29-21D Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 19 8:15 2009 Quant Results File: 1119ALK.RES

Method : J:\MS11\METHODS\SIM\1119ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Wed Nov 18 13:17:02 2009
Response via : Initial Calibration

11/20/09



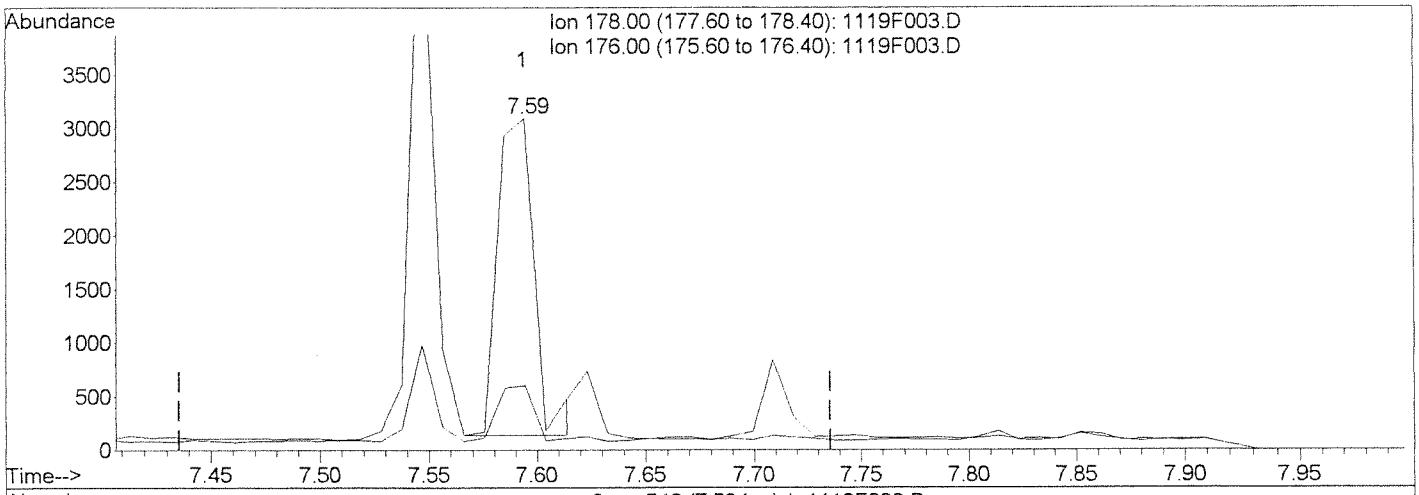
1119F003.D 1119ALK.M Thu Nov 19 08:17:40 2009 Page 3

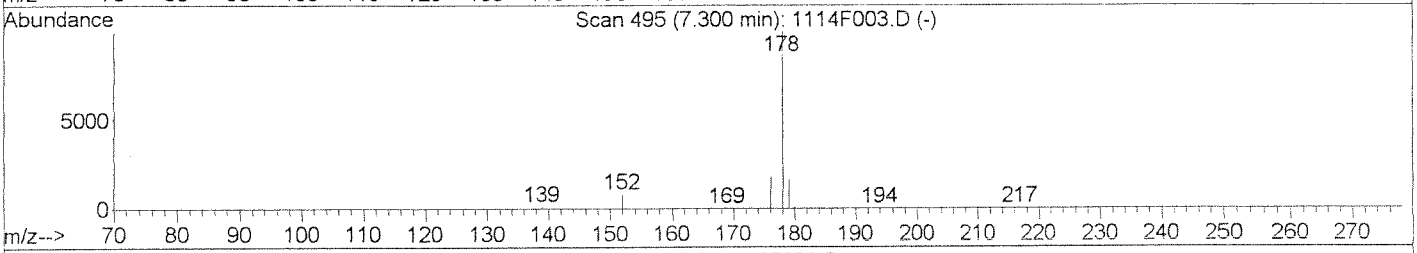
11/24/09

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\111909\1119F003.D Vial: 3
Acq On : 19 Nov 2009 6:48 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @.004/0.1ug/mL | SVM29-21D Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 19 7:23 2009 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1119ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Wed Nov 18 13:17:02 2009
Response via : Single Level Calibration





TIC: 1119F003.D

(28) Anthracene (T)

7.59min 3.18ng/ml

response 3528

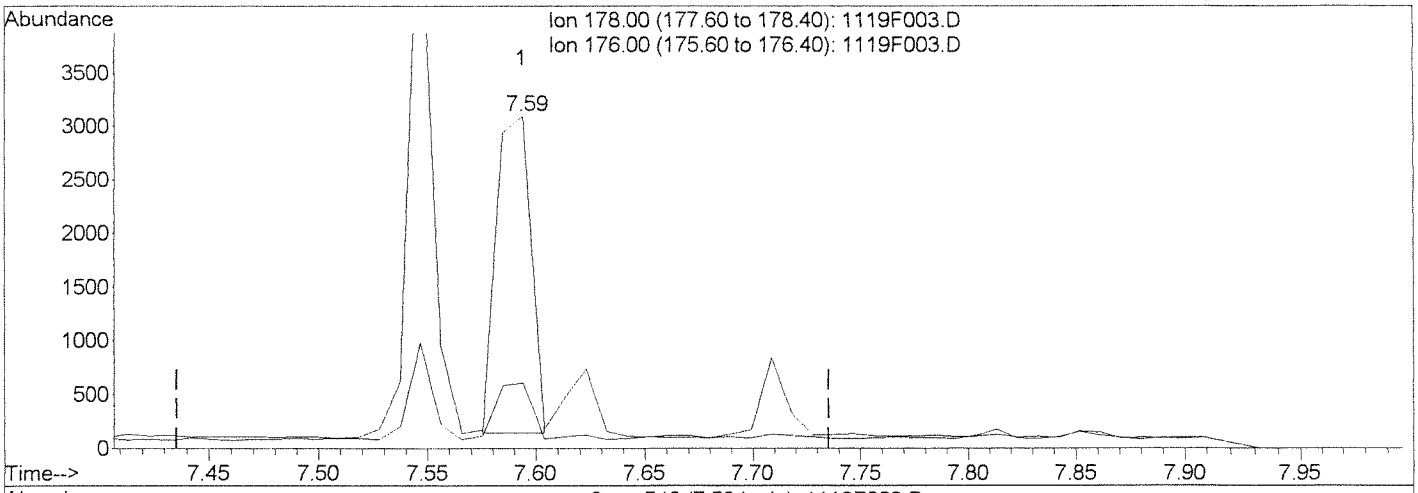
Ion	Exp%	Act%
178.00	100	100
176.00	17.60	17.73
0.00	0.00	0.00
0.00	0.00	0.00

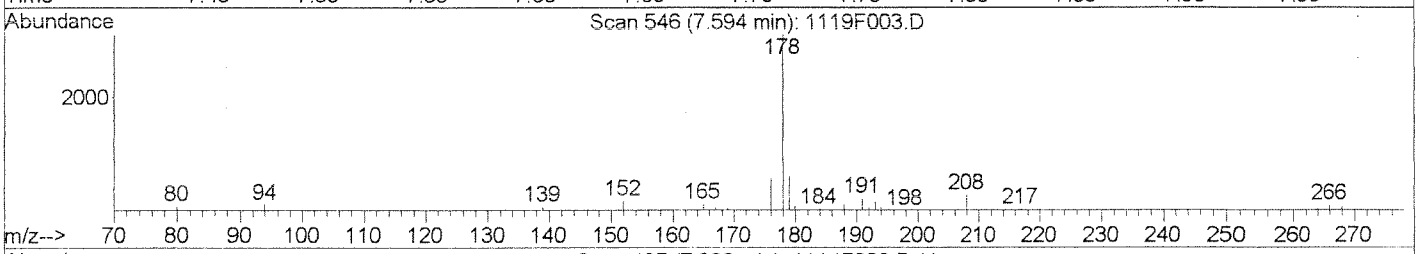
1119F003.D 1119ALK.M Thu Nov 19 08:15:32 2009

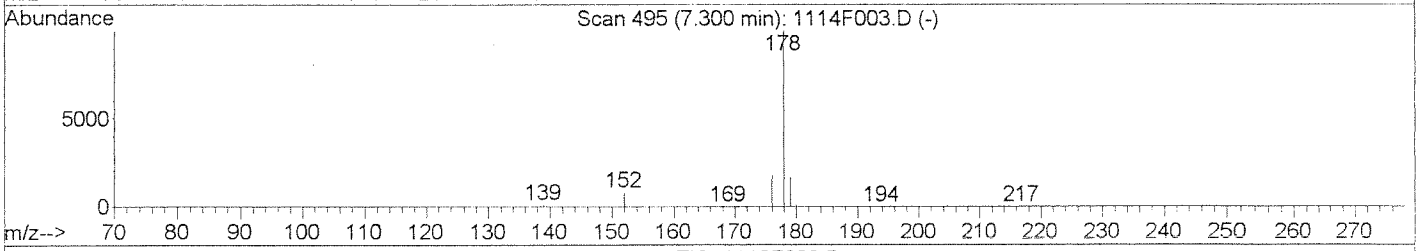
Quantitation Report (Qedit)

Data File : J:\MS11\DATA\111909\1119F003.D Vial: 3
Acq On : 19 Nov 2009 6:48 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @.004/0.1ug/mL | SVM29-21D Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 19 8:15 2009 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1119ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Wed Nov 18 13:17:02 2009
Response via : Single Level Calibration







TIC: 1119F003.D

(28) Anthracene (T)

7.59min 2.99ng/ml m

response 3309

Ion	Exp%	Act%
178.00	100	100
176.00	17.60	19.61
0.00	0.00	0.00
0.00	0.00	0.00

OI 11/24/2009

LB 11/24/09

1119F003.D 1119ALK.M Thu Nov 19 08:15:38 2009

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\111909\1119F004.D Vial: 4
Acq On : 19 Nov 2009 7:15 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @0.02/0.4ug/mL | SVM29-21F Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 19 07:28:39 2009 Quant Results File: 1119ALK.RES

Quant Method : J:\MS11\METHODS\SIM\1119ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Wed Nov 18 13:17:02 2009
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

11/20/09

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	4.88	136	158544	200.00	ng/ml	0.00
10) Acenaphthene-d10	6.30	164	91359	200.00	ng/ml	0.00
22) Phenanthrene-d10	7.53	188	169600	200.00	ng/ml	0.00
37) Chrysene-d12	10.26	240	193687	200.00	ng/ml	0.00
49) Perylene-d12	13.84	264	203775	200.00	ng/ml	-0.02
System Monitoring Compounds						
15) Fluorene-d10	6.72	176	10453	20.05	ng/ml	0.00
Spiked Amount 200.000			Recovery =	10.03%		
20) 2,4,6 Tribromophenol	6.96	330	2110	16.11	ng/ml	0.00
Spiked Amount 375.000			Recovery =	4.30%		
36) Fluoranthene-d10	8.51	212	21336	21.57	ng/ml	0.00
Spiked Amount 200.000			Recovery =	10.79%		
42) Terphenyl-d14	8.89	244	17809	18.23	ng/ml	0.00
Spiked Amount 200.000			Recovery =	9.12%		
Target Compounds						Qvalue
2) Naphthalene	4.89	128	14465	16.97	ng/ml	98
3) 2-Methylnaphthalene	5.44	142	10264	17.03	ng/ml	96
4) 1-Methylnaphthalene	5.52	142	9867	18.48	ng/ml	94
5) Biphenyl	5.82	154	12361	18.21	ng/ml	100
6) 2,6-Dimethylnaphthalene	5.95	156	9451	18.08	ng/ml	100
11) Acenaphthylene	6.18	152	15059	15.92	ng/ml	97
12) Acenaphthene	6.32	154	9080m	15.92	ng/ml	
13) Dibenzofuran	6.47	168	13709	16.78	ng/ml#	50
14) 2,3,5-Trimethylnaphthalene	6.63	170	9477	16.50	ng/ml	94
16) Fluorene	6.75	166	11528	16.84	ng/ml	97
21) Pentachlorophenol	7.38	266	50755	65.59	ng/ml	99
23) Dibenzothiophene	7.44	184	15442	17.22	ng/ml	97
27) Phenanthrene	7.55	178	19050	18.37	ng/ml	96
28) Anthracene	7.59	178	16967m	14.56	ng/ml	
29) Carbazole	7.73	167	14800	16.56	ng/ml	87
30) 1-Methylphenanthrene	8.05	192	14410	18.02	ng/ml	99
35) Fluoranthene	8.53	202	22096	18.65	ng/ml	99
38) Pyrene	8.74	202	23161	20.58	ng/ml	86
43) Benz(a)anthracene	10.24	228	19140	17.03	ng/ml	99
44) Chrysene	10.30	228	19018	17.63	ng/ml	98
50) Benzo(b)fluoranthene	12.63	252	20131	15.66	ng/ml	99
51) Benzo(k)fluoranthene	12.71	252	18908	15.53	ng/ml	97
52) Benzo(e)pyrene	13.47	252	18783	16.65	ng/ml	99
53) Benzo(a)pyrene	13.64	252	17327	15.57	ng/ml	99
54) Perylene	13.93	252	17347	16.04	ng/ml	99

(#) = qualifier out of range (m) = manual integration

LB 11/24/09

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\111909\1119F004.D Vial: 4
Acq On : 19 Nov 2009 7:15 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @0.02/0.4ug/mL | SVM29-21F Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 19 07:28:39 2009 Quant Results File: 1119ALK.RES

Quant Method : J:\MS11\METHODS\SIM\1119ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Wed Nov 18 13:17:02 2009
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

11/20/19

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
55)	Indeno(1,2,3-cd)pyrene	16.99	276	16977	16.11	ng/ml	97
56)	Dibenz(a,h)anthracene	17.06	278	17710	16.17	ng/ml	99
57)	Benzo(g,h,i)perylene	17.41	276	20293	16.81	ng/ml	97

(#) = qualifier out of range (m) = manual integration
1119F004.D 1119ALK.M Thu Nov 19 08:17:42 2009 Page 2

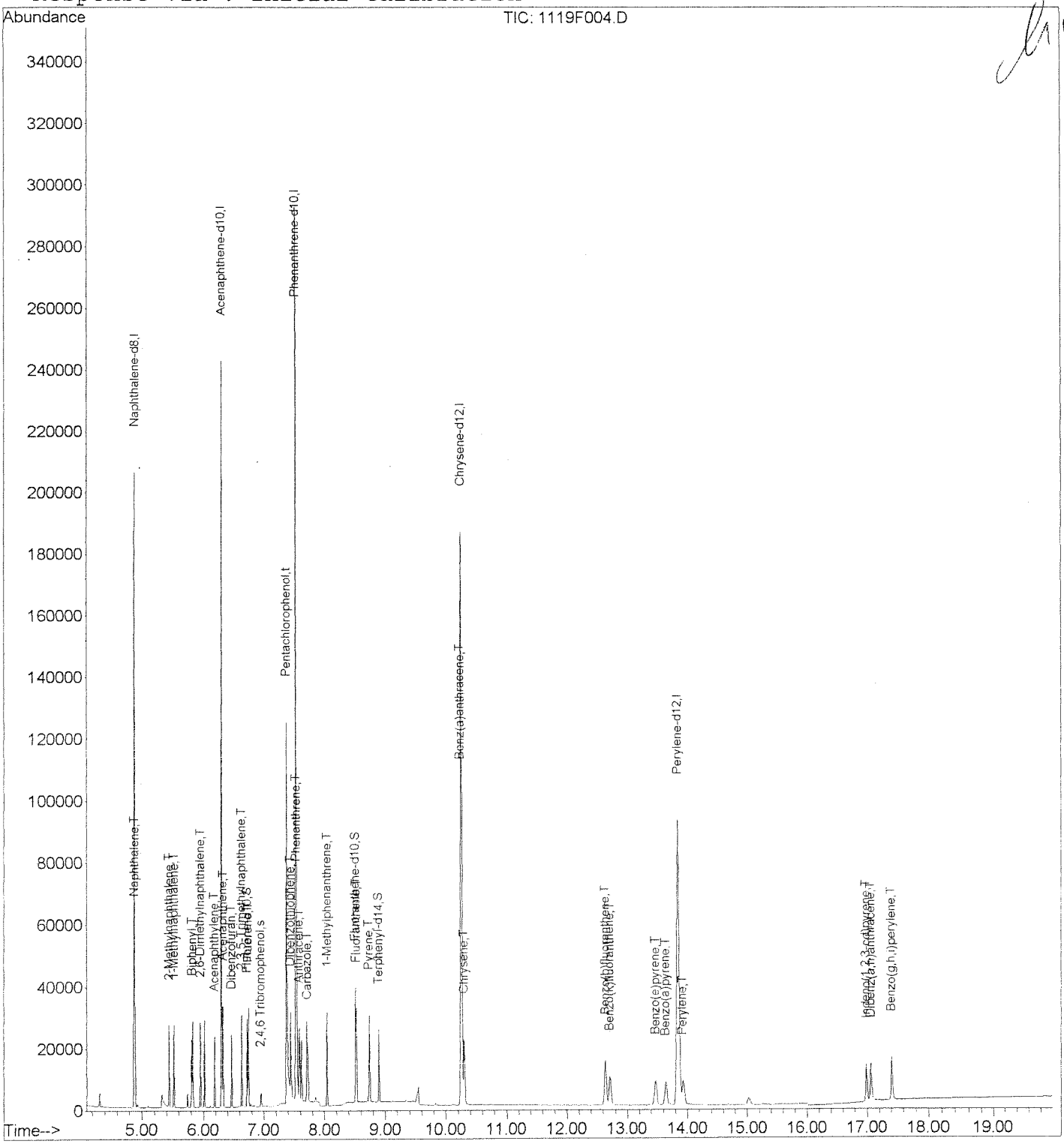
11/24/09

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\111909\1119F004.D Vial: 4
Acq On : 19 Nov 2009 7:15 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @0.02/0.4ug/mL | SVM29-21F Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 19 8:16 2009 Quant Results File: 1119ALK.RES

Method : J:\MS11\METHODS\SIM\1119ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Wed Nov 18 13:17:02 2009
Response via : Initial Calibration

11/20/19

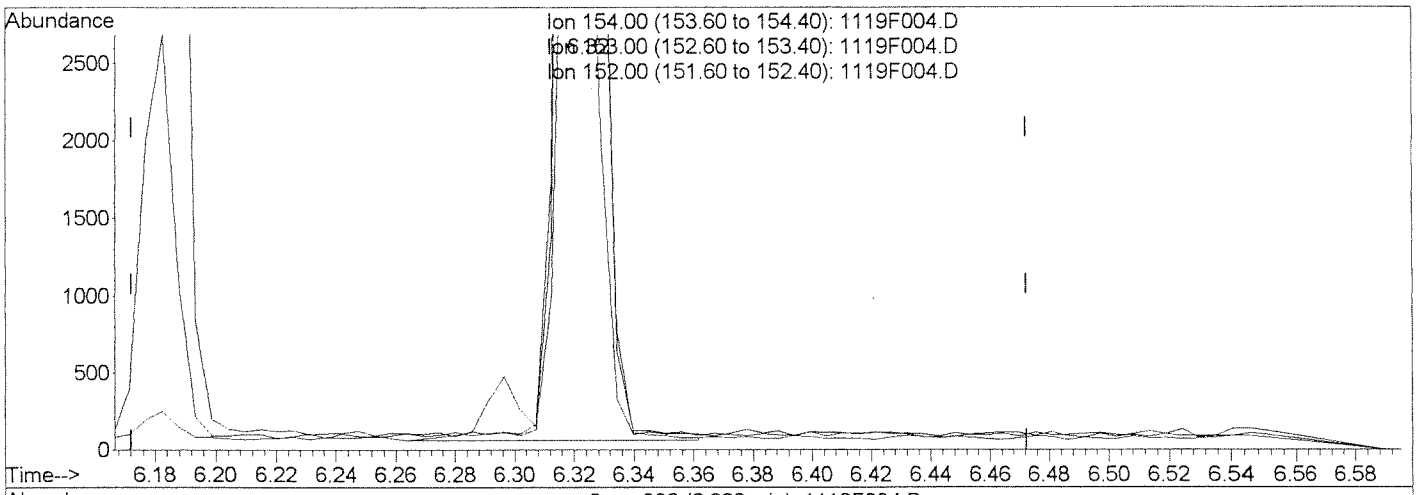


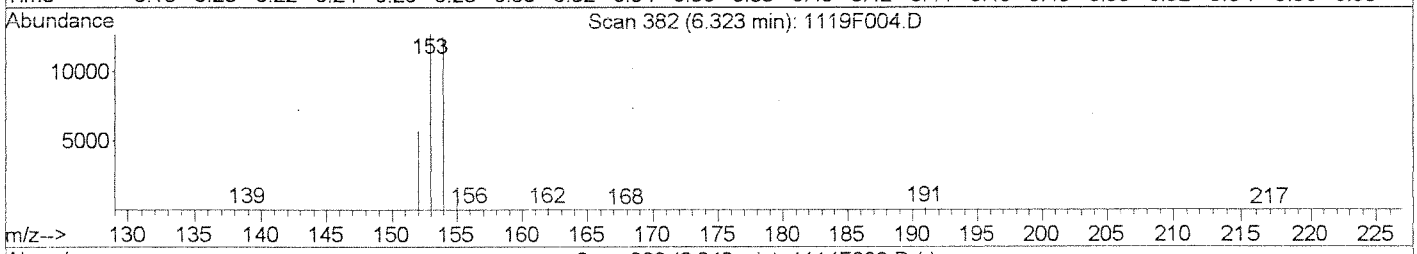
LB 11/24/09

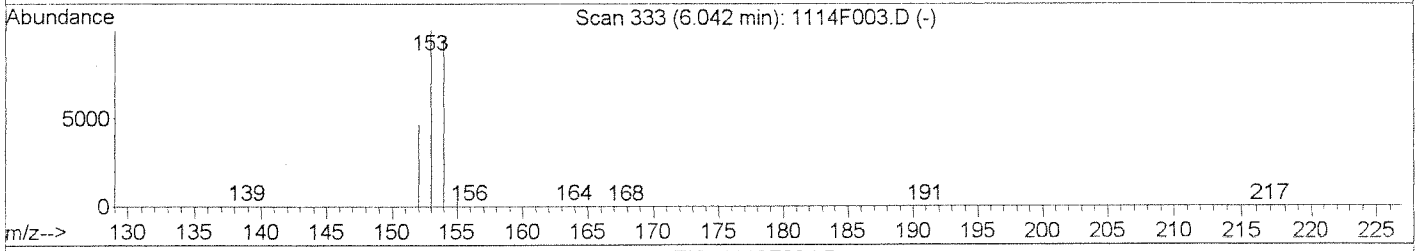
Quantitation Report (Qedit)

Data File : J:\MS11\DATA\111909\1119F004.D Vial: 4
Acq On : 19 Nov 2009 7:15 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @0.02/0.4ug/mL | SVM29-21F Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 19 7:28 2009 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1119ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Wed Nov 18 13:17:02 2009
Response via : Single Level Calibration







TIC: 1119F004.D

(12) Acenaphthene (T)

6.32min 16.60ng/ml

response 9470

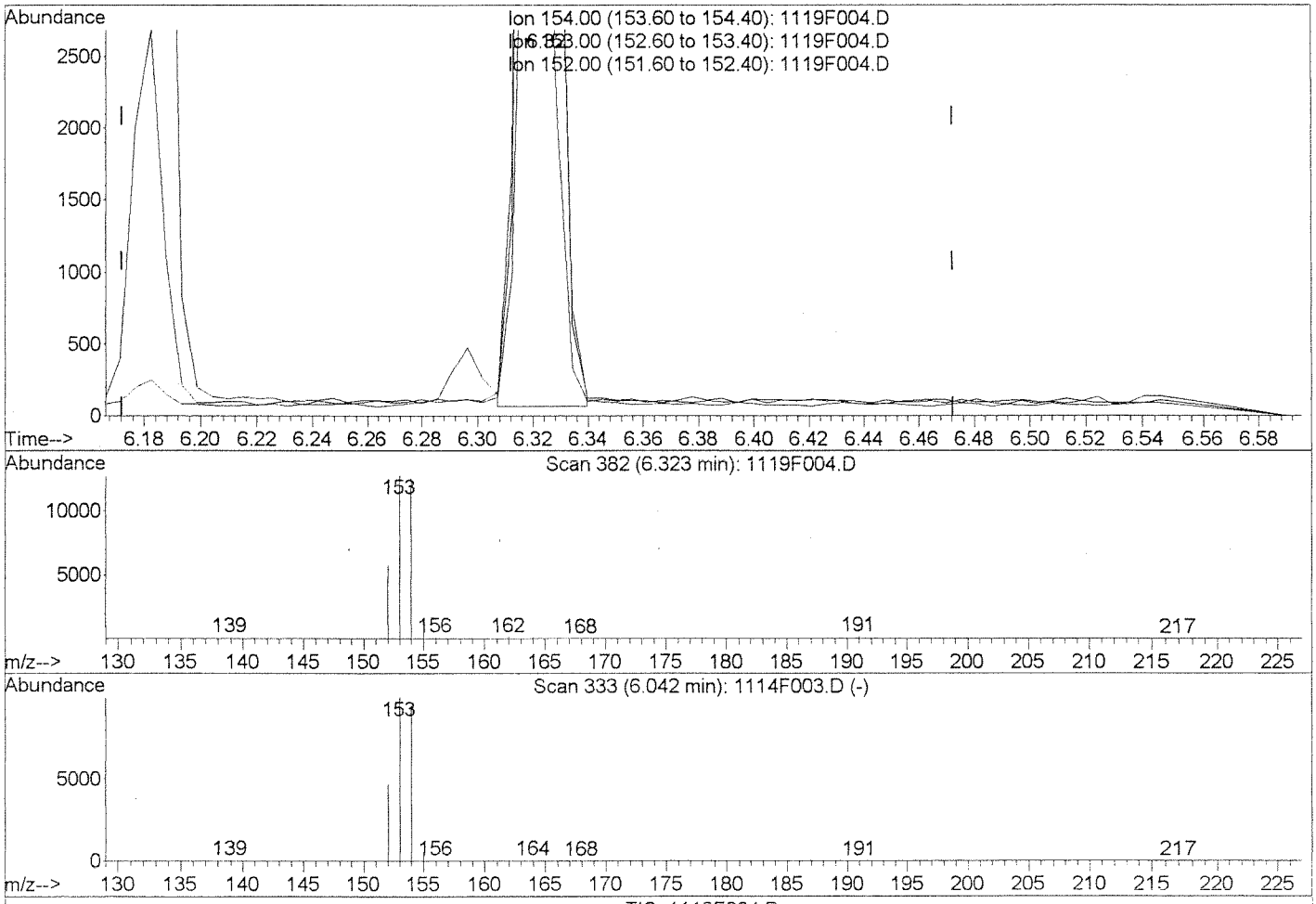
Ion	Exp%	Act%
154.00	100	100
153.00	107.80	101.39
152.00	54.70	45.05
0.00	0.00	0.00

1119F004.D 1119ALK.M Thu Nov 19 08:16:08 2009

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\111909\1119F004.D Vial: 4
Acq On : 19 Nov 2009 7:15 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @0.02/0.4ug/mL | SVM29-21F Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 19 8:16 2009 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1119ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Wed Nov 18 13:17:02 2009
Response via : Single Level Calibration



TIC: 1119F004.D

(12) Acenaphthene (T)

6.32min 15.92ng/ml m

response 9080

Ion	Exp%	Act%
154.00	100	100
153.00	107.80	101.63
152.00	54.70	45.64
0.00	0.00	0.00

DI 11/20/09

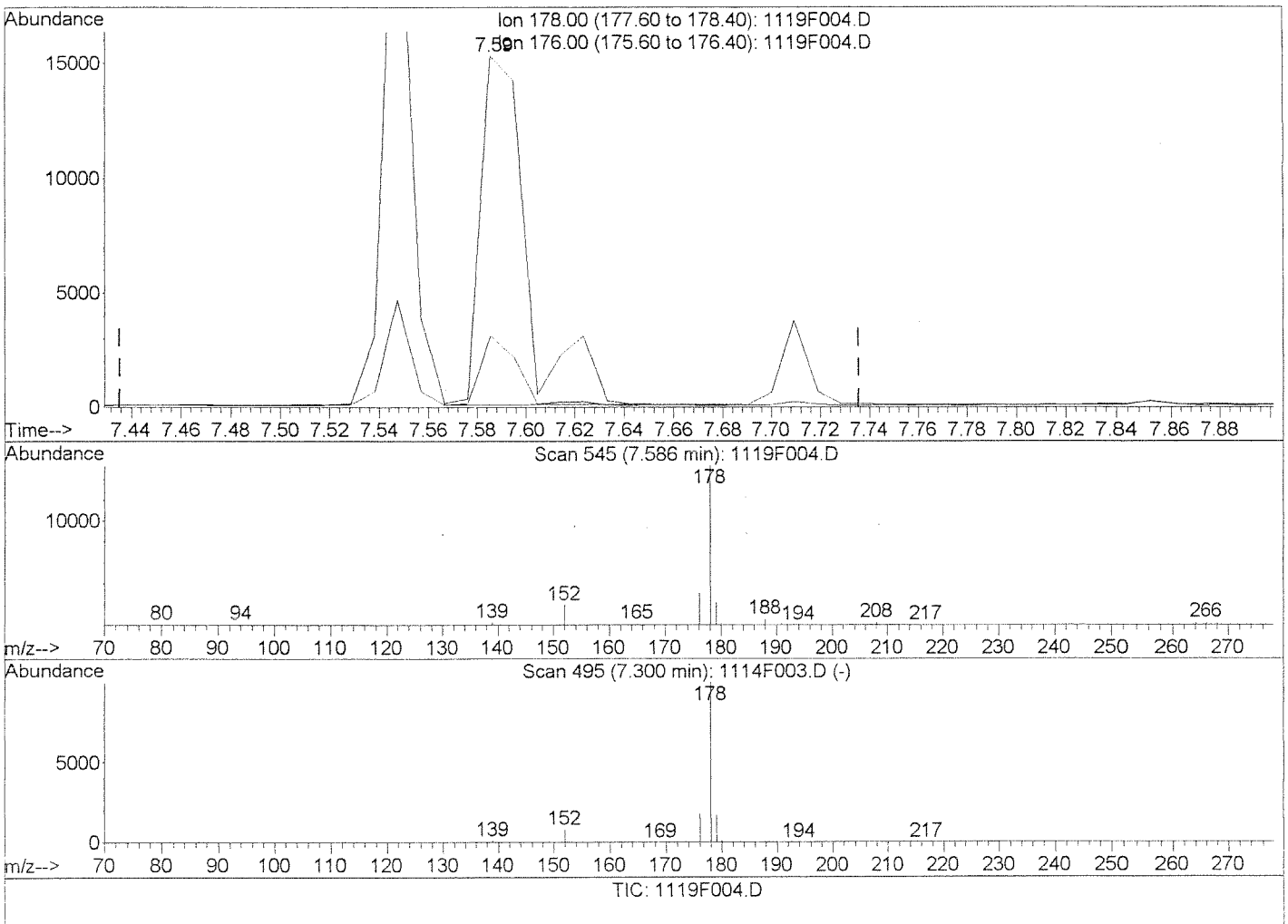
LB 11/24/09

1119F004.D 1119ALK.M Thu Nov 19 08:16:13 2009

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\111909\1119F004.D Vial: 4
Acq On : 19 Nov 2009 7:15 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @0.02/0.4ug/mL | SVM29-21F Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 19 8:16 2009 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1119ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Wed Nov 18 13:17:02 2009
Response via : Single Level Calibration



TIC: 1119F004.D

(28) Anthracene (T)

7.59min 17.36ng/ml

response 20229

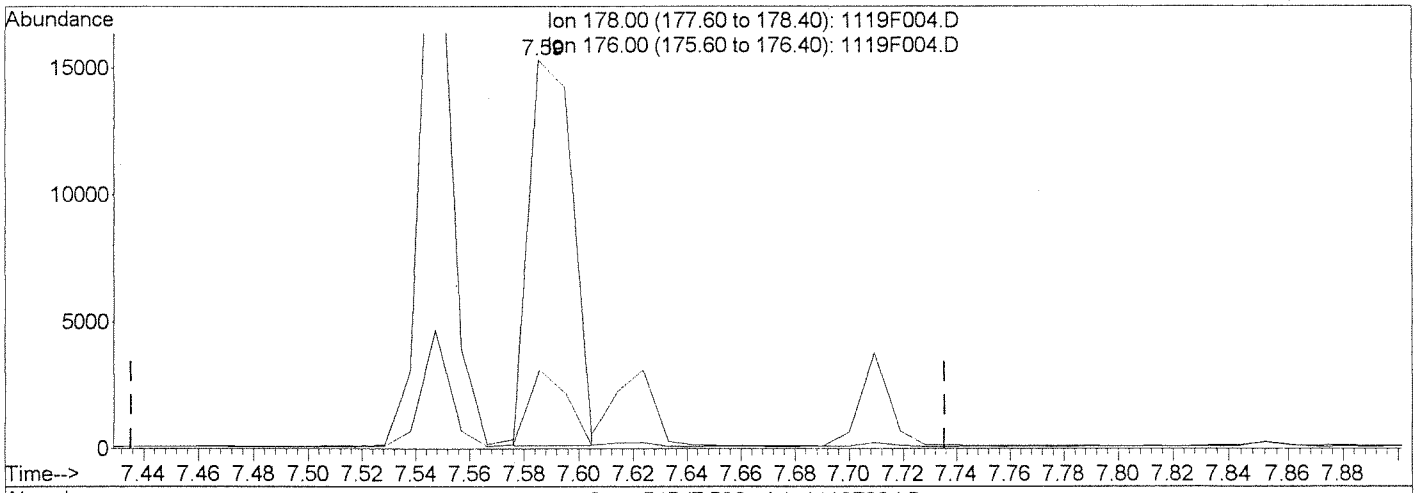
Ion	Exp%	Act%
178.00	100	100
176.00	17.60	19.97
0.00	0.00	0.00
0.00	0.00	0.00

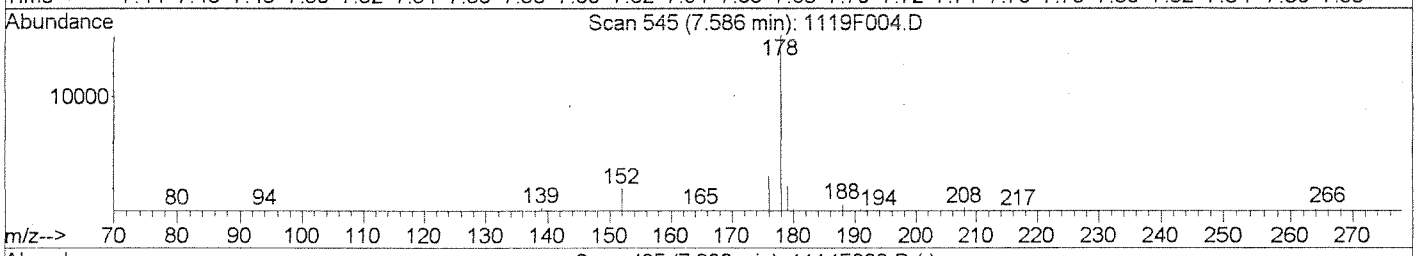
1119F004.D 1119ALK.M Thu Nov 19 08:16:24 2009

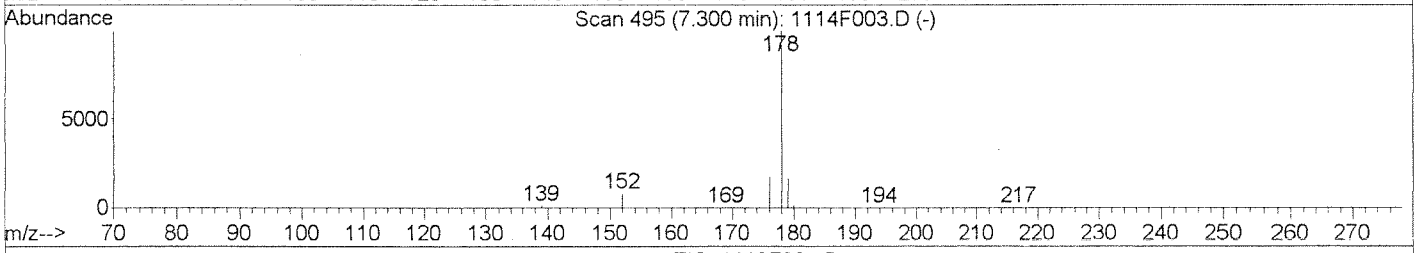
Quantitation Report (Qedit)

Data File : J:\MS11\DATA\111909\1119F004.D Vial: 4
Acq On : 19 Nov 2009 7:15 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @0.02/0.4ug/mL | SVM29-21F Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 19 8:16 2009 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1119ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Wed Nov 18 13:17:02 2009
Response via : Single Level Calibration







TIC: 1119F004.D

(28) Anthracene (T)

7.59min 14.56ng/ml m

response 16967

Ion	Exp%	Act%
178.00	100	100
176.00	17.60	20.37
0.00	0.00	0.00
0.00	0.00	0.00

11/24/09

1119F004.D 1119ALK.M Thu Nov 19 08:16:31 2009

11/24/09

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\111909\1119F005.D Vial: 5
Acq On : 19 Nov 2009 7:41 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @0.1/0.6ug/mL | SVM29-21G Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 19 07:57:46 2009 Quant Results File: 1119ALK.RES

Quant Method : J:\MS11\METHODS\SIM\1119ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Wed Nov 18 13:17:02 2009
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

11/20/19

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	4.88	136	167604	200.00	ng/ml	0.00
10) Acenaphthene-d10	6.30	164	94292	200.00	ng/ml	0.00
22) Phenanthrene-d10	7.53	188	181021	200.00	ng/ml	0.00
37) Chrysene-d12	10.26	240	223535	200.00	ng/ml	0.00
49) Perylene-d12	13.84	264	231703	200.00	ng/ml	-0.02
System Monitoring Compounds						
15) Fluorene-d10	6.73	176	52893	98.29	ng/ml	0.00
Spiked Amount 200.000			Recovery = 49.15%			
20) 2,4,6 Tribromophenol	6.95	330	12237	90.55	ng/ml	0.00
Spiked Amount 375.000			Recovery = 24.15%			
36) Fluoranthene-d10	8.51	212	112168	106.24	ng/ml	0.00
Spiked Amount 200.000			Recovery = 53.12%			
42) Terphenyl-d14	8.89	244	92368	81.94	ng/ml	0.00
Spiked Amount 200.000			Recovery = 40.97%			
Target Compounds						Qvalue
2) Naphthalene	4.89	128	73908	82.00	ng/ml	97
3) 2-Methylnaphthalene	5.44	142	53198	83.49	ng/ml	97
4) 1-Methylnaphthalene	5.52	142	50870	90.14	ng/ml	95
5) Biphenyl	5.82	154	64232	89.51	ng/ml	99
6) 2,6-Dimethylnaphthalene	5.95	156	48199	87.24	ng/ml	99
11) Acenaphthylene	6.18	152	78269	80.16	ng/ml	98
12) Acenaphthene	6.32	154	46029m	78.18	ng/ml	
13) Dibenzofuran	6.47	168	71114	84.35	ng/ml#	53
14) 2,3,5-Trimethylnaphthalene	6.63	170	48862	82.44	ng/ml	90
16) Fluorene	6.75	166	59296	83.91	ng/ml	98
21) Pentachlorophenol	7.38	266	86225	107.96	ng/ml	100
23) Dibenzothiophene	7.44	184	78143	81.63	ng/ml	98
27) Phenanthrene	7.55	178	96134	86.84	ng/ml	95
28) Anthracene	7.59	178	95326m	76.65	ng/ml	
29) Carbazole	7.72	167	79166	82.99	ng/ml	97
30) 1-Methylphenanthrene	8.04	192	74793	87.61	ng/ml	94
35) Fluoranthene	8.53	202	115005	90.93	ng/ml	99
38) Pyrene	8.74	202	119798	92.23	ng/ml	91
43) Benz(a)anthracene	10.24	228	109117	84.13	ng/ml	97
44) Chrysene	10.30	228	106550	85.57	ng/ml	98
50) Benzo(b)fluoranthene	12.63	252	117211	80.19	ng/ml	99
51) Benzo(k)fluoranthene	12.71	252	110969	80.17	ng/ml	99
52) Benzo(e)pyrene	13.47	252	106859	83.32	ng/ml	98
53) Benzo(a)pyrene	13.64	252	98619	77.92	ng/ml	97
54) Perylene	13.93	252	100652	81.84	ng/ml	100

(#) = qualifier out of range (m) = manual integration

LB 11/24/09

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\111909\1119F005.D Vial: 5
Acq On : 19 Nov 2009 7:41 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @0.1/0.6ug/mL | SVM29-21G Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 19 07:57:46 2009 Quant Results File: 1119ALK.RES

Quant Method : J:\MS11\METHODS\SIM\1119ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Wed Nov 18 13:17:02 2009
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

11/20/19

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
55)	Indeno(1,2,3-cd)pyrene	16.99	276	93688	78.17	ng/ml	98
56)	Dibenz(a,h)anthracene	17.06	278	99107	79.58	ng/ml	98
57)	Benzo(g,h,i)perylene	17.41	276	107480	78.28	ng/ml	97

(#) = qualifier out of range (m) = manual integration
1119F005.D 1119ALK.M Thu Nov 19 08:17:44 2009 Page 2

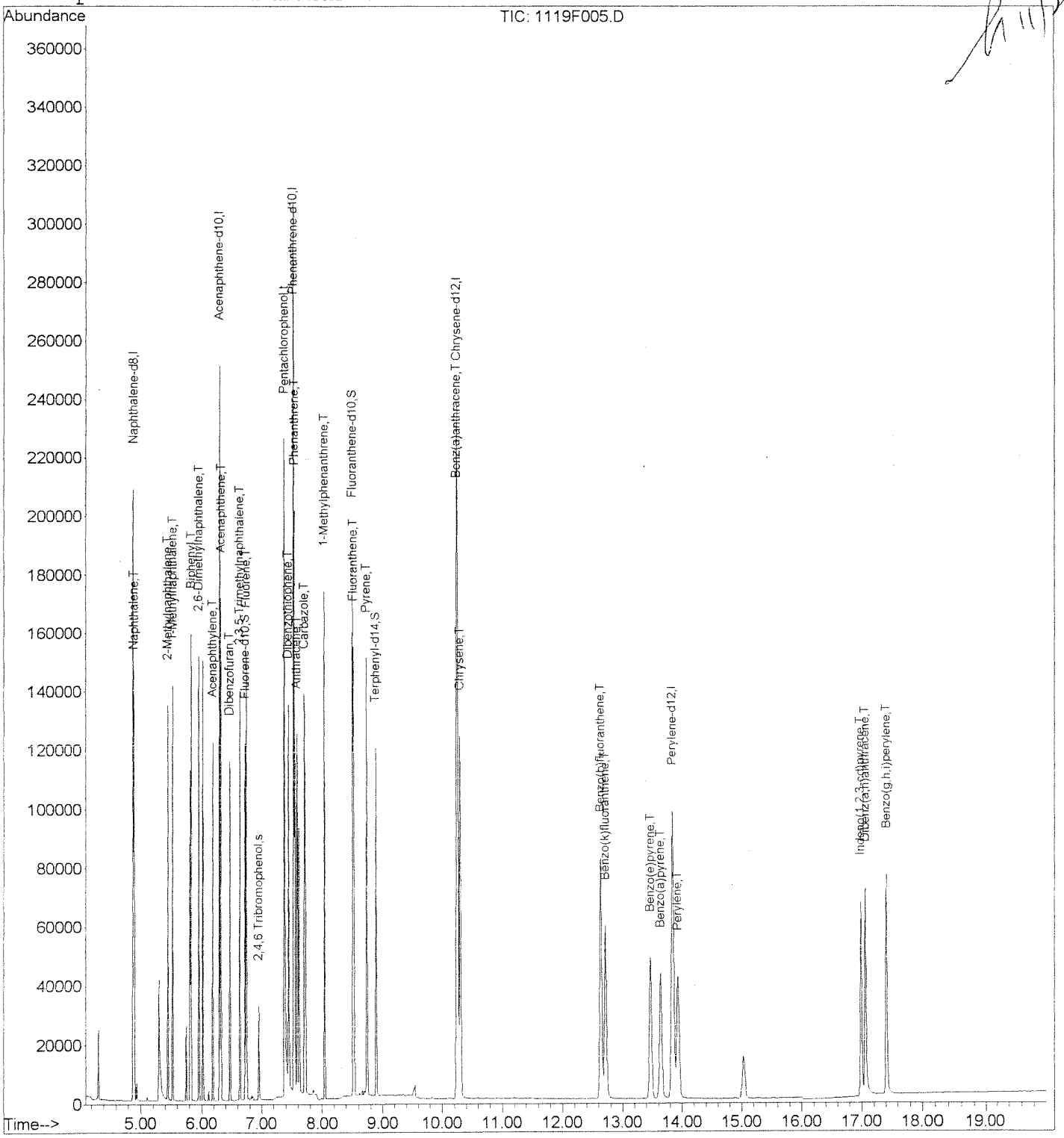
LB 11/24/09

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\111909\1119F005.D Vial: 5
Acq On : 19 Nov 2009 7:41 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @0.1/0.6ug/mL | SVM29-21G Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 19 8:17 2009 Quant Results File: 1119ALK.RES

Method : J:\MS11\METHODS\SIM\1119ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Wed Nov 18 13:17:02 2009
Response via : Initial Calibration

11/20/09

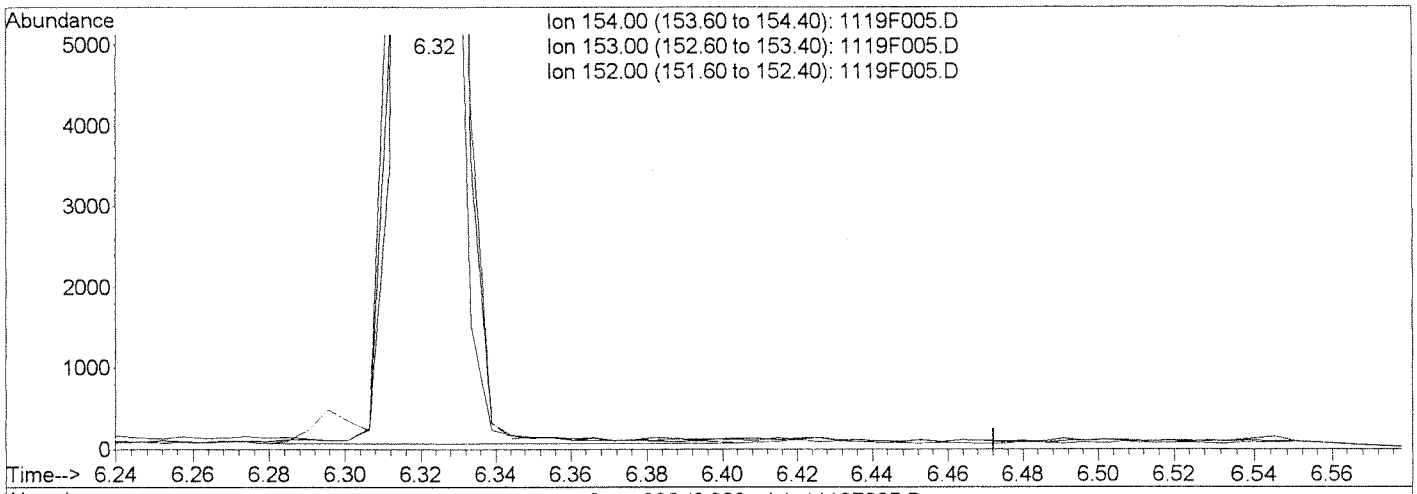


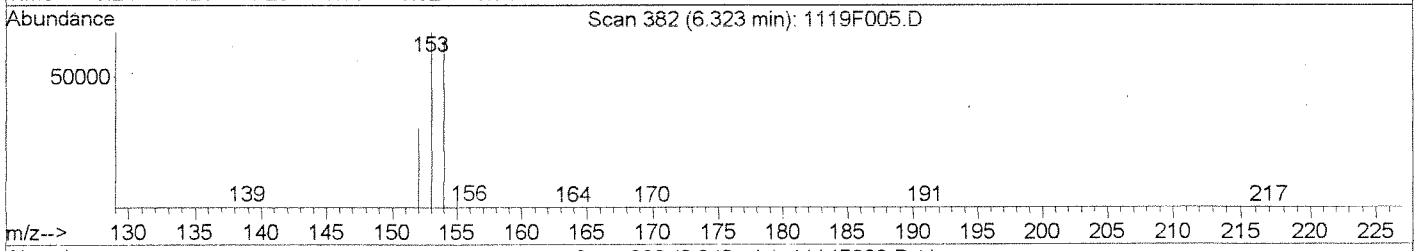
11/24/09

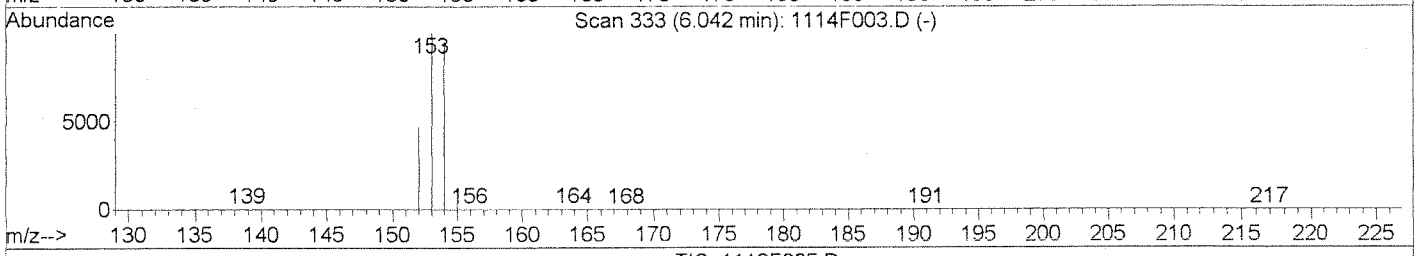
Quantitation Report (Qedit)

Data File : J:\MS11\DATA\111909\1119F005.D Vial: 5
Acq On : 19 Nov 2009 7:41 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @0.1/0.6ug/mL | SVM29-21G Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 19 7:57 2009 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1119ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Wed Nov 18 13:17:02 2009
Response via : Single Level Calibration







TIC: 1119F005.D

(12) Acenaphthene (T)

6.32min 78.98ng/ml

response 46499

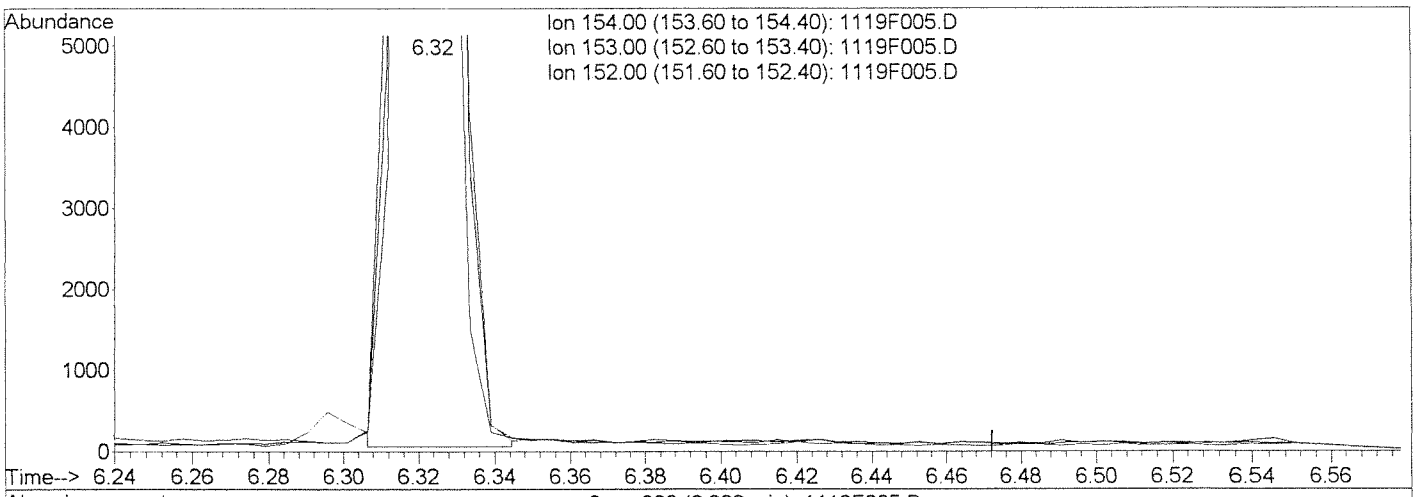
Ion	Exp%	Act%
154.00	100	100
153.00	107.80	104.72
152.00	54.70	47.12
0.00	0.00	0.00

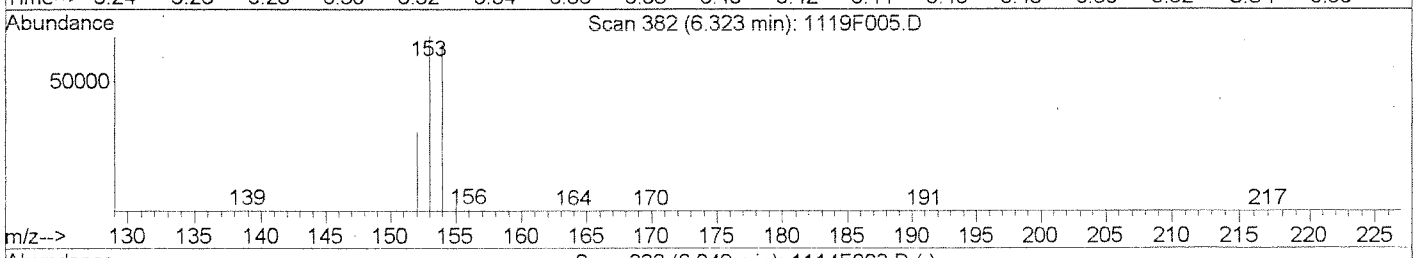
1119F005.D 1119ALK.M Thu Nov 19 08:16:57 2009

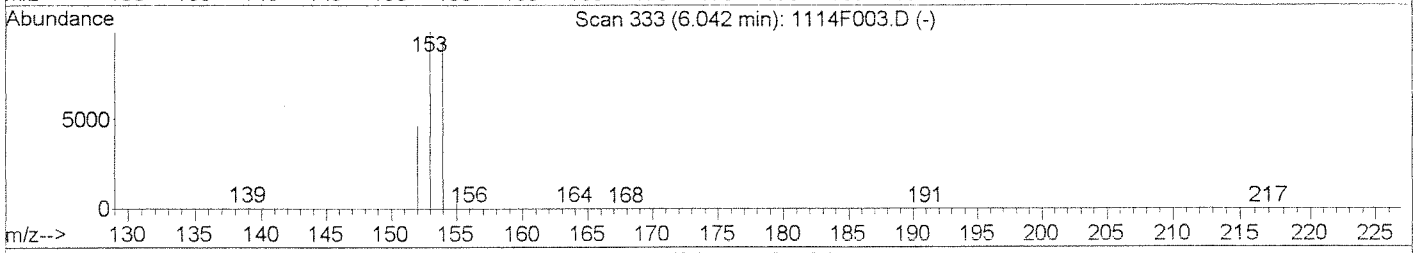
Quantitation Report (Qedit)

Data File : J:\MS11\DATA\111909\1119F005.D Vial: 5
Acq On : 19 Nov 2009 7:41 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @0.1/0.6ug/mL | SVM29-21G Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 19 8:16 2009 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1119ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Wed Nov 18 13:17:02 2009
Response via : Single Level Calibration







TIC: 1119F005.D

(12) Acenaphthene (T)

6.32min 78.18ng/ml m

response 46029

Ion	Exp%	Act%
154.00	100	100
153.00	107.80	104.76
152.00	54.70	47.25
0.00	0.00	0.00

DI 11/20/09

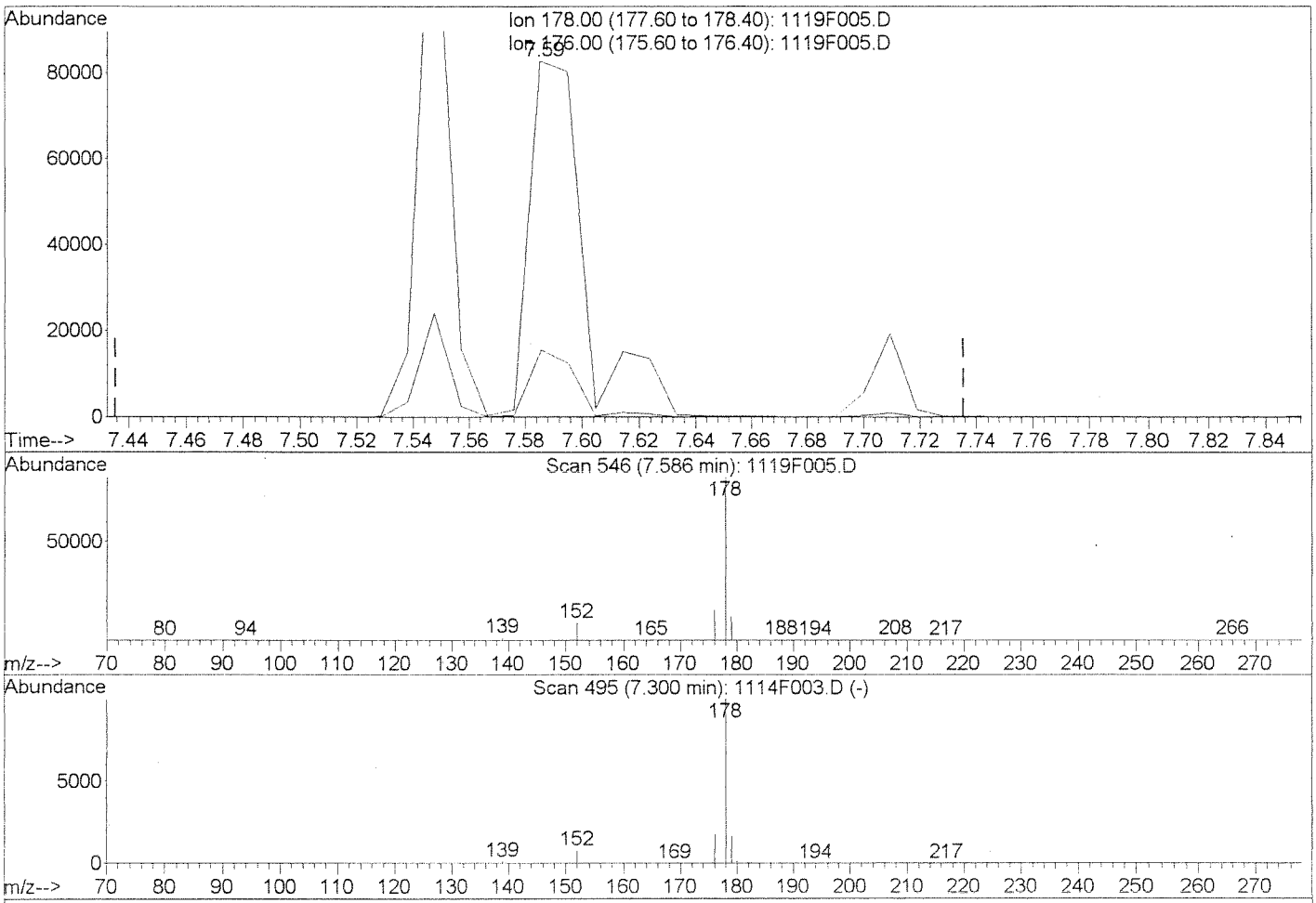
LB 11/24/09

1119F005.D 1119ALK.M Thu Nov 19 08:17:01 2009

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\111909\1119F005.D Vial: 5
Acq On : 19 Nov 2009 7:41 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @0.1/0.6ug/mL | SVM29-21G Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 19 8:16 2009 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1119ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Wed Nov 18 13:17:02 2009
Response via : Single Level Calibration



TIC: 1119F005.D

(28) Anthracene (T)

7.59min 89.91ng/ml

response 111818

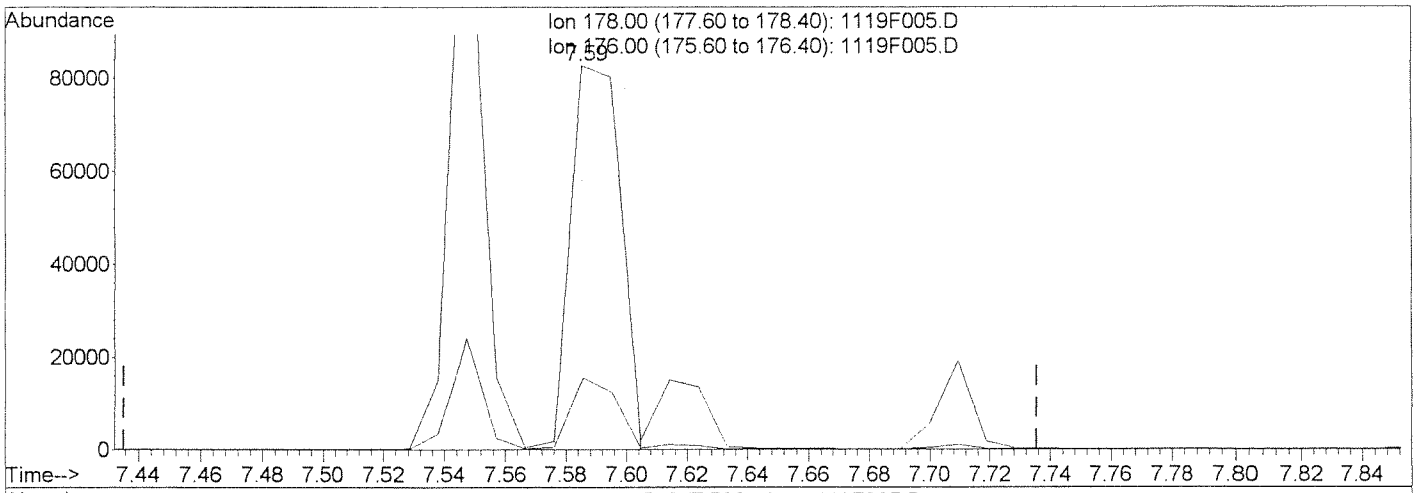
Ion	Exp%	Act%
178.00	100	100
176.00	17.60	18.76
0.00	0.00	0.00
0.00	0.00	0.00

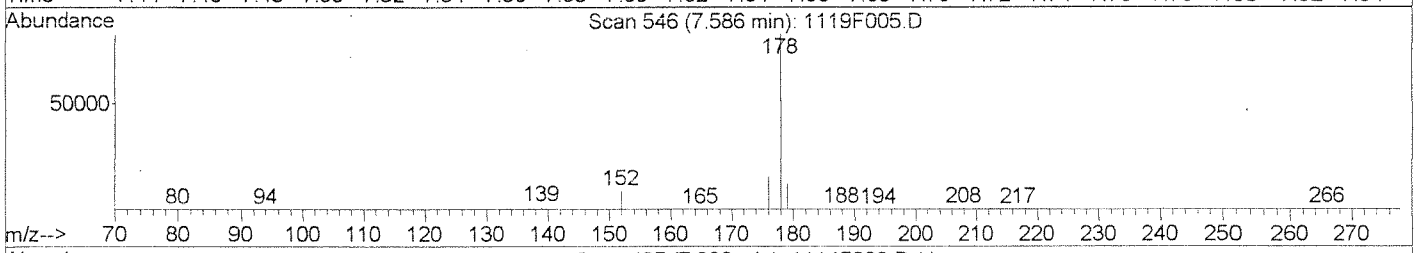
1119F005.D 1119ALK.M Thu Nov 19 08:17:08 2009

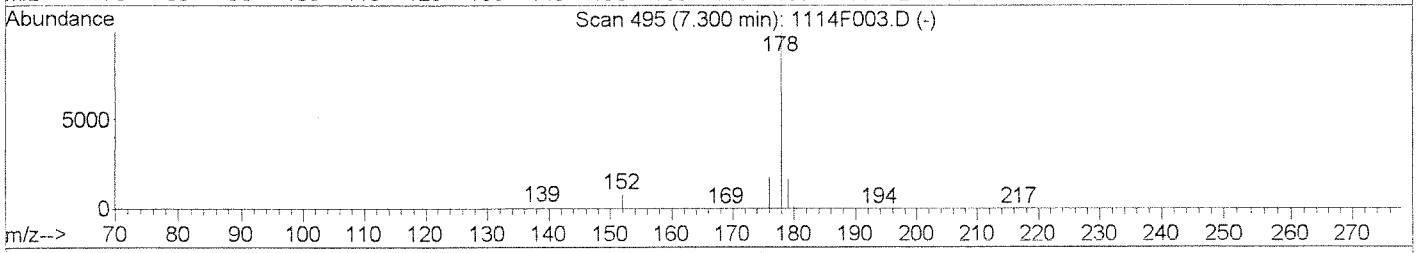
Quantitation Report (Qedit)

Data File : J:\MS11\DATA\111909\1119F005.D Vial: 5
Acq On : 19 Nov 2009 7:41 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @0.1/0.6ug/mL | SVM29-21G Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 19 8:17 2009 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1119ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Wed Nov 18 13:17:02 2009
Response via : Single Level Calibration







TIC: 1119F005.D

(28) Anthracene (T)

7.59min 76.65ng/ml m

response 95326

Ion	Exp%	Act%
178.00	100	100
176.00	17.60	18.84
0.00	0.00	0.00
0.00	0.00	0.00

OS 11/20/09

1119F005.D 1119ALK.M Thu Nov 19 08:17:12 2009

LB 11/24/09

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\111909\1119F006.D Vial: 6
Acq On : 19 Nov 2009 8:08 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @0.2/0.8ug/mL | SVM29-21H Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 19 08:25:26 2009 Quant Results File: 1119ALK.RES

Quant Method : J:\MS11\METHODS\SIM\1119ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Wed Nov 18 13:17:02 2009
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

11/20/09

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	4.87	136	165323	200.00	ng/ml	0.00
10) Acenaphthene-d10	6.30	164	93821	200.00	ng/ml	0.00
22) Phenanthrene-d10	7.53	188	175484	200.00	ng/ml	0.00
37) Chrysene-d12	10.26	240	233195	200.00	ng/ml	0.00
49) Perylene-d12	13.84	264	241005	200.00	ng/ml	-0.02
System Monitoring Compounds						
15) Fluorene-d10	6.72	176	109689	204.86	ng/ml	0.00
Spiked Amount 200.000			Recovery = 102.43%			
20) 2,4,6 Tribromophenol	6.95	330	26378	196.17	ng/ml	0.00
Spiked Amount 375.000			Recovery = 52.31%			
36) Fluoranthene-d10	8.51	212	232290	226.96	ng/ml	0.00
Spiked Amount 200.000			Recovery = 113.48%			
42) Terphenyl-d14	8.90	244	202417	172.12	ng/ml	0.00
Spiked Amount 200.000			Recovery = 86.06%			
Target Compounds						Qvalue
2) Naphthalene	4.89	128	151032	169.89	ng/ml	97
3) 2-Methylnaphthalene	5.44	142	109473	174.18	ng/ml	99
4) 1-Methylnaphthalene	5.52	142	104879	188.40	ng/ml	97
5) Biphenyl	5.82	154	129517	182.97	ng/ml	99
6) 2,6-Dimethylnaphthalene	5.95	156	99991	183.48	ng/ml	100
11) Acenaphthylene	6.18	152	162438	167.20	ng/ml	99
12) Acenaphthene	6.32	154	96215	164.24	ng/ml	93
13) Dibenzofuran	6.46	168	146510	174.66	ng/ml	80
14) 2,3,5-Trimethylnaphthalene	6.63	170	100505	170.43	ng/ml	91
16) Fluorene	6.75	166	121500	172.79	ng/ml	99
21) Pentachlorophenol	7.38	266	116182	146.21	ng/ml	99
23) Dibenzothiophene	7.44	184	162480	175.09	ng/ml	97
27) Phenanthrene	7.55	178	192733	179.60	ng/ml	96
28) Anthracene	7.59	178	192027m	159.28	ng/ml	
29) Carbazole	7.72	167	169506	183.30	ng/ml	98
30) 1-Methylphenanthrene	8.05	192	155449	187.83	ng/ml	97
35) Fluoranthene	8.53	202	241519	196.98	ng/ml	100
38) Pyrene	8.74	202	246634	182.01	ng/ml	92
43) Benz(a)anthracene	10.24	228	244869	180.98	ng/ml	98
44) Chrysene	10.30	228	237724	183.01	ng/ml	97
50) Benzo(b)fluoranthene	12.63	252	266181	175.08	ng/ml	100
51) Benzo(k)fluoranthene	12.71	252	252665	175.49	ng/ml	99
52) Benzo(e)pyrene	13.48	252	241922	181.35	ng/ml	100
53) Benzo(a)pyrene	13.64	252	228772	173.77	ng/ml	99
54) Perylene	13.94	252	229454	179.38	ng/ml	100

(#) = qualifier out of range (m) = manual integration
1119F006.D 1119ALK.M Thu Nov 19 08:26:02 2009 Page 1

LB 11/24/09

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\111909\1119F006.D Vial: 6
Acq On : 19 Nov 2009 8:08 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @0.2/0.8ug/mL | SVM29-21H Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 19 08:25:26 2009 Quant Results File: 1119ALK.RES

Quant Method : J:\MS11\METHODS\SIM\1119ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Wed Nov 18 13:17:02 2009
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

11/20/09

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
55) Indeno(1,2,3-cd)pyrene	16.99	276	207459	166.41 ng/ml	98
56) Dibenz(a,h)anthracene	17.06	278	215658	166.47 ng/ml	98
57) Benzo(g,h,i)perylene	17.41	276	235604	164.98 ng/ml	97

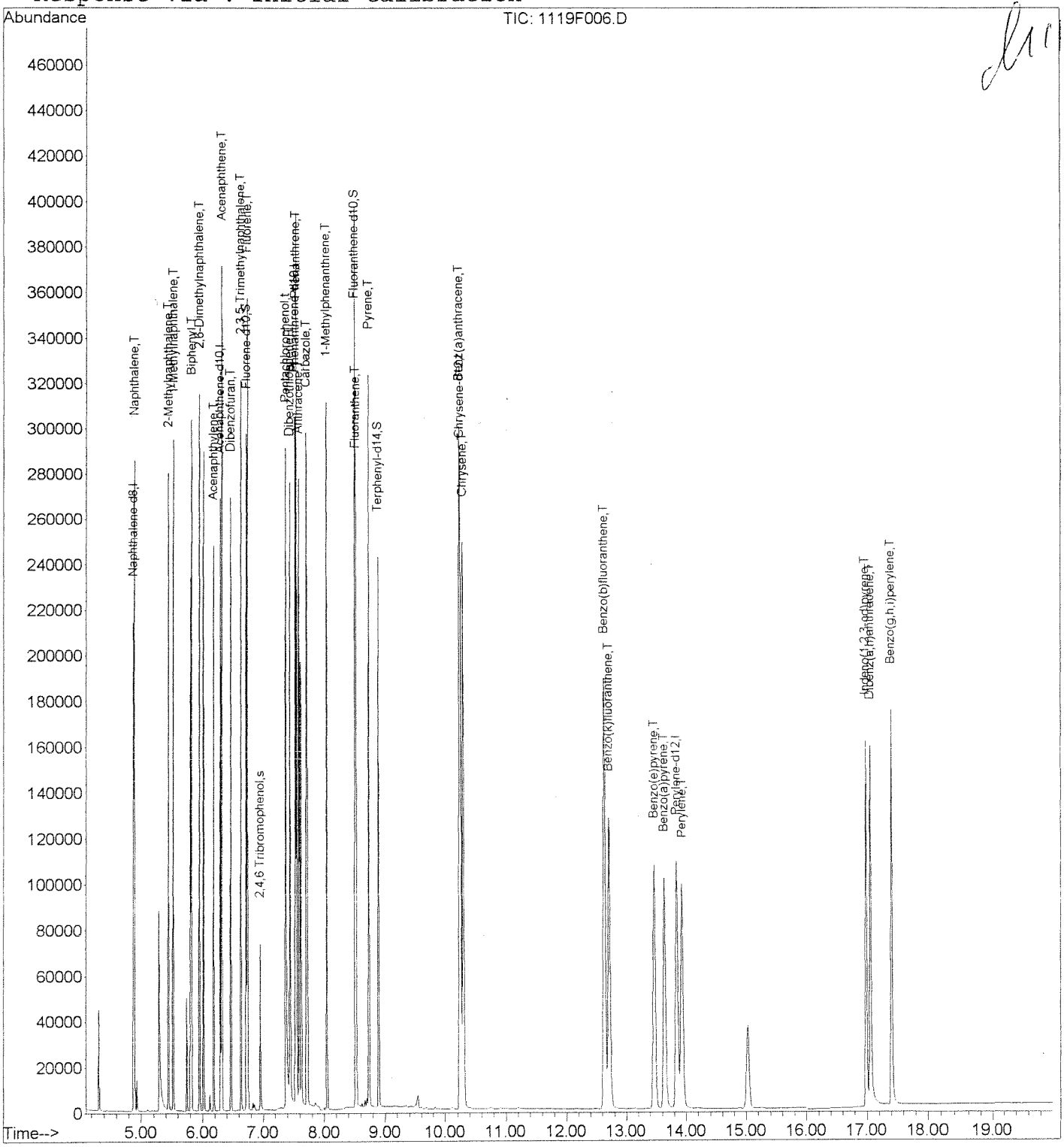
(#) = qualifier out of range (m) = manual integration
1119F006.D 1119ALK.M Thu Nov 19 08:26:02 2009 Page 2

LB 11/24/09

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\111909\1119F006.D Vial: 6
Acq On : 19 Nov 2009 8:08 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @0.2/0.8ug/mL | SVM29-21H Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 19 8:25 2009 Quant Results File: 1119ALK.RES

Method : J:\MS11\METHODS\SIM\1119ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Wed Nov 18 13:17:02 2009
Response via : Initial Calibration



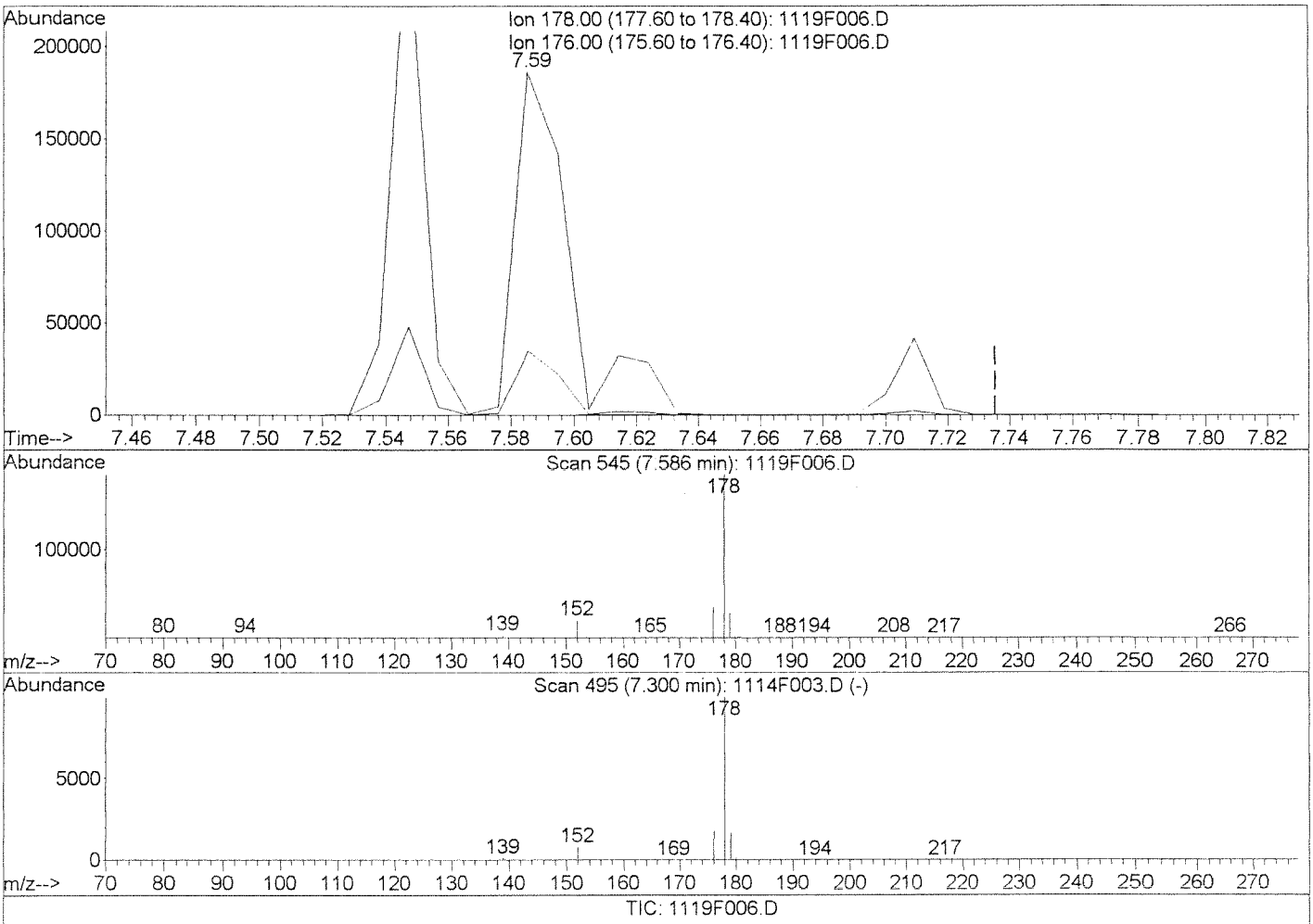
11/20/09

LB 11/24/09

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\111909\1119F006.D Vial: 6
Acq On : 19 Nov 2009 8:08 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @0.2/0.8ug/mL | SVM29-21H Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 19 8:25 2009 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1119ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Wed Nov 18 13:17:02 2009
Response via : Single Level Calibration



TIC: 1119F006.D

(28) Anthracene (T)

7.59min 188.37ng/ml

response 227089

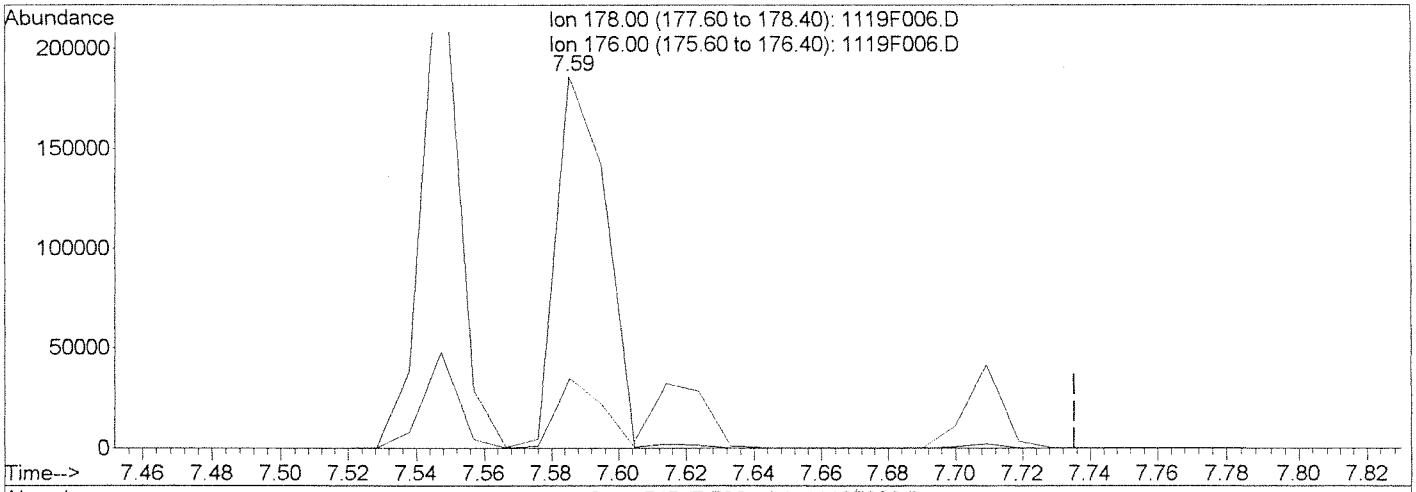
Ion	Exp%	Act%
178.00	100	100
176.00	17.60	18.72
0.00	0.00	0.00
0.00	0.00	0.00

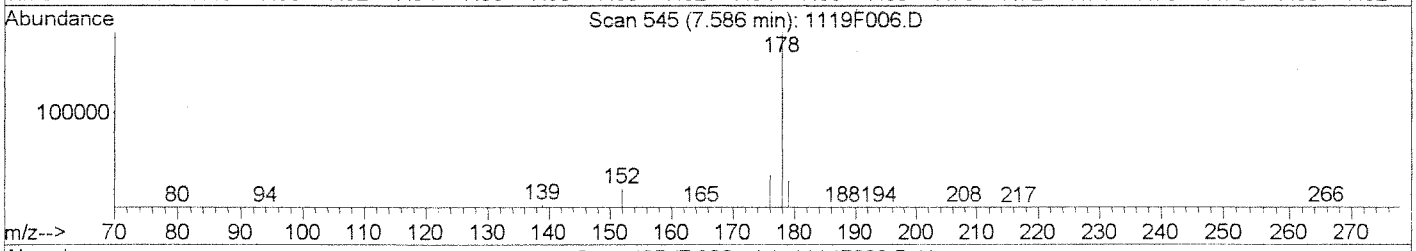
1119F006.D 1119ALK.M Thu Nov 19 08:25:43 2009

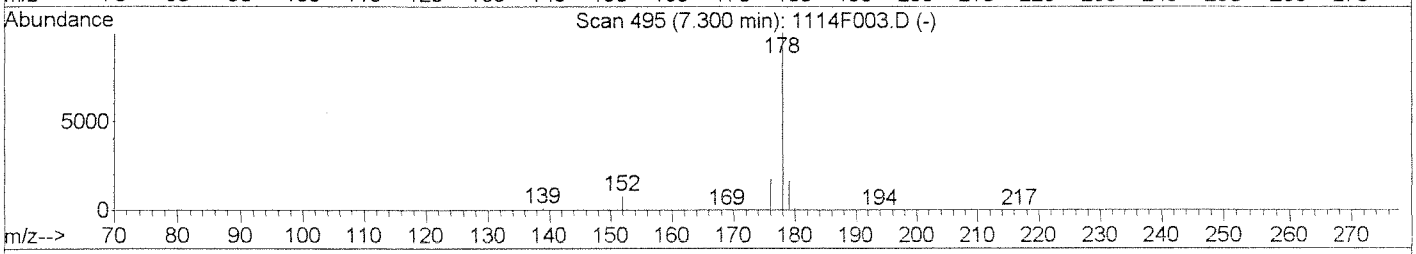
Quantitation Report (Qedit)

Data File : J:\MS11\DATA\111909\1119F006.D Vial: 6
Acq On : 19 Nov 2009 8:08 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @0.2/0.8ug/mL | SVM29-21H Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 19 8:25 2009 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1119ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Wed Nov 18 13:17:02 2009
Response via : Single Level Calibration







TIC: 1119F006.D

(28) Anthracene (T)

7.59min 159.28ng/ml m

response 192027

Ion	Exp%	Act%
178.00	100	100
176.00	17.60	18.75
0.00	0.00	0.00
0.00	0.00	0.00

OI 11/18/09

1119F006.D 1119ALK.M Thu Nov 19 08:25:47 2009

LB 11/24/09

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\111909\1119F007.D Vial: 7
Acq On : 19 Nov 2009 8:35 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @0.4/1.0ug/mL | SVM29-21I Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 19 08:48:14 2009 Quant Results File: 1119ALK.RES

Quant Method : J:\MS11\METHODS\SIM\1119ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Wed Nov 18 13:17:02 2009
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

11/2019

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	4.88	136	167130	200.00	ng/ml	0.00
10) Acenaphthene-d10	6.30	164	93826	200.00	ng/ml	0.00
22) Phenanthrene-d10	7.53	188	169262	200.00	ng/ml	0.00
37) Chrysene-d12	10.26	240	225410	200.00	ng/ml	0.00
49) Perylene-d12	13.85	264	242714	200.00	ng/ml	-0.02
System Monitoring Compounds						
15) Fluorene-d10	6.73	176	209102	390.50	ng/ml	0.00
Spiked Amount 200.000			Recovery =	195.25%		
20) 2,4,6 Tribromophenol	6.95	330	51608	383.77	ng/ml	0.00
Spiked Amount 375.000			Recovery =	102.34%		
36) Fluoranthene-d10	8.51	212	421748	427.22	ng/ml	0.00
Spiked Amount 200.000			Recovery =	213.61%		
42) Terphenyl-d14	8.89	244	367767	323.52	ng/ml	0.00
Spiked Amount 200.000			Recovery =	161.76%		
Target Compounds						Qvalue
2) Naphthalene	4.89	128	291802	324.68	ng/ml	96
3) 2-Methylnaphthalene	5.44	142	209901	330.36	ng/ml	98
4) 1-Methylnaphthalene	5.52	142	201631	358.29	ng/ml	92
5) Biphenyl	5.82	154	245962	343.72	ng/ml	100
6) 2,6-Dimethylnaphthalene	5.95	156	192052	348.60	ng/ml	100
11) Acenaphthylene	6.18	152	309728	318.78	ng/ml	99
12) Acenaphthene	6.32	154	183515	313.24	ng/ml	94
13) Dibenzofuran	6.47	168	276998	330.21	ng/ml#	54
14) 2,3,5-Trimethylnaphthalene	6.63	170	195088	330.81	ng/ml	95
16) Fluorene	6.75	166	232115	330.09	ng/ml	100
21) Pentachlorophenol	7.38	266	145928	183.63	ng/ml	97
23) Dibenzothiophene	7.44	184	304205	339.87	ng/ml	94
27) Phenanthrene	7.55	178	350077	338.22	ng/ml	97
28) Anthracene	7.59	178	350621m	301.52	ng/ml	
29) Carbazole	7.73	167	305697	342.73	ng/ml	85
30) 1-Methylphenanthrene	8.05	192	281300	352.39	ng/ml	97
35) Fluoranthene	8.53	202	425115	359.46	ng/ml	95
38) Pyrene	8.74	202	443728	338.77	ng/ml	89
43) Benz(a)anthracene	10.24	228	468299	358.08	ng/ml	98
44) Chrysene	10.30	228	445927	355.15	ng/ml	98
50) Benzo(b)fluoranthene	12.63	252	516040	337.04	ng/ml	99
51) Benzo(k)fluoranthene	12.72	252	501723	346.03	ng/ml	100
52) Benzo(e)pyrene	13.47	252	475260	353.75	ng/ml	99
53) Benzo(a)pyrene	13.65	252	459102	346.27	ng/ml	99
54) Perylene	13.94	252	456607	354.44	ng/ml	100

(#) = qualifier out of range (m) = manual integration
1119F007.D 1119ALK.M Thu Nov 19 08:48:57 2009 Page 1

11/24/09

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\111909\1119F007.D Vial: 7
Acq On : 19 Nov 2009 8:35 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @0.4/1.0ug/mL | SVM29-21I Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 19 08:48:14 2009 Quant Results File: 1119ALK.RES

Quant Method : J:\MS11\METHODS\SIM\1119ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Wed Nov 18 13:17:02 2009
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

11/2019

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
55)	Indeno(1,2,3-cd)pyrene	16.99	276	403294	321.22	ng/ml	99
56)	Dibenz(a,h)anthracene	17.06	278	417050	319.67	ng/ml	98
57)	Benzo(g,h,i)perylene	17.41	276	448627	311.94	ng/ml	97

(#) = qualifier out of range (m) = manual integration
1119F007.D 1119ALK.M Thu Nov 19 08:48:57 2009

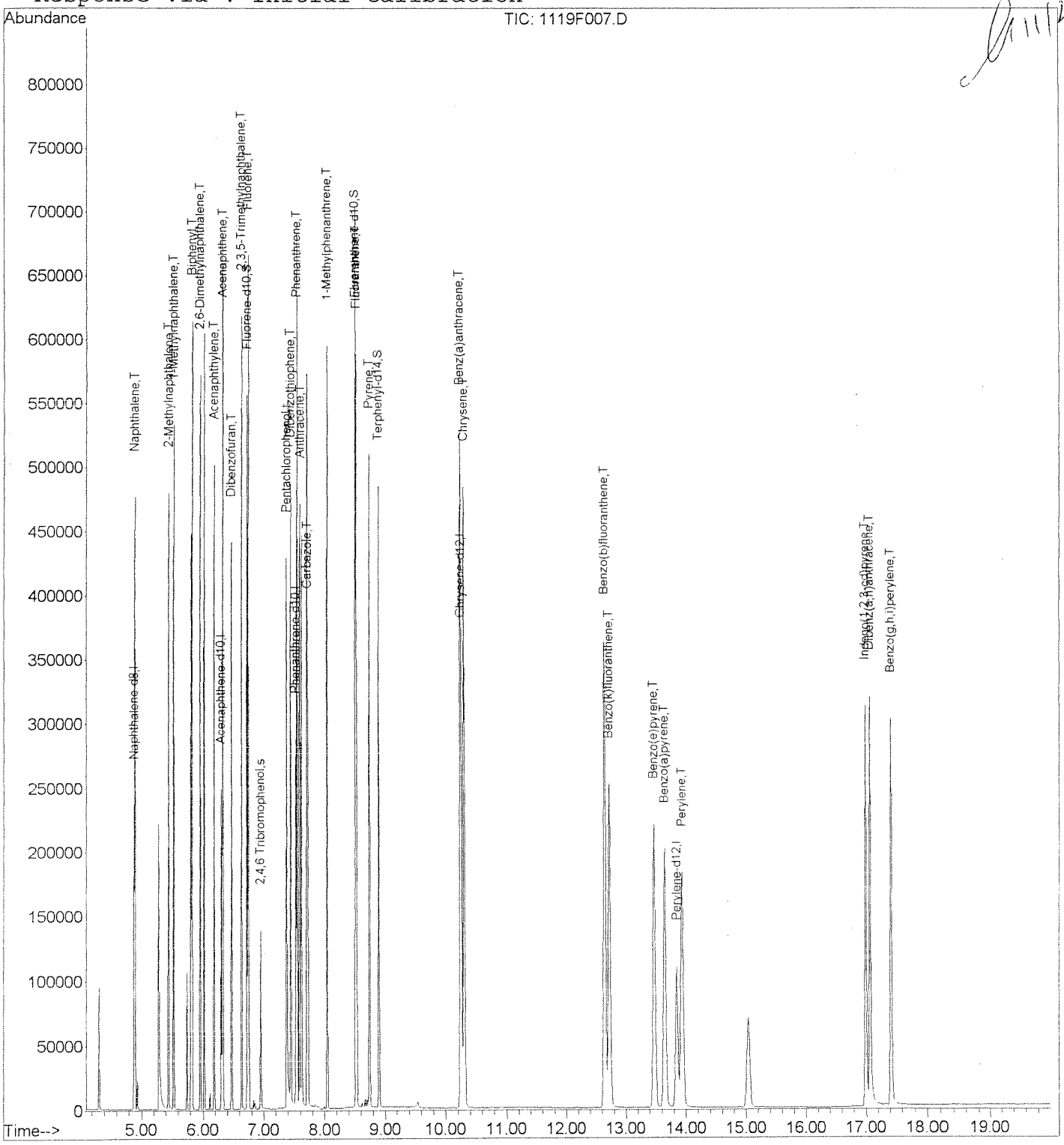
KB 11/24/09

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\111909\1119F007.D Vial: 7
Acq On : 19 Nov 2009 8:35 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @0.4/1.0ug/mL | SVM29-21I Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 19 8:48 2009 Quant Results File: 1119ALK.RES

Method : J:\MS11\METHODS\SIM\1119ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Wed Nov 18 13:17:02 2009
Response via : Initial Calibration

11/24/09

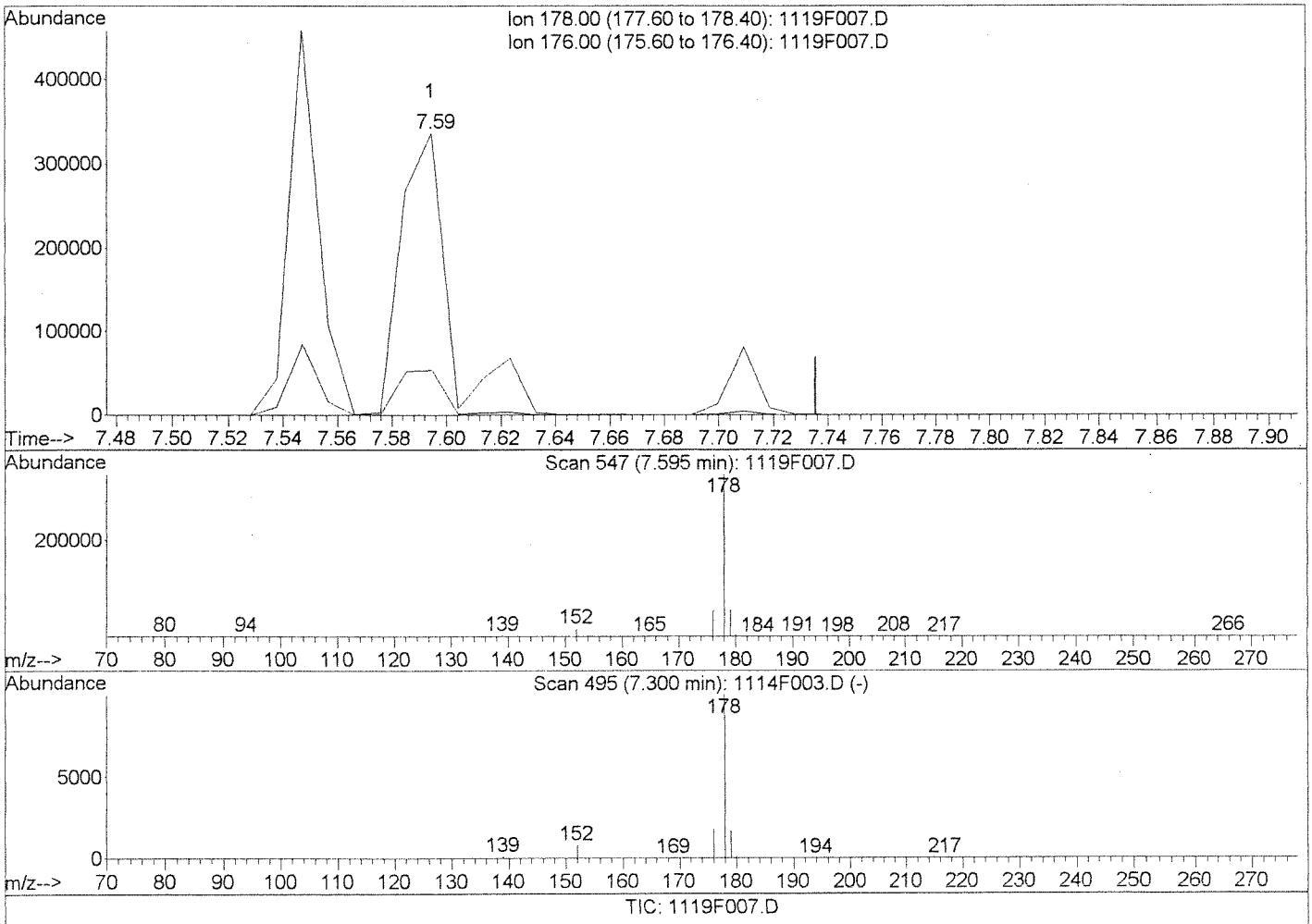


11/24/09

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\111909\1119F007.D Vial: 7
Acq On : 19 Nov 2009 8:35 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @0.4/1.0ug/mL | SVM29-21I Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 19 8:48 2009 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1119ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Wed Nov 18 13:17:02 2009
Response via : Single Level Calibration



TIC: 1119F007.D

(28) Anthracene (T)

7.59min 359.87ng/ml

response 418468

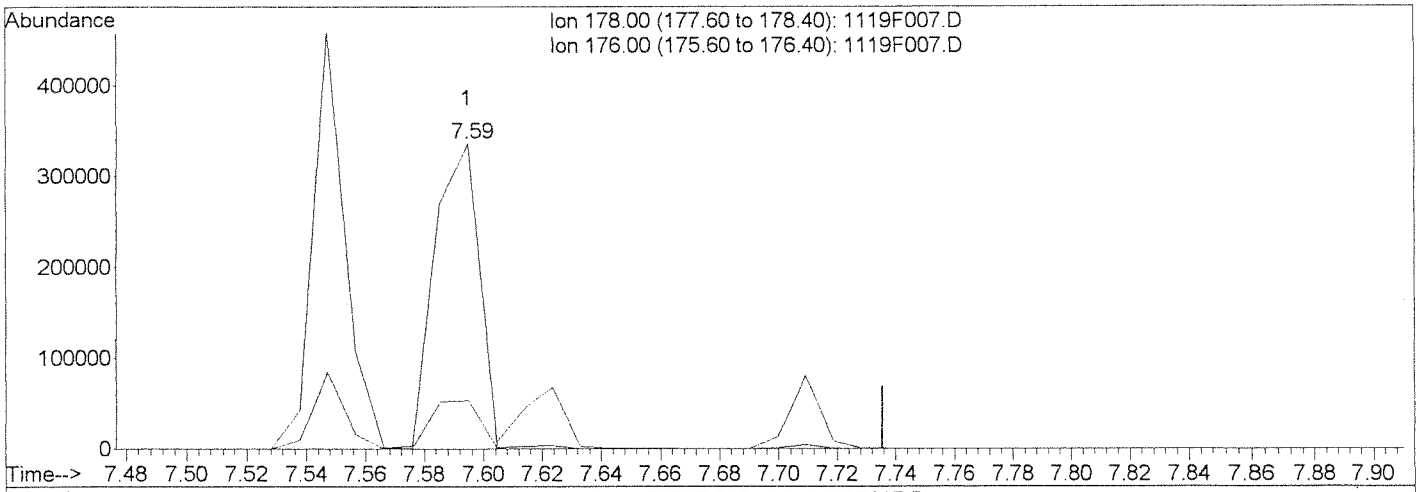
Ion	Exp%	Act%
178.00	100	100
176.00	17.60	15.88
0.00	0.00	0.00
0.00	0.00	0.00

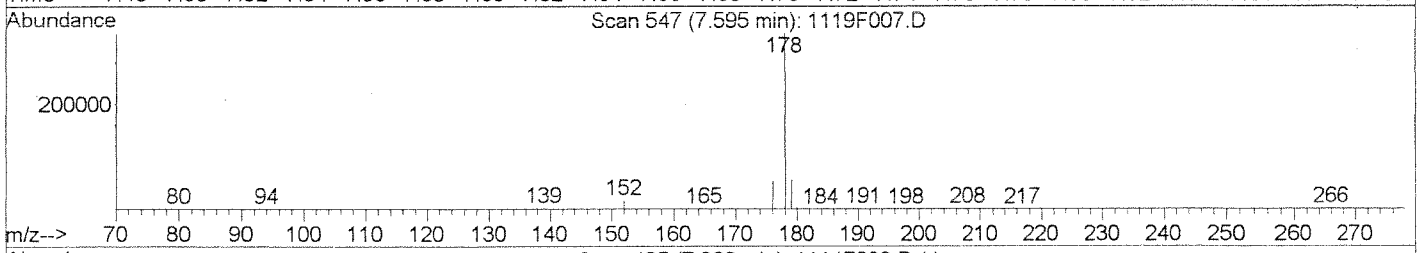
1119F007.D 1119ALK.M Thu Nov 19 08:48:36 2009

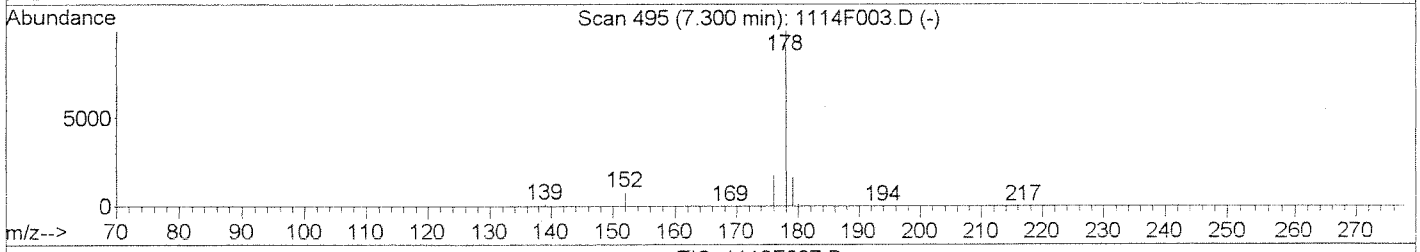
Quantitation Report (Qedit)

Data File : J:\MS11\DATA\111909\1119F007.D Vial: 7
Acq On : 19 Nov 2009 8:35 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @0.4/1.0ug/mL | SVM29-21I Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 19 8:48 2009 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1119ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Wed Nov 18 13:17:02 2009
Response via : Single Level Calibration







TIC: 1119F007.D

(28) Anthracene (T)

7.59min 301.52ng/ml m

response 350621

Ion	Exp%	Act%
178.00	100	100
176.00	17.60	15.90
0.00	0.00	0.00
0.00	0.00	0.00

OE 11/20/09

1119F007.D 1119ALK.M Thu Nov 19 08:48:40 2009

LB 11/24/09

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\111909\1119F008.D Vial: 8
Acq On : 19 Nov 2009 9:01 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @1.0/2.0ug/mL | SVM29-21J Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 19 09:16:26 2009 Quant Results File: 1119ALK.RES

Quant Method : J:\MS11\METHODS\SIM\1119ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Wed Nov 18 13:17:02 2009
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

11/20/19

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	4.87	136	169583	200.00	ng/ml	0.00
10) Acenaphthene-d10	6.30	164	95435	200.00	ng/ml	0.00
22) Phenanthrene-d10	7.53	188	167029	200.00	ng/ml	0.00
37) Chrysene-d12	10.26	240	210536	200.00	ng/ml	0.00
49) Perylene-d12	13.86	264	231322	200.00	ng/ml	-0.01
System Monitoring Compounds						
15) Fluorene-d10	6.72	176	521883	958.19	ng/ml	0.00
Spiked Amount 200.000			Recovery = 479.10%			
20) 2,4,6 Tribromophenol	6.95	330	138740	1014.32	ng/ml	0.00
Spiked Amount 375.000			Recovery = 270.49%			
36) Fluoranthene-d10	8.51	212	969324	995.03	ng/ml	0.00
Spiked Amount 200.000			Recovery = 497.52%			
42) Terphenyl-d14	8.89	244	835647	787.05	ng/ml	0.00
Spiked Amount 200.000			Recovery = 393.52%			
Target Compounds						Qvalue
2) Naphthalene	4.89	128	714246	783.23	ng/ml	97
3) 2-Methylnaphthalene	5.44	142	521861	809.47	ng/ml	96
4) 1-Methylnaphthalene	5.53	142	501341	877.98	ng/ml	100
5) Biphenyl	5.82	154	605896	834.47	ng/ml	98
6) 2,6-Dimethylnaphthalene	5.95	156	483937	865.69	ng/ml	100
11) Acenaphthylene	6.18	152	771228	780.39	ng/ml	98
12) Acenaphthene	6.32	154	462418	776.00	ng/ml	93
13) Dibenzofuran	6.47	168	686410	804.46	ng/ml#	51
14) 2,3,5-Trimethylnaphthalene	6.63	170	494707	824.72	ng/ml	99
16) Fluorene	6.75	166	572723	800.74	ng/ml	99
21) Pentachlorophenol	7.38	266	318443	393.96	ng/ml	98
23) Dibenzothiophene	7.44	184	746071	844.68	ng/ml	95
27) Phenanthrene	7.55	178	857792	839.81	ng/ml	98
28) Anthracene	7.60	178	866724m	755.32	ng/ml	
29) Carbazole	7.73	167	716440	813.98	ng/ml	85
30) 1-Methylphenanthrene	8.05	192	674850	856.69	ng/ml	99
35) Fluoranthene	8.53	202	960560	823.07	ng/ml	93
38) Pyrene	8.74	202	1015915	830.42	ng/ml	96
43) Benz(a)anthracene	10.25	228	1084346	887.70	ng/ml	98
44) Chrysene	10.31	228	1022025	871.48	ng/ml	98
50) Benzo(b)fluoranthene	12.64	252	1240466	850.07	ng/ml	99
51) Benzo(k)fluoranthene	12.73	252	1199081	867.71	ng/ml	99
52) Benzo(e)pyrene	13.48	252	1140150	890.45	ng/ml	99
53) Benzo(a)pyrene	13.66	252	1139290	901.61	ng/ml	100
54) Perylene	13.95	252	1117001	909.78	ng/ml	98

(#) = qualifier out of range (m) = manual integration
1119F008.D 1119ALK.M Thu Nov 19 09:41:00 2009 Page 1

LB 11/24/09

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\111909\1119F008.D Vial: 8
Acq On : 19 Nov 2009 9:01 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @1.0/2.0ug/mL | SVM29-21J Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 19 09:16:26 2009 Quant Results File: 1119ALK.RES

Quant Method : J:\MS11\METHODS\SIM\1119ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Wed Nov 18 13:17:02 2009
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

11/20/19

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
55) Indeno(1,2,3-cd)pyrene	16.99	276	1005156	840.01	ng/ml	100
56) Dibenz(a,h)anthracene	17.07	278	1060659	853.03	ng/ml	99
57) Benzo(g,h,i)perylene	17.42	276	1085642	792.04	ng/ml	99

(#) = qualifier out of range (m) = manual integration
1119F008.D 1119ALK.M Thu Nov 19 09:41:00 2009

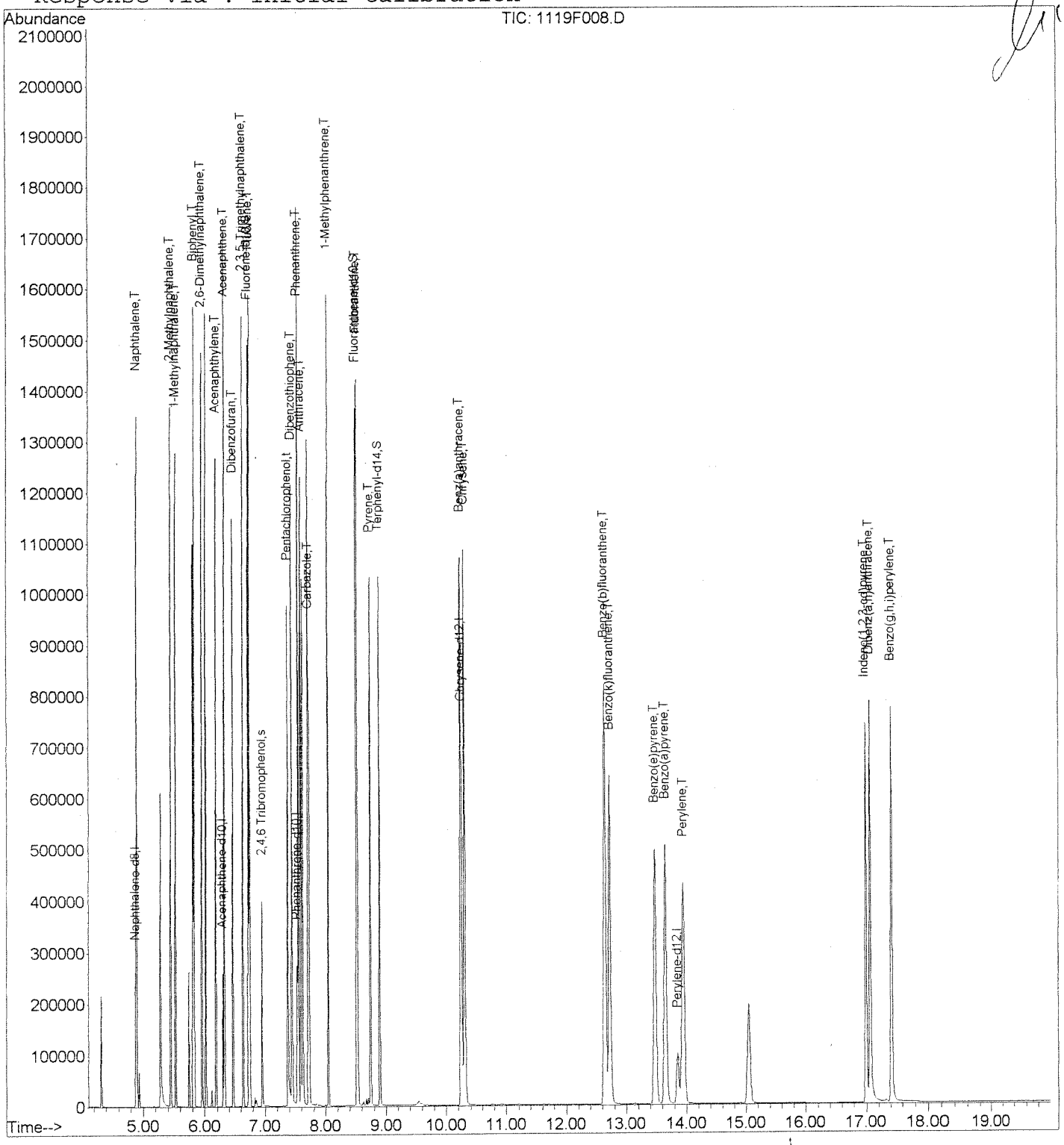
11/24/09

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\111909\1119F008.D Vial: 8
Acq On : 19 Nov 2009 9:01 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @1.0/2.0ug/mL | SVM29-21J Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 19 9:16 2009 Quant Results File: 1119ALK.RES

Method : J:\MS11\METHODS\SIM\1119ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Nov 19 09:18:10 2009
Response via : Initial Calibration

11/20/19

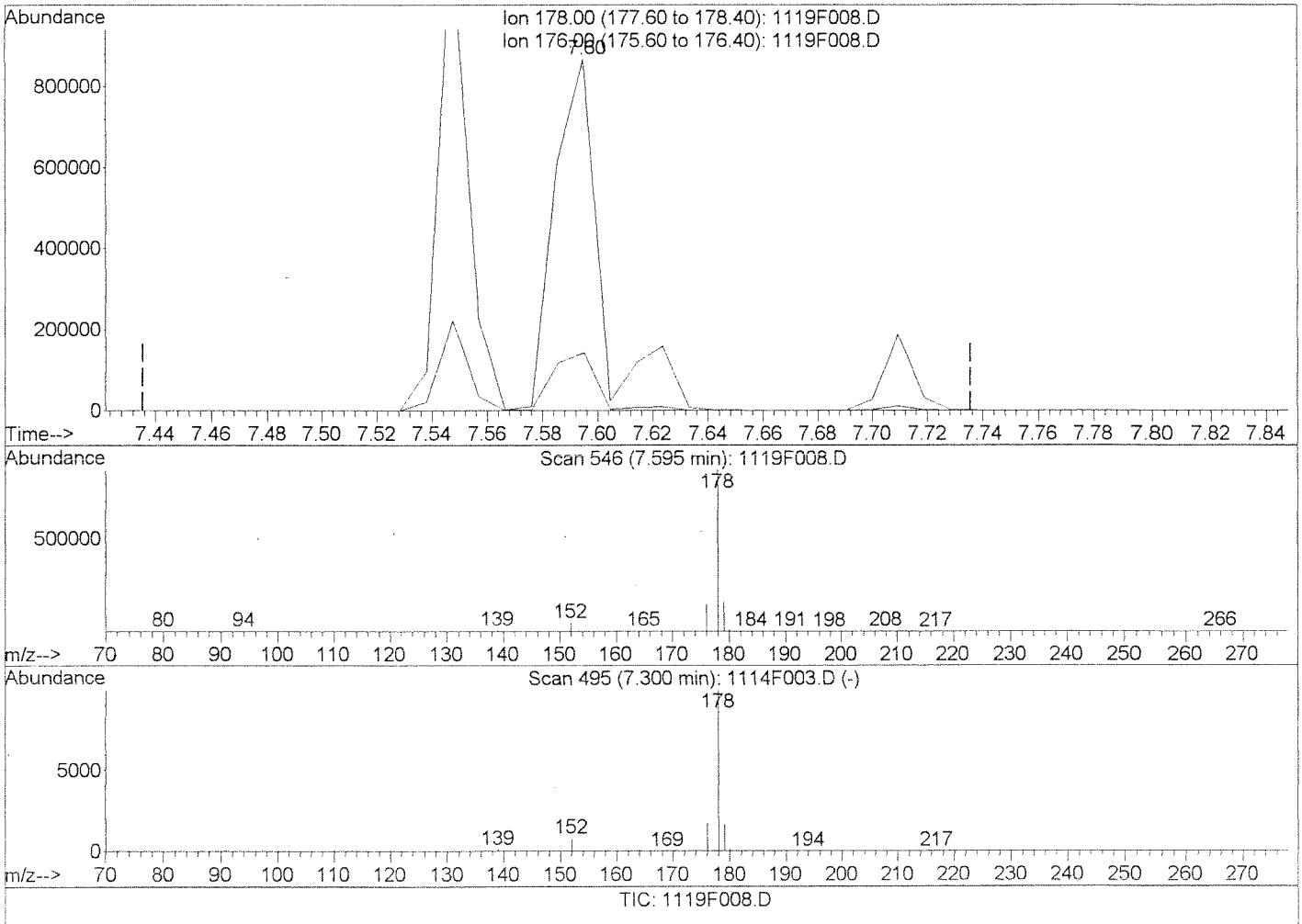


11/24/09

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\111909\1119F008.D Vial: 8
Acq On : 19 Nov 2009 9:01 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @1.0/2.0ug/mL | SVM29-21J Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 19 9:16 2009 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1119ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Wed Nov 18 13:17:02 2009
Response via : Single Level Calibration



TIC: 1119F008.D

(28) Anthracene (T)

7.60min 896.63ng/ml

response 1028871

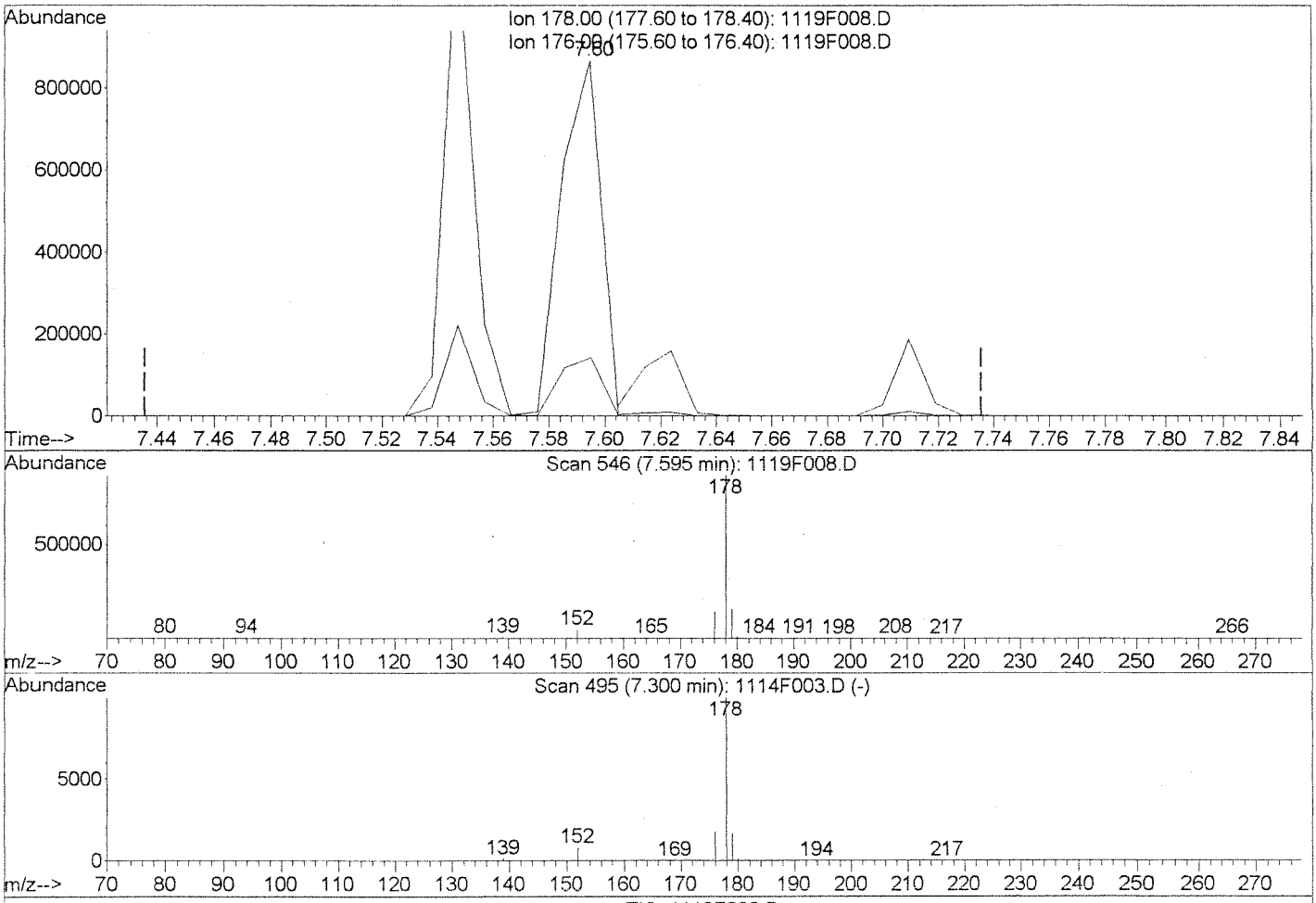
Ion	Exp%	Act%
178.00	100	100
176.00	17.60	16.36
0.00	0.00	0.00
0.00	0.00	0.00

1119F008.D 1119ALK.M Thu Nov 19 09:16:42 2009

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\111909\1119F008.D Vial: 8
Acq On : 19 Nov 2009 9:01 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @1.0/2.0ug/mL | SVM29-21J Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 19 9:16 2009 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1119ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Wed Nov 18 13:17:02 2009
Response via : Single Level Calibration



(28) Anthracene (T)

7.60min 755.32ng/ml m

response 866724

Ion	Exp%	Act%
178.00	100	100
176.00	17.60	16.37
0.00	0.00	0.00
0.00	0.00	0.00

OT 11/20/09

1119F008.D 1119ALK.M Thu Nov 19 09:16:46 2009

LB 11/24/09

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\111909\1119F009.D Vial: 9
Acq On : 19 Nov 2009 9:28 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @2.0/3.0ug/mL | SVM29-21L Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 19 09:40:54 2009 Quant Results File: 1119ALK.RES

Quant Method : J:\MS11\METHODS\SIM\1119ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Nov 19 09:18:10 2009
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

11/20/09

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	4.88	136	186715	200.00	ng/ml	0.00
10) Acenaphthene-d10	6.30	164	111241	200.00	ng/ml	0.00
22) Phenanthrene-d10	7.53	188	201862	200.00	ng/ml	0.00
37) Chrysene-d12	10.27	240	231615	200.00	ng/ml	0.00
49) Perylene-d12	13.86	264	244666	200.00	ng/ml	0.00
System Monitoring Compounds						
15) Fluorene-d10	6.73	176	1131552	1784.18	ng/ml	0.00
Spiked Amount 200.000			Recovery = 892.09%			
20) 2,4,6 Tribromophenol	6.95	330	322307	2116.70	ng/ml	0.00
Spiked Amount 375.000			Recovery = 564.45%			
36) Fluoranthene-d10	8.52	212	2074264	1510.78	ng/ml	0.00
Spiked Amount 200.000			Recovery = 755.39%			
42) Terphenyl-d14	8.90	244	1723576	1573.90	ng/ml	0.00
Spiked Amount 200.000			Recovery = 786.95%			
Target Compounds						Qvalue
2) Naphthalene	4.89	128	1420642	1674.36	ng/ml	93
3) 2-Methylnaphthalene	5.45	142	1074924	1772.02	ng/ml	92
4) 1-Methylnaphthalene	5.52	142	1031819	1778.46	ng/ml	92
5) Biphenyl	5.82	154	1256014	1739.14	ng/ml	92
6) 2,6-Dimethylnaphthalene	5.95	156	1019389	1861.44	ng/ml	95
11) Acenaphthylene	6.18	152	1600162	1730.74	ng/ml	97
12) Acenaphthene	6.33	154	985862	1772.56	ng/ml	90
13) Dibenzofuran	6.47	168	1431997	1721.03	ng/ml	69
14) 2,3,5-Trimethylnaphthalene	6.63	170	1064459	1823.53	ng/ml	84
16) Fluorene	6.75	166	1235013	1771.72	ng/ml	95
21) Pentachlorophenol	7.38	266	515916	351.12	ng/ml	93
23) Dibenzothiophene	7.45	184	1635147	1773.88	ng/ml	85
27) Phenanthrene	7.55	178	1836978	1629.31	ng/ml	98
28) Anthracene	7.60	178	1868931	1762.55	ng/ml	96
29) Carbazole	7.73	167	1519207	1659.27	ng/ml	94
30) 1-Methylphenanthrene	8.05	192	1446026	1677.96	ng/ml	95
35) Fluoranthene	8.54	202	2010256	1535.57	ng/ml	100
38) Pyrene	8.75	202	2130448	1667.90	ng/ml	89
43) Benz(a)anthracene	10.25	228	2171386	1735.70	ng/ml	99
44) Chrysene	10.32	228	2044094	1755.55	ng/ml	100
50) Benzo(b)fluoranthene	12.66	252	2408911	1860.69	ng/ml	96
51) Benzo(k)fluoranthene	12.74	252	2329642	1908.69	ng/ml	97
52) Benzo(e)pyrene	13.50	252	2214880	1859.18	ng/ml	98
53) Benzo(a)pyrene	13.67	252	2238726	1984.06	ng/ml	98
54) Perylene	13.97	252	2180427	1960.29	ng/ml	98

(#) = qualifier out of range (m) = manual integration

LB 11/24/09

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\111909\1119F009.D Vial: 9
Acq On : 19 Nov 2009 9:28 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @2.0/3.0ug/mL | SVM29-21L Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 19 09:40:54 2009 Quant Results File: 1119ALK.RES

Quant Method : J:\MS11\METHODS\SIM\1119ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Nov 19 09:18:10 2009
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

11/20/09

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
55)	Indeno(1,2,3-cd)pyrene	17.01	276	1951095	1839.81	ng/ml	96
56)	Dibenz(a,h)anthracene	17.08	278	2083583	1911.60	ng/ml	94
57)	Benzo(g,h,i)perylene	17.43	276	2084678	1699.77	ng/ml	99

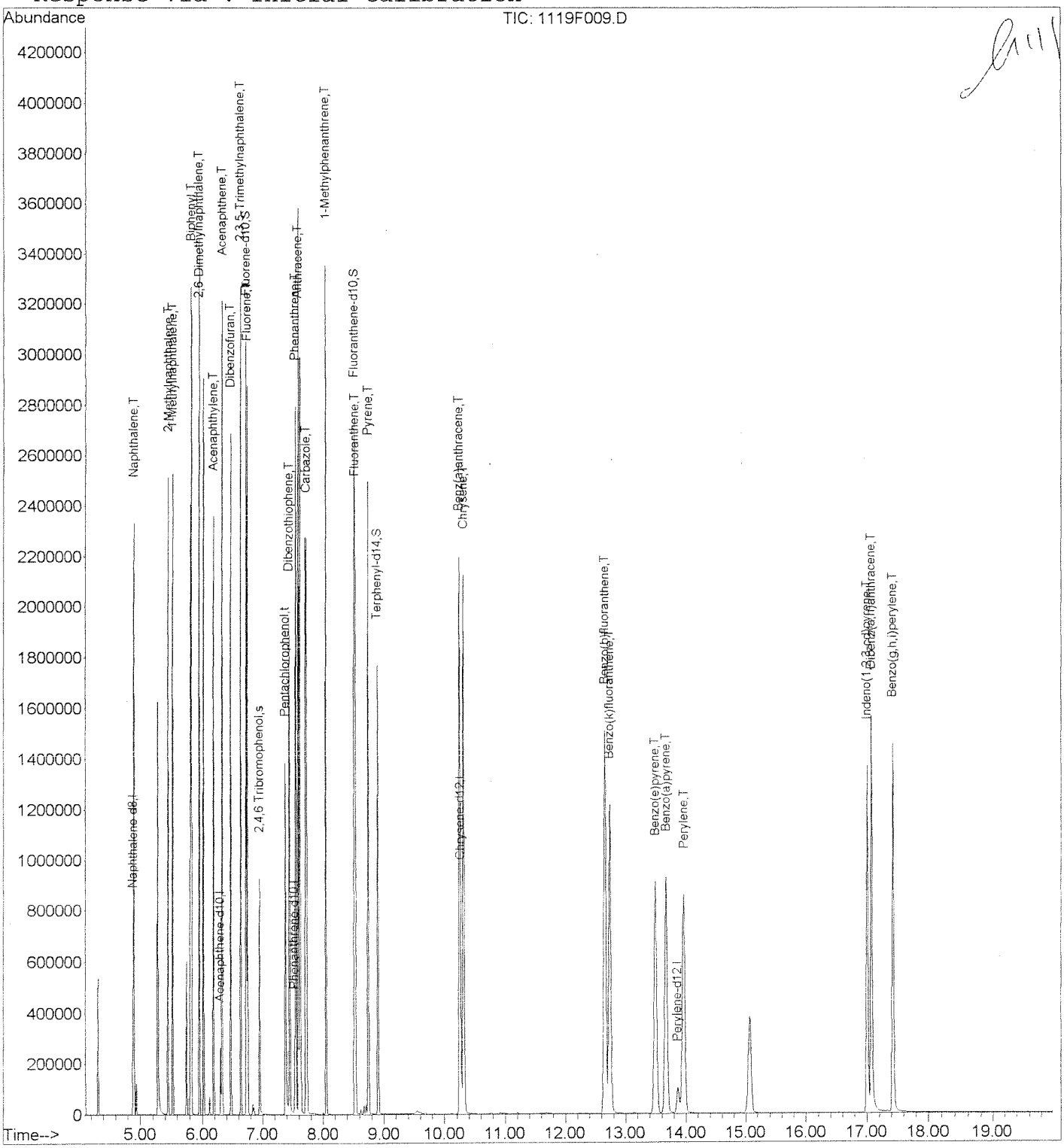
(#) = qualifier out of range (m) = manual integration
1119F009.D 1119ALK.M Thu Nov 19 09:41:37 2009 Page 2

LB 11/24/09

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\111909\1119F009.D Vial: 9
Acq On : 19 Nov 2009 9:28 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @2.0/3.0ug/mL | SVM29-21L Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 19 9:40 2009 Quant Results File: 1119ALK.RES

Method : J:\MS11\METHODS\SIM\1119ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Nov 19 09:18:10 2009
Response via : Initial Calibration



11/20/09

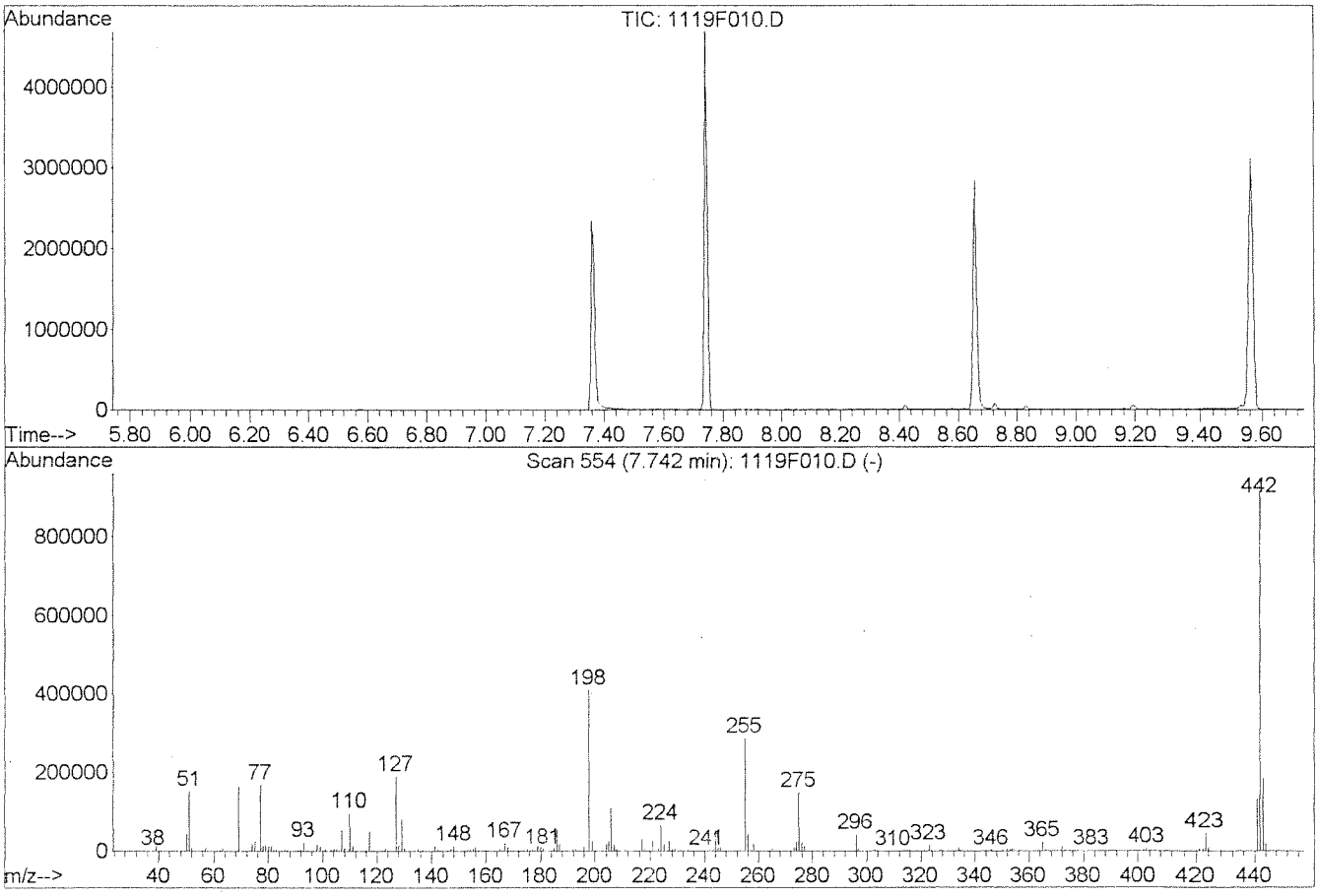
1119F009.D 1119ALK.M Thu Nov 19 09:41:37 2009 Page 3

11/24/09

DFTPP

Data File : J:\MS11\DATA\111909\1119F010.D
Acq On : 19 Nov 2009 9:54 am
Sample : DFTPP @ 3.0ug/mL | SVM30-59A
Misc :
MS Integration Params: RTEINT.P
Method : J:\MS11\METHODS\SIM\DFTPPPAH.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS

Vial: 1
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00



11/20/09

Spectrum Information: Scan 554

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	10	80	37.0	152384	PASS
68	69	0.00	2	0.0	0	PASS
70	69	0.00	2	0.5	811	PASS
127	198	10	80	46.3	190400	PASS
197	198	0.00	2	0.0	0	PASS
198	442	30	100	44.8	411456	PASS
199	198	5	9	6.8	27776	PASS
275	198	10	60	36.0	148224	PASS
365	442	1	50	2.5	23408	PASS
441	443	0.01	100	71.1	132032	PASS
442	442	30	100	100.0	918784	PASS
443	442	15	24	20.2	185728	PASS

1119F010.D DFTPPPAH.M Thu Nov 19 15:27:42 2009

LB
11/24/09

Scan 554 (7.742 min): 1119F010.D
DFTPP @ 3.0ug/mL | SVM30-59A
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
37.20	802	57.90	509	77.10	167744	91.00	3828
38.10	2648	61.10	2189	78.10	12922	92.00	3500
39.10	12650	62.10	2454	79.00	13986	93.00	23680
40.00	209	63.10	6466	80.10	10923	94.00	1270
41.20	708	64.10	866	81.00	14072	96.00	784
50.10	45344	65.10	2524	82.00	3470	98.00	17400
51.10	152384	69.00	163648	83.00	3211	99.00	12122
52.10	8361	70.00	811	85.00	2293	100.00	1093
55.10	1456	73.20	2043	86.10	4248	101.00	7091
56.00	4779	74.00	17880	87.10	1864	103.00	2965
57.00	9299	75.00	25728	88.00	864	104.10	4822

Scan 554 (7.742 min): 1119F010.D
DFTPP @ 3.0ug/mL | SVM30-59A
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
105.00	5459	118.90	802	132.00	1163	143.90	843
105.90	1804	120.00	740	132.80	507	145.00	510
107.00	55088	122.00	4298	134.00	2515	146.00	2811
108.00	8675	123.00	6891	135.00	6869	147.00	5609
110.00	97912	124.00	2741	136.00	2606	148.00	13706
111.00	14435	125.00	2391	137.00	3519	149.00	2319
112.10	1693	127.00	190400	138.10	890	150.10	565
112.90	787	128.00	15499	140.10	1092	151.10	1537
116.00	3944	129.00	80352	141.00	12429	152.20	713
117.00	50432	130.00	7610	142.10	3542	153.00	3026
118.00	2994	130.90	1048	143.00	2132	154.00	2959

Scan 554 (7.742 min): 1119F010.D
DFTPP @ 3.0ug/mL | SVM30-59A
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
155.10	5749	167.00	21176	177.90	1568	189.90	1055
156.00	9644	168.00	9841	179.00	13941	191.00	1563
157.10	1971	169.10	1348	180.00	11148	191.90	5425
157.90	2180	170.00	1043	181.00	5329	193.00	5709
159.00	1612	170.90	836	182.00	733	194.00	1574
160.00	3300	171.90	2082	183.90	1289	195.00	774
161.00	4672	173.00	2743	185.00	8140	196.00	11789
162.10	909	174.00	4252	186.00	57432	197.90	411456
162.90	625	175.10	7741	187.00	17728	199.00	27776
165.00	4491	176.00	2614	188.00	1320	199.90	1849
166.00	3198	177.00	4994	189.00	3903	200.70	941

Scan 554 (7.742 min): 1119F010.D
DFTPP @ 3.0ug/mL | SVM30-59A
Modified:subtracted

11/20/09

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
201.60	2601	216.00	2273	230.20	868	243.10	3712
203.00	3229	216.90	30792	231.00	3107	244.00	53224
204.00	15717	217.90	4518	232.10	514	245.00	7924
205.00	25360	221.00	25960	233.90	2241	245.90	10347
206.00	110464	223.00	7219	235.00	2398	246.90	2607
207.00	15499	224.00	66976	235.90	1361	248.90	1656
207.90	4850	225.00	15763	237.00	2719	250.90	603
208.90	1576	225.90	1792	238.90	922	253.00	1501
210.10	1947	226.90	26624	239.90	622	255.00	286656
210.90	4278	228.00	3759	240.90	1786	256.00	42160
214.90	1614	228.90	6179	241.90	3699	257.00	3247

LB
11/24/09

Scan 554 (7.742 min): 1119F010.D
DFTPP @ 3.0ug/mL | SVM30-59A
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
258.00	17472	275.00	148224	293.00	2351	314.00	2582
258.90	2565	276.00	20760	294.00	573	315.00	4786
260.90	570	276.90	11805	296.00	42488	316.00	2507
263.90	542	278.00	1994	296.90	6206	317.00	512
265.00	6507	279.00	598	301.00	511	321.10	1359
265.90	1563	282.80	1398	301.90	843	321.90	1129
267.80	551	283.90	1176	303.00	4903	323.00	15022
271.10	525	285.00	2049	303.90	1244	324.00	2535
271.90	801	286.10	590	308.00	570	327.00	2632
273.00	10178	288.90	529	309.10	522	327.90	1815
274.00	24424	292.00	554	309.90	668	332.00	1282

Scan 554 (7.742 min): 1119F010.D
DFTPP @ 3.0ug/mL | SVM30-59A
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
332.90	1339	364.90	23408	400.80	633	443.00	185728
334.00	9535	366.00	2937	402.00	4151	444.00	17056
334.90	2091	369.90	541	403.00	6918	445.00	832
341.00	1561	371.00	1242	403.90	2611		
342.10	619	372.00	11668	421.00	5730		
346.00	3159	373.00	2225	422.00	5671		
347.00	557	383.00	2629	423.00	45824		
352.00	4626	384.10	791	424.00	9203		
353.00	3932	390.00	1773	424.90	1076		
353.90	4813	390.90	1359	441.00	132032		
354.90	1069	391.90	1082	442.00	918784		

Grupo 19

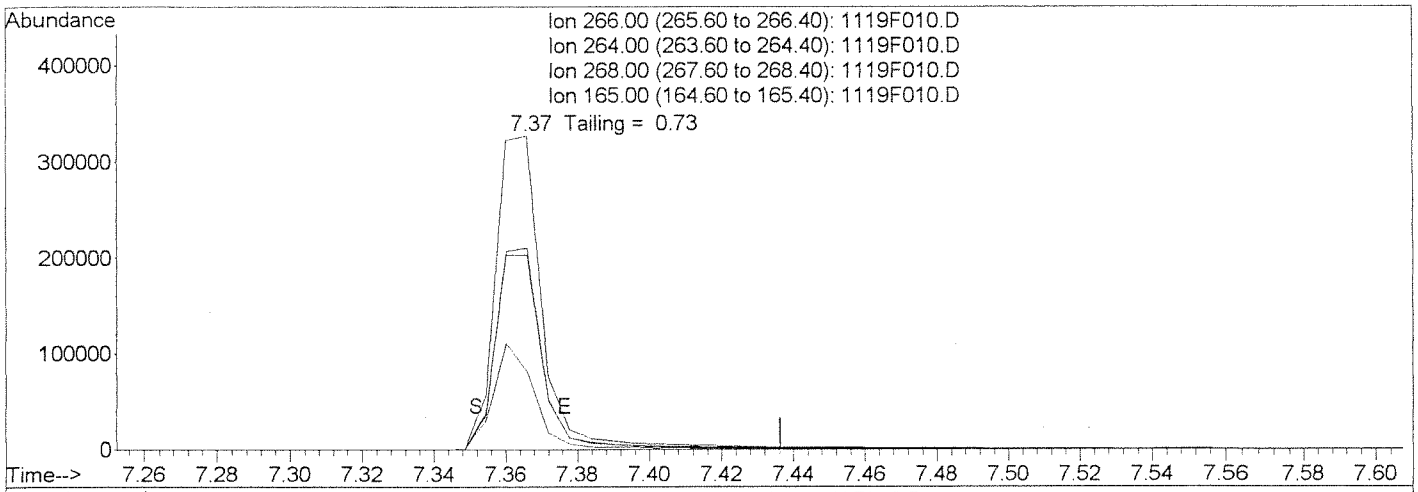
LB
11/24/09

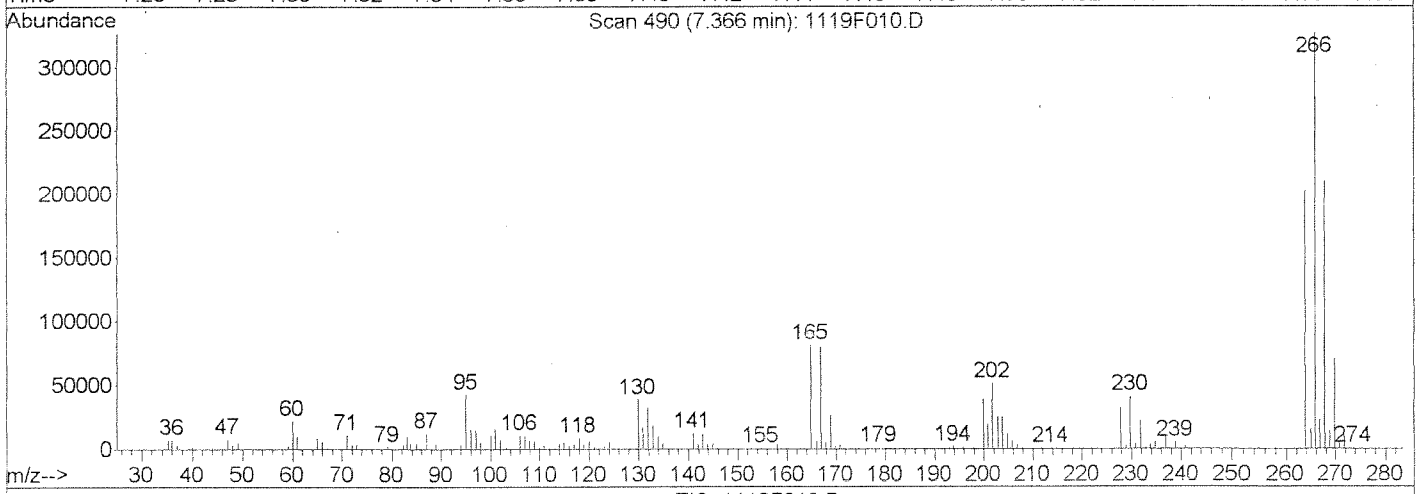
Quantitation Report (Qedit)

Data File : J:\MS11\DATA\111909\1119F010.D
Acq On : 19 Nov 2009 9:54 am
Sample : DFTPP @ 3.0ug/mL | SVM30-59A
Misc :
MS Integration Params: RTEINT.P
Quant Time: Nov 19 10:19 2009

Vial: 1
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\DFTPPPAH.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Tue Oct 12 13:33:42 2004
Response via : Single Level Calibration





TIC: 1119F010.D

(1) Pentachlorophenol

6.94min 0.00ng/ml

response 0

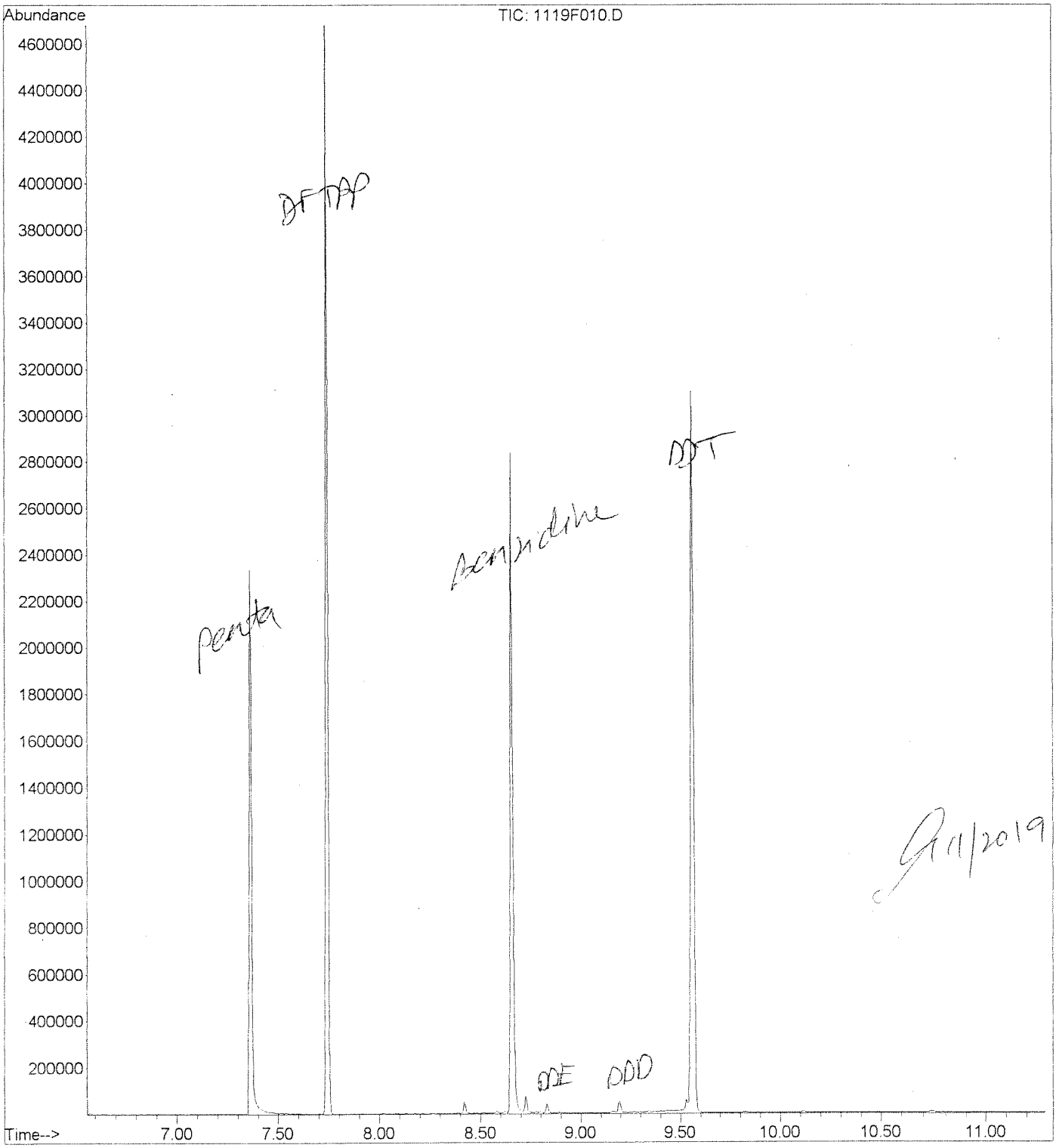
Ion	Exp%	Act%
266.00	100	0.00
264.00	64.50	0.00#
268.00	63.70	0.00#
165.00	28.70	0.00

11/20/09

1119F010.D DFTPPPAH.M Thu Nov 19 15:27:54 2009

11/24/09

File : J:\MS11\DATA\111909\1119F010.D
Operator : LWeiskopf
Acquired : 19 Nov 2009 9:54 am using AcqMethod SIMLOC
Instrument : MS11
Sample Name: DFTPP @ 3.0ug/mL | SVM30-59A
Misc Info :
Vial Number: 1



11/24/09

1	6.573	rVB	0.041		7926	6.561	6.602
2	7.360	rBV	0.182		2032901	7.319	7.501
3	7.742	rBV	0.076		3355654	7.713	7.789
4	8.418	rVB	0.065		38581	8.394	8.459
5	8.582	rVB	0.047		7704	8.559	8.606
6	8.618	rVB	0.029		8064	8.606	8.635
7	8.659	rBV	0.076		2467692	8.635	8.712
8	8.723	rVV	0.053		61391	8.712	8.765
9	8.800	rVV	0.024		6058	8.788	8.812
10	8.829	rVB	0.053	DDE	30210	8.812	8.864
11	9.158	rBV	0.047		12589	9.129	9.176
12	9.193	rVV	0.041	DDD	47740	9.176	9.217
13	9.270	rBV	0.047		5094	9.240	9.287
14	9.340	rBV	0.041		6326	9.311	9.352
15	9.564	rVB	0.118	DDT	3447252	9.493	9.611
16	9.822	rBV	0.047		5273	9.799	9.846
17	10.110	rVB	0.059		8495	10.086	10.145
18	10.733	rBV	0.059		9126	10.715	10.774
19	11.508	rBV	0.059		9133	11.485	11.544
20	12.472	rVB	0.071		14842	12.448	12.519
21	13.700	rBV	0.059		7632	13.647	13.706
22	14.446	rBV	0.059		5044	14.417	14.475
23	15.245	rBV	0.106		22070	15.198	15.304
24	16.414	rVB	0.071		24585	16.391	16.461
25	16.961	rBV	0.065		13276	16.955	17.020
26	17.084	rBV	0.100		62422	17.055	17.155
27	17.701	rVB	0.094		33568	17.683	17.777
28	18.347	rVB	0.082		25220	18.324	18.406

DDT Breakdown = 2.2%

11/11/2019

LB
11/24/09

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\111909\1119F011.D Vial: 2
Acq On : 19 Nov 2009 10:21 am Operator: LWeiskopf
Sample : SIM-PAH ICV @ 0.4ug/mL | SVM30-[illegible] Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 20 07:50:15 2009 Quant Results File: 1119ALK.RES

Quant Method : J:\MS11\METHODS\SIM\1119ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED ~~HOMOLOGS~~
Last Update : Fri Nov 20 07:50:02 2009
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

PAH_ACP

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	4.88	136	165983	200.00	ng/ml	0.00
10) Acenaphthene-d10	6.30	164	90663	200.00	ng/ml	0.00
22) Phenanthrene-d10	7.53	188	171553	200.00	ng/ml	0.00
37) Chrysene-d12	10.26	240	210920	200.00	ng/ml	0.00
49) Perylene-d12	13.84	264	208546	200.00	ng/ml	-0.02
System Monitoring Compounds						
15) Fluorene-d10	6.72	176	196417	385.84	ng/ml	0.00
Spiked Amount 200.000			Recovery =	192.92%		
20) 2,4,6 Tribromophenol	6.95	330	55781	443.14	ng/ml	0.00
Spiked Amount 375.000			Recovery =	118.17%		
36) Fluoranthene-d10	8.51	212	367054	353.89	ng/ml	0.00
Spiked Amount 200.000			Recovery =	176.94%		
42) Terphenyl-d14	8.89	244	377032	431.81	ng/ml	0.00
Spiked Amount 200.000			Recovery =	215.91%		
Target Compounds						Qvalue
2) Naphthalene	4.89	128	278962	382.08	ng/ml	97
3) 2-Methylnaphthalene	5.44	142	202208	384.48	ng/ml	99
4) 1-Methylnaphthalene	5.52	142	178886	354.58	ng/ml	94
5) Biphenyl	5.82	154	234673	375.02	ng/ml	99
6) 2,6-Dimethylnaphthalene	5.95	156	181626	375.75	ng/ml	100
11) Acenaphthylene	6.18	152	305434	409.96	ng/ml	99
12) Acenaphthene	6.32	154	178416	403.17	ng/ml	93
13) Dibenzofuran	6.46	168	258233	385.27	ng/ml	82
14) 2,3,5-Trimethylnaphthalene	6.63	170	183267	387.80	ng/ml	99
16) Fluorene	6.75	166	221592	395.26	ng/ml	99
21) Pentachlorophenol	7.38	266	135367	1016.63	ng/ml	98
23) Dibenzothiophene	7.44	184	284405	372.22	ng/ml	99
27) Phenanthrene	7.55	178	327939	358.55	ng/ml	96
28) Anthracene	7.59	178	325698m	370.56	ng/ml	
29) Carbazole	7.72	167	264256	352.01	ng/ml	98
30) 1-Methylphenanthrene	8.04	192	256333	360.01	ng/ml	93
35) Fluoranthene	8.53	202	369378	347.40	ng/ml	96
38) Pyrene	8.74	202	393804	352.07	ng/ml	88
43) Benz(a)anthracene	10.24	228	372883	346.06	ng/ml	99
44) Chrysene	10.31	228	370300	359.86	ng/ml	97
50) Benzo(b)fluoranthene	12.63	252	419207	385.78	ng/ml	100
51) Benzo(k)fluoranthene	12.72	252	403494	391.85	ng/ml	99
52) Benzo(e)pyrene	13.47	252	369646	371.19	ng/ml	100
53) Benzo(a)pyrene	13.64	252	360352	376.42	ng/ml	99
54) Perylene	13.94	252	361991	382.90	ng/ml	100

(#) = qualifier out of range (m) = manual integration
1119F011.D 1119ALK.M Fri Nov 20 07:50:52 2009 Page 1

11/20/09

11/24/09

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\111909\1119F011.D Vial: 2
Acq On : 19 Nov 2009 10:21 am Operator: LWeiskopf
Sample : SIM-PAH ICV @ 0.4ug/mL | SVM30-[illegible] Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 20 07:50:15 2009 Quant Results File: 1119ALK.RES

Quant Method : J:\MS11\METHODS\SIM\1119ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Fri Nov 20 07:50:02 2009
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
55)	Indeno(1,2,3-cd)pyrene	16.99	276	330374	374.39	ng/ml	97
56)	Dibenz(a,h)anthracene	17.06	278	341899	371.83	ng/ml	99
57)	Benzo(g,h,i)perylene	17.41	276	372198	373.23	ng/ml	98

(#) = qualifier out of range (m) = manual integration
1119F011.D 1119ALK.M Fri Nov 20 07:50:52 2009 Page 2

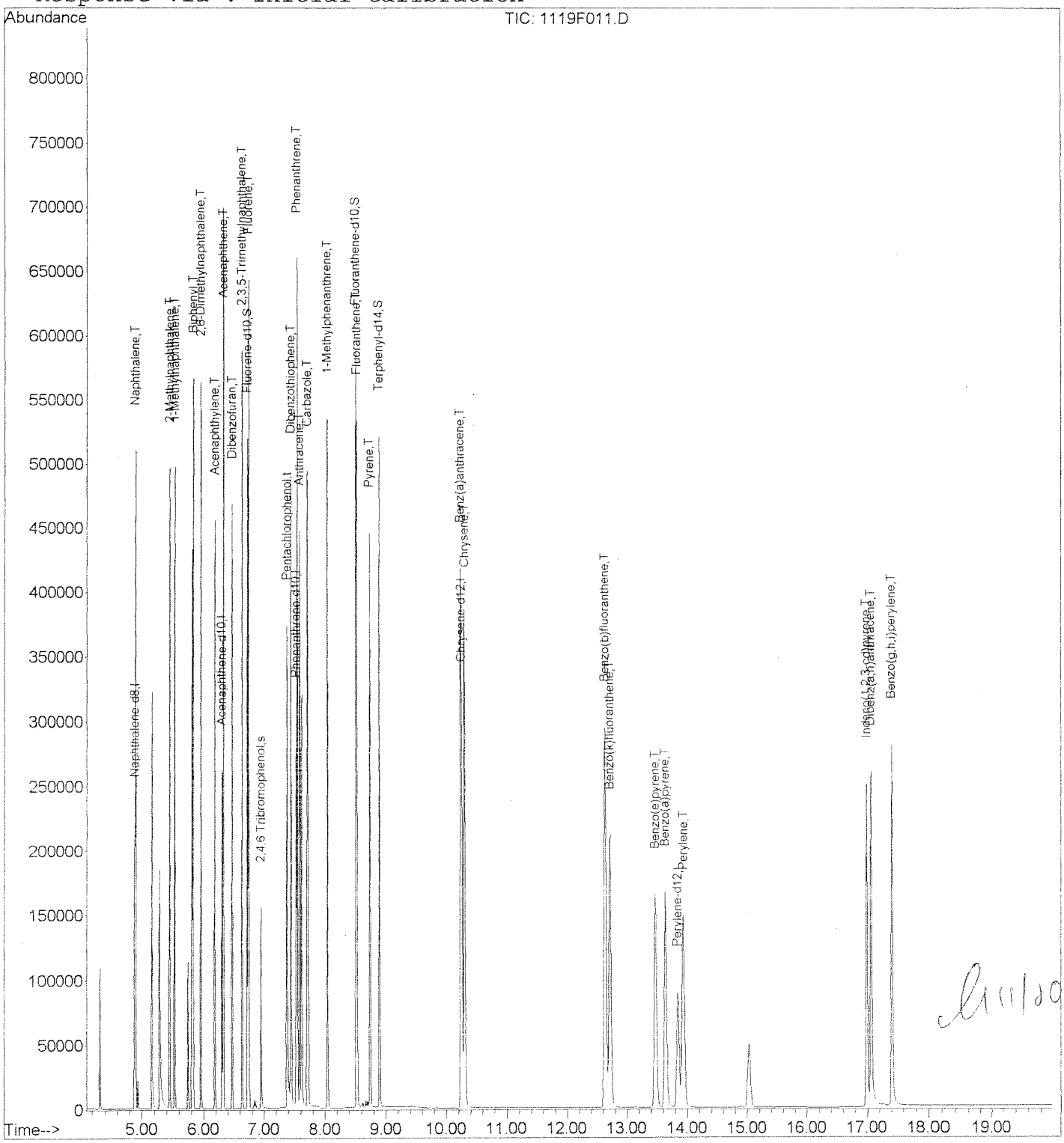
12/1/2019

11/24/09

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\111909\1119F011.D Vial: 2
Acq On : 19 Nov 2009 10:21 am Operator: LWeiskopf
Sample : SIM-PAH ICV @ 0.4ug/mL | SVM30-LCS Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 20 7:50 2009 Quant Results File: 1119ALK.RES

Method : J:\MS11\METHODS\SIM\1119ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Fri Nov 20 07:50:02 2009
Response via : Initial Calibration



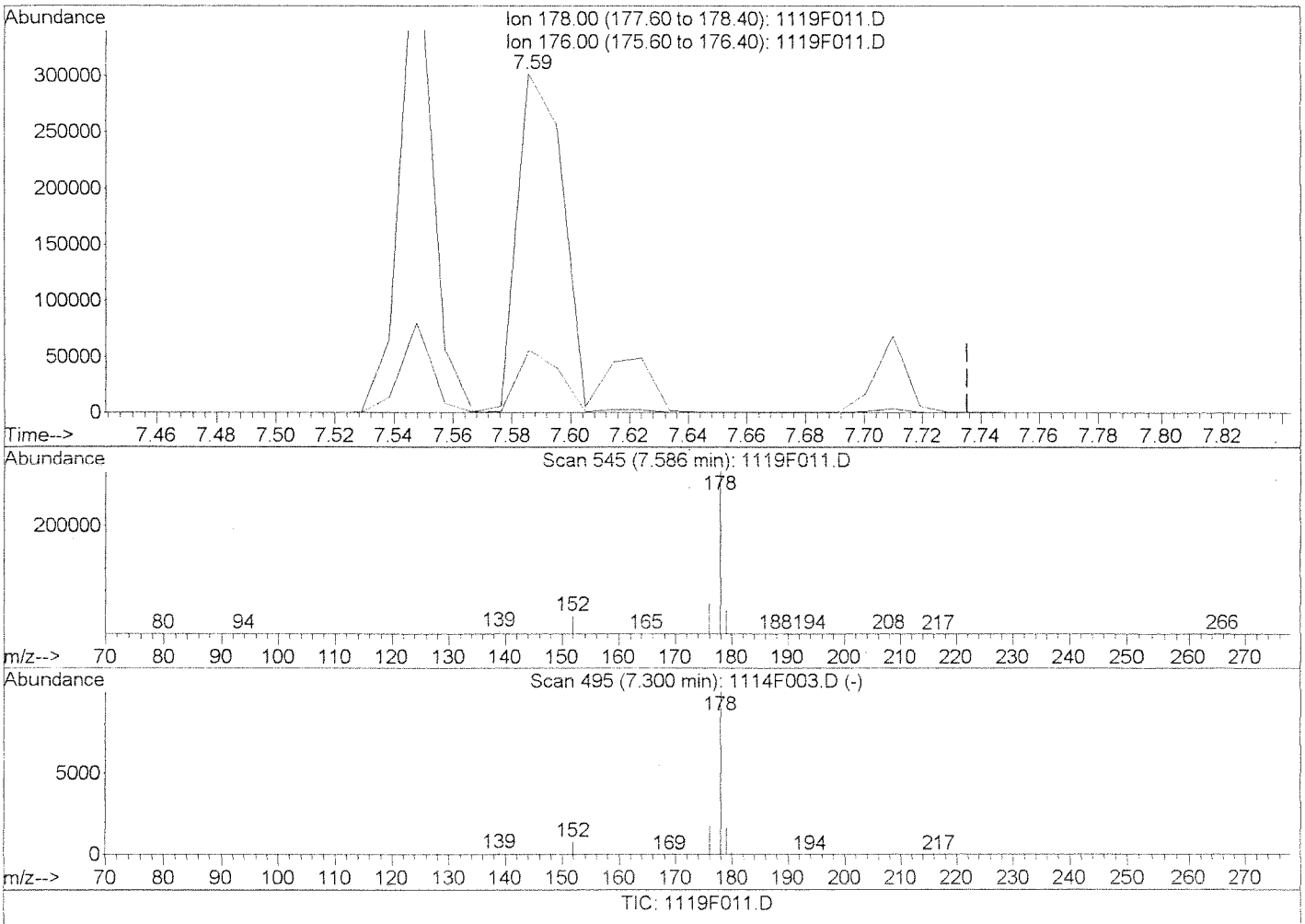
11/20/09

11/24/09

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\111909\1119F011.D Vial: 2
Acq On : 19 Nov 2009 10:21 am Operator: LWeiskopf
Sample : SIM-PAH ICV @ 0.4ug/mL | SVM30-LOH Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 20 7:50 2009 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1119ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Fri Nov 20 07:50:02 2009
Response via : Multiple Level Calibration



(28) Anthracene (T)

7.59min 432.49ng/ml

response 380130

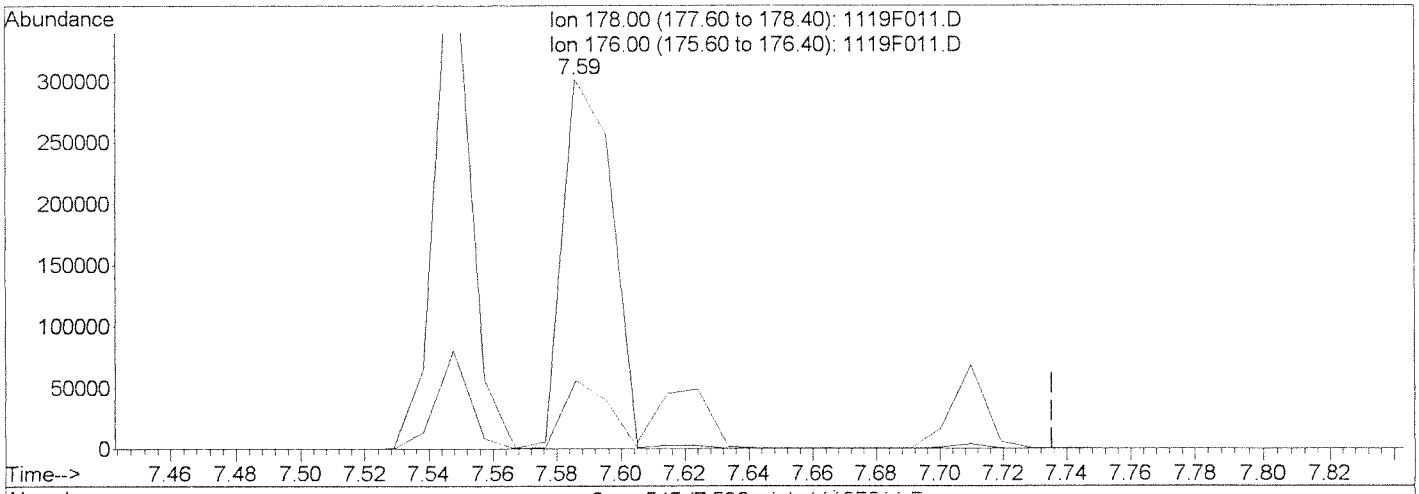
Ion	Exp%	Act%
178.00	100	100
176.00	17.60	18.49
0.00	0.00	0.00
0.00	0.00	0.00

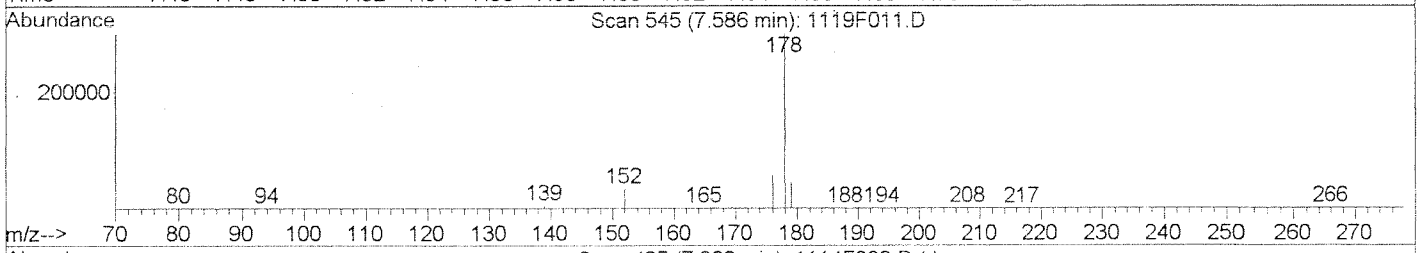
1119F011.D 1119ALK.M Fri Nov 20 07:50:31 2009

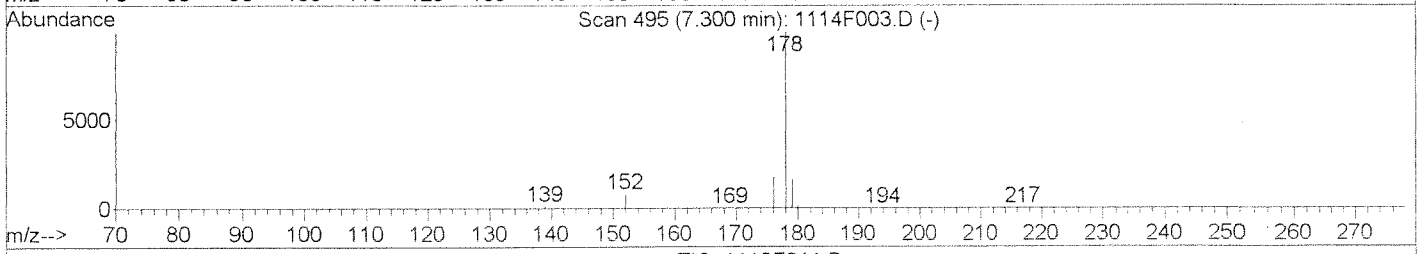
Quantitation Report (Qedit)

Data File : J:\MS11\DATA\111909\1119F011.D Vial: 2
Acq On : 19 Nov 2009 10:21 am Operator: LWeiskopf
Sample : SIM-PAH ICV @ 0.4ug/mL | SVM30-Lon Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 20 7:50 2009 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1119ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Fri Nov 20 07:50:02 2009
Response via : Multiple Level Calibration







TIC: 1119F011.D

(28) Anthracene (T)

7.59min 370.56ng/ml m

response 325698

Ion	Exp%	Act%
178.00	100	100
176.00	17.60	18.51
0.00	0.00	0.00
0.00	0.00	0.00

OI 11/20/09

1119F011.D 1119ALK.M Fri Nov 20 07:50:34 2009

LB 11/24/09

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Results

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0909140
Date Analyzed: 11/16/2009

Continuing Calibration Verification Summary
Polynuclear Aromatic Hydrocarbons

Calibration Type: Internal Standard
Analysis Method: 8270C SIM

Calibration Date: 10/15/2009
Calibration ID: CAL8928
Analysis Lot: KWG0910827
Units: ng/ml

File ID: J:\MS11\DATA\111609\1116F002.D

Analyte Name	Expected	Result	Min RF	Average RF	CCV RF	%D		%Drift	Criteria	Curve Fit
Naphthalene	400	370	0.01	0.920	0.853	-7		NA	± 20 %	AverageRF
2-Methylnaphthalene	400	380	0.01	0.634	0.602	-5		NA	± 20 %	AverageRF
Acenaphthylene	400	400	0.01	1.74	1.72	-1		NA	± 20 %	AverageRF
Acenaphthene	400	400	0.01	1.03	1.02	-1		NA	± 20 %	AverageRF
Fluorene	400	450	0.01	1.12	1.27	14		NA	± 20 %	AverageRF
Dibenzofuran	400	430	0.01	1.39	1.50	8		NA	± 20 %	AverageRF
Phenanthrene	400	370	0.01	1.12	1.03	-8		NA	± 20 %	AverageRF
Anthracene	400	390	0.01	1.07	1.04	-3		NA	± 20 %	AverageRF
Fluoranthene	400	410	0.01	1.23	1.28	4		NA	± 20 %	AverageRF
Pyrene	400	320	0.01	1.10	0.873	-20	*	NA	± 20 %	AverageRF
Benz(a)anthracene	400	350	0.01	1.09	0.945	-13		NA	± 20 %	AverageRF
Chrysene	400	350	0.01	1.06	0.938	-11		NA	± 20 %	AverageRF
Benzo(b)fluoranthene	400	390	0.01	1.04	1.02	-2		NA	± 20 %	AverageRF
Benzo(k)fluoranthene	400	410	0.01	1.03	1.04	1		NA	± 20 %	AverageRF
Benzo(a)pyrene	400	380	0.01	0.988	0.942	-5		NA	± 20 %	AverageRF
Indeno(1,2,3-cd)pyrene	400	350	0.01	0.907	0.784	-14		NA	± 20 %	AverageRF
Dibenz(a,h)anthracene	400	350	0.01	0.977	0.865	-11		NA	± 20 %	AverageRF
Benzo(g,h,i)perylene	400	350	0.01	1.04	0.912	-13		NA	± 20 %	AverageRF
Fluorene-d10	400	450	0.01	0.933	1.06	13		NA	± 20 %	AverageRF
Fluoranthene-d10	400	430	0.01	1.11	1.20	8		NA	± 20 %	AverageRF
Terphenyl-d14	400	410	0.01	0.827	0.846	2		NA	± 20 %	AverageRF

Results flagged with an asterisk (*) indicate values outside control criteria.

† SPCC Compound **‡ CCC Compound**

Exception Report

Data File: J:\MS11\DATA\111609\1116F002.D
Lab ID: KWG0910827-2
RunType: CCV
Matrix: WATER

Date Acquired: 11/16/2009 07:37
Date Quantitated: 11/18/2009 07:44
Batch ID: KWG0910827
Analysis Method: 8270C SIM
MethodJoinID: MJ139

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Tune Window	NA	NA	NA	x	
ICAL Pass/Fail	NA	NA	NA	x	
ICAL Average RSD	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Initial Calibration Minimum RF	NA	NA	NA	x	
Initial Calibration SPCC/CCC	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Internal Standards	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	

* pyrene out in CCV, rerun

Primary Review: RW 11/18/09
Secondary Review: KB 11/18/09

Quantitation Report

Bottle ID:		**Tier:**		**Matrix:**	WATER
Prod Code:	8270C SIM	**Collect Date:**		**Receive Date:**	11/18/2009

Analysis Lot:	KWG0910827	**Prep Lot:**		**Report Group:**	
Analysis Method:	8270C SIM	**Prep Method:**			
Prep Ref:		**Prep Date:**			

Quant Method:	J:\MS11\METHODS\SIM\1015ALK.M	**Calibration ID:**	CAL8928
Title:			
Tune Ref:	J:\MS11\DATA\111609\1116F001.D	**Method ID:**	MJ139
MB Ref:		**Quant based on Method**	

Data File:	J:\MS11\DATA\111609\1116F002.D			**Instrument:**	MS11
Acqu Date:	11/16/2009 07:37	**Quant Date:**	11/18/2009 07:44	**Vial:**	2
Run Type:	CCV			**Dilution:**	1.0
Lab ID:	KWG0910827-2			**Soln Conc. Units:**	ng/ml

Internal Standard Compounds

IS Ref	Parameter Name	RT	RT Dev	Quant Mass	Response	Solution Conc	Area Criteria
1	Naphthalene-d8	4.62	-0.05	136	214680	200.00	OK
2	Acenaphthene-d10	6.04	-0.06	164	109189	200.00	OK
3	Phenanthrene-d10	7.26	-0.06	188	210353	200.00	OK
4	Chrysene-d12	9.75	-0.09	240	323783	200.00	OK
5	Perylene-d12	12.75	-0.17	264	332002	200.00	OK

Surrogate Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	%Rec	%Rec Limits	Rpt?
2	Fluorene-d10	6.46			176	231072	453.58		17-104	NA
3	Fluoranthene-d10	8.23			212	504231	432.57		27-106	NA
4	Terphenyl-d14	8.57			244	547892	409.33		35-109	NA

Target Compounds

Final Conc. Units:

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	Final Conc	Q	Rpt?
1	Naphthalene	4.64			128	366244	370.73			
1	2-Methylnaphthalene	5.20			142	258339	379.44			
1	1-Methylnaphthalene	5.28			142	251877	347.98			
1	Biphenyl	5.57			154	300094	386.55			
1	2,6-Dimethylnaphthalene	5.77			156	203186	379.56			
2	Acenaphthylene	5.93			152	376253	397.10			
2	Acenaphthene	6.06			154	223646	395.90			
2	Dibenzofuran	6.21			168	326765	430.04			
2	2,3,5-Trimethylnaphthalene	6.38			170	234576	494.33			
2	Fluorene	6.49			166	276812	454.48			
2	Pentachlorophenol	7.13			266	92747	1,770			
3	Dibenzothiophene	7.18			184	387275	364.16			
3	Phenanthrene	7.28			178	433971	367.84			

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Data File:	J:\MS11\DATA\111609\1116F002.D			**Instrument:**	MS11
Acqu Date:	11/16/2009 07:37	**Quant Date:**	11/18/2009 07:44	**Vial:**	2
Run Type:	CCV			**Dilution:**	1.0
Lab ID:	KWG0910827-2			**Soln Conc. Units:**	ng/ml

Target Compounds **Final Conc. Units:**

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	Final Conc	Q	Rpt?
3	Anthracene	7.32			178	438271**m**	388.52			
3	Carbazole	7.47			167	414098	429.47			
3	1-Methylphenanthrene	7.77			192	355432	420.75			
3	Fluoranthene	8.25			202	537800	414.97			
4	Pyrene	8.43			202	565382	318.89			
4	Benz(a)anthracene	9.73			228	611722	347.61			
4	Chrysene	9.78			228	607100	354.17			
5	Benzo(b)fluoranthene	11.75			252	677737	391.32			
5	Benzo(k)fluoranthene	11.81			252	692164	405.65			
5	Benzo(e)pyrene	12.43			252	641429	395.48			
5	Benzo(a)pyrene	12.59			252	625536	381.36			
5	Perylene	12.83			252	611862	380.53			
5	Indeno(1,2,3-cd)pyrene	16.31			276	520350	345.79			
5	Dibenz(a,h)anthracene	16.39			278	574036	354.06			
5	Benzo(g,h,i)perylene	16.80			276	605676	349.46			

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\111609\1116F002.D Vial: 2
Acq On : 16 Nov 2009 7:37 am Operator: LWeiskopf
Sample : SIM-PAH CCV @ 0.4ug/mL | SVM30-49C Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 16 07:51:35 2009 Quant Results File: 1015ALK.RES

Quant Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Fri Nov 13 08:47:04 2009
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	4.62	136	214680	200.00	ng/ml	0.00
10) Acenaphthene-d10	6.04	164	109189	200.00	ng/ml	0.00
22) Phenanthrene-d10	7.26	188	210353	200.00	ng/ml	0.00
37) Chrysene-d12	9.75	240	323783	200.00	ng/ml	0.00
49) Perylene-d12	12.75	264	332002	200.00	ng/ml	0.00
System Monitoring Compounds						
15) Fluorene-d10	6.46	176	231072	453.58	ng/ml	0.00
Spiked Amount 200.000			Recovery =	226.79%		
20) 2,4,6 Tribromophenol	6.70	330	77268	787.94	ng/ml	0.00
Spiked Amount 375.000			Recovery =	210.12%		
36) Fluoranthene-d10	8.23	212	504231	432.57	ng/ml	0.00
Spiked Amount 200.000			Recovery =	216.29%		
42) Terphenyl-d14	8.57	244	547892	409.33	ng/ml	0.00
Spiked Amount 200.000			Recovery =	204.67%		
Target Compounds						Qvalue
2) Naphthalene	4.64	128	366244	370.73	ng/ml	96
3) 2-Methylnaphthalene	5.20	142	258339	379.44	ng/ml	90
4) 1-Methylnaphthalene	5.28	142	251877	347.98	ng/ml	98
5) Biphenyl	5.57	154	300094	386.55	ng/ml	99
6) 2,6-Dimethylnaphthalene	5.77	156	203186	379.56	ng/ml	82
11) Acenaphthylene	5.93	152	376253	397.10	ng/ml	100
12) Acenaphthene	6.06	154	223646	395.90	ng/ml	96
13) Dibenzofuran	6.21	168	326765	430.04	ng/ml	80
14) 2,3,5-Trimethylnaphthalene	6.38	170	234576	494.33	ng/ml	97
16) Fluorene	6.49	166	276812	454.48	ng/ml	95
21) Pentachlorophenol	7.13	266	92747	1769.77	ng/ml	93
23) Dibenzothiophene	7.18	184	387275	364.16	ng/ml	98
27) Phenanthrene	7.28	178	433971	367.84	ng/ml	95
28) Anthracene	7.32	178	438271m	388.52	ng/ml	
29) Carbazole	7.47	167	414098	429.47	ng/ml	88
30) 1-Methylphenanthrene	7.77	192	355432	420.75	ng/ml	98
35) Fluoranthene	8.25	202	537800	414.97	ng/ml	98
38) Pyrene	8.43	202	565382	318.89	ng/ml	86
43) Benz(a)anthracene	9.73	228	611722	347.61	ng/ml	99
44) Chrysene	9.78	228	607100	354.17	ng/ml	98
50) Benzo(b)fluoranthene	11.75	252	677737	391.32	ng/ml	100
51) Benzo(k)fluoranthene	11.81	252	692164	405.65	ng/ml	100
52) Benzo(e)pyrene	12.43	252	641429	395.48	ng/ml	100
53) Benzo(a)pyrene	12.59	252	625536	381.36	ng/ml	99
54) Perylene	12.83	252	611862	380.53	ng/ml	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\111609\1116F002.D Vial: 2
Acq On : 16 Nov 2009 7:37 am Operator: LWeiskopf
Sample : SIM-PAH CCV @ 0.4ug/mL | SVM30-49C Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 16 07:51:35 2009 Quant Results File: 1015ALK.RES

Quant Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Fri Nov 13 08:47:04 2009
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

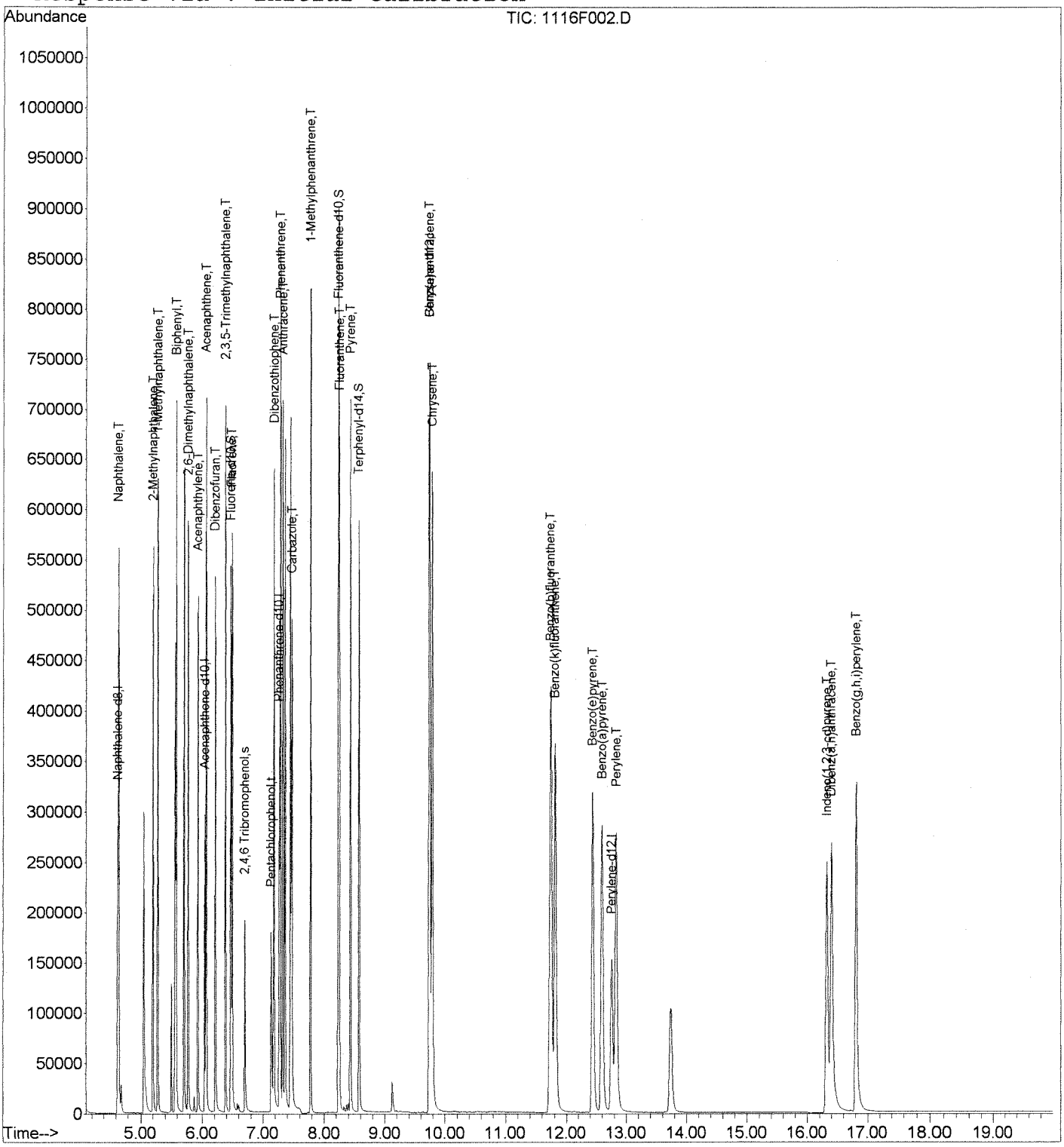
	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
55)	Indeno(1,2,3-cd)pyrene	16.31	276	520350	345.79	ng/ml	100
56)	Dibenz(a,h)anthracene	16.39	278	574036	354.06	ng/ml	89
57)	Benzo(g,h,i)perylene	16.80	276	605676	349.46	ng/ml	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\111609\1116F002.D Vial: 2
Acq On : 16 Nov 2009 7:37 am Operator: LWeiskopf
Sample : SIM-PAH CCV @ 0.4ug/mL | SVM30-49C Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 18 7:44 2009 Quant Results File: 1015ALK.RES

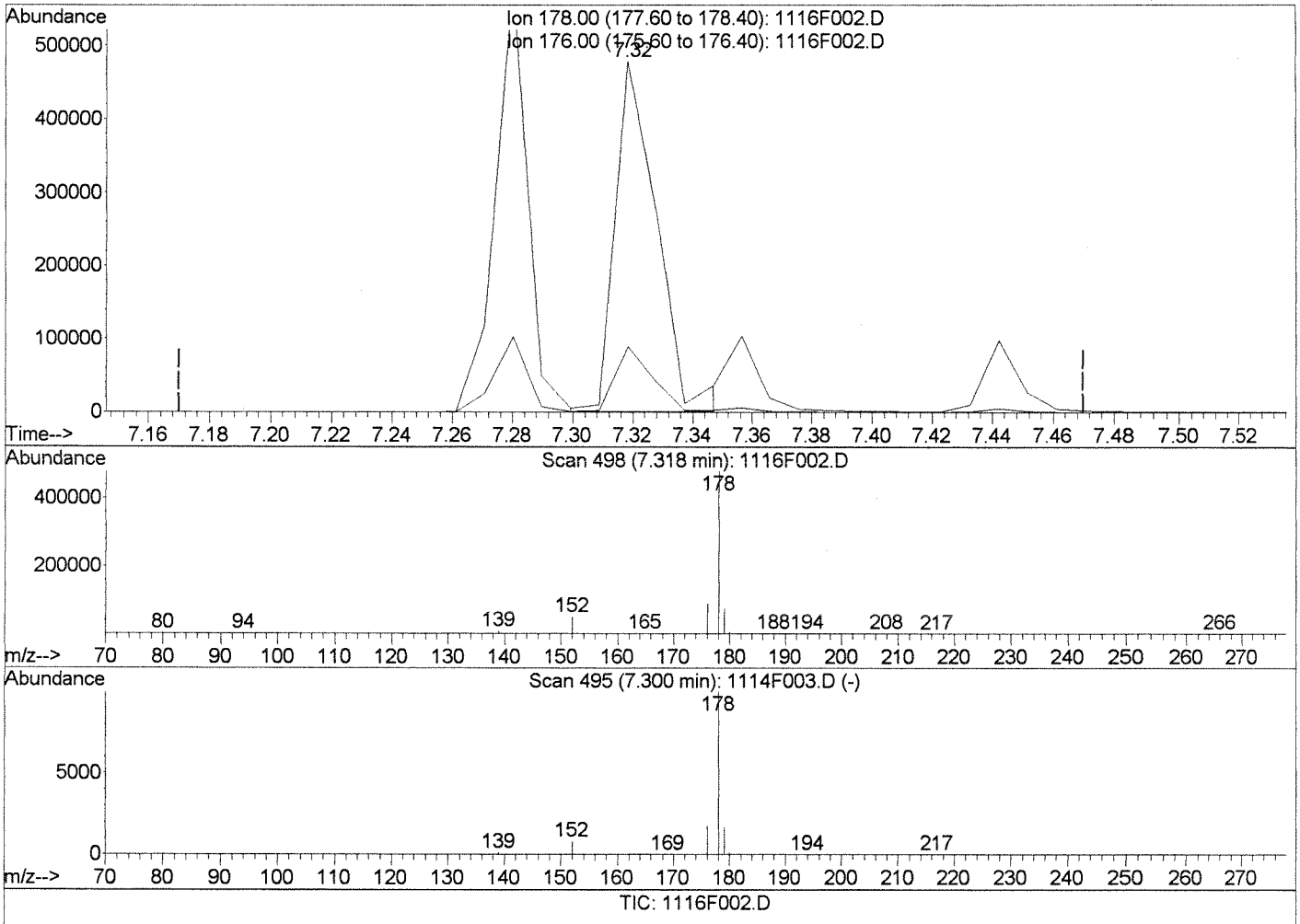
Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Wed Nov 18 07:45:20 2009
Response via : Initial Calibration



Quantitation Report (Qedit)

Data File : J:\MS11\DATA\111609\1116F002.D Vial: 2
Acq On : 16 Nov 2009 7:37 am Operator: LWeiskopf
Sample : SIM-PAH CCV @ 0.4ug/mL | SVM30-49C Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 16 7:51 2009 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Tue Nov 17 11:03:16 2009
Response via : Multiple Level Calibration



TIC: 1116F002.D

(28) Anthracene (T)

7.32min 410.11ng/ml

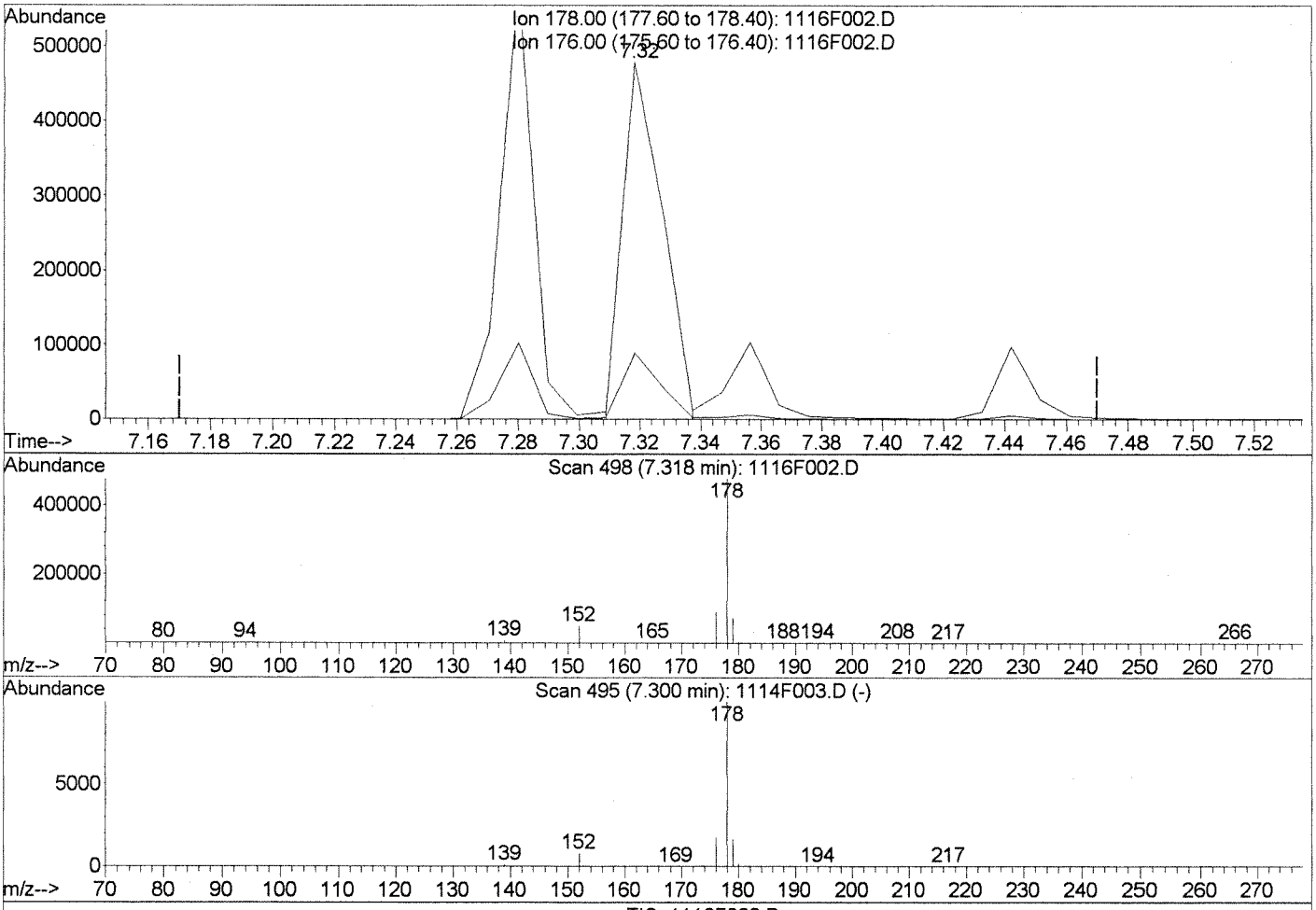
response 462632

Ion	Exp%	Act%
178.00	100	100
176.00	17.60	18.63
0.00	0.00	0.00
0.00	0.00	0.00

1116F002.D 1015ALK.M Wed Nov 18 07:44:43 2009

Data File : J:\MS11\DATA\111609\1116F002.D Vial: 2
Acq On : 16 Nov 2009 7:37 am Operator: LWeiskopf
Sample : SIM-PAH CCV @ 0.4ug/mL | SVM30-49C Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 18 7:44 2009 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Tue Nov 17 11:03:16 2009
Response via : Multiple Level Calibration



TIC: 1116F002.D

(28) Anthracene (T)

7.32min 388.52ng/ml m

response 438271

Ion	Exp%	Act%
178.00	100	100
176.00	17.60	18.61
0.00	0.00	0.00
0.00	0.00	0.00

DI 11/18/09

1116F002.D 1015ALK.M Wed Nov 18 07:44:46 2009

LB 11/18/09

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Results

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0909140
Date Analyzed: 11/16/2009

Continuing Calibration Verification Summary
Polynuclear Aromatic Hydrocarbons

Calibration Type: Internal Standard
Analysis Method: 8270C SIM

Calibration Date: 10/15/2009
Calibration ID: CAL8928
Analysis Lot: KWG0910855
Units: ng/ml

File ID: J:\MS11\DATA\111609\1116F033.D

Analyte Name	Expected	Result	Min RF	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Naphthalene	400	370	0.01	0.920	0.861	-6	NA	± 20 %	AverageRF
2-Methylnaphthalene	400	380	0.01	0.634	0.607	-4	NA	± 20 %	AverageRF
Acenaphthylene	400	400	0.01	1.74	1.72	-1	NA	± 20 %	AverageRF
Acenaphthene	400	390	0.01	1.03	1.01	-2	NA	± 20 %	AverageRF
Fluorene	400	450	0.01	1.12	1.26	13	NA	± 20 %	AverageRF
Dibenzofuran	400	430	0.01	1.39	1.50	8	NA	± 20 %	AverageRF
Phenanthrene	400	360	0.01	1.12	1.01	-10	NA	± 20 %	AverageRF
Anthracene	400	400	0.01	1.07	1.07	0	NA	± 20 %	AverageRF
Fluoranthene	400	420	0.01	1.23	1.30	6	NA	± 20 %	AverageRF
Pyrene	400	330	0.01	1.10	0.916	-16	NA	± 20 %	AverageRF
Benz(a)anthracene	400	350	0.01	1.09	0.960	-12	NA	± 20 %	AverageRF
Chrysene	400	350	0.01	1.06	0.919	-13	NA	± 20 %	AverageRF
Benzo(b)fluoranthene	400	390	0.01	1.04	1.01	-3	NA	± 20 %	AverageRF
Benzo(k)fluoranthene	400	390	0.01	1.03	1.01	-1	NA	± 20 %	AverageRF
Benzo(a)pyrene	400	380	0.01	0.988	0.933	-6	NA	± 20 %	AverageRF
Indeno(1,2,3-cd)pyrene	400	360	0.01	0.907	0.816	-10	NA	± 20 %	AverageRF
Dibenz(a,h)anthracene	400	370	0.01	0.977	0.891	-9	NA	± 20 %	AverageRF
Benzo(g,h,i)perylene	400	350	0.01	1.04	0.911	-13	NA	± 20 %	AverageRF
Fluorene-d10	400	460	0.01	0.933	1.07	14	NA	± 20 %	AverageRF
Fluoranthene-d10	400	430	0.01	1.11	1.19	8	NA	± 20 %	AverageRF
Terphenyl-d14	400	420	0.01	0.827	0.860	4	NA	± 20 %	AverageRF

Results flagged with an asterisk (*) indicate values outside control criteria.

† SPCC Compound **‡ CCC Compound**

Exception Report

Data File: J:\MS11\DATA\111609\1116F033.D
Lab ID: KWG0910855-2
RunType: CCV
Matrix: WATER

Date Acquired: 11/16/2009 21:21
Date Quantitated: 11/18/2009 13:36
Batch ID: KWG0910855
Analysis Method: 8270C SIM
MethodJoinID: MJ138

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Tune Window	NA	NA	NA	x	
ICAL Pass/Fail	NA	NA	NA	x	
ICAL Average RSD	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Initial Calibration Minimum RF	NA	NA	NA	x	
Initial Calibration SPCC/CCC	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Internal Standards	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	

Primary Review: 11/18/09

Secondary Review: 11-19-09

Quantitation Report

Bottle ID:		**Tier:**		**Matrix:**	WATER
Prod Code:	8270C SIM	**Collect Date:**		**Receive Date:**	11/18/2009

Analysis Lot:	KWG0910855	**Prep Lot:**		**Report Group:**	
Analysis Method:	8270C SIM	**Prep Method:**			
Prep Ref:		**Prep Date:**			

Quant Method:	J:\MS11\METHODS\SIM\1015ALK.M	**Calibration ID:**	CAL8928
Title:			
Tune Ref:	J:\MS11\DATA\111609\1116F032.D	**Method ID:**	MJ139
MB Ref:		**Quant based on Method**	

Data File:	J:\MS11\DATA\111609\1116F033.D			**Instrument:**	MS11
Acqu Date:	11/16/2009 21:21	**Quant Date:**	11/18/2009 13:36	**Vial:**	30
Run Type:	CCV			**Dilution:**	1.0
Lab ID:	KWG0910855-2			**Soln Conc. Units:**	ng/ml

Internal Standard Compounds

IS Ref	Parameter Name	RT	RT Dev	Quant Mass	Response	Solution Conc	Area Criteria
1	Naphthalene-d8	4.63	-0.04	136	212089	200.00	OK
2	Acenaphthene-d10	6.05	-0.05	164	110867	200.00	OK
3	Phenanthrene-d10	7.27	-0.05	188	212845	200.00	OK
4	Chrysene-d12	9.76	-0.08	240	312581	200.00	OK
5	Perylene-d12	12.78	-0.14	264	318519	200.00	OK

Surrogate Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	%Rec	%Rec Limits	Rpt?
2	Fluorene-d10	6.47			176	236634	457.47		17-104	NA
2	2,4,6-Tribromophenol	6.71			330	75239	755.63		35-109	NA
3	Fluoranthene-d10	8.24			212	508344	430.99		27-106	NA
4	Terphenyl-d14	8.58			244	537911	416.27		35-109	NA

Target Compounds

Final Conc. Units:

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	Final Conc	Q	Rpt?
1	Naphthalene	4.65			128	365079	374.07			
1	2-Methylnaphthalene	5.21			142	257323	382.57			
1	1-Methylnaphthalene	5.29			142	249173	348.45			
1	Biphenyl	5.58			154	295909	385.82			
1	2,6-Dimethylnaphthalene	5.78			156	204335	386.37			
2	Acenaphthylene	5.93			152	380375	395.38			
2	Acenaphthene	6.07			154	224808	391.93			
2	Dibenzofuran	6.22			168	331963**m**	430.27			
2	2,3,5-Trimethylnaphthalene	6.39			170	237899	493.74			
2	Fluorene	6.50			166	280037	452.82			
2	Pentachlorophenol	7.14			266	103792	1,951			
3	Dibenzothiophene	7.19			184	390219	362.63			

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Data File:	J:\MS11\DATA\111609\1116F033.D			**Instrument:**	MS11
Acqu Date:	11/16/2009 21:21	**Quant Date:**	11/18/2009 13:36	**Vial:**	30
Run Type:	CCV			**Dilution:**	1.0
Lab ID:	KWG0910855-2			**Soln Conc. Units:**	ng/ml

Target Compounds **Final Conc. Units:**

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	Final Conc	Q	Rpt?
3	Phenanthrene	7.29			178	429479	359.77			
3	Anthracene	7.33			178	455551	399.11			
3	Carbazole	7.47			167	417419	427.85			
3	1-Methylphenanthrene	7.79			192	360826	422.14			
3	Fluoranthene	8.25			202	553843	422.34			
4	Pyrene	8.44			202	572480	334.47			
4	Benz(a)anthracene	9.75			228	600114	353.23			
4	Chrysene	9.80			228	574694	347.28			
5	Benzo(b)fluoranthene	11.77			252	642440	386.64			
5	Benzo(k)fluoranthene	11.84			252	646225	394.76			
5	Benzo(e)pyrene	12.46			252	601761	386.73			
5	Benzo(a)pyrene	12.61			252	594089	377.52			
5	Perylene	12.85			252	581480	376.94			
5	Indeno(1,2,3-cd)pyrene	16.33			276	520067	360.23			
5	Dibenz(a,h)anthracene	16.41			278	567916	365.12			
5	Benzo(g,h,i)perylene	16.82			276	580502	349.12			

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\111609\1116F033.D Vial: 30
Acq On : 16 Nov 2009 9:21 pm Operator: LWeiskopf
Sample : SIM-PAH CCV @ 0.4ug/mL | SVM30-49C Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 17 05:22:37 2009 Quant Results File: 1015ALK.RES

Quant Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Nov 16 09:34:45 2009
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	4.63	136	212089	200.00	ng/ml	0.00
10) Acenaphthene-d10	6.05	164	110867	200.00	ng/ml	0.00
22) Phenanthrene-d10	7.27	188	212845	200.00	ng/ml	0.00
37) Chrysene-d12	9.76	240	312581	200.00	ng/ml	0.00
49) Perylene-d12	12.78	264	318519	200.00	ng/ml	0.02
System Monitoring Compounds						
15) Fluorene-d10	6.47	176	236634	457.47	ng/ml	0.01
Spiked Amount 200.000			Recovery = 228.74%			
20) 2,4,6 Tribromophenol	6.71	330	75239	755.63	ng/ml	0.01
Spiked Amount 375.000			Recovery = 201.50%			
36) Fluoranthene-d10	8.24	212	508344	430.99	ng/ml	0.00
Spiked Amount 200.000			Recovery = 215.50%			
42) Terphenyl-d14	8.58	244	537911	416.27	ng/ml	0.00
Spiked Amount 200.000			Recovery = 208.13%			
Target Compounds						Qvalue
2) Naphthalene	4.65	128	365079	374.07	ng/ml	99
3) 2-Methylnaphthalene	5.21	142	257323	382.57	ng/ml	96
4) 1-Methylnaphthalene	5.29	142	249173	348.45	ng/ml	97
5) Biphenyl	5.58	154	295909	385.82	ng/ml	96
6) 2,6-Dimethylnaphthalene	5.78	156	204335	386.37	ng/ml	82
11) Acenaphthylene	5.93	152	380375	395.38	ng/ml	99
12) Acenaphthene	6.07	154	224808	391.93	ng/ml	92
13) Dibenzofuran	6.22	168	331963m	430.27	ng/ml	
14) 2,3,5-Trimethylnaphthalene	6.39	170	237899	493.74	ng/ml	72
16) Fluorene	6.50	166	280037	452.82	ng/ml	99
21) Pentachlorophenol	7.14	266	103792	1950.55	ng/ml	98
23) Dibenzothiophene	7.19	184	390219	362.63	ng/ml	90
27) Phenanthrene	7.29	178	429479	359.77	ng/ml	93
28) Anthracene	7.33	178	455551	399.11	ng/ml	100
29) Carbazole	7.47	167	417419	427.85	ng/ml	95
30) 1-Methylphenanthrene	7.79	192	360826	422.14	ng/ml	96
35) Fluoranthene	8.25	202	553843	422.34	ng/ml	88
38) Pyrene	8.44	202	572480	334.47	ng/ml	86
43) Benz(a)anthracene	9.75	228	600114	353.23	ng/ml	99
44) Chrysene	9.80	228	574694	347.28	ng/ml	98
50) Benzo(b)fluoranthene	11.77	252	642440	386.64	ng/ml	100
51) Benzo(k)fluoranthene	11.84	252	646225	394.76	ng/ml	100
52) Benzo(e)pyrene	12.46	252	601761	386.73	ng/ml	100
53) Benzo(a)pyrene	12.61	252	594089	377.52	ng/ml	99
54) Perylene	12.85	252	581480	376.94	ng/ml	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\111609\1116F033.D Vial: 30
Acq On : 16 Nov 2009 9:21 pm Operator: LWeiskopf
Sample : SIM-PAH CCV @ 0.4ug/mL | SVM30-49C Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 17 05:22:37 2009 Quant Results File: 1015ALK.RES

Quant Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Nov 16 09:34:45 2009
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

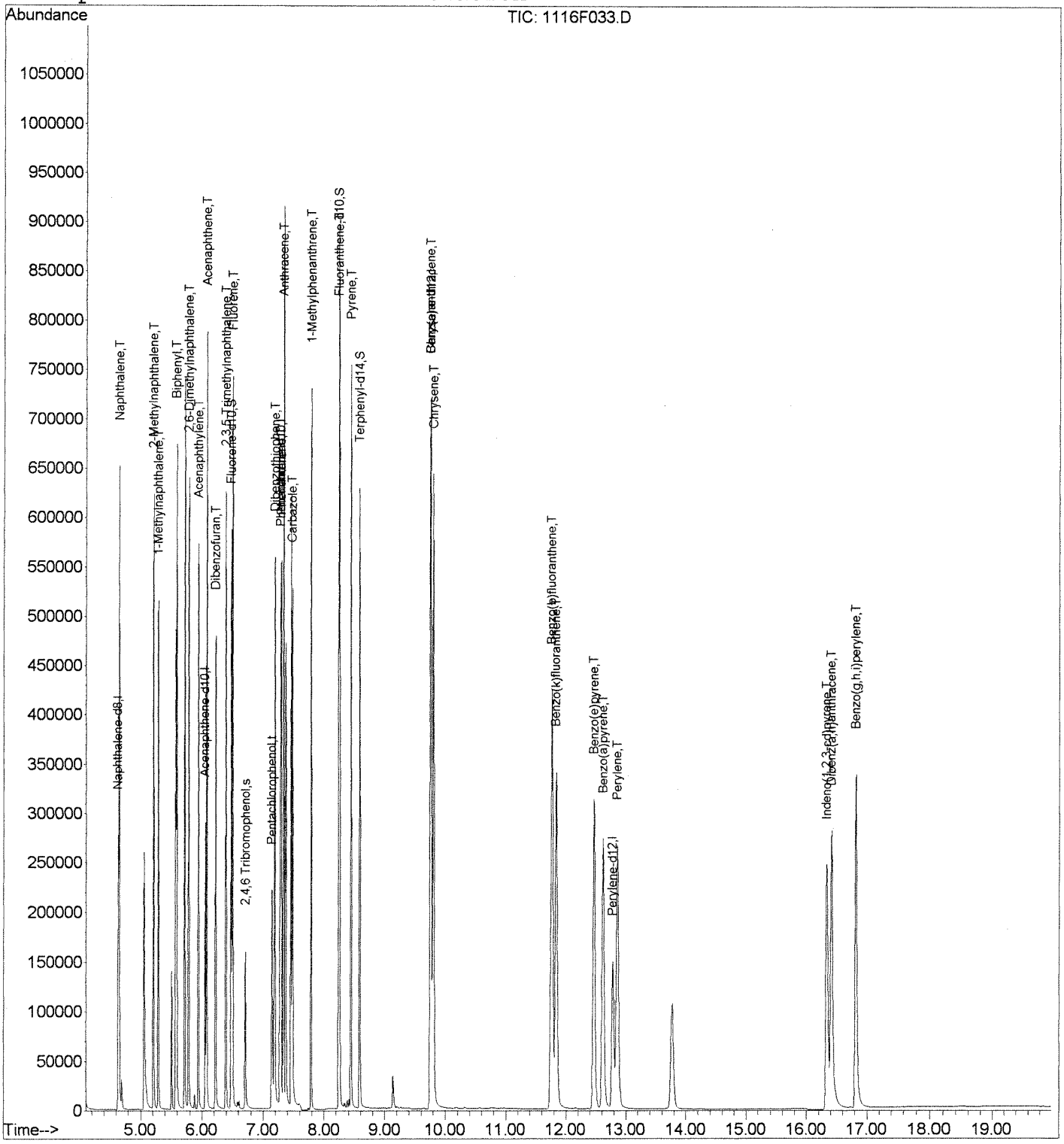
	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
55)	Indeno(1,2,3-cd)pyrene	16.33	276	520067	360.23	ng/ml	99
56)	Dibenz(a,h)anthracene	16.41	278	567916	365.12	ng/ml	95
57)	Benzo(g,h,i)perylene	16.82	276	580502	349.12	ng/ml	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\111609\1116F033.D Vial: 30
Acq On : 16 Nov 2009 9:21 pm Operator: LWeiskopf
Sample : SIM-PAH CCV @ 0.4ug/mL | SVM30-49C Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 18 13:36 2009 Quant Results File: 1015ALK.RES

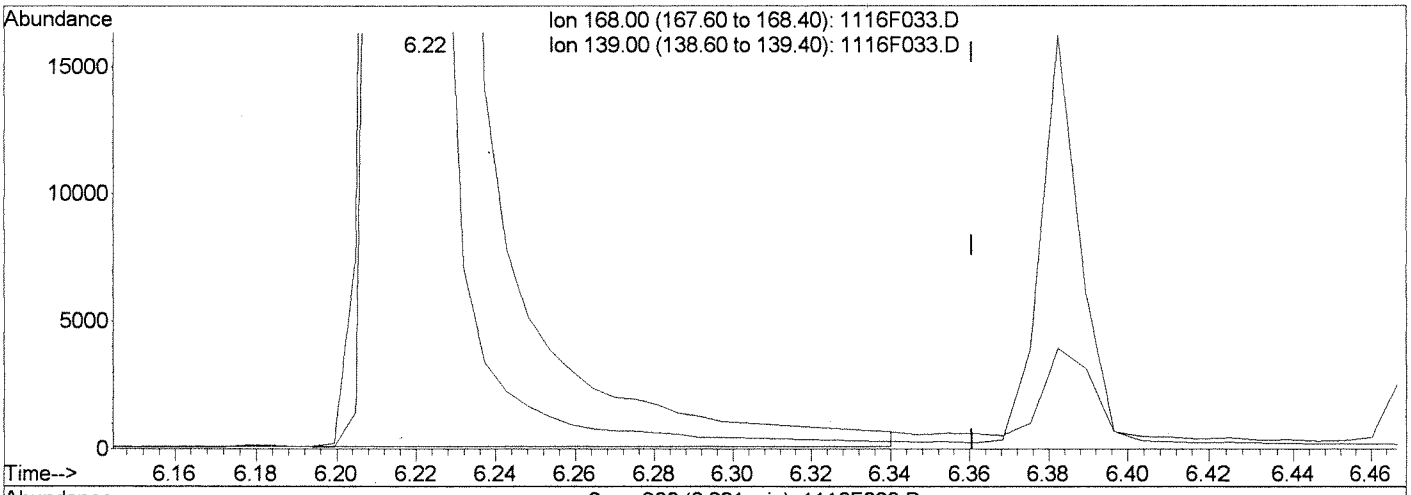
Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Tue Nov 17 11:03:16 2009
Response via : Initial Calibration

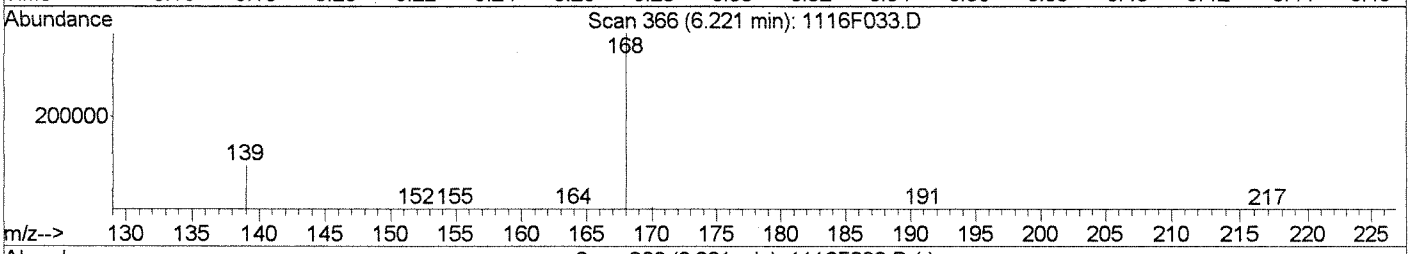


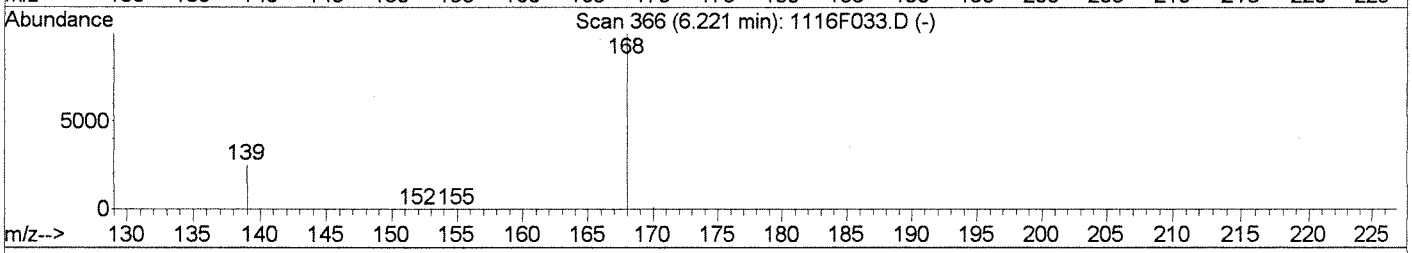
Quantitation Report (Qedit)

Data File : J:\MS11\DATA\111609\1116F033.D Vial: 30
Acq On : 16 Nov 2009 9:21 pm Operator: LWeiskopf
Sample : SIM-PAH CCV @ 0.4ug/mL | SVM30-49C Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 17 5:22 2009 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Tue Nov 17 11:03:16 2009
Response via : Multiple Level Calibration







TIC: 1116F033.D

(13) Dibenzofuran (T)

6.22min 579.55ng/ml

response 447138

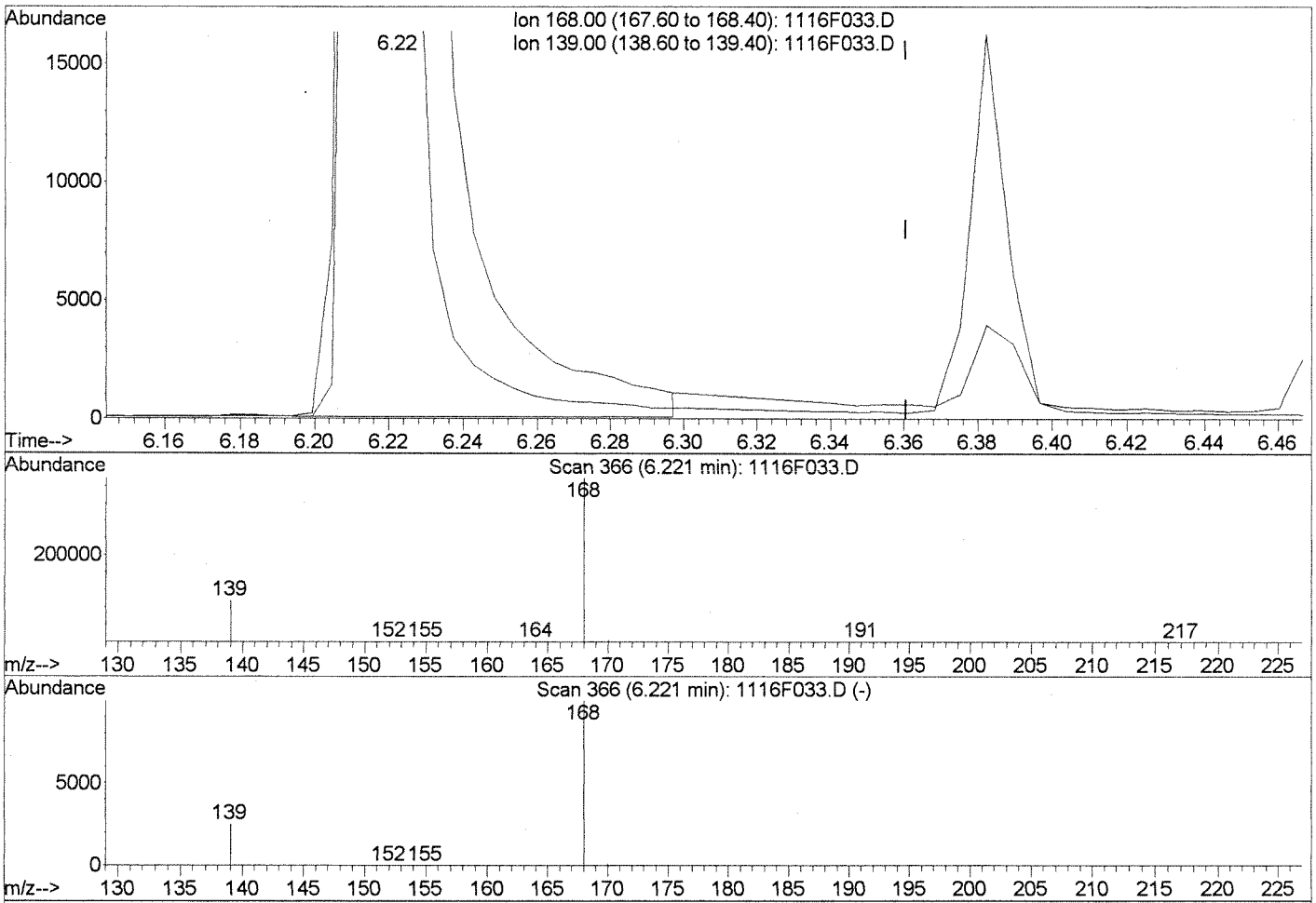
Ion	Exp%	Act%
168.00	100	100
139.00	53.30	24.91
0.00	0.00	0.00
0.00	0.00	0.00

1116F033.D 1015ALK.M Wed Nov 18 13:36:48 2009

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\111609\1116F033.D Vial: 30
Acq On : 16 Nov 2009 9:21 pm Operator: LWeiskopf
Sample : SIM-PAH CCV @ 0.4ug/mL | SVM30-49C Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 18 13:36 2009 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Tue Nov 17 11:03:16 2009
Response via : Multiple Level Calibration



(13) Dibenzofuran (T)

6.22min 430.27ng/ml m

response 331963

Ion	Exp%	Act%
168.00	100	100
139.00	53.30	24.93
0.00	0.00	0.00
0.00	0.00	0.00

OT 11/18/09 11-19-09

1116F033.D 1015ALK.M Wed Nov 18 13:36:58 2009

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Results

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0909140
Date Analyzed: 11/19/2009

Continuing Calibration Verification Summary
Polynuclear Aromatic Hydrocarbons

Calibration Type: Internal Standard
Analysis Method: 8270C SIM

Calibration Date: 11/19/2009
Calibration ID: CAL9029
Analysis Lot: KWG0910976
Units: ng/ml

File ID: J:\MS11\DATA\111909\1119F039.D

Analyte Name	Expected	Result	Min RF	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Naphthalene	400	380	0.01	0.880	0.843	-4	NA	± 20 %	AverageRF
2-Methylnaphthalene	400	380	0.01	0.634	0.610	-4	NA	± 20 %	AverageRF
Acenaphthylene	400	410	0.01	1.64	1.68	2	NA	± 20 %	AverageRF
Acenaphthene	400	410	0.01	0.976	0.997	2	NA	± 20 %	AverageRF
Fluorene	400	410	0.01	1.24	1.28	4	NA	± 20 %	AverageRF
Dibenzofuran	400	410	0.01	1.48	1.52	3	NA	± 20 %	AverageRF
Phenanthrene	400	380	0.01	1.07	1.02	-4	NA	± 20 %	AverageRF
Anthracene	400	420	0.01	1.02	1.08	6	NA	± 20 %	AverageRF
Fluoranthene	400	420	0.01	1.24	1.31	5	NA	± 20 %	AverageRF
Pyrene	400	360	0.01	1.06	0.950	-10	NA	± 20 %	AverageRF
Benz(a)anthracene	400	360	0.01	1.02	0.914	-11	NA	± 20 %	AverageRF
Chrysene	400	370	0.01	0.976	0.900	-8	NA	± 20 %	AverageRF
Benzo(b)fluoranthene	400	400	0.01	1.04	1.04	0	NA	± 20 %	AverageRF
Benzo(k)fluoranthene	400	410	0.01	0.988	1.01	2	NA	± 20 %	AverageRF
Benzo(a)pyrene	400	390	0.01	0.918	0.900	-2	NA	± 20 %	AverageRF
Indeno(1,2,3-cd)pyrene	400	370	0.01	0.846	0.782	-8	NA	± 20 %	AverageRF
Dibenz(a,h)anthracene	400	370	0.01	0.882	0.822	-7	NA	± 20 %	AverageRF
Benzo(g,h,i)perylene	400	380	0.01	0.956	0.905	-5	NA	± 20 %	AverageRF
Fluorene-d10	400	410	0.01	1.12	1.16	4	NA	± 20 %	AverageRF
Fluoranthene-d10	400	430	0.01	1.21	1.29	7	NA	± 20 %	AverageRF
Terphenyl-d14	400	450	0.01	0.828	0.936	13	NA	± 20 %	AverageRF

Results flagged with an asterisk (*) indicate values outside control criteria.

† SPCC Compound **‡ CCC Compound**

Exception Report

Data File: J:\MS11\DATA\111909\1119F039.D
Lab ID: KWG0910976-2
RunType: CCV
Matrix: WATER

Date Acquired: 11/19/2009 22:34
Date Quantitated: 11/20/2009 12:01
Batch ID: KWG0910976
Analysis Method: 8270C SIM
MethodJoinID: MJ138

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Tune Window	NA	NA	NA	x	
ICAL Pass/Fail	NA	NA	NA	x	
ICAL Average RSD	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Initial Calibration Minimum RF	NA	NA	NA	x	
Initial Calibration SPCC/CCC	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Internal Standards	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	

Primary Review: 11/21/09

Secondary Review: 11/23/09

Quantitation Report

Bottle ID:		**Tier:**		**Matrix:**	WATER
Prod Code:	8270C SIM	**Collect Date:**		**Receive Date:**	11/20/2009

Analysis Lot:	KWG0910976	**Prep Lot:**		**Report Group:**	
Analysis Method:	8270C SIM	**Prep Method:**			
Prep Ref:		**Prep Date:**			

Quant Method:	J:\MS11\METHODS\SIM\1119ALK.M	**Calibration ID:**	CAL9029
Title:			
Tune Ref:	J:\MS11\DATA\111909\1119F038.D	**Method ID:**	MJ139
MB Ref:		**Quant based on Method**	

Data File:	J:\MS11\DATA\111909\1119F039.D			**Instrument:**	MS11
Acqu Date:	11/19/2009 22:34	**Quant Date:**	11/20/2009 12:01	**Vial:**	27
Run Type:	CCV			**Dilution:**	1.0
Lab ID:	KWG0910976-2			**Soln Conc. Units:**	ng/ml

Internal Standard Compounds

IS Ref	Parameter Name	RT	RT Dev	Quant Mass	Response	Solution Conc	Area Criteria
1	Naphthalene-d8	4.88	0.00	136	141988	200.00	OK
2	Acenaphthene-d10	6.30	0.00	164	76868	200.00	OK
3	Phenanthrene-d10	7.54	0.01	188	146729	200.00	OK
4	Chrysene-d12	10.27	0.01	240	209498	200.00	OK
5	Perylene-d12	13.86	0.01	264	199973	200.00	OK

Surrogate Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	%Rec	%Rec Limits	Rpt?
2	Fluorene-d10	6.72			176	178785	414.23		17-104	NA
2	2,4,6-Tribromophenol	6.95			330	57109	535.11		35-109	NA
3	Fluoranthene-d10	8.52			212	378501	426.67		27-106	NA
4	Terphenyl-d14	8.90			244	392188	452.21		35-109	NA

Target Compounds

Final Conc. Units:

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	Final Conc	Q	Rpt?
1	Naphthalene	4.90			128	239449	383.39			
1	2-Methylnaphthalene	5.45			142	173154	384.87			
1	1-Methylnaphthalene	5.53			142	165833	384.26			
1	Biphenyl	5.82			154	206532	385.83			
1	2,6-Dimethylnaphthalene	5.95			156	160242	387.54			
2	Acenaphthylene	6.18			152	258497	409.23			
2	Acenaphthene	6.33			154	153227	408.39			
2	Dibenzofuran	6.47			168	234114**m**	411.97			
2	2,3,5-Trimethylnaphthalene	6.64			170	163676	408.50			
2	Fluorene	6.75			166	197084	414.63			
2	Pentachlorophenol	7.38			266	116049	1,028			
3	Dibenzothiophene	7.45			184	264718	405.07			

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Data File:	J:\MS11\DATA\111909\1119F039.D			**Instrument:**	MS11
Acqu Date:	11/19/2009 22:34	**Quant Date:**	11/20/2009 12:01	**Vial:**	27
Run Type:	CCV			**Dilution:**	1.0
Lab ID:	KWG0910976-2			**Soln Conc. Units:**	ng/ml

Target Compounds **Final Conc. Units:**

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	Final Conc	Q	Rpt?
3	Phenanthrene	7.55			178	298986	382.20			
3	Anthracene	7.60			178	317937	422.93			
3	Carbazole	7.73			167	269303	419.42			
3	1-Methylphenanthrene	8.05			192	246221	404.31			
3	Fluoranthene	8.53			202	383049	421.21			
4	Pyrene	8.74			202	397926	358.17			
4	Benz(a)anthracene	10.25			228	382821	357.69			
4	Chrysene	10.31			228	377281	369.13			
5	Benzo(b)fluoranthene	12.64			252	414764	398.06			
5	Benzo(k)fluoranthene	12.73			252	404036	409.20			
5	Benzo(e)pyrene	13.49			252	380385	398.35			
5	Benzo(a)pyrene	13.66			252	359993	392.17			
5	Perylene	13.95			252	364210	401.76			
5	Indeno(1,2,3-cd)pyrene	16.99			276	312864	369.75			
5	Dibenz(a,h)anthracene	17.07			278	328739	372.84			
5	Benzo(g,h,i)perylene	17.41			276	362137	378.71			

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\111909\1119F039.D Vial: 27
Acq On : 19 Nov 2009 10:34 pm Operator: LWeiskopf
Sample : SIM-PAH CCV @ 0.4ug/mL | SVM30-59B Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 20 11:02:02 2009 Quant Results File: 1119ALK.RES

Quant Method : J:\MS11\METHODS\SIM\1119ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Fri Nov 20 09:17:56 2009
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	4.88	136	141988	200.00	ng/ml	0.00
10) Acenaphthene-d10	6.30	164	76868	200.00	ng/ml	0.00
22) Phenanthrene-d10	7.54	188	146729	200.00	ng/ml	0.02
37) Chrysene-d12	10.27	240	209498	200.00	ng/ml	0.00
49) Perylene-d12	13.86	264	199973	200.00	ng/ml	-0.01
System Monitoring Compounds						
15) Fluorene-d10	6.72	176	178785	414.23	ng/ml	0.00
Spiked Amount 200.000			Recovery = 207.12%			
20) 2,4,6 Tribromophenol	6.95	330	57109	535.11	ng/ml	0.00
Spiked Amount 375.000			Recovery = 142.70%			
36) Fluoranthene-d10	8.52	212	378501	426.67	ng/ml	0.00
Spiked Amount 200.000			Recovery = 213.34%			
42) Terphenyl-d14	8.90	244	392188	452.21	ng/ml	0.00
Spiked Amount 200.000			Recovery = 226.10%			
Target Compounds						Qvalue
2) Naphthalene	4.90	128	239449	383.39	ng/ml	99
3) 2-Methylnaphthalene	5.45	142	173154	384.87	ng/ml	97
4) 1-Methylnaphthalene	5.53	142	165833	384.26	ng/ml	99
5) Biphenyl	5.82	154	206532	385.83	ng/ml	96
6) 2,6-Dimethylnaphthalene	5.95	156	160242	387.54	ng/ml	97
11) Acenaphthylene	6.18	152	258497	409.23	ng/ml	98
12) Acenaphthene	6.33	154	153227	408.39	ng/ml	91
13) Dibenzofuran	6.47	168	234114m	411.97	ng/ml	
14) 2,3,5-Trimethylnaphthalene	6.64	170	163676	408.50	ng/ml	78
16) Fluorene	6.75	166	197084	414.63	ng/ml	97
21) Pentachlorophenol	7.38	266	116049	1027.96	ng/ml	95
23) Dibenzothiophene	7.45	184	264718	405.07	ng/ml	86
27) Phenanthrene	7.55	178	298986	382.20	ng/ml	99
28) Anthracene	7.60	178	317937	422.93	ng/ml	98
29) Carbazole	7.73	167	269303	419.42	ng/ml	89
30) 1-Methylphenanthrene	8.05	192	246221	404.31	ng/ml	97
35) Fluoranthene	8.53	202	383049	421.21	ng/ml	92
38) Pyrene	8.74	202	397926	358.17	ng/ml	94
43) Benz(a)anthracene	10.25	228	382821	357.69	ng/ml	98
44) Chrysene	10.31	228	377281	369.13	ng/ml	97
50) Benzo(b)fluoranthene	12.64	252	414764	398.06	ng/ml	100
51) Benzo(k)fluoranthene	12.73	252	404036	409.20	ng/ml	100
52) Benzo(e)pyrene	13.49	252	380385	398.35	ng/ml	100
53) Benzo(a)pyrene	13.66	252	359993	392.17	ng/ml	99
54) Perylene	13.95	252	364210	401.76	ng/ml	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\111909\1119F039.D Vial: 27
Acq On : 19 Nov 2009 10:34 pm Operator: LWeiskopf
Sample : SIM-PAH CCV @ 0.4ug/mL | SVM30-59B Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 20 11:02:02 2009 Quant Results File: 1119ALK.RES

Quant Method : J:\MS11\METHODS\SIM\1119ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Fri Nov 20 09:17:56 2009
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

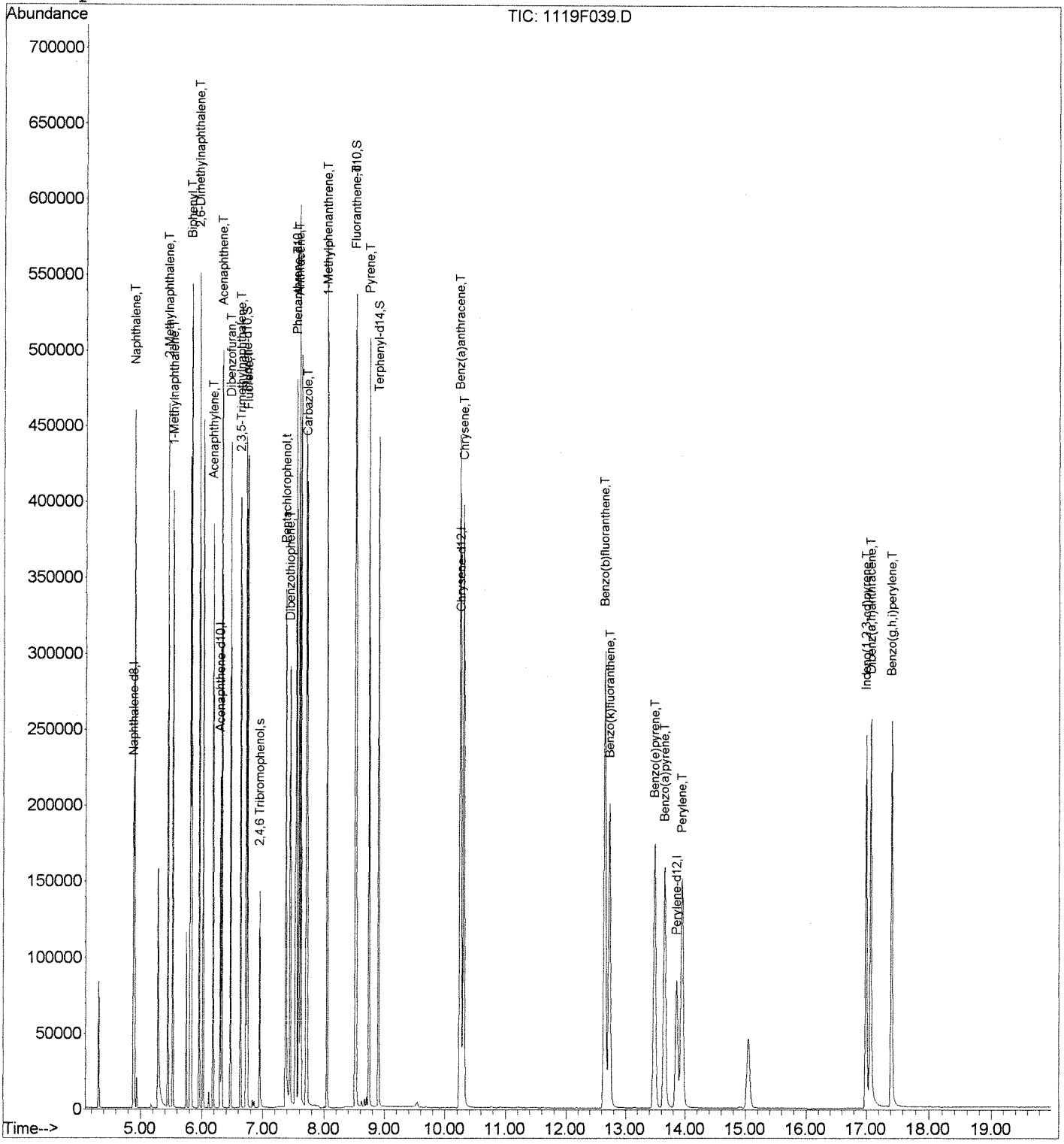
	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
55)	Indeno(1,2,3-cd)pyrene	16.99	276	312864	369.75	ng/ml	98
56)	Dibenz(a,h)anthracene	17.07	278	328739	372.84	ng/ml	99
57)	Benzo(g,h,i)perylene	17.41	276	362137	378.71	ng/ml	97

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\111909\1119F039.D Vial: 27
Acq On : 19 Nov 2009 10:34 pm Operator: LWeiskopf
Sample : SIM-PAH CCV @ 0.4ug/mL | SVM30-59B Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 20 12:01 2009 Quant Results File: 1119ALK.RES

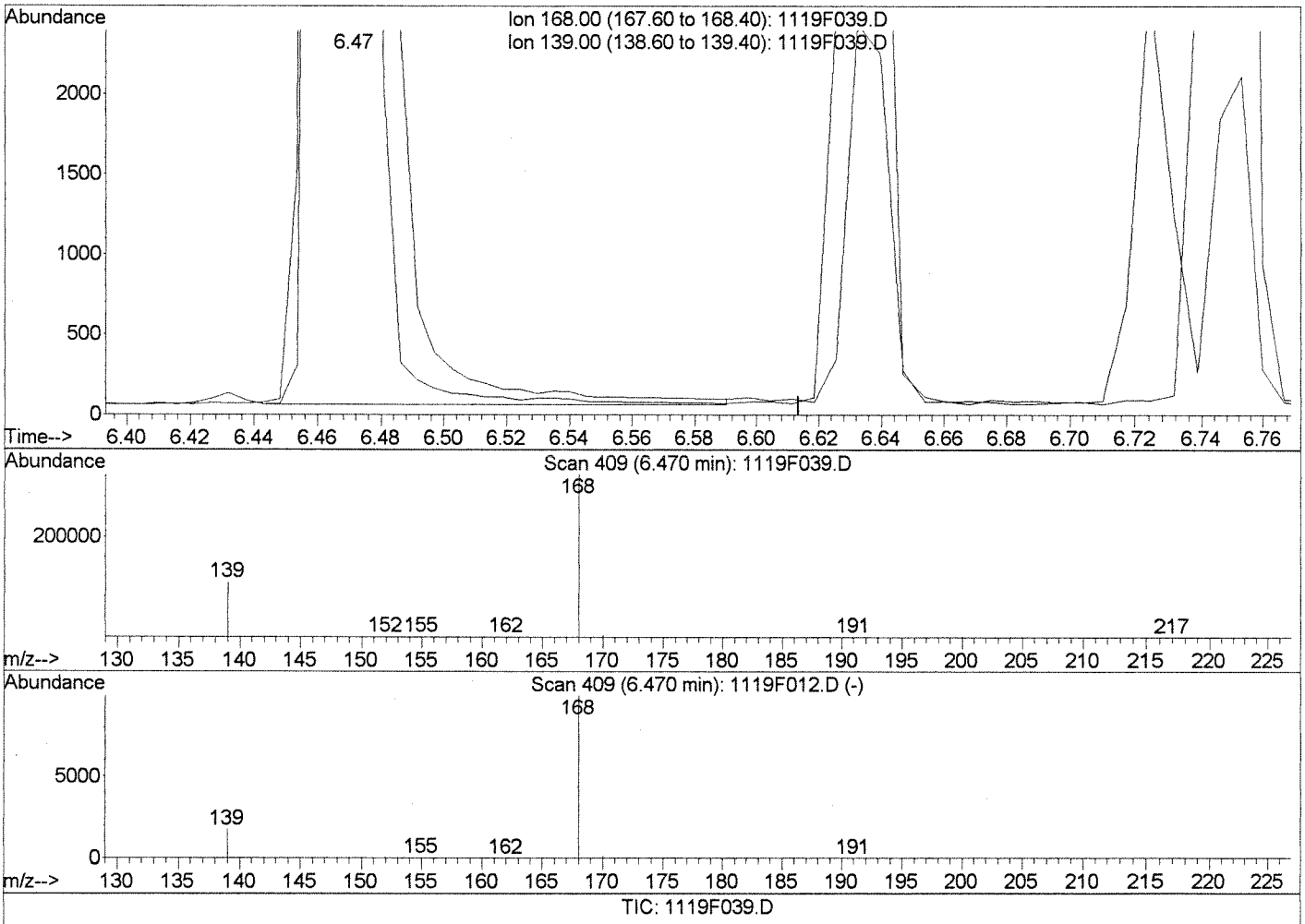
Method : J:\MS11\METHODS\SIM\1119ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Fri Nov 20 12:01:24 2009
Response via : Initial Calibration



Quantitation Report (Qedit)

Data File : J:\MS11\DATA\111909\1119F039.D Vial: 27
Acq On : 19 Nov 2009 10:34 pm Operator: LWeiskopf
Sample : SIM-PAH CCV @ 0.4ug/mL | SVM30-59B Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 20 11:02 2009 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1119ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Fri Nov 20 09:17:56 2009
Response via : Multiple Level Calibration



TIC: 1119F039.D

(13) Dibenzofuran (T)

6.47min 559.94ng/ml

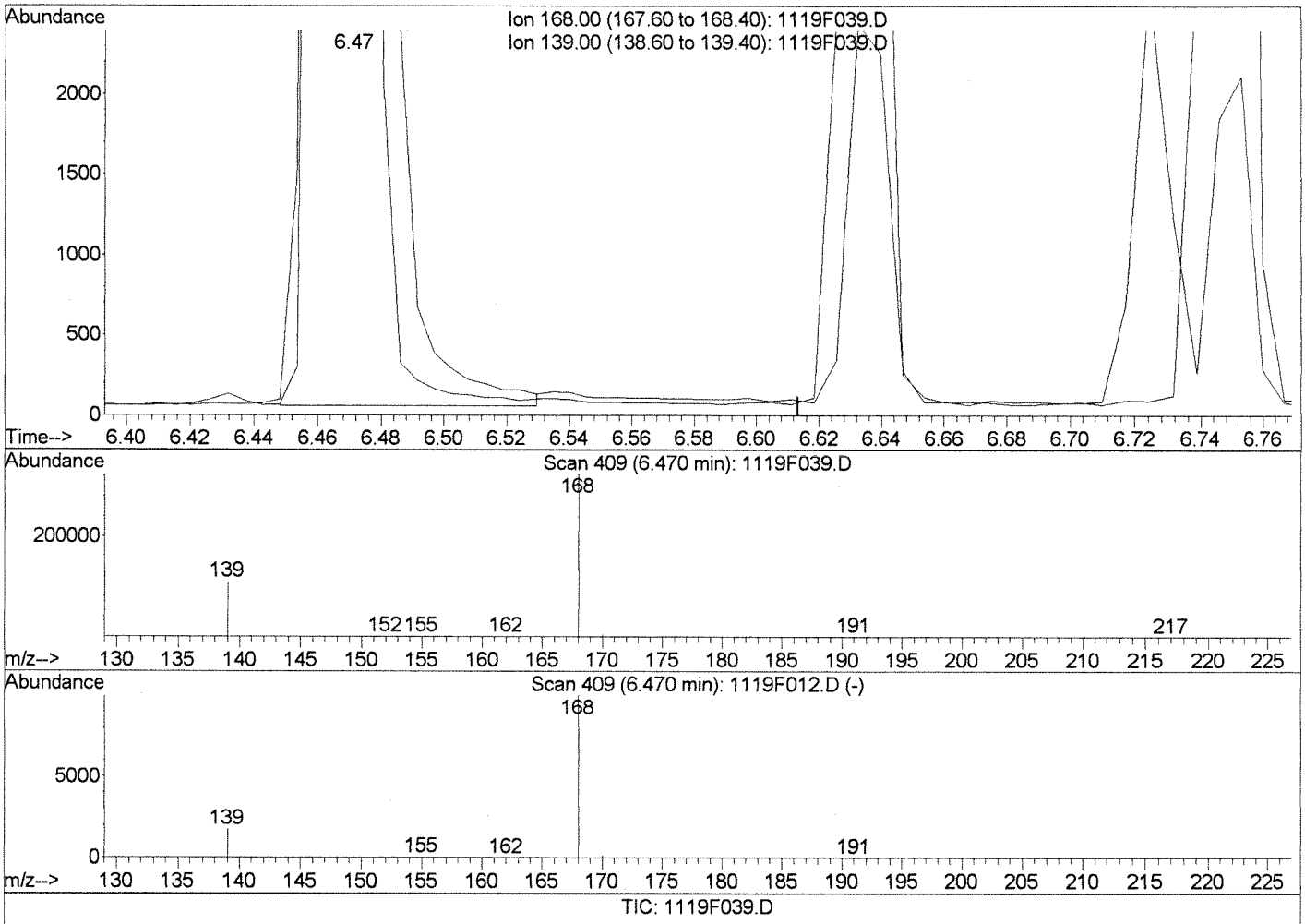
response 318202

Ion	Exp%	Act%
168.00	100	100
139.00	53.30	33.67
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\111909\1119F039.D Vial: 27
Acq On : 19 Nov 2009 10:34 pm Operator: LWeiskopf
Sample : SIM-PAH CCV @ 0.4ug/mL | SVM30-59B Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 20 12:01 2009 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1119ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Fri Nov 20 09:17:56 2009
Response via : Multiple Level Calibration



TIC: 1119F039.D

(13) Dibenzofuran (T)

6.47min 411.97ng/ml m

response 234114

Ion	Exp%	Act%
168.00	100	100
139.00	53.30	33.69
0.00	0.00	0.00
0.00	0.00	0.00

OI 11/24/09

11-23-09

1119F039.D 1119ALK.M Fri Nov 20 12:01:03 2009

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Results

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0909140
Date Analyzed: 11/20/2009

Continuing Calibration Verification Summary
Polynuclear Aromatic Hydrocarbons

Calibration Type: Internal Standard
Analysis Method: 8270C SIM

Calibration Date: 11/19/2009
Calibration ID: CAL9029
Analysis Lot: KWG0911040
Units: ng/ml

File ID: J:\MS11\DATA\112009\1120F031.D

Analyte Name	Expected	Result	Min RF	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Naphthalene	400	380	0.01	0.880	0.827	-6	NA	± 20 %	AverageRF
2-Methylnaphthalene	400	380	0.01	0.634	0.598	-6	NA	± 20 %	AverageRF
Acenaphthylene	400	410	0.01	1.64	1.68	2	NA	± 20 %	AverageRF
Acenaphthene	400	410	0.01	0.976	0.999	2	NA	± 20 %	AverageRF
Fluorene	400	400	0.01	1.24	1.25	1	NA	± 20 %	AverageRF
Dibenzofuran	400	400	0.01	1.48	1.48	0	NA	± 20 %	AverageRF
Phenanthrene	400	380	0.01	1.07	1.01	-6	NA	± 20 %	AverageRF
Anthracene	400	420	0.01	1.02	1.06	4	NA	± 20 %	AverageRF
Fluoranthene	400	390	0.01	1.24	1.21	-2	NA	± 20 %	AverageRF
Pyrene	400	340	0.01	1.06	0.905	-15	NA	± 20 %	AverageRF
Benz(a)anthracene	400	370	0.01	1.02	0.938	-8	NA	± 20 %	AverageRF
Chrysene	400	360	0.01	0.976	0.885	-9	NA	± 20 %	AverageRF
Benzo(b)fluoranthene	400	380	0.01	1.04	0.989	-5	NA	± 20 %	AverageRF
Benzo(k)fluoranthene	400	390	0.01	0.988	0.961	-3	NA	± 20 %	AverageRF
Benzo(a)pyrene	400	390	0.01	0.918	0.903	-2	NA	± 20 %	AverageRF
Indeno(1,2,3-cd)pyrene	400	410	0.01	0.846	0.873	3	NA	± 20 %	AverageRF
Dibenz(a,h)anthracene	400	420	0.01	0.882	0.920	4	NA	± 20 %	AverageRF
Benzo(g,h,i)perylene	400	420	0.01	0.956	1.01	5	NA	± 20 %	AverageRF
Fluorene-d10	400	410	0.01	1.12	1.14	2	NA	± 20 %	AverageRF
Fluoranthene-d10	400	410	0.01	1.21	1.24	3	NA	± 20 %	AverageRF
Terphenyl-d14	400	450	0.01	0.828	0.927	12	NA	± 20 %	AverageRF

Results flagged with an asterisk (*) indicate values outside control criteria.

† **SPCC Compound** ‡ **CCC Compound**

Exception Report

Data File: J:\MS11\DATA\112009\1120F031.D
Lab ID: KWG0911040-2
RunType: CCV
Matrix: WATER

Date Acquired: 11/20/2009 23:26
Date Quantitated: 11/23/2009 08:35
Batch ID: KWG0911040
Analysis Method: 8270C SIM
MethodJoinID: MJ138

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Tune Window	NA	NA	NA	x	
ICAL Pass/Fail	NA	NA	NA	x	
ICAL Average RSD	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Initial Calibration Minimum RF	NA	NA	NA	x	
Initial Calibration SPCC/CCC	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Internal Standards	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	

Primary Review: 12/03/09
Secondary Review: 11-24-09

Quantitation Report

Bottle ID:		**Tier:**		**Matrix:**	WATER
Prod Code:	8270C SIM	**Collect Date:**		**Receive Date:**	11/23/2009

Analysis Lot:	KWG0911040	**Prep Lot:**		**Report Group:**	
Analysis Method:	8270C SIM	**Prep Method:**			
Prep Ref:		**Prep Date:**			

Quant Method:	J:\MS11\METHODS\SIM\1119ALK.M	**Calibration ID:**	CAL9029
Title:			
Tune Ref:	J:\MS11\DATA\112009\1120F030.D	**Method ID:**	MJ139
MB Ref:		**Quant based on Method**	

Data File:	J:\MS11\DATA\112009\1120F031.D			**Instrument:**	MS11
Acqu Date:	11/20/2009 23:26	**Quant Date:**	11/23/2009 08:35	**Vial:**	28
Run Type:	CCV			**Dilution:**	1.0
Lab ID:	KWG0911040-2			**Soln Conc. Units:**	ng/ml

Internal Standard Compounds

IS Ref	Parameter Name	RT	RT Dev	Quant Mass	Response	Solution Conc	Area Criteria
1	Naphthalene-d8	4.87	-0.01	136	181996	200.00	OK
2	Acenaphthene-d10	6.29	-0.01	164	94961	200.00	OK
3	Phenanthrene-d10	7.52	-0.01	188	169321	200.00	OK
4	Chrysene-d12	10.25	-0.01	240	235199	200.00	OK
5	Perylene-d12	13.82	-0.03	264	251477	200.00	OK

Surrogate Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	%Rec	%Rec Limits	Rpt?
2	Fluorene-d10	6.72			176	217293	407.53		17-104	NA
2	2,4,6-Tribromophenol	6.94			330	70246	532.80		35-109	NA
3	Fluoranthene-d10	8.50			212	420161	410.43		27-106	NA
4	Terphenyl-d14	8.89			244	436074	447.87		35-109	NA

Target Compounds

Final Conc. Units:

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	Final Conc	Q	Rpt?
1	Naphthalene	4.89			128	301122	376.14			
1	2-Methylnaphthalene	5.44			142	217810	377.70			
1	1-Methylnaphthalene	5.52			142	207476	375.06			
1	Biphenyl	5.81			154	252830	368.49			
1	2,6-Dimethylnaphthalene	5.94			156	199367	376.17			
2	Acenaphthylene	6.18			152	318492	408.14			
2	Acenaphthene	6.32			154	189825	409.54			
2	Dibenzofuran	6.46			168	280609	399.71			
2	2,3,5-Trimethylnaphthalene	6.63			170	200954	405.98			
2	Fluorene	6.74			166	237568	404.57			
2	Pentachlorophenol	7.37			266	153112	1,098			
3	Dibenzothiophene	7.44			184	299467	397.10			

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Data File:	J:\MS11\DATA\112009\1120F031.D			**Instrument:**	MS11
Acqu Date:	11/20/2009 23:26	**Quant Date:**	11/23/2009 08:35	**Vial:**	28
Run Type:	CCV			**Dilution:**	1.0
Lab ID:	KWG0911040-2			**Soln Conc. Units:**	ng/ml

Target Compounds **Final Conc. Units:**

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	Final Conc	Q	Rpt?
3	Phenanthrene	7.54			178	340892	377.62			
3	Anthracene	7.59			178	360514	415.58			
3	Carbazole	7.72			167	308468	416.32			
3	1-Methylphenanthrene	8.04			192	278959	396.95			
3	Fluoranthene	8.52			202	410023	390.71			
4	Pyrene	8.73			202	425799	341.38			
4	Benz(a)anthracene	10.23			228	441358	367.33			
4	Chrysene	10.29			228	416224	362.73			
5	Benzo(b)fluoranthene	12.62			252	497194	379.44			
5	Benzo(k)fluoranthene	12.70			252	483235	389.17			
5	Benzo(e)pyrene	13.44			252	460514	383.50			
5	Benzo(a)pyrene	13.61			252	453956	393.25			
5	Perylene	13.91			252	450250	394.95			
5	Indeno(1,2,3-cd)pyrene	16.98			276	439113	412.67			
5	Dibenz(a,h)anthracene	17.05			278	462634	417.24			
5	Benzo(g,h,i)perylene	17.39			276	505718	420.55			

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\112009\1120F031.D Vial: 28
Acq On : 20 Nov 2009 11:26 pm Operator: LWeiskopf
Sample : SIM-PAH CCV @ 0.4ug/mL | SVM30-59B Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 23 08:35:31 2009 Quant Results File: 1119ALK.RES

Quant Method : J:\MS11\METHODS\SIM\1119ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Nov 23 05:45:27 2009
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	4.87	136	181996	200.00	ng/ml	0.00
10) Acenaphthene-d10	6.29	164	94961	200.00	ng/ml	0.00
22) Phenanthrene-d10	7.52	188	169321	200.00	ng/ml	0.00
37) Chrysene-d12	10.25	240	235199	200.00	ng/ml	-0.02
49) Perylene-d12	13.82	264	251477	200.00	ng/ml	-0.05
System Monitoring Compounds						
15) Fluorene-d10	6.72	176	217293	407.53	ng/ml	0.00
Spiked Amount 200.000			Recovery = 203.76%			
20) 2,4,6 Tribromophenol	6.94	330	70246	532.80	ng/ml	0.00
Spiked Amount 375.000			Recovery = 142.08%			
36) Fluoranthene-d10	8.50	212	420161	410.43	ng/ml	0.00
Spiked Amount 200.000			Recovery = 205.22%			
42) Terphenyl-d14	8.89	244	436074	447.87	ng/ml	0.00
Spiked Amount 200.000			Recovery = 223.94%			
Target Compounds						Qvalue
2) Naphthalene	4.89	128	301122	376.14	ng/ml	99
3) 2-Methylnaphthalene	5.44	142	217810	377.70	ng/ml	89
4) 1-Methylnaphthalene	5.52	142	207476	375.06	ng/ml	92
5) Biphenyl	5.81	154	252830	368.49	ng/ml	95
6) 2,6-Dimethylnaphthalene	5.94	156	199367	376.17	ng/ml	95
11) Acenaphthylene	6.18	152	318492	408.14	ng/ml	100
12) Acenaphthene	6.32	154	189825	409.54	ng/ml	91
13) Dibenzofuran	6.46	168	280609	399.71	ng/ml	76
14) 2,3,5-Trimethylnaphthalene	6.63	170	200954	405.98	ng/ml	89
16) Fluorene	6.74	166	237568	404.57	ng/ml	96
21) Pentachlorophenol	7.37	266	153112	1097.86	ng/ml	95
23) Dibenzothiophene	7.44	184	299467	397.10	ng/ml	84
27) Phenanthrene	7.54	178	340892	377.62	ng/ml	98
28) Anthracene	7.59	178	360514	415.58	ng/ml	98
29) Carbazole	7.72	167	308468	416.32	ng/ml	89
30) 1-Methylphenanthrene	8.04	192	278959	396.95	ng/ml	93
35) Fluoranthene	8.52	202	410023	390.71	ng/ml	97
38) Pyrene	8.73	202	425799	341.38	ng/ml	89
43) Benz(a)anthracene	10.23	228	441358	367.33	ng/ml	99
44) Chrysene	10.29	228	416224	362.73	ng/ml	96
50) Benzo(b)fluoranthene	12.62	252	497194	379.44	ng/ml	99
51) Benzo(k)fluoranthene	12.70	252	483235	389.17	ng/ml	100
52) Benzo(e)pyrene	13.44	252	460514	383.50	ng/ml	99
53) Benzo(a)pyrene	13.61	252	453956	393.25	ng/ml	99
54) Perylene	13.91	252	450250	394.95	ng/ml	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\112009\1120F031.D Vial: 28
Acq On : 20 Nov 2009 11:26 pm Operator: LWeiskopf
Sample : SIM-PAH CCV @ 0.4ug/mL | SVM30-59B Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 23 08:35:31 2009 Quant Results File: 1119ALK.RES

Quant Method : J:\MS11\METHODS\SIM\1119ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Nov 23 05:45:27 2009
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
55)	Indeno(1,2,3-cd)pyrene	16.98	276	439113	412.67	ng/ml	98
56)	Dibenz(a,h)anthracene	17.05	278	462634	417.24	ng/ml	99
57)	Benzo(g,h,i)perylene	17.39	276	505718	420.55	ng/ml	98

(#) = qualifier out of range (m) = manual integration

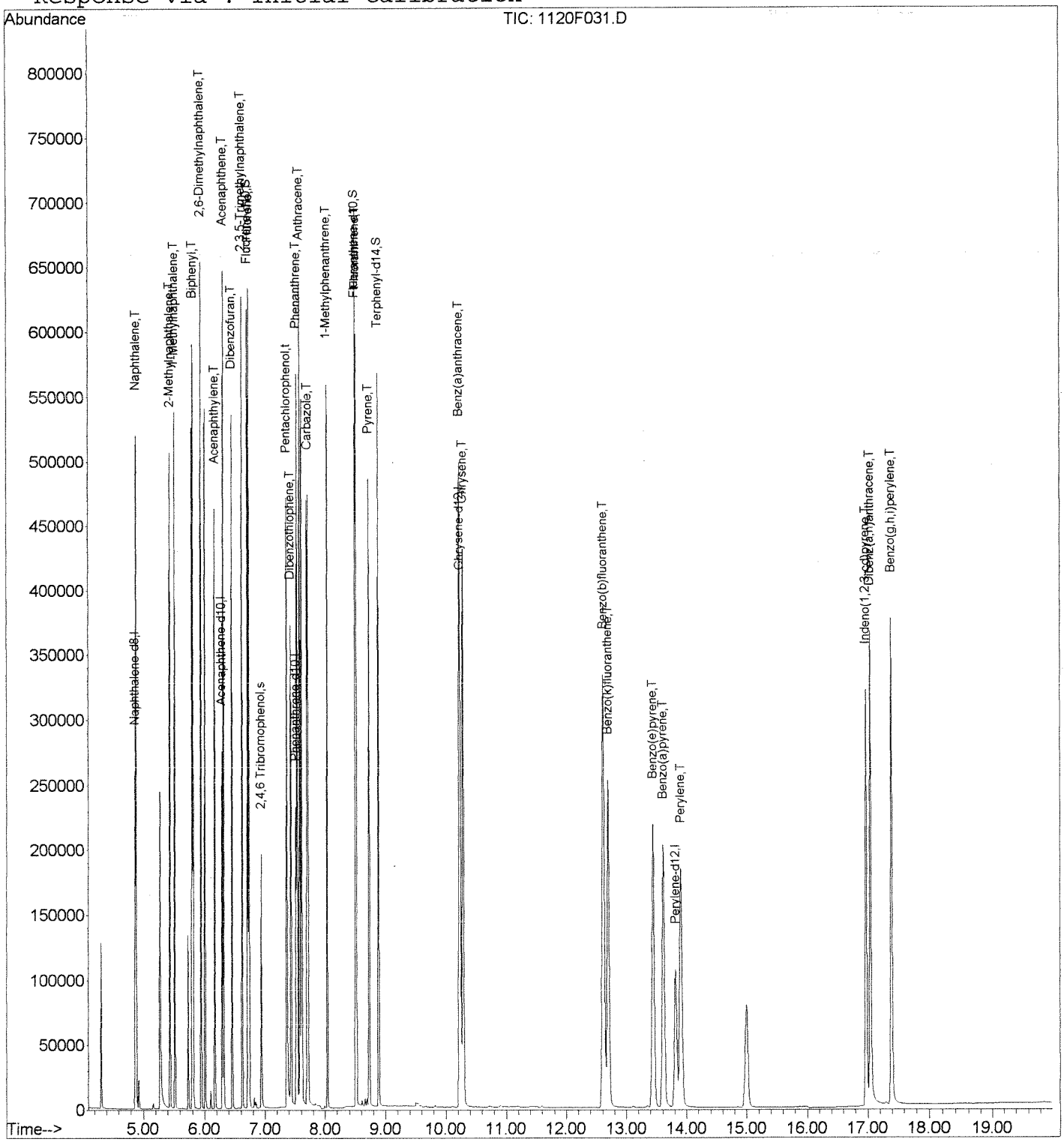
Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\112009\1120F031.D
Acq On : 20 Nov 2009 11:26 pm
Sample : SIM-PAH CCV @ 0.4ug/mL | SVM30-59B
Misc :
MS Integration Params: RTEINT.P
Quant Time: Nov 23 8:35 2009

Vial: 28
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00

Quant Results File: 1119ALK.RES

Method : J:\MS11\METHODS\SIM\1119ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Nov 23 08:36:00 2009
Response via : Initial Calibration



Organic Analysis:
Polynuclear Aromatic Hydrocarbons

Validation Package

Sample Prep and Screen Data

Preparation Information

Group ID:	KWG0910535	**Prep Method:**	EPA 3541	**Prep Date:**	11/10/09 00:00
Department:	Semivoa GCMS				

Lab Code	Client ID	Product	Matrix	Amt. Ext.	Final Vol.	Solids
K0909140-001	M-4-A	8270C SIM PAH_	SEDIMENT	20.31g	10ml	
K0909140-002	M-4-B	8270C SIM PAH_	SEDIMENT	20.23g	10ml	
K0909140-003	M-4-C	8270C SIM PAH_	SEDIMENT	20.03g	10ml	
K0909140-004	M-1-B	8270C SIM PAH_	SEDIMENT	20.21g	10ml	
K0909140-005	M-2-C	8270C SIM PAH_	SEDIMENT	20.42g	10ml	
K0909140-006	M-2-A	8270C SIM PAH_	SEDIMENT	20.21g	10ml	
K0909140-007	M-3-B	8270C SIM PAH_	SEDIMENT	20.51g	10ml	
K0909140-008	M-2-B	8270C SIM PAH_	SEDIMENT	20.35g	10ml	
K0909140-009	M-1-C	8270C SIM PAH_	SEDIMENT	19.99g	10ml	
K0909140-010	M-3-C	8270C SIM PAH_	SEDIMENT	20.44g	10ml	
K0909140-011	B-1-A	8270C SIM PAH_	SEDIMENT	20.01g	10ml	
K0909140-012	B-1-B	8270C SIM PAH_	SEDIMENT	20.41g	10ml	
K0909140-013	M-3-A	8270C SIM PAH_	SEDIMENT	20.25g	10ml	
K0909140-014	M-1-A	8270C SIM PAH_	SEDIMENT	18.19g	10ml	
K0909140-015	M-5-B	8270C SIM PAH_	SEDIMENT	20.79g	10ml	
K0909140-016	M-5-A	8270C SIM PAH_	SEDIMENT	20.19g	10ml	
K0909140-017	M-5-C	8270C SIM PAH_	SEDIMENT	20.19g	10ml	
K0909140-018	M-5-B2	8270C SIM PAH_	SEDIMENT	20.27g	10ml	
K0909140-019	B-1-C	8270C SIM PAH_	SEDIMENT	18.10g	10ml	
K0910843-001	WF-SD-C	8270C SIM PAH_	SOIL	20.18g	10ml	
KWG0910535-1	Matrix Spike	8270C SIM PAH_	SEDIMENT	20.17g	10ml	
KWG0910535-2	Duplicate Matrix Spike	8270C SIM PAH_	SEDIMENT	20.17g	10ml	
KWG0910535-5	Lab Control Sample	8270C SIM PAH_	SEDIMENT	10.00g	10ml	
KWG0910535-6	Duplicate Lab Control Sampl	8270C SIM PAH_	SEDIMENT	10.00g	10ml	
KWG0910535-7	Method Blank	8270C SIM PAH_	SEDIMENT	20.79g	10ml	

Lab Code	Parent Lab Code	Comments
KWG0910535-1	K0909140-006	
KWG0910535-2	K0909140-006	

Lab Code	Prep Event ID	Surrogate Solution ID	Amount Added	Spike Solution ID	Amount Added	Witness
K0909140-001	865754	SVM29-59I	20uL			SHeflin
K0909140-002	865755	SVM29-59I	20uL			SHeflin
K0909140-003	865756	SVM29-59I	20uL			SHeflin
K0909140-004	865757	SVM29-59I	20uL			SHeflin

Comments: IS = SVM 29-67A

Started By: DWood Assisted By: _____ Training: Yes / No

Completed By: EErickso Assisted By: _____ Yes / No

Reviewed By: [signature] Date: 11/13/09 Storage: AM11

Chain of Custody

Relinquished By: EE Date: 11-12 09

Received By: [signature] Date: 11/16/9 Extracts Examined: Yes / No

Group ID:	KWG0910535	**Prep Method:**	EPA 3541	**Prep Date:**	11/10/09 00:00
Department:	Semivoa GCMS				

Lab Code	Prep Event ID	Surrogate Solution ID	Amount Added	Spike Solution ID	Amount Added	Witness
K0909140-005	865758	SVM29-59I	20uL			SHeflin
K0909140-006	865759	SVM29-59I	20uL			SHeflin
K0909140-007	865760	SVM29-59I	20uL			SHeflin
K0909140-008	865761	SVM29-59I	20uL			SHeflin
K0909140-009	865762	SVM29-59I	20uL			SHeflin
K0909140-010	865763	SVM29-59I	20uL			SHeflin
K0909140-011	865764	SVM29-59I	20uL			SHeflin
K0909140-012	865765	SVM29-59I	20uL			SHeflin
K0909140-013	865766	SVM29-59I	20uL			SHeflin
K0909140-014	865767	SVM29-59I	20uL			SHeflin
K0909140-015	865768	SVM29-59I	20uL			SHeflin
K0909140-016	865769	SVM29-59I	20uL			SHeflin
K0909140-017	865770	SVM29-59I	20uL			SHeflin
K0909140-018	865771	SVM29-59I	20uL			SHeflin
K0909140-019	865753	SVM29-59I	20uL			SHeflin
K0910843-001	865782	SVM29-59I	20uL			SHeflin
KWG0910535-1	865772	SVM29-59I	20uL	SVM29-92B	200uL	SHeflin
KWG0910535-2	865773	SVM29-59I	20uL	SVM29-92B	200uL	SHeflin
KWG0910535-5	865776	SVM29-59I	20uL	SVM29-92B	200uL	SHeflin
KWG0910535-6	865777	SVM29-59I	20uL	SVM29-92B	200uL	SHeflin
KWG0910535-7	865778	SVM29-59I	20uL			SHeflin

Comments:

Started By: DWood Assisted By: Training

Completed By: EErickso Assisted By: Yes (No) / Yes No

Reviewed By: Date: Storage:

Chain of Custody

Relinquished By: EE Date: 11-12 09

Received By: Date: 11/16/9 Extracts Examined (Yes) No

Preparation Information

1017

Group ID:	KWG0910535	**Prep Method:**	EPA 3541	**Prep Date:**	11/10/09 00:00
Department:	Semivoa GCMS				

#	Lab Code	Client ID	B#	√	Product	Matrix	Amt. Ext. 9	pH	Int. Vol.	Final Vol.	Surr. Added	Spike Added
1	K0909140-001	M-4-A	NA	✓	8270C SIM PAH_SIM	SEDIMENT	20.31	NA	10mL	10mL	20.0	NA
2	K0909140-002	M-4-B		✓	8270C SIM PAH_SIM	SEDIMENT	20.23					
3	K0909140-003	M-4-C		✓	8270C SIM PAH_SIM	SEDIMENT	20.03					
4	K0909140-004	M-1-B		✓	8270C SIM PAH_SIM	SEDIMENT	20.21					
5	K0909140-005	M-2-C		✓	8270C SIM PAH_SIM	SEDIMENT	20.42					
6	K0909140-006	M-2-A		✓	8270C SIM PAH_SIM	SEDIMENT	20.21					
7	K0909140-007	M-3-B		✓	8270C SIM PAH_SIM	SEDIMENT	20.51					
8	K0909140-008	M-2-B		✓	8270C SIM PAH_SIM	SEDIMENT	20.35					
9	K0909140-009	M-1-C		✓	8270C SIM PAH_SIM	SEDIMENT	19.99					
10	K0909140-010	M-3-C		✓	8270C SIM PAH_SIM	SEDIMENT	20.44					
11	K0909140-011	B-1-A		✓	8270C SIM PAH_SIM	SEDIMENT	20.01					
12	K0909140-012	B-1-B		✓	8270C SIM PAH_SIM	SEDIMENT	20.41					
13	K0909140-013	M-3-A		✓	8270C SIM PAH_SIM	SEDIMENT	~~20.25~~ 18.19					
14	K0909140-014	M-1-A		✓	8270C SIM PAH_SIM	SEDIMENT	18.19					
15	K0909140-015	M-5-B		✓	8270C SIM PAH_SIM	SEDIMENT	20.29					
16	K0909140-016	M-5-A		✓	8270C SIM PAH_SIM	SEDIMENT	20.19					
17	K0909140-017	M-5-C		✓	8270C SIM PAH_SIM	SEDIMENT	20.19					

Comments: 100471

Surrogate ID: SVM29-59I 100/150ppm 20mL exp 11-30-09

Spike ID: SVM29-92B 25ppm 200mL exp 3-9-10

Witness: SH 11-10-09

Started By: DWood Assisted By:

Completed By: EE Assisted By:

Group ID:	KWG0910535	**Prep Method:**	EPA 3541	**Prep Date:** 11/10/09 00:00
Department:	Semivoa GCMS			

#	Lab Code	Client ID	B#	√	Product	Matrix	Amt. Ext. 9	pH	Int. Vol.	Final Vol.	Surr. Added	Spike Added
18	K0909140-018	M-5-B2	NA	✓	8270C SIM PAH_SIM	SEDIMENT	20.27	NA	1.0mL	1.0mL	200	NA
19	K0909140-019	B-1-C		✓	8270C SIM PAH_SIM	SEDIMENT	18.10					
20	K0910843-001	WF-SD-C		✓	8270C SIM PAH_ALK_SI	SOIL	20.18					
21	KWG0910535-1	Matrix Spike 9140-6		✓	8270C SIM PAH_SIM	SEDIMENT	20.17					200
22	KWG0910535-2	Duplicate Matrix Spike 9140-6		✓	8270C SIM PAH_SIM	SEDIMENT	20.17					
23	KWG0910535-3	Matrix Spike			8270C SIM PAH_SIM	SEDIMENT						
24	KWG0910535-4	Duplicate Matrix Spike			8270C SIM PAH_SIM	SEDIMENT						
25	KWG0910535-5	Lab Control Sample			8270C SIM PAH_SIM	SEDIMENT	10.00			1.0mL		
26	KWG0910535-6	Duplicate Lab Control Sample			8270C SIM PAH_SIM	SEDIMENT	10.00					
27	KWG0910535-7	Method Blank			8270C SIM PAH_SIM	SEDIMENT	20.79					NA

Comments:

Surrogate ID: See pg 1

Spike ID:

Witness: SH 11-10-09

Started By: DWood Assisted By:

Completed By: EE Assisted By:

Additional Prep Information For EPA 3541

Service Request K0909140 **Workgroup** KWG0910535

Sulfate Lot # 48J238460 DCM ($GC^{2)}$ Lot # C2828

Soxtherm Start (Time/Date/Initial): 11:55pm/11-10-09/SH DW

Soxtherm Stop (Time/Date/Initial): 0545/11-11-09/DW SH

GPC Clean-up (3640): NA (Initial/Date)

S-Evap Temp: NA

N-Evap Temp: 32°C

Hexane Exchange for Silica Gel: SH 11-10-09 Hexane Lot # 49175

Silica Gel Clean-up (3630): 11-12-09 EE (Initial/Date)

Silica Column Lot # EXT-002-52P 1:1 Hexane/DCM Reagent Lot # EXT-002-260

Extract Storage: NA

Date Completed: 11-12-09 EE

Comments/Observations:

Bench Sheet Review Check List	
☑	Hold Times Met (if no, Reason: FROZEN)
☑	Prep date, dept, method, product code correct in stealth
☑	Spike Information correct
☑	Weights/Volumes and units correct on raw and final bench sheets
☑	Sample IDs have been checked—Bottle numbers appended if required
☑	Names present for: Started by, Completed by, relinquished by, and witnessed by.
☑	Training has been circled
☑	Extract Storage recorded
☑	Additional Prep Sheet completely filled out (NA or line out Blanks)
☑	All clean-ups have been noted on additional prep sheet
☑	Signed service request with Form V, if applicable, has been attached

Injection Log

Directory: J:\MS11\DATA\111609

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	1	1116F001.D	1.	DFTPP @ 3.0ug/mL | SVM30-40C		16 Nov 2009 07:1
2	2	1116F002.D	1.	SIM-PAH CCV @ 0.4ug/mL | SVM30-49C		16 Nov 2009 07:3
3	1	1116F003.D	1.	KWG0910536-5 MB		16 Nov 2009 08:0
4	2	1116F004.D	1.	KWG0910535-7 MB		16 Nov 2009 08:3
5	3	1116F005.D	1.	KWG0910536-3 LCS		16 Nov 2009 08:5
6	4	1116F006.D	1.	KWG0910536-4 DLCS		16 Nov 2009 09:2
7	5	1116F007.D	1.	KWG0910535-5 LCS		16 Nov 2009 09:5
8	6	1116F008.D	1.	KWG0910535-5 DLCS	← KB 11/18/09	16 Nov 2009 10:1
9	7	1116F009.D	1.	K0910822-004MS		16 Nov 2009 10:4
10	8	1116F010.D	1.	K0910822-004DMS		16 Nov 2009 11:1
11	9	1116F011.D	1.	K0910822-004		16 Nov 2009 11:3
12	10	1116F012.D	1.	K0910822-002		16 Nov 2009 12:0
13	11	1116F013.D	1.	K0910822-003		16 Nov 2009 12:3
14	12	1116F014.D	1.	K0909140-006		16 Nov 2009 12:5
15	13	1116F015.D	1.	K0910822-001DIL 50X	NR rerun	16 Nov 2009 13:2
16	14	1116F016.D	1.	K0909140-001		16 Nov 2009 13:5
17	15	1116F017.D	1.	K0909140-002		16 Nov 2009 14:1
18	16	1116F018.D	1.	K0909140-003		16 Nov 2009 14:4
19	17	1116F019.D	1.	K0909140-004		16 Nov 2009 15:1
20	18	1116F020.D	1.	K0909140-005		16 Nov 2009 15:3
21	19	1116F021.D	1.	K0909140-007		16 Nov 2009 16:0
22	20	1116F022.D	1.	K0909140-008		16 Nov 2009 16:2
23	21	1116F023.D	1.	K0909140-009		16 Nov 2009 16:5
24	22	1116F024.D	1.	K0909140-010		16 Nov 2009 17:2
25	23	1116F025.D	1.	K0909140-011		16 Nov 2009 17:4
26	24	1116F026.D	1.	K0909140-012		16 Nov 2009 18:1
27	25	1116F027.D	1.	K0909140-013		16 Nov 2009 18:4
28	26	1116F028.D	1.	K0909140-014		16 Nov 2009 19:0
29	27	1116F029.D	1.	PR		16 Nov 2009 19:3
30	28	1116F030.D	1.	PR		16 Nov 2009 20:0
31	29	1116F031.D	1.	DFTPP @ 3.0ug/mL | SVM30-40C		16 Nov 2009 20:2
32	29	1116F032.D	1.	DFTPP @ 3.0ug/mL | SVM30-40C		16 Nov 2009 20:5
33	30	1116F033.D	1.	SIM-PAH CCV @ 0.4ug/mL | SVM30-49C		16 Nov 2009 21:2
34	31	1116F034.D	1.	IB		16 Nov 2009 21:4
35	31	1116F035.D	1.	IB		16 Nov 2009 22:1
36	32	1116F036.D	1.	K0910617-003RR		16 Nov 2009 22:4
37	33	1116F037.D	1.	K0909140-015		16 Nov 2009 23:0
38	34	1116F038.D	1.	K0909140-016		16 Nov 2009 23:3
39	35	1116F039.D	1.	K0909140-017		17 Nov 2009 00:0
40	36	1116F040.D	1.	K0909140-018		17 Nov 2009 00:2
41	37	1116F041.D	1.	K0909140-019		17 Nov 2009 00:5
42	38	1116F042.D	1.	K0910843-001		17 Nov 2009 01:1
43	39	1116F043.D	1.	K0910427-002DIL 10X		17 Nov 2009 01:4
44	40	1116F044.D	1.	K0910427-003DIL 10X		17 Nov 2009 02:1
45	41	1116F045.D	1.	K0910427-005DIL 10X		17 Nov 2009 02:3
46	42	1116F046.D	1.	K0910427-006DIL 10X		17 Nov 2009 03:0
47	43	1116F047.D	1.	K0910427-008DIL 10X		17 Nov 2009 03:3
48	44	1116F048.D	1.	K0910427-009DIL 10X		17 Nov 2009 03:5
49	45	1116F049.D	1.	K0910427-011DIL 10X		17 Nov 2009 04:2
50	46	1116F050.D	1.	K0910427-012DIL 10X		17 Nov 2009 04:5

CRL8928
* GMS # 179802
KW 11/18/09
KB 11/18/09

Injection Log

Directory: J:\MS11\DATA\111609

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	1	1116F001.D	1.	DFTPP @ 3.0ug/mL | SVM30-40C		16 Nov 2009 07:1
2	2	1116F002.D	1.	SIM-PAH CCV @ 0.4ug/mL | SVM30-49C		16 Nov 2009 07:3
3	1	1116F003.D	1.	KWG0910536-5 MB		16 Nov 2009 08:0
4	2	1116F004.D	1.	KWG0910535-7 MB		16 Nov 2009 08:3
5	3	1116F005.D	1.	KWG0910536-3 LCS		16 Nov 2009 08:5
6	4	1116F006.D	1.	KWG0910536-4 DLCS		16 Nov 2009 09:2
7	5	1116F007.D	1.	KWG0910535-5 LCS		16 Nov 2009 09:5
8	6	1116F008.D	1.	KWG0910535-5 DLCS		16 Nov 2009 10:1
9	7	1116F009.D	1.	K0910822-004MS		16 Nov 2009 10:4
10	8	1116F010.D	1.	K0910822-004DMS		16 Nov 2009 11:1
11	9	1116F011.D	1.	K0910822-004		16 Nov 2009 11:3
12	10	1116F012.D	1.	K0910822-002		16 Nov 2009 12:0
13	11	1116F013.D	1.	K0910822-003		16 Nov 2009 12:3
14	12	1116F014.D	1.	K0909140-006		16 Nov 2009 12:5
15	13	1116F015.D	1.	K0910822-001DIL 50X		16 Nov 2009 13:2
16	14	1116F016.D	1.	K0909140-001		16 Nov 2009 13:5
17	15	1116F017.D	1.	K0909140-002		16 Nov 2009 14:1
18	16	1116F018.D	1.	K0909140-003		16 Nov 2009 14:4
19	17	1116F019.D	1.	K0909140-004		16 Nov 2009 15:1
20	18	1116F020.D	1.	K0909140-005		16 Nov 2009 15:3
21	19	1116F021.D	1.	K0909140-007		16 Nov 2009 16:0
22	20	1116F022.D	1.	K0909140-008		16 Nov 2009 16:2
23	21	1116F023.D	1.	K0909140-009		16 Nov 2009 16:5
24	22	1116F024.D	1.	K0909140-010		16 Nov 2009 17:2
25	23	1116F025.D	1.	K0909140-011		16 Nov 2009 17:4
26	24	1116F026.D	1.	K0909140-012		16 Nov 2009 18:1
27	25	1116F027.D	1.	K0909140-013		16 Nov 2009 18:4
28	26	1116F028.D	1.	K0909140-014		16 Nov 2009 19:0
29	27	1116F029.D	1.	PR		16 Nov 2009 19:3
30	28	1116F030.D	1.	PR		16 Nov 2009 20:0
31	29	1116F031.D	1.	DFTPP @ 3.0ug/mL | SVM30-40C		16 Nov 2009 20:2
32	29	1116F032.D	1.	DFTPP @ 3.0ug/mL | SVM30-40C		16 Nov 2009 20:5
33	30	1116F033.D	1.	SIM-PAH CCV @ 0.4ug/mL | SVM30-49C		16 Nov 2009 21:2
34	31	1116F034.D	1.	IB		16 Nov 2009 21:4
35	31	1116F035.D	1.	IB		16 Nov 2009 22:1
36	32	1116F036.D	1.	K0910617-003RR		16 Nov 2009 22:4
37	33	1116F037.D	1.	K0909140-015		16 Nov 2009 23:0
38	34	1116F038.D	1.	K0909140-016		16 Nov 2009 23:3
39	35	1116F039.D	1.	K0909140-017		17 Nov 2009 00:0
40	36	1116F040.D	1.	K0909140-018		17 Nov 2009 00:2
41	37	1116F041.D	1.	K0909140-019		17 Nov 2009 00:5
42	38	1116F042.D	1.	K0910843-001		17 Nov 2009 01:1
43	39	1116F043.D	1.	K0910427-002DIL 10X		17 Nov 2009 01:4
44	40	1116F044.D	1.	K0910427-003DIL 10X		17 Nov 2009 02:1
45	41	1116F045.D	1.	K0910427-005DIL 10X		17 Nov 2009 02:3
46	42	1116F046.D	1.	K0910427-006DIL 10X		17 Nov 2009 03:0
47	43	1116F047.D	1.	K0910427-008DIL 10X		17 Nov 2009 03:3
48	44	1116F048.D	1.	K0910427-009DIL 10X		17 Nov 2009 03:5
49	45	1116F049.D	1.	K0910427-011DIL 10X		17 Nov 2009 04:2
50	46	1116F050.D	1.	K0910427-012DIL 10X		17 Nov 2009 04:5
51	47	1116F051.D	1.	K0910427-002DIL 5000X		17 Nov 2009 05:1
52	48	1116F052.D	1.	K0910427-003DIL 5000X		17 Nov 2009 05:4
53	1	1116F053.D	1.	K0909140-006MS		17 Nov 2009 06:1
54	2	1116F054.D	1.	K0909140-006DMS		17 Nov 2009 06:3
55	3	1116F055.D	1.	K0909140-006DIL 10X		17 Nov 2009 07:0

CAL 8928
* Lims # 179803
11/18/09
11-19-09

Injection Log

Directory: J:\MS11\DATA\111609

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
56	4	1116F056.D	1.	K0910822-001		17 Nov 2009 07:3
57	5	1116F057.D	1.	K0910427-005DIL 500X		17 Nov 2009 07:5
58	6	1116F058.D	1.	K0910427-006DIL 500X		17 Nov 2009 08:2

LW 11/18/09

11-19-09

Injection Log

Directory: J:\MS11\DATA\111909

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	1	1119F001.D	1.	DFTPP @ 3.0ug/mL | SVM30-59A		19 Nov 2009 05:5
2	2	1119F002.D	1.	IB		19 Nov 2009 06:2
3	3	1119F003.D	1.	SIM-PAH ICAL @.004/0.1ug/mL | SVM29-21D		19 Nov 2009 06:4
4	4	1119F004.D	1.	SIM-PAH ICAL @0.02/0.4ug/mL | SVM29-21F		19 Nov 2009 07:1
5	5	1119F005.D	1.	SIM-PAH ICAL @0.1/0.6ug/mL | SVM29-21G		19 Nov 2009 07:4
6	6	1119F006.D	1.	SIM-PAH ICAL @0.2/0.8ug/mL | SVM29-21H		19 Nov 2009 08:0
7	7	1119F007.D	1.	SIM-PAH ICAL @0.4/1.0ug/mL | SVM29-21I		19 Nov 2009 08:3
8	8	1119F008.D	1.	SIM-PAH ICAL @1.0/2.0ug/mL | SVM29-21J		19 Nov 2009 09:0
9	9	1119F009.D	1.	SIM-PAH ICAL @2.0/3.0ug/mL | SVM29-21L		19 Nov 2009 09:2
10	1	1119F010.D	1.	DFTPP @ 3.0ug/mL | SVM30-59A		19 Nov 2009 09:5
11	2	1119F011.D	1.	SIM-PAH ICV @ 0.4ug/mL | SVM30-		19 Nov 2009 10:2
12	1	1119F012.D	1.	SIM-PAH CCV @ 0.4ug/mL | SVM30-59B		19 Nov 2009 10:4
13	2	1119F013.D	1.	KWG0910447-3 MB		19 Nov 2009 11:1
14	4	1119F015.D	1.	K0910313-018		19 Nov 2009 12:0
15	9	1119F020.D	1.	KWG0910447-1 LCS		19 Nov 2009 15:0
16	10	1119F021.D	1.	KWG0910447-2 DLCS		19 Nov 2009 15:2
17	11	1119F022.D	1.	K0910617-025		19 Nov 2009 15:5
18	12	1119F023.D	1.	K0910617-027		19 Nov 2009 16:2
19	13	1119F024.D	1.	K0910617-028		19 Nov 2009 16:4
20	14	1119F025.D	1.	K0910617-029		19 Nov 2009 17:1
21	15	1119F026.D	1.	K0910617-031		19 Nov 2009 17:4
22	18	1119F029.D	500.	K0910427-011DIL 500X		19 Nov 2009 18:0
23	19	1119F030.D	500.	K0910427-013DIL 500X		19 Nov 2009 18:3
24	20	1119F031.D	5000.	K0910427-008DIL 5000X		19 Nov 2009 19:0
25	21	1119F032.D	5000.	K0910427-012DIL 5000X		19 Nov 2009 19:2
26	22	1119F033.D	5000.	K0910427-014DIL 5000X		19 Nov 2009 19:5
27	23	1119F034.D	5000.	K0910427-009DIL 5000X		19 Nov 2009 20:2
28	24	1119F035.D	5000.	K0910427-015DIL 5000X		19 Nov 2009 20:4
29	25	1119F036.D	5000.	K0910427-003DIL 5000X		19 Nov 2009 21:1
30	26	1119F037.D	1.	DFTPP @ 3.0ug/mL | SVM30-59A		19 Nov 2009 21:4
31	26	1119F038.D	1.	DFTPP @ 3.0ug/mL | SVM30-59A		19 Nov 2009 22:0
32	27	1119F039.D	1.	SIM-PAH CCV @ 0.4ug/mL | SVM30-59B		19 Nov 2009 22:3
33	28	1119F040.D	1.	KWG0910536-5 MB		19 Nov 2009 23:0
34	29	1119F041.D	1.	KWG0910535-7 MB		19 Nov 2009 23:2
35	30	1119F042.D	1.	K0910313-018DIL 5X		19 Nov 2009 23:5
36	31	1119F043.D	1.	KWG0910536-3 LCS		20 Nov 2009 00:2
37	32	1119F044.D	1.	KWG0910536-4 DLCS		20 Nov 2009 00:4
38	33	1119F045.D	1.	KWG0910535-5 LCS		20 Nov 2009 01:1
39	34	1119F046.D	1.	KWG0910535-6 DLCS		20 Nov 2009 01:4
40	35	1119F047.D	1.	K0910822-004MS		20 Nov 2009 02:0
41	36	1119F048.D	1.	K0910822-004DMS		20 Nov 2009 02:3
42	37	1119F049.D	1.	K0910822-004		20 Nov 2009 02:5
43	38	1119F050.D	1.	K0910822-002		20 Nov 2009 03:2
44	39	1119F051.D	1.	K0910822-003		20 Nov 2009 03:5
45	40	1119F052.D	1.	K0909140-001		20 Nov 2009 04:1
46	41	1119F053.D	1.	K0909140-002		20 Nov 2009 04:4
47	42	1119F054.D	1.	K0909140-003		20 Nov 2009 05:1
48	43	1119F055.D	1.	K0909140-004		20 Nov 2009 05:3
49	1	1119F056.D	1.	KWG0910654-5 LCS		20 Nov 2009 06:0

CAL 9029
RW 11/20/09
* LIMS # 180370
11-23-09

20 Nov 2009 09:56

Injection Log

Directory: J:\MS11\DATA\111909

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
50	2	1119F057.D	1.	KWG0910654-1 K0910900-018MS		20 Nov 2009 06:3
51	3	1119F058.D	1.	KWG0910654-2 K0910900-018DMS		20 Nov 2009 06:5
52	4	1119F059.D	1.	K0910900-018		20 Nov 2009 07:2
53	5	1119F060.D	1.	K0910617-032		20 Nov 2009 07:5
54	6	1119F061.D	1.	K0910617-024		20 Nov 2009 08:1
55	7	1119F062.D	1.	K0910617-033		20 Nov 2009 08:4
56	8	1119F063.D	1.	K0910617-034		20 Nov 2009 09:1
57	1	1119F064.D	1.	K0910338-008		20 Nov 2009 09:3

RW 11/20/09

M 11-23-09

Injection Log

Directory: J:\ms11\data\112009

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	1	1120F001.D	1.	DFTPP @ 3.0ug/mL | SVM30-59A		20 Nov 2009 10:0
2	2	1120F002.D	1.	SIM-PAH CCV @ 0.4ug/mL | SVM30-59B		20 Nov 2009 10:3
3	1	1120F003.D	1.	KWG0910654-6 MB		20 Nov 2009 11:0
4	2	1120F004.D	1.	KWG0910556-3 MB		20 Nov 2009 11:2
5	3	1120F005.D	1.	KWG0910556-1 LCS		20 Nov 2009 11:5
6	4	1120F006.D	1.	KWG0910556-2 DLCS		20 Nov 2009 12:2
7	5	1120F007.D	1.	K0910750-001		20 Nov 2009 12:4
8	6	1120F008.D	1.	K0910750-002		20 Nov 2009 13:1
9	7	1120F009.D	1.	K0910750-003		20 Nov 2009 13:4
10	8	1120F010.D	1.	K0910750-004		20 Nov 2009 14:0
11	9	1120F011.D	1.	K0910900-002		20 Nov 2009 14:3
12	10	1120F012.D	1.	K0910900-003		20 Nov 2009 15:0
13	11	1120F013.D	1.	K0910900-019		20 Nov 2009 15:2
14	12	1120F014.D	1.	K0910900-021		20 Nov 2009 15:5
15	13	1120F015.D	1.	K0911026-003MS		20 Nov 2009 16:2
16	14	1120F016.D	1.	K0911026-003DMS		20 Nov 2009 16:4
17	15	1120F017.D	1.	K0911026-003		20 Nov 2009 17:1
18	16	1120F018.D	1.	KWG0910347-3 MB		20 Nov 2009 17:4
19	17	1120F019.D	1.	KWG0910347-1 LCS		20 Nov 2009 18:0
20	18	1120F020.D	1.	KWG0910347-2 DLCS		20 Nov 2009 18:3
21	19	1120F021.D	1.	K0910026-001		20 Nov 2009 19:0
22	20	1120F022.D	1.	K0910026-002		20 Nov 2009 19:2
23	21	1120F023.D	1.	K0910026-004		20 Nov 2009 19:5
24	22	1120F024.D	1.	K0910026-005		20 Nov 2009 20:2
25	23	1120F025.D	1.	K0910367-008		20 Nov 2009 20:4
26	24	1120F026.D	1.	K0910368-008		20 Nov 2009 21:1
27	25	1120F027.D	1.	K0910430-007		20 Nov 2009 21:4
28	26	1120F028.D	1.	K0910523-008		20 Nov 2009 22:0
29	27	1120F029.D	1.	DFTPP @ 3.0ug/mL | SVM30-59A		20 Nov 2009 22:3
30	27	1120F030.D	1.	DFTPP @ 3.0ug/mL | SVM30-59A		20 Nov 2009 23:0
31	28	1120F031.D	1.	SIM-PAH CCV @ 0.4ug/mL | SVM30-59B		20 Nov 2009 23:2
32	29	1120F032.D	1.	IB		20 Nov 2009 23:5
33	30	1120F033.D	1.	K0909140-005		21 Nov 2009 00:1
34	31	1120F034.D	1.	K0909140-007		21 Nov 2009 00:4
35	32	1120F035.D	1.	K0909140-008		21 Nov 2009 01:1
36	33	1120F036.D	1.	K0909140-009		21 Nov 2009 01:3
37	34	1120F037.D	1.	K0909140-010		21 Nov 2009 02:0
38	35	1120F038.D	1.	K0909140-011		21 Nov 2009 02:3
39	36	1120F039.D	1.	K0909140-012		21 Nov 2009 02:5
40	37	1120F040.D	1.	K0909140-013		21 Nov 2009 03:2
41	38	1120F041.D	1.	K0909140-014		21 Nov 2009 03:5
42	39	1120F042.D	1.	K0911026-006		21 Nov 2009 04:1
43	40	1120F043.D	1.	K0911026-007		21 Nov 2009 04:4
44	41	1120F044.D	1.	K0911026-008		21 Nov 2009 05:1
45	42	1120F045.D	1.	K0911026-009		21 Nov 2009 05:3
46	43	1120F046.D	1.	K0911026-010		21 Nov 2009 06:0
47	1	1120F047.D	1.	KWG0910672-5 MB		21 Nov 2009 06:3
48	2	1120F048.D	1.	KWG0910672-3 LCS		21 Nov 2009 06:5
49	3	1120F049.D	1.	KWG0910672-4 DLCS		21 Nov 2009 07:2
50	4	1120F050.D	1.	K0911024-001DIL 10X		21 Nov 2009 07:5
51	5	1120F051.D	1.	KWG0910672-6 SRM 5X		21 Nov 2009 08:1
52	6	1120F052.D	1.	KWG0910672-1 K0910956-001MS		21 Nov 2009 08:4
53	7	1120F053.D	1.	KWG0910672-2 K0910956-001DMS		21 Nov 2009 09:1
54	8	1120F054.D	1.	K0910956-001		21 Nov 2009 09:3
55	9	1120F055.D	1.	K0910936-001		21 Nov 2009 10:0

CAL 9029
* Cims # 180542
dlw 11/23/09
11-24-09

Injection Log

Directory: J:\ms11\data\112009

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
56	10	1120F056.D	1.	K0910936-002		21 Nov 2009 10:3
57	11	1120F057.D	1.	SIM-ALKH CCV | SVM3-88C	NR	21 Nov 2009 10:5

fw 11/23/09

11-24-09

1317 South 13th Avenue Kelso, Washington 98626 (360) 577-7222 (360) 636-1068 fax

Columbia Analytical Services INC.
An Employee - Owned Company

December 7, 2009 Analytical Report for Service Request No: K0909258

David Weatherby
URS Corporation
111 SW Columbia, Suite 1500
Portland, OR 97201

RE: Boise St. Helens Pulp and Paper Mill-2009

Dear David:

Enclosed are the results of the samples submitted to our laboratory on September 29, 2009. For your reference, these analyses have been assigned our service request number K0909258.

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. The test results meet requirements of the current NELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP-accredited analytes, refer to the certifications section at www.caslab.com. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please call if you have any questions. My extension is 3358. You may also contact me via Email at LHuckestein@caslab.com.

Respectfully submitted,

Columbia Analytical Services, Inc.

Lynda Huckestein
Client Services Manager

LH/cw

Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

Inorganic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result.
E	The result is an estimate amount because the value exceeded the instrument calibration range.
J	The result is an estimated concentration that is less than the MRL or LOQ but greater than or equal to the MDL or LOD.
U	The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.1 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The LOD has been adjusted for dilution.
i	The MRL/MDL or LOQ/LOD has been elevated due to a matrix interference.
X	See case narrative.
Q	See case narrative. One or more quality control criteria was outside the limits.

Metals Data Qualifiers

#	The control limit criteria is not applicable. See case narrative.
J	The result is an estimated concentration that is less than the MRL or LOQ but greater than or equal to the MDL or LOD.
E	The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
M	The duplicate injection precision was not met.
N	The Matrix Spike sample recovery is not within control limits. See case narrative.
S	The reported value was determined by the Method of Standard Additions (MSA).
U	The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.1 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The LOD has been adjusted for any dilution or
W	The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
i	The MRL/MDL or LOQ/LOD has been elevated due to a matrix interference.
X	See case narrative.
+	The correlation coefficient for the MSA is less than 0.995.
Q	See case narrative. One or more quality control criteria was outside the limits.

Organic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
A	A tentatively identified compound, a suspected aldol-condensation product.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result.
C	The analyte was qualitatively confirmed using GC/MS techniques, pattern recognition, or by comparing to historical data.
D	The reported result is from a dilution.
E	The result is an estimate amount because the value exceeded the instrument calibration range.
J	The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
N	The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
P	The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results.
U	The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.1 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The LOD has been adjusted for any dilution or
i	The MRL/MDL or LOQ/LOD has been elevated due to a chromatographic interference.
X	See case narrative.
Q	See case narrative. One or more quality control criteria was outside the limits.

Additional Petroleum Hydrocarbon Specific Qualifiers

F	The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
L	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
H	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
O	The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
Y	The chromatographic fingerprint of the sample resembles a petroleum product eluting in approximately the correct carbon range, but the elution pattern does not match the calibration standard.
Z	The chromatographic fingerprint does not resemble a petroleum product.

Columbia Analytical Services, Inc.
Kelso, WA
State Certifications, Accreditations, and Licenses

Program	Number
Alaska DEC UST	UST-040
Arizona DHS	AZ0339
Arkansas - DEQ	88-0637
California DHS	2286
Colorado DPHE	-
Florida DOH	E87412
Hawaii DOH	-
Idaho DHW	-
Indiana DOH	C-WA-01
Louisiana DEQ	3016
Louisiana DHH	LA050010
Maine DHS	WA0035
Michigan DEQ	9949
Minnesota DOH	053-999-368
Montana DPHHS	CERT0047
Nevada DEP	WA35
New Jersey DEP	WA005
New Mexico ED	-
North Carolina DWQ	605
Oklahoma DEQ	9801
Oregon - DHS	WA200001
South Carolina DHEC	61002
Utah DOH	COLU
Washington DOE	C1203
Wisconsin DNR	998386840
Wyoming (EPA Region 8)	-

COLUMBIA ANALYTICAL SERVICES, INC.

Client:	URS Corporation	**Service Request No.:**	K0909258
Project:	Boise St. Helens Pulp and Paper Mill-2009	**Date Received:**	9/29-10/10/2009
Sample Matrix:	Sediment		

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of Columbia Analytical Services, Inc. (CAS). This report contains analytical results for samples designated for Tier {tierlevel}. When appropriate to the method, method blank results have been reported with each analytical test. {surr}{qctext}

Sample Receipt

Nine sediment samples were received for analysis at Columbia Analytical Services on 9/29-10/10/2009. The samples were received in good condition and consistent with the accompanying chain of custody form. The samples were stored in a refrigerator at 4°C and an aliquot was frozen at –20°C following preparation at the laboratory.

Sample Preparation

The samples were composited in accordance with the project specific Sampling and Analysis Plan (SAP) provided by Christina Wheeler at URS Corporation.

General Chemistry Parameters

Sulfide, Total by EPA 9030M:
The analysis of a lab prepared duplicate sample M-2-D2 was identified past the recommended holding time. The analysis was performed as soon as possible after identification and the analysis was performed on a frozen sample aliquot. The data was flagged accordingly.

No other anomalies associated with the analysis of these samples were observed.

Bioassay Testing

In accordance with instructions received from Christina Wheeler at URS Corporation, the Bioassay testing was performed at NewField Northwest laboratory in Sequim, Washington. The report for this testing was submitted directly to URS Corporation.

Approved by _____ **Date** 12/1/09

Chain of Custody Documentation

Columbia Analytical Services™
800.695.7222
www.caslab.com

CHAIN of CUSTODY

Page _1_ of _1_

Client: OfficeMax & URS Corporation
Bill to: OfficeMax
Project: Boise St Helens Pulp and Paper Mill - Sediment 2009
SR #
Project Manager: David Weatherby, URS Corporation
Telephone No. 503.222.7200
Fax No. 503.222.4292

Composite I.D.	Lab I.D.	Matrix	Date	Time	Archive (1)	Summit 5 x 32 oz jars to NewFields (3)	Number of Containers				Grain Size	Total Solids	Total Sulfides	Bulk Ammonia	Total Volatile Solids	Remarks
M-5-D		Sediment			X	X	-					X	X	X	X	
M-4-D		Sediment			X	X	-					X	X	X	X	
M-3-D		Sediment			X	X	-					X	X	X	X	
M-2-D		Sediment			X	X	-					X	X	X	X	*URS Dup = M-2-D2*
M-2-D2		*Sediment*			*X*		-					*X*	*X*	*X*	*X*	*URS Duplicate*
M-1-D		Sediment	10/7/09	1213	X	X	-					X	X	X	X	MS/MSD
B-1-D		Sediment			X	X	-					X	X	X	X	
Sample & Composite I.D. = R-1-D		Sediment			X	X	14				X	X	X	X	X	(2)
Keep log in open																

Sample Received Intact: Yes No
Temperature received: Ice No ice

Special Instructions/Comments:

(1) Archive frozen 2 x 1/2 full 8 oz containers.
(2) This is the only Reference Bioassay Sample. Soft mix 7 x 32 oz containers into one composite with Sample I.D. R-1-D; and homogenize 7 x 2 oz containers into one composite with Sample I.D. R-1-D
(3) Ship to NewFields with zero head space

RELIQUISHED BY:	RELIQUISHED BY:	RELIQUISHED BY:	RELIQUISHED BY:
Signature: Nicky Moody	Signature:	Signature:	Signature:
Printed Name: Nicky Moody	Printed Name:	Printed Name:	Printed Name:
Firm: URS	Firm:	Firm: URS	Firm:
Date/Time: 10.7.09 / 1600	Date/Time:	Date/Time: 10/9/09 0730	Date/Time:

Columbia Analytical Services™
800.695.7222
www.caslab.com

Client: OfficeMax & URS Corporation
Bill to: OfficeMax
Project Manager: David Weatherby, URS Corporation

CHAIN of CUSTODY

Page _1_ of _1_
SR #
Project: Boise St Helens Pulp and Paper Mill - Sediment 2009
Telephone No. 503.222.7200
Fax No. 503.222.4292

Composite I.D.	Lab I.D.	Matrix	Date	Time	Archive (1)	Summit 5 x 32 oz jars to NewFields (3)	Number of Containers				Grain Size	Total Solids	Total Sulfides	Bulk Ammonia	Total Volatile Solids	Remarks
M-5-D		Sediment			X	X	-					X	X	X	X	
M-4-D		Sediment			X	X	-					X	X	X	X	
M-3-D		Sediment			X	X	-					X	X	X	X	
M-2-D		Sediment			X	X	-					X	X	X	X	
M-2-D2		Sediment			X		-					X	X	X	X	
M-1-D		Sediment			X	X	-					X	X	X	X	
B-1-D		Sediment	10.9.09	1218	X	X	-					X	X	X	X	
~~Keep log in open~~		CLOSE LOG IN														
All D samples collected.																

Sample Received Intact: Yes No
Temperature received: Ice No ice

RELIQUISHED BY:	RELIQUISHED BY:	RELIQUISHED BY:	RELIQUISHED BY:
Signature: Nicky Moody	Signature: Frank Hance	Signature:	Signature:
Printed Name: NICKY MOODY	Printed Name: FRANK HANCE	Printed Name:	Printed Name:
Firm:	Firm: CAS	Firm:	Firm:
Date/Time: 10.9.09 / 1600	Date/Time: 10/9/09 1730	Date/Time:	Date/Time:

Special Instructions/Comments:

(1) Archive frozen 2 x 1/2 full 8 oz containers.
(3) Ship to NewFields with zero head space

Columbia Analytical Services
800.695.7222
www.caslab.com

Client: OfficeMax & URS Corporation
Bill to: OfficeMax

CHAIN of CUSTODY

Page _1_ of _1_

Project: Boise St Helens Pulp and Paper Mill - Sediment 2009
SR #

Project Manager: David Weatherby, URS Corporation
Telephone No. 503.222.7200
Fax No. 503.222.4292

Composite I.D.	Lab I.D.	Matrix	Date	Time	Archive (1)	Summit 5 x 32 oz jars to NewFields (3)	Number of Containers				Grain Size	Total Solids	Total Sulfides	Bulk Ammonia	Total Volatile Solids	Remarks
M-5-D		Sediment			X	X	-					X	X	X	X	
M-4-D		Sediment			X	X	-					X	X	X	X	
M-3-D		Sediment			X	X	-					X	X	X	X	
M-2-D		Sediment	10.6.09	1305	X	X	-					X	X	X	X	*URS Dup = M-2-D2*
M-2-D2		*Sediment*	10.6.09	1308	*X*		-					*X*	*X*	*X*	*X*	*URS Duplicate*
M-1-D		Sediment			X	X	-					X	X	X	X	MS/MSD
B-1-D		Sediment			X	X	-					X	X	X	X	
Sample & Composite I.D. = R-1-D		Sediment			X	X	14				X	X	X	X	X	(2)
Keep Log In open																

Sample Received Intact: Yes No
Temperature received: Ice No ice

RELIQUISHED BY:	RELIQUISHED BY:	RELIQUISHED BY:	RELIQUISHED BY:
Signature:	Signature:	Signature:	Signature:
Printed Name: Nicky Moody	Printed Name:	Printed Name:	Printed Name:
Firm: URS	Firm:	Firm:	Firm:
Date/Time: 10.6.09/1600	Date/Time: 10/8/09 0730	Date/Time:	Date/Time:

Special Instructions/Comments:

(1) Archive frozen 2 x 1/2 full 8 oz containers.
(2) This is the only Reference Bioassay Sample. Soft mix 7 x 32 oz containers into one composite with Sample I.D. R-1-D; and homogenize 7 x 2 oz containers into one composite with Sample I.D. R-1-D
(3) Ship to NewFields with zero head space

1C0909258

Columbia Analytical Services
800.695.7222
www.caslab.com

Client: OfficeMax & URS Corporation
Bill to: OfficeMax

CHAIN of CUSTODY

Page _1_ of _1_

Project: Boise St Helens Pulp and Paper Mill - Sediment 2009
SR #

Project Manager: David Weatherby, URS Corporation
Telephone No. 503.222.7200
Fax No. 503.222.4292

Composite I.D.	Lab I.D.	Matrix	Date	Time	Archive (1)	Summit 5 x 32 oz jars to NewFields (3)	Number of Containers				Grain Size	Total Solids	Total Sulfides	Bulk Ammonia	Total Volatile Solids	Remarks
M-5-D		Sediment			X	X	-					X	X	X	X	
M-4-D		Sediment			X	X	-					X	X	X	X	
M-3-D		Sediment	10.5.09	1250	X	X	-					X	X	X	X	
M-2-D		Sediment			X	X	-					X	X	X	X	*URS Dup = M-2-D2*
M-2-D2		*Sediment*			*X*		-					*X*	*X*	*X*	*X*	*URS Duplicate*
M-1-D		Sediment			X	X	-					X	X	X	X	MS/MSD
B-1-D		Sediment			X	X	-					X	X	X	X	
Sample & Composite I.D. = R-1-D		Sediment			X	X	14				X	X	X	X	X	(2)

Sample Received Intact: Yes No
Temperature received: Ice No ice

RELIQUISHED BY:	RELIQUISHED BY: ~~RELIQUISHED BY:~~ 10/16/09 Received by:	RELIQUISHED BY:	RELIQUISHED BY:
Signature:	Signature:	Signature:	Signature:
Printed Name: NICKY MOODY	Printed Name: John Jones	Printed Name:	Printed Name:
Firm: URS	Firm: CAS	Firm:	Firm:
Date/Time: 10.5.09 / 1635	Date/Time: 10/6/09 0905	Date/Time:	Date/Time:

Special Instructions/Comments:

(1) Archive frozen 2 x 1/2 full 8 oz containers.
(2) This is the only Reference Bioassay Sample. Soft mix 7 x 32 oz containers into one composite with Sample I.D. R-1-D; and homogenize 7 x 2 oz containers into one composite with Sample I.D. R-1-D
(3) Ship to NewFields with zero head space

K0909258
K0909140

Columbia Analytical Services
800.695.7222
www.caslab.com

Client: OfficeMax & URS Corporation
Bill to: OfficeMax

CHAIN of CUSTODY

Page _1_ of _1_
SR #

Project: Boise St Helens Pulp and Paper Mill - Sediment 2009
Project Manager: David Weatherby, URS Corporation
Telephone No. 503.222.7200
Fax No. 503.222.4292

Composite I.D.	Lab I.D.	Matrix	Date	Time	Archive (1)	Summit 5 x 32 oz jars to NewFields (3)	Number of Containers				Grain Size	Total Solids	Total Sulfides	Bulk Ammonia	Total Volatile Solids	Remarks
M-5-D		Sediment	9/28/2009	10:05	X	X	-					X	X	X	X	
M-4-D		Sediment	9/28/2009	12:56	X	X	-					X	X	X	X	
M-3-D		Sediment	HOLD LOG		X	X	-					X	X	X	X	
M-2-D		Sediment	IN		X	X	-					X	X	X	X	*URS Dup = M-2-D2*
M-2-D2		*Sediment*	OPEN		*X*		-					*X*	*X*	*X*	*X*	*URS Duplicate*
M-1-D		Sediment			X	X	-					X	X	X	X	MS/MSD
B-1-D		Sediment			X	X	-					X	X	X	X	
Sample & Composite I.D. = R-1-D		Sediment			X	X	14				X	X	X	X	X	(2)

Sample Received Intact: Yes No
Temperature received: 5.0 (Ice) No ice

Special Instructions/Comments:

(1) Archive frozen 2 x 1/2 full 8 oz containers.
(2) This is the only Reference Bioassay Sample. Soft mix 7 x 32 oz containers into one composite with Sample I.D. R-1-D; and homogenize 7 x 2 oz containers into one composite with Sample I.D. R-1-D
(3) Ship to NewFields with zero head space

RELINQUISHED BY:	~~RELINQUISHED BY:~~ 9/29/09	RELINQUISHED BY:	RELINQUISHED BY:
Signature:	Signature:	Signature:	Signature:
Printed Name: Nicky Moody	Printed Name: John Jones	Printed Name:	Printed Name:
Firm: URS	Firm: CAS	Firm:	Firm:
Date/Time: 9/28/09 5:30	Date/Time: 9/29/09 0730	Date/Time:	Date/Time:

Columbia Analytical Services, Inc.
Cooler Receipt and Preservation Form

PC 4H

Client / Project: URS Corp / Boise St Helens Service Request K09 09H0 09258

Received: 9/29/09 Opened: 9/29/09 By: TT

1. Samples were received via? *US Mail* *Fed Ex* *UPS* *DHL* *GH* *GS* *PDX* (*Courier*) *Hand Delivered*
2. Samples were received in: (circle) (*Cooler*) *Box* *Envelope* *Other* _____ *NA*
3. Were custody seals on coolers? NA Y (N) If yes, how many and where? NA
   If present, were custody seals intact? ~~Y~~ N NA If present, were they signed and dated? ~~Y~~ N NA
4. Is shipper's air-bill filed? If not, record air-bill number: Red Cooler - samples A thru C (NA) Y N
   Blue cooler - Combined D samples
5. **Temperature of cooler(s) upon receipt (°C):** 3.4 5.0
   Temperature Blank (°C): 1.5 9.8
   Thermometer ID: 273 261
6. If applicable, list Chain of Custody Numbers:
7. Packing material used. *Inserts* *Baggies* (*Bubble Wrap*) *Gel Packs* (*Wet Ice*) *Sleeves* *Other* _____
8. Were custody papers properly filled out (ink, signed, etc.)? NA (Y) N
9. **Did all bottles arrive in good condition (unbroken)?** *Indicate in the table below.* NA (Y) N
10. Were all sample labels complete (i.e analysis, preservation, etc.)? NA (Y) N
11. Did all sample labels and tags agree with custody papers? *Indicate in the table below* *NA (Y) N *1 of cooler
12. **Were appropriate bottles/containers and volumes received for the tests indicated?** NA (Y) N
13. Were the pH-preserved bottles tested* received at the appropriate pH? *Indicate in the table below* (NA) Y N
14. Were VOA vials received without headspace? *Indicate in the table below.* (NA) Y N
15. **Are CWA Microbiology samples received with >1/2 the 24hr. hold time remaining from collection?** (NA) Y N
16. Was C12/Res negative? (NA) Y N

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Sample ID	Bottle Count Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

*Does not include all pH preserved sample aliquots received. *See sample receiving SOP (SMO-GEN).*

Additional Notes, Discrepancies, & Resolutions: * For D samples we received 3 x 8oz jars for samples: M-42-5-D, M-40-5-D, M-39-5-D, M-52-4-D, M-54-4-D, M-56-4-D, did not receive 2oz jars, did not receive samples M-5-D, M-4-D, M-3-D, M-2-D M2-2D, M-1-D, B-1-D. ← these are forthcoming.

Total Solids

Client: URS Corporation
Project: Boise St. Helens Pul
Sample Matrix: Sediment

Service Request: K0909258

Total Solids

Prep Method: NONE
Analysis Method: 160.3M
Test Notes:

Units: PERCENT
Basis: Wet

Sample Name	Lab Code	Date Collected	Date Received	Date Analyzed	Result	Result Notes
M-4-D	K0909258-001	09/28/2009	09/29/2009	10/12/2009	49.6	
M-5-D	K0909258-002	09/28/2009	09/29/2009	10/12/2009	44.2	
M-2-D	K0909258-003	10/06/2009	10/08/2009	10/12/2009	40.6	
M-1-D	K0909258-004	10/09/2009	10/09/2009	10/12/2009	53.8	
B-1-D	K0909258-005	10/09/2009	10/09/2009	10/12/2009	54.2	

Client:	URS Corporation	**Service Request:**	K0909258
Project:	Boise St. Helens Pul	**Date Collected:**	09/28/2009
Sample Matrix:	Sediment	**Date Received:**	09/29/2009
		Date Analyzed:	10/12/2009

Duplicate Sample Summary

Total Solids

Prep Method:	NONE	**Units:**	PERCENT
Analysis Method:	160.3M	**Basis:**	Wet
Test Notes:			

Sample Name	Lab Code	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
M-4-D	K0909258-001	49.6	49.6	49.6	<1	

COLUMBIA ANALYTICAL SERVICES, INC.

EPA Method 160.3 - Total Solids

174588

Group ID:	KWG0909464				
Analyst:	TNguyen			**Reviewed By:**	
Date Acquired:	10/12/2009 09:45	**Oven TempStart:**	105 DEG C		
Date Completed:	10/13/2009 09:54	**Oven TempEnd:**	105 DEG C	**Date Reviewed:**	10/14/09

#	Lab Code	Client ID	Matrix	Tare	Tare+Wet	Tare+Dry	% Solids	QC Ref Sample	Comments
1	K0908988-001	PM1 3rd Q 2009	PAPERBOA	1.27g	2.08g	2.04g	95.1		
2	K0908988-002	PM2 3rd Q 2009	PAPERBOA	1.28g	2.34g	2.30g	96.2		
3	K0909258-001	M-4-D	SEDIMENT	1.28g	11.23g	6.22g	49.6		
4	K0909258-002	M-5-D	SEDIMENT	1.28g	10.15g	5.20g	44.2		
5	K0909258-003	M-2-D	SEDIMENT	1.29g	8.34g	4.15g	40.6		
6	K0909258-004	M-1-D	SEDIMENT	1.31g	7.74g	4.77g	53.8		
7	K0909258-005	B-1-D	SEDIMENT	1.30g	9.93g	5.98g	54.2		
8	K0909365-001	2009092909-01	SOLID FUEL	10.71g	100.72g	64.68g	60.0		As received
9	K0909365-002	2009092909-02	SOLID FUEL	10.95g	86.14g	80.63g	92.7		As received
10	K0909365-003	2009092909-03	SOLID FUEL	10.71g	67.82g	63.59g	92.6		As received
11	K0909367-001	Day #1 Composite	SOLID FUEL	1.29g	5.49g	5.38g	97.4		
12	K0909367-002	Stack Test Run #1	SOLID FUEL	1.27g	5.48g	5.38g	97.6		
13	K0909367-003	Stack Test Run #2	SOLID FUEL	1.28g	5.59g	5.47g	97.2		
14	K0909367-004	Stack Test Run #3	SOLID FUEL	1.28g	4.13g	4.07g	97.9		
15	K0909403-001	LAB 093904	SOIL	1.28g	8.90g	5.13g	50.5		
16	K0909403-002	LAB 093905	SOIL	1.29g	10.91g	7.18g	61.2		
17	K0909403-003	LAB 093906	SOIL	1.29g	10.67g	5.45g	44.3		
18	K0909403-004	LAB 093907	SOIL	1.27g	10.32g	5.66g	48.5		
19	K0909403-005	LAB 093908	SOIL	1.27g	10.60g	5.67g	47.2		
20	K0909403-006	LAB 093909	SOIL	1.28g	8.88g	4.11g	37.2		

16

Group ID:	KWG0909464		
Analyst:	TNguyen	**Reviewed By:**	
Date Acquired:	10/12/2009 09:45	**Oven TempStart:**	105 DEG C
Date Completed:	10/13/2009 09:54	**Oven TempEnd:**	105 DEG C
		Date Reviewed:	10/14/09

#	Lab Code	Client ID	Matrix	Tare	Tare+Wet	Tare+Dry	% Solids	QC Ref Sample	Comments
21	K0909403-007	LAB 093910	SOIL	1.28g	8.37g	5.38g	57.8		
22	K0909403-008	LAB 093911	SOIL	1.29g	12.72g	8.34g	61.7		
23	K0909403-009	LAB 093912	SOIL	1.29g	11.15g	8.65g	74.6		
24	K0909429-001	Wood Fuel Sample	SOLID FUEL	10.28g	110.49g	57.01g	46.6		As received
25	K0909432-001	09WNTFSS01	SOIL	1.29g	18.25g	15.89g	86.1		
26	K0909432-002	09WNTFSS02	SOIL	1.29g	11.66g	10.21g	86.0		
27	K0909432-003	09WNTFSS03	SOIL	1.28g	14.60g	13.21g	89.6		
28	K0909432-004	09WNTFSS04	SOIL	1.29g	12.67g	11.98g	93.9		
29	K0909432-005	09WNTFSS05	SOIL	1.29g	9.34g	8.86g	94.0		
30	K0909432-006	09WNTFSS06	SOIL	1.29g	12.30g	11.36g	91.5		
31	K0909432-007	09WNTFSS07	SOIL	1.28g	15.97g	13.91g	86.0		
32	K0909432-008	09WNTFSS08	SOIL	1.29g	17.21g	14.34g	82.0		
33	K0909432-009	09WNTFSS09	SOIL	1.28g	12.27g	11.20g	90.3		
34	K0909432-010	09WNTFSS10	SOIL	1.28g	16.78g	14.49g	85.2		
35	K0909432-011	09WNTFSS11	SOIL	1.29g	12.62g	11.52g	90.3		
36	K0909432-012	09WNTFSS12	SOIL	1.29g	11.64g	10.71g	91.0		
37	K0909463-001	O/W Sep Sediment	SEDIMENT	1.30g	13.32g	4.64g	27.8		
38	K0909567-001	Wood Fuel Sample 10/5	SOLID FUEL	9.59g	72.76g	38.59g	45.9		As received
39	K0909567-002	Wood Fuel Sample 10/7	SOLID FUEL	9.60g	74.33g	38.94g	45.3		As received
40	K0909738-001	BG 0955	SEDIMENT	1.29g	12.73g	9.18g	69.0		
41	K0909738-002	BG 0956	SEDIMENT	1.29g	15.04g	11.06g	71.1		
42	K0909738-003	BG 0957	SEDIMENT	1.29g	14.05g	10.77g	74.3		
43	K0909738-004	BG 0958	SEDIMENT	1.29g	16.39g	12.03g	71.1		
44	K0909757-001	09-FWA-B2077-SO-02	SOIL	1.29g	7.04g	6.83g	96.3		
45	K0909757-002	09-FWA-B2077N-SO-F01	SOIL	1.28g	9.32g	8.99g	95.9		
46	K0909757-003	09-FWA-B2077N-SO-W05	SOIL	1.28g	13.92g	11.83g	83.5		
47	K0909757-004	09-FWA-B2077N-SO-F03	SOIL	1.28g	14.81g	11.63g	76.5		
48	K0909757-005	09-FWA-B2077N-SO-F06	SOIL	1.28g	8.73g	7.67g	85.8		
49	K0909757-006	09-FWA-B2077N-SO-F06-X	SOIL	1.29g	10.24g	8.97g	85.8		

Group ID:	KWG0909464		
Analyst:	TNguyen	**Reviewed By:**	SAH
Date Acquired:	10/12/2009 09:45	**Oven TempStart:**	105 DEG C
Date Completed:	10/13/2009 09:54	**Oven TempEnd:**	105 DEG C
		Date Reviewed:	10/14/09

#	Lab Code	Client ID	Matrix	Tare	Tare+Wet	Tare+Dry	% Solids	QC Ref Sample	Comments
50	K0909757-007	09-FWA-B2077N-SO-F10	SOIL	1.28g	11.05g	10.68g	96.2		
51	K0909757-008	09-FWA-B2077N-SO-W03	SOIL	1.29g	10.74g	9.43g	86.1		
52	K0909757-009	09-FWA-B2077N-SO-F12	SOIL	1.30g	14.85g	14.63g	98.4		
53	K0909757-010	09-FWA-B2077N-SO-F09	SOIL	1.28g	12.44g	12.22g	98.0		
54	K0909757-011	09-FWA-B2077N-SO-F05	SOIL	1.29g	9.65g	9.42g	97.2		
55	K0909757-012	09-FWA-B2077N-SO-F02	SOIL	1.28g	11.28g	11.00g	97.2		
56	K0909757-013	09-FWA-B2077N-SO-F11	SOIL	1.29g	10.77g	10.54g	97.6		
57	K0909757-014	09-FWA-B2077N-SO-F08	SOIL	1.28g	11.70g	11.07g	94.0		
58	K0909757-015	09-FWA-B2077N-SO-F04	SOIL	1.28g	12.20g	11.57g	94.2		
59	K0909757-016	09-FWA-B2077N-SO-W01	SOIL	1.29g	11.83g	9.91g	81.8		
60	K0909757-017	09-FWA-B2077N-SO-W02	SOIL	1.29g	12.00g	11.66g	96.8		
61	K0909757-018	09-FWA-B2077N-SO-W02-X	SOIL	1.29g	13.08g	12.75g	97.2		
62	K0909757-019	09-FWA-B2077N-SO-F07	SOIL	1.29g	12.10g	11.68g	96.1		
63	KWG0909464-1	Duplicate Client Sample	SOIL	1.29g	12.14g	9.54g	76.0	K0909403-009	
64	KWG0909464-2	Duplicate Client Sample	SOIL	1.30g	11.82g	10.21g	84.7	K0909432-002	
65	KWG0909464-3	Duplicate Client Sample	SOIL	1.29g	8.72g	8.42g	96.0	K0909757-001	
66	KWG0909464-4	Duplicate Client Sample	SOIL	1.27g	11.59g	11.17g	95.9	K0909757-019	
67	KWG0909464-5	Duplicate Client Sample	SEDIMENT	1.29g	14.52g	10.73g	71.4	K0909738-004	
68	KWG0909464-6	Duplicate Client Sample	SEDIMENT	1.28g	12.68g	6.93g	49.6	K0909258-001	
69	KWG0909464-7	Duplicate Client Sample	SOLID FUEL	1.28g	4.45g	4.37g	97.5	K0909367-004	
70	KWG0909464-8	Duplicate Client Sample	PAPERBOA	1.28g	2.43g	2.38g	95.7	K0908988-002	

18

COLUMBIA ANALYTICAL SERVICES, INC.

Service Request #: K0909258 (R) 10/18

Analysis For: Total Solids

Method: EPA METHOD 160.3 MODIFIED

Pan ID	Lab Code	Wet Weight (g)	Tare (g)	Tare + Dry Wt.(g)	Dry Weight (g)	% Total Solids
	K9258-1	11.23	1.28	6.22		
	-2	10.15	1.28	5.20		
	-3	8.34	1.29	4.15		
	-1d	12.68	1.28	6.93		
	4	7.74	1.31	4.77		
	-5	9.92	1.30	5.98		

Oven Temp : _____ Time In : _____ Time Out : _____

Comments:

$\bar{x}$ RPD =

$\bar{x}$ RPD =

$\bar{x}$ RPD =

Analyst:	TN	Date:	10/12/09
Reviewed By:		Date:	10/14/09

TSGEN.BCH

Client: URS Corporation
Project: Boise St. Helens Pul
Sample Matrix: Sediment

Service Request: K0909258

Total Solids

Prep Method: NONE
Analysis Method: 160.3M
Test Notes:

Units: PERCENT
Basis: Wet

Sample Name	Lab Code	Date Collected	Date Received	Date Analyzed	Result	Result Notes
R-1-D	K0909258-006	10/08/2009	10/10/2009	10/15/2009	43.0	
R-2-D	K0909258-007	10/08/2009	10/10/2009	10/15/2009	48.8	
M-3-D	K0909258-008	10/05/2009	10/06/2009	10/15/2009	55.2	

Client:	URS Corporation	**Service Request:**	K0909258
Project:	Boise St. Helens Pul	**Date Collected:**	10/05/2009
Sample Matrix:	Sediment	**Date Received:**	10/06/2009
		Date Analyzed:	10/15/2009

Duplicate Sample Summary
Total Solids

Prep Method:	NONE	**Units:**	PERCENT
Analysis Method:	160.3M	**Basis:**	Wet
Test Notes:			

Sample Name	Lab Code	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
M-3-D	K0909258-008	55.2	56.1	55.7	2	

COLUMBIA ANALYTICAL SERVICES, INC.

EPA Method 160.3 - Total Solids

175086

Group ID:	KWG0909613				
Analyst:	TNguyen			**Reviewed By:**	BH
Date Acquired:	10/15/2009 09:00	**Oven TempStart:**	105 DEG C	**Date Reviewed:**	10/19/09
Date Completed:	10/16/2009 09:00	**Oven TempEnd:**	105 DEG C		

#	Lab Code	Client ID	Matrix	Tare	Tare+Wet	Tare+Dry	% Solids	QC Ref Sample	Comments
1	K0909258-006	R-1-D	SEDIMENT	1.29g	8.47g	4.38g	43.0		
2	K0909258-007	R-2-D	SEDIMENT	1.27g	9.01g	5.05g	48.8		
3	K0909258-008	M-3-D	SEDIMENT	1.29g	8.70g	5.38g	55.2		
4	K0909372-007	Composite	PAPERBOA	1.28g	2.16g	2.13g	96.6		
5	K0909419-001	HF 14	SOLID FUEL	9.47g	70.96g	41.12g	51.5		As received
6	K0909419-004	HF 15	SOLID FUEL	8.07g	76.44g	47.78g	58.1		As received
7	K0909422-001	Mixed Fuel-50% Sludge & 50% Ho g	SOLID FUEL	8.68g	46.73g	30.99g	58.6		As received
8	K0909490-001	09NWEX01SO	SOIL	1.30g	6.37g	6.05g	93.7		
9	K0909490-002	09NWEX02SO	SOIL	1.30g	6.90g	6.55g	93.8		
10	K0909502-006	EMF0909-GRDN1-SLTOMATO00	SOIL	1.30g	8.31g	7.45g	87.7		
11	K0909502-007	EMF0909-GRDN1-SLCORN001	SOIL	1.30g	12.80g	11.05g	84.8		
12	K0909502-008	EMF0909-GRDN1-SLCUCUMBE	SOIL	1.30g	8.56g	7.48g	85.1		
13	K0909502-009	EMF0909-GRDN1-SLUNDISTUR	SOIL	1.30g	9.72g	8.54g	86.0		
14	K0909502-010	EMF0909-GRDN2-SLPUMPKIN0	SOIL	1.30g	9.64g	8.99g	92.2		
15	K0909502-011	EMF0909-GRDN2-SLZUCCHINI0	SOIL	1.30g	11.93g	10.66g	88.1		
16	K0909502-012	EMF0909-GRDN2-SLUNDISTUR	SOIL	1.30g	9.25g	8.50g	90.6		
17	K0909522-006	Composite	PAPERBOA	1.30g	3.50g	3.42g	96.4		
18	K0909633-001	B2B-1-1	SEDIMENT	1.30g	9.46g	5.28g	48.8		
19	K0909633-003	B2B-2-1	SEDIMENT	1.29g	8.14g	5.37g	59.6		

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Group ID:	KWG0909613		
Analyst:	TNguyen	**Reviewed By:**	BH
Date Acquired:	10/15/2009 09:00	**Oven TempStart:**	105 DEG C
Date Completed:	10/16/2009 09:00	**Oven TempEnd:**	105 DEG C
		Date Reviewed:	10/19/09

#	Lab Code	Client ID	Matrix	Tare	Tare+Wet	Tare+Dry	% Solids	QC Ref Sample	Comments
20	K0909633-005	B3A-1-1	SEDIMENT	1.30g	11.12g	8.08g	69.0		
21	K0909633-007	B3A-2-1	SEDIMENT	1.30g	13.63g	10.03g	70.8		
22	K0909633-011	B1A-1-1	SEDIMENT	1.30g	12.07g	10.05g	81.2		
23	K0909633-013	B1A-2-1	SEDIMENT	1.30g	11.67g	9.86g	82.5		
24	K0909633-015	B2A-1-1	SEDIMENT	1.30g	10.48g	8.70g	80.6		
25	K0909633-017	B2A-1-2	SEDIMENT	1.29g	12.27g	10.18g	81.0		
26	K0909633-019	B2A-2-1	SEDIMENT	1.28g	11.67g	8.73g	71.7		
27	K0909636-001	783338	PAPERBOA	1.30g	1.95g	1.94g	98.5		
28	K0909636-002	783342	PAPERBOA	1.28g	2.06g	2.05g	98.7		
29	K0909636-003	783355	PAPERBOA	1.29g	2.50g	2.49g	99.2		
30	K0909636-004	775615	PAPERBOA	1.30g	2.36g	2.35g	99.1		
31	K0909638-001	Day #9 Composite	SOLID FUEL	1.29g	5.11g	5.04g	98.2		
32	K0909693-001	Biosolids	SLUDGE	1.30g	7.66g	2.67g	21.5		
33	K0909695-001	114-1c-100709	MISC. SOLID	1.30g	10.22g	2.50g	13.5		
34	K0909702-001	RDP Sludge	SLUDGE, SOLID	1.30g	9.88g	4.55g	37.9		
35	K0909724-001	HF 16	SOLID FUEL	9.64g	72.63g	42.73g	52.5		As received
36	K0909725-001	RDR-1-100809	SOIL	1.29g	7.54g	5.41g	65.9		
37	K0909725-002	RDR-3-100809	SOIL	1.29g	7.26g	5.40g	68.8		
38	K0909725-003	RRR-2-100809	SOIL	1.29g	7.98g	4.87g	53.5		
39	K0909739-001	B1A-1-1	SEDIMENT	1.30g	8.26g	7.21g	84.9		
40	K0909739-002	B1A-2-1	SEDIMENT	1.31g	9.79g	8.35g	83.0		
41	K0909739-003	B2A-1-1	SEDIMENT	1.29g	9.63g	8.02g	80.7		
42	K0909739-004	B2A-2-1	SEDIMENT	1.30g	9.34g	7.64g	78.9		
43	K0909739-005	B3A-1-1	SEDIMENT	1.29g	7.45g	6.11g	78.2		
44	K0909739-006	B3A-2-1	SEDIMENT	1.29g	7.90g	6.66g	81.2		

23

Group ID:	KWG0909613		
Analyst:	TNguyen	**Reviewed By:**	BH
Date Acquired:	10/15/2009 09:00	**Oven TempStart:**	105 DEG C
Date Completed:	10/16/2009 09:00	**Oven TempEnd:**	105 DEG C
		Date Reviewed:	10/19/09

#	Lab Code	Client ID	Matrix	Tare	Tare+Wet	Tare+Dry	% Solids	QC Ref Sample	Comments
45	K0909756-001	COMP1_101009	SOIL	1.30g	13.27g	10.85g	79.8		
46	K0909759-001	0913345-01	SOIL	1.30g	24.96g	1.51g	0.89		
47	K0909801-001	DM Cent Cake	SLUDGE, SOLID	1.30g	8.19g	2.83g	22.2		
48	K0909804-001	Wood Fuel Sample	SOLID FUEL	9.24g	100.69g	47.94g	42.3		As received
49	K0909805-008	Composite	PAPERBOA	1.29g	3.23g	3.20g	98.5		
50	K0909852-001	AF-65	SOLID	1.29g	8.02g	7.09g	86.2		
51	K0909872-001	KSS-SS-420014-2	SOIL	1.29g	9.38g	4.42g	38.7		
52	K0909874-001	Auto Fluff (ASR)	SOLID WASTE	1.30g	5.30g	5.12g	95.5		
53	KWG0909613-1	Duplicate Client Sample	SLUDGE	1.30g	8.19g	2.80g	21.8	K0909693-001	
54	KWG0909613-10	Duplicate Client Sample	SEDIMENT	1.29g	8.38g	7.02g	80.8	K0909739-006	
55	KWG0909613-11	Duplicate Client Sample	SOLID FUEL	1.28g	5.30g	5.22g	98.0	K0909638-001	
56	KWG0909613-12	Duplicate Client Sample	SOLID WASTE	1.29g	4.28g	4.15g	95.7	K0909874-001	
57	KWG0909613-2	Duplicate Client Sample	SOIL	1.27g	9.64g	7.95g	79.8	K0909756-001	
58	KWG0909613-3	Duplicate Client Sample	SOIL	1.30g	7.49g	7.09g	93.5	K0909490-001	
59	KWG0909613-4	Duplicate Client Sample	SOIL	1.30g	8.39g	7.74g	90.8	K0909502-012	
60	KWG0909613-5	Duplicate Client Sample	SOIL	1.30g	9.15g	5.49g	53.4	K0909725-003	
61	KWG0909613-6	Duplicate Client Sample	PAPERBOA	1.31g	3.60g	3.53g	96.9	K0909522-006	
62	KWG0909613-7	Duplicate Client Sample	PAPERBOA	1.28g	2.39g	2.38g	99.1	K0909636-004	
63	KWG0909613-8	Duplicate Client Sample	SEDIMENT	1.28g	8.72g	4.92g	48.9	K0909633-001	
64	KWG0909613-9	Duplicate Client Sample	SEDIMENT	1.30g	9.41g	5.85g	56.1	K0909258-008	

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COLUMBIA ANALYTICAL SERVICES, INC.

ervice Request #: K0909258 (6->8)

Method: EPA METHOD 160.3 MODIFIED

nalysis For: Total Solids

Pan ID	Lab Code	Wet Weight (g)	Tare (g)	Tare + Dry Wt.(g)	Dry Weight (g)	% Total Solids
	K9258 - 6	8.47	1.29	4.38		
	- 7	9.01	1.27	5.05		
	- 8	8.70	1.29	5.38		
	- 8d	9.41	1.30	5.85		

en Temp : _____ Time In : _____ Time Out : _____

mments:

$\bar{x}$ RPD =

$\bar{x}$ RPD =

$\bar{x}$ RPD =

alyst: TN Date: 10/15/09

viewed By: SAK Date: 10/20/09

TSGEN.BCH

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	URS Corporation	**Service Request:**	K0909258
Project:	Boise St. Helens Pulp and Paper Mill-2009	**Date Collected:**	9/28-10/6/09
Sample Matrix:	Sediment	**Date Received:**	9/29-10/10/09

Total Volatile Solids

Prep Method:	NONE	Units:	PERCENT
Analysis Method:	160.4M	Basis:	Dry
Test Notes:			

Sample Name	Lab Code	Date Analyzed	Result	Result Notes
M-4-D	K0909258-001	10/26/2009	7.80	
M-5-D	K0909258-002	10/26/2009	10.3	
M-2-D	K0909258-003	10/26/2009	11.6	
M-1-D	K0909258-004	10/26/2009	9.27	
B-1-D	K0909258-005	10/26/2009	4.52	
R-1-D	K0909258-006	10/26/2009	8.29	
R-2-D	K0909258-007	10/26/2009	7.71	
M-3-D	K0909258-008	10/26/2009	5.90	
M-2-D2	K0909258-009	10/26/2009	11.7	
Method Blank	K0909258-MB1	10/26/2009	<0.01	

M Modified for analysis of soil.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009
Sample Matrix: Sediment

Service Request: K0909258
Date Collected: 9/28-10/6/09
Date Received: 9/29-10/10/09
Date Extracted: NA
Date Analyzed: 10/26/2009

Duplicate Summary
Inorganic Parameters

Sample Name: M-1-D
Lab Code: K0909258-004DUP
Test Notes:

Units: PERCENT
Basis: Dry

Analyte	Prep Method	Analysis Method	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Total Volatile Solids	NONE	160.4M	9.27	10.3	9.79	11	

M Modified for analysis of soil.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009
Sample Matrix: Sediment

Service Request: K0909258
Date Collected: 9/28-10/6/09
Date Received: 9/29-10/10/09
Date Extracted: NA
Date Analyzed: 10/26/2009

Duplicate Summary
Inorganic Parameters

Sample Name: M-2-D2
Lab Code: K0909258-009DUP
Test Notes:

Units: PERCENT
Basis: Dry

Analyte	Prep Method	Analysis Method	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Total Volatile Solids	NONE	160.4M	11.7	10.5	11.1	11	

M Modified for analysis of soil.

COLUMBIA ANALYTICAL SERVICES, INC.

Service Request: k0909258 — EPA 160.4 M

Analysis For: Total Volatile Solids

Pan ID	Lab Code	Wet Weight	Tare Weight (g)	Tare + Dry Weight	Tare + Ash Weight (g)	Dry Weight (g)	Ash Weight (g)	% Total Solids	% Volatile Solids
	MB	8.9764	33.4302	33.4303	33.4300	0.0001	-0.0002	<0.01	<0.01
	K0909258-1	8.5961	35.7505	40.1016	39.7622	4.3511	4.0117	50.6	7.80%
	K0909258-2	12.9011	30.0733	36.0946	35.4756	6.0213	5.4023	46.7	10.3%
	K0909258-3	11.1008	36.0573	41.1632	40.5700	5.1059	4.5127	46.0	11.6%
	K0909258-4	12.2576	32.1463	39.4548	38.7770	7.3085	6.6307	59.6	9.27%
	K0909258-5	14.4407	32.6752	41.5721	41.1704	8.8969	8.4952	61.6	4.52%
	K0909258-6	9.5981	35.8270	39.3716	39.0778	3.5446	3.2508	36.9	8.29%
	K0909258-7	9.4212	31.0565	35.4497	35.1111	4.3932	4.0546	46.6	7.71%
	K0909258-8	10.7231	34.1131	40.4715	40.0964	6.3584	5.9833	59.3	5.90%
	K0909258-9	8.6744	37.3300	41.3856	40.9130	4.0556	3.5830	46.8	11.7%
	K0909258-4D	11.5276	31.1336	37.8984	37.1995	6.7648	6.0659	58.7	10.3%
	K0909258-9D	16.1726	30.6310	38.1979	37.4065	7.5669	6.7755	46.8	10.5%

Oven Temp IN/OUT : 105/105 Time IN/OUT :

K0909258-4/4D	Total Solids	x = 59.2	RPD = 2
	Total Volatile Solids	x = 9.79	RPD = 11
K0909258-9/9D	Total Solids	x = 46.8	RPD = <1
	Total Volatile Solids	x = 11.1	RPD = 11

RUN #: 176737

Analyst: TN Date: 10/26/2009

Reviewed By: Date: 11/4/09

COLUMBIA ANALYTICAL SERVICES, INC.

Service Request #: K0909258 Method: EPA METHOD 160.3 M / 160.4 M

Analysis For: Total Volatile Solids

Pan ID	Lab Code	Wet Weight	Tare Weight (g)	Tare + Dry Weight	Tare + Ash Weight (g)	Dry Weight (g)	Ash Weight (g)	% Total Solids	% Volatile Solids
H3	1 MB	8.9764	33.4302	33.4303	33.4300				
W1	K 9258-1	8.5961	35.7505	40.1016	39.7622				
Fun	-2	12.9011	30.0733	36.0946	35.4756				
W4	-3	11.1008	36.0573	41.1632	40.5700				
P10	-4	12.2576	32.1463	39.4548	38.7770				
Z4	-5	14.4407	32.6752	41.5721	41.1704				
Y5	-6	9.5981	35.8270	39.3716	39.0778				
Top	-7	9.4212	31.0565	35.4497	35.1111				
Q1	-8	10.7231	34.1131	40.4715 TN 10/28	40.0964				
X4	-9	8.6744	37.3300 TN 10/28	41.3856	40.9130				
LLB	-9d	16.1726	30.6310	38.1979	37.4064	5 TN 10/28			
Z2	-4d	11.5276 TN 10/26	31.1336	37.8984	37.6995	TN 10/28			

% Total Solids = (Dry Weight//Wet Weight) x 100 **% Total Volatile Solids** = (1 - (Ash Weight /Dry Weight)) x 100

Time/Date **In** : 17:09 10/26 Oven Temp : 105°C Time/Date **Out** : 09:00 10/28 Oven Temp : 105°C

Comments:

176737

TS-Met: $\bar{x}$ = RPD =

TVS-Met: $\bar{x}$ = RPD =

Analyst: TN	Date: 10/26/09
Reviewed By:	Date: 11/4/09

TVSSOIL1.XLS

Client: URS Corporation
Project: Boise St. Helens Pul
Sample Matrix: Sediment

Service Request: K0909258

Total Solids

Prep Method: NONE
Analysis Method: 160.3M
Test Notes:

Units: PERCENT
Basis: Wet

Sample Name	Lab Code	Date Collected	Date Received	Date Analyzed	Result	Result Notes
M-2-D2	K0909258-009	10/06/2009	10/08/2009	10/27/2009	46.8	

Client:	URS Corporation	**Service Request:**	K0909258
Project:	Boise St. Helens Pul	**Date Collected:**	10/06/2009
Sample Matrix:	Sediment	**Date Received:**	10/08/2009
		Date Analyzed:	10/27/2009

Duplicate Sample Summary
Total Solids

Prep Method:	NONE	**Units:**	PERCENT
Analysis Method:	160.3M	**Basis:**	Wet
Test Notes:			

Sample Name	Lab Code	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
M-2-D2	K0909258-009	46.8	46.8	46.8	<1	

COLUMBIA ANALYTICAL SERVICES, INC.

EPA Method 160.3 - Total Solids

176735

Group ID:	KWG0910057				
Analyst:	TNguyen			**Reviewed By:**	BN
Date Acquired:	10/27/2009 09:00	**Oven TempStart:**	105 DEG C		
Date Completed:	10/28/2009 09:45	**Oven TempEnd:**	105 DEG C	**Date Reviewed:**	10/28/09

#	Lab Code	Client ID	Matrix	Tare	Tare+Wet	Tare+Dry	% Solids	QC Ref Sample	Comments
1	K0909140-001	M-4-A	SEDIMENT	1.27g	11.85g	11.59g	97.5		
2	K0909140-002	M-4-B	SEDIMENT	1.26g	11.31g	11.06g	97.5		
3	K0909140-003	M-4-C	SEDIMENT	1.27g	11.66g	11.42g	97.7		
4	K0909140-004	M-1-B	SEDIMENT	1.28g	12.08g	11.62g	95.7		
5	K0909140-005	M-2-C	SEDIMENT	1.27g	11.28g	10.55g	92.7		
6	K0909140-006	M-2-A	SEDIMENT	1.27g	11.45g	11.23g	97.8		
7	K0909140-007	M-3-B	SEDIMENT	1.27g	11.93g	11.74g	98.2		
8	K0909258-009	M-2-D2	SEDIMENT	37.3300g	46.0044g	41.3856g	46.8		
9	K0909436-001	Fiberwaste	MISC. SOLID	1.29g	2.57g	2.53g	96.9		Air dry and ground
10	K0909436-002	Plastic Rejects	MISC. SOLID	1.27g	3.11g	3.00g	94.0		Air dry and ground
11	K0909436-003	Tail & Grapple Rejects	MISC. SOLID	1.27g	2.06g	2.03g	96.2		Air dry and ground
12	K0909947-001	Daily Composite 1; 8/26,8/27,8 /28	COAL	9.41g	71.85g	69.00g	95.4		As received
13	K0909947-002	Daily Composite 2; 8/29,8/30,8 /31	COAL	8.74g	79.55g	77.19g	96.7		As received
14	K0909947-003	Daily Composite 3; 9/1,9/2,9/3	COAL	8.46g	88.21g	85.88g	97.1		As received
15	K0909947-004	Daily Composite 4; 9/21,9/22,9 /23	COAL	8.69g	91.13g	87.52g	95.6		As received
16	K0909947-005	Daily Composite 5; 9/24,9/25,9 /26	COAL	9.32g	86.82g	84.48g	97.0		As received
17	K0909947-006	Daily Composite 6 - 9/27,9/28, 9/29	COAL	9.27g	123.62g	119.21g	96.1		As received
18	K0909947-007	Daily Composite 7; 9/30,10/1,1 0/2	COAL	8.37g	108.94g	106.09g	97.2		As received
19	K0909947-008	Daily Composite 8 - 10/3,10/4, 10/5	COAL	9.25g	112.01g	108.09g	96.2		As received

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Group ID:	KWG0910057		
Analyst:	TNguyen	**Reviewed By:**	BU
Date Acquired:	10/27/2009 09:00	**Oven TempStart:**	105 DEG C
Date Completed:	10/28/2009 09:45	**Oven TempEnd:**	105 DEG C
		Date Reviewed:	10/28/09

#	Lab Code	Client ID	Matrix	Tare	Tare+Wet	Tare+Dry	% Solids	QC Ref Sample	Comments
20	K0909947-009	Daily Composite 9 - 10/6,10/7, 10/8	COAL	9.21g	83.65g	78.81g	93.5		As received
21	K0909947-010	Run Composite 1; 1-4	COAL	8.36g	118.99g	114.04g	95.5		As received
22	K0909947-011	Run Composite 2; 1-4	COAL	8.79g	87.37g	83.07g	94.5		As received
23	K0909947-012	Run Composite 3; 5-8	COAL	9.45g	80.40g	77.49g	95.9		As received
24	K0909947-013	Run Composite 4; 5-8	COAL	9.33g	87.62g	84.98g	96.6		As received
25	K0909947-014	Run Composite 5; 1-4	COAL	9.27g	123.77g	117.88g	94.9		As received
26	K0909947-015	Run Composite 6; 5-8	COAL	9.25g	111.83g	107.63g	95.9		As received
27	K0909947-016	Run Composite 7; 1-4	COAL	9.45g	82.09g	78.23g	94.7		As received
28	K0909947-017	Run Composite 8; 5-8	COAL	8.09g	95.43g	91.39g	95.4		As received
29	K0909947-018	Run Composite 9; 9-12	COAL	8.70g	87.05g	83.17g	95.0		As received
30	K0910087-001	LPRT04A	SEDIMENT	1.27g	8.57g	5.21g	54.0		
31	K0910087-002	LPRT04B	SEDIMENT	1.27g	11.62g	5.39g	39.8		
32	K0910107-001	Annual Biosolids	SLUDGE, SOLID	37.2615g	64.2341g	38.0840g	3.05		
33	K0910107-002	Biosolids Fecal #1	SOIL	32.10g	61.20g	33.02g	3.16		
34	K0910107-003	Biosolids Fecal #2	SOIL	34.06g	62.49g	34.96g	3.17		
35	K0910107-004	Biosolids Fecal #3	SOIL	33.45g	61.63g	34.34g	3.16		
36	K0910107-005	Biosolids Fecal #4	SOIL	32.24g	65.39g	33.28g	3.14		
37	K0910107-006	Biosolids Fecal #5	SOIL	36.53g	66.67g	37.48g	3.15		
38	K0910107-007	Biosolids Fecal #6	SOIL	35.67g	66.59g	36.65g	3.17		
39	K0910107-008	Biosolids Fecal #7	SOIL	37.03g	67.24g	37.98g	3.14		
40	K0910107-009	S.O.U.R.	SLUDGE, SOLID	37.76g	73.33g	38.88g	3.15		
41	K0910173-001	MCFA1	SOIL	1.27g	9.27g	8.19g	86.5		
42	K0910201-001	Wood Fuel Sample	SOLID FUEL	13.84g	132.75g	65.04g	43.1		As received
43	K0910217-001	09GR01SO	SOIL	1.29g	13.24g	12.98g	97.8		
44	K0910217-002	09GR02SO	SOIL	1.29g	11.75g	11.44g	97.0		
45	K0910217-003	09GR03SO	SOIL	1.30g	12.50g	12.06g	96.1		
46	K0910217-004	09GR04SO	SOIL	1.29g	9.18g	8.95g	97.1		
47	K0910217-005	09GR05SO	SOIL	1.30g	11.91g	11.54g	96.5		

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Group ID:	KWG0910057		
Analyst:	TNguyen	**Reviewed By:**	SH
Date Acquired:	10/27/2009 09:00	**Oven TempStart:**	105 DEG C
Date Completed:	10/28/2009 09:45	**Oven TempEnd:**	105 DEG C
		Date Reviewed:	10/28/09

#	Lab Code	Client ID	Matrix	Tare	Tare+Wet	Tare+Dry	% Solids	QC Ref Sample	Comments
48	K0910217-006	09GR06SO	SOIL	1.30g	11.44g	11.09g	96.5		
49	K0910217-007	09GR07SO	SOIL	1.31g	11.55g	11.06g	95.2		
50	K0910217-008	09GR08SO	SOIL	1.30g	13.57g	12.96g	95.0		
51	K0910217-009	09GR09SO	SOIL	1.29g	13.61g	12.72g	92.8		
52	K0910217-010	09GR10SO	SOIL	1.30g	14.89g	14.15g	94.6		
53	K0910217-011	09GR11SO	SOIL	1.29g	12.54g	12.09g	96.0		
54	K0910217-012	09GR12SO	SOIL	1.28g	13.75g	12.84g	92.7		
55	K0910217-013	09GR13SO	SOIL	1.28g	12.96g	12.58g	96.7		
56	K0910225-001	LPRT14D	SEDIMENT	1.29g	12.12g	6.66g	49.6		
57	K0910225-002	LPRT14C	SEDIMENT	1.27g	15.16g	11.50g	73.7		
58	K0910225-003	LPRT14F	SEDIMENT	1.28g	13.94g	10.78g	75.0		
59	K0910225-004	LPRT14F-FD	SEDIMENT	1.27g	13.15g	10.31g	76.1		
60	K0910225-005	LPRH17A	SEDIMENT	1.28g	14.35g	9.86g	65.6		
61	K0910225-006	LPRT17A	SEDIMENT	1.27g	13.36g	11.06g	81.0		
62	K0910225-007	LPRT15F	SEDIMENT	1.28g	14.62g	12.68g	85.5		
63	K0910225-008	LPRT15C	SEDIMENT	1.28g	12.51g	11.35g	89.7		
64	K0910225-009	LPRT14E	SEDIMENT	1.28g	11.77g	10.35g	86.5		
65	K0910225-010	LPRT14B	SEDIMENT	1.26g	12.35g	7.30g	54.5		
66	K0910225-013	LPRT15D	SEDIMENT	1.27g	12.86g	9.85g	74.0		
67	K0910225-014	LPRT14A	SEDIMENT	1.29g	11.57g	6.26g	48.3		
68	K0910225-015	LPRT15A	SEDIMENT	1.28g	11.24g	6.06g	48.0		
69	K0910225-016	LPRT15A-FD	SEDIMENT	1.28g	13.02g	7.09g	49.5		
70	K0910225-017	LPRT15E	SEDIMENT	1.28g	14.85g	12.18g	80.3		
71	K0910225-018	LPRT17D	SEDIMENT	1.28g	12.54g	9.46g	72.6		
72	K0910225-019	LPRT13A	SEDIMENT	1.27g	11.56g	6.38g	49.7		
73	K0910225-020	LPRT12E	SEDIMENT	1.28g	11.40g	4.95g	36.3		
74	K0910225-021	LPRT12E-FD	SEDIMENT	1.28g	13.08g	5.38g	34.7		
75	K0910225-022	LPRT13D	SEDIMENT	1.27g	12.02g	8.10g	63.5		
76	K0910225-023	LPRT14C-FD	SEDIMENT	1.27g	13.02g	10.61g	79.5		
77	KWG0910057-1	Duplicate Client Sample	SOIL	1.29g	15.62g	14.52g	92.3	K0910217-009	

35

Group ID:	KWG0910057		
Analyst:	TNguyen	**Reviewed By:**	BH
Date Acquired:	10/27/2009 09:00	**Oven TempStart:**	105 DEG C
Date Completed:	10/28/2009 09:45	**Oven TempEnd:**	105 DEG C
		Date Reviewed:	10/28/09

#	Lab Code	Client ID	Matrix	Tare	Tare+Wet	Tare+Dry	% Solids	QC Ref Sample	Comments
78	KWG0910057-10	Duplicate Client Sample	MISC. SOLID	1.27g	2.30g	2.26g	96.1	K0909436-003	
79	KWG0910057-11	Duplicate Client Sample	SOLID FUEL	13.88g	129.19g	65.27g	44.6	K0910201-001	
80	KWG0910057-2	Duplicate Client Sample	SLUDGE, SOLID	38.4490g	64.1168g	39.2485g	3.11	K0910107-001	
81	KWG0910057-3	Duplicate Client Sample	SLUDGE, SOLID	29.49g	62.21g	30.50g	3.09	K0910107-009	
82	KWG0910057-4	Duplicate Client Sample	SEDIMENT	30.6310g	46.8036g	38.1979g	46.8	K0909258-009	
83	KWG0910057-5	Duplicate Client Sample	SEDIMENT	1.28g	10.45g	4.95g	40.0	K0910087-002	
84	KWG0910057-6	Duplicate Client Sample	SEDIMENT	1.28g	10.13g	5.72g	50.2	K0910225-001	
85	KWG0910057-7	Duplicate Client Sample	SEDIMENT	1.28g	11.33g	9.12g	78.0	K0910225-023	
86	KWG0910057-8	Duplicate Client Sample	COAL	8.79g	68.98g	65.95g	95.0	K0909947-001	
87	KWG0910057-9	Duplicate Client Sample	COAL	9.67g	104.54g	99.34g	94.5	K0909947-018	

Work Request # (Original) K0909258

Tier: (V)

Date Analyzed: 10/26/09

Analyst: TN

Analysis: TVS

176737

DATA QUALITY REPORT
INORGANICS

Explain any "no" responses to questions below, and any corrective actions in the comments section below.

1.	Is the method name and number correct and appropriate?	(yes)/no/NA
2.	Holding times met for all analyses and for all samples?	(yes)/no/NA
3.	Are calculations correct?	(yes)/no/NA
4.	Is the reporting basis correct? (Dry Weight)	(yes)/no/NA
5.	All quality control criteria met?	(yes)/no/NA
	a. Is the calibration curve correlation coefficient ≥ 0.995?	yes/no/(NA)
	b. MBs, CCVs, CCBs, LCSs, Dups, and Spikes, analyzed at proper frequency?	yes/no/(NA)
	c. Are ICVs, CCVs, and CCBs all within acceptance limits?	yes/no/(NA)
	d. Are results for methods blanks all ND?	(yes)/no/NA
	e. Are all QC samples within acceptance criteria? (LCS % rec, MS/DMS % rec, DUP or MS/DMS RPDs, etc.)	(yes)/no/NA
	f. Are all exceptions explained?	(yes)/no/NA
6.	Are all service requests that apply attached?	(yes)/no/NA
7.	Are all samples labelled correctly?	(yes)/no/NA
8.	Have all instructions on the service request been followed? (e.g. Special MRLs, QC on a specific sample)	(yes)/no/NA
9.	Are detection limits and units reported correctly?	(yes)/no/NA
10.	Are proper Analysis/Extraction stickers included on report?	(yes)/no/NA
11.	Is the unused space on the benchsheet crossed out?	(yes)/no/NA
12.	Was analysis turned in by the due date? (n-2) (If not record SR#)	(yes)/no/NA

COMMENTS:

Final Approved by: [signature] Date: 11/4/09

DQREPORT

General Chemistry Parameters

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : URS Corporation
Project Name : Boise St. Helens Pulp and Paper Mill-2009
Project Number : NA
Sample Matrix : SEDIMENT

Service Request : K0909258
Date Collected : 09/28-10/09/09
Date Received : 09/29-10/10/09

Ammonia as Nitrogen

Prep Method : EPA Plumb 5-1981 KCl
Analysis Method : 350.1M
Test Notes :

Units : mg/Kg
Basis : Dry

Sample Name	Lab Code	MRL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Result	Result Notes
M-4-D	K0909258-001	1.1	0.09	1	10/22/2009	10/27/09	35.4	
M-5-D	K0909258-002	1.2	0.1	1	10/22/2009	10/27/09	28.1	
M-2-D	K0909258-003	1.3	0.1	1	10/22/2009	10/27/09	39.0	
M-1-D	K0909258-004	1.0	0.08	1	10/22/2009	10/27/09	30.5	
B-1-D	K0909258-005	1.0	0.08	1	10/22/2009	10/27/09	26.9	
R-1-D	K0909258-006	1.2	0.1	1	10/22/2009	10/27/09	47.5	
R-2-D	K0909258-007	11	0.9	10	10/22/2009	10/27/09	91	
M-3-D	K0909258-008	1.0	0.08	1	10/22/2009	10/27/09	27.6	
M-2-D2	K0909258-009	1.1	0.09	1	10/22/2009	10/27/09	40.0	
Method Blank	K0909258-MB	1.0	0.08	1	10/22/2009	10/27/09	ND	
Method Blank	K0909258-MB	1.0	0.08	1	10/22/2009	10/27/09	ND	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : URS Corporation
Project Name : Boise St. Helens Pulp and Paper Mill-2009
Project Number : NA
Sample Matrix : SEDIMENT

Service Request : K0909258
Date Collected : 10/9/2009
Date Received : 10/9/2009
Date Prepared : 10/22/09
Date Analyzed : 10/27/09

Duplicate Summary
Inorganic Parameters

Sample Name : M-1-D
Lab Code : K0909258-004DUP
Test Notes :

Units : mg/Kg
Basis : Dry

Analyte	Prep Method	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Ammonia as Nitrogen	EPA Plumb 5-1981 KCl	350.1M	1.0	30.5	30.0	30.3	2	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : URS Corporation
Project Name : Boise St. Helens Pulp and Paper Mill-2009
Project Number : NA
Sample Matrix : SEDIMENT

Service Request : K0909258
Date Collected : 10/6/2009
Date Received : 10/8/2009
Date Prepared : 10/22/09
Date Analyzed : 10/27/09

Duplicate Summary
Inorganic Parameters

Sample Name : M-2-D2
Lab Code : K0909258-009DUP
Test Notes :

Units : mg/Kg
Basis : Dry

Analyte	Prep Method	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Ammonia as Nitrogen	EPA Plumb 5-1981 KCl	350.1M	1.1	40.0	39.8	39.9	<1	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client :	URS Corporation	**Service Request :**	K0909258
Project Name :	Boise St. Helens Pulp and Paper Mill-2009	**Date Collected :**	10/9/2009
Project Number :	NA	**Date Received :**	10/9/2009
Sample Matrix :	SEDIMENT	**Date Prepared :**	10/22/09
		Date Analyzed :	10/27/09

Matrix Spike/Duplicate Matrix Spike Summary

Sample Name :	M-1-D		Units :	mg/Kg
Lab Code :	K0909258-004MS	K0909258-004DMS	Basis :	Dry
Test Notes :				

Analyte	Prep Method	Analysis Method	MRL	Spike Level MS	Spike Level DMS	Sample Result	Spike Result MS	Spike Result DMS	Spike Recovery MS	Spike Recovery DMS	CAS Acceptance Limits	Relative Percent Difference	Result Notes
Ammonia as Nitrogen	EPA Plumb 5-1981 KCl	350.1M	47	928	922	31	757	745	78	77	42-143	1	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client :	URS Corporation	**Service Request :**	K0909258
Project Name :	Boise St. Helens Pulp and Paper Mill-2009	**Date Collected :**	10/6/2009
Project Number :	NA	**Date Received :**	10/8/2009
Sample Matrix :	SEDIMENT	**Date Prepared :**	10/22/09
		Date Analyzed :	10/27/09

Matrix Spike/Duplicate Matrix Spike Summary

Sample Name :	M-2-D2		Units :	mg/Kg
Lab Code :	K0909258-009MS	K0909258-009DMS	Basis :	Dry
Test Notes :				

Analyte	Prep Method	Analysis Method	MRL	Spike Level MS	Spike Level DMS	Sample Result	Spike Result MS	Spike Result DMS	Spike Recovery MS	Spike Recovery DMS	CAS Acceptance Limits	Relative Percent Difference	Result Notes
Ammonia as Nitrogen	EPA Plumb 5-1981 KCl	350.1M	54	1060	1070	40	1030	483	93	41	42-143	78	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client :	URS Corporation	**Service Request :**	K0909258
Project Name :	Boise St. Helens Pulp and Paper Mill-2009	**Date Collected :**	NA
Project Number :	NA	**Date Received :**	NA
Sample Matrix :	SEDIMENT	**Date Prepared :**	10/22/09
		Date Analyzed :	10/27/09

Laboratory Control Sample Summary
Inorganic Parameters

Sample Name :	Lab Control Sample	Units :	mg/L
Lab Code :	K0909258-LCS	Basis :	NA
Test Notes :			

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Ammonia as Nitrogen	NONE	350.1M	15.2	14.6	96	86-115	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : URS Corporation
Project : Boise St. Helens Pulp and Paper Mill-2009

Service Request : K0909258
Date Collected : NA
Date Received : NA

Ammonia as Nitrogen
350.1M
Units: mg/L

CONTINUING CALIBRATION VERIFICATION (CCV)

	Date Analyzed	True Value	Measured Value	Percent Recovery
CCV1 Result	10/27/2009	2.00	1.85	93
CCV2 Result	10/27/2009	2.00	1.84	92
CCV3 Result	10/27/2009	2.00	1.83	92
CCV4 Result	10/27/2009	2.00	1.84	92
CCV5 Result	10/27/2009	2.00	1.83	92

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : URS Corporation
Project : Boise St. Helens Pulp and Paper Mill-2009

Service Request : K0909258
Date Collected : NA
Date Received : NA

Ammonia as Nitrogen
350.1M
Units: mg/L

CONTINUING CALIBRATION BLANK (CCB)

	Date Analyzed	MRL	Blank Value
CCB1 Result	10/27/2009	0.050	ND
CCB2 Result	10/27/2009	0.050	ND
CCB3 Result	10/27/2009	0.050	ND
CCB4 Result	10/27/2009	0.050	ND
CCB5 Result	10/27/2009	0.050	ND

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : URS Corporation
Project Name : Boise St. Helens Pulp and Paper Mill-2009
Project Number : NA
Sample Matrix : SEDIMENT

Service Request : K0909258
Date Collected : 09/28-10/09/09
Date Received : 09/29-10/10/09

Sulfide, Total

Prep Method : EPA 9030B Modified
Analysis Method : 9030M
Test Notes :

Units : mg/Kg
Basis : Dry

Sample Name	Lab Code	MRL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Result	Result Notes
M-4-D	K0909258-001	1.1	0.5	1	10/5/2009	10/05/09	4.5	
M-5-D	K0909258-002	1.2	0.5	1	10/5/2009	10/05/09	5.2	
M-2-D	K0909258-003	5.0	2.0	4	10/13/2009	10/14/09	19.6	
M-1-D	K0909258-004	1.9	0.8	2	10/13/2009	10/14/09	6.0	
B-1-D	K0909258-005	1.0	0.4	1	10/13/2009	10/14/09	3.1	
R-1-D	K0909258-006	4.7	1.9	4	10/13/2009	10/14/09	18.5	
R-2-D	K0909258-007	1.1	0.5	1	10/13/2009	10/14/09	2.9	
M-3-D	K0909258-008	1.0	0.4	1	10/13/2009	10/14/09	2.3	
M-2-D2	K0909258-009	1.1	0.5	1	10/23/2009	10/26/09	5.1	X
Method Blank	K0909258-MB	1.1	0.5	1	10/23/2009	10/26/09	ND	
Method Blank	K0909258-MB	1.1	0.5	1	10/5/2009	10/05/09	ND	
Method Blank	K0909258-MB	1.1	0.5	1	10/13/2009	10/14/09	ND	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client :	URS Corporation	**Service Request :**	K0909258
Project Name :	Boise St. Helens Pulp and Paper Mill-2009	**Date Collected :**	NA
Project Number :	NA	**Date Received :**	NA
Sample Matrix :	SEDIMENT	**Date Prepared :**	10/13/09
		Date Analyzed :	10/14/09

Duplicate Summary
Inorganic Parameters

Sample Name :	Batch QC	Units :	mg/Kg
Lab Code :	K0909740-001DUP	Basis :	Dry
Test Notes :			

Analyte	Prep Method	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Sulfide, Total	EPA 9030B Modified	9030M	16	67	61	64	9	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client :	URS Corporation	**Service Request :**	K0909258
Project Name :	Boise St. Helens Pulp and Paper Mill-2009	**Date Collected :**	NA
Project Number :	NA	**Date Received :**	NA
Sample Matrix :	SEDIMENT	**Date Prepared :**	10/13/09
		Date Analyzed :	10/14/09

Matrix Spike Summary
Inorganic Parameters

Sample Name :	Batch QC	Units :	mg/Kg
Lab Code :	K0909740-001MS	Basis :	Dry
Test Notes :			

Analyte	Prep Method	Analysis Method	MRL	Spike Level	Sample Result	Spiked Sample Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Sulfide, Total	EPA 9030B Modified	9030M	310	1390	67	1270	87	34-166	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client :	URS Corporation	**Service Request :**	K0909258
Project Name :	Boise St. Helens Pulp and Paper Mill-2009	**Date Collected :**	NA
Project Number :	NA	**Date Received :**	NA
Sample Matrix :	SEDIMENT	**Date Prepared :**	10/13/09
		Date Analyzed :	10/14/09

Laboratory Control Sample Summary
Inorganic Parameters

Sample Name :	Lab Control Sample	Units :	mg/Kg
Lab Code :	K0909258-LCS	Basis :	Dry
Test Notes :			

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Sulfide, Total	EPA 9030B Modified	9030M	6.02	5.47	91	55-130	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client :	URS Corporation	**Service Request :**	K0909258
Project Name :	Boise St. Helens Pulp and Paper Mill-2009	**Date Collected :**	NA
Project Number :	NA	**Date Received :**	NA
Sample Matrix :	SEDIMENT	**Date Prepared :**	10/23/09
		Date Analyzed :	10/26/09

Laboratory Control Sample Summary
Inorganic Parameters

Sample Name :	Lab Control Sample	Units :	mg/Kg
Lab Code :	K0909258-LCS	Basis :	Dry
Test Notes :			

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Sulfide, Total	EPA 9030B Modified	9030M	5.91	4.16	70	55-130	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client :	URS Corporation	**Service Request :**	K0909258
Project Name :	Boise St. Helens Pulp and Paper Mill-2009	**Date Collected :**	NA
Project Number :	NA	**Date Received :**	NA
Sample Matrix :	SEDIMENT	**Date Prepared :**	10/05/09
		Date Analyzed :	10/05/09

Laboratory Control Sample Summary
Inorganic Parameters

Sample Name :	Lab Control Sample	Units :	mg/Kg
Lab Code :	K0909258-LCS	Basis :	Dry
Test Notes :			

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Sulfide, Total	EPA 9030B Modified	9030M	6.37	4.12	65	55-130	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : URS Corporation
Project : Boise St. Helens Pulp and Paper Mill-2009

Service Request : K0909258
Date Collected : NA
Date Received : NA

Sulfide, Total
9030M
Units: mg/L

CONTINUING CALIBRATION VERIFICATION (CCV)

	Date Analyzed	True Value	Measured Value	Percent Recovery
CCV1 Result	10/14/2009	1.52	1.51	99
CCV2 Result	10/14/2009	1.52	1.51	99
CCV3 Result	10/14/2009	1.52	1.51	99
CCV4 Result	10/14/2009	1.52	1.51	99
CCV5 Result	10/14/2009	1.52	1.52	100
CCV1 Result	10/26/2009	1.49	1.48	99
CCV2 Result	10/26/2009	1.49	1.48	99
CCV3 Result	10/26/2009	1.49	1.47	99
CCV4 Result	10/26/2009	1.49	1.48	99
CCV5 Result	10/26/2009	1.49	1.48	99
CCV1 Result	10/5/2009	1.60	1.60	100
CCV2 Result	10/5/2009	1.60	1.59	99
CCV3 Result	10/5/2009	1.60	1.59	99
CCV4 Result	10/5/2009	1.60	1.59	99
CCV5 Result	10/5/2009	1.60	1.61	101

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : URS Corporation
Project : Boise St. Helens Pulp and Paper Mill-2009

Service Request : K0909258
Date Collected : NA
Date Received : NA

Sulfide, Total
9030M
Units: mg/L

CONTINUING CALIBRATION BLANK (CCB)

	Date Analyzed	MRL	Blank Value
CCB1 Result	10/14/2009	0.05	ND
CCB2 Result	10/14/2009	0.05	ND
CCB3 Result	10/14/2009	0.05	ND
CCB4 Result	10/14/2009	0.05	ND
CCB5 Result	10/14/2009	0.05	ND
CCB1 Result	10/26/2009	0.05	ND
CCB2 Result	10/26/2009	0.05	ND
CCB3 Result	10/26/2009	0.05	ND
CCB4 Result	10/26/2009	0.05	ND
CCB5 Result	10/26/2009	0.05	ND
CCB1 Result	10/5/2009	0.05	ND
CCB2 Result	10/5/2009	0.05	ND
CCB3 Result	10/5/2009	0.05	ND
CCB4 Result	10/5/2009	0.05	ND
CCB5 Result	10/5/2009	0.05	ND

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	URS Corporation	**Service Request:**	K0909258
Project:	Boise St. Helens Pulp and Paper Mill-2009	**Date Collected:**	10/8/2009
Sample Matrix:	Sediment	**Date Received:**	10/10/2009
		Date Analyzed:	10/30/2009

Particle Size Determination
ASTM Method D 422

Sample Name: R-1-D
Lab Code: K0909258-006

Gravel and Sand
(Sieve Analysis)

Description	Sieve Size	Weight (g)	Percent Passing
Gravel	No.3/4"(19.0 mm)	0.0000	100
Gravel	No.3/8"(9.50 mm)	0.0000	100.0
Gravel, Medium	No.4 (4.75 mm)	0.0000	100.0
Gravel, Fine	No.10 (2.00 mm)	0.0000	100.0
Sand, Very Coarse	No.20 (0.850 mm)	0.3193	99.1
Sand, Coarse	No.40 (0.425 mm)	0.1270	98.8
Sand, Medium	No.60 (0.250 mm)	1.0289	96.1
Sand, Fine	No.140 (0.106 mm)	5.6309	81.0
Sand, Very Fine	No.200 (0.0750 mm)	1.5177	76.9

Silt and Clay
(Hydrometer Analysis)

Particle Diameter	Percent Passing
0.074 mm	74.5
0.005 mm	12.3
0.001 mm	0.00

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	URS Corporation	**Service Request:**	K0909258
Project:	Boise St. Helens Pulp and Paper Mill-2009	**Date Collected:**	10/8/2009
Sample Matrix:	Sediment	**Date Received:**	10/10/2009
		Date Analyzed:	10/30/2009

Particle Size Determination
ASTM Method D 422

Sample Name: R-2-D
Lab Code: K0909258-007

Gravel and Sand
(Sieve Analysis)

Description	Sieve Size	Weight (g)	Percent Passing
Gravel	No.3/4"(19.0 mm)	0.0000	100
Gravel	No.3/8"(9.50 mm)	0.0000	100.0
Gravel, Medium	No.4 (4.75 mm)	0.0000	100.0
Gravel, Fine	No.10 (2.00 mm)	0.0000	100.0
Sand, Very Coarse	No.20 (0.850 mm)	0.4528	99.0
Sand, Coarse	No.40 (0.425 mm)	0.3160	98.3
Sand, Medium	No.60 (0.250 mm)	0.6965	96.7
Sand, Fine	No.140 (0.106 mm)	9.2483	75.7
Sand, Very Fine	No.200 (0.0750 mm)	5.0749	64.2

Silt and Clay
(Hydrometer Analysis)

Particle Diameter	Percent Passing
0.074 mm	60.3
0.005 mm	2.84
0.001 mm	0.00

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	URS Corporation	**Service Request:**	K0909258
Project:	Boise St. Helens Pulp and Paper Mill-2009	**Date Collected:**	NA
Sample Matrix:	Sediment	**Date Received:**	NA
		Date Analyzed:	11/10/2009

Particle Size Determination
ASTM Method D 422

Sample Name: Batch QC
Lab Code: K0909140-019

Gravel and Sand
(Sieve Analysis)

Description	Sieve Size	Weight (g)	Percent Passing
Gravel	No.3/4"(19.0 mm)	0.0000	100
Gravel	No.3/8"(9.50 mm)	0.0000	100
Gravel, Medium	No.4 (4.75 mm)	0.0000	100
Gravel, Fine	No.10 (2.00 mm)	0.0000	100
Sand, Very Coarse	No.20 (0.850 mm)	0.3877	98.5
Sand, Coarse	No.40 (0.425 mm)	0.5249	96.4
Sand, Medium	No.60 (0.250 mm)	2.1833	87.8
Sand, Fine	No.140 (0.106 mm)	9.0475	52.1
Sand, Very Fine	No.200 (0.0750 mm)	3.2412	39.4

Silt and Clay
(Hydrometer Analysis)

Particle Diameter	Percent Passing
0.074 mm	43.1
0.005 mm	0.00
0.001 mm	0.00

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	URS Corporation	**Service Request:**	K0909258
Project:	Boise St. Helens Pulp and Paper Mill-2009	**Date Collected:**	NA
Sample Matrix:	Sediment	**Date Received:**	NA
		Date Analyzed:	11/10/2009

Particle Size Determination
ASTM Method D 422

Sample Name: Batch QC
Lab Code: K0909140-019DUP

Gravel and Sand
(Sieve Analysis)

Description	Sieve Size	Weight (g)	Percent Passing
Gravel	No.3/4"(19.0 mm)	0.0000	100
Gravel	No.3/8"(9.50 mm)	0.0000	100
Gravel, Medium	No.4 (4.75 mm)	0.0000	100
Gravel, Fine	No.10 (2.00 mm)	0.0000	100
Sand, Very Coarse	No.20 (0.850 mm)	0.2613	99.0
Sand, Coarse	No.40 (0.425 mm)	0.5789	96.6
Sand, Medium	No.60 (0.250 mm)	2.3409	87.3
Sand, Fine	No.140 (0.106 mm)	9.6414	48.7
Sand, Very Fine	No.200 (0.0750 mm)	2.7470	37.7

Silt and Clay
(Hydrometer Analysis)

Particle Diameter	Percent Passing
0.074 mm	40.9
0.005 mm	0.00
0.001 mm	0.00

Columbia Analytical Services, Inc.

Sample Name :	R-1-D	Service Request:	K0909258
Lab Code:	K0909258-006	Method:	D421 / D422
Client:	URS Corporation	Date Collected:	10/8/2009
Project:	oise St. Helens Pulp and Paper Mill-2009	Date Received:	10/10/2009
Sample Matrix:	Sediment	Date Analyzed:	10/30/2009

Sample Preparation (ASTM D421-85)

(1) Mass of total test sample. (g) (6.1) 37.9235

(2) Coarse Material (6.2)

Coarse material + Tare. (g) 0.0000

Tare weight. (g) 0.0000

(3) Mass retained on the No. 4 sieve. (g) (6.2) 0.0000

(4) Selected portion of fine material. (g) (7.1) 37.9235

Particle Analysis (ASTM D422-63)

Sieve Analysis Of Coarse Material. (6.1)

Gravel 19.0 mm	3/4"	0.0000
Gravel 9.50 mm	3/8"	0.0000
Gravel 4.75 mm	4	0.0000
Gravel 2.00 mm	10	0.0000

Sieve Analysis Of Fine Material. (11.1)

Gravel 0.850 mm	20	0.3193
Gravel 0.425 mm	40	0.1270
Gravel 0.250 mm	60	1.0289
Gravel 0.106 mm	140	5.6309
Gravel 0.075 mm	200	1.5177
Pan	-	0.8264

Analysis of fine material.

Hydrometer corrections. (7.3)

	Hydro 1	Hydro 2
Reading:	6	0

Hygroscopic moisture. (8.1)

Air dried (g)	9.2467
Tare (g)	1.3251
Oven dried + Tare	10.4345

Weight of Fine material

Dry wt.+Tare (g)	122.2550
Tare (g)	112.7478
Fine material (g)	9.5072

Determination of Silt/Clay Fraction. (10.2) (10.3) (10.4)

(10.2) T (Min)	(10.2) Hydro Reading	(7.3) Corr. Fact.	(10.4) Temp °C	Specific Gravity		Table 1 a		Table 3 K		
2	31	6	21	1.83		1.170		0.02441		
5	26		21					0.02441		
15	19		21					0.02441		
30	17		21					0.02441		
60	14		21					0.02441		
250	11		21					0.02441		
1440	8		21					0.02441		

Analyst: KC CP Date: 10/30/2009

Reviewed by : Date: 11/6/09

Client:	URS Corporation	**Service Request:**	K0909258
Project:	Boise St. Helens Pulp and Paper Mill-2009	**Date Collected:**	10/8/2009
Sample Matrix:	Sediment	**Date Received:**	10/10/2009
		Date Analyzed:	10/30/2009

ASTM Method D422 Particle Size

Sample Name: R-1-D **Lab Code:** K0909258-006

Initial Weight of air-dried sample. **(6.1)**	37.9235
Mass retained on the No. 4 sieve. **(6.2)**	0.0000
Air-dried portion of fine material. **(7.1)**	37.9235

Course Sieving ASTM D421 (6.2)

Mass of coarse material (g)	0.0000
Percent Recovered	#DIV/0!

Coarse sieving (6.1)		**Sieve #**	**Weight (g)**	**% Passing**	**Mass Passing**
Gravel	19.0 mm	3/4"	0.0000	100.0	37.9235
Gravel	9.50 mm	3/8"	0.0000	100.0	37.9235
Medium Gravel	4.75 mm	4	0.0000	100.0	37.9235
Fine Gravel	2.00 mm	10	0.0000	100.0	37.9235
Fine sieving (11.1)					
V.C. Sand	0.850 mm	20	0.3193	99.1	37.0411
C. Sand	0.425 mm	40	0.1270	98.8	36.9141
M. Sand	0.250 mm	60	1.0289	96.1	35.8852
F. Sand	0.106 mm	140	5.6309	81.0	30.2543
V.F. Sand	0.075 mm	200	1.5177	76.9	28.7366 **(16.2)**

Calculated amount retained on the # 10 sieve. **(16.1)**	0.0000

Total Recovered (g)	37.3604
Total Recovered (%)	100.0

Hygroscopic Moisture (8.1)

Air-dried sample (g)	9.2467
Oven dried sample (g)	9.1094
Hygroscopic Moisture **(13.1)**	0.9852

(W) **(14.2)**	37.3604

Oven-Dried Sample used in hydrometer analysis. (g) **(14.1)**	37.3604

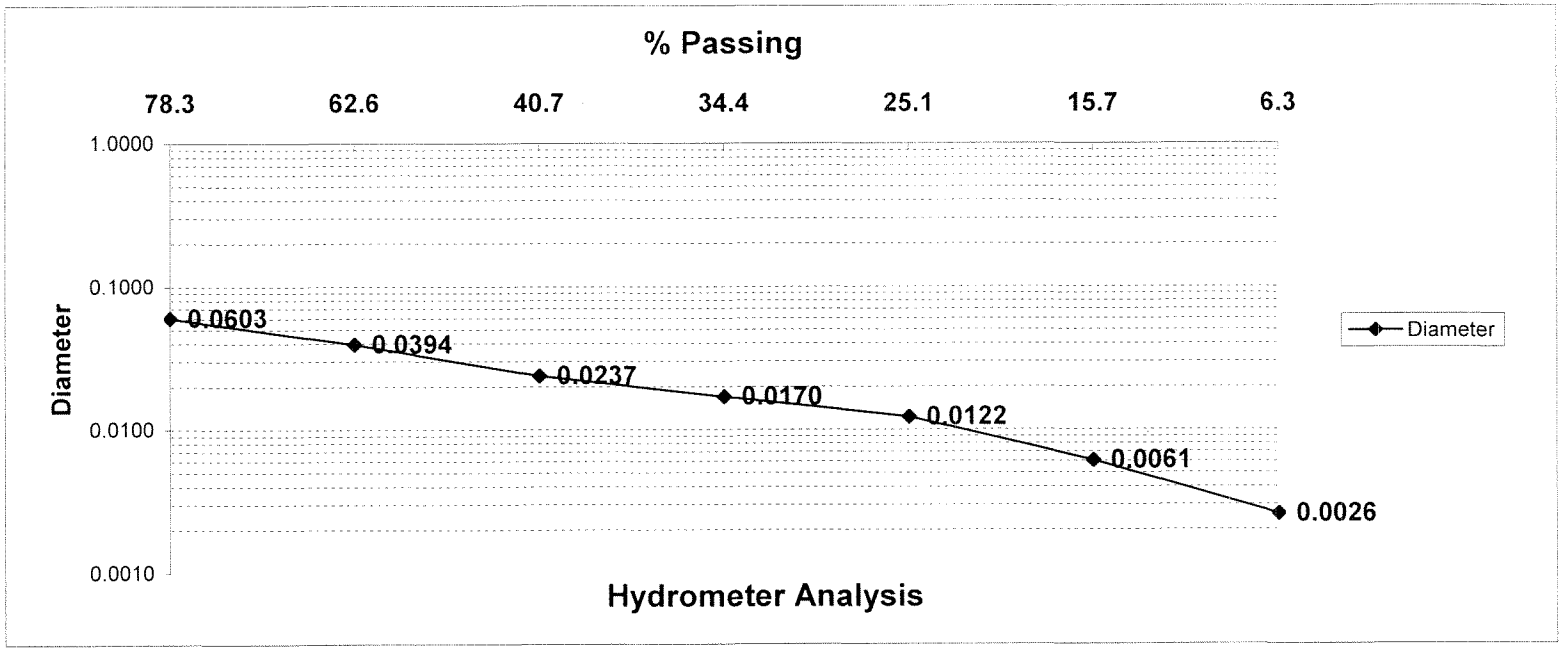
Determination of Silt/Clay Fraction

(10.2) T (Min)	**(10.2)** Hydro Reading	**(7.3)** Corr. Fact.	**(10.4)** Temp °C	**Table 1** Specific Gravity	H (Net)	**(14.3)** a	**Table 2** L Eff. Depth	**Table 3** K	**(14.3)** % Passing = H/Wa * 100	**(15.1)** Dia-meter
2	31	6	21	1.83	25	1.17	12.2	0.0244126	78.3	0.0603
5	26	6	21	1.83	20	1.17	13.0	0.0244126	62.6	0.0394
15	19	6	21	1.83	13	1.17	14.2	0.0244126	40.7	0.0237
30	17	6	21	1.83	11	1.17	14.5	0.0244126	34.4	0.0170
60	14	6	21	1.83	8	1.17	15.0	0.0244126	25.1	0.0122
250	11	6	21	1.83	5	1.17	15.5	0.0244126	15.7	0.0061
1440	8	6	21	1.83	2	1.17	16.0	0.0244126	6.3	0.0026

Comments:

Reviewed By:	Date: 11/12/09

Sample Name: R-1-D
Lab Code: K0909258-006



Columbia Analytical Services, Inc.

Sample Name :	R-2-D	Service Request:	K0909258
Lab Code:	K0909258-007	Method:	D421 / D422
Client:	URS Corporation	Date Collected:	10/8/2009
Project:	oise St. Helens Pulp and Paper Mill-2009	Date Received:	10/10/2009
Sample Matrix:	Sediment	Date Analyzed:	10/30/2009

Sample Preparation (ASTM D421-85)

(1) Mass of total test sample. (g) (6.1) 44.7147

(2) Coarse Material (6.2)

Coarse material + Tare. (g) 0.0000

Tare weight. (g) 0.0000

(3) Mass retained on the No. 4 sieve. (g) (6.2) 0.0000

(4) Selected portion of fine material. (g) (7.1) 44.7147

Particle Analysis (ASTM D422-63)

Sieve Analysis Of Coarse Material. (6.1)

Gravel 19.0 mm	3/4"	0.0000
Gravel 9.50 mm	3/8"	0.0000
Gravel 4.75 mm	4	0.0000
Gravel 2.00 mm	10	0.0000

Sieve Analysis Of Fine Material. (11.1)

Gravel 0.850 mm	20	0.4528
Gravel 0.425 mm	40	0.3160
Gravel 0.250 mm	60	0.6965
Gravel 0.106 mm	140	9.2483
Gravel 0.075 mm	200	5.0749
Pan	-	2.1738

Analysis of fine material.

Hydrometer corrections. (7.3)

	Hydro 1	Hydro 2
Reading:	6	0

Hygroscopic moisture. (8.1)

Air dried (g)	9.2361
Tare (g)	1.3526
Oven dried + Tare	10.4543

Weight of Fine material

Dry wt.+Tare (g)	131.5122
Tare (g)	113.5130
Fine material (g)	17.9992

Determination of Silt/Clay Fraction. (10.2) (10.3) (10.4)

(10.2) T (Min)	(10.2) Hydro Reading	(7.3) Corr. Fact.	(10.4) Temp °C	Specific Gravity		Table 1 a		Table 3 K		
2	26	6	21	1.99		1.140		0.02441		
5	20		21					0.02441		
15	15		21					0.02441		
30	15		21					0.02441		
60	13		21					0.02441		
250	10		21					0.02441		
1440	7		21					0.02441		

Analyst: KC CP Date: 10/30/2009

Reviewed by : SM Date: 11/6/09

Client:	URS Corporation	**Service Request:**	K0909258
Project:	Boise St. Helens Pulp and Paper Mill-2009	**Date Collected:**	10/8/2009
Sample Matrix:	Sediment	**Date Received:**	10/10/2009
		Date Analyzed:	10/30/2009

ASTM Method D422 Particle Size

Sample Name: R-2-D **Lab Code:** K0909258-007

Initial Weight of air-dried sample. **(6.1)**	44.7147
Mass retained on the No. 4 sieve. **(6.2)**	0.0000
Air-dried portion of fine material. **(7.1)**	44.7147

Course Sieving ASTM D421 (6.2)

Mass of coarse material (g)	0.0000
Percent Recovered	#DIV/0!

Coarse sieving (6.1)		**Sieve #**	**Weight (g)**	**% Passing**	**Mass Passing**
Gravel	19.0 mm	3/4"	0.0000	100.0	44.7147
Gravel	9.50 mm	3/8"	0.0000	100.0	44.7147
Medium Gravel	4.75 mm	4	0.0000	100.0	44.7147
Fine Gravel	2.00 mm	10	0.0000	100.0	44.7147
Fine sieving (11.1)					
V.C. Sand	0.850 mm	20	0.4528	99.0	43.6112
C. Sand	0.425 mm	40	0.3160	98.3	43.2952
M. Sand	0.250 mm	60	0.6965	96.7	42.5987
F. Sand	0.106 mm	140	9.2483	75.7	33.3504
V.F. Sand	0.075 mm	200	5.0749	64.2	28.2755 **(16.2)**

Calculated amount retained on the # 10 sieve. **(16.1)**	0.0000

Total Recovered (g)	44.0640
Total Recovered (%)	100.0

Hygroscopic Moisture (8.1)

Air-dried sample (g)	9.2361
Oven dried sample (g)	9.1017
Hygroscopic Moisture **(13.1)**	0.9854

(W) **(14.2)**	44.0640

Oven-Dried Sample used in hydrometer analysis. (g) **(14.1)**	44.0640

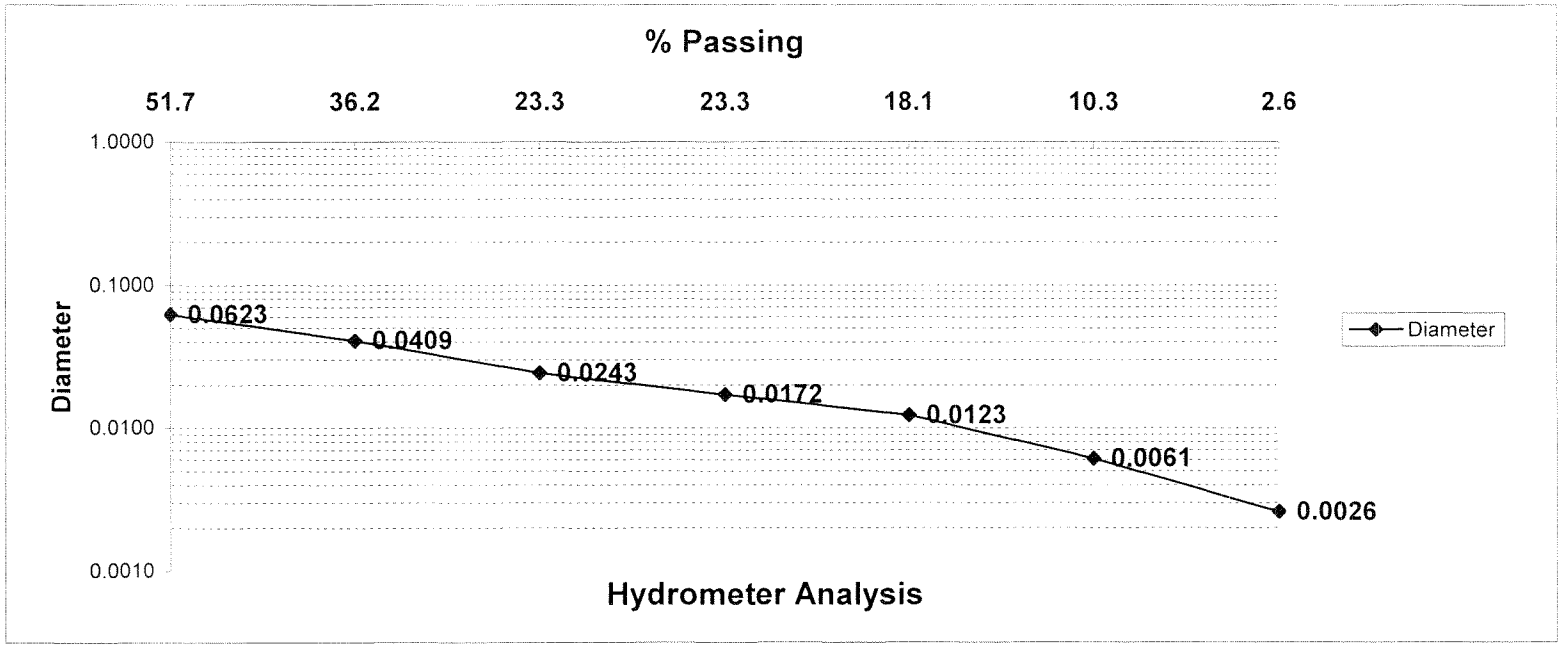
Determination of Silt/Clay Fraction

(10.2) T (Min)	**(10.2)** Hydro Reading	**(7.3)** Corr. Fact.	**(10.4)** Temp °C	**Table 1** Specific Gravity	H (Net)	**(14.3)** a	**Table 2** L Eff. Depth	**Table 3** K	**(14.3)** % Passing = H/Wa * 100	**(15.1)** Dia-meter
2	26	6	21	1.99	20	1.14	13.0	0.0244126	51.7	0.0623
5	20	6	21	1.99	14	1.14	14.0	0.0244126	36.2	0.0409
15	15	6	21	1.99	9	1.14	14.8	0.0244126	23.3	0.0243
30	15	6	21	1.99	9	1.14	14.8	0.0244126	23.3	0.0172
60	13	6	21	1.99	7	1.14	15.2	0.0244126	18.1	0.0123
250	10	6	21	1.99	4	1.14	15.6	0.0244126	10.3	0.0061
1440	7	6	21	1.99	1	1.14	16.1	0.0244126	2.6	0.0026

Comments:

Reviewed By:	Date: 11/6/09

Sample Name: R-2-D
Lab Code: K0909258-007



Columbia Analytical Services, Inc.

Sample Name :	9258-6	Service Request:	0
Lab Code:		Method:	
Client:	0	Date Collected:	
Project:	0	Date Received:	
Sample Matrix:	0	Date Analyzed:	

Sample Preparation (ASTM D421-85)

(1) Mass of total test sample. (g) (6.1) 37.9235 (Very Limited Sample KC 10/30/09)

(3) Mass retained on the No. 4 sieve. (g) (6.2) 0.0000

(2) Coarse Material (6.2)

Coarse material + Tare. (g) Ø

Tare weight. (g) Ø

(4) Selected portion of fine material. (g) (7.1) #VALUE!

Particle Analysis (ASTM D422-63)

Sieve Analysis Of Coarse Material. (6.1)

Gravel 19.0 mm	3/4"	Ø
Gravel 9.50 mm	3/8"	Ø
Gravel 4.75 mm	4	Ø
Gravel 2.00 mm	10	Ø

Sieve Analysis Of Fine Material. (11.1)

Gravel 0.850 mm	20	0.3193
Gravel 0.425 mm	40	0.1270
Gravel 0.250 mm	60	1.0289
Gravel 0.106 mm	140	5.6309
Gravel 0.075 mm	200	1.5177
Pan	-	0.8264

Analysis of fine material.

@ 122.2530 TM 11/4/09 T.E.

Hydrometer corrections. (7.3)

	Hydro 1	Hydro 2
Reading:	6	0

Hygroscopic moisture. (8.1)

Air dried (g)	9.2467
Tare (g)	1.3251
Oven dried + Tare	10.4345

Weight of Fine material

Dry wt.+Tare (g)	~~122.249~~
Tare (g)	112.7478
Fine material (g)	#VALUE!

Determination of Silt/Clay Fraction. (10.2) (10.3) (10.4)

(10.2) T (Min)	(10.2) Hydro Reading	(7.3) Corr. Fact.	(10.4) Temp °C	Specific Gravity		Table 1 a		Table 3 K		
2	31	6	21	1.83		1.17				
5	26		21							
15	19		21							
30	17		21							
60	14		21							
250	11		21							
1440	8		21							

Analyst: KC Date: 10/30/09

Reviewed by : Date: 11/6/09

Columbia Analytical Services, Inc.

Sample Name :	9258 - 7	Service Request:	0
Lab Code:		Method:	
Client:	0	Date Collected:	
Project:	0	Date Received:	
Sample Matrix:	0	Date Analyzed:	

Sample Preparation (ASTM D421-85)

(1) Mass of total test sample. (g) (6.1) 44.7147

(3) Mass retained on the No. 4 sieve. (g) (6.2) 0.0000

(2) Coarse Material (6.2)

Coarse material + Tare. (g) 0

Tare weight. (g) 0

(4) Selected portion of fine material. (g) (7.1) #VALUE!

Particle Analysis (ASTM D422-63)

Sieve Analysis Of Coarse Material. (6.1)

Gravel 19.0 mm	3/4"	0
Gravel 9.50 mm	3/8"	0
Gravel 4.75 mm	4	0
Gravel 2.00 mm	10	0

Sieve Analysis Of Fine Material. (11.1)

Gravel 0.850 mm	20	0.4528
Gravel 0.425 mm	40	0.3160
Gravel 0.250 mm	60	0.6965
Gravel 0.106 mm	140	9.2483
Gravel 0.075 mm	200	5.0749
Pan	-	2.1738

Analysis of fine material.

Hydrometer corrections. (7.3)

	Hydro 1	Hydro 2
Reading:	6	0

Hygroscopic moisture. (8.1)

Air dried (g)	9.2361
Tare (g)	1.3526
Oven dried + Tare	10.4543

Weight of Fine material

Dry wt.+Tare (g)	13.5120
Tare (g)	13.5130
Fine material (g)	#VALUE!

(1) 21 KC 11/2/09 (tc)

Determination of Silt/Clay Fraction. (10.2) (10.3) (10.4)

(10.2) T (Min)	(10.2) Hydro Reading	(7.3) Corr. Fact.	(10.4) Temp °C	Specific Gravity		Table 1 a		Table 3 K		
2	26	6	~~20~~ 21	1.99		1.14				
5	20		21							
15	15		21							
30	15		21							
60	13		21							
250	10		21							
1440	7		21							

Analyst: KC Date: 10/30/09

Reviewed by : Date: 11/6/09

Columbia Analytical Services Inc.

Service Request #: k0909258 Method: SM 2710 F

Analysis For: Specific Gravity

Sample	Weight of DIW	Weight of sample (g)	Temperature correction factor F	Specific Gravity
9258-6	20.0946	36.9132	0.9982	1.83
9258-7	20.0946	40.0068	0.9982	1.99
9258-6DUP	20.0946	37.2417	0.9982	1.85

Comments: **of 20mL DIW (g) =** 20.0946

K9258-6/6DUP X= 1.84 RPD= 1%

Temperature C	Temp. Correction F	
15	0.9991	
20	0.9982	xxxxx
25	0.9975	
30	0.9957	
35	0.9941	

Analyzed By:	KC	Date:	10/30/2009
Reviewed By:		Date:	11/6/09

SpecGrav_FillIn

Service Request #: K- 9258 Method: SM 2710 F

Analysis For: Specific Gravity

Sample	Weight of DIW	Weight of sample (g)	Temperature correction factor F	Specific Gravity
9258-6	20.0946	36.9132	0.9982	1.83
9258-27	↓	40.0068	↓	1.899 KC 11/4/09 (Tc)
9258-~~TA~~	↓	37.2417	↓	1.85
DKL 10/27/09 (WA)	KC 11/4/09 (Tc)			

Comments: Weight of 20mL DIW (g) = 20.0946

9258-6 lab dup = 1.84
RPD = 1%

Temperature C	Temp. Correction F
15	0.9991
20 ✗	0.9982 ✗
25	0.9975
30	0.9957
35	0.9941

Analyzed By: RC Date: 10/27/09

Reviewed By: JM Date: 30 KC 10/30/09 (Tc) 11/6/09

Specific Gravity1

vice Request #: K- 9140 Method: SM 2710 F

alysis For: Specific Gravity

Sample	Weight of DIW	Weight of sample (g)	Temperature correction factor F	Specific Gravity
40-6	19.9082	19.4416	0.9982	.97
7		21.3926		1.07
8		17.7141		.89
9		20.8165		1.04
10		21.7570		1.09
11		24.1708		1.21
12		25.1246		1.26
(6d	↓	18.5037	↓	~~1.05~~ 0.93 KC 11/2/09 (tc)
13	19.9082	20.9384	0.9982	1.05

mments: Weight of 20mL DIW (g) = 19.9082

Temperature C	Temp. Correction F
15	0.9991
20 x	0.9982 x
25	0.9975
30	0.9957
35	0.9941

alyzed By: KC CP Date: 10/30/09

viewed By: Date:

Specific Gravity1

Columbia Analytical Services, Inc.

Sample Name :	9140-6 Dup	Service Request:	0
Lab Code:		Method:	D421 / D422
Client:	0	Date Collected:	
Project:	0	Date Received:	
Sample Matrix:	0	Date Analyzed:	

Sample Preparation (ASTM D421-85)

1) Mass of total test sample. (g) (6.1) 44.2709

(3) Mass retained on the No. 4 sieve. (g) (6.2) 0.0000

2) Coarse Material (6.2)

Coarse material + Tare. (g) 0

Tare weight. (g) 0

(4) Selected portion of fine material. (g) (7.1) _____

Particle Analysis (ASTM D422-63)

Sieve Analysis Of Coarse Material. (6.1)

Gravel 19.0 mm	3/4"	0
Gravel 9.50 mm	3/8"	0
Gravel 4.75 mm	4	0
Gravel 2.00 mm	10	0

Sieve Analysis Of Fine Material. (11.1)

Gravel 0.850 mm	20	0.8261 g
Gravel 0.425 mm	40	1.0435 g
Gravel 0.250 mm	60	3.0574 g
Gravel 0.106 mm	140	9.1242 g
Gravel 0.075 mm	200	5.7903 g
Pan	-	2.3440 g

Analysis of fine material.

Hydrometer corrections. (7.3)

	Hydro 1	Hydro 2
Reading:	6	0

Hygroscopic moisture. (8.1)

Air dried (g)	10.2358
Tare (g)	1.2799
Oven dried + Tare	11.4460

Weight of Fine material

Dry wt.+Tare (g)	130.7233
Tare (g)	108.4462
Fine material (g)	#VALUE!

Determination of Silt/Clay Fraction. (10.2) (10.3) (10.4)

(10.2) T (Min)	(10.2) Hydro Reading	(7.3) Corr. Fact.	(10.4) Temp °C	Specific Gravity		Table 1 a		Table 3 K		
2 (1)	11	6	21	0.97		1.36				
5 (2)	13		21							
15	11		21							
30	10		21							
60	10		21							
250	8		21							
1440	7		21							

KC Analyst: KC CP Date: 10/30/09

Reviewed by: _____ Date: _____

(1) 17 11/2/09 tc

(2) 14 KC 11/2/09

Columbia Analytical Services, Inc.

Sample Name :	9140-(0	Service Request:	0
Lab Code:		Method:	
Client:	0	Date Collected:	
Project:	0	Date Received:	
Sample Matrix:	0	Date Analyzed:	

Sample Preparation (ASTM D421-85)

(1) Mass of total test sample. (g) (6.1) 45.2490

(3) Mass retained on the No. 4 sieve. (g) (6.2) 0.0000

(2) Coarse Material (6.2)

Coarse material + Tare. (g) 0

Tare weight. (g) 0

(4) Selected portion of fine material. (g) (7.1) #VALUE!

Particle Analysis (ASTM D422-63)

Sieve Analysis Of Coarse Material. (6.1)

Gravel 19.0 mm	3/4"	0
Gravel 9.50 mm	3/8"	0
Gravel 4.75 mm	4	0
Gravel 2.00 mm	10	0

Sieve Analysis Of Fine Material. (11.1)

Gravel 0.850 mm	20	0.6103 g
Gravel 0.425 mm	40	1.1171 g
Gravel 0.250 mm	60	3.0193 g
Gravel 0.106 mm	140	9.2049 g
Gravel 0.075 mm	200	6.6346 g
Pan	-	3.5442 g

Analysis of fine material.

Hydrometer corrections. (7.3)

	Hydro 1	Hydro 2
Reading:	6	0

Hygroscopic moisture. (8.1)

Air dried (g)	10.2352
Tare (g)	1.2799
Oven dried + Tare	11.4460

Weight of Fine material

Dry wt.+Tare (g)	130.9581
Tare (g)	106.7208
Fine material (g)	#VALUE!

Determination of Silt/Clay Fraction. (10.2) (10.3) (10.4)

(10.2) T (Min)	(10.2) Hydro Reading	(7.3) Corr. Fact.	(10.4) Temp °C	Specific Gravity		Table 1 a		Table 3 K		
2	17	6	21	0.97		1.36				
5	14		21							
15	11		21							
30	11									
60	9		21							
250	8		21							
1440	7		21							

Analyst: KC Date: 10/30/09

Reviewed by : Date:

Work Request # (K0225) K10087 / K9258 K10035

Tier: III III III #9 II

Date Analyzed: 10/20/09

Analyst: SLS

Analysis: 9030M

170549

DATA QUALITY REPORT
INORGANICS

Explain any "no" responses to questions below, and any corrective actions in the comments section below.

1.	Is the method name and number correct and appropriate?	yes/no/NA
2.	Holding times met for all analyses and for all samples?	yes/no/NA
3.	Are calculations correct?	yes/no/NA
4.	Is the reporting basis correct? (Dry Weight)	yes/no/NA
5.	All quality control criteria met?	yes/no/NA
a.	Is the calibration curve correlation coefficient ≥ 0.995?	yes/no/NA
b.	MBs, CCVs, CCBs, LCSs, Dups, and Spikes, analyzed at proper frequency?	yes/no/NA
c.	Are ICVs, CCVs, and CCBs all within acceptance limits?	yes/no/NA
d.	Are results for methods blanks all ND?	yes/no/NA
e.	Are all QC samples within acceptance criteria? (LCS % rec, MS/DMS % rec, DUP or MS/DMS RPDs, etc.)	yes/no/NA
f.	Are all exceptions explained?	yes/no/NA
6.	Are all service requests that apply attached?	yes/no/NA
7.	Are all samples labelled correctly?	yes/no/NA
8.	Have all instructions on the service request been followed? (e.g. Special MRLs, QC on a specific sample)	yes/no/NA
9.	Are detection limits and units reported correctly?	yes/no/NA
10.	Are proper Analysis/Extraction stickers included on report?	yes/no/NA
11.	Is the unused space on the benchsheet crossed out?	yes/no/NA
12.	Was analysis turned in by the due date? (n-2) (If not record SR#)	yes/no/NA

COMMENTS:

K0225 - due 11/8
K10087 - due 11/7
K10035 - due 11/11

2) K9258-9 rec'd past 7 day hold time

Final Approved by: _____ Date: _____

DQREPORT

1760549

Work Order # K10225 K9258 K10087 K10035 Method: 9030M

Analysis: Total Sulfides

	STD1	STD 2	STD 3	STD 4	STD 5	STD 6	STD 7				(R) =	0.9999
Conc. (mg/L)	0.0000	0.0370	0.3713	0.7425	1.1138	1.4850	1.8563				Slope =	0.4900
Absorbance	0.0000	0.0119	0.1787	0.3708	0.5453	0.7269	0.9047				Y Int. =	-0.0012

Date Prep'd	Sample #	Dil. Factor	Absorb. @ 670 nm	Conc. from Curve (mg/L)	Actual Conc. (mg/L)	Initial Wt./Vol. (g) / (ml)	Final Vol. (ml)	A Tower mg/L (solution)	B Tower mg/L (solution)	A & B mg/L - mg/kg as rec'd	% Solid	mg/kg dry	mg/kg reported	mrl	mdl
10/23/2009	ICV	1	0.814	1.6636	1.6636	40	40	1.66		1.66				######	#VALUE!
10/23/2009	ICB	1	0.000	0.0025	<0.05	40	40	<0.05		<0.050				######	#VALUE!
10/23/2009	CCB1	1	0.000	0.0025	<0.05	40	40	<0.05		<0.050				######	#VALUE!
10/23/2009	CCV1	1	0.725	1.4825	1.4825	40	40	1.48		1.48				######	#VALUE!
10/23/2009	MB	1	0.001	0.0051	<0.05	10	40	<0.05	0.02	<0.050				######	#VALUE!
10/23/2009	LCS	1	0.511	1.0456	1.0456	10.056	40	4.16	0.04	4.16				######	#VALUE!
10/23/2009	10225-1	1	0.392	0.8027	0.8027	6.672	40	4.81	0.02	4.81	49.6	9.70	9.70	1.008	0.403
10/23/2009	10225-1D	1	0.390	0.7990	0.7990	6.629	40	4.82	0.04	4.82	49.6	9.72	9.72	1.008	0.403
10/23/2009	10225-1S	100	0.237	0.4851	48.5142	6.701	40	289.59	0.08	289.67	49.6	584.01	584	100.806	40.323
10/23/2009	10225-1SD	100	0.232	0.4762	47.6162	6.852	40	277.97	0.05	277.97	49.6	560.42	560	100.806	40.323
10/23/2009	10225-2	1	0.228	0.4684	0.4684	8.931	40	2.10	0.02	2.10	73.7	2.85	2.85	0.678	0.271
10/23/2009	10225-3	1	0.334	0.6833	0.6833	8.628	40	3.17	0.02	3.17	75.0	4.22	4.22	0.667	0.267
10/23/2009	10225-4	1	0.254	0.5213	0.5213	7.612	40	2.74	0.03	2.74	76.1	3.60	3.60	0.657	0.263
10/23/2009	10225-5	1	0.225	0.4625	0.4625	7.909	40	2.34	0.03	2.34	65.6	3.57	3.57	0.762	0.305
10/23/2009	CCV2	1	0.726	1.4838	1.4838	40	40	1.48		1.48				######	#VALUE!
10/23/2009	CCB2	1	0.000	0.0025	<0.05	40	40	<0.05		<0.050				######	#VALUE!
10/23/2009	10225-6	1	0.230	0.4709	0.4709	7.862	40	2.40	0.03	2.40	81.0	2.96	2.96	0.617	0.247
10/23/2009	10225-7	1	0.446	0.9121	0.9121	7.254	40	5.03	0.03	5.03	85.5	5.88	5.88	0.585	0.234
10/23/2009	10225-8	1	0.237	0.4856	0.4856	8.940	40	2.17	0.03	2.17	89.7	2.42	2.42	0.557	0.223
10/23/2009	10225-9	1	0.197	0.4043	0.4043	9.114	40	1.77	0.03	1.77	86.5	2.05	2.05	0.578	0.231
10/23/2009	10225-10	1	0.535	1.0944	1.0944	8.301	40	5.27	0.03	5.27	54.5	9.68	9.68	0.917	0.367
10/23/2009	10087-1	1	0.366	0.7501	0.7501	5.545	40	5.41	0.03	5.41	54.0	10.02	10.0	0.926	0.370
10/23/2009	10087-2	1	0.482	0.9870	0.9870	6.638	40	5.95	0.17	6.11	39.8	15.36	15.4	1.256	0.503
10/23/2009	10035-1	1	0.448	0.9168	0.9168	9.236	40	3.97	0.02	3.97	90.4	4.39	4.39	0.553	0.221
10/23/2009	9258-9	1	0.236	0.4833	0.4833	8.106	40	2.38	0.02	2.38	46.8	5.10	5.10	1.068	0.427

CCV =2ml*29.7mg/l/40ml= 1.49mg/l %REC = 99, 99, 99, 99, 99

LCS =2ml*29.7mg/l/ 10.056g =5.91mg/kg %REC = 70

ICV = 2.25ml*29.7mg/L/40ml = 1.67mg/L %REC = 99

K10225-1MS = (1ml*2970mg/L/ 6.701g)/0.496 = 894mg/kg %REC = 64 K10225-1+1D X= 9.71mg/kg RPD= <1

K10225-1MSD=(1ml*2970mg/L/ 6.852g)/0.496 = 874mg/kg %REC = 63

STD ID# s2/2-2-G CONC. = 2970mg/kg

Distilled by:	ALS	Date Distilled:	10/23/09 1230
Analyzed By:	ALS	Date Analyzed:	10/26/09 1130
Reviewed By:	BB	Date Reviewed:	11/18/09

Work Order #: K10225 K9258 K10057 K10035 Method: 9030M

Analysis: Total Sulfides

	STD1	STD 2	STD 3	STD 4	STD 5	STD 6	STD 7					
Conc. (mg/L)	0.0000	0.0370	0.3715	0.7425	1.1138	1.4850	1.8563				(R) =	0.9999
Absorbance	0.0000	0.0119	0.1787	0.3708	0.5453	0.7269	0.9047				Slope =	0.4900
											Y Int. =	-0.0012

Date Prep'd	Sample #	Dil. Factor	Absorb. @ 670 nm	Conc. from Curve (mg/L)	Actual Conc. (mg/L)	Initial Wt./Vol. (g) / (ml)	Final Vol. (ml)	A Tower mg/L (solution)	B Tower mg/L (solution)	A & B mg/L - mg/kg as rec'd	% Solid	mg/kg Dry	mg/kg reported	mrl	mdl
10/23/2009	CCV3	1	0.720	1.4713	1.4713	40	40	1.47		1.47				#VALUE!	#VALUE!
10/23/2009	CCB3	1	-0.001	0.0004	<0.05	40	40	<0.05		<0.050				#VALUE!	#VALUE!
10/23/2009	CCV4	1	0.724	1.4799	1.4799	40	40	1.48		1.48				#VALUE!	#VALUE!
10/23/2009	CCB4	1	0.000	0.0025	<0.05	40	40	<0.05		<0.050				#VALUE!	#VALUE!
10/23/2009	CCV5	1	0.724	1.4791	1.4791	40	40	1.48		1.48				#VALUE!	#VALUE!
10/23/2009	CCB5	1	0.000	0.0025	<0.05	40	40	<0.05		<0.050				#VALUE!	#VALUE!
10/23/2009														#VALUE!	#VALUE!
10/23/2009														#VALUE!	#VALUE!
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10/23/2009														#VALUE!	#VALUE!
10/23/2009														#VALUE!	#VALUE!
10/23/2009														#VALUE!	#VALUE!

Distilled by: SLS	Date Distilled: 10/23/09
Analyzed By: SLS	Date Analyzed: 10/26/09
Reviewed By: BH	Date Reviewed: 11/6/09

COLUMBIA ANALYTICAL SERVICES, INC.

Work Order : K10225 K9258 K10087 K10035 Method: 9030M

Analysis: Total Sulfide

Prep Date : 10/23/2009

	STD1	STD 2	STD 3	STD 4	STD 5	STD 6	STD 7
Conc. (mg/L)	0.0000	0.0370	0.3713	0.7425	1.1138	1.4850	1.8563
Absorbance	0.0000	0.0119	0.1787	0.3708	0.5453	0.7269	0.9047

Sample Name Lab Code	Initial Wt./Vol. (g) or (ml)	Dilution Factor	Abs of A tower @ 670 nm	Abs of B tower @ 670 nm	% Solids
ICV	40	1	0.8139		
ICB	40	1	0.0000		
CCB	40	1	0.0000		
CCV	40	1	0.7252		
MB	10.086	1	0.0013	0.0010	
LCS	10.056	1	0.5111	0.0034	
10225-1	6.672	1	0.3921	0.0006	49.6
10225-1D	6.629	1	0.3903	0.0019	49.6
10225-1S	6.701	100	0.2365	0.0050	49.6
10225-1SD	6.852	100	0.2321	0.0026	49.6
10225-2	8.931	1	0.2283	0.0010	73.7
10225-3	8.628	1	0.3336	0.0014	75.0
10225-4	7.612	1	0.2542	0.0015	76.1
10225-5	7.909	1	0.2254	0.0014	65.6
CCV2	40	1	0.7258		
CCB2	40	1	0.0000		
10225-6	7.852	1	0.2295	0.0021	81.0
10225-7	7.254	1	0.4457	0.0012	85.5
10225-8	8.940	1	0.2367	0.0025	89.7
10225-9	9.114	1	0.1969	0.0023	86.5
10225-10	8.301	1	0.5350	0.0016	54.5
10087-1	5.545	1	0.3663	0.0009	54.0
10087-2	6.638	1	0.4824	0.0123	39.8
10035-1	9.236	1	0.4480	0.0009	90.4
9258-9	8.106	1	0.2356	0.0008	46.8
CCV3	40	1	0.7197		
CCB3	40	1	-0.0010		
CCV4	40	1	0.7239		
CCB4	40	1	0.0000		
CCV5	40	1	0.7235		
CCB5	40	1	0.0000		

Sample Name Lab Code	Initial Wt./Vol. (g) or (ml)	Dilution Factor	Abs of A tower @ 670 nm	Abs of B tower @ 670 nm	% Solids

SLS 10/23/09

TED 10/23/09

Date : 10/26/2009 Time : 12:17:17

Concentration Results

Date: 10/26/2009 Time: 11:32:41 AM
Instrument: PerkinElmer Lambda 25 Serial No: 501S08110503
Method: 10-26-09
Ordinate mode: Single wavelength
Slit: UV/VIS: 1.00 nm
Baseline: No correction (0.00 0.00)
Result Filename: 10-26-09.RCO
Autozero performed: 10/26/2009 11:29:58 AM
Analyst: cfs

Wavelength(s)		Sample ID	Ordinate	Factor	Concentration		Sample Info
670.0	0.0	ICV	0.8139	1.0000	1.6635	mg/l	
670.0	0.0	ICB	-0.000	1.0000	0.0020	mg/l	
670.0	0.0	CCB1	-0.000	1.0000	0.0020	mg/l	
670.0	0.0	CCV1	0.7282	1.0000	1.4886	mg/l	
670.0	0.0	MB-avs	-0.000	1.0000	0.0023	mg/l	
670.0	0.0	LCS	0.5024	1.0000	1.0278	mg/l	
670.0	0.0	10174-1	0.3698	1.0000	0.7572	mg/l	
670.0	0.0	10174-1D	0.3586	1.0000	0.7344	mg/l	
670.0	0.0	10174-1S	0.2554	1.0000	0.5237	mg/l	
670.0	0.0	10174-1S	0.2324	1.0000	0.4768	mg/l	
670.0	0.0	6057-1	0.3347	1.0000	0.6856	mg/l	
670.0	0.0	6057-2	0.5894	1.0000	1.2053	mg/l	
670.0	0.0	6057-3	0.2707	1.0000	0.5550	mg/l	
670.0	0.0	6057-4	0.2160	1.0000	0.4434	mg/l	
670.0	0.0	CCV2	0.7240	1.0000	1.4801	mg/l	SLS 10/26/09
670.0	0.0	CCB2	-0.000	1.0000	0.0024	mg/l	
670.0	0.0	6058-1	0.2385	1.0000	0.4893	mg/l	
670.0	0.0	6058-2	0.3446	1.0000	0.7058	mg/l	
670.0	0.0	6058-2D	0.3436	1.0000	0.7039	mg/l	
670.0	0.0	MBb	-0.000	1.0000	0.0014	mg/l	
670.0	0.0	LCSb	0.0006	1.0000	0.0040	mg/l	
670.0	0.0	10174-1b	0.0008	1.0000	0.0042	mg/l	
670.0	0.0	10174-1D	0.0004	1.0000	0.0034	mg/l	
670.0	0.0	10174-1S	0.0007	1.0000	0.0040	mg/l	
670.0	0.0	10174-1S	0.0010	1.0000	0.0047	mg/l	
670.0	0.0	10174-2b	0.0008	1.0000	0.0042	mg/l	
670.0	0.0	CCV3	0.7263	1.0000	1.4847	mg/l	
670.0	0.0	CCB3	-0.000	1.0000	0.0019	mg/l	
670.0	0.0	6057-1b	0.0024	1.0000	0.0076	mg/l	
670.0	0.0	6057-2b	-0.000	1.0000	0.0026	mg/l	
670.0	0.0	6057-3b	0.0003	1.0000	0.0031	mg/l	
670.0	0.0	6057-4b	0.0006	1.0000	0.0039	mg/l	
670.0	0.0	6058-1b	0.0011	1.0000	0.0049	mg/l	
670.0	0.0	6058-2b	0.0001	1.0000	0.0029	mg/l	
670.0	0.0	6058-2b	0.0043	1.0000	0.0114	mg/l	
670.0	0.0	6058-2b	0.3484	1.0000	0.7137	mg/l	
670.0	0.0	CCV4	0.7252	1.0000	1.4826	mg/l	
670.0	0.0	CCB4	-0.000	1.0000	0.0016	mg/l	
670.0	0.0	MB9030	0.0013	1.0000	0.0053	mg/l	
670.0	0.0	LCS	0.5111	1.0000	1.0455	mg/l	
670.0	0.0	10225-1	0.3921	1.0000	0.8028	mg/l	
670.0	0.0	10225-1D	0.3903	1.0000	0.7992	mg/l	
670.0	0.0	10225-1S	0.2365	1.0000	0.4853	mg/l	
670.0	0.0	10225-1S	0.2321	1.0000	0.4763	mg/l	
670.0	0.0	10225-2	0.2283	1.0000	0.4685	mg/l	
670.0	0.0	10225-3	0.3336	1.0000	0.6834	mg/l	
670.0	0.0	10225-4	0.2542	1.0000	0.5213	mg/l	

670.0	0.0	10225-5	0.2254	1.0000	0.4625	mg/l	
670.0	0.0	CCV5	0.7258	1.0000	1.4837	mg/l	
670.0	0.0	CCB5	-0.000	1.0000	0.0010	mg/l	
670.0	0.0	10225-6	0.2295	1.0000	0.4710	mg/l	
670.0	0.0	10225-7	0.4457	1.0000	0.9121	mg/l	
670.0	0.0	10225-8	0.2367	1.0000	0.4856	mg/l	
670.0	0.0	10225-9	0.1969	1.0000	0.4044	mg/l	
670.0	0.0	10225-10	0.5350	1.0000	1.0945	mg/l	
670.0	0.0	~~10225-11~~	0.0000	1.0000	0.0000*	mg/l	Sample skipped
670.0	0.0	10087-1	0.3663	1.0000	0.7501	mg/l	
670.0	0.0	10087-2	0.4824	1.0000	0.9871	mg/l	
670.0	0.0	10035-1	0.4480	1.0000	0.9169	mg/l	
670.0	0.0	9258-9	0.2356	1.0000	0.4835	mg/l	
670.0	0.0	CCV6	0.7197	1.0000	1.4713	mg/l	
670.0	0.0	CCB6	-0.001	1.0000	0.0006	mg/l	
670.0	0.0	MBb	0.0010	1.0000	0.0046	mg/l	
670.0	0.0	LCSb	0.0034	1.0000	0.0095	mg/l	
670.0	0.0	10225-1b	0.0006	1.0000	0.0038	mg/l	
670.0	0.0	10225-1D	0.0019	1.0000	0.0066	mg/l	
670.0	0.0	10225-1S	0.0050	1.0000	0.0127	mg/l	
670.0	0.0	10225-1S	0.0026	1.0000	0.0079	mg/l	
670.0	0.0	10225-2b	0.0010	1.0000	0.0046	mg/l	
670.0	0.0	10225-3b	0.0014	1.0000	0.0055	mg/l	SLS 10/26/09
670.0	0.0	10225-4b	0.0015	1.0000	0.0057	mg/l	
670.0	0.0	10225-5b	0.0014	1.0000	0.0056	mg/l	
670.0	0.0	CCV7	0.7239	1.0000	1.4799	mg/l	
670.0	0.0	CCB7	-0.000	1.0000	0.0015	mg/l	
670.0	0.0	10225-6b	0.0021	1.0000	0.0070	mg/l	
670.0	0.0	10225-7b	0.0012	1.0000	0.0050	mg/l	
670.0	0.0	10225-8b	0.0025	1.0000	0.0077	mg/l	
670.0	0.0	10225-9b	0.0023	1.0000	0.0074	mg/l	
670.0	0.0	10225-10	0.0016	1.0000	0.0060	mg/l	
670.0	0.0	10225-11	0.0000	1.0000	0.0000*	mg/l	Sample skipped
670.0	0.0	10087-1b	0.0009	1.0000	0.0045	mg/l	
670.0	0.0	10087-2b	0.0123	1.0000	0.0278	mg/l	
670.0	0.0	10035-1b	0.0009	1.0000	0.0044	mg/l	
670.0	0.0	9258-9b	0.0008	1.0000	0.0043	mg/l	
670.0	0.0	CCV8	0.7235	1.0000	1.4790	mg/l	
670.0	0.0	CCB8	-0.000	1.0000	0.0021	mg/l	

Date : 10/26/2009 Time : 11:32:23 2970

CALIBRATION

Date: 10/26/2009 Time: 11:29:58 AM
Instrument: PerkinElmer Lambda 25 Serial No: 501S08110503
Method: 10-26-09
Ordinate mode: Single wavelength
Baseline: No correction (0.00 0.00)
Analyst: cfs

Wavelength(s)		Sample ID	Concentration		Ord. value	Comment
670.0	0.0	10-26-09.A01	0.0000	mg/l	-0.000	
670.0	0.0	10-26-09.A02	0.0370	mg/l	0.0119	
670.0	0.0	10-26-09.A03	0.3713	mg/l	0.1787	
670.0	0.0	10-26-09.A04	0.7425	mg/l	0.3708	
670.0	0.0	10-26-09.A05	1.1138	mg/l	0.5453	
670.0	0.0	10-26-09.A06	1.4850	mg/l	0.7269	
670.0	0.0	10-26-09.A07	1.8563	mg/l	0.9047	

SLS 10/26/09

Equation: y = -1.286295e-03 + 4.900416e-01 * x

Residual error: 0.004723
Correlation coefficient: 0.999925

11/7

COLUMBIA ANALYTICAL SERVICES, INC.

Work Order #.: K10225 K10087 K10035 K9258

Analysis: 9030/ 9030M/ AVS/ PSEP

Date Prepared	Sample Name / Lab Code	Initial Wt./Vol. (g) or (ml)	Final Volume (ml)	mg/L - mg/kg As Rec'd	% Solids	mg/kg Dry Wt.
10/23/09	MB1	10.086	40			
	LCS1	10.056				
	K10225-1	6.672				
	-1d	6.629				
	-1s	6.701				
	-1d	6.852				
	-2	8.931				
	-3	8.628				
	-4	7.612				
	-5	7.909				
	-6	7.826				
	-7	7.254				
	-8	8.940				
	-9	9.114				
	-10	8.301				
	K10087-1	5.545				
	-2	6.638				
	K10035-1	9.236				
	K0909258-9	8.106				

10225-8 - sample is heterogeneous rocks + metal shavings

Prepared By:	SLS	10/23/09 1230
Analyzes By:	SLS	10/26/09 1130
Reviewed By:	BL	11/18/09

S2EXTBNCH

prep# 990144

Work Request # (Original) K9329 K9331 K9258 K8897 1734605

Tier: III III II II

Date Analyzed: 10/5/09

Analyst: SCS

Analysis: 9030M

DATA QUALITY REPORT
INORGANICS

Explain any "no" responses to questions below, and any corrective actions in the comments section below.

1.	Is the method name and number correct and appropriate?	yes/no/NA
2.	Holding times met for all analyses and for all samples?	yes/no/NA
3.	Are calculations correct?	yes/no/NA
4.	Is the reporting basis correct? (Dry Weight)	yes/no/NA
5.	All quality control criteria met?	yes/no/NA
a.	Is the calibration curve correlation coefficient ≥ 0.995?	yes/no/NA
b.	MBs, CCVs, CCBs, LCSs, Dups, and Spikes, analyzed at proper frequency?	yes/no/NA
c.	Are ICVs, CCVs, and CCBs all within acceptance limits?	yes/no/NA
d.	Are results for methods blanks all ND?	yes/no/NA
e.	Are all QC samples within acceptance criteria? (LCS % rec, MS/DMS % rec, DUP or MS/DMS RPDs, etc.)	yes/no/NA
f.	Are all exceptions explained?	yes/no/NA
6.	Are all service requests that apply attached?	yes/no/NA
7.	Are all samples labelled correctly?	yes/no/NA
8.	Have all instructions on the service request been followed? (e.g. Special MRLs, QC on a specific sample)	yes/no/NA
9.	Are detection limits and units reported correctly?	yes/no/NA
10.	Are proper Analysis/Extraction stickers included on report?	yes/no/NA
11.	Is the unused space on the benchsheet crossed out?	yes/no/NA
12.	Was analysis turned in by the due date? (n-2) (If not record SR#)	yes/no/NA

COMMENTS: 2) K9331, K9329 Received past HW. 14 day H.T. for 9030M was still in effect at the time of distillation

K9329, K9331 - due 10/18

K8897 - due, 10/27

K9258 - due 10/17

Final Approved by: JH Date: 11/5/09

DQREPORT

COLUMBIA ANALYTICAL SERVICES, INC.

1734G5

Work Order #. K8897, K9329, K9331, K9258 Method: 9030M

Analysis: Total Sulfides

	STD1	STD 2	STD 3	STD 4	STD 5	STD 6	STD 7				
Conc. (mg/L)	0.0000	0.0398	0.3988	0.7975	1.1963	1.5950	1.9938			(R) =	0.9995
Absorbance	0.0000	0.0203	0.2597	0.5184	0.7601	1.0015	1.2178			Slope =	0.6175
										Y Int. =	0.0086

Date Prep'd	Sample #	Dil. Factor	Absorb. @ 670 nm	Conc. from Curve (mg/L)	Actual Conc. (mg/L)	Initial Wt./Vol. (g) / (ml)	Final Vol. (ml)	A Tower mg/L (solution)	B Tower mg/L (solution)	A & B mg/L - mg/kg as rec'd	% Solid	mg/kg dry	mg/kg reported	mrl	mdl
10/5/2009	ICV	1	1.108	1.7799	1.7799	40	40	1.78		1.78				#VALUE!	#VALUE!
10/5/2009	ICB	1	0.000	-0.0139	<0.05	40	40	<0.05		<0.050				#VALUE!	#VALUE!
10/5/2009	CCB1	1	0.000	-0.0139	<0.05	40	40	<0.05		<0.050				#VALUE!	#VALUE!
10/5/2009	CCV1	1	1.001	1.6071	1.6071	40	40	1.61		1.61				#VALUE!	#VALUE!
10/5/2009	MB	1	0.002	-0.0114	<0.05	10.041	40	<0.05	-0.03	<0.050				#VALUE!	#VALUE!
10/5/2009	LCS	1	0.645	1.0312	1.0312	10.018	40	4.12	-0.03	4.12				#VALUE!	#VALUE!
10/5/2009	8897-1	1	0.846	1.3564	1.3564	6.417	40	8.46	0.01	8.46	35.1	24.09	24.1	1.425	0.570
10/5/2009	8897-1D	1	0.829	1.3279	1.3279	6.963	40	7.63	0.07	7.70	35.1	21.94	21.9	1.425	0.570
10/5/2009	8897-1S	100	0.569	0.9081	90.8132	6.705	40	541.76	0.25	542.01	35.1	1544.20	1540	142.450	56.980
10/5/2009	8897-1SD	100	0.513	0.8173	81.7278	6.727	40	485.97	-0.02	485.97	35.1	1384.53	1390	142.450	56.980
10/5/2009	8897-2	1	0.896	1.4372	1.4372	8.011	40	7.18	0.19	7.37	25.1	29.34	29.3	1.992	0.797
10/5/2009	8897-3	1	0.649	1.0374	1.0374	9.124	40	4.55	-0.01	4.55	23.5	19.35	19.4	2.128	0.851
10/5/2009	8897-4	1	0.817	1.3086	1.3086	8.300	40	6.31	-0.04	6.31	27.3	23.10	23.1	1.832	0.733
10/5/2009	9329-1	1	0.496	0.7901	0.7901	7.224	40	4.37	0.01	4.37	61.2	7.15	7.15	0.817	0.327
10/5/2009	CCV-2	1	0.994	1.5964	1.5964	40	40	1.60		1.60				#VALUE!	#VALUE!
10/5/2009	CCB-2	1	0.000	-0.0134	<0.05	40	40	<0.05		<0.050				#VALUE!	#VALUE!
10/5/2009	9329-1D	1	0.480	0.7640	0.7640	8.040	40	3.80	0.06	3.86	61.2	6.31	6.31	0.817	0.327
10/5/2009	9329-1S	100	0.518	0.8254	82.5375	7.812	40	422.62	0.18	422.80	61.2	690.86	691	81.699	32.680
10/5/2009	9329-1SD	100	0.526	0.8385	83.8493	7.895	40	424.82	-0.04	424.82	61.2	694.15	694	81.699	32.680
10/5/2009	9331-1	1	0.352	0.5562	0.5562	7.401	40	3.01	-0.01	3.01	72.1	4.17	4.17	0.693	0.277
10/5/2009	9331-1D	1	0.364	0.5756	0.5756	7.277	40	3.16	-0.04	3.16	72.1	4.39	4.39	0.693	0.277
10/5/2009	9331-1S	100	0.492	0.7829	78.2944	7.040	40	444.85	-0.05	444.85	72.1	617.00	617	69.348	27.739
10/5/2009	9331-1SD	100	0.494	0.7859	78.5859	7.376	40	426.17	-0.04	426.17	72.1	591.08	591	69.348	27.739
10/5/2009	9258-1	1	0.260	0.4066	0.4066	7.551	40	2.15	0.06	2.22	49.6	4.47	4.47	1.008	0.403
10/5/2009	9258-2	1	0.278	0.4369	0.4369	7.542	40	2.32	0.00	2.32	44.2	5.24	5.24	1.131	0.452

K8897-1MS = (1ml*3190mg/L/ 6.705g)/0.351 = 1360mg/kg %REC = 111 ICV = 2.25ml*31.9mg/L/40ml = 1.79mg/l %REC = 99

K8897-1MSD = (1ml*3190mg/L/ 6.727g)/0.351 = 1350mg/k %REC = 101 CCV =2ml*31.9mg/l/40ml= 1.60mg/l %REC = 101, 100, 99, 99, 99

K8897-1+1D X= 23.0mg/kg RPD= 10 CONC. = 3190mg/L LCS =2ml*31.9mg/l/ 10.018g =6.37mg/kg %REC = 65

K9329-1MS = (1ml*3190mg/L/7.812g)/0.612 = 667mg/kg %REC = 103 K9331-1MS = (1ml*3190mg/L/7.040g)/0.721 = 628mg/kg %REC = 98

K9329-1MS = (1ml*3190mg/L/7.895g)/0.612 = 660mg/kg %REC = 104 K9331-1MS = (1ml*3190mg/L/7.376g)/0.721 = 600mg/kg %REC = 98

K9329-1+1D X= 6.73mg/kg RPD= 12 STD ID# s2/2-2-G K9331-1+1D X= 4.28mg/kg RPD= 5

Distilled by:	SLS	Date Distilled:	10/5/09 1030
Analyzed By:	SLS	Date Analyzed:	10/5/09 1640
Reviewed By:	A.H	Date Reviewed:	11/5/09

Work Order #: K8897, K9329, K9331, K9258 Method: 9030M

Analysis: Total Sulfides

	STD1	STD 2	STD 3	STD 4	STD 5	STD 6	STD 7				
Conc. (mg/L)	0.0000	0.0398	0.3988	0.7975	1.1963	1.5950	1.9938			(R) =	0.9995
Absorbance	0.0000	0.0203	0.2597	0.5184	0.7601	1.0015	1.2178			Slope =	0.6175
										Y Int. =	0.0086

Date Prep'd	Sample #	Dil. Factor	Absorb. @ 670 nm	Conc. from Curve (mg/L)	Actual Conc. (mg/L)	Initial Wt./Vol. (g) / (ml)	Final Vol. (ml)	A Tower mg/L (solution)	B Tower mg/L (solution)	A & B mg/L - mg/kg as rec'd	% Solid	mg/kg Dry	mg/kg reported	mrl	mdl
10/5/2009	CCV-3	1	0.992	1.5933	1.5933	40	40	1.59		1.59				#VALUE!	#VALUE!
10/5/2009	CCB-3	1	0.001	-0.0130	<0.05	40	40	<0.05		<0.050				#VALUE!	#VALUE!
10/5/2009	CCV4	1	0.993	1.5937	1.5937	40	40	1.59		1.59				#VALUE!	#VALUE!
10/5/2009	CCB4	1	0.000	-0.0137	<0.05	40	40	<0.05		<0.050				#VALUE!	#VALUE!
10/5/2009	CCV5	1	0.992	1.5930	1.5930	40	40	1.59		1.59				#VALUE!	#VALUE!
10/5/2009	CCB5	1	0.000	-0.0139	<0.05	40	40	<0.05		<0.050				#VALUE!	#VALUE!
10/5/2009														#VALUE!	#VALUE!
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Distilled by:		Date Distilled:	10/5/09 1120
Analyzed By:		Date Analyzed:	10/5/09 1640
Reviewed By:		Date Reviewed:	10/5/09

COLUMBIA ANALYTICAL SERVICES, INC.

Work Order # K8897, K9329, K9331, K9258 Method: 9030M

Analysis: Analysis for Total Sulfide

Prep Date : 10/5/2009

	STD1	STD 2	STD 3	STD 4	STD 5	STD 6	STD 7
Conc. (mg/L)	0.0000	0.0398	0.3988	0.7975	1.1963	1.5950	1.9938
Absorbance	0.0000	0.0203	0.2597	0.5184	0.7601	1.0015	1.2178

Sample Name Lab Code	Initial Wt./Vol. (g) or (ml)	Dilution Factor	Abs of A tower @ 670 nm	Abs of B tower @ 670 nm	% Solids
ICV	40	1	1.1076		
ICB	40	1	0.0000		
CCB	40	1	0.0000		
CCV	40	1	1.0009		
MB	10.041	1	0.0015	0.0034	
LCS	10.018	1	0.6453	0.0044	
8897-1	6.417	1	0.8461	0.0100	35.1
8897-1D	6.963	1	0.8285	0.0162	35.1
8897-1S	6.705	100	0.5693	0.0345	35.1
8897-1SD	6.727	100	0.5132	0.0066	35.1
8897-2	8.011	1	0.8960	0.0319	25.1
8897-3	9.124	1	0.6491	0.0071	23.5
8897-4	8.300	1	0.8166	0.0029	27.3
9329-1	7.224	1	0.4964	0.0094	61.2
CCV-2	40	1	0.9943		
CCB-2	40	1	0.0003		
9329-1D	8.040	1	0.4803	0.0158	61.2
9329-1S	7.812	100	0.5182	0.0308	61.2
9329-1SD	7.895	100	0.5263	0.0034	61.2
9331-1	7.401	1	0.3520	0.0069	72.1
9331-1D	7.277	1	0.3640	0.0041	72.1
9331-1S	7.040	100	0.4920	0.0035	72.1
9331-1SD	7.376	100	0.4938	0.0044	72.1
9258-1	7.551	1	0.2596	0.0160	49.6
9258-2	7.542	1	0.2783	0.0091	44.2
CCV-3	40	1	0.9924		
CCB-3	40	1	0.0005		
CCV4	40	1	0.9926		
CCB4	40	1	0.0001		
CCV5	40	1	0.9922		
CCB5	40	1	0.0000		

Sample Name Lab Code	Initial Wt./Vol. (g) or (ml)	Dilution Factor	Abs of A tower @ 670 nm	Abs of B tower @ 670 nm	% Solids

SLS 10/5/09

BH11541

Concentration Results

Date: 10/5/2009 Time: 4:40:49 PM
Instrument: PerkinElmer Lambda 25 Serial No: 501308210504
Method: 10-5-09
Ordinate mode: Single wavelength
Slit: UV/VIS: 1.00 nm
Baseline: No correction (0.00 0.00)
Result Filename: 10-5-09.RCO
Autozero performed: 10/5/2009 4:38:11 PM
Analyst: cfs

Wavelength(s)		Sample ID	Ordinate	Factor	Concentration	Sample Info
670.0	0.0	ICV	1.1076	1.0000	1.7800	mg/l
670.0	0.0	ICB	-0.000	1.0000	-0.013*	mg/l
670.0	0.0	CCB1	-0.000	1.0000	-0.013*	mg/l
670.0	0.0	CCV1	1.0009	1.0000	1.6071	mg/l
670.0	0.0	MB	0.0015	1.0000	-0.011	mg/l
670.0	0.0	LCS	0.6453	1.0000	1.0313	mg/l
670.0	0.0	8897-1	0.8461	1.0000	1.3564	mg/l
670.0	0.0	8897-1d	0.8285	1.0000	1.3279	mg/l
670.0	0.0	8897-1s 100x	0.5663	1.0000	0.9082	mg/l
670.0	0.0	8897-1sd 100x	0.5132	1.0000	0.8175	mg/l
670.0	0.0	8897-2	0.8960	1.0000	1.4373	mg/l
670.0	0.0	8897-3	0.6491	1.0000	1.0375	mg/l
670.0	0.0	8897-4	0.8166	1.0000	1.3087	mg/l
670.0	0.0	9329-1	0.4964	1.0000	0.7901	mg/l
670.0	0.0	CCV2	0.9943	1.0000	1.5965	mg/l
670.0	0.0	CCB2	0.0003	1.0000	-0.013	mg/l
670.0	0.0	9329-1d	0.4803	1.0000	0.7641	mg/l
670.0	0.0	9329-1s 100x	0.5182	1.0000	0.8254	mg/l
670.0	0.0	9329-1sd 100x	0.5263	1.0000	0.8386	mg/l
670.0	0.0	9331-1	0.3520	1.0000	0.5562	mg/l
670.0	0.0	9331-1d	0.3640	1.0000	0.5757	mg/l
670.0	0.0	9331-1s 100x	0.4920	1.0000	0.7831	mg/l
670.0	0.0	9331-1sd 100x	0.4938	1.0000	0.7859	mg/l
670.0	0.0	9258-1	0.2596	1.0000	0.4066	mg/l
670.0	0.0	CCV3	0.9924	1.0000	1.5934	mg/l
670.0	0.0	CCB3	0.0005	1.0000	-0.013	mg/l
670.0	0.0	9258-2	0.2783	1.0000	0.4369	mg/l
670.0	0.0	MBb	0.0034	1.0000	-0.008	mg/l
670.0	0.0	LCSb	0.0044	1.0000	-0.006	mg/l
670.0	0.0	8897-1b	0.0100	1.0000	0.0025	mg/l
670.0	0.0	8897-1Db	0.0162	1.0000	0.0124	mg/l
670.0	0.0	8897-1Sb	0.0345	1.0000	0.0429	mg/l
670.0	0.0	8897-1SD	0.0066	1.0000	-0.001	mg/l
670.0	0.0	8897-2b	0.0319	1.0000	0.0379	mg/l
670.0	0.0	8897-3b	0.0071	1.0000	-0.002	mg/l
670.0	0.0	8897-4b	0.0029	1.0000	-0.009	mg/l
670.0	0.0	CCV4	0.9926	1.0000	1.5937	mg/l
670.0	0.0	CCB4	0.0001	1.0000	-0.013	mg/l
670.0	0.0	9329-1B	0.0094	1.0000	0.0015	mg/l
670.0	0.0	9329-1Db	0.0158	1.0000	0.0119	mg/l
670.0	0.0	9329-1Sb	0.0308	1.0000	0.0361	mg/l
670.0	0.0	9329-1SD	0.0034	1.0000	-0.008	mg/l
670.0	0.0	9331-1b	0.0069	1.0000	-0.002	mg/l
670.0	0.0	9331-1Sb	0.0041	1.0000	-0.007	mg/l
670.0	0.0	9331-1SD	0.0035	1.0000	-0.008	mg/l
670.0	0.0	9331-1SD	0.0044	1.0000	-0.006	mg/l
670.0	0.0	9258-1b	0.0160	1.0000	0.0122	mg/l

SCS 10/5/09

Page 1

670.0	0.0	9258-2b	0.0091	1.0000	0.0010	mg/l
670.0	0.0	CCV5	0.9922	1.0000	1.5930	mg/l
670.0	0.0	CCB5	-0.000	1.0000	-0.014*	mg/l
670.0	0.0	MB	0.0012	1.0000	-0.011	mg/l
670.0	0.0	LCS	0.9675	1.0000	1.5530	mg/l
670.0	0.0	9133-1 2x	0.2615	1.0000	0.4096	mg/l
670.0	0.0	9133-1D 2x	0.2509	1.0000	0.3925	mg/l
670.0	0.0	9133-1S 20x	0.5867	1.0000	0.9364	mg/l
670.0	0.0	9133-1SD 20x	0.7080	1.0000	1.1327	mg/l
670.0	0.0	9133-2	0.2288	1.0000	0.3567	mg/l
670.0	0.0	9133-3	0.2122	1.0000	0.3297	mg/l
670.0	0.0	9133-5	0.2221	1.0000	0.3460	mg/l
670.0	0.0	9199-5 20x	0.4595	1.0000	0.7304	mg/l
670.0	0.0	CCV6	0.9926	1.0000	1.5937	mg/l
670.0	0.0	CCB6	-0.000	1.0000	-0.014*	mg/l
670.0	0.0	9199-11	0.2293	1.0000	0.3575	mg/l
670.0	0.0	9199-13 20x	0.7511	1.0000	1.2026	mg/l
670.0	0.0	9199-14	0.1946	1.0000	0.3014	mg/l
670.0	0.0	9199-15	0.1601	1.0000	0.2455	mg/l
670.0	0.0	9347-2 2x	0.1904	1.0000	0.2945	mg/l
670.0	0.0	9347-3 20x	0.2004	1.0000	0.3107	mg/l
670.0	0.0	9347-4 20x	0.6985	1.0000	1.1174	mg/l
670.0	0.0	9347-6	0.4055	1.0000	0.6429	mg/l
670.0	0.0	9347-7	0.7417	1.0000	1.1874	mg/l
670.0	0.0	9347-10	0.3940	1.0000	0.6242	mg/l
670.0	0.0	CCV7	0.9926	1.0000	1.5937	mg/l
670.0	0.0	CCB7	0.0006	1.0000	-0.012	mg/l
670.0	0.0	9407-5 20x	0.7424	1.0000	1.1886	mg/l
670.0	0.0	9407-5D 20x	0.6810	1.0000	1.0891	mg/l
670.0	0.0	9407-5S 20x	0.4499	1.0000	0.7148	mg/l
670.0	0.0	9407-5SD 20x	0.4538	1.0000	0.7211	mg/l
670.0	0.0	9407-6 20x	0.4819	1.0000	0.7665	mg/l
670.0	0.0	9407-7 1x	0.1600	1.0000	0.2454	mg/l
670.0	0.0	9407-9 20x	0.4249	1.0000	0.6744	mg/l
670.0	0.0	9407-10 20x	0.4515	1.0000	0.7173	mg/l
670.0	0.0	9407-11 20x	0.2422	1.0000	0.3785	mg/l
670.0	0.0	9407-12 20x	0.2417	1.0000	0.3777	mg/l
670.0	0.0	CCV8	0.9922	1.0000	1.5931	mg/l
670.0	0.0	CCB8	-0.000	1.0000	-0.013*	mg/l
670.0	0.0	9407-13 20x	0.4216	1.0000	0.6690	mg/l
670.0	0.0	MB2	0.0014	1.0000	-0.011	mg/l
670.0	0.0	LCS2	0.9892	1.0000	1.5882	mg/l
670.0	0.0	CCV9	0.9927	1.0000	1.5939	mg/l
670.0	0.0	CCB9	0.0003	1.0000	-0.013	mg/l

SLS 10/5/09

pH 11.54

3190

Date : 10/5/2009 Time : 16:40:32

CALIBRATION

Date: 10/5/2009 Time: 4:38:12 PM
Instrument: PerkinElmer Lambda 25 Serial No: 501306110503
Method: 10-5-09
Ordinate mode: Single wavelength
Baseline: No correction (0.00 0.00)
Analyst: cfs

Wavelength(s)		Sample ID	Concentration		Ord. value	Comment
670.0	0.0	10-5-09.A01	0.0000	mg/l	-0.000	
670.0	0.0	10-5-09.A02	0.0398	mg/l	0.0203	
670.0	0.0	10-5-09.A03	0.3988	mg/l	0.2597	
670.0	0.0	10-5-09.A04	0.7975	mg/l	0.5184	
670.0	0.0	10-5-09.A05	1.1963	mg/l	0.7601	
670.0	0.0	10-5-09.A06	1.5950	mg/l	1.0015	
670.0	0.0	10-5-09.A07	1.9938	mg/l	1.2178	

SCS 10/5/09

Equation: y = 8.517319e-03 + 6.174847e-01 * x

BAM5/07

Residual error: 0.015954
Correlation coefficient: 0.999538

10/27

COLUMBIA ANALYTICAL SERVICES, INC.

Work Order #.:

Analysis: 9030/9030M/AVS/ PSEP

Date Prepared	Sample Name / Lab Code	Initial Wt./Vol. (g) or (ml)	Final Volume (ml)	mg/L - mg/kg As Rec'd	% Solids	mg/kg Dry Wt.
10/5/09	MB1	10.041	40			
	LCS1	10.018				
	8897-1	6.417				
	-1d	6.963				
	-1s	6.705				
	-1sd	6.727				
	-2	8.011				
	-3	9.124				
	-4	8.300				
	K9329-1	7.224				
	-1d	8.040				
	-1s	7.812				
	-1sd	7.895				
	K9258-1	7.401				
	-2	7.277				
	K9331-1	7.040				
	-1d	7.376				
	-1s	7.551				
	-1sd	7.542				

331, K9329-1 reld past hold

Prepared By:	SCS	10/5/09 1030
Analyzes By:	SCS	10/5/09 1640
Reviewed By:	BH	11/5/09

prep#970526

Work Request # K9140, K9258

Tier: III II

174838

Date Analyzed: 10/14/09

Analyst: SUS

Analysis: 9030M

DATA QUALITY REPORT
INORGANICS

Explain any "no" responses to questions below, and any corrective actions in the comments section below.

1.	Is the method name and number correct and appropriate?	(yes) no/NA
2.	Holding times met for all analyses and for all samples?	yes (no) NA
3.	Are calculations correct?	(yes) no/NA
4.	Is the reporting basis correct? (Dry Weight)	(yes) no/NA
5.	All quality control criteria met?	(yes) no/NA
a.	Is the calibration curve correlation coefficient ≥ 0.995?	(yes) no/NA
b.	MBs, CCVs, CCBs, LCSs, Dups, and Spikes, analyzed at proper frequency?	(yes) no/NA
c.	Are ICVs, CCVs, and CCBs all within acceptance limits?	(yes) no/NA
d.	Are results for methods blanks all ND?	(yes) no/NA
e.	Are all QC samples within acceptance criteria? (LCS % rec, MS/DMS % rec, DUP or MS/DMS RPDs, etc.)	(yes) no/NA
f.	Are all exceptions explained?	(yes) no/NA
6.	Are all service requests that apply attached?	(yes) no/NA
7.	Are all samples labelled correctly?	(yes) no/NA
8.	Have all instructions on the service request been followed? (e.g. Special MRLs, QC on a specific sample)	(yes) no/NA
9.	Are detection limits and units reported correctly?	(yes) no/NA
10.	Are proper Analysis/Extraction stickers included on report?	(yes) no/NA
11.	Is the unused space on the benchsheet crossed out?	(yes) no/NA
12.	Was analysis turned in by the due date? (n-2) (If not record SR#)	yes (no) NA

COMMENTS:

K9258 - due 10/18
K9258-8 rec'd past hold

Final Approved by: [signature] Date: 10/14/09

DQREPORT

COLUMBIA ANALYTICAL SERVICES, INC.

174838

Work Order #.: K9740 K9258 Method: 9030M

Analysis: Total Sulfides

	STD1	STD 2	STD 3	STD 4	STD 5	STD 6	STD 7				
Conc. (mg/L)	0.000	0.038	0.380	0.760	1.140	1.520	1.900			(R) =	0.9997
Absorbance	0.0000	0.0242	0.2610	0.5099	0.7624	0.9967	1.2233			Slope =	0.6480
										Y Int. =	0.0084

Date Prep'd	Sample #	Dil. Factor	Absorb. @ 670 nm	Conc. from Curve (mg/L)	Actual Conc. (mg/L)	Initial Wt./Vol. (g) / (ml)	Final Vol. (ml)	A Tower mg/L (solution)	B Tower mg/L (solution)	A & B mg/L - mg/kg as rec'd	% Solid	mg/kg dry	mg/kg reported	mrl	mdl
10/14/2009	ICV	1	1.111	1.7017	1.7017	40	40	1.70		1.70				#VALUE!	#VALUE!
10/14/2009	ICB	1	0.000	-0.0130	<0.05	40	40	<0.05		<0.050				#VALUE!	#VALUE!
10/14/2009	CCB1	1	0.000	-0.0130	<0.05	40	40	<0.05		<0.050				#VALUE!	#VALUE!
10/14/2009	CCV1	1	0.995	1.5226	1.5226	40	40	1.52		1.52				#VALUE!	#VALUE!
10/13/2009	MB	1	0.000	-0.0129	<0.05	10.172	40	<0.05	-0.04	<0.050				#VALUE!	#VALUE!
10/13/2009	LCS	1	0.647	0.9855	1.3798	10.092	40	5.47	-0.04	5.47				#VALUE!	#VALUE!
10/13/2009	9740-1	10	0.245	0.3643	3.6426	6.741	40	21.61	-0.06	21.61	32.4	66.71	66.7	15.432	6.173
10/13/2009	9740-1D	10	0.232	0.3454	3.4544	6.950	40	19.88	-0.05	19.88	32.4	61.36	61.4	15.432	6.173
10/13/2009	9740-1S	200	0.233	0.3470	69.3959	6.764	40	410.38	-0.06	410.38	32.4	1266.62	1270	308.642	123.457
10/13/2009	9740-1SD	200	0.264	0.3939	78.7782	6.988	40	450.93	-0.03	450.93	32.4	1391.77	1390	308.642	123.457
10/14/2009	9740-2	4	0.214	0.3178	1.2713	6.888	40	7.38	-0.06	7.38	21.5	34.34	34.3	9.302	3.721
10/14/2009	9740-3	4	0.415	0.6280	2.5120	6.740	40	14.91	-0.06	14.91	42.6	34.99	35.0	4.695	1.878
10/14/2009	9740-4	4	0.608	0.9244	3.6977	6.772	40	21.84	-0.06	21.84	46.9	46.57	46.6	4.264	1.706
10/14/2009	9740-5	10	0.382	0.5758	5.7583	6.779	40	33.98	-0.06	33.98	47.5	71.53	71.5	10.526	4.211
10/14/2009	CCV2	1	0.988	1.5116	1.5116	40	40	1.51		1.51				#VALUE!	#VALUE!
10/14/2009	CCB2	1	0.000	-0.0130	<0.05	40	40	<0.05		<0.050				#VALUE!	#VALUE!
10/14/2009	9740-6	4	0.585	0.8903	3.5613	7.096	40	20.07	-0.05	20.07	67.0	29.96	30.0	2.985	1.194
10/13/2009	9258-3	4	0.258	0.3846	1.5385	7.748	40	7.94	-0.05	7.94	40.6	19.56	19.6	4.926	1.970
10/14/2009	9258-4	2	0.194	0.2863	0.5727	7.052	40	3.25	-0.06	3.25	53.8	6.04	6.04	1.859	0.743
10/14/2009	9258-5	1	0.210	0.3112	0.3112	7.518	40	1.66	-0.05	1.66	54.2	3.05	3.05	0.923	0.369
10/14/2009	9258-6	4	0.245	0.3646	1.4583	7.313	40	7.98	-0.06	7.98	43.0	18.55	18.5	4.651	1.860
10/14/2009	9258-7	1	0.175	0.2562	0.2562	7.168	40	1.43	-0.06	1.43	48.8	2.93	2.93	1.025	0.410
10/14/2009	9258-8	1	0.165	0.2416	0.2416	7.741	40	1.25	-0.06	1.25	55.2	2.26	2.26	0.906	0.362
10/14/2009	CCV3	1	0.986	1.5085	1.5085	40	40	1.51		1.51				#VALUE!	#VALUE!
10/14/2009	CCB3	1	0.000	-0.0130	<0.05	40	40	<0.05		<0.050				#VALUE!	#VALUE!

CCV =2ml*30.4mg/l/40ml= 1.52mg/l %REC = 100, 99, 99, 99, 99

LCS =2ml*30.4mg/l/10.092g =6.02mg/kg %REC = 91

ICV = 2.25ml*30.4mg/L/40ml = 1.71mg/L %REC = 99

K9740-1MS = (1ml*3040mg/L/ 6.764g)/0.324 = 1390mg/kg %REC = 87 K9740-1+1D X= 64.1mg/kg RPD= 8

K9740-1MSD =(1ml*3040mg/L/ 6.988g)/0.324= 1340mg/kg %REC = 99

STD ID# s2/2-2-G CONC. = 3040mg/L

Distilled by:		Date Distilled:	10/13/09 & 10/14/09
Analyzed By:		Date Analyzed:	10/14/09 10/15/09
Reviewed By:		Date Reviewed:	10/20/09

Work Order #: K9740 K9258 Method: 9030M

Analysis: Total Sulfides

	STD1	STD 2	STD 3	STD 4	STD 5	STD 6	STD 7				
Conc. (mg/L)	0.0000	0.0380	0.3800	0.7600	1.1400	1.5200	1.9000			(R) =	0.9997
Absorbance	0.0000	0.0242	0.2610	0.5099	0.7624	0.9967	1.2233			Slope =	0.6480
										Y Int. =	0.0084

Date Prep'd	Sample #	Dil. Factor	Absorb. @ 670 nm	Conc. from Curve (mg/L)	Actual Conc. (mg/L)	Initial Wt./Vol. (g) / (ml)	Final Vol. (ml)	A Tower mg/L (solution)	B Tower mg/L (solution)	A & B mg/L - mg/kg as rec'd	% Solid	mg/kg Dry	mg/kg reported	mrl	mdl
10/14/2009	CCV4	1	0.984	1.5060	1.5060	40	40	1.51		1.51				#VALUE!	#VALUE!
10/14/2009	CCB4	1	0.000	-0.0130	<0.05	40	40	<0.05		<0.050				#VALUE!	#VALUE!
10/14/2009	CCV5	1	0.985	1.5070	1.5070	40	40	1.51		1.51				#VALUE!	#VALUE!
10/14/2009	CCB5	1	0.000	-0.0130	<0.05	40	40	<0.05		<0.050				#VALUE!	#VALUE!
10/13/2009														#VALUE!	#VALUE!
10/13/2009														#VALUE!	#VALUE!
10/13/2009														#VALUE!	#VALUE!
10/13/2009														#VALUE!	#VALUE!
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10/13/2009														#VALUE!	#VALUE!
10/13/2009														#VALUE!	#VALUE!
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10/13/2009														#VALUE!	#VALUE!
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10/13/2009														#VALUE!	#VALUE!
10/13/2009														#VALUE!	#VALUE!
10/13/2009														#VALUE!	#VALUE!
10/13/2009														#VALUE!	#VALUE!
10/13/2009														#VALUE!	#VALUE!

Distilled by:	SLD SLD	Date Distilled:	10/13/09 & 10/14/09
Analyzed By:		Date Analyzed:	10/14/09
Reviewed By:		Date Reviewed:	10/15/09

COLUMBIA ANALYTICAL SERVICES, INC.

Work Order # K9740 K9258 Method: 9030M

Analysis: Total Sulfide

Prep Date : 10/13/2009 & 10/14/09

	STD1	STD 2	STD 3	STD 4	STD 5	STD 6	STD 7
Conc. (mg/L)	0.0000	0.0380	0.3800	0.7600	1.1400	1.5200	1.9000
Absorbance	0.0000	0.0242	0.2610	0.5099	0.7624	0.9967	1.2233

Sample Name Lab Code	Initial Wt./Vol. (g) or (ml)	Dilution Factor	Abs of A tower @ 670 nm	Abs of B tower @ 670 nm	% Solids
ICV	40	1	1.1112		
ICB	40	1	0.0000		
CCB	40	1	0.0000		
CCV	40	1	0.9951		
MB	10.172	1	0.0001	0.0020	
LCS	10.092	1	0.6471	0.0021	
9740-1	6.741	10	0.2445	0.0015	32.4
9740-1D	6.950	10	0.2323	0.0029	32.4
9740-1S	6.764	200	0.2333	0.0016	32.4
9740-1SD	6.988	200	0.2637	0.0047	32.4
9740-2	6.888	4	0.2144	0.0023	21.5
9740-3	6.740	4	0.4154	0.0023	42.6
9740-4	6.772	4	0.6075	0.0015	46.9
9740-5	6.779	10	0.3816	0.0020	47.5
CCV2	40	1	0.9880		
CCB2	40	1	0.0000		
9740-6	7.096	4	0.5854	0.0022	67.0
9258-3	7.748	4	0.2577	0.0020	40.6
9258-4	7.052	2	0.1940	0.0014	53.8
9258-5	7.518	1	0.2101	0.0026	54.2
9258-6	7.313	4	0.2447	0.0018	43.0
9258-7	7.168	1	0.1745	0.0020	48.8
9258-8	7.741	1	0.1650	0.0014	55.2
CCV3	40	1	0.9860		
CCB3	40	1	0.0000		
CCV4	40	1	0.9844		
CCB4	40	1	0.0000		
CCV5	40	1	0.9850		
CCB5	40	1	0.0000		

Sample Name Lab Code	Initial Wt./Vol. (g) or (ml)	Dilution Factor	Abs of A tower @ 670 nm	Abs of B tower @ 670 nm	% Solids

SLS 10/14/09

10/20/09

Date : 10/14/2009 Time : 16:30:04

Concentration Results

Date: 10/14/2009 Time: 4:12:28 PM
Instrument: PerkinElmer Lambda 25 Serial No: 501S08110503
Method: 10-14-09
Ordinate mode: Single wavelength
Slit: UV/VIS: 1.00 nm
Baseline: No correction (0.00 0.00)
Result Filename: 10-14-09.RCO
Autozero performed: 10/14/2009 4:10:08 PM
Analyst: cfs

Wavelength(s)		Sample ID	Ordinate	Factor	Concentration		Sample Info
670.0	0.0	ICV	1.1112	1.0000	1.7016	mg/l	
670.0	0.0	ICB	-0.000	1.0000	-0.014*	mg/l	
670.0	0.0	CCB1	-0.000	1.0000	-0.013*	mg/l	
670.0	0.0	CCV1	0.9951	1.0000	1.5225	mg/l	
670.0	0.0	MB	0.0001	1.0000	-0.012	mg/l	
670.0	0.0	LCS	0.6471	1.0000	0.9855	mg/l	
670.0	0.0	9740-1 10x	0.2445	1.0000	0.3643	mg/l	
670.0	0.0	9740-1D 10x	0.2323	1.0000	0.3454	mg/l	
670.0	0.0	9740-1S 20x	0.2333	1.0000	0.3471	mg/l	
670.0	0.0	9740-1SD 20x	0.2637	1.0000	0.3940	mg/l	
670.0	0.0	9740-2 4x	0.2144	1.0000	0.3179	mg/l	
670.0	0.0	9740-3 4x	0.4154	1.0000	0.6280	mg/l	
670.0	0.0	9740-4 4x	0.6075	1.0000	0.9244	mg/l	
670.0	0.0	9740-5 10x	0.3816	1.0000	0.5759	mg/l	
670.0	0.0	CCV2	0.9880	1.0000	1.5115	mg/l	
670.0	0.0	CCB2	-0.000	1.0000	-0.013*	mg/l	
670.0	0.0	9740-6 4x	0.5854	1.0000	0.8903	mg/l	
670.0	0.0	9258-3 4x	0.2577	1.0000	0.3847	mg/l	
670.0	0.0	9258-4 2x	0.1940	1.0000	0.2863	mg/l	
670.0	0.0	9258-5 1x	0.2101	1.0000	0.3112	mg/l	
670.0	0.0	9258-6 4x	0.2447	1.0000	0.3646	mg/l	
670.0	0.0	9258-7 1x	0.1745	1.0000	0.2563	mg/l	
670.0	0.0	9258-8 1x	0.1650	1.0000	0.2416	mg/l	
670.0	0.0	MBb	0.0020	1.0000	-0.010	mg/l	
670.0	0.0	LCSb	0.0021	1.0000	-0.009	mg/l	
670.0	0.0	9740-1b	0.0015	1.0000	-0.010	mg/l	
670.0	0.0	CCV3	0.9860	1.0000	1.5086	mg/l	
670.0	0.0	CCB3	-0.000	1.0000	-0.013*	mg/l	
670.0	0.0	9740-1Db	0.0029	1.0000	-0.008	mg/l	
670.0	0.0	9740-1Sb	0.0016	1.0000	-0.010	mg/l	
670.0	0.0	9740-1SD	0.0047	1.0000	-0.005	mg/l	
670.0	0.0	9740-2b	0.0023	1.0000	-0.009	mg/l	
670.0	0.0	9740-3b	0.0023	1.0000	-0.009	mg/l	
670.0	0.0	9740-4b	0.0015	1.0000	-0.010	mg/l	
670.0	0.0	9740-5b	0.0020	1.0000	-0.009	mg/l	
670.0	0.0	9740-6b	0.0022	1.0000	-0.009	mg/l	
670.0	0.0	9258-3b	0.0020	1.0000	-0.009	mg/l	
670.0	0.0	9258-4b	0.0014	1.0000	-0.010	mg/l	
670.0	0.0	CCV4	0.9844	1.0000	1.5060	mg/l	
670.0	0.0	CCB4	-0.000	1.0000	-0.014*	mg/l	
670.0	0.0	9258-5b	0.0026	1.0000	-0.008	mg/l	
670.0	0.0	9258-6b	0.0018	1.0000	-0.010	mg/l	
670.0	0.0	9258-7b	0.0020	1.0000	-0.009	mg/l	
670.0	0.0	9258-8b	0.0014	1.0000	-0.010	mg/l	
670.0	0.0	CCV5	0.9850	1.0000	1.5069	mg/l	
670.0	0.0	CCB5	-0.000	1.0000	-0.014*	mg/l	

SLS 10/14/09

SLS 10/20/09

Date : 10/14/2009 Time : 16:12:12

30.4

CALIBRATION

Date: 10/14/2009 Time: 4:10:09 PM
Instrument: PerkinElmer Lambda 25 Serial No: 501S08110503
Method: 10-14-09
Ordinate mode: Single wavelength
Baseline: No correction (0.00 0.00)
Analyst: cfs

Wavelength(s)		Sample ID	Concentration		Ord. value	Comment
670.0	0.0	10-14-09.A01	0.0000	mg/l	-0.000	
670.0	0.0	10-14-09.A02	0.0380	mg/l	0.0242	
670.0	0.0	10-14-09.A03	0.3800	mg/l	0.2610	
670.0	0.0	10-14-09.A04	0.7600	mg/l	0.5099	
670.0	0.0	10-14-09.A05	1.1400	mg/l	0.7624	SLS 10/14/09
670.0	0.0	10-14-09.A06	1.5200	mg/l	0.9967	
670.0	0.0	10-14-09.A07	1.9000	mg/l	1.2233	

Equation: y = 8.422186e-03 + 6.480489e-01 * x

Residual error: 0.012505
Correlation coefficient: 0.999713

10/20/09

10/18

COLUMBIA ANALYTICAL SERVICES, INC.

Work Order #.: K9740 K9258

Analysis: 9030/ 9030M/ AVS/ PSEP

Date Prepared	Sample Name / Lab Code	Initial Wt./Vol. (g) or (ml)	Final Volume (ml)	mg/L - mg/kg As Rec'd	% Solids	mg/kg Dry Wt.
10/13/09	MB1	10.172	40			
	LCS1	10.052				
	K9740-1	6.741				
	-1d	6.950				
	-1S	6.709				
	-1Sd	6.988				
	K9258-3	7.748				
10/14/09	K9258-4	7.052	40			
	-5	7.518				
	-6	7.313				
	-7	7.168				
	-8	7.741				
	K9740-2	6.888				
	-3	6.740				
	-4	6.772				
	-5	6.779				
	-6	7.096				

K9258-8 rec'd past hold 10/14/09 1030

Prepared By:	SLS	10/13/09 1100
Analyzes By:	SLS	10/14/09 1610
Reviewed By:		10/20/09

Page of S2EXTBNCH

prep#98351

Work Request # (K9258)

Tier: V

Date Analyzed: 10/27/09

Analyst: Faupel

Analysis: NH_3-Plumb - 350.1M

176654

DATA QUALITY REPORT
INORGANICS

Explain any "no" responses to questions below, and any corrective actions in the comments section below.

1.	Is the method name and number correct and appropriate?	(yes)/no/NA
2.	Holding times met for all analyses and for all samples?	yes/(no)/NA
3.	Are calculations correct?	(yes)/no/NA
4.	Is the reporting basis correct? (Dry Weight)	(yes)/no/NA
5.	All quality control criteria met?	(yes)/no/NA
a.	Is the calibration curve correlation coefficient ≥ 0.995?	(yes)/no/NA
b.	MBs, CCVs, CCBs, LCSs, Dups, and Spikes, analyzed at proper frequency?	(yes)/no/NA
c.	Are ICVs, CCVs, and CCBs all within acceptance limits?	(yes)/no/NA
d.	Are results for methods blanks all ND?	(yes)/no/NA
e.	Are all QC samples within acceptance criteria? (LCS % rec, MS/DMS % rec, DUP or MS/DMS RPDs, etc.)	(yes)/no/NA
f.	Are all exceptions explained?	yes/no/(NA)
6.	Are all service requests that apply attached?	(yes)/no/NA
7.	Are all samples labelled correctly?	(yes)/no/NA
8.	Have all instructions on the service request been followed? (e.g. Special MRLs, QC on a specific sample)	(yes)/no/NA
9.	Are detection limits and units reported correctly?	(yes)/no/NA
10.	Are proper Analysis/Extraction stickers included on report?	(yes)/no/NA
11.	Is the unused space on the benchsheet crossed out?	(yes)/no/NA
12.	Was analysis turned in by the due date? (n-2) (If not record SR#)	yes/(no)/NA

COMMENTS: 2. K9258 - added NH_3-Plumb past hold time
12. K9258 - due date 10/18/09

Final Approved by: [signature] Date: 10/28/09

DQREPORT

COLUMBIA ANALYTICAL SERVICES, INC.

Work Order #.: K9258 EPA 350.1 M / SM 4500-NH3 G Mod

Analysis: NH_3 - Plumb

Date Prepared	Sample Name Lab Code	Dil.	Initial Weight g	Final Vol ml	mg/L (in solution)	mg/kg As Rec'd	% Solids	mg/kg Dry Wt.	MRL	MDL
10/22/2009	MB	1	100	100	-0.0226	<0.009				
10/22/2009	LCS	10	10	10	1.4580	14.6			#DIV/0!	#DIV/0!
10/22/2009	k0909258-001	1	20.01	100	3.5085	17.534	49.6	35.4	1.008064516	0.080645161
10/22/2009	k0909258-002	1	20.01	100	2.4826	12.41	44.2	28.1	1.131221719	0.090497738
10/22/2009	k0909258-003	1	20.04	100	3.1740	15.84	40.6	39.0	1.231527094	0.098522167
10/22/2009	k0909258-004	1	20.02	100	3.2863	16.415	53.8	30.5	0.92936803	0.074349442
10/22/2009	k0909258-004d	1	20.06	100	3.2397	16.1500	53.8	30.0	0.92936803	0.074349442
10/22/2009	k0909258-004t	1	20.05	100	3.2657	16.2878	53.8	30.3	0.92936803	0.074349442
10/22/2009	k0909258-004ms	50	20.03	100	1.6322	407.4388	53.8	757	46.46840149	3.717472119
10/22/2009	k0909258-004msd	50	20.15	100	1.6143	400.5707	53.8	745	46.46840149	3.717472119
10/22/2009	k0909258-005	1	20.05	100	2.9218	14.57	54.2	26.9	0.922509225	0.073800738
10/22/2009	k0909258-006	1	20.14	100	4.1168	20.44	43.0	47.5	1.162790698	0.093023256
10/22/2009	k0909258-007	10	20.07	100	0.8940	44.54	48.8	91.3	10.24590164	0.819672131
10/22/2009	k0909258-008	1	20.29	100	3.0931	15.244	55.2	27.6	0.905797101	0.072463768
10/23/2009	MB	1	100	100	-0.0357	<0.009			#DIV/0!	#DIV/0!
10/23/2009	k0909258-009	1	20.15	100	3.7696	18.7077	46.8	40.0	1.068376068	0.085470085
10/23/2009	k0909258-009d	1	20.33	100	3.7854	18.6198	46.8	39.8	1.068376068	0.085470085
10/23/2009	k0909258-009t	1	20.15	100	3.7821	18.7697	46.8	40.1	1.068376068	0.085470085
10/23/2009	k0909258-009ms	50	20.21	100	1.9401	479.99	46.8	1030	53.41880342	4.273504274
10/23/2009	k0909258-009msd	50	20.06	100	1.9364	482.65	46.8	1030	53.41880342	4.273504274

Spike =	1.00	ml X 10000mg/L /	20.03	g/	53.8	% =	928	927.9760656 mg/Kg	#4
x = 30.3		RSD=<1%			SPK % REC =78%				
Spike =	1.00	ml X 10000mg/L /	20.15	g/	53.8	% =	922	922.4496573 mg/Kg	
					SPK % REC =77%				
Spike =	1	ml X 10000mg/L /	20.21	g/	46.8	% =	1060	1057.274684 mg/Kg	#9
x = 40.0		RSD=<1%			SPK % REC =93%				
Spike =	1	ml X 10000mg/L /	20.06	g/	46.8	% =	1070	1065.180527 mg/Kg	
					SPK % REC =93%				

Prepared By:	Tiffany Haugland	Date:	10/22/09 10:30
Analyzed By:		Date:	10/27/09 10:44
Reviewed By:		Date:	10/28/09

10-27-09

D:
K9258

BRAN+LUEBBE

Post-run report

Name of Run	: 091027A	Name of Analysis	:Ammonia
Date of Report	: 10/27/2009	System No.	:1
Date of Run	: 10/27/2009	Type of System	:AA3
Operator	:	Start/Stop time	:10:44 - 11:52
Comment	:		

LCS ID#: P03/2-26-0 T.V. = 15.2
Spike ID#: B+LNH3/1-71-P
Curve, CCV ID#: B+L NH3/1-54-B T.V. = 2.00
MB MS = 2.00

Channel	:	2
Method	:	Method 2
Unit	:	mg/L
Calibr. Fit	:	Linear
Corr. Coeff.	:	0.9990
Base	:	-19468
Gain	:	33
Sensitivity	:	0.2663
Sample Limit 1	:	
Sample Limit 2	:	

Pk	Cup		Sample Id	Value		
0	0	B	Baseline	-0.0415		
1	1	P	Primer	5.0275		
2	1	D	Drift	4.9073		
3	1	C	5.00	4.9344		
4	2	C	2.00	2.1609		
5	3	C	0.50	0.4473		
6	4	C	0.05	0.0237		
7	5	C	0	-0.0163		
8	0	B	Baseline	-0.0415		
9	1	H1	High	4.8936		
10	0	L1	Low	-0.0429		
11	0	L1	Low	-0.0429		
12	5	QC2	CCB1	-0.0295	<0.009	
13	2	QC1	CCV1	1.8471	1.85	93%
14	10	QC3	LCS1 1/10	1.4580	14.6	96%
15	11	S	MB MS	1.8775	1.88	94%
16	0	N	Null	-0.0436N		
17	5	QC2	MB1	-0.0284	<0.009	
18	12	S	MB 10/22/09	-0.0226	<0.009	
19	13	S	MB 10/23/09	-0.0357		
20	14	S	k0909258-001	3.5085		
21	15	S	k0909258-002	2.4826		
22	16	S	k0909258-003	3.1740		
23	0	B	baseline	-0.0415		
24	5	QC2	CCB2	-0.0264	<0.009	
25	2	QC1	CCV2	1.8372	1.84	92%
26	17	S	k0909258-004	3.2863		

10/28/09

10/27/09

27	18	S	k0909258-004d	3.2397	
28	19	S	k0909258-004t	3.2657	
29	20	S	k0909258-004ms.1/5	1.6322	
30	21	S	k0909258-004msd.1/5	1.6143	
31	22	S	k0909258-005	2.9218	
32	23	S	k0909258-006	4.1168	
33	24	S	k0909258-007	8.8415*	} NR
34	25	S	k0909258-008	3.1021	
35	0	B	BASELINE	-0.0415	
36	5	QC2	CCB-3	-0.0237	<0.009
37	2	QC1	CCV-3	1.8314	1.83 92%
38	26	S	k0909258-009	3.7696	
39	27	S	k0909258-009d	3.7854	
40	28	S	k0909258-009t	3.7821	
41	29	S	k0909258-009ms.1/5	1.9401	
42	30	S	k0909258-009msd.1/5	1.9364	
43	0	B	Baseline	-0.0415	
44	5	QC2	CCB4	-0.0238	<0.009
45	2	QC1	CCV4	1.8429	1.84 92%
46	31	S	k0909258-008	3.0931	
47	32	S	k0909258-007 0.5/5	0.8940	
48	0	B	Baseline	-0.0415	
49	5	QC2	CCB5	-0.0159	<0.009
50	2	QC1	CCV5	1.8314	1.83 92%
51	1	D	Drift	4.9073	
52	0	B	Baseline	-0.0415	
53	0	B	FinalBase	-0.0415	

QC Limits

Channel	:	2
QC 1	Unused	
QC 2	Unused	
QC 3	Unused	
QC 4	Unused	
QC 5	Unused	
QC 6	Unused	
QC 7	Unused	
QC 8	Unused	
QC 9	Unused	
QC10	Unused	

CORRECTIONS

Channel	:	2
Baseline	:	Yes
Drift	:	Yes
Carry over	:	Yes
%:		0.2

10/28/09

10/27/09

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* ... Sample offscale

+ ... Result higher than sample limit
- ... Result lower than sample limit
P ... Standard passed
F ... Standard failed
N ... Value not calculated or not used
R ... Resample after offscale
M ... Peak marker moved manually
D ... Diluted sample

** <END OF REPORT> **

10/27/09

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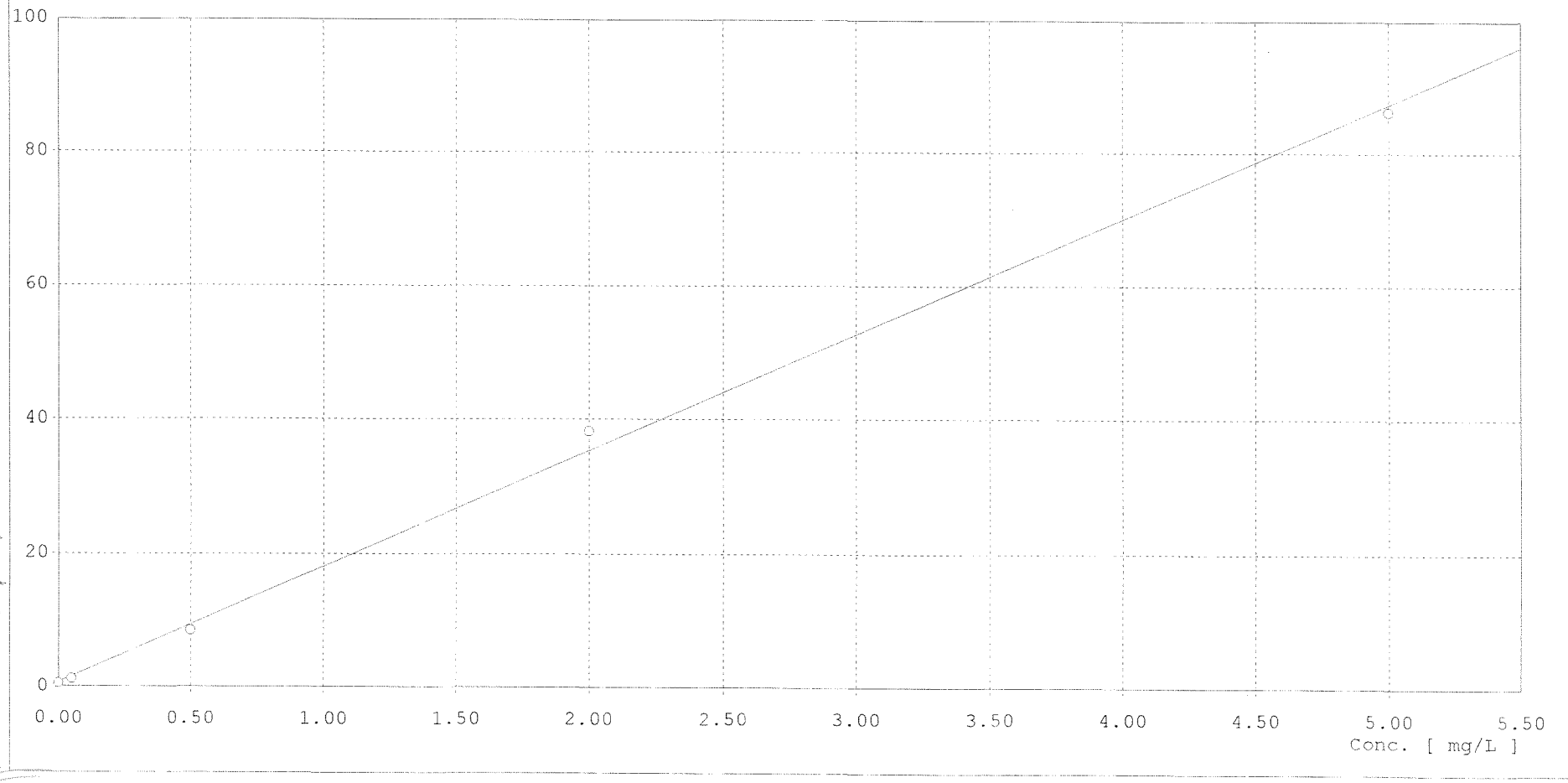
Calibration Curve

Name of run :091027A.run
Comment :

Name of analysis :Ammonia

Channel :2
Method :Method 2
Curve fit :linear a=-2.8388E-001 b=8.8003E-005
Corr. coeff. :0.9990



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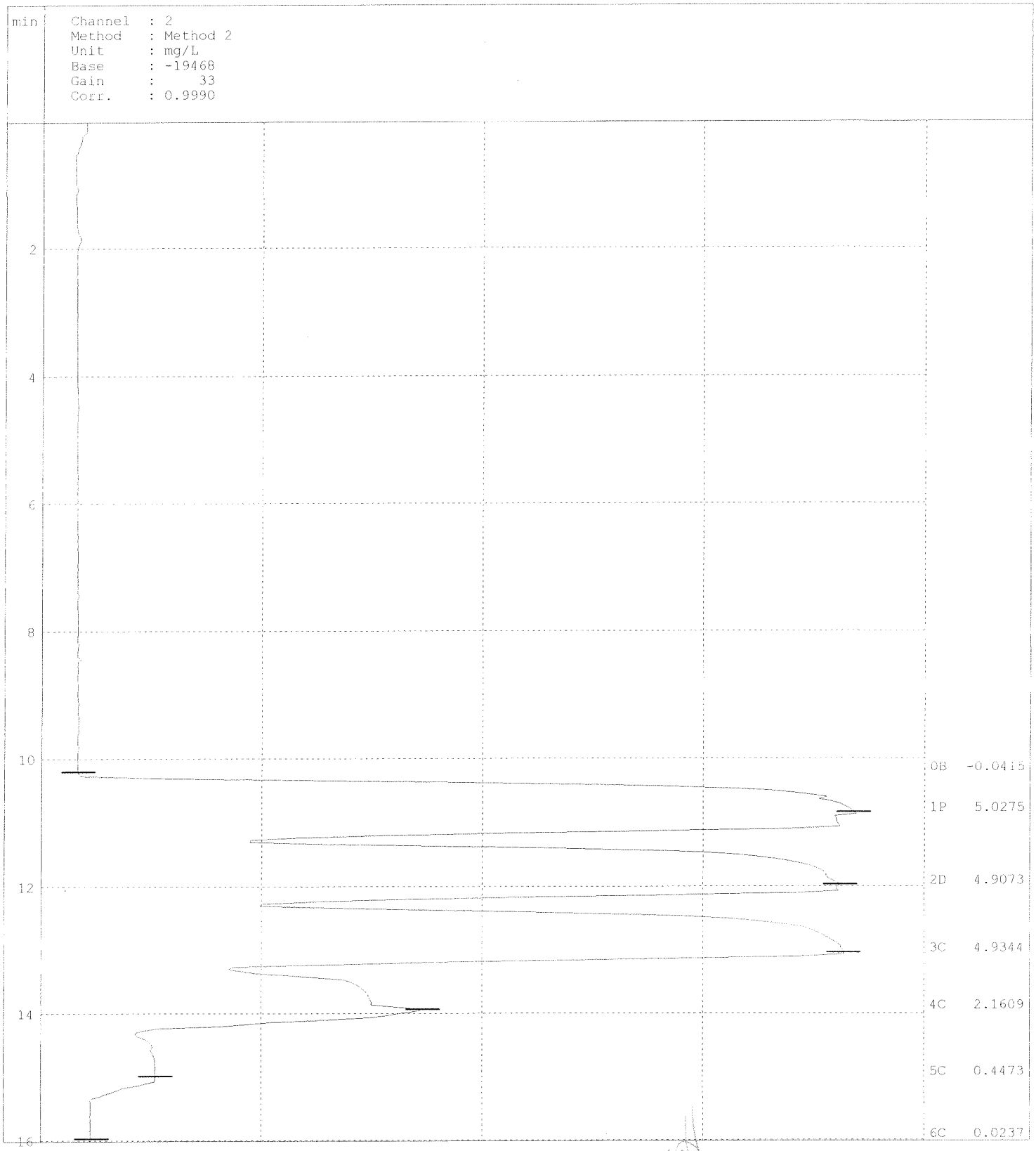
10/27/09

BRAN+LUEBBE

Post-run chart

Name of run :091027A.RUN
Comment :

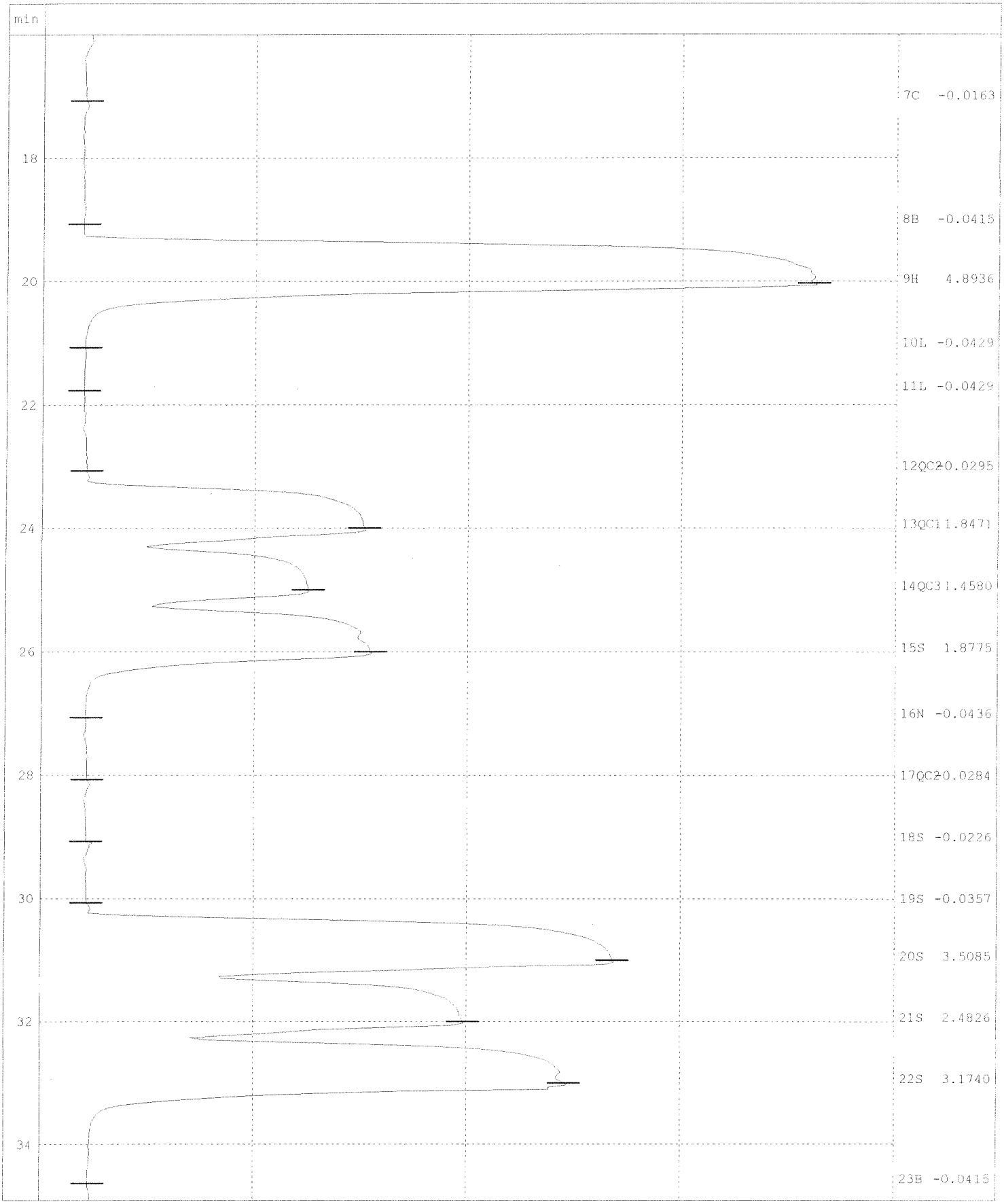
Name of analysis :Ammonia



10/27/09

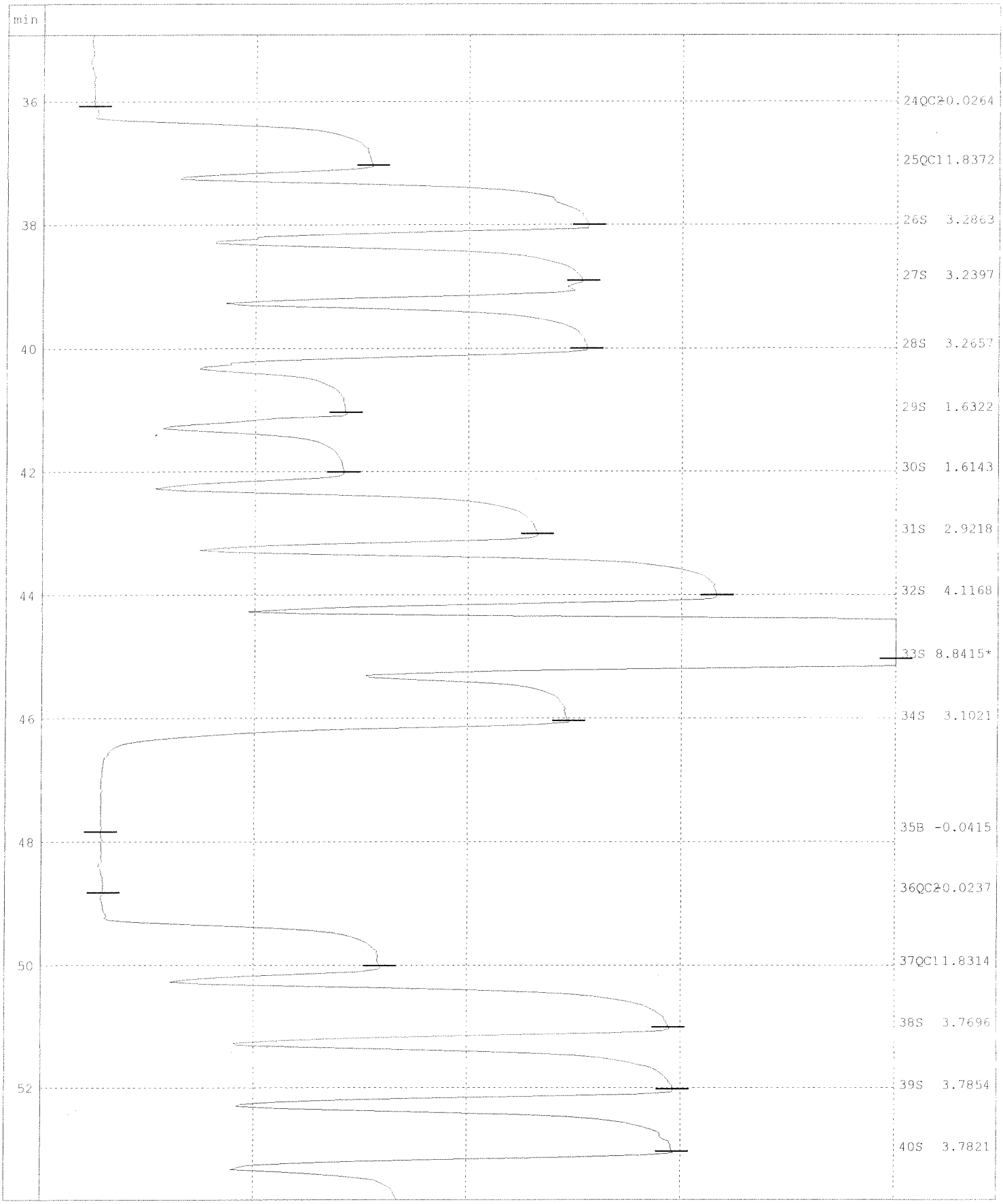
Name of run :091027A.RUN
Comment :

Name of analysis :Ammonia



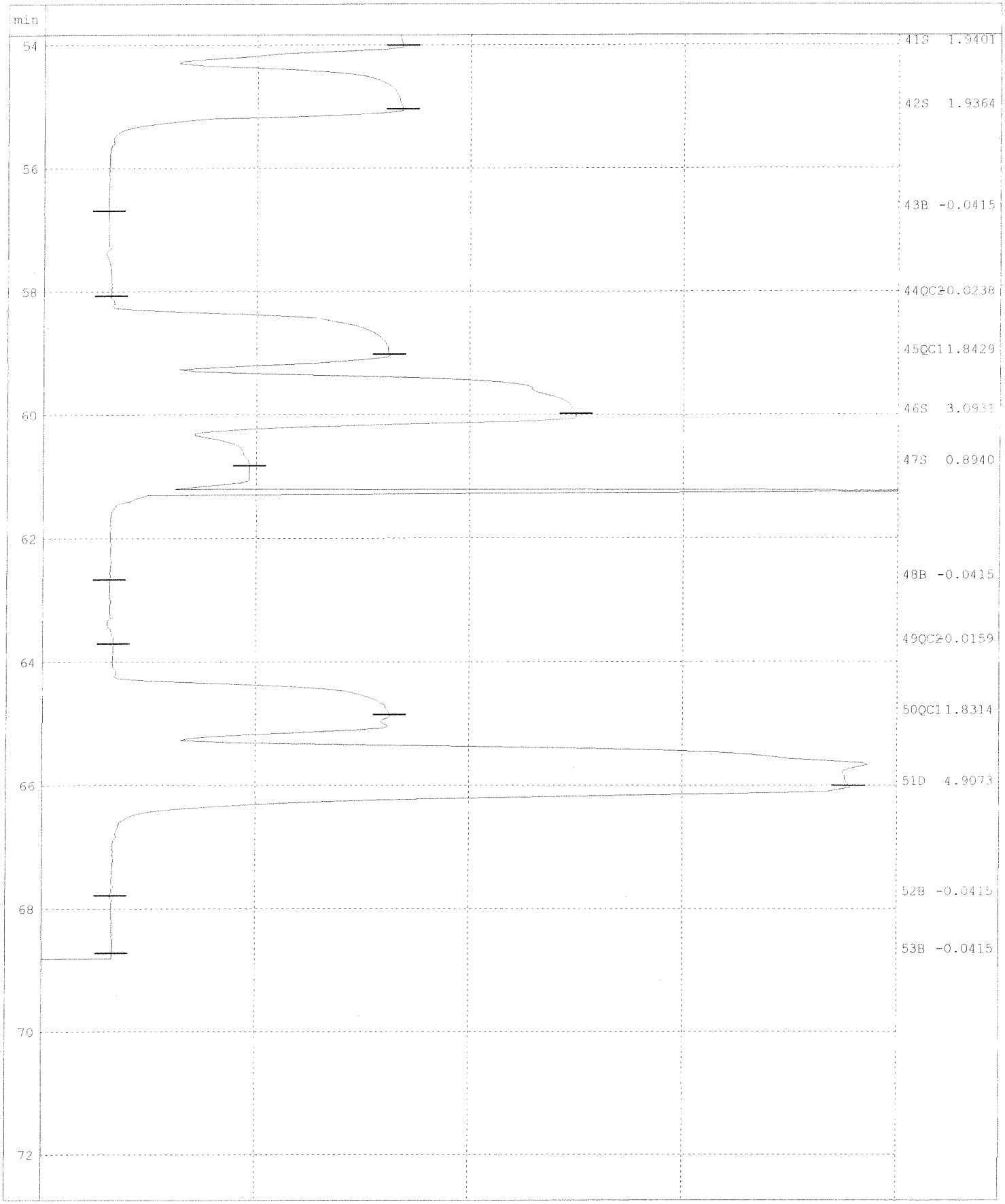
Name of run :091027A.RUN
Comment :

Name of analysis :Ammonia



Name of run :091027A.RUN
Comment :

Name of analysis :Ammonia



COLUMBIA ANALYTICAL SERVICES, INC.

Prep run # : 77104

Work Order #.: K9258 (V) Method: 350.1M

Analysis: NH_3 - Plumb

Date Prepared	Sample Name / Lab Code	Initial Wt./Vol. (g) or (ml)	Final Volume (ml)	mg/L (in solution)	mg/L - mg/kg As Rec'd	% Solids	mg/kg Dry Wt.
10/23/09	MB	100	100				
	K9258-9	20.15					
	-9d	20.33					
	-9t	20.15					
	-9ms	20.21					
	-9msd	20.06					

Spike = 1.0 mL x 10000 ppm (NH_3+LNH3/L - 1-0)

MS=

MSD=

X=

RPD=

STD ID # =

Comments:

Prepared By:	Date Prepared: 10/23/09 TIME: 12:20
Analyzed By:	Date Analyzed: 10/27/09
Reviewed By:	Date Reviewed:

COLUMBIA ANALYTICAL SERVICES, INC.

Work Order #.: K9258 (III)

Method: 350.1 M

Prep run#: 99102

Analysis: NH_3 - Plants

Date Prepared	Sample Name / Lab Code	Initial Wt./Vol. (g) or (ml)	Final Volume (ml)	mg/L (in solution)	mg/L - mg/kg As Rec'd	% Solids	mg/kg Dry Wt.
10/22/09	MB	100	100				
	K9258-1	20.01					
	-2	20.01					
	-3	20.04					
	-4	20.02					
	-4d	20.06					
	-4L	20.05					
	-4MS	20.03					
	-4MSD	20.15					
	-5	20.05					
	-6	20.14					
	-7	20.07					
	-8	20.29					

Spike = 1ml x 10000 ppm (NH_3 + NH_4) - 1 - 0

MS=

MSD=

X=

RPD=

STD ID # =

Comments:

Prepared By:	Date Prepared: 10/22/09 TIME: 10:30
Analyzed By:	Date Analyzed: 10/27/09
Reviewed By:	Date Reviewed:

Columbia Analytical Services, Inc.

Sample Name :	Batch QC	Service Request:	K0909258
Lab Code:	K0909140-019	Method:	D421 / D422
Client:	URS Corporation	Date Collected:	NA
Project:	oise St. Helens Pulp and Paper Mill-2009	Date Received:	NA
Sample Matrix:	Sediment	Date Analyzed:	11/10/2009

Sample Preparation (ASTM D421-85)

(1) Mass of total test sample. (g) (6.1) 25.4282

(3) Mass retained on the No. 4 sieve. (g) (6.2) 0.0000

(2) Coarse Material (6.2)

Coarse material + Tare. (g) 0.0000

Tare weight. (g) 0.0000

(4) Selected portion of fine material. (g) (7.1) 25.4282

Particle Analysis (ASTM D422-63)

Sieve Analysis Of Coarse Material. (6.1)

Gravel 19.0 mm	3/4"	0.0000
Gravel 9.50 mm	3/8"	0.0000
Gravel 4.75 mm	4	0.0000
Gravel 2.00 mm	10	0.0000

Sieve Analysis Of Fine Material. (11.1)

Gravel 0.850 mm	20	0.3877
Gravel 0.425 mm	40	0.5249
Gravel 0.250 mm	60	2.1833
Gravel 0.106 mm	140	9.0475
Gravel 0.075 mm	200	3.2412
Pan	-	0.5442

Analysis of fine material.

Hydrometer corrections. (7.3)

	Hydro 1	Hydro 2
Reading:	6	0

Hygroscopic moisture. (8.1)

Air dried (g)	10.4540
Tare (g)	1.3214
Oven dried + Tare	11.7540

Weight of Fine material

Dry wt.+Tare (g)	119.4730
Tare (g)	103.5202
Fine material (g)	15.9528

Determination of Silt/Clay Fraction. (10.2) (10.3) (10.4)

(10.2) T (Min)	(10.2) Hydro Reading	(7.3) Corr. Fact.	(10.4) Temp °C	Specific Gravity		Table 1 a		Table 3 K		
2	12	6	21	1.13		1.320		0.02441		
5	10		21					0.02441		
15	9		21					0.02441		
30	8		21					0.02441		
60	8		21					0.02441		
250	7		21					0.02441		
1440	6		21					0.02441		

Analyst: KC CP Date: 11/10/2009

Client:	URS Corporation	**Service Request:**	K0909258
Project:	Boise St. Helens Pulp and Paper Mill-2009	**Date Collected:**	NA
Sample Matrix:	Sediment	**Date Received:**	NA
		Date Analyzed:	11/10/2009

ASTM Method D422 Particle Size

Sample Name: Batch QC **Lab Code:** K0909140-019

Initial Weight of air-dried sample. **(6.1)**	25.4282
Mass retained on the No. 4 sieve. **(6.2)**	0.0000
Air-dried portion of fine material. **(7.1)**	25.4282

Course Sieving ASTM D421 (6.2)

Mass of coarse material (g)	0.0000
Percent Recovered	#DIV/0!

Coarse sieving (6.1)		**Sieve #**	**Weight (g)**	**% Passing**	**Mass Passing**
Gravel	19.0 mm	3/4"	0.0000	100.0	25.4282
Gravel	9.50 mm	3/8"	0.0000	100.0	25.4282
Medium Gravel	4.75 mm	4	0.0000	100.0	25.4282
Fine Gravel	2.00 mm	10	0.0000	100.0	25.4282
Fine sieving (11.1)					
V.C. Sand	0.850 mm	20	0.3877	98.5	24.9884
C. Sand	0.425 mm	40	0.5249	96.4	24.4635
M. Sand	0.250 mm	60	2.1833	87.8	22.2802
F. Sand	0.106 mm	140	9.0475	52.1	13.2327
V.F. Sand	0.075 mm	200	3.2412	39.4	9.9915 **(16.2)**

Calculated amount retained on the # 10 sieve. **(16.1)**	0.0000

Total Recovered (g)	25.3761
Total Recovered (%)	100.0

Hygroscopic Moisture (8.1)

Air-dried sample (g)	10.4540
Oven dried sample (g)	10.4326
Hygroscopic Moisture **(13.1)**	0.9980

(W) **(14.2)**	25.3761

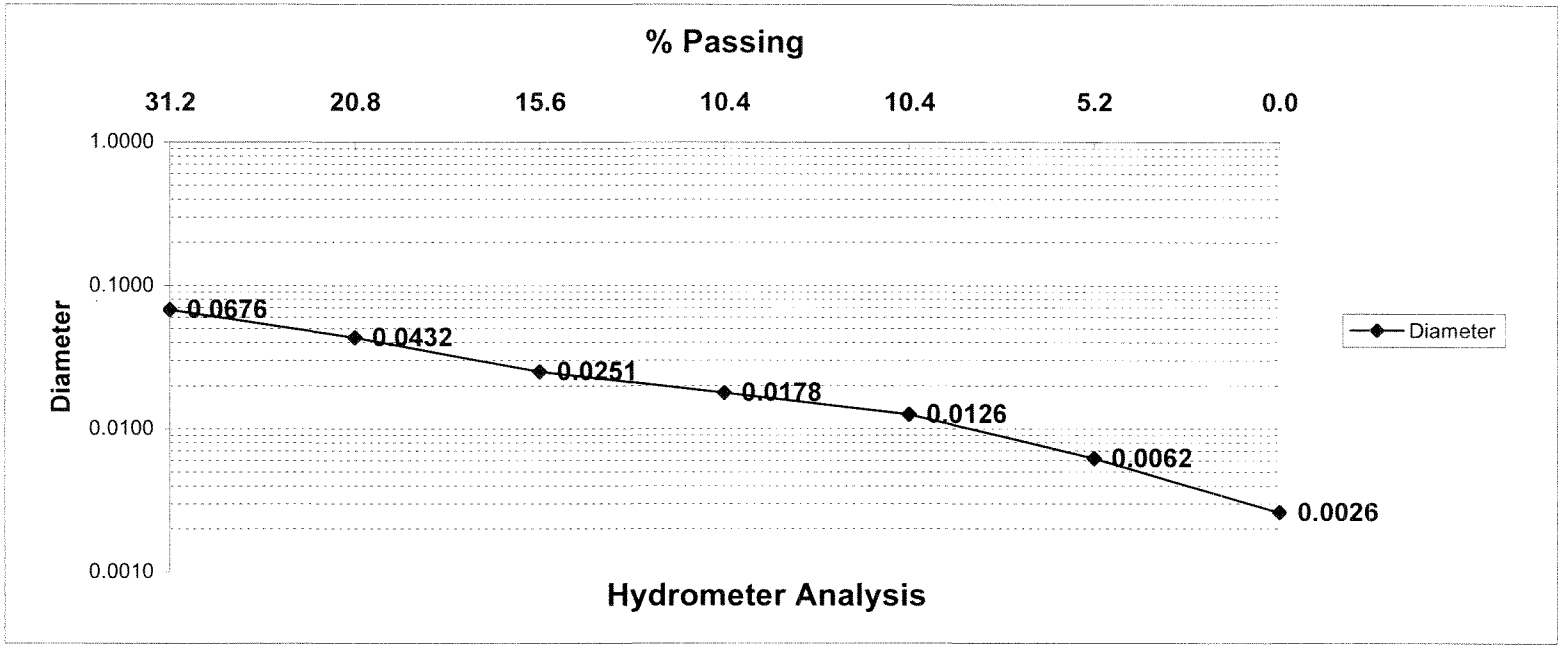
Oven-Dried Sample used in hydrometer analysis. (g) **(14.1)**	25.3761

Determination of Silt/Clay Fraction

(10.2) T (Min)	**(10.2)** Hydro Reading	**(7.3)** Corr. Fact.	**(10.4)** Temp °C	**Table 1** Specific Gravity	H (Net)	**(14.3)** a	**Table 2** L Eff. Depth	**Table 3** K	**(14.3)** % Passing = H/Wa * 100	**(15.1)** Dia-meter
2	12	6	21	1.13	6	1.32	15.3	0.0244126	31.2	0.0676
5	10	6	21	1.13	4	1.32	15.6	0.0244126	20.8	0.0432
15	9	6	21	1.13	3	1.32	15.8	0.0244126	15.6	0.0251
30	8	6	21	1.13	2	1.32	16.0	0.0244126	10.4	0.0178
60	8	6	21	1.13	2	1.32	16.0	0.0244126	10.4	0.0126
250	7	6	21	1.13	1	1.32	16.1	0.0244126	5.2	0.0062
1440	6	6	21	1.13	0	1.32	16.3	0.0244126	0.0	0.0026

Comments:

Sample Name: Batch QC
Lab Code: K0909140-019



Columbia Analytical Services, Inc.

Sample Name :	Batch QC	Service Request:	K0909258
Lab Code:	K0909140-019DUP	Method:	D421 / D422
Client:	URS Corporation	Date Collected:	NA
Project:	oise St. Helens Pulp and Paper Mill-2009	Date Received:	NA
Sample Matrix:	Sediment	Date Analyzed:	11/10/2009

Sample Preparation (ASTM D421-85)

(1) Mass of total test sample. (g) (6.1) 25.0605

(3) Mass retained on the No. 4 sieve. (g) (6.2) 0.0000

(2) Coarse Material (6.2)

Coarse material + Tare. (g) 0.0000

Tare weight. (g) 0.0000

(4) Selected portion of fine material. (g) (7.1) 25.0605

Particle Analysis (ASTM D422-63)

Sieve Analysis Of Coarse Material. (6.1)

Gravel 19.0 mm	3/4"	0.0000
Gravel 9.50 mm	3/8"	0.0000
Gravel 4.75 mm	4	0.0000
Gravel 2.00 mm	10	0.0000

Sieve Analysis Of Fine Material. (11.1)

Gravel 0.850 mm	20	0.2613
Gravel 0.425 mm	40	0.5789
Gravel 0.250 mm	60	2.3409
Gravel 0.106 mm	140	9.6414
Gravel 0.075 mm	200	2.7470
Pan	-	0.4035

Analysis of fine material.

Hydrometer corrections. (7.3)

	Hydro 1	Hydro 2
Reading:	6	0

Hygroscopic moisture. (8.1)

Air dried (g)	10.4540
Tare (g)	1.3214
Oven dried + Tare	11.7540

Weight of Fine material

Dry wt.+Tare (g)	124.7319
Tare (g)	108.7154
Fine material (g)	16.0165

Determination of Silt/Clay Fraction. (10.2) (10.3) (10.4)

(10.2) T (Min)	(10.2) Hydro Reading	(7.3) Corr. Fact.	(10.4) Temp °C	Specific Gravity		Table 1 a		Table 3 K		
2	12	6	21	1.13		1.320		0.02441		
5	9		21					0.02441		
15	8		21					0.02441		
30	8		21					0.02441		
60	7		21					0.02441		
250	7		21					0.02441		
1440	6		21					0.02441		

Analyst: KC CP Date: 11/10/2009

Client:	URS Corporation	**Service Request:**	K0909258
Project:	Boise St. Helens Pulp and Paper Mill-2009	**Date Collected:**	NA
Sample Matrix:	Sediment	**Date Received:**	NA
		Date Analyzed:	11/10/2009

ASTM Method D422 Particle Size

Sample Name: Batch QC **Lab Code:** K0909140-019DUP

Initial Weight of air-dried sample. **(6.1)**	25.0605
Mass retained on the No. 4 sieve. **(6.2)**	0.0000
Air-dried portion of fine material. **(7.1)**	25.0605

Course Sieving ASTM D421 (6.2)

Mass of coarse material (g)	0.0000
Percent Recovered	#DIV/0!

Coarse sieving (6.1)		**Sieve #**	**Weight (g)**	**% Passing**	**Mass Passing**
Gravel	19.0 mm	3/4"	0.0000	100.0	25.0605
Gravel	9.50 mm	3/8"	0.0000	100.0	25.0605
Medium Gravel	4.75 mm	4	0.0000	100.0	25.0605
Fine Gravel	2.00 mm	10	0.0000	100.0	25.0605
Fine sieving (11.1)					
V.C. Sand	0.850 mm	20	0.2613	99.0	24.7479
C. Sand	0.425 mm	40	0.5789	96.6	24.1690
M. Sand	0.250 mm	60	2.3409	87.3	21.8281
F. Sand	0.106 mm	140	9.6414	48.7	12.1867
V.F. Sand	0.075 mm	200	2.7470	37.7	9.4397 **(16.2)**

Calculated amount retained on the # 10 sieve. **(16.1)**	0.0000

Total Recovered (g)	25.0092
Total Recovered (%)	100.0

Hygroscopic Moisture (8.1)

Air-dried sample (g)	10.4540
Oven dried sample (g)	10.4326
Hygroscopic Moisture **(13.1)**	0.9980

(W) **(14.2)**	25.0092

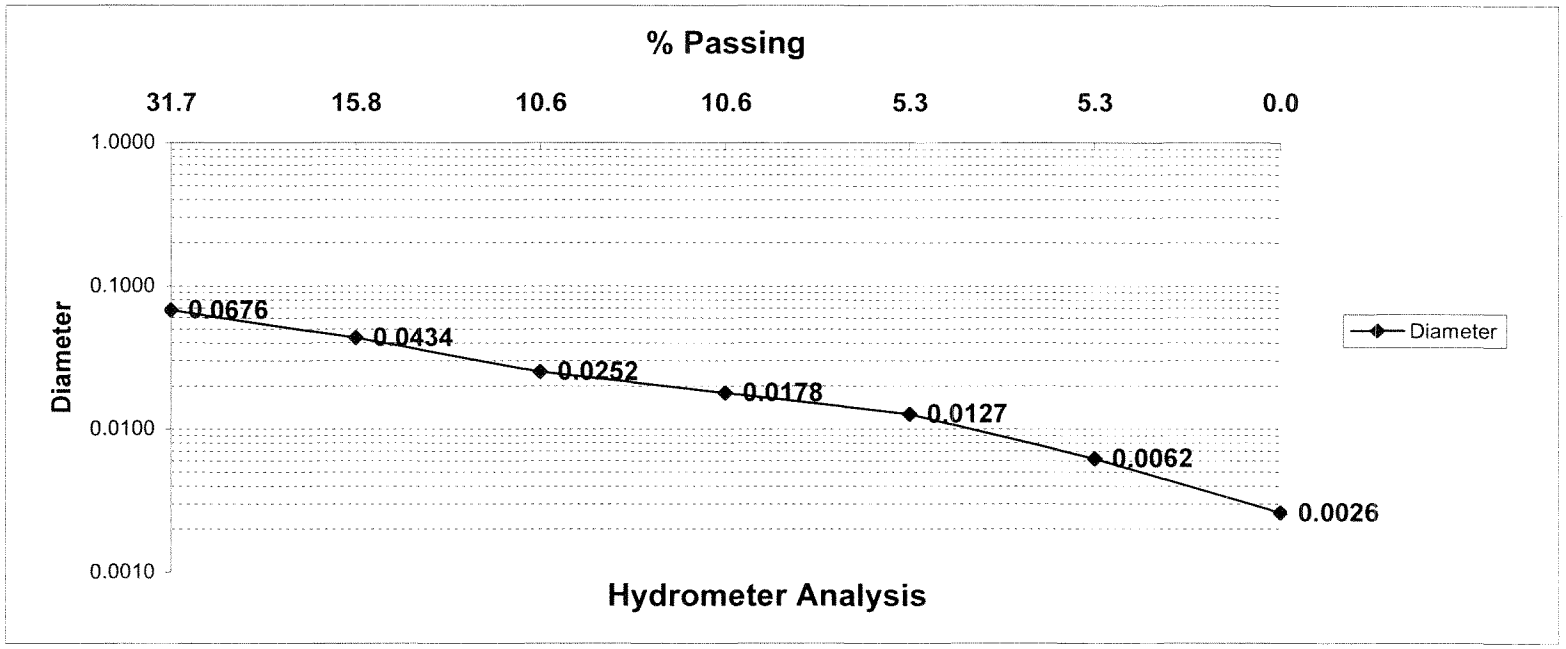
Oven-Dried Sample used in hydrometer analysis. (g) **(14.1)**	25.0092

Determination of Silt/Clay Fraction

(10.2) T (Min)	**(10.2)** Hydro Reading	**(7.3)** Corr. Fact.	**(10.4)** Temp °C	**Table 1** Specific Gravity	H (Net)	**(14.3)** a	**Table 2** L Eff. Depth	**Table 3** K	**(14.3)** % Passing = H/Wa * 100	**(15.1)** Dia-meter
2	12	6	21	1.13	6	1.32	15.3	0.0244126	31.7	0.0676
5	9	6	21	1.13	3	1.32	15.8	0.0244126	15.8	0.0434
15	8	6	21	1.13	2	1.32	16.0	0.0244126	10.6	0.0252
30	8	6	21	1.13	2	1.32	16.0	0.0244126	10.6	0.0178
60	7	6	21	1.13	1	1.32	16.1	0.0244126	5.3	0.0127
250	7	6	21	1.13	1	1.32	16.1	0.0244126	5.3	0.0062
1440	6	6	21	1.13	0	1.32	16.3	0.0244126	0.0	0.0026

Comments:

Sample Name: Batch QC
Lab Code: K0909140-019DUP



1317 South 13th Avenue Kelso, Washington 98626 (360) 577-7222 (360) 636-1068 fax

Columbia Analytical Services INC.
An Employee - Owned Company

December 15, 2009 Analytical Report for Service Request No: K0909140

David Weatherby
URS Corporation
111 SW Columbia, Suite 1500
Portland, OR 97201

RE: Boise St. Helens Pulp and Paper Mill-2009

Dear David:

Enclosed are the additional pages for the samples submitted to our laboratory on September 29, 2009. For your reference, these analyses have been assigned our service request number K0909140.

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. The test results meet requirements of the current NELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP-accredited analytes, refer to the certifications section at www.caslab.com. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please call if you have any questions. My extension is 3358. You may also contact me via Email at LHuckestein@caslab.com.

Respectfully submitted,

Columbia Analytical Services, Inc.

Lynda Huckestein
Client Services Manager

LH/lb

NELAP Accredited ACIL Seal of Excellence Award 100% Recycled

Service Request #: K0909569, K0909135 Method: COMPOSITE

Analysis For: _____ Matrix: _____

SAMPLE #	
K9569 - PAH-MS-1	20.1911 g
- PAH-MS-1d	20.0623 g
- PCB-MS-1	20.2634 g
- PCB-MS-1d	20.2256 g
- PCDD-MS-1	10.1998 g
- PCDD-MS-1d	10.1788 g
- METALS-MS-1	10.1076 g
- METALS-MS-1d	10.1887 g
- GRAIN SIZE-MS-1	100.02 g
- GRAIN SIZE-MS-1d	100.43 g
- TOTAL SOLIDS-MS-1	10.0296 g
- TOTAL SOLIDS-MS-1d	10.0592 g
- PAH-MSD-1	20.1813 g
- PAH-MSD-1d	20.0690 g
- PCB-MSD-1	20.2628 g
- PCB-MSD-1d	20.3979 g
- PCDD-MSD-1	10.0997 g
- PCDD-MSD-1d	10.1123 g
- METALS-MSD-1	10.0254 g
- METALS-MSD-1d	10.0464 g
- GRAIN SIZE-MSD-1	100.21 g
- GRAIN SIZE-MSD-1d	100.36 g
- TOTAL SOLIDS-MSD-1	10.1518 g
- TOTAL SOLIDS-MSD-1d	10.2998 g
K9135-PAH DUP-1	20.2864 g
PCB DUP-1	20.0227 g
PCDD DUP-1	10.1465 g
METALS DUP-1	10.1997 g
GRAIN SIZE DUP-1	100.26 g
Comments: TOTAL SOLIDS DUP-1	10.0999 g

Analyzed By: NC	Date: 9-NOV-09
Reviewed By:	Date:

Genbench1

Columbia Analytical Services Inc.

Service Request #: K0909745 Method: COMPOSITE

Analysis For: _____ Matrix: _____

SAMPLE ID	TAKE 212.4 g	TAKE OUT:
K 9745-1	262.4 g	27.7 g
-2	301.0 g	66.3 g
-3	278.8 g	44.1 g
-4	273.3 g	38.6 g
-5	263.7 g	29 g
-6	294.6 g	59.9 g
-7	292.1 g	57.4 g
-8	310.0 g	75.3 g
-9	293.2 g	58.5 g
-10	337.7 g	103 g
-11	234.7 g	Ø
-12	247.1 g	12.4 g
-13	296.1 g	61.4 g
-14	301.3 g	66.6 g
-15	288.9 g	54.2 g

Comments: _____

Analyzed By: MC	Date: 26 OCT 09
Reviewed By:	Date:

Genbench1

Columbia Analytical Services Inc.

Service Request #: K0909745 Method: COMPOSITE

Analysis For: _____ Matrix: _____

SAMPLE ID	CORE 2 [illegible].4g	TAKE OUT:
K9745-16	299.1g	64.4g
-17	296.2g	61.5g
-18	244.2g	9.5g
-19	270.2g	35.5g
-20	290.4g	55.7g
-21	277.0g	42.3g
-22	336.3g	101.6g
-23	326.1g	91.4g
-24	234.8g	0.1g
-25	319.0g	84.3g
-26	339.0g	104.3g
-27	295.3g	60.6g
-28	290.7g	56g
-29	316.3g	81.6g
-30	273.3g	38.6g

Comments: _____

Analyzed By: NC	Date: 26-OCT-09
Reviewed By:	Date:

Genbench1

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K0909745

262.4	234.7	27.7
	234.7	
301	234.7	66.3
	234.7	
278.8	234.7	44.1
	234.7	
273.3	234.7	38.6
	234.7	
263.7	234.7	29
	234.7	
294.6	234.7	59.9
	234.7	
292.1	234.7	57.4
	234.7	
310	234.7	75.3
	234.7	
293.2	234.7	58.5
	234.7	
337.7	234.7	103
	234.7	
234.7	234.7	0
	234.7	
247.1	234.7	12.4
	234.7	
296.1	234.7	61.4
	234.7	
301.3	234.7	66.6
	234.7	
288.9	234.7	54.2
	234.7	
299.1	234.7	64.4
	234.7	
296.2	234.7	61.5
	234.7	
244.2	234.7	9.5
	234.7	
270.2	234.7	35.5
	234.7	
290.4	234.7	55.7
	234.7	
277	234.7	42.3
	234.7	
336.3	234.7	101.6
	234.7	
326.1	234.7	91.4
	234.7	
234.8	234.7	0.1
	234.7	
319	234.7	84.3
	234.7	
339	234.7	104.3

	234.7	
295.3	234.7	60.6
	234.7	
290.7	234.7	56
	234.7	
316.3	234.7	81.6
	234.7	
273.3	234.7	38.6

Columbia Analytical Services Inc.

Service Request #: K0909743 Method: COMPOSITE

Analysis For: _____ Matrix: _____

SAMPLE ID:	TAKE: 212.4g	TAKE OUT:
K9743 - 1	254.3 g	18.1g
-2	281.3 g	45.1g
-3	237.0g	0.8 g
-4	279.0g	42.8g
-5	298.2 g	62 g
-6	293.0g	56.8g
-7	272.1g	35.9g
-8	236.2g	Ø
-9	356.8g	120.6g
-10	261.8g	25.6g
-11	308.0 g	71.8g
-12	272.1g	35.9g
-13	300.2 g	64 g
-14	260.9g	24.7g
-15	297.8g	61.6g

Comments: _____

Analyzed By: NC	Date: 26-OCT-09
Reviewed By:	Date:

Genbench1

Columbia Analytical Services Inc.

Service Request #: K0909743 Method: COMPOSITE

Analysis For: _____ Matrix: _____

SAMPLE ID:	TAKE 212.4g	TAKE OUT
K9743-16	276.7g	35.9g
-17	307.0g	70.8g
-18	269.4g	33.2g
-19	284.4g	48.2g
-20	294.4g	58.2g
-21	290.9g	54.7g
-22	289.3g	53.1g
-23	305.7g	69.5g
-24	308.8g	72.6g
-25	306.6g	70.4g
-26	248.4g	12.2g
-27	292.3g	56.1g
-28	336.2g	100g
-29	322.2g	86g
-30	307.7g	71.5g

Comments: _____

Analyzed By: NL	Date: 26-OCT-09
Reviewed By:	Date:

Genbench1

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K090974 3

254.3	236.2	18.1
	236.2	
281.3	236.2	45.1
	236.2	
237	236.2	0.8
	236.2	
279	236.2	42.8
	236.2	
298.2	236.2	62
	236.2	
293	236.2	56.8
	236.2	
272.1	236.2	35.9
	236.2	
236.2	236.2	0
	236.2	
356.8	236.2	120.6
	236.2	
261.8	236.2	25.6
	236.2	
308	236.2	71.8
	236.2	
272.1	236.2	35.9
	236.2	
300.2	236.2	64
	236.2	
260.9	236.2	24.7
	236.2	
297.8	236.2	61.6
	236.2	
271.7	236.2	35.5
	236.2	
307	236.2	70.8
	236.2	
269.4	236.2	33.2
	236.2	
284.4	236.2	48.2
	236.2	
294.4	236.2	58.2
	236.2	
290.9	236.2	54.7
	236.2	
289.3	236.2	53.1
	236.2	
305.7	236.2	69.5
	236.2	
308.8	236.2	72.6
	236.2	
306.6	236.2	70.4
	236.2	
248.4	236.2	12.2

	236.2	
292.3	236.2	56.1
	236.2	
336.2	236.2	100
	236.2	
322.2	236.2	86
	236.2	
307.7	236.2	71.5

Columbia Analytical Services Inc.

Service Request #: K0909744 Method: COMPOSITE

Analysis For: _____ Matrix: _____

SAMPLE ID	TAKE: 212.4g	TAKE OUTS
K9744-1	282.2g	93.9g
-2	241.8g	53.5g
-3	304.9g	116.6g
-4	275.2g	86.9g
-5	294.6g	106.3g
-6	298.0g	109.7g
-7	276.5g	88.2g
-8	294.6g	106.3g
-9	311.6g	123.3g
-10	318.9g	130.6g
-11	281.1g	92.8g
-12	288.0g	99.7g
-13	251.7g	63.4g
-14	306.8g	118.5g
-15	229.7g	41.4g

Comments: _____

Analyzed By: MC	Date: 26-OCT-09
Reviewed By:	Date:

Genbench1

Columbia Analytical Services Inc.

Service Request #: K0909744 Method: COMPOSITE

Analysis For: _____ Matrix: _____

SAMPLE ID		TAKE OUT:
K9744-16	283.5g	95.2g
-17	238.8g	50.5g
-18	308.3g	120g
-19	257.4g	69.1g
-20	235.1g	46.8g
-21	251.1g	62.8g
-22	279.6g	91.3g
-23	282.8g	94.5g
-24	188.3g	∅
-25	309.4g	121.1g
-26	233.9g	45.6g
-27	301.9g	113.6g
-28	297.8g	109.5g
-29	296.5g	108.2g
-30	307.8g	119.5g

Comments: _____

Analyzed By: NL	Date: 26-OCT-09
Reviewed By:	Date:

Genbench1

K0909744

282.2	188.3	93.9
	188.3	
241.8	188.3	53.5
	188.3	
304.9	188.3	116.6
	188.3	
275.2	188.3	86.9
	188.3	
294.6	188.3	106.3
	188.3	
298	188.3	109.7
	188.3	
276.5	188.3	88.2
	188.3	
294.6	188.3	106.3
	188.3	
311.6	188.3	123.3
	188.3	
318.9	188.3	130.6
	188.3	
281.1	188.3	92.8
	188.3	
288	188.3	99.7
	188.3	
251.7	188.3	63.4
	188.3	
306.8	188.3	118.5
	188.3	
229.7	188.3	41.4
	188.3	
283.5	188.3	95.2
	188.3	
238.8	188.3	50.5
	188.3	
308.3	188.3	120
	188.3	
257.4	188.3	69.1
	188.3	
235.1	188.3	46.8
	188.3	
251.1	188.3	62.8
	188.3	
279.6	188.3	91.3
	188.3	
282.8	188.3	94.5
	188.3	
188.3	188.3	0
	188.3	
309.4	188.3	121.1
	188.3	
233.9	188.3	45.6

	188.3	
301.9	188.3	113.6
	188.3	
297.8	188.3	109.5
	188.3	
296.5	188.3	108.2
	188.3	
307.8	188.3	119.5

vice Request #: K0910481 Method:

alysis For: Matrix:

SAMPLE #		
K10481 - 1A	80.0494 g	
- 1B	10.2733 g	
- 1C	10.2316 g	
- 1D	80.1590 g	
- 1E	10.0201 g	
- 2A	80.1490 g	
- 2B	10.0965 g	
- 2C	10.1677 g	
- 2D	80.0944 g	
- 2E	10.0414 g	
- 3A	80.1008 g	
- 3B	10.3537 g	
- 3C	10.0636 g	
- 3D	NC ~~88~~ 80.0951 g	
- 3E	10.1479 g	
- 4A	80.1811 g	
- 4B	10.0796 g	
- 4C	10.0822 g	
- 4D	80.3101 g	
- 4E	10.1139 g	
- 5A	80.3850 g	
- 5B	10.0602 g	
- 5C	10.2003 g	
- 5D	80.1163 g	
- 5E	10.1632 g	
- 6A	80.1110 g	
- 6B	10.1900 g	
- 6C	10.0384 g	
- 6D	80.2106 g	
- 6E	10.0755 g	

mments:

alyzed By: NC	Date: 3-NOV-09
viewed By:	Date:

Genbench1

ervice Request #: K0910481 Method:

nalysis For: Matrix:

SAMPLE #		
K10481 - 7A	80.3270 g	
- 7B	10.2640 g	
- 7C	10.0136 g	
- 7D	80.0934 g	
- 7E	10.2784 g	
- 8A	80.2846 g	
- 8B	10.1809 g	
- 8C	10.2208 g	
- 8D	80.4064 g	
- 8E	10.0201 g	

omments:

nalyzed By: NC	Date: 3-Nov-09
eviewed By:	Date:

Genbench1

Columbia Analytical Services Inc.

Service Request #: K0909134 Method: COMPOSITE

Analysis For: _____ Matrix: _____

SAMPLE ID	TARE = 211.2g	TARE OUT
K9134 - 1	270.5 g	82.3 g
- 2	301.2 g	113 g
- 3	253.4 g	65.2 g
- 4	301.7 g	113.5 g
- 5	264.6 g	176.4 g
- 6	280.7 g	92.5 g
- 7	302.6 g	114.4 g
- 8	206.6 g	18.4 g
- 9	262.2 g	74 g
- 10	265.5 g	77.3 g
- 11	264.6 g	76.4 g
- 12	237.6 g	49.4 g
- 13	260.3 g	72.1 g
- 14	257.0 g	68.8 g
- 15	257.1 g	68.9 g
- 16	246.4 g	58.2 g
- 17	230.2 g	42 g
- 18	210.9 g	22.7 g
- 19	225.8 g	37.6 g
- 20	237.2 g	49 g
- 21	226.1 g	37.9 g
- 22	212.5 g	24.3 g
- 23	243.1 g	54.9 g
- 24	224.3 g	36.1 g
- 25	221.9 g	33.7 g
- 26	188.2 g	Ø
- 27	207.4 g	19.2 g
- 28	237.8 g	49.6 g
- 29	291.4 g	103.2 g
- 30	277.9 g	89.7 g

Comments:

Analyzed By: NC	Date: 27-OCT-09
Reviewed By:	Date:

Genbench1

K9134

1	270.5	188.2	82.3
		188.2	
	301.2	188.2	113
		188.2	
	253.4	188.2	65.2
		188.2	
	301.7	188.2	113.5
		188.2	
5	364.6	188.2	176.4
		188.2	
	280.7	188.2	92.5
		188.2	
	302.6	188.2	114.4
		188.2	
	206.6	188.2	18.4
		188.2	
	262.2	188.2	74
		188.2	
10	265.5	188.2	77.3
		188.2	
	264.6	188.2	76.4
		188.2	
	237.6	188.2	49.4
		188.2	
	260.3	188.2	72.1
		188.2	
	257	188.2	68.8
		188.2	
15	257.1	188.2	68.9
		188.2	
	246.4	188.2	58.2
		188.2	
	230.2	188.2	42
		188.2	
	210.9	188.2	22.7
		188.2	
	225.8	188.2	37.6
		188.2	
20	237.2	188.2	49
		188.2	
	226.1	188.2	37.9
		188.2	
	212.5	188.2	24.3
		188.2	
	243.1	188.2	54.9
		188.2	
	224.3	188.2	36.1
		188.2	
25	221.9	188.2	33.7
		188.2	
	188.2	188.2	0

	188.2	
207.4	188.2	19.2
	188.2	
237.8	188.2	49.6
	188.2	
291.4	188.2	103.2
	188.2	
277.9	188.2	89.7

Columbia Analytical Services Inc.

Service Request #: K0909136 Method: COMPOSITE

Analysis For: _____ Matrix: _____

SAMPLE ID	TARE: 211.2g	TAKE OUT:
K9136 - 1	290.4	123 g
- 2	273.8 g	106.4 g
- 3	287.4 g	120 g.
- 4	231.1 g	63.7 g
- 5	254.1 g	86.7 g
- 6	258.2 g	90.8 g
- 7	257.7 g	90.3 g
- 8	222.9 g	55.5 g
- 9	268.5 g	101.1 g
-10	270.9 g	103.5 g
-11	252.0 g	84.6 g
-12	258.7 g	91.3 g
-13	228.3 g	60.9 g
-14	228.0 g	60.6 g
-15	232.1 g	64.7 g
-16	258.8 g	91.4 g
-17	209.4 g	42 g
-18	263.8 g	96.4 g
-19	209.9 g	42.5 g
-20	227.7 g	60.4 g
-21	212.9 g	45.5 g
-22	222.8 g	NC ~~55.2 g~~ 55.4 g
-23	222.6 g	~~75.6 g~~ 55.2 g
-24	243.0 g	~~44.5 g~~ 75.6 g
-25	211.9 g	~~8.3 g~~ 44.5 g
-26	175.7 g	~~41 g~~ 8.3 g
-27	208.4 g	41 g
-28	167.4 g	Ø
-29	191.8 g	24.4 g
-30	283.7 g	116.3 g

Comments: _____

Analyzed By: NC	Date: 27.OCT.09
Reviewed By:	Date:

Genbench1

K9136

290.4	167.4	123
	167.4	
273.8	167.4	106.4
	167.4	
287.4	167.4	120
	167.4	
231.1	167.4	63.7
	167.4	
254.1	167.4	86.7
	167.4	
258.2	167.4	90.8
	167.4	
257.7	167.4	90.3
	167.4	
222.9	167.4	55.5
	167.4	
268.5	167.4	101.1
	167.4	
270.9	167.4	103.5
	167.4	
252	167.4	84.6
	167.4	
258.7	167.4	91.3
	167.4	
228.3	167.4	60.9
	167.4	
228	167.4	60.6
	167.4	
232.1	167.4	64.7
	167.4	
258.8	167.4	91.4
	167.4	
209.4	167.4	42
	167.4	
263.8	167.4	96.4
	167.4	
209.9	167.4	42.5
	167.4	
227.8	167.4	60.4
	167.4	
212.9	167.4	45.5
	167.4	
222.6	167.4	55.2
	167.4	
243	167.4	75.6
	167.4	
25 211.9	167.4	44.5
	167.4	
175.7	167.4	8.3
	167.4	
208.4	167.4	41

		167.4	
	167.4	167.4	0
		167.4	
	191.8	167.4	24.4
		167.4	
30	283.7	167.4	116.3

Columbia Analytical Services Inc.

Service Request #: K0909135 Method: COMPOSITE

Analysis For: _____ Matrix: _____

SAMPLE ID	TARE: 211.2g	TAKE OUT:
K9135 - 1	303.2g	132.4g
- 2	255.1g	84.3g
- 3	296.1g	125.3g
- 4	203.8g	33 g
- 5	266.9g	96.1g
- 6	266.1g	95.3g
- 7	254.4g	83.6g
- 8	242.6g	71.8g
- 9	220.8g	50 g
- 10	228.7g	57.9g
- 11	228.3g	57.5g
- 12	228.4g	57.6g
- 13	230.0g	59.2g
- 14	266.7g	95.9g
- 15	230.6g	59.8g
- 16	205.4g	34.6g
- 17	200.2g	29.4g
- 18	248.4g	77.6g
- 19	218.3g	47.5g
- 20	224.4g	53.6g
- 21	236.4g	65.6g
- 22	211.0g	40.2g
- 23	196.1g	25.3g
- 24	206.8g	36 g
- 25	170.8g	Ø
- 26	217.6g	46.8g
- 27	226.1g	55.3g
- 28	241.5g	70.7g
- 29	286.7g	115.9g
- 30	268.1g	97.3g

Comments: _____

Analyzed By: NC	Date: 27-OCT-09
Reviewed By:	Date:

Genbench1

K9135

1	303.2	170.8	132.4
		170.8	
	255.1	170.8	84.3
		170.8	
	296.1	170.8	125.3
		170.8	
	203.8	170.8	33
		170.8	
5	266.9	170.8	96.1
		170.8	
	266.1	170.8	95.3
		170.8	
	254.4	170.8	83.6
		170.8	
	242.6	170.8	71.8
		170.8	
	220.8	170.8	50
		170.8	
10	228.7	170.8	57.9
		170.8	
	228.3	170.8	57.5
		170.8	
	228.4	170.8	57.6
		170.8	
	230	170.8	59.2
		170.8	
	266.7	170.8	95.9
		170.8	
15	230.6	170.8	59.8
		170.8	
	205.4	170.8	34.6
		170.8	
	200.2	170.8	29.4
		170.8	
	248.4	170.8	77.6
		170.8	
	218.3	170.8	47.5
		170.8	
20	224.4	170.8	53.6
		170.8	
	236.4	170.8	65.6
		170.8	
	211	170.8	40.2
		170.8	
	196.1	170.8	25.3
		170.8	
	206.8	170.8	36
		170.8	
25	170.8	170.8	0
		170.8	
	217.6	170.8	46.8

		170.8	
	226.1	170.8	55.3
		170.8	
	241.5	170.8	70.7
		170.8	
	286.7	170.8	115.9
		170.8	
30	268.1	170.8	97.3

INTENDED

TO BE

BLANK

INTENDED

TO BE

BLANK

Service Request #: K0909136 Method: COMPOSITE

Analysis For: _____ Matrix: _____

SAMPLE #	
K9136 - PAH 1	20.1992 g
- PAH 1D	20.1831 g
- PCB 1	20.0624 g
- PCB 1D	20.0272 g
- PCDD 1	10.0536 g
- PCDD 1D	10.1877 g
- METALS 1	10.2903 g
- METALS 1D	10.1654 g
- GRAIN SIZE 1	100.6 g
- GRAIN SIZE 1D	100.2 g
- TOTAL SOLIDS 1	10.0548 g
- TOTAL SOLIDS 1D	10.1195 g

Comments:

Analyzed By: NC	Date: 3-NOV 09
Reviewed By:	Date:

Genbench1

Service Request #: K0909134

Method: COMPOSITE

Analysis For:

Matrix:

SAMPLE #		
K9134 - PAH 1	20.1969 g	
- PAH 1d	20.3466 g	
- PCB 1	20.5120 g	
- PCB 1d	20.5388 g	
- PCDD 1	10.3070 g	
- PCDD 1d	10.0308 g	
- METALS 1	10.1241 g	
- METALS 1d	10.0211 g	
- GRAIN SIZE 1	100.72 g	
- GRAIN SIZE 1d	100.13 g	
- TOTAL SOLIDS 1	10.2965 g	
- TOTAL SOLIDS 1d	10.1897 g	

Comments:

Analyzed By: NC	Date: 2-NOV-09
Reviewed By:	Date:

Genbench1

Service Request #: K0909135

Method: COMPOSITE

Analysis For: _____

Matrix: _____

SAMPLE #		
K9135 - PAH 1	20.7988 g	
- PAH 1d	20.6352 g	
- PCB 1	20.3917 g	
- PCB 1d	20.3259 g	
- PCDD 1	10.1528 g	
- PCDD 1d	10.2228 g	
- METALS 1	10.8800 g	
- METALS 1d	10.1558 g	
- GRAIN SIZE 1	100.7 g	
- GRAIN SIZE 1d	100.3 g	
- TOTAL SOLIDS 1	10.2926 g	
- TOTAL SOLIDS 1d	10.2438 g	

Comments: _____

Analyzed By: NC	Date: 30-OCT-09
Reviewed By:	Date:

Genbench1

Service Request #: K0909745, K0909637 Method: COMPOSITE

Analysis For: _____ Matrix: _____

SAMPLE #		
K9745 - PAH 1	20.2735 g	
- PAH 1d	20.1871 g	
- PCB 1	20.2969 g	
- PCB 1d	20.2052 g	
- PCDD 1	10.3558 g	
- PCDD 1d	10.4628 g	
- METALS 1	10.3553 g	
- METALS 1d	10.1898 g	
- GRAIN SIZE 1	100.2 g	
- GRAIN SIZE 1d	100.3 g	
- TOTAL SOLIDS 1	10.1711 g	
- TOTAL SOLIDS 1d	10.2350 g	
K9637 - PAH - 1	20.0950 g	
- PAH - 1d	20.3978 g	
- PCB - 1	20.0347 g	
- PCB - 1d	20.1999 g	
- PCDD - 1	10.3346 g	
- PCDD 1d	10.3737 g	
- METALS 1	10.3740 g	
- METALS 1d	10.3827 g	
- GRAIN SIZE 1	100.3 g	
- GRAIN SIZE 1d	100.9 g	
- TOTAL SOLIDS 1	10.2161 g	
- TOTAL SOLIDS 1d	10.0751 g	

Comments:

Analyzed By: NC	Date: 30-OCT-09
Reviewed By:	Date:

Genbench1

Service Request #: K0909480 Method: COMPOSITE

Analysis For: _____ Matrix: _____

SAMPLE #		
K9480 - PAH - 1	20.3514 g	
- PAH - 1D	20.4096 g	
- PCB - 1	20.4805 g	
- PCB - 1D	20.3816 g	
- PCDD - 1	10.0003 g	
- PCDD - 1D	10.1310 g	
- METALS 1	10.4926 g	
- METALS 1D	10.4405 g	
- GRAIN SIZE 1	100.4 g	
- GRAIN SIZE 1D	100.9 g	
- TOTAL SOLIDS 1	10.6392 g	
- TOTAL SOLIDS 1D	10.1860 g	

Comments:

Analyzed By: NC	Date: 29-OCT-09
Reviewed By:	Date:

Genbench1

Service Request #: K0909482, K0909743 Method: COMPOSITE

Analysis For: _____ Matrix: _____

SAMPLE #	
K9482 - PAH 1	20.4965 g
- PAH 1d	20.3102 g
- PCB 1	20.3604 g
- PCB 1d	20.0544 g
- PCDD 1	10.0683 g
- PCDD 1d	10.3483 g
- METALS 1	10.5318 g
- METALS 1d	10.7537 g
- GRAIN SIZE 1	100.2 g
- GRAIN SIZE 1d	100.4 g
- TOTAL SOLIDS 1	10.5145 g
- TOTAL SOLIDS 1d	10.1607 g
K9743 - PAH 1	20.0845 g
- PAH 1d	20.4413 g
- PCB 1	20.1850 g
- PCB 1d	20.1289 g
- PCDD 1	10.3528 g
- PCDD 1d	10.2150 g
- METALS 1	10.1043 g
- METALS 1d	10.3290 g
- GRAIN SIZE 1	100.4 g
- GRAIN SIZE 1d	100.2 g
- TOTAL SOLIDS 1	10.4896 g
- TOTAL SOLIDS 1d	10.2757 g

Comments:

Analyzed By: NC	Date: 28 OCT 09
Reviewed By:	Date:

Genbench1

Service Request #: K0909744 Method: COMPOSITE

Analysis For: _____ Matrix: _____

SAMPLE #	
K9744 - PAH 1	20.4047 g
- PAH 1d	20.3188 g
- PCB 1	20.3696 g
- PCB 1d	20.5120 g
- PCDD 1	10.4276 g
- PCDD 1d	10.1313 g
- METALS 1	10.2348 g
- METALS 1d	10.3985 g
- GRAIN SIZE 1	100.2 g
- GRAIN SIZE 1d	100.1 g
- TOTAL SOLIDS 1	10.1882 g
- TOTAL SOLIDS 1d	10.3274 g

Comments:

Analyzed By: NC	Date: 28-OCT-09
Reviewed By:	Date:

Genbench1

Columbia Analytical Services Inc.

Service Request #: _____ Method: COMPOSITE

Analysis For: _____ Matrix: _____

Sample ID:	# of Drops:	Comments:
K9640		
- PAH 1		20.2262 g
- PAH 1d		20.9124 g
- PCB 1		20.0613 g
- PCB 1d		20.2407 g
- PCDD 1		20.0363 g
- PCDD 1d		20.0453 g
- METALS 1		10.2878 g
- METALS 1d		10.1660 g
- GRAIN SIZE 1		100.07 g
- GRAIN SIZE 1d		100.27 g
- TOTAL SOLIDS 1		10.8113 g
- TOTAL SOLIDS 1d		10.5555 g

Analyst: NC	Date: 22 OCT
Reviewed By:	Date:

Columbia Analytical Services Inc.

Service Request #: _____ Method: COMPOSITE

Analysis For: _____ Matrix: _____

Sample ID:	# of Drops:	Comments:
K9130		
- PAH 1		20.2145 g
- PAH 1d		20.1753 g
- PCB 1		20.3849 g
- PCB 1d		20.0478 g
- PCDD 1		10.0473 g
- PCDD 1d		10.8012 g
- METALS 1		10.4241 g
- METALS 1d		10.5801 g
- GRAIN SIZE 1		100.2 g
- GRAIN SIZE 1d		100.4 g
- TOTAL SOLIDS 1		10.0498 g
- TOTAL SOLIDS 1d		10.5831 g
K9132		
- PAH 1		20.0141 g
- PAH 1d		20.7536 g
- PCB 1		20.8108 g
- PCB 1d		20.3044 g
- PCDD 1		~~20.7179 g~~ NC 10.4712 g
- PCDD 1d		10.2467 g
- METALS 1		10.1696 g
- METALS 1d		10.5735 g
- GRAIN SIZE 1		100.5 g
- GRAIN SIZE 1d		100.1 g
- TOTAL SOLIDS 1		10.3928 g
- TOTAL SOLIDS 1d		10.5390 g
K9127		
- PAH 1		20.2885 g
- PAH 1d		20.2738 g
- PCB 1		20.9963 g
- PCB 1d		20.4904 g
- PCDD 1		10.0803 g
- PCDD 2		10.4927 g
- METALS 1		10.4051 g
- METALS 1d		10.6496 g
- GRAIN SIZE 1		100.34 g
- GRAIN SIZE 1d		100.45 g
- TOTAL SOLIDS 1		10.5891 g
- TOTAL SOLIDS 1d		10.4496 g

Analyst: NC	Date: 22 OCT
Reviewed By:	Date:

Columbia Analytical Services Inc.

Service Request #: K0909570, K0909642 Method: COMPOSITE

Analysis For: _____ Matrix: _____

SAMPLE ID		
K9570-PAH 1	20.4024 g	
-PAH 1d	20.3082 g	
-PCB 1	20.4306 g	
-PCB 1d	20.5288 g	
-PCDD 1	10.0018 g	
-PCDD 1d	10.0022 g	
-METALS 1	10.0026 g	
-METALS 1d	10.6562 g	
-GRAIN SIZE 1	100.19 g	
-GRAIN SIZE 1d	100.35 g	
-TOTAL SOLIDS 1	10.2704 g	
-TOTAL SOLIDS 1d	10.0788 g	
K9642-PAH-1	20.1107 g	
-PAH-1d	20.1266 g	
-PCB-1	20.4927 g	
-PCB 1d	20.2773 g	
-PCDD 1	10.3912 g	
-PCDD 1d	10.8266 g	
-METALS 1	10.3826 g	
-METALS 1d	10.1590 g	
-GRAIN SIZE 1	100.99 g	
-GRAIN SIZE 1d	100.84 g	
-TOTAL SOLIDS 1	10.5206 g	
-TOTAL SOLIDS 1d	10.1344 g	

Comments: _____

Analyzed By: NC	Date: 27-OCT-09
Reviewed By:	Date:

Genbench1

Columbia Analytical Services Inc.

Service Request #: K0909481, K0909569 Method: COMPOSITE

Analysis For: _____ Matrix: _____

SAMPLE ID		
K9481 - PAH 1	20.5089 g	
- PAH 1d	20.0042 g	
- PCB 1	20.6129 g	
- PCB 1d	20.0881 g	
- PCDD 1	10.4282 g	
- PCDD 1d	10.7238 g	
- METALS 1	10.4711 g	
- METALS 1d	10.4504 g	
- GRAIN SIZE 1	100.43 g	
- GRAIN SIZE 1d	100.37 g	
- TOTAL SOLIDS 1	10.6638 g	
- TOTAL SOLIDS 1d	10.1958 g	
K9569		
~~K9567~~ NC - PAH 1	20.2035 g	
- PAH 1d	20.7661 g	
- PCB 1	20.1881 g	
- PCB 1d	20.2085 g	
- PCDD 1	10.4972 g	
- PCDD 1d	10.1028 g	
- METALS 1	10.3633 g	
- METALS 1d	10.8402 g	
- GRAIN SIZE 1	100.07 g	
- GRAIN SIZE 1d	100.21 g	
- TOTAL SOLIDS 1	10.1799 g	
- TOTAL SOLIDS 1d	10.2031 g	

Comments: _____

Analyzed By: MC	Date: 26-OCT-09
Reviewed By:	Date:

Genbench1

10909773

CHAIN of CUSTODY

Page _1_ of _1_

Columbia Analytical Services™
800.695.7222
www.caslab.com

Client: OfficeMax & URS Corporation
Bill to: OfficeMax
Project: Boise St Helens Pulp and Paper Mill - Sediment 2009
SR #
Project Manager: David Weatherby, URS Corporation
Telephone No. 503.222.7200
Fax No. 503.222.4292

Composite I.D.	Lab I.D.	Matrix	Date	Time	Archive (1)	Summit 5 x 32 oz jars to NewFields (3)	Number of Containers			Grain Size	Total Solids	Total Sulfides	Bulk Ammonia	Total Volatile Solids	Remarks
Sample & Composite I.D. = R-1-D		Sediment	10.8.09	1300	X	X	~~14~~	8		X	X	X	X	X	(2)
Sample & Composite I.D. = R-2-D		Sediment	10.8.09	1525	X	X	~~14~~	8		X	X	X	X	X	(2)
CLOSE LOG IN															

Sample Received Intact: Yes No
Temperature received: Ice No ice

RELIQUISHED BY:
Signature: Nicky Moody
Printed Name: NICKY MOODY
Firm: URS
Date/Time: 10/9/09 1600

RELIQUISHED BY:
Signature: Frank Shaw
Printed Name: Frank Shaw
Firm: CAS
Date/Time: 10/9/09 1730

RELIQUISHED BY:
Signature:
Printed Name:
Firm:
Date/Time:

RELIQUISHED BY:
Signature:
Printed Name:
Firm:
Date/Time:

Special Instructions/Comments:
DO NOT FREEZE THESE!
(1) Archive frozen 2 x 1/2 full 8 oz containers.
(2) Soft mix 7 x 32 oz containers into one composite with Sample I.D. R-1-D; ~~and homogenize 7 x 2 oz containers into one composite with Sample I.D. R-1-D~~ N.M
(3) Ship to NewFields with zero head space

Columbia Analytical Services, Inc.
Cooler Receipt and Preservation Form

PC LH

Client / Project: URS Service Request K09 0909373

Received: 10.9.09 Opened: 10/9/09 By: DW

1. Samples were received via? *US Mail* *Fed Ex* *UPS* *DHL* *GH* *GS* *PDX* (*Courier*) *Hand Delivered*
2. Samples were received in: (circle) (*Cooler*) *Box* *Envelope* *Other* _____ *NA*
3. Were custody seals on coolers? NA Y (N) If yes, how many and where? _____
   If present, were custody seals intact? Y (N) If present, were they signed and dated? Y (N)
4. Is shipper's air-bill filed? If not, record air-bill number: _____ (NA) Y N

5. **Temperature of cooler(s) upon receipt (°C):**	0.5	0.8	0.5	
Temperature Blank (°C):	0.9	0.3	1.0	
Thermometer ID:	#258	#257	#270	
6. If applicable, list Chain of Custody Numbers:				

7. Packing material used. *Inserts* *Baggies* *Bubble Wrap* (*Gel Packs*) *Wet Ice* *Sleeves* *Other* _____

8. Were custody papers properly filled out (ink, signed, etc.)?	NA	(Y)	N
9. **Did all bottles arrive in good condition (unbroken)?** *Indicate in the table below.*	NA	(Y)	N
10. Were all sample labels complete (i.e analysis, preservation, etc.)?	NA	(Y)	N
11. Did all sample labels and tags agree with custody papers? *Indicate in the table below*	NA	(Y)	N
12. **Were appropriate bottles/containers and volumes received for the tests indicated?**	NA	(Y)	N
13. Were the pH-preserved bottles tested* received at the appropriate pH? *Indicate in the table below*	(NA)	Y	N
14. Were VOA vials received without headspace? *Indicate in the table below.*	(NA)	Y	N
15. **Are CWA Microbiology samples received with >1/2 the 24hr. hold time remaining from collection?**	NA	Y	N
16. Was C12/Res negative?	(NA)	Y	N

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Sample ID	Bottle Count Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

*Does not include all pH preserved sample aliquots received. See sample receiving SOP (SMO-GEN).

Additional Notes, Discrepancies, & Resolutions: _____

KO4047446
1690 9643

Columbia Analytical Services
800.695.7222
www.caslab.com

Client: OfficeMax & URS Corporation

Bill to: OfficeMax

CHAIN of CUSTODY

Page _1_ of _1_

Project: Boise St Helens Pulp and Paper Mill - Sediment 2009

SR #

Project Manager: David Weatherby, URS Corporation

Telephone No. 503.222.7200

Fax No. 503.222.4292

Sample I.D.	Lab I.D.	Matrix	Date	Time	Number of Containers	Composite[1]	PAHs 8270 SIM	PCB's Aroclors	Total Metals (Sb, As, Cd, Pb, Hg, Se, and Zn)	TOC	Grain Size	Total Solids	Total Sulfides	Bulk Ammonia	Total Volatile Solids	Composite I.D.
B-6-1-D		Sediment	10.9.09	1218	4	X										B-1-D
B-10-1-D		Sediment		1248	4	X										B-1-D
B-17-1-D		Sediment		1309	4	X										B-1-D
B-21-1-D		Sediment		1327	4	X										B-1-D
B-28-1-D		Sediment		1344	4	X										B-1-D
B-32-1-D		Sediment		1359	4	X										B-1-D
B-37-1-D		Sediment		1415	4	X										B-1-D
B-41-1-D		Sediment		1427	4	X										B-1-D
B-46-1-D		Sediment		1440	4	X										B-1-D
B-48-1-D		Sediment		1456	4	X										B-1-D
CLOSE LOG IN																

Sample Received Intact: Yes No

Temperature received: Ice No ice

RELIQUISHED BY:
Signature: Nicky Moody
Printed Name: Nicky Moody
Firm: URS
Date/Time: 10.9.09 / 1600

RELIQUISHED BY:
Signature:
Printed Name:
Firm: CAS
Date/Time: 10/9/09 1630

RELIQUISHED BY:
Signature:
Printed Name:
Firm:
Date/Time:

RELIQUISHED BY:
Signature:
Printed Name:
Firm:
Date/Time:

Special Instructions/Comments:

DO NOT FREEZE THESE SAMPLES

[1] Soft mix all the volume of 30 x 8 oz containers into one composite bioassay sample with Composite I.D. listed above.

[1] Homogenize all the volume of 10 x 2 oz into one composite with same Composite I.D.

Columbia Analytical Services, Inc.
Cooler Receipt and Preservation Form

PC KA

Client / Project: URS Service Request K09 09746

Received: 10-9-09 Opened: _____ By: DW

1. Samples were received via? *US Mail* *Fed Ex* *UPS* *DHL* *GH* *GS* *PDX* (*Courier*) *Hand Delivered*
2. Samples were received in: (circle) (*Cooler*) *Box* *Envelope* *Other* _____ *NA*
3. Were custody seals on coolers? NA Y (N) If yes, how many and where? _____
   If present, were custody seals intact? Y (N) If present, were they signed and dated? Y (N)
4. Is shipper's air-bill filed? If not, record air-bill number: _____ (NA) Y N

5. **Temperature of cooler(s) upon receipt (°C):**	0.5	0.8	0.5	
Temperature Blank (°C):	0.4	0.3	1.0	
Thermometer ID:	#258	#257	#270	
6. If applicable, list Chain of Custody Numbers:				

7. Packing material used. *Inserts* *Baggies* *Bubble Wrap* (*Gel Packs*) *Wet Ice* *Sleeves* *Other* _____
8. Were custody papers properly filled out (ink, signed, etc.)? NA (Y) N
9. **Did all bottles arrive in good condition (unbroken)?** *Indicate in the table below.* NA (Y) N
10. Were all sample labels complete (i.e analysis, preservation, etc.)? NA (Y) N
11. Did all sample labels and tags agree with custody papers? *Indicate in the table below* NA (Y) N
12. **Were appropriate bottles/containers and volumes received for the tests indicated?** NA (Y) N
13. Were the pH-preserved bottles tested* received at the appropriate pH? *Indicate in the table below* (NA) Y N
14. Were VOA vials received without headspace? *Indicate in the table below.* (NA) Y N
15. **Are CWA Microbiology samples received with >1/2 the 24hr. hold time remaining from collection?** NA Y N
16. Was C12/Res negative? (NA) Y N

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Sample ID	Bottle Count Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

*Does not include all pH preserved sample aliquots received. See sample receiving SOP (SMO-GEN).

Additional Notes, Discrepancies, & Resolutions: _____

K0909745

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CHAIN of CUSTODY

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Client: OfficeMax & URS Corporation | Bill to: OfficeMax | Project: Boise St Helens Pulp and Paper Mill - Sediment 2009 | SR #

Project Manager: David Weatherby, URS Corporation | Telephone No. 503.222.7200 | Fax No. 503.222.4292

Sample I.D.	Lab I.D.	Matrix	Date	Time	Number of Containers	MIS (1) (2)	Composite I.D.
B-23-1-C		Sediment	10.21.09	0835	1	X	B-1-C
B-39-1-C		Sediment		0855	1	X	B-1-C
B-34-1-C		Sediment		1413	1	X	B-1-C
B-36-1-C		Sediment		1440	1	X	B-1-C
B-38-1-C		Sediment		1450	1	X	B-1-C
~~B-39-1-C~~		Sediment			1	X	B-1-C
B-40-1-C		Sediment		1501	1	X	B-1-C
B-43-1-C		Sediment	10.22.09	0848	1	X	B-1-C
B-44-1-C		Sediment	10.22.09	0914	1	X	B-1-C
B-45-1-C		Sediment	10.22.09	0900	1	X	B-1-C
B-47-1-C		Sediment	10.22.09	0921	1	X	B-1-C
B-31-1-C		Sediment	10.21.09	0912	1	X	B-1-C
		Sediment			1	X	B-1-C
— CLOSE LOG IN	—	Sediment			1	X	B-1-C
		Sediment			1	X	B-1-C
		Sediment			1	X	B-1-C
		Sediment			1	X	B-1-C
		Sediment			1	X	B-1-C
		Sediment			1	X	B-1-C
		Sediment			1	X	B-1-C
		Sediment			1	X	B-1-C

Sample Received Intact: Yes No | Temperature received: Ice No ice

RELIQUISHED BY:	RELIQUISHED BY:	RELIQUISHED BY:	RELIQUISHED BY:
Signature:	Signature:	Signature:	Signature:
Printed Name: NICKY MOODY	Printed Name:	Printed Name:	Printed Name:
Firm: URS	Firm:	Firm:	Firm:
Date/Time: 10.22.09 / 1130	Date/Time: 10/22/09 1330	Date/Time:	Date/Time:

Special Instructions/Comments:

Freeze containers upon arrival prior to completing MIS sub-sampling.
(1) Follow Appendix B of the FSP for the Guidance on Lab Prep to create the Composite Incremental Samples.
(2) Submittal of MIS sub-samples to Axys - See Composite Incremental COC.

Columbia Analytical Services, Inc.
Cooler Receipt and Preservation Form

PC_____

Client / Project: URS Service Request K09

Received: 10-22-09 Opened: 10-22-09 By: DW

1. Samples were received via? *US Mail* *Fed Ex* *UPS* *DHL* *GH* *GS* *PDX* (*Courier*) *Hand Delivered*
2. Samples were received in: (circle) (*Cooler*) *Box* *Envelope* *Other*_____ *NA*
3. Were custody seals on coolers? NA Y (N) If yes, how many and where?_____
   If present, were custody seals intact? Y (N) If present, were they signed and dated? Y (N)
4. Is shipper's air-bill filed? If not, record air-bill number:_____ (NA) Y N

5. Temperature of cooler(s) upon receipt (°C):	0.6	0.9		
Temperature Blank (°C):	1.2	2.1		
Thermometer ID:	259	265		
6. If applicable, list Chain of Custody Numbers:				

7. Packing material used. *Inserts* (*Baggies*) *Bubble Wrap* *Gel Packs* (*Wet Ice*) *Sleeves* *Other*_____

8. Were custody papers properly filled out (ink, signed, etc.)?	NA	(Y)	N
9. **Did all bottles arrive in good condition (unbroken)?** *Indicate in the table below.*	NA	(Y)	N
10. Were all sample labels complete (i.e analysis, preservation, etc.)?	NA	(Y)	N
11. Did all sample labels and tags agree with custody papers? *Indicate in the table below*	NA	(Y)	N
12. **Were appropriate bottles/containers and volumes received for the tests indicated?**	NA	(Y)	N
13. Were the pH-preserved bottles tested* received at the appropriate pH? *Indicate in the table below*	(NA)	Y	N
14. Were VOA vials received without headspace? *Indicate in the table below.*	(NA)	Y	N
15. **Are CWA Microbiology samples received with >1/2 the 24hr. hold time remaining from collection?**	(NA)	Y	N
16. Was C12/Res negative?	(NA)	Y	N

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Sample ID	Bottle Count Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

*Does not include all pH preserved sample aliquots received. See sample receiving SOP (SMO-GEN).

*Additional Notes, Discrepancies, & Resolutions:*_____

1109097459

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Client: OfficeMax & URS Corporation
Bill to: OfficeMax
Project Manager: David Weatherby, URS Corporation

CHAIN of CUSTODY

Page _1_ of _1_
Project: Boise St Helens Pulp and Paper Mill - Sediment 2009
SR #
Telephone No. 503.222.7200
Fax No. 503.222.4292

Sample I.D.	Lab I.D.	Matrix	Date	Time	Number of Containers	MIS (1) (2)	Composite I.D.
B-2-1-C		Sediment	10.20.09	0908	1	X	B-1-C
B-3-1-C		Sediment		0939	1	X	B-1-C
B-5-1-C		Sediment		1120	1	X	B-1-C
B-7-1-C		Sediment		1134	1	X	B-1-C
B-8-1-C		Sediment		1144	1	X	B-1-C
B-9-1-C		Sediment		1205	1	X	B-1-C
B-13-1-C		Sediment		1221	1	X	B-1-C
B-14-1-C		Sediment		1231	1	X	B-1-C
B-15-1-C		Sediment		1239	1	X	B-1-C
B-19-1-C		Sediment		1301	1	X	B-1-C
B-20-1-C		Sediment		1338	1	X	B-1-C
B-22-1-C		Sediment		1350	1	X	B-1-C
B-27-1-C		Sediment		1416	1	X	B-1-C
B-26-1-C		Sediment		1435	1	X	B-1-C
		Sediment			1	X	B-1-C
Keep log in open		Sediment			1	X	B-1-C
		Sediment			1	X	B-1-C
		Sediment			1	X	B-1-C
		Sediment			1	X	B-1-C
		Sediment			1	X	B-1-C

Sample Received Intact: Yes No
Temperature received: Ice No ice

RELIQUISHED BY:
Signature: Allen Healy
Printed Name: Nicky Moody
Firm: URS
Date/Time: 10.20.09/

RELIQUISHED BY:
Signature:
Printed Name:
Firm:
Date/Time: 10/21/09 1300

RELIQUISHED BY:
Signature:
Printed Name:
Firm:
Date/Time:

RELIQUISHED BY:
Signature:
Printed Name:
Firm:
Date/Time:

Special Instructions/Comments:

Freeze containers upon arrival prior to completing MIS sub-sampling.
(1) Follow Appendix B of the FSP for the Guidance on Lab Prep to create the Composite Incremental Samples.
(2) Submittal of MIS sub-samples to Axys - See Composite Incremental COC.

Columbia Analytical Services, Inc. PC_____
Cooler Receipt and Preservation Form

Client / Project: URS Service Request *K09* 9745

Received: 10/21/09 Opened: 10/21/09 By: AJ

1. Samples were received via? *US Mail* *Fed Ex* *UPS* *DHL* *GH* *GS* *PDX* *Courier* *Hand Delivered*
2. Samples were received in: (circle) *Cooler* *Box* *Envelope* *Other*_____ *NA*
3. Were custody seals on coolers? NA Y N If yes, how many and where?_____
   If present, were custody seals intact? Y N If present, were they signed and dated? Y N
4. Is shipper's air-bill filed? If not, record air-bill number:_____ NA Y N

5. **Temperature of cooler(s) upon receipt (°C):** 1.3
   Temperature Blank (°C): /
   Thermometer ID: 028
6. If applicable, list Chain of Custody Numbers:
7. Packing material used. *Inserts* *Baggies* *Bubble Wrap* *Gel Packs* *Wet Ice* *Sleeves* *Other*_____
8. Were custody papers properly filled out (ink, signed, etc.)? NA Y N
9. **Did all bottles arrive in good condition (unbroken)?** *Indicate in the table below.* NA Y N
10. Were all sample labels complete (i.e analysis, preservation, etc.)? NA Y N
11. Did all sample labels and tags agree with custody papers? *Indicate in the table below* NA Y N
12. **Were appropriate bottles/containers and volumes received for the tests indicated?** NA Y N
13. Were the pH-preserved bottles tested* received at the appropriate pH? *Indicate in the table below* NA Y N
14. Were VOA vials received without headspace? *Indicate in the table below.* NA Y N
15. **Are CWA Microbiology samples received with >1/2 the 24hr. hold time remaining from collection?** NA Y N
16. Was C12/Res negative? NA Y N

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Sample ID	Bottle Count Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

*Does not include all pH preserved sample aliquots received. See sample receiving SOP (SMO-GEN).

*Additional Notes, Discrepancies, & Resolutions:*_____

K0907944
K0907947

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Client: OfficeMax & URS Corporation
Bill to: OfficeMax

CHAIN of CUSTODY

Page _1_ of _1_

Project: Boise St Helens Pulp and Paper Mill - Sediment 2009
SR #

Project Manager: David Weatherby, URS Corporation
Telephone No. 503.222.7200
Fax No. 503.222.4292

Sample I.D.	Lab I.D.	Matrix	Date	Time	Number of Containers	MIS (1) (2)										Composite I.D.
B-6-1-C		Sediment	10.9.09	1221	1	X										B-1-C
B-21-1-C		Sediment		1329	1	X										B-1-C
B-28-1-C		Sediment		1346	1	X										B-1-C
B-41-1-C		Sediment		1429	1	X										B-1-C
B-46-1-C		Sediment		1458	1	X										B-1-C
		Sediment			1	X										B-1-C
Keep log in open		Sediment			1	X										B-1-C
		Sediment			1	X										B-1-C
		Sediment			1	X										B-1-C
		Sediment			1	X										B-1-C
		Sediment			1	X										B-1-C
		Sediment			1	X										B-1-C
		Sediment			1	X										B-1-C
		Sediment			1	X										B-1-C
		Sediment			1	X										B-1-C
		Sediment			1	X										B-1-C
		Sediment			1	X										B-1-C
		Sediment			1	X										B-1-C
		Sediment			1	X										B-1-C
		Sediment			1	X										B-1-C
		Sediment			1	X										B-1-C
		Sediment			1	X										B-1-C

Sample Received Intact: Yes No
Temperature received: Ice No ice

RELINQUISHED BY:	RELINQUISHED BY:	RELINQUISHED BY:	RELINQUISHED BY:
Signature:	Signature:	Signature:	Signature:
Printed Name: NICKY MOODY	Printed Name:	Printed Name:	Printed Name:
Firm: URS	Firm:	Firm:	Firm:
Date/Time: 10.9.09/ 1600	Date/Time: 10/9/09 1730	Date/Time:	Date/Time:

Special Instructions/Comments:

Freeze containers upon arrival prior to completing MIS sub-sampling.
(1) Follow Appendix B of the FSP for the Guidance on Lab Prep to create the Composite Incremental Samples.
(2) Submittal of MIS sub-samples to Axys - See Composite Incremental COC.

Columbia Analytical Services, Inc.
Cooler Receipt and Preservation Form

PC LH

Client / Project: URS Service Request K09 09745

Received: 10-9-09 Opened: By: DJ

1. Samples were received via? *US Mail* *Fed Ex* *UPS* *DHL* *GH* *GS* *PDX* (*Courier*) *Hand Delivered*
2. Samples were received in: (circle) (*Cooler*) *Box* *Envelope* *Other* _____ *NA*
3. Were custody seals on coolers? NA Y (N) If yes, how many and where? _____
   If present, were custody seals intact? Y (N) If present, were they signed and dated? Y (N)
4. Is shipper's air-bill filed? If not, record air-bill number: _____ (NA) Y N

5. **Temperature of cooler(s) upon receipt (°C):**	0.5	0.8	0.5	
Temperature Blank (°C):	0.0	0.3	1.0	
Thermometer ID:	#258	#257	#270	
6. If applicable, list Chain of Custody Numbers:				

7. Packing material used. *Inserts* *Baggies* *Bubble Wrap* (*Gel Packs*) *Wet Ice* *Sleeves* *Other* _____

8. Were custody papers properly filled out (ink, signed, etc.)?	NA	(Y)	N
9. **Did all bottles arrive in good condition (unbroken)?** *Indicate in the table below.*	NA	(Y)	N
10. Were all sample labels complete (i.e analysis, preservation, etc.)?	NA	(Y)	N
11. Did all sample labels and tags agree with custody papers? *Indicate in the table below*	NA	(Y)	N
12. **Were appropriate bottles/containers and volumes received for the tests indicated?**	NA	(Y)	N
13. Were the pH-preserved bottles tested* received at the appropriate pH? *Indicate in the table below*	(NA)	Y	N
14. Were VOA vials received without headspace? *Indicate in the table below.*	(NA)	Y	N
15. **Are CWA Microbiology samples received with >1/2 the 24hr. hold time remaining from collection?**	(NA)	Y	N
16. Was C12/Res negative?	(NA)	Y	N

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC
B-48-1-C	B-46-1-C		

Sample ID	Bottle Count Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

*Does not include all pH preserved sample aliquots received. See sample receiving SOP (SMO-GEN).

Additional Notes, Discrepancies, & Resolutions: _____

SC3 397

Incremental Samples - Background Area 1 - B

K0909744

Columbia Analytical Services 800.695.7222 www.caslab.com	Client: OfficeMax & URS Corporation	Bill to: OfficeMax	CHAIN of CUSTODY	Page _1_ of _1_
	Project Manager: David Weatherby, URS Corporation		Project: Boise St Helens Pulp and Paper Mill - Sediment 2009 Telephone No. 503.222.7200 Fax No. 503.222.4292	SR #

Sample I.D.	Lab I.D.	Matrix	Date	Time	Number of Containers	MIS (1) (2)	Composite I.D.
B-1-1-B		Sediment	10.21.09	0808	1	X	B-1-B
B-30-1-B		Sediment		0844	1	X	B-1-B
B-39-1-B		Sediment		0854	1	X	B-1-B
B-42-1-B		Sediment		1511	1	X	B-1-B
B-43-1-B		Sediment	10.22.09	0847	1	X	B-1-B
B-49-1-B		Sediment		0939	1	X	B-1-B
B-50-1-B		Sediment		0958	1	X	B-1-B
		Sediment			1	X	B-1-B
CLOSE LOG IN		Sediment			1	X	B-1-B
		Sediment			1	X	B-1-B
		Sediment			1	X	B-1-B
		Sediment			1	X	B-1-B
		Sediment			1	X	B-1-B
		Sediment			1	X	B-1-B
		Sediment			1	X	B-1-B
		Sediment			1	X	B-1-B
		Sediment			1	X	B-1-B
		Sediment			1	X	B-1-B
		Sediment			1	X	B-1-B
		Sediment			1	X	B-1-B
		Sediment			1	X	B-1-B

Sample Received Intact: Yes No Temperature received: Ice No ice

RELINQUISHED BY:	RELINQUISHED BY:	RELINQUISHED BY:	RELINQUISHED BY:	Special Instructions/Comments:
Signature:	Signature:	Signature:	Signature:	Freeze containers upon arrival prior to completing MIS sub-sampling.
Printed Name: NICKY MOODY	Printed Name:	Printed Name:	Printed Name:	(1) Follow Appendix B of the FSP for the Guidance on Lab Prep to create the Composite Incremental Samples.
Firm: URS	Firm:	Firm:	Firm:	(2) Submittal of MIS sub-samples to Axys - See Composite Incremental COC.
Date/Time: 10.29.09 / 1130	Date/Time: 10/29/09 1330	Date/Time:	Date/Time:	

Columbia Analytical Services, Inc.
Cooler Receipt and Preservation Form

PC_____

Client / Project: URS Service Request K09_____

Received: 10-22-09 Opened: 10-22-09 By: DW

1. Samples were received via? *US Mail* *Fed Ex* *UPS* *DHL* *GH* *GS* *PDX* (*Courier*) *Hand Delivered*
2. Samples were received in: (circle) (*Cooler*) *Box* *Envelope* *Other*_____ *NA*
3. Were custody seals on coolers? NA Y (N) If yes, how many and where?_____
   If present, were custody seals intact? Y (N) If present, were they signed and dated? Y (N)
4. Is shipper's air-bill filed? If not, record air-bill number:_____ (NA) Y N

5. Temperature of cooler(s) upon receipt (°C):	0.6	0.9		
Temperature Blank (°C):	1.2	2.1		
Thermometer ID:	259	265		
6. If applicable, list Chain of Custody Numbers:				

7. Packing material used. *Inserts* (*Baggies*) *Bubble Wrap* *Gel Packs* (*Wet Ice*) *Sleeves* *Other*_____

8. Were custody papers properly filled out (ink, signed, etc.)?	NA	(Y)	N
9. **Did all bottles arrive in good condition (unbroken)?** *Indicate in the table below.*	NA	(Y)	N
10. Were all sample labels complete (i.e analysis, preservation, etc.)?	NA	(Y)	N
11. Did all sample labels and tags agree with custody papers? *Indicate in the table below*	NA	(Y)	N
12. **Were appropriate bottles/containers and volumes received for the tests indicated?**	NA	(Y)	N
13. Were the pH-preserved bottles tested* received at the appropriate pH? *Indicate in the table below*	(NA)	Y	N
14. Were VOA vials received without headspace? *Indicate in the table below.*	(NA)	Y	N
15. **Are CWA Microbiology samples received with >1/2 the 24hr. hold time remaining from collection?**	(NA)	Y	N
16. Was Cl2/Res negative?	(NA)	Y	N

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Sample ID	Bottle Count Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

*Does not include all pH preserved sample aliquots received. See sample receiving SOP (SMO-GEN).

*Additional Notes, Discrepancies, & Resolutions:*_____

K0909744

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Client: OfficeMax & URS Corporation
Bill to: OfficeMax
Project Manager: David Weatherby, URS Corporation

CHAIN of CUSTODY

Page _1_ of _1_
Project: Boise St Helens Pulp and Paper Mill - Sediment 2009
SR #
Telephone No. 503.222.7200
Fax No. 503.222.4292

Sample I.D.	Lab I.D.	Matrix	Date	Time	Number of Containers	MIS (1) (2)	Composite I.D.
B- ~~3~~ -1-B		Sediment	10.20.09	~~0908~~ 0938	1	X	B-1-B
B- 4 -1-B		Sediment		1107	1	X	B-1-B
B- 7 -1-B		Sediment		1133	1	X	B-1-B
B- 11 -1-B		Sediment		1213	1	X	B-1-B
B- 13 -1-B		Sediment		1220	1	X	B-1-B
B- 14 -1-B		Sediment		1230	1	X	B-1-B
B- 15 -1-B		Sediment		1238	1	X	B-1-B
B- 16 -1-B		Sediment		1247	1	X	B-1-B
B- 18 -1-B		Sediment		1254	1	X	B-1-B
B- 19 - 1-B		Sediment		1300	1	X	B-1-B
B- 20 - 1-B		Sediment		1337	1	X	B-1-B
B- 22 -1-B		Sediment		1349	1	X	B-1-B
B- 25 -1-B		Sediment		1401	1	X	B-1-B
B- 24 -1-B		Sediment		1409	1	X	B-1-B
B- 26 -1-B		Sediment		1434	1	X	B-1-B
B- 29 - 1-B		Sediment		1451	1	X	B-1-B
		Sediment			1	X	B-1-B
Keep log in open		Sediment			1	X	B-1-B
		Sediment			1	X	B-1-B
		Sediment			1	X	B-1-B

Sample Received Intact: Yes No
Temperature received: Ice No ice

RELINQUISHED BY:
Signature:
Printed Name: Nicky Mobley
Firm: URS
Date/Time: 10.20.09

RELINQUISHED BY:
Signature:
Printed Name:
Firm:
Date/Time: 10/21/09 1500

RELINQUISHED BY:
Signature:
Printed Name:
Firm:
Date/Time:

RELINQUISHED BY:
Signature:
Printed Name:
Firm:
Date/Time:

Special Instructions/Comments:

Freeze containers upon arrival prior to completing MIS sub-sampling.
(1) Follow Appendix B of the FSP for the Guidance on Lab Prep to create the Composite Incremental Samples.
(2) Submittal of MIS sub-samples to Axys - See Composite Incremental COC.

Columbia Analytical Services, Inc.
Cooler Receipt and Preservation Form

PC_____

Client / Project: URS Service Request *K09*

Received: 10/21/09 Opened: 10/21/09 By:

1. Samples were received via? *US Mail* *Fed Ex* *UPS* *DHL* *GH* *GS* *PDX* *Courier* *Hand Delivered*
2. Samples were received in: (circle) *Cooler* *Box* *Envelope* *Other*_____ *NA*
3. Were custody seals on coolers? NA Y N If yes, how many and where?_____
   If present, were custody seals intact? Y N If present, were they signed and dated? Y N
4. Is shipper's air-bill filed? If not, record air-bill number:_____ NA Y N

5. **Temperature of cooler(s) upon receipt (°C):** 1.3
   Temperature Blank (°C): 1
   Thermometer ID: 228
6. If applicable, list Chain of Custody Numbers:
7. Packing material used. *Inserts* *Baggies* *Bubble Wrap* *Gel Packs* *Wet Ice* *Sleeves* *Other*_____
8. Were custody papers properly filled out (ink, signed, etc.)? NA Y N
9. **Did all bottles arrive in good condition (unbroken)?** *Indicate in the table below.* NA Y N
10. Were all sample labels complete (i.e analysis, preservation, etc.)? NA Y N
11. Did all sample labels and tags agree with custody papers? *Indicate in the table below* NA Y N
12. **Were appropriate bottles/containers and volumes received for the tests indicated?** NA Y N
13. Were the pH-preserved bottles tested* received at the appropriate pH? *Indicate in the table below* NA Y N
14. Were VOA vials received without headspace? *Indicate in the table below.* NA Y N
15. **Are CWA Microbiology samples received with >1/2 the 24hr. hold time remaining from collection?** NA Y N
16. Was C12/Res negative? NA Y N

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Sample ID	Bottle Count Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

*Does not include all pH preserved sample aliquots received. See sample receiving SOP (SMO-GEN).

*Additional Notes, Discrepancies, & Resolutions:*_____

KC409744
1609840

CHAIN of CUSTODY

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Columbia Analytical Services
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Client: OfficeMax & URS Corporation
Bill to: OfficeMax
Project: Boise St Helens Pulp and Paper Mill - Sediment 2009
SR #
Project Manager: David Weatherby, URS Corporation
Telephone No. 503.222.7200
Fax No. 503.222.4292

Sample I.D.	Lab I.D.	Matrix	Date	Time	Number of Containers	MIS (1) (2)									Composite I.D.
B-6-1-B		Sediment	10.9.09	1220	1	X									B-1-B
B-10-1-B		Sediment		1250	1	X									B-1-B
B-17-1-B		Sediment		1311	1	X									B-1-B
B-32-1-B		Sediment		1401	1	X									B-1-B
B-37-1-B		Sediment		1416	1	X									B-1-B
B-41-1-B		Sediment		1428	1	X									B-1-B
B-46-1-B		Sediment		1442	1	X									B-1-B
		Sediment			1	X									B-1-B
Keep log in open		Sediment			1	X									B-1-B
		Sediment			1	X									B-1-B
		Sediment			1	X									B-1-B
		Sediment			1	X									B-1-B
		Sediment			1	X									B-1-B
		Sediment			1	X									B-1-B
		Sediment			1	X									B-1-B
		Sediment			1	X									B-1-B
		Sediment			1	X									B-1-B
		Sediment			1	X									B-1-B
		Sediment			1	X									B-1-B
		Sediment			1	X									B-1-B
		Sediment			1	X									B-1-B

Sample Received Intact: Yes No
Temperature received: Ice No ice

RELIQUISHED BY:	RELIQUISHED BY:	RELIQUISHED BY:	RELIQUISHED BY:
Signature: Nicky Moody	Signature: Frank Shipman	Signature:	Signature:
Printed Name: NICKY MOODY	Printed Name: FRANK SHIPMAN	Printed Name:	Printed Name:
Firm: URS	Firm: CTS	Firm:	Firm:
Date/Time: 10.9.09/ 1600	Date/Time: 10/9/09 1730	Date/Time:	Date/Time:

Special Instructions/Comments:

Freeze containers upon arrival prior to completing MIS sub-sampling.
(1) Follow Appendix B of the FSP for the Guidance on Lab Prep to create the Composite Incremental Samples.
(2) Submittal of MIS sub-samples to Axys - See Composite Incremental COC.

Columbia Analytical Services, Inc.
Cooler Receipt and Preservation Form

PC 14

Client / Project: URS Service Request K09 09744

Received: 10-9-09 Opened: _____ By: DU

1. Samples were received via? *US Mail* *Fed Ex* *UPS* *DHL* *GH* *GS* *PDX* (*Courier*) *Hand Delivered*
2. Samples were received in: (circle) (*Cooler*) *Box* *Envelope* *Other* _____ *NA*
3. Were custody seals on coolers? NA Y (N) If yes, how many and where? _____
   If present, were custody seals intact? Y (N) If present, were they signed and dated? Y (N)
4. Is shipper's air-bill filed? If not, record air-bill number: _____ (NA) Y N

5. **Temperature of cooler(s) upon receipt (°C):**	0.5	0.8	0.5	
Temperature Blank (°C):	0.4	0.3	1.0	
Thermometer ID:	#258	#257	#270	
6. If applicable, list Chain of Custody Numbers:				

7. Packing material used. *Inserts* *Baggies* *Bubble Wrap* (*Gel Packs*) *Wet Ice* *Sleeves* *Other* _____

8. Were custody papers properly filled out (ink, signed, etc.)?	NA	(Y)	N
9. **Did all bottles arrive in good condition (unbroken)?** *Indicate in the table below.*	NA	(Y)	N
10. Were all sample labels complete (i.e analysis, preservation, etc.)?	NA	(Y)	N
11. Did all sample labels and tags agree with custody papers? *Indicate in the table below*	NA	(Y)	N
12. **Were appropriate bottles/containers and volumes received for the tests indicated?**	NA	(Y)	N
13. Were the pH-preserved bottles tested* received at the appropriate pH? *Indicate in the table below*	(NA)	Y	N
14. Were VOA vials received without headspace? *Indicate in the table below.*	(NA)	Y	N
15. **Are CWA Microbiology samples received with >1/2 the 24hr. hold time remaining from collection?**	(NA)	Y	N
16. Was C12/Res negative?	(NA)	Y	N

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Sample ID	Bottle Count Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

*Does not include all pH preserved sample aliquots received. See sample receiving SOP (SMO-GEN).

Additional Notes, Discrepancies, & Resolutions: _____

K0909743

Columbia Analytical Services
800.695.7222
www.caslab.com

Client: OfficeMax & URS Corporation

Bill to: OfficeMax

CHAIN of CUSTODY

Project: Boise St Helens Pulp and Paper Mill - Sediment 2009

SR #

Project Manager: David Weatherby, URS Corporation

Telephone No. 503.222.7200

Fax No. 503.222.4292

Sample I.D.	Lab I.D.	Matrix	Date	Time	Number of Containers	MIS (1) (2)	Composite I.D.
B-1-1-A		Sediment	10.21.09	0807	1	X	B-1-A
B-12-1-A		Sediment		0823	1	X	B-1-A
B-23-1-A		Sediment		0834	1	X	B-1-A
B-30-1-A		Sediment		0843	1	X	B-1-A
B-31-1-A		Sediment		0911	1	X	B-1-A
B-33-1-A		Sediment		1403	1	X	B-1-A
B-34-1-A		Sediment		1412	1	X	B-1-A
B-35-1-A		Sediment		1430	1	X	B-1-A
B-38-1-A		Sediment		1449	1	X	B-1-A
B-40-1-A		Sediment		1501	1	X	B-1-A
B-44-1-A		Sediment	10.22.09	0913	1	X	B-1-A
B-45-1-A		Sediment		0859	1	X	B-1-A
B-49-1-A		Sediment		0938	1	X	B-1-A
		Sediment			1	X	B-1-A
— Close LOG IN —		Sediment			1	X	B-1-A
		Sediment			1	X	B-1-A
		Sediment			1	X	B-1-A
		Sediment			1	X	B-1-A
		Sediment			1	X	B-1-A
		Sediment			1	X	B-1-A
		Sediment			1	X	B-1-A

Sample Received Intact: Yes No

Temperature received: Ice No ice

RELINQUISHED BY:
Signature:
Printed Name: Nicky Meade
Firm: URS
Date/Time: 10.22.09/1130

RELINQUISHED BY:
Signature:
Printed Name:
Firm: CAS
Date/Time: 10/22/09 1330

RELINQUISHED BY:
Signature:
Printed Name:
Firm:
Date/Time:

RELINQUISHED BY:
Signature:
Printed Name:
Firm:
Date/Time:

Special Instructions/Comments:

Freeze containers upon arrival prior to completing MIS sub-sampling.
(1) Follow Appendix B of the FSP for the Guidance on Lab Prep to create the Composite Incremental Samples.
(2) Submittal of MIS sub-samples to Axys - See Composite Incremental COC.

Columbia Analytical Services, Inc.
Cooler Receipt and Preservation Form

PC_____

Client / Project: URS Service Request K09

Received: 10-22-09 Opened: 10-22-09 By: DW

1. Samples were received via? *US Mail* *Fed Ex* *UPS* *DHL* *GH* *GS* *PDX* (*Courier*) *Hand Delivered*
2. Samples were received in: (circle) (*Cooler*) *Box* *Envelope* *Other*_____ *NA*
3. Were custody seals on coolers? NA Y (N) If yes, how many and where?_____
   If present, were custody seals intact? Y (N) If present, were they signed and dated? Y (N)
4. Is shipper's air-bill filed? If not, record air-bill number: (NA) Y N

5. Temperature of cooler(s) upon receipt (°C): 0.6 0.9
   Temperature Blank (°C): 1.2 2.1
   Thermometer ID: 251 265
6. If applicable, list Chain of Custody Numbers:
7. Packing material used. *Inserts* (*Baggies*) *Bubble Wrap* *Gel Packs* (*Wet Ice*) *Sleeves* *Other*_____
8. Were custody papers properly filled out (ink, signed, etc.)? NA (Y) N
9. **Did all bottles arrive in good condition (unbroken)?** *Indicate in the table below.* NA (Y) N
10. Were all sample labels complete (i.e analysis, preservation, etc.)? NA (Y) N
11. Did all sample labels and tags agree with custody papers? *Indicate in the table below* NA (Y) N
12. **Were appropriate bottles/containers and volumes received for the tests indicated?** NA (Y) N
13. Were the pH-preserved bottles tested* received at the appropriate pH? *Indicate in the table below* (NA) Y N
14. Were VOA vials received without headspace? *Indicate in the table below.* (NA) Y N
15. **Are CWA Microbiology samples received with >1/2 the 24hr. hold time remaining from collection?** (NA) Y N
16. Was C12/Res negative? (NA) Y N

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Sample ID	Bottle Count Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

*Does not include all pH preserved sample aliquots received. See sample receiving SOP (SMO-GEN).

*Additional Notes, Discrepancies, & Resolutions:*_____

K0909743

Columbia Analytical Services™
800.695.7222
www.caslab.com

Client: OfficeMax & URS Corporation
Bill to: OfficeMax
Project Manager: David Weatherby, URS Corporation

CHAIN of CUSTODY

Page _1_ of _1_
Project: Boise St Helens Pulp and Paper Mill - Sediment 2009
SR #
Telephone No. 503.222.7200
Fax No. 503.222.4292

Sample I.D.	Lab I.D.	Matrix	Date	Time	Number of Containers	MIS (1) (2)	Composite I.D.
B-2-1-A		Sediment	10.20.09	0907	1	X	B-1-A
B-4-1-A		Sediment		1106	1	X	B-1-A
B-5-1-A		Sediment		1119	1	X	B-1-A
B-11-1-A		Sediment		1212	1	X	B-1-A
B-16-1-A		Sediment		1246	1	X	B-1-A
B-18-1-A		Sediment		1253	1	X	B-1-A
B-25-1-A		Sediment		1400	1	X	B-1-A
B-24-1-A		Sediment		1408	1	X	B-1-A
B-27-1-A		Sediment		1415	1	X	B-1-A
B-29-1-A		Sediment		1450	1	X	B-1-A
		Sediment			1	X	B-1-A
Keep log in open		Sediment			1	X	B-1-A
		Sediment			1	X	B-1-A
		Sediment			1	X	B-1-A
		Sediment			1	X	B-1-A
		Sediment			1	X	B-1-A
		Sediment			1	X	B-1-A
		Sediment			1	X	B-1-A
		Sediment			1	X	B-1-A
		Sediment			1	X	B-1-A
		Sediment			1	X	B-1-A

Sample Received Intact: Yes No
Temperature received: Ice No ice

RELINQUISHED BY:
Signature:
Printed Name: NICKY MOODY
Firm: URS
Date/Time: 10.20.09

RELINQUISHED BY:
Signature:
Printed Name:
Firm:
Date/Time: 10/21/09 1500

RELINQUISHED BY:
Signature:
Printed Name:
Firm:
Date/Time:

RELINQUISHED BY:
Signature:
Printed Name:
Firm:
Date/Time:

Special Instructions/Comments:

Freeze containers upon arrival prior to completing MIS sub-sampling.
(1) Follow Appendix B of the FSP for the Guidance on Lab Prep to create the Composite Incremental Samples.
(2) Submittal of MIS sub-samples to Axys - See Composite Incremental COC.

Columbia Analytical Services, Inc.
Cooler Receipt and Preservation Form

PC_____

Client / Project: URS Service Request K09

Received: 10/21/09 Opened: 10/21/09 By:

1. Samples were received via? *US Mail* *Fed Ex* *UPS* *DHL* *GH* *GS* *PDX* *Courier* *Hand Delivered*
2. Samples were received in: (circle) *Cooler* *Box* *Envelope* *Other*_____ *NA*
3. Were custody seals on coolers? NA Y N If yes, how many and where?_____
   If present, were custody seals intact? Y N If present, were they signed and dated? Y N
4. Is shipper's air-bill filed? If not, record air-bill number:_____ NA Y N

5. **Temperature of cooler(s) upon receipt (°C):** 1.3
   Temperature Blank (°C): 1
   Thermometer ID: 228
6. If applicable, list Chain of Custody Numbers:
7. Packing material used. *Inserts* (Baggies) *Bubble Wrap* *Gel Packs* (Wet Ice) *Sleeves* *Other*_____

8. Were custody papers properly filled out (ink, signed, etc.)?	NA	(Y)	N
9. **Did all bottles arrive in good condition (unbroken)?** *Indicate in the table below.*	NA	(Y)	N
10. Were all sample labels complete (i.e analysis, preservation, etc.)?	NA	(Y)	N
11. Did all sample labels and tags agree with custody papers? *Indicate in the table below*	NA	(Y)	N
12. **Were appropriate bottles/containers and volumes received for the tests indicated?**	NA	(Y)	N
13. Were the pH-preserved bottles tested* received at the appropriate pH? *Indicate in the table below*	(NA)	Y	N
14. Were VOA vials received without headspace? *Indicate in the table below.*	(NA)	Y	N
15. **Are CWA Microbiology samples received with >1/2 the 24hr. hold time remaining from collection?**	(NA)	Y	N
16. Was C12/Res negative?	(NA)	Y	N

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Sample ID	Bottle Count Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

*Does not include all pH preserved sample aliquots received. See sample receiving SOP (SMO-GEN).

*Additional Notes, Discrepancies, & Resolutions:*_____

KC0909743
~~KC0909637~~

Columbia Analytical Services™
800.695.7222
www.caslab.com

CHAIN of CUSTODY

Page _1_ of _1_

Client: OfficeMax & URS Corporation
Bill to: OfficeMax
Project: Boise St Helens Pulp and Paper Mill - Sediment 2009
SR #
Project Manager: David Weatherby, URS Corporation
Telephone No. 503.222.7200
Fax No. 503.222.4292

Sample I.D.	Lab I.D.	Matrix	Date	Time	Number of Containers	MIS (1) (2)	Composite I.D.
~~B-6-1-B~~		~~Sediment~~	~~10.9.09~~	~~1219~~	1	X	B-1-A
B-10-1-A		Sediment	10.9.09	1249	1	X	B-1-A
B-17-1-A		Sediment		1310	1	X	B-1-A
B-21-1-A		Sediment		1328	1	X	B-1-A
B-28-1-A		Sediment		1345	1	X	B-1-A
B-32-1-A		Sediment		1400	1	X	B-1-A
B-46-1-A		Sediment		1441	1	X	B-1-A
B-48-1-A		Sediment		1457	1	X	B-1-A
		Sediment			1	X	B-1-A
keep log in open		Sediment			1	X	B-1-A
		Sediment			1	X	B-1-A
		Sediment			1	X	B-1-A
		Sediment			1	X	B-1-A
		Sediment			1	X	B-1-A
		Sediment			1	X	B-1-A
		Sediment			1	X	B-1-A
		Sediment			1	X	B-1-A
		Sediment			1	X	B-1-A
		Sediment			1	X	B-1-A
		Sediment			1	X	B-1-A
		Sediment			1	X	B-1-A

Sample Received Intact: Yes No
Temperature received: Ice No ice

RELIQUISHED BY:	RELIQUISHED BY:	RELIQUISHED BY:	RELIQUISHED BY:
Signature: Vicky Moody	Signature:	Signature:	Signature:
Printed Name: Vicky Moody	Printed Name:	Printed Name:	Printed Name:
Firm: URS	Firm:	Firm:	Firm:
Date/Time: 10.9.09 / 1600	Date/Time: 10/9/09 1730	Date/Time:	Date/Time:

Special Instructions/Comments:

Freeze containers upon arrival prior to completing MIS sub-sampling.
(1) Follow Appendix B of the FSP for the Guidance on Lab Prep to create the Composite Incremental Samples.
(2) Submittal of MIS sub-samples to Axys - See Composite Incremental COC.

Columbia Analytical Services, Inc.
Cooler Receipt and Preservation Form

PC 44

Client / Project: URS Service Request K09 09743

Received: 10.9.09 Opened: _____ By: DU

1. Samples were received via? *US Mail* *Fed Ex* *UPS* *DHL* *GH* *GS* *PDX* (*Courier*) *Hand Delivered*
2. Samples were received in: (circle) (*Cooler*) *Box* *Envelope* *Other* _____ *NA*
3. Were custody seals on coolers? NA Y (N) If yes, how many and where? _____
   If present, were custody seals intact? Y (N) If present, were they signed and dated? Y (N)
4. Is shipper's air-bill filed? If not, record air-bill number: _____ (NA) Y N

5. **Temperature of cooler(s) upon receipt (°C):**	0.5	0.8	0.5	
Temperature Blank (°C):	0.4	0.3	1.0	
Thermometer ID:	#258	#257	#270	
6. If applicable, list Chain of Custody Numbers:				

7. Packing material used. *Inserts* *Baggies* *Bubble Wrap* (*Gel Packs*) *Wet Ice* *Sleeves* *Other* _____

8. Were custody papers properly filled out (ink, signed, etc.)?	NA	(Y)	N
9. **Did all bottles arrive in good condition (unbroken)?** *Indicate in the table below.*	NA	(Y)	N
10. Were all sample labels complete (i.e analysis, preservation, etc.)?	NA	(Y)	N
11. Did all sample labels and tags agree with custody papers? *Indicate in the table below*	NA	(Y)	N
12. **Were appropriate bottles/containers and volumes received for the tests indicated?**	NA	(Y)	N
13. Were the pH-preserved bottles tested* received at the appropriate pH? *Indicate in the table below*	(NA)	Y	N
14. Were VOA vials received without headspace? *Indicate in the table below.*	(NA)	Y	N
15. **Are CWA Microbiology samples received with >1/2 the 24hr. hold time remaining from collection?**	(NA)	Y	N
16. Was C12/Res negative?	(NA)	Y	N

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Sample ID	Bottle Count Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

*Does not include all pH preserved sample aliquots received. *See sample receiving SOP (SMO-GEN).*

Additional Notes, Discrepancies, & Resolutions: _____

K0909643

Columbia Analytical Services
800.695.7222
www.caslab.com

Client: OfficeMax & URS Corporation | Bill to: OfficeMax

CHAIN of CUSTODY

Project: Boise St Helens Pulp and Paper Mill - Sediment 2009 | SR #

Project Manager: David Weatherby, URS Corporation | Telephone No. 503.222.7200 | Fax No. 503.222.4292

Sample I.D.	Lab I.D.	Matrix	Date	Time	Number of Containers	Composite[1]	PAHs 8270 SIM	PCB's Aroclors	Total Metals (Sb, As, Cd, Pb, Hg, Se, and Zn)	TOC	Grain Size	Total Solids	Total Sulfides	Bulk Ammonia	Total Volatile Solids	Composite I.D.
M-241-1-D		Sediment	10.9.09	0847	4	X										M-1-D
M-243-1-D		Sediment		0915	4	X										M-1-D
M-245-1-D		Sediment		0950	4	X										M-1-D
M-248-1-D		Sediment		1030	4	X										M-1-D
		Sediment			4	X										M-1-D
CLOSE LOG	IN	Sediment			4	X										M-1-D
		Sediment			4	X										M-1-D
		Sediment			4	X										M-1-D
		Sediment			4	X										M-1-D
		Sediment			4	X										M-1-D

Sample Received Intact: Yes No | Temperature received: Ice No ice

RELIQUISHED BY:
Signature: Nicky Moody
Printed Name: Nicky Moody
Firm: URS
Date/Time: 10.9.09 / 1600

~~RELIQUISHED~~ BY:
Signature: Kent Mann
Printed Name: Kent Mann
Firm: CAS
Date/Time: 10/9/09 1830

RELIQUISHED BY:
Signature:
Printed Name:
Firm:
Date/Time:

RELIQUISHED BY:
Signature:
Printed Name:
Firm:
Date/Time:

Special Instructions/Comments:

DO NOT FREEZE THESE SAMPLES

[1] Soft mix all the volume of 30 x 8 oz containers into one composite bioassay sample with Composite I.D. listed above.

[1] Homogenize all the volume of 10 x 2 oz into one composite with same Composite I.D.

Columbia Analytical Services, Inc.
Cooler Receipt and Preservation Form

PC LH

Client / Project: URS Service Request K09 09745

Received: 10-9-09 Opened: _____ By: DJ

1. Samples were received via? *US Mail* *Fed Ex* *UPS* *DHL* *GH* *GS* *PDX* (*Courier*) *Hand Delivered*
2. Samples were received in: (circle) (*Cooler*) *Box* *Envelope* *Other* _____ *NA*
3. Were custody seals on coolers? NA Y (N) If yes, how many and where? _____
   If present, were custody seals intact? Y (N) If present, were they signed and dated? Y (N)
4. Is shipper's air-bill filed? If not, record air-bill number: _____ (NA) Y N

5. **Temperature of cooler(s) upon receipt (°C):**	0.5	0.8	0.5	
Temperature Blank (°C):	0.4	0.3	1.0	
Thermometer ID:	#258	#257	#270	
6. If applicable, list Chain of Custody Numbers:				

7. Packing material used. *Inserts* *Baggies* *Bubble Wrap* (*Gel Packs*) *Wet Ice* *Sleeves* *Other* _____

8. Were custody papers properly filled out (ink, signed, etc.)?	NA	(Y)	N
9. **Did all bottles arrive in good condition (unbroken)?** *Indicate in the table below.*	NA	(Y)	N
10. Were all sample labels complete (i.e analysis, preservation, etc.)?	NA	(Y)	N
11. Did all sample labels and tags agree with custody papers? *Indicate in the table below*	NA	(Y)	N
12. **Were appropriate bottles/containers and volumes received for the tests indicated?**	NA	(Y)	N
13. Were the pH-preserved bottles tested* received at the appropriate pH? *Indicate in the table below*	(NA)	Y	N
14. Were VOA vials received without headspace? *Indicate in the table below.*	(NA)	Y	N
15. **Are CWA Microbiology samples received with >1/2 the 24hr. hold time remaining from collection?**	NA	Y	N
16. Was C12/Res negative?	(NA)	Y	N

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Sample ID	Bottle Count Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

*Does not include all pH preserved sample aliquots received. See sample receiving SOP (SMO-GEN).

Additional Notes, Discrepancies, & Resolutions: _____

18909643

Columbia Analytical Services
800.695.7222
www.caslab.com

Client: OfficeMax & URS Corporation
Bill to: OfficeMax

CHAIN of CUSTODY

Page 1 of 1

Project: Boise St Helens Pulp and Paper Mill - Sediment 2009
SR #
Project Manager: David Weatherby, URS Corporation
Telephone No. 503.222.7200
Fax No. 503.222.4292

Sample I.D.	Lab I.D.	Matrix	Date	Time	Number of Containers	Composite (1)	PAHs 8270 SIM	PCB's Aroclors	Total Metals (Sb, As, Cd, Pb, Hg, Se, and Zn)	TOC	Grain Size	Total Solids	Total Sulfides	Bulk Ammonia	Total Volatile Solids	Composite I.D.
~~M-180-1-D~~		Sediment		10:05	4	X										M-1-D
bioassay alliquot		Sediment			4	X										M-1-D
samples here		Sediment			4	X										M-1-D
as we collect		Sediment			4	X										M-1-D
them		Sediment			4	X										M-1-D
M-202-1-D		Sediment	10.7.09	1213	4	X										M-1-D
M-209-1-D		Sediment		1235	4	X										M-1-D
M-219-1-D		Sediment		1300	4	X										M-1-D
M-228-1-D		Sediment		1319	4	X										M-1-D
M-237-1-D		Sediment		1353	4	X										M-1-D
M-239-1-D		Sediment		1417	4	X										M-1-D
— Keep log in open —																

Sample Received Intact: Yes No
Temperature received: Ice No ice

Special Instructions/Comments:

DO NOT FREEZE THESE SAMPLES

(1) Soft mix all the volume of 30 x 8 oz containers into one composite bioassay sample with Composite I.D. listed above.

(1) Homogenize all the volume of 10 x 2 oz into one composite with same Composite I.D.

RELINQUISHED BY:	RELINQUISHED BY:	RELINQUISHED BY:	RELINQUISHED BY:
Signature: Nicky Moody	Signature: Received At: John Jones	Signature:	Signature:
Printed Name: Nicky Moody	Printed Name: John Jones	Printed Name:	Printed Name:
Firm: URS	Firm: CAS	Firm:	Firm:
Date/Time: 10.7.09/1600	Date/Time: 10/8/09 0830	Date/Time:	Date/Time:

Columbia Analytical Services, Inc.
Cooler Receipt and Preservation Form

PC LH

Client / Project: UES Service Request K09 09643

Received: 10/8/09 Opened: 10/9/09 By: TT

1. Samples were received via? *US Mail* *Fed Ex* *UPS* *DHL* *GH* *GS* *PDX* (*Courier*) *Hand Delivered*
2. Samples were received in: (circle) (*Cooler*) *Box* *Envelope* *Other* _____ *NA*
3. Were custody seals on coolers? NA (Y) N If yes, how many and where? 1 front
   If present, were custody seals intact? (Y) N If present, were they signed and dated? (Y) N
4. Is shipper's air-bill filed? If not, record air-bill number: Red cooler 1 of 2 pre CS NA Y N
   Blue cooler 2 of 2 pre cust seal
5. **Temperature of cooler(s) upon receipt (°C):** -0.5 -0.7 _____ _____
   Temperature Blank (°C): 3.1 / _____ _____ _____
   Thermometer ID: 206 265 _____ _____
6. If applicable, list Chain of Custody Numbers: _____ _____ _____ _____
7. Packing material used. *Inserts* (*Baggies*) *Bubble Wrap* *Gel Packs* (*Wet Ice*) *Sleeves* *Other* _____
8. Were custody papers properly filled out (ink, signed, etc.)? NA (Y) N
9. **Did all bottles arrive in good condition (unbroken)?** *Indicate in the table below.* NA (Y) N
10. Were all sample labels complete (i.e analysis, preservation, etc.)? NA (Y) N
11. Did all sample labels and tags agree with custody papers? *Indicate in the table below* * NA Y (N)
12. **Were appropriate bottles/containers and volumes received for the tests indicated?** NA (Y) N
13. Were the pH-preserved bottles tested* received at the appropriate pH? *Indicate in the table below* (NA) Y N
14. Were VOA vials received without headspace? *Indicate in the table below.* (NA) Y N
15. **Are CWA Microbiology samples received with >1/2 the 24hr. hold time remaining from collection?** (NA) Y N
16. Was C12/Res negative? (NA) Y N

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Sample ID	Bottle Count Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

*Does not include all pH preserved sample aliquots received. See sample receiving SOP (SMO-GEN).

Additional Notes, Discrepancies, & Resolutions: Received the following samples not listed on COC: M-195-Z-A (1x 8oz jar), M-195-Z-C (1x 8oz jar), M-195-Z-D (1x 2oz jar 3x 8oz jars)

1009096.42

Columbia Analytical Services
800.695.7222
www.caslab.com

Client: OfficeMax & URS Corporation | Bill to: OfficeMax

CHAIN of CUSTODY

Page _1_ of _1_

Project: Boise St Helens Pulp and Paper Mill - Sediment 2009 | SR #

Project Manager: David Weatherby, URS Corporation | Telephone No. 503.222.7200 | Fax No. 503.222.4292

Sample I.D.	Lab I.D.	Matrix	Date	Time	Number of Containers	MIS (1) (2)	Composite I.D.
M-225-1-C		Sediment	10.19.09	0929	1	X	M-1-C
~~M-222-1-C~~		~~Sediment~~		0955	1	~~X~~	M-1-C
M-206-1-C		Sediment		1038	1	X	M-1-C
M-232-1-C		Sediment		1221	1	X	M-1-C
M-233-1-C		Sediment		1232	1	X	M-1-C
M-236-1-C		Sediment		1247	1	X	M-1-C
M-238-1-C		Sediment		1300	1	X	M-1-C
M-242-1-C		Sediment		1340	1	X	M-1-C
M-244-1-C		Sediment		1353	1	X	M-1-C
M-246-1-C		Sediment		1449	1	X	M-1-C
M-250-1-C		Sediment		1551	1	X	M-1-C
		Sediment			1	X	M-1-C
CLOSE LOG	IN	Sediment			1	X	M-1-C
		Sediment			1	X	M-1-C
		Sediment			1	X	M-1-C
		Sediment			1	X	M-1-C
		Sediment			1	X	M-1-C
		Sediment			1	X	M-1-C
		Sediment			1	X	M-1-C
		Sediment			1	X	M-1-C
		Sediment			1	X	M-1-C
		Sediment			1	X	M-1-C

Sample Received Intact: Yes No | Temperature received: Ice No ice

RELIQUISHED BY:
Signature:
Printed Name: Nicki Moody
Firm: URS
Date/Time: 10.19.09 / 1630

RELIQUISHED BY:
Signature:
Printed Name:
Firm: CAS
Date/Time: 10/20/09 1330

RELIQUISHED BY:
Signature:
Printed Name:
Firm:
Date/Time:

RELIQUISHED BY:
Signature:
Printed Name:
Firm:
Date/Time:

Special Instructions/Comments:

Freeze containers upon arrival prior to completing MIS sub-sampling.
(1) Follow Appendix B of the FSP for the Guidance on Lab Prep to create the Composite Incremental Samples.
(2) Submittal of MIS sub-samples to Axys - See Composite Incremental COC.

Columbia Analytical Services, Inc.
Cooler Receipt and Preservation Form

PC 44

Client / Project: URS Service Request K09 0911-42

Received: 10-20-09 Opened: 10-20-09 By: DW

1. Samples were received via? *US Mail* *Fed Ex* *UPS* *DHL* *GH* *GS* *PDX* *Courier* *Hand Delivered*
2. Samples were received in: (circle) *Cooler* *Box* *Envelope* *Other* _____ *NA*
3. Were custody seals on coolers? NA Y N If yes, how many and where? _____
   If present, were custody seals intact? Y N If present, were they signed and dated? Y N
4. Is shipper's air-bill filed? If not, record air-bill number: _____ NA Y N

5. **Temperature of cooler(s) upon receipt (°C):** -0.5
   Temperature Blank (°C): 0.3
   Thermometer ID: 274
6. If applicable, list Chain of Custody Numbers:
7. Packing material used. *Inserts* *Baggies* *Bubble Wrap* *Gel Packs* *Wet Ice* *Sleeves* *Other* _____
8. Were custody papers properly filled out (ink, signed, etc.)? NA Y N
9. **Did all bottles arrive in good condition (unbroken)?** *Indicate in the table below.* NA Y N
10. Were all sample labels complete (i.e analysis, preservation, etc.)? NA Y N
11. Did all sample labels and tags agree with custody papers? *Indicate in the table below* NA Y N
12. **Were appropriate bottles/containers and volumes received for the tests indicated?** NA Y N
13. Were the pH-preserved bottles tested* received at the appropriate pH? *Indicate in the table below* NA Y N
14. Were VOA vials received without headspace? *Indicate in the table below.* NA Y N
15. **Are CWA Microbiology samples received with >1/2 the 24hr. hold time remaining from collection?** NA Y N
16. Was C12/Res negative? NA Y N

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Sample ID	Bottle Count Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

*Does not include all pH preserved sample aliquots received. See sample receiving SOP (SMO-GEN).

Additional Notes, Discrepancies, & Resolutions: _____

Columbia Analytical Services, Inc.
Cooler Receipt and Preservation Form

PC hl4

Client / Project: URS Service Request *K09* 09649

Received: 10/16/09 Opened: _____ By: _____

1. Samples were received via? *US Mail* *Fed Ex* *UPS* *DHL* *GH* *GS* *PDX* (*Courier*) *Hand Delivered*
2. Samples were received in: (circle) (*Cooler*) *Box* *Envelope* *Other* _____ *NA*
3. Were custody seals on coolers? NA Y (N) If yes, how many and where? _____
   If present, were custody seals intact? Y N If present, were they signed and dated? Y N
4. Is shipper's air-bill filed? If not, record air-bill number: _____ (NA) Y N

5. **Temperature of cooler(s) upon receipt (°C):**	-1.4			
Temperature Blank (°C):	-0.3			
Thermometer ID:	261			
6. If applicable, list Chain of Custody Numbers:				

7. Packing material used. *Inserts* *Baggies* *Bubble Wrap* *Gel Packs* *Wet Ice* *Sleeves* *Other* _____

8. Were custody papers properly filled out (ink, signed, etc.)?	NA	(Y)	N
9. **Did all bottles arrive in good condition (unbroken)?** *Indicate in the table below.*	NA	(Y)	N
10. Were all sample labels complete (i.e analysis, preservation, etc.)?	NA	(Y)	N
11. Did all sample labels and tags agree with custody papers? *Indicate in the table below*	NA	(Y)	N
12. **Were appropriate bottles/containers and volumes received for the tests indicated?**	NA	(Y)	N
13. Were the pH-preserved bottles tested* received at the appropriate pH? *Indicate in the table below*	(NA)	Y	N
14. Were VOA vials received without headspace? *Indicate in the table below.*	(NA)	Y	N
15. **Are CWA Microbiology samples received with >1/2 the 24hr. hold time remaining from collection?**	(NA)	Y	N
16. Was C12/Res negative?	(NA)	Y	N

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Sample ID	Bottle Count Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

*Does not include all pH preserved sample aliquots received. See sample receiving SOP (SMO-GEN).

Additional Notes, Discrepancies, & Resolutions: _____

K0909648

Columbia Analytical Services™
800.695.7222
www.caslab.com

Client: OfficeMax & URS Corporation
Bill to: OfficeMax
Project Manager: David Weatherby, URS Corporation

CHAIN of CUSTODY

Page _1_ of _1_
Project: Boise St Helens Pulp and Paper Mill - Sediment 2009
SR #
Telephone No. 503.222.7200
Fax No. 503.222.4292

Sample I.D.	Lab I.D.	Matrix	Date	Time	Number of Containers	MIS (1) (2)										Composite I.D.
M-203-1-C		Sediment	10.16.09	0915	1	X										M-1-C
M-204-1-C		Sediment		0924	1	X										M-1-C
M-207-1-C		Sediment		0942	1	X										M-1-C
M-210-1-C		Sediment		1021	1	X										M-1-C
M-211-1-C		Sediment		1137	1	X										M-1-C
M-213-1-C		Sediment		1144	1	X										M-1-C
M-217-1-C		Sediment		1216	1	X										M-1-C
M-220-1-C		Sediment		1247	1	X										M-1-C
M-224-1-C		Sediment		1311	1	X										M-1-C
M-226-1-C		Sediment		1320	1	X										M-1-C
M-229-1-C		Sediment		1351	1	X										M-1-C
M-230-1-C		Sediment		1427	1	X										M-1-C
~~M-232-1-C~~		Sediment		~~1454~~	1	X										M-1-C
M-231-1-C		Sediment		1432	1	X										M-1-C
		Sediment			1	X										M-1-C
keep log in	open	Sediment			1	X										M-1-C
		Sediment			1	X										M-1-C
		Sediment			1	X										M-1-C
		Sediment			1	X										M-1-C
		Sediment			1	X										M-1-C

Sample Received Intact: Yes No
Temperature received: Ice No ice

RELINQUISHED BY:
Signature:
Printed Name: NICKY MOODY
Firm: URS
Date/Time: 10.16.09/1545

RELINQUISHED BY:
Signature:
Printed Name:
Firm: CTS
Date/Time: 10/16/09 1630

RELINQUISHED BY:
Signature:
Printed Name:
Firm:
Date/Time:

RELINQUISHED BY:
Signature:
Printed Name:
Firm:
Date/Time:

Special Instructions/Comments:

Freeze containers upon arrival prior to completing MIS sub-sampling.
(1) Follow Appendix B of the FSP for the Guidance on Lab Prep to create the Composite Incremental Samples.
(2) Submittal of MIS sub-samples to Axys - See Composite Incremental COC.

1609642

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Client: OfficeMax & URS Corporation

Bill to: OfficeMax

CHAIN of CUSTODY

Page _1_ of _1_

Project: Boise St Helens Pulp and Paper Mill - Sediment 2009

SR #

Project Manager: David Weatherby, URS Corporation

Telephone No. 503.222.7200

Fax No. 503.222.4292

Sample I.D.	Lab I.D.	Matrix	Date	Time	Number of Containers	MIS [1] [2]										Composite I.D.
M-241-1-C		Sediment	10.9.09	0849	1	X										M-1-C
M-243-1-C		Sediment	↓	0917	1	X										M-1-C
M-245-1-C		Sediment		0952	1	X										M-1-C
M-248-1-C		Sediment		1032	1	X										M-1-C
		Sediment			1	X										M-1-C
Keep log in	open	Sediment			1	X										M-1-C
		Sediment			1	X										M-1-C
		Sediment			1	X										M-1-C
		Sediment			1	X										M-1-C
		Sediment			1	X										M-1-C
		Sediment			1	X										M-1-C
		Sediment			1	X										M-1-C
		Sediment			1	X										M-1-C
		Sediment			1	X										M-1-C
		Sediment			1	X										M-1-C
		Sediment			1	X										M-1-C
		Sediment			1	X										M-1-C
		Sediment			1	X										M-1-C
		Sediment			1	X										M-1-C
		Sediment			1	X										M-1-C
		Sediment			1	X										M-1-C
		Sediment			1	X										M-1-C

Sample Received Intact: Yes No

Temperature received: Ice No ice

RELIQUISHED BY:
Signature:
Printed Name: Nicky Moody
Firm: URS
Date/Time: 10.9.09 / 1600

RELIQUISHED BY:
Signature:
Printed Name:
Firm:
Date/Time: 10/10/09 1730

RELIQUISHED BY:
Signature:
Printed Name:
Firm:
Date/Time:

RELIQUISHED BY:
Signature:
Printed Name:
Firm:
Date/Time:

Special Instructions/Comments:

Freeze containers upon arrival prior to completing MIS sub-sampling.
(1) Follow Appendix B of the FSP for the Guidance on Lab Prep to create the Composite Incremental Samples.
(2) Submittal of MIS sub-samples to Axys - See Composite Incremental COC.

Y0909642

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Client: OfficeMax & URS Corporation

Bill to: OfficeMax

CHAIN of CUSTODY

Page 1 of 1

Project: Boise St Helens Pulp and Paper Mill - Sediment 2009

SR #

Project Manager: David Weatherby, URS Corporation

Telephone No. 503.222.7200

Fax No. 503.222.4292

Sample I.D.	Lab I.D.	Matrix	Date	Time	Number of Containers	MIS (1) (2)										Composite I.D.
M-202-1-C		Sediment	10.7.09	1215	1	X										M-1-C
M-209-1-C		Sediment	↓	1237	1	X										M-1-C
M-228-1-C		Sediment	↓	1321	1	X										M-1-C
		Sediment			1	X										M-1-C
Keep log in open		Sediment			1	X										M-1-C
		Sediment			1	X										M-1-C
		Sediment			1	X										M-1-C
		Sediment			1	X										M-1-C
		Sediment			1	X										M-1-C
		Sediment			1	X										M-1-C
		Sediment			1	X										M-1-C
		Sediment			1	X										M-1-C
		Sediment			1	X										M-1-C
		Sediment			1	X										M-1-C
		Sediment			1	X										M-1-C
		Sediment			1	X										M-1-C
		Sediment			1	X										M-1-C
		Sediment			1	X										M-1-C
		Sediment			1	X										M-1-C
		Sediment			1	X										M-1-C
		Sediment			1	X										M-1-C
		Sediment			1	X										M-1-C
		Sediment			1	X										M-1-C

Sample Received Intact: Yes No

Temperature received: Ice No ice

RELIQUISHED BY:
Signature: Nicky Moody
Printed Name: Nicky Moody
Firm: URS
Date/Time: 10.7.09 / 1600

~~RELIQUISHED BY:~~ 10/8/09
Signature: Received by
Printed Name: John Jones
Firm: CAS
Date/Time: 10/8/09 0830

RELIQUISHED BY:
Signature:
Printed Name:
Firm:
Date/Time:

RELIQUISHED BY:
Signature:
Printed Name:
Firm:
Date/Time:

Special Instructions/Comments:

Freeze containers upon arrival prior to completing MIS sub-sampling.
(1) Follow Appendix B of the FSP for the Guidance on Lab Prep to create the Composite Incremental Samples.
(2) Submittal of MIS sub-samples to Axys - See Composite Incremental COC.

Columbia Analytical Services, Inc.
Cooler Receipt and Preservation Form

PC h H

Client / Project: URS Service Request K09 09642

Received: 10.9.09 Opened: 10/9/09 By: DU

1. Samples were received via? *US Mail* *Fed Ex* *UPS* *DHL* *GH* *GS* *PDX* (*Courier*) *Hand Delivered*
2. Samples were received in: (circle) (*Cooler*) *Box* *Envelope* *Other* _____ *NA*
3. Were custody seals on coolers? NA Y (N) If yes, how many and where? _____
   If present, were custody seals intact? Y (N) If present, were they signed and dated? Y (N)
4. Is shipper's air-bill filed? If not, record air-bill number: _____ (NA) Y N

5. **Temperature of cooler(s) upon receipt (°C):**	0.5	0.8	0.5	
Temperature Blank (°C):	0.0	0.3	1.0	
Thermometer ID:	#258	#257	#270	
6. If applicable, list Chain of Custody Numbers:				

7. Packing material used. *Inserts* *Baggies* *Bubble Wrap* (*Gel Packs*) *Wet Ice* *Sleeves* *Other* _____

8. Were custody papers properly filled out (ink, signed, etc.)?	NA	(Y)	N
9. **Did all bottles arrive in good condition (unbroken)?** *Indicate in the table below.*	NA	(Y)	N
10. Were all sample labels complete (i.e analysis, preservation, etc.)?	NA	(Y)	N
11. Did all sample labels and tags agree with custody papers? *Indicate in the table below*	NA	(Y)	N
12. **Were appropriate bottles/containers and volumes received for the tests indicated?**	NA	(Y)	N
13. Were the pH-preserved bottles tested* received at the appropriate pH? *Indicate in the table below*	(NA)	Y	N
14. Were VOA vials received without headspace? *Indicate in the table below.*	(NA)	Y	N
15. **Are CWA Microbiology samples received with >1/2 the 24hr. hold time remaining from collection?**	(NA)	Y	N
16. Was C12/Res negative?	(NA)	Y	N

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Sample ID	Bottle Count Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

*Does not include all pH preserved sample aliquots received. See sample receiving SOP (SMO-GEN).

Additional Notes, Discrepancies, & Resolutions: _____

Columbia Analytical Services, Inc.
Cooler Receipt and Preservation Form

PC LH

Client / Project: URS Service Request K09 09640

Received: 10/8/09 Opened: 10/9/09 By: TT

1. Samples were received via? *US Mail* *Fed Ex* *UPS* *DHL* *GH* *GS* *PDX* (*Courier*) *Hand Delivered*
2. Samples were received in: (circle) (*Cooler*) *Box* *Envelope* *Other* _____ *NA*
3. Were custody seals on coolers? NA (Y) N If yes, how many and where? 1 Front
   If present, were custody seals intact? (Y) N If present, were they signed and dated? (Y) N
4. Is shipper's air-bill filed? If not, record air-bill number: Red cooler 1 of 2 pucks NA Y N
   Blue cooler 2 of 2 pucks w/ seal

5. **Temperature of cooler(s) upon receipt (°C):**	-0.5	-0.7		
Temperature Blank (°C):	3.1			
Thermometer ID:	266	265		
6. If applicable, list Chain of Custody Numbers:				

7. Packing material used. *Inserts* (*Baggies*) *Bubble Wrap* *Gel Packs* (*Wet Ice*) *Sleeves* *Other* _____

8. Were custody papers properly filled out (ink, signed, etc.)?	NA	(Y)	N
9. **Did all bottles arrive in good condition (unbroken)?** *Indicate in the table below.*	NA	(Y)	N
10. Were all sample labels complete (i.e analysis, preservation, etc.)?	NA	(Y)	N
11. Did all sample labels and tags agree with custody papers? *Indicate in the table below*	* NA	Y	(N)
12. **Were appropriate bottles/containers and volumes received for the tests indicated?**	NA	(Y)	N
13. Were the pH-preserved bottles tested* received at the appropriate pH? *Indicate in the table below*	(NA)	Y	N
14. Were VOA vials received without headspace? *Indicate in the table below.*	(NA)	Y	N
15. **Are CWA Microbiology samples received with >1/2 the 24hr. hold time remaining from collection?**	(NA)	Y	N
16. Was C12/Res negative?	(NA)	Y	N

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Sample ID	Bottle Count Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

*Does not include all pH preserved sample aliquots received. See sample receiving SOP (SMO-GEN).

Additional Notes, Discrepancies, & Resolutions: Received the following samples not listed on COC: M-195-Z-A (1x 8oz jar), M-195-Z-C (1x 8oz jar), M-195-Z-D (1x 2oz jar 3x 8oz jars)

Columbia Analytical Services, Inc.
Cooler Receipt and Preservation Form

PC LH

Client / Project: URS Service Request *K09* 09649

Received: 10/6/09 Opened: 10/8/09 By: TT

1. Samples were received via? *US Mail* *Fed Ex* *UPS* *DHL* *GH* *GS* *PDX* (*Courier*) *Hand Delivered*
2. Samples were received in: (circle) (*Cooler*) *Box* *Envelope* *Other* _____ *NA*
3. Were custody seals on coolers? NA (Y) N If yes, how many and where? 1 front
   If present, were custody seals intact? (Y) N If present, were they signed and dated? (Y) N
4. Is shipper's air-bill filed? If not, record air-bill number: Red cooler 1 of 2 pre CS NA Y N
   Blue cooler 2 of 2 pre cust seal
5. **Temperature of cooler(s) upon receipt (°C):** -0.5 -0.7
   Temperature Blank (°C): 3.1
   Thermometer ID: 266 265
6. If applicable, list Chain of Custody Numbers:
7. Packing material used. *Inserts* (*Baggies*) *Bubble Wrap* *Gel Packs* (*Wet Ice*) *Sleeves* *Other* _____
8. Were custody papers properly filled out (ink, signed, etc.)? NA (Y) N
9. **Did all bottles arrive in good condition (unbroken)?** *Indicate in the table below.* NA (Y) N
10. Were all sample labels complete (i.e analysis, preservation, etc.)? NA (Y) N
11. Did all sample labels and tags agree with custody papers? *Indicate in the table below* * NA Y (N)
12. **Were appropriate bottles/containers and volumes received for the tests indicated?** NA (Y) N
13. Were the pH-preserved bottles tested* received at the appropriate pH? *Indicate in the table below* (NA) Y N
14. Were VOA vials received without headspace? *Indicate in the table below.* (NA) Y N
15. **Are CWA Microbiology samples received with >1/2 the 24hr. hold time remaining from collection?** (NA) Y N
16. Was C12/Res negative? (NA) Y N

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Sample ID	Bottle Count Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

*Does not include all pH preserved sample aliquots received. See sample receiving SOP (SMO-GEN).

Additional Notes, Discrepancies, & Resolutions: Received the following samples not listed on COC: M-195-Z-A (1x 8oz jar), M-195-Z-C (1x 8oz jar), M-195-Z-D (1x 2oz jar 3x 8oz jars)

K0909640

Columbia Analytical Services
800.695.7222
www.caslab.com

Client: OfficeMax & URS Corporation
Bill to: OfficeMax
Project Manager: David Weatherby, URS Corporation

CHAIN of CUSTODY

Project: Boise St Helens Pulp and Paper Mill - Sediment 2009
Telephone No. 503.222.7200
Fax No. 503.222.4292

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SR #

Sample I.D.	Lab I.D.	Matrix	Date	Time	Number of Containers	MIS (1) (2)	Composite I.D.
M-235-1-B		Sediment	10.19.09	0908	1	X	M-1-B
M-225-1-B		Sediment		0928	1	X	M-1-B
M-215-1-B		Sediment		1008	1	X	M-1-B
M-212-1-B		Sediment		1026	1	X	M-1-B
M-232-1-B		Sediment		1220	1	X	M-1-B
M-222-1-B		Sediment		0958	1	X	M-1-B
M-240-1-B		Sediment		1321	1	X	M-1-B
M-246-1-B		Sediment		1448	1	X	M-1-B
M-247-1-B		Sediment		1501	1	X	M-1-B
M-249-1-B		Sediment		1515	1	X	M-1-B
		Sediment			1	X	M-1-B
-CLOSE LOG IN		Sediment			1	X	M-1-B
		Sediment			1	X	M-1-B
		Sediment			1	X	M-1-B
		Sediment			1	X	M-1-B
		Sediment			1	X	M-1-B
		Sediment			1	X	M-1-B
		Sediment			1	X	M-1-B
		Sediment			1	X	M-1-B
		Sediment			1	X	M-1-B
		Sediment			1	X	M-1-B

Sample Received Intact: Yes No
Temperature received: Ice No ice

RELIQUISHED BY:
Signature:
Printed Name: Nicky Moody
Firm: URS
Date/Time: 10.19.09/1630

RELIQUISHED BY:
Signature:
Printed Name:
Firm:
Date/Time: 10/20/09 1330

RELIQUISHED BY:
Signature:
Printed Name:
Firm:
Date/Time:

RELIQUISHED BY:
Signature:
Printed Name:
Firm:
Date/Time:

Special Instructions/Comments:

Freeze containers upon arrival prior to completing MIS sub-sampling.
(1) Follow Appendix B of the FSP for the Guidance on Lab Prep to create the Composite Incremental Samples.
(2) Submittal of MIS sub-samples to Axys - See Composite Incremental COC.

Columbia Analytical Services, Inc.
Cooler Receipt and Preservation Form

PC KH

Client / Project: URS Service Request K09 09640

Received: 10-20-09 Opened: 10-20-09 By: DW

1. Samples were received via? *US Mail* *Fed Ex* *UPS* *DHL* *GH* *GS* *PDX* *Courier* *Hand Delivered*
2. Samples were received in: (circle) *Cooler* *Box* *Envelope* *Other* _____ *NA*
3. Were custody seals on coolers? NA Y N If yes, how many and where? _____
   If present, were custody seals intact? Y N If present, were they signed and dated? Y N
4. Is shipper's air-bill filed? If not, record air-bill number: _____ NA Y N

5. **Temperature of cooler(s) upon receipt (°C):** -0.5
   Temperature Blank (°C): 0.3
   Thermometer ID: 274
6. If applicable, list Chain of Custody Numbers:
7. Packing material used. *Inserts* *Baggies* *Bubble Wrap* *Gel Packs* *Wet Ice* *Sleeves* *Other* _____
8. Were custody papers properly filled out (ink, signed, etc.)? NA Y N
9. **Did all bottles arrive in good condition (unbroken)?** *Indicate in the table below.* NA Y N
10. Were all sample labels complete (i.e analysis, preservation, etc.)? NA Y N
11. Did all sample labels and tags agree with custody papers? *Indicate in the table below* NA Y N
12. **Were appropriate bottles/containers and volumes received for the tests indicated?** NA Y N
13. Were the pH-preserved bottles tested* received at the appropriate pH? *Indicate in the table below* NA Y N
14. Were VOA vials received without headspace? *Indicate in the table below.* NA Y N
15. **Are CWA Microbiology samples received with >1/2 the 24hr. hold time remaining from collection?** NA Y N
16. Was C12/Res negative? NA Y N

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Sample ID	Bottle Count Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

*Does not include all pH preserved sample aliquots received. See sample receiving SOP (SMO-GEN).

Additional Notes, Discrepancies, & Resolutions: _____

1090640

Columbia Analytical Services
800.695.7222
www.caslab.com

Client: OfficeMax & URS Corporation
Bill to: OfficeMax
Project Manager: David Weatherby, URS Corporation

CHAIN of CUSTODY

Page _1_ of _1_
Project: Boise St Helens Pulp and Paper Mill - Sediment 2009
SR #
Telephone No. 503.222.7200
Fax No. 503.222.4292

Sample I.D.	Lab I.D.	Matrix	Date	Time	Number of Containers	MIS (1) (2)									Composite I.D.
M-201-1-B		Sediment	10.16.2009	0905	1	X									M-1-B
M-205-1-B		Sediment	10.16.09	0933	1	X									M-1-B
M-208-1-B		Sediment		1006	1	X									M-1-B
M-210-1-B		Sediment		1020	1	X									M-1-B
M-213-1-B		Sediment		1143	1	X									M-1-B
M-214-1-B		Sediment		1154	1	X									M-1-B
M-216-1-B		Sediment		1201	1	X									M-1-B
M-217-1-B		Sediment		1215	1	X									M-1-B
M-221-1-B		Sediment		1300	1	X									M-1-B
M-227-1-B		Sediment		1337	1	X									M-1-B
M-229-1-B		Sediment		1350	1	X									M-1-B
M-230-1-B		Sediment		1426	1	X									M-1-B
~~M-232-1-B~~		Sediment		~~1433~~	1	X									M-1-B
M-234-1-B		Sediment		1456	1	X									M-1-B
		Sediment			1	X									M-1-B
Keep log in	Open	Sediment			1	X									M-1-B
		Sediment			1	X									M-1-B
		Sediment			1	X									M-1-B
		Sediment			1	X									M-1-B
		Sediment			1	X									M-1-B

Sample Received Intact: Yes No
Temperature received: Ice No ice

RELIQUISHED BY:
Signature: Clifford S. Pearson
Printed Name: Clifford S. Pearson
Firm: URS
Date/Time: 10.16.09 / 1545

RELIQUISHED BY:
Signature:
Printed Name:
Firm:
Date/Time: 10/16/09 1733

RELIQUISHED BY:
Signature:
Printed Name:
Firm:
Date/Time:

RELIQUISHED BY:
Signature:
Printed Name:
Firm:
Date/Time:

Special Instructions/Comments:

Freeze containers upon arrival prior to completing MIS sub-sampling.
(1) Follow Appendix B of the FSP for the Guidance on Lab Prep to create the Composite Incremental Samples.
(2) Submittal of MIS sub-samples to Axys - See Composite Incremental COC.

Columbia Analytical Services, Inc.
Cooler Receipt and Preservation Form

PC htl

Client / Project: URS Service Request K09 09640

Received: 10/22/09 Opened: _____ By: _____

1. Samples were received via? *US Mail* *Fed Ex* *UPS* *DHL* *GH* *GS* *PDX* (*Courier*) *Hand Delivered*
2. Samples were received in: (circle) (*Cooler*) *Box* *Envelope* *Other* _____ *NA*
3. Were custody seals on coolers? NA Y (N) If yes, how many and where? _____
   If present, were custody seals intact? Y N If present, were they signed and dated? Y N
4. Is shipper's air-bill filed? If not, record air-bill number: _____ (NA) Y N

5. **Temperature of cooler(s) upon receipt (°C):**	-1.4			
Temperature Blank (°C):	-0.3			
Thermometer ID:	261			
6. If applicable, list Chain of Custody Numbers:				

7. Packing material used. *Inserts* *Baggies* *Bubble Wrap* *Gel Packs* *Wet Ice* *Sleeves* *Other* _____

8. Were custody papers properly filled out (ink, signed, etc.)?	NA	(Y)	N
9. **Did all bottles arrive in good condition (unbroken)?** *Indicate in the table below.*	NA	(Y)	N
10. Were all sample labels complete (i.e analysis, preservation, etc.)?	NA	(Y)	N
11. Did all sample labels and tags agree with custody papers? *Indicate in the table below*	NA	(Y)	N
12. **Were appropriate bottles/containers and volumes received for the tests indicated?**	NA	(Y)	N
13. Were the pH-preserved bottles tested* received at the appropriate pH? *Indicate in the table below*	(NA)	Y	N
14. Were VOA vials received without headspace? *Indicate in the table below.*	(NA)	Y	N
15. **Are CWA Microbiology samples received with >1/2 the 24hr. hold time remaining from collection?**	(NA)	Y	N
16. Was C12/Res negative?	(NA)	Y	N

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Sample ID	Bottle Count Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

*Does not include all pH preserved sample aliquots received. See sample receiving SOP (SMO-GEN).

Additional Notes, Discrepancies, & Resolutions: _____

K0409640

Columbia Analytical Services
800.695.7222
www.caslab.com

Client: OfficeMax & URS Corporation

Bill to: OfficeMax

CHAIN of CUSTODY

Page 1 of 1

Project: Boise St Helens Pulp and Paper Mill - Sediment 2009

SR #

Project Manager: David Weatherby, URS Corporation

Telephone No. 503.222.7200

Fax No. 503.222.4292

Sample I.D.	Lab I.D.	Matrix	Date	Time	Number of Containers	MIS (1) (2)										Composite I.D.
M-202-1-B		Sediment	10/7/09	1214	1	X										M-1-B
M-209-1-B		Sediment		1236	1	X										M-1-B
M-219-1-B		Sediment		1302	1	X										M-1-B
M-237-1-B		Sediment		1355	1	X										M-1-B
		Sediment			1	X										M-1-B
Keep log in open		Sediment			1	X										M-1-B
		Sediment			1	X										M-1-B
		Sediment			1	X										M-1-B
		Sediment			1	X										M-1-B
		Sediment			1	X										M-1-B
		Sediment			1	X										M-1-B
		Sediment			1	X										M-1-B
		Sediment			1	X										M-1-B
		Sediment			1	X										M-1-B
		Sediment			1	X										M-1-B
		Sediment			1	X										M-1-B
		Sediment			1	X										M-1-B
		Sediment			1	X										M-1-B
		Sediment			1	X										M-1-B
		Sediment			1	X										M-1-B
		Sediment			1	X										M-1-B

Sample Received Intact: Yes No

Temperature received: Ice No ice

Special Instructions/Comments:

Freeze containers upon arrival prior to completing MIS sub-sampling.
(1) Follow Appendix B of the FSP for the Guidance on Lab Prep to create the Composite Incremental Samples.
(2) Submittal of MIS sub-samples to Axys - See Composite Incremental COC.

RELIQUISHED BY:	RELIQUISHED BY:	RELIQUISHED BY:	RELIQUISHED BY:
Signature: Nicky Moody	Signature: Received by Jean Jones	Signature:	Signature:
Printed Name: Nicky Moody	Printed Name: Jean Jones	Printed Name:	Printed Name:
Firm: URS	Firm: CAS	Firm:	Firm:
Date/Time: 10/7/09 1600	Date/Time: 10/8/09 0830	Date/Time:	Date/Time:

K0989L40

Columbia Analytical Services™
800.695.7222
www.caslab.com

Client: OfficeMax & URS Corporation
Bill to: OfficeMax
Project Manager: David Weatherby, URS Corporation

CHAIN of CUSTODY

Project: Boise St Helens Pulp and Paper Mill - Sediment 2009
Telephone No. 503.222.7200
Fax No. 503.222.4292

SR #

Sample I.D.	Lab I.D.	Matrix	Date	Time	Number of Containers	MIS (1) (2)										Composite I.D.
M-241-1-B		Sediment	10.9.09	0848	1	X										M-1-B
M-243-1-B		Sediment	↓	0916	1	X										M-1-B
M-248-1-B		Sediment	↓	1031	1	X										M-1-B
		Sediment			1	X										M-1-B
Keep log in	open	Sediment			1	X										M-1-B
		Sediment			1	X										M-1-B
		Sediment			1	X										M-1-B
		Sediment			1	X										M-1-B
		Sediment			1	X										M-1-B
		Sediment			1	X										M-1-B
		Sediment			1	X										M-1-B
		Sediment			1	X										M-1-B
		Sediment			1	X										M-1-B
		Sediment			1	X										M-1-B
		Sediment			1	X										M-1-B
		Sediment			1	X										M-1-B
		Sediment			1	X										M-1-B
		Sediment			1	X										M-1-B
		Sediment			1	X										M-1-B
		Sediment			1	X										M-1-B
		Sediment			1	X										M-1-B
		Sediment			1	X										M-1-B
		Sediment			1	X										M-1-B

Sample Received Intact: Yes No
Temperature received: Ice No ice

RELINQUISHED BY:
Signature: Nicky Moody
Printed Name: NICKY MOODY
Firm: URS
Date/Time: 10/9/09 1600

RELINQUISHED BY:
Signature:
Printed Name:
Firm:
Date/Time: 10/9/09 1730

RELINQUISHED BY:
Signature:
Printed Name:
Firm:
Date/Time:

RELINQUISHED BY:
Signature:
Printed Name:
Firm:
Date/Time:

Special Instructions/Comments:

Freeze containers upon arrival prior to completing MIS sub-sampling.
(1) Follow Appendix B of the FSP for the Guidance on Lab Prep to create the Composite Incremental Samples.
(2) Submittal of MIS sub-samples to Axys - See Composite Incremental COC.

Columbia Analytical Services, Inc.
Cooler Receipt and Preservation Form

PC LH

Client / Project: URS Service Request K09 09640

Received: 10-9-09 Opened: By: DU

1. Samples were received via? *US Mail* *Fed Ex* *UPS* *DHL* *GH* *GS* *PDX* (*Courier*) *Hand Delivered*
2. Samples were received in: (circle) (*Cooler*) *Box* *Envelope* *Other* _____ *NA*
3. Were custody seals on coolers? NA Y (N) If yes, how many and where? _____
   If present, were custody seals intact? Y (N) If present, were they signed and dated? Y (N)
4. Is shipper's air-bill filed? If not, record air-bill number: _____ (NA) Y N

5. **Temperature of cooler(s) upon receipt (°C):**	0.5	0.8	0.5	
Temperature Blank (°C):	0.4	0.3	1.0	
Thermometer ID:	#258	#257	#270	
6. If applicable, list Chain of Custody Numbers:				

7. Packing material used. *Inserts* *Baggies* *Bubble Wrap* (*Gel Packs*) *Wet Ice* *Sleeves* *Other* _____

8. Were custody papers properly filled out (ink, signed, etc.)?	NA	(Y)	N
9. **Did all bottles arrive in good condition (unbroken)?** *Indicate in the table below.*	NA	(Y)	N
10. Were all sample labels complete (i.e analysis, preservation, etc.)?	NA	(Y)	N
11. Did all sample labels and tags agree with custody papers? *Indicate in the table below*	NA	(Y)	N
12. **Were appropriate bottles/containers and volumes received for the tests indicated?**	NA	(Y)	N
13. Were the pH-preserved bottles tested* received at the appropriate pH? *Indicate in the table below*	(NA)	Y	N
14. Were VOA vials received without headspace? *Indicate in the table below.*	(NA)	Y	N
15. **Are CWA Microbiology samples received with >1/2 the 24hr. hold time remaining from collection?**	(NA)	Y	N
16. Was C12/Res negative?	(NA)	Y	N

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Sample ID	Bottle Count Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

*Does not include all pH preserved sample aliquots received. See sample receiving SOP (SMO-GEN).

Additional Notes, Discrepancies, & Resolutions: _____

Incremental Samples - Mill Area 1 - A

K0909637

Columbia Analytical Services 800.695.7222 www.caslab.com	Client: OfficeMax & URS Corporation	Bill to: OfficeMax	**CHAIN of CUSTODY**	Page _1_ of _1_
	Project Manager: David Weatherby, URS Corporation		Project: Boise St Helens Pulp and Paper Mill - Sediment 2009 Telephone No. 503.222.7200 Fax No. 503.222.4292	SR #

NM Sample I.D.	Lab I.D.	Matrix	Date	Time	Number of Containers	MIS (1) (2)	Composite I.D.
M-~~235~~ 215-1-A		Sediment	10.19.09	0908 1007	1	X	M-1-A
M- 212 -1-A		Sediment		1025	1	X	M-1-A
M- 206 -1-A		Sediment		1037	1	X	M-1-A
M-233-1-A		Sediment		1231	1	X	M-1-A
M-236-1-A		Sediment		1246	1	X	M-1-A
M-238-1-A		Sediment		1259	1	X	M-1-A
M-240-1-A		Sediment		1320	1	X	M-1-A
M-242-1-A		Sediment		1339	1	X	M-1-A
M-244-1-A		Sediment		1352	1	X	M-1-A
M-247-1-A		Sediment		1500	1	X	M-1-A
M-249-1-A		Sediment		1514	1	X	M-1-A
M-250-1-A		Sediment		1550	1	X	M-1-A
		Sediment			1	X	M-1-A
CLOSE LOG IN		Sediment			1	X	M-1-A
		Sediment			1	X	M-1-A
		Sediment			1	X	M-1-A
		Sediment			1	X	M-1-A
		Sediment			1	X	M-1-A
		Sediment			1	X	M-1-A
		Sediment			1	X	M-1-A
		Sediment			1	X	M-1-A

Sample Received Intact: Yes No — Temperature received: Ice No ice

RELIQUISHED BY:	RELIQUISHED BY:	RELIQUISHED BY:	RELIQUISHED BY:	Special Instructions/Comments:
Signature: Ricky Moody	Signature: Frank Hogan	Signature:	Signature:	Freeze containers upon arrival prior to completing MIS sub-sampling.
Printed Name: Ricky Moody	Printed Name: Frank Hogan	Printed Name:	Printed Name:	(1) Follow Appendix B of the FSP for the Guidance on Lab Prep to create the Composite Incremental Samples.
Firm: URS	Firm: [illegible]	Firm:	Firm:	(2) Submittal of MIS sub-samples to Axys - See Composite Incremental COC.
Date/Time: 10.19.09 / 1630	Date/Time: 10/20/09 1300	Date/Time:	Date/Time:	

Columbia Analytical Services, Inc.
Cooler Receipt and Preservation Form

PC 14

Client / Project: URS Service Request K09 09637

Received: 10-20-09 Opened: 10-20-09 By: DW

1. Samples were received via? *US Mail* *Fed Ex* *UPS* *DHL* *GH* *GS* *PDX* *Courier* *Hand Delivered*
2. Samples were received in: (circle) *Cooler* *Box* *Envelope* *Other* _____ *NA*
3. Were custody seals on coolers? NA Y N If yes, how many and where? _____
   If present, were custody seals intact? Y N If present, were they signed and dated? Y N
4. Is shipper's air-bill filed? If not, record air-bill number: _____ NA Y N

5. **Temperature of cooler(s) upon receipt (°C):** -0.5
   Temperature Blank (°C): 0.3
   Thermometer ID: 274
6. If applicable, list Chain of Custody Numbers:
7. Packing material used. *Inserts* *Baggies* *Bubble Wrap* *Gel Packs* *Wet Ice* *Sleeves* *Other* _____
8. Were custody papers properly filled out (ink, signed, etc.)? NA Y N
9. **Did all bottles arrive in good condition (unbroken)?** *Indicate in the table below.* NA Y N
10. Were all sample labels complete (i.e analysis, preservation, etc.)? NA Y N
11. Did all sample labels and tags agree with custody papers? *Indicate in the table below* NA Y N
12. **Were appropriate bottles/containers and volumes received for the tests indicated?** NA Y N
13. Were the pH-preserved bottles tested* received at the appropriate pH? *Indicate in the table below* NA Y N
14. Were VOA vials received without headspace? *Indicate in the table below.* NA Y N
15. **Are CWA Microbiology samples received with >1/2 the 24hr. hold time remaining from collection?** NA Y N
16. Was C12/Res negative? NA Y N

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Sample ID	Bottle Count Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

*Does not include all pH preserved sample aliquots received. See sample receiving SOP (SMO-GEN).

Additional Notes, Discrepancies, & Resolutions: _____

Y0907637

Columbia Analytical Services
800.695.7222
www.caslab.com

Client: OfficeMax & URS Corporation

Bill to: OfficeMax

CHAIN of CUSTODY

Page _1_ of _1_

Project: Boise St Helens Pulp and Paper Mill - Sediment 2009

SR #

Project Manager: David Weatherby, URS Corporation

Telephone No. 503.222.7200

Fax No. 503.222.4292

Sample I.D.	Lab I.D.	Matrix	Date	Time	Number of Containers	MIS (1) (2)										Composite I.D.
M-201-1-A		Sediment	10.15.2009	0904	1	X										M-1-A
M-207-1-A		Sediment	10.16.09	0941	1	X										M-1-A
M-209-1-A		Sediment		1005	1	X										M-1-A
M-211-1-A		Sediment		1136	1	X										M-1-A
M-214-1-A		Sediment		1153	1	X										M-1-A
M-216-1-A		Sediment		1200	1	X										M-1-A
M-218-1-A		Sediment		1235	1	X										M-1-A
M-220-1-A		Sediment		1246	1	X										M-1-A
M-221-1-A		Sediment		1259	1	X										M-1-A
M-223-1-A		Sediment		1306	1	X										M-1-A
M-226-1-A		Sediment		1319	1	X										M-1-A
M-227-1-A		Sediment		1336	1	X										M-1-A
M-234-1-A		Sediment		1455	1	X										M-1-A
		Sediment			1	X										M-1-A
Keep LOG IN	OPEN	Sediment			1	X										M-1-A
		Sediment			1	X										M-1-A
		Sediment			1	X										M-1-A
		Sediment			1	X										M-1-A
		Sediment			1	X										M-1-A
		Sediment			1	X										M-1-A
		Sediment			1	X										M-1-A

Sample Received Intact: Yes No

Temperature received: Ice No ice

RELIQUISHED BY:
Signature:
Printed Name: Clifford S. Pearson
Firm: URS
Date/Time: 10.16.09/1545

RELIQUISHED BY:
Signature:
Printed Name:
Firm: CAS
Date/Time: 10/16/09 1730

RELIQUISHED BY:
Signature:
Printed Name:
Firm:
Date/Time:

RELIQUISHED BY:
Signature:
Printed Name:
Firm:
Date/Time:

Special Instructions/Comments:

Freeze containers upon arrival prior to completing MIS sub-sampling.
(1) Follow Appendix B of the FSP for the Guidance on Lab Prep to create the Composite Incremental Samples.
(2) Submittal of MIS sub-samples to Axys - See Composite Incremental COC.

Columbia Analytical Services, Inc.
Cooler Receipt and Preservation Form

PC LH

Client / Project: URS Service Request K09 0937

Received: 10/30/09 Opened: _____ By: _____

1. Samples were received via? *US Mail* *Fed Ex* *UPS* *DHL* *GH* *GS* *PDX* (*Courier*) *Hand Delivered*
2. Samples were received in: (circle) (*Cooler*) *Box* *Envelope* *Other* _____ *NA*
3. Were custody seals on coolers? NA Y (N) If yes, how many and where? _____
   If present, were custody seals intact? Y N If present, were they signed and dated? Y N
4. Is shipper's air-bill filed? If not, record air-bill number: _____ (NA) Y N

5. **Temperature of cooler(s) upon receipt (°C):**	-1.4			
Temperature Blank (°C):	-0.3			
Thermometer ID:	261			
6. If applicable, list Chain of Custody Numbers:				

7. Packing material used. *Inserts* *Baggies* *Bubble Wrap* *Gel Packs* *Wet Ice* *Sleeves* *Other* _____
8. Were custody papers properly filled out (ink, signed, etc.)? NA (Y) N
9. **Did all bottles arrive in good condition (unbroken)?** *Indicate in the table below.* NA (Y) N
10. Were all sample labels complete (i.e analysis, preservation, etc.)? NA (Y) N
11. Did all sample labels and tags agree with custody papers? *Indicate in the table below* NA (Y) N
12. **Were appropriate bottles/containers and volumes received for the tests indicated?** NA (Y) N
13. Were the pH-preserved bottles tested* received at the appropriate pH? *Indicate in the table below* (NA) Y N
14. Were VOA vials received without headspace? *Indicate in the table below.* (NA) Y N
15. **Are CWA Microbiology samples received with >1/2 the 24hr. hold time remaining from collection?** (NA) Y N
16. Was C12/Res negative? (NA) Y N

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Sample ID	Bottle Count Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

*Does not include all pH preserved sample aliquots received. See sample receiving SOP (SMO-GEN).

Additional Notes, Discrepancies, & Resolutions: _____

K0909637

Columbia Analytical Services™
800.695.7222
www.caslab.com

Client: OfficeMax & URS Corporation
Bill to: OfficeMax
Project Manager: David Weatherby, URS Corporation

CHAIN of CUSTODY

Page _1_ of _1_
Project: Boise St Helens Pulp and Paper Mill - Sediment 2009
SR #
Telephone No. 503.222.7200
Fax No. 503.222.4292

Sample I.D.	Lab I.D.	Matrix	Date	Time	Number of Containers	MIS (1) (2)									Composite I.D.
M-245-1-A		Sediment	10.9.09	0951	1	X									M-1-A
		Sediment			1	X									M-1-A
Keep log in open		Sediment			1	X									M-1-A
		Sediment			1	X									M-1-A
		Sediment			1	X									M-1-A
		Sediment			1	X									M-1-A
		Sediment			1	X									M-1-A
		Sediment			1	X									M-1-A
		Sediment			1	X									M-1-A
		Sediment			1	X									M-1-A
		Sediment			1	X									M-1-A
		Sediment			1	X									M-1-A
		Sediment			1	X									M-1-A
		Sediment			1	X									M-1-A
		Sediment			1	X									M-1-A
		Sediment			1	X									M-1-A
		Sediment			1	X									M-1-A
		Sediment			1	X									M-1-A
		Sediment			1	X									M-1-A
		Sediment			1	X									M-1-A
		Sediment			1	X									M-1-A
		Sediment			1	X									M-1-A
		Sediment			1	X									M-1-A

Sample Received Intact: Yes No
Temperature received: Ice No ice

RELINQUISHED BY:
Signature: Mark
Printed Name: Nicky Moody
Firm: URS
Date/Time: 10.9.09 1600

RELINQUISHED BY:
Signature:
Printed Name: Brad Dan
Firm: CAS
Date/Time: 10/9/09 1730

RELINQUISHED BY:
Signature:
Printed Name:
Firm:
Date/Time:

RELINQUISHED BY:
Signature:
Printed Name:
Firm:
Date/Time:

Special Instructions/Comments:

Freeze containers upon arrival prior to completing MIS sub-sampling.
(1) Follow Appendix B of the FSP for the Guidance on Lab Prep to create the Composite Incremental Samples.
(2) Submittal of MIS sub-samples to Axys - See Composite Incremental COC.

Columbia Analytical Services, Inc.
Cooler Receipt and Preservation Form

PC LH

Client / Project: URS Service Request K09 09637

Received: 10-9-09 Opened: _____ By: DW

1. Samples were received via? *US Mail* *Fed Ex* *UPS* *DHL* *GH* *GS* *PDX* (*Courier*) *Hand Delivered*
2. Samples were received in: (circle) (*Cooler*) *Box* *Envelope* *Other* _____ *NA*
3. Were custody seals on coolers? NA Y (N) If yes, how many and where? _____
   If present, were custody seals intact? Y (N) If present, were they signed and dated? Y (N)
4. Is shipper's air-bill filed? If not, record air-bill number: _____ (NA) Y N

5. **Temperature of cooler(s) upon receipt (°C):**	0.5	0.8	0.5	
Temperature Blank (°C):	0.1	0.3	1.0	
Thermometer ID:	#258	#257	#270	
6. If applicable, list Chain of Custody Numbers:				

7. Packing material used. *Inserts* *Baggies* *Bubble Wrap* (*Gel Packs*) *Wet Ice* *Sleeves* *Other* _____
8. Were custody papers properly filled out (ink, signed, etc.)? NA (Y) N
9. **Did all bottles arrive in good condition (unbroken)?** *Indicate in the table below.* NA (Y) N
10. Were all sample labels complete (i.e analysis, preservation, etc.)? NA (Y) N
11. Did all sample labels and tags agree with custody papers? *Indicate in the table below* NA (Y) N
12. **Were appropriate bottles/containers and volumes received for the tests indicated?** NA (Y) N
13. Were the pH-preserved bottles tested* received at the appropriate pH? *Indicate in the table below* (NA) Y N
14. Were VOA vials received without headspace? *Indicate in the table below.* (NA) Y N
15. **Are CWA Microbiology samples received with >1/2 the 24hr. hold time remaining from collection?** (NA) Y N
16. Was C12/Res negative? (NA) Y N

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Sample ID	Bottle Count Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

*Does not include all pH preserved sample aliquots received. See sample receiving SOP (SMO-GEN).

Additional Notes, Discrepancies, & Resolutions: _____

K0909137

Columbia Analytical Services
800.695.7222
www.caslab.com

Client: OfficeMax & URS Corporation
Bill to: OfficeMax
Project Manager: David Weatherby, URS Corporation

CHAIN of CUSTODY

Page 1 of 1
Project: Boise St Helens Pulp and Paper Mill - Sediment 2009
SR #
Telephone No. 503.222.7200
Fax No. 503.222.4292

Sample I.D.	Lab I.D.	Matrix	Date	Time	Number of Containers	MIS (1) (2)	Composite I.D.
M-219-1-A		Sediment	10.7.09	1301	1	X	M-1-A
M-228-1-A		Sediment		1320	1	X	M-1-A
M-237-1-A		Sediment		1354	1	X	M-1-A
M-239-1-A		Sediment		1418	1	X	M-1-A
		Sediment			1	X	M-1-A
Keep Log in	open	Sediment			1	X	M-1-A
		Sediment			1	X	M-1-A
		Sediment			1	X	M-1-A
		Sediment			1	X	M-1-A
		Sediment			1	X	M-1-A
		Sediment			1	X	M-1-A
		Sediment			1	X	M-1-A
		Sediment			1	X	M-1-A
		Sediment			1	X	M-1-A
		Sediment			1	X	M-1-A
		Sediment			1	X	M-1-A
		Sediment			1	X	M-1-A
		Sediment			1	X	M-1-A
		Sediment			1	X	M-1-A
		Sediment			1	X	M-1-A
		Sediment			1	X	M-1-A

Sample Received Intact: Yes No
Temperature received: Ice No ice

Special Instructions/Comments:

Freeze containers upon arrival prior to completing MIS sub-sampling.
(1) Follow Appendix B of the FSP for the Guidance on Lab Prep to create the Composite Incremental Samples.
(2) Submittal of MIS sub-samples to Axys - See Composite Incremental COC.

RELINQUISHED BY:	~~RELINQUISHED BY:~~ Received by:	RELINQUISHED BY:	RELINQUISHED BY:
Signature: Nicky Moody	Signature: John Jones	Signature:	Signature:
Printed Name: NICKY MOODY	Printed Name: John Jones	Printed Name:	Printed Name:
Firm: URS	Firm: CAS	Firm:	Firm:
Date/Time: 10.7.09/1600	Date/Time: 10/8/09 0830	Date/Time:	Date/Time:

Columbia Analytical Services, Inc.
Cooler Receipt and Preservation Form

PC 14

Client / Project: UES Service Request K09 09637

Received: 10/2/09 Opened: 10/3/09 By: TT

1. Samples were received via? *US Mail* *Fed Ex* *UPS* *DHL* *GH* *GS* *PDX* (*Courier*) *Hand Delivered*
2. Samples were received in: (circle) (*Cooler*) *Box* *Envelope* *Other* _____ *NA*
3. Were custody seals on coolers? NA (Y) N If yes, how many and where? 1 front
   If present, were custody seals intact? (Y) N If present, were they signed and dated? (Y) N
4. Is shipper's air-bill filed? If not, record air-bill number: Red cooler 1 of 2 per CS NA Y N
   Blue cooler 2 of 2 per cust seal
5. **Temperature of cooler(s) upon receipt (°C):** -0.5 -0.7
   Temperature Blank (°C): 3.1
   Thermometer ID: 266 265
6. If applicable, list Chain of Custody Numbers:
7. Packing material used. *Inserts* (*Baggies*) *Bubble Wrap* *Gel Packs* (*Wet Ice*) *Sleeves* *Other* _____
8. Were custody papers properly filled out (ink, signed, etc.)? NA (Y) N
9. **Did all bottles arrive in good condition (unbroken)?** *Indicate in the table below.* NA (Y) N
10. Were all sample labels complete (i.e analysis, preservation, etc.)? NA (Y) N
11. Did all sample labels and tags agree with custody papers? *Indicate in the table below* * NA Y (N)
12. **Were appropriate bottles/containers and volumes received for the tests indicated?** NA (Y) N
13. Were the pH-preserved bottles tested* received at the appropriate pH? *Indicate in the table below* (NA) Y N
14. Were VOA vials received without headspace? *Indicate in the table below.* (NA) Y N
15. **Are CWA Microbiology samples received with >1/2 the 24hr. hold time remaining from collection?** (NA) Y N
16. Was C12/Res negative? (NA) Y N

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Sample ID	Bottle Count Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

*Does not include all pH preserved sample aliquots received. See sample receiving SOP (SMO-GEN).

Additional Notes, Discrepancies, & Resolutions: Received the following samples not listed on COC: M-195-Z-A (1x 8oz jar), M-195-Z-C (1x 8oz jar), M-195-Z-D (1x 2oz jar 3x 8oz jars)

K0909572

Columbia Analytical Services
800.695.7222
www.caslab.com

Client: OfficeMax & URS Corporation

Bill to: OfficeMax

CHAIN of CUSTODY

Page 1 of 1

Project: Boise St Helens Pulp and Paper Mill - Sediment 2009

SR #

Project Manager: David Weatherby, URS Corporation

Telephone No. 503.222.7200

Fax No. 503.222.4292

Sample I.D.	Lab I.D.	Matrix	Date	Time	Number of Containers	Composite [1]	PAHs 8270 SIM	PCB's Aroclors	Total Metals (Sb, As, Cd, Pb, Hg, Se, and Zn)	TOC	Grain Size	Total Solids	Total Sulfides	Bulk Ammonia	Total Volatile Solids	Composite I.D.
M-180-2-D all in		Sediment	10/7/09	0946	4	X										M-2-D
~~M-183 bioassay aliquot~~ NM		Sediment	NM 10/7/09	~~0905~~	4	X										~~M-2-D~~
M-185 samples here		Sediment	10/7/09	0824	4	X										M-2-D
M-176 as we collect		Sediment	10/7/09	0955	4	X										M-2-D
them		Sediment			4	X										M-2-D
CLOSE LOG	IN	Sediment			4	X										M-2-D
		Sediment			4	X										M-2-D
		Sediment			4	X										M-2-D
		Sediment			4	X										M-2-D
		Sediment			4	X										M-2-D

Sample Received Intact: Yes No

Temperature received: Ice No ice

RELIQUISHED BY:	~~RELIQUISHED BY:~~ 7/8/09	RELIQUISHED BY:	RELIQUISHED BY:
Signature: Nicky Moody	Signature: Received by: John Jones	Signature:	Signature:
Printed Name: Nicky Moody	Printed Name: John Jones	Printed Name:	Printed Name:
Firm: URS	Firm: CTS	Firm:	Firm:
Date/Time: 10/7/09 / 1600	Date/Time: 10/8/09 0830	Date/Time:	Date/Time:

Special Instructions/Comments:

DO NOT FREEZE THESE SAMPLES

[1] Soft mix all the volume of 30 x 8 oz containers into one composite bioassay sample with Composite I.D. listed above.

[1] Homogenize all the volume of 10 x 2 oz into one composite with same Composite I.D.

Columbia Analytical Services, Inc.
Cooler Receipt and Preservation Form

PC LH

Client / Project: UES Service Request K09 09372

Received: 10/8/09 Opened: 10/9/09 By: TT

1. Samples were received via? *US Mail* *Fed Ex* *UPS* *DHL* *GH* *GS* *PDX* (*Courier*) *Hand Delivered*
2. Samples were received in: (circle) (*Cooler*) *Box* *Envelope* *Other* _____ *NA*
3. Were custody seals on coolers? NA (Y) N If yes, how many and where? 1 front
   If present, were custody seals intact? (Y) N If present, were they signed and dated? (Y) N
4. Is shipper's air-bill filed? If not, record air-bill number: Al cooler 1 of 2 pre CS NA Y N
   Blue cooler 2 of 2 pre cust seal

5. **Temperature of cooler(s) upon receipt (°C):**	-0.5	-0.7		
Temperature Blank (°C):	3.1			
Thermometer ID:	266	265		
6. If applicable, list Chain of Custody Numbers:				

7. Packing material used. *Inserts* (*Baggies*) *Bubble Wrap* *Gel Packs* (*Wet Ice*) *Sleeves* *Other* _____

8. Were custody papers properly filled out (ink, signed, etc.)?	NA	(Y)	N
9. **Did all bottles arrive in good condition (unbroken)?** *Indicate in the table below.*	NA	(Y)	N
10. Were all sample labels complete (i.e analysis, preservation, etc.)?	NA	(Y)	N
11. Did all sample labels and tags agree with custody papers? *Indicate in the table below*	* NA	Y	(N)
12. **Were appropriate bottles/containers and volumes received for the tests indicated?**	NA	(Y)	N
13. Were the pH-preserved bottles tested* received at the appropriate pH? *Indicate in the table below*	(NA)	Y	N
14. Were VOA vials received without headspace? *Indicate in the table below.*	(NA)	Y	N
15. **Are CWA Microbiology samples received with >1/2 the 24hr. hold time remaining from collection?**	(NA)	Y	N
16. Was C12/Res negative?	(NA)	Y	N

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Sample ID	Bottle Count Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

*Does not include all pH preserved sample aliquots received. See sample receiving SOP (SMO-GEN).

Additional Notes, Discrepancies, & Resolutions: Received the following samples not listed on COC: M-195-Z-A (1x 8oz jar), M-195-Z-C (1x 8oz jar), M-195-Z-D (1x 2oz jar 3x 8oz jars)

Columbia Analytical Services

Courier/After-Hours Sample Receipt Record

Company: URS

Date/Time: 10/8/09 7:12 ☐ A.M. ☐ P.M.

Number of Containers: 2 ☐ Cooler ☐ Box ☐ Other _____

Custody Seal(s) Present: Yes ___ No ___ Custody Seal(s) Added: Yes ___ No ___

Containers Received From: _____

Containers Received By: _____

☑ Client Not Available Samples Stored: _____

Relinquished to Columbia Analytical by: _____ Date/Time: 10/8/09 ☐ A.M. ☐ P.M.

Columbia Analytical Sample Receiving Office hours are 8:00 a.m. to 5:00 p.m. Monday through Friday, and 8:00 a.m. to 12:00 p.m. on Saturdays. Samples received, other than during office hours will be placed under refrigeration and officially received and processed on the following workday. Samples received via Courier will be officially received and processed according to the actual time of arrival at Columbia Analytical Sample Receiving office.

1317 S. 13th Avenue I Kelso, Washington 98626 I Telephone 360.577.7222 I Fax 360.636.1068

WHITE - Retained by Originator YELLOW - Courier/Lab

K0909572

Columbia Analytical Services
800.695.7222
www.caslab.com

Client: OfficeMax & URS Corporation
Bill to: OfficeMax
Project Manager: David Weatherby, URS Corporation

CHAIN of CUSTODY

Project: Boise St Helens Pulp and Paper Mill - Sediment 2009
Telephone No. 503.222.7200
Fax No. 503.222.4292

SR #

Sample I.D.	Lab I.D.	Matrix	Date	Time	Number of Containers	Composite (1)	PAHs 8270 SIM	PCB's Aroclors	Total Metals (Sb, As, Cd, Pb, Hg, Se, and Zn)	TOC	Grain Size	Total Solids	Total Sulfides	Bulk Ammonia	Total Volatile Solids	Composite I.D.
~~Fill in~~ M-156-2-D		Sediment	10/6/09	~~10:05~~ 1305	4	X										M-2-D
~~bioassay aliquot~~ M-159-2-D		Sediment		1330	4	X										M-2-D
M-165-2-D ~~sample is here~~		Sediment		1349	4	X										M-2-D
M-174-2-D ~~as we collect~~		Sediment		1418	4	X										M-2-D
M-194-2-D ~~item~~		Sediment		1447	4	X										M-2-D
M-194-2-D		Sediment		1416	4	X										M-2-D
Keep		Sediment			4	X										M-2-D
L06 IN OPEN		Sediment			4	X										M-2-D
		Sediment			4	X										M-2-D
		Sediment			4	X										M-2-D

Sample Received Intact: Yes No
Temperature received: Ice No ice

Special Instructions/Comments:

DO NOT FREEZE THESE SAMPLES
(1) Soft mix all the volume of 30 x 8 oz containers into one composite bioassay sample with Composite I.D. listed above.
(1) Homogenize all the volume of 10 x 2 oz into one composite with same Composite I.D.

RELIQUISHED BY:	~~RELIQUISHED BY:~~ Received by: 10/7/09	RELIQUISHED BY:	RELIQUISHED BY:
Signature:	Signature:	Signature:	Signature:
Printed Name: URS	Printed Name: John Jones	Printed Name:	Printed Name:
Firm: NICKM MOODY	Firm: CAS	Firm:	Firm:
Date/Time: 10.6.09 / 1600	Date/Time: 10/7/09 0915	Date/Time:	Date/Time:

Columbia Analytical Services, Inc.
Cooler Receipt and Preservation Form

PC LH

Client / Project: URS / Moffett Map Service Request K09 09572

Received: 10/7/09 Opened: 10/7/09 By: TT

1. Samples were received via? *US Mail* *Fed Ex* *UPS* *DHL* *GH* *GS* *PDX* (Courier) *Hand Delivered*
2. Samples were received in: (circle) (Cooler) *Box* *Envelope* *Other* _____ *NA*
3. Were custody seals on coolers? NA (Y) N If yes, how many and where? 1 Front
   If present, were custody seals intact? (Y) N If present, were they signed and dated? Y N
4. Is shipper's air-bill filed? If not, record air-bill number: 2 of 2 per custody seal (NA) Y N
   1 of 2 per custody seal

5. **Temperature of cooler(s) upon receipt (°C):**	-0.3	-0.7		
Temperature Blank (°C):	0.9	0.7		
Thermometer ID:	269	275		
6. If applicable, list Chain of Custody Numbers:				

7. Packing material used. *Inserts* (Baggies) *Bubble Wrap* *Gel Packs* (Wet Ice) *Sleeves* *Other* _____

8. Were custody papers properly filled out (ink, signed, etc.)?	NA	(Y)	N
9. **Did all bottles arrive in good condition (unbroken)?** *Indicate in the table below.*	NA	(Y)	N
10. Were all sample labels complete (i.e analysis, preservation, etc.)?	NA	(Y)	N
11. Did all sample labels and tags agree with custody papers? *Indicate in the table below*	*NA	Y	(N)
12. **Were appropriate bottles/containers and volumes received for the tests indicated?**	NA	(Y)	N
13. Were the pH-preserved bottles tested* received at the appropriate pH? *Indicate in the table below*	(NA)	Y	N
14. Were VOA vials received without headspace? *Indicate in the table below.*	(NA)	Y	N
15. **Are CWA Microbiology samples received with >1/2 the 24hr. hold time remaining from collection?**	(NA)	Y	N
16. Was C12/Res negative?	(NA)	Y	N

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Sample ID	Bottle Count Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

*Does not include all pH preserved sample aliquots received. See sample receiving SOP (SMO-GEN).

Additional Notes, Discrepancies, & Resolutions: *Received samples not listed on COC: M-191-Z-B M-191-Z-C

K0909571

Columbia Analytical Services
800.695.7222
www.caslab.com

Client: OfficeMax & URS Corporation
Bill to: OfficeMax
Project Manager: David Weatherby, URS Corporation

CHAIN of CUSTODY

Page _1_ of _1_
Project: Boise St Helens Pulp and Paper Mill - Sediment 2009
SR #
Telephone No. 503.222.7200
Fax No. 503.222.4292

Sample I.D.	Lab I.D.	Matrix	Date	Time	Number of Containers	MIS (1) (2)	Composite I.D.
M-173-2-C		Sediment	10.15.09	0856	1	X	M-2-C
M-183-2-C		Sediment		0915	1	X	M-2-C
M-186-2-C		Sediment		0926	1	X	M-2-C
M-189-2-C		Sediment		1023	1	X	M-2-C
M-192-2-C		Sediment		1041	1	X	M-2-C
M-196-2-C		Sediment		1055	1	X	M-2-C
M-198-2-C		Sediment		1231	1	X	M-2-C
M-199-2-C		Sediment		1241	1	X	M-2-C
M-190-2-C		Sediment		1308	1	X	M-2-C
M-168-2-C		Sediment		1425	1	X	M-2-C
		Sediment			1	X	M-2-C
— CLOSE LOG IN —		Sediment			1	X	M-2-C
		Sediment			1	X	M-2-C
		Sediment			1	X	M-2-C
		Sediment			1	X	M-2-C
		Sediment			1	X	M-2-C
		Sediment			1	X	M-2-C
		Sediment			1	X	M-2-C
		Sediment			1	X	M-2-C
		Sediment			1	X	M-2-C

Sample Received Intact: Yes No
Temperature received: Ice No ice

RELINQUISHED BY:
Signature: Clifford J. R
Printed Name: Clifford J. Pearson
Firm: URS
Date/Time: 10.15.09 / 1600

RELINQUISHED BY:
Signature:
Printed Name:
Firm:
Date/Time: 10/16/09

RELINQUISHED BY:
Signature:
Printed Name:
Firm:
Date/Time:

RELINQUISHED BY:
Signature:
Printed Name:
Firm:
Date/Time:

Special Instructions/Comments:

Freeze containers upon arrival prior to completing MIS sub-sampling.
(1) Follow Appendix B of the FSP for the Guidance on Lab Prep to create the Composite Incremental Samples.
(2) Submittal of MIS sub-samples to Axys - See Composite Incremental COC.

Columbia Analytical Services, Inc.
Cooler Receipt and Preservation Form

PC LH

Client / Project: URS Service Request K09 09571

Received: 10/16/09 Opened: 10/16/09 By: UR

1. Samples were received via? *US Mail* *Fed Ex* *UPS* *DHL* *GH* *GS* *PDX* (*Courier*) *Hand Delivered*
2. Samples were received in: (circle) (*Cooler*) *Box* *Envelope* *Other* _____ *NA*
3. Were custody seals on coolers? NA (Y) N If yes, how many and where? 1 front
   If present, were custody seals intact? (Y) N If present, were they signed and dated? (Y) N
4. Is shipper's air-bill filed? If not, record air-bill number: _____ NA Y N

5. **Temperature of cooler(s) upon receipt (°C):**	-0.1			
Temperature Blank (°C):	1.3			
Thermometer ID:	270			
6. If applicable, list Chain of Custody Numbers:				

7. Packing material used. *Inserts* (*Baggies*) *Bubble Wrap* *Gel Packs* (*Wet Ice*) *Sleeves* *Other* _____

8. Were custody papers properly filled out (ink, signed, etc.)?	NA	(Y)	N
9. **Did all bottles arrive in good condition (unbroken)?** *Indicate in the table below.*	NA	(Y)	N
10. Were all sample labels complete (i.e analysis, preservation, etc.)?	NA	(Y)	N
11. Did all sample labels and tags agree with custody papers? *Indicate in the table below*	NA	Y	(N) *
12. **Were appropriate bottles/containers and volumes received for the tests indicated?**	NA	(Y)	N
13. Were the pH-preserved bottles tested* received at the appropriate pH? *Indicate in the table below*	(NA)	~~Y~~ UR 10/16/09	N
14. Were VOA vials received without headspace? *Indicate in the table below.*	(NA)	Y	N
15. **Are CWA Microbiology samples received with >1/2 the 24hr. hold time remaining from collection?**	(NA)	Y	N
16. Was C12/Res negative?	(NA)	Y	N

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Sample ID	Bottle Count Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

*Does not include all pH preserved sample aliquots received. See sample receiving SOP (SMO-GEN).

Additional Notes, Discrepancies, & Resolutions: * Received M-153 2-A and M-153-2-C not listed on COC.

K0905 71

Columbia Analytical Services
800.695.7222
www.caslab.com

Client: OfficeMax & URS Corporation
Bill to: OfficeMax
Project Manager: David Weatherby, URS Corporation

CHAIN of CUSTODY

Page _1_ of _1_
Project: Boise St Helens Pulp and Paper Mill - Sediment 2009
SR #
Telephone No. 503.222.7200
Fax No. 503.222.4292

Sample I.D.	Lab I.D.	Matrix	Date	Time	Number of Containers	MIS (1) (2)	Composite I.D.
M-151-2-C		Sediment	10.14.2009	846	1	X	M-2-C
M-152-2-C		Sediment		857	1	X	M-2-C
M-155-2-C		Sediment		905	1	X	M-2-C
M-161-2-C		Sediment		1019	1	X	M-2-C
M-163-2-C		Sediment		1036	1	X	M-2-C
M-166-2-C		Sediment		1234	1	X	M-2-C
M-170-2-C		Sediment		1318	1	X	M-2-C
M-175-2-C		Sediment		1358	1	X	M-2-C
M-177-2-C		Sediment		1420	1	X	M-2-C
M-178-2-C		Sediment		1428	1	X	M-2-C
M-184-2-C		Sediment		1509	1	X	M-2-C
M-181-2-C		Sediment		1519	1	X	M-2-C
KEEP LOG IN OPEN		Sediment			1	X	M-2-C
		Sediment			1	X	M-2-C
		Sediment			1	X	M-2-C
		Sediment			1	X	M-2-C
		Sediment			1	X	M-2-C
		Sediment			1	X	M-2-C
		Sediment			1	X	M-2-C
		Sediment			1	X	M-2-C
		Sediment			1	X	M-2-C

Sample Received Intact: Yes No Received
Temperature received: Ice No ice

RELINQUISHED BY:
Signature: C Wind J. R
Printed Name: CLIFFORD J. PEARSON
Firm: URS CORP
Date/Time:

~~RELINQUISHED~~ BY:
Signature:
Printed Name: Les Kennedy
Firm: CAS
Date/Time: 10/15/09 0825

RELINQUISHED BY:
Signature:
Printed Name:
Firm:
Date/Time:

RELINQUISHED BY:
Signature:
Printed Name:
Firm:
Date/Time:

Special Instructions/Comments:

Freeze containers upon arrival prior to completing MIS sub-sampling.
(1) Follow Appendix B of the FSP for the Guidance on Lab Prep to create the Composite Incremental Samples.
(2) Submittal of MIS sub-samples to Axys - See Composite Incremental COC.

Columbia Analytical Services, Inc.
Cooler Receipt and Preservation Form

PC_____

Client / Project: URS Service Request K09

Received: 10/15/09 Opened: 10/15/09 By: LL

1. Samples were received via? *US Mail* *Fed Ex* *UPS* *DHL* *GH* *GS* *PDX* (*Courier*) *Hand Delivered*
2. Samples were received in: (circle) (*Cooler*) *Box* *Envelope* *Other*_____ *NA*
3. Were custody seals on coolers? NA (Y) N If yes, how many and where? 1 front
   If present, were custody seals intact? (Y) N If present, were they signed and dated? (Y) N
4. Is shipper's air-bill filed? If not, record air-bill number:_____ NA Y N

5. **Temperature of cooler(s) upon receipt (°C):** -0.4
   Temperature Blank (°C): 0.8
   Thermometer ID: 275
6. If applicable, list Chain of Custody Numbers:
7. Packing material used. *Inserts* (*Baggies*) *Bubble Wrap* *Gel Packs* (*Wet Ice*) *Sleeves* *Other*_____
8. Were custody papers properly filled out (ink, signed, etc.)? NA (Y) N
9. **Did all bottles arrive in good condition (unbroken)?** *Indicate in the table below.* NA (Y) N
10. Were all sample labels complete (i.e analysis, preservation, etc.)? NA (Y) N
11. Did all sample labels and tags agree with custody papers? *Indicate in the table below* NA (Y) N
12. **Were appropriate bottles/containers and volumes received for the tests indicated?** NA (Y) N
13. Were the pH-preserved bottles tested* received at the appropriate pH? *Indicate in the table below* (NA) Y N
14. Were VOA vials received without headspace? *Indicate in the table below.* (NA) Y N
15. **Are CWA Microbiology samples received with >1/2 the 24hr. hold time remaining from collection?** (NA) Y N
16. Was C12/Res negative? (NA) Y N

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Sample ID	Bottle Count Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

*Does not include all pH preserved sample aliquots received. See sample receiving SOP (SMO-GEN).

*Additional Notes, Discrepancies, & Resolutions:*_____

KC009571

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Client: OfficeMax & URS Corporation

Bill to: OfficeMax

CHAIN of CUSTODY

Page 1 of 1

Project: Boise St Helens Pulp and Paper Mill - Sediment 2009

SR #

Project Manager: David Weatherby, URS Corporation

Telephone No. 503.222.7200

Fax No. 503.222.4292

Sample I.D.	Lab I.D.	Matrix	Date	Time	Number of Containers	MIS (1) (2)	Composite I.D.
M-180-2-C		Sediment	10/7/09	0748	1	X	~~M-1-C~~ M-2-C
~~AA-183-2-C~~ NM		~~Sediment~~	~~10/7/09~~	~~0807~~	1	X	~~M-1-C~~ M-2-C
M-176-2-C		Sediment	10/7/09	0957	1	X	~~M-1-C~~ M-2-C
		Sediment			1	X	~~M-1-C~~
Keep log in open		Sediment			1	X	~~M-1-C~~
		Sediment			1	X	~~M-1-C~~
		Sediment			1	X	~~M-1-C~~
		Sediment			1	X	~~M-1-C~~
		Sediment			1	X	~~M-1-C~~
		Sediment			1	X	~~M-1-C~~
		Sediment			1	X	~~M-1-C~~
		Sediment			1	X	~~M-1-C~~
		Sediment			1	X	~~M-1-C~~
		Sediment			1	X	~~M-1-C~~
		Sediment			1	X	~~M-1-C~~
		Sediment			1	X	~~M-1-C~~
		Sediment			1	X	~~M-1-C~~
		Sediment			1	X	~~M-1-C~~
		Sediment			1	X	~~M-1-C~~
		Sediment			1	X	~~M-1-C~~
		Sediment			1	X	~~M-1-C~~
		Sediment			1	X	~~M-1-C~~

Sample Received Intact: Yes No

Temperature received: Ice No ice

RELIQUISHED BY:	~~RELIQUISHED BY:~~ 10/8/09	RELIQUISHED BY:	RELIQUISHED BY:
Signature: Nicky Moody	Received by: Signature: John Jones	Signature:	Signature:
Printed Name: Nicky Moody	Printed Name: John Jones	Printed Name:	Printed Name:
Firm: URS	Firm: CAS	Firm:	Firm:
Date/Time: 10.7.09/1600	Date/Time: 10/8/09 0830	Date/Time:	Date/Time:

Special Instructions/Comments:

Freeze containers upon arrival prior to completing MIS sub-sampling.
(1) Follow Appendix B of the FSP for the Guidance on Lab Prep to create the Composite Incremental Samples.
(2) Submittal of MIS sub-samples to Axys - See Composite Incremental COC.

Columbia Analytical Services, Inc.
Cooler Receipt and Preservation Form

PC LH

Client / Project: UES Service Request K09 09571

Received: 10/8/09 Opened: 10/8/09 By: TT

1. Samples were received via? *US Mail* *Fed Ex* *UPS* *DHL* *GH* *GS* *PDX* (Courier) *Hand Delivered*
2. Samples were received in: (circle) (Cooler) *Box* *Envelope* *Other* _____ *NA*
3. Were custody seals on coolers? NA (Y) N If yes, how many and where? 1 front
   If present, were custody seals intact? (Y) N If present, were they signed and dated? (Y) N
4. Is shipper's air-bill filed? If not, record air-bill number: Red cooler 1 of 2 per CS NA Y N
   Blue cooler 2 of 2 per cust seal
5. **Temperature of cooler(s) upon receipt (°C):** -0.5 -0.7
   Temperature Blank (°C): 3.1
   Thermometer ID: 266 265
6. If applicable, list Chain of Custody Numbers:
7. Packing material used. *Inserts* (Baggies) *Bubble Wrap* *Gel Packs* (Wet Ice) *Sleeves* *Other* _____
8. Were custody papers properly filled out (ink, signed, etc.)? NA (Y) N
9. **Did all bottles arrive in good condition (unbroken)?** *Indicate in the table below.* NA (Y) N
10. Were all sample labels complete (i.e analysis, preservation, etc.)? NA (Y) N
11. Did all sample labels and tags agree with custody papers? *Indicate in the table below* * NA Y (N)
12. **Were appropriate bottles/containers and volumes received for the tests indicated?** NA (Y) N
13. Were the pH-preserved bottles tested* received at the appropriate pH? *Indicate in the table below* (NA) Y N
14. Were VOA vials received without headspace? *Indicate in the table below.* (NA) Y N
15. **Are CWA Microbiology samples received with >1/2 the 24hr. hold time remaining from collection?** (NA) Y N
16. Was C12/Res negative? (NA) Y N

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Sample ID	Bottle Count Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

*Does not include all pH preserved sample aliquots received. See sample receiving SOP (SMO-GEN).

Additional Notes, Discrepancies, & Resolutions: Received the following samples not listed on COC: M-195-Z-A (1x 8oz jar), M-195-Z-C (1x 8oz jar), M-195-Z-D (1x 2oz jar 3x 8oz jars)

Incremental Samples - Mill Area 2 - C

K0909571

Columbia Analytical Services™ 800.695.7222 www.caslab.com	Client: OfficeMax & URS Corporation	Bill to: OfficeMax	CHAIN of CUSTODY	Page 1 of 1
	Project Manager: David Weatherby, URS Corporation		Project: Boise St Helens Pulp and Paper Mill - Sediment 2009	SR #
			Telephone No. 503.222.7200	Fax No. 503.222.4292

Sample I.D.	Lab I.D.	Matrix	Date	Time	Number of Containers	MIS (1) (2)	Composite I.D.
M-156-2-C		Sediment	10/6/09	1307	1	X	M-2-C
M-159-2-C		Sediment	↓	1332	1	X	M-2-C
M-194-2-C		Sediment	↓	1418	1	X	M-2-C
		Sediment			1	X	M-2-C
Keep log in open		Sediment			1	X	M-2-C
		Sediment			1	X	M-2-C
		Sediment			1	X	M-2-C
		Sediment			1	X	M-2-C
		Sediment			1	X	M-2-C
		Sediment			1	X	M-2-C
		Sediment			1	X	M-2-C
		Sediment			1	X	M-2-C
		Sediment			1	X	M-2-C
		Sediment			1	X	M-2-C
		Sediment			1	X	M-2-C
		Sediment			1	X	M-2-C
		Sediment			1	X	M-2-C
		Sediment			1	X	M-2-C
		Sediment			1	X	M-2-C
		Sediment			1	X	M-2-C
		Sediment			1	X	M-2-C
		Sediment			1	X	M-2-C
		Sediment			1	X	M-2-C

Sample Received Intact: Yes No Temperature received: Ice No ice

RELINQUISHED BY:	RELINQUISHED BY:	RELINQUISHED BY:	RELINQUISHED BY:	Special Instructions/Comments:
Signature: Nicky Moody	Received by: 10/9/09	Signature:	Signature:	Freeze containers upon arrival prior to completing MIS sub-sampling. (1) Follow Appendix B of the FSP for the Guidance on Lab Prep to create the Composite Incremental Samples. (2) Submittal of MIS sub-samples to Axys - See Composite Incremental COC.
Printed Name: Nicky Moody	Signature:	Printed Name:	Printed Name:	
Firm: URS	Printed Name: John Jones	Firm:	Firm:	
Date/Time: 10.6.09 / 1600	Firm: CAS	Date/Time:	Date/Time:	
	Date/Time: 10/7/09 0915			

Columbia Analytical Services, Inc.
Cooler Receipt and Preservation Form

PC LH

Client / Project: URS / Moffett Mgp Service Request K09 09571

Received: 10/7/09 Opened: 10/7/09 By: TT

1. Samples were received via? *US Mail* *Fed Ex* *UPS* *DHL* *GH* *GS* *PDX* (Courier) *Hand Delivered*
2. Samples were received in: (circle) (Cooler) *Box* *Envelope* *Other* _____ *NA*
3. Were custody seals on coolers? NA (Y) N If yes, how many and where? 1 Front
   If present, were custody seals intact? (Y) N If present, were they signed and dated? Y N
4. Is shipper's air-bill filed? If not, record air-bill number: 2 of 2 per custody seal (NA) Y N
   1 of 2 per custody seal
5. **Temperature of cooler(s) upon receipt (°C):** -0.3 -0.7
   Temperature Blank (°C): 0.9 0.7
   Thermometer ID: 209 275
6. If applicable, list Chain of Custody Numbers: / /
7. Packing material used. *Inserts* (Baggies) *Bubble Wrap* *Gel Packs* (Wet Ice) *Sleeves* *Other* _____
8. Were custody papers properly filled out (ink, signed, etc.)? NA (Y) N
9. **Did all bottles arrive in good condition (unbroken)?** *Indicate in the table below.* NA (Y) N
10. Were all sample labels complete (i.e analysis, preservation, etc.)? NA (Y) N
11. Did all sample labels and tags agree with custody papers? *Indicate in the table below* *NA Y (N)
12. **Were appropriate bottles/containers and volumes received for the tests indicated?** NA (Y) N
13. Were the pH-preserved bottles tested* received at the appropriate pH? *Indicate in the table below* (NA) Y N
14. Were VOA vials received without headspace? *Indicate in the table below.* (NA) Y N
15. **Are CWA Microbiology samples received with >1/2 the 24hr. hold time remaining from collection?** (NA) Y N
16. Was C12/Res negative? (NA) Y N

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Sample ID	Bottle Count Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

*Does not include all pH preserved sample aliquots received. See sample receiving SOP (SMO-GEN).

Additional Notes, Discrepancies, & Resolutions: *Received samples not listed on COC: M-191-Z-B M-191-Z-C

1090570

Columbia Analytical Services
800.695.7222
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CHAIN of CUSTODY

Page _1_ of _1_

Client: OfficeMax & URS Corporation

Bill to: OfficeMax

Project: Boise St Helens Pulp and Paper Mill - Sediment 2009

SR #

Project Manager: David Weatherby, URS Corporation

Telephone No. 503.222.7200

Fax No. 503.222.4292

Sample I.D.	Lab I.D.	Matrix	Date	Time	Number of Containers	MIS (1) (2)									Composite I.D.
M-173-2-B		Sediment	10.15.09	0855	1	X									M-2-B
M-200-2-B		Sediment		1106	1	X									M-2-B
M-198-2-B		Sediment		1230	1	X									M-2-B
M-199-2-B		Sediment		1240	1	X									M-2-B
M-197-2-B		Sediment		1341	1	X									M-2-B
M-179-2-B		Sediment		1356	1	X									M-2-B
M-188-2-B		Sediment		1435	1	X									M-2-B
		Sediment			1	X									M-2-B
— CLOSE LOG	IN —	Sediment			1	X									M-2-B
		Sediment			1	X									M-2-B
		Sediment			1	X									M-2-B
		Sediment			1	X									M-2-B
		Sediment			1	X									M-2-B
		Sediment			1	X									M-2-B
		Sediment			1	X									M-2-B
		Sediment			1	X									M-2-B
		Sediment			1	X									M-2-B
		Sediment			1	X									M-2-B
		Sediment			1	X									M-2-B
		Sediment			1	X									M-2-B
		Sediment			1	X									M-2-B

Sample Received Intact: Yes No

Temperature received: Ice No ice

RELIQUISHED BY:	RELIQUISHED BY:	RELIQUISHED BY:	RELIQUISHED BY:
Signature: Clifford S. Pearson	Signature:	Signature:	Signature:
Printed Name: Clifford S. Pearson	Printed Name:	Printed Name:	Printed Name:
Firm: URS	Firm:	Firm:	Firm:
Date/Time: 10.15.09/1600	Date/Time: 10/16/09 1230	Date/Time:	Date/Time:

Special Instructions/Comments:

Freeze containers upon arrival prior to completing MIS sub-sampling.
(1) Follow Appendix B of the FSP for the Guidance on Lab Prep to create the Composite Incremental Samples.
(2) Submittal of MIS sub-samples to Axys - See Composite Incremental COC.

Columbia Analytical Services, Inc.
Cooler Receipt and Preservation Form

PC LA

Client / Project: URS Service Request K09 09570

Received: 10/16/09 Opened: 10/16/09 By: UL

1. Samples were received via? *US Mail* *Fed Ex* *UPS* *DHL* *GH* *GS* *PDX* (*Courier*) *Hand Delivered*
2. Samples were received in: (circle) (*Cooler*) *Box* *Envelope* *Other* _____ *NA*
3. Were custody seals on coolers? NA (Y) N If yes, how many and where? 1 front
   If present, were custody seals intact? (Y) N If present, were they signed and dated? (Y) N
4. Is shipper's air-bill filed? If not, record air-bill number: _____ NA Y N

5. **Temperature of cooler(s) upon receipt (°C):**	-0.1			
Temperature Blank (°C):	1.3			
Thermometer ID:	270			
6. If applicable, list Chain of Custody Numbers:				

7. Packing material used. *Inserts* (*Baggies*) *Bubble Wrap* *Gel Packs* (*Wet Ice*) *Sleeves* *Other* _____
8. Were custody papers properly filled out (ink, signed, etc.)? NA (Y) N
9. **Did all bottles arrive in good condition (unbroken)?** *Indicate in the table below.* NA (Y) N
10. Were all sample labels complete (i.e analysis, preservation, etc.)? NA (Y) N
11. Did all sample labels and tags agree with custody papers? *Indicate in the table below* NA Y (N) *
12. **Were appropriate bottles/containers and volumes received for the tests indicated?** NA (Y) N
13. Were the pH-preserved bottles tested* received at the appropriate pH? *Indicate in the table below* (NA) ~~Y~~ UL 10/16/09 N
14. Were VOA vials received without headspace? *Indicate in the table below.* (NA) Y N
15. **Are CWA Microbiology samples received with >1/2 the 24hr. hold time remaining from collection?** (NA) Y N
16. Was C12/Res negative? (NA) Y N

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Sample ID	Bottle Count Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

*Does not include all pH preserved sample aliquots received. See sample receiving SOP (SMO-GEN).

Additional Notes, Discrepancies, & Resolutions: * Received M-153-2-A and M-153-2-C not listed on COC.

K0909570

Columbia Analytical Services
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CHAIN of CUSTODY

Page _1_ of _1_

Client: OfficeMax & URS Corporation

Bill to: OfficeMax

Project: Boise St Helens Pulp and Paper Mill - Sediment 2009

SR #

Project Manager: David Weatherby, URS Corporation

Telephone No. 503.222.7200

Fax No. 503.222.4292

Sample I.D.	Lab I.D.	Matrix	Date	Time	Number of Containers	MIS (1) (2)	Composite I.D.
M-151-2-B		Sediment	10.14.2009	845	1	X	M-2-B
M-152-2-B		Sediment		851	1	X	M-2-B
M-155-2-B		Sediment		924	1	X	M-2-B
M-157-2-B		Sediment		944	1	X	M-2-B
M-158-2-B		Sediment		954	1	X	M-2-B
M-160-2-B		Sediment		1008	1	X	M-2-B
M-162-2-B		Sediment		1029	1	X	M-2-B
M-164-2-B		Sediment		1226	1	X	M-2-B
M-166-2-B		Sediment		1233	1	X	M-2-B
M-167-2-B		Sediment		1248	1	X	M-2-B
M-169-2-B		Sediment		1307	1	X	M-2-B
M-170-2-B		Sediment		1317	1	X	M-2-B
M-171-2-B		Sediment		1331	1	X	M-2-B
M-172-2-B		Sediment		1339	1	X	M-2-B
M-175-2-B		Sediment		1357	1	X	M-2-B
M-177-2-B		Sediment		1419	1	X	M-2-B
M-182-2-B		Sediment		1457	1	X	M-2-B
KEEP LOG IN OPEN		Sediment			1	X	M-2-B
		Sediment			1	X	M-2-B
		Sediment			1	X	M-2-B

Sample Received Intact: Yes No Received

Temperature received: Ice No ice

RELIQUISHED BY:

Signature: C Hyland P

Printed Name: CLIFFORD J PEARSON

Firm: URS CORP

Date/Time:

RELIQUISHED BY:

Signature:

Printed Name: Les Kennedy

Firm: CAS

Date/Time: 10/15/09 0825

RELIQUISHED BY:

Signature:

Printed Name:

Firm:

Date/Time:

RELIQUISHED BY:

Signature:

Printed Name:

Firm:

Date/Time:

Special Instructions/Comments:

Freeze containers upon arrival prior to completing MIS sub-sampling.
(1) Follow Appendix B of the FSP for the Guidance on Lab Prep to create the Composite Incremental Samples.
(2) Submittal of MIS sub-samples to Axys - See Composite Incremental COC.

Columbia Analytical Services, Inc.
Cooler Receipt and Preservation Form

PC_____

Client / Project: URS Service Request K09

Received: 10/15/09 Opened: 10/15/09 By: LL

1. Samples were received via? *US Mail* *Fed Ex* *UPS* *DHL* *GH* *GS* *PDX* (*Courier*) *Hand Delivered*
2. Samples were received in: (circle) (*Cooler*) *Box* *Envelope* *Other*_____ *NA*
3. Were custody seals on coolers? NA (Y) N If yes, how many and where? 1 front
   If present, were custody seals intact? (Y) N If present, were they signed and dated? (Y) N
4. Is shipper's air-bill filed? If not, record air-bill number:_____ NA Y N

5. **Temperature of cooler(s) upon receipt (°C):** -0.4
   Temperature Blank (°C): 0.8
   Thermometer ID: 275
6. If applicable, list Chain of Custody Numbers:
7. Packing material used. *Inserts* (*Baggies*) *Bubble Wrap* *Gel Packs* (*Wet Ice*) *Sleeves* *Other*_____
8. Were custody papers properly filled out (ink, signed, etc.)? NA (Y) N
9. **Did all bottles arrive in good condition (unbroken)?** *Indicate in the table below.* NA (Y) N
10. Were all sample labels complete (i.e analysis, preservation, etc.)? NA (Y) N
11. Did all sample labels and tags agree with custody papers? *Indicate in the table below* NA (Y) N
12. **Were appropriate bottles/containers and volumes received for the tests indicated?** NA (Y) N
13. Were the pH-preserved bottles tested* received at the appropriate pH? *Indicate in the table below* (NA) Y N
14. Were VOA vials received without headspace? *Indicate in the table below.* (NA) Y N
15. **Are CWA Microbiology samples received with >1/2 the 24hr. hold time remaining from collection?** (NA) Y N
16. Was C12/Res negative? (NA) Y N

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Sample ID	Bottle Count Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

*Does not include all pH preserved sample aliquots received. See sample receiving SOP (SMO-GEN).

*Additional Notes, Discrepancies, & Resolutions:*_____

Incremental Samples - Mill Area 2-A B

K0909570

Columbia Analytical Services™
800.695.7222
www.caslab.com

Client: OfficeMax & URS Corporation
Bill to: OfficeMax
Project Manager: David Weatherby, URS Corporation

CHAIN of CUSTODY

Project: Boise St Helens Pulp and Paper Mill - Sediment 2009
Telephone No. 503.222.7200
Fax No. 503.222.4292

SR #

Sample I.D.	Lab I.D.	Matrix	Date	Time	Number of Containers	MIS (1) (2)	Composite I.D.
M-185-2-B		Sediment	10/7/09	0826	1	X	M-1-A M-2-B
M-176-2-B		Sediment	10/7/09	0956	1	X	M-1-A M-2-B
		Sediment			1	X	M-1-A
— Keep leg in open —		Sediment			1	X	M-1-A
		Sediment			1	X	M-1-A
		Sediment			1	X	M-1-A
		Sediment			1	X	M-1-A
		Sediment			1	X	M-1-A
		Sediment			1	X	M-1-A
		Sediment			1	X	M-1-A
		Sediment			1	X	M-1-A
		Sediment			1	X	M-1-A
		Sediment			1	X	M-1-A
		Sediment			1	X	M-1-A
		Sediment			1	X	M-1-A
		Sediment			1	X	M-1-A
		Sediment			1	X	M-1-A
		Sediment			1	X	M-1-A
		Sediment			1	X	M-1-A
		Sediment			1	X	M-1-A

Sample Received Intact: Yes No
Temperature received: Ice No ice

RELINQUISHED BY:
Signature: Nicky Moody
Printed Name: Nicky Moody
Firm: URS
Date/Time: 10/7/09 1600

RELINQUISHED BY: 10/8/09
Signature: Received by: John Jones
Printed Name: John Jones
Firm: CAS
Date/Time: 10/8/09 0830

RELINQUISHED BY:
Signature:
Printed Name:
Firm:
Date/Time:

RELINQUISHED BY:
Signature:
Printed Name:
Firm:
Date/Time:

Special Instructions/Comments:

Freeze containers upon arrival prior to completing MIS sub-sampling.
(1) Follow Appendix B of the FSP for the Guidance on Lab Prep to create the Composite Incremental Samples.
(2) Submittal of MIS sub-samples to Axys - See Composite Incremental COC.

110

Columbia Analytical Services, Inc.
Cooler Receipt and Preservation Form

PC 4th

Client / Project: UES Service Request K09 09570

Received: 10/2/09 Opened: 10/3/09 By: TT

1. Samples were received via? *US Mail* *Fed Ex* *UPS* *DHL* *GH* *GS* *PDX* (*Courier*) *Hand Delivered*
2. Samples were received in: (circle) (*Cooler*) *Box* *Envelope* *Other* _____ *NA*
3. Were custody seals on coolers? NA (Y) N If yes, how many and where? 1 front
   If present, were custody seals intact? (Y) N If present, were they signed and dated? (Y) N
4. Is shipper's air-bill filed? If not, record air-bill number: Red cooler - 1 of 2 per CS NA Y N
   Blue cooler - 2 of 2 per cust seal
5. **Temperature of cooler(s) upon receipt (°C):** -0.5 -0.7
   Temperature Blank (°C): 3.1
   Thermometer ID: 206 265
6. If applicable, list Chain of Custody Numbers:
7. Packing material used. *Inserts* (*Baggies*) *Bubble Wrap* *Gel Packs* (*Wet Ice*) *Sleeves* *Other* _____
8. Were custody papers properly filled out (ink, signed, etc.)? NA (Y) N
9. **Did all bottles arrive in good condition (unbroken)?** *Indicate in the table below.* NA (Y) N
10. Were all sample labels complete (i.e analysis, preservation, etc.)? NA (Y) N
11. Did all sample labels and tags agree with custody papers? *Indicate in the table below* * NA Y (N)
12. **Were appropriate bottles/containers and volumes received for the tests indicated?** NA (Y) N
13. Were the pH-preserved bottles tested* received at the appropriate pH? *Indicate in the table below* (NA) Y N
14. Were VOA vials received without headspace? *Indicate in the table below.* (NA) Y N
15. **Are CWA Microbiology samples received with >1/2 the 24hr. hold time remaining from collection?** (NA) Y N
16. Was C12/Res negative? (NA) Y N

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Sample ID	Bottle Count Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

*Does not include all pH preserved sample aliquots received. See sample receiving SOP (SMO-GEN).

Additional Notes, Discrepancies, & Resolutions: Received the following samples not listed on COC: M-195-Z-A (1x8oz jar), M-195-Z-C (1x8oz jar), M-195-Z-D (1x2oz jar 3x8oz jars)

K0909570

CHAIN of CUSTODY

Page 1 of 1

Columbia Analytical Services™
800.695.7222
www.caslab.com

Client: OfficeMax & URS Corporation
Bill to: OfficeMax
Project: Boise St Helens Pulp and Paper Mill - Sediment 2009
SR #
Project Manager: David Weatherby, URS Corporation
Telephone No. 503.222.7200
Fax No. 503.222.4292

Sample I.D.	Lab I.D.	Matrix	Date	Time	Number of Containers	MIS (1) (2)									Composite I.D.
M-159-2-B		Sediment	10/6/09	1331	1	X									M-2-B
M-165-2-B		Sediment	↓	1351	1	X									M-2-B
M-174-2-B		Sediment	↓	1420	1	X									M-2-B
		Sediment			1	X									M-2-B
Keep Log in Open		Sediment			1	X									M-2-B
		Sediment			1	X									M-2-B
		Sediment			1	X									M-2-B
		Sediment			1	X									M-2-B
		Sediment			1	X									M-2-B
		Sediment			1	X									M-2-B
		Sediment			1	X									M-2-B
		Sediment			1	X									M-2-B
		Sediment			1	X									M-2-B
		Sediment			1	X									M-2-B
		Sediment			1	X									M-2-B
		Sediment			1	X									M-2-B
		Sediment			1	X									M-2-B
		Sediment			1	X									M-2-B
		Sediment			1	X									M-2-B
		Sediment			1	X									M-2-B
		Sediment			1	X									M-2-B
		Sediment			1	X									M-2-B
		Sediment			1	X									M-2-B

Sample Received Intact: Yes No
Temperature received: Ice No ice

Special Instructions/Comments:

Freeze containers upon arrival prior to completing MIS sub-sampling.
(1) Follow Appendix B of the FSP for the Guidance on Lab Prep to create the Composite Incremental Samples.
(2) Submittal of MIS sub-samples to Axys - See Composite Incremental COC.

RELIQUISHED BY:	~~RELIQUISHED BY:~~ Received by:	RELIQUISHED BY:	RELIQUISHED BY:
Signature: Nicky Moody	Signature: John Jones	Signature:	Signature:
Printed Name: NICKY MOODY	Printed Name: John Jones	Printed Name:	Printed Name:
Firm: URS	Firm: CAS	Firm:	Firm:
Date/Time: 10.6.09 / 1600	Date/Time: 10/7/09 0915	Date/Time:	Date/Time:

Columbia Analytical Services, Inc.
Cooler Receipt and Preservation Form

PC LH

Client / Project: URS / Moffett Mayo Service Request K09 0 9570

Received: 10/7/09 Opened: 10/7/09 By: TJ

1. Samples were received via? *US Mail* *Fed Ex* *UPS* *DHL* *GH* *GS* *PDX* (Courier) *Hand Delivered*
2. Samples were received in: (circle) (Cooler) *Box* *Envelope* *Other* _____ *NA*
3. Were custody seals on coolers? NA (Y) N If yes, how many and where? 1 Front
   If present, were custody seals intact? (Y) N If present, were they signed and dated? Y N
4. Is shipper's air-bill filed? If not, record air-bill number: 2 of 2 per custody seal (NA) Y N
   1 of 2 per Custody seal
5. **Temperature of cooler(s) upon receipt (°C):** -0.3 -0.7 _____ _____
   Temperature Blank (°C): 0.9 0.7 _____ _____
   Thermometer ID: 209 275 _____ _____
6. If applicable, list Chain of Custody Numbers: _____ _____ _____ _____
7. Packing material used. *Inserts* (Baggies) *Bubble Wrap* *Gel Packs* (Wet Ice) *Sleeves* *Other* _____
8. Were custody papers properly filled out (ink, signed, etc.)? NA (Y) N
9. **Did all bottles arrive in good condition (unbroken)?** *Indicate in the table below.* NA (Y) N
10. Were all sample labels complete (i.e analysis, preservation, etc.)? NA (Y) N
11. Did all sample labels and tags agree with custody papers? *Indicate in the table below* *NA Y (N)
12. **Were appropriate bottles/containers and volumes received for the tests indicated?** NA (Y) N
13. Were the pH-preserved bottles tested* received at the appropriate pH? *Indicate in the table below* (NA) Y N
14. Were VOA vials received without headspace? *Indicate in the table below.* (NA) Y N
15. **Are CWA Microbiology samples received with >1/2 the 24hr. hold time remaining from collection?** (NA) Y N
16. Was C12/Res negative? (NA) Y N

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Sample ID	Bottle Count Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

*Does not include all pH preserved sample aliquots received. See sample receiving SOP (SMO-GEN).

Additional Notes, Discrepancies, & Resolutions: *Received samples not listed on COC: M-191-2-B M-191-2-C

1090 9519

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800.695.7222
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Client: OfficeMax & URS Corporation

Bill to: OfficeMax

CHAIN of CUSTODY

Page _1_ of _1_

Project: Boise St Helens Pulp and Paper Mill - Sediment 2009

SR #

Project Manager: David Weatherby, URS Corporation

Telephone No. 503.222.7200

Fax No. 503.222.4292

Sample I.D.	Lab I.D.	Matrix	Date	Time	Number of Containers	MIS (1) (2)										Composite I.D.
M-183-2-A		Sediment	10.15.2009	0914	1	X										M-2-A
M-189-2-A		Sediment		1022	1	X										M-2-A
M-192-2-A		Sediment		1040	1	X										M-2-A
M-200-2-A		Sediment		1105	1	X										M-2-A
M-197-2-A		Sediment		1220	1	X										M-2-A
M-193-2-A		Sediment		1251	1	X										M-2-A
M-187-2-A		Sediment		1340	1	X										M-2-A
M-179-2-A		Sediment		1355	1	X										M-2-A
M-190-2-A		Sediment		1307	1	X										M-2-A
M-188-2-A		Sediment		1434	1	X										M-2-A
		Sediment			1	X										M-2-A
CLOSE LOG	IN	Sediment			1	X										M-2-A
		Sediment			1	X										M-2-A
		Sediment			1	X										M-2-A
		Sediment			1	X										M-2-A
		Sediment			1	X										M-2-A
		Sediment			1	X										M-2-A
		Sediment			1	X										M-2-A
		Sediment			1	X										M-2-A
		Sediment			1	X										M-2-A
		Sediment			1	X										M-2-A

Sample Received Intact: Yes No

Temperature received: Ice No ice

RELIQUISHED BY:

Signature: Clifford J. Pearson
Printed Name: Clifford J. Pearson
Firm: URS
Date/Time: 10.15.09 / 1600

RELIQUISHED BY:

Signature:
Printed Name:
Firm: CAS
Date/Time: 10/16/09 0930

RELIQUISHED BY:

Signature:
Printed Name:
Firm:
Date/Time:

RELIQUISHED BY:

Signature:
Printed Name:
Firm:
Date/Time:

Special Instructions/Comments:

Freeze containers upon arrival prior to completing MIS sub-sampling.
(1) Follow Appendix B of the FSP for the Guidance on Lab Prep to create the Composite Incremental Samples.
(2) Submittal of MIS sub-samples to Axys - See Composite Incremental COC.

Columbia Analytical Services, Inc.
Cooler Receipt and Preservation Form

PC 44

Client / Project: URS Service Request K09 0959

Received: 10/16/09 Opened: 10/16/09 By: MC

1. Samples were received via? *US Mail* *Fed Ex* *UPS* *DHL* *GH* *GS* *PDX* (*Courier*) *Hand Delivered*
2. Samples were received in: (circle) (*Cooler*) *Box* *Envelope* *Other* _____ *NA*
3. Were custody seals on coolers? NA (Y) N If yes, how many and where? 1 front
   If present, were custody seals intact? (Y) N If present, were they signed and dated? (Y) N
4. Is shipper's air-bill filed? If not, record air-bill number: _____ NA Y N

5. **Temperature of cooler(s) upon receipt (°C):**	-0.1			
Temperature Blank (°C):	1.3			
Thermometer ID:	270			
6. If applicable, list Chain of Custody Numbers:				

7. Packing material used. *Inserts* (*Baggies*) *Bubble Wrap* *Gel Packs* (*Wet Ice*) *Sleeves* *Other* _____

8. Were custody papers properly filled out (ink, signed, etc.)?	NA	(Y)	N
9. **Did all bottles arrive in good condition (unbroken)?** *Indicate in the table below.*	NA	(Y)	N
10. Were all sample labels complete (i.e analysis, preservation, etc.)?	NA	(Y)	N
11. Did all sample labels and tags agree with custody papers? *Indicate in the table below*	NA	Y	(N)*
12. **Were appropriate bottles/containers and volumes received for the tests indicated?**	NA	(Y)	N
13. Were the pH-preserved bottles tested* received at the appropriate pH? *Indicate in the table below*	(NA)	~~Y~~ MC 10/16/09	N
14. Were VOA vials received without headspace? *Indicate in the table below.*	(NA)	Y	N
15. **Are CWA Microbiology samples received with >1/2 the 24hr. hold time remaining from collection?**	(NA)	Y	N
16. Was C12/Res negative?	(NA)	Y	N

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Sample ID	Bottle Count Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

*Does not include all pH preserved sample aliquots received. See sample receiving SOP (SMO-GEN).

Additional Notes, Discrepancies, & Resolutions: * Received M-153 2-A and M-153-2-C not listed on COC.

K090954.9

Columbia Analytical Services
800.695.7222
www.caslab.com

Client: OfficeMax & URS Corporation

Bill to: OfficeMax

CHAIN of CUSTODY

Page _1_ of _1_

Project: Boise St Helens Pulp and Paper Mill - Sediment 2009

SR #

Project Manager: David Weatherby, URS Corporation

Telephone No. 503.222.7200

Fax No. 503.222.4292

Sample I.D.	Lab I.D.	Matrix	Date	Time	Number of Containers	MIS [1] [2]										Composite I.D.
M-154-2-A		Sediment	10-14-2009	910	1	X										M-2-A
M-158-2-A		Sediment		953	1	X										M-2-A
M-160-2-A		Sediment		1007	1	X										M-2-A
M-161-2-A		Sediment		1018	1	X										M-2-A
M-163-2-A		Sediment		1035	1	X										M-2-A
M-164-2-A		Sediment		1225	1	X										M-2-A
M-169-2-A		Sediment		1306	1	X										M-2-A
M-171-2-A		Sediment		1330	1	X										M-2-A
M-172-2-A		Sediment		1338	1	X										M-2-A
M-178-2-A		Sediment		1427	1	X										M-2-A
M-182-2-A		Sediment		1456	1	X										M-2-A
M-181-2-A		Sediment		1518	1	X										M-2-A
2		Sediment			1	X	KEEP	LOG	-	IN	OPEN					M-2-A
		Sediment			1	X										M-2-A
		Sediment			1	X										M-2-A
		Sediment			1	X										M-2-A
		Sediment			1	X										M-2-A
		Sediment			1	X										M-2-A
		Sediment			1	X										M-2-A
		Sediment			1	X										M-2-A
		Sediment			1	X										M-2-A

Sample Received Intact: Yes No Received

Temperature received: Ice No ice

RELINQUISHED BY:

Signature: Richard J. R

Printed Name: RICHARD S PEARSON

Firm: URSCORP

Date/Time:

RELINQUISHED BY:

Signature:

Printed Name: Les Kennedy

Firm: CAS

Date/Time: 10/15/09 0825

RELINQUISHED BY:

Signature:

Printed Name:

Firm:

Date/Time:

RELINQUISHED BY:

Signature:

Printed Name:

Firm:

Date/Time:

Special Instructions/Comments:

Freeze containers upon arrival prior to completing MIS sub-sampling.
(1) Follow Appendix B of the FSP for the Guidance on Lab Prep to create the Composite Incremental Samples.
(2) Submittal of MIS sub-samples to Axys - See Composite Incremental COC.

Columbia Analytical Services, Inc. PC_____
Cooler Receipt and Preservation Form

Client / Project: URS Service Request *K09*

Received: 10/15/09 Opened: 10/15/09 By: MA

1. Samples were received via? *US Mail* *Fed Ex* *UPS* *DHL* *GH* *GS* *PDX* *(Courier)* *Hand Delivered*
2. Samples were received in: (circle) *(Cooler)* *Box* *Envelope* *Other*_____ *NA*
3. Were custody seals on coolers? NA (Y) N If yes, how many and where? 1 front
   If present, were custody seals intact? (Y) N If present, were they signed and dated? (Y) N
4. Is shipper's air-bill filed? If not, record air-bill number:_____ NA Y N

5. **Temperature of cooler(s) upon receipt (°C):** -0.4
   Temperature Blank (°C): 0.8
   Thermometer ID: 275
6. If applicable, list Chain of Custody Numbers:
7. Packing material used. *Inserts* *(Baggies)* *Bubble Wrap* *Gel Packs* *(Wet Ice)* *Sleeves* *Other*_____
8. Were custody papers properly filled out (ink, signed, etc.)? NA (Y) N
9. **Did all bottles arrive in good condition (unbroken)?** *Indicate in the table below.* NA (Y) N
10. Were all sample labels complete (i.e analysis, preservation, etc.)? NA (Y) N
11. Did all sample labels and tags agree with custody papers? *Indicate in the table below* NA (Y) N
12. **Were appropriate bottles/containers and volumes received for the tests indicated?** NA (Y) N
13. Were the pH-preserved bottles tested* received at the appropriate pH? *Indicate in the table below* (NA) Y N
14. Were VOA vials received without headspace? *Indicate in the table below.* (NA) Y N
15. **Are CWA Microbiology samples received with >1/2 the 24hr. hold time remaining from collection?** (NA) Y N
16. Was C12/Res negative? (NA) Y N

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Sample ID	Bottle Count Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

*Does not include all pH preserved sample aliquots received. See sample receiving SOP (SMO-GEN).

*Additional Notes, Discrepancies, & Resolutions:*_____

Incremental Samples - Mill Area 2 - A

K0909569

Columbia Analytical Services™	Client: OfficeMax & URS Corporation	Bill to: OfficeMax	CHAIN of CUSTODY	Page 1 of 1
800.695.7222 www.caslab.com	Project Manager: David Weatherby, URS Corporation		Project: Boise St Helens Pulp and Paper Mill - Sediment 2009 Telephone No. 503.222.7200 Fax No. 503.222.4292	SR #

Sample I.D.	Lab I.D.	Matrix	Date	Time	Number of Containers	MIS (1) (2)	Composite I.D.
M-180-2-A		Sediment	10/7/09	0747	1	X	M-3-A M-2-A
~~M-182-2-A~~ NM		Sediment	~~10/7/09~~	~~0806~~	1	X	M-3-A
M-185-2-A		Sediment	10/7/09	0525	1	X	M-3-A M-2-A
~~M-176-2~~		Sediment			1	X	M-3-A
		Sediment			1	X	M-3-A
Keep Log in open		Sediment			1	X	M-3-A
		Sediment			1	X	M-3-A
		Sediment			1	X	M-3-A
		Sediment			1	X	M-3-A
		Sediment			1	X	M-3-A
		Sediment			1	X	M-3-A
		Sediment			1	X	M-3-A
		Sediment			1	X	M-3-A
		Sediment			1	X	M-3-A
		Sediment			1	X	M-3-A
		Sediment			1	X	M-3-A
		Sediment			1	X	M-3-A
		Sediment			1	X	M-3-A
		Sediment			1	X	M-3-A
		Sediment			1	X	M-3-A
		Sediment			1	X	M-3-A
		Sediment			1	X	M-3-A

Sample Received Intact: Yes No — Temperature received: Ice No ice

RELINQUISHED BY:	RELINQUISHED BY: 10/9/09	RELINQUISHED BY:	RELINQUISHED BY:
Signature: Nicky Moody	Signature: Received by: John Jones	Signature:	Signature:
Printed Name: Nicky Moody	Printed Name: John Jones	Printed Name:	Printed Name:
Firm: URS	Firm: CAS	Firm:	Firm:
Date/Time: 10.7.09 / 1600	Date/Time: 10/8/09 0830	Date/Time:	Date/Time:

Special Instructions/Comments:

Freeze containers upon arrival prior to completing MIS sub-sampling.
(1) Follow Appendix B of the FSP for the Guidance on Lab Prep to create the Composite Incremental Samples.
(2) Submittal of MIS sub-samples to Axys - See Composite Incremental COC.

Columbia Analytical Services, Inc.
Cooler Receipt and Preservation Form

PC 644

Client / Project: URS Service Request K09 09569

Received: 10/8/09 Opened: 10/8/09 By: 77

1. Samples were received via? *US Mail* *Fed Ex* *UPS* *DHL* *GH* *GS* *PDX* (*Courier*) *Hand Delivered*
2. Samples were received in: (circle) (*Cooler*) *Box* *Envelope* *Other* _____ *NA*
3. Were custody seals on coolers? NA (Y) N If yes, how many and where? 1 front
   If present, were custody seals intact? (Y) N If present, were they signed and dated? (Y) N
4. Is shipper's air-bill filed? If not, record air-bill number: Red cooler 1 of 2 per CS NA Y N
   Blue cooler 2 of 2 per cust seal

5. **Temperature of cooler(s) upon receipt (°C):**	-0.5	-0.7		
Temperature Blank (°C):	3.1	/		
Thermometer ID:	266	265		
6. If applicable, list Chain of Custody Numbers:				

7. Packing material used. *Inserts* (*Baggies*) *Bubble Wrap* *Gel Packs* (*Wet Ice*) *Sleeves* *Other* _____

8. Were custody papers properly filled out (ink, signed, etc.)?	NA	(Y)	N
9. **Did all bottles arrive in good condition (unbroken)?** *Indicate in the table below.*	NA	(Y)	N
10. Were all sample labels complete (i.e analysis, preservation, etc.)?	NA	(Y)	N
11. Did all sample labels and tags agree with custody papers? *Indicate in the table below*	* NA	Y	(N)
12. **Were appropriate bottles/containers and volumes received for the tests indicated?**	NA	(Y)	N
13. Were the pH-preserved bottles tested* received at the appropriate pH? *Indicate in the table below*	(NA)	Y	N
14. Were VOA vials received without headspace? *Indicate in the table below.*	(NA)	Y	N
15. **Are CWA Microbiology samples received with >1/2 the 24hr. hold time remaining from collection?**	(NA)	Y	N
16. Was C12/Res negative?	(NA)	Y	N

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Sample ID	Bottle Count Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

*Does not include all pH preserved sample aliquots received. See sample receiving SOP (SMO-GEN).

Additional Notes, Discrepancies, & Resolutions: Received the following samples not listed on COC: M-195-2-A (1x8oz jar), M-195-2-C (1x8oz jar), M-195-2-D (1x2oz jar 3x8oz jars)

K0909-19

Columbia Analytical Services
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CHAIN of CUSTODY

Page 1 of 1

Client: OfficeMax & URS Corporation

Bill to: OfficeMax

Project: Boise St Helens Pulp and Paper Mill - Sediment 2009

SR #

Project Manager: David Weatherby, URS Corporation

Telephone No. 503.222.7200

Fax No. 503.222.4292

Sample I.D.	Lab I.D.	Matrix	Date	Time	Number of Containers	MIS (1) (2)										Composite I.D.
M-156-2-A		Sediment	10/6/09	1306	1	X										M-2-A
M-165-2-A		Sediment		1350	1	X										M-2-A
M-174-2-A		Sediment		1419	1	X										M-2-A
M-194-2-A		Sediment		1417	1	X										M-2-A
		Sediment			1	X										M-2-A
Keep log in open		Sediment			1	X										M-2-A
		Sediment			1	X										M-2-A
		Sediment			1	X										M-2-A
		Sediment			1	X										M-2-A
		Sediment			1	X										M-2-A
		Sediment			1	X										M-2-A
		Sediment			1	X										M-2-A
		Sediment			1	X										M-2-A
		Sediment			1	X										M-2-A
		Sediment			1	X										M-2-A
		Sediment			1	X										M-2-A
		Sediment			1	X										M-2-A
		Sediment			1	X										M-2-A
		Sediment			1	X										M-2-A
		Sediment			1	X										M-2-A
		Sediment			1	X										M-2-A

Sample Received Intact: Yes No

Temperature received: Ice No ice

Special Instructions/Comments:

Freeze containers upon arrival prior to completing MIS sub-sampling.
(1) Follow Appendix B of the FSP for the Guidance on Lab Prep to create the Composite Incremental Samples.
(2) Submittal of MIS sub-samples to Axys - See Composite Incremental COC.

RELIQUISHED BY:	RELIQUISHED BY: 10/7/09	RELIQUISHED BY:	RELIQUISHED BY:
Signature: Amy Moody	Signature: Received by: Tom Gaines	Signature:	Signature:
Printed Name: Amy Moody	Printed Name: Tom Tomes	Printed Name:	Printed Name:
Firm: URS	Firm: CAS	Firm:	Firm:
Date/Time: 10.6.09/1600	Date/Time: 10/7/09 0915	Date/Time:	Date/Time:

Columbia Analytical Services, Inc.
Cooler Receipt and Preservation Form

PC UIT

Client / Project: URS / Moffett Mgp Service Request K09 9569

Received: 10/7/09 Opened: 10/7/09 By: TT

1. Samples were received via? *US Mail* *Fed Ex* *UPS* *DHL* *GH* *GS* *PDX* (Courier) *Hand Delivered*
2. Samples were received in: (circle) (Cooler) *Box* *Envelope* *Other* _____ *NA*
3. Were custody seals on coolers? NA (Y) N If yes, how many and where? 1 Front
   If present, were custody seals intact? (Y) N If present, were they signed and dated? Y N
4. Is shipper's air-bill filed? If not, record air-bill number: 2 of 2 per custody seal (NA) Y N
   1 of 2 per custody seal
5. **Temperature of cooler(s) upon receipt (°C):** -0.3 -0.7 ____ ____
   Temperature Blank (°C): 0.9 0.7 ____ ____
   Thermometer ID: 209 275 ____ ____
6. If applicable, list Chain of Custody Numbers: ____ ____ ____ ____
7. Packing material used. *Inserts* (Baggies) *Bubble Wrap* *Gel Packs* (Wet Ice) *Sleeves* *Other* _____
8. Were custody papers properly filled out (ink, signed, etc.)? NA (Y) N
9. **Did all bottles arrive in good condition (unbroken)?** *Indicate in the table below.* NA (Y) N
10. Were all sample labels complete (i.e analysis, preservation, etc.)? NA (Y) N
11. Did all sample labels and tags agree with custody papers? *Indicate in the table below* *NA Y (N)
12. **Were appropriate bottles/containers and volumes received for the tests indicated?** NA (Y) N
13. Were the pH-preserved bottles tested* received at the appropriate pH? *Indicate in the table below* (NA) Y N
14. Were VOA vials received without headspace? *Indicate in the table below.* (NA) Y N
15. **Are CWA Microbiology samples received with >1/2 the 24hr. hold time remaining from collection?** (NA) Y N
16. Was C12/Res negative? (NA) Y N

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Sample ID	Bottle Count Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

*Does not include all pH preserved sample aliquots received. See sample receiving SOP (SMO-GEN).

Additional Notes, Discrepancies, & Resolutions: *Received samples not listed on COC: M-191-Z-B M-191-Z-C

K094 83

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Client: OfficeMax & URS Corporation

Bill to: OfficeMax

CHAIN of CUSTODY

Page 1 of 1

Project: Boise St Helens Pulp and Paper Mill - Sediment 2009

SR #

Project Manager: David Weatherby, URS Corporation

Telephone No. 503.222.7200

Fax No. 503.222.4292

Sample I.D.	Lab I.D.	Matrix	Date	Time	Number of Containers	Composite (1)	PAHs 8270 SIM	PCB's Aroclors	Total Metals (Sb, As, Cd, Pb, Hg, Se, and Zn)	TOC	Grain Size	Total Solids	Total Sulfides	Bulk Ammonia	Total Volatile Solids	Composite I.D.
M-102-3-D		Sediment	10.5.09	1250	4	X										M-3-D
M-105-3-D		Sediment		1311	4	X										M-3-D
M-112-3-D		Sediment		1333	4	X										M-3-D
M-122-3-D		Sediment		1358	4	X										M-3-D
M-124-3-D		Sediment		1436	4	X										M-3-D
M-129-3-D		Sediment		1458	4	X										M-3-D
M-133-3-D		Sediment		1520	4	X										M-3-D
		Sediment			4	X										M-3-D
keep log in open		Sediment			4	X										M-3-D
		Sediment			4	X										M-3-D

Sample Received Intact: Yes No

Temperature received: 2.6°C Ice No ice

RELINQUISHED BY:	RELINQUISHED BY:	RELINQUISHED BY:	RELINQUISHED BY:
Signature: Nicky Moody	Signature: received by	Signature:	Signature:
Printed Name: NICKY MOODY	Printed Name: John Jones	Printed Name:	Printed Name:
Firm: URS	Firm: CAS	Firm:	Firm:
Date/Time: 10.5.09 / 1635	Date/Time: 10/6/09 0905	Date/Time:	Date/Time:

Special Instructions/Comments:

DO NOT FREEZE THESE SAMPLES

(1) Soft mix all the volume of 30 x 8 oz containers into one composite bioassay sample with Composite I.D. listed above.

(1) Homogenize all the volume of 10 x 2 oz into one composite with same Composite I.D.

1609483

CHAIN of CUSTODY

Page 1 of 1

Columbia Analytical Services
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www.caslab.com

Client: OfficeMax & URS Corporation

Bill to: OfficeMax

Project: Boise St Helens Pulp and Paper Mill - Sediment 2009

SR #

Project Manager: David Weatherby, URS Corporation

Telephone No. 503.222.7200

Fax No. 503.222.4292

Sample I.D.	Lab I.D.	Matrix	Date	Time	Number of Containers	Composite (1)	PAHs 8270 SIM	PCB's Aroclors	Total Metals (Sb, As, Cd, Pb, Hg, Se, and Zn)	TOC	Grain Size	Total Solids	Total Sulfides	Bulk Ammonia	Total Volatile Solids	Composite I.D.
M-135-3-D		Sediment	10.6.09	0858	4	X										M-3-D
M-138-3-D		Sediment	↓	0920	4	X										M-3-D
M-143-3-D		Sediment	↓	0946	4	X										M-3-D
— CLOSE LOG IN —		Sediment			4	X										M-3-D
		Sediment			4	X										M-3-D
		Sediment			4	X										M-3-D
		Sediment			4	X										M-3-D
		Sediment			4	X										M-3-D
		Sediment			4	X										M-3-D
		Sediment			4	X										M-3-D

Sample Received Intact: Yes No

Temperature received: Ice No ice

RELIQUISHED BY:	RELIQUISHED BY:	RELIQUISHED BY:	RELIQUISHED BY:
Signature: Nicky Moody	Signature: Received by: Jean Jones	Signature:	Signature:
Printed Name: NICKY MOODY	Printed Name: Jean Jones	Printed Name:	Printed Name:
Firm: URS	Firm: CAS	Firm:	Firm:
Date/Time: 10/6/09 / 1600	Date/Time: 10/7/09 0915 ~~0710~~	Date/Time:	Date/Time:

10/7/09

Special Instructions/Comments:

DO NOT FREEZE THESE SAMPLES

(1) Soft mix all the volume of 30 x 8 oz containers into one composite bioassay sample with Composite I.D. listed above.

(1) Homogenize all the volume of 10 x 2 oz into one composite with same Composite I.D.

Columbia Analytical Services, Inc.
Cooler Receipt and Preservation Form

PC Huff

Client / Project: URS / Lower Map Service Request K09 0911185

Received: 10/7/09 Opened: 10/7/09 By: TT

1. Samples were received via? *US Mail* *Fed Ex* *UPS* *DHL* *GH* *GS* *PDX* (Courier) *Hand Delivered*
2. Samples were received in: (circle) (Cooler) *Box* *Envelope* *Other* _____ *NA*
3. Were custody seals on coolers? NA (Y) N If yes, how many and where? 1 Front
   If present, were custody seals intact? (Y) N If present, were they signed and dated? Y N
4. Is shipper's air-bill filed? If not, record air-bill number: 2 of 2 per custody seal (NA) Y N
   1 of 2 per Custody seal
5. **Temperature of cooler(s) upon receipt (°C):** -0.3 -0.7 _____ _____
   Temperature Blank (°C): 0.9 0.7 _____ _____
   Thermometer ID: 209 275 _____ _____
6. If applicable, list Chain of Custody Numbers: / / _____ _____
7. Packing material used. *Inserts* (Baggies) *Bubble Wrap* *Gel Packs* (Wet Ice) *Sleeves* *Other* _____
8. Were custody papers properly filled out (ink, signed, etc.)? NA (Y) N
9. **Did all bottles arrive in good condition (unbroken)?** *Indicate in the table below.* NA (Y) N
10. Were all sample labels complete (i.e analysis, preservation, etc.)? NA (Y) N
11. Did all sample labels and tags agree with custody papers? *Indicate in the table below* *NA Y (N)
12. **Were appropriate bottles/containers and volumes received for the tests indicated?** NA (Y) N
13. Were the pH-preserved bottles tested* received at the appropriate pH? *Indicate in the table below* (NA) Y N
14. Were VOA vials received without headspace? *Indicate in the table below.* (NA) Y N
15. **Are CWA Microbiology samples received with >1/2 the 24hr. hold time remaining from collection?** (NA) Y N
16. Was C12/Res negative? (NA) Y N

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Sample ID	Bottle Count Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

*Does not include all pH preserved sample aliquots received. See sample receiving SOP (SMO-GEN).

Additional Notes, Discrepancies, & Resolutions: *Received samples not listed on COC: M-191-2-L M-191-2-C

Columbia Analytical Services, Inc.
Cooler Receipt and Preservation Form

PC 144

Client / Project: IJRS Service Request K09 09483

Received: 10/6/09 Opened: 10/6/09 By: TT

1. Samples were received via? *US Mail* *Fed Ex* *UPS* *DHL* *GH* *GS* *PDX* (Courier) *Hand Delivered*
2. Samples were received in: (circle) (Cooler) *Box* *Envelope* *Other* _____ *NA*
3. Were custody seals on coolers? NA (Y) N If yes, how many and where? 1 front
   If present, were custody seals intact? (Y) N If present, were they signed and dated? (Y) N
4. Is shipper's air-bill filed? If not, record air-bill number: 1 of 2 per cust seal - write cooler (NA) Y N
   2 of 2 per custody seal
5. **Temperature of cooler(s) upon receipt (°C):** 0.0 | 0.7 | | |
   Temperature Blank (°C): 2.6 | 1.2 | | |
   Thermometer ID: 271 | 266 | | |
6. If applicable, list Chain of Custody Numbers:
7. Packing material used. *Inserts* (Baggies) *Bubble Wrap* *Gel Packs* (Wet Ice) *Sleeves* *Other* _____
8. Were custody papers properly filled out (ink, signed, etc.)? NA (Y) N
9. **Did all bottles arrive in good condition (unbroken)?** *Indicate in the table below.* NA (Y) N
10. Were all sample labels complete (i.e analysis, preservation, etc.)? NA (Y) N
11. Did all sample labels and tags agree with custody papers? *Indicate in the table below* NA (Y) N
12. **Were appropriate bottles/containers and volumes received for the tests indicated?** NA (Y) N
13. Were the pH-preserved bottles tested* received at the appropriate pH? *Indicate in the table below* (NA) Y N
14. Were VOA vials received without headspace? *Indicate in the table below.* (NA) Y N
15. **Are CWA Microbiology samples received with >1/2 the 24hr. hold time remaining from collection?** (NA) Y N
16. Was C12/Res negative? (NA) Y N

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Sample ID	Bottle Count Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

*Does not include all pH preserved sample aliquots received. See sample receiving SOP (SMO-GEN).

Additional Notes, Discrepancies, & Resolutions: _____

1609094

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Client: OfficeMax & URS Corporation
Bill to: OfficeMax
Project Manager: David Weatherby, URS Corporation

CHAIN of CUSTODY

Page _1_ of _1_
Project: Boise St Helens Pulp and Paper Mill - Sediment 2009
SR #
Telephone No. 503.222.7200
Fax No. 503.222.4292

Sample I.D.	Lab I.D.	Matrix	Date	Time	Number of Containers	MIS (1) (2)									Composite I.D.
M-104-3-C		Sediment	10.12.09	0906	1	X									M-3-C
M-107-3-C		Sediment		0919	1	X									M-3-C
M-106-3-C		Sediment		0935	1	X									M-3-C
M-109-3-C		Sediment		0949	1	X									M-3-C
M-114-3-C		Sediment		1032	1	X									M-3-C
M-116-3-C		Sediment		1146	1	X									M-3-C
M-119-3-C		Sediment		1225	1	X									M-3-C
M-118-3-C		Sediment		1246	1	X									M-3-C
M-115-3-C		Sediment		1256	1	X									M-3-C
~~M-131~~		~~Sediment~~			1	X									M-3-C
M-148-3-C		Sediment	10.13.09	1352	1	X									M-3-C
M-150-3-C		Sediment	↓	1406	1	X									M-3-C
		Sediment			1	X									M-3-C
keep log in open		Sediment			1	X									M-3-C
		Sediment			1	X									M-3-C
		Sediment			1	X									M-3-C
		Sediment			1	X									M-3-C
		Sediment			1	X									M-3-C
		Sediment			1	X									M-3-C
		Sediment			1	X									M-3-C

Sample Received Intact: Yes No Received
Temperature received: Ice No ice

RELIQUISHED BY:
Signature: Lee Moody
Printed Name: Nicky Moody
Firm: URS
Date/Time: 10/12/09 / 1600

~~RELIQUISHED~~ BY:
Signature:
Printed Name: Brad Tuson
Firm: CWS
Date/Time: 10/13/09 915

RELIQUISHED BY:
Signature:
Printed Name:
Firm:
Date/Time:

RELIQUISHED BY:
Signature:
Printed Name:
Firm:
Date/Time:

Special Instructions/Comments:

Freeze containers upon arrival prior to completing MIS sub-sampling.
(1) Follow Appendix B of the FSP for the Guidance on Lab Prep to create the Composite Incremental Samples.
(2) Submittal of MIS sub-samples to Axys - See Composite Incremental COC.

Y0909482

Columbia Analytical Services™
800.695.7222
www.caslab.com

Client: OfficeMax & URS Corporation
Bill to: OfficeMax
Project Manager: David Weatherby, URS Corporation

CHAIN of CUSTODY

Page _1_ of _1_
Project: Boise St Helens Pulp and Paper Mill - Sediment 2009
SR #
Telephone No. 503.222.7200
Fax No. 503.222.4292

	Sample I.D.	Lab I.D.	Matrix	Date	Time	Number of Containers	MIS (1) (2)									Composite I.D.
20	M-121-3-C		Sediment	10.13.09	0846	1	X									M-2-C
21	M-125-3-C		Sediment		0907	1	X									M-2-C
22	M-126-3-C		Sediment		0921	1	X									M-2-C
23	M-128-3-C		Sediment		0935	1	X									M-2-C
24	M-132-3-C		Sediment		1009	1	X									M-2-C
25	M-134-3-C		Sediment		1029	1	X									M-2-C
26	M-141-3-C		Sediment		1217	1	X									M-2-C
27	M-144-3-C		Sediment		1248	1	X									M-2-C
28	M-145-3-C		Sediment		1258	1	X									M-2-C
29	M-140-3-C		Sediment		1318	1	X									M-2-C
30	M-131-3-C		Sediment		1332	1	X									M-2-C
			Sediment			1	X									M-2-C
	— CLOSE LOG IN —		Sediment			1	X									M-2-C
			Sediment			1	X									M-2-C
			Sediment			1	X									M-2-C
			Sediment			1	X									M-2-C
			Sediment			1	X									M-2-C
			Sediment			1	X									M-2-C
			Sediment			1	X									M-2-C
			Sediment			1	X									M-2-C

Sample Received Intact: Yes No
Temperature received: Ice No ice

RELIQUISHED BY:
Signature: Nicky Moody
Printed Name: Nicky Moody
Firm: URS
Date/Time: 10.13.09 1430

RELIQUISHED BY:
Signature:
Printed Name:
Firm:
Date/Time:

RELIQUISHED BY:
Signature:
Printed Name: Sarah Ahr
Firm: CAS
Date/Time: 10/14/09 1330

RELIQUISHED BY:
Signature:
Printed Name:
Firm:
Date/Time:

Special Instructions/Comments:

Freeze containers upon arrival prior to completing MIS sub-sampling.
(1) Follow Appendix B of the FSP for the Guidance on Lab Prep to create the Composite Incremental Samples.
(2) Submittal of MIS sub-samples to Axys - See Composite Incremental COC.

Columbia Analytical Services, Inc.
Cooler Receipt and Preservation Form

PC 1x1

Client / Project: URS Service Request K09 09482

Received: 10 14 09 Opened: 10 14 09 By: bw

1. Samples were received via? *US Mail* *Fed Ex* *UPS* *DHL* *GH* *GS* *PDX* (*Courier*) *Hand Delivered*
2. Samples were received in: (circle) (*Cooler*) *Box* *Envelope* *Other* _____ *NA*
3. Were custody seals on coolers? NA (Y) N If yes, how many and where? 1 Front
   If present, were custody seals intact? (Y) N If present, were they signed and dated? (Y) N
4. Is shipper's air-bill filed? If not, record air-bill number: _____ (NA) Y N

5. **Temperature of cooler(s) upon receipt (°C):** -0.5
   Temperature Blank (°C): 1.6
   Thermometer ID: 269
6. If applicable, list Chain of Custody Numbers:
7. Packing material used. *Inserts* *Baggies* *Bubble Wrap* *Gel Packs* (*Wet Ice*) *Sleeves* *Other* _____
8. Were custody papers properly filled out (ink, signed, etc.)? NA (Y) N
9. **Did all bottles arrive in good condition (unbroken)?** *Indicate in the table below.* NA (Y) N
10. Were all sample labels complete (i.e analysis, preservation, etc.)? NA (Y) N
11. Did all sample labels and tags agree with custody papers? *Indicate in the table below* NA (Y) N
12. **Were appropriate bottles/containers and volumes received for the tests indicated?** NA (Y) N
13. Were the pH-preserved bottles tested* received at the appropriate pH? *Indicate in the table below* (NA) Y N
14. Were VOA vials received without headspace? *Indicate in the table below.* (NA) Y N
15. **Are CWA Microbiology samples received with >1/2 the 24hr. hold time remaining from collection?** (NA) Y N
16. Was C12/Res negative? (NA) Y N

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Sample ID	Bottle Count Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

*Does not include all pH preserved sample aliquots received. See sample receiving SOP (SMO-GEN).

Additional Notes, Discrepancies, & Resolutions: _____

K0909482

Columbia Analytical Services™
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www.caslab.com

Client: OfficeMax & URS Corporation

Bill to: OfficeMax

CHAIN of CUSTODY

Page 1 of 1

Project: Boise St Helens Pulp and Paper Mill - Sediment 2009

SR #

Project Manager: David Weatherby, URS Corporation

Telephone No. 503.222.7200

Fax No. 503.222.4292

Sample I.D.	Lab I.D.	Matrix	Date	Time	Number of Containers	MIS (1) (2)									Composite I.D.
M-102-3-C		Sediment	10/5/09	1252	1	X									M-3-C
M-105-3-C		Sediment	10/5/09	1313	1	X									M-3-C
M-112-3-C		Sediment	↓	1335	1	X									M-3-C
M-122-3-C		Sediment	↓	1359	1	X									M-3-C
		Sediment			1	X									M-3-C
Keep log in open		Sediment			1	X									M-3-C
		Sediment			1	X									M-3-C
		Sediment			1	X									M-3-C
		Sediment			1	X									M-3-C
		Sediment			1	X									M-3-C
		Sediment			1	X									M-3-C
		Sediment			1	X									M-3-C
		Sediment			1	X									M-3-C
		Sediment			1	X									M-3-C
		Sediment			1	X									M-3-C
		Sediment			1	X									M-3-C
		Sediment			1	X									M-3-C
		Sediment			1	X									M-3-C
		Sediment			1	X									M-3-C
		Sediment			1	X									M-3-C
		Sediment			1	X									M-3-C

Sample Received Intact: Yes No

Temperature received: 2.6°C Ice No ice

RELIQUISHED BY:
Signature: Nicky Moody
Printed Name: NICKY MOODY
Firm: URS
Date/Time: 10.5.09/ 1635

RELIQUISHED BY: ~~RELIQUISHED BY:~~ Received by: 10/6/09
Signature:
Printed Name: John Jones
Firm: CAS
Date/Time: 10/6/09 0905

RELIQUISHED BY:
Signature:
Printed Name:
Firm:
Date/Time:

RELIQUISHED BY:
Signature:
Printed Name:
Firm:
Date/Time:

Special Instructions/Comments:

Freeze containers upon arrival prior to completing MIS sub-sampling.
(1) Follow Appendix B of the FSP for the Guidance on Lab Prep to create the Composite Incremental Samples.
(2) Submittal of MIS sub-samples to Axys - See Composite Incremental COC.

1609094 82

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CHAIN of CUSTODY

Page ___ of ___

Client: OfficeMax & URS Corporation

Bill to: OfficeMax

Project: Boise St Helens Pulp and Paper Mill - Sediment 2009

SR #

Project Manager: David Weatherby, URS Corporation

Telephone No. 503.222.7200

Fax No. 503.222.4292

Sample I.D.	Lab I.D.	Matrix	Date	Time	Number of Containers	MIS (1) (2)									Composite I.D.
M-135-3-C		Sediment	10.6.09	0900	1	X									M-3-C
M-138-3-C		Sediment	↓	0922	1	X									M-3-C
M-143-3-C		Sediment		0948	1	X									M-3-C
M-103-3-C		Sediment		1041	1	X									M-3-C
		Sediment			1	X									M-3-C
Keep log in open		Sediment			1	X									M-3-C
		Sediment			1	X									M-3-C
		Sediment			1	X									M-3-C
		Sediment			1	X									M-3-C
		Sediment			1	X									M-3-C
		Sediment			1	X									M-3-C
		Sediment			1	X									M-3-C
		Sediment			1	X									M-3-C
		Sediment			1	X									M-3-C
		Sediment			1	X									M-3-C
		Sediment			1	X									M-3-C
		Sediment			1	X									M-3-C
		Sediment			1	X									M-3-C
		Sediment			1	X									M-3-C
		Sediment			1	X									M-3-C

Sample Received Intact: Yes No

Temperature received: Ice No ice

Special Instructions/Comments:

Freeze containers upon arrival prior to completing MIS sub-sampling.
(1) Follow Appendix B of the FSP for the Guidance on Lab Prep to create the Composite Incremental Samples.
(2) Submittal of MIS sub-samples to Axys - See Composite Incremental COC.

RELIQUISHED BY:	~~RELIQUISHED BY:~~ Received by:	RELIQUISHED BY:	RELIQUISHED BY:
Signature: Nicky Moody	Signature: Joan Jones	Signature:	Signature:
Printed Name: Nicky Moody	Printed Name: Joan Jones	Printed Name:	Printed Name:
Firm: URS	Firm: CAS	Firm:	Firm:
Date/Time: 10 6 09 / 1600	Date/Time: 10/7/09 0915 ~~0940~~	Date/Time:	Date/Time:

7710/9/09

Columbia Analytical Services, Inc.
Cooler Receipt and Preservation Form

PC LAS

Client / Project: URS Service Request K09 09482

Received: 10/13/09 Opened: 10/13/09 By: Brad

1. Samples were received via? *US Mail* *Fed Ex* *UPS* *DHL* *GH* *GS* *PDX* (Courier) *Hand Delivered*
2. Samples were received in: (circle) (Cooler) *Box* *Envelope* *Other* _____ *NA*
3. Were custody seals on coolers? NA (Y) N If yes, how many and where? 1 front
   If present, were custody seals intact? (Y) N If present, were they signed and dated? (Y) N
4. Is shipper's air-bill filed? If not, record air-bill number: _____ (NA) Y N

5. **Temperature of cooler(s) upon receipt (°C):**	-0.5	0.0		
Temperature Blank (°C):	1.3	0.1		
Thermometer ID:	274	268		
6. If applicable, list Chain of Custody Numbers:				

7. Packing material used. *Inserts* (Baggies) *Bubble Wrap* *Gel Packs* (Wet Ice) *Sleeves* *Other* _____

8. Were custody papers properly filled out (ink, signed, etc.)?	NA	(Y)	N
9. **Did all bottles arrive in good condition (unbroken)?** *Indicate in the table below.*	NA	(Y)	N
10. Were all sample labels complete (i.e analysis, preservation, etc.)?	NA	(Y)	N
11. Did all sample labels and tags agree with custody papers? *Indicate in the table below*	NA	(Y)	N
12. **Were appropriate bottles/containers and volumes received for the tests indicated?**	NA	(Y)	N
13. Were the pH-preserved bottles tested* received at the appropriate pH? *Indicate in the table below*	(NA)	Y	N
14. Were VOA vials received without headspace? *Indicate in the table below.*	(NA)	Y	N
15. **Are CWA Microbiology samples received with >1/2 the 24hr. hold time remaining from collection?**	(NA)	Y	N
16. Was C12/Res negative?	(NA)	Y	N

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Sample ID	Bottle Count Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

*Does not include all pH preserved sample aliquots received. See sample receiving SOP (SMO-GEN).

Additional Notes, Discrepancies, & Resolutions: _____

Columbia Analytical Services, Inc.
Cooler Receipt and Preservation Form

PC 14

Client / Project: URS Service Request K09 09482

Received: 10/6/09 Opened: 10/6/09 By: TT

1. Samples were received via? *US Mail* *Fed Ex* *UPS* *DHL* *GH* *GS* *PDX* (*Courier*) *Hand Delivered*
2. Samples were received in: (circle) (*Cooler*) *Box* *Envelope* *Other* _____ *NA*
3. Were custody seals on coolers? NA (Y) N If yes, how many and where? 1 front
   If present, were custody seals intact? (Y) N If present, were they signed and dated? (Y) N
4. Is shipper's air-bill filed? If not, record air-bill number: 1 of 2 per cust seal - white cooler (NA) Y N
   2 of 2 per custody seal

5. **Temperature of cooler(s) upon receipt (°C):**	0.0	0.7		
Temperature Blank (°C):	2.6	1.2		
Thermometer ID:	271	266		
6. If applicable, list Chain of Custody Numbers:				

7. Packing material used. *Inserts* (*Baggies*) *Bubble Wrap* *Gel Packs* (*Wet Ice*) *Sleeves* *Other* _____

8. Were custody papers properly filled out (ink, signed, etc.)?	NA	(Y)	N
9. **Did all bottles arrive in good condition (unbroken)?** *Indicate in the table below.*	NA	(Y)	N
10. Were all sample labels complete (i.e analysis, preservation, etc.)?	NA	(Y)	N
11. Did all sample labels and tags agree with custody papers? *Indicate in the table below*	NA	(Y)	N
12. **Were appropriate bottles/containers and volumes received for the tests indicated?**	NA	(Y)	N
13. Were the pH-preserved bottles tested* received at the appropriate pH? *Indicate in the table below*	(NA)	Y	N
14. Were VOA vials received without headspace? *Indicate in the table below.*	(NA)	Y	N
15. **Are CWA Microbiology samples received with >1/2 the 24hr. hold time remaining from collection?**	(NA)	Y	N
16. Was C12/Res negative?	(NA)	Y	N

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Sample ID	Bottle Count Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

*Does not include all pH preserved sample aliquots received. See sample receiving SOP (SMO-GEN).

Additional Notes, Discrepancies, & Resolutions: _____

Columbia Analytical Services, Inc.
Cooler Receipt and Preservation Form

PC 1+1

Client / Project: URS / Lower Mag Service Request K09 09082

Received: 10/7/09 Opened: 10/7/09 By: TT

1. Samples were received via? *US Mail* *Fed Ex* *UPS* *DHL* *GH* *GS* *PDX* (Courier) *Hand Delivered*
2. Samples were received in: (circle) (Cooler) *Box* *Envelope* *Other* _____ *NA*
3. Were custody seals on coolers? NA (Y) N If yes, how many and where? 1 F-on T
   If present, were custody seals intact? (Y) N If present, were they signed and dated? Y N
4. Is shipper's air-bill filed? If not, record air-bill number: 2 of 2 per custody seal (NA) Y N
   1 of 2 per Custody seal
5. **Temperature of cooler(s) upon receipt (°C):** -0.3 -0.7 _____ _____
   Temperature Blank (°C): 0.9 0.7 _____ _____
   Thermometer ID: 209 275 _____ _____
6. If applicable, list Chain of Custody Numbers: / / _____ _____
7. Packing material used. *Inserts* (Baggies) *Bubble Wrap* *Gel Packs* (Wet Ice) *Sleeves* *Other* _____
8. Were custody papers properly filled out (ink, signed, etc.)? NA (Y) N
9. **Did all bottles arrive in good condition (unbroken)?** *Indicate in the table below.* NA (Y) N
10. Were all sample labels complete (i.e analysis, preservation, etc.)? NA (Y) N
11. Did all sample labels and tags agree with custody papers? *Indicate in the table below* *NA Y (N)
12. **Were appropriate bottles/containers and volumes received for the tests indicated?** NA (Y) N
13. Were the pH-preserved bottles tested* received at the appropriate pH? *Indicate in the table below* (NA) Y N
14. Were VOA vials received without headspace? *Indicate in the table below.* (NA) Y N
15. **Are CWA Microbiology samples received with >1/2 the 24hr. hold time remaining from collection?** (NA) Y N
16. Was C12/Res negative? (NA) Y N

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Sample ID	Bottle Count Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

*Does not include all pH preserved sample aliquots received. See sample receiving SOP (SMO-GEN).

Additional Notes, Discrepancies, & Resolutions: *Received samples not listed on COC: M-191-2-B M-191-2-C

K0909481

Columbia Analytical Services™
800.695.7222
www.caslab.com

Client: OfficeMax & URS Corporation
Bill to: OfficeMax
Project Manager: David Weatherby, URS Corporation

CHAIN of CUSTODY

Page _1_ of _1_
Project: Boise St Helens Pulp and Paper Mill - Sediment 2009
SR #
Telephone No. 503.222.7200
Fax No. 503.222.4292

Sample I.D.	Lab I.D.	Matrix	Date	Time	Number of Containers	MIS (1) (2)	Composite I.D.
M-104-3-B		Sediment	10.12.09	0905	1	X	M-3-B
M-109-3-B		Sediment		0948	1	X	M-3-B
M-110-3-B		Sediment		1004	1	X	M-3-B
M-114-3-B		Sediment		1031	1	X	M-3-B
M-113-3-B		Sediment		1132	1	X	M-3-B
M-116-3-B		Sediment		1145	1	X	M-3-B
M-117-3-B		Sediment		1159	1	X	M-3-B
M-120-3-B		Sediment		1211	1	X	M-3-B
M-119-3-B		Sediment		1224	1	X	M-3-B
M-115-3-B		Sediment		1255	1	X	M-3-B
M-108-3-B		Sediment		1305	1	X	M-3-B
M-150-3-B		Sediment		1405	1	X	M-3-B
M-149-3-B		Sediment		1418	1	X	M-3-B
M-147-3-B		Sediment		1431	1	X	M-3-B
M-146-3-B		Sediment		1442	1	X	M-3-B
		Sediment			1	X	M-3-B
keep log in open		Sediment			1	X	M-3-B
		Sediment			1	X	M-3-B
		Sediment			1	X	M-3-B
		Sediment			1	X	M-3-B

Sample Received Intact: Yes No Received
Temperature received: Ice No ice

RELINQUISHED BY:
Signature: Nicky Moody
Printed Name: NICKY MOODY
Firm: URS
Date/Time: 10.12.09 / 1600

RELINQUISHED BY:
Signature: Pr
Printed Name: Brad Rubin
Firm: CAS
Date/Time: 10/13/09 915

RELINQUISHED BY:
Signature:
Printed Name:
Firm:
Date/Time:

RELINQUISHED BY:
Signature:
Printed Name:
Firm:
Date/Time:

Special Instructions/Comments:

Freeze containers upon arrival prior to completing MIS sub-sampling.
(1) Follow Appendix B of the FSP for the Guidance on Lab Prep to create the Composite Incremental Samples.
(2) Submittal of MIS sub-samples to Axys - See Composite Incremental COC.

Columbia Analytical Services, Inc.
Cooler Receipt and Preservation Form

PC LAS

Client / Project: URS Service Request K09 0948

Received: 10/13/09 Opened: 10/13/09 By: Brad

1. Samples were received via? *US Mail* *Fed Ex* *UPS* *DHL* *GH* *GS* *PDX* (Courier) *Hand Delivered*
2. Samples were received in: (circle) (Cooler) *Box* *Envelope* *Other* _____ *NA*
3. Were custody seals on coolers? NA (Y) N If yes, how many and where? 1 front
   If present, were custody seals intact? (Y) N If present, were they signed and dated? (Y) N
4. Is shipper's air-bill filed? If not, record air-bill number: _____ (NA) Y N

5. **Temperature of cooler(s) upon receipt (°C):**	-0.5	0.0		
Temperature Blank (°C):	1.3	0.1		
Thermometer ID:	274	268		
6. If applicable, list Chain of Custody Numbers:				

7. Packing material used. *Inserts* (Baggies) *Bubble Wrap* *Gel Packs* (Wet Ice) *Sleeves* *Other* _____

8. Were custody papers properly filled out (ink, signed, etc.)?	NA	(Y)	N
9. **Did all bottles arrive in good condition (unbroken)?** *Indicate in the table below.*	NA	(Y)	N
10. Were all sample labels complete (i.e analysis, preservation, etc.)?	NA	(Y)	N
11. Did all sample labels and tags agree with custody papers? *Indicate in the table below*	NA	(Y)	N
12. **Were appropriate bottles/containers and volumes received for the tests indicated?**	NA	(Y)	N
13. Were the pH-preserved bottles tested* received at the appropriate pH? *Indicate in the table below*	(NA)	Y	N
14. Were VOA vials received without headspace? *Indicate in the table below.*	(NA)	Y	N
15. **Are CWA Microbiology samples received with >1/2 the 24hr. hold time remaining from collection?**	(NA)	Y	N
16. Was C12/Res negative?	(NA)	Y	N

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Sample ID	Bottle Count Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

*Does not include all pH preserved sample aliquots received. See sample receiving SOP (SMO-GEN).

Additional Notes, Discrepancies, & Resolutions: _____

K0909481

Columbia Analytical Services™
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Client: OfficeMax & URS Corporation
Bill to: OfficeMax
Project Manager: David Weatherby, URS Corporation

CHAIN of CUSTODY

Page _1_ of _1_
Project: Boise St Helens Pulp and Paper Mill - Sediment 2009
SR #
Telephone No. 503.222.7200
Fax No. 503.222.4292

	Sample I.D.	Lab I.D.	Matrix	Date	Time	Number of Containers	MIS (1) (2)										Composite I.D.
23	M-123-3-B		Sediment	10.13.09	0857	1	X										M-3-B
24	M-125-3-B		Sediment		0906	1	X										M-3-B
25	M-130-3-B		Sediment		0956	1	X										M-3-B
26	M-132-3-B		Sediment		1008	1	X										M-3-B
27	M-136-3-B		Sediment		1037	1	X										M-3-B
28	M-139-3-B		Sediment		1055	1	X										M-3-B
29	M-142-3-B		Sediment		1227	1	X										M-3-B
30	M-137-3-B		Sediment	↓	1307	1	X										M-3-B
			Sediment			1	X										M-3-B
	—CLOSE LOG IN—		Sediment			1	X										M-3-B
			Sediment			1	X										M-3-B
			Sediment			1	X										M-3-B
			Sediment			1	X										M-3-B
			Sediment			1	X										M-3-B
			Sediment			1	X										M-3-B
			Sediment			1	X										M-3-B
			Sediment			1	X										M-3-B
			Sediment			1	X										M-3-B
			Sediment			1	X										M-3-B
			Sediment			1	X										M-3-B

Sample Received Intact: Yes No
Temperature received: Ice No ice

RELINQUISHED BY:
Signature:
Printed Name: NICKY MOODY
Firm: URS
Date/Time: 10.13.09/1430

RELINQUISHED BY:
Signature:
Printed Name:
Firm: URS
Date/Time: 10/14/09 1330

RELINQUISHED BY:
Signature:
Printed Name:
Firm:
Date/Time:

RELINQUISHED BY:
Signature:
Printed Name:
Firm:
Date/Time:

Special Instructions/Comments:

Freeze containers upon arrival prior to completing MIS sub-sampling.
(1) Follow Appendix B of the FSP for the Guidance on Lab Prep to create the Composite Incremental Samples.
(2) Submittal of MIS sub-samples to Axys - See Composite Incremental COC.

Columbia Analytical Services, Inc.
Cooler Receipt and Preservation Form

PC 141

Client / Project: URS Service Request K09 09481

Received: 10 14 09 Opened: 10 14 09 By: bw

1. Samples were received via? *US Mail* *Fed Ex* *UPS* *DHL* *GH* *GS* *PDX* (*Courier*) *Hand Delivered*
2. Samples were received in: (circle) (*Cooler*) *Box* *Envelope* *Other* _____ *NA*
3. Were custody seals on coolers? NA (Y) N If yes, how many and where? 1 Front
   If present, were custody seals intact? (Y) N If present, were they signed and dated? (Y) N
4. Is shipper's air-bill filed? If not, record air-bill number: _____ (NA) Y N

5. **Temperature of cooler(s) upon receipt (°C):** -0.5
   Temperature Blank (°C): 1.6
   Thermometer ID: 269
6. If applicable, list Chain of Custody Numbers:
7. Packing material used. *Inserts* *Baggies* *Bubble Wrap* *Gel Packs* (*Wet Ice*) *Sleeves* *Other* _____
8. Were custody papers properly filled out (ink, signed, etc.)? NA (Y) N
9. **Did all bottles arrive in good condition (unbroken)?** *Indicate in the table below.* NA (Y) N
10. Were all sample labels complete (i.e analysis, preservation, etc.)? NA (Y) N
11. Did all sample labels and tags agree with custody papers? *Indicate in the table below* NA (Y) N
12. **Were appropriate bottles/containers and volumes received for the tests indicated?** NA (Y) N
13. Were the pH-preserved bottles tested* received at the appropriate pH? *Indicate in the table below* (NA) Y N
14. Were VOA vials received without headspace? *Indicate in the table below.* (NA) Y N
15. **Are CWA Microbiology samples received with >1/2 the 24hr. hold time remaining from collection?** (NA) Y N
16. Was C12/Res negative? (NA) Y N

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Sample ID	Bottle Count Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

*Does not include all pH preserved sample aliquots received. See sample receiving SOP (SMO-GEN).

Additional Notes, Discrepancies, & Resolutions: _____

K0904481

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Client: OfficeMax & URS Corporation
Bill to: OfficeMax

CHAIN of CUSTODY

Page 1 of 1

Project: Boise St Helens Pulp and Paper Mill - Sediment 2009
SR #
Project Manager: David Weatherby, URS Corporation
Telephone No. 503.222.7200
Fax No. 503.222.4292

Sample I.D.	Lab I.D.	Matrix	Date	Time	Number of Containers	MIS (1) (2)	Composite I.D.
M-102-3-B		Sediment	10.5.09	1251	1	X	M-3-B
M-112-3-B		Sediment		1334	1	X	M-3-B
M-124-3-B		Sediment		1438	1	X	M-3-B
M-129-3-B		Sediment		1559	1	X	M-3-B
		Sediment			1	X	M-3-B
keep log in open		Sediment			1	X	M-3-B
		Sediment			1	X	M-3-B
		Sediment			1	X	M-3-B
		Sediment			1	X	M-3-B
		Sediment			1	X	M-3-B
		Sediment			1	X	M-3-B
		Sediment			1	X	M-3-B
		Sediment			1	X	M-3-B
		Sediment			1	X	M-3-B
		Sediment			1	X	M-3-B
		Sediment			1	X	M-3-B
		Sediment			1	X	M-3-B
		Sediment			1	X	M-3-B
		Sediment			1	X	M-3-B

Sample Received Intact: Yes No
Temperature received: 2 °C Ice No ice

Special Instructions/Comments:

Freeze containers upon arrival prior to completing MIS sub-sampling.
(1) Follow Appendix B of the FSP for the Guidance on Lab Prep to create the Composite Incremental Samples.
(2) Submittal of MIS sub-samples to Axys - See Composite Incremental COC.

RELIQUISHED BY:	~~RELIQUISHED BY:~~ Received by: 10/6/09	RELIQUISHED BY:	RELIQUISHED BY:
Signature: Nicky Moody	Signature: Tom Jones	Signature:	Signature:
Printed Name: NICKY MOODY	Printed Name: Tom Jones	Printed Name:	Printed Name:
Firm: URS	Firm: CAS	Firm:	Firm:
Date/Time: 10.5.09/1635	Date/Time: 10/6/09 0905	Date/Time:	Date/Time:

VC000481

Columbia Analytical Services
800.695.7222
www.caslab.com

Client: OfficeMax & URS Corporation

Bill to: OfficeMax

CHAIN of CUSTODY

Page ___ of ___

Project: Boise St Helens Pulp and Paper Mill - Sediment 2009

SR #

Project Manager: David Weatherby, URS Corporation

Telephone No. 503.222.7200

Fax No. 503.222.4292

Sample I.D.	Lab I.D.	Matrix	Date	Time	Number of Containers	MIS (1) (2)										Composite I.D.
M-135-3-B		Sediment	10.6.09	0859	1	X										M-3-B
M-101-3-B		Sediment	↓	1019	1	X										M-3-B
M-103-3-B		Sediment	↓	1040	1	X										M-3-B
Keep		Sediment			1	X										M-3-B
LOG IN		Sediment			1	X										M-3-B
	OPEN	Sediment			1	X										M-3-B
		Sediment			1	X										M-3-B
		Sediment			1	X										M-3-B
		Sediment			1	X										M-3-B
		Sediment			1	X										M-3-B
		Sediment			1	X										M-3-B
		Sediment			1	X										M-3-B
		Sediment			1	X										M-3-B
		Sediment			1	X										M-3-B
		Sediment			1	X										M-3-B
		Sediment			1	X										M-3-B
		Sediment			1	X										M-3-B
		Sediment			1	X										M-3-B
		Sediment			1	X										M-3-B
		Sediment			1	X										M-3-B
		Sediment			1	X										M-3-B

Sample Received Intact: Yes No

Temperature received: Ice No ice

RELIQUISHED BY:	~~RELIQUISHED BY:~~ Received by:	RELIQUISHED BY:	RELIQUISHED BY:
Signature:	Signature:	Signature:	Signature:
Printed Name: NICKY MOODY	Printed Name: John Jones	Printed Name:	Printed Name:
Firm: URS	Firm: CAS	Firm:	Firm:
Date/Time: 10.6.09 / 1600	Date/Time: 10/7/09 ~~0910~~ 0915	Date/Time:	Date/Time:

JJ 10/7/09

Special Instructions/Comments:

Freeze containers upon arrival prior to completing MIS sub-sampling.
(1) Follow Appendix B of the FSP for the Guidance on Lab Prep to create the Composite Incremental Samples.
(2) Submittal of MIS sub-samples to Axys - See Composite Incremental COC.

Columbia Analytical Services, Inc.
Cooler Receipt and Preservation Form

PC 14

Client / Project: URS Service Request K09 09481

Received: 10/6/09 Opened: 10/6/09 By: 77

1. Samples were received via? *US Mail* *Fed Ex* *UPS* *DHL* *GH* *GS* *PDX* (Courier) *Hand Delivered*
2. Samples were received in: (circle) (Cooler) *Box* *Envelope* *Other* _____ *NA*
3. Were custody seals on coolers? NA (Y) N If yes, how many and where? 1 front
   If present, were custody seals intact? (Y) N If present, were they signed and dated? (Y) N
4. Is shipper's air-bill filed? If not, record air-bill number: 1 of 2 per cust seal - white cooler (NA) Y N
   3 of 2 per custody seal
5. **Temperature of cooler(s) upon receipt (°C):** 0.0 0.7
   Temperature Blank (°C): 2.6 1.2
   Thermometer ID: 271 266
6. If applicable, list Chain of Custody Numbers:
7. Packing material used. *Inserts* (Baggies) *Bubble Wrap* *Gel Packs* (Wet Ice) *Sleeves* *Other* _____
8. Were custody papers properly filled out (ink, signed, etc.)? NA (Y) N
9. **Did all bottles arrive in good condition (unbroken)?** *Indicate in the table below.* NA (Y) N
10. Were all sample labels complete (i.e analysis, preservation, etc.)? NA (Y) N
11. Did all sample labels and tags agree with custody papers? *Indicate in the table below* NA (Y) N
12. **Were appropriate bottles/containers and volumes received for the tests indicated?** NA (Y) N
13. Were the pH-preserved bottles tested* received at the appropriate pH? *Indicate in the table below* (NA) Y N
14. Were VOA vials received without headspace? *Indicate in the table below.* (NA) Y N
15. **Are CWA Microbiology samples received with >1/2 the 24hr. hold time remaining from collection?** (NA) Y N
16. Was C12/Res negative? (NA) Y N

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Sample ID	Bottle Count Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

*Does not include all pH preserved sample aliquots received. See sample receiving SOP (SMO-GEN).

Additional Notes, Discrepancies, & Resolutions: _____

Columbia Analytical Services, Inc.
Cooler Receipt and Preservation Form

PC_____

Client / Project: URS / Coffin Mayo Service Request K09_____

Received: 10/7/09 Opened: 10/7/09 By: TJ

1. Samples were received via? *US Mail* *Fed Ex* *UPS* *DHL* *GH* *GS* *PDX* (Courier) *Hand Delivered*
2. Samples were received in: (circle) (Cooler) *Box* *Envelope* *Other*_____ *NA*
3. Were custody seals on coolers? NA (Y) N If yes, how many and where? 1 F-ont
   If present, were custody seals intact? (Y) N If present, were they signed and dated? Y N
4. Is shipper's air-bill filed? If not, record air-bill number: 2 of 2 per custody seal (NA) Y N
   1 of 2 per custody seal
5. **Temperature of cooler(s) upon receipt (°C):** -0.3 -0.7
   Temperature Blank (°C): 0.9 0.7
   Thermometer ID: 209 275
6. If applicable, list Chain of Custody Numbers:
7. Packing material used. *Inserts* (Baggies) *Bubble Wrap* *Gel Packs* (Wet Ice) *Sleeves* *Other*_____
8. Were custody papers properly filled out (ink, signed, etc.)? NA (Y) N
9. **Did all bottles arrive in good condition (unbroken)?** *Indicate in the table below.* NA (Y) N
10. Were all sample labels complete (i.e analysis, preservation, etc.)? NA (Y) N
11. Did all sample labels and tags agree with custody papers? *Indicate in the table below* *NA Y (N)
12. **Were appropriate bottles/containers and volumes received for the tests indicated?** NA (Y) N
13. Were the pH-preserved bottles tested* received at the appropriate pH? *Indicate in the table below* (NA) Y N
14. Were VOA vials received without headspace? *Indicate in the table below.* (NA) Y N
15. **Are CWA Microbiology samples received with >1/2 the 24hr. hold time remaining from collection?** (NA) Y N
16. Was C12/Res negative? (NA) Y N

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Sample ID	Bottle Count Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

*Does not include all pH preserved sample aliquots received. See sample receiving SOP (SMO-GEN).

Additional Notes, Discrepancies, & Resolutions: *Received samples not listed on COC: M-191-2-B M-191-2-C

1109480

Columbia Analytical Services™
800.695.7222
www.caslab.com

Client: OfficeMax & URS Corporation
Bill to: OfficeMax
Project Manager: David Weatherby, URS Corporation

CHAIN of CUSTODY

Page _1_ of _1_
Project: Boise St Helens Pulp and Paper Mill - Sediment 2009
SR #
Telephone No. 503.222.7200
Fax No. 503.222.4292

	Sample I.D.	Lab I.D.	Matrix	Date	Time	Number of Containers	MIS (1) (2)	Composite I.D.
19	M-121-3-A		Sediment	10.13.09	0845	1	X	M-3-A
20	M-123-3-A		Sediment		0856	1	X	M-3-A
21	M-126-3-A		Sediment		0920	1	X	M-3-A
22	M-128-3-A		Sediment		0934	1	X	M-3-A
23	M-130-3-A		Sediment		0955	1	X	M-3-A
24	M-134-3-A		Sediment		1028	1	X	M-3-A
25	M-136-3-A		Sediment		1036	1	X	M-3-A
26	M-142-3-A		Sediment		1226	1	X	M-3-A
27	M-144-3-A		Sediment		1247	1	X	M-3-A
28	M-145-3-A		Sediment		1257	1	X	M-3-A
29	M-137-3-A		Sediment		1306	1	X	M-3-A
30	M-140-3-A		Sediment	↓	1317	1	X	M-3-A
			Sediment			1	X	M-3-A
	CLOSE LOG	IN	Sediment			1	X	M-3-A
			Sediment			1	X	M-3-A
			Sediment			1	X	M-3-A
			Sediment			1	X	M-3-A
			Sediment			1	X	M-3-A
			Sediment			1	X	M-3-A
			Sediment			1	X	M-3-A

Sample Received Intact: Yes No
Temperature received: Ice No ice

RELINQUISHED BY:
Signature:
Printed Name: NICKY MOODY
Firm: URS
Date/Time: 10.13.09/ 1430

RELINQUISHED BY:
Signature:
Printed Name: BRAD LAIN
Firm: CAS
Date/Time: 10/14/09 1330

RELINQUISHED BY:
Signature:
Printed Name:
Firm:
Date/Time:

RELINQUISHED BY:
Signature:
Printed Name:
Firm:
Date/Time:

Special Instructions/Comments:

Freeze containers upon arrival prior to completing MIS sub-sampling.
(1) Follow Appendix B of the FSP for the Guidance on Lab Prep to create the Composite Incremental Samples.
(2) Submittal of MIS sub-samples to Axys - See Composite Incremental COC.

Columbia Analytical Services, Inc.
Cooler Receipt and Preservation Form

PC_____

Client / Project: URS Service Request *K09*_____

Received: 10 14 09 Opened: 10 14 09 By: bw

1. Samples were received via? *US Mail* *Fed Ex* *UPS* *DHL* *GH* *GS* *PDX* (*Courier*) *Hand Delivered*
2. Samples were received in: (circle) (*Cooler*) *Box* *Envelope* *Other*_____ *NA*
3. Were custody seals on coolers? NA (Y) N If yes, how many and where? 1 Front
   If present, were custody seals intact? (Y) N If present, were they signed and dated? (Y) N
4. Is shipper's air-bill filed? If not, record air-bill number:_____ (NA) Y N

5. **Temperature of cooler(s) upon receipt (°C):** -0.5
   Temperature Blank (°C): 1.6
   Thermometer ID: 269
6. If applicable, list Chain of Custody Numbers:
7. Packing material used. *Inserts* *Baggies* *Bubble Wrap* *Gel Packs* (*Wet Ice*) *Sleeves* *Other*_____
8. Were custody papers properly filled out (ink, signed, etc.)? NA (Y) N
9. **Did all bottles arrive in good condition (unbroken)?** *Indicate in the table below.* NA (Y) N
10. Were all sample labels complete (i.e analysis, preservation, etc.)? NA (Y) N
11. Did all sample labels and tags agree with custody papers? *Indicate in the table below* NA (Y) N
12. **Were appropriate bottles/containers and volumes received for the tests indicated?** NA (Y) N
13. Were the pH-preserved bottles tested* received at the appropriate pH? *Indicate in the table below* (NA) Y N
14. Were VOA vials received without headspace? *Indicate in the table below.* (NA) Y N
15. **Are CWA Microbiology samples received with >1/2 the 24hr. hold time remaining from collection?** (NA) Y N
16. Was C12/Res negative? (NA) Y N

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Sample ID	Bottle Count Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

*Does not include all pH preserved sample aliquots received. See sample receiving SOP (SMO-GEN).

*Additional Notes, Discrepancies, & Resolutions:*_____

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Columbia Analytical Services
800.695.7222
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Client: OfficeMax & URS Corporation

Bill to: OfficeMax

CHAIN of CUSTODY

Page _1_ of _1_

Project: Boise St Helens Pulp and Paper Mill - Sediment 2009

SR #

Project Manager: David Weatherby, URS Corporation

Telephone No. 503.222.7200

Fax No. 503.222.4292

Sample I.D.	Lab I.D.	Matrix	Date	Time	Number of Containers	MIS (1) (2)	Composite I.D.
M-107-3-A		Sediment	10.12.09	0918	1	X	M-3-A
M-106-3-A		Sediment		0934	1	X	M-3-A
M-110-3-A		Sediment		1003	1	X	M-3-A
M-111-3-A		Sediment		1019	1	X	M-3-A
M-113-3-A		Sediment		1131	1	X	M-3-A
M-117-3-A		Sediment		1158 ~~1210~~ VM	1	X	M-3-A
M-120-3-A		Sediment		1210	1	X	M-3-A
M-127-3-A		Sediment		1235	1	X	M-3-A
~~M-121-3-A~~		Sediment			1	X	M-3-A
M-148-3-A		Sediment	10.10.09	1351	1	X	M-3-A
M-149-3-A		Sediment		1417	1	X	M-3-A
M-147-3-A		Sediment		1430	1	X	M-3-A
M-146-3-A		Sediment		1443	1	X	M-3-A
		Sediment			1	X	M-3-A
Keep LOG IN	OPEN	Sediment			1	X	M-3-A
		Sediment			1	X	M-3-A
		Sediment			1	X	M-3-A
		Sediment			1	X	M-3-A
		Sediment			1	X	M-3-A
		Sediment			1	X	M-3-A

Sample Received Intact: Yes No

Temperature received: Ice No ice

RELINQUISHED BY:
Signature: Nicky Moody
Printed Name: Nicky Moody
Firm: URS
Date/Time: 10.12.09/1600

RELINQUISHED BY:
Signature: Becca B
Printed Name: Brockbank
Firm: CAS
Date/Time: 10/13/09 915

RELINQUISHED BY:
Signature:
Printed Name:
Firm:
Date/Time:

RELINQUISHED BY:
Signature:
Printed Name:
Firm:
Date/Time:

Special Instructions/Comments:

Freeze containers upon arrival prior to completing MIS sub-sampling.
(1) Follow Appendix B of the FSP for the Guidance on Lab Prep to create the Composite Incremental Samples.
(2) Submittal of MIS sub-samples to Axys - See Composite Incremental COC.

Columbia Analytical Services, Inc.
Cooler Receipt and Preservation Form

PC LAL

Client / Project: UPS Service Request K09 09482

Received: 10/13/09 Opened: 10/13/09 By: Brad

1. Samples were received via? *US Mail* *Fed Ex* *UPS* *DHL* *GH* *GS* *PDX* (*Courier*) *Hand Delivered*
2. Samples were received in: (circle) (*Cooler*) *Box* *Envelope* *Other* _____ *NA*
3. Were custody seals on coolers? NA (Y) N If yes, how many and where? 1 front
   If present, were custody seals intact? (Y) N If present, were they signed and dated? (Y) N
4. Is shipper's air-bill filed? If not, record air-bill number: _____ (NA) Y N

5. **Temperature of cooler(s) upon receipt (°C):**	-0.5	0.0		
Temperature Blank (°C):	1.3	0.1		
Thermometer ID:	274	268		
6. If applicable, list Chain of Custody Numbers:				

7. Packing material used. *Inserts* (*Baggies*) *Bubble Wrap* *Gel Packs* (*Wet Ice*) *Sleeves* *Other* _____

8. Were custody papers properly filled out (ink, signed, etc.)?	NA	(Y)	N
9. **Did all bottles arrive in good condition (unbroken)?** *Indicate in the table below.*	NA	(Y)	N
10. Were all sample labels complete (i.e analysis, preservation, etc.)?	NA	(Y)	N
11. Did all sample labels and tags agree with custody papers? *Indicate in the table below*	NA	(Y)	N
12. **Were appropriate bottles/containers and volumes received for the tests indicated?**	NA	(Y)	N
13. Were the pH-preserved bottles tested* received at the appropriate pH? *Indicate in the table below*	(NA)	Y	N
14. Were VOA vials received without headspace? *Indicate in the table below.*	(NA)	Y	N
15. **Are CWA Microbiology samples received with >1/2 the 24hr. hold time remaining from collection?**	(NA)	Y	N
16. Was C12/Res negative?	(NA)	Y	N

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Sample ID	Bottle Count Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

*Does not include all pH preserved sample aliquots received. See sample receiving SOP (SMO-GEN).

Additional Notes, Discrepancies, & Resolutions: _____

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Columbia Analytical Services™
800.695.7222
www.caslab.com

Client: OfficeMax & URS Corporation
Bill to: OfficeMax
Project Manager: David Weatherby, URS Corporation

CHAIN of CUSTODY

Page 1 of 1
Project: Boise St Helens Pulp and Paper Mill - Sediment 2009
SR #
Telephone No. 503.222.7200
Fax No. 503.222.4292

Sample I.D.	Lab I.D.	Matrix	Date	Time	Number of Containers	MIS (1) (2)										Composite I.D.
M-105-3-A		Sediment	10.5.09	1312	1	X										M-3-A
M-124-3-A		Sediment	↓	1437	1	X										M-3-A
M-133-3-A		Sediment	↓	1521	1	X										M-3-A
		Sediment			1	X										M-3-A
Keep log in open		Sediment			1	X										M-3-A
		Sediment			1	X										M-3-A
		Sediment			1	X										M-3-A
		Sediment			1	X										M-3-A
		Sediment			1	X										M-3-A
		Sediment			1	X										M-3-A
		Sediment			1	X										M-3-A
		Sediment			1	X										M-3-A
		Sediment			1	X										M-3-A
		Sediment			1	X										M-3-A
		Sediment			1	X										M-3-A
		Sediment			1	X										M-3-A
		Sediment			1	X										M-3-A
		Sediment			1	X										M-3-A
		Sediment			1	X										M-3-A
		Sediment			1	X										M-3-A
		Sediment			1	X										M-3-A
		Sediment			1	X										M-3-A
		Sediment			1	X										M-3-A

Sample Received Intact: Yes No
Temperature received: 2.6°C (Ice) No ice

Special Instructions/Comments:

Freeze containers upon arrival prior to completing MIS sub-sampling.
(1) Follow Appendix B of the FSP for the Guidance on Lab Prep to create the Composite Incremental Samples.
(2) Submittal of MIS sub-samples to Axys - See Composite Incremental COC.

RELINQUISHED BY:	~~RELINQUISHED BY:~~ Received by	RELINQUISHED BY:	RELINQUISHED BY:
Signature: Nicky Moody	Signature: Jean Jones	Signature:	Signature:
Printed Name: NICKY MOODY	Printed Name: Jean Jones	Printed Name:	Printed Name:
Firm: URS	Firm: CAS	Firm:	Firm:
Date/Time: 10.5.09/1635	Date/Time: 10/6/09 0905	Date/Time:	Date/Time:

Incremental Samples - Mill Area 3 - A

K0909480

Columbia Analytical Services™
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CHAIN of CUSTODY

Page 1 of 1

Client: OfficeMax & URS Corporation

Bill to: OfficeMax

Project: Boise St Helens Pulp and Paper Mill - Sediment 2009

SR #

Project Manager: David Weatherby, URS Corporation

Telephone No. 503.222.7200

Fax No. 503.222.4292

Sample I.D.	Lab I.D.	Matrix	Date	Time	Number of Containers	MIS (1) (2)									Composite I.D.
M-138-3-A		Sediment	10.6.09	0921	1	X									M-3-A
M-143-3-A		Sediment	↓	0947	1	X									M-3-A
M-101-3-A		Sediment	↓	1018	1	X									M-3-A
Keep		Sediment			1	X									M-3-A
LOG IN		Sediment			1	X									M-3-A
	OPEN	Sediment			1	X									M-3-A
		Sediment			1	X									M-3-A
		Sediment			1	X									M-3-A
		Sediment			1	X									M-3-A
		Sediment			1	X									M-3-A
		Sediment			1	X									M-3-A
		Sediment			1	X									M-3-A
		Sediment			1	X									M-3-A
		Sediment			1	X									M-3-A
		Sediment			1	X									M-3-A
		Sediment			1	X									M-3-A
		Sediment			1	X									M-3-A
		Sediment			1	X									M-3-A
		Sediment			1	X									M-3-A
		Sediment			1	X									M-3-A
		Sediment			1	X									M-3-A

Sample Received Intact: Yes No

Temperature received: Ice No ice

Special Instructions/Comments:

Freeze containers upon arrival prior to completing MIS sub-sampling.
(1) Follow Appendix B of the FSP for the Guidance on Lab Prep to create the Composite Incremental Samples.
(2) Submittal of MIS sub-samples to Axys - See Composite Incremental COC.

RELIQUISHED BY:	~~RELIQUISHED BY:~~ Received by:	RELIQUISHED BY:	RELIQUISHED BY:
Signature: Nicky Moody	Signature: Tom Jones	Signature:	Signature:
Printed Name: NICKY MOODY	Printed Name: Tom Jones	Printed Name:	Printed Name:
Firm: URS	Firm: CAS	Firm:	Firm:
Date/Time: 10.6.09 / 1600	Date/Time: 10/7/09 ~~0940~~ 0915 11 10/7/09	Date/Time:	Date/Time:

Columbia Analytical Services, Inc.
Cooler Receipt and Preservation Form

PC 44

Client / Project: URS Service Request K09 09480

Received: 10/6/09 Opened: 10/6/09 By: 77

1. Samples were received via? *US Mail* *Fed Ex* *UPS* *DHL* *GH* *GS* *PDX* (Courier) *Hand Delivered*
2. Samples were received in: (circle) (Cooler) *Box* *Envelope* *Other* _____ *NA*
3. Were custody seals on coolers? NA (Y) N If yes, how many and where? 1 front
   If present, were custody seals intact? (Y) N If present, were they signed and dated? (Y) N
4. Is shipper's air-bill filed? If not, record air-bill number: 1 of 2 per cust seal - WA cooler (NA) Y N
   2 of 2 per custody seal
5. **Temperature of cooler(s) upon receipt (°C):** 0.0 0.7
   Temperature Blank (°C): 2.6 1.2
   Thermometer ID: 271 266
6. If applicable, list Chain of Custody Numbers:
7. Packing material used. *Inserts* (Baggies) *Bubble Wrap* *Gel Packs* (Wet Ice) *Sleeves* *Other* _____
8. Were custody papers properly filled out (ink, signed, etc.)? NA (Y) N
9. **Did all bottles arrive in good condition (unbroken)?** *Indicate in the table below.* NA (Y) N
10. Were all sample labels complete (i.e analysis, preservation, etc.)? NA (Y) N
11. Did all sample labels and tags agree with custody papers? *Indicate in the table below* NA (Y) N
12. **Were appropriate bottles/containers and volumes received for the tests indicated?** NA (Y) N
13. Were the pH-preserved bottles tested* received at the appropriate pH? *Indicate in the table below* (NA) Y N
14. Were VOA vials received without headspace? *Indicate in the table below.* (NA) Y N
15. **Are CWA Microbiology samples received with >1/2 the 24hr. hold time remaining from collection?** (NA) Y N
16. Was C12/Res negative? (NA) Y N

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Sample ID	Bottle Count Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

*Does not include all pH preserved sample aliquots received. See sample receiving SOP (SMO-GEN).

Additional Notes, Discrepancies, & Resolutions:

Columbia Analytical Services, Inc.
Cooler Receipt and Preservation Form

PC_____

Client / Project: URS / Moffett Mgp Service Request K09_____

Received: 10/7/09 Opened: 10/7/09 By: TJ

1. Samples were received via? *US Mail* *Fed Ex* *UPS* *DHL* *GH* *GS* *PDX* (Courier) *Hand Delivered*
2. Samples were received in: (circle) (Cooler) *Box* *Envelope* *Other*_____ *NA*
3. Were custody seals on coolers? NA (Y) N If yes, how many and where? 1 F-on-T
   If present, were custody seals intact? (Y) N If present, were they signed and dated? Y N
4. Is shipper's air-bill filed? If not, record air-bill number: 2 of 2 per custody seal (NA) Y N
   1 of 2 per custody seal
5. **Temperature of cooler(s) upon receipt (°C):** -0.3 -0.7 _____ _____
   Temperature Blank (°C): 0.9 0.7 _____ _____
   Thermometer ID: 209 275 _____ _____
6. If applicable, list Chain of Custody Numbers: / / _____ _____
7. Packing material used. *Inserts* (Baggies) *Bubble Wrap* *Gel Packs* (Wet Ice) *Sleeves* *Other*_____
8. Were custody papers properly filled out (ink, signed, etc.)? NA (Y) N
9. **Did all bottles arrive in good condition (unbroken)?** *Indicate in the table below.* NA (Y) N
10. Were all sample labels complete (i.e analysis, preservation, etc.)? NA (Y) N
11. Did all sample labels and tags agree with custody papers? *Indicate in the table below* *NA Y (N)
12. **Were appropriate bottles/containers and volumes received for the tests indicated?** NA (Y) N
13. Were the pH-preserved bottles tested* received at the appropriate pH? *Indicate in the table below* (NA) Y N
14. Were VOA vials received without headspace? *Indicate in the table below.* (NA) Y N
15. **Are CWA Microbiology samples received with >1/2 the 24hr. hold time remaining from collection?** (NA) Y N
16. Was C12/Res negative? (NA) Y N

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Sample ID	Bottle Count Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

*Does not include all pH preserved sample aliquots received. See sample receiving SOP (SMO-GEN).

Additional Notes, Discrepancies, & Resolutions: *Received samples not listed on COC: M-191-Z-B M-191-Z-C

Bioassay Aliquot [illegible]les - Mill Area 5 - D

1090939

Columbia Analytical Services
800.695.7222
www.caslab.com

Client: OfficeMax & URS Corporation

Bill to: OfficeMax

CHAIN of CUSTODY

Page 1 of 1

Project: Boise St Helens Pulp and Paper Mill - Sediment 2009

SR #

Project Manager: David Weatherby, URS Corporation

Telephone No. 503.222.7200

Fax No. 503.222.4292

Sample I.D.	Lab I.D.	Matrix	Date	Time	Number of Containers	Composite (1)	PAHs 8270 SIM	PCB's Aroclors	Total Metals (Sb, As, Cd, Pb, Hg, Se, and Zn)	TOC	Grain Size	Total Solids	Total Sulfides	Bulk Ammonia	Total Volatile Solids	Composite I.D.
M-3-5-D		Sediment	10/1/09	09:20	4	X										M-5-D
M-7-5-D				0950	4	X										M-5-D
M-13-5-D				1024	4	X										M-5-D
M-16-5-D				1045	4	X										M-5-D
M-19-5-D				1106	4	X										M-5-D
M-30-5-D				1255	4	X										M-5-D
M-36-5-D				1327	4	X										M-5-D
CLOSE	LOG IN				4	X										M-5-D
					4	X										M-5-D
					4	X										M-5-D

Sample Received Intact: Yes No

Temperature received: Ice No ice

RELINQUISHED BY:
Signature: Nicky Moody
Printed Name: NICKY MOODY
Firm: URS
Date/Time: 10/1/09 / 1630

RELINQUISHED BY: ~~Received by:~~
Signature: Tom Jones
Printed Name: John Jones
Firm: CAS
Date/Time: 10/2/09 0830

RELINQUISHED BY:
Signature:
Printed Name:
Firm:
Date/Time:

RELINQUISHED BY:
Signature:
Printed Name:
Firm:
Date/Time:

Special Instructions/Comments:

DO NOT FREEZE THESE SAMPLES

(1) Soft mix all the volume of 30 x 8 oz containers into one composite bioassay sample with Composite I.D. listed above.

(1) Homogenize all the volume of 10 x 2 oz into one composite with same Composite I.D.

Y0909139

Columbia Analytical Services™
800.695.7222
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Client: OfficeMax & URS Corporation

Bill to: OfficeMax

CHAIN of CUSTODY

Page 1 of 1

Project: Boise St Helens Pulp and Paper Mill - Sediment 2009

SR #

Project Manager: David Weatherby, URS Corporation

Telephone No. 503.222.7200

Fax No. 503.222.4292

Sample I.D.	Lab I.D.	Matrix	Date	Time	Number of Containers	Composite (1)	PAHs 8270 SIM	PCB's Aroclors	Total Metals (Sb, As, Cd, Pb, Hg, Se, and Zn)	TOC	Grain Size	Total Solids	Total Sulfides	Bulk Ammonia	Total Volatile Solids	Composite I.D.
M-42-5-D		Sediment	9/28/2009	10:05	4	X										M-5-D
M-40-5-D		Sediment	9/28/2009	10:43	4	X										M-5-D
M-39-5-D		Sediment	9/28/2009	11:07	4	X										M-5-D

HOLD LOG IN OPEN

Sample Received Intact: Yes No

Temperature received: 5.0°C (Ice) No ice

RELINQUISHED BY:
Signature:
Printed Name: Nicky Moody
Firm: URS
Date/Time: 9/28/09 5:30pm

~~**RELINQUISHED BY:** 9/29/09~~
Signature:
Printed Name: John Jones
Firm: CAS
Date/Time: 9/29/09 0730

RELINQUISHED BY:
Signature:
Printed Name:
Firm:
Date/Time:

RELINQUISHED BY:
Signature:
Printed Name:
Firm:
Date/Time:

Special Instructions/Comments:

DO NOT FREEZE THESE SAMPLES

(1) Soft mix all the volume of 30 x 8 oz containers into one composite bioassay sample with Composite I.D. listed above.

(1) Homogenize all the volume of 10 x 2 oz into one composite with same Composite I.D.

Columbia Analytical Services, Inc.
Cooler Receipt and Preservation Form

PC LH

Client / Project: Office Max - URS Service Request K09 0 9139

Received: 10/2/09 Opened: 10/2/09 By: TT

1. Samples were received via? *US Mail* *Fed Ex* *UPS* *DHL* *GH* *GS* 10/2/09 *PDX* (*Courier*) *Hand Delivered*
2. Samples were received in: (circle) (*Cooler*) *Box* *Envelope* *Other* _____ *NA*
3. Were custody seals on coolers? NA (Y) N If yes, how many and where? 1 front, 1 back
   If present, were custody seals intact? (Y) N If present, were they signed and dated? (Y) N
4. Is shipper's air-bill filed? If not, record air-bill number: _____ (NA) Y N

5. **Temperature of cooler(s) upon receipt (°C):**	0.9			
Temperature Blank (°C):	1.4			
Thermometer ID:	273			
6. If applicable, list Chain of Custody Numbers:				

7. Packing material used. *Inserts* *Baggies* *Bubble Wrap* *Gel Packs* *Wet Ice* *Sleeves* *Other* _____
8. Were custody papers properly filled out (ink, signed, etc.)? NA (Y) N
9. **Did all bottles arrive in good condition (unbroken)?** *Indicate in the table below.* NA (Y) N
10. Were all sample labels complete (i.e analysis, preservation, etc.)? NA (Y) N
11. Did all sample labels and tags agree with custody papers? *Indicate in the table below* *NA (Y) N 10/2/09
12. **Were appropriate bottles/containers and volumes received for the tests indicated?** NA (Y) N
13. Were the pH-preserved bottles tested* received at the appropriate pH? *Indicate in the table below* (NA) Y N
14. Were VOA vials received without headspace? *Indicate in the table below.* (NA) Y N
15. **Are CWA Microbiology samples received with >1/2 the 24hr. hold time remaining from collection?** (NA) Y N
16. Was C12/Res negative? (NA) Y N

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Sample ID	Bottle Count Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

*Does not include all pH preserved sample aliquots received. See sample receiving SOP (SMO-GEN).

Additional Notes, Discrepancies, & Resolutions: *Received 3 containers for each sample, COC shows 4. TT 10/2/09

Bioassay Aliquot Samples - Mill Area 4 - D – COMPLETE

K0909137

Columbia Analytical Services
800.695.7222
www.caslab.com

Client: OfficeMax & URS Corporation | Bill to: OfficeMax

Project Manager: David Weatherby, URS Corporation

CHAIN of CUSTODY

Page 1 of 1

Project: Boise St Helens Pulp and Paper Mill - Sediment 2009 | SR #

Telephone No. 503.222.7200 | Fax No. 503.222.4292

Sample I.D.	Lab I.D.	Matrix	Date	Time	Number of Containers	Composite (1)	PAHs 8270 SIM	PCB's Aroclors	Total Metals (Sb, As, Cd, Pb, Hg, Se, and Zn)	TOC	Grain Size	Total Solids	Total Sulfides	Bulk Ammonia	Total Volatile Solids	Composite I.D.
M-61-4-D	4	Sediment	9/29/09	08:50	4	X										M-4-D
M-67-4-D	5			09:08	4	X										M-4-D
M-74-4-D	6			09:26	4	X										M-4-D
M-76-4-D	7			09:56	4	X										M-4-D
M-81-4-D	8			10:15	4	X										M-4-D
M-87-4-D	9			10:35	4	X										M-4-D
M-95-4-D	10			11:00	4	X										M-4-D
– CLOSE LOG IN –					~~4~~	~~X~~										~~M-4-D~~
					~~4~~	~~X~~										~~M-4-D~~
					~~4~~	~~X~~										~~M-4-D~~

Sample Received Intact: Yes No

Temperature received: -0.4 (Ice) No ice

RELINQUISHED BY:
Signature: Nicky Moody
Printed Name: NICKY MOODY
Firm: URS
Date/Time: 9/29/09 5:30PM

~~**RELINQUISHED BY:**~~ 9/30/09
Signature: received by:
Printed Name: John Jones
Firm: CAS
Date/Time: 9/30/09 0820

RELINQUISHED BY:
Signature:
Printed Name:
Firm:
Date/Time:

RELINQUISHED BY:
Signature:
Printed Name:
Firm:
Date/Time:

Special Instructions/Comments:

DO NOT FREEZE THESE SAMPLES

(1) Soft mix all the volume of 30 x 8 oz containers into one composite bioassay sample with Composite I.D. listed above.

(1) Homogenize all the volume of 10 x 2 oz into one composite with same Composite I.D.

K090 9137

Columbia Analytical Services
800.695.7222
www.caslab.com

Client: OfficeMax & URS Corporation

Bill to: OfficeMax

CHAIN of CUSTODY

Page 1 of 1

Project: Boise St Helens Pulp and Paper Mill - Sediment 2009

SR #

Project Manager: David Weatherby, URS Corporation

Telephone No. 503.222.7200

Fax No. 503.222.4292

Sample I.D.	Lab I.D.	Matrix	Date	Time	Number of Containers	Composite (1)	PAHs 8270 SIM	PCB's Aroclors	Total Metals (Sb, As, Cd, Pb, Hg, Se, and Zn)	TOC	Grain Size	Total Solids	Total Sulfides	Bulk Ammonia	Total Volatile Solids	Composite I.D.
M-52-4-D		Sediment	9/28/2009	12:56	4	X										M-4-D
M-54-4-D		Sediment	9/28/2009	13:20	4	X										M-4-D
M-56-4-D		Sediment	9/28/2009	14:08	4	X										M-4-D
HOLD LOG IN OPEN																

Sample Received Intact: Yes No

Temperature received: 5.0°C (Ice) No ice

RELIQUISHED BY:
Signature:
Printed Name: Nicky Moody
Firm: URS
Date/Time: 9/28/09 5:30pm

RELIQUISHED BY: ~~RELIQUISHED BY:~~ Received by 9/29/09
Signature:
Printed Name: John Jones
Firm: CAS
Date/Time: 9/29/09 0733

RELIQUISHED BY:
Signature:
Printed Name:
Firm:
Date/Time:

RELIQUISHED BY:
Signature:
Printed Name:
Firm:
Date/Time:

Special Instructions/Comments:

DO NOT FREEZE THESE SAMPLES

(1) Soft mix all the volume of 30 x 8 oz containers into one composite bioassay sample with Composite I.D. listed above.

(1) Homogenize all the volume of 10 x 2 oz into one composite with same Composite I.D.

Columbia Analytical Services, Inc.
Cooler Receipt and Preservation Form

PC_____

Client / Project: URS Service Request K09

Received: 9/30/09 Opened: 9/30/09 By: TT

1. Samples were received via? *US Mail* *Fed Ex* *UPS* *DHL* *GH* *GS* (*PDX*) *Courier* *Hand Delivered*
2. Samples were received in: (circle) (*Cooler*) *Box* *Envelope* *Other*_____ *NA*
3. Were custody seals on coolers? NA (Y) N If yes, how many and where? 1 front
   If present, were custody seals intact? (Y) N If present, were they signed and dated? (Y) N
4. Is shipper's air-bill filed? If not, record air-bill number: contained A,B,C & Area 5 D (2 coolers) (NA) Y N
   (Area 4) and M-52-4-D, M-54-4-A, M-56-4-D and M-39-5-D, M-40-5-D, M-42-5-A
   contained all other D samples
5. **Temperature of cooler(s) upon receipt (°C):** -0.8 -0.4
   Temperature Blank (°C): / /
   Thermometer ID: 259 273
6. If applicable, list Chain of Custody Numbers:
7. Packing material used. *Inserts* (*Baggies*) (*Bubble Wrap*) *Gel Packs* (*Wet Ice*) *Sleeves* *Other*_____
8. Were custody papers properly filled out (ink, signed, etc.)? NA (Y) N
9. **Did all bottles arrive in good condition (unbroken)?** *Indicate in the table below.* NA (Y) N
10. Were all sample labels complete (i.e analysis, preservation, etc.)? NA (Y) N
11. Did all sample labels and tags agree with custody papers? *Indicate in the table below* *NA Y (N)
12. **Were appropriate bottles/containers and volumes received for the tests indicated?** NA (Y) N
13. Were the pH-preserved bottles tested* received at the appropriate pH? *Indicate in the table below* (NA) Y N
14. Were VOA vials received without headspace? *Indicate in the table below.* (NA) Y N
15. **Are CWA Microbiology samples received with >1/2 the 24hr. hold time remaining from collection?** (NA) Y N
16. Was C12/Res negative? (NA) Y N

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Sample ID	Bottle Count Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

*Does not include all pH preserved sample aliquots received. See sample receiving SOP (SMO-GEN).

*Additional Notes, Discrepancies, & Resolutions: *Received the following samples in 1st cooler not listed on COC: M-52-4-D, M-54-4-D, M-56-4-D and M-39-5-D, M-40-5-D and M-42-5-D

Incremental Samples - Mill Area 3 - C

K090936

Columbia Analytical Services
800.695.7222
www.caslab.com

Client: OfficeMax & URS Corporation | Bill to: OfficeMax

CHAIN of CUSTODY

Page _1_ of _1_

Project: Boise St Helens Pulp and Paper Mill - Sediment 2009 | SR #

Project Manager: David Weatherby, URS Corporation | Telephone No. 503.222.7200 | Fax No. 503.222.4292

Sample I.D.	Lab I.D.	Matrix	Date	Time	Number of Containers	MIS (1) (2)	Composite I.D.
M-31-5-C		Sediment	10.21.09 NM	1023	1	X	M-5-C
		Sediment			1	X	M-4-C
— CLOSE LOG IN —		Sediment			1	X	M-4-C
		Sediment			1	X	M-4-C
		Sediment			1	X	M-4-C
		Sediment			1	X	M-4-C
		Sediment			1	X	M-4-C
		Sediment			1	X	M-4-C
		Sediment			1	X	M-4-C
		Sediment			1	X	M-4-C
		Sediment			1	X	M-4-C
		Sediment			1	X	M-4-C
		Sediment			1	X	M-4-C
		Sediment			1	X	M-4-C
		Sediment			1	X	M-4-C
		Sediment			1	X	M-4-C
		Sediment			1	X	M-4-C
		Sediment			1	X	M-4-C
		Sediment			1	X	M-4-C
		Sediment			1	X	M-4-C
		Sediment			1	X	M-4-C

Sample Received Intact: Yes No | Temperature received: Ice No ice

RELIQUISHED BY:

Signature: [signature] | Printed Name: Nicky Moody | Firm: URS | Date/Time: 10.22.09 NM / 10.22.09 / 1130

RELIQUISHED BY:

Signature: [signature] | Printed Name: [illegible] | Firm: URS | Date/Time: 10/22/09 1330

RELIQUISHED BY:

Signature: | Printed Name: | Firm: | Date/Time:

RELIQUISHED BY:

Signature: | Printed Name: | Firm: | Date/Time:

Special Instructions/Comments:

Freeze containers upon arrival prior to completing MIS sub-sampling.
(1) Follow Appendix B of the FSP for the Guidance on Lab Prep to create the Composite Incremental Samples.
(2) Submittal of MIS sub-samples to Axys - See Composite Incremental COC.

Columbia Analytical Services, Inc.
Cooler Receipt and Preservation Form

PC_____

Client / Project: URS Service Request K09_____

Received: 10-22-09 Opened: 10-22-09 By: DW

1. Samples were received via? *US Mail* *Fed Ex* *UPS* *DHL* *GH* *GS* *PDX* (*Courier*) *Hand Deliver*
2. Samples were received in: (circle) (*Cooler*) *Box* *Envelope* *Other*_____ *NA*
3. Were custody seals on coolers? NA Y (N) If yes, how many and where?_____
   If present, were custody seals intact? Y (N) If present, were they signed and dated? Y (N)
4. Is shipper's air-bill filed? If not, record air-bill number:_____ (NA) Y

5. Temperature of cooler(s) upon receipt (°C): 0.6 0.9
   Temperature Blank (°C): 1.2 2.1
   Thermometer ID: 259 265
6. If applicable, list Chain of Custody Numbers:
7. Packing material used. *Inserts* (*Baggies*) *Bubble Wrap* *Gel Packs* (*Wet Ice*) *Sleeves* *Other*_____
8. Were custody papers properly filled out (ink, signed, etc.)? NA (Y)
9. Did all bottles arrive in good condition (unbroken)? *Indicate in the table below.* NA (Y)
10. Were all sample labels complete (i.e analysis, preservation, etc.)? NA (Y)
11. Did all sample labels and tags agree with custody papers? *Indicate in the table below* NA (Y)
12. Were appropriate bottles/containers and volumes received for the tests indicated? NA (Y)
13. Were the pH-preserved bottles tested* received at the appropriate pH? *Indicate in the table below* (NA) Y
14. Were VOA vials received without headspace? *Indicate in the table below.* (NA) Y
15. Are CWA Microbiology samples received with >1/2 the 24hr. hold time remaining from collection? (NA) Y
16. Was C12/Res negative? (NA) Y

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Sample ID	Bottle Count Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Tim

include all pH preserved sample aliquots received. See sample receiving SOP (SMO-GEN).

*Notes, Discrepancies, & Resolutions:*_____

Incremental Sar ... - Mill Area 5 - C

K0909136

Columbia Analytical Services	Client: OfficeMax & URS Corporation	Bill to: OfficeMax	CHAIN of CUSTODY	Page 1 of 1
800.695.7222 www.caslab.com	Project Manager: David Weatherby, URS Corporation		Project: Boise St Helens Pulp and Paper Mill - Sediment 2009	SR #
			Telephone No. 503.222.7200	Fax No. 503.222.4292

Sample I.D.	Lab I.D.	Matrix	Date	Time	Number of Containers	MIS (1) (2)	Composite I.D.
M-26-5-C		Sediment	10/5/09	0921	1	X	M-5-C
M-37-5-C		Sediment		0940	1	X	M-5-C
M-43-5-C		Sediment		0949	1	X	M-5-C
M-44-5-C		Sediment		1004	1	X	M-5-C
M-47-5-C		Sediment		1053	1	X	M-5-C
		Sediment			1	X	M-5-C
Keep Log in	open	Sediment			1	X	M-5-C
		Sediment			1	X	M-5-C
		Sediment			1	X	M-5-C
		Sediment			1	X	M-5-C
		Sediment			1	X	M-5-C
		Sediment			1	X	M-5-C
		Sediment			1	X	M-5-C
		Sediment			1	X	M-5-C
		Sediment			1	X	M-5-C
		Sediment			1	X	M-5-C
		Sediment			1	X	M-5-C
		Sediment			1	X	M-5-C
		Sediment			1	X	M-5-C
		Sediment			1	X	M-5-C
		Sediment			1	X	M-5-C
		Sediment			1	X	M-5-C

Sample Received Intact: Yes No

Temperature received: Ice No ice

RELINQUISHED BY:	RELINQUISHED BY: Received by: 10/6/09	RELINQUISHED BY:	RELINQUISHED BY:
Signature: Nicky Moody	Signature: John Jones	Signature:	Signature:
Printed Name: NICKY MOODY	Printed Name: John Jones	Printed Name:	Printed Name:
Firm: URS	Firm: CAS	Firm:	Firm:
Date/Time: 10.5.09 / 1640	Date/Time: 10/6/09 0905	Date/Time:	Date/Time:

Special Instructions/Comments:

Freeze containers upon arrival prior to completing MIS sub-sampling.
(1) Follow Appendix B of the FSP for the Guidance on Lab Prep to create the Composite Incremental Samples.
(2) Submittal of MIS sub-samples to Axys - See Composite Incremental COC.

PC LH

Columbia Analytical Services, Inc.
Cooler Receipt and Preservation Form

Client / Project: IRS Service Request K09 0936

Received: 10/6/09 Opened: 10/6/09 By: 77

1. Samples were received via? *US Mail* *Fed Ex* *UPS* *DHL* *GH* *GS* *PDX* (Courier) *Hand Delivered*
2. Samples were received in: (circle) (Cooler) *Box* *Envelope* *Other* _____ *NA*
3. Were custody seals on coolers? NA (Y) N If yes, how many and where? 1 front
   If present, were custody seals intact? (Y) N If present, were they signed and dated? (Y) N
4. Is shipper's air-bill filed? If not, record air-bill number: 1 of 2 per cust seal - White cooler (NA) Y N
   2 of 2 per custody seal
5. **Temperature of cooler(s) upon receipt (°C):** 0.0 0.7
   Temperature Blank (°C): 2.6 1.2
   Thermometer ID: 271 266
6. If applicable, list Chain of Custody Numbers:
7. Packing material used. *Inserts* (Baggies) *Bubble Wrap* *Gel Packs* (Wet Ice) *Sleeves* *Other* _____
8. Were custody papers properly filled out (ink, signed, etc.)? NA (Y) N
9. **Did all bottles arrive in good condition (unbroken)?** *Indicate in the table below.* NA (Y) N
10. Were all sample labels complete (i.e analysis, preservation, etc.)? NA (Y) N
11. Did all sample labels and tags agree with custody papers? *Indicate in the table below* NA (Y) N
12. **Were appropriate bottles/containers and volumes received for the tests indicated?** NA (Y) N
13. Were the pH-preserved bottles tested* received at the appropriate pH? *Indicate in the table below* (NA) Y N
14. Were VOA vials received without headspace? *Indicate in the table below.* (NA) Y N
15. **Are CWA Microbiology samples received with >1/2 the 24hr. hold time remaining from collection?** (NA) Y N
16. Was C12/Res negative? (NA) Y N

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Sample ID	Bottle Count Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

*Does not include all pH preserved sample aliquots received. See sample receiving SOP (SMO-GEN).

Additional Notes, Discrepancies, & Resolutions: _____

Incremental Sa[illegible]s - Mill Area 5 - C

K0909136

Columbia Analytical Services
800.695.7222
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CHAIN of CUSTODY

Page 1 of 1

Client: OfficeMax & URS Corporation

Bill to: OfficeMax

Project: Boise St Helens Pulp and Paper Mill - Sediment 2009

SR #

Project Manager: David Weatherby, URS Corporation

Telephone No. 503.222.7200 Fax No. 503.222.4292

Sample I.D.	Lab I.D.	Matrix	Date	Time	Number of Containers	MIS (1) (2)	Composite I.D.
~~M-5-M-5~~		Sediment			1	X	
M-13-5-C		Sediment	10/1/09	1026	1	X	M-5-C
M-16-5-C		Sediment		1047	1	X	M-5-C
M-19-5-C		Sediment		1108	1	X	M-5-C
M-30-5-C		Sediment		1156	1	X	M-5-C
M-36-5-C		Sediment		1328	1	X	M-5-C
M-2-5-C		Sediment		1416	1	X	M-5-C
M-4-5-C		Sediment		1430	1	X	M-5-C
M-9-5-C		Sediment		1506	1	X	M-5-C
M-8-5-C		Sediment		1521	1	X	M-5-C
— Keep Log		Sediment			1	X	M-5-C
IN OPEN —		Sediment			1	X	M-5-C
		Sediment			1	X	M-5-C
		Sediment			1	X	M-5-C
		Sediment			1	X	M-5-C
		Sediment			1	X	M-5-C
		Sediment			1	X	M-5-C
		Sediment			1	X	M-5-C
		Sediment			1	X	M-5-C
		Sediment			1	X	M-5-C
		Sediment			1	X	M-5-C

Sample Received Intact: Yes No

Temperature received: Ice No ice

RELINQUISHED BY:
Signature: Nicky Moody
Printed Name: NICKY MOODY
Firm: URS
Date/Time: 10/1/09 1630

RELINQUISHED BY: ~~RELINQUISHED BY:~~ 10/2/09
Signature: John Toms
Printed Name: John Toms
Firm: CAS
Date/Time: 10/2/09 0830

RELINQUISHED BY:
Signature:
Printed Name:
Firm:
Date/Time:

RELINQUISHED BY:
Signature:
Printed Name:
Firm:
Date/Time:

Special Instructions/Comments:

Freeze containers upon arrival prior to completing MIS sub-sampling.
(1) Follow Appendix B of the FSP for the Guidance on Lab Prep to create the Composite Incremental Samples.
(2) Submittal of MIS sub-samples to Axys - See Composite Incremental COC.

Columbia Analytical Services, Inc.
Cooler Receipt and Preservation Form

PC 4H

Client / Project: URS - Office Max Service Request K09 0913[illegible]

Received: 10/2/09 Opened: 10/2/09 By: TT

1. Samples were received via? *US Mail* *Fed Ex* *UPS* *DHL* *GH* *GS* (*PDX*) *Courier* *Hand Delivered*
2. Samples were received in: (circle) (*Cooler*) *Box* *Envelope* *Other* _____ *NA*
3. Were custody seals on coolers? NA (Y) N If yes, how many and where? 1 front 1 back
   If present, were custody seals intact? (Y) N If present, were they signed and dated? (Y) N
4. Is shipper's air-bill filed? If not, record air-bill number: _____ (NA) Y N

5. **Temperature of cooler(s) upon receipt (°C):** 0.3
   Temperature Blank (°C): 1.2
   Thermometer ID: 257
6. If applicable, list Chain of Custody Numbers: /
7. Packing material used. *Inserts* (*Baggies*) *Bubble Wrap* *Gel Packs* (*Wet Ice*) *Sleeves* *Other* _____
8. Were custody papers properly filled out (ink, signed, etc.)? NA (Y) N
9. **Did all bottles arrive in good condition (unbroken)?** *Indicate in the table below.* NA (Y) N
10. Were all sample labels complete (i.e analysis, preservation, etc.)? NA (Y) N
11. Did all sample labels and tags agree with custody papers? *Indicate in the table below* NA (Y) N
12. **Were appropriate bottles/containers and volumes received for the tests indicated?** NA (Y) N
13. Were the pH-preserved bottles tested* received at the appropriate pH? *Indicate in the table below* (NA) Y N
14. Were VOA vials received without headspace? *Indicate in the table below.* (NA) Y N
15. **Are CWA Microbiology samples received with >1/2 the 24hr. hold time remaining from collection?** (NA) Y N
16. Was C12/Res negative? (NA) Y N

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Sample ID	Bottle Count Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

*Does not include all pH preserved sample aliquots received. See sample receiving SOP (SMO-GEN).

Additional Notes, Discrepancies, & Resolutions: _____

1090936

Columbia Analytical Services
800.695.7222
www.caslab.com

CHAIN of CUSTODY

Page 1 of 1

Client: OfficeMax & URS Corporation | Bill to: OfficeMax | Project: Boise St Helens Pulp and Paper Mill - Sediment 2009 | SR #

Project Manager: David Weatherby, URS Corporation | Telephone No. 503.222.7200 | Fax No. 503.222.4292

Sample I.D.	Lab I.D.	Matrix	Date	Time	Number of Containers	MIS (1) (2)	Composite I.D.
M-11-5-C		Sediment	10.2.09	0826	1	X	M-5-C
M-14-5-C		Sediment		0851	1	X	M-5-C
M-17-5-C		Sediment		0952	1	X	M-5-C
M-22-5-C		Sediment		1024	1	X	M-5-C
M-23-5-C		Sediment		1036	1	X	M-5-C
M-25-5-C		Sediment		1056	1	X	M-5-C
M-24-5-C		Sediment		1253	1	X	M-5-C
M-27-5-C		Sediment		1309	1	X	M-5-C
M-29-5-C		Sediment		1323	1	X	M-5-C
M-32-5-C		Sediment		1336	1	X	M-5-C
M-34-5-C		Sediment		1350	1	X	M-5-C
M-6-5-C		Sediment		1500	1	X	M-5-C
		Sediment			1	X	M-5-C
		Sediment			1	X	M-5-C
		Sediment			1	X	M-5-C
		Sediment			1	X	M-5-C
		Sediment			1	X	M-5-C
		Sediment			1	X	M-5-C
		Sediment			1	X	M-5-C
		Sediment			1	X	M-5-C
		Sediment			1	X	M-5-C

Sample Received Intact: Yes No | Temperature received: Ice No ice

RELIQUISHED BY:
Signature: Nicky Moody
Printed Name: NICKY MOODY
Firm: URS
Date/Time: 10.2.09 / 1800

~~RELIQUISHED BY:~~ 10/2/09
Signature: Received by: John Jones
Printed Name: John Jones
Firm: CAS
Date/Time: 10/2/09 1720

RELIQUISHED BY:
Signature:
Printed Name:
Firm:
Date/Time:

RELIQUISHED BY:
Signature:
Printed Name:
Firm:
Date/Time:

Special Instructions/Comments:

Freeze containers upon arrival prior to completing MIS sub-sampling.
(1) Follow Appendix B of the FSP for the Guidance on Lab Prep to create the Composite Incremental Samples.
(2) Submittal of MIS sub-samples to Axys - See Composite Incremental COC.

Columbia Analytical Services, Inc.
Cooler Receipt and Preservation Form

PC_____

Client / Project: URS Service Request K09_____

Received: 10/2/09 Opened:_____ By: TT / DW

1. Samples were received via? *US Mail* *Fed Ex* *UPS* *DHL* *GH* *GS* *PDX* (*Courier*) *Hand Delivered*
2. Samples were received in: (circle) (*Cooler*) *Box* *Envelope* *Other*_____ *NA*
3. Were custody seals on coolers? NA (Y) N If yes, how many and where? 1 front 1 back
   If present, were custody seals intact? (Y) N If present, were they signed and dated? (Y) N
4. Is shipper's air-bill filed? If not, record air-bill number:_____ (NA) Y N

5. **Temperature of cooler(s) upon receipt (°C):** -0.6
   Temperature Blank (°C): 0.7
   Thermometer ID: 258
6. If applicable, list Chain of Custody Numbers:
7. Packing material used. *Inserts* *Baggies* *Bubble Wrap* *Gel Packs* *Wet Ice* *Sleeves* *Other*_____
8. Were custody papers properly filled out (ink, signed, etc.)? NA (Y) N
9. **Did all bottles arrive in good condition (unbroken)?** *Indicate in the table below.* NA (Y) N
10. Were all sample labels complete (i.e analysis, preservation, etc.)? NA (Y) N
11. Did all sample labels and tags agree with custody papers? *Indicate in the table below* NA (Y) N
12. **Were appropriate bottles/containers and volumes received for the tests indicated?** NA (Y) N
13. Were the pH-preserved bottles tested* received at the appropriate pH? *Indicate in the table below* (NA) Y N
14. Were VOA vials received without headspace? *Indicate in the table below.* (NA) Y N
15. **Are CWA Microbiology samples received with >1/2 the 24hr. hold time remaining from collection?** (NA) Y N
16. Was C12/Res negative? (NA) Y N

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Sample ID	Bottle Count Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

*Does not include all pH preserved sample aliquots received. See sample receiving SOP (SMO-GEN).

*Additional Notes, Discrepancies, & Resolutions:*_____

K0909136

Columbia Analytical Services
800.695.7222
www.caslab.com

Client: OfficeMax & URS Corporation

Bill to: OfficeMax

CHAIN of CUSTODY

Page 1 of 1

Project: Boise St Helens Pulp and Paper Mill - Sediment 2009

SR #

Project Manager: David Weatherby, URS Corporation

Telephone No. 503.222.7200

Fax No. 503.222.4292

Sample I.D.	Lab I.D.	Matrix	Date	Time	Number of Containers	MIS (1) (2)	Composite I.D.
M-39-5-C		Sediment	9/28/2009	11:09	1	X	M-5-C
M-46-5-C		Sediment	9/28/2009	11:25	1	X	M-5-C
M-49-5-C		Sediment	9/28/2009	11:55	1	X	M-5-C
HOLD LOG IN OPEN							

Sample Received Intact: (Yes) No

Temperature received: 1.5°C (Ice) No ice

RELINQUISHED BY:
Signature: [signature]
Printed Name: Nicky Moody
Firm: URS
Date/Time: 9/28/09 5:30pm

RELINQUISHED BY: ~~9/29/09~~
Signature: Received by [signature]
Printed Name: John Jones
Firm: CAS
Date/Time: 9/29/09 0930

RELINQUISHED BY:
Signature:
Printed Name:
Firm:
Date/Time:

RELINQUISHED BY:
Signature:
Printed Name:
Firm:
Date/Time:

Special Instructions/Comments:

Freeze containers upon arrival prior to completing MIS sub-sampling.
(1) Follow Appendix B of the FSP for the Guidance on Lab Prep to create the Composite Incremental Samples.
(2) Submittal of MIS sub-samples to Axys - See Composite Incremental COC.

Columbia Analytical Services, Inc.
Cooler Receipt and Preservation Form

PC LH

Client / Project: URS Corp / Boise St Helens Service Request K09 09136

Received: 9/29/09 Opened: 9/29/09 By: TT

1. Samples were received via? *US Mail* *Fed Ex* *UPS* *DHL* *GH* *GS* *PDX* (Courier) *Hand Delivered*
2. Samples were received in: (circle) (Cooler) *Box* *Envelope* *Other* _____ *NA*
3. Were custody seals on coolers? NA Y (N) If yes, how many and where? NA
   If present, were custody seals intact? ~~Y~~ ~~N~~ NA If present, were they signed and dated? ~~Y~~ ~~N~~
4. Is shipper's air-bill filed? If not, record air-bill number: Red Cooler - samples A thru C (NA) Y N
   Blue cooler - Contained D samples

5. **Temperature of cooler(s) upon receipt (°C):**	3.4	5.0		
Temperature Blank (°C):	1.5	9.8		
Thermometer ID:	273	261		
6. If applicable, list Chain of Custody Numbers:				
7. Packing material used. *Inserts* *Baggies* (Bubble Wrap) *Gel Packs* (Wet Ice) *Sleeves* *Other* _____				

8. Were custody papers properly filled out (ink, signed, etc.)?	NA	(Y)	N
9. **Did all bottles arrive in good condition (unbroken)?** *Indicate in the table below.*	NA	(Y)	N
10. Were all sample labels complete (i.e analysis, preservation, etc.)?	NA	(Y)	N
11. Did all sample labels and tags agree with custody papers? *Indicate in the table below*	*NA	(Y) 11 9/29/09	(N)
12. **Were appropriate bottles/containers and volumes received for the tests indicated?**	NA	(Y)	N
13. Were the pH-preserved bottles tested* received at the appropriate pH? *Indicate in the table below*	(NA)	Y	N
14. Were VOA vials received without headspace? *Indicate in the table below.*	(NA)	Y	N
15. **Are CWA Microbiology samples received with >1/2 the 24hr. hold time remaining from collection?**	(NA)	Y	N
16. Was C12/Res negative?	(NA)	Y	N

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Sample ID	Bottle Count Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

*Does not include all pH preserved sample aliquots received. See sample receiving SOP (SMO-GEN).

Additional Notes, Discrepancies, & Resolutions: * For D samples we received 3 x 8oz jars for samples: M-42-5-D, M-40-5-D, M-39-5-D, M-52-4-D, M-54-4-D, M-56-4-D did not receive 2oz jars, did not receive samples M-5-D, M-4-D, M-3-D, M-2-D M-2-2D, M-1-D, B-1-D

Incremental Samples - Mill Area 5 - B

10909135

Columbia Analytical Services 800.695.7222 www.caslab.com	Client: OfficeMax & URS Corporation	Bill to: OfficeMax	CHAIN of CUSTODY	Page _1_ of _1_
	Project Manager: David Weatherby, URS Corporation		Project: Boise St Helens Pulp and Paper Mill - Sediment 2009 Telephone No. 503.222.7200 Fax No. 503.222.4292	SR #

Sample I.D.	Lab I.D.	Matrix	Date (10.21.09)	Time	Number of Containers	MIS (1) (2)	Composite I.D.
M-28-5-B		Sediment	NM ~~10.21.09~~	1004	1	X	M-~~4~~B 5-B
M-33-5-B		Sediment	↓ ↓	1042	1	X	M-~~4~~B ↓
		Sediment			1	X	M-~~4~~B
- CLOSE LOG IN -		Sediment			1	X	M-~~4~~B
		Sediment			1	X	M-4-B
		Sediment			1	X	M-~~4~~B
		Sediment			1	X	M-~~4~~B
		Sediment			1	X	M-~~4~~B
		Sediment			1	X	M-4-B
		Sediment			1	X	M-4-B
		Sediment			1	X	M-~~4~~B
		Sediment			1	X	M-~~4~~B
		Sediment			1	X	M-~~4~~B
		Sediment			1	X	M-~~4~~B
		Sediment			1	X	M-~~4~~B
		Sediment			1	X	M-~~4~~B
		Sediment			1	X	M-~~4~~B
		Sediment			1	X	M-~~4~~B
		Sediment			1	X	M-~~4~~B
		Sediment			1	X	M-~~4~~B
		Sediment			1	X	M-~~4~~B

Sample Received Intact: Yes No

Temperature received: Ice No ice

RELIQUISHED BY:	RELIQUISHED BY:	RELIQUISHED BY:	RELIQUISHED BY:
Signature:	Signature:	Signature:	Signature:
Printed Name: Nicky Moody	Printed Name:	Printed Name:	Printed Name:
Firm: URS	Firm:	Firm:	Firm:
Date/Time: ~~10.21.09~~ NM	Date/Time: 10/22/09 1330	Date/Time:	Date/Time:

10.22.09/1130

Special Instructions/Comments:

Freeze containers upon arrival prior to completing MIS sub-sampling.
(1) Follow Appendix B of the FSP for the Guidance on Lab Prep to create the Composite Incremental Samples.
(2) Submittal of MIS sub-samples to Axys - See Composite Incremental COC.

Columbia Analytical Services, Inc.
Cooler Receipt and Preservation Form

PC_____

Client / Project: URS Service Request K09_____

Received: 10-22-09 Opened: 10-22-09 By: DW

1. Samples were received via? *US Mail* *Fed Ex* *UPS* *DHL* *GH* *GS* *PDX* (*Courier*) *Hand Deliver*
2. Samples were received in: (circle) (*Cooler*) *Box* *Envelope* *Other*_____ *NA*
3. Were custody seals on coolers? NA Y (N) If yes, how many and where?_____
   If present, were custody seals intact? Y (N) If present, were they signed and dated? Y (N)
4. Is shipper's air-bill filed? If not, record air-bill number:_____ (NA) Y

5. Temperature of cooler(s) upon receipt (°C):	0.6	0.9		
Temperature Blank (°C):	1.2	2.1		
Thermometer ID:	259	265		
6. If applicable, list Chain of Custody Numbers:				

7. Packing material used. *Inserts* (*Baggies*) *Bubble Wrap* *Gel Packs* (*Wet Ice*) *Sleeves* *Other*_____
8. Were custody papers properly filled out (ink, signed, etc.)? NA (Y)
9. Did all bottles arrive in good condition (unbroken)? *Indicate in the table below.* NA (Y)
10. Were all sample labels complete (i.e analysis, preservation, etc.)? NA (Y)
11. Did all sample labels and tags agree with custody papers? *Indicate in the table below* NA (Y)
12. Were appropriate bottles/containers and volumes received for the tests indicated? NA (Y)
13. Were the pH-preserved bottles tested* received at the appropriate pH? *Indicate in the table below* (NA) Y
14. Were VOA vials received without headspace? *Indicate in the table below.* (NA) Y
15. Are CWA Microbiology samples received with >1/2 the 24hr. hold time remaining from collection? (NA) Y
16. Was Cl2/Res negative? (NA) Y

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Sample ID	Bottle Count Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Tim

Include all pH preserved sample aliquots received. See sample receiving SOP (SMO-GEN).

*Notes, Discrepancies, & Resolutions:*_____

1609 0935

Columbia Analytical Services
800.695.7222
www.caslab.com

Client: OfficeMax & URS Corporation

Bill to: OfficeMax

CHAIN of CUSTODY

Page 1 of 1

Project: Boise St Helens Pulp and Paper Mill - Sediment 2009

SR #

Project Manager: David Weatherby, URS Corporation

Telephone No. 503.222.7200

Fax No. 503.222.4292

Sample I.D.	Lab I.D.	Matrix	Date	Time	Number of Containers	MIS (1) (2)										Composite I.D.
M-18-5-B		Sediment	10/5/09	0848	1	X										M-5-B
M-20-5-B		Sediment		0907	1	X										M-5-B
M-26-5-B		Sediment		0920	1	X										M-5-B
M-43-5-B		Sediment		0948	1	X										M-5-B
M-44-5-B		Sediment		1003	1	X										M-5-B
M-47-5-B		Sediment		1052	1	X										M-5-B
M-48-5-B		Sediment		1109	1	X										M-5-B
M-50-5-B		Sediment		1118	1	X										M-5-B
		Sediment			1	X										M-5-B
Keep Log in open		Sediment			1	X										M-5-B
		Sediment			1	X										M-5-B
		Sediment			1	X										M-5-B
		Sediment			1	X										M-5-B
		Sediment			1	X										M-5-B
		Sediment			1	X										M-5-B
		Sediment			1	X										M-5-B
		Sediment			1	X										M-5-B
		Sediment			1	X										M-5-B
		Sediment			1	X										M-5-B
		Sediment			1	X										M-5-B
		Sediment			1	X										M-5-B

Sample Received Intact: Yes No

Temperature received: Ice No ice

RELIQUISHED BY:
Signature: Micky Moody
Printed Name: Micky Moody
Firm: URS
Date/Time: 10.5.09 / 1640

RELIQUISHED BY: ~~RELIQUISHED BY:~~ Received by:
Signature: John Jones
Printed Name: John Jones
Firm: CAS
Date/Time: 10/6/09 0905

RELIQUISHED BY:
Signature:
Printed Name:
Firm:
Date/Time:

RELIQUISHED BY:
Signature:
Printed Name:
Firm:
Date/Time:

Special Instructions/Comments:

Freeze containers upon arrival prior to completing MIS sub-sampling.
(1) Follow Appendix B of the FSP for the Guidance on Lab Prep to create the Composite Incremental Samples.
(2) Submittal of MIS sub-samples to Axys - See Composite Incremental COC.

Columbia Analytical Services, Inc.
Cooler Receipt and Preservation Form

PC LA

Client / Project: URS Service Request K09 09135

Received: 10/6/09 Opened: 10/6/09 By: TT

1. Samples were received via? *US Mail* *Fed Ex* *UPS* *DHL* *GH* *GS* *PDX* (Courier) *Hand Delivered*
2. Samples were received in: (circle) (Cooler) *Box* *Envelope* *Other* _____ *NA*
3. Were custody seals on coolers? NA (Y) N If yes, how many and where? 1 front
   If present, were custody seals intact? (Y) N If present, were they signed and dated? (Y) N
4. Is shipper's air-bill filed? If not, record air-bill number: 1 of 2 per cust seal - WWTF cooler (NA) Y N
   2 of 2 per custody seal

5. **Temperature of cooler(s) upon receipt (°C):**	0.0	0.7		
Temperature Blank (°C):	2.6	1.2		
Thermometer ID:	271	266		
6. If applicable, list Chain of Custody Numbers:				

7. Packing material used. *Inserts* (Baggies) *Bubble Wrap* *Gel Packs* (Wet Ice) *Sleeves* *Other* _____

8. Were custody papers properly filled out (ink, signed, etc.)?	NA	(Y)	N
9. **Did all bottles arrive in good condition (unbroken)?** *Indicate in the table below.*	NA	(Y)	N
10. Were all sample labels complete (i.e analysis, preservation, etc.)?	NA	(Y)	N
11. Did all sample labels and tags agree with custody papers? *Indicate in the table below*	NA	(Y)	N
12. **Were appropriate bottles/containers and volumes received for the tests indicated?**	NA	(Y)	N
13. Were the pH-preserved bottles tested* received at the appropriate pH? *Indicate in the table below*	(NA)	Y	N
14. Were VOA vials received without headspace? *Indicate in the table below.*	(NA)	Y	N
15. **Are CWA Microbiology samples received with >1/2 the 24hr. hold time remaining from collection?**	(NA)	Y	N
16. Was C12/Res negative?	(NA)	Y	N

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Sample ID	Bottle Count Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

*Does not include all pH preserved sample aliquots received. See sample receiving SOP (SMO-GEN).

Additional Notes, Discrepancies, & Resolutions: _____

K0909135

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Client: OfficeMax & URS Corporation | Bill to: OfficeMax

CHAIN of CUSTODY

Page 1 of 1

Project: Boise St Helens Pulp and Paper Mill - Sediment 2009 | SR #

Project Manager: David Weatherby, URS Corporation | Telephone No. 503.222.7200 | Fax No. 503.222.4292

Sample I.D.	Lab I.D.	Matrix	Date	Time	Number of Containers	MIS (1) (2)	Composite I.D.
M-12-5-B		Sediment	10.2.09	0839	1	X	M-5-B
M-14-5-B		Sediment		0850	1	X	M-5-B
M-15-5-B		Sediment		0930	1	X	M-5-B
M-22-5-B		Sediment		1023	1	X	M-5-B
M-23-5-B		Sediment		1035	1	X	M-5-B
M-25-5-B		Sediment		1055	1	X	M-5-B
M-21-5-B		Sediment		1237	1	X	M-5-B
M-24-5-B		Sediment		1252	1	X	M-5-B
M-34-5-B		Sediment		1349	1	X	M-5-B
M-35-5-B		Sediment		1416	1	X	M-5-B
M-10-5-B		Sediment		1448	1	X	M-5-B
~~M-30-5-B~~		Sediment			1	X	M-5-B
M-6-5-B		Sediment	↓	1459	1	X	M-5-B
		Sediment			1	X	M-5-B
		Sediment			1	X	M-5-B
		Sediment			1	X	M-5-B
		Sediment			1	X	M-5-B
		Sediment			1	X	M-5-B
		Sediment			1	X	M-5-B
		Sediment			1	X	M-5-B
		Sediment			1	X	M-5-B

Sample Received Intact: Yes No | Temperature received: Ice No ice

RELIQUISHED BY:
Signature: Micky Moody
Printed Name: MICKY MOODY
Firm: URS
Date/Time: 10.2.09 / 1600

~~**RELIQUISHED BY:** 10/2/09~~
Received by:
Signature: John Jones
Printed Name: John Jones
Firm: CAS
Date/Time: 10/2/09 1720

RELIQUISHED BY:
Signature:
Printed Name:
Firm:
Date/Time:

RELIQUISHED BY:
Signature:
Printed Name:
Firm:
Date/Time:

Special Instructions/Comments:

Freeze containers upon arrival prior to completing MIS sub-sampling.
(1) Follow Appendix B of the FSP for the Guidance on Lab Prep to create the Composite Incremental Samples.
(2) Submittal of MIS sub-samples to Axys - See Composite Incremental COC.

Columbia Analytical Services, Inc.
Cooler Receipt and Preservation Form

PC_____

Client / Project: URS Service Request K09_____

Received: 10/2/09 Opened:_____ By: TT / KW

1. Samples were received via? *US Mail* *Fed Ex* *UPS* *DHL* *GH* *GS* *PDX* *Courier* *Hand Delivered*
2. Samples were received in: (circle) *Cooler* *Box* *Envelope* *Other*_____ *NA*
3. Were custody seals on coolers? NA (Y) N If yes, how many and where? 1 front 1 back
   If present, were custody seals intact? (Y) N If present, were they signed and dated? (Y) N
4. Is shipper's air-bill filed? If not, record air-bill number:_____ (NA) Y N

5. **Temperature of cooler(s) upon receipt (°C):** -0.6
   Temperature Blank (°C): 0.7
   Thermometer ID: 258
6. If applicable, list Chain of Custody Numbers:
7. Packing material used. *Inserts* *Baggies* *Bubble Wrap* *Gel Packs* *Wet Ice* *Sleeves* *Other*_____
8. Were custody papers properly filled out (ink, signed, etc.)? NA (Y) N
9. **Did all bottles arrive in good condition (unbroken)?** *Indicate in the table below.* NA (Y) N
10. Were all sample labels complete (i.e analysis, preservation, etc.)? NA (Y) N
11. Did all sample labels and tags agree with custody papers? *Indicate in the table below* NA (Y) N
12. **Were appropriate bottles/containers and volumes received for the tests indicated?** NA (Y) N
13. Were the pH-preserved bottles tested* received at the appropriate pH? *Indicate in the table below* (NA) Y N
14. Were VOA vials received without headspace? *Indicate in the table below.* (NA) Y N
15. **Are CWA Microbiology samples received with >1/2 the 24hr. hold time remaining from collection?** (NA) Y N
16. Was C12/Res negative? (NA) Y N

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Sample ID	Bottle Count Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

*Does not include all pH preserved sample aliquots received. See sample receiving SOP (SMO-GEN).

*Additional Notes, Discrepancies, & Resolutions:*_____

K0909135

Columbia Analytical Services
800.695.7222
www.caslab.com

Client: OfficeMax & URS Corporation

Bill to: OfficeMax

CHAIN of CUSTODY

Page 1 of 1

Project: Boise St Helens Pulp and Paper Mill - Sediment 2009

SR #

Project Manager: David Weatherby, URS Corporation

Telephone No. 503.222.7200

Fax No. 503.222.4292

Sample I.D.	Lab I.D.	Matrix	Date	Time	Number of Containers	MIS (1) (2)									Composite I.D.
M-3-5-B		Sediment	10/1/09	922	1	X									M-5-B
M-7-5-B		Sediment		952	1	X									M-5-B
M-13-5-B		Sediment		1025	1	X									M-5-B
M-4-5-B		Sediment		1429	1	X									M-5-B
M-5-5-B		Sediment	↓	1450	1	X									M-5-B
		Sediment			1	X									M-5-B
—Keep Log IN open—		Sediment			1	X									M-5-B
		Sediment			1	X									M-5-B
		Sediment			1	X									M-5-B
		Sediment			1	X									M-5-B
		Sediment			1	X									M-5-B
		Sediment			1	X									M-5-B
		Sediment			1	X									M-5-B
		Sediment			1	X									M-5-B
		Sediment			1	X									M-5-B
		Sediment			1	X									M-5-B
		Sediment			1	X									M-5-B
		Sediment			1	X									M-5-B
		Sediment			1	X									M-5-B
		Sediment			1	X									M-5-B
		Sediment			1	X									M-5-B

Sample Received Intact: Yes No

Temperature received: Ice No ice

RELINQUISHED BY:
Signature: Micky Moody
Printed Name: Micky Moody
Firm: URS
Date/Time: 10/1/09 1630

RELINQUISHED BY: Received by
Signature: John Jones
Printed Name: John Jones
Firm: CAS
Date/Time: 10/2/09 0830

RELINQUISHED BY:
Signature:
Printed Name:
Firm:
Date/Time:

RELINQUISHED BY:
Signature:
Printed Name:
Firm:
Date/Time:

Special Instructions/Comments:

Freeze containers upon arrival prior to completing MIS sub-sampling.
(1) Follow Appendix B of the FSP for the Guidance on Lab Prep to create the Composite Incremental Samples.
(2) Submittal of MIS sub-samples to Axys - See Composite Incremental COC.

Columbia Analytical Services, Inc.
Cooler Receipt and Preservation Form

PC L41

Client / Project: URS - Office Max Service Request K09 09135

Received: 10/2/09 Opened: 10/2/09 By: TT

1. Samples were received via? *US Mail* *Fed Ex* *UPS* *DHL* *GH* *GS* (*PDX*) *Courier* *Hand Delivered*
2. Samples were received in: (circle) (*Cooler*) *Box* *Envelope* *Other* _____ *NA*
3. Were custody seals on coolers? NA (Y) N If yes, how many and where? 1 front 1 back
   If present, were custody seals intact? (Y) N If present, were they signed and dated? (Y) N
4. Is shipper's air-bill filed? If not, record air-bill number: _____ (NA) Y N

5. **Temperature of cooler(s) upon receipt (°C):** 0.3
   Temperature Blank (°C): 1.2
   Thermometer ID: 257
6. If applicable, list Chain of Custody Numbers: /
7. Packing material used. *Inserts* (*Baggies*) *Bubble Wrap* *Gel Packs* (*Wet Ice*) *Sleeves* *Other* _____
8. Were custody papers properly filled out (ink, signed, etc.)? NA (Y) N
9. **Did all bottles arrive in good condition (unbroken)?** *Indicate in the table below.* NA (Y) N
10. Were all sample labels complete (i.e analysis, preservation, etc.)? NA (Y) N
11. Did all sample labels and tags agree with custody papers? *Indicate in the table below* NA (Y) N
12. **Were appropriate bottles/containers and volumes received for the tests indicated?** NA (Y) N
13. Were the pH-preserved bottles tested* received at the appropriate pH? *Indicate in the table below* (NA) Y N
14. Were VOA vials received without headspace? *Indicate in the table below.* (NA) Y N
15. **Are CWA Microbiology samples received with >1/2 the 24hr. hold time remaining from collection?** (NA) Y N
16. Was C12/Res negative? (NA) Y N

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Sample ID	Bottle Count Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

*Does not include all pH preserved sample aliquots received. See sample receiving SOP (SMO-GEN).

Additional Notes, Discrepancies, & Resolutions: _____

K0909135

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CHAIN of CUSTODY

Page 1 of 1

Client: OfficeMax & URS Corporation

Bill to: OfficeMax

Project: Boise St Helens Pulp and Paper Mill - Sediment 2009

SR #

Project Manager: David Weatherby, URS Corporation

Telephone No. 503.222.7200

Fax No. 503.222.4292

Sample I.D.	Lab I.D.	Matrix	Date	Time	Number of Containers	MIS (1) (2)										Composite I.D.
M-42-5-B		Sediment	9/28/2009	10:07	1	X										M-5-B
M-40-5-B		Sediment	9/28/2009	10:45	1	X										M-5-B
M-45-5-B		Sediment	9/28/2009	11:47	1	X										M-5-B
HOLD LOG IN OPEN																

Sample Received Intact: (Yes) No

Temperature received: 1.5°C (Ice) No ice

RELIQUISHED BY:	~~RELIQUISHED BY:~~ Received by	RELIQUISHED BY:	RELIQUISHED BY:
Signature: Nicky Moody	Signature: John Jones	Signature:	Signature:
Printed Name: Nicky Moody	Printed Name: John Jones	Printed Name:	Printed Name:
Firm: URS	Firm: CAS	Firm:	Firm:
Date/Time: 9/28/09 5:30pm	Date/Time: 9/29/09 0730	Date/Time:	Date/Time:

Special Instructions/Comments:

Freeze containers upon arrival prior to completing MIS sub-sampling.
(1) Follow Appendix B of the FSP for the Guidance on Lab Prep to create the Composite Incremental Samples.
(2) Submittal of MIS sub-samples to Axys - See Composite Incremental COC.

Columbia Analytical Services, Inc.
Cooler Receipt and Preservation Form

PC LH

Client / Project: URS Corp / Boise St Heron Service Request K09 091135

Received: 9/29/09 Opened: 9/29/09 By: TT

1. Samples were received via? *US Mail* *Fed Ex* *UPS* *DHL* *GH* *GS* *PDX* (Courier) *Hand Delivered*
2. Samples were received in: (circle) (Cooler) *Box* *Envelope* *Other* _____ *NA*
3. Were custody seals on coolers? NA Y (N) If yes, how many and where? N/A
   If present, were custody seals intact? Y N N/A If present, were they signed and dated? Y N/A
4. Is shipper's air-bill filed? If not, record air-bill number: Red Cooler - samples A thru C (NA) Y N
   Blue cooler - Contained D samples

5. **Temperature of cooler(s) upon receipt (°C):**	3.4	5.0		
Temperature Blank (°C):	1.5	9.8		
Thermometer ID:	273	261		
6. If applicable, list Chain of Custody Numbers:				

7. Packing material used. *Inserts* *Baggies* (Bubble Wrap) *Gel Packs* (Wet Ice) *Sleeves* *Other* _____

8. Were custody papers properly filled out (ink, signed, etc.)?	NA	(Y)	N
9. **Did all bottles arrive in good condition (unbroken)?** *Indicate in the table below.*	NA	(Y)	N
10. Were all sample labels complete (i.e analysis, preservation, etc.)?	NA	(Y)	N
11. Did all sample labels and tags agree with custody papers? *Indicate in the table below*	*NA	(Y) 9/29/09	(N)
12. **Were appropriate bottles/containers and volumes received for the tests indicated?**	NA	(Y)	N
13. Were the pH-preserved bottles tested* received at the appropriate pH? *Indicate in the table below*	(NA)	Y	N
14. Were VOA vials received without headspace? *Indicate in the table below.*	(NA)	Y	N
15. **Are CWA Microbiology samples received with >1/2 the 24hr. hold time remaining from collection?**	(NA)	Y	N
16. Was C12/Res negative?	(NA)	Y	N

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Sample ID	Bottle Count Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

*Does not include all pH preserved sample aliquots received. See sample receiving SOP (SMO-GEN).

Additional Notes, Discrepancies, & Resolutions: * For D samples we received 3 x 8oz jars for samples: M-42-5-D, M-40-5-D, M-39-5-D, M-52-4-D, M-54-4-D, M-56-4-D did not receive 2oz jars, did not receive samples M-5-D, M-4-D, M-3-D, M-2-D M-2-2D, M-1-D, B-1-D

Incremental Samples - Mill Area 5 - A

10909134

CHAIN of CUSTODY

Page _1_ of _1_

Columbia Analytical Services
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Client: OfficeMax & URS Corporation
Bill to: OfficeMax
Project: Boise St Helens Pulp and Paper Mill - Sediment 2009
SR #
Project Manager: David Weatherby, URS Corporation
Telephone No. 503.222.7200
Fax No. 503.222.4292

Sample I.D.	Lab I.D.	Matrix	Date	Time	Number of Containers	MIS (1) (2)	Composite I.D.
M-28-5-A		Sediment	~~10.21.09~~ NM	1003	1	X	M-~~4~~A-5-A
M-31-5-A		Sediment		1022	1	X	M-4-A
		Sediment			1	X	M-4-A
- CLOSE LOG IN -		Sediment			1	X	M-4-A
		Sediment			1	X	M-4-A
		Sediment			1	X	M-4-A
		Sediment			1	X	M-4-A
		Sediment			1	X	M-4-A
		Sediment			1	X	M-4-A
		Sediment			1	X	M-4-A
		Sediment			1	X	M-4-A
		Sediment			1	X	M-4-A
		Sediment			1	X	M-4-A
		Sediment			1	X	M-4-A
		Sediment			1	X	M-4-A
		Sediment			1	X	M-4-A
		Sediment			1	X	M-4-A
		Sediment			1	X	M-4-A
		Sediment			1	X	M-4-A
		Sediment			1	X	M-4-A
		Sediment			1	X	M-4-A

Sample Received Intact: Yes No
Temperature received: Ice No ice

RELIQUISHED BY:
Signature:
Printed Name: NICKY MOODY
Firm: URS
Date/Time: ~~10.21.09~~ NM 10.22.09/1130

RELIQUISHED BY:
Signature:
Printed Name:
Firm:
Date/Time: 10/22/09 1330

RELIQUISHED BY:
Signature:
Printed Name:
Firm:
Date/Time:

RELIQUISHED BY:
Signature:
Printed Name:
Firm:
Date/Time:

Special Instructions/Comments:

Freeze containers upon arrival prior to completing MIS sub-sampling.
(1) Follow Appendix B of the FSP for the Guidance on Lab Prep to create the Composite Incremental Samples.
(2) Submittal of MIS sub-samples to Axys - See Composite Incremental COC.

Columbia Analytical Services, Inc.
Cooler Receipt and Preservation Form

PC_____

Client / Project: URS Service Request K09

Received: 10-22-09 Opened: 10-22-09 By: DW

1. Samples were received via? *US Mail* *Fed Ex* *UPS* *DHL* *GH* *GS* *PDX* (*Courier*) *Hand Delivered*
2. Samples were received in: (circle) (*Cooler*) *Box* *Envelope* *Other*_____ *NA*
3. Were custody seals on coolers? NA Y (N) If yes, how many and where?_____
   If present, were custody seals intact? Y (N) If present, were they signed and dated? Y (N)
4. Is shipper's air-bill filed? If not, record air-bill number: (NA) Y

5. Temperature of cooler(s) upon receipt (°C):	0.6	0.9		
Temperature Blank (°C):	1.2	2.1		
Thermometer ID:	259	265		
6. If applicable, list Chain of Custody Numbers:				

7. Packing material used. *Inserts* (*Baggies*) *Bubble Wrap* *Gel Packs* (*Wet Ice*) *Sleeves* *Other*_____
8. Were custody papers properly filled out (ink, signed, etc.)? NA (Y)
9. Did all bottles arrive in good condition (unbroken)? *Indicate in the table below.* NA (Y)
10. Were all sample labels complete (i.e analysis, preservation, etc.)? NA (Y)
11. Did all sample labels and tags agree with custody papers? *Indicate in the table below* NA (Y)
12. Were appropriate bottles/containers and volumes received for the tests indicated? NA (Y)
13. Were the pH-preserved bottles tested* received at the appropriate pH? *Indicate in the table below* (NA) Y
14. Were VOA vials received without headspace? *Indicate in the table below.* (NA) Y
15. Are CWA Microbiology samples received with >1/2 the 24hr. hold time remaining from collection? (NA) Y
16. Was C12/Res negative? (NA) Y

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Sample ID	Bottle Count Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Tim

include all pH preserved sample aliquots received. See sample receiving SOP (SMO-GEN).

*Notes, Discrepancies, & Resolutions:*_____

K0909134

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Client: OfficeMax & URS Corporation

Bill to: OfficeMax

CHAIN of CUSTODY

Page 1 of 1

Project: Boise St Helens Pulp and Paper Mill - Sediment 2009

SR #

Project Manager: David Weatherby, URS Corporation

Telephone No. 503.222.7200

Fax No. 503.222.4292

Sample I.D.	Lab I.D.	Matrix	Date	Time	Number of Containers	MIS (1) (2)	Composite I.D.
M-18-5-A		Sediment	10/5/09	0847	1	X	M-5-A
M-48-5-A		Sediment	↓	1108	1	X	M-5-A
M-50-5-A		Sediment	↓	1117	1	X	M-5-A
		Sediment			1	X	M-5-A
Keep Log in open.		Sediment			1	X	M-5-A
		Sediment			1	X	M-5-A
		Sediment			1	X	M-5-A
		Sediment			1	X	M-5-A
		Sediment			1	X	M-5-A
		Sediment			1	X	M-5-A
		Sediment			1	X	M-5-A
		Sediment			1	X	M-5-A
		Sediment			1	X	M-5-A
		Sediment			1	X	M-5-A
		Sediment			1	X	M-5-A
		Sediment			1	X	M-5-A
		Sediment			1	X	M-5-A
		Sediment			1	X	M-5-A
		Sediment			1	X	M-5-A
		Sediment			1	X	M-5-A
		Sediment			1	X	M-5-A
		Sediment			1	X	M-5-A
		Sediment			1	X	M-5-A

Sample Received Intact: Yes No

Temperature received: Ice No ice

RELINQUISHED BY:
Signature:
Printed Name: Nicky Moody
Firm: URS
Date/Time: 10.5.09 / 1640

RELINQUISHED BY: 10/6/09
Signature:
Printed Name: John Jones
Firm: CAS
Date/Time: 10/6/09 0905

RELINQUISHED BY:
Signature:
Printed Name:
Firm:
Date/Time:

RELINQUISHED BY:
Signature:
Printed Name:
Firm:
Date/Time:

Special Instructions/Comments:

Freeze containers upon arrival prior to completing MIS sub-sampling.
(1) Follow Appendix B of the FSP for the Guidance on Lab Prep to create the Composite Incremental Samples.
(2) Submittal of MIS sub-samples to Axys - See Composite Incremental COC.

Columbia Analytical Services, Inc.
Cooler Receipt and Preservation Form

PC 444

Client / Project: IRS Service Request K09 09134

Received: 10/6/09 Opened: 10/6/09 By: 77

1. Samples were received via? *US Mail* *Fed Ex* *UPS* *DHL* *GH* *GS* *PDX* (*Courier*) *Hand Delivered*
2. Samples were received in: (circle) (*Cooler*) *Box* *Envelope* *Other* _____ *NA*
3. Were custody seals on coolers? NA (Y) N If yes, how many and where? 1 front
   If present, were custody seals intact? (Y) N If present, were they signed and dated? (Y) N
4. Is shipper's air-bill filed? If not, record air-bill number: 1 of 2 per cust seal - white cooler (NA) Y N
   2 of 2 per custody seal
5. **Temperature of cooler(s) upon receipt (°C):** 0.0 | 0.7 | | |
   Temperature Blank (°C): 2.6 | 1.2 | | |
   Thermometer ID: 271 | 266 | | |
6. If applicable, list Chain of Custody Numbers: | | | |
7. Packing material used. *Inserts* (*Baggies*) *Bubble Wrap* *Gel Packs* (*Wet Ice*) *Sleeves* *Other* _____
8. Were custody papers properly filled out (ink, signed, etc.)? NA (Y) N
9. **Did all bottles arrive in good condition (unbroken)?** *Indicate in the table below.* NA (Y) N
10. Were all sample labels complete (i.e analysis, preservation, etc.)? NA (Y) N
11. Did all sample labels and tags agree with custody papers? *Indicate in the table below* NA (Y) N
12. **Were appropriate bottles/containers and volumes received for the tests indicated?** NA (Y) N
13. Were the pH-preserved bottles tested* received at the appropriate pH? *Indicate in the table below* (NA) Y N
14. Were VOA vials received without headspace? *Indicate in the table below.* (NA) Y N
15. **Are CWA Microbiology samples received with >1/2 the 24hr. hold time remaining from collection?** (NA) Y N
16. Was C12/Res negative? (NA) Y N

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Sample ID	Bottle Count Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

*Does not include all pH preserved sample aliquots received. See sample receiving SOP (SMO-GEN).

Additional Notes, Discrepancies, & Resolutions: _____

1609134

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Client: OfficeMax & URS Corporation

Bill to: OfficeMax

CHAIN of CUSTODY

Page 1 of 1

Project: Boise St Helens Pulp and Paper Mill - Sediment 2009

SR #

Project Manager: David Weatherby, URS Corporation

Telephone No. 503.222.7200

Fax No. 503.222.4292

Sample I.D.	Lab I.D.	Matrix	Date	Time	Number of Containers	MIS (1) (2)										Composite I.D.
M-11-5-A		Sediment	10.2.09	0825	1	X										M-5-A
M-12-5-A		Sediment		0838	1	X										M-5-A
M-17-5-A		Sediment		0951	1	X										M-5-A
M-21-5-A		Sediment		1236	1	X										M-5-A
M-27-5-A		Sediment		1308	1	X										M-5-A
M-29-5-A		Sediment		1322	1	X										M-5-A
M-32-5-A		Sediment		1335	1	X										M-5-A
M-35-5-A		Sediment		1415	1	X										M-5-A
M-38-5-A		Sediment		1430	1	X										M-5-A
M-10-5-A		Sediment		1447	1	X										M-5-A
		Sediment			1	X										M-5-A
		Sediment			1	X										M-5-A
		Sediment			1	X										M-5-A
		Sediment			1	X										M-5-A
		Sediment			1	X										M-5-A
		Sediment			1	X										M-5-A
		Sediment			1	X										M-5-A
		Sediment			1	X										M-5-A
		Sediment			1	X										M-5-A
		Sediment			1	X										M-5-A
		Sediment			1	X										M-5-A

Sample Received Intact: Yes No

Temperature received: Ice No ice

RELIQUISHED BY:
Signature: Nicky Moody
Printed Name: Nicky Moody
Firm: URS
Date/Time: 10/2/09 / 1600

RELIQUISHED BY:
Signature: ~~Signature:~~ Received by: John Jones 10/2/09
Printed Name: John Jones
Firm: CAS
Date/Time: 10/2/09 1720

RELIQUISHED BY:
Signature:
Printed Name:
Firm:
Date/Time:

RELIQUISHED BY:
Signature:
Printed Name:
Firm:
Date/Time:

Special Instructions/Comments:

Freeze containers upon arrival prior to completing MIS sub-sampling.
(1) Follow Appendix B of the FSP for the Guidance on Lab Prep to create the Composite Incremental Samples.
(2) Submittal of MIS sub-samples to Axys - See Composite Incremental COC.

Columbia Analytical Services, Inc.
Cooler Receipt and Preservation Form

PC_____

Client / Project: URS Service Request K09

Received: 10/2/09 Opened: _____ By: TT / DW

1. Samples were received via? *US Mail* *Fed Ex* *UPS* *DHL* *GH* *GS* *PDX* (*Courier*) *Hand Delivered*
2. Samples were received in: (circle) (*Cooler*) *Box* *Envelope* *Other* _____ *NA*
3. Were custody seals on coolers? NA (Y) N If yes, how many and where? 1 front 1 back
   If present, were custody seals intact? (Y) N If present, were they signed and dated? (Y) N
4. Is shipper's air-bill filed? If not, record air-bill number: _____ (NA) Y N

5. **Temperature of cooler(s) upon receipt (°C):** -0.6
   Temperature Blank (°C): 0.7
   Thermometer ID: 258
6. If applicable, list Chain of Custody Numbers:
7. Packing material used. *Inserts* *Baggies* *Bubble Wrap* *Gel Packs* *Wet Ice* *Sleeves* *Other* _____
8. Were custody papers properly filled out (ink, signed, etc.)? NA (Y) N
9. **Did all bottles arrive in good condition (unbroken)?** *Indicate in the table below.* NA (Y) N
10. Were all sample labels complete (i.e analysis, preservation, etc.)? NA (Y) N
11. Did all sample labels and tags agree with custody papers? *Indicate in the table below* NA (Y) N
12. **Were appropriate bottles/containers and volumes received for the tests indicated?** NA (Y) N
13. Were the pH-preserved bottles tested* received at the appropriate pH? *Indicate in the table below* (NA) Y N
14. Were VOA vials received without headspace? *Indicate in the table below.* (NA) Y N
15. **Are CWA Microbiology samples received with >1/2 the 24hr. hold time remaining from collection?** (NA) Y N
16. Was C12/Res negative? (NA) Y N

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Sample ID	Bottle Count Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

*Does not include all pH preserved sample aliquots received. See sample receiving SOP (SMO-GEN).

Additional Notes, Discrepancies, & Resolutions: _____

K0909134

Columbia Analytical Services

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CHAIN of CUSTODY

Page 1 of 4

Client: OfficeMax & URS Corporation

Bill to: OfficeMax

Project: Boise St Helens Pulp and Paper Mill - Sediment 2009

SR #

Project Manager: David Weatherby, URS Corporation

Telephone No. 503.222.7200

Fax No. 503.222.4292

Sample I.D.	Lab I.D.	Matrix	Date	Time	Number of Containers	MIS (1) (2)	Composite I.D.
M-3-5-A		Sediment	10/1/09	921	1	X	M-5-A
M-7-5-A		Sediment		951	1	X	M-5-A
M-16-5-A		Sediment		1046	1	X	M-5-A
M-19-5-A		Sediment		1107	1	X	M-5-A
M-1-5-A		Sediment		1358	1	X	M-5-A
M-2-5A		Sediment		1415	1	X	M-5-A
M-5-5-A		Sediment		1449	1	X	M-5-A
M-9-5-A		Sediment		1505	1	X	M-5-A
No ~~M-9-5-C~~		Sediment			1	X	M-5-A
		Sediment			1	X	M-5-A
- keep Log in open -		Sediment			1	X	M-5-A
		Sediment			1	X	M-5-A
		Sediment			1	X	M-5-A
		Sediment			1	X	M-5-A
		Sediment			1	X	M-5-A
		Sediment			1	X	M-5-A
		Sediment			1	X	M-5-A
		Sediment			1	X	M-5-A
		Sediment			1	X	M-5-A
		Sediment			1	X	M-5-A
		Sediment			1	X	M-5-A
		Sediment			1	X	M-5-A

Sample Received Intact: Yes No

Temperature received: Ice No ice

RELIQUISHED BY:
Signature: Nicky Moody
Printed Name: Nicky Moody
Firm: URS
Date/Time: 10/1/09/1630

RELIQUISHED BY: 10/2/09
Signature: received by Tom Jones
Printed Name: John Jones
Firm: CAS
Date/Time: 10/2/09 0830

RELIQUISHED BY:
Signature:
Printed Name:
Firm:
Date/Time:

RELIQUISHED BY:
Signature:
Printed Name:
Firm:
Date/Time:

Special Instructions/Comments:

Freeze containers upon arrival prior to completing MIS sub-sampling.
(1) Follow Appendix B of the FSP for the Guidance on Lab Prep to create the Composite Incremental Samples.
(2) Submittal of MIS sub-samples to Axys - See Composite Incremental COC.

Columbia Analytical Services, Inc.
Cooler Receipt and Preservation Form

PC 44

Client / Project: URS - Office Max Service Request K09 0 9 1 3 4

Received: 10/2/09 Opened: 10/2/09 By: TT

1. Samples were received via? *US Mail* *Fed Ex* *UPS* *DHL* *GH* *GS* (*PDX*) *Courier* *Hand Delivered*
2. Samples were received in: (circle) (*Cooler*) *Box* *Envelope* *Other* _____ *NA*
3. Were custody seals on coolers? NA (Y) N If yes, how many and where? 1 front 1 back
   If present, were custody seals intact? (Y) N If present, were they signed and dated? (Y) N
4. Is shipper's air-bill filed? If not, record air-bill number: _____ (NA) Y N

5. **Temperature of cooler(s) upon receipt (°C):**	0.3			
Temperature Blank (°C):	1.2			
Thermometer ID:	257			
6. If applicable, list Chain of Custody Numbers:	✓			

7. Packing material used. *Inserts* (*Baggies*) *Bubble Wrap* *Gel Packs* (*Wet Ice*) *Sleeves* *Other* _____

8. Were custody papers properly filled out (ink, signed, etc.)?	NA	(Y)	N
9. **Did all bottles arrive in good condition (unbroken)?** *Indicate in the table below.*	NA	(Y)	N
10. Were all sample labels complete (i.e analysis, preservation, etc.)?	NA	(Y)	N
11. Did all sample labels and tags agree with custody papers? *Indicate in the table below*	NA	(Y)	N
12. **Were appropriate bottles/containers and volumes received for the tests indicated?**	NA	(Y)	N
13. Were the pH-preserved bottles tested* received at the appropriate pH? *Indicate in the table below*	(NA)	Y	N
14. Were VOA vials received without headspace? *Indicate in the table below.*	(NA)	Y	N
15. **Are CWA Microbiology samples received with >1/2 the 24hr. hold time remaining from collection?**	(NA)	Y	N
16. Was C12/Res negative?	(NA)	Y	N

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Sample ID	Bottle Count Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

*Does not include all pH preserved sample aliquots received. See sample receiving SOP (SMO-GEN).

Additional Notes, Discrepancies, & Resolutions: _____

K0909134

Columbia Analytical Services™
800.695.7222
www.caslab.com

Client: OfficeMax & URS Corporation
Bill to: OfficeMax
Project Manager: David Weatherby, URS Corporation

CHAIN of CUSTODY

Page 1 of 1
Project: Boise St Helens Pulp and Paper Mill - Sediment 2009
SR #
Telephone No. 503.222.7200
Fax No. 503.222.4292

Sample I.D.	Lab I.D.	Matrix	Date	Time	Number of Containers	MIS (1) (2)	Composite I.D.
M-42-5-A		Sediment	9/28/2009	10:06	1	X	M-5-A
M-41-5-A		Sediment	9/28/2009	10:25	1	X	M-5-A
M-40-5-A		Sediment	9/28/2009	10:44	1	X	M-5-A
M-39-5-A		Sediment	9/28/2009	11:08	1	X	M-5-A
M-46-5-A		Sediment	9/28/2009	11:24	1	X	M-5-A
M-45-5-A		Sediment	9/28/2009	11:45	1	X	M-5-A
M-49-5-A		Sediment	9/28/2009	11:54	1	X	M-5-A
HOLD LOG IN OPEN							

Sample Received Intact: (Yes) No
Temperature received: 1.5°C (Ice) No ice

RELIQUISHED BY:
Signature: Nicky Moody
Printed Name: Nicky Moody
Firm: URS
Date/Time: 9/28/09 5:30 pm

~~RELIQUISHED BY:~~ Received by
Signature: Tom Jones
Printed Name: John Jones
Firm: CAS
Date/Time: 9/29/09 0730

RELIQUISHED BY:
Signature:
Printed Name:
Firm:
Date/Time:

RELIQUISHED BY:
Signature:
Printed Name:
Firm:
Date/Time:

Special Instructions/Comments:

Freeze containers upon arrival prior to completing MIS sub-sampling.
(1) Follow Appendix B of the FSP for the Guidance on Lab Prep to create the Composite Incremental Samples.
(2) Submittal of MIS sub-samples to Axys - See Composite Incremental COC.

1609.139

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Client: OfficeMax & URS Corporation
Bill to: OfficeMax
Project Manager: David Weatherby, URS Corporation

CHAIN of CUSTODY

Project: Boise St Helens Pulp and Paper Mill - Sediment 2009
Telephone No. 503.222.7200
Fax No. 503.222.4292
SR #
Page 1 of 1

Sample I.D.	Lab I.D.	Matrix	Date	Time	Number of Containers	MIS (1) (2)	Composite I.D.
M-66-4-C		Sediment	9/30/09	0838	1	X	M-4-C
M-69-4-C		Sediment	9/30/09	0908	1	X	M-4-C
M-70-4-C		Sediment		0924	1	X	M-4-C
M-73-4-C		Sediment		0941	1	X	M-4-C
M-77-4-C		Sediment		1020	1	X	M-4-C
M-80-4-C		Sediment		1027	1	X	M-4-C
M-83-4-C		Sediment		1037	1	X	M-4-C
M-85-4-C		Sediment		1044	1	X	M-4-C
M-90-4-C		Sediment		1104	1	X	M-4-C
M-97-4-C		Sediment		1231	1	X	M-4-C
M-91-4-C		Sediment		1250	1	X	M-4-C
M-89-4-C		Sediment		1300	1	X	M-4-C
M-99-4-C		Sediment		1319	1	X	M-4-C
M-100-4-C		Sediment		1330	1	X	M-4-C
M-93-4-C		Sediment		1424	1	X	M-4-C
M-78-4-C		Sediment		1435	1	X	M-4-C
		~~Sediment~~			~~1~~	~~X~~	~~M-4-C~~
—CLOSE LOG	IN —	Sediment			1	X	M-4-C
		Sediment			1	X	M-4-C
		Sediment			1	X	M-4-C

Sample Received Intact: Yes No
Temperature received: Ice No ice

RELINQUISHED BY:
Signature: Nicky Moody
Printed Name: NICKY MOODY
Firm: URS
Date/Time: 9/30/09

~~**RELINQUISHED BY:** 10/1/09~~
Received by:
Signature: Tom Jones
Printed Name: Tom Jones
Firm: CAS
Date/Time: 10/1/09 0815

RELINQUISHED BY:
Signature:
Printed Name:
Firm:
Date/Time:

RELINQUISHED BY:
Signature:
Printed Name:
Firm:
Date/Time:

Special Instructions/Comments:

Freeze containers upon arrival prior to completing MIS sub-sampling.
(1) Follow Appendix B of the FSP for the Guidance on Lab Prep to create the Composite Incremental Samples.
(2) Submittal of MIS sub-samples to Axys - See Composite Incremental COC.

K0909132

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Client: OfficeMax & URS Corporation | Bill to: OfficeMax

CHAIN of CUSTODY

Page 1 of 1

Project: Boise St Helens Pulp and Paper Mill - Sediment 2009 | SR #

Project Manager: David Weatherby, URS Corporation | Telephone No. 503.222.7200 | Fax No. 503.222.4292

Sample I.D.	Lab I.D.	Matrix	Date	Time	Number of Containers	MIS (1) (2)	Composite I.D.
M-74-4-C	7	Sediment	9/29/09	09:28	1	X	M-4-C
M-76-4-C	8	Sediment	9/29/09	09:58	1	X	M-4-C
M-81-4-C	9	Sediment	9/29/09	10:17	1	X	M-4-C
M-87-4-C	10	Sediment		10:37	1	X	M-4-C
M-95-4-C	11	Sediment		11:02	1	X	M-4-C
M-63-4-C	12	Sediment		12:46	1	X	M-4-C
M-64-4-C	13	Sediment		12:58	1	X	M-4-C
M-82-4-C	14	Sediment		14:39	1	X	M-4-C
		Sediment			1	X	M-4-C
HOLD LOG IN		Sediment			1	X	M-4-C
OPEN		Sediment			1	X	M-4-C
		Sediment			1	X	M-4-C
		Sediment			1	X	M-4-C
		Sediment			1	X	M-4-C
		Sediment			1	X	M-4-C
		Sediment			1	X	M-4-C
		Sediment			1	X	M-4-C
		Sediment			1	X	M-4-C
		Sediment			1	X	M-4-C
		Sediment			1	X	M-4-C
		Sediment			1	X	M-4-C

Sample Received Intact: Yes No | Temperature received: ~0.5 (Ice) No ice

RELINQUISHED BY:
Signature: Nicky Moody
Printed Name: NICKY MOODY
Firm: URS
Date/Time: 9/29/09 5:30pm

~~RELINQUISHED BY:~~ 10/1/2009 received by
Signature: John Jones
Printed Name: John Jones
Firm: CAS
Date/Time: 9/30/09 0820

RELINQUISHED BY:
Signature:
Printed Name:
Firm:
Date/Time:

RELINQUISHED BY:
Signature:
Printed Name:
Firm:
Date/Time:

Special Instructions/Comments:

Freeze containers upon arrival prior to completing MIS sub-sampling.
(1) Follow Appendix B of the FSP for the Guidance on Lab Prep to create the Composite Incremental Samples.
(2) Submittal of MIS sub-samples to Axys - See Composite Incremental COC.

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Client: OfficeMax & URS Corporation

Bill to: OfficeMax

CHAIN of CUSTODY

Page 1 of 1

Project: Boise St Helens Pulp and Paper Mill - Sediment 2009

SR #

Project Manager: David Weatherby, URS Corporation

Telephone No. 503.222.7200

Fax No. 503.222.4292

Sample I.D.	Lab I.D.	Matrix	Date	Time	Number of Containers	MIS (1) (2)										Composite I.D.
M-52-4-C		Sediment	9/28/2009	12:58	1	X										M-4-C
M-54-4-C		Sediment	9/28/2009	13:21	1	X										M-4-C
M-56-4-C		Sediment	9/28/2009	14:10	1	X										M-4-C
M-55-4-C		Sediment	9/28/2009	14:25	1	X										M-4-C
M-58-4-C		Sediment	9/28/2009	14:36	1	X										M-4-C
M-59-4-C		Sediment	9/28/2009	15:06	1	X										M-4-C
HOLD LOG	IN OPEN															

Sample Received Intact: (Yes) No

Temperature received: 1.5°C (Ice) No ice

RELIQUISHED BY:
Signature:
Printed Name: Nicky Moody
Firm: URS
Date/Time: 9/28/09 5:30pm

~~RELIQUISHED BY~~: 9/29/09
Signature:
Printed Name: John Jones
Firm: CAS
Date/Time: 9/29/09 @ 7:30

RELIQUISHED BY:
Signature:
Printed Name:
Firm:
Date/Time:

RELIQUISHED BY:
Signature:
Printed Name:
Firm:
Date/Time:

Special Instructions/Comments:

Freeze containers upon arrival prior to completing MIS sub-sampling.
(1) Follow Appendix B of the FSP for the Guidance on Lab Prep to create the Composite Incremental Samples.
(2) Submittal of MIS sub-samples to Axys - See Composite Incremental COC.

Columbia Analytical Services, Inc.
Cooler Receipt and Preservation Form

PC 44

Client / Project: URS Corp Service Request K09 09137

Received: 10/1/09 Opened: 10/1/09 By: TT

1. Samples were received via? *US Mail* *Fed Ex* *UPS* *DHL* *GH* *GS* *PDX* (Courier) *Hand Delivered*
2. Samples were received in: (circle) (Cooler) *Box* *Envelope* *Other* _____ *NA*
3. Were custody seals on coolers? NA (Y) N If yes, how many and where? 1 front
   If present, were custody seals intact? (Y) N If present, were they signed and dated? (Y) N
4. Is shipper's air-bill filed? If not, record air-bill number: blue cooler 1 of 2 per Cust seal (NA) Y N
   red cooler

5. **Temperature of cooler(s) upon receipt (°C):**	-0.6	-0.5		
Temperature Blank (°C):		0.8/0.8 - there were 2		
Thermometer ID:	269	275		
6. If applicable, list Chain of Custody Numbers:				

7. Packing material used. *Inserts* (Baggies) *Bubble Wrap* *Gel Packs* (Wet Ice) *Sleeves* *Other* _____

8. Were custody papers properly filled out (ink, signed, etc.)?	NA	(Y)	N
9. **Did all bottles arrive in good condition (unbroken)?** *Indicate in the table below.*	NA	(Y)	N
10. Were all sample labels complete (i.e analysis, preservation, etc.)?	NA	(Y)	N
11. Did all sample labels and tags agree with custody papers? *Indicate in the table below*	NA	(Y)	N
12. **Were appropriate bottles/containers and volumes received for the tests indicated?**	NA	(Y)	N
13. Were the pH-preserved bottles tested* received at the appropriate pH? *Indicate in the table below*	(NA)	Y	N
14. Were VOA vials received without headspace? *Indicate in the table below.*	(NA)	Y	N
15. **Are CWA Microbiology samples received with >1/2 the 24hr. hold time remaining from collection?**	(NA)	Y	N
16. Was C12/Res negative?	(NA)	Y	N

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Sample ID	Bottle Count Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

*Does not include all pH preserved sample aliquots received. See sample receiving SOP (SMO-GEN).

Additional Notes, Discrepancies, & Resolutions: _____

Columbia Analytical Services, Inc.
Cooler Receipt and Preservation Form

PC 44

Client / Project: URS Service Request K09 09132

Received: 9/30/09 Opened: 9/30/09 By: TT

1. Samples were received via? *US Mail* *Fed Ex* *UPS* *DHL* *GH* *GS* (PDX) *Courier* *Hand Delivered*
2. Samples were received in: (circle) (Cooler) *Box* *Envelope* *Other* _____ *NA*
3. Were custody seals on coolers? NA (Y) N If yes, how many and where? 1 front
   If present, were custody seals intact? (Y) N If present, were they signed and dated? (Y) N
4. Is shipper's air-bill filed? If not, record air-bill number: contained A,B,C & 4 on 5D (2 coolers) (NA) Y N
   contained all other D samples (4 and 4) M-52-4-D, M-54-4-D, M-56-4-D and M-39-5-D, M-40-5-D, M-42-5-D

5. **Temperature of cooler(s) upon receipt (°C):**	-0.8	-0.4		
Temperature Blank (°C):				
Thermometer ID:	259	273		
6. If applicable, list Chain of Custody Numbers:				

7. Packing material used. *Inserts* (Baggies) (Bubble Wrap) *Gel Packs* (Wet Ice) *Sleeves* *Other* _____

8. Were custody papers properly filled out (ink, signed, etc.)?	NA	(Y)	N
9. **Did all bottles arrive in good condition (unbroken)?** *Indicate in the table below.*	NA	(Y)	N
10. Were all sample labels complete (i.e analysis, preservation, etc.)?	NA	(Y)	N
11. Did all sample labels and tags agree with custody papers? *Indicate in the table below*	*NA	Y	(N)
12. **Were appropriate bottles/containers and volumes received for the tests indicated?**	NA	(Y)	N
13. Were the pH-preserved bottles tested* received at the appropriate pH? *Indicate in the table below*	(NA)	Y	N
14. Were VOA vials received without headspace? *Indicate in the table below.*	(NA)	Y	N
15. **Are CWA Microbiology samples received with >1/2 the 24hr. hold time remaining from collection?**	(NA)	Y	N
16. Was C12/Res negative?	(NA)	Y	N

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Sample ID	Bottle Count Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time
						NA				

*Does not include all pH preserved sample aliquots received. See sample receiving SOP (SMO-GEN).

Additional Notes, Discrepancies, & Resolutions: *Received the following samples in 1st cooler not listed on COC: M-52-4-D, M-54-4-D, M-56-4-D and M-39-5-D, M-40-5-D and M-42-5-D

10/1/09

Page 1 of: 1 2

Columbia Analytical Services, Inc.
Cooler Receipt and Preservation Form

PC 44

Client / Project: URS Corp / Boise ST Helens Service Request K09 9432 #1-6

Received: 9/29/09 Opened: 9/29/09 By: TT

1. Samples were received via? *US Mail* *Fed Ex* *UPS* *DHL* *GH* *GS* *PDX* (Courier) *Hand Delivered*
2. Samples were received in: (circle) (Cooler) *Box* *Envelope* *Other* _____ *NA*
3. Were custody seals on coolers? NA Y (N) If yes, how many and where? N/A
   If present, were custody seals intact? Y N N/A If present, were they signed and dated? Y N/A
4. Is shipper's air-bill filed? If not, record air-bill number: Red Cooler - samples A thru C (NA) Y N
   Blue cooler - Contained D samples
5. **Temperature of cooler(s) upon receipt (°C):** 3.4 5.0 _____ _____
   Temperature Blank (°C): 1.5 9.8 _____ _____
   Thermometer ID: 273 261 _____ _____
6. If applicable, list Chain of Custody Numbers: _____ _____ _____ _____
7. Packing material used. *Inserts* *Baggies* (Bubble Wrap) *Gel Packs* (Wet Ice) *Sleeves* *Other* _____
8. Were custody papers properly filled out (ink, signed, etc.)? NA (Y) N
9. **Did all bottles arrive in good condition (unbroken)?** *Indicate in the table below.* NA (Y) N
10. Were all sample labels complete (i.e analysis, preservation, etc.)? NA (Y) N
11. Did all sample labels and tags agree with custody papers? *Indicate in the table below* *NA (Y) (N) 11 replaced
12. **Were appropriate bottles/containers and volumes received for the tests indicated?** NA (Y) N
13. Were the pH-preserved bottles tested* received at the appropriate pH? *Indicate in the table below* (NA) Y N
14. Were VOA vials received without headspace? *Indicate in the table below.* (NA) Y N
15. **Are CWA Microbiology samples received with >1/2 the 24hr. hold time remaining from collection?** (NA) Y N
16. Was C12/Res negative? (NA) Y N

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Sample ID	Bottle Count Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

*Does not include all pH preserved sample aliquots received. See sample receiving SOP (SMO-GEN).

Additional Notes, Discrepancies, & Resolutions: * For D-samples we received 3 x 8oz jars for Samples: M-42-5-D, M-40-5-D, M-39-5-D M-52-4-D, M-54-4-D, M-56-4-D did not receive 2oz jars, did not receive samples M-5-D, M-4-D, M-3-D, M-2-D M-2-2D, M-1-D, B-1-D NA

1900 9/30/09

1C0909130

Columbia Analytical Services
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Client: OfficeMax & URS Corporation
Bill to: OfficeMax
Project Manager: David Weatherby, URS Corporation

CHAIN of CUSTODY

Project: Boise St Helens Pulp and Paper Mill - Sediment 2009
Telephone No. 503.222.7200
Fax No. 503.222.4292

SR #

Sample I.D.	Lab I.D.	Matrix	Date	Time	Number of Containers	MIS (1) (2)	Composite I.D.
M-68-4-B		Sediment	9/30/09	0856	1	X	M-4-B
M-69-4-B		Sediment		0907	1	X	M-4-B
M-73-4-B		Sediment		0940	1	X	M-4-B
M-75-4-B		Sediment		0950	1	X	M-4-B
M-80-4-B		Sediment		1026	1	X	M-4-B
M-83-4-B		Sediment		1036	1	X	M-4-B
M-85-4-B		Sediment		1043	1	X	M-4-B
M-88-4-B		Sediment		1056	1	X	M-4-B
M-96-4-B		Sediment		1130	1	X	M-4-B
M-94-4-B		Sediment		1242	1	X	M-4-B
M-99-4-B		Sediment		1318	1	X	M-4-B
M-98-4-B		Sediment		1338	1	X	M-4-B
M-72-4-B		Sediment	↓	1442	1	X	M-4-B
— CLOSE LOG IN —		Sediment			1	X	M-4-B
		Sediment			1	X	M-4-B
		Sediment			1	X	M-4-B
		Sediment			1	X	M-4-B
		Sediment			1	X	M-4-B
		Sediment			1	X	M-4-B
		Sediment			1	X	M-4-B

Sample Received Intact: Yes No
Temperature received: Ice No ice

RELINQUISHED BY:
Signature: Nicky Moody
Printed Name: NICKY MOODY
Firm: URS
Date/Time: 9/30/09

RELINQUISHED BY: ~~9/30/09~~
Signature: Received by: John Jones
Printed Name: John Jones
Firm: CAS
Date/Time: 10/1/09 0815

RELINQUISHED BY:
Signature:
Printed Name:
Firm:
Date/Time:

RELINQUISHED BY:
Signature:
Printed Name:
Firm:
Date/Time:

Special Instructions/Comments:

Freeze containers upon arrival prior to completing MIS sub-sampling.
(1) Follow Appendix B of the FSP for the Guidance on Lab Prep to create the Composite Incremental Samples.
(2) Submittal of MIS sub-samples to Axys - See Composite Incremental COC.

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Client: OfficeMax & URS Corporation

Bill to: OfficeMax

CHAIN of CUSTODY

Page 1 of 1

Project: Boise St Helens Pulp and Paper Mill - Sediment 2009

SR #

Project Manager: David Weatherby, URS Corporation

Telephone No. 503.222.7200 Fax No. 503.222.4292

Sample I.D.	Lab I.D.	Matrix	Date	Time	Number of Containers	MIS (1) (2)	Composite I.D.
M-61-4-B	5	Sediment	9/29/09	08:52	1	X	M-4-B
M-67-4-B	6	Sediment		09:10	1	X	M-4-B
M-76-4-B	7	Sediment		09:57	1	X	M-4-B
M-81-4-B	8	Sediment		10:16	1	X	M-4-B
M-95-4-B	9	Sediment		11:01	1	X	M-4-B
M-60-4-B	10	Sediment		12:13	1	X	M-4-B
M-62-4-B	11	Sediment		12:34	1	X	M-4-B
M-64-4-B	12	Sediment		12:57	1	X	M-4-B
M-65-4-B	13	Sediment		13:13	1	X	M-4-B
M-79-4-B	14	Sediment		13:55	1	X	M-4-B
M-82-4-B	15	Sediment		14:38	1	X	M-4-B
M-84-4-B	16	Sediment		14:50	1	X	M-4-B
M-86-4-B	17	Sediment		15:18	1	X	M-4-B
HOLD		Sediment			1	X	M-4-B
LOG IN		Sediment			1	X	M-4-B
OPEN		Sediment			1	X	M-4-B
		Sediment			1	X	M-4-B
		Sediment			1	X	M-4-B
		Sediment			1	X	M-4-B
		Sediment			1	X	M-4-B
		Sediment			1	X	M-4-B

Sample Received Intact: Yes No

Temperature received: -0.8 (Ice) No ice

RELIQUISHED BY:
Signature: Nicky Moody
Printed Name: NICKY MOODY
Firm: URS
Date/Time: 9/29/09 5:30pm

~~RELIQUISHED BY:~~ received by 9/30/09
Signature: John Jones
Printed Name: John Jones
Firm: CAS
Date/Time: 9/30/09 0820

RELIQUISHED BY:
Signature:
Printed Name:
Firm:
Date/Time:

RELIQUISHED BY:
Signature:
Printed Name:
Firm:
Date/Time:

Special Instructions/Comments:

Freeze containers upon arrival prior to completing MIS sub-sampling.
(1) Follow Appendix B of the FSP for the Guidance on Lab Prep to create the Composite Incremental Samples.
(2) Submittal of MIS sub-samples to Axys - See Composite Incremental COC.

K0909130

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CHAIN of CUSTODY

Page 1 of 1

Client: OfficeMax & URS Corporation

Bill to: OfficeMax

Project: Boise St Helens Pulp and Paper Mill - Sediment 2009

SR #

Project Manager: David Weatherby, URS Corporation

Telephone No. 503.222.7200

Fax No. 503.222.4292

Sample I.D.	Lab I.D.	Matrix	Date	Time	Number of Containers	MIS (1) (2)									Composite I.D.
M-51-4-B		Sediment	9/28/2009	13:14	1	X									M-4-B
M-52-4-B		Sediment	9/28/2009	12:57	1	X									M-4-B
M-53-4-B		Sediment	9/28/2009	13:33	1	X									M-4-B
M-59-4-B		Sediment	9/28/2009	15:05	1	X									M-4-B
HOLD LOG IN OPEN															

Sample Received Intact: (Yes) No

Temperature received: 1.5°C (Ice) No ice

RELIQUISHED BY:
Signature:
Printed Name: Nicky Moody
Firm: URS
Date/Time: 9/28/09 5:30pm

~~RELIQUISHED BY:~~ 9/29/09
Received by
Signature:
Printed Name: John Jones
Firm: CAS
Date/Time: 9/29/09 0730

RELIQUISHED BY:
Signature:
Printed Name:
Firm:
Date/Time:

RELIQUISHED BY:
Signature:
Printed Name:
Firm:
Date/Time:

Special Instructions/Comments:

Freeze containers upon arrival prior to completing MIS sub-sampling.
(1) Follow Appendix B of the FSP for the Guidance on Lab Prep to create the Composite Incremental Samples.
(2) Submittal of MIS sub-samples to Axys - See Composite Incremental COC.

Columbia Analytical Services, Inc.
Cooler Receipt and Preservation Form

PC 44

Client / Project: URS Service Request K09 09130

Received: 9/30/09 Opened: 9/30/09 By: TT

1. Samples were received via? *US Mail* *Fed Ex* *UPS* *DHL* *GH* *GS* (PDX) *Courier* *Hand Delivered*
2. Samples were received in: (circle) (Cooler) *Box* *Envelope* *Other* _____ *NA*
3. Were custody seals on coolers? NA (Y) N If yes, how many and where? 1 front
   If present, were custody seals intact? (Y) N If present, were they signed and dated? (Y) N
4. Is shipper's air-bill filed? If not, record air-bill number: contained A,B,C & Aqu 5D (except M-42-5-D) (NA) Y N
   contained all other D samples M-52-4-D, M-54-4-D, M-56-4-D and M-39-5-D, M-40-5-D, M-42-5-D

5. **Temperature of cooler(s) upon receipt (°C):**	-0.8	-0.4		
Temperature Blank (°C):				
Thermometer ID:	259	273		
6. If applicable, list Chain of Custody Numbers:				

7. Packing material used. *Inserts* (Baggies) (Bubble Wrap) *Gel Packs* (Wet Ice) *Sleeves* *Other* _____

8. Were custody papers properly filled out (ink, signed, etc.)?	NA	(Y)	N
9. **Did all bottles arrive in good condition (unbroken)?** *Indicate in the table below.*	NA	(Y)	N
10. Were all sample labels complete (i.e analysis, preservation, etc.)?	NA	(Y)	N
11. Did all sample labels and tags agree with custody papers? *Indicate in the table below*	*NA	Y	(N)
12. **Were appropriate bottles/containers and volumes received for the tests indicated?**	NA	(Y)	N
13. Were the pH-preserved bottles tested* received at the appropriate pH? *Indicate in the table below*	(NA)	Y	N
14. Were VOA vials received without headspace? *Indicate in the table below.*	(NA)	Y	N
15. **Are CWA Microbiology samples received with >1/2 the 24hr. hold time remaining from collection?**	(NA)	Y	N
16. Was C12/Res negative?	(NA)	Y	N

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Sample ID	Bottle Count Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

*Does not include all pH preserved sample aliquots received. See sample receiving SOP (SMO-GEN).

Additional Notes, Discrepancies, & Resolutions: *Received the following samples in 1st cooler not listed on COC: M-52-4-D, M-54-4-D, M-56-4-D and M-39-5-D, M-40-5-D and M-42-5-D (on seperate COC)

Columbia Analytical Services, Inc.
Cooler Receipt and Preservation Form

PC 14

Client / Project: URS Corp / Boise ST Helens Service Request K09 0930

Received: 9/29/09 Opened: 9/29/09 By: TT

1. Samples were received via? *US Mail* *Fed Ex* *UPS* *DHL* *GH* *GS* *PDX* (Courier) *Hand Delivered*
2. Samples were received in: (circle) (Cooler) *Box* *Envelope* *Other* _____ *NA*
3. Were custody seals on coolers? NA Y (N) If yes, how many and where? N/A
   If present, were custody seals intact? Y N N/A If present, were they signed and dated? Y N/A
4. Is shipper's air-bill filed? If not, record air-bill number: Red Cooler - samples A thru C (NA) Y N
   Blue cooler - Combined D samples

5. **Temperature of cooler(s) upon receipt (°C):**	3.4	5.0		
Temperature Blank (°C):	1.5	9.8		
Thermometer ID:	273	261		
6. If applicable, list Chain of Custody Numbers:				

7. Packing material used. *Inserts* *Baggies* (Bubble Wrap) *Gel Packs* (Wet Ice) *Sleeves* *Other* _____

8. Were custody papers properly filled out (ink, signed, etc.)?	NA	(Y)	N
9. **Did all bottles arrive in good condition (unbroken)?** *Indicate in the table below.*	NA	(Y)	N
10. Were all sample labels complete (i.e analysis, preservation, etc.)?	NA	(Y)	N
11. Did all sample labels and tags agree with custody papers? *Indicate in the table below*	*NA	(Y) 9/30/09	(N)
12. **Were appropriate bottles/containers and volumes received for the tests indicated?**	NA	(Y)	N
13. Were the pH-preserved bottles tested* received at the appropriate pH? *Indicate in the table below*	(NA)	Y	N
14. Were VOA vials received without headspace? *Indicate in the table below.*	(NA)	Y	N
15. **Are CWA Microbiology samples received with >1/2 the 24hr. hold time remaining from collection?**	(NA)	Y	N
16. Was C12/Res negative?	(NA)	Y	N

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Sample ID	Bottle Count Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

*Does not include all pH preserved sample aliquots received. See sample receiving SOP (SMO-GEN).

Additional Notes, Discrepancies, & Resolutions: * For D samples we received 3 x 8oz jars for samples: M-42-5-D, M-40-5-D, M-39-5-D, M-52-4-D, M-54-4-D, M-56-4-D, did not receive 2oz jars, did not receive samples M-5-D, M-4-D, M-3-D, M-2-D, M-2-2D, M-1-D, B-1-D. Received 9/30/09 1995 AH

Columbia Analytical Services, Inc.
Cooler Receipt and Preservation Form

PC LH

Client / Project: URS Corp Service Request *K09* 09130

Received: 10/1/09 Opened: 10/1/09 By: JJ

1. Samples were received via? *US Mail* *Fed Ex* *UPS* *DHL* *GH* *GS* *PDX* *Courier* *Hand Delivered*
2. Samples were received in: (circle) *Cooler* *Box* *Envelope* *Other* _____ *NA*
3. Were custody seals on coolers? NA Y N If yes, how many and where? 1 front
   If present, were custody seals intact? Y N If present, were they signed and dated? Y N
4. Is shipper's air-bill filed? If not, record air-bill number: blue cooler 1 of 2 per Cust seal NA Y N
   red cooler

5. **Temperature of cooler(s) upon receipt (°C):**	-0.6	-0.5		
Temperature Blank (°C):		0.8/0.8 – there were 2		
Thermometer ID:	269	275		
6. If applicable, list Chain of Custody Numbers:				

7. Packing material used. *Inserts* *Baggies* *Bubble Wrap* *Gel Packs* *Wet Ice* *Sleeves* *Other* _____

8. Were custody papers properly filled out (ink, signed, etc.)?	NA	Y	N
9. **Did all bottles arrive in good condition (unbroken)?** *Indicate in the table below.*	NA	Y	N
10. Were all sample labels complete (i.e analysis, preservation, etc.)?	NA	Y	N
11. Did all sample labels and tags agree with custody papers? *Indicate in the table below*	NA	Y	N
12. **Were appropriate bottles/containers and volumes received for the tests indicated?**	NA	Y	N
13. Were the pH-preserved bottles tested* received at the appropriate pH? *Indicate in the table below*	NA	Y	N
14. Were VOA vials received without headspace? *Indicate in the table below.*	NA	Y	N
15. **Are CWA Microbiology samples received with >1/2 the 24hr. hold time remaining from collection?**	NA	Y	N
16. Was C12/Res negative?	NA	Y	N

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Sample ID	Bottle Count Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

*Does not include all pH preserved sample aliquots received. See sample receiving SOP (SMO-GEN).

Additional Notes, Discrepancies, & Resolutions: _____

K0909127

Columbia Analytical Services
800.695.7222
www.caslab.com

Client: OfficeMax & URS Corporation | Bill to: OfficeMax

CHAIN of CUSTODY

Page 1 of 1

Project: Boise St Helens Pulp and Paper Mill - Sediment 2009 | SR #

Project Manager: David Weatherby, URS Corporation | Telephone No. 503.222.7200 | Fax No. 503.222.4292

Sample I.D.	Lab I.D.	Matrix	Date	Time	Number of Containers	MIS (1) (2)	Composite I.D.
M-66-4-A		Sediment	9/30/09	0837	1	X	M-4-A
M-65-4-A		Sediment		0855	1	X	M-4-A
M-70-4-A		Sediment		0923	1	X	M-4-A
M-71-4-A		Sediment		0932	1	X	M-4-A
M-75-4-A		Sediment		0949	1	X	M-4-A
M-77-4-A		Sediment		1019	1	X	M-4-A
M-88-4-A		Sediment		1055	1	X	M-4-A
M-90-4-A		Sediment		1103	1	X	M-4-A
M-96-4-A		Sediment		1129	1	X	M-4-A
M-99-4-A		Sediment		1230	1	X	M-4-A
M-92-4-A		Sediment		1309	1	X	M-4-A
M-100-4-A		Sediment		1329	1	X	M-4-A
M-98-4-A		Sediment		1337	1	X	M-4-A
M-93-4-A		Sediment		1423	1	X	M-4-A
M-78-4-A		Sediment		1434	1	X	M-4-A
M-72-4-A		Sediment		1441	1	X	M-4-A
—CLOSE LOG IN—		Sediment			1	X	M-4-A
		Sediment			1	X	M-4-A
		Sediment			1	X	M-4-A
		Sediment			1	X	M-4-A

Sample Received Intact: Yes No | Temperature received: Ice No ice

RELIQUISHED BY:
Signature: Nicky Moody
Printed Name: Nicky Moody
Firm: URS
Date/Time: 9/30/09

~~RELIQUISHED BY:~~ 10/1/09 received by
Signature: John Jones
Printed Name: John Jones
Firm: CAS
Date/Time: 10/1/09 0815

RELIQUISHED BY:
Signature:
Printed Name:
Firm:
Date/Time:

RELIQUISHED BY:
Signature:
Printed Name:
Firm:
Date/Time:

Special Instructions/Comments:

Freeze containers upon arrival prior to completing MIS sub-sampling.
(1) Follow Appendix B of the FSP for the Guidance on Lab Prep to create the Composite Incremental Samples.
(2) Submittal of MIS sub-samples to Axys - See Composite Incremental COC.

K0909127

Columbia Analytical Services
800.695.7222
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Client: OfficeMax & URS Corporation

Bill to: OfficeMax

CHAIN of CUSTODY

Page 1 of 1

Project: Boise St Helens Pulp and Paper Mill - Sediment 2009

SR #

Project Manager: David Weatherby, URS Corporation

Telephone No. 503.222.7200

Fax No. 503.222.4292

Sample I.D.	Lab I.D.	Matrix	Date	Time	Number of Containers	MIS (1) (2)	Composite I.D.
M-61-4-A	6	Sediment	9/29/09	08:51	1	X	M-4-A
M-67-4-A	7	Sediment		09:09	1	X	M-4-A
M-74-4-A	8	Sediment		09:27	1	X	M-4-A
M-87-4-A	9	Sediment		10:36	1	X	M-4-A
M-60-4-A	10	Sediment		12:12	1	X	M-4-A
M-62-4-A	11	Sediment		12:33	1	X	M-4-A
M-65-4-A	12	Sediment		13:12	1	X	M-4-A
M-84-4-A	13	Sediment		14:49	1	X	M-4-A
M-86-4-A	14	Sediment		15:17	1	X	M-4-A
HOLD		Sediment			1	X	M-4-A
LOG IN		Sediment			1	X	M-4-A
OPEN		Sediment			1	X	M-4-A
		Sediment			1	X	M-4-A
		Sediment			1	X	M-4-A
		Sediment			1	X	M-4-A
		Sediment			1	X	M-4-A
		Sediment			1	X	M-4-A
		Sediment			1	X	M-4-A
		Sediment			1	X	M-4-A
		Sediment			1	X	M-4-A
		Sediment			1	X	M-4-A

Sample Received Intact: Yes No

Temperature received: ~0.5 (Ice) No ice

RELINQUISHED BY:
Signature:
Printed Name: Nicky Moody
Firm: URS
Date/Time: 9/29/09 5:30pm

~~RELINQUISHED BY:~~ 9/29/09
Signature: received by
Printed Name: John Jones
Firm: CAS
Date/Time: 9/30/09 0810

RELINQUISHED BY:
Signature:
Printed Name:
Firm:
Date/Time:

RELINQUISHED BY:
Signature:
Printed Name:
Firm:
Date/Time:

Special Instructions/Comments:

Freeze containers upon arrival prior to completing MIS sub-sampling.
(1) Follow Appendix B of the FSP for the Guidance on Lab Prep to create the Composite Incremental Samples.
(2) Submittal of MIS sub-samples to Axys - See Composite Incremental COC.

1109 09127

CHAIN of CUSTODY

Page 1 of 1

Columbia Analytical Services™
800.695.7222
www.caslab.com

Client: OfficeMax & URS Corporation

Bill to: OfficeMax

Project: Boise St Helens Pulp and Paper Mill - Sediment 2009

SR #

Project Manager: David Weatherby, URS Corporation

Telephone No. 503.222.7200

Fax No. 503.222.4292

Sample I.D.	Lab I.D	Matrix	Date	Time	Number of Containers	MIS (1) (2)	Composite I.D.
M-53-4-A		Sediment	9/28/2009	13:32	1	X	M-4-A
M-56-4-A		Sediment	9/28/2009	14:09	1	X	M-4-A
M-55-4-A		Sediment	9/28/2009	14:04	1	X	M-4-A
M-58-4-A		Sediment	9/28/2009	14:35	1	X	M-4-A
M-57-4-A		Sediment	9/28/2009	14:47	1	X	M-4-A

HOLD LOG IN OPEN

Sample Received Intact: (Yes) No

Temperature received: 1.5°C (Ice) No ice

RELIQUISHED BY:
Signature:
Printed Name: Nicky Moody
Firm: URS
Date/Time: 9/28/09 5:30pm

~~RELIQUISHED BY:~~ Received by
Signature:
Printed Name: John Jones
Firm: CAS
Date/Time: 9/29/09 0730

RELIQUISHED BY:
Signature:
Printed Name:
Firm:
Date/Time:

RELIQUISHED BY:
Signature:
Printed Name:
Firm:
Date/Time:

Special Instructions/Comments:

Freeze containers upon arrival prior to completing MIS sub-sampling.
(1) Follow Appendix B of the FSP for the Guidance on Lab Prep to create the Composite Incremental Samples.
(2) Submittal of MIS sub-samples to Axys - See Composite Incremental COC.

Columbia Analytical Services, Inc.
Cooler Receipt and Preservation Form

PC hff

Client / Project: URS Corp Service Request K09 09127

Received: 10/1/09 Opened: 10/1/09 By: ff

1. Samples were received via? *US Mail* *Fed Ex* *UPS* *DHL* *GH* *GS* *PDX* (Courier) *Hand Delivered*
2. Samples were received in: (circle) (Cooler) *Box* *Envelope* *Other* _____ *NA*
3. Were custody seals on coolers? NA (Y) N If yes, how many and where? 1 front
   If present, were custody seals intact? (Y) N If present, were they signed and dated? (Y) N
4. Is shipper's air-bill filed? If not, record air-bill number: blue cooler 1 of 2 per Cust seal (NA) Y N
   red cooler

5. **Temperature of cooler(s) upon receipt (°C):**	-0.6	-0.5		
Temperature Blank (°C):		0.8/0.8 - there were 2		
Thermometer ID:	269	275		
6. If applicable, list Chain of Custody Numbers:				

7. Packing material used. *Inserts* (Baggies) *Bubble Wrap* *Gel Packs* (Wet Ice) *Sleeves* *Other* _____

8. Were custody papers properly filled out (ink, signed, etc.)?	NA	(Y)	N
9. **Did all bottles arrive in good condition (unbroken)?** *Indicate in the table below.*	NA	(Y)	N
10. Were all sample labels complete (i.e analysis, preservation, etc.)?	NA	(Y)	N
11. Did all sample labels and tags agree with custody papers? *Indicate in the table below*	NA	(Y)	N
12. **Were appropriate bottles/containers and volumes received for the tests indicated?**	NA	(Y)	N
13. Were the pH-preserved bottles tested* received at the appropriate pH? *Indicate in the table below*	(NA)	Y	N
14. Were VOA vials received without headspace? *Indicate in the table below.*	(NA)	Y	N
15. **Are CWA Microbiology samples received with >1/2 the 24hr. hold time remaining from collection?**	(NA)	Y	N
16. Was C12/Res negative?	(NA)	Y	N

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Sample ID	Bottle Count Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

*Does not include all pH preserved sample aliquots received. See sample receiving SOP (SMO-GEN).

Additional Notes, Discrepancies, & Resolutions: _____

Columbia Analytical Services, Inc.
Cooler Receipt and Preservation Form

PC LH

Client / Project: URS Corp / Boise St Heleno? Service Request K09 09127

Received: 9/29/09 Opened: 9/29/09 By: TT

1. Samples were received via? *US Mail* *Fed Ex* *UPS* *DHL* *GH* *GS* *PDX* (Courier) *Hand Delivered*
2. Samples were received in: (circle) (Cooler) *Box* *Envelope* *Other* _____ *NA*
3. Were custody seals on coolers? NA Y (N) If yes, how many and where? N/A
   If present, were custody seals intact? Y N N/A If present, were they signed and dated? Y N
4. Is shipper's air-bill filed? If not, record air-bill number: Red Cooler - samples A thru C (NA) Y N
   Blue cooler - Contained D samples

5. **Temperature of cooler(s) upon receipt (°C):**	3.4	5.0		
Temperature Blank (°C):	1.5	9.8		
Thermometer ID:	273	261		
6. If applicable, list Chain of Custody Numbers:				
7. Packing material used. *Inserts* *Baggies* (Bubble Wrap) *Gel Packs* (Wet Ice) *Sleeves* *Other* _____				

8. Were custody papers properly filled out (ink, signed, etc.)?	NA	(Y)	N
9. **Did all bottles arrive in good condition (unbroken)?** *Indicate in the table below.*	NA	(Y)	N
10. Were all sample labels complete (i.e analysis, preservation, etc.)?	NA	(Y)	N
11. Did all sample labels and tags agree with custody papers? *Indicate in the table below*	*NA	(Y) 9/29/09	(N)
12. **Were appropriate bottles/containers and volumes received for the tests indicated?**	NA	(Y)	N
13. Were the pH-preserved bottles tested* received at the appropriate pH? *Indicate in the table below*	(NA)	Y	N
14. Were VOA vials received without headspace? *Indicate in the table below.*	(NA)	Y	N
15. **Are CWA Microbiology samples received with >1/2 the 24hr. hold time remaining from collection?**	(NA)	Y	N
16. Was C12/Res negative?	(NA)	Y	N

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Sample ID	Bottle Count Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

*Does not include all pH preserved sample aliquots received. See sample receiving SOP (SMO-GEN).

Additional Notes, Discrepancies, & Resolutions: * For D samples we received 3 x 8oz jars for samples: M-42-5-D, M-40-5-D, M-39-5-D, M-52-4-D, M-54-4-D, M-56-4-D, did not receive 2oz jars, did not receive samples M-5-D, M-4-D, M-3-D, M-2-D, M-2-2D, M-1-D, B-1-D

NA

200

Columbia Analytical Services, Inc.
Cooler Receipt and Preservation Form

PC 44

Client / Project: URS Service Request K09 09127

Received: 9/30/09 Opened: 9/30/09 By: TT

1. Samples were received via? *US Mail* *Fed Ex* *UPS* *DHL* *GH* *GS* (*PDX*) *Courier* *Hand Delivered*
2. Samples were received in: (circle) (*Cooler*) *Box* *Envelope* *Other* _____ *NA*
3. Were custody seals on coolers? NA (Y) N If yes, how many and where? 1 front
   If present, were custody seals intact? (Y) N If present, were they signed and dated? (Y) N
4. Is shipper's air-bill filed? If not, record air-bill number: contained A,B,C & And 5 D (20 days) (NA) Y N
   (4 and 4) 4 and 4 M-52-4-D, M-54-4-A, M-56-4-D and M-39-5-D, M-40-5-D, M-42-5-D
   contained all other D samples

5. **Temperature of cooler(s) upon receipt (°C):**	-0.8	-0.4		
Temperature Blank (°C):				
Thermometer ID:	259	273		
6. If applicable, list Chain of Custody Numbers:				

7. Packing material used. *Inserts* (*Baggies*) (*Bubble Wrap*) *Gel Packs* (*Wet Ice*) *Sleeves* *Other* _____

8. Were custody papers properly filled out (ink, signed, etc.)?	NA	(Y)	N
9. **Did all bottles arrive in good condition (unbroken)?** *Indicate in the table below.*	NA	(Y)	N
10. Were all sample labels complete (i.e analysis, preservation, etc.)?	NA	(Y)	N
11. Did all sample labels and tags agree with custody papers? *Indicate in the table below*	*NA	Y	(N)
12. **Were appropriate bottles/containers and volumes received for the tests indicated?**	NA	(Y)	N
13. Were the pH-preserved bottles tested* received at the appropriate pH? *Indicate in the table below*	(NA)	Y	N
14. Were VOA vials received without headspace? *Indicate in the table below.*	(NA)	Y	N
15. **Are CWA Microbiology samples received with >1/2 the 24hr. hold time remaining from collection?**	(NA)	Y	N
16. Was C12/Res negative?	(NA)	Y	N

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Sample ID	Bottle Count Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

*Does not include all pH preserved sample aliquots received. See sample receiving SOP (SMO-GEN).

Additional Notes, Discrepancies, & Resolutions: *Received the following samples in 1st cooler not listed on COC: M-52-4-D, M-54-4-D, M-56-4-D and M-39-5-D, M-40-5-D and M-42-5-D

Columbia Analytical Services, INC
1317 S. 13th Avenue, Kelso, WA 98626 360.577.7222 360.636.1068 (fax) www.caslab.com

December 17, 2009 Analytical Report for Service Request No: K0910296

David Weatherby
URS Corporation
111 SW Columbia, Suite 1500
Portland, OR 97201

RE: Boise St. Helens Pulp and Paper Mill-2009

Dear David:

Enclosed are the results of the sample submitted to our laboratory on October 23, 2009. For your reference, these analyses have been assigned our service request number K0910296.

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. The test results meet requirements of the current NELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP-accredited analytes, refer to the certifications section at www.caslab.com. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please call if you have any questions. My extension is 3358. You may also contact me via Email at LHuckestein@caslab.com.

Respectfully submitted,

Columbia Analytical Services, Inc.

Lynda Huckestein
Client Services Manager

LH/lg

100% Recycled Paper

Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

Inorganic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result.
E	The result is an estimate amount because the value exceeded the instrument calibration range.
J	The result is an estimated concentration that is less than the MRL or LOQ but greater than or equal to the MDL or LOD.
U	The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.1 definition*: Analyte was not detected and is reported as less than the LOD or as defined by the project. The LOD has been adjusted for dilution.
i	The MRL/MDL or LOQ/LOD has been elevated due to a matrix interference.
X	See case narrative.
Q	See case narrative. One or more quality control criteria was outside the limits.

Metals Data Qualifiers

#	The control limit criteria is not applicable. See case narrative.
J	The result is an estimated concentration that is less than the MRL or LOQ but greater than or equal to the MDL or LOD.
E	The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
M	The duplicate injection precision was not met.
N	The Matrix Spike sample recovery is not within control limits. See case narrative.
S	The reported value was determined by the Method of Standard Additions (MSA).
U	The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.1 definition*: Analyte was not detected and is reported as less than the LOD or as defined by the project. The LOD has been adjusted for any dilution or
W	The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
i	The MRL/MDL or LOQ/LOD has been elevated due to a matrix interference.
X	See case narrative.
+	The correlation coefficient for the MSA is less than 0.995.
Q	See case narrative. One or more quality control criteria was outside the limits.

Organic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
A	A tentatively identified compound, a suspected aldol-condensation product.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result.
C	The analyte was qualitatively confirmed using GC/MS techniques, pattern recognition, or by comparing to historical data.
D	The reported result is from a dilution.
E	The result is an estimate amount because the value exceeded the instrument calibration range.
J	The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
N	The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
P	The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results.
U	The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.1 definition*: Analyte was not detected and is reported as less than the LOD or as defined by the project. The LOD has been adjusted for any dilution or
i	The MRL/MDL or LOQ/LOD has been elevated due to a chromatographic interference.
X	See case narrative.
Q	See case narrative. One or more quality control criteria was outside the limits.

Additional Petroleum Hydrocarbon Specific Qualifiers

F	The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
L	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
H	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
O	The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
Y	The chromatographic fingerprint of the sample resembles a petroleum product eluting in approximately the correct carbon range, but the elution pattern does not match the calibration standard.
Z	The chromatographic fingerprint does not resemble a petroleum product.

Columbia Analytical Services, Inc.
Kelso, WA
State Certifications, Accreditations, and Licenses

Program	Number
Alaska DEC UST	UST-040
Arizona DHS	AZ0339
Arkansas - DEQ	88-0637
California DHS	2286
Colorado DPHE	-
Florida DOH	E87412
Hawaii DOH	-
Idaho DHW	-
Indiana DOH	C-WA-01
Louisiana DEQ	3016
Louisiana DHH	LA050010
Maine DHS	WA0035
Michigan DEQ	9949
Minnesota DOH	053-999-368
Montana DPHHS	CERT0047
Nevada DEP	WA35
New Jersey DEP	WA005
New Mexico ED	-
North Carolina DWQ	605
Oklahoma DEQ	9801
Oregon - DHS	WA200001
South Carolina DHEC	61002
Utah DOH	COLU
Washington DOE	C1203
Wisconsin DNR	998386840
Wyoming (EPA Region 8)	-

Case Narrative

COLUMBIA ANALYTICAL SERVICES, INC.

Client:	URS Corporation	**Service Request No.:**	K0910296
Project:	Boise St. Helens Pulp and Paper Mill	**Date Received:**	10/23/2009
Sample Matrix:	Water		

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of Columbia Analytical Services, Inc. (CAS). This report contains analytical results for samples designated for Tier III validation deliverables including summary forms and all of the associated raw data for each of the analyses. When appropriate to the method, method blank results have been reported with each analytical test.

Sample Receipt

One water sample was received for analysis at Columbia Analytical Services on 10/23/2009. The sample was received in good condition and consistent with the accompanying chain of custody form. The sample was stored in a refrigerator at 4°C upon receipt at the laboratory.

Total Metals

No anomalies associated with the analysis of these samples were observed.

PCB Aroclors by EPA Method 8082

Second Source Exceptions:
The analysis of PCB Aroclors by EPA 8082 requires the use of dual column confirmation. When the Initial Calibration Verification (ICV) criteria are met for both columns, the higher of the two sample results is generally reported. The primary evaluation criteria were not met on the confirmation column for Aroclor 1016 in CAL 9019. The ICV results were reported from the acceptable column. The data quality was not affected. No further corrective action was necessary.

Calibration Verification Exceptions:
The analysis of PCB Aroclors by EPA 8082 requires the use of dual column confirmation. When the Continuing Calibration Verification (CCV) criterion is met for both columns, the higher of the two sample results is generally reported. The primary evaluation criteria were not met on the confirmation column for all analytes in 1114F047, 1115F014, 1115F029. The results were reported from the column with an acceptable CCV. The data quality was not affected. No further corrective action was necessary.

Matrix Spike Recovery Exceptions:
The matrix spike recovery of Aroclor 1016 for Batch QC was outside control criteria because of matrix interference. The chromatogram indicated the presence of Aroclor 1242, which prevented accurate quantitation of the target analytes. The problem stemmed from common peaks for Aroclor 1016 and 1242. Complete resolution of these two Aroclors was not possible, so a portion of Aroclor 1242 is unavoidably quantitated as Aroclor 1016. The net effect was a high bias to the value reported for Aroclor 1016. No further corrective action was appropriate.

Elevated Detection Limits:
The detection limit was elevated for most Aroclors in this field sample. The chromatogram indicated the presence of non-target background components. The matrix interference prevented adequate resolution of the target compounds at the normal limit. The results were flagged to indicate the matrix interference.

Approved by _____ **Date** 12/17/09

Polynuclear Aromatic Hydrocarbons by EPA Method 8270C

Calibration Verification Exceptions:
The upper control criterion was exceeded for 2,3,5-Trimethylnaphthalene in Continuing Calibration Verification (CCV) MS11\109F002.D. The field samples analyzed in this sequence did not contain the analyte in question. Since the apparent problem indicated a potential high bias, the data quality was not affected. No further corrective action was required.

Surrogate Exceptions:
The upper control criterion was exceeded for Fluorene-d10 and Fluoranthene-d10 in sample RB-1. No target analytes were detected at levels greater than the Method Reporting Limit (MRL) in the sample. The error associated with an elevated recovery equated to a high bias. The quality of the sample data was not significantly affected. No further corrective action was appropriate.

Dioxins and Furans

As requested by URS Corporation, the analysis for Dioxins and Furans was subcontracted to Axys Analytical. The results for this analysis will be submitted directly to URS Corporation from Axys Analytical under separate cover.

Approved by_____ **Date**_____

Chain of Custody Documentation

K0910296

CHAIN of CUSTODY

Page _1_ of _1_

Columbia Analytical Services
800.695.7222
www.caslab.com

Client: OfficeMax & URS Corporation

Bill to: OfficeMax

Project: Boise St Helens Pulp and Paper Mill - Sediment 2009

SR #

Project Manager: David Weatherby, URS Corporation

Telephone No. 503.222.7200

Fax No. 503.222.4292

Sample I.D.	Lab I.D.	Matrix	Date	Time	Number of Containers	Submit to Axys (1)	PAHs 8270 SIM	PCB's Aroclors	Total Metals (Sb, As, Cd, Pb, Hg, Se, and Zn)	TOC	Grain Size	Total Solids	Total Sulfides	Bulk Ammonia	Total Volatile Solids	Remarks
RB-1		Water	10.22.09	1500	7	X	X	X	X							
- CLOSE LOG IN -																

Sample Received Intact: Yes No

Temperature received: Ice No ice

Special Instructions/Comments:

(1) Submit 2 x 1 liter unpreserved ambers to Axys

RELIQUISHED BY:	RELIQUISHED BY:	RELIQUISHED BY:	RELIQUISHED BY:
Signature: Nicky Moody	Signature:	Signature:	Signature:
Printed Name: NICKY MOODY	Printed Name: Les Kennedy	Printed Name:	Printed Name:
Firm: URS	Firm: CAS	Firm:	Firm:
Date/Time: 10.22.09/1630	Date/Time: 10/23/09 1350	Date/Time:	Date/Time:

Columbia Analytical Services, Inc.
Cooler Receipt and Preservation Form

PC 1 of 1

Client / Project: URS Service Request *K09* 10296

Received: 10/23/09 Opened: 10/23/09 By: MC

1. Samples were received via? *US Mail* *Fed Ex* *UPS* *DHL* *GH* *GS* *PDX* *Courier* *Hand Delivered*
2. Samples were received in: (circle) *Cooler* *Box* *Envelope* *Other* _____ *NA*
3. Were custody seals on coolers? NA (Y) N If yes, how many and where? 1 front
   If present, were custody seals intact? (Y) N If present, were they signed and dated? (Y) N
4. Is shipper's air-bill filed? If not, record air-bill number: _____ (NA) Y N

5. **Temperature of cooler(s) upon receipt (°C):** 0.4
   Temperature Blank (°C):
   Thermometer ID: 274
6. If applicable, list Chain of Custody Numbers:
7. Packing material used. *Inserts* *Baggies* *Bubble Wrap* *Gel Packs* (*Wet Ice*) *Sleeves* *Other* _____
8. Were custody papers properly filled out (ink, signed, etc.)? NA (Y) N
9. **Did all bottles arrive in good condition (unbroken)?** *Indicate in the table below.* NA Y (N) *
10. Were all sample labels complete (i.e analysis, preservation, etc.)? NA (Y) N
11. Did all sample labels and tags agree with custody papers? *Indicate in the table below* NA (Y) N
12. **Were appropriate bottles/containers and volumes received for the tests indicated?** NA (Y) N
13. Were the pH-preserved bottles tested* received at the appropriate pH? *Indicate in the table below* NA (Y) N
14. Were VOA vials received without headspace? *Indicate in the table below.* (NA) Y N
15. **Are CWA Microbiology samples received with >1/2 the 24hr. hold time remaining from collection?** (NA) Y N
16. Was C12/Res negative? NA (Y) N

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Sample ID	Bottle Count Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

*Does not include all pH preserved sample aliquots received. See sample receiving SOP (SMO-GEN).

Additional Notes, Discrepancies, & Resolutions: * Received 6 - 1L Amber and 2 500ml HNO3 - COCs list 9 total bottles.

Metals

Columbia Analytical Services

- Cover Page -
INORGANIC ANALYSIS DATA PACKAGE

Client: URS Corporation
Project Name: Boise St. Helens Pulp and Paper Mill-2009
Project No.:
Service Request: K0910296

Sample Name:	Lab Code:
RB-1	K0910296-001
RB-1D	K0910296-001D
RB-1S	K0910296-001S
Method Blank	K0910296-MB
Batch QC1D	K0910299-010D
Batch QC1S	K0910299-010S

Comments:

Approved By: _____ **Date:** 11/30/09

Metals

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client: URS Corporation
Project No.: NA
Project Name: Boise St. Helens Pulp and Paper
Matrix: WATER

Service Request: K0910296
Date Collected: 10/22/09
Date Received: 10/23/09
Units: ug/L
Basis: N/A

Sample Name: RB-1 **Lab Code:** K0910296-001

Analyte	Analysis Method	MRL	MDL	Dil. Factor	Date Extracted	Date Analyzed	Result	C	Q
Antimony	6020	0.050	0.005	1.0	11/13/09	11/23/09	0.009	J	
Arsenic	6020	0.5	0.1	1.0	11/13/09	11/23/09	0.1	U	
Cadmium	6020	0.020	0.005	1.0	11/13/09	11/23/09	0.005	U	
Lead	6020	0.020	0.005	1.0	11/13/09	11/23/09	0.009	J	
Mercury	7470A	0.20	0.02	1.0	11/05/09	11/06/09	0.02	U	
Selenium	6020	1.0	0.3	1.0	11/13/09	11/23/09	0.3	U	
Zinc	6020	0.5	0.2	1.0	11/13/09	11/23/09	0.3	J	

% Solids: 0.0

Comments:

Metals

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client: URS Corporation
Service Request: K0910296
Project No.: NA
Date Collected:
Project Name: Boise St. Helens Pulp and Paper
Date Received:
Matrix: WATER
Units: ug/L
Basis: N/A

Sample Name: Method Blank
Lab Code: K0910296-MB

Analyte	Analysis Method	MRL	MDL	Dil. Factor	Date Extracted	Date Analyzed	Result	C	Q
Antimony	6020	0.050	0.005	1.0	11/13/09	11/23/09	0.005	U	
Arsenic	6020	0.5	0.1	1.0	11/13/09	11/23/09	0.1	U	
Cadmium	6020	0.020	0.005	1.0	11/13/09	11/23/09	0.005	U	
Lead	6020	0.020	0.005	1.0	11/13/09	11/23/09	0.005	U	
Mercury	7470A	0.20	0.02	1.0	11/05/09	11/06/09	0.02	U	
Selenium	6020	1.0	0.3	1.0	11/13/09	11/23/09	0.3	U	
Zinc	6020	0.5	0.2	1.0	11/13/09	11/23/09	0.2	U	

% Solids: 0.0

Comments:

Metals

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: URS Corporation **Service Request:** K0910296

Project No.: NA

Project Name: Boise St. Helens Pulp and Paper

ICV Source: Inorganic Ventures **CCV Source:** CAS MIXED

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					Method
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	
Antimony	25.0	24.3	97	25.0	25.8	103	25.1	100	6020
Arsenic	25.0	25.5	102	25.0	25.5	102	25.4	102	6020
Cadmium	12.5	12.5	100	25.0	25.8	103	25.1	100	6020
Lead	25.0	25.0	100	25.0	25.5	102	24.9	100	6020
Mercury	5.00	5.13	103	5.00	5.04	101	4.98	100	7470A
Selenium	25.0	26.5	106	25.0	26.3	105	26.2	105	6020
Zinc	25.0	26.4	106	25.0	25.3	101	25.0	100	6020

Metals

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: URS Corporation **Service Request:** K0910296

Project No.: NA

Project Name: Boise St. Helens Pulp and Paper

ICV Source: Inorganic Ventures **CCV Source:** CAS MIXED

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					Method
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	
Antimony				25.0	25.3	101	25.3	101	6020
Arsenic				25.0	26.1	104	26.4	106	6020
Cadmium				25.0	25.0	100	25.2	101	6020
Lead				25.0	25.1	100	25.3	101	6020
Mercury				5.00	4.95	99	5.00	100	7470A
Selenium				25.0	26.3	105	26.1	104	6020
Zinc				25.0	25.0	100	25.3	101	6020

Metals

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: URS Corporation **Service Request:** K0910296

Project No.: NA

Project Name: Boise St. Helens Pulp and Paper

ICV Source: Inorganic Ventures **CCV Source:** CAS MIXED

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					Method
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	
Antimony				25.0	25.4	102			6020
Arsenic				25.0	25.9	104			6020
Cadmium				25.0	25.3	101			6020
Lead				25.0	25.4	102			6020
Selenium				25.0	26.9	108			6020
Zinc				25.0	25.3	101			6020

Metals
- 2b -
CRDL STANDARD FOR AA AND ICP

Client: URS Corporation **Service Request:** K0910296

Project No.: NA

Project Name: Boise St. Helens Pulp and Paper

Concentration Units: ug/L

Analyte	CRDL Standard for AA			CRDL Standard for ICP Initial			Final	
	True	Found	%R	True	Found	%R	Found	%R
Antimony				0.05	0.06	120		
Arsenic				0.5	0.47	94		
Cadmium				0.02	0.02	100		
Lead				0.02	0.026	130		
Mercury	0.20	0.21	105					
Selenium				1.0	0.82	82		
Zinc				0.50	0.58	116		

Metals

- 3 -

BLANKS

Client: URS Corporation **Service Request:** K0910296

Project No.: NA

Project Name: Boise St. Helens Pulp and Paper

Concentration Units: ug/L

Analyte	Initial Calib. Blank	C	Continuing Calibration Blank 1	C	2	C	3	C	Method
Antimony	0.013	J	0.007	J	0.005	U	0.006	J	6020
Arsenic	0.10	U	-0.13	J	0.10	U	0.10	U	6020
Cadmium	0.005	U	0.005	U	0.005	U	0.005	U	6020
Lead	0.005	U	0.005	U	0.005	U	0.005	J	6020
Mercury	-0.02	J	0.02	U	0.02	U	0.02	U	7470A
Selenium	0.3	U	-0.5	J	0.3	U	0.3	U	6020
Zinc	0.20	U	0.20	U	0.20	U	0.20	U	6020

Metals

- 3 -

BLANKS

Client: URS Corporation **Service Request:** K0910296

Project No.: NA

Project Name: Boise St. Helens Pulp and Paper

Concentration Units: ug/L

Analyte	Initial Calib. Blank	C	Continuing Calibration Blank 1	C	2	C	3	C	Method
Antimony			0.008	J	0.008	J			6020
Arsenic			0.10	U	-0.14	J			6020
Cadmium			0.005	U	0.007	J			6020
Lead			0.005	J	0.009	J			6020
Mercury			0.02	U					7470A
Selenium			0.3	U	-0.6	J			6020
Zinc			0.20	U	0.20	U			6020

Metals

- 4 -

ICP INTERFERENCE CHECK SAMPLE

Client: URS Corporation **Service Request:** K0910296

Project No.: NA

Project Name: Boise St. Helens Pulp and Paper

ICP ID Number: K-ICP-MS-03 **ICS Source:** Inorganic Ventures

Concentration Units: ug/L

Analyte	True		Initial Found			Final Found		
	Sol.A	Sol.AB	Sol.A	Sol.AB	%R	Sol.A	Sol.AB	%R
Antimony			0.04					
Arsenic	0.00		-0.01					
Cadmium	0.00		0.05					
Lead			0.11					
Selenium	0.00		-0.28					
Zinc			1.23					

80-120% control criteria is not applicable to interfering elements (Al,Ca,Fe,Mg).

Metals

- 5A -

SPIKE SAMPLE RECOVERY

Client:	URS Corporation	**Service Request:**	K0910296
Project No.:	NA	**Units:**	UG/L
Project Name:	Boise St. Helens Pulp and Paper	**Basis:**	N/A
Matrix:	WATER	**% Solids:**	0.0

Sample Name: RB-1S **Lab Code:** K0910296-001S

Analyte	Control Limit %R	Spike Result	C	Sample Result	C	Spike Added	%R	Q	Method
Antimony	66 - 133	19.5		0.009	J	20.00	97.5		6020
Arsenic	72 - 129	19.0		0.1	U	20.00	95.0		6020
Cadmium	87 - 113	19.6		0.005	U	20.00	98.0		6020
Lead	76 - 117	19.4		0.009	J	20.00	97.0		6020
Selenium	47 - 150	19.1		0.3	U	20.00	95.5		6020
Zinc	65 - 126	19.7		0.3	J	20.00	97.0		6020

An empty field in the Control Limit column indicates the control limit is not applicable

Metals

- 5A -

SPIKE SAMPLE RECOVERY

Client:	URS Corporation	**Service Request:**	K0910296
Project No.:	NA	**Units:**	UG/L
Project Name:	Boise St. Helens Pulp and Paper	**Basis:**	N/A
Matrix:	WATER	**% Solids:**	0.0

Sample Name: Batch QC1S **Lab Code:** K0910299-010S

Analyte	Control Limit %R	Spike Result	C	Sample Result	C	Spike Added	%R	Q	Method
Mercury	76 - 126	1.02		0.02	J	1.00	100.0		7470A

An empty field in the Control Limit column indicates the control limit is not applicable

Metals

- 5B -

POST SPIKE SAMPLE RECOVERY

Client: URS Corporation **Service Request:** K0910296

Project No.: NA **Units:** UG/L

Project Name: Boise St. Helens Pulp and Paper **Basis:** N/A

Matrix: WATER

Sample Name: RB-1A **Lab Code:** K0910296-001A

Analyte	Control Limit %R	Spike Result	C	Sample Result	C	Spike Added	%R	Q	Method
Antimony	75 - 125	20.98		0.01		20.0	105		6020
Arsenic	75 - 125	20.65		0.10		20.0	103		6020
Cadmium	75 - 125	19.99		0.01		20.0	100		6020
Lead	75 - 125	19.97		0.01		20.0	100		6020
Selenium	75 - 125	21.18		0.30		20.0	106		6020
Zinc	75 - 125	20.10		0.25		20.0	99		6020

Metals

- 5B -

POST SPIKE SAMPLE RECOVERY

Client: URS Corporation **Service Request:** K0910296

Project No.: NA **Units:** UG/L

Project Name: Boise St. Helens Pulp and Paper **Basis:** N/A

Matrix: WATER

Sample Name: Batch QC1A **Lab Code:** K0910364-004A

Analyte	Control Limit %R	Spike Result	C	Sample Result	C	Spike Added	%R	Q	Method
Mercury	85 - 115	0.98		0.02		1.00	98		7470A

Metals

- 6 -

DUPLICATES

Client: URS Corporation **Service Request:** K0910296

Project No.: NA **Units:** UG/L

Project Name: Boise St. Helens Pulp and Paper **Basis:** N/A

Matrix: WATER **% Solids:** 0.0

Sample Name: RB-1D **Lab Code:** K0910296-001D

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	Method
Antimony		0.009	J	0.005	U	200.0		6020
Arsenic		0.1	U	0.1	U			6020
Cadmium		0.005	U	0.005	U			6020
Lead		0.009	J	0.005	J	57.1		6020
Selenium		0.3	U	0.3	U			6020
Zinc		0.3	J	0.2	U	200.0		6020

An empty field in the Control Limit column indicates the control limit is not applicable.

Metals

- 6 -

DUPLICATES

Client: URS Corporation **Service Request:** K0910296

Project No.: NA **Units:** UG/L

Project Name: Boise St. Helens Pulp and Paper **Basis:** N/A

Matrix: WATER **% Solids:** 0.0

Sample Name: Batch QC1D **Lab Code:** K0910299-010D

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	Method
Mercury		0.02	J	0.02	U	200.0		7470A

An empty field in the Control Limit column indicates the control limit is not applicable.

Metals

- 7 -

LABORATORY CONTROL SAMPLE

Client: URS Corporation **Service Request:** K0910296

Project No.: NA

Project Name: Boise St. Helens Pulp and Paper

Aqueous LCS Source: CAS MIXED **Solid LCS Source:**

Analyte	Aqueous: ug/L			Solid: mg/kg				
	True	Found	%R	True	Found	C	Limits	%R
Antimony	20	20.9	104.5					
Arsenic	20	21.0	105.0					
Cadmium	20	20.9	104.5					
Lead	20	20.8	104.0					
Mercury	5	5.08	101.6					
Selenium	20	21.2	106.0					
Zinc	20	21.1	105.5					

Metals

- 9 -

ICP SERIAL DILUTIONS

Client: URS Corporation **Service Request:** K0910296

Project No.: NA **Units:** UG/L

Project Name: Boise St. Helens Pulp and Paper

Sample Name: RB-1L **Lab Code:** K0910296-001L

Analyte	Initial Sample Result (I)	C	Serial Dilution Result (S)	C	% Difference	Q	M
Antimony	0.01	J	0.03	U	100.0		MS
Arsenic	0.10	U	0.50	U			MS
Cadmium	0.00	J	0.03	U	100.0		MS
Lead	0.009	J	0.029	J	222		MS
Selenium	0.30	U	1.50	U			MS
Zinc	0.25	J	1.15	J	360		MS

Metals

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DETECTION LIMITS

Client: URS Corporation **Service Request:** K0910296

Project No.: NA

Project Name: Boise St. Helens Pulp and Paper

ICP/ICP-MS ID #: K-ICP-MS-03

GFAA ID #: **AA ID #:**

Analyte	Isotope	Back-ground	MRL ug/L	MDL ug/L	M
Antimony	123		0.050	0.005	MS
Arsenic	75		0.5	0.1	MS
Cadmium	111		0.020	0.005	MS
Lead	208		0.020	0.005	MS
Selenium	82		1.0	0.3	MS
Zinc	66		0.5	0.2	MS

Comments:

Metals

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DETECTION LIMITS

Client: URS Corporation **Service Request:** K0910296

Project No.: NA

Project Name: Boise St. Helens Pulp and Paper

ICP/ICP-MS ID #:

GFAA ID #: **AA ID #:** K-CVAA-01

Analyte	Wave-length (nm)	Back-ground	MRL ug/L	MDL ug/L	M
Mercury	253.70		0.2	0.02	CV

Comments:

Metals
-12-
ICP LINEAR RANGES (QUARTERLY)

Client: URS Corporation **Service Request:** K0910296

Project No.: NA

Project Name: Boise St. Helens Pulp and Paper

ICP ID Number: K-ICP-MS-03

Analyte	Integ. Time (Sec.)	Concentration (ug/L)	Method
Antimony	15.000	2000	6020
Arsenic	15.000	2000	6020
Cadmium	15.000	2000	6020
Lead	15.000	2000	6020
Selenium	15.000	2000	6020
Zinc	15.000	2000	6020

Comments:

Metals
-13-
PREPARATION LOG

Client: URS Corporation **Service Request:** K0910296

Project No.: NA

Project Name: Boise St. Helens Pulp and Paper

Method: CV

Sample ID	Preparation Date	Initial Volume	Final Volume(mL)
K0910296-001	11/05/09	20.0	20.0
K0910296-MB	11/05/09	20.0	20.0
K0910299-010D	11/05/09	20.0	20.0
K0910299-010S	11/05/09	20.0	20.0
LCSW	11/05/09	20.0	20.0

Metals
-13-
PREPARATION LOG

Client: URS Corporation **Service Request:** K0910296

Project No.: NA

Project Name: Boise St. Helens Pulp and Paper

Method: MS

Sample ID	Preparation Date	Initial Volume	Final Volume (mL)
K0910296-001	11/13/09	50.0	50.0
K0910296-001D	11/13/09	50.0	50.0
K0910296-001S	11/13/09	50.0	50.0
K0910296-MB	11/13/09	50.0	50.0
LCSW	11/13/09	50.0	50.0

Metals
- 14 -
ANALYSIS RUN LOG

Client: URS Corporation **Service Request:** K0910296

Project No.: NA

Project Name: Boise St. Helens Pulp and Paper

Instrument ID Number: K-ICP-MS-03 **Method:** MS

Start Date: 11/23/09 **End Date:** 11/23/09

Sample No.	D/F	Time	% R	Analytes																											
				AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	CN
Cal. Blk	1	17:10			X	X			X						X						X					X	
Cal. Stn	1	17:15			X	X			X						X						X					X	
ICV1	1	17:21			X	X			X						X						X					X	
CCV1	1	17:33			X	X			X						X						X					X	
ICB1	1	17:50			X	X			X						X						X					X	
CCB1	1	17:55			X	X			X						X						X					X	
CRA1	1	18:00			X	X			X						X						X					X	
ICS-A1	1	18:04			X	X			X						X						X					X	
ZZZZZZ	1	18:11																									
ZZZZZZ	1	18:18																									
ZZZZZZ	1	18:22																									
ZZZZZZ	1	18:28																									
ZZZZZZ	5	18:32																									
ZZZZZZ	1	18:37																									
ZZZZZZ	1	18:43																									
ZZZZZZ	1	18:47																									
CCV2	1	18:52			X	X			X						X						X					X	
CCB2	1	19:02			X	X			X						X						X					X	
ZZZZZZ	1	19:07																									
ZZZZZZ	1	19:12																									
ZZZZZZ	1	19:16																									
ZZZZZZ	1	19:21																									
ZZZZZZ	1	19:25																									
ZZZZZZ	1	19:31																									
ZZZZZZ	1	19:36																									
ZZZZZZ	1	19:41																									
ZZZZZZ	1	19:45																									
ZZZZZZ	1	19:50																									
CCV3	1	19:55			X	X			X						X						X					X	
CCB3	1	20:05			X	X			X						X						X					X	
ZZZZZZ	1	20:09																									
ZZZZZZ	1	20:14																									

*** - Denotes additional elements (other than the standard CLP elements) are represented on another Form 14**

Metals
- 14 -
ANALYSIS RUN LOG

Client: URS Corporation **Service Request:** K0910296

Project No.: NA

Project Name: Boise St. Helens Pulp and Paper

Instrument ID Number: K-ICP-MS-03 **Method:** MS

Start Date: 11/23/09 **End Date:** 11/23/09

Sample No.	D/F	Time	% R	Analytes																								
				AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	CN
ZZZZZZ	1	20:19																										
ZZZZZZ	1	20:24																										
ZZZZZZ	1	20:29																										
ZZZZZZ	1	20:33																										
ZZZZZZ	1	20:38																										
ZZZZZZ	1	20:43																										
ZZZZZZ	1	20:49																										
ZZZZZZ	1	20:54																										
CCV4	1	20:58			X	X			X						X						X					X		
CCB4	1	21:09			X	X			X						X						X					X		
ZZZZZZ	1	21:13																										
K0910296-MB	1	21:18			X	X			X						X						X					X		
LCSW	1	21:22			X	X			X						X						X					X		
K0910296-001	1	21:28			X	X			X						X						X					X		
K0910296-001D	1	21:32			X	X			X						X						X					X		
K0910296-001L	5	21:37			X	X			X						X						X					X		
K0910296-001A	1	21:41			X	X			X						X						X					X		
K0910296-001S	1	21:47			X	X			X						X						X					X		
ZZZZZZ	1	21:52																										
ZZZZZZ	1	21:57																										
CCV5	1	22:02			X	X			X						X						X					X		
CCB5	1	22:18			X	X			X						X						X					X		

*** - Denotes additional elements (other than the standard CLP elements) are represented on another Form 14**

Metals
- 14 -
ANALYSIS RUN LOG

Client: URS Corporation **Service Request:** K0910296

Project No.: NA

Project Name: Boise St. Helens Pulp and Paper

Instrument ID Number: K-CVAA-01 **Method:** CV

Start Date: 11/06/09 **End Date:** 11/06/09

Sample No.	D/F	Time	% R	Analytes																								
				AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	CN
Calibration Zero	1	11:00																X								
Standard #1	1	11:01																X								
Standard #2	1	11:03																X								
Standard #3	1	11:05																X								
Standard #4	1	11:07																X								
Standard #5	1	11:08																X								
ICV1	1	11:10																X								
ICB1	1	11:12																X								
CCV1	1	11:14																X								
CCB1	1	11:16																X								
CRA1	1	11:17																X								
K0910296-MB	1	11:19																X								
LCSW	1	11:21																X								
ZZZZZZ	1	11:23																								
K0910364-004A	1	11:24																X								
ZZZZZZ	1	11:26																								
ZZZZZZ	1	11:28																								
ZZZZZZ	1	11:30																								
ZZZZZZ	1	11:31																								
ZZZZZZ	1	11:33																								
CCV2	1	11:35																X								
CCB2	1	11:37																X								
ZZZZZZ	1	11:39																								
ZZZZZZ	1	11:40																								
ZZZZZZ	1	11:42																								
ZZZZZZ	1	11:44																								
ZZZZZZ	1	11:46																								
ZZZZZZ	1	11:47																								
ZZZZZZ	1	11:49																								
K0910299-010D	1	11:51																X								
K0910299-010S	1	11:53																X								
ZZZZZZ	1	11:55																								

* - Denotes additional elements (other than the standard CLP elements) are represented on another Form 14

Metals
- 14 -
ANALYSIS RUN LOG

Client: URS Corporation **Service Request:** K0910296

Project No.: NA

Project Name: Boise St. Helens Pulp and Paper

Instrument ID Number: K-CVAA-01 **Method:** CV

Start Date: 11/06/09 **End Date:** 11/06/09

Sample No.	D/F	Time	% R	Analytes																								
				AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	CN
CCV3	1	11:56																X									
CCB3	1	11:58																X									
ZZZZZZ	1	12:00																									
K0910296-001	1	12:02																X									
ZZZZZZ	1	12:03																									
ZZZZZZ	1	12:05																									
ZZZZZZ	1	12:07																									
ZZZZZZ	1	12:09																									
CCV4	1	12:45																X									
CCB4	1	12:47																X									

*** - Denotes additional elements (other than the standard CLP elements) are represented on another Form 14**

Columbia Analytical Services
Metals Digestion Sheet

Service Request Number(s): K0910296, K0910242
Star Lims Run No.: 100634-3

Method: CLP 9/11/09
3005A (CLP Hot Block) Other-

Analysis for: ICP (ICP-MS) GFAA
Flame AA Other

Sample	Initial Weight (g)	Dry	Wet	Initial Volume(ml)	Final Volume (ml)	Matrix
Blank			X	50	50	1% HNO3
LCS						
K0910296-1						
-1D						
-1S						
K0910242-1						
-2						
-3						
-4						
-5						
-6				25		
-7				50		
-8						
-9						
				SG 11/13/09		

Time Digestion Started: 11:30 **Balance I.D.:** _____ **Date Balance Checked** _____
Lot # Acids Used: **HNO3** 451S-27-I **HCl** _____ **H_2O_2** _____ **HF** _____
Hot Block Temp: 96 °C
LCSS (circle appropriate) **ERA CLP Soil Lot # D045540** **Other:** _____

GFAA LCSW = GFLCSW, MET1-75-R, _____ mls. added
ICP LCSW = QCP-ICCV-1, MET1-79-E, _____ mls. added
QCP CICV-2, MET1-77-M, _____ mls. added
QCP CICV-3, MET1-77-L, _____ mls. added
SS6, MET1-79-O, _____ mls. Added

TCLP Spike/LCSE
TSS1 MET1-74-K _____ mls. added

SPIKE INFO
SS1-MET1-79-M, _____ mls added SS4-MET1-76-B _____ mls added SS7-MET1-78-H _____ mls added
SS5-MET1-79-K, _____ mls added 200.8 1000ppb Stock (MS13-20-A) 1.0 mls added
SS6-MET1-79-O, _____ mls added Ag 1000ppb Stock (MS13-23-J) 1.0 mls added
Additional spikes: * sample 10242-6 was preserved after aliquoting
Comments: * samples 10242-1, -2, -4, -8 were pH checked <2 SG 11/13/09
* samples 10242-3, 5, 7, 9 were preserved 11/12, pH checked 11/13, ~~sample 10242-6 was digested and then preserved~~

Analyst [signature] **Date** 11/13/09
Reviewer [signature] **Date** 11/16/09

metdig.xls

CVAA Mercury Data Review Form

Element: Hg

Analysis Lot #: 178224

Cal. STD/CCV Source: HG1-87-D

Service Request Numbers:

K0910364, K0910299, K0910090, K0910222, K0910296, K0910419, K0909322

	Yes	No	NA
1) Appropriate standardization completed	X		
2) ICV within 10% of true value	X		
3) CCVs in control	X		
4) CCBs and or ICBs below MRL	X		
5) All reported samples within calibration range	X		
6) Calculations correct	X		

Comments:

Data reviewed against service request(s) to ensure no samples were omitted: MS (initials)

Primary Reviewed By: MAS Date: 11/6/09

Secondary Reviewed By: JDB Date: 11/9/09

COLUMBIA ANALYTICAL SERVICES, INC. PRINTOUT WITH:_____
ANALYTICAL WORKSHEET

Method: (Circle One) 7470A 7471A 245.1	Service Request # :
Analysis For: Hg	K0910364, K0910299, K0910090, K0910222, K0910296, K0910419, K0909322

DATA

Pos.	SAMPLE NUMBER	Initial Sample (g) or (mL)	Initial Dilution (mL)	Dilution Factor	Measured (µg/L)	Sample Actual (mg/kg)	Sample Actual (µg/L)
1	ICV1	~	~	~	5.13		103%
2	ICB1	~	~	~	-0.02		< 0.2
3	CCV1	~	~	~	5.04		101%
4	CCB1	~	~	~	0.00		< 0.2
5	CRA1	~	~	~	0.21		105%
6	K0910364-MB	20	20	~	0.01		0.01
7	LCSW K0910364	20	20	~	5.08		102%
8	K0910364-004	20	20	~	0.00		0.00
9	K0910364-004A	20	20	~	0.98		98%
10	K0910364-004D	20	20	~	0.01		0.01
11	K0910364-004S	20	20	~	0.99		99%
12	K0910364-005	20	20	~	0.01		0.01
13	K0910364-006	20	20	~	-0.01		-0.01
14	K0910364-008	20	20	~	0.00		0.00
15	CCV2	~	~	~	4.98		100%
16	CCB2	~	~	~	0.00		< 0.2
17	K0910364-009	20	20	~	0.01		0.01
18	K0910364-010	20	20	~	0.01		0.01
19	K0910364-011	20	20	~	0.01		0.01
20	K0910364-013	20	20	~	0.02		0.02
21	K0910364-014	20	20	~	0.02		0.02
22	K0910364-015	20	20	~	0.02		0.02
23	K0910299-010	20	20	~	0.02		0.02
24	K0910299-010D	20	20	~	0.01		0.01
25	K0910299-010S	20	20	~	1.02		102%

Comments: Reporting Levels:

Soil/Tissue Spike Level:

Post Spike Level: 1.0 ppb

Method	Spike Level	MRL	LCS Limit	MS Limit	RPD
7470A Water	1.0 µg/L	0.2 µg/L	83-117%	76-126%	20%
245.1 Water	1.0 µg/L	0.2 µg/L	85-115%	70-131%	20%
7470A TCLP	5.0 µg/L	1.0 µg/L	85-115%	75-125%	20%
7471A Soil LCSS	1.77 mg/kg	0.02 mg/kg	72-122%	60-135%	30%
7471A Tissue Tort	3.37 mg/kg	0.02 mg/kg	63-130%	60-130%	30%

Analyst:	Date:	Page Number:
Melissa Guth	11/16/09	1

[Controlled - HgWaterRunForm 7-24-09] HG1.XLS

COLUMBIA ANALYTICAL SERVICES, INC. PRINTOUT WITH:_____
ANALYTICAL WORKSHEET

Method: (Circle One) 7470A 7471A 245.1	Service Request # :
Analysis For: Hg	

DATA

Pos.	SAMPLE NUMBER	Initial Sample (g) or (mL)	Initial Dilution (mL)	Dilution Factor	Measured (µg/L)	Sample Actual (mg/kg)	Sample Actual (µg/L)
26	K0910090-001	20	20	~	0.02		0.02
27	CCV3	~	~	~	4.95		99%
28	CCB3	~	~	~	0.00		< 0.2
29	K0910222-001	20	20	~	0.56		0.56
30	K0910296-001	20	20	~	0.01		0.01
31	K0910419-001	20	20	~	0.06		0.06
32	K0909322-001	20	20	~	0.00		0.00
33	K0909322-001D	20	20	~	-0.01		-0.01
34	K0909322-001S	20	20	~	1.01		101%
35	CCV4	~	~	~	5.00		100%
36	CCB4	~	~	~	0.00		< 0.2
37							
38							
39							
40							
41							
42							
43							
44							
45							
46							
47							
48							
49							
50							

Comments: Reporting Levels:

Soil/Tissue Spike Level:

Post Spike Level:

Method	Spike Level	MRL	LCS Limit	MS Limit	RPD
7470A Water	1.0 µg/L	0.2 µg/L	83-117%	76-126%	20%
245.1 Water	1.0 µg/L	0.2 µg/L	85-115%	70-131%	20%
7470A TCLP	5.0 µg/L	1.0 µg/L	85-115%	75-125%	20%
7471A Soil LCSS	1.77 mg/kg	0.02 mg/kg	72-122%	60-135%	30%
7471A Tissue Tort	3.37 mg/kg	0.02 mg/kg	63-130%	60-130%	30%

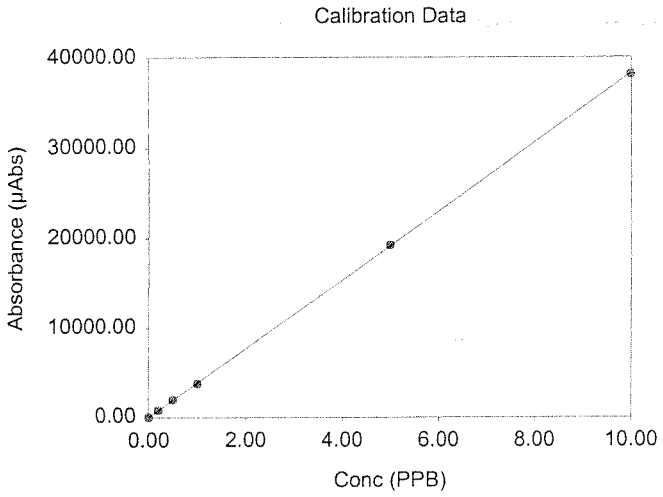
Analyst:	Date:	Page Number:
	11/6/09	2

[Controlled - HgWaterRunForm 7-24-09] HG2.XLS

CETAC Hg Analysis Report - 09110602.DB - Friday, November 06, 2009, 12:48:18 PM

Analyst M SMITH
Date Started Friday, November 06, 2009, 11:00:05
Worksheet Hg 110609B
Comment K-CVAA-01

Sample ID	Analysis Time	Conc (PPB)	%RSD	Avg. µAbs	Readings				Flags
Calibration Zero	06-Nov-2009, 11:00	0.00	130.00	11.40	31	15	4	-4	
Standard #1	06-Nov-2009, 11:01	0.20	1.53	785.00	770	782	798	790	
Standard #2	06-Nov-2009, 11:03	0.50	1.20	1990.00	1964	1972	2010	2008	
Standard #3	06-Nov-2009, 11:05	1.00	1.03	3750.00	3708	3741	3760	3800	
Standard #4	06-Nov-2009, 11:07	5.00	0.70	19200.00	19039	19223	19327	19324	
Standard #5	06-Nov-2009, 11:08	10.00	0.85	38200.00	37782	38052	38387	38494	



Int.	0.000
Slope	3823.186
Correlation	0.99999

Sample ID	Analysis Time	Conc (PPB)	%RSD	Avg. µAbs	Readings				Flags
ICV1	06-Nov-2009, 11:10	5.13	0.66	19600.00	19453	19576	19626	19765	

Sample ID	Analysis Time	Conc (PPB)	%RSD	Avg. µAbs	Readings				Flags
ICB1	06-Nov-2009, 11:12	-0.02	23.10	-59.10	-42	-55	-66	-74	

Sample ID	Analysis Time	Conc (PPB)	%RSD	Avg. µAbs	Readings				Flags
CCV1	06-Nov-2009, 11:14	5.04	1.11	19300.00	18946	19265	19396	19402	

Sample ID	Analysis Time	Conc (PPB)	%RSD	Avg. µAbs	Readings				Flags
CCB1	06-Nov-2009, 11:16	0.00	218.00	7.29	-7	15	26	-5	

Sample ID	Analysis Time	Conc (PPB)	%RSD	Avg. µAbs	Readings				Flags
CRA1	06-Nov-2009, 11:17	0.21	0.82	800.00	792	803	799	807	

Sample ID	Analysis Time	Conc (PPB)	%RSD	Avg. µAbs	Readings				Flags
K0910364-MB	06-Nov-2009, 11:19	0.01	35.60	22.10	11	23	24	30	
LCSW K0910364	06-Nov-2009, 11:21	5.08	0.93	19400.00	19162	19404	19548	19537	
K0910364-004	06-Nov-2009, 11:23	0.00	171.00	3.87	-3	13	4	1	
K0910364-004A	06-Nov-2009, 11:24	0.98	0.82	3730.00	3693	3728	3762	3751	
K0910364-004D	06-Nov-2009, 11:26	0.01	42.40	39.90	21	59	31	49	
K0910364-004S	06-Nov-2009, 11:28	0.99	1.10	3800.00	3745	3785	3829	3834	
K0910364-005	06-Nov-2009, 11:30	0.01	40.20	30.10	21	29	22	47	
K0910364-006	06-Nov-2009, 11:31	-0.01	12.40	-22.10	-22	-20	-20	-26	
K0910364-008	06-Nov-2009, 11:33	-0.00	11.40	-17.70	-19	-20	-18	-15	

Sample ID	Analysis Time	Conc (PPB)	%RSD	Avg. µAbs	Readings				Flags
CCV2	06-Nov-2009, 11:35	4.98	0.81	19000.00	18820	19026	19128	19166	

Sample ID	Analysis Time	Conc (PPB)	%RSD	Avg. µAbs	Readings				Flags
CCB2	06-Nov-2009, 11:37	0.00	7.50	18.00	19	17	19	17	

Sample ID	Analysis Time	Conc (PPB)	%RSD	Avg. µAbs	Readings				Flags
K0910364-009	06-Nov-2009, 11:39	0.01	25.80	40.70	52	33	30	46	
K0910364-010	06-Nov-2009, 11:40	0.01	31.20	25.70	22	29	17	35	
K0910364-011	06-Nov-2009, 11:42	0.01	62.30	27.50	11	23	24	52	
K0910364-013	06-Nov-2009, 11:44	0.02	26.60	82.20	53	77	100	99	
K0910364-014	06-Nov-2009, 11:46	0.02	19.80	65.00	74	74	47	65	

Analyst M SMITH
Date Started Friday, November 06, 2009, 11:47:56
Worksheet Hg 110609B
Comment K-CVAA-01

Sample ID	Analysis Time	Conc (PPB)	%RSD	Avg. µAbs	Readings				Flags
K0910364-015	06-Nov-2009, 11:47	0.02	7.49	70.70	67	79	68	69	
K0910299-010	06-Nov-2009, 11:49	0.02	26.40	58.10	38	65	74	55	
K0910299-010D	06-Nov-2009, 11:51	0.01	21.40	42.80	46	54	33	38	
K0910299-010S	06-Nov-2009, 11:53	1.02	0.92	3880.00	3833	3876	3905	3911	
K0910090-001	06-Nov-2009, 11:55	0.02	12.60	73.60	69	79	63	83	

Sample ID	Analysis Time	Conc (PPB)	%RSD	Avg. µAbs	Readings				Flags
CCV3	06-Nov-2009, 11:56	4.95	1.34	18900.00	18639	18822	19092	19199	

Sample ID	Analysis Time	Conc (PPB)	%RSD	Avg. µAbs	Readings				Flags
CCB3	06-Nov-2009, 11:58	0.00	42.50	15.90	21	16	21	6	

Sample ID	Analysis Time	Conc (PPB)	%RSD	Avg. µAbs	Readings				Flags
K0910222-001	06-Nov-2009, 12:00	0.56	0.07	2150.00	2152	2154	2156	2154	
K0910296-001	06-Nov-2009, 12:02	0.01	14.70	35.80	43	33	31	37	
K0910419-001	06-Nov-2009, 12:03	0.06	3.22	210.00	201	217	214	209	
K0909322-001	06-Nov-2009, 12:05	0.00	141.00	3.53	9	-2	1	6	
K0909322-001D	06-Nov-2009, 12:07	-0.01	17.70	-19.60	-19	-15	-21	-24	
K0909322-001S	06-Nov-2009, 12:09	1.01	0.76	3860.00	3816	3875	3868	3880	

Sample ID	Analysis Time	Conc (PPB)	%RSD	Avg. µAbs	Readings				Flags
CCV4	06-Nov-2009, 12:45	5.00	0.62	19100.00	18946	19124	19193	19203	

Sample ID	Analysis Time	Conc (PPB)	%RSD	Avg. µAbs	Readings				Flags
CCB4	06-Nov-2009, 12:47	0.00	98.70	17.80	-8	25	28	26	

Columbia Analytical Services

EPA METHOD 7470A

Service Request Number(s) :	K0910364, K0910299, K0910090, K0910222, K0910296, K0910419
PREP RUN: 106100	

Sample	Initial Volume	Final Volume	Sample	Initial Volume	Final Volume
MB	20	20			
LCSW					
K0910364-004					
K0910364-004D					
K0910364-004S					
K0910364-005					
K0910364-006					
K0910364-008					
K0910364-009					
K0910364-010					
K0910364-011					
K0910364-013					
K0910364-014					
K0910364-015					
K0910299-010					
K0910299-010D					
K0910299-010S					
K0910090-001					
K0910222-001					
K0910296-001					
K0910419-001					
K0909322-01					
E - 01D					
E - 01S					
		MS111509			
Std. 0.2	0.1 *				50
Std. 0.5	0.25 *				50
Std. 1.0	0.5 *				50
Std. 5.0	2.5*				50
Std. 10.0	5.0 *				50
ICV	0.25 **				50

Start Time: 2:45 **Finish Time:** 4:45 **Waterbath Temp.:** 95° C **Balance#:** 1

Lot # of Reagents Used:

HNO_3: H12022	**$K_2S_2O_8$: G19476**	**NaCl : G28620**
H_2SO_4: 47213	**$KMnO_4$: G25592**	**NH_2OH-HCL: H26621**
HCL: 200917601	**$SnCl_2$: H13584**	**ERA CLP Soil: D045540**

* Source Standard: HG1-87-D 100 ppb Spike = 0.2 ml * Source Standard

**Source Standard: ICV HG1-867 1000 ppb LCSW= 0.1 ml ICV **Source Standard

Comments:	
Analyst: Melissa Arth	**Date:** 11/6 5/09 MS

[k10382] 7470

Service Request # __K0910296_____
Calibration __112309BMS03_____
QC in calibration__112309BMS03_____
QC Service Request # __K0910296_____
STARLIMS run # __181026_____

ICP-MS Data Review Form

	Yes	No	NA
1. Appropriate standardization completed	X		
2. ICV within 10 % of true value	X		
3. CCV's in control	X		
4. CCB's and/or ICB's below MRL	X		
5. Method blank below MRL	X		
6. LCS in control	X		
7. Spike and duplicate in control	X		
8. All analytes within instrument linear range	X		
9. Adequate rinse out time allowed	X		
10. Internal standards in control	X		
11. Interferences checked	X		
12. Se over MRL		X	
13. CRA run	X		
14. Cd Correction Applied		X	
15. ICSA and ICSAB in control	X		
16. Serial dilution run	X		
17. Post spike in control	X		

Comments: ~~Needs Ag rerun. ICSAB Failed~~. JB 11/25/09

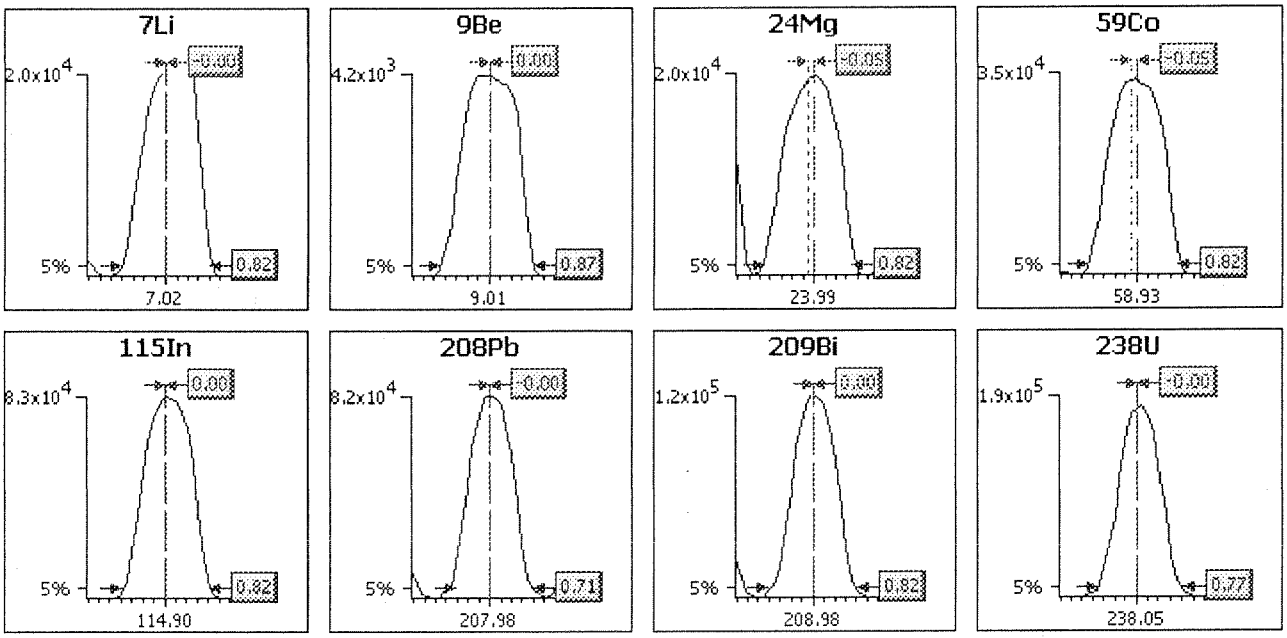
Primary Review by JDB Date 11/25/09
Secondary Review by _____ Date 11/25/09
R:\icp\misc\data review forms\icpms review form

Performance Report

Sample details
Acquired at : 11/23/2009 10:17:52 AM
Report name : Kelso Performance Report 2 [01/23/2008 04:49:11 PM]

Mass Calibration verification

Acquisition parameters
Sweeps : 100
Dwell : 1.0 mSecs
Point spacing : 0.05 amu
Peak width measured at 5% of the peak maximum



Analyte	Limits			Results	
	Max. width	Min. width	Max. error	Peak width	Peak error
7Li	0.90	0.60	0.10	0.82	-0.00
9Be	0.90	0.60	0.10	0.87	0.00
24Mg	0.90	0.60	0.10	0.82	-0.05
59Co	0.90	0.60	0.10	0.82	-0.05
115In	0.90	0.60	0.10	0.82	0.00
208Pb	0.90	0.60	0.10	0.71	-0.00
209Bi	0.90	0.60	0.10	0.82	0.00
238U	0.90	0.60	0.10	0.77	-0.00

Sample details
Acquired at : 11/23/2009 10:17:52 AM
Report name : Kelso Performance Report 2 [01/23/2008 04:49:11 PM]

Tune conditions

Major	
Extraction	-141
Lens 1	4.7
Focus	23.1
D1	-34.5
Pole Bias	2.5
Hexapole Bias	1.5
Nebuliser	0.74
Sampling Depth	20

Minor	
Lens 2	-13.3
Lens 3	-183.5
Forward power	1247
Horizontal	105
Vertical	50
D2	-146
DA	-42.4
Cool	13.0
Auxiliary	0.89

Global	
Standard resolution	85
High resolution	125
Analogue Detector	1500
PC Detector	3480

Add. Gases

Sensitivity and stability results

Acquisition parameters
Sweeps : 400

Run	Time	5Bkg	7Li	9Be	24Mg	59Co	115In	140Ce	156Ce O	208Pb
Dwell (mSecs)		10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Limits	%RSD	-	5.0%	5.0%	5.0%	5.0%	5.0%	-	-	5.0%
	Countrate	-	>1000	>1000	>1000	>1000	>1000	-	-	>1000
1	10:18:23 AM	0.000	21229.259	4294.264	19698.819	34572.866	84843.323	92196.401	1252.086	86124.031
2	10:19:36 AM	0.000	20745.393	4188.715	19354.331	33987.414	84297.783	91566.836	1227.833	85710.652
3	10:20:49 AM	0.000	21068.385	4230.984	19312.742	33936.224	83808.288	91378.455	1265.088	85380.567
4	10:22:02 AM	0.250	20905.259	4152.698	19257.626	33843.128	83696.515	91481.736	1222.582	85411.607
5	10:23:15 AM	0.000	20763.936	4149.447	19211.528	33754.047	82986.551	90806.517	1252.586	84829.696
x		0.050	20942.446	4203.222	19367.009	34018.736	83926.492	91485.989	1244.035	85491.311
σ		0.11	206.28	60.65	193.22	322.39	694.40	496.11	18.05	475.60
%RSD		223.607	0.985	1.443	0.998	0.948	0.827	0.542	1.451	0.556

Run	Time	209Bi	220Bkg	238U
Dwell (mSecs)		10.0	10.0	10.0
Limits	%RSD	5.0%	-	5.0%
	Countrate	>1000	-	>1000
1	10:18:23 AM	125297.05	0.000	185867.08
2	10:19:36 AM	124975.68	0.000	185273.91
3	10:20:49 AM	124871.26	0.000	184657.05
4	10:22:02 AM	124237.16	0.000	183743.82
5	10:23:15 AM	123792.65	0.250	182720.25
x		124634.76	0.050	184452.42
σ		607.87	0.11	1247.05
%RSD		0.488	223.607	0.676

Ratio results

Run	Time	156Ce O/140Ce
	Ratio limits	<0.0200
1	10:18:23 AM	0.014
2	10:19:36 AM	0.013
3	10:20:49 AM	0.014
4	10:22:02 AM	0.013
5	10:23:15 AM	0.014
x		0.0136
σ		0.00
%RSD		1.6019

Result : The performance report passed.

Sample List

No	Label	Type	Weight	Rack	Row	Col	Height
1	Cal. Blk	Blank	1.000	0	1	1	150
2	Cal. Stn	Fully Quant Standard	1.000	0	1	2	150
3	ICV1	Unknown	1.000	0	1	3	150
4	CCV1	Unknown	1.000	0	1	2	150
5	ICB1	Unknown	1.000	0	1	1	150
6	CCB1	Unknown	1.000	0	1	1	150
7	CRA	Unknown	1.000	0	1	4	150
8	ICSA	Unknown	1.000	0	1	5	150
9	ICSAB	Unknown	1.000	0	1	6	150
10	K0910145-MB	Unknown	1.000	1	1	1	150
11	LCSW K0910145	Unknown	1.000	1	1	2	150
12	K0910145-001	Unknown	1.000	1	1	3	150
13	K0910145-001 1/5L	Unknown	1.000	1	1	4	150
14	K0910145-001A	Unknown	1.000	1	1	5	150
15	K0910145-002	Unknown	1.000	1	1	6	150
16	K0910145-003	Unknown	1.000	1	1	7	150
17	CCV2	Unknown	1.000	0	1	2	150
18	CCB2	Unknown	1.000	0	1	1	150
19	K0910145-004	Unknown	1.000	1	1	8	150
20	K0910145-005	Unknown	1.000	1	1	9	150
21	K0910145-006	Unknown	1.000	1	1	10	150
22	K0910145-006D	Unknown	1.000	1	1	11	150
23	K0910145-006S	Unknown	1.000	1	1	12	150
24	K0910145-007	Unknown	1.000	1	2	1	150
25	K0910145-008	Unknown	1.000	1	2	2	150
26	K0910145-009	Unknown	1.000	1	2	3	150
27	K0910145-010	Unknown	1.000	1	2	4	150
28	K0910145-011	Unknown	1.000	1	2	5	150
29	CCV3	Unknown	1.000	0	1	2	150
30	CCB3	Unknown	1.000	0	1	1	150
31	K0910145-012	Unknown	1.000	1	2	6	150
32	K0910215-MB	Unknown	1.000	1	2	7	150
33	LCSW K0910215	Unknown	1.000	1	2	8	150
34	K0910215-001	Unknown	1.000	1	2	9	150
35	K0910215-001D	Unknown	1.000	1	2	10	150
36	K0910215-001 1/5L	Unknown	1.000	1	2	11	150
37	K0910215-001A	Unknown	1.000	1	2	12	150
38	K0910215-001S	Unknown	1.000	1	3	1	150
39	K0910215-002	Unknown	1.000	1	3	2	150
40	K0910215-003	Unknown	1.000	1	3	3	150
41	CCV4	Unknown	1.000	0	1	2	150
42	CCB4	Unknown	1.000	0	1	1	150
43	K0910215-004	Unknown	1.000	1	3	4	150
44	K0910296-MB	Unknown	1.000	1	3	5	150
45	LCSW K0910296	Unknown	1.000	1	3	6	150
46	K0910296-001	Unknown	1.000	1	3	7	150
47	K0910296-001D	Unknown	1.000	1	3	8	150
48	K0910296-001 1/5L	Unknown	1.000	1	3	9	150
49	K0910296-001A	Unknown	1.000	1	3	10	150
50	K0910296-001S	Unknown	1.000	1	3	11	150
51	K0910242-001	Unknown	1.000	1	3	12	150
52	K0910242-002	Unknown	1.000	1	4	1	150
53	CCV5	Unknown	1.000	0	1	2	150
54	CCB5	Unknown	1.000	0	1	1	150
55	K0910242-003	Unknown	1.000	1	4	2	150
56	K0910242-004	Unknown	1.000	1	4	3	150
57	K0910242-005	Unknown	1.000	1	4	4	150
58	K0910242-006	Unknown	1.000	1	4	5	150
59	K0910242-007	Unknown	1.000	1	4	6	150
60	K0910242-008	Unknown	1.000	1	4	7	150
61	K0910242-009	Unknown	1.000	1	4	8	150
62	CCV6	Unknown	1.000	0	1	2	150
63	CCB6	Unknown	1.000	0	1	1	150

Dilution Corrected Concentrations

Cal. Blk 11/23/2009 05:10:55 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	51V	59Co	60Ni	61Ni
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:10:55	103.82%	0.0021	0.0457	0.0353	0.0029	-0.0003	-0.0025	0.5280
2	17:11:50	97.45%	0.0007	-0.0080	0.0031	-0.0011	-0.0003	-0.0025	-0.5879
3	17:12:44	98.74%	-0.0028	-0.0377	-0.0384	-0.0018	0.0005	0.0050	0.0599
x		100.00%	0.0000	-0.0000	-0.0000	-0.0000	0.0000	0.0000	0.0000
σ		3.37%	0.0025	0.0423	0.0369	0.0025	0.0005	0.0043	0.5603
%RSD		3.37	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Run	**Time**	**62Ni**	**63Cu**	**65Cu**	**66Zn**	**67Zn**	**68Zn**	**71Ga**	**75As**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:10:55	0.0082	-0.0039	-0.0022	-0.0035	0.0039	-0.0128	100.52%	-0.0290
2	17:11:50	-0.0122	-0.0067	0.0009	0.0064	0.0166	0.0061	100.62%	-0.0448
3	17:12:44	0.0040	0.0107	0.0013	-0.0029	-0.0205	0.0067	98.86%	0.0738
x		-0.0000	-0.0000	-0.0000	-0.0000	-0.0000	-0.0000	100.00%	-0.0000
σ		0.0108	0.0094	0.0019	0.0056	0.0188	0.0111	0.99%	0.0644
%RSD		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.99	0.0000
Run	**Time**	**77Se**	**78Se**	**82Se**	**95Mo**	**97Mo**	**98Mo**	**103Rh**	**107Ag**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:10:55	-0.0569	0.3298	-0.1643	-0.0034	-0.0093	-0.0116	101.55%	-0.0003
2	17:11:50	0.0107	0.0322	-0.1378	-0.0043	0.0100	0.0051	98.84%	0.0009
3	17:12:44	0.0462	-0.3621	0.3021	0.0077	-0.0007	0.0066	99.61%	-0.0007
x		0.0000	-0.0000	-0.0000	-0.0000	-0.0000	-0.0000	100.00%	0.0000
σ		0.0524	0.3471	0.2620	0.0067	0.0097	0.0101	1.40%	0.0008
%RSD		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	1.40	0.0000
Run	**Time**	**109Ag**	**111Cd**	**112Cd**	**114Cd**	**115In**	**121Sb**	**123Sb**	**135Ba**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:10:55	-0.0006	0.0000	-0.0006	-0.0013	99.48%	-0.0016	0.0009	-0.0026
2	17:11:50	0.0007	0.0000	0.0020	0.0000	99.56%	0.0011	-0.0011	0.0000
3	17:12:44	-0.0001	0.0000	-0.0014	0.0013	100.96%	0.0005	0.0002	0.0026
x		-0.0000	0.0000	-0.0000	-0.0000	100.00%	-0.0000	-0.0000	-0.0000
σ		0.0006	0.0000	0.0018	0.0013	0.83%	0.0014	0.0011	0.0026
%RSD		0.0000	0.0000	0.0000	0.0000	0.83	0.0000	0.0000	0.0000
Run	**Time**	**137Ba**	**138Ba**	**175Lu**	**203Tl**	**205Tl**	**206Pb**	**207Pb**	**208Pb**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:10:55	-0.0039	0.0004	99.03%	-0.0010	0.0002	0.0004	0.0000	0.0000
2	17:11:50	0.0005	-0.0007	100.21%	0.0004	0.0001	-0.0005	0.0004	-0.0004
3	17:12:44	0.0034	0.0003	100.77%	0.0006	-0.0003	0.0001	-0.0004	0.0003
x		-0.0000	-0.0000	100.00%	-0.0000	-0.0000	-0.0000	-0.0000	0.0000
σ		0.0037	0.0006	0.89%	0.0009	0.0003	0.0005	0.0004	0.0004
%RSD		0.0000	0.0000	0.89	0.0000	0.0000	0.0000	0.0000	0.0000

Cal. Stn 11/23/2009 05:15:27 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	51V	59Co	60Ni	61Ni
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:15:27	108.14%	25.2666	25.1833	25.0773	24.9751	25.0027	25.2124	25.1873
2	17:16:21	102.67%	24.5434	24.9033	24.6959	24.8561	24.9873	24.7020	25.2903
3	17:17:16	98.29%	25.1900	24.9134	25.2268	25.1688	25.0100	25.0856	24.5224
x		103.03%	25.0000	25.0000	25.0000	25.0000	25.0000	25.0000	25.0000
σ		4.94%	0.3973	0.1588	0.2738	0.1578	0.0116	0.2658	0.4168
%RSD		4.79	1.5891	0.6353	1.0951	0.6312	0.0464	1.0630	1.6673

Run	Time	62Ni	63Cu	65Cu	66Zn	67Zn	68Zn	71Ga	75As
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:15:27	24.9954	25.0106	25.1520	25.0306	24.8684	24.7969	103.10%	25.4250
2	17:16:21	24.4415	25.0437	25.0207	24.7525	25.1854	24.6761	100.85%	24.4469
3	17:17:16	25.5631	24.9458	24.8273	25.2170	24.9462	25.5270	97.72%	25.1281
x		25.0000	25.0000	25.0000	25.0000	25.0000	25.0000	100.56%	25.0000
σ		0.5608	0.0498	0.1634	0.2337	0.1652	0.4604	2.70%	0.5014
%RSD		2.2433	0.1991	0.6535	0.9350	0.6608	1.8415	2.69	2.0058

Run	Time	77Se	78Se	82Se	95Mo	97Mo	98Mo	103Rh	107Ag
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:15:27	25.6714	25.5252	25.2678	25.0495	24.8388	24.8088	101.95%	24.9452
2	17:16:21	24.5182	24.0229	24.4158	24.4215	24.5774	24.8023	101.48%	24.8854
3	17:17:16	24.8104	25.4520	25.3164	25.5290	25.5838	25.3890	98.55%	25.1695
x		25.0000	25.0000	25.0000	25.0000	25.0000	25.0000	100.66%	25.0000
σ		0.5995	0.8470	0.5065	0.5554	0.5222	0.3369	1.84%	0.1498
%RSD		2.3982	3.3881	2.0260	2.2215	2.0888	1.3476	1.83	0.5991

Run	Time	109Ag	111Cd	112Cd	114Cd	115In	121Sb	123Sb	135Ba
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:15:27	24.8901	24.9918	24.8662	25.1489	101.72%	25.0977	24.9339	25.2595
2	17:16:21	24.7989	24.8253	24.9132	24.8923	101.64%	24.6614	25.0139	24.5620
3	17:17:16	25.3110	25.1830	25.2206	24.9588	99.61%	25.2408	25.0523	25.1785
x		25.0000	25.0000	25.0000	25.0000	100.99%	25.0000	25.0000	25.0000
σ		0.2732	0.1790	0.1925	0.1332	1.19%	0.3018	0.0604	0.3815
%RSD		1.0927	0.7160	0.7700	0.5328	1.18	1.2072	0.2416	1.5258

Run	Time	137Ba	138Ba	175Lu	203Tl	205Tl	206Pb	207Pb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:15:27	25.2024	25.3207	99.42%	25.1098	25.1133	25.1607	25.1875	25.1684
2	17:16:21	24.9219	24.7190	101.84%	24.8867	24.8749	24.7965	24.7662	24.7595
3	17:17:16	24.8757	24.9603	101.51%	25.0034	25.0118	25.0428	25.0463	25.0721
x		25.0000	25.0000	100.93%	25.0000	25.0000	25.0000	25.0000	25.0000
σ		0.1768	0.3028	1.31%	0.1116	0.1196	0.1858	0.2144	0.2138
%RSD		0.7071	1.2111	1.30	0.4464	0.4785	0.7433	0.8576	0.8552

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	51V	59Co	60Ni	61Ni
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:21:26	110.17%	2.7236	23.9349	23.8395	26.6845	26.4719	26.5788	27.3683
2	17:22:20	101.56%	2.6469	24.1441	24.1057	26.0149	25.9333	25.2832	25.1794
3	17:23:15	98.76%	2.5551	24.6044	24.5132	26.3224	26.3833	26.0098	27.4396
x		103.50%	2.6419	24.2278	24.1528	26.3406	26.2628	25.9573	26.6624
σ		5.94%	0.0843	0.3425	0.3393	0.3352	0.2888	0.6494	1.2848
%RSD		5.74	3.1928	1.4137	1.4047	1.2725	1.0998	2.5017	4.8189
Run	**Time**	**62Ni**	**63Cu**	**65Cu**	**66Zn**	**67Zn**	**68Zn**	**71Ga**	**75As**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:21:26	26.1378	13.6875	13.4439	27.0505	30.5503	28.5841	102.40%	26.5191
2	17:22:20	25.8264	12.9652	12.8314	25.6937	29.2259	27.9755	101.87%	25.4621
3	17:23:15	25.4423	12.9211	12.8840	26.4115	29.2757	28.4055	99.77%	24.6372
x		25.8022	13.1912	13.0531	26.3853	29.6840	28.3217	101.35%	25.5394
σ		0.3484	0.4303	0.3394	0.6788	0.7507	0.3128	1.39%	0.9434
%RSD		1.3503	3.2624	2.6003	2.5727	2.5290	1.1046	1.37	3.6937
Run	**Time**	**77Se**	**78Se**	**82Se**	**95Mo**	**97Mo**	**98Mo**	**103Rh**	**107Ag**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:21:26	26.3729	26.4395	27.7778	24.9421	24.9088	25.4745	102.01%	13.2967
2	17:22:20	24.3393	25.7626	25.9056	25.2797	25.3990	25.4506	101.01%	13.2060
3	17:23:15	25.2431	26.1553	25.7664	25.6584	25.5870	25.2979	101.45%	12.9373
x		25.3184	26.1191	26.4832	25.2934	25.2983	25.4077	101.49%	13.1467
σ		1.0189	0.3399	1.1233	0.3584	0.3501	0.0958	0.50%	0.1869
%RSD		4.0245	1.3014	4.2414	1.4168	1.3840	0.3769	0.50	1.4220
Run	**Time**	**109Ag**	**111Cd**	**112Cd**	**114Cd**	**115In**	**121Sb**	**123Sb**	**135Ba**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:21:26	13.3178	12.4124	13.2590	13.1765	101.54%	24.6135	24.4758	107.5128
2	17:22:20	13.2269	12.4136	13.1348	13.1028	101.42%	24.2908	24.2039	104.7412
3	17:23:15	12.9272	12.5530	13.0657	12.7407	102.14%	24.2501	24.0997	103.7623
x		13.1573	12.4597	13.1532	13.0066	101.70%	24.3848	24.2598	105.3388
σ		0.2044	0.0809	0.0979	0.2333	0.39%	0.1991	0.1942	1.9454
%RSD		1.5536	0.6489	0.7445	1.7936	0.38	0.8164	0.8005	1.8468
Run	**Time**	**137Ba**	**138Ba**	**175Lu**	**203Tl**	**205Tl**	**206Pb**	**207Pb**	**208Pb**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:21:26	106.5624	108.4078	99.04%	25.8154	25.5535	23.8501	26.5583	25.3213
2	17:22:20	104.0533	106.0633	102.51%	25.1838	25.0600	23.4025	26.0504	24.8432
3	17:23:15	104.3450	105.4296	103.01%	25.2162	25.1165	23.4677	26.0048	24.8257
x		104.9869	106.6336	101.52%	25.4051	25.2434	23.5734	26.2045	24.9968
σ		1.3722	1.5689	2.16%	0.3556	0.2701	0.2418	0.3073	0.2812
%RSD		1.3070	1.4713	2.13	1.3999	1.0699	1.0258	1.1726	1.1250

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Run	Time	6Li	9Be	10B	11B	51V	59Co	60Ni	61Ni
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:33:50	104.12%	25.9093	24.9409	25.3096	25.3607	26.4735	26.0612	26.6690
2	17:34:44	97.30%	25.4744	25.7272	25.8873	25.2685	25.2198	25.4545	23.9000
3	17:35:39	92.98%	25.3753	26.6675	26.8029	25.2924	25.5872	25.1079	27.3374
x		98.13%	25.5863	25.7785	25.9999	25.3072	25.7602	25.5412	25.9688
σ		5.61%	0.2841	0.8644	0.7530	0.0479	0.6445	0.4825	1.8225
%RSD		5.72	1.1102	3.3533	2.8960	0.1892	2.5019	1.8891	7.0181

Run	Time	62Ni	63Cu	65Cu	66Zn	67Zn	68Zn	71Ga	75As
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:33:50	25.8091	26.0404	26.1774	25.6841	25.6647	26.0425	97.99%	25.6148
2	17:34:44	24.8909	24.8323	25.3937	24.7860	24.5660	25.0059	97.33%	25.5221
3	17:35:39	25.3034	24.8640	25.2064	25.4046	26.1901	25.0965	95.43%	25.3149
x		25.3345	25.2456	25.5925	25.2916	25.4736	25.3816	96.92%	25.4840
σ		0.4599	0.6885	0.5151	0.4596	0.8287	0.5741	1.33%	0.1535
%RSD		1.8152	2.7272	2.0129	1.8173	3.2534	2.2620	1.37	0.6025

Run	Time	77Se	78Se	82Se	95Mo	97Mo	98Mo	103Rh	107Ag
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:33:50	27.0043	26.3650	26.1069	26.2343	25.7496	25.9854	97.12%	26.1114
2	17:34:44	25.6838	25.7090	26.2235	25.5153	25.4606	25.8760	97.96%	25.3279
3	17:35:39	24.8917	26.0834	26.5037	26.2685	25.5268	26.3722	96.69%	25.4489
x		25.8599	26.0525	26.2781	26.0060	25.5790	26.0779	97.26%	25.6294
σ		1.0673	0.3291	0.2039	0.4253	0.1514	0.2607	0.65%	0.4218
%RSD		4.1272	1.2633	0.7761	1.6354	0.5921	0.9997	0.67	1.6457

Run	Time	109Ag	111Cd	112Cd	114Cd	115In	121Sb	123Sb	135Ba
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:33:50	26.1289	26.1190	26.3087	26.2788	96.43%	26.4071	26.0592	26.5083
2	17:34:44	25.3576	25.7377	25.4823	25.4900	98.02%	25.5484	25.7314	25.4731
3	17:35:39	25.3454	25.5814	25.7713	25.6147	97.54%	25.4630	25.5969	25.5550
x		25.6106	25.8127	25.8541	25.7945	97.33%	25.8062	25.7958	25.8455
σ		0.4489	0.2765	0.4194	0.4240	0.82%	0.5222	0.2378	0.5755
%RSD		1.7526	1.0712	1.6222	1.6438	0.84	2.0234	0.9219	2.2267

Run	Time	137Ba	138Ba	175Lu	203Tl	205Tl	206Pb	207Pb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:33:50	26.3024	26.1987	96.65%	25.8585	25.5869	25.8639	25.7324	25.7745
2	17:34:44	25.4093	25.3626	99.44%	25.3128	25.2137	25.2614	25.2834	25.3004
3	17:35:39	25.7555	25.3316	99.62%	25.3269	25.2855	25.4208	25.2347	25.3735
x		25.8224	25.6310	98.57%	25.4994	25.3620	25.5154	25.4168	25.4828
σ		0.4503	0.4919	1.66%	0.3111	0.1980	0.3122	0.2744	0.2553
%RSD		1.7437	1.9191	1.69	1.2200	0.7808	1.2235	1.0795	1.0017

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Run	Time	6Li	9Be	10B	11B	51V	59Co	60Ni	61Ni
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:50:43	104.20%	0.0021	0.0363	0.0599	-0.0036	0.0008	0.0030	-0.3899
2	17:51:37	99.78%	0.0023	0.0787	0.0465	-0.0008	0.0055	-0.0006	-0.1243
3	17:52:32	95.53%	0.0034	0.0524	0.0436	-0.0155	0.0044	0.0013	-0.5273
x		99.83%	0.0026	0.0558	0.0500	-0.0066	0.0036	0.0013	-0.3472
σ		4.34%	0.0007	0.0214	0.0087	0.0078	0.0024	0.0018	0.2049
%RSD		4.34	27.0772	38.2884	17.4196	117.7286	67.7510	141.4633	59.0059
Run	**Time**	**62Ni**	**63Cu**	**65Cu**	**66Zn**	**67Zn**	**68Zn**	**71Ga**	**75As**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:50:43	0.0210	-0.0082	-0.0051	-0.0151	-0.0459	-0.0126	99.74%	-0.1087
2	17:51:37	0.0223	-0.0003	-0.0001	0.0115	-0.0074	0.0098	97.64%	-0.1245
3	17:52:32	-0.0234	0.0037	0.0032	-0.0207	-0.0073	0.0044	97.62%	0.0358
x		0.0066	-0.0016	-0.0007	-0.0081	-0.0202	0.0005	98.33%	-0.0658
σ		0.0261	0.0061	0.0042	0.0172	0.0222	0.0117	1.22%	0.0884
%RSD		392.4187	374.7768	606.1693	213.1097	110.2385	2231.0150	1.24	134.3016
Run	**Time**	**77Se**	**78Se**	**82Se**	**95Mo**	**97Mo**	**98Mo**	**103Rh**	**107Ag**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:50:43	-0.0566	0.1124	-0.4457	0.0859	0.0774	0.0805	99.22%	0.0026
2	17:51:37	-0.0560	-0.0843	-0.5006	0.1493	0.1462	0.1514	98.80%	0.0042
3	17:52:32	-0.0559	-0.0897	0.0750	0.1013	0.1689	0.1553	97.83%	0.0063
x		-0.0561	-0.0205	-0.2904	0.1122	0.1308	0.1290	98.62%	0.0043
σ		0.0004	0.1151	0.3177	0.0331	0.0476	0.0421	0.71%	0.0019
%RSD		0.6754	560.4345	109.3755	29.4778	36.4112	32.6436	0.72	42.8805
Run	**Time**	**109Ag**	**111Cd**	**112Cd**	**114Cd**	**115In**	**121Sb**	**123Sb**	**135Ba**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:50:43	0.0024	0.0000	0.0004	0.0001	98.02%	0.0089	0.0080	0.0107
2	17:51:37	0.0085	0.0017	-0.0013	0.0007	98.44%	0.0154	0.0184	0.0053
3	17:52:32	0.0087	0.0085	0.0021	0.0057	97.32%	0.0145	0.0137	0.0159
x		0.0065	0.0034	0.0004	0.0022	97.93%	0.0129	0.0134	0.0107
σ		0.0036	0.0045	0.0017	0.0031	0.57%	0.0035	0.0052	0.0053
%RSD		55.1540	132.6304	444.7248	141.3615	0.58	27.2311	38.9840	49.7640
Run	**Time**	**137Ba**	**138Ba**	**175Lu**	**203Tl**	**205Tl**	**206Pb**	**207Pb**	**208Pb**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:50:43	-0.0024	0.0018	96.30%	0.0020	0.0049	0.0015	0.0034	0.0024
2	17:51:37	-0.0009	0.0022	98.70%	0.0142	0.0147	0.0033	0.0066	0.0038
3	17:52:32	0.0006	0.0023	99.78%	0.0135	0.0112	0.0042	0.0045	0.0032
x		-0.0009	0.0021	98.26%	0.0099	0.0103	0.0030	0.0048	0.0031
σ		0.0015	0.0002	1.78%	0.0069	0.0050	0.0014	0.0016	0.0007
%RSD		164.3450	11.1312	1.81	69.4716	48.1844	46.5508	33.3658	22.8991

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Run	Time	6Li	9Be	10B	11B	51V	59Co	60Ni	61Ni
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:55:20	105.96%	0.0004	-0.0025	-0.0143	-0.0037	0.0015	0.0099	-1.0049
2	17:56:15	103.18%	-0.0003	-0.0097	-0.0144	-0.0075	0.0027	0.0120	-0.4472
3	17:57:09	96.20%	-0.0019	-0.1183	0.0032	-0.0154	0.0020	0.0048	-0.1122
x		101.78%	-0.0006	-0.0435	-0.0085	-0.0089	0.0020	0.0089	-0.5214
σ		5.03%	0.0012	0.0648	0.0102	0.0060	0.0006	0.0037	0.4510
%RSD		4.94	194.8944	149.0210	119.7291	67.2062	28.9376	41.5726	86.4858

Run	Time	62Ni	63Cu	65Cu	66Zn	67Zn	68Zn	71Ga	75As
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:55:20	0.0310	-0.0037	-0.0085	-0.0233	0.0151	0.0027	102.56%	-0.2703
2	17:56:15	0.0175	0.0048	0.0114	0.0042	0.0038	-0.0155	100.78%	-0.0780
3	17:57:09	-0.0034	-0.0032	0.0205	-0.0075	-0.0459	0.0058	101.56%	-0.0519
x		0.0150	-0.0007	0.0078	-0.0089	-0.0090	-0.0023	101.63%	-0.1334
σ		0.0173	0.0047	0.0149	0.0138	0.0325	0.0115	0.89%	0.1193
%RSD		115.3094	689.1586	190.3863	155.8469	361.9624	495.1787	0.88	89.4546

Run	Time	77Se	78Se	82Se	95Mo	97Mo	98Mo	103Rh	107Ag
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:55:20	0.0087	-0.0916	-0.9675	0.0374	0.0423	0.0486	101.22%	0.0021
2	17:56:15	0.0103	0.0196	-0.2656	0.0805	0.0762	0.0832	100.56%	0.0025
3	17:57:09	-0.0905	-0.2448	-0.2655	0.1067	0.1001	0.0939	99.37%	0.0033
x		-0.0239	-0.1056	-0.4995	0.0748	0.0728	0.0752	100.38%	0.0026
σ		0.0578	0.1328	0.4053	0.0350	0.0290	0.0237	0.94%	0.0006
%RSD		242.0838	125.7524	81.1284	46.7590	39.8599	31.4959	0.93	24.7243

Run	Time	109Ag	111Cd	112Cd	114Cd	115In	121Sb	123Sb	135Ba
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:55:20	0.0039	0.0033	-0.0014	0.0020	100.61%	0.0032	0.0050	0.0026
2	17:56:15	0.0027	0.0050	0.0019	0.0040	100.34%	0.0075	0.0098	0.0026
3	17:57:09	0.0040	0.0017	0.0053	0.0035	98.98%	0.0300	0.0072	0.0000
x		0.0035	0.0033	0.0019	0.0032	99.97%	0.0136	0.0073	0.0017
σ		0.0007	0.0016	0.0034	0.0011	0.87%	0.0144	0.0024	0.0015
%RSD		20.5116	49.6291	174.2948	33.1864	0.88	105.8956	32.7471	85.2788

Run	Time	137Ba	138Ba	175Lu	203Tl	205Tl	206Pb	207Pb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:55:20	-0.0024	0.0015	99.30%	0.0032	0.0034	0.0011	0.0008	0.0011
2	17:56:15	0.0078	0.0019	100.86%	0.0113	0.0085	0.0019	0.0032	0.0018
3	17:57:09	-0.0009	0.0022	100.55%	0.0086	0.0074	0.0023	0.0056	0.0043
x		0.0015	0.0019	100.24%	0.0077	0.0064	0.0018	0.0032	0.0024
σ		0.0055	0.0004	0.82%	0.0041	0.0027	0.0006	0.0024	0.0016
%RSD		375.5833	18.8669	0.82	53.7185	41.4652	35.7062	74.6400	67.9778

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Run	Time	6Li	9Be	10B	11B	51V	59Co	60Ni	61Ni
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:00:00	104.60%	0.0168	0.3996	0.4317	0.1928	0.0184	0.2683	0.6192
2	18:00:54	102.09%	0.0198	0.3431	0.4660	0.1916	0.0177	0.2269	0.1199
3	18:01:48	95.55%	0.0195	0.4767	0.4336	0.1698	0.0199	0.2194	0.2818
x		100.75%	0.0187	0.4065	0.4438	0.1847	0.0186	0.2382	0.3403
σ		4.67%	0.0016	0.0670	0.0193	0.0129	0.0011	0.0263	0.2547
%RSD		4.64	8.8032	16.4961	4.3464	6.9844	5.9732	11.0587	74.8571
Run	**Time**	**62Ni**	**63Cu**	**65Cu**	**66Zn**	**67Zn**	**68Zn**	**71Ga**	**75As**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:00:00	0.2627	0.1051	0.1238	0.5585	0.6357	0.6241	102.93%	0.4957
2	18:00:54	0.2187	0.1085	0.0994	0.6250	0.4383	0.5034	100.94%	0.4425
3	18:01:48	0.2424	0.1182	0.0945	0.5679	0.4297	0.5933	100.53%	0.4712
x		0.2413	0.1106	0.1059	0.5838	0.5012	0.5736	101.47%	0.4698
σ		0.0220	0.0068	0.0157	0.0360	0.1166	0.0627	1.28%	0.0266
%RSD		9.1363	6.1491	14.8343	6.1684	23.2541	10.9366	1.26	5.6710
Run	**Time**	**77Se**	**78Se**	**82Se**	**95Mo**	**97Mo**	**98Mo**	**103Rh**	**107Ag**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:00:00	0.9677	0.9209	0.8393	0.0911	0.0742	0.0745	99.94%	0.0208
2	18:00:54	1.1185	1.1107	0.8526	0.1048	0.1141	0.0990	100.10%	0.0238
3	18:01:48	0.8210	1.0653	0.7825	0.1167	0.0879	0.1042	99.12%	0.0205
x		0.9691	1.0323	0.8248	0.1042	0.0921	0.0925	99.72%	0.0217
σ		0.1488	0.0991	0.0372	0.0128	0.0203	0.0159	0.52%	0.0018
%RSD		15.3543	9.6018	4.5149	12.2965	22.0337	17.1549	0.52	8.4582
Run	**Time**	**109Ag**	**111Cd**	**112Cd**	**114Cd**	**115In**	**121Sb**	**123Sb**	**135Ba**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:00:00	0.0199	0.0168	0.0162	0.0151	98.75%	0.0608	0.0379	0.0841
2	18:00:54	0.0165	0.0349	0.0284	0.0156	99.97%	0.0583	0.0622	0.0621
3	18:01:48	0.0237	0.0202	0.0221	0.0165	98.61%	0.0575	0.0658	0.0838
x		0.0200	0.0240	0.0222	0.0157	99.11%	0.0589	0.0553	0.0767
σ		0.0036	0.0096	0.0061	0.0007	0.75%	0.0017	0.0152	0.0126
%RSD		18.0016	40.2255	27.4365	4.5623	0.75	2.8985	27.4052	16.4097
Run	**Time**	**137Ba**	**138Ba**	**175Lu**	**203Tl**	**205Tl**	**206Pb**	**207Pb**	**208Pb**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:00:00	0.0554	0.0565	98.73%	0.0204	0.0213	0.0226	0.0297	0.0268
2	18:00:54	0.0662	0.0621	100.59%	0.0221	0.0252	0.0231	0.0311	0.0242
3	18:01:48	0.0448	0.0635	100.14%	0.0198	0.0247	0.0279	0.0272	0.0266
x		0.0554	0.0607	99.82%	0.0208	0.0237	0.0245	0.0293	0.0258
σ		0.0107	0.0037	0.97%	0.0012	0.0021	0.0029	0.0020	0.0015
%RSD		19.2922	6.1138	0.98	5.9425	8.7901	11.8999	6.7441	5.6158

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	51V	59Co	60Ni	61Ni
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:04:34	94.35%	-0.0019	0.0414	0.0790	-0.0258	0.7879	1.0427	21.8398
2	18:05:28	86.98%	-0.0009	-0.0146	0.0341	0.0293	0.7628	1.0903	21.1424
3	18:06:22	85.91%	0.0012	0.0096	0.0081	-0.0678	0.7621	0.8937	17.5333
x		89.08%	-0.0005	0.0121	0.0404	-0.0214	0.7709	1.0089	20.1718
σ		4.60%	0.0016	0.0281	0.0358	0.0487	0.0147	0.1025	2.3115
%RSD		5.16	292.2942	231.5941	88.7142	227.5780	1.9065	10.1631	11.4589
Run	**Time**	**62Ni**	**63Cu**	**65Cu**	**66Zn**	**67Zn**	**68Zn**	**71Ga**	**75As**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:04:34	3.0750	0.4276	0.4453	1.1822	1.2821	1.0258	89.42%	0.0279
2	18:05:28	3.9370	0.4707	0.4491	1.1133	1.1397	1.0682	88.98%	-0.0890
3	18:06:22	4.0104	0.5160	0.4101	1.3853	1.4322	1.1384	86.58%	0.0312
x		3.6741	0.4714	0.4348	1.2269	1.2847	1.0775	88.33%	-0.0100
σ		0.5202	0.0442	0.0215	0.1414	0.1463	0.0569	1.53%	0.0684
%RSD		14.1580	9.3698	4.9481	11.5274	11.3872	5.2763	1.73	685.1480
Run	**Time**	**77Se**	**78Se**	**82Se**	**95Mo**	**97Mo**	**98Mo**	**103Rh**	**107Ag**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:04:34	0.9019	-0.1366	-0.0913	52.4178	52.0821	52.5414	85.57%	0.0599
2	18:05:28	0.7524	-0.0062	-0.6156	53.5626	52.2612	53.2141	85.71%	0.0621
3	18:06:22	0.8125	-0.2342	-0.1465	54.9050	53.7712	53.9949	84.65%	0.0535
x		0.8223	-0.1256	-0.2844	53.6285	52.7048	53.2501	85.31%	0.0585
σ		0.0753	0.1144	0.2881	1.2449	0.9278	0.7275	0.57%	0.0044
%RSD		9.1529	91.0533	101.2732	2.3214	1.7605	1.3661	0.67	7.5986
Run	**Time**	**109Ag**	**111Cd**	**112Cd**	**114Cd**	**115In**	**121Sb**	**123Sb**	**135Ba**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:04:34	0.0653	0.0419	0.0237	0.0405	88.25%	0.0400	0.0316	0.0613
2	18:05:28	0.0520	0.0551	0.0302	0.0441	88.68%	0.0452	0.0499	0.0924
3	18:06:22	0.0591	0.0421	0.0343	0.0383	88.09%	0.0412	0.0346	0.0925
x		0.0588	0.0464	0.0294	0.0410	88.34%	0.0421	0.0387	0.0821
σ		0.0066	0.0075	0.0053	0.0029	0.30%	0.0027	0.0098	0.0180
%RSD		11.2884	16.2272	18.0835	7.1891	0.34	6.4717	25.3650	21.9115
Run	**Time**	**137Ba**	**138Ba**	**175Lu**	**203Tl**	**205Tl**	**206Pb**	**207Pb**	**208Pb**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:04:34	0.0763	0.0810	91.44%	0.0472	0.0459	0.1024	0.1090	0.1065
2	18:05:28	0.0674	0.0834	93.08%	0.0469	0.0502	0.1019	0.1197	0.1044
3	18:06:22	0.0934	0.0735	94.02%	0.0499	0.0459	0.1038	0.1125	0.1102
x		0.0790	0.0793	92.84%	0.0480	0.0473	0.1027	0.1137	0.1070
σ		0.0132	0.0052	1.31%	0.0017	0.0025	0.0010	0.0055	0.0029
%RSD		16.7268	6.5234	1.41	3.4921	5.3353	0.9934	4.8043	2.7515

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	51V	59Co	60Ni	61Ni
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:11:13	95.58%	0.0061	-0.0356	-0.0018	49.7431	48.5612	46.9845	70.8049
2	18:12:08	88.60%	0.0174	0.0948	0.0102	50.5947	50.7586	49.3740	68.5944
3	18:13:02	84.67%	0.0123	0.0146	0.0525	50.8531	50.5275	49.5682	69.2719
x		89.62%	0.0120	0.0246	0.0203	50.3970	49.9491	48.6422	69.5571
σ		5.53%	0.0057	0.0658	0.0286	0.5808	1.2075	1.4389	1.1325
%RSD		6.17	47.3589	267.2153	140.7853	1.1524	2.4175	2.9582	1.6282
Run	**Time**	**62Ni**	**63Cu**	**65Cu**	**66Zn**	**67Zn**	**68Zn**	**71Ga**	**75As**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:11:13	50.0366	46.1786	45.8561	23.9000	24.5713	23.5199	93.41%	24.6935
2	18:12:08	52.2623	47.5156	47.6785	25.9086	25.9202	24.5088	87.66%	24.4935
3	18:13:02	52.2113	48.2246	48.2470	25.8825	26.6264	24.6467	86.79%	25.8376
x		51.5034	47.3062	47.2605	25.2304	25.7060	24.2252	89.29%	25.0082
σ		1.2706	1.0389	1.2491	1.1522	1.0442	0.6146	3.60%	0.7252
%RSD		2.4669	2.1962	2.6429	4.5669	4.0621	2.5372	4.03	2.8999
Run	**Time**	**77Se**	**78Se**	**82Se**	**95Mo**	**97Mo**	**98Mo**	**103Rh**	**107Ag**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:11:13	23.9915	24.7983	25.0561	52.0896	51.8944	52.2596	88.71%	9.6581
2	18:12:08	26.2594	25.7033	24.1406	54.9961	54.7728	55.3834	86.08%	9.9114
3	18:13:02	24.4315	24.7669	25.6311	56.0662	55.7660	56.3210	84.09%	10.1292
x		24.8941	25.0895	24.9426	54.3840	54.1444	54.6547	86.29%	9.8996
σ		1.2026	0.5318	0.7517	2.0578	2.0109	2.1265	2.32%	0.2358
%RSD		4.8310	2.1196	3.0137	3.7838	3.7139	3.8909	2.68	2.3815
Run	**Time**	**109Ag**	**111Cd**	**112Cd**	**114Cd**	**115In**	**121Sb**	**123Sb**	**135Ba**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:11:13	9.7700	23.9516	22.6091	23.5520	90.07%	0.0392	0.0355	0.0717
2	18:12:08	9.9647	25.0459	23.7588	24.4399	88.08%	0.0443	0.0432	0.1132
3	18:13:02	9.9793	25.0916	23.8425	24.6692	87.49%	0.0465	0.0404	0.0674
x		9.9047	24.6964	23.4035	24.2204	88.55%	0.0433	0.0397	0.0841
σ		0.1169	0.6454	0.6892	0.5901	1.35%	0.0037	0.0039	0.0253
%RSD		1.1799	2.6133	2.9449	2.4363	1.52	8.6026	9.7884	30.0598
Run	**Time**	**137Ba**	**138Ba**	**175Lu**	**203Tl**	**205Tl**	**206Pb**	**207Pb**	**208Pb**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:11:13	0.0799	0.0864	92.11%	0.0585	0.0540	0.1182	0.1153	0.1194
2	18:12:08	0.0678	0.0922	92.82%	0.0578	0.0604	0.1048	0.1266	0.1170
3	18:13:02	0.0962	0.0818	92.05%	0.0525	0.0570	0.1112	0.1286	0.1198
x		0.0813	0.0868	92.33%	0.0563	0.0571	0.1114	0.1235	0.1187
σ		0.0143	0.0052	0.43%	0.0033	0.0032	0.0067	0.0072	0.0015
%RSD		17.5501	6.0041	0.47	5.7839	5.5919	6.0041	5.8220	1.2832

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	51V	59Co	60Ni	61Ni
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:18:08	100.78%	-0.0011	-0.1198	-0.1536	0.0036	0.0009	0.0066	-0.0600
2	18:19:02	94.73%	-0.0028	-0.1052	-0.1554	0.0324	0.0152	0.0279	-0.3430
3	18:19:56	90.28%	0.0019	-0.1217	-0.1511	0.0016	0.0188	0.0223	-0.2467
x		95.27%	-0.0007	-0.1156	-0.1534	0.0125	0.0116	0.0189	-0.2166
σ		5.27%	0.0024	0.0090	0.0022	0.0172	0.0095	0.0110	0.1439
%RSD		5.53	352.0474	7.8258	1.4096	137.3818	81.7057	58.1075	66.4274
Run	**Time**	**62Ni**	**63Cu**	**65Cu**	**66Zn**	**67Zn**	**68Zn**	**71Ga**	**75As**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:18:08	0.3220	0.0087	-0.0097	0.0045	-0.0083	0.0062	100.15%	-0.0250
2	18:19:02	0.2571	0.0268	0.0128	0.0018	0.0318	0.0185	96.97%	-0.1480
3	18:19:56	0.3108	0.0216	0.0097	0.0100	-0.0070	0.0185	97.31%	0.0279
x		0.2966	0.0190	0.0043	0.0055	0.0055	0.0144	98.14%	-0.0484
σ		0.0347	0.0093	0.0122	0.0042	0.0228	0.0071	1.75%	0.0902
%RSD		11.6943	48.8345	287.1066	76.2905	415.3065	49.3915	1.78	186.4882
Run	**Time**	**77Se**	**78Se**	**82Se**	**95Mo**	**97Mo**	**98Mo**	**103Rh**	**107Ag**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:18:08	0.0447	0.0356	-0.0866	0.2499	0.2425	0.2453	99.86%	0.0001
2	18:19:02	0.1888	0.1286	-0.3709	0.3388	0.4132	0.4061	96.79%	0.0043
3	18:19:56	0.0836	-0.3988	0.1040	0.3890	0.3510	0.3605	96.54%	0.0068
x		0.1057	-0.0782	-0.1178	0.3259	0.3356	0.3373	97.73%	0.0037
σ		0.0745	0.2815	0.2390	0.0704	0.0864	0.0829	1.85%	0.0034
%RSD		70.5060	360.0963	202.7748	21.6157	25.7505	24.5717	1.89	89.5292
Run	**Time**	**109Ag**	**111Cd**	**112Cd**	**114Cd**	**115In**	**121Sb**	**123Sb**	**135Ba**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:18:08	0.0024	0.0000	0.0021	0.0001	97.54%	0.0028	0.0003	0.0054
2	18:19:02	0.0058	0.0086	0.0108	0.0100	96.44%	0.0018	-0.0018	0.0161
3	18:19:56	0.0046	0.0104	0.0143	0.0100	95.81%	0.0052	0.0068	0.0135
x		0.0043	0.0063	0.0090	0.0067	96.60%	0.0033	0.0017	0.0117
σ		0.0018	0.0056	0.0063	0.0057	0.88%	0.0017	0.0045	0.0056
%RSD		41.2322	87.7311	69.6199	85.5218	0.91	53.2392	258.2402	47.8506
Run	**Time**	**137Ba**	**138Ba**	**175Lu**	**203Tl**	**205Tl**	**206Pb**	**207Pb**	**208Pb**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:18:08	0.0066	0.0078	97.38%	0.0005	-0.0005	0.0011	0.0017	0.0009
2	18:19:02	0.0067	0.0076	98.55%	0.0010	0.0008	0.0017	0.0008	0.0008
3	18:19:56	0.0067	0.0070	99.16%	0.0012	0.0004	0.0011	0.0000	0.0010
x		0.0066	0.0075	98.36%	0.0009	0.0002	0.0013	0.0009	0.0009
σ		0.0000	0.0005	0.90%	0.0004	0.0007	0.0004	0.0008	0.0001
%RSD		0.3922	6.1648	0.92	43.1565	277.1159	28.0327	99.0634	8.7633

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	51V	59Co	60Ni	61Ni
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:22:38	95.91%	20.4729	20.3837	20.5077	20.1435	20.3949	20.2592	20.3211
2	18:23:32	92.49%	19.7413	20.0534	20.2198	19.8636	20.0132	20.1133	19.6775
3	18:24:27	88.52%	19.7765	20.1813	20.7743	20.2774	20.3076	20.0449	20.1967
x		92.31%	19.9969	20.2061	20.5006	20.0948	20.2386	20.1391	20.0651
σ		3.70%	0.4126	0.1666	0.2773	0.2111	0.2000	0.1094	0.3414
%RSD		4.01	2.0633	0.8243	1.3528	1.0507	0.9881	0.5434	1.7012
Run	**Time**	**62Ni**	**63Cu**	**65Cu**	**66Zn**	**67Zn**	**68Zn**	**71Ga**	**75As**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:22:38	20.5769	20.4432	20.5225	20.4675	20.4379	20.8797	98.89%	19.8838
2	18:23:32	19.7646	20.2050	20.0226	20.2303	21.4947	20.1875	95.94%	19.9159
3	18:24:27	19.6815	19.9946	19.4464	20.3699	20.8139	20.2954	95.00%	19.5693
x		20.0077	20.2143	19.9972	20.3559	20.9155	20.4542	96.61%	19.7897
σ		0.4947	0.2245	0.5385	0.1192	0.5357	0.3724	2.03%	0.1915
%RSD		2.4725	1.1104	2.6927	0.5857	2.5612	1.8207	2.10	0.9677
Run	**Time**	**77Se**	**78Se**	**82Se**	**95Mo**	**97Mo**	**98Mo**	**103Rh**	**107Ag**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:22:38	20.1186	20.1960	20.3903	20.1117	19.9431	20.0636	97.67%	21.1545
2	18:23:32	18.6517	19.6846	19.5039	20.2897	20.0050	19.9824	97.70%	20.5007
3	18:24:27	18.6319	20.2077	18.5334	20.8185	20.9451	20.8048	94.57%	20.8285
x		19.1341	20.0294	19.4758	20.4066	20.2977	20.2836	96.65%	20.8279
σ		0.8527	0.2987	0.9288	0.3676	0.5615	0.4532	1.80%	0.3269
%RSD		4.4565	1.4911	4.7688	1.8015	2.7662	2.2343	1.86	1.5694
Run	**Time**	**109Ag**	**111Cd**	**112Cd**	**114Cd**	**115In**	**121Sb**	**123Sb**	**135Ba**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:22:38	20.9654	20.4994	20.4023	20.9008	96.88%	20.2188	20.4535	19.7000
2	18:23:32	20.5153	20.0893	20.1562	20.0903	98.58%	19.9157	19.8874	19.3854
3	18:24:27	21.0073	20.5484	20.3100	20.5238	96.12%	20.3958	20.5430	20.3761
x		20.8293	20.3790	20.2895	20.5050	97.19%	20.1768	20.2946	19.8205
σ		0.2728	0.2521	0.1243	0.4056	1.26%	0.2428	0.3555	0.5062
%RSD		1.3097	1.2372	0.6127	1.9780	1.29	1.2032	1.7518	2.5540
Run	**Time**	**137Ba**	**138Ba**	**175Lu**	**203Tl**	**205Tl**	**206Pb**	**207Pb**	**208Pb**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:22:38	20.3564	20.4337	97.68%	20.2863	20.0845	20.1452	20.1902	20.0147
2	18:23:32	19.5890	19.9685	100.69%	19.8144	19.9348	19.8302	19.7349	19.7486
3	18:24:27	20.2638	20.5025	99.34%	20.2455	20.1706	20.3841	20.2982	20.2867
x		20.0697	20.3016	99.24%	20.1154	20.0633	20.1198	20.0744	20.0167
σ		0.4189	0.2905	1.51%	0.2615	0.1193	0.2778	0.2990	0.2690
%RSD		2.0873	1.4308	1.52	1.2998	0.5949	1.3809	1.4893	1.3440

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	51V	59Co	60Ni	61Ni
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:28:22	105.34%	0.0248	20.7826	21.3596	0.1309	2.1384	1.6870	12.5864
2	18:29:16	98.02%	0.0242	21.0584	21.4555	0.1303	2.0925	1.7079	10.2863
3	18:30:11	92.54%	0.0276	20.3578	21.9621	0.1266	2.0451	1.6494	9.5511
x		98.63%	0.0255	20.7329	21.5924	0.1293	2.0920	1.6814	10.8079
σ		6.42%	0.0018	0.3529	0.3238	0.0023	0.0466	0.0297	1.5834
%RSD		6.51	7.0963	1.7023	1.4995	1.7746	2.2283	1.7654	14.6505
Run	**Time**	**62Ni**	**63Cu**	**65Cu**	**66Zn**	**67Zn**	**68Zn**	**71Ga**	**75As**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:28:22	1.4818	6.4452	6.5619	8.6868	8.5751	8.4868	100.68%	0.4767
2	18:29:16	1.4899	6.1460	6.2461	8.4663	8.7459	8.4813	99.36%	0.4219
3	18:30:11	1.4695	6.0397	6.3562	8.3829	8.3054	8.6996	96.35%	0.5163
x		1.4804	6.2103	6.3880	8.5120	8.5421	8.5559	98.80%	0.4717
σ		0.0103	0.2102	0.1603	0.1570	0.2221	0.1245	2.22%	0.0474
%RSD		0.6934	3.3853	2.5089	1.8450	2.6000	1.4549	2.25	10.0512
Run	**Time**	**77Se**	**78Se**	**82Se**	**95Mo**	**97Mo**	**98Mo**	**103Rh**	**107Ag**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:28:22	0.2810	0.1851	0.1698	0.5113	0.4771	0.4643	98.26%	0.0050
2	18:29:16	0.3207	0.0720	0.0466	0.5589	0.5410	0.5397	96.23%	0.0080
3	18:30:11	0.0502	0.0599	0.2673	0.5543	0.5699	0.5667	95.45%	0.0101
x		0.2173	0.1057	0.1612	0.5415	0.5293	0.5236	96.65%	0.0077
σ		0.1461	0.0690	0.1106	0.0262	0.0475	0.0531	1.45%	0.0026
%RSD		67.2116	65.3199	68.6005	4.8440	8.9717	10.1373	1.50	33.4249
Run	**Time**	**109Ag**	**111Cd**	**112Cd**	**114Cd**	**115In**	**121Sb**	**123Sb**	**135Ba**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:28:22	0.0032	0.0439	0.0305	0.0330	98.69%	0.8131	0.8079	6.0922
2	18:29:16	0.0063	0.0328	0.0279	0.0394	96.68%	0.7822	0.7743	6.0571
3	18:30:11	0.0092	0.0293	0.0287	0.0427	97.16%	0.7807	0.7918	5.9414
x		0.0062	0.0353	0.0290	0.0384	97.51%	0.7920	0.7913	6.0302
σ		0.0030	0.0076	0.0014	0.0049	1.05%	0.0183	0.0168	0.0789
%RSD		48.3939	21.6228	4.7251	12.8383	1.08	2.3081	2.1194	1.3088
Run	**Time**	**137Ba**	**138Ba**	**175Lu**	**203Tl**	**205Tl**	**206Pb**	**207Pb**	**208Pb**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:28:22	5.9525	6.0783	98.53%	0.0227	0.0175	0.1776	0.2075	0.1915
2	18:29:16	6.1010	6.1217	99.69%	0.0257	0.0326	0.1824	0.2156	0.1921
3	18:30:11	6.0008	6.0101	100.13%	0.0264	0.0296	0.1941	0.2013	0.1942
x		6.0181	6.0700	99.45%	0.0249	0.0266	0.1847	0.2081	0.1926
σ		0.0757	0.0563	0.83%	0.0020	0.0080	0.0085	0.0072	0.0014
%RSD		1.2586	0.9268	0.83	7.9649	30.0919	4.5867	3.4563	0.7354

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	51V	59Co	60Ni	61Ni
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:32:56	102.47%	0.0039	4.4178	4.6439	0.0321	0.4450	0.3336	2.6016
2	18:33:51	94.48%	0.0026	4.4039	4.5362	0.0152	0.4210	0.3160	2.4467
3	18:34:45	94.25%	0.0044	4.3699	4.5733	0.0501	0.4129	0.3432	1.5825
x		97.07%	0.0036	4.3972	4.5845	0.0325	0.4263	0.3309	2.2102
σ		4.68%	0.0009	0.0246	0.0547	0.0174	0.0167	0.0138	0.5492
%RSD		4.82	25.7522	0.5604	1.1937	53.6606	3.9135	4.1583	24.8461

Run	Time	62Ni	63Cu	65Cu	66Zn	67Zn	68Zn	71Ga	75As
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:32:56	0.3417	1.3154	1.3317	1.7752	1.9299	1.9531	101.49%	0.1753
2	18:33:51	0.3062	1.2718	1.2628	1.8916	1.9122	1.8899	100.98%	0.0802
3	18:34:45	0.3153	1.3227	1.2795	1.7713	1.4611	1.7745	101.15%	0.0232
x		0.3210	1.3033	1.2913	1.8127	1.7677	1.8725	101.21%	0.0929
σ		0.0184	0.0275	0.0359	0.0684	0.2657	0.0905	0.26%	0.0768
%RSD		5.7403	2.1093	2.7799	3.7710	15.0316	4.8353	0.26	82.7228

Run	Time	77Se	78Se	82Se	95Mo	97Mo	98Mo	103Rh	107Ag
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:32:56	0.0427	-0.0228	0.1618	0.1055	0.0893	0.1130	101.97%	0.0001
2	18:33:51	0.1103	-0.0438	0.0125	0.1520	0.1144	0.1342	101.75%	0.0040
3	18:34:45	0.1106	-0.3162	-0.0118	0.1354	0.1558	0.1428	100.10%	0.0041
x		0.0879	-0.1276	0.0542	0.1309	0.1198	0.1300	101.27%	0.0027
σ		0.0391	0.1636	0.0940	0.0236	0.0336	0.0153	1.02%	0.0023
%RSD		44.4886	128.2149	173.4729	17.9926	28.0278	11.8075	1.01	83.2397

Run	Time	109Ag	111Cd	112Cd	114Cd	115In	121Sb	123Sb	135Ba
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:32:56	0.0015	0.0067	0.0019	0.0034	98.94%	0.1797	0.1632	1.3064
2	18:33:51	0.0026	0.0099	0.0084	0.0020	100.90%	0.1785	0.1773	1.2041
3	18:34:45	0.0015	0.0116	0.0051	0.0100	101.20%	0.1604	0.1646	1.3545
x		0.0019	0.0094	0.0052	0.0051	100.35%	0.1729	0.1684	1.2883
σ		0.0007	0.0025	0.0032	0.0043	1.23%	0.0108	0.0078	0.0768
%RSD		36.4312	26.5478	62.4526	83.0708	1.22	6.2497	4.6166	5.9598

Run	Time	137Ba	138Ba	175Lu	203Tl	205Tl	206Pb	207Pb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:32:56	1.2523	1.2666	98.69%	0.0004	0.0016	0.0394	0.0494	0.0443
2	18:33:51	1.2860	1.2814	102.51%	0.0070	0.0038	0.0409	0.0487	0.0434
3	18:34:45	1.3033	1.2505	102.60%	0.0049	0.0043	0.0393	0.0384	0.0424
x		1.2805	1.2662	101.27%	0.0041	0.0032	0.0399	0.0455	0.0433
σ		0.0259	0.0154	2.23%	0.0034	0.0014	0.0009	0.0062	0.0010
%RSD		2.0252	1.2189	2.20	81.9938	44.0098	2.2333	13.5926	2.2218

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	51V	59Co	60Ni	61Ni
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:37:30	98.10%	20.8098	64.0065	61.5687	20.4515	22.2028	22.1083	34.1052
2	18:38:25	93.74%	20.4810	61.5008	62.2544	20.0444	21.3253	21.2190	30.3004
3	18:39:19	92.67%	19.5377	62.1020	61.4710	19.1252	20.9585	20.7365	31.6994
x		94.83%	20.2762	62.5365	61.7647	19.8737	21.4956	21.3546	32.0350
σ		2.87%	0.6604	1.3081	0.4269	0.6794	0.6394	0.6959	1.9245
%RSD		3.03	3.2569	2.0918	0.6911	3.4186	2.9745	3.2586	6.0075
Run	**Time**	**62Ni**	**63Cu**	**65Cu**	**66Zn**	**67Zn**	**68Zn**	**71Ga**	**75As**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:37:30	21.4306	26.2103	26.4539	28.9393	29.0543	29.2707	95.53%	21.6000
2	18:38:25	21.5941	25.5610	25.7449	28.7392	29.0556	28.7315	92.08%	21.7912
3	18:39:19	19.9365	24.6327	24.7754	27.8478	27.9344	27.4532	93.46%	21.0528
x		20.9871	25.4680	25.6581	28.5087	28.6814	28.4851	93.69%	21.4813
σ		0.9135	0.7929	0.8426	0.5811	0.6470	0.9334	1.73%	0.3832
%RSD		4.3527	3.1133	3.2838	2.0383	2.2557	3.2770	1.85	1.7841
Run	**Time**	**77Se**	**78Se**	**82Se**	**95Mo**	**97Mo**	**98Mo**	**103Rh**	**107Ag**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:37:30	20.6981	21.7183	19.3254	20.8117	20.3918	21.0319	94.95%	10.1349
2	18:38:25	20.8275	21.2681	22.7143	21.0275	20.8886	20.9349	92.04%	10.0742
3	18:39:19	18.8208	20.1736	20.7955	20.4032	20.6690	20.8199	93.31%	9.7155
x		20.1154	21.0533	20.9451	20.7475	20.6498	20.9289	93.43%	9.9749
σ		1.1231	0.7944	1.6994	0.3171	0.2489	0.1061	1.46%	0.2267
%RSD		5.5832	3.7735	8.1135	1.5281	1.2054	0.5070	1.56	2.2723
Run	**Time**	**109Ag**	**111Cd**	**112Cd**	**114Cd**	**115In**	**121Sb**	**123Sb**	**135Ba**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:37:30	10.2059	20.2678	20.5583	20.4711	94.22%	23.3180	22.3869	26.5759
2	18:38:25	10.0046	19.6875	20.3372	19.8382	94.04%	22.0536	22.1850	26.4400
3	18:39:19	9.7503	19.1162	19.2978	19.2535	95.82%	21.1704	21.3460	26.0897
x		9.9869	19.6905	20.0644	19.8543	94.70%	22.1807	21.9726	26.3685
σ		0.2283	0.5758	0.6731	0.6090	0.98%	1.0794	0.5520	0.2509
%RSD		2.2862	2.9243	3.3545	3.0673	1.03	4.8666	2.5123	0.9513
Run	**Time**	**137Ba**	**138Ba**	**175Lu**	**203Tl**	**205Tl**	**206Pb**	**207Pb**	**208Pb**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:37:30	27.1187	27.3473	96.37%	19.7915	19.5845	18.3939	21.0542	20.0297
2	18:38:25	26.4214	26.5535	98.54%	19.4499	19.3346	18.0199	20.3909	19.4865
3	18:39:19	26.0425	25.7788	99.69%	18.9779	19.0237	17.6884	20.1474	19.1429
x		26.5276	26.5599	98.20%	19.4064	19.3143	18.0341	20.5308	19.5530
σ		0.5459	0.7843	1.69%	0.4085	0.2809	0.3529	0.4693	0.4471
%RSD		2.0578	2.9530	1.72	2.1052	1.4545	1.9570	2.2859	2.2866

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	51V	59Co	60Ni	61Ni
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:43:10	109.76%	0.0105	73.5638	71.6873	0.0628	1.7606	4.7251	62.7689
2	18:44:04	102.71%	0.0122	71.9113	72.5825	0.0505	1.8000	4.4905	60.9041
3	18:44:58	99.29%	0.0161	71.5526	71.4483	0.1026	1.7380	4.5685	59.2693
x		103.92%	0.0129	72.3426	71.9060	0.0720	1.7662	4.5947	60.9808
σ		5.33%	0.0029	1.0727	0.5979	0.0272	0.0314	0.1195	1.7510
%RSD		5.13	22.4347	1.4828	0.8315	37.8532	1.7783	2.5999	2.8715
Run	**Time**	**62Ni**	**63Cu**	**65Cu**	**66Zn**	**67Zn**	**68Zn**	**71Ga**	**75As**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:43:10	3.5448	9.8011	9.9788	11.6508	11.5551	11.7264	100.55%	0.6325
2	18:44:04	3.4937	9.9839	10.1246	11.7176	12.1352	11.8023	96.63%	0.5641
3	18:44:58	3.4007	9.6451	9.7805	11.5557	11.7372	11.9689	96.81%	0.4929
x		3.4797	9.8100	9.9613	11.6414	11.8092	11.8325	98.00%	0.5632
σ		0.0731	0.1696	0.1727	0.0814	0.2967	0.1241	2.22%	0.0698
%RSD		2.0994	1.7285	1.7339	0.6989	2.5124	1.0485	2.26	12.3918
Run	**Time**	**77Se**	**78Se**	**82Se**	**95Mo**	**97Mo**	**98Mo**	**103Rh**	**107Ag**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:43:10	0.3850	0.5488	0.0960	2.5242	2.6911	2.4697	95.94%	0.0122
2	18:44:04	0.8587	0.1925	0.6675	2.6257	2.6628	2.6851	94.80%	0.0122
3	18:44:58	0.6126	0.4962	-0.0257	2.6763	2.6246	2.6368	94.03%	0.0119
x		0.6188	0.4125	0.2459	2.6088	2.6595	2.5972	94.92%	0.0121
σ		0.2369	0.1923	0.3701	0.0775	0.0334	0.1130	0.96%	0.0002
%RSD		38.2876	46.6242	150.4830	2.9704	1.2562	4.3525	1.01	1.2723
Run	**Time**	**109Ag**	**111Cd**	**112Cd**	**114Cd**	**115In**	**121Sb**	**123Sb**	**135Ba**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:43:10	0.0097	0.1281	0.1105	0.1501	96.23%	0.9507	0.9909	23.1783
2	18:44:04	0.0109	0.1307	0.1504	0.1230	97.82%	0.9550	0.9192	22.8343
3	18:44:58	0.0153	0.1546	0.1133	0.1335	96.73%	0.9328	0.9931	22.9753
x		0.0120	0.1378	0.1247	0.1355	96.93%	0.9462	0.9677	22.9960
σ		0.0030	0.0146	0.0223	0.0137	0.81%	0.0117	0.0421	0.1729
%RSD		24.6893	10.5993	17.8413	10.0881	0.83	1.2418	4.3472	0.7520
Run	**Time**	**137Ba**	**138Ba**	**175Lu**	**203Tl**	**205Tl**	**206Pb**	**207Pb**	**208Pb**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:43:10	23.1844	23.5148	97.24%	0.0393	0.0344	0.1251	0.1534	0.1382
2	18:44:04	22.8750	22.9336	100.11%	0.0466	0.0449	0.1258	0.1339	0.1311
3	18:44:58	22.7801	23.0433	100.84%	0.0504	0.0445	0.1171	0.1330	0.1298
x		22.9465	23.1639	99.39%	0.0454	0.0413	0.1227	0.1401	0.1330
σ		0.2114	0.3088	1.90%	0.0057	0.0059	0.0048	0.0115	0.0045
%RSD		0.9213	1.3330	1.91	12.4548	14.3725	3.9144	8.2285	3.4084

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	51V	59Co	60Ni	61Ni
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:47:48	107.83%	0.0099	51.6750	50.9366	4.0525	3.5959	1.7423	31.2784
2	18:48:43	103.84%	0.0054	51.0973	49.4793	3.8092	3.5069	1.5895	28.2579
3	18:49:37	99.68%	0.0066	49.6270	50.6566	3.7779	3.3614	1.5417	29.0284
x		103.78%	0.0073	50.7998	50.3575	3.8798	3.4881	1.6245	29.5216
σ		4.07%	0.0023	1.0559	0.7733	0.1503	0.1184	0.1048	1.5695
%RSD		3.93	31.6297	2.0785	1.5356	3.8745	3.3937	6.4506	5.3163
Run	**Time**	**62Ni**	**63Cu**	**65Cu**	**66Zn**	**67Zn**	**68Zn**	**71Ga**	**75As**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:47:48	1.1573	0.8859	0.9295	3.4148	4.9391	4.7361	101.25%	1.3839
2	18:48:43	0.9623	0.8664	0.9448	3.5304	4.7560	4.5845	98.12%	1.6899
3	18:49:37	0.9340	0.8176	0.9372	3.3644	4.9844	4.5236	99.19%	1.5505
x		1.0178	0.8566	0.9372	3.4365	4.8932	4.6147	99.52%	1.5414
σ		0.1216	0.0352	0.0076	0.0851	0.1209	0.1094	1.59%	0.1532
%RSD		11.9444	4.1086	0.8156	2.4759	2.4708	2.3712	1.60	9.9396
Run	**Time**	**77Se**	**78Se**	**82Se**	**95Mo**	**97Mo**	**98Mo**	**103Rh**	**107Ag**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:47:48	0.4126	0.3803	-0.0881	2.2255	2.2902	2.1016	99.44%	-0.0003
2	18:48:43	0.3591	0.2923	0.4944	2.2461	2.2503	2.2342	96.76%	0.0059
3	18:49:37	0.1495	0.3140	0.3853	2.2146	2.1200	2.2091	96.56%	0.0034
x		0.3071	0.3289	0.2639	2.2287	2.2202	2.1816	97.59%	0.0030
σ		0.1390	0.0458	0.3096	0.0160	0.0890	0.0704	1.61%	0.0031
%RSD		45.2756	13.9321	117.3385	0.7185	4.0104	3.2282	1.65	102.5846
Run	**Time**	**109Ag**	**111Cd**	**112Cd**	**114Cd**	**115In**	**121Sb**	**123Sb**	**135Ba**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:47:48	0.0015	0.0284	0.0260	0.0224	99.95%	0.1735	0.1986	51.6232
2	18:48:43	0.0012	0.0392	0.0215	0.0236	98.06%	0.1863	0.1941	51.2041
3	18:49:37	-0.0001	0.0219	0.0378	0.0340	100.07%	0.1928	0.1984	49.5939
x		0.0009	0.0298	0.0284	0.0266	99.36%	0.1842	0.1971	50.8070
σ		0.0008	0.0088	0.0084	0.0064	1.13%	0.0098	0.0025	1.0713
%RSD		97.1664	29.3671	29.6084	23.8920	1.13	5.3366	1.2922	2.1086
Run	**Time**	**137Ba**	**138Ba**	**175Lu**	**203Tl**	**205Tl**	**206Pb**	**207Pb**	**208Pb**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:47:48	49.9042	51.4453	100.17%	0.0087	0.0113	0.0893	0.0973	0.0871
2	18:48:43	51.0490	50.9237	100.74%	0.0166	0.0153	0.0798	0.0899	0.0865
3	18:49:37	49.1554	49.7300	102.71%	0.0178	0.0165	0.0949	0.0906	0.0891
x		50.0362	50.6997	101.21%	0.0144	0.0144	0.0880	0.0926	0.0876
σ		0.9537	0.8793	1.33%	0.0050	0.0028	0.0077	0.0041	0.0013
%RSD		1.9059	1.7344	1.31	34.5697	19.1822	8.7091	4.4403	1.5326

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	51V	59Co	60Ni	61Ni
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:52:23	108.81%	25.7559	27.4500	27.1955	25.3424	25.3095	25.4188	25.3674
2	18:53:18	100.46%	25.5897	27.5253	27.3205	25.2260	25.1638	25.4629	26.0237
3	18:54:12	99.04%	25.1438	26.9638	26.5732	24.8818	24.5641	24.8414	22.7608
x		102.77%	25.4965	27.3130	27.0298	25.1501	25.0125	25.2410	24.7173
σ		5.28%	0.3165	0.3048	0.4003	0.2395	0.3951	0.3468	1.7258
%RSD		5.14	1.2414	1.1159	1.4808	0.9524	1.5795	1.3739	6.9823
Run	**Time**	**62Ni**	**63Cu**	**65Cu**	**66Zn**	**67Zn**	**68Zn**	**71Ga**	**75As**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:52:23	25.3349	25.6817	25.6961	24.9879	25.0985	25.2858	106.13%	25.9458
2	18:53:18	25.1986	24.8879	25.0314	25.0636	26.0542	24.8608	102.07%	25.6727
3	18:54:12	24.4542	24.4323	24.6951	24.8998	24.4082	24.1985	101.22%	24.7192
x		24.9959	25.0007	25.1408	24.9837	25.1870	24.7817	103.14%	25.4459
σ		0.4741	0.6323	0.5094	0.0820	0.8266	0.5480	2.62%	0.6440
%RSD		1.8966	2.5291	2.0262	0.3282	3.2817	2.2111	2.54	2.5309
Run	**Time**	**77Se**	**78Se**	**82Se**	**95Mo**	**97Mo**	**98Mo**	**103Rh**	**107Ag**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:52:23	25.1758	25.9176	26.4202	24.9382	25.0991	24.8223	105.29%	25.2258
2	18:53:18	25.4350	25.5871	26.3197	25.1785	25.0906	25.2873	103.01%	24.8619
3	18:54:12	26.3748	25.7992	25.9935	24.9507	25.1104	25.3235	100.95%	25.1111
x		25.6619	25.7680	26.2445	25.0225	25.1000	25.1444	103.08%	25.0663
σ		0.6309	0.1675	0.2231	0.1353	0.0099	0.2795	2.17%	0.1861
%RSD		2.4584	0.6499	0.8501	0.5406	0.0396	1.1115	2.11	0.7423
Run	**Time**	**109Ag**	**111Cd**	**112Cd**	**114Cd**	**115In**	**121Sb**	**123Sb**	**135Ba**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:52:23	25.4050	24.9533	25.2395	25.4177	103.15%	25.4983	25.5040	25.4394
2	18:53:18	24.7942	25.1024	24.9006	24.9197	102.82%	24.9931	25.0692	24.4116
3	18:54:12	24.9605	25.1487	24.7999	25.2713	102.03%	25.2191	24.8080	24.7324
x		25.0532	25.0681	24.9800	25.2029	102.66%	25.2368	25.1271	24.8611
σ		0.3158	0.1021	0.2303	0.2559	0.58%	0.2531	0.3516	0.5259
%RSD		1.2606	0.4075	0.9220	1.0154	0.56	1.0028	1.3992	2.1152
Run	**Time**	**137Ba**	**138Ba**	**175Lu**	**203Tl**	**205Tl**	**206Pb**	**207Pb**	**208Pb**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:52:23	25.5647	25.5645	101.33%	25.0939	25.1181	25.2011	24.9349	25.0645
2	18:53:18	25.1735	25.5048	102.38%	25.2550	25.0701	24.9917	24.8973	24.8807
3	18:54:12	24.9840	25.0652	103.03%	24.8783	24.7844	24.8418	24.6304	24.7137
x		25.2407	25.3782	102.25%	25.0757	24.9909	25.0115	24.8209	24.8863
σ		0.2962	0.2727	0.86%	0.1890	0.1804	0.1805	0.1660	0.1754
%RSD		1.1734	1.0747	0.84	0.7539	0.7218	0.7216	0.6688	0.7050

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	51V	59Co	60Ni	61Ni
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:02:50	107.26%	0.0020	0.1525	0.2503	0.0084	0.0015	0.0064	-0.2290
2	19:03:45	103.33%	0.0021	0.3842	0.2500	-0.0113	0.0044	0.0082	-0.3479
3	19:04:39	98.53%	0.0050	0.2639	0.2682	-0.0093	0.0027	0.0049	0.3233
x		103.04%	0.0030	0.2669	0.2562	-0.0041	0.0029	0.0065	-0.0845
σ		4.37%	0.0017	0.1158	0.0104	0.0108	0.0015	0.0017	0.3582
%RSD		4.25	55.6143	43.4085	4.0702	267.4309	50.5329	25.8261	423.7205
Run	**Time**	**62Ni**	**63Cu**	**65Cu**	**66Zn**	**67Zn**	**68Zn**	**71Ga**	**75As**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:02:50	0.0325	-0.0100	0.0051	-0.0096	0.0035	-0.0049	101.28%	-0.1381
2	19:03:45	0.0700	-0.0020	0.0006	-0.0136	0.0033	0.0029	101.88%	-0.0423
3	19:04:39	0.0339	0.0037	0.0011	-0.0012	-0.0333	0.0009	99.93%	0.0291
x		0.0455	-0.0028	0.0023	-0.0081	-0.0088	-0.0004	101.03%	-0.0504
σ		0.0212	0.0069	0.0025	0.0063	0.0212	0.0041	1.00%	0.0839
%RSD		46.7229	248.8445	110.8863	77.2145	239.8708	1126.2879	0.99	166.2309
Run	**Time**	**77Se**	**78Se**	**82Se**	**95Mo**	**97Mo**	**98Mo**	**103Rh**	**107Ag**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:02:50	-0.0571	-0.0600	-0.5685	0.0676	0.0587	0.0709	101.69%	0.0036
2	19:03:45	-0.0573	0.1490	-0.2402	0.1236	0.1056	0.1160	102.10%	0.0075
3	19:04:39	-0.0905	0.0339	-0.0102	0.1109	0.1446	0.1379	100.98%	0.0084
x		-0.0683	0.0410	-0.2729	0.1007	0.1029	0.1082	101.59%	0.0065
σ		0.0192	0.1047	0.2806	0.0293	0.0430	0.0342	0.57%	0.0025
%RSD		28.1337	255.4252	102.7904	29.1329	41.7786	31.5612	0.56	38.9967
Run	**Time**	**109Ag**	**111Cd**	**112Cd**	**114Cd**	**115In**	**121Sb**	**123Sb**	**135Ba**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:02:50	0.0038	0.0066	-0.0014	0.0013	100.77%	0.0043	0.0009	0.0078
2	19:03:45	0.0062	0.0033	0.0035	0.0033	101.00%	0.0037	0.0050	0.0334
3	19:04:39	0.0071	0.0050	-0.0006	0.0020	100.20%	0.0097	0.0050	0.0077
x		0.0057	0.0049	0.0005	0.0022	100.66%	0.0059	0.0036	0.0163
σ		0.0017	0.0017	0.0026	0.0010	0.41%	0.0033	0.0024	0.0148
%RSD		29.5598	33.3859	537.6294	45.6569	0.41	55.7440	64.9970	90.7866
Run	**Time**	**137Ba**	**138Ba**	**175Lu**	**203Tl**	**205Tl**	**206Pb**	**207Pb**	**208Pb**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:02:50	0.0020	0.0049	98.08%	0.0087	0.0052	0.0024	0.0017	0.0029
2	19:03:45	0.0048	0.0061	100.77%	0.0127	0.0099	0.0088	0.0068	0.0054
3	19:04:39	0.0019	0.0077	102.13%	0.0101	0.0093	0.0025	0.0039	0.0038
x		0.0029	0.0062	100.33%	0.0105	0.0082	0.0045	0.0042	0.0040
σ		0.0017	0.0014	2.06%	0.0021	0.0026	0.0037	0.0026	0.0012
%RSD		56.9595	22.5016	2.05	19.7498	31.3170	80.3446	62.1306	31.0550

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	51V	59Co	60Ni	61Ni
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:07:23	110.78%	0.0111	162.1643	165.8768	1.6639	2.1873	1.5159	36.8001
2	19:08:17	103.58%	0.0112	162.9533	166.0647	1.7354	2.1267	1.3646	32.3418
3	19:09:12	100.64%	0.0091	169.1160	171.5879	1.7122	2.1037	1.3434	30.4571
x		105.00%	0.0105	164.7445	167.8431	1.7039	2.1392	1.4079	33.1996
σ		5.22%	0.0012	3.8063	3.2444	0.0365	0.0432	0.0941	3.2573
%RSD		4.97	11.6760	2.3104	1.9330	2.1394	2.0196	6.6822	9.8113

Run	Time	62Ni	63Cu	65Cu	66Zn	67Zn	68Zn	71Ga	75As
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:07:23	1.7500	5.9782	5.8340	2.0178	4.5542	3.4776	100.57%	4.7409
2	19:08:17	2.2906	6.0340	5.8592	1.9904	3.9804	3.4234	99.42%	4.5760
3	19:09:12	2.6394	5.9041	5.8244	1.9056	4.0371	3.4461	101.41%	4.7033
x		2.2267	5.9721	5.8392	1.9713	4.1906	3.4490	100.46%	4.6734
σ		0.4481	0.0652	0.0180	0.0585	0.3162	0.0272	0.99%	0.0864
%RSD		20.1248	1.0916	0.3085	2.9672	7.5463	0.7897	0.99	1.8494

Run	Time	77Se	78Se	82Se	95Mo	97Mo	98Mo	103Rh	107Ag
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:07:23	0.3510	0.2672	0.5622	0.6828	0.5912	0.6475	95.89%	0.0039
2	19:08:17	0.2529	0.6477	-0.4753	0.6729	0.6976	0.7133	95.03%	0.0068
3	19:09:12	0.5158	0.3521	0.5289	0.7154	0.6808	0.7174	96.66%	0.0096
x		0.3732	0.4223	0.2053	0.6904	0.6566	0.6927	95.86%	0.0068
σ		0.1329	0.1998	0.5896	0.0222	0.0572	0.0393	0.81%	0.0028
%RSD		35.6033	47.2972	287.2502	3.2220	8.7118	5.6664	0.85	41.6002

Run	Time	109Ag	111Cd	112Cd	114Cd	115In	121Sb	123Sb	135Ba
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:07:23	0.0012	0.0207	0.0211	0.0142	96.55%	0.2551	0.2356	66.9674
2	19:08:17	0.0029	0.0241	0.0167	0.0210	97.33%	0.2281	0.2562	66.1357
3	19:09:12	0.0074	0.0324	0.0283	0.0132	98.04%	0.2208	0.2498	66.1499
x		0.0039	0.0258	0.0220	0.0161	97.31%	0.2347	0.2472	66.4177
σ		0.0032	0.0060	0.0059	0.0043	0.74%	0.0181	0.0106	0.4762
%RSD		82.8821	23.3132	26.6677	26.3942	0.76	7.7083	4.2772	0.7169

Run	Time	137Ba	138Ba	175Lu	203Tl	205Tl	206Pb	207Pb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:07:23	66.9258	67.4281	99.13%	0.0057	0.0071	0.2301	0.2296	0.2277
2	19:08:17	66.8478	67.2508	99.96%	0.0134	0.0127	0.2163	0.2439	0.2288
3	19:09:12	65.9870	67.0147	101.69%	0.0150	0.0124	0.2156	0.2589	0.2292
x		66.5869	67.2312	100.26%	0.0114	0.0107	0.2207	0.2441	0.2285
σ		0.5210	0.2074	1.31%	0.0050	0.0031	0.0082	0.0147	0.0008
%RSD		0.7824	0.3085	1.31	43.6676	29.3519	3.6977	6.0066	0.3372

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	51V	59Co	60Ni	61Ni
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:12:00	107.42%	0.0116	88.9286	89.4933	0.2593	1.3331	1.3284	30.4330
2	19:12:55	103.24%	0.0088	88.2445	86.5596	0.2021	1.3393	1.3619	28.6602
3	19:13:49	101.32%	0.0048	86.6733	88.0287	0.2308	1.2801	1.2856	25.1931
x		103.99%	0.0084	87.9488	88.0272	0.2307	1.3175	1.3253	28.0954
σ		3.12%	0.0034	1.1564	1.4668	0.0286	0.0326	0.0382	2.6652
%RSD		3.00	40.6165	1.3148	1.6664	12.4009	2.4722	2.8839	9.4863
Run	**Time**	**62Ni**	**63Cu**	**65Cu**	**66Zn**	**67Zn**	**68Zn**	**71Ga**	**75As**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:12:00	3.5754	1.5638	1.4420	8.3885	10.1975	9.9811	99.19%	2.2766
2	19:12:55	3.7139	1.5331	1.3309	8.1893	10.0291	9.7383	97.50%	2.1673
3	19:13:49	4.0700	1.5465	1.3228	8.2272	10.3664	9.4260	97.71%	2.0827
x		3.7864	1.5478	1.3652	8.2684	10.1977	9.7151	98.13%	2.1755
σ		0.2551	0.0154	0.0666	0.1058	0.1686	0.2782	0.92%	0.0972
%RSD		6.7385	0.9959	4.8764	1.2793	1.6537	2.8640	0.94	4.4681
Run	**Time**	**77Se**	**78Se**	**82Se**	**95Mo**	**97Mo**	**98Mo**	**103Rh**	**107Ag**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:12:00	0.5637	0.2611	0.2051	0.4031	0.3603	0.4019	94.61%	0.0023
2	19:12:55	0.4683	0.2544	-0.2681	0.4154	0.4195	0.4243	94.41%	0.0069
3	19:13:49	0.5373	0.2063	0.1842	0.4213	0.3911	0.4204	94.29%	0.0065
x		0.5231	0.2406	0.0404	0.4133	0.3903	0.4155	94.44%	0.0052
σ		0.0493	0.0299	0.2674	0.0093	0.0296	0.0120	0.16%	0.0025
%RSD		9.4168	12.4288	661.9094	2.2395	7.5864	2.8852	0.17	48.1105
Run	**Time**	**109Ag**	**111Cd**	**112Cd**	**114Cd**	**115In**	**121Sb**	**123Sb**	**135Ba**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:12:00	0.0000	0.0017	0.0032	0.0058	95.51%	0.1950	0.1846	62.9900
2	19:12:55	0.0030	0.0173	0.0134	0.0092	96.77%	0.1838	0.1805	60.9428
3	19:13:49	-0.0004	0.0156	0.0048	0.0050	96.81%	0.1698	0.1944	60.5958
x		0.0008	0.0116	0.0071	0.0067	96.37%	0.1829	0.1865	61.5095
σ		0.0018	0.0085	0.0055	0.0022	0.74%	0.0127	0.0072	1.2938
%RSD		217.7539	73.8942	77.2586	33.3055	0.77	6.9207	3.8425	2.1035
Run	**Time**	**137Ba**	**138Ba**	**175Lu**	**203Tl**	**205Tl**	**206Pb**	**207Pb**	**208Pb**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:12:00	63.0054	63.3652	96.75%	0.0022	0.0003	0.0370	0.0316	0.0333
2	19:12:55	62.0058	61.8175	99.21%	0.0032	0.0033	0.0351	0.0295	0.0446
3	19:13:49	60.8763	61.2558	99.83%	0.0037	0.0029	0.0398	0.0354	0.0373
x		61.9625	62.1462	98.60%	0.0030	0.0022	0.0373	0.0322	0.0384
σ		1.0652	1.0924	1.63%	0.0008	0.0016	0.0024	0.0030	0.0057
%RSD		1.7191	1.7578	1.65	24.8320	74.3866	6.4528	9.3340	14.9736

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	51V	59Co	60Ni	61Ni
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:16:41	106.38%	0.0222	65.0073	64.9976	5.4875	1.5579	3.6833	81.8159
2	19:17:35	100.78%	0.0261	64.7582	65.1190	5.2906	1.5044	3.5234	70.8438
3	19:18:30	95.74%	0.0239	65.3134	66.9837	5.2988	1.5154	3.1936	70.6660
x		100.97%	0.0241	65.0263	65.7001	5.3590	1.5259	3.4667	74.4419
σ		5.32%	0.0019	0.2781	1.1133	0.1114	0.0282	0.2497	6.3867
%RSD		5.27	8.0568	0.4276	1.6945	2.0785	1.8504	7.2028	8.5795
Run	**Time**	**62Ni**	**63Cu**	**65Cu**	**66Zn**	**67Zn**	**68Zn**	**71Ga**	**75As**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:16:41	4.4214	8.4448	8.7404	9.4241	15.0700	13.8066	97.22%	4.3003
2	19:17:35	4.3858	8.1541	8.3807	9.2473	14.8070	13.1455	96.96%	4.0655
3	19:18:30	4.3262	8.1434	8.2489	8.9477	13.9091	13.0018	97.15%	4.0551
x		4.3778	8.2474	8.4566	9.2064	14.5954	13.3180	97.11%	4.1403
σ		0.0481	0.1710	0.2544	0.2408	0.6087	0.4293	0.13%	0.1386
%RSD		1.0985	2.0734	3.0086	2.6156	4.1705	3.2232	0.14	3.3484
Run	**Time**	**77Se**	**78Se**	**82Se**	**95Mo**	**97Mo**	**98Mo**	**103Rh**	**107Ag**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:16:41	1.1410	0.4562	3.8113	0.6940	0.7739	0.7082	92.02%	0.0238
2	19:17:35	1.3531	0.2213	4.0764	0.7104	0.6933	0.7589	92.71%	0.0202
3	19:18:30	1.7065	0.4944	4.0883	0.7785	0.7134	0.7532	91.63%	0.0238
x		1.4002	0.3906	3.9920	0.7277	0.7269	0.7401	92.12%	0.0226
σ		0.2857	0.1479	0.1566	0.0448	0.0420	0.0278	0.54%	0.0021
%RSD		20.4033	37.8501	3.9237	6.1540	5.7753	3.7495	0.59	9.2385
Run	**Time**	**109Ag**	**111Cd**	**112Cd**	**114Cd**	**115In**	**121Sb**	**123Sb**	**135Ba**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:16:41	0.0197	0.0820	0.0634	0.0615	94.12%	0.3919	0.3900	192.5459
2	19:17:35	0.0182	0.0830	0.0610	0.0573	95.00%	0.3928	0.3552	188.7429
3	19:18:30	0.0175	0.0730	0.0694	0.0685	94.47%	0.3692	0.3738	187.3110
x		0.0185	0.0793	0.0646	0.0624	94.53%	0.3846	0.3730	189.5333
σ		0.0011	0.0055	0.0043	0.0056	0.44%	0.0133	0.0174	2.7055
%RSD		6.0148	6.9559	6.7180	9.0274	0.47	3.4685	4.6625	1.4274
Run	**Time**	**137Ba**	**138Ba**	**175Lu**	**203Tl**	**205Tl**	**206Pb**	**207Pb**	**208Pb**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:16:41	192.2195	196.1001	94.83%	0.0129	0.0110	0.3684	0.3960	0.3809
2	19:17:35	187.5683	191.3895	97.15%	0.0139	0.0135	0.3782	0.3957	0.3871
3	19:18:30	189.0380	191.1967	98.37%	0.0123	0.0118	0.3617	0.4222	0.3875
x		189.6086	192.8954	96.78%	0.0130	0.0121	0.3694	0.4046	0.3852
σ		2.3775	2.7770	1.80%	0.0008	0.0013	0.0083	0.0152	0.0037
%RSD		1.2539	1.4396	1.86	6.3242	10.3724	2.2431	3.7520	0.9614

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	51V	59Co	60Ni	61Ni
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:21:17	107.23%	0.0340	65.5616	64.7148	5.2277	1.6318	3.4812	76.7529
2	19:22:12	100.72%	0.0244	64.0613	65.1103	5.1381	1.5138	3.3010	66.4910
3	19:23:06	97.75%	0.0287	65.6149	65.5880	5.1965	1.4834	3.2389	67.0445
x		101.90%	0.0290	65.0793	65.1377	5.1874	1.5430	3.3403	70.0962
σ		4.85%	0.0048	0.8820	0.4372	0.0455	0.0784	0.1259	5.7716
%RSD		4.76	16.5937	1.3553	0.6712	0.8764	5.0794	3.7679	8.2338
Run	**Time**	**62Ni**	**63Cu**	**65Cu**	**66Zn**	**67Zn**	**68Zn**	**71Ga**	**75As**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:21:17	4.1573	8.3159	8.3542	9.5407	15.7291	13.5991	97.14%	3.9457
2	19:22:12	4.3355	8.2980	8.4604	9.3190	14.7159	13.3808	95.71%	3.9812
3	19:23:06	4.3935	8.0644	8.2259	9.3423	14.3367	13.0084	95.52%	3.7161
x		4.2954	8.2261	8.3468	9.4007	14.9272	13.3294	96.12%	3.8810
σ		0.1231	0.1404	0.1174	0.1218	0.7199	0.2987	0.89%	0.1439
%RSD		2.8666	1.7063	1.4070	1.2958	4.8225	2.2411	0.92	3.7081
Run	**Time**	**77Se**	**78Se**	**82Se**	**95Mo**	**97Mo**	**98Mo**	**103Rh**	**107Ag**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:21:17	1.4593	0.4143	3.3866	0.7829	0.7889	0.7650	91.83%	0.0218
2	19:22:12	1.4144	0.3509	4.0319	0.8419	0.8227	0.7837	89.45%	0.0239
3	19:23:06	1.2692	0.3342	3.6875	0.7948	0.7374	0.7640	90.78%	0.0267
x		1.3809	0.3665	3.7020	0.8065	0.7830	0.7709	90.69%	0.0241
σ		0.0993	0.0423	0.3229	0.0312	0.0430	0.0111	1.20%	0.0025
%RSD		7.1934	11.5382	8.7228	3.8699	5.4908	1.4400	1.32	10.2200
Run	**Time**	**109Ag**	**111Cd**	**112Cd**	**114Cd**	**115In**	**121Sb**	**123Sb**	**135Ba**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:21:17	0.0172	0.0773	0.0668	0.0747	92.88%	0.3900	0.3683	192.7642
2	19:22:12	0.0238	0.0816	0.0583	0.0544	92.94%	0.3587	0.3876	189.8694
3	19:23:06	0.0182	0.0469	0.0758	0.0900	93.06%	0.3639	0.3736	187.1367
x		0.0197	0.0686	0.0670	0.0730	92.96%	0.3709	0.3765	189.9234
σ		0.0035	0.0189	0.0088	0.0179	0.09%	0.0168	0.0099	2.8142
%RSD		17.7571	27.6072	13.1243	24.4526	0.10	4.5239	2.6369	1.4817
Run	**Time**	**137Ba**	**138Ba**	**175Lu**	**203Tl**	**205Tl**	**206Pb**	**207Pb**	**208Pb**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:21:17	189.9190	196.0931	95.39%	0.0105	0.0098	0.3685	0.4090	0.3868
2	19:22:12	189.2153	193.0162	96.41%	0.0178	0.0147	0.3746	0.4034	0.3770
3	19:23:06	186.2267	190.3634	96.82%	0.0108	0.0154	0.3817	0.4017	0.3862
x		188.4537	193.1576	96.20%	0.0130	0.0133	0.3749	0.4047	0.3833
σ		1.9604	2.8675	0.73%	0.0041	0.0031	0.0066	0.0038	0.0055
%RSD		1.0403	1.4845	0.76	31.7447	23.1230	1.7692	0.9451	1.4364

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	51V	59Co	60Ni	61Ni
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:25:52	102.88%	19.8183	83.4572	84.3027	25.9935	21.1287	22.0174	93.4456
2	19:26:46	100.74%	18.8893	81.4345	80.7869	24.5426	20.6434	21.5894	83.7748
3	19:27:40	97.49%	19.1139	84.0898	84.3777	24.8617	20.5596	22.0846	87.1731
x		100.37%	19.2738	82.9938	83.1558	25.1326	20.7772	21.8971	88.1311
σ		2.71%	0.4847	1.3870	2.0518	0.7625	0.3073	0.2686	4.9061
%RSD		2.70	2.5148	1.6712	2.4675	3.0337	1.4788	1.2266	5.5668
Run	**Time**	**62Ni**	**63Cu**	**65Cu**	**66Zn**	**67Zn**	**68Zn**	**71Ga**	**75As**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:25:52	22.7491	26.2328	27.0796	27.1652	32.5897	31.1242	96.19%	24.4936
2	19:26:46	22.4133	25.7126	26.1467	26.8687	32.6966	30.7561	96.18%	24.1534
3	19:27:40	22.9033	26.0687	26.0679	27.4375	33.4860	31.0014	92.35%	23.9079
x		22.6885	26.0047	26.4314	27.1571	32.9241	30.9606	94.91%	24.1850
σ		0.2506	0.2659	0.5627	0.2845	0.4895	0.1874	2.22%	0.2941
%RSD		1.1043	1.0226	2.1290	1.0475	1.4868	0.6053	2.34	1.2162
Run	**Time**	**77Se**	**78Se**	**82Se**	**95Mo**	**97Mo**	**98Mo**	**103Rh**	**107Ag**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:25:52	20.6455	20.4119	24.4902	21.3318	21.0662	21.4848	90.20%	19.4967
2	19:26:46	18.8312	20.5295	23.8704	21.1388	20.9009	21.1834	90.15%	19.2679
3	19:27:40	20.3448	19.6898	24.4215	21.6924	21.6821	21.7517	88.50%	19.1580
x		19.9405	20.2104	24.2607	21.3877	21.2164	21.4733	89.61%	19.3075
σ		0.9724	0.4547	0.3397	0.2810	0.4117	0.2843	0.97%	0.1728
%RSD		4.8763	2.2497	1.4004	1.3140	1.9405	1.3241	1.08	0.8950
Run	**Time**	**109Ag**	**111Cd**	**112Cd**	**114Cd**	**115In**	**121Sb**	**123Sb**	**135Ba**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:25:52	19.6056	19.3832	19.1548	19.2049	93.29%	19.6628	19.6766	205.9464
2	19:26:46	18.9750	18.9815	19.1623	18.8694	93.38%	19.5088	19.3114	202.2120
3	19:27:40	19.3027	19.0557	18.9978	18.6876	92.77%	19.5661	19.3544	203.9975
x		19.2944	19.1401	19.1050	18.9206	93.15%	19.5792	19.4474	204.0520
σ		0.3153	0.2137	0.0929	0.2624	0.33%	0.0779	0.1996	1.8678
%RSD		1.6344	1.1166	0.4863	1.3868	0.36	0.3976	1.0262	0.9153
Run	**Time**	**137Ba**	**138Ba**	**175Lu**	**203Tl**	**205Tl**	**206Pb**	**207Pb**	**208Pb**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:25:52	205.3253	211.0851	94.26%	18.8920	18.7795	18.8378	18.7510	18.7943
2	19:26:46	204.2144	208.7197	96.13%	18.8052	18.6469	18.6253	18.4244	18.5641
3	19:27:40	204.0652	208.2769	95.51%	18.7744	18.6963	18.7285	18.7955	18.7190
x		204.5350	209.3605	95.30%	18.8238	18.7076	18.7305	18.6569	18.6925
σ		0.6885	1.5098	0.95%	0.0610	0.0670	0.1063	0.2026	0.1174
%RSD		0.3366	0.7212	1.00	0.3241	0.3583	0.5673	1.0861	0.6280

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	51V	59Co	60Ni	61Ni
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:31:34	102.78%	0.0189	47.3632	44.9022	47.3536	3.0213	18.0298	36.7863
2	19:32:29	96.30%	0.0301	46.4712	45.0363	45.8330	2.9723	17.3182	38.9459
3	19:33:23	97.48%	0.0236	43.6473	43.3306	44.6098	2.8484	16.7385	34.5351
x		98.85%	0.0242	45.8272	44.4230	45.9321	2.9473	17.3622	36.7558
σ		3.45%	0.0056	1.9399	0.9485	1.3746	0.0891	0.6468	2.2055
%RSD		3.49	23.2024	4.2330	2.1351	2.9926	3.0231	3.7253	6.0006
Run	**Time**	**62Ni**	**63Cu**	**65Cu**	**66Zn**	**67Zn**	**68Zn**	**71Ga**	**75As**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:31:34	36.8513	9.1217	7.1379	83.2847	86.2742	83.8430	91.09%	11.2182
2	19:32:29	34.5728	8.8251	6.9377	81.8569	81.8487	81.8723	90.95%	11.2731
3	19:33:23	32.0457	8.4457	6.7985	80.0697	81.8494	80.5794	91.39%	10.4757
x		34.4899	8.7975	6.9580	81.7371	83.3241	82.0982	91.14%	10.9890
σ		2.4039	0.3388	0.1706	1.6109	2.5549	1.6435	0.22%	0.4454
%RSD		6.9698	3.8515	2.4522	1.9708	3.0662	2.0019	0.24	4.0532
Run	**Time**	**77Se**	**78Se**	**82Se**	**95Mo**	**97Mo**	**98Mo**	**103Rh**	**107Ag**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:31:34	0.2908	6.7132	0.4998	3.4359	3.0913	2.9231	79.89%	0.1481
2	19:32:29	0.5197	6.4801	0.6167	3.5830	3.1038	2.9770	80.32%	0.1594
3	19:33:23	0.5530	6.4709	0.5791	3.5497	2.9229	2.9115	81.74%	0.1541
x		0.4545	6.5547	0.5652	3.5229	3.0393	2.9372	80.65%	0.1539
σ		0.1427	0.1373	0.0597	0.0771	0.1010	0.0349	0.97%	0.0057
%RSD		31.4062	2.0954	10.5574	2.1886	3.3231	1.1895	1.20	3.6976
Run	**Time**	**109Ag**	**111Cd**	**112Cd**	**114Cd**	**115In**	**121Sb**	**123Sb**	**135Ba**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:31:34	0.0606	0.1142	0.1784	0.0938	82.48%	0.2005	0.2138	139.6048
2	19:32:29	0.0513	0.1177	0.1965	0.0891	82.93%	0.1997	0.1997	139.6627
3	19:33:23	0.0483	0.0836	0.1640	0.0986	84.59%	0.1943	0.1996	133.6911
x		0.0534	0.1052	0.1796	0.0938	83.33%	0.1982	0.2044	137.6529
σ		0.0064	0.0188	0.0163	0.0047	1.11%	0.0034	0.0082	3.4311
%RSD		11.9823	17.8348	9.0513	5.0295	1.34	1.7045	3.9938	2.4926
Run	**Time**	**137Ba**	**138Ba**	**175Lu**	**203Tl**	**205Tl**	**206Pb**	**207Pb**	**208Pb**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:31:34	139.4550	141.9878	84.38%	0.0182	0.0188	0.8531	0.9109	0.8902
2	19:32:29	137.8983	140.8362	86.47%	0.0263	0.0235	0.8339	0.9035	0.8899
3	19:33:23	132.7768	135.5784	88.88%	0.0202	0.0206	0.8278	0.8799	0.8426
x		136.7100	139.4675	86.58%	0.0216	0.0209	0.8383	0.8981	0.8742
σ		3.4941	3.4169	2.25%	0.0042	0.0024	0.0132	0.0162	0.0274
%RSD		2.5558	2.4500	2.60	19.6385	11.3192	1.5749	1.8065	3.1362

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	51V	59Co	60Ni	61Ni
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:36:10	96.78%	0.2571	355.0117	344.4243	137.9733	8.1119	74.6129	167.7217
2	19:37:05	90.88%	0.3041	366.5587	355.2837	138.5135	8.0379	74.5039	163.3382
3	19:37:59	88.66%	0.2734	355.9596	351.5129	137.2445	7.9426	72.6614	150.5683
x		92.11%	0.2782	359.1767	350.4070	137.9104	8.0308	73.9261	160.5427
σ		4.20%	0.0238	6.4106	5.5135	0.6368	0.0849	1.0966	8.9118
%RSD		4.56	8.5641	1.7848	1.5735	0.4618	1.0572	1.4834	5.5511
Run	**Time**	**62Ni**	**63Cu**	**65Cu**	**66Zn**	**67Zn**	**68Zn**	**71Ga**	**75As**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:36:10	87.7838	80.6559	77.3321	571.6266	558.9626	562.3341	118.46%	30.5933
2	19:37:05	83.6329	78.8724	77.0542	570.2125	557.2875	561.5519	118.52%	30.1314
3	19:37:59	81.9990	78.2791	76.2445	567.3632	551.6395	553.7836	118.26%	29.8912
x		84.4719	79.2692	76.8769	569.7341	555.9632	559.2232	118.41%	30.2053
σ		2.9823	1.2371	0.5651	2.1716	3.8369	4.7270	0.14%	0.3568
%RSD		3.5305	1.5606	0.7350	0.3812	0.6901	0.8453	0.12	1.1814
Run	**Time**	**77Se**	**78Se**	**82Se**	**95Mo**	**97Mo**	**98Mo**	**103Rh**	**107Ag**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:36:10	1.1305	10.8496	1.9094	41.0907	39.3598	40.0377	71.19%	0.6786
2	19:37:05	1.5797	8.5622	2.0682	40.8140	40.0919	40.3118	71.19%	0.7233
3	19:37:59	1.7080	8.4533	1.5876	40.0064	39.2170	39.3623	71.63%	0.6618
x		1.4727	9.2884	1.8551	40.6370	39.5563	39.9039	71.33%	0.6879
σ		0.3033	1.3532	0.2449	0.5634	0.4694	0.4887	0.25%	0.0318
%RSD		20.5918	14.5686	13.2006	1.3864	1.1866	1.2246	0.36	4.6195
Run	**Time**	**109Ag**	**111Cd**	**112Cd**	**114Cd**	**115In**	**121Sb**	**123Sb**	**135Ba**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:36:10	0.3593	6.2052	5.8797	5.6773	75.13%	2.2212	2.1786	760.8346
2	19:37:05	0.3606	6.1748	5.8505	5.6714	76.20%	2.2726	2.1766	758.9656
3	19:37:59	0.3490	6.2590	5.8843	5.7120	76.22%	2.2176	2.1570	748.7324
x		0.3563	6.2130	5.8715	5.6869	75.85%	2.2371	2.1707	756.1775
σ		0.0064	0.0426	0.0183	0.0220	0.62%	0.0308	0.0119	6.5150
%RSD		1.7845	0.6862	0.3125	0.3860	0.82	1.3749	0.5490	0.8616
Run	**Time**	**137Ba**	**138Ba**	**175Lu**	**203Tl**	**205Tl**	**206Pb**	**207Pb**	**208Pb**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:36:10	763.2207	811.5309	77.47%	0.0728	0.0719	25.0297	27.7217	26.6069
2	19:37:05	761.7207	811.6648	78.62%	0.0805	0.0802	25.3237	27.9287	26.8511
3	19:37:59	754.7666	803.7504	79.47%	0.0866	0.0843	24.9609	27.5835	26.5841
x		759.9027	808.9821	78.52%	0.0799	0.0788	25.1048	27.7446	26.6807
σ		4.5108	4.5312	1.00%	0.0069	0.0063	0.1927	0.1738	0.1480
%RSD		0.5936	0.5601	1.27	8.6499	7.9835	0.7676	0.6262	0.5548

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	51V	59Co	60Ni	61Ni
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:41:16	107.80%	0.0587	80.4519	78.3882	19.5798	1.0344	9.9266	42.3962
2	19:42:10	104.65%	0.0531	76.8212	78.2562	19.6185	1.0141	9.9877	41.6471
3	19:43:04	100.14%	0.0607	82.3489	81.5426	20.0822	1.0697	10.1247	40.0676
x		104.19%	0.0575	79.8740	79.3957	19.7602	1.0394	10.0130	41.3703
σ		3.85%	0.0039	2.8088	1.8605	0.2796	0.0281	0.1014	1.1888
%RSD		3.69	6.8311	3.5165	2.3433	1.4148	2.7035	1.0131	2.8735
Run	**Time**	**62Ni**	**63Cu**	**65Cu**	**66Zn**	**67Zn**	**68Zn**	**71Ga**	**75As**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:41:16	10.9782	3.2690	2.7217	10.4891	13.9708	12.8631	93.07%	45.9097
2	19:42:10	10.7983	3.3993	2.7654	10.6274	13.9812	12.9512	90.71%	45.3044
3	19:43:04	10.9645	3.5353	2.8123	11.1252	14.0959	13.3336	89.14%	47.6349
x		10.9137	3.4012	2.7664	10.7472	14.0159	13.0493	90.97%	46.2830
σ		0.1001	0.1332	0.0453	0.3346	0.0695	0.2501	1.98%	1.2093
%RSD		0.9176	3.9149	1.6378	3.1130	0.4955	1.9166	2.17	2.6128
Run	**Time**	**77Se**	**78Se**	**82Se**	**95Mo**	**97Mo**	**98Mo**	**103Rh**	**107Ag**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:41:16	0.7587	0.6857	0.1296	1.5872	1.5691	1.5405	86.09%	0.0530
2	19:42:10	0.6621	1.0551	0.1351	1.5722	1.5710	1.5798	86.77%	0.0462
3	19:43:04	0.4080	1.1722	0.4647	1.5795	1.6379	1.6437	84.66%	0.0464
x		0.6096	0.9710	0.2431	1.5796	1.5927	1.5880	85.84%	0.0485
σ		0.1811	0.2539	0.1919	0.0075	0.0392	0.0521	1.08%	0.0039
%RSD		29.7142	26.1519	78.9212	0.4750	2.4621	3.2823	1.25	8.0144
Run	**Time**	**109Ag**	**111Cd**	**112Cd**	**114Cd**	**115In**	**121Sb**	**123Sb**	**135Ba**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:41:16	0.0153	0.0191	0.0495	0.0121	87.45%	3.8739	3.8497	115.7442
2	19:42:10	0.0133	0.0208	0.0330	0.0166	88.36%	3.8065	3.8391	115.1576
3	19:43:04	0.0141	0.0406	0.0395	0.0169	86.85%	4.0640	3.9716	119.5768
x		0.0142	0.0269	0.0407	0.0152	87.56%	3.9148	3.8868	116.8262
σ		0.0010	0.0119	0.0083	0.0027	0.76%	0.1335	0.0736	2.4001
%RSD		7.1561	44.4012	20.4424	17.6083	0.86	3.4109	1.8943	2.0544
Run	**Time**	**137Ba**	**138Ba**	**175Lu**	**203Tl**	**205Tl**	**206Pb**	**207Pb**	**208Pb**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:41:16	116.5418	117.5329	88.34%	-0.0001	0.0021	0.0597	0.0632	0.0589
2	19:42:10	114.1278	115.6465	90.78%	0.0026	0.0016	0.0553	0.0552	0.0584
3	19:43:04	118.3918	120.3407	89.72%	0.0045	0.0022	0.0584	0.0563	0.0593
x		116.3538	117.8401	89.62%	0.0024	0.0020	0.0578	0.0583	0.0589
σ		2.1382	2.3622	1.22%	0.0023	0.0003	0.0023	0.0043	0.0005
%RSD		1.8377	2.0046	1.37	97.5667	16.2846	3.9099	7.4441	0.7678

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	51V	59Co	60Ni	61Ni
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:45:49	105.68%	0.1235	195.9572	191.3306	80.0996	1.1582	59.0980	77.8241
2	19:46:43	100.42%	0.1257	194.0464	194.7453	82.8451	1.2457	61.0580	77.9539
3	19:47:38	99.02%	0.1247	198.5191	199.7027	82.4817	1.2132	58.8924	78.4510
x		101.71%	0.1247	196.1742	195.2595	81.8088	1.2057	59.6828	78.0764
σ		3.51%	0.0011	2.2442	4.2097	1.4913	0.0443	1.1954	0.3309
%RSD		3.45	0.8773	1.1440	2.1559	1.8229	3.6709	2.0029	0.4238
Run	**Time**	**62Ni**	**63Cu**	**65Cu**	**66Zn**	**67Zn**	**68Zn**	**71Ga**	**75As**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:45:49	60.9861	4.3807	2.5416	12.8606	17.4803	15.3317	89.68%	110.4166
2	19:46:43	61.7753	4.5657	2.7711	13.3029	18.3401	16.0307	87.00%	112.7364
3	19:47:38	61.5293	4.6004	2.5763	13.3348	18.7701	15.9760	88.18%	111.3180
x		61.4302	4.5156	2.6297	13.1661	18.1968	15.7795	88.29%	111.4903
σ		0.4038	0.1181	0.1237	0.2651	0.6567	0.3887	1.34%	1.1694
%RSD		0.6573	2.6155	4.7037	2.0134	3.6089	2.4636	1.52	1.0489
Run	**Time**	**77Se**	**78Se**	**82Se**	**95Mo**	**97Mo**	**98Mo**	**103Rh**	**107Ag**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:45:49	1.5657	2.2040	2.4868	3.8280	3.6843	3.7537	80.85%	0.1002
2	19:46:43	1.9738	2.2331	2.5099	4.0246	3.7860	4.1051	78.49%	0.0935
3	19:47:38	2.0580	1.9937	2.1009	3.9461	3.9489	3.8750	80.57%	0.0996
x		1.8659	2.1436	2.3659	3.9329	3.8064	3.9113	79.97%	0.0978
σ		0.2633	0.1306	0.2298	0.0990	0.1335	0.1785	1.29%	0.0037
%RSD		14.1115	6.0938	9.7116	2.5161	3.5072	4.5638	1.62	3.7821
Run	**Time**	**109Ag**	**111Cd**	**112Cd**	**114Cd**	**115In**	**121Sb**	**123Sb**	**135Ba**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:45:49	0.0395	0.0342	0.0702	0.0064	83.73%	7.9939	7.9249	141.3799
2	19:46:43	0.0486	0.0535	0.0495	0.0099	82.07%	8.3664	8.3668	145.8979
3	19:47:38	0.0461	0.0505	0.0615	0.0145	83.34%	8.3399	8.2024	145.3119
x		0.0447	0.0461	0.0604	0.0103	83.05%	8.2334	8.1647	144.1966
σ		0.0047	0.0104	0.0104	0.0041	0.86%	0.2078	0.2234	2.4568
%RSD		10.5785	22.5708	17.2053	40.0721	1.04	2.5243	2.7358	1.7038
Run	**Time**	**137Ba**	**138Ba**	**175Lu**	**203Tl**	**205Tl**	**206Pb**	**207Pb**	**208Pb**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:45:49	141.7923	143.5277	85.25%	-0.0009	0.0015	0.0399	0.0398	0.0409
2	19:46:43	145.7091	147.5953	85.79%	0.0033	0.0019	0.0517	0.0481	0.0467
3	19:47:38	145.2138	147.7025	86.87%	0.0013	0.0001	0.0449	0.0451	0.0470
x		144.2384	146.2752	85.97%	0.0012	0.0012	0.0455	0.0444	0.0449
σ		2.1328	2.3799	0.83%	0.0021	0.0009	0.0059	0.0042	0.0034
%RSD		1.4787	1.6270	0.96	171.7767	78.3107	12.9598	9.4372	7.6445

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	51V	59Co	60Ni	61Ni
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:50:27	90.00%	0.1607	415.4667	397.3643	153.4752	6.8942	74.6129	152.4754
2	19:51:21	87.21%	0.1786	400.2562	394.4632	153.1599	6.8672	74.3135	136.8097
3	19:52:16	83.36%	0.1967	411.1910	401.5247	153.5659	6.7868	74.6546	139.2402
x		86.86%	0.1787	408.9713	397.7841	153.4003	6.8494	74.5270	142.8418
σ		3.33%	0.0180	7.8444	3.5494	0.2131	0.0559	0.1861	8.4310
%RSD		3.84	10.0878	1.9181	0.8923	0.1389	0.8155	0.2497	5.9023
Run	**Time**	**62Ni**	**63Cu**	**65Cu**	**66Zn**	**67Zn**	**68Zn**	**71Ga**	**75As**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:50:27	84.4317	46.0691	44.4665	293.6976	295.9924	293.7710	99.36%	33.2679
2	19:51:21	82.1448	45.8736	44.2053	295.0378	300.3910	295.8856	97.01%	32.2240
3	19:52:16	80.7810	45.2986	43.7342	293.3672	293.6488	292.2347	97.26%	32.6985
x		82.4525	45.7471	44.1353	294.0342	296.6774	293.9638	97.88%	32.7302
σ		1.8447	0.4005	0.3712	0.8847	3.4229	1.8331	1.29%	0.5227
%RSD		2.2373	0.8755	0.8409	0.3009	1.1537	0.6236	1.32	1.5969
Run	**Time**	**77Se**	**78Se**	**82Se**	**95Mo**	**97Mo**	**98Mo**	**103Rh**	**107Ag**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:50:27	1.4213	5.4606	2.2833	30.6438	30.5206	30.8466	69.02%	0.6258
2	19:51:21	1.8290	5.8878	2.0278	30.8582	30.7634	31.0162	68.31%	0.5679
3	19:52:16	1.8349	5.2014	1.6488	31.3297	31.0296	31.4936	66.97%	0.6107
x		1.6951	5.5166	1.9866	30.9439	30.7712	31.1188	68.10%	0.6015
σ		0.2371	0.3466	0.3193	0.3509	0.2546	0.3355	1.04%	0.0300
%RSD		13.9865	6.2833	16.0703	1.1340	0.8273	1.0781	1.53	4.9940
Run	**Time**	**109Ag**	**111Cd**	**112Cd**	**114Cd**	**115In**	**121Sb**	**123Sb**	**135Ba**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:50:27	0.2324	3.1568	3.1710	2.9348	72.23%	1.9867	1.9904	627.0073
2	19:51:21	0.2357	2.9157	3.2286	2.8583	72.36%	2.0861	2.0165	623.6599
3	19:52:16	0.2304	3.1524	3.1166	2.8761	71.72%	2.0499	2.0553	630.4013
x		0.2328	3.0750	3.1721	2.8897	72.10%	2.0409	2.0207	627.0228
σ		0.0027	0.1380	0.0560	0.0400	0.34%	0.0503	0.0326	3.3707
%RSD		1.1519	4.4874	1.7658	1.3845	0.47	2.4663	1.6154	0.5376
Run	**Time**	**137Ba**	**138Ba**	**175Lu**	**203Tl**	**205Tl**	**206Pb**	**207Pb**	**208Pb**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:50:27	626.9773	658.3819	74.59%	0.0326	0.0346	14.0835	15.6500	14.8931
2	19:51:21	626.3155	659.5712	76.59%	0.0374	0.0369	13.8672	15.4361	14.7619
3	19:52:16	629.2373	663.9930	75.96%	0.0374	0.0344	14.0461	15.7471	14.9586
x		627.5100	660.6487	75.71%	0.0358	0.0353	13.9990	15.6110	14.8712
σ		1.5320	2.9566	1.02%	0.0028	0.0014	0.1156	0.1591	0.1001
%RSD		0.2441	0.4475	1.35	7.8072	3.8961	0.8259	1.0191	0.6734

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	51V	59Co	60Ni	61Ni
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:55:20	101.80%	27.3224	32.4486	31.2355	25.9489	26.5851	26.7237	26.2120
2	19:56:14	95.50%	26.5769	30.8775	30.8816	26.1853	25.8306	25.4345	26.8766
3	19:57:08	93.52%	25.7666	30.6613	29.9286	24.8956	25.5995	25.4247	27.2952
x		96.94%	26.5553	31.3292	30.6819	25.6766	26.0051	25.8609	26.7946
σ		4.32%	0.7781	0.9755	0.6760	0.6866	0.5155	0.7472	0.5463
%RSD		4.46	2.9303	3.1137	2.2032	2.6740	1.9822	2.8892	2.0387

Run	Time	62Ni	63Cu	65Cu	66Zn	67Zn	68Zn	71Ga	75As
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:55:20	27.2312	26.3463	26.2293	24.9458	25.6472	25.4920	96.23%	26.3338
2	19:56:14	26.8802	25.9822	26.1948	25.3431	26.5409	24.7564	93.77%	25.6106
3	19:57:08	26.7737	25.5301	25.6787	24.8493	25.5376	24.9398	93.38%	26.4837
x		26.9617	25.9529	26.0343	25.0461	25.9085	25.0627	94.46%	26.1427
σ		0.2394	0.4089	0.3084	0.2617	0.5504	0.3829	1.54%	0.4669
%RSD		0.8880	1.5755	1.1846	1.0450	2.1242	1.5279	1.64	1.7858

Run	Time	77Se	78Se	82Se	95Mo	97Mo	98Mo	103Rh	107Ag
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:55:20	25.9062	26.4683	25.9319	25.9356	25.4468	25.2919	94.16%	25.4004
2	19:56:14	24.9055	26.8924	24.8121	25.4469	25.3843	25.5983	94.92%	25.1123
3	19:57:08	24.6366	26.3201	28.0880	25.6196	25.0801	25.9305	91.85%	25.1840
x		25.1494	26.5603	26.2774	25.6674	25.3037	25.6069	93.64%	25.2322
σ		0.6690	0.2970	1.6651	0.2478	0.1962	0.3194	1.60%	0.1500
%RSD		2.6602	1.1183	6.3365	0.9654	0.7753	1.2472	1.71	0.5945

Run	Time	109Ag	111Cd	112Cd	114Cd	115In	121Sb	123Sb	135Ba
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:55:20	25.7181	25.0868	25.4770	25.5489	91.45%	25.5896	25.4381	25.7501
2	19:56:14	25.2106	24.6440	24.9487	25.2631	92.18%	25.2636	25.2602	25.0670
3	19:57:08	25.2063	25.3410	25.0078	25.5279	91.22%	25.4480	25.2298	25.2469
x		25.3783	25.0240	25.1445	25.4466	91.62%	25.4337	25.3094	25.3547
σ		0.2943	0.3527	0.2895	0.1593	0.50%	0.1635	0.1125	0.3541
%RSD		1.1595	1.4096	1.1512	0.6259	0.55	0.6427	0.4445	1.3966

Run	Time	137Ba	138Ba	175Lu	203Tl	205Tl	206Pb	207Pb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:55:20	25.6944	25.9518	88.48%	25.4482	25.3878	25.4188	25.1741	25.2835
2	19:56:14	25.0945	25.4272	91.03%	25.1138	24.8494	25.0107	24.9384	24.9620
3	19:57:08	25.2535	25.4777	90.54%	25.4141	25.1924	25.3835	25.2989	25.1532
x		25.3475	25.6189	90.02%	25.3254	25.1432	25.2710	25.1372	25.1329
σ		0.3108	0.2894	1.35%	0.1840	0.2725	0.2261	0.1831	0.1617
%RSD		1.2262	1.1298	1.50	0.7266	1.0839	0.8948	0.7283	0.6434

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	51V	59Co	60Ni	61Ni
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:05:25	96.75%	0.0034	1.7695	1.8703	0.0180	0.0032	0.0099	-0.4504
2	20:06:19	93.04%	0.0027	1.7487	1.7871	0.0217	0.0025	0.0121	-0.1967
3	20:07:14	92.09%	0.0074	1.7970	1.7360	-0.0259	0.0058	0.0121	-0.6039
x		93.96%	0.0045	1.7717	1.7978	0.0046	0.0038	0.0114	-0.4170
σ		2.46%	0.0025	0.0242	0.0678	0.0265	0.0018	0.0013	0.2056
%RSD		2.62	56.4358	1.3678	3.7692	577.2028	45.7350	11.3506	49.3130
Run	**Time**	**62Ni**	**63Cu**	**65Cu**	**66Zn**	**67Zn**	**68Zn**	**71Ga**	**75As**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:05:25	1.5278	0.0691	0.0649	0.0663	0.0381	-0.0107	89.15%	0.0896
2	20:06:19	1.4675	0.0792	0.0588	0.0716	0.0529	0.0168	88.60%	-0.0983
3	20:07:14	1.3988	0.0678	0.0434	0.0652	0.0672	0.0168	88.48%	0.0627
x		1.4647	0.0721	0.0557	0.0677	0.0528	0.0076	88.74%	0.0180
σ		0.0645	0.0062	0.0111	0.0034	0.0146	0.0159	0.35%	0.1016
%RSD		4.4045	8.6354	19.8720	5.0870	27.5938	208.6031	0.40	563.5892
Run	**Time**	**77Se**	**78Se**	**82Se**	**95Mo**	**97Mo**	**98Mo**	**103Rh**	**107Ag**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:05:25	0.0235	0.1669	0.2813	0.0570	0.0965	0.0691	88.45%	0.0054
2	20:06:19	0.0241	0.2407	-0.4390	0.1327	0.1370	0.1254	88.42%	0.0049
3	20:07:14	0.0240	0.3353	0.1957	0.1031	0.1593	0.1480	89.24%	0.0058
x		0.0239	0.2476	0.0127	0.0976	0.1310	0.1141	88.70%	0.0054
σ		0.0003	0.0845	0.3935	0.0382	0.0318	0.0406	0.46%	0.0004
%RSD		1.3186	34.1069	3109.6366	39.1112	24.3085	35.6028	0.52	7.8194
Run	**Time**	**109Ag**	**111Cd**	**112Cd**	**114Cd**	**115In**	**121Sb**	**123Sb**	**135Ba**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:05:25	0.0003	0.0000	0.0002	-0.0018	85.74%	0.0055	0.0038	0.0005
2	20:06:19	0.0062	0.0038	-0.0027	0.0051	87.62%	0.0041	0.0076	0.0063
3	20:07:14	0.0085	0.0075	0.0057	0.0058	88.04%	0.0047	0.0068	0.0328
x		0.0050	0.0038	0.0011	0.0030	87.13%	0.0048	0.0061	0.0132
σ		0.0042	0.0038	0.0043	0.0042	1.22%	0.0007	0.0020	0.0172
%RSD		84.6726	99.7923	395.2725	138.3808	1.40	14.9915	33.0318	130.6786
Run	**Time**	**137Ba**	**138Ba**	**175Lu**	**203Tl**	**205Tl**	**206Pb**	**207Pb**	**208Pb**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:05:25	0.0115	0.0054	84.67%	0.0066	0.0045	0.0052	0.0070	0.0043
2	20:06:19	0.0095	0.0103	87.40%	0.0171	0.0115	0.0050	0.0030	0.0043
3	20:07:14	0.0094	0.0179	87.81%	0.0098	0.0136	0.0078	0.0058	0.0073
x		0.0101	0.0112	86.63%	0.0112	0.0099	0.0060	0.0053	0.0053
σ		0.0012	0.0063	1.71%	0.0054	0.0048	0.0016	0.0020	0.0018
%RSD		11.8879	56.2984	1.97	48.1313	48.2512	26.2273	38.7447	33.1844

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	51V	59Co	60Ni	61Ni
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:09:57	101.91%	0.0006	1.2707	1.2822	-0.0091	0.0011	0.0055	0.2660
2	20:10:52	97.48%	-0.0019	1.3417	1.3302	0.0257	-0.0005	0.0117	0.2874
3	20:11:46	94.58%	-0.0010	1.3439	1.3697	-0.0041	-0.0005	0.0057	0.0481
x		97.99%	-0.0008	1.3188	1.3274	0.0042	0.0000	0.0076	0.2005
σ		3.69%	0.0013	0.0417	0.0438	0.0188	0.0009	0.0035	0.1324
%RSD		3.77	158.1242	3.1599	3.3029	450.1045	2902.3984	46.5295	66.0420
Run	**Time**	**62Ni**	**63Cu**	**65Cu**	**66Zn**	**67Zn**	**68Zn**	**71Ga**	**75As**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:09:57	1.2606	0.0558	0.0639	0.0589	0.0084	0.0121	91.89%	0.0102
2	20:10:52	1.1891	0.0657	0.0403	0.0956	0.0648	0.0219	90.20%	0.0154
3	20:11:46	1.1001	0.0409	0.0382	0.0665	0.1187	0.0450	91.26%	-0.0946
x		1.1832	0.0541	0.0474	0.0737	0.0640	0.0263	91.12%	-0.0230
σ		0.0804	0.0125	0.0143	0.0194	0.0551	0.0169	0.86%	0.0621
%RSD		6.7963	23.0497	30.0526	26.3216	86.2169	64.1849	0.94	269.5576
Run	**Time**	**77Se**	**78Se**	**82Se**	**95Mo**	**97Mo**	**98Mo**	**103Rh**	**107Ag**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:09:57	-0.0536	0.0070	-0.0142	0.0239	0.0151	0.0379	90.96%	0.0008
2	20:10:52	-0.0154	0.0393	-0.0382	0.0321	0.0413	0.0379	89.66%	0.0004
3	20:11:46	-0.0905	-0.3717	-0.4634	0.0695	0.0556	0.0555	89.03%	0.0018
x		-0.0532	-0.1085	-0.1719	0.0418	0.0373	0.0438	89.88%	0.0010
σ		0.0376	0.2285	0.2527	0.0244	0.0206	0.0101	0.98%	0.0007
%RSD		70.6291	210.6303	146.9749	58.2230	55.0722	23.1847	1.09	68.7882
Run	**Time**	**109Ag**	**111Cd**	**112Cd**	**114Cd**	**115In**	**121Sb**	**123Sb**	**135Ba**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:09:57	-0.0007	0.0000	-0.0018	-0.0026	88.42%	-0.0015	-0.0011	0.0063
2	20:10:52	-0.0012	0.0019	0.0010	-0.0003	87.92%	0.0010	0.0013	0.0151
3	20:11:46	0.0025	0.0038	0.0010	0.0012	88.14%	0.0028	0.0028	0.0209
x		0.0002	0.0019	0.0001	-0.0006	88.16%	0.0008	0.0010	0.0141
σ		0.0020	0.0019	0.0016	0.0019	0.25%	0.0022	0.0020	0.0074
%RSD		923.2733	100.0222	1907.0644	342.0911	0.28	276.9232	190.7581	52.2597
Run	**Time**	**137Ba**	**138Ba**	**175Lu**	**203Tl**	**205Tl**	**206Pb**	**207Pb**	**208Pb**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:09:57	0.0028	0.0065	86.87%	0.0029	0.0005	0.0018	0.0016	0.0015
2	20:10:52	0.0078	0.0054	87.55%	0.0066	0.0030	0.0032	0.0016	0.0022
3	20:11:46	0.0110	0.0084	88.72%	0.0040	0.0032	0.0031	0.0030	0.0028
x		0.0072	0.0068	87.71%	0.0045	0.0022	0.0027	0.0021	0.0022
σ		0.0042	0.0015	0.94%	0.0019	0.0015	0.0008	0.0008	0.0007
%RSD		57.7119	22.5421	1.07	42.8080	66.5966	29.4411	36.6839	30.8174

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	51V	59Co	60Ni	61Ni
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:14:34	100.21%	0.0006	1.1965	1.0242	-0.0178	-0.0017	0.0017	0.2840
2	20:15:28	97.75%	0.0025	1.1022	1.0649	0.0140	0.0003	0.0057	-0.2864
3	20:16:23	94.87%	-0.0019	0.9517	1.1276	-0.0206	0.0007	0.0035	0.2176
x		97.61%	0.0004	1.0835	1.0723	-0.0082	-0.0002	0.0037	0.0717
σ		2.67%	0.0022	0.1235	0.0521	0.0192	0.0013	0.0020	0.3119
%RSD		2.74	572.4366	11.3951	4.8602	235.9791	556.8393	55.4239	434.9106
Run	**Time**	**62Ni**	**63Cu**	**65Cu**	**66Zn**	**67Zn**	**68Zn**	**71Ga**	**75As**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:14:34	1.0805	0.0438	0.0539	0.0631	0.0096	0.0280	89.91%	-0.1278
2	20:15:28	0.8806	0.0286	0.0304	0.0700	0.0375	0.0191	89.75%	0.0415
3	20:16:23	0.9134	0.0420	0.0288	0.0687	0.0751	0.0349	93.20%	-0.0456
x		0.9582	0.0381	0.0377	0.0673	0.0407	0.0273	90.95%	-0.0440
σ		0.1072	0.0083	0.0140	0.0037	0.0329	0.0079	1.95%	0.0846
%RSD		11.1909	21.7884	37.2081	5.4442	80.7206	28.8911	2.14	192.4595
Run	**Time**	**77Se**	**78Se**	**82Se**	**95Mo**	**97Mo**	**98Mo**	**103Rh**	**107Ag**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:14:34	0.1359	0.3033	-0.3514	0.0085	0.0065	0.0082	88.84%	-0.0009
2	20:15:28	-0.0905	0.3013	-0.0375	0.0351	0.0343	0.0307	89.68%	-0.0009
3	20:16:23	-0.0175	0.0510	-0.2103	0.0223	0.0334	0.0334	90.74%	-0.0001
x		0.0093	0.2185	-0.1997	0.0220	0.0248	0.0241	89.75%	-0.0006
σ		0.1156	0.1451	0.1572	0.0133	0.0158	0.0138	0.95%	0.0005
%RSD		1247.9944	66.3994	78.7196	60.6112	63.8319	57.3386	1.06	78.7341
Run	**Time**	**109Ag**	**111Cd**	**112Cd**	**114Cd**	**115In**	**121Sb**	**123Sb**	**135Ba**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:14:34	-0.0025	0.0019	-0.0046	-0.0002	86.09%	-0.0021	0.0022	0.0065
2	20:15:28	-0.0002	0.0000	-0.0027	-0.0003	87.77%	0.0016	0.0044	0.0063
3	20:16:23	-0.0003	0.0037	-0.0009	-0.0011	89.59%	0.0021	-0.0018	0.0119
x		-0.0010	0.0019	-0.0027	-0.0006	87.82%	0.0006	0.0016	0.0082
σ		0.0013	0.0019	0.0018	0.0005	1.75%	0.0023	0.0032	0.0032
%RSD		129.2105	98.8889	66.7596	88.3554	1.99	412.4149	199.8401	38.8393
Run	**Time**	**137Ba**	**138Ba**	**175Lu**	**203Tl**	**205Tl**	**206Pb**	**207Pb**	**208Pb**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:14:34	0.0012	0.0004	85.28%	0.0001	0.0001	0.0018	0.0022	0.0006
2	20:15:28	0.0011	0.0069	88.43%	0.0043	0.0016	0.0017	0.0016	0.0014
3	20:16:23	0.0092	0.0063	89.52%	0.0027	0.0024	0.0013	0.0002	0.0010
x		0.0038	0.0045	87.74%	0.0024	0.0014	0.0016	0.0013	0.0010
σ		0.0046	0.0036	2.20%	0.0022	0.0012	0.0003	0.0010	0.0004
%RSD		120.5174	79.8077	2.51	90.9783	87.1956	16.2185	77.5345	42.6485

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	51V	59Co	60Ni	61Ni
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:19:08	96.38%	21.3938	0.7156	0.7897	20.6437	21.2372	21.3417	19.7915
2	20:20:03	91.87%	21.0364	0.9778	0.8464	20.3821	20.4770	20.5593	20.0432
3	20:20:57	91.91%	20.6477	0.7267	0.7985	19.6871	19.9150	20.2343	18.5208
x		93.39%	21.0260	0.8067	0.8115	20.2376	20.5431	20.7118	19.4518
σ		2.59%	0.3732	0.1483	0.0305	0.4944	0.6635	0.5692	0.8161
%RSD		2.77	1.7748	18.3837	3.7617	2.4431	3.2299	2.7483	4.1953

Run	Time	62Ni	63Cu	65Cu	66Zn	67Zn	68Zn	71Ga	75As
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:19:08	21.6775	21.3088	21.4907	21.2859	21.7394	21.2134	88.50%	21.1136
2	20:20:03	20.8108	20.7256	20.6508	20.6981	21.4402	20.7001	88.28%	20.0311
3	20:20:57	20.1897	19.8184	19.7139	20.3766	19.8586	20.5258	89.18%	19.4901
x		20.8927	20.6176	20.6185	20.7869	21.0127	20.8131	88.65%	20.2116
σ		0.7473	0.7510	0.8889	0.4611	1.0106	0.3575	0.47%	0.8267
%RSD		3.5766	3.6426	4.3110	2.2181	4.8095	1.7176	0.53	4.0903

Run	Time	77Se	78Se	82Se	95Mo	97Mo	98Mo	103Rh	107Ag
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:19:08	19.4935	22.4233	21.3291	20.5963	20.2296	20.7980	88.50%	21.1890
2	20:20:03	19.4558	20.4106	18.7966	20.4272	20.4739	20.9665	87.59%	21.0786
3	20:20:57	20.0895	19.4945	19.1135	20.1758	20.0255	20.3503	88.59%	20.1871
x		19.6796	20.7761	19.7464	20.3998	20.2430	20.7049	88.23%	20.8182
σ		0.3555	1.4982	1.3798	0.2116	0.2245	0.3185	0.55%	0.5494
%RSD		1.8063	7.2113	6.9875	1.0372	1.1090	1.5383	0.62	2.6389

Run	Time	109Ag	111Cd	112Cd	114Cd	115In	121Sb	123Sb	135Ba
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:19:08	21.0908	20.5724	19.8138	20.1342	86.52%	20.5738	20.2880	20.4781
2	20:20:03	20.8469	20.3700	19.4883	20.0909	86.20%	20.7369	20.4036	20.8147
3	20:20:57	20.2931	20.0839	19.1244	19.4425	87.58%	20.1542	19.9710	20.2259
x		20.7436	20.3421	19.4755	19.8892	86.77%	20.4883	20.2209	20.5063
σ		0.4088	0.2454	0.3449	0.3875	0.72%	0.3006	0.2240	0.2954
%RSD		1.9706	1.2065	1.7709	1.9481	0.83	1.4673	1.1076	1.4407

Run	Time	137Ba	138Ba	175Lu	203Tl	205Tl	206Pb	207Pb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:19:08	21.1425	20.8060	85.70%	20.4272	20.2427	20.5881	20.7350	20.6281
2	20:20:03	20.6985	20.7739	87.82%	20.2056	20.0576	20.3992	20.4589	20.3440
3	20:20:57	19.8753	19.9991	88.27%	20.0132	19.9937	20.3184	20.0109	20.0458
x		20.5721	20.5263	87.26%	20.2154	20.0980	20.4352	20.4016	20.3393
σ		0.6430	0.4569	1.37%	0.2072	0.1293	0.1384	0.3654	0.2911
%RSD		3.1256	2.2257	1.57	1.0249	0.6434	0.6772	1.7912	1.4314

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	51V	59Co	60Ni	61Ni
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:24:30	100.16%	0.0100	21.2772	21.3979	0.0715	4.2378	1.4803	13.7322
2	20:25:25	94.18%	0.0081	22.9157	21.6376	0.0605	4.2605	1.4137	13.1353
3	20:26:19	92.70%	0.0101	21.4495	21.1529	0.0096	4.1243	1.3623	11.1577
x		95.68%	0.0094	21.8808	21.3961	0.0472	4.2075	1.4187	12.6751
σ		3.95%	0.0011	0.9004	0.2424	0.0331	0.0729	0.0592	1.3475
%RSD		4.13	12.0585	4.1148	1.1327	70.0578	1.7337	4.1699	10.6312
Run	**Time**	**62Ni**	**63Cu**	**65Cu**	**66Zn**	**67Zn**	**68Zn**	**71Ga**	**75As**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:24:30	1.7821	4.2296	4.3835	42.7773	42.5045	41.4611	90.42%	0.3327
2	20:25:25	1.5154	4.3327	4.2931	43.7730	42.1288	43.1094	85.49%	0.4951
3	20:26:19	1.6599	4.3027	4.3717	42.8083	41.1531	42.4203	85.34%	0.2944
x		1.6524	4.2884	4.3494	43.1196	41.9288	42.3303	87.08%	0.3741
σ		0.1335	0.0530	0.0492	0.5662	0.6975	0.8278	2.89%	0.1066
%RSD		8.0800	1.2369	1.1304	1.3130	1.6636	1.9556	3.32	28.4891
Run	**Time**	**77Se**	**78Se**	**82Se**	**95Mo**	**97Mo**	**98Mo**	**103Rh**	**107Ag**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:24:30	0.0983	0.0070	-0.1219	0.4194	0.3774	0.3758	86.41%	0.0060
2	20:25:25	0.2263	0.0619	0.3333	0.4754	0.4398	0.4476	85.32%	0.0098
3	20:26:19	0.1477	0.2081	-0.1153	0.3378	0.3436	0.4129	84.77%	0.0090
x		0.1574	0.0923	0.0321	0.4109	0.3869	0.4121	85.50%	0.0083
σ		0.0646	0.1040	0.2609	0.0692	0.0488	0.0359	0.84%	0.0020
%RSD		41.0229	112.6280	813.9421	16.8375	12.6066	8.7066	0.98	24.1637
Run	**Time**	**109Ag**	**111Cd**	**112Cd**	**114Cd**	**115In**	**121Sb**	**123Sb**	**135Ba**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:24:30	0.0070	0.0913	0.0795	0.0735	85.31%	0.1826	0.1883	5.8362
2	20:25:25	0.0114	0.0727	0.0756	0.0985	84.37%	0.1964	0.1786	5.9045
3	20:26:19	0.0124	0.0767	0.0776	0.0799	84.50%	0.2158	0.2179	5.8922
x		0.0102	0.0803	0.0775	0.0840	84.72%	0.1983	0.1950	5.8776
σ		0.0029	0.0098	0.0020	0.0129	0.51%	0.0167	0.0205	0.0364
%RSD		28.2013	12.1848	2.5151	15.4150	0.60	8.4071	10.5029	0.6193
Run	**Time**	**137Ba**	**138Ba**	**175Lu**	**203Tl**	**205Tl**	**206Pb**	**207Pb**	**208Pb**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:24:30	5.8667	5.8273	86.57%	0.0247	0.0220	0.0530	0.0472	0.0513
2	20:25:25	5.9141	5.8561	87.11%	0.0318	0.0365	0.0494	0.0515	0.0538
3	20:26:19	5.6968	5.8091	87.80%	0.0290	0.0283	0.0572	0.0511	0.0504
x		5.8259	5.8308	87.16%	0.0285	0.0290	0.0532	0.0500	0.0519
σ		0.1143	0.0237	0.62%	0.0036	0.0073	0.0039	0.0024	0.0018
%RSD		1.9616	0.4064	0.71	12.6297	25.1595	7.3190	4.8179	3.3931

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	51V	59Co	60Ni	61Ni
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:29:12	94.81%	0.0099	22.9725	22.6971	0.0508	4.6283	1.4998	15.0645
2	20:30:06	91.88%	0.0093	22.8257	22.5921	0.0815	4.3608	1.5252	9.5995
3	20:31:00	89.72%	0.0163	20.9725	21.0862	0.0762	4.1942	1.1840	9.8966
x		92.14%	0.0118	22.2569	22.1252	0.0695	4.3944	1.4030	11.5202
σ		2.56%	0.0039	1.1148	0.9012	0.0164	0.2190	0.1901	3.0730
%RSD		2.78	32.7421	5.0086	4.0734	23.6200	4.9840	13.5489	26.6749
Run	**Time**	**62Ni**	**63Cu**	**65Cu**	**66Zn**	**67Zn**	**68Zn**	**71Ga**	**75As**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:29:12	1.7781	4.7718	4.7173	45.9940	43.6967	45.3177	83.84%	0.3232
2	20:30:06	1.6028	4.3886	4.5524	44.6375	41.7431	43.5769	83.51%	0.3123
3	20:31:00	1.3770	4.2394	4.1448	43.1502	41.0229	41.7373	83.41%	0.2448
x		1.5860	4.4666	4.4715	44.5939	42.1542	43.5440	83.59%	0.2934
σ		0.2011	0.2747	0.2947	1.4224	1.3835	1.7904	0.23%	0.0425
%RSD		12.6795	6.1490	6.5906	3.1896	3.2820	4.1118	0.27	14.4714
Run	**Time**	**77Se**	**78Se**	**82Se**	**95Mo**	**97Mo**	**98Mo**	**103Rh**	**107Ag**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:29:12	0.3957	0.4058	0.0108	0.2021	0.2550	0.2289	82.23%	0.0002
2	20:30:06	0.2747	0.1892	-0.2966	0.2427	0.2204	0.2536	82.97%	0.0063
3	20:31:00	0.1124	-0.1088	-0.5418	0.2593	0.2119	0.2310	83.42%	0.0076
x		0.2609	0.1621	-0.2759	0.2347	0.2291	0.2378	82.87%	0.0047
σ		0.1422	0.2584	0.2769	0.0294	0.0228	0.0137	0.60%	0.0040
%RSD		54.4890	159.4338	100.3649	12.5322	9.9737	5.7690	0.73	84.5384
Run	**Time**	**109Ag**	**111Cd**	**112Cd**	**114Cd**	**115In**	**121Sb**	**123Sb**	**135Ba**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:29:12	0.0005	0.0717	0.0709	0.0829	80.74%	0.2323	0.2065	6.2546
2	20:30:06	0.0049	0.0664	0.0624	0.0867	82.67%	0.2200	0.2130	6.2075
3	20:31:00	0.0067	0.0906	0.0863	0.0804	84.99%	0.1685	0.1791	5.4940
x		0.0040	0.0762	0.0732	0.0833	82.80%	0.2069	0.1995	5.9854
σ		0.0032	0.0128	0.0121	0.0032	2.12%	0.0339	0.0180	0.4262
%RSD		78.9044	16.7418	16.5648	3.7982	2.57	16.3664	9.0274	7.1210
Run	**Time**	**137Ba**	**138Ba**	**175Lu**	**203Tl**	**205Tl**	**206Pb**	**207Pb**	**208Pb**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:29:12	6.3541	6.2265	82.49%	0.0096	0.0089	0.0455	0.0535	0.0472
2	20:30:06	6.0482	5.9393	85.54%	0.0117	0.0138	0.0511	0.0563	0.0502
3	20:31:00	5.6730	5.5909	87.26%	0.0098	0.0104	0.0426	0.0598	0.0487
x		6.0251	5.9189	85.10%	0.0104	0.0110	0.0464	0.0566	0.0487
σ		0.3411	0.3183	2.41%	0.0012	0.0026	0.0043	0.0032	0.0015
%RSD		5.6620	5.3772	2.84	11.2117	23.1554	9.3676	5.5828	3.0417

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	51V	59Co	60Ni	61Ni
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:33:46	95.67%	-0.0010	5.1796	4.8832	0.0166	0.9035	0.2883	3.0518
2	20:34:40	91.89%	0.0009	5.0602	4.9257	-0.0095	0.8311	0.3068	2.1834
3	20:35:34	91.54%	0.0009	5.3103	4.9925	-0.0017	0.8380	0.2657	1.6816
x		93.03%	0.0003	5.1834	4.9338	0.0018	0.8575	0.2869	2.3056
σ		2.29%	0.0011	0.1251	0.0551	0.0134	0.0399	0.0206	0.6932
%RSD		2.46	415.2814	2.4133	1.1173	757.5719	4.6586	7.1742	30.0675

Run	Time	62Ni	63Cu	65Cu	66Zn	67Zn	68Zn	71Ga	75As
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:33:46	0.4734	0.9407	0.9248	9.7545	9.9687	9.4545	86.65%	0.0897
2	20:34:40	0.4180	0.9234	0.8914	9.2336	8.7267	8.9673	90.86%	0.1248
3	20:35:34	0.3752	0.9142	0.9634	9.2157	9.0100	9.1258	88.89%	-0.0424
x		0.4222	0.9261	0.9265	9.4013	9.2351	9.1825	88.80%	0.0574
σ		0.0493	0.0135	0.0360	0.3060	0.6508	0.2485	2.10%	0.0882
%RSD		11.6714	1.4550	3.8894	3.2553	7.0475	2.7063	2.37	153.6732

Run	Time	77Se	78Se	82Se	95Mo	97Mo	98Mo	103Rh	107Ag
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:33:46	0.0266	0.0514	-0.1181	0.0372	0.0290	0.0307	86.69%	0.0019
2	20:34:40	-0.0905	-0.0341	0.0195	0.0481	0.0543	0.0520	87.65%	0.0041
3	20:35:34	-0.0525	-0.0006	-0.4668	0.0446	0.0630	0.0668	89.03%	0.0022
x		-0.0388	0.0055	-0.1885	0.0433	0.0488	0.0498	87.79%	0.0027
σ		0.0598	0.0431	0.2507	0.0056	0.0176	0.0182	1.18%	0.0012
%RSD		154.0850	776.7736	132.9933	12.8376	36.1753	36.4500	1.34	43.4775

Run	Time	109Ag	111Cd	112Cd	114Cd	115In	121Sb	123Sb	135Ba
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:33:46	0.0017	0.0251	0.0146	0.0123	86.15%	0.0387	0.0437	1.3081
2	20:34:40	0.0016	0.0227	0.0123	0.0151	88.22%	0.0377	0.0481	1.1794
3	20:35:34	-0.0012	0.0225	0.0103	0.0157	88.53%	0.0387	0.0455	1.1375
x		0.0007	0.0234	0.0124	0.0144	87.64%	0.0384	0.0458	1.2083
σ		0.0016	0.0014	0.0021	0.0018	1.29%	0.0006	0.0022	0.0889
%RSD		222.4542	6.0738	17.1984	12.5231	1.47	1.5502	4.7569	7.3582

Run	Time	137Ba	138Ba	175Lu	203Tl	205Tl	206Pb	207Pb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:33:46	1.2334	1.2023	85.89%	-0.0006	-0.0007	0.0113	0.0064	0.0105
2	20:34:40	1.1786	1.1424	88.81%	0.0006	0.0029	0.0161	0.0153	0.0140
3	20:35:34	1.1287	1.1409	89.76%	0.0008	0.0020	0.0114	0.0192	0.0129
x		1.1802	1.1619	88.15%	0.0003	0.0014	0.0129	0.0136	0.0125
σ		0.0524	0.0350	2.02%	0.0008	0.0019	0.0028	0.0066	0.0018
%RSD		4.4381	3.0134	2.29	294.9212	136.6288	21.3531	48.0310	14.1932

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	51V	59Co	60Ni	61Ni
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:38:21	97.99%	21.1207	60.3755	59.5496	20.1000	23.6125	21.6616	32.2047
2	20:39:16	90.40%	21.0201	62.5222	62.3704	20.4696	23.4412	21.5733	31.5069
3	20:40:10	88.68%	20.7729	63.4677	61.8646	20.1986	23.8645	21.2305	30.8467
x		92.35%	20.9712	62.1218	61.2615	20.2560	23.6394	21.4885	31.5194
σ		4.95%	0.1790	1.5845	1.5040	0.1914	0.2130	0.2277	0.6791
%RSD		5.36	0.8534	2.5506	2.4551	0.9449	0.9009	1.0598	2.1546
Run	**Time**	**62Ni**	**63Cu**	**65Cu**	**66Zn**	**67Zn**	**68Zn**	**71Ga**	**75As**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:38:21	21.1260	25.1055	25.2208	62.2234	60.7167	62.8955	87.33%	20.6473
2	20:39:16	21.3832	24.9066	24.9123	62.7726	60.7298	62.6390	85.62%	20.9836
3	20:40:10	21.3099	25.1436	25.0366	63.9976	63.0946	62.8514	83.05%	22.0555
x		21.2730	25.0519	25.0566	62.9979	61.5137	62.7953	85.33%	21.2288
σ		0.1325	0.1273	0.1552	0.9083	1.3691	0.1371	2.15%	0.7354
%RSD		0.6228	0.5080	0.6196	1.4418	2.2257	0.2184	2.52	3.4643
Run	**Time**	**77Se**	**78Se**	**82Se**	**95Mo**	**97Mo**	**98Mo**	**103Rh**	**107Ag**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:38:21	22.8990	21.1215	21.1788	20.6107	20.3248	20.5889	84.93%	9.9944
2	20:39:16	20.9805	20.8154	21.5144	20.9645	19.9979	20.7154	83.96%	9.9725
3	20:40:10	21.5270	21.1149	22.5603	21.8619	21.0193	21.6982	82.72%	9.9572
x		21.8022	21.0173	21.7512	21.1457	20.4473	21.0008	83.87%	9.9747
σ		0.9884	0.1748	0.7205	0.6450	0.5216	0.6072	1.11%	0.0187
%RSD		4.5334	0.8318	3.3126	3.0503	2.5511	2.8915	1.32	0.1874
Run	**Time**	**109Ag**	**111Cd**	**112Cd**	**114Cd**	**115In**	**121Sb**	**123Sb**	**135Ba**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:38:21	9.8840	19.7933	19.9098	19.7289	85.53%	21.4196	21.1709	26.2339
2	20:39:16	9.9394	19.7798	19.7748	20.0100	84.15%	21.4493	21.3453	26.1745
3	20:40:10	10.0488	20.5320	20.2327	20.0303	83.58%	21.5337	21.5016	26.1597
x		9.9574	20.0350	19.9724	19.9231	84.42%	21.4676	21.3393	26.1894
σ		0.0839	0.4304	0.2353	0.1685	1.00%	0.0592	0.1654	0.0393
%RSD		0.8425	2.1484	1.1783	0.8455	1.19	0.2758	0.7751	0.1499
Run	**Time**	**137Ba**	**138Ba**	**175Lu**	**203Tl**	**205Tl**	**206Pb**	**207Pb**	**208Pb**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:38:21	26.0926	25.9362	86.15%	19.5452	19.2856	17.8239	20.3396	19.3201
2	20:39:16	26.5902	26.1214	87.25%	19.4899	19.5175	17.9414	20.5629	19.5297
3	20:40:10	26.2629	26.3125	87.48%	19.5275	19.3642	18.0078	20.5465	19.5401
x		26.3153	26.1234	86.96%	19.5209	19.3891	17.9244	20.4830	19.4633
σ		0.2529	0.1882	0.71%	0.0282	0.1179	0.0931	0.1245	0.1241
%RSD		0.9611	0.7203	0.82	0.1445	0.6083	0.5195	0.6077	0.6376

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	51V	59Co	60Ni	61Ni
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:43:48	94.04%	22.3743	23.8435	23.3247	21.4281	25.2716	22.5228	35.6176
2	20:44:43	91.11%	21.0650	23.1258	22.5521	20.9541	25.1200	21.7261	31.5125
3	20:45:37	89.30%	21.0429	22.8626	22.4109	20.2782	24.3763	21.5022	31.4153
x		91.48%	21.4941	23.2773	22.7625	20.8868	24.9226	21.9170	32.8485
σ		2.39%	0.7624	0.5077	0.4919	0.5779	0.4792	0.5364	2.3986
%RSD		2.62	3.5470	2.1811	2.1610	2.7667	1.9227	2.4474	7.3021

Run	Time	62Ni	63Cu	65Cu	66Zn	67Zn	68Zn	71Ga	75As
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:43:48	22.0684	25.2189	25.1633	66.2855	63.7151	65.1993	86.07%	21.8863
2	20:44:43	21.6248	24.4424	24.3219	65.7930	64.0363	64.0518	83.69%	21.5589
3	20:45:37	21.2294	24.4399	24.3722	64.1004	62.7064	63.7993	83.84%	21.6351
x		21.6409	24.7004	24.6191	65.3930	63.4859	64.3501	84.53%	21.6934
σ		0.4197	0.4491	0.4719	1.1462	0.6939	0.7461	1.33%	0.1713
%RSD		1.9395	1.8180	1.9169	1.7528	1.0930	1.1595	1.58	0.7897

Run	Time	77Se	78Se	82Se	95Mo	97Mo	98Mo	103Rh	107Ag
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:43:48	20.3615	21.8368	21.2753	21.8558	21.1956	21.8233	83.46%	21.2734
2	20:44:43	20.1240	21.2931	21.5004	22.0245	21.9032	21.7601	83.00%	20.6032
3	20:45:37	19.0180	20.7590	21.7764	22.2985	22.2508	22.0036	81.74%	20.9953
x		19.8345	21.2963	21.5173	22.0596	21.7832	21.8623	82.73%	20.9573
σ		0.7170	0.5389	0.2510	0.2234	0.5377	0.1264	0.89%	0.3367
%RSD		3.6151	2.5305	1.1664	1.0129	2.4685	0.5780	1.08	1.6066

Run	Time	109Ag	111Cd	112Cd	114Cd	115In	121Sb	123Sb	135Ba
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:43:48	21.1750	21.1045	20.1300	20.6547	82.23%	21.3074	21.5065	26.8642
2	20:44:43	21.0245	20.7939	19.9934	20.2043	82.14%	21.2050	20.8365	27.2499
3	20:45:37	20.7631	20.7884	19.6308	20.1763	82.55%	21.0793	21.1184	27.3374
x		20.9876	20.8956	19.9180	20.3451	82.31%	21.1972	21.1538	27.1505
σ		0.2084	0.1809	0.2580	0.2685	0.22%	0.1143	0.3364	0.2518
%RSD		0.9931	0.8659	1.2953	1.3198	0.26	0.5390	1.5903	0.9274

Run	Time	137Ba	138Ba	175Lu	203Tl	205Tl	206Pb	207Pb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:43:48	26.7511	27.4877	83.66%	20.5639	20.3476	20.4602	20.6495	20.4783
2	20:44:43	26.2924	26.9266	86.12%	20.1945	20.1280	20.1699	20.1469	20.1315
3	20:45:37	26.7194	26.6778	86.39%	20.4073	20.2271	20.3420	20.2413	20.1879
x		26.5876	27.0307	85.39%	20.3886	20.2342	20.3240	20.3459	20.2659
σ		0.2562	0.4149	1.51%	0.1854	0.1100	0.1460	0.2672	0.1861
%RSD		0.9635	1.5348	1.76	0.9095	0.5435	0.7183	1.3131	0.9182

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	51V	59Co	60Ni	61Ni
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:49:26	103.95%	0.0080	101.3999	99.1461	1.4370	1.7592	3.9205	85.3250
2	20:50:21	100.25%	0.0049	101.3883	98.5010	1.3629	1.6587	3.6404	73.3365
3	20:51:15	96.01%	0.0079	98.7806	98.8003	1.3441	1.6188	3.5877	69.4698
x		100.07%	0.0069	100.5229	98.8158	1.3813	1.6789	3.7162	76.0438
σ		3.97%	0.0018	1.5089	0.3228	0.0491	0.0724	0.1789	8.2670
%RSD		3.97	25.3154	1.5011	0.3267	3.5577	4.3101	4.8130	10.8714
Run	**Time**	**62Ni**	**63Cu**	**65Cu**	**66Zn**	**67Zn**	**68Zn**	**71Ga**	**75As**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:49:26	2.4425	5.5362	5.8722	2.0463	5.1114	4.6243	86.64%	0.7674
2	20:50:21	2.3877	5.2579	5.6724	2.0926	5.2081	4.3271	88.38%	0.7082
3	20:51:15	2.2833	5.2278	5.6440	1.9261	4.9107	4.0116	87.84%	0.7368
x		2.3712	5.3406	5.7295	2.0217	5.0768	4.3210	87.62%	0.7375
σ		0.0809	0.1700	0.1243	0.0859	0.1517	0.3064	0.89%	0.0296
%RSD		3.4111	3.1840	2.1701	4.2502	2.9885	7.0913	1.02	4.0169
Run	**Time**	**77Se**	**78Se**	**82Se**	**95Mo**	**97Mo**	**98Mo**	**103Rh**	**107Ag**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:49:26	0.4197	0.8036	0.6575	3.2127	3.2950	3.3610	84.59%	0.0090
2	20:50:21	0.6020	0.6044	0.3474	3.2409	3.3107	3.3427	86.25%	0.0110
3	20:51:15	0.1810	0.5561	0.0880	3.2421	3.1819	3.1696	84.87%	0.0108
x		0.4009	0.6547	0.3643	3.2319	3.2625	3.2911	85.24%	0.0103
σ		0.2112	0.1312	0.2851	0.0167	0.0702	0.1056	0.89%	0.0011
%RSD		52.6722	20.0354	78.2692	0.5159	2.1527	3.2091	1.04	10.7991
Run	**Time**	**109Ag**	**111Cd**	**112Cd**	**114Cd**	**115In**	**121Sb**	**123Sb**	**135Ba**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:49:26	0.0052	0.0473	0.0513	0.0368	84.27%	0.2133	0.2032	97.6924
2	20:50:21	0.0083	0.0403	0.0507	0.0528	86.83%	0.1937	0.2017	94.3464
3	20:51:15	0.0118	0.0410	0.0478	0.0505	85.48%	0.2223	0.2092	94.5628
x		0.0084	0.0429	0.0499	0.0467	85.53%	0.2097	0.2047	95.5339
σ		0.0033	0.0039	0.0019	0.0087	1.28%	0.0146	0.0040	1.8725
%RSD		39.2158	9.0193	3.8218	18.5511	1.50	6.9623	1.9440	1.9600
Run	**Time**	**137Ba**	**138Ba**	**175Lu**	**203Tl**	**205Tl**	**206Pb**	**207Pb**	**208Pb**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:49:26	96.8322	98.0006	84.58%	0.0254	0.0261	0.0074	0.0075	0.0071
2	20:50:21	94.9037	95.6684	87.71%	0.0401	0.0417	0.0110	0.0118	0.0102
3	20:51:15	94.5116	95.2738	88.06%	0.0378	0.0343	0.0088	0.0131	0.0119
x		95.4159	96.3143	86.78%	0.0344	0.0340	0.0091	0.0108	0.0097
σ		1.2422	1.4737	1.91%	0.0079	0.0078	0.0018	0.0029	0.0024
%RSD		1.3019	1.5301	2.21	23.0674	22.9291	19.9775	27.2468	25.1173

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	51V	59Co	60Ni	61Ni
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:54:07	99.27%	0.0336	140.1199	137.5392	27.0874	1.9827	2.4259	62.7109
2	20:55:02	98.10%	0.0252	139.7257	136.1135	27.4609	2.0071	2.3629	60.6228
3	20:55:56	98.08%	0.0279	136.2571	139.6250	27.8937	2.0691	2.3617	56.4609
x		98.48%	0.0289	138.7009	137.7592	27.4807	2.0196	2.3835	59.9315
σ		0.68%	0.0043	2.1255	1.7661	0.4035	0.0445	0.0368	3.1819
%RSD		0.69	14.7751	1.5324	1.2820	1.4684	2.2047	1.5421	5.3091
Run	**Time**	**62Ni**	**63Cu**	**65Cu**	**66Zn**	**67Zn**	**68Zn**	**71Ga**	**75As**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:54:07	3.9628	1.2355	0.4992	0.8788	5.5445	3.9600	86.57%	0.9999
2	20:55:02	3.6173	1.2060	0.4969	0.7994	5.5702	4.1571	86.45%	1.0732
3	20:55:56	3.5560	1.2191	0.4567	0.8540	5.7740	4.0188	86.42%	0.9237
x		3.7120	1.2202	0.4843	0.8440	5.6296	4.0453	86.48%	0.9989
σ		0.2193	0.0148	0.0239	0.0406	0.1257	0.1012	0.08%	0.0748
%RSD		5.9071	1.2132	4.9312	4.8128	2.2334	2.5014	0.10	7.4847
Run	**Time**	**77Se**	**78Se**	**82Se**	**95Mo**	**97Mo**	**98Mo**	**103Rh**	**107Ag**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:54:07	0.6241	0.9365	0.6152	0.6581	0.7039	0.6383	79.97%	0.0341
2	20:55:02	0.4239	0.6576	0.7300	0.6984	0.7746	0.6605	81.77%	0.0399
3	20:55:56	0.6228	0.8525	0.0366	0.7114	0.6052	0.7543	81.30%	0.0416
x		0.5570	0.8155	0.4606	0.6893	0.6946	0.6843	81.01%	0.0385
σ		0.1152	0.1431	0.3717	0.0278	0.0851	0.0616	0.94%	0.0039
%RSD		20.6862	17.5467	80.6929	4.0377	12.2496	8.9988	1.15	10.1351
Run	**Time**	**109Ag**	**111Cd**	**112Cd**	**114Cd**	**115In**	**121Sb**	**123Sb**	**135Ba**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:54:07	0.0157	0.0165	0.0159	-0.0000	81.30%	0.0888	0.0886	146.3230
2	20:55:02	0.0201	0.0160	0.0163	-0.0001	83.93%	0.0775	0.0742	146.7163
3	20:55:56	0.0059	0.0060	0.0144	0.0031	83.75%	0.0744	0.0759	148.0285
x		0.0139	0.0128	0.0155	0.0010	82.99%	0.0803	0.0796	147.0226
σ		0.0073	0.0059	0.0010	0.0018	1.47%	0.0076	0.0079	0.8931
%RSD		52.3515	45.9956	6.5671	190.2525	1.77	9.4323	9.8674	0.6074
Run	**Time**	**137Ba**	**138Ba**	**175Lu**	**203Tl**	**205Tl**	**206Pb**	**207Pb**	**208Pb**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:54:07	147.7988	149.3981	82.85%	0.0045	0.0062	0.0253	0.0327	0.0283
2	20:55:02	145.9750	148.9164	86.35%	0.0093	0.0068	0.0235	0.0308	0.0269
3	20:55:56	149.2349	151.0373	86.64%	0.0109	0.0111	0.0274	0.0275	0.0296
x		147.6696	149.7839	85.28%	0.0083	0.0081	0.0254	0.0303	0.0282
σ		1.6338	1.1118	2.11%	0.0033	0.0027	0.0019	0.0027	0.0013
%RSD		1.1064	0.7423	2.47	40.2384	33.2077	7.6520	8.7796	4.6421

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	51V	59Co	60Ni	61Ni
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:58:42	118.02%	27.3750	28.2276	28.1617	26.9254	27.0421	27.8428	29.7089
2	20:59:36	111.19%	26.1087	26.9863	27.3847	25.3522	26.1624	26.3609	24.7210
3	21:00:31	107.38%	25.4775	26.5945	26.5799	25.1464	25.4414	25.4480	23.2385
x		112.20%	26.3204	27.2695	27.3755	25.8080	26.2153	26.5506	25.8895
σ		5.39%	0.9663	0.8526	0.7909	0.9732	0.8017	1.2086	3.3898
%RSD		4.80	3.6713	3.1265	2.8892	3.7708	3.0580	4.5521	13.0933
Run	**Time**	**62Ni**	**63Cu**	**65Cu**	**66Zn**	**67Zn**	**68Zn**	**71Ga**	**75As**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:58:42	27.5505	27.4401	27.8824	25.9467	26.1773	26.4674	105.84%	26.7522
2	20:59:36	26.3100	26.0194	26.7517	25.1206	26.1764	25.3775	103.79%	26.8989
3	21:00:31	25.3895	25.2698	25.6174	24.8775	24.7398	24.4154	101.84%	25.5910
x		26.4167	26.2431	26.7505	25.3149	25.6978	25.4201	103.82%	26.4140
σ		1.0844	1.1023	1.1325	0.5605	0.8297	1.0267	2.00%	0.7166
%RSD		4.1051	4.2005	4.2336	2.2139	3.2286	4.0388	1.92	2.7128
Run	**Time**	**77Se**	**78Se**	**82Se**	**95Mo**	**97Mo**	**98Mo**	**103Rh**	**107Ag**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:58:42	26.3436	28.4073	25.9756	26.4122	25.4776	26.1215	104.83%	26.1883
2	20:59:36	24.5437	25.0976	26.7227	25.3588	24.7682	25.5395	103.54%	25.2718
3	21:00:31	24.7510	25.0758	25.4686	25.0989	24.7167	25.2511	102.31%	24.7379
x		25.2128	26.1936	26.0556	25.6233	24.9875	25.6374	103.56%	25.3993
σ		0.9848	1.9172	0.6309	0.6955	0.4252	0.4434	1.26%	0.7336
%RSD		3.9061	7.3193	2.4213	2.7141	1.7017	1.7294	1.22	2.8882
Run	**Time**	**109Ag**	**111Cd**	**112Cd**	**114Cd**	**115In**	**121Sb**	**123Sb**	**135Ba**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:58:42	26.3307	26.1636	25.8959	26.1374	99.93%	26.0786	26.1758	26.5151
2	20:59:36	25.4280	24.7215	25.2628	25.2112	100.71%	25.2643	24.9935	24.9358
3	21:00:31	24.9398	24.8489	24.9629	24.8520	99.71%	24.7169	24.8155	25.3473
x		25.5662	25.2447	25.3739	25.4002	100.12%	25.3532	25.3283	25.5994
σ		0.7056	0.7983	0.4764	0.6632	0.52%	0.6852	0.7394	0.8193
%RSD		2.7601	3.1623	1.8773	2.6111	0.52	2.7026	2.9191	3.2004
Run	**Time**	**137Ba**	**138Ba**	**175Lu**	**203Tl**	**205Tl**	**206Pb**	**207Pb**	**208Pb**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:58:42	26.6894	27.0371	94.80%	25.9887	25.6399	25.8874	25.8346	25.8068
2	20:59:36	25.5909	25.7372	96.94%	25.0522	25.1613	25.3799	25.0140	25.1229
3	21:00:31	25.4824	25.4051	96.96%	24.9194	25.0487	24.7516	25.1534	24.9297
x		25.9209	26.0598	96.23%	25.3201	25.2833	25.3396	25.3340	25.2864
σ		0.6677	0.8625	1.25%	0.5828	0.3139	0.5690	0.4391	0.4609
%RSD		2.5761	3.3098	1.29	2.3019	1.2415	2.2455	1.7334	1.8226

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	51V	59Co	60Ni	61Ni
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:09:01	108.54%	0.0043	0.7924	0.7066	0.0374	0.0056	0.0048	-0.4760
2	21:09:55	103.67%	0.0079	0.6550	0.6996	0.0055	0.0062	0.0031	0.1534
3	21:10:49	102.19%	0.0047	0.5763	0.7402	-0.0044	0.0016	0.0049	0.1258
x		104.80%	0.0056	0.6746	0.7155	0.0128	0.0045	0.0043	-0.0656
σ		3.32%	0.0020	0.1094	0.0217	0.0219	0.0025	0.0010	0.3557
%RSD		3.17	35.1409	16.2142	3.0273	170.7301	55.5222	23.1986	542.2506
Run	**Time**	**62Ni**	**63Cu**	**65Cu**	**66Zn**	**67Zn**	**68Zn**	**71Ga**	**75As**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:09:01	0.2090	0.0057	-0.0051	0.0086	0.0169	-0.0099	99.29%	-0.1432
2	21:09:55	0.1822	0.0101	0.0045	0.0074	0.0310	-0.0095	97.58%	0.0547
3	21:10:49	0.1814	0.0001	0.0166	0.0069	0.0047	0.0093	98.96%	0.0606
x		0.1908	0.0053	0.0053	0.0076	0.0175	-0.0034	98.61%	-0.0093
σ		0.0157	0.0050	0.0109	0.0009	0.0131	0.0110	0.91%	0.1160
%RSD		8.2325	94.3885	203.8723	11.1671	74.8471	325.4517	0.92	1245.9014
Run	**Time**	**77Se**	**78Se**	**82Se**	**95Mo**	**97Mo**	**98Mo**	**103Rh**	**107Ag**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:09:01	0.0804	0.1840	-0.4730	0.0804	0.0872	0.0934	97.83%	0.0084
2	21:09:55	-0.0905	0.2672	0.0494	0.1333	0.1546	0.1276	97.38%	0.0112
3	21:10:49	0.0124	-0.1657	0.1770	0.1263	0.1503	0.1293	97.08%	0.0150
x		0.0008	0.0952	-0.0822	0.1133	0.1307	0.1168	97.43%	0.0115
σ		0.0861	0.2297	0.3444	0.0288	0.0377	0.0203	0.38%	0.0033
%RSD		11267.8280	241.2970	418.9935	25.3934	28.8789	17.3605	0.39	28.8089
Run	**Time**	**109Ag**	**111Cd**	**112Cd**	**114Cd**	**115In**	**121Sb**	**123Sb**	**135Ba**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:09:01	0.0067	0.0000	-0.0012	0.0016	94.60%	0.0019	0.0040	0.0030
2	21:09:55	0.0155	0.0035	0.0031	0.0051	95.87%	0.0103	0.0126	0.0138
3	21:10:49	0.0068	0.0035	0.0032	0.0016	94.63%	0.0059	0.0062	0.0029
x		0.0097	0.0023	0.0017	0.0028	95.03%	0.0060	0.0076	0.0066
σ		0.0051	0.0020	0.0025	0.0020	0.72%	0.0042	0.0045	0.0063
%RSD		52.3422	86.6056	147.6270	72.1939	0.76	69.8665	58.6451	95.4169
Run	**Time**	**137Ba**	**138Ba**	**175Lu**	**203Tl**	**205Tl**	**206Pb**	**207Pb**	**208Pb**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:09:01	0.0087	0.0079	90.86%	0.0075	0.0106	0.0037	0.0060	0.0041
2	21:09:55	0.0161	0.0115	93.30%	0.0191	0.0152	0.0046	0.0049	0.0050
3	21:10:49	0.0101	0.0137	93.69%	0.0172	0.0140	0.0065	0.0105	0.0064
x		0.0116	0.0110	92.62%	0.0146	0.0132	0.0049	0.0071	0.0052
σ		0.0040	0.0029	1.53%	0.0062	0.0024	0.0015	0.0030	0.0011
%RSD		34.1558	26.7771	1.65	42.6910	18.0739	29.5404	41.7662	21.7598

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	51V	59Co	60Ni	61Ni
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:13:32	100.53%	0.1026	10.1730	9.5117	12.8078	3.1739	2.2616	25.3084
2	21:14:26	93.93%	0.0931	10.7975	10.2474	12.7893	3.1619	2.1943	20.8736
3	21:15:21	95.80%	0.0833	10.1552	9.4500	12.4999	3.1901	2.1347	20.3276
x		96.75%	0.0930	10.3752	9.7364	12.6990	3.1753	2.1969	22.1699
σ		3.40%	0.0097	0.3658	0.4437	0.1726	0.0142	0.0635	2.7317
%RSD		3.51	10.3756	3.5254	4.5568	1.3594	0.4463	2.8910	12.3217
Run	**Time**	**62Ni**	**63Cu**	**65Cu**	**66Zn**	**67Zn**	**68Zn**	**71Ga**	**75As**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:13:32	6.8661	1.6941	1.1040	3.8869	7.3818	5.9058	84.77%	3.5678
2	21:14:26	6.8208	1.7122	0.9447	3.6689	6.6327	5.5260	85.53%	3.8209
3	21:15:21	6.5001	1.6854	0.9386	3.8173	6.7266	5.8424	84.76%	3.6017
x		6.7290	1.6972	0.9958	3.7910	6.9137	5.7581	85.02%	3.6634
σ		0.1995	0.0137	0.0938	0.1113	0.4081	0.2034	0.44%	0.1374
%RSD		2.9650	0.8053	9.4176	2.9369	5.9026	3.5332	0.52	3.7503
Run	**Time**	**77Se**	**78Se**	**82Se**	**95Mo**	**97Mo**	**98Mo**	**103Rh**	**107Ag**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:13:32	0.9964	0.8003	0.5307	0.5167	0.4519	0.5282	81.19%	0.0226
2	21:14:26	0.4294	0.5885	0.5267	0.5540	0.5110	0.6044	80.99%	0.0230
3	21:15:21	0.5139	0.5983	0.9926	0.6183	0.5358	0.5532	80.84%	0.0216
x		0.6466	0.6623	0.6833	0.5630	0.4996	0.5619	81.01%	0.0224
σ		0.3059	0.1196	0.2678	0.0514	0.0431	0.0389	0.18%	0.0008
%RSD		47.3133	18.0515	39.1947	9.1274	8.6321	6.9174	0.22	3.3780
Run	**Time**	**109Ag**	**111Cd**	**112Cd**	**114Cd**	**115In**	**121Sb**	**123Sb**	**135Ba**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:13:32	0.0135	0.0267	0.0852	0.0459	81.06%	0.1389	0.1201	95.3859
2	21:14:26	0.0085	0.0326	0.0804	0.0553	82.01%	0.1273	0.1387	93.7614
3	21:15:21	0.0144	0.0305	0.0731	0.0526	82.46%	0.1279	0.1270	92.9539
x		0.0122	0.0299	0.0796	0.0513	81.84%	0.1314	0.1286	94.0337
σ		0.0032	0.0030	0.0061	0.0048	0.72%	0.0065	0.0094	1.2386
%RSD		26.4094	10.0391	7.6857	9.4335	0.87	4.9609	7.3058	1.3172
Run	**Time**	**137Ba**	**138Ba**	**175Lu**	**203Tl**	**205Tl**	**206Pb**	**207Pb**	**208Pb**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:13:32	95.0611	95.4870	83.26%	0.0118	0.0100	0.3136	0.3610	0.3364
2	21:14:26	94.3998	94.6277	84.58%	0.0172	0.0158	0.3390	0.3448	0.3361
3	21:15:21	92.2977	93.3875	85.40%	0.0170	0.0140	0.3470	0.3562	0.3433
x		93.9195	94.5007	84.41%	0.0153	0.0132	0.3332	0.3540	0.3386
σ		1.4429	1.0555	1.08%	0.0030	0.0030	0.0175	0.0083	0.0041
%RSD		1.5364	1.1169	1.28	19.7658	22.4872	5.2387	2.3526	1.2030

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	51V	59Co	60Ni	61Ni
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:18:05	102.75%	-0.0020	0.4753	0.4976	0.0038	-0.0009	0.0111	0.0931
2	21:18:59	98.27%	-0.0019	0.4152	0.4996	0.0168	-0.0001	0.0015	-0.4176
3	21:19:54	98.42%	-0.0019	0.4159	0.4771	-0.0059	0.0011	0.0096	-0.5290
x		99.82%	-0.0020	0.4355	0.4915	0.0049	0.0000	0.0074	-0.2845
σ		2.54%	0.0000	0.0345	0.0124	0.0114	0.0010	0.0052	0.3317
%RSD		2.55	1.0658	7.9312	2.5296	232.4403	6404.6120	69.6806	116.5856
Run	**Time**	**62Ni**	**63Cu**	**65Cu**	**66Zn**	**67Zn**	**68Zn**	**71Ga**	**75As**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:18:05	0.7945	0.0444	0.0007	0.0575	0.0743	0.0691	93.37%	-0.1407
2	21:18:59	0.7413	0.0453	0.0024	0.1036	0.1276	0.0690	93.69%	-0.0268
3	21:19:54	0.6397	0.0314	-0.0053	0.0864	0.0506	0.0514	90.50%	-0.0671
x		0.7252	0.0404	-0.0007	0.0825	0.0842	0.0632	92.52%	-0.0782
σ		0.0787	0.0078	0.0040	0.0233	0.0394	0.0102	1.76%	0.0578
%RSD		10.8499	19.3506	539.1014	28.2718	46.8322	16.0849	1.90	73.8544
Run	**Time**	**77Se**	**78Se**	**82Se**	**95Mo**	**97Mo**	**98Mo**	**103Rh**	**107Ag**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:18:05	0.0186	0.0413	-0.5142	0.0045	0.0079	0.0258	91.74%	0.0026
2	21:18:59	-0.0544	-0.1912	-0.1559	0.0315	0.0436	0.0454	92.84%	0.0003
3	21:19:54	-0.0531	0.1004	-0.2657	0.0258	0.0340	0.0475	90.28%	0.0048
x		-0.0296	-0.0165	-0.3119	0.0206	0.0285	0.0396	91.62%	0.0026
σ		0.0418	0.1542	0.1836	0.0142	0.0185	0.0120	1.28%	0.0022
%RSD		140.9056	933.0948	58.8485	69.1316	64.9162	30.2215	1.40	86.9495
Run	**Time**	**109Ag**	**111Cd**	**112Cd**	**114Cd**	**115In**	**121Sb**	**123Sb**	**135Ba**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:18:05	-0.0007	0.0000	-0.0037	-0.0026	88.25%	-0.0009	0.0013	0.0122
2	21:18:59	-0.0021	0.0018	-0.0028	0.0004	90.00%	0.0027	-0.0011	0.0234
3	21:19:54	-0.0016	0.0000	-0.0037	-0.0003	88.94%	0.0022	0.0044	0.0384
x		-0.0015	0.0006	-0.0034	-0.0009	89.07%	0.0013	0.0015	0.0247
σ		0.0007	0.0011	0.0005	0.0016	0.88%	0.0019	0.0027	0.0131
%RSD		46.9934	173.2051	15.0835	181.2577	0.99	143.3686	178.0228	53.1443
Run	**Time**	**137Ba**	**138Ba**	**175Lu**	**203Tl**	**205Tl**	**206Pb**	**207Pb**	**208Pb**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:18:05	0.0011	0.0060	85.84%	0.0020	0.0015	-0.0004	-0.0007	-0.0002
2	21:18:59	0.0238	0.0238	89.12%	0.0024	0.0036	0.0017	0.0007	0.0012
3	21:19:54	0.0440	0.0351	87.82%	0.0041	0.0019	0.0010	0.0021	0.0012
x		0.0230	0.0216	87.59%	0.0028	0.0023	0.0008	0.0007	0.0007
σ		0.0215	0.0147	1.65%	0.0011	0.0011	0.0011	0.0014	0.0008
%RSD		93.2669	67.8435	1.88	39.1333	47.7121	133.9518	201.6621	113.8629

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Run	Time	6Li	9Be	10B	11B	51V	59Co	60Ni	61Ni
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:22:38	99.49%	22.2315	0.2712	0.2987	20.7735	21.7536	21.8501	22.2780
2	21:23:32	93.49%	21.4405	0.3363	0.3249	20.7255	21.1341	20.5408	21.4148
3	21:24:27	91.12%	21.4579	0.2983	0.2894	20.6312	21.1818	21.1947	22.9342
x		94.70%	21.7100	0.3019	0.3043	20.7100	21.3565	21.1952	22.2090
σ		4.32%	0.4518	0.0327	0.0184	0.0724	0.3447	0.6547	0.7621
%RSD		4.56	2.0809	10.8218	6.0499	0.3496	1.6141	3.0887	3.4313
Run	**Time**	**62Ni**	**63Cu**	**65Cu**	**66Zn**	**67Zn**	**68Zn**	**71Ga**	**75As**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:22:38	22.1956	21.8104	21.3829	21.2682	21.9674	21.3914	89.64%	21.5601
2	21:23:32	20.6406	20.7591	20.7921	21.0966	20.9191	20.9685	89.24%	20.6648
3	21:24:27	21.4278	20.9900	20.7846	20.9981	21.5127	21.1535	86.77%	20.6437
x		21.4214	21.1865	20.9865	21.1210	21.4664	21.1712	88.55%	20.9562
σ		0.7775	0.5525	0.3433	0.1367	0.5257	0.2120	1.55%	0.5231
%RSD		3.6295	2.6079	1.6357	0.6471	2.4490	1.0014	1.75	2.4962
Run	**Time**	**77Se**	**78Se**	**82Se**	**95Mo**	**97Mo**	**98Mo**	**103Rh**	**107Ag**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:22:38	21.5290	21.6136	22.5463	20.8555	20.6846	21.0178	89.22%	21.4216
2	21:23:32	19.1573	20.6608	20.0799	21.0494	20.6127	20.4888	87.90%	20.9798
3	21:24:27	19.7968	21.1794	20.9177	21.0708	20.9860	21.3704	86.95%	21.1093
x		20.1610	21.1512	21.1813	20.9919	20.7611	20.9590	88.02%	21.1702
σ		1.2271	0.4770	1.2542	0.1186	0.1981	0.4437	1.14%	0.2271
%RSD		6.0864	2.2553	5.9211	0.5649	0.9541	2.1170	1.29	1.0727
Run	**Time**	**109Ag**	**111Cd**	**112Cd**	**114Cd**	**115In**	**121Sb**	**123Sb**	**135Ba**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:22:38	21.4486	21.0395	20.0960	20.7489	86.44%	21.2768	21.0542	21.5005
2	21:23:32	20.9362	20.7162	19.8021	20.4566	87.13%	20.7479	20.7869	21.1669
3	21:24:27	21.1444	20.9441	20.0731	20.5736	85.96%	20.7629	20.7639	20.9853
x		21.1764	20.8999	19.9904	20.5930	86.51%	20.9292	20.8683	21.2176
σ		0.2577	0.1661	0.1635	0.1471	0.59%	0.3012	0.1614	0.2613
%RSD		1.2170	0.7949	0.8179	0.7143	0.68	1.4390	0.7735	1.2315
Run	**Time**	**137Ba**	**138Ba**	**175Lu**	**203Tl**	**205Tl**	**206Pb**	**207Pb**	**208Pb**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:22:38	21.2053	21.4461	84.34%	20.9527	20.9395	21.3212	21.3373	21.2402
2	21:23:32	20.6587	20.8036	87.05%	20.4100	20.3711	20.4999	20.2543	20.4301
3	21:24:27	20.7494	20.7657	87.02%	20.7401	20.6034	20.6834	20.7903	20.7364
x		20.8712	21.0051	86.14%	20.7009	20.6380	20.8348	20.7940	20.8023
σ		0.2929	0.3824	1.56%	0.2735	0.2858	0.4311	0.5415	0.4090
%RSD		1.4034	1.8204	1.81	1.3210	1.3846	2.0691	2.6043	1.9663

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Run	Time	6Li	9Be	10B	11B	51V	59Co	60Ni	61Ni
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:28:06	101.42%	-0.0011	0.5225	0.3628	0.0175	-0.0005	0.0422	0.4569
2	21:29:00	94.81%	0.0008	0.3997	0.4961	-0.0449	0.0016	0.0264	-0.0560
3	21:29:54	92.38%	0.0018	0.3994	0.5330	0.0098	0.0087	0.0324	0.1628
x		96.20%	0.0005	0.4405	0.4640	-0.0059	0.0033	0.0337	0.1879
σ		4.68%	0.0015	0.0710	0.0895	0.0340	0.0048	0.0080	0.2574
%RSD		4.86	298.4835	16.1060	19.2968	579.2017	145.9798	23.6295	136.9541
Run	**Time**	**62Ni**	**63Cu**	**65Cu**	**66Zn**	**67Zn**	**68Zn**	**71Ga**	**75As**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:28:06	0.4238	0.1309	0.1063	0.2765	0.1792	0.3020	88.45%	0.0976
2	21:29:00	0.4649	0.1275	0.0953	0.2343	0.2798	0.2429	88.19%	-0.0909
3	21:29:54	0.3634	0.1119	0.1014	0.2525	0.1229	0.2136	88.98%	-0.2118
x		0.4174	0.1235	0.1010	0.2544	0.1939	0.2528	88.54%	-0.0684
σ		0.0511	0.0101	0.0055	0.0211	0.0795	0.0451	0.40%	0.1559
%RSD		12.2398	8.1997	5.4701	8.3091	40.9863	17.8227	0.45	228.0290
Run	**Time**	**77Se**	**78Se**	**82Se**	**95Mo**	**97Mo**	**98Mo**	**103Rh**	**107Ag**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:28:06	0.0243	0.4280	0.3423	0.1890	0.2605	0.2113	88.30%	0.0082
2	21:29:00	0.0248	0.2817	-0.3234	0.2853	0.2653	0.2775	87.45%	0.0082
3	21:29:54	0.0238	0.0143	-0.7851	0.2538	0.2319	0.2426	88.25%	0.0176
x		0.0243	0.2413	-0.2554	0.2427	0.2526	0.2438	88.00%	0.0113
σ		0.0005	0.2098	0.5668	0.0491	0.0181	0.0331	0.48%	0.0054
%RSD		2.1160	86.9376	221.9168	20.2428	7.1499	13.5848	0.54	47.8976
Run	**Time**	**109Ag**	**111Cd**	**112Cd**	**114Cd**	**115In**	**121Sb**	**123Sb**	**135Ba**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:28:06	0.0036	0.0000	0.0012	-0.0018	85.00%	0.0011	0.0038	0.0188
2	21:29:00	0.0069	0.0039	0.0079	0.0061	85.96%	0.0074	0.0118	0.0336
3	21:29:54	0.0096	0.0057	0.0049	0.0005	86.47%	0.0048	0.0101	0.0511
x		0.0067	0.0032	0.0047	0.0016	85.81%	0.0044	0.0086	0.0345
σ		0.0030	0.0029	0.0033	0.0040	0.74%	0.0031	0.0042	0.0162
%RSD		44.9649	91.4899	71.2434	252.3574	0.87	70.8984	48.7802	46.8349
Run	**Time**	**137Ba**	**138Ba**	**175Lu**	**203Tl**	**205Tl**	**206Pb**	**207Pb**	**208Pb**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:28:06	0.0134	0.0225	84.30%	0.0185	0.0145	0.0063	0.0061	0.0068
2	21:29:00	0.0250	0.0244	86.34%	0.0312	0.0282	0.0105	0.0111	0.0109
3	21:29:54	0.0297	0.0332	87.88%	0.0262	0.0251	0.0117	0.0113	0.0103
x		0.0227	0.0267	86.17%	0.0253	0.0226	0.0095	0.0095	0.0093
σ		0.0084	0.0057	1.79%	0.0064	0.0072	0.0028	0.0030	0.0022
%RSD		37.0919	21.4092	2.08	25.1807	31.8380	29.6538	31.1228	23.6445

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Run	Time	6Li	9Be	10B	11B	51V	59Co	60Ni	61Ni
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:32:40	98.50%	-0.0002	0.4153	0.3422	0.0142	0.0007	0.0136	-0.1278
2	21:33:34	95.20%	-0.0019	0.3965	0.3687	-0.0095	-0.0005	0.0161	-0.5260
3	21:34:28	90.49%	0.0019	0.5372	0.4308	0.0336	0.0038	0.0289	-0.0203
x		94.73%	-0.0001	0.4497	0.3806	0.0128	0.0014	0.0195	-0.2247
σ		4.02%	0.0019	0.0763	0.0455	0.0216	0.0022	0.0082	0.2664
%RSD		4.25	2799.6244	16.9788	11.9447	169.0590	161.9964	42.0623	118.5532

Run	Time	62Ni	63Cu	65Cu	66Zn	67Zn	68Zn	71Ga	75As
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:32:40	0.3023	0.1186	0.1039	0.1730	0.1747	0.1614	90.52%	-0.1124
2	21:33:34	0.3763	0.1317	0.1118	0.2197	0.2217	0.1382	88.65%	-0.1511
3	21:34:28	0.2903	0.1294	0.0843	0.1878	0.1258	0.1561	87.50%	0.0631
x		0.3230	0.1266	0.1000	0.1935	0.1741	0.1519	88.89%	-0.0668
σ		0.0466	0.0070	0.0142	0.0238	0.0480	0.0122	1.52%	0.1142
%RSD		14.4257	5.5562	14.1527	12.3186	27.5760	8.0079	1.71	170.9262

Run	Time	77Se	78Se	82Se	95Mo	97Mo	98Mo	103Rh	107Ag
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:32:40	-0.0905	-0.0685	-0.4937	0.0280	0.0466	0.0440	88.54%	0.0036
2	21:33:34	-0.0523	-0.0111	-0.5847	0.0912	0.1000	0.1015	87.58%	0.0032
3	21:34:28	0.0258	0.0341	0.2339	0.0897	0.1259	0.0957	86.39%	0.0047
x		-0.0390	-0.0152	-0.2815	0.0696	0.0908	0.0804	87.51%	0.0038
σ		0.0593	0.0514	0.4487	0.0360	0.0404	0.0316	1.08%	0.0007
%RSD		151.9778	338.8557	159.3672	51.7357	44.4907	39.3364	1.23	19.5581

Run	Time	109Ag	111Cd	112Cd	114Cd	115In	121Sb	123Sb	135Ba
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:32:40	0.0003	0.0000	0.0002	0.0014	85.49%	-0.0014	-0.0010	0.0187
2	21:33:34	0.0017	0.0019	0.0002	-0.0010	86.46%	0.0029	0.0077	0.0183
3	21:34:28	0.0027	0.0039	0.0042	0.0046	85.16%	0.0030	0.0062	0.0095
x		0.0016	0.0019	0.0015	0.0016	85.70%	0.0015	0.0043	0.0155
σ		0.0012	0.0019	0.0023	0.0028	0.67%	0.0025	0.0047	0.0052
%RSD		77.8126	100.4915	148.6521	172.3523	0.79	169.6000	108.6925	33.3773

Run	Time	137Ba	138Ba	175Lu	203Tl	205Tl	206Pb	207Pb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:32:40	0.0167	0.0146	85.30%	0.0056	0.0046	0.0044	0.0050	0.0039
2	21:33:34	0.0265	0.0200	87.36%	0.0124	0.0088	0.0046	0.0044	0.0057
3	21:34:28	0.0286	0.0235	86.46%	0.0074	0.0072	0.0054	0.0059	0.0062
x		0.0239	0.0194	86.37%	0.0085	0.0069	0.0048	0.0051	0.0053
σ		0.0064	0.0045	1.03%	0.0035	0.0021	0.0005	0.0007	0.0012
%RSD		26.5809	23.1078	1.19	41.4765	30.9685	10.9952	14.4442	22.5702

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	51V	59Co	60Ni	61Ni
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:37:14	96.95%	-0.0028	0.0579	0.1444	0.0329	-0.0009	0.0199	-0.0020
2	21:38:09	91.26%	0.0000	0.2043	0.1812	0.0066	0.0000	0.0125	0.1506
3	21:39:03	90.85%	-0.0019	0.1314	0.1556	-0.0097	0.0000	0.0124	-0.3339
x		93.02%	-0.0016	0.1312	0.1604	0.0099	-0.0003	0.0149	-0.0618
σ		3.41%	0.0014	0.0732	0.0189	0.0215	0.0005	0.0043	0.2477
%RSD		3.67	91.7230	55.7762	11.7549	216.5844	184.1304	28.8915	401.1545

Run	Time	62Ni	63Cu	65Cu	66Zn	67Zn	68Zn	71Ga	75As
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:37:14	0.2791	0.0477	0.0443	0.1825	0.1358	0.1821	89.31%	-0.0662
2	21:38:09	0.3007	0.0429	0.0662	0.2453	0.2730	0.1992	86.23%	0.1382
3	21:39:03	0.2023	0.0399	0.0568	0.2637	0.2563	0.1790	86.91%	0.0269
x		0.2607	0.0435	0.0558	0.2305	0.2217	0.1868	87.49%	0.0330
σ		0.0517	0.0039	0.0110	0.0426	0.0749	0.0109	1.62%	0.1024
%RSD		19.8472	9.0471	19.7105	18.4844	33.7726	5.8414	1.85	310.5384

Run	Time	77Se	78Se	82Se	95Mo	97Mo	98Mo	103Rh	107Ag
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:37:14	0.0236	-0.0724	-0.2367	-0.0002	0.0141	0.0096	87.36%	-0.0004
2	21:38:09	-0.0124	0.1864	0.4700	0.0104	0.0354	0.0316	88.50%	-0.0009
3	21:39:03	-0.0516	-0.0808	-0.0006	0.0246	0.0361	0.0361	87.05%	0.0032
x		-0.0135	0.0111	0.0776	0.0116	0.0285	0.0258	87.64%	0.0006
σ		0.0376	0.1519	0.3598	0.0125	0.0125	0.0142	0.76%	0.0023
%RSD		279.4624	1373.0490	463.9040	107.0159	43.7727	54.9186	0.87	350.8288

Run	Time	109Ag	111Cd	112Cd	114Cd	115In	121Sb	123Sb	135Ba
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:37:14	-0.0020	0.0019	-0.0026	-0.0026	85.29%	-0.0014	-0.0002	0.0035
2	21:38:09	0.0036	0.0000	0.0002	-0.0018	85.51%	0.0005	0.0046	0.0156
3	21:39:03	0.0041	0.0019	-0.0026	-0.0002	85.37%	0.0011	0.0022	0.0276
x		0.0019	0.0013	-0.0017	-0.0015	85.39%	0.0000	0.0022	0.0156
σ		0.0034	0.0011	0.0017	0.0012	0.11%	0.0013	0.0024	0.0121
%RSD		181.7982	86.6025	98.6756	78.8772	0.13	3179.5627	110.0544	77.3351

Run	Time	137Ba	138Ba	175Lu	203Tl	205Tl	206Pb	207Pb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:37:14	0.0082	0.0107	84.33%	-0.0009	-0.0000	0.0052	0.0056	0.0056
2	21:38:09	0.0132	0.0114	85.68%	0.0010	0.0034	0.0069	0.0022	0.0051
3	21:39:03	0.0200	0.0187	86.77%	0.0010	0.0024	0.0065	0.0087	0.0064
x		0.0138	0.0136	85.59%	0.0004	0.0019	0.0062	0.0055	0.0057
σ		0.0059	0.0044	1.23%	0.0011	0.0017	0.0009	0.0033	0.0007
%RSD		42.9219	32.4045	1.43	291.3005	91.2345	14.3297	59.3920	12.0899

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	51V	59Co	60Ni	61Ni
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:41:49	98.60%	21.3140	41.7358	40.3291	20.1611	19.9626	21.2354	23.3369
2	21:42:44	94.06%	20.7793	40.5870	39.9402	19.6258	19.5233	19.9733	19.9426
3	21:43:38	91.48%	20.3729	41.9991	41.1848	19.9354	19.7753	20.3568	19.5634
x		94.71%	20.8221	41.4406	40.4847	19.9074	19.7537	20.5218	20.9477
σ		3.60%	0.4720	0.7509	0.6367	0.2687	0.2204	0.6470	2.0778
%RSD		3.80	2.2668	1.8120	1.5727	1.3500	1.1157	3.1529	9.9191

Run	Time	62Ni	63Cu	65Cu	66Zn	67Zn	68Zn	71Ga	75As
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:41:49	20.5708	20.5944	20.9988	20.1983	20.2277	19.2806	90.21%	21.1222
2	21:42:44	20.2791	20.1009	20.3351	20.1005	19.7700	19.5376	89.01%	20.0327
3	21:43:38	20.5139	20.2599	19.8010	19.9901	20.0550	20.0231	88.22%	20.7901
x		20.4546	20.3184	20.3783	20.0963	20.0175	19.6138	89.14%	20.6484
σ		0.1547	0.2519	0.6001	0.1042	0.2311	0.3771	1.01%	0.5584
%RSD		0.7561	1.2397	2.9446	0.5184	1.1546	1.9225	1.13	2.7044

Run	Time	77Se	78Se	82Se	95Mo	97Mo	98Mo	103Rh	107Ag
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:41:49	21.9114	20.6597	22.5619	20.2976	20.2797	19.9103	88.30%	10.2468
2	21:42:44	19.2770	21.2341	20.3213	20.5616	20.1182	19.9832	87.85%	9.9384
3	21:43:38	19.7449	20.9988	20.6546	20.0860	20.0623	20.3405	87.38%	10.0868
x		20.3111	20.9642	21.1793	20.3151	20.1534	20.0780	87.84%	10.0906
σ		1.4055	0.2888	1.2089	0.2383	0.1129	0.2302	0.46%	0.1542
%RSD		6.9200	1.3775	5.7081	1.1729	0.5600	1.1467	0.52	1.5286

Run	Time	109Ag	111Cd	112Cd	114Cd	115In	121Sb	123Sb	135Ba
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:41:49	10.0856	20.0892	20.1389	20.4239	87.06%	21.1792	21.0842	21.0089
2	21:42:44	9.9573	19.8118	19.5793	19.6812	86.82%	21.0813	20.7413	20.2941
3	21:43:38	10.1344	20.0567	20.2029	20.3026	86.01%	21.2497	21.1267	20.2423
x		10.0591	19.9859	19.9737	20.1359	86.63%	21.1701	20.9841	20.5151
σ		0.0915	0.1516	0.3430	0.3984	0.55%	0.0846	0.2113	0.4284
%RSD		0.9093	0.7586	1.7175	1.9786	0.63	0.3995	1.0071	2.0881

Run	Time	137Ba	138Ba	175Lu	203Tl	205Tl	206Pb	207Pb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:41:49	20.8057	20.5888	85.41%	20.0420	19.8852	18.6382	21.0227	20.1296
2	21:42:44	20.2269	20.3470	87.21%	19.7878	19.7289	18.2816	20.8890	19.8280
3	21:43:38	20.3521	20.5625	87.28%	19.7464	19.8873	18.4791	20.9398	19.9586
x		20.4616	20.4994	86.63%	19.8587	19.8338	18.4663	20.9505	19.9721
σ		0.3045	0.1327	1.06%	0.1600	0.0909	0.1787	0.0675	0.1513
%RSD		1.4883	0.6473	1.22	0.8059	0.4581	0.9675	0.3220	0.7574

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	51V	59Co	60Ni	61Ni
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:47:18	101.69%	20.5501	0.8304	0.7289	20.0960	20.0014	20.1519	20.9545
2	21:48:13	96.16%	19.7939	0.6727	0.6701	18.8445	19.6638	19.6215	18.7584
3	21:49:07	91.13%	20.2446	0.6246	0.6037	19.1422	19.6222	19.7132	19.1052
x		96.33%	20.1962	0.7092	0.6675	19.3609	19.7625	19.8289	19.6060
σ		5.28%	0.3804	0.1077	0.0626	0.6538	0.2080	0.2835	1.1806
%RSD		5.48	1.8837	15.1842	9.3812	3.3769	1.0525	1.4298	6.0215
Run	**Time**	**62Ni**	**63Cu**	**65Cu**	**66Zn**	**67Zn**	**68Zn**	**71Ga**	**75As**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:47:18	19.9807	20.2500	20.2964	19.9102	20.7640	19.8643	90.00%	19.2312
2	21:48:13	19.1094	19.3505	19.1223	19.3169	20.1057	19.7303	89.55%	18.6490
3	21:49:07	19.6989	20.0135	20.1788	19.8832	19.3495	19.7174	87.60%	18.9262
x		19.5963	19.8713	19.8658	19.7034	20.0731	19.7707	89.05%	18.9355
σ		0.4446	0.4663	0.6466	0.3350	0.7079	0.0813	1.27%	0.2912
%RSD		2.2688	2.3467	3.2550	1.7003	3.5264	0.4114	1.43	1.5379
Run	**Time**	**77Se**	**78Se**	**82Se**	**95Mo**	**97Mo**	**98Mo**	**103Rh**	**107Ag**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:47:18	19.1404	19.7700	20.0813	19.9669	19.6705	19.8848	89.71%	20.3545
2	21:48:13	19.5690	19.4630	18.5565	20.0690	19.4651	19.7325	87.66%	20.0019
3	21:49:07	19.8490	19.5753	18.7675	19.7540	19.5496	19.8818	88.50%	19.7190
x		19.5194	19.6028	19.1351	19.9300	19.5617	19.8331	88.62%	20.0251
σ		0.3569	0.1553	0.8262	0.1607	0.1032	0.0871	1.03%	0.3184
%RSD		1.8284	0.7924	4.3180	0.8064	0.5276	0.4391	1.16	1.5901
Run	**Time**	**109Ag**	**111Cd**	**112Cd**	**114Cd**	**115In**	**121Sb**	**123Sb**	**135Ba**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:47:18	20.3907	19.3978	18.8293	19.2722	85.64%	19.8351	19.6467	20.1308
2	21:48:13	20.1392	19.4233	18.4384	19.0511	86.67%	19.7103	19.2682	19.5929
3	21:49:07	19.9220	19.8294	18.7439	19.2147	85.35%	19.6377	19.6974	19.8541
x		20.1506	19.5502	18.6705	19.1793	85.89%	19.7277	19.5374	19.8593
σ		0.2346	0.2422	0.2055	0.1147	0.69%	0.0998	0.2345	0.2689
%RSD		1.1641	1.2386	1.1008	0.5981	0.81	0.5061	1.2004	1.3543
Run	**Time**	**137Ba**	**138Ba**	**175Lu**	**203Tl**	**205Tl**	**206Pb**	**207Pb**	**208Pb**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:47:18	19.9419	19.8699	85.22%	19.8480	19.5307	19.6004	19.5719	19.5629
2	21:48:13	19.1668	19.4294	87.23%	19.3898	19.3452	19.3510	19.3301	19.2823
3	21:49:07	19.5610	19.8079	87.25%	19.6234	19.5105	19.5476	19.4368	19.4310
x		19.5565	19.7024	86.57%	19.6204	19.4621	19.4996	19.4463	19.4254
σ		0.3876	0.2384	1.16%	0.2291	0.1018	0.1314	0.1212	0.1404
%RSD		1.9818	1.2102	1.34	1.1678	0.5230	0.6741	0.6231	0.7226

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	51V	59Co	60Ni	61Ni
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:52:51	111.05%	0.0158	34.7241	33.7306	0.2863	1.4190	1.9866	23.1648
2	21:53:45	102.88%	0.0172	34.3733	33.3608	0.2807	1.3466	1.9916	17.7795
3	21:54:40	103.65%	0.0071	33.7351	33.4810	0.2864	1.3695	1.9050	18.5242
x		105.86%	0.0134	34.2775	33.5242	0.2845	1.3784	1.9611	19.8228
σ		4.51%	0.0055	0.5014	0.1886	0.0033	0.0370	0.0486	2.9181
%RSD		4.26	40.8137	1.4629	0.5627	1.1433	2.6858	2.4799	14.7210
Run	**Time**	**62Ni**	**63Cu**	**65Cu**	**66Zn**	**67Zn**	**68Zn**	**71Ga**	**75As**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:52:51	1.9398	43.5070	43.4595	4.5715	5.9559	5.0375	93.31%	0.7623
2	21:53:45	1.8523	41.2869	41.3530	4.3783	4.8675	5.0804	95.82%	0.8750
3	21:54:40	1.6452	41.9943	42.2854	4.4002	4.6157	5.0615	94.44%	0.8819
x		1.8124	42.2627	42.3659	4.4500	5.1463	5.0598	94.52%	0.8397
σ		0.1513	1.1341	1.0556	0.1058	0.7123	0.0215	1.26%	0.0672
%RSD		8.3486	2.6835	2.4915	2.3773	13.8411	0.4248	1.33	7.9982
Run	**Time**	**77Se**	**78Se**	**82Se**	**95Mo**	**97Mo**	**98Mo**	**103Rh**	**107Ag**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:52:51	0.7801	1.4663	0.1728	0.7009	0.6249	0.6475	93.31%	0.0106
2	21:53:45	0.9046	0.6989	1.1382	0.7405	0.7076	0.7150	92.81%	0.0165
3	21:54:40	0.9159	0.5156	0.6603	0.6704	0.6612	0.7521	93.00%	0.0144
x		0.8669	0.8936	0.6571	0.7039	0.6646	0.7048	93.04%	0.0139
σ		0.0754	0.5044	0.4827	0.0351	0.0414	0.0530	0.25%	0.0030
%RSD		8.6940	56.4461	73.4638	4.9910	6.2348	7.5256	0.27	21.7617
Run	**Time**	**109Ag**	**111Cd**	**112Cd**	**114Cd**	**115In**	**121Sb**	**123Sb**	**135Ba**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:52:51	0.0112	0.0109	0.0117	0.0138	90.44%	1.1267	1.0946	28.5657
2	21:53:45	0.0186	0.0198	0.0241	0.0172	92.02%	1.0772	1.1040	28.0256
3	21:54:40	0.0182	0.0145	0.0189	0.0129	91.08%	1.1100	1.1202	27.8343
x		0.0160	0.0151	0.0182	0.0147	91.18%	1.1046	1.1063	28.1418
σ		0.0042	0.0045	0.0062	0.0023	0.80%	0.0252	0.0130	0.3793
%RSD		26.0792	29.6984	34.0395	15.3976	0.87	2.2794	1.1716	1.3479
Run	**Time**	**137Ba**	**138Ba**	**175Lu**	**203Tl**	**205Tl**	**206Pb**	**207Pb**	**208Pb**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:52:51	28.4543	28.8026	88.73%	0.0237	0.0257	0.0570	0.0607	0.0558
2	21:53:45	28.1208	27.8816	91.82%	0.0379	0.0425	0.0577	0.0692	0.0629
3	21:54:40	28.3138	28.2909	91.62%	0.0343	0.0312	0.0630	0.0578	0.0618
x		28.2963	28.3250	90.72%	0.0320	0.0331	0.0592	0.0625	0.0602
σ		0.1674	0.4614	1.73%	0.0074	0.0085	0.0033	0.0059	0.0038
%RSD		0.5917	1.6291	1.91	23.1000	25.8012	5.5156	9.4624	6.3522

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	51V	59Co	60Ni	61Ni
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:57:25	98.33%	0.0837	72.2087	70.5421	3.3437	15.8479	4.2237	113.3200
2	21:58:19	91.79%	0.0756	73.7332	73.7861	3.2780	16.5760	4.1302	108.3618
3	21:59:14	95.39%	0.0530	70.8733	69.3129	3.3430	15.9997	4.0149	100.6611
x		95.17%	0.0708	72.2717	71.2137	3.3215	16.1412	4.1229	107.4476
σ		3.28%	0.0159	1.4310	2.3110	0.0377	0.3841	0.1046	6.3788
%RSD		3.44	22.4792	1.9800	3.2452	1.1361	2.3796	2.5367	5.9366
Run	**Time**	**62Ni**	**63Cu**	**65Cu**	**66Zn**	**67Zn**	**68Zn**	**71Ga**	**75As**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:57:25	3.3281	6.3166	6.4206	16.4540	18.6593	18.0337	88.00%	22.1769
2	21:58:19	3.4591	6.1788	6.6931	16.2816	18.3323	17.7011	85.48%	22.4707
3	21:59:14	3.4405	6.0770	6.4585	16.6247	18.6456	17.8659	85.96%	21.5786
x		3.4092	6.1908	6.5241	16.4534	18.5458	17.8669	86.48%	22.0754
σ		0.0709	0.1203	0.1476	0.1716	0.1850	0.1663	1.33%	0.4546
%RSD		2.0800	1.9425	2.2625	1.0429	0.9974	0.9309	1.54	2.0595
Run	**Time**	**77Se**	**78Se**	**82Se**	**95Mo**	**97Mo**	**98Mo**	**103Rh**	**107Ag**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:57:25	0.7746	0.6311	0.2182	4.0480	3.9268	3.8952	78.63%	0.0232
2	21:58:19	0.6735	0.5306	1.2733	4.0244	3.9777	3.9253	78.96%	0.0187
3	21:59:14	1.1084	0.4609	0.1623	3.9984	3.8842	4.0743	79.61%	0.0155
x		0.8522	0.5409	0.5513	4.0236	3.9296	3.9649	79.07%	0.0191
σ		0.2276	0.0855	0.6259	0.0248	0.0468	0.0959	0.50%	0.0039
%RSD		26.7105	15.8127	113.5410	0.6167	1.1909	2.4180	0.63	20.2874
Run	**Time**	**109Ag**	**111Cd**	**112Cd**	**114Cd**	**115In**	**121Sb**	**123Sb**	**135Ba**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:57:25	0.0042	0.0732	0.0868	0.0670	80.04%	0.3163	0.3110	83.5899
2	21:58:19	0.0067	0.1024	0.1024	0.0780	79.96%	0.2845	0.3218	83.2636
3	21:59:14	0.0066	0.0908	0.0794	0.0785	81.20%	0.2817	0.3182	81.2949
x		0.0058	0.0888	0.0895	0.0745	80.40%	0.2942	0.3170	82.7161
σ		0.0014	0.0147	0.0117	0.0065	0.70%	0.0192	0.0055	1.2416
%RSD		24.5920	16.5596	13.0803	8.7648	0.86	6.5235	1.7325	1.5010
Run	**Time**	**137Ba**	**138Ba**	**175Lu**	**203Tl**	**205Tl**	**206Pb**	**207Pb**	**208Pb**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:57:25	82.9924	83.9557	82.51%	0.0200	0.0211	0.0746	0.0988	0.0851
2	21:58:19	82.2974	83.4665	83.80%	0.0289	0.0262	0.0854	0.0842	0.0862
3	21:59:14	81.5261	82.4969	84.02%	0.0246	0.0222	0.0840	0.0961	0.0855
x		82.2720	83.3064	83.44%	0.0245	0.0232	0.0813	0.0930	0.0856
σ		0.7335	0.7425	0.82%	0.0045	0.0027	0.0059	0.0078	0.0006
%RSD		0.8915	0.8912	0.98	18.1768	11.6721	7.2044	8.3551	0.6925

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	51V	59Co	60Ni	61Ni
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	22:02:01	112.93%	27.3830	26.9147	25.9918	26.2511	26.6948	26.5789	25.1404
2	22:02:55	105.05%	26.8461	27.2600	26.6794	25.2502	25.6831	25.4558	23.8846
3	22:03:50	103.59%	26.6330	26.3742	26.5703	25.7207	26.3953	26.0773	26.3448
x		107.19%	26.9540	26.8496	26.4138	25.7407	26.2577	26.0373	25.1233
σ		5.02%	0.3865	0.4464	0.3695	0.5008	0.5197	0.5626	1.2302
%RSD		4.69	1.4339	1.6627	1.3989	1.9454	1.9792	2.1607	4.8967
Run	**Time**	**62Ni**	**63Cu**	**65Cu**	**66Zn**	**67Zn**	**68Zn**	**71Ga**	**75As**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	22:02:01	26.8429	26.5753	26.4795	25.1867	25.9116	25.8975	99.02%	26.1411
2	22:02:55	25.4265	25.7817	26.0003	24.9844	24.2331	24.9443	98.60%	25.4900
3	22:03:50	26.3042	25.9021	26.5804	25.6507	25.5207	25.0499	96.73%	26.0877
x		26.1912	26.0864	26.3534	25.2739	25.2218	25.2972	98.12%	25.9063
σ		0.7150	0.4277	0.3100	0.3416	0.8783	0.5225	1.22%	0.3615
%RSD		2.7298	1.6395	1.1762	1.3515	3.4822	2.0656	1.24	1.3954
Run	**Time**	**77Se**	**78Se**	**82Se**	**95Mo**	**97Mo**	**98Mo**	**103Rh**	**107Ag**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	22:02:01	26.5226	27.7225	26.7887	25.7983	25.2937	25.3426	97.36%	25.6781
2	22:02:55	26.4358	26.1236	27.0337	25.3028	25.2333	25.2742	96.16%	25.2582
3	22:03:50	25.4815	27.2281	26.9942	26.3958	25.9507	26.0047	94.13%	25.7795
x		26.1466	27.0247	26.9389	25.8323	25.4926	25.5405	95.88%	25.5720
σ		0.5777	0.8186	0.1316	0.5473	0.3979	0.4035	1.63%	0.2764
%RSD		2.2093	3.0291	0.4884	2.1186	1.5608	1.5797	1.70	1.0808
Run	**Time**	**109Ag**	**111Cd**	**112Cd**	**114Cd**	**115In**	**121Sb**	**123Sb**	**135Ba**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	22:02:01	25.6620	25.5326	25.1688	25.5695	93.91%	25.7855	25.3400	25.9366
2	22:02:55	25.2946	24.9423	25.1177	25.0547	94.87%	25.0693	25.1518	24.8134
3	22:03:50	25.5758	25.3723	25.5065	25.7357	92.69%	25.5069	25.7562	25.7899
x		25.5108	25.2824	25.2643	25.4533	93.82%	25.4539	25.4160	25.5133
σ		0.1922	0.3052	0.2113	0.3551	1.09%	0.3610	0.3093	0.6105
%RSD		0.7532	1.2072	0.8362	1.3951	1.16	1.4183	1.2170	2.3930
Run	**Time**	**137Ba**	**138Ba**	**175Lu**	**203Tl**	**205Tl**	**206Pb**	**207Pb**	**208Pb**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	22:02:01	25.7985	26.0587	89.22%	25.6016	25.4785	25.7176	25.4629	25.5687
2	22:02:55	24.7655	25.4598	91.56%	25.2510	25.2813	25.3352	24.9563	25.0727
3	22:03:50	25.8157	25.9797	91.48%	25.4997	25.5106	25.5250	25.6698	25.5190
x		25.4599	25.8327	90.75%	25.4508	25.4235	25.5259	25.3630	25.3868
σ		0.6014	0.3254	1.32%	0.1804	0.1242	0.1912	0.3671	0.2731
%RSD		2.3622	1.2595	1.46	0.7087	0.4885	0.7490	1.4474	1.0759

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	51V	59Co	60Ni	61Ni
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	22:18:10	108.36%	0.0027	0.2288	0.2114	-0.0104	0.0032	0.0089	-0.0587
2	22:19:04	102.17%	0.0047	0.3034	0.2557	-0.0003	0.0067	0.0033	-0.2943
3	22:19:58	100.53%	0.0074	0.2041	0.2746	0.0028	0.0081	0.0092	0.2334
x		103.69%	0.0050	0.2454	0.2472	-0.0026	0.0060	0.0071	-0.0399
σ		4.13%	0.0023	0.0517	0.0324	0.0069	0.0025	0.0033	0.2643
%RSD		3.98	47.3166	21.0570	13.1123	262.2786	41.7539	46.7900	662.7850

Run	Time	62Ni	63Cu	65Cu	66Zn	67Zn	68Zn	71Ga	75As
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	22:18:10	0.3105	0.0092	0.0098	0.0021	0.0064	-0.0007	95.26%	-0.1925
2	22:19:04	0.3258	0.0232	0.0051	0.0351	-0.0066	0.0163	95.37%	0.0509
3	22:19:58	0.2365	0.0321	0.0008	0.0177	-0.0057	0.0058	93.31%	-0.2793
x		0.2909	0.0215	0.0052	0.0183	-0.0020	0.0071	94.65%	-0.1403
σ		0.0477	0.0115	0.0045	0.0165	0.0073	0.0086	1.16%	0.1712
%RSD		16.4049	53.6936	86.4093	90.2681	367.3305	120.0509	1.23	122.0205

Run	Time	77Se	78Se	82Se	95Mo	97Mo	98Mo	103Rh	107Ag
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	22:18:10	-0.0193	0.5230	-0.7518	0.1174	0.0984	0.1086	93.94%	0.0093
2	22:19:04	0.0162	0.0886	0.1119	0.2051	0.1672	0.1793	94.03%	0.0147
3	22:19:58	-0.0180	0.1724	-1.0890	0.1835	0.2052	0.1754	93.23%	0.0200
x		-0.0070	0.2613	-0.5763	0.1686	0.1569	0.1545	93.73%	0.0147
σ		0.0201	0.2304	0.6193	0.0457	0.0541	0.0397	0.44%	0.0054
%RSD		286.8187	88.1805	107.4709	27.1051	34.4993	25.7344	0.47	36.6169

Run	Time	109Ag	111Cd	112Cd	114Cd	115In	121Sb	123Sb	135Ba
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	22:18:10	0.0085	0.0073	0.0117	0.0071	90.62%	0.0051	0.0066	0.0090
2	22:19:04	0.0154	0.0108	0.0089	0.0092	91.14%	0.0133	0.0065	0.0174
3	22:19:58	0.0120	0.0036	0.0117	0.0070	90.84%	0.0074	0.0111	0.0376
x		0.0120	0.0072	0.0107	0.0078	90.87%	0.0086	0.0080	0.0213
σ		0.0035	0.0036	0.0016	0.0013	0.26%	0.0042	0.0026	0.0147
%RSD		29.1415	49.7641	14.9432	16.1774	0.29	49.3532	32.7305	68.9711

Run	Time	137Ba	138Ba	175Lu	203Tl	205Tl	206Pb	207Pb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	22:18:10	0.0075	0.0083	87.96%	0.0123	0.0108	0.0053	0.0021	0.0052
2	22:19:04	0.0138	0.0143	90.10%	0.0187	0.0173	0.0128	0.0087	0.0108
3	22:19:58	0.0139	0.0179	89.25%	0.0214	0.0194	0.0108	0.0098	0.0103
x		0.0118	0.0135	89.10%	0.0174	0.0159	0.0096	0.0069	0.0087
σ		0.0037	0.0049	1.08%	0.0047	0.0045	0.0039	0.0042	0.0031
%RSD		31.1483	36.0840	1.21	26.8144	28.5363	40.2703	60.9137	35.4353

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	51V	59Co	60Ni	61Ni
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	22:22:42	92.87%	0.1471	70.2070	67.6550	39.2208	7.1493	5.1158	33.1166
2	22:23:36	84.59%	0.1411	70.7719	71.1053	40.3394	7.3123	5.4911	30.9755
3	22:24:30	84.10%	0.1339	72.3354	69.8388	40.4216	7.4533	5.2954	29.4389
x		87.19%	0.1407	71.1048	69.5330	39.9939	7.3049	5.3008	31.1770
σ		4.93%	0.0066	1.1026	1.7453	0.6708	0.1521	0.1877	1.8471
%RSD		5.65	4.7148	1.5506	2.5101	1.6773	2.0826	3.5408	5.9246
Run	**Time**	**62Ni**	**63Cu**	**65Cu**	**66Zn**	**67Zn**	**68Zn**	**71Ga**	**75As**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	22:22:42	20.9814	4.4076	2.3919	7.3823	10.9536	9.5619	81.83%	15.0103
2	22:23:36	20.4341	4.3856	2.5079	7.5738	11.7020	9.5190	78.54%	15.4129
3	22:24:30	19.7418	4.3541	2.5167	7.6394	10.9753	9.2390	76.97%	15.1344
x		20.3858	4.3824	2.4722	7.5318	11.2103	9.4400	79.11%	15.1858
σ		0.6212	0.0269	0.0696	0.1336	0.4260	0.1753	2.48%	0.2062
%RSD		3.0473	0.6136	2.8171	1.7736	3.7997	1.8573	3.13	1.3576
Run	**Time**	**77Se**	**78Se**	**82Se**	**95Mo**	**97Mo**	**98Mo**	**103Rh**	**107Ag**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	22:22:42	1.1775	1.0120	1.1649	1.5345	1.5983	1.6618	73.29%	0.0400
2	22:23:36	1.4892	1.4934	1.6191	1.7607	1.5497	1.6937	71.59%	0.0457
3	22:24:30	1.6125	0.9054	1.2823	1.7603	1.6259	1.7606	69.85%	0.0391
x		1.4264	1.1369	1.3554	1.6852	1.5913	1.7054	71.58%	0.0416
σ		0.2242	0.3133	0.2358	0.1305	0.0386	0.0505	1.72%	0.0036
%RSD		15.7150	27.5574	17.3953	7.7429	2.4247	2.9585	2.40	8.5746
Run	**Time**	**109Ag**	**111Cd**	**112Cd**	**114Cd**	**115In**	**121Sb**	**123Sb**	**135Ba**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	22:22:42	0.0113	0.0380	0.0233	0.0048	74.98%	0.2422	0.2414	106.1904
2	22:23:36	0.0182	0.0249	0.0225	0.0203	74.49%	0.2208	0.2294	106.5409
3	22:24:30	0.0164	0.0372	0.0244	0.0154	72.50%	0.2556	0.2279	108.0419
x		0.0153	0.0334	0.0234	0.0135	73.99%	0.2395	0.2329	106.9244
σ		0.0036	0.0073	0.0010	0.0080	1.32%	0.0175	0.0074	0.9835
%RSD		23.4634	22.0064	4.0817	58.9738	1.78	7.3208	3.1827	0.9198
Run	**Time**	**137Ba**	**138Ba**	**175Lu**	**203Tl**	**205Tl**	**206Pb**	**207Pb**	**208Pb**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	22:22:42	105.7673	106.3736	77.51%	0.0130	0.0113	0.6597	0.7025	0.6718
2	22:23:36	106.4597	106.1803	78.92%	0.0218	0.0173	0.6740	0.7233	0.6904
3	22:24:30	107.2401	109.0631	77.68%	0.0233	0.0181	0.6663	0.7051	0.6847
x		106.4890	107.2057	78.03%	0.0193	0.0156	0.6667	0.7103	0.6823
σ		0.7368	1.6115	0.77%	0.0056	0.0037	0.0071	0.0114	0.0095
%RSD		0.6919	1.5032	0.99	28.8549	23.9933	1.0717	1.5986	1.3991

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	51V	59Co	60Ni	61Ni
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	22:27:25	99.82%	0.0404	24.0963	23.7799	15.1421	7.4585	5.7872	32.0750
2	22:28:20	96.94%	0.0415	22.9445	23.1558	14.5030	6.9132	5.4876	31.6018
3	22:29:14	93.98%	0.0292	24.6096	23.1666	14.4020	7.0045	5.5149	30.2598
x		96.91%	0.0370	23.8835	23.3674	14.6824	7.1254	5.5966	31.3122
σ		2.92%	0.0068	0.8527	0.3573	0.4013	0.2921	0.1657	0.9416
%RSD		3.01	18.4428	3.5702	1.5289	2.7334	4.0991	2.9601	3.0072
Run	**Time**	**62Ni**	**63Cu**	**65Cu**	**66Zn**	**67Zn**	**68Zn**	**71Ga**	**75As**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	22:27:25	10.9514	2.4531	1.3846	3.0575	16.0901	12.3379	83.72%	29.7567
2	22:28:20	10.3909	2.4570	1.2917	2.8127	15.9958	12.2665	86.27%	27.7599
3	22:29:14	10.1130	2.2900	1.2952	2.9586	16.3660	12.2784	85.25%	28.0718
x		10.4851	2.4000	1.3238	2.9429	16.1506	12.2943	85.08%	28.5295
σ		0.4270	0.0953	0.0527	0.1232	0.1924	0.0383	1.28%	1.0742
%RSD		4.0728	3.9706	3.9790	4.1847	1.1913	0.3115	1.51	3.7654
Run	**Time**	**77Se**	**78Se**	**82Se**	**95Mo**	**97Mo**	**98Mo**	**103Rh**	**107Ag**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	22:27:25	0.8095	1.2600	1.3577	8.5379	8.4224	8.5534	78.75%	0.0122
2	22:28:20	0.9436	1.0559	0.7982	8.4337	8.6703	8.5273	80.40%	0.0164
3	22:29:14	0.5536	0.9574	0.7805	8.8302	8.6864	8.6773	79.38%	0.0086
x		0.7689	1.0911	0.9788	8.6006	8.5930	8.5860	79.51%	0.0124
σ		0.1982	0.1544	0.3282	0.2056	0.1480	0.0801	0.83%	0.0039
%RSD		25.7720	14.1467	33.5357	2.3900	1.7224	0.9330	1.05	31.2169
Run	**Time**	**109Ag**	**111Cd**	**112Cd**	**114Cd**	**115In**	**121Sb**	**123Sb**	**135Ba**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	22:27:25	0.0032	0.0125	0.0111	0.0059	80.00%	0.2539	0.2444	396.6017
2	22:28:20	0.0041	0.0144	0.0150	0.0134	80.87%	0.2300	0.2326	393.0553
3	22:29:14	0.0036	0.0145	0.0120	0.0067	80.73%	0.2462	0.2505	391.3587
x		0.0036	0.0138	0.0127	0.0087	80.53%	0.2433	0.2425	393.6719
σ		0.0005	0.0011	0.0020	0.0041	0.47%	0.0122	0.0091	2.6753
%RSD		12.6059	8.0401	16.0399	47.1682	0.58	5.0135	3.7548	0.6796
Run	**Time**	**137Ba**	**138Ba**	**175Lu**	**203Tl**	**205Tl**	**206Pb**	**207Pb**	**208Pb**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	22:27:25	396.0186	410.7726	79.97%	0.0013	0.0022	0.0571	0.0578	0.0530
2	22:28:20	391.2157	406.4604	82.46%	0.0066	0.0068	0.0482	0.0590	0.0525
3	22:29:14	391.2833	406.1885	83.15%	0.0048	0.0047	0.0455	0.0463	0.0474
x		392.8392	407.8072	81.86%	0.0043	0.0045	0.0502	0.0544	0.0509
σ		2.7537	2.5718	1.67%	0.0027	0.0023	0.0061	0.0070	0.0031
%RSD		0.7010	0.6306	2.04	62.6522	50.9502	12.1229	12.9391	6.1135

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	51V	59Co	60Ni	61Ni
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	22:32:10	109.14%	0.1166	54.6240	54.1099	9.4601	1.4439	4.4953	71.2909
2	22:33:04	103.42%	0.1088	56.0802	55.9968	9.6602	1.4425	4.6368	64.3691
3	22:33:59	101.30%	0.1103	55.4474	54.6672	9.8027	1.4504	4.7650	60.0963
x		104.62%	0.1119	55.3839	54.9246	9.6410	1.4456	4.6323	65.2521
σ		4.06%	0.0041	0.7302	0.9694	0.1721	0.0042	0.1349	5.6493
%RSD		3.88	3.6778	1.3184	1.7650	1.7849	0.2917	2.9120	8.6577
Run	**Time**	**62Ni**	**63Cu**	**65Cu**	**66Zn**	**67Zn**	**68Zn**	**71Ga**	**75As**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	22:32:10	7.5166	25.9284	25.7838	53.3023	57.9898	57.2354	89.58%	15.7595
2	22:33:04	7.7255	26.2306	25.2637	54.0899	58.7377	58.3472	87.41%	15.9059
3	22:33:59	7.9070	26.9936	26.4856	55.8096	61.1735	60.4176	85.45%	15.9271
x		7.7164	26.3842	25.8444	54.4006	59.3003	58.6668	87.48%	15.8642
σ		0.1953	0.5490	0.6132	1.2822	1.6648	1.6150	2.07%	0.0913
%RSD		2.5314	2.0806	2.3727	2.3570	2.8074	2.7528	2.36	0.5752
Run	**Time**	**77Se**	**78Se**	**82Se**	**95Mo**	**97Mo**	**98Mo**	**103Rh**	**107Ag**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	22:32:10	0.6770	1.0554	0.9975	1.2972	1.2769	1.3152	82.68%	0.0226
2	22:33:04	0.5752	0.9001	0.6007	1.4519	1.3988	1.3930	82.44%	0.0140
3	22:33:59	0.4306	0.4942	0.4377	1.4014	1.5158	1.4360	80.30%	0.0287
x		0.5609	0.8166	0.6786	1.3835	1.3972	1.3814	81.81%	0.0218
σ		0.1238	0.2898	0.2879	0.0789	0.1195	0.0612	1.31%	0.0074
%RSD		22.0706	35.4877	42.4221	5.7013	8.5512	4.4323	1.61	33.8607
Run	**Time**	**109Ag**	**111Cd**	**112Cd**	**114Cd**	**115In**	**121Sb**	**123Sb**	**135Ba**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	22:32:10	0.0063	0.0101	0.0384	0.0122	82.81%	0.2628	0.2643	251.4720
2	22:33:04	0.0083	0.0161	0.0344	0.0105	82.92%	0.2796	0.2883	254.9375
3	22:33:59	0.0081	0.0165	0.0406	0.0134	80.79%	0.2825	0.2850	266.0790
x		0.0076	0.0142	0.0378	0.0120	82.17%	0.2750	0.2792	257.4962
σ		0.0011	0.0036	0.0031	0.0014	1.20%	0.0106	0.0130	7.6323
%RSD		14.2857	25.4080	8.2914	12.0324	1.46	3.8558	4.6463	2.9640
Run	**Time**	**137Ba**	**138Ba**	**175Lu**	**203Tl**	**205Tl**	**206Pb**	**207Pb**	**208Pb**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	22:32:10	251.0684	257.6778	82.72%	0.0005	-0.0002	0.3538	0.3466	0.3417
2	22:33:04	254.2712	260.6026	84.14%	0.0054	0.0038	0.3392	0.3422	0.3423
3	22:33:59	264.8352	273.1175	81.78%	0.0012	0.0031	0.3414	0.3566	0.3599
x		256.7249	263.7993	82.88%	0.0024	0.0022	0.3448	0.3485	0.3480
σ		7.2039	8.2012	1.19%	0.0026	0.0021	0.0078	0.0074	0.0103
%RSD		2.8061	3.1089	1.44	110.4479	96.0094	2.2739	2.1164	2.9713

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	51V	59Co	60Ni	61Ni
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	22:36:49	101.43%	0.1111	93.3177	91.5770	81.7511	3.0393	142.1887	169.0885
2	22:37:44	96.31%	0.0761	90.0054	90.3111	81.6808	3.1095	143.0917	167.7376
3	22:38:38	89.51%	0.1068	96.6396	96.8212	87.1985	3.2434	150.8780	168.6793
x		95.75%	0.0980	93.3209	92.9031	83.5435	3.1307	145.3861	168.5018
σ		5.98%	0.0191	3.3171	3.4517	3.1655	0.1037	4.7774	0.6927
%RSD		6.25	19.4545	3.5545	3.7153	3.7891	3.3131	3.2860	0.4111
Run	**Time**	**62Ni**	**63Cu**	**65Cu**	**66Zn**	**67Zn**	**68Zn**	**71Ga**	**75As**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	22:36:49	147.0951	2.8011	0.4714	14.8203	19.7884	17.0933	97.86%	155.5469
2	22:37:44	146.4691	2.7587	0.4646	14.8272	19.5482	17.1377	96.40%	157.2641
3	22:38:38	153.2852	2.9138	0.4414	15.8832	20.8329	18.3822	92.19%	165.9489
x		148.9498	2.8245	0.4591	15.1769	20.0565	17.5377	95.48%	159.5866
σ		3.7676	0.0801	0.0157	0.6117	0.6830	0.7317	2.94%	5.5764
%RSD		2.5294	2.8374	3.4247	4.0305	3.4054	4.1720	3.08	3.4943
Run	**Time**	**77Se**	**78Se**	**82Se**	**95Mo**	**97Mo**	**98Mo**	**103Rh**	**107Ag**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	22:36:49	1.5198	1.0671	1.6144	4.8418	4.9317	4.9099	74.70%	0.1496
2	22:37:44	1.6557	1.2521	1.7018	4.9170	4.9820	5.1454	73.59%	0.1536
3	22:38:38	1.8871	1.9374	1.7852	5.4269	5.3482	5.6258	70.93%	0.1565
x		1.6876	1.4188	1.7005	5.0619	5.0873	5.2270	73.07%	0.1532
σ		0.1857	0.4585	0.0854	0.3184	0.2274	0.3649	1.94%	0.0035
%RSD		11.0050	32.3165	5.0222	6.2894	4.4691	6.9802	2.65	2.2736
Run	**Time**	**109Ag**	**111Cd**	**112Cd**	**114Cd**	**115In**	**121Sb**	**123Sb**	**135Ba**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	22:36:49	0.0741	0.0938	0.2062	0.1049	77.15%	10.3570	10.2031	164.8942
2	22:37:44	0.0819	0.1065	0.2220	0.1229	75.77%	10.9198	10.8815	171.3430
3	22:38:38	0.0968	0.0638	0.2416	0.1067	74.09%	11.4560	11.4689	177.4977
x		0.0842	0.0880	0.2233	0.1115	75.67%	10.9109	10.8512	171.2450
σ		0.0115	0.0219	0.0177	0.0099	1.53%	0.5495	0.6335	6.3024
%RSD		13.6921	24.8705	7.9305	8.9162	2.03	5.0366	5.8376	3.6803
Run	**Time**	**137Ba**	**138Ba**	**175Lu**	**203Tl**	**205Tl**	**206Pb**	**207Pb**	**208Pb**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	22:36:49	164.6029	167.7530	77.76%	0.0211	0.0191	0.0234	0.0208	0.0222
2	22:37:44	170.3078	174.1570	78.33%	0.0167	0.0123	0.0225	0.0222	0.0212
3	22:38:38	177.0947	179.6521	77.09%	0.0116	0.0096	0.0273	0.0216	0.0207
x		170.6685	173.8540	77.73%	0.0165	0.0137	0.0244	0.0215	0.0214
σ		6.2537	5.9553	0.62%	0.0048	0.0049	0.0026	0.0007	0.0008
%RSD		3.6643	3.4255	0.80	28.8783	35.8661	10.4903	3.2343	3.6596

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	51V	59Co	60Ni	61Ni
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	22:41:44	104.50%	0.0467	207.7222	201.9203	27.3304	0.6204	3.4174	81.0134
2	22:42:38	97.61%	0.0544	213.4126	206.3633	27.0551	0.5896	3.3904	67.3234
3	22:43:32	98.60%	0.0425	202.0527	199.4911	26.6969	0.5778	3.0510	70.0556
x		100.24%	0.0479	207.7292	202.5916	27.0275	0.5959	3.2863	72.7975
σ		3.72%	0.0060	5.6800	3.4849	0.3176	0.0220	0.2042	7.2452
%RSD		3.72	12.5870	2.7343	1.7202	1.1753	3.6893	6.2144	9.9525
Run	**Time**	**62Ni**	**63Cu**	**65Cu**	**66Zn**	**67Zn**	**68Zn**	**71Ga**	**75As**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	22:41:44	4.7480	1.4144	0.5482	5.8415	14.8281	12.0066	86.77%	4.0172
2	22:42:38	4.8136	1.3773	0.5254	5.8138	14.8068	11.9521	86.71%	4.0872
3	22:43:32	4.6720	1.4421	0.4586	5.6140	14.3831	11.3497	86.70%	3.6865
x		4.7446	1.4112	0.5107	5.7564	14.6727	11.7695	86.73%	3.9303
σ		0.0709	0.0325	0.0466	0.1241	0.2510	0.3646	0.04%	0.2140
%RSD		1.4938	2.3039	9.1176	2.1562	1.7105	3.0975	0.05	5.4452
Run	**Time**	**77Se**	**78Se**	**82Se**	**95Mo**	**97Mo**	**98Mo**	**103Rh**	**107Ag**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	22:41:44	0.8200	1.5459	1.3087	0.3756	0.3381	0.3637	80.39%	0.0697
2	22:42:38	0.7816	1.2098	1.6152	0.3834	0.3547	0.3870	80.09%	0.0561
3	22:43:32	0.9825	1.1569	0.8921	0.3872	0.3898	0.3781	79.13%	0.0531
x		0.8614	1.3042	1.2720	0.3821	0.3609	0.3763	79.87%	0.0596
σ		0.1066	0.2110	0.3629	0.0059	0.0264	0.0118	0.66%	0.0088
%RSD		12.3789	16.1755	28.5338	1.5416	7.3057	3.1342	0.82	14.8111
Run	**Time**	**109Ag**	**111Cd**	**112Cd**	**114Cd**	**115In**	**121Sb**	**123Sb**	**135Ba**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	22:41:44	0.0186	0.0164	0.0270	-0.0009	81.57%	0.2070	0.2443	292.2049
2	22:42:38	0.0196	0.0266	0.0351	-0.0001	81.82%	0.2522	0.2448	294.8189
3	22:43:32	0.0213	0.0433	0.0302	0.0008	81.62%	0.2232	0.1908	291.7320
x		0.0198	0.0288	0.0308	-0.0001	81.67%	0.2274	0.2267	292.9186
σ		0.0014	0.0136	0.0041	0.0008	0.13%	0.0229	0.0310	1.6626
%RSD		6.8645	47.1358	13.2273	1443.2820	0.16	10.0605	13.6881	0.5676
Run	**Time**	**137Ba**	**138Ba**	**175Lu**	**203Tl**	**205Tl**	**206Pb**	**207Pb**	**208Pb**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	22:41:44	294.2373	300.3733	82.45%	-0.0025	-0.0010	0.0076	0.0058	0.0075
2	22:42:38	294.2035	302.4098	83.92%	0.0005	-0.0001	0.0116	0.0110	0.0089
3	22:43:32	295.3694	303.7738	83.40%	-0.0005	0.0006	0.0083	0.0091	0.0091
x		294.6034	302.1856	83.26%	-0.0009	-0.0002	0.0092	0.0086	0.0085
σ		0.6636	1.7113	0.75%	0.0015	0.0008	0.0021	0.0026	0.0009
%RSD		0.2253	0.5663	0.90	176.8473	405.0135	23.0396	30.5800	10.3699

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	51V	59Co	60Ni	61Ni
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	22:46:23	107.98%	-0.0020	3.5690	3.3794	0.0829	0.3852	0.0551	-0.1689
2	22:47:18	99.54%	-0.0011	2.8835	2.9468	0.0884	0.3922	0.0780	-0.3775
3	22:48:12	100.89%	-0.0020	2.1224	2.4351	0.0421	0.3691	0.0738	-0.0884
x		102.80%	-0.0017	2.8583	2.9204	0.0711	0.3822	0.0690	-0.2116
σ		4.54%	0.0005	0.7236	0.4727	0.0253	0.0119	0.0122	0.1492
%RSD		4.41	30.5159	25.3172	16.1858	35.5894	3.1042	17.6722	70.5248
Run	**Time**	**62Ni**	**63Cu**	**65Cu**	**66Zn**	**67Zn**	**68Zn**	**71Ga**	**75As**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	22:46:23	1.0031	0.2362	0.2075	0.3253	0.3154	0.2827	100.22%	0.3108
2	22:47:18	0.9371	0.2439	0.1791	0.3265	0.4186	0.3173	99.91%	0.0566
3	22:48:12	0.8584	0.2277	0.1751	0.3699	0.5050	0.3300	97.71%	0.1066
x		0.9329	0.2360	0.1872	0.3406	0.4130	0.3100	99.28%	0.1580
σ		0.0724	0.0081	0.0176	0.0254	0.0949	0.0245	1.37%	0.1347
%RSD		7.7644	3.4328	9.4282	7.4663	22.9799	7.8874	1.38	85.2136
Run	**Time**	**77Se**	**78Se**	**82Se**	**95Mo**	**97Mo**	**98Mo**	**103Rh**	**107Ag**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	22:46:23	0.0448	0.7266	0.5281	0.0574	0.0582	0.0581	99.43%	-0.0002
2	22:47:18	0.1470	0.4347	-0.6769	0.0955	0.0713	0.0716	98.96%	-0.0018
3	22:48:12	0.1170	0.1357	-0.5267	0.0965	0.0698	0.0697	98.62%	-0.0022
x		0.1029	0.4324	-0.2252	0.0831	0.0664	0.0665	99.00%	-0.0014
σ		0.0526	0.2954	0.6567	0.0223	0.0071	0.0073	0.40%	0.0011
%RSD		51.0749	68.3323	291.6132	26.8269	10.7414	11.0061	0.41	74.0797
Run	**Time**	**109Ag**	**111Cd**	**112Cd**	**114Cd**	**115In**	**121Sb**	**123Sb**	**135Ba**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	22:46:23	-0.0021	0.0034	-0.0021	-0.0013	95.70%	0.0649	0.0722	0.0251
2	22:47:18	-0.0017	0.0000	0.0005	0.0002	95.07%	0.0777	0.0732	0.1716
3	22:48:12	-0.0009	0.0000	-0.0004	0.0009	95.56%	0.0574	0.0785	0.2086
x		-0.0016	0.0011	-0.0007	-0.0001	95.44%	0.0667	0.0746	0.1351
σ		0.0006	0.0020	0.0013	0.0011	0.33%	0.0103	0.0034	0.0970
%RSD		40.3578	173.2051	203.2997	1381.3762	0.35	15.4151	4.5406	71.8250
Run	**Time**	**137Ba**	**138Ba**	**175Lu**	**203Tl**	**205Tl**	**206Pb**	**207Pb**	**208Pb**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	22:46:23	0.0165	0.0167	89.84%	-0.0020	-0.0023	0.0229	0.0237	0.0238
2	22:47:18	0.1538	0.1669	91.39%	-0.0011	-0.0008	0.0214	0.0233	0.0232
3	22:48:12	0.1571	0.1774	92.64%	-0.0011	-0.0005	0.0218	0.0251	0.0232
x		0.1091	0.1204	91.29%	-0.0014	-0.0012	0.0220	0.0240	0.0234
σ		0.0803	0.0899	1.40%	0.0005	0.0010	0.0007	0.0010	0.0004
%RSD		73.5557	74.6796	1.54	36.1745	80.6464	3.3913	4.0432	1.5056

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	51V	59Co	60Ni	61Ni
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	22:50:58	102.67%	0.0551	205.2488	199.8706	26.3296	1.7468	3.1835	69.2893
2	22:51:52	99.81%	0.0438	209.1076	203.2823	26.8519	1.7476	3.0993	74.5064
3	22:52:47	96.01%	0.0482	211.6632	204.8631	26.8889	1.7584	3.2822	69.5550
x		99.50%	0.0491	208.6732	202.6720	26.6901	1.7509	3.1883	71.1169
σ		3.35%	0.0057	3.2292	2.5516	0.3128	0.0065	0.0916	2.9384
%RSD		3.36	11.6300	1.5475	1.2590	1.1720	0.3689	2.8719	4.1318
Run	**Time**	**62Ni**	**63Cu**	**65Cu**	**66Zn**	**67Zn**	**68Zn**	**71Ga**	**75As**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	22:50:58	4.7716	1.4383	0.5590	6.1722	14.0185	11.8901	85.42%	2.9597
2	22:51:52	4.9494	1.4375	0.5102	6.3436	14.9296	12.1646	83.66%	3.1928
3	22:52:47	5.1628	1.4392	0.4949	6.1471	14.1706	12.4395	85.05%	3.3592
x		4.9613	1.4383	0.5214	6.2210	14.3729	12.1647	84.71%	3.1706
σ		0.1959	0.0009	0.0335	0.1070	0.4881	0.2747	0.93%	0.2007
%RSD		3.9479	0.0591	6.4203	1.7192	3.3959	2.2580	1.10	6.3290
Run	**Time**	**77Se**	**78Se**	**82Se**	**95Mo**	**97Mo**	**98Mo**	**103Rh**	**107Ag**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	22:50:58	0.4721	0.9389	1.0861	0.1707	0.1788	0.2003	79.41%	0.0593
2	22:51:52	0.5638	1.0102	1.1373	0.2289	0.1696	0.1996	79.13%	0.0648
3	22:52:47	0.6770	0.6476	1.7433	0.2106	0.2276	0.1970	78.70%	0.0629
x		0.5710	0.8656	1.3223	0.2034	0.1920	0.1990	79.08%	0.0623
σ		0.1027	0.1921	0.3656	0.0298	0.0312	0.0017	0.35%	0.0028
%RSD		17.9799	22.1886	27.6468	14.6293	16.2496	0.8668	0.45	4.5157
Run	**Time**	**109Ag**	**111Cd**	**112Cd**	**114Cd**	**115In**	**121Sb**	**123Sb**	**135Ba**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	22:50:58	0.0169	0.0166	0.0296	0.0025	80.26%	0.0787	0.0890	288.4227
2	22:51:52	0.0214	0.0353	0.0357	-0.0000	80.54%	0.0977	0.0988	291.6272
3	22:52:47	0.0189	0.0228	0.0304	0.0008	81.13%	0.0989	0.0887	288.1631
x		0.0191	0.0249	0.0319	0.0011	80.64%	0.0918	0.0922	289.4043
σ		0.0023	0.0095	0.0033	0.0013	0.44%	0.0114	0.0058	1.9294
%RSD		12.0468	38.2148	10.4222	117.2664	0.55	12.3905	6.2510	0.6667
Run	**Time**	**137Ba**	**138Ba**	**175Lu**	**203Tl**	**205Tl**	**206Pb**	**207Pb**	**208Pb**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	22:50:58	286.4404	295.1580	81.08%	-0.0004	-0.0014	0.0132	0.0184	0.0139
2	22:51:52	292.0457	299.5904	82.09%	-0.0022	0.0006	0.0134	0.0132	0.0133
3	22:52:47	288.7201	296.6465	83.22%	-0.0005	0.0009	0.0120	0.0120	0.0127
x		289.0687	297.1317	82.13%	-0.0010	0.0000	0.0129	0.0146	0.0133
σ		2.8188	2.2557	1.07%	0.0010	0.0012	0.0007	0.0034	0.0006
%RSD		0.9751	0.7591	1.30	94.5287	4292.1024	5.5604	23.2889	4.5815

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	51V	59Co	60Ni	61Ni
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	22:55:34	109.87%	27.6859	29.1896	28.8032	27.0840	27.5539	27.6789	29.5166
2	22:56:28	101.02%	27.4128	29.0700	28.7296	26.8359	26.8850	27.0347	26.9126
3	22:57:23	99.77%	26.7320	29.4393	27.2147	26.2755	26.1352	26.6254	27.0156
x		103.55%	27.2769	29.2330	28.2492	26.7318	26.8580	27.1130	27.8149
σ		5.50%	0.4912	0.1884	0.8966	0.4142	0.7097	0.5311	1.4746
%RSD		5.32	1.8010	0.6446	3.1740	1.5493	2.6425	1.9587	5.3015

Run	Time	62Ni	63Cu	65Cu	66Zn	67Zn	68Zn	71Ga	75As
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	22:55:34	27.5458	27.7816	27.6995	26.0760	26.1166	26.0074	99.62%	26.5281
2	22:56:28	27.6259	27.1727	27.2529	25.0693	26.3609	25.7137	96.58%	26.9717
3	22:57:23	26.6900	26.2491	26.7535	25.2866	25.6327	25.5823	95.27%	25.9305
x		27.2872	27.0678	27.2353	25.4773	26.0367	25.7678	97.15%	26.4768
σ		0.5188	0.7716	0.4733	0.5297	0.3706	0.2176	2.23%	0.5225
%RSD		1.9012	2.8508	1.7377	2.0792	1.4234	0.8447	2.30	1.9734

Run	Time	77Se	78Se	82Se	95Mo	97Mo	98Mo	103Rh	107Ag
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	22:55:34	28.6609	27.7573	27.8466	26.1785	25.5148	25.8501	98.93%	25.6867
2	22:56:28	26.4215	27.0824	26.3840	26.4136	25.4084	25.8217	96.29%	25.6479
3	22:57:23	27.2956	26.8361	25.8751	26.3261	25.2929	25.8852	95.43%	25.2505
x		27.4593	27.2252	26.7019	26.3061	25.4054	25.8523	96.88%	25.5284
σ		1.1287	0.4769	1.0235	0.1188	0.1110	0.0318	1.82%	0.2414
%RSD		4.1103	1.7517	3.8330	0.4516	0.4368	0.1231	1.88	0.9457

Run	Time	109Ag	111Cd	112Cd	114Cd	115In	121Sb	123Sb	135Ba
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	22:55:34	25.8861	25.7688	25.9483	25.9769	94.18%	26.0967	25.8896	26.7936
2	22:56:28	25.5553	25.7611	25.4460	25.5550	93.67%	25.9401	25.7264	26.0724
3	22:57:23	25.3334	25.0339	25.2528	25.1300	93.95%	25.4357	25.1162	26.1710
x		25.5916	25.5213	25.5490	25.5540	93.94%	25.8242	25.5774	26.3456
σ		0.2781	0.4221	0.3591	0.4235	0.25%	0.3454	0.4076	0.3910
%RSD		1.0868	1.6540	1.4054	1.6572	0.27	1.3376	1.5937	1.4843

Run	Time	137Ba	138Ba	175Lu	203Tl	205Tl	206Pb	207Pb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	22:55:34	26.5993	26.9900	88.13%	25.7866	25.6055	25.9402	26.0408	25.8975
2	22:56:28	26.5692	26.2091	89.78%	25.4011	25.1682	25.8326	25.8176	25.7648
3	22:57:23	25.7518	25.9131	90.48%	25.0041	25.1666	25.3505	25.5991	25.3214
x		26.3068	26.3707	89.46%	25.3973	25.3134	25.7078	25.8192	25.6613
σ		0.4808	0.5563	1.21%	0.3913	0.2530	0.3140	0.2209	0.3017
%RSD		1.8279	2.1096	1.35	1.5406	0.9993	1.2216	0.8554	1.1757

CCB6 11/23/2009 11:06:34 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	51V	59Co	60Ni	61Ni
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	23:06:34	103.05%	0.0047	0.7809	0.8410	0.0061	0.0058	0.0113	-0.0469
2	23:07:28	96.65%	0.0043	0.8873	1.0153	0.0371	0.0027	0.0077	-0.5293
3	23:08:23	95.26%	0.0062	0.6541	0.6909	0.0016	0.0048	0.0017	-0.3437
x		98.32%	0.0050	0.7741	0.8491	0.0149	0.0044	0.0069	-0.3066
σ		4.16%	0.0010	0.1167	0.1623	0.0193	0.0016	0.0049	0.2433
%RSD		4.23	19.7797	15.0779	19.1196	129.4199	35.0650	70.3948	79.3639
Run	**Time**	**62Ni**	**63Cu**	**65Cu**	**66Zn**	**67Zn**	**68Zn**	**71Ga**	**75As**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	23:06:34	0.5041	0.0350	0.0423	0.0162	0.0489	0.0091	91.96%	0.0179
2	23:07:28	0.3989	0.0354	0.0098	0.0408	0.1192	0.0394	90.80%	-0.0364
3	23:08:23	0.3821	0.0291	0.0216	0.0367	-0.0183	0.0217	90.70%	0.0282
x		0.4283	0.0332	0.0245	0.0312	0.0500	0.0234	91.15%	0.0032
σ		0.0661	0.0036	0.0164	0.0132	0.0688	0.0152	0.70%	0.0347
%RSD		15.4359	10.7246	66.9819	42.1950	137.6589	64.9600	0.77	1075.0871
Run	**Time**	**77Se**	**78Se**	**82Se**	**95Mo**	**97Mo**	**98Mo**	**103Rh**	**107Ag**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	23:06:34	0.0203	0.4233	-0.0697	0.0966	0.0779	0.1114	90.06%	0.0124
2	23:07:28	0.0586	0.4360	-0.1530	0.1244	0.1307	0.1235	90.67%	0.0153
3	23:08:23	0.0213	-0.0513	-0.0682	0.1240	0.1234	0.1293	91.04%	0.0158
x		0.0334	0.2693	-0.0970	0.1150	0.1107	0.1214	90.59%	0.0145
σ		0.0218	0.2777	0.0485	0.0159	0.0286	0.0091	0.50%	0.0018
%RSD		65.3030	103.1285	50.0235	13.8450	25.8419	7.5029	0.55	12.5282
Run	**Time**	**109Ag**	**111Cd**	**112Cd**	**114Cd**	**115In**	**121Sb**	**123Sb**	**135Ba**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	23:06:34	0.0168	0.0076	0.0020	0.0060	86.71%	0.0154	0.0237	0.0277
2	23:07:28	0.0138	0.0093	0.0094	0.0066	88.29%	0.0145	0.0146	0.0418
3	23:08:23	0.0129	0.0056	0.0038	0.0066	88.02%	0.0096	0.0162	0.0152
x		0.0145	0.0075	0.0051	0.0064	87.68%	0.0132	0.0182	0.0282
σ		0.0020	0.0019	0.0038	0.0004	0.84%	0.0031	0.0049	0.0133
%RSD		14.0050	24.8591	75.5018	5.6121	0.96	23.7424	26.7794	47.0527
Run	**Time**	**137Ba**	**138Ba**	**175Lu**	**203Tl**	**205Tl**	**206Pb**	**207Pb**	**208Pb**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	23:06:34	0.0149	0.0204	83.50%	0.0158	0.0202	0.0113	0.0066	0.0078
2	23:07:28	0.0195	0.0203	86.52%	0.0257	0.0221	0.0050	0.0078	0.0072
3	23:08:23	0.0229	0.0186	86.22%	0.0190	0.0238	0.0069	0.0097	0.0082
x		0.0191	0.0198	85.41%	0.0201	0.0221	0.0077	0.0080	0.0077
σ		0.0040	0.0010	1.66%	0.0050	0.0018	0.0032	0.0015	0.0005
%RSD		20.9380	5.1248	1.95	25.0648	8.1160	41.3816	19.1284	5.9234

Service Request # __K0910296_____Ag,_____
Calibration __112509AMS03_____
QC in calibration___112509AMS03_____
QC Service Request # __K0910296_____
STARLIMS run # _____

ICP-MS Data Review Form

	Yes	No	NA
1. Appropriate standardization completed	X		
2. ICV within 10 % of true value	X		
3. CCV's in control	X		
4. CCB's and/or ICB's below MRL	X		
5. Method blank below MRL	X		
6. LCS in control	X		
7. Spike and duplicate in control	X		
8. All analytes within instrument linear range	X		
9. Adequate rinse out time allowed	X		
10. Internal standards in control	X		
11. Interferences checked	X		
12. Se over MRL		X	
13. CRA run	X		
14. Cd Correction Applied		X	
15. ICSA and ICSAB in control	X		
16. Serial dilution run	X		
17. Post spike in control	X		

Comments:

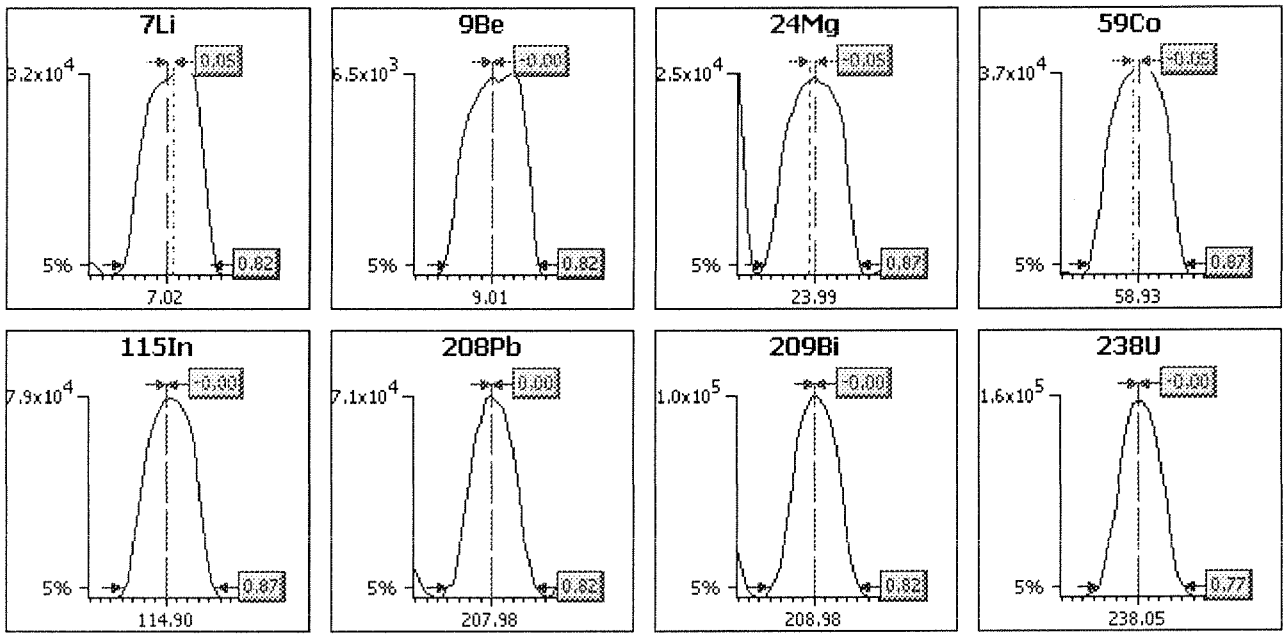
Primary Review by JDB Date 11/30/09
Secondary Review by _____ Date 11/30/09
R:\icp\misc\data review forms\icpms review form

Performance Report

Sample details
Acquired at : 11/25/2009 09:58:01 AM
Report name : Kelso Performance Report 2 [01/23/2008 04:49:11 PM]

Mass Calibration verification

Acquisition parameters
Sweeps : 100
Dwell : 1.0 mSecs
Point spacing : 0.05 amu
Peak width measured at 5% of the peak maximum



Analyte	Limits			Results	
	Max. width	Min. width	Max. error	Peak width	Peak error
7Li	0.90	0.60	0.10	0.82	0.05
9Be	0.90	0.60	0.10	0.82	-0.00
24Mg	0.90	0.60	0.10	0.87	-0.05
59Co	0.90	0.60	0.10	0.87	-0.05
115In	0.90	0.60	0.10	0.87	-0.00
208Pb	0.90	0.60	0.10	0.82	0.00
209Bi	0.90	0.60	0.10	0.82	-0.00
238U	0.90	0.60	0.10	0.77	-0.00

Sample details
Acquired at : 11/25/2009 09:58:01 AM
Report name : Kelso Performance Report 2 [01/23/2008 04:49:11 PM]

Tune conditions

Major	
Extraction	-141
Lens 1	4.7
Focus	23.1
D1	-34.5
Pole Bias	2.5
Hexapole Bias	1.5
Nebuliser	0.74
Sampling Depth	20

Minor	
Lens 2	-13.3
Lens 3	-183.5
Forward power	1247
Horizontal	105
Vertical	50
D2	-146
DA	-42.4
Cool	13.0
Auxiliary	0.89

Global	
Standard resolution	85
High resolution	125
Analogue Detector	1500
PC Detector	3480

Add. Gases

Sensitivity and stability results

Acquisition parameters
Sweeps : 400

Run	Time	5Bkg	7Li	9Be	24Mg	59Co	115In	140Ce	156Ce O	208Pb
Dwell (mSecs)		10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Limits	%RSD	-	5.0%	5.0%	5.0%	5.0%	5.0%	-	-	5.0%
	Countrate	-	>1000	>1000	>1000	>1000	>1000	-	-	>1000
1	09:58:33 AM	0.000	31922.951	6362.726	24383.908	39624.920	79524.059	83824.184	1207.830	73950.811
2	09:59:50 AM	0.000	32312.072	6523.340	24734.353	39830.314	80164.397	84463.056	1291.342	74352.316
3	10:01:03 AM	0.000	32929.783	6564.369	24847.912	40155.239	80287.476	84101.982	1251.586	74136.817
4	10:02:16 AM	0.250	32783.505	6473.554	25075.285	40250.660	80131.105	84350.771	1330.847	73877.217
5	10:03:29 AM	0.000	33179.940	6566.621	25009.855	40456.068	80264.777	84290.970	1273.089	74112.369
x		0.050	32625.650	6498.122	24810.262	40063.440	80074.363	84206.192	1270.939	74085.906
σ		0.11	504.17	84.64	273.42	333.27	314.58	250.43	45.74	184.44
%RSD		223.607	1.545	1.302	1.102	0.832	0.393	0.297	3.599	0.249

Run	Time	209Bi	220Bkg	238U
Dwell (mSecs)		10.0	10.0	10.0
Limits	%RSD	5.0%	-	5.0%
	Countrate	>1000	-	>1000
1	09:58:33 AM	106036.06	0.000	158308.74
2	09:59:50 AM	106526.25	0.250	158828.19
3	10:01:03 AM	106295.32	0.000	158897.63
4	10:02:16 AM	106560.90	0.250	158969.12
5	10:03:29 AM	105964.74	0.000	158390.65
x		106276.65	0.100	158678.87
σ		273.23	0.14	305.97
%RSD		0.257	136.931	0.193

Ratio results

Run	Time	156Ce O/140Ce
	Ratio limits	<0.0200
1	09:58:33 AM	0.014
2	09:59:50 AM	0.015
3	10:01:03 AM	0.015
4	10:02:16 AM	0.016
5	10:03:29 AM	0.015
x		0.0151
σ		0.00
%RSD		3.3450

Result : The performance report passed.

Sample List

No	Label	Type	Weight	Rack	Row	Col	Height
1	Cal. Blk	Blank	1.000	0	1	1	150
2	Cal. Stn	Fully Quant Standard	1.000	0	1	2	150
3	ICV1	Unknown	1.000	0	1	3	150
4	CCV1	Unknown	1.000	0	1	2	150
5	ICB1	Unknown	1.000	0	1	1	150
6	CCB1	Unknown	1.000	0	1	1	150
7	CRA	Unknown	1.000	0	1	4	150
8	ICSA	Unknown	1.000	0	1	5	150
9	ICSAB	Unknown	1.000	0	1	6	150
10	K0910145-MB	Unknown	1.000	1	1	1	150
11	LCSW K0910145	Unknown	1.000	1	1	2	150
12	K0910145-001	Unknown	1.000	1	1	3	150
13	K0910145-001 1/5L	Unknown	1.000	1	1	4	150
14	K0910145-001A +40ppb B	Unknown	1.000	1	1	5	150
15	K0910145-006	Unknown	1.000	1	1	10	150
16	K0910145-006D	Unknown	1.000	1	1	11	150
17	CCV2	Unknown	1.000	0	1	2	150
18	CCB2	Unknown	1.000	0	1	1	150
19	K0910145-006S	Unknown	1.000	1	1	12	150
20	K0910145-008 1/10	Unknown	1.000	1	4	9	150
21	K0910145-011 1/10	Unknown	1.000	1	4	10	150
22	K0910145-012	Unknown	1.000	1	2	6	150
23	CCV3	Unknown	1.000	0	1	2	150
24	CCB3	Unknown	1.000	0	1	1	150
25	K0910145-002	Unknown	1.000	1	1	6	150
26	K0910145-003	Unknown	1.000	1	1	7	150
27	K0910145-004	Unknown	1.000	1	1	8	150
28	K0910145-005	Unknown	1.000	1	1	9	150
29	K0910145-007	Unknown	1.000	1	2	1	150
30	K0910145-008	Unknown	1.000	1	2	2	150
31	K0910145-009	Unknown	1.000	1	2	3	150
32	K0910145-010	Unknown	1.000	1	2	4	150
33	K0910145-011	Unknown	1.000	1	2	5	150
34	K0910215-MB	Unknown	1.000	1	2	7	150
35	CCV4	Unknown	1.000	0	1	2	150
36	CCB4	Unknown	1.000	0	1	1	150
37	LCSW K0910215	Unknown	1.000	1	2	8	150
38	K0910215-001	Unknown	1.000	1	2	9	150
39	K0910215-001D	Unknown	1.000	1	2	10	150
40	K0910215-001 1/5L	Unknown	1.000	1	2	11	150
41	K0910215-001A	Unknown	1.000	1	2	12	150
42	K0910215-001S	Unknown	1.000	1	3	1	150
43	K0910215-002	Unknown	1.000	1	3	2	150
44	K0910215-003	Unknown	1.000	1	3	3	150
45	K0910215-004	Unknown	1.000	1	3	4	150
46	K0910296-MB	Unknown	1.000	1	3	5	150
47	CCV5	Unknown	1.000	0	1	2	150
48	CCB5	Unknown	1.000	0	1	1	150
49	LCSW K0910296	Unknown	1.000	1	3	6	150
50	K0910296-001	Unknown	1.000	1	3	7	150
51	K0910296-001D	Unknown	1.000	1	3	8	150
52	K0910296-001 1/5L	Unknown	1.000	1	3	9	150
53	K0910296-001A	Unknown	1.000	1	3	10	150
54	K0910296-001S	Unknown	1.000	1	3	11	150
55	K0910242-001	Unknown	1.000	1	3	12	150
56	K0910242-002	Unknown	1.000	1	4	1	150
57	K0910242-003	Unknown	1.000	1	4	2	150
58	K0910242-004	Unknown	1.000	1	4	3	150
59	CCV6	Unknown	1.000	0	1	2	150
60	CCB6	Unknown	1.000	0	1	1	150
61	K0910242-005	Unknown	1.000	1	4	4	150
62	K0910242-006	Unknown	1.000	1	4	5	150
63	K0910242-007	Unknown	1.000	1	4	6	150
64	K0910242-008	Unknown	1.000	1	4	7	150
65	K0910242-009	Unknown	1.000	1	4	8	150
66	CCV7	Unknown	1.000	0	1	2	150
67	CCB7	Unknown	1.000	0	1	1	150

Dilution Corrected Concentrations

Cal. Blk 11/25/2009 11:42:01 AM

User Pre-dilution: 1.000

Run	Time	6Li	10B	11B	103Rh	107Ag	109Ag	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	11:42:01	100.50%	-0.0205	0.0039	100.20%	-0.0001	-0.0000	100.18%
2	11:42:15	100.30%	0.0307	-0.0054	99.98%	-0.0004	0.0003	99.84%
3	11:42:29	99.20%	-0.0102	0.0015	99.81%	0.0005	-0.0003	99.98%
x		100.00%	-0.0000	0.0000	100.00%	-0.0000	-0.0000	100.00%
σ		0.70%	0.0271	0.0048	0.20%	0.0005	0.0003	0.17%
%RSD		0.70	0.0000	0.0000	0.20	0.0000	0.0000	0.17

Cal. Stn 11/25/2009 11:45:58 AM

User Pre-dilution: 1.000

Run	Time	6Li	10B	11B	103Rh	107Ag	109Ag	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	11:45:58	98.65%	25.2520	25.6298	94.16%	25.3969	25.4581	95.20%
2	11:46:12	98.69%	24.8810	24.6609	95.93%	24.9242	24.9406	96.64%
3	11:46:27	96.58%	24.8671	24.7093	97.60%	24.6790	24.6013	98.17%
x		97.98%	25.0000	25.0000	95.90%	25.0000	25.0000	96.67%
σ		1.21%	0.2183	0.5460	1.72%	0.3649	0.4315	1.49%
%RSD		1.23	0.8732	2.1840	1.79	1.4596	1.7260	1.54

ICV1 11/25/2009 11:56:00 AM

User Pre-dilution: 1.000

Run	Time	6Li	10B	11B	103Rh	107Ag	109Ag	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	11:56:00	97.10%	25.2818	24.0874	91.85%	13.9328	13.8780	92.59%
2	11:56:15	95.97%	24.1495	24.1494	94.04%	13.5745	13.6635	94.27%
3	11:56:29	95.95%	24.5904	23.8199	94.70%	13.4426	13.3932	96.10%
x		96.34%	24.6739	24.0189	93.53%	13.6499	13.6449	94.32%
σ		0.66%	0.5708	0.1751	1.49%	0.2537	0.2429	1.75%
%RSD		0.68	2.3132	0.7289	1.60	1.8584	1.7804	1.86

CCV1 11/25/2009 11:59:58 AM

User Pre-dilution: 1.000

Run	Time	6Li	10B	11B	103Rh	107Ag	109Ag	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	11:59:58	94.38%	26.3637	26.1188	91.13%	26.0321	25.9304	91.35%
2	12:00:12	94.51%	24.8347	25.2988	93.06%	25.0058	24.8807	93.78%
3	12:00:26	94.82%	25.6927	24.9656	94.15%	24.8705	24.8037	95.19%
x		94.57%	25.6304	25.4611	92.78%	25.3028	25.2049	93.44%
σ		0.23%	0.7664	0.5935	1.53%	0.6352	0.6294	1.94%
%RSD		0.24	2.9902	2.3311	1.65	2.5105	2.4972	2.08

ICB1 11/25/2009 12:06:24 PM

User Pre-dilution: 1.000

Run	Time	6Li	10B	11B	103Rh	107Ag	109Ag	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:06:24	96.48%	0.1402	0.0452	92.04%	0.0020	0.0011	91.75%
2	12:06:39	95.00%	0.0865	0.0664	91.23%	0.0007	0.0011	90.92%
3	12:06:53	95.94%	0.0263	0.0565	92.86%	0.0020	0.0011	93.03%
x		95.80%	0.0843	0.0560	92.04%	0.0016	0.0011	91.90%
σ		0.75%	0.0570	0.0106	0.82%	0.0007	0.0000	1.06%
%RSD		0.78	67.5885	18.9144	0.89	46.2720	2.1459	1.15

CCB1 11/25/2009 12:08:56 PM

User Pre-dilution: 1.000

Run	Time	6Li	10B	11B	103Rh	107Ag	109Ag	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:08:56	96.01%	0.0129	0.0076	91.85%	0.0010	0.0015	91.52%
2	12:09:10	94.64%	0.0197	0.0381	93.12%	0.0016	0.0021	92.83%
3	12:09:24	94.76%	0.0777	0.0180	94.77%	0.0019	0.0007	95.75%
x		95.14%	0.0368	0.0213	93.25%	0.0015	0.0014	93.37%
σ		0.76%	0.0356	0.0155	1.46%	0.0004	0.0007	2.16%
%RSD		0.80	96.8208	72.9320	1.57	28.4866	48.5745	2.32

CRA 11/25/2009 12:10:53 PM

User Pre-dilution: 1.000

Run	Time	6Li	10B	11B	103Rh	107Ag	109Ag	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:10:53	97.17%	0.4265	0.4115	97.05%	0.0138	0.0215	98.72%
2	12:11:07	93.29%	0.5422	0.4672	92.82%	0.0257	0.0218	94.44%
3	12:11:21	94.18%	0.4808	0.4550	95.95%	0.0212	0.0213	95.64%
x		94.88%	0.4832	0.4446	95.27%	0.0202	0.0215	96.26%
σ		2.04%	0.0579	0.0293	2.19%	0.0060	0.0003	2.21%
%RSD		2.15	11.9875	6.5941	2.30	29.8295	1.2488	2.29

ICSA 11/25/2009 12:13:27 PM

User Pre-dilution: 1.000

Run	Time	6Li	10B	11B	103Rh	107Ag	109Ag	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:13:27	83.11%	0.1423	0.1309	80.03%	0.0434	0.0387	83.88%
2	12:13:42	79.71%	0.1868	0.1725	79.02%	0.0472	0.0440	83.55%
3	12:13:56	79.47%	0.1396	0.1010	79.45%	0.0488	0.0463	84.18%
x		80.77%	0.1562	0.1348	79.50%	0.0465	0.0430	83.87%
σ		2.04%	0.0265	0.0359	0.51%	0.0028	0.0039	0.32%
%RSD		2.52	16.9921	26.6429	0.64	5.9245	9.0870	0.38

ICSAB 11/25/2009 12:15:38 PM

User Pre-dilution: 1.000

Run	Time	6Li	10B	11B	103Rh	107Ag	109Ag	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:15:38	76.25%	0.1023	0.1192	74.04%	11.0790	11.0683	78.19%
2	12:15:52	77.31%	0.0875	0.1056	77.08%	10.3499	10.3074	81.66%
3	12:16:07	76.16%	0.1020	0.1032	78.49%	10.2712	10.0343	82.64%
x		76.57%	0.0973	0.1093	76.54%	10.5667	10.4700	80.83%
σ		0.64%	0.0085	0.0086	2.27%	0.4454	0.5359	2.34%
%RSD		0.83	8.7332	7.8749	2.97	4.2153	5.1182	2.90

K0910145-MB 11/25/2009 12:18:32 PM

User Pre-dilution: 1.000

Run	Time	6Li	10B	11B	103Rh	107Ag	109Ag	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:18:32	86.79%	0.0701	-0.0444	87.40%	0.0104	0.0096	88.66%
2	12:18:47	87.16%	0.0301	-0.0193	87.72%	0.0073	0.0103	88.65%
3	12:19:01	86.20%	0.0026	-0.0151	87.33%	0.0114	0.0104	88.25%
x		86.71%	0.0343	-0.0263	87.48%	0.0097	0.0101	88.52%
σ		0.48%	0.0340	0.0158	0.20%	0.0022	0.0004	0.23%
%RSD		0.56	99.1502	60.2549	0.23	22.1944	4.0463	0.26

LCSW K0910145 11/25/2009 12:20:33 PM

User Pre-dilution: 1.000

Run	Time	6Li	10B	11B	103Rh	107Ag	109Ag	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:20:33	86.69%	20.4886	19.6267	86.88%	20.9841	21.0641	88.40%
2	12:20:48	85.72%	20.0552	19.7319	86.68%	21.2453	21.0413	88.19%
3	12:21:02	85.89%	19.1859	19.3070	87.61%	21.1068	20.9683	89.21%
x		86.10%	19.9099	19.5552	87.06%	21.1120	21.0246	88.60%
σ		0.52%	0.6634	0.2213	0.49%	0.1307	0.0500	0.54%
%RSD		0.60	3.3320	1.1315	0.56	0.6190	0.2380	0.61

K0910145-001 11/25/2009 12:25:27 PM

User Pre-dilution: 1.000

Run	Time	6Li	10B	11B	103Rh	107Ag	109Ag	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:25:27	92.84%	21.8984	21.7689	87.51%	0.0070	0.0076	87.24%
2	12:25:42	92.71%	21.4471	21.5095	87.71%	0.0079	0.0057	89.75%
3	12:25:56	92.23%	21.3689	21.0888	89.46%	0.0078	0.0015	90.74%
x		92.59%	21.5715	21.4557	88.22%	0.0076	0.0049	89.24%
σ		0.32%	0.2858	0.3433	1.07%	0.0005	0.0031	1.80%
%RSD		0.34	1.3251	1.5998	1.22	6.4840	63.1209	2.02

K0910145-001 1/5L 11/25/2009 12:30:44 PM

User Pre-dilution: 1.000

Run	Time	6Li	10B	11B	103Rh	107Ag	109Ag	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:30:44	101.20%	4.0827	4.1348	96.05%	0.0015	0.0007	95.48%
2	12:30:58	101.60%	4.2173	4.1642	96.38%	0.0021	0.0023	97.50%
3	12:31:13	98.78%	4.2280	4.4013	96.97%	0.0018	0.0019	96.85%
x		100.53%	4.1760	4.2334	96.47%	0.0018	0.0016	96.61%
σ		1.53%	0.0810	0.1461	0.47%	0.0003	0.0008	1.03%
%RSD		1.52	1.9390	3.4516	0.48	16.1074	50.5976	1.07

K0910145-001A +40ppb B 11/25/2009 12:34:11 PM

User Pre-dilution: 1.000

Run	Time	6Li	10B	11B	103Rh	107Ag	109Ag	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:34:11	97.80%	57.7100	58.5816	91.40%	9.7891	9.6819	92.77%
2	12:34:25	94.48%	59.7319	59.0259	90.21%	9.8199	9.8917	92.07%
3	12:34:40	94.74%	58.7472	59.0497	91.32%	9.7505	9.7522	92.85%
x		95.67%	58.7297	58.8857	90.98%	9.7865	9.7753	92.56%
σ		1.85%	1.0111	0.2636	0.67%	0.0347	0.1067	0.43%
%RSD		1.93	1.7216	0.4477	0.73	0.3549	1.0920	0.46

K0910145-006 11/25/2009 12:41:08 PM

User Pre-dilution: 1.000

Run	Time	6Li	10B	11B	103Rh	107Ag	109Ag	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:41:08	93.11%	60.9738	60.5424	81.70%	0.0216	0.0203	84.70%
2	12:41:23	89.80%	64.1021	61.6711	82.34%	0.0222	0.0216	85.09%
3	12:41:37	88.19%	61.9064	62.7985	82.92%	0.0224	0.0237	85.45%
x		90.37%	62.3274	61.6707	82.32%	0.0221	0.0219	85.08%
σ		2.51%	1.6061	1.1280	0.61%	0.0004	0.0017	0.37%
%RSD		2.78	2.5769	1.8291	0.74	1.8058	7.8619	0.44

K0910145-006D 11/25/2009 12:48:06 PM

User Pre-dilution: 1.000

Run	Time	6Li	10B	11B	103Rh	107Ag	109Ag	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:48:06	93.82%	60.5870	60.2241	83.05%	0.0237	0.0210	86.20%
2	12:48:21	92.36%	61.2030	61.6722	82.38%	0.0197	0.0227	85.20%
3	12:48:35	87.03%	64.5645	65.0105	81.08%	0.0203	0.0159	85.01%
x		91.07%	62.1181	62.3023	82.17%	0.0212	0.0199	85.47%
σ		3.57%	2.1408	2.4546	1.00%	0.0022	0.0036	0.64%
%RSD		3.92	3.4464	3.9398	1.22	10.3494	17.9397	0.74

CCV2 11/25/2009 12:55:04 PM

User Pre-dilution: 1.000

Run	Time	6Li	10B	11B	103Rh	107Ag	109Ag	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:55:04	100.94%	25.6976	25.4957	93.02%	24.9072	24.8798	93.14%
2	12:55:18	98.59%	25.1019	25.0126	93.81%	24.7422	24.6864	93.69%
3	12:55:32	99.28%	25.1118	24.4525	94.24%	24.5706	24.5702	95.26%
x		99.60%	25.3038	24.9869	93.69%	24.7400	24.7122	94.03%
σ		1.20%	0.3411	0.5221	0.62%	0.1683	0.1564	1.10%
%RSD		1.21	1.3480	2.0894	0.66	0.6804	0.6330	1.17

CCB2 11/25/2009 01:01:59 PM

User Pre-dilution: 1.000

Run	Time	6Li	10B	11B	103Rh	107Ag	109Ag	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:01:59	106.12%	0.0930	0.0603	100.05%	-0.0013	0.0016	98.82%
2	13:02:14	99.86%	0.1304	0.0814	93.13%	0.0010	0.0024	92.47%
3	13:02:28	100.32%	0.1289	0.0917	94.63%	0.0013	0.0020	94.99%
x		102.10%	0.1174	0.0778	95.94%	0.0003	0.0020	95.43%
σ		3.49%	0.0212	0.0160	3.64%	0.0014	0.0004	3.20%
%RSD		3.42	18.0322	20.5908	3.79	434.7132	21.6254	3.36

K0910145-006S 11/25/2009 01:04:48 PM

User Pre-dilution: 1.000

Run	Time	6Li	10B	11B	103Rh	107Ag	109Ag	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:04:48	93.25%	80.2372	79.0070	82.14%	19.3705	19.1126	85.81%
2	13:05:03	90.29%	80.7885	82.3295	82.18%	19.6115	19.4179	87.21%
3	13:05:17	90.43%	78.1297	77.8391	83.22%	19.1718	18.9945	87.33%
x		91.32%	79.7184	79.7252	82.51%	19.3846	19.1750	86.78%
σ		1.67%	1.4032	2.3298	0.61%	0.2202	0.2185	0.85%
%RSD		1.83	1.7602	2.9223	0.74	1.1360	1.1396	0.97

K0910145-008 1/10 11/25/2009 01:11:47 PM

User Pre-dilution: 1.000

Run	Time	6Li	10B	11B	103Rh	107Ag	109Ag	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:11:47	80.34%	0.0699	0.0514	114.91%	-0.0009	-0.0005	129.61%
2	13:12:02	91.99%	0.0455	0.0663	127.57%	-0.0012	-0.0003	139.12%
3	13:12:16	98.10%	0.1058	0.0590	132.48%	-0.0012	0.0001	145.70%
x		90.14%	0.0737	0.0589	124.99%	-0.0011	-0.0002	138.14%
σ		9.03%	0.0303	0.0075	9.07%	0.0002	0.0003	8.09%
%RSD		10.01	41.1173	12.6480	7.25	17.2254	130.0057	5.86

11/25/09

K0910145-011 1/10 11/25/2009 01:17:40 PM

User Pre-dilution: 1.000

Run	Time	6Li	10B	11B	103Rh	107Ag	109Ag	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:17:40	100.17%	-0.0004	-0.0604	130.20%	-0.0008	-0.0008	140.75%
2	13:17:55	100.36%	0.0033	-0.0474	135.01%	-0.0008	-0.0001	145.94%
3	13:18:10	99.66%	-0.0589	-0.0609	135.89%	-0.0002	0.0003	148.81%
x		100.06%	-0.0186	-0.0563	133.70%	-0.0006	-0.0002	145.17%
σ		0.37%	0.0349	0.0077	3.06%	0.0004	0.0005	4.08%
%RSD		0.36	187.2801	13.6007	2.29	59.6522	256.8521	2.81

JG 11/25/09

K0910145-012 11/25/2009 01:20:36 PM

User Pre-dilution: 1.000

Run	Time	6Li	10B	11B	103Rh	107Ag	109Ag	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:20:36	104.06%	0.1393	0.1081	96.06%	-0.0013	-0.0006	94.50%
2	13:20:51	102.97%	0.0967	0.0950	95.68%	0.0006	-0.0006	96.08%
3	13:21:05	99.58%	0.1050	0.0914	96.76%	-0.0000	0.0010	95.96%
x		102.20%	0.1137	0.0982	96.17%	-0.0002	-0.0001	95.51%
σ		2.34%	0.0225	0.0088	0.55%	0.0010	0.0009	0.88%
%RSD		2.29	19.8360	8.9230	0.57	407.5773	1627.8785	0.92

CCV3 11/25/2009 01:23:12 PM

User Pre-dilution: 1.000

Run	Time	6Li	10B	11B	103Rh	107Ag	109Ag	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:23:12	98.58%	26.0475	25.5314	92.27%	25.3017	25.6187	91.95%
2	13:23:26	98.02%	25.4951	24.9462	93.60%	25.1391	25.0253	94.06%
3	13:23:40	97.21%	25.3847	24.9022	93.84%	25.0531	24.8420	94.48%
x		97.93%	25.6424	25.1266	93.24%	25.1646	25.1620	93.50%
σ		0.69%	0.3551	0.3512	0.84%	0.1262	0.4060	1.36%
%RSD		0.70	1.3849	1.3979	0.90	0.5016	1.6135	1.45

CCB3 11/25/2009 01:30:06 PM

User Pre-dilution: 1.000

Run	Time	6Li	10B	11B	103Rh	107Ag	109Ag	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:30:06	103.91%	0.0370	0.0341	95.13%	0.0003	0.0014	93.40%
2	13:30:21	100.79%	0.0389	0.0907	92.86%	0.0020	0.0024	91.87%
3	13:30:35	98.78%	0.0946	0.0457	92.69%	0.0007	0.0021	92.80%
x		101.16%	0.0568	0.0568	93.56%	0.0010	0.0020	92.69%
σ		2.59%	0.0327	0.0299	1.36%	0.0009	0.0005	0.77%
%RSD		2.56	57.5592	52.6127	1.46	87.7503	27.2780	0.83

K0910145-002 11/25/2009 01:32:45 PM

User Pre-dilution: 1.000

Run	Time	6Li	10B	11B	103Rh	107Ag	109Ag	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:32:45	103.83%	64.5566	66.4329	89.02%	0.0078	0.0076	91.73%
2	13:33:00	100.99%	66.6786	68.3021	88.32%	0.0088	0.0050	90.98%
3	13:33:15	96.64%	69.2272	70.5809	87.35%	0.0089	0.0099	90.75%
x		100.49%	66.8208	68.4386	88.23%	0.0085	0.0075	91.16%
σ		3.62%	2.3386	2.0774	0.84%	0.0007	0.0025	0.51%
%RSD		3.60	3.4998	3.0354	0.95	7.6777	32.7369	0.56

K0910145-003 11/25/2009 01:39:42 PM

User Pre-dilution: 1.000

Run	Time	6Li	10B	11B	103Rh	107Ag	109Ag	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:39:42	103.96%	48.5756	48.0174	90.70%	0.0030	0.0015	91.34%
2	13:39:57	103.47%	50.5808	48.5663	88.46%	0.0011	0.0005	89.89%
3	13:40:11	102.21%	49.3510	48.4063	91.53%	0.0017	0.0031	92.76%
x		103.21%	49.5025	48.3300	90.23%	0.0020	0.0017	91.33%
σ		0.90%	1.0112	0.2823	1.59%	0.0010	0.0013	1.43%
%RSD		0.88	2.0426	0.5841	1.76	50.2935	78.0698	1.57

K0910145-004 11/25/2009 01:46:40 PM

User Pre-dilution: 1.000

Run	Time	6Li	10B	11B	103Rh	107Ag	109Ag	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:46:40	98.53%	168.5977	163.3270	84.01%	0.0031	0.0035	85.72%
2	13:46:54	98.38%	168.6050	167.9184	84.46%	0.0069	0.0052	86.93%
3	13:47:09	93.73%	172.8883	175.2622	82.01%	0.0035	0.0029	84.08%
x		96.88%	170.0303	168.8359	83.49%	0.0045	0.0039	85.57%
σ		2.73%	2.4751	6.0203	1.31%	0.0021	0.0012	1.43%
%RSD		2.82	1.4557	3.5658	1.56	46.3708	32.0833	1.67

K0910145-005 11/25/2009 01:53:38 PM

User Pre-dilution: 1.000

Run	Time	6Li	10B	11B	103Rh	107Ag	109Ag	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:53:38	96.47%	89.2261	86.8585	82.15%	0.0017	0.0002	84.29%
2	13:53:52	93.59%	89.8198	89.9180	83.43%	0.0031	0.0021	83.97%
3	13:54:06	94.17%	87.5601	87.5021	84.24%	0.0002	0.0017	86.06%
x		94.74%	88.8686	88.0929	83.27%	0.0017	0.0013	84.77%
σ		1.52%	1.1715	1.6131	1.06%	0.0014	0.0010	1.12%
%RSD		1.61	1.3182	1.8311	1.27	85.9389	72.1394	1.33

K0910145-007 11/25/2009 02:00:34 PM

User Pre-dilution: 1.000

Run	Time	6Li	10B	11B	103Rh	107Ag	109Ag	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:00:34	84.52%	44.1819	44.1561	70.48%	0.1797	0.0544	73.87%
2	14:00:48	82.63%	44.2345	43.3346	69.76%	0.1768	0.0491	73.73%
3	14:01:02	82.28%	44.8222	45.1191	69.61%	0.1828	0.0687	73.49%
x		83.15%	44.4128	44.2033	69.95%	0.1798	0.0574	73.70%
σ		1.21%	0.3555	0.8932	0.47%	0.0030	0.0101	0.19%
%RSD		1.45	0.8004	2.0206	0.67	1.6557	17.6367	0.26

K0910145-008 11/25/2009 02:07:29 PM

User Pre-dilution: 1.000

Run	Time	6Li	10B	11B	103Rh	107Ag	109Ag	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:07:29	75.63%	354.9152	355.8910	58.71%	0.7875	0.4008	64.31%
2	14:07:43	73.99%	361.8367	352.8248	58.87%	0.7645	0.3634	64.39%
3	14:07:58	74.24%	358.4495	357.7810	59.83%	0.7745	0.3504	64.94%
x		74.62%	358.4005	355.4989	59.14%	0.7755	0.3716	64.54%
σ		0.88%	3.4610	2.5013	0.61%	0.0116	0.0262	0.34%
%RSD		1.19	0.9657	0.7036	1.03	1.4898	7.0423	0.53

K0910145-009 11/25/2009 02:14:26 PM

User Pre-dilution: 1.000

Run	Time	6Li	10B	11B	103Rh	107Ag	109Ag	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:14:26	95.36%	73.6055	73.8779	76.98%	0.0653	0.0114	78.86%
2	14:14:40	91.93%	77.0322	74.2057	74.84%	0.0690	0.0133	78.52%
3	14:14:54	90.26%	77.1552	77.0834	75.38%	0.0584	0.0136	78.91%
x		92.52%	75.9310	75.0557	75.73%	0.0642	0.0128	78.77%
σ		2.60%	2.0148	1.7637	1.11%	0.0054	0.0012	0.21%
%RSD		2.81	2.6535	2.3499	1.46	8.3981	9.0260	0.27

K0910145-010 11/25/2009 02:21:22 PM

User Pre-dilution: 1.000

Run	Time	6Li	10B	11B	103Rh	107Ag	109Ag	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:21:22	93.78%	173.1131	170.9160	71.10%	0.0995	0.0475	75.95%
2	14:21:36	86.82%	187.5430	189.6982	68.13%	0.1064	0.0511	72.16%
3	14:21:50	83.64%	192.0052	193.5185	66.80%	0.1087	0.0506	71.30%
x		88.08%	184.2205	184.7109	68.68%	0.1048	0.0498	73.14%
σ		5.19%	9.8746	12.0984	2.20%	0.0048	0.0020	2.48%
%RSD		5.89	5.3602	6.5499	3.21	4.5578	3.9855	3.39

K0910145-011 11/25/2009 02:28:18 PM

User Pre-dilution: 1.000

Run	Time	6Li	10B	11B	103Rh	107Ag	109Ag	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:28:18	74.26%	404.9985	396.0100	58.44%	0.6472	0.2509	62.84%
2	14:28:32	73.03%	406.1390	399.5725	57.41%	0.6975	0.2673	62.02%
3	14:28:46	70.87%	404.0724	401.1930	57.65%	0.7221	0.2453	62.39%
x		72.72%	405.0700	398.9252	57.83%	0.6889	0.2545	62.41%
σ		1.71%	1.0351	2.6514	0.54%	0.0382	0.0114	0.41%
%RSD		2.36	0.2555	0.6646	0.93	5.5410	4.4784	0.66

K0910215-MB 11/25/2009 02:35:15 PM

User Pre-dilution: 1.000

Run	Time	6Li	10B	11B	103Rh	107Ag	109Ag	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:35:15	89.92%	1.2733	1.2259	83.37%	-0.0005	-0.0005	81.69%
2	14:35:29	91.32%	1.2978	1.1684	85.01%	-0.0015	0.0010	83.58%
3	14:35:43	91.32%	1.1329	1.1313	87.02%	0.0005	-0.0005	85.66%
x		90.85%	1.2347	1.1752	85.13%	-0.0005	-0.0000	83.64%
σ		0.81%	0.0890	0.0477	1.83%	0.0010	0.0008	1.99%
%RSD		0.89	7.2049	4.0565	2.15	211.3828	5809.4111	2.38

CCV4 11/25/2009 02:42:11 PM

User Pre-dilution: 1.000

Run	Time	6Li	10B	11B	103Rh	107Ag	109Ag	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:42:11	95.61%	25.7198	24.6881	85.58%	24.7676	24.9442	84.83%
2	14:42:26	93.49%	25.5321	25.4602	86.21%	24.9547	24.7978	85.73%
3	14:42:40	89.79%	25.5727	24.7326	86.92%	24.7016	24.5225	87.77%
x		92.96%	25.6082	24.9603	86.24%	24.8080	24.7548	86.11%
σ		2.94%	0.0987	0.4335	0.67%	0.1313	0.2141	1.51%
%RSD		3.17	0.3856	1.7367	0.78	0.5293	0.8650	1.75

CCB4 11/25/2009 02:49:06 PM

User Pre-dilution: 1.000

Run	Time	6Li	10B	11B	103Rh	107Ag	109Ag	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:49:06	95.27%	0.4502	0.4058	84.82%	0.0006	0.0021	83.19%
2	14:49:20	93.88%	0.4723	0.3963	85.37%	0.0009	0.0028	83.67%
3	14:49:35	90.93%	0.4726	0.4159	86.98%	0.0009	0.0031	85.80%
x		93.36%	0.4650	0.4060	85.72%	0.0008	0.0026	84.22%
σ		2.21%	0.0128	0.0098	1.12%	0.0002	0.0005	1.39%
%RSD		2.37	2.7633	2.4181	1.31	22.6663	19.2122	1.65

LCSW K0910215 11/25/2009 02:56:02 PM

User Pre-dilution: 1.000

Run	Time	6Li	10B	11B	103Rh	107Ag	109Ag	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:56:02	93.81%	0.2722	0.2721	85.97%	20.8847	20.7203	84.94%
2	14:56:16	93.79%	0.2949	0.3628	86.93%	20.5904	20.6897	86.69%
3	14:56:31	91.28%	0.3299	0.2452	87.99%	20.5139	20.3708	87.76%
x		92.96%	0.2990	0.2933	86.96%	20.6630	20.5936	86.46%
σ		1.46%	0.0291	0.0616	1.01%	0.1958	0.1936	1.42%
%RSD		1.57	9.7250	21.0076	1.16	0.9474	0.9399	1.65

K0910215-001 11/25/2009 03:03:00 PM

User Pre-dilution: 1.000

Run	Time	6Li	10B	11B	103Rh	107Ag	109Ag	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:03:00	94.70%	21.3233	20.2077	84.13%	0.0041	0.0039	84.38%
2	15:03:15	91.16%	21.4843	21.9937	82.79%	0.0057	0.0025	83.45%
3	15:03:29	87.85%	21.7409	21.8045	81.26%	0.0065	0.0033	83.19%
x		91.24%	21.5162	21.3353	82.73%	0.0054	0.0032	83.67%
σ		3.43%	0.2106	0.9811	1.43%	0.0012	0.0007	0.63%
%RSD		3.76	0.9788	4.5986	1.73	22.0200	22.0669	0.75

K0910215-001D 11/25/2009 03:09:58 PM

User Pre-dilution: 1.000

Run	Time	6Li	10B	11B	103Rh	107Ag	109Ag	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:09:58	92.94%	22.3870	21.6345	81.55%	0.0032	0.0044	81.44%
2	15:10:13	89.25%	22.2357	22.7564	80.89%	0.0036	0.0018	82.12%
3	15:10:27	89.78%	21.7245	21.6099	81.28%	0.0003	0.0044	82.79%
x		90.66%	22.1157	22.0003	81.24%	0.0024	0.0035	82.12%
σ		2.00%	0.3471	0.6550	0.33%	0.0018	0.0015	0.67%
%RSD		2.20	1.5696	2.9770	0.40	76.1440	42.8200	0.82

K0910215-001 1/5L 11/25/2009 03:16:58 PM

User Pre-dilution: 1.000

Run	Time	6Li	10B	11B	103Rh	107Ag	109Ag	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:16:58	93.55%	4.6267	4.6457	86.42%	-0.0005	0.0031	85.90%
2	15:17:12	91.27%	4.3939	4.5715	87.05%	-0.0009	-0.0002	86.94%
3	15:17:27	93.20%	4.6331	4.3316	87.28%	0.0012	0.0012	87.71%
x		92.67%	4.5512	4.5163	86.92%	-0.0001	0.0014	86.85%
σ		1.23%	0.1363	0.1642	0.45%	0.0011	0.0016	0.91%
%RSD		1.32	2.9950	3.6352	0.51	1766.6825	117.8447	1.04

K0910215-001A 11/25/2009 03:23:57 PM

User Pre-dilution: 1.000

Run	Time	6Li	10B	11B	103Rh	107Ag	109Ag	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:23:57	89.78%	65.6213	63.3877	80.94%	10.0870	9.9719	82.03%
2	15:24:12	90.02%	61.3028	59.9671	80.90%	9.9861	9.9733	83.55%
3	15:24:26	87.59%	61.4458	61.4500	82.10%	9.8108	10.0176	84.34%
x		89.13%	62.7900	61.6016	81.31%	9.9613	9.9876	83.31%
σ		1.34%	2.4531	1.7153	0.68%	0.1397	0.0260	1.18%
%RSD		1.50	3.9068	2.7846	0.84	1.4027	0.2599	1.41

K0910215-001S 11/25/2009 03:30:54 PM

User Pre-dilution: 1.000

Run	Time	6Li	10B	11B	103Rh	107Ag	109Ag	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:30:54	90.20%	22.1418	21.6310	81.87%	20.7683	20.7667	82.66%
2	15:31:09	87.76%	22.4822	22.2372	81.32%	21.0910	21.2950	83.01%
3	15:31:23	86.26%	23.5062	22.3846	81.00%	21.4937	21.2665	83.11%
x		88.07%	22.7101	22.0843	81.39%	21.1177	21.1094	82.92%
σ		1.99%	0.7102	0.3994	0.44%	0.3634	0.2971	0.23%
%RSD		2.26	3.1271	1.8085	0.54	1.7210	1.4075	0.28

K0910215-002 11/25/2009 03:37:50 PM

User Pre-dilution: 1.000

Run	Time	6Li	10B	11B	103Rh	107Ag	109Ag	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:37:50	89.78%	104.3346	102.1523	78.46%	0.0087	0.0057	81.43%
2	15:38:05	91.15%	99.4840	98.4957	81.36%	0.0101	0.0059	83.71%
3	15:38:20	90.90%	97.6802	97.5397	82.66%	0.0113	0.0072	85.95%
x		90.61%	100.4996	99.3959	80.83%	0.0100	0.0063	83.70%
σ		0.73%	3.4415	2.4345	2.15%	0.0013	0.0008	2.26%
%RSD		0.81	3.4244	2.4493	2.66	13.3443	12.9210	2.70

K0910215-003 11/25/2009 03:44:47 PM

User Pre-dilution: 1.000

Run	Time	6Li	10B	11B	103Rh	107Ag	109Ag	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:44:47	89.23%	138.1725	135.9118	73.06%	0.0495	0.0178	75.94%
2	15:45:02	88.84%	139.2654	137.6097	73.40%	0.0486	0.0155	77.67%
3	15:45:16	88.85%	136.9692	134.5610	74.27%	0.0460	0.0173	78.59%
x		88.98%	138.1357	136.0275	73.57%	0.0480	0.0169	77.40%
σ		0.22%	1.1485	1.5276	0.63%	0.0018	0.0012	1.35%
%RSD		0.25	0.8315	1.1230	0.85	3.7811	7.1787	1.74

K0910215-004 11/25/2009 03:51:44 PM

User Pre-dilution: 1.000

Run	Time	6Li	10B	11B	103Rh	107Ag	109Ag	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:51:44	87.53%	10.2916	9.7865	73.96%	0.0206	0.0128	75.69%
2	15:51:58	85.63%	10.0189	9.9414	73.82%	0.0218	0.0115	76.09%
3	15:52:12	86.45%	10.3716	9.7726	75.48%	0.0198	0.0101	77.09%
x		86.54%	10.2273	9.8335	74.42%	0.0207	0.0115	76.29%
σ		0.96%	0.1849	0.0937	0.92%	0.0010	0.0013	0.72%
%RSD		1.11	1.8082	0.9529	1.23	4.9142	11.7581	0.94

K0910296-MB 11/25/2009 03:58:40 PM

User Pre-dilution: 1.000

Run	Time	6Li	10B	11B	103Rh	107Ag	109Ag	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:58:40	96.90%	0.2765	0.1503	86.79%	0.0009	-0.0009	84.40%
2	15:58:55	95.94%	0.2850	0.1534	87.55%	-0.0009	0.0002	86.30%
3	15:59:09	95.43%	0.2285	0.1895	90.33%	-0.0006	0.0002	88.00%
x		96.09%	0.2633	0.1644	88.22%	-0.0002	-0.0002	86.23%
σ		0.75%	0.0304	0.0218	1.86%	0.0009	0.0006	1.80%
%RSD		0.78	11.5569	13.2331	2.11	525.4257	335.7127	2.08

CCV5 11/25/2009 04:05:29 PM

User Pre-dilution: 1.000

Run	Time	6Li	10B	11B	103Rh	107Ag	109Ag	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:05:29	95.16%	26.0882	25.9936	86.34%	25.7881	25.6796	86.09%
2	16:05:43	93.48%	25.3322	24.9825	86.57%	25.3847	25.4531	86.54%
3	16:05:58	91.63%	26.2927	25.0389	88.12%	24.8977	24.7894	88.77%
x		93.42%	25.9044	25.3383	87.01%	25.3568	25.3074	87.13%
σ		1.76%	0.5059	0.5682	0.97%	0.4458	0.4626	1.43%
%RSD		1.89	1.9531	2.2423	1.11	1.7582	1.8281	1.65

CCB5 11/25/2009 04:12:25 PM

User Pre-dilution: 1.000

Run	Time	6Li	10B	11B	103Rh	107Ag	109Ag	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:12:25	90.97%	0.1731	0.1142	83.43%	0.0028	0.0025	81.44%
2	16:12:39	89.46%	0.1115	0.1562	84.54%	0.0027	0.0010	83.51%
3	16:12:53	89.69%	0.2152	0.1125	85.66%	0.0006	0.0013	85.18%
x		90.04%	0.1666	0.1276	84.54%	0.0020	0.0016	83.38%
σ		0.81%	0.0522	0.0247	1.11%	0.0013	0.0008	1.87%
%RSD		0.90	31.3112	19.3704	1.32	62.9547	51.0196	2.25

LCSW K0910296 11/25/2009 04:17:04 PM

User Pre-dilution: 1.000

Run	Time	6Li	10B	11B	103Rh	107Ag	109Ag	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:17:04	94.16%	0.1572	0.0964	86.44%	20.4809	20.7051	85.57%
2	16:17:18	94.44%	0.1744	0.1122	86.57%	21.3309	21.3176	85.72%
3	16:17:32	92.90%	0.1977	0.0829	88.69%	20.7810	20.7391	86.67%
x		93.83%	0.1764	0.0972	87.23%	20.8643	20.9206	85.99%
σ		0.82%	0.0203	0.0147	1.26%	0.4311	0.3442	0.59%
%RSD		0.87	11.5102	15.0859	1.45	2.0660	1.6454	0.69

K0910296-001 11/25/2009 04:19:51 PM

User Pre-dilution: 1.000

Run	Time	6Li	10B	11B	103Rh	107Ag	109Ag	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:19:51	94.33%	0.3645	0.3323	88.17%	0.0080	0.0051	87.54%
2	16:20:06	90.84%	0.3747	0.4004	86.95%	0.0067	0.0119	86.53%
3	16:20:20	94.90%	0.3656	0.3299	89.56%	0.0095	0.0084	89.46%
x		93.36%	0.3682	0.3542	88.23%	0.0081	0.0085	87.84%
σ		2.20%	0.0056	0.0400	1.30%	0.0014	0.0034	1.49%
%RSD		2.35	1.5208	11.2948	1.48	17.0787	40.3444	1.69

K0910296-001D 11/25/2009 04:22:42 PM

User Pre-dilution: 1.000

Run	Time	6Li	10B	11B	103Rh	107Ag	109Ag	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:22:42	94.78%	0.3710	0.3288	88.44%	0.0012	0.0016	87.94%
2	16:22:56	90.70%	0.4552	0.3688	87.28%	0.0019	0.0030	86.01%
3	16:23:11	91.18%	0.3723	0.3718	88.86%	0.0042	0.0026	88.82%
x		92.22%	0.3995	0.3565	88.19%	0.0024	0.0024	87.59%
σ		2.23%	0.0483	0.0240	0.82%	0.0016	0.0008	1.43%
%RSD		2.42	12.0821	6.7319	0.92	65.2458	31.5116	1.64

K0910296-001 1/5L 11/25/2009 04:25:38 PM

User Pre-dilution: 1.000

Run	Time	6Li	10B	11B	103Rh	107Ag	109Ag	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:25:38	92.21%	0.2099	0.1288	86.66%	0.0016	0.0005	86.33%
2	16:25:53	89.19%	0.1216	0.1206	86.16%	0.0030	0.0016	85.66%
3	16:26:07	88.80%	0.2042	0.1328	86.79%	0.0023	0.0020	86.28%
x		90.07%	0.1786	0.1274	86.54%	0.0023	0.0014	86.09%
σ		1.87%	0.0494	0.0062	0.33%	0.0007	0.0007	0.37%
%RSD		2.07	27.6687	4.8759	0.38	31.2558	53.6989	0.43

K0910296-001A 11/25/2009 04:28:33 PM

User Pre-dilution: 1.000

Run	Time	6Li	10B	11B	103Rh	107Ag	109Ag	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:28:33	94.26%	43.2153	41.0164	87.42%	10.3318	10.3213	85.86%
2	16:28:47	94.68%	41.5525	41.0939	87.57%	10.1376	10.0719	88.38%
3	16:29:02	95.81%	40.2325	39.6129	88.90%	9.9681	9.8887	89.04%
x		94.92%	41.6668	40.5744	87.96%	10.1458	10.0940	87.76%
σ		0.80%	1.4947	0.8336	0.82%	0.1820	0.2172	1.68%
%RSD		0.84	3.5872	2.0544	0.93	1.7938	2.1517	1.91

K0910296-001S 11/25/2009 04:35:33 PM

User Pre-dilution: 1.000

Run	Time	6Li	10B	11B	103Rh	107Ag	109Ag	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:35:33	92.53%	0.6015	0.3826	84.26%	21.2489	21.4458	83.16%
2	16:35:47	95.34%	0.4087	0.4467	87.24%	19.7890	19.9993	86.89%
3	16:36:01	93.30%	0.4247	0.4561	88.83%	19.3852	19.6188	87.63%
x		93.72%	0.4783	0.4285	86.77%	20.1410	20.3546	85.89%
σ		1.45%	0.1070	0.0400	2.32%	0.9805	0.9639	2.39%
%RSD		1.55	22.3749	9.3335	2.67	4.8681	4.7355	2.79

K0910242-001 11/25/2009 04:40:16 PM

User Pre-dilution: 1.000

Run	Time	6Li	10B	11B	103Rh	107Ag	109Ag	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:40:16	99.30%	34.3263	33.9272	85.09%	0.0083	0.0085	85.86%
2	16:40:31	96.72%	33.4806	33.7726	86.94%	0.0108	0.0076	87.73%
3	16:40:45	98.08%	32.4078	32.6694	87.83%	0.0130	0.0096	88.79%
x		98.03%	33.4049	33.4564	86.62%	0.0107	0.0086	87.46%
σ		1.29%	0.9615	0.6859	1.40%	0.0024	0.0010	1.49%
%RSD		1.31	2.8783	2.0502	1.61	22.2883	11.6780	1.70

K0910242-002 11/25/2009 04:47:15 PM

User Pre-dilution: 1.000

Run	Time	6Li	10B	11B	103Rh	107Ag	109Ag	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:47:15	85.17%	69.6399	67.7360	74.27%	0.0180	0.0049	77.32%
2	16:47:30	84.66%	68.2384	69.1453	74.76%	0.0234	0.0056	78.17%
3	16:47:44	83.81%	67.4114	69.5303	74.92%	0.0154	0.0040	79.05%
x		84.55%	68.4299	68.8039	74.65%	0.0189	0.0048	78.18%
σ		0.68%	1.1265	0.9446	0.34%	0.0041	0.0008	0.86%
%RSD		0.81	1.6462	1.3729	0.45	21.5155	17.1023	1.11

K0910242-003 11/25/2009 04:54:12 PM

User Pre-dilution: 1.000

Run	Time	6Li	10B	11B	103Rh	107Ag	109Ag	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:54:12	76.43%	67.2917	67.7362	66.79%	0.0439	0.0114	70.51%
2	16:54:26	75.33%	67.5226	66.9654	65.66%	0.0364	0.0142	70.37%
3	16:54:41	73.93%	67.9949	68.0481	66.56%	0.0422	0.0136	70.64%
x		75.23%	67.6031	67.5832	66.34%	0.0409	0.0131	70.51%
σ		1.25%	0.3584	0.5573	0.60%	0.0039	0.0015	0.14%
%RSD		1.67	0.5302	0.8246	0.90	9.5768	11.5160	0.20

K0910242-004 11/25/2009 05:01:10 PM

User Pre-dilution: 1.000

Run	Time	6Li	10B	11B	103Rh	107Ag	109Ag	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:01:10	88.29%	20.5561	21.0542	72.26%	0.0181	0.0075	75.60%
2	17:01:24	81.34%	22.2410	23.2421	70.66%	0.0140	0.0043	73.60%
3	17:01:38	82.84%	22.3436	22.6133	72.17%	0.0165	0.0038	75.84%
x		84.15%	21.7136	22.3032	71.70%	0.0162	0.0052	75.01%
σ		3.66%	1.0037	1.1264	0.90%	0.0021	0.0020	1.23%
%RSD		4.35	4.6224	5.0505	1.25	12.8052	38.9650	1.64

CCV6 11/25/2009 05:08:06 PM

User Pre-dilution: 1.000

Run	Time	6Li	10B	11B	103Rh	107Ag	109Ag	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:08:06	91.12%	25.9923	25.4251	86.57%	25.1646	25.1941	85.25%
2	17:08:20	89.16%	24.9016	25.5413	86.57%	25.1392	25.3021	85.88%
3	17:08:35	89.41%	25.6500	25.3406	86.85%	25.0483	24.8124	87.35%
x		89.90%	25.5146	25.4357	86.66%	25.1174	25.1029	86.16%
σ		1.06%	0.5578	0.1008	0.16%	0.0612	0.2573	1.08%
%RSD		1.18	2.1863	0.3962	0.19	0.2435	1.0249	1.25

CCB6 11/25/2009 05:15:01 PM

User Pre-dilution: 1.000

Run	Time	6Li	10B	11B	103Rh	107Ag	109Ag	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:15:01	92.07%	0.0528	0.0845	87.15%	0.0002	0.0031	84.86%
2	17:15:16	89.06%	0.0979	0.1043	87.81%	0.0022	0.0023	85.76%
3	17:15:30	87.81%	0.1401	0.0872	87.95%	0.0012	0.0048	86.54%
x		89.64%	0.0970	0.0920	87.64%	0.0012	0.0034	85.72%
σ		2.19%	0.0437	0.0107	0.43%	0.0010	0.0013	0.84%
%RSD		2.44	45.0322	11.6770	0.49	85.3077	37.1281	0.98

K0910242-005 11/25/2009 05:18:26 PM

User Pre-dilution: 1.000

Run	Time	6Li	10B	11B	103Rh	107Ag	109Ag	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:18:26	88.99%	51.2154	51.9127	73.77%	0.0305	0.0082	77.10%
2	17:18:40	86.33%	52.7247	54.0545	73.47%	0.0234	0.0103	76.89%
3	17:18:54	86.11%	53.6724	54.2659	73.37%	0.0202	0.0135	77.10%
x		87.14%	52.5375	53.4110	73.53%	0.0247	0.0107	77.03%
σ		1.60%	1.2391	1.3019	0.21%	0.0053	0.0027	0.12%
%RSD		1.84	2.3586	2.4375	0.28	21.3849	25.3518	0.15

K0910242-006 11/25/2009 05:25:24 PM

User Pre-dilution: 1.000

Run	Time	6Li	10B	11B	103Rh	107Ag	109Ag	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:25:24	85.77%	86.3350	86.7440	66.67%	0.1744	0.0878	70.69%
2	17:25:38	83.43%	88.1316	88.2373	66.75%	0.1530	0.0900	71.41%
3	17:25:52	80.56%	91.8900	93.7080	65.27%	0.1900	0.0924	70.03%
x		83.25%	88.7855	89.5631	66.23%	0.1725	0.0900	70.71%
σ		2.61%	2.8347	3.6664	0.83%	0.0186	0.0023	0.69%
%RSD		3.13	3.1927	4.0937	1.26	10.7683	2.5496	0.98

K0910242-007 11/25/2009 05:32:21 PM

User Pre-dilution: 1.000

Run	Time	6Li	10B	11B	103Rh	107Ag	109Ag	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:32:21	84.49%	206.2678	202.3406	69.61%	0.0776	0.0333	73.34%
2	17:32:35	84.01%	205.2768	203.5891	70.26%	0.0767	0.0265	74.54%
3	17:32:50	81.26%	205.3371	210.3309	70.39%	0.0794	0.0255	74.90%
x		83.25%	205.6272	205.4202	70.09%	0.0779	0.0284	74.26%
σ		1.75%	0.5555	4.2984	0.42%	0.0014	0.0042	0.82%
%RSD		2.10	0.2702	2.0925	0.59	1.7656	14.9098	1.10

K0910242-008 11/25/2009 05:39:19 PM

User Pre-dilution: 1.000

Run	Time	6Li	10B	11B	103Rh	107Ag	109Ag	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:39:19	96.93%	0.6987	0.6877	89.14%	-0.0012	-0.0002	87.28%
2	17:39:34	95.36%	0.6806	0.6220	89.98%	-0.0002	-0.0009	88.38%
3	17:39:48	96.64%	0.6607	0.6548	91.06%	-0.0002	-0.0002	90.42%
x		96.31%	0.6800	0.6548	90.06%	-0.0006	-0.0004	88.69%
σ		0.83%	0.0190	0.0329	0.96%	0.0006	0.0004	1.60%
%RSD		0.87	2.7975	5.0213	1.07	100.8381	92.7612	1.80

K0910242-009 11/25/2009 05:46:18 PM

User Pre-dilution: 1.000

Run	Time	6Li	10B	11B	103Rh	107Ag	109Ag	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:46:18	84.43%	198.6254	198.2270	68.53%	0.0785	0.0284	73.08%
2	17:46:32	81.12%	205.8036	208.3332	67.87%	0.0872	0.0305	72.08%
3	17:46:46	81.78%	209.3457	208.8054	69.13%	0.0913	0.0270	72.99%
x		82.44%	204.5916	205.1218	68.51%	0.0857	0.0287	72.72%
σ		1.75%	5.4619	5.9758	0.63%	0.0065	0.0018	0.56%
%RSD		2.12	2.6697	2.9133	0.92	7.6014	6.2010	0.77

CCV7 11/25/2009 05:53:15 PM

User Pre-dilution: 1.000

Run	Time	6Li	10B	11B	103Rh	107Ag	109Ag	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:53:15	93.60%	26.2792	26.1401	86.81%	26.1997	26.1988	85.54%
2	17:53:29	92.23%	26.0251	26.7007	86.50%	26.0052	26.2388	85.87%
3	17:53:43	92.15%	26.4960	25.9840	87.79%	25.6506	25.5405	87.69%
x		92.66%	26.2668	26.2749	87.03%	25.9518	25.9927	86.37%
σ		0.81%	0.2357	0.3769	0.67%	0.2784	0.3922	1.16%
%RSD		0.88	0.8973	1.4344	0.77	1.0727	1.5087	1.34

CCB7 11/25/2009 06:00:10 PM

User Pre-dilution: 1.000

Run	Time	6Li	10B	11B	103Rh	107Ag	109Ag	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:00:10	92.92%	0.3083	0.3269	85.98%	0.0023	0.0031	83.60%
2	18:00:24	89.42%	0.2640	0.2720	85.75%	0.0040	0.0034	85.55%
3	18:00:39	88.44%	0.2779	0.3230	86.59%	0.0047	0.0063	85.06%
x		90.26%	0.2834	0.3073	86.11%	0.0037	0.0043	84.73%
σ		2.36%	0.0227	0.0307	0.44%	0.0012	0.0018	1.02%
%RSD		2.61	8.0071	9.9811	0.51	33.4004	40.7841	1.20

Polychlorinated Biphenyls
PCB's
EPA Method 8082

Organic Analysis:
Polychlorinated Biphenyls (PCBs)

Summary Package

Sample and QC Results

COLUMBIA ANALYTICAL SERVICES, INC.

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0910296

Cover Page - Organic Analysis Data Package
Polychlorinated Biphenyls (PCBs)

Sample Name	Lab Code	Date Collected	Date Received
RB-1	K0910296-001	10/22/2009	10/23/2009

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed in the case narrative. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on floppy diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Signature: _____ Name: Shane Murray

Date: 11/2009 Title: _____

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	URS Corporation	**Service Request:**	K0910296
Project:	Boise St. Helens Pulp and Paper Mill-2009	**Date Collected:**	10/22/2009
Sample Matrix:	Water	**Date Received:**	10/23/2009

Polychlorinated Biphenyls (PCBs)

Sample Name:	RB-1	**Units:**	ug/L
Lab Code:	K0910296-001	**Basis:**	NA
Extraction Method:	EPA 3535	**Level:**	Low
Analysis Method:	8082		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Aroclor 1016	ND	Ui	0.0054	0.0054	1	10/28/09	11/15/09	KWG0910037	
Aroclor 1221	ND	Ui	0.019	0.019	1	10/28/09	11/15/09	KWG0910037	
Aroclor 1232	ND	Ui	0.0076	0.0076	1	10/28/09	11/15/09	KWG0910037	
Aroclor 1242	ND	Ui	0.0050	0.0050	1	10/28/09	11/15/09	KWG0910037	
Aroclor 1248	ND	Ui	0.0058	0.0058	1	10/28/09	11/15/09	KWG0910037	
Aroclor 1254	ND	Ui	0.0050	0.0028	1	10/28/09	11/15/09	KWG0910037	
Aroclor 1260	ND	Ui	0.0050	0.0033	1	10/28/09	11/15/09	KWG0910037	
Aroclor 1262	ND	U	0.0050	0.00096	1	10/28/09	11/15/09	KWG0910037	
Aroclor 1268	ND	U	0.0050	0.00096	1	10/28/09	11/15/09	KWG0910037	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Decachlorobiphenyl	94	36-113	11/15/09	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	URS Corporation	**Service Request:**	K0910296
Project:	Boise St. Helens Pulp and Paper Mill-2009	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA

Polychlorinated Biphenyls (PCBs)

Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	KWG0910037-4	**Basis:**	NA
Extraction Method:	EPA 3535	**Level:**	Low
Analysis Method:	8082		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Aroclor 1016	ND	U	0.0049	0.00096	1	10/28/09	11/15/09	KWG0910037	
Aroclor 1221	ND	U	0.0097	0.00096	1	10/28/09	11/15/09	KWG0910037	
Aroclor 1232	ND	U	0.0049	0.00096	1	10/28/09	11/15/09	KWG0910037	
Aroclor 1242	ND	U	0.0049	0.00096	1	10/28/09	11/15/09	KWG0910037	
Aroclor 1248	ND	U	0.0049	0.00096	1	10/28/09	11/15/09	KWG0910037	
Aroclor 1254	ND	U	0.0049	0.00096	1	10/28/09	11/15/09	KWG0910037	
Aroclor 1260	ND	U	0.0049	0.00096	1	10/28/09	11/15/09	KWG0910037	
Aroclor 1262	ND	U	0.0049	0.00096	1	10/28/09	11/15/09	KWG0910037	
Aroclor 1268	ND	U	0.0049	0.00096	1	10/28/09	11/15/09	KWG0910037	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Decachlorobiphenyl	93	36-113	11/15/09	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009
Sample Matrix: Water

Service Request: K0910296

Surrogate Recovery Summary
Polychlorinated Biphenyls (PCBs)

Extraction Method: EPA 3535
Analysis Method: 8082

Units: PERCENT
Level: Low

Sample Name	Lab Code	Sur1
RB-1	K0910296-001	94
Method Blank	KWG0910037-4	93
Batch QC	K0910268-012	99
Batch QCMS	KWG0910037-1	97
Batch QCDMS	KWG0910037-2	101
Lab Control Sample	KWG0910037-3	90

Surrogate Recovery Control Limits (%)

Sur1 = Decachlorobiphenyl 36-113

Results flagged with an asterisk (*) indicate values outside control criteria.
Results flagged with a pound (#) indicate the control criteria is not applicable.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	URS Corporation	**Service Request:**	K0910296
Project:	Boise St. Helens Pulp and Paper Mill-2009	**Date Extracted:**	10/28/2009
Sample Matrix:	Water	**Date Analyzed:**	11/15/2009

Matrix Spike/Duplicate Matrix Spike Summary
Polychlorinated Biphenyls (PCBs)

Sample Name:	Batch QC	**Units:**	ug/L
Lab Code:	K0910268-012	**Basis:**	NA
Extraction Method:	EPA 3535	**Level:**	Low
Analysis Method:	8082	**Extraction Lot:**	KWG0910037

Analyte Name	Sample Result	Batch QCMS KWG0910037-1 Matrix Spike			Batch QCDMS KWG0910037-2 Duplicate Matrix Spike			%Rec Limits	RPD	RPD Limit
		Result	Expected	%Rec	Result	Expected	%Rec			
Aroclor 1016	ND	0.465	0.194	240 *	0.490	0.194	253 *	31-118	5	30
Aroclor 1260	ND	0.164	0.194	84	0.169	0.194	87	47-115	3	30

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009
Sample Matrix: Water

Service Request: K0910296
Date Extracted: 10/28/2009
Date Analyzed: 11/15/2009

Lab Control Spike Summary
Polychlorinated Biphenyls (PCBs)

Extraction Method: EPA 3535
Analysis Method: 8082

Units: ug/L
Basis: NA
Level: Low
Extraction Lot: KWG0910037

	Lab Control Sample KWG0910037-3 Lab Control Spike			
Analyte Name	**Result**	**Expected**	**%Rec**	**%Rec Limits**
Aroclor 1016	0.152	0.200	76	41-113
Aroclor 1260	0.159	0.200	80	47-117

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	URS Corporation	**Service Request:**	K0910296
Project:	Boise St. Helens Pulp and Paper Mill-2009	**Date Extracted:**	10/28/2009
Sample Matrix:	Water	**Date Analyzed:**	11/15/2009
		Time Analyzed:	13:21

Method Blank Summary
Polychlorinated Biphenyls (PCBs)

Sample Name:	Method Blank	**File ID:**	J:\GC32\DATA\111509.B\1115F001.D
Lab Code:	KWG0910037-4	**Instrument ID:**	GC32.i
Extraction Method:	EPA 3535	**Level:**	Low
Analysis Method:	8082	**Extraction Lot:**	KWG0910037

This Method Blank applies to the following analyses:

Sample Name	Lab Code	File ID	Date Analyzed	Time Analyzed
Lab Control Sample	KWG0910037-3	J:\GC32\DATA\111509.B\1115F002.D	11/15/09	13:51
Batch QCMS	KWG0910037-1	J:\GC32\DATA\111509.B\1115F017.D	11/15/09	21:22
Batch QCDMS	KWG0910037-2	J:\GC32\DATA\111509.B\1115F018.D	11/15/09	21:53
RB-1	K0910296-001	J:\GC32\DATA\111509.B\1115F019.D	11/15/09	22:23
Batch QC	K0910268-012	J:\GC22\DATA\111909.B\1119F040.D	11/20/09	06:11

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	URS Corporation	**Service Request:**	K0910296
Project:	Boise St. Helens Pulp and Paper Mill-2009	**Date Extracted:**	10/28/2009
Sample Matrix:	Water	**Date Analyzed:**	11/15/2009
		Time Analyzed:	13:51

Lab Control Sample Summary
Polychlorinated Biphenyls (PCBs)

Sample Name:	Lab Control Sample	**File ID:**	J:\GC32\DATA\111509.B\1115F002.D
Lab Code:	KWG0910037-3	**Instrument ID:**	GC32.i
Extraction Method:	EPA 3535	**Level:**	Low
Analysis Method:	8082	**Extraction Lot:**	KWG0910037

This Lab Control Sample applies to the following analyses:

Sample Name	Lab Code	File ID	Date Analyzed	Time Analyzed
Method Blank	KWG0910037-4	J:\GC32\DATA\111509.B\1115F001.D	11/15/09	13:21
Batch QCMS	KWG0910037-1	J:\GC32\DATA\111509.B\1115F017.D	11/15/09	21:22
Batch QCDMS	KWG0910037-2	J:\GC32\DATA\111509.B\1115F018.D	11/15/09	21:53
RB-1	K0910296-001	J:\GC32\DATA\111509.B\1115F019.D	11/15/09	22:23
Batch QC	K0910268-012	J:\GC22\DATA\111909.B\1119F040.D	11/20/09	06:11

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0910296
Calibration Date: 11/18/2009

Initial Calibration Summary
Polychlorinated Biphenyls (PCBs)

Calibration ID: CAL9027
Instrument ID: GC22.i

Column: DB-35MS

Level ID	File ID
A	\\cash1\acqudata\GC22\data\111709A.b\1117F003.D
B	\\cash1\acqudata\GC22\data\111709A.b\1117F004.D
C	\\cash1\acqudata\GC22\data\111709A.b\1117F005.D
D	\\cash1\acqudata\GC22\data\111709A.b\1117F006.D
E	\\cash1\acqudata\GC22\data\111709A.b\1117F007.D
F	\\cash1\acqudata\GC22\data\111709A.b\1117F008.D
G	\\cash1\acqudata\GC22\data\111709A.b\1117F009.D
H	\\cash1\acqudata\GC22\data\111709A.b\1117F010.D
I	\\cash1\acqudata\GC22\data\111709A.b\1117F011.D
J	\\cash1\acqudata\GC22\data\111709A.b\1117F012.D
K	\\cash1\acqudata\GC22\data\111709A.b\1117F013.D
L	\\cash1\acqudata\GC22\data\111709A.b\1117F014.D
M	\\cash1\acqudata\GC22\data\111709A.b\1117F015.D

Analyte Name	Level ID	Amt	RF	Level ID	Amt	RF	Level ID	Amt	RF	Level ID	Amt	RF	Level ID	Amt	RF
Decachlorobiphenyl							H	0.25	1.69E+6	I	0.50	1.66E+6	J	5.0	1.49E+6
	K	10	1.36E+6	L	20	1.35E+6	M	50	1.37E+6						
Aroclor 1016 {1}							H	2.5	29900	I	5.0	25300	J	50	21900
	K	100	20000	L	200	19300	M	500	18700						
Aroclor 1016 {2}							H	2.5	70600	I	5.0	75400	J	50	61900
	K	100	62400	L	200	57900	M	500	59000						
Aroclor 1016 {3}							H	2.5	46500	I	5.0	50400	J	50	42900
	K	100	40200	L	200	39000	M	500	39000						
Aroclor 1016 {4}							H	2.5	43500	I	5.0	39900	J	50	37000
	K	100	33400	L	200	31300	M	500	30700						
Aroclor 1016 {5}							H	2.5	41500	I	5.0	41200	J	50	40900
	K	100	32600	L	200	31800	M	500	31800						
Aroclor 1260 {1}							H	2.5	62000	I	5.0	59400	J	50	57700
	K	100	45500	L	200	43300	M	500	43000						
Aroclor 1260 {2}							H	2.5	69600	I	5.0	66200	J	50	63200
	K	100	53400	L	200	52800	M	500	51500						
Aroclor 1260 {3}							H	2.5	71900	I	5.0	72500	J	50	64500
	K	100	59400	L	200	58200	M	500	59100						
Aroclor 1260 {4}							H	2.5	1.55E+5	I	5.0	1.47E+5	J	50	1.39E+5
	K	100	1.29E+5	L	200	1.31E+5	M	500	1.36E+5						
Aroclor 1260 {5}							H	2.5	1.23E+5	I	5.0	1.25E+5	J	50	1.12E+5
	K	100	1.04E+5	L	200	1.04E+5	M	500	1.07E+5						

Results flagged with an asterisk (*) indicate values outside control criteria.

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0910296
Calibration Date: 11/18/2009

Initial Calibration Summary
Polychlorinated Biphenyls (PCBs)

Calibration ID: CAL9027
Instrument ID: GC22.i

Column: DB-35MS

Analyte Name	Compound Type	Calibration Evaluation				
		Fit Type	Eval.	Eval. Result	Q	Control Criteria
Decachlorobiphenyl	SURR	AverageRF	% RSD	10.4		≤ 20
Aroclor 1016 {1}	MULTI	AverageRF	% RSD	19.2		≤ 20
Aroclor 1016 {2}	MULTI	AverageRF	% RSD	10.8		≤ 20
Aroclor 1016 {3}	MULTI	AverageRF	% RSD	10.7		≤ 20
Aroclor 1016 {4}	MULTI	AverageRF	% RSD	14.1		≤ 20
Aroclor 1016 {5}	MULTI	AverageRF	% RSD	13.7		≤ 20
Aroclor 1260 {1}	MULTI	AverageRF	% RSD	17.0		≤ 20
Aroclor 1260 {2}	MULTI	AverageRF	% RSD	13.2		≤ 20
Aroclor 1260 {3}	MULTI	AverageRF	% RSD	10.2		≤ 20
Aroclor 1260 {4}	MULTI	AverageRF	% RSD	7.1		≤ 20
Aroclor 1260 {5}	MULTI	AverageRF	% RSD	8.5		≤ 20

Results flagged with an asterisk (*) indicate values outside control criteria.

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0910296
Calibration Date: 11/18/2009
Date Analyzed: 11/18/2009

Second Source Calibration Verification
Polychlorinated Biphenyls (PCBs)

Calibration Type: External Standard
Analysis Method: 8082

Calibration ID: CAL9027
Units: ng/mL

File ID: \\cash1\acqudata\GC22\data\111709A.b\1117F016.D
\\cash1\acqudata\GC22\data\111709A.b\1117F017.D
\\cash1\acqudata\GC22\data\111709A.b\1117F018.D
\\cash1\acqudata\GC22\data\111709A.b\1117F019.D
\\cash1\acqudata\GC22\data\111709A.b\1117F020.D
\\cash1\acqudata\GC22\data\111709A.b\1117F021.D
\\cash1\acqudata\GC22\data\111709A.b\1117F022.D
\\cash1\acqudata\GC22\data\111709A.b\1117F023.D
\\cash1\acqudata\GC22\data\111709A.b\1117F024.D

Column ID: DB-35MS

Analyte Name	Expected	Result	Average RF	SSV RF	%D	%Drift		Criteria	Curve Fit
Aroclor 1016	100	82	NA	NA	NA	18	*	± 15 %	NA
Aroclor 1016 {1}	100	80	22500	18000	-20	NA		± 100 %	AverageRF
Aroclor 1016 {2}	100	81	64500	52500	-19	NA		± 100 %	AverageRF
Aroclor 1016 {3}	100	84	43000	36200	-16	NA		± 100 %	AverageRF
Aroclor 1016 {4}	100	80	36000	28900	-20	NA		± 100 %	AverageRF
Aroclor 1016 {5}	100	83	36600	30300	-17	NA		± 100 %	AverageRF
Aroclor 1260	100	83	NA	NA	NA	17	*	± 15 %	NA
Aroclor 1260 {1}	100	71	51800	37000	-29	NA		± 100 %	AverageRF
Aroclor 1260 {2}	100	88	59500	52100	-12	NA		± 100 %	AverageRF
Aroclor 1260 {3}	100	87	64300	56100	-13	NA		± 100 %	AverageRF
Aroclor 1260 {4}	100	85	140000	119000	-15	NA		± 100 %	AverageRF
Aroclor 1260 {5}	100	82	112000	92600	-18	NA		± 100 %	AverageRF

Results flagged with an asterisk (*) indicate values outside control criteria.

† **SPCC Compound** ‡ **CCC Compound**

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Results

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0910296
Calibration Date: 11/18/2009

Initial Calibration Summary
Polychlorinated Biphenyls (PCBs)

Calibration ID: CAL9027
Instrument ID: GC22.i

Column: DB-XLB

Level ID	File ID
A	\\cash1\acqudata\GC22\data\111709A_r.b\1117F003.D
B	\\cash1\acqudata\GC22\data\111709A_r.b\1117F004.D
C	\\cash1\acqudata\GC22\data\111709A_r.b\1117F005.D
D	\\cash1\acqudata\GC22\data\111709A_r.b\1117F006.D
E	\\cash1\acqudata\GC22\data\111709A_r.b\1117F007.D
F	\\cash1\acqudata\GC22\data\111709A_r.b\1117F008.D
G	\\cash1\acqudata\GC22\data\111709A_r.b\1117F009.D
H	\\cash1\acqudata\GC22\data\111709A_r.b\1117F010.D
I	\\cash1\acqudata\GC22\data\111709A_r.b\1117F011.D
J	\\cash1\acqudata\GC22\data\111709A_r.b\1117F012.D
K	\\cash1\acqudata\GC22\data\111709A_r.b\1117F013.D
L	\\cash1\acqudata\GC22\data\111709A_r.b\1117F014.D
M	\\cash1\acqudata\GC22\data\111709A_r.b\1117F015.D

Analyte Name	Level ID	Amt	RF	Level ID	Amt	RF	Level ID	Amt	RF	Level ID	Amt	RF	Level ID	Amt	RF
Decachlorobiphenyl							H	0.25	5.13E+6	I	0.50	4.98E+6	J	5.0	4.55E+6
	K	10	4.16E+6	L	20	4.04E+6	M	50	4.00E+6						
Aroclor 1016 {1}							H	2.5	1.49E+5	I	5.0	1.57E+5	J	50	1.33E+5
	K	100	1.22E+5	L	200	1.16E+5	M	500	1.11E+5						
Aroclor 1016 {2}							H	2.5	2.79E+5	I	5.0	2.62E+5	J	50	2.21E+5
	K	100	2.04E+5	L	200	2.06E+5	M	500	2.06E+5						
Aroclor 1016 {3}							H	2.5	1.32E+5	I	5.0	1.33E+5	J	50	1.15E+5
	K	100	1.02E+5	L	200	98700	M	500	94200						
Aroclor 1016 {4}							H	2.5	1.36E+5	I	5.0	1.34E+5	J	50	1.28E+5
	K	100	1.09E+5	L	200	1.08E+5	M	500	1.05E+5						
Aroclor 1016 {5}							H	2.5	51300	I	5.0	59800	J	50	70200
	K	100	62300	L	200	65400	M	500	64300						
Aroclor 1260 {1}							H	2.5	3.39E+5	I	5.0	3.43E+5	J	50	3.08E+5
	K	100	2.86E+5	L	200	2.78E+5	M	500	2.80E+5						
Aroclor 1260 {2}							H	2.5	2.36E+5	I	5.0	2.36E+5	J	50	2.19E+5
	K	100	2.03E+5	L	200	1.96E+5	M	500	1.95E+5						
Aroclor 1260 {3}							H	2.5	2.35E+5	I	5.0	2.34E+5	J	50	2.10E+5
	K	100	1.93E+5	L	200	1.88E+5	M	500	1.90E+5						
Aroclor 1260 {4}							H	2.5	5.09E+5	I	5.0	4.93E+5	J	50	4.65E+5
	K	100	4.33E+5	L	200	4.32E+5	M	500	4.47E+5						
Aroclor 1260 {5}							H	2.5	3.13E+5	I	5.0	3.11E+5	J	50	3.08E+5
	K	100	2.68E+5	L	200	2.63E+5	M	500	2.67E+5						

Results flagged with an asterisk (*) indicate values outside control criteria.

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0910296
Calibration Date: 11/18/2009

Initial Calibration Summary
Polychlorinated Biphenyls (PCBs)

Calibration ID: CAL9027
Instrument ID: GC22.i

Column: DB-XLB

Analyte Name	Compound Type	Calibration Evaluation				
		Fit Type	Eval.	Eval. Result	Q	Control Criteria
Decachlorobiphenyl	SURR	AverageRF	% RSD	11.0		≤ 20
Aroclor 1016 {1}	MULTI	AverageRF	% RSD	14.0		≤ 20
Aroclor 1016 {2}	MULTI	AverageRF	% RSD	14.1		≤ 20
Aroclor 1016 {3}	MULTI	AverageRF	% RSD	15.2		≤ 20
Aroclor 1016 {4}	MULTI	AverageRF	% RSD	11.8		≤ 20
Aroclor 1016 {5}	MULTI	AverageRF	% RSD	10.3		≤ 20
Aroclor 1260 {1}	MULTI	AverageRF	% RSD	9.7		≤ 20
Aroclor 1260 {2}	MULTI	AverageRF	% RSD	8.8		≤ 20
Aroclor 1260 {3}	MULTI	AverageRF	% RSD	10.5		≤ 20
Aroclor 1260 {4}	MULTI	AverageRF	% RSD	6.9		≤ 20
Aroclor 1260 {5}	MULTI	AverageRF	% RSD	8.5		≤ 20

Results flagged with an asterisk (*) indicate values outside control criteria.

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0910296
Calibration Date: 11/18/2009
Date Analyzed: 11/18/2009

Second Source Calibration Verification
Polychlorinated Biphenyls (PCBs)

Calibration Type: External Standard
Analysis Method: 8082

Calibration ID: CAL9027
Units: ng/mL

File ID:
\\cash1\acqudata\GC22\data\111709A_r.b\1117F016.D
\\cash1\acqudata\GC22\data\111709A_r.b\1117F017.D
\\cash1\acqudata\GC22\data\111709A_r.b\1117F018.D
\\cash1\acqudata\GC22\data\111709A_r.b\1117F019.D
\\cash1\acqudata\GC22\data\111709A_r.b\1117F020.D
\\cash1\acqudata\GC22\data\111709A_r.b\1117F021.D
\\cash1\acqudata\GC22\data\111709A_r.b\1117F022.D
\\cash1\acqudata\GC22\data\111709A_r.b\1117F023.D
\\cash1\acqudata\GC22\data\111709A_r.b\1117F024.D

Column ID: DB-XLB

Analyte Name	Expected	Result	Average RF	SSV RF	%D	%Drift	Criteria	Curve Fit
Aroclor 1016	100	89	NA	NA	NA	11	± 15 %	NA
Aroclor 1016 {1}	100	85	131000	112000	-15	NA	± 100 %	AverageRF
Aroclor 1016 {2}	100	84	230000	192000	-16	NA	± 100 %	AverageRF
Aroclor 1016 {3}	100	82	113000	92700	-18	NA	± 100 %	AverageRF
Aroclor 1016 {4}	100	87	120000	105000	-13	NA	± 100 %	AverageRF
Aroclor 1016 {5}	100	110	62200	67600	9	NA	± 100 %	AverageRF
Aroclor 1260	100	85	NA	NA	NA	15	± 15 %	NA
Aroclor 1260 {1}	100	76	306000	234000	-24	NA	± 100 %	AverageRF
Aroclor 1260 {2}	100	93	214000	200000	-7	NA	± 100 %	AverageRF
Aroclor 1260 {3}	100	87	208000	180000	-13	NA	± 100 %	AverageRF
Aroclor 1260 {4}	100	88	463000	406000	-12	NA	± 100 %	AverageRF
Aroclor 1260 {5}	100	83	288000	239000	-17	NA	± 100 %	AverageRF

Results flagged with an asterisk (*) indicate values outside control criteria.

† SPCC Compound ‡ CCC Compound

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0910296
Calibration Date: 11/14/2009

Initial Calibration Summary
Polychlorinated Biphenyls (PCBs)

Calibration ID: CAL9019
Instrument ID: GC32.i

Column: DB-35MS

Level ID	File ID
A	\\cash1\acqudata\GC32\Data\111309.b\1113F003.D
B	\\cash1\acqudata\GC32\Data\111309.b\1113F004.D
C	\\cash1\acqudata\GC32\Data\111309.b\1113F005.D
D	\\cash1\acqudata\GC32\Data\111309.b\1113F006.D
E	\\cash1\acqudata\GC32\Data\111309.b\1113F007.D
F	\\cash1\acqudata\GC32\Data\111309.b\1113F008.D
G	\\cash1\acqudata\GC32\Data\111309.b\1113F009.D
H	\\cash1\acqudata\GC32\Data\111309.b\1113F010.D
I	\\cash1\acqudata\GC32\Data\111309.b\1113F011.D
J	\\cash1\acqudata\GC32\Data\111309.b\1113F012.D
K	\\cash1\acqudata\GC32\Data\111309.b\1113F013.D
L	\\cash1\acqudata\GC32\Data\111309.b\1113F014.D
M	\\cash1\acqudata\GC32\Data\111309.b\1113F015.D

Analyte Name	Level ID	Amt	RF	Level ID	Amt	RF	Level ID	Amt	RF	Level ID	Amt	RF	Level ID	Amt	RF
Decachlorobiphenyl							H	0.25	1.77E+6	I	0.50	1.79E+6	J	5.0	1.65E+6
	K	10	1.53E+6	L	20	1.51E+6	M	50	1.45E+6						
Aroclor 1016 {1}							H	2.5	21900	I	5.0	25000	J	50	23900
	K	100	22000	L	200	19800	M	500	17900						
Aroclor 1016 {2}							H	2.5	34000	I	5.0	35300	J	50	32700
	K	100	29700	L	200	26700	M	500	23600						
Aroclor 1016 {3}							H	2.5	1.27E+5	I	5.0	1.18E+5	J	50	1.03E+5
	K	100	91900	L	200	86000	M	500	78400						
Aroclor 1016 {4}							H	2.5	72100	I	5.0	64400	J	50	56500
	K	100	51100	L	200	47600	M	500	42600						
Aroclor 1016 {5}							H	2.5	41100	I	5.0	40600	J	50	38500
	K	100	36000	L	200	34300	M	500	31400						
Aroclor 1260 {1}							H	2.5	76400	I	5.0	66600	J	50	55700
	K	100	51700	L	200	49800	M	500	47700						
Aroclor 1260 {2}							H	2.5	99400	I	5.0	96100	J	50	90200
	K	100	74800	L	200	72200	M	500	66300						
Aroclor 1260 {3}							H	2.5	1.08E+5	I	5.0	1.01E+5	J	50	86900
	K	100	79400	L	200	76700	M	500	72000						
Aroclor 1260 {4}							H	2.5	2.21E+5	I	5.0	2.09E+5	J	50	1.82E+5
	K	100	1.69E+5	L	200	1.69E+5	M	500	1.65E+5						
Aroclor 1260 {5}							H	2.5	1.67E+5	I	5.0	1.58E+5	J	50	1.40E+5
	K	100	1.29E+5	L	200	1.28E+5	M	500	1.24E+5						

Results flagged with an asterisk (*) indicate values outside control criteria.

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0910296
Calibration Date: 11/14/2009

Initial Calibration Summary
Polychlorinated Biphenyls (PCBs)

Calibration ID: CAL9019
Instrument ID: GC32.i

Column: DB-35MS

Analyte Name	Compound Type	Calibration Evaluation				
		Fit Type	Eval.	Eval. Result	Q	Control Criteria
Decachlorobiphenyl	SURR	AverageRF	% RSD	8.7		≤ 20
Aroclor 1016 {1}	MULTI	AverageRF	% RSD	11.9		≤ 20
Aroclor 1016 {2}	MULTI	AverageRF	% RSD	15.0		≤ 20
Aroclor 1016 {3}	MULTI	AverageRF	% RSD	18.8		≤ 20
Aroclor 1016 {4}	MULTI	AverageRF	% RSD	19.7		≤ 20
Aroclor 1016 {5}	MULTI	AverageRF	% RSD	10.2		≤ 20
Aroclor 1260 {1}	MULTI	AverageRF	% RSD	19.3		≤ 20
Aroclor 1260 {2}	MULTI	AverageRF	% RSD	16.6		≤ 20
Aroclor 1260 {3}	MULTI	AverageRF	% RSD	16.4		≤ 20
Aroclor 1260 {4}	MULTI	AverageRF	% RSD	12.8		≤ 20
Aroclor 1260 {5}	MULTI	AverageRF	% RSD	12.6		≤ 20

Results flagged with an asterisk (*) indicate values outside control criteria.

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0910296
Calibration Date: 11/14/2009
Date Analyzed: 11/14/2009

Second Source Calibration Verification
Polychlorinated Biphenyls (PCBs)

Calibration Type: External Standard
Analysis Method: 8082

Calibration ID: CAL9019
Units: ng/mL

File ID: \\cash1\acqudata\GC32\Data\111309.b\1113F016.D
\\cash1\acqudata\GC32\Data\111309.b\1113F017.D
\\cash1\acqudata\GC32\Data\111309.b\1113F018.D
\\cash1\acqudata\GC32\Data\111309.b\1113F019.D
\\cash1\acqudata\GC32\Data\111309.b\1113F020.D
\\cash1\acqudata\GC32\Data\111309.b\1113F021.D
\\cash1\acqudata\GC32\Data\111309.b\1113F022.D
\\cash1\acqudata\GC32\Data\111309.b\1113F023.D
\\cash1\acqudata\GC32\Data\111309.b\1113F024.D

Column ID: DB-35MS

Analyte Name	Expected	Result	Average RF	SSV RF	%D	%Drift		Criteria	Curve Fit
Aroclor 1016	100	84	NA	NA	NA	16	*	± 15 %	NA
Aroclor 1016 {1}	100	83	21700	18100	-17	NA		± 100 %	AverageRF
Aroclor 1016 {2}	100	81	30300	24700	-19	NA		± 100 %	AverageRF
Aroclor 1016 {3}	100	81	101000	81500	-19	NA		± 100 %	AverageRF
Aroclor 1016 {4}	100	81	55700	45200	-19	NA		± 100 %	AverageRF
Aroclor 1016 {5}	100	96	37000	35400	-4	NA		± 100 %	AverageRF
Aroclor 1260	100	88	NA	NA	NA	12		± 15 %	NA
Aroclor 1260 {1}	100	76	58000	44000	-24	NA		± 100 %	AverageRF
Aroclor 1260 {2}	100	93	83200	77100	-7	NA		± 100 %	AverageRF
Aroclor 1260 {3}	100	91	87300	79200	-9	NA		± 100 %	AverageRF
Aroclor 1260 {4}	100	91	186000	169000	-9	NA		± 100 %	AverageRF
Aroclor 1260 {5}	100	90	141000	126000	-10	NA		± 100 %	AverageRF

Results flagged with an asterisk (*) indicate values outside control criteria.

† **SPCC Compound** ‡ **CCC Compound**

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Results

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0910296
Calibration Date: 11/14/2009

Initial Calibration Summary
Polychlorinated Biphenyls (PCBs)

Calibration ID: CAL9019
Instrument ID: GC32.i

Column: DB-XLB

Level ID	File ID
A	\\cash1\acqudata\GC32\Data\111309_r.b\1113F003.D
B	\\cash1\acqudata\GC32\Data\111309_r.b\1113F004.D
C	\\cash1\acqudata\GC32\Data\111309_r.b\1113F005.D
D	\\cash1\acqudata\GC32\Data\111309_r.b\1113F006.D
E	\\cash1\acqudata\GC32\Data\111309_r.b\1113F007.D
F	\\cash1\acqudata\GC32\Data\111309_r.b\1113F008.D
G	\\cash1\acqudata\GC32\Data\111309_r.b\1113F009.D
H	\\cash1\acqudata\GC32\Data\111309_r.b\1113F010.D
I	\\cash1\acqudata\GC32\Data\111309_r.b\1113F011.D
J	\\cash1\acqudata\GC32\Data\111309_r.b\1113F012.D
K	\\cash1\acqudata\GC32\Data\111309_r.b\1113F013.D
L	\\cash1\acqudata\GC32\Data\111309_r.b\1113F014.D
M	\\cash1\acqudata\GC32\Data\111309_r.b\1113F015.D

Analyte Name	Level ID	Amt	RF	Level ID	Amt	RF	Level ID	Amt	RF	Level ID	Amt	RF	Level ID	Amt	RF
Decachlorobiphenyl							H	0.25	1.00E+6	I	0.50	1.05E+6	J	5.0	9.23E+5
	K	10	8.28E+5	L	20	7.84E+5	M	50	7.24E+5						
Aroclor 1016 {1}							H	2.5	20000	I	5.0	21500	J	50	21600
	K	100	20100	L	200	18300	M	500	16200						
Aroclor 1016 {2}							H	2.5	61400	I	5.0	61900	J	50	59400
	K	100	53900	L	200	52300	M	500	49300						
Aroclor 1016 {3}							H	2.5	35600	I	5.0	33100	J	50	33800
	K	100	29300	L	200	28300	M	500	26100						
Aroclor 1016 {4}							H	2.5	32000	I	5.0	30800	J	50	32100
	K	100	26000	L	200	24800	M	500	22700						
Aroclor 1016 {5}							H	2.5	19900	I	5.0	19800	J	50	17800
	K	100	16600	L	200	16600	M	500	15900						
Aroclor 1260 {1}							H	2.5	90100	I	5.0	84200	J	50	71900
	K	100	64400	L	200	61700	M	500	57800						
Aroclor 1260 {2}							H	2.5	1.07E+5	I	5.0	97400	J	50	83800
	K	100	75400	L	200	73200	M	500	69300						
Aroclor 1260 {3}							H	2.5	53000	I	5.0	50400	J	50	45100
	K	100	40500	L	200	39000	M	500	36000						
Aroclor 1260 {4}							H	2.5	58000	I	5.0	53900	J	50	47100
	K	100	42200	L	200	40500	M	500	37800						
Aroclor 1260 {5}							H	2.5	1.06E+5	I	5.0	1.06E+5	J	50	95600
	K	100	87500	L	200	85700	M	500	82500						

Results flagged with an asterisk (*) indicate values outside control criteria.

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0910296
Calibration Date: 11/14/2009

Initial Calibration Summary
Polychlorinated Biphenyls (PCBs)

Calibration ID: CAL9019
Instrument ID: GC32.i

Column: DB-XLB

Analyte Name	Compound Type	Calibration Evaluation				
		Fit Type	Eval.	Eval. Result	Q	Control Criteria
Decachlorobiphenyl	SURR	AverageRF	% RSD	14.3		≤ 20
Aroclor 1016 {1}	MULTI	AverageRF	% RSD	10.5		≤ 20
Aroclor 1016 {2}	MULTI	AverageRF	% RSD	9.3		≤ 20
Aroclor 1016 {3}	MULTI	AverageRF	% RSD	11.9		≤ 20
Aroclor 1016 {4}	MULTI	AverageRF	% RSD	14.5		≤ 20
Aroclor 1016 {5}	MULTI	AverageRF	% RSD	9.7		≤ 20
Aroclor 1260 {1}	MULTI	AverageRF	% RSD	18.1		≤ 20
Aroclor 1260 {2}	MULTI	AverageRF	% RSD	17.8		≤ 20
Aroclor 1260 {3}	MULTI	AverageRF	% RSD	15.2		≤ 20
Aroclor 1260 {4}	MULTI	AverageRF	% RSD	17.1		≤ 20
Aroclor 1260 {5}	MULTI	AverageRF	% RSD	10.9		≤ 20

Results flagged with an asterisk (*) indicate values outside control criteria.

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0910296
Calibration Date: 11/14/2009
Date Analyzed: 11/14/2009

Second Source Calibration Verification
Polychlorinated Biphenyls (PCBs)

Calibration Type: External Standard
Analysis Method: 8082

Calibration ID: CAL9019
Units: ng/mL

File ID:
\\cash1\acqudata\GC32\Data\111309_r.b\1113F016.D
\\cash1\acqudata\GC32\Data\111309_r.b\1113F017.D
\\cash1\acqudata\GC32\Data\111309_r.b\1113F018.D
\\cash1\acqudata\GC32\Data\111309_r.b\1113F019.D
\\cash1\acqudata\GC32\Data\111309_r.b\1113F020.D
\\cash1\acqudata\GC32\Data\111309_r.b\1113F021.D
\\cash1\acqudata\GC32\Data\111309_r.b\1113F022.D
\\cash1\acqudata\GC32\Data\111309_r.b\1113F023.D
\\cash1\acqudata\GC32\Data\111309_r.b\1113F024.D

Column ID: DB-XLB

Analyte Name	Expected	Result	Average RF	SSV RF	%D	%Drift	Criteria	Curve Fit
Aroclor 1016	100	86	NA	NA	NA	14	± 15 %	NA
Aroclor 1016 {1}	100	86	19600	16900	-14	NA	± 100 %	AverageRF
Aroclor 1016 {2}	100	82	56400	46400	-18	NA	± 100 %	AverageRF
Aroclor 1016 {3}	100	81	31000	25000	-19	NA	± 100 %	AverageRF
Aroclor 1016 {4}	100	81	28000	22800	-19	NA	± 100 %	AverageRF
Aroclor 1016 {5}	100	97	17800	17300	-3	NA	± 100 %	AverageRF
Aroclor 1260	100	86	NA	NA	NA	14	± 15 %	NA
Aroclor 1260 {1}	100	79	71700	56300	-21	NA	± 100 %	AverageRF
Aroclor 1260 {2}	100	73	84400	61700	-27	NA	± 100 %	AverageRF
Aroclor 1260 {3}	100	95	44000	42000	-5	NA	± 100 %	AverageRF
Aroclor 1260 {4}	100	89	46600	41400	-11	NA	± 100 %	AverageRF
Aroclor 1260 {5}	100	94	93800	88000	-6	NA	± 100 %	AverageRF

Results flagged with an asterisk (*) indicate values outside control criteria.

† SPCC Compound ‡ CCC Compound

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0910296
Date Analyzed: 11/15/2009

Continuing Calibration Verification Summary
Polychlorinated Biphenyls (PCBs)

Calibration Type: External Standard
Analysis Method: 8082

Calibration Date: 11/14/2009
Calibration ID: CAL9019
Analysis Lot: KWG0910692
Units: ng/mL

File ID: \\CASH1\ACQUDATA\GC32\DATA\111509.B\1114F047.D

Column ID: DB-35MS

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift		Criteria	Curve Fit
Decachlorobiphenyl	10	9.7	1620000	1560000	-3	NA		± 15 %	AverageRF
Aroclor 1016	100	77	NA	NA	NA	-23	*	± 15 %	NA
Aroclor 1016 {1}	100	75	21700	16300	-25	NA		± 100 %	AverageRF
Aroclor 1016 {2}	100	73	30300	22000	-27	NA		± 100 %	AverageRF
Aroclor 1016 {3}	100	78	101000	78700	-22	NA		± 100 %	AverageRF
Aroclor 1016 {4}	100	77	55700	42700	-23	NA		± 100 %	AverageRF
Aroclor 1016 {5}	100	84	37000	30900	-16	NA		± 100 %	AverageRF
Aroclor 1260	100	91	NA	NA	NA	-9		± 15 %	NA
Aroclor 1260 {1}	100	87	58000	50200	-13	NA		± 100 %	AverageRF
Aroclor 1260 {2}	100	87	83200	72200	-13	NA		± 100 %	AverageRF
Aroclor 1260 {3}	100	88	87300	77000	-12	NA		± 100 %	AverageRF
Aroclor 1260 {4}	100	93	186000	173000	-7	NA		± 100 %	AverageRF
Aroclor 1260 {5}	100	98	141000	139000	-2	NA		± 100 %	AverageRF

Results flagged with an asterisk (*) indicate values outside control criteria.

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0910296
Date Analyzed: 11/15/2009

Continuing Calibration Verification Summary
Polychlorinated Biphenyls (PCBs)

Calibration Type: External Standard
Analysis Method: 8082

Calibration Date: 11/14/2009
Calibration ID: CAL9019
Analysis Lot: KWG0910692
Units: ng/mL

File ID: \\CASH1\ACQUDATA\GC32\DATA\111509_R.B\1114F047.D

Column ID: DB-XLB

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Decachlorobiphenyl	10	11	884000	970000	10	NA	± 15 %	AverageRF
Aroclor 1016	100	91	NA	NA	NA	-9	± 15 %	NA
Aroclor 1016 {1}	100	89	19600	17400	-11	NA	± 100 %	AverageRF
Aroclor 1016 {2}	100	92	56400	52100	-8	NA	± 100 %	AverageRF
Aroclor 1016 {3}	100	91	31000	28100	-9	NA	± 100 %	AverageRF
Aroclor 1016 {4}	100	88	28000	24800	-12	NA	± 100 %	AverageRF
Aroclor 1016 {5}	100	96	17800	17100	-4	NA	± 100 %	AverageRF
Aroclor 1260	100	100	NA	NA	NA	1	± 15 %	NA
Aroclor 1260 {1}	100	97	71700	69500	-3	NA	± 100 %	AverageRF
Aroclor 1260 {2}	100	97	84400	81800	-3	NA	± 100 %	AverageRF
Aroclor 1260 {3}	100	99	44000	43800	-1	NA	± 100 %	AverageRF
Aroclor 1260 {4}	100	110	46600	49100	5	NA	± 100 %	AverageRF
Aroclor 1260 {5}	100	110	93800	102000	9	NA	± 100 %	AverageRF

Results flagged with an asterisk (*) indicate values outside control criteria.

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0910296
Date Analyzed: 11/15/2009

Continuing Calibration Verification Summary
Polychlorinated Biphenyls (PCBs)

Calibration Type: External Standard
Analysis Method: 8082

Calibration Date: 11/14/2009
Calibration ID: CAL9019
Analysis Lot: KWG0910692
Units: ng/mL

File ID: \\CASH1\ACQUDATA\GC32\DATA\111509.B\1115F014.D

Column ID: DB-35MS

Analyte Name	Expected	Result	Average RF	CCV RF	%D		%Drift		Criteria	Curve Fit
Decachlorobiphenyl	10	8.2	1620000	1320000	-18	*	NA		± 15 %	AverageRF
Aroclor 1016	100	71	NA	NA	NA		-29	*	± 15 %	NA
Aroclor 1016 {1}	100	71	21700	15500	-29		NA		± 100 %	AverageRF
Aroclor 1016 {2}	100	69	30300	20900	-31		NA		± 100 %	AverageRF
Aroclor 1016 {3}	100	67	101000	67700	-33		NA		± 100 %	AverageRF
Aroclor 1016 {4}	100	70	55700	39100	-30		NA		± 100 %	AverageRF
Aroclor 1016 {5}	100	75	37000	27800	-25		NA		± 100 %	AverageRF
Aroclor 1260	100	79	NA	NA	NA		-21	*	± 15 %	NA
Aroclor 1260 {1}	100	77	58000	44600	-23		NA		± 100 %	AverageRF
Aroclor 1260 {2}	100	77	83200	63600	-23		NA		± 100 %	AverageRF
Aroclor 1260 {3}	100	77	87300	67400	-23		NA		± 100 %	AverageRF
Aroclor 1260 {4}	100	81	186000	150000	-19		NA		± 100 %	AverageRF
Aroclor 1260 {5}	100	82	141000	116000	-18		NA		± 100 %	AverageRF

Results flagged with an asterisk (*) indicate values outside control criteria.

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0910296
Date Analyzed: 11/15/2009

Continuing Calibration Verification Summary
Polychlorinated Biphenyls (PCBs)

Calibration Type: External Standard
Analysis Method: 8082

Calibration Date: 11/14/2009
Calibration ID: CAL9019
Analysis Lot: KWG0910692
Units: ng/mL

File ID: \\CASH1\ACQUDATA\GC32\DATA\111509_R.B\1115F014.D

Column ID: DB-XLB

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Decachlorobiphenyl	10	11	884000	930000	5	NA	± 15 %	AverageRF
Aroclor 1016	100	94	NA	NA	NA	-6	± 15 %	NA
Aroclor 1016 {1}	100	94	19600	18300	-6	NA	± 100 %	AverageRF
Aroclor 1016 {2}	100	94	56400	53200	-6	NA	± 100 %	AverageRF
Aroclor 1016 {3}	100	93	31000	28800	-7	NA	± 100 %	AverageRF
Aroclor 1016 {4}	100	90	28000	25300	-10	NA	± 100 %	AverageRF
Aroclor 1016 {5}	100	100	17800	17800	0	NA	± 100 %	AverageRF
Aroclor 1260	100	98	NA	NA	NA	-2	± 15 %	NA
Aroclor 1260 {1}	100	95	71700	68400	-5	NA	± 100 %	AverageRF
Aroclor 1260 {2}	100	96	84400	81100	-4	NA	± 100 %	AverageRF
Aroclor 1260 {3}	100	97	44000	42700	-3	NA	± 100 %	AverageRF
Aroclor 1260 {4}	100	98	46600	45500	-2	NA	± 100 %	AverageRF
Aroclor 1260 {5}	100	110	93800	98700	5	NA	± 100 %	AverageRF

Results flagged with an asterisk (*) indicate values outside control criteria.

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0910296
Date Analyzed: 11/16/2009

Continuing Calibration Verification Summary
Polychlorinated Biphenyls (PCBs)

Calibration Type: External Standard
Analysis Method: 8082

Calibration Date: 11/14/2009
Calibration ID: CAL9019
Analysis Lot: KWG0910692
Units: ng/mL

File ID: \\CASH1\ACQUDATA\GC32\DATA\111509.B\1115F029.D

Column ID: DB-35MS

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift		Criteria	Curve Fit
Decachlorobiphenyl	10	8.7	1620000	1400000	-13	NA		± 15 %	AverageRF
Aroclor 1016	100	73	NA	NA	NA	-27	*	± 15 %	NA
Aroclor 1016 {1}	100	73	21700	16000	-27	NA		± 100 %	AverageRF
Aroclor 1016 {2}	100	71	30300	21400	-29	NA		± 100 %	AverageRF
Aroclor 1016 {3}	100	69	101000	69400	-31	NA		± 100 %	AverageRF
Aroclor 1016 {4}	100	73	55700	40600	-27	NA		± 100 %	AverageRF
Aroclor 1016 {5}	100	78	37000	28900	-22	NA		± 100 %	AverageRF
Aroclor 1260	100	83	NA	NA	NA	-17	*	± 15 %	NA
Aroclor 1260 {1}	100	80	58000	46400	-20	NA		± 100 %	AverageRF
Aroclor 1260 {2}	100	80	83200	66600	-20	NA		± 100 %	AverageRF
Aroclor 1260 {3}	100	81	87300	70900	-19	NA		± 100 %	AverageRF
Aroclor 1260 {4}	100	85	186000	158000	-15	NA		± 100 %	AverageRF
Aroclor 1260 {5}	100	87	141000	122000	-13	NA		± 100 %	AverageRF

Results flagged with an asterisk (*) indicate values outside control criteria.

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0910296
Date Analyzed: 11/16/2009

Continuing Calibration Verification Summary
Polychlorinated Biphenyls (PCBs)

Calibration Type: External Standard
Analysis Method: 8082

Calibration Date: 11/14/2009
Calibration ID: CAL9019
Analysis Lot: KWG0910692
Units: ng/mL

File ID: \\CASH1\ACQUDATA\GC32\DATA\111509_R.B\1115F029.D

Column ID: DB-XLB

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Decachlorobiphenyl	10	11	884000	953000	8	NA	± 15 %	AverageRF
Aroclor 1016	100	95	NA	NA	NA	-5	± 15 %	NA
Aroclor 1016 {1}	100	94	19600	18400	-6	NA	± 100 %	AverageRF
Aroclor 1016 {2}	100	95	56400	53300	-5	NA	± 100 %	AverageRF
Aroclor 1016 {3}	100	93	31000	28900	-7	NA	± 100 %	AverageRF
Aroclor 1016 {4}	100	91	28000	25600	-9	NA	± 100 %	AverageRF
Aroclor 1016 {5}	100	100	17800	17800	0	NA	± 100 %	AverageRF
Aroclor 1260	100	100	NA	NA	NA	1	± 15 %	NA
Aroclor 1260 {1}	100	98	71700	70100	-2	NA	± 100 %	AverageRF
Aroclor 1260 {2}	100	99	84400	83700	-1	NA	± 100 %	AverageRF
Aroclor 1260 {3}	100	100	44000	44400	1	NA	± 100 %	AverageRF
Aroclor 1260 {4}	100	100	46600	47200	1	NA	± 100 %	AverageRF
Aroclor 1260 {5}	100	110	93800	101000	8	NA	± 100 %	AverageRF

Results flagged with an asterisk (*) indicate values outside control criteria.

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0910296
Date Analyzed: 11/20/2009

Continuing Calibration Verification Summary
Polychlorinated Biphenyls (PCBs)

Calibration Type: External Standard
Analysis Method: 8082

Calibration Date: 11/18/2009
Calibration ID: CAL9027
Analysis Lot: KWG0910908
Units: ng/mL

File ID: \\CASH1\ACQUDATA\GC22\DATA\111909.B\1119F030.D

Column ID: DB-35MS

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Decachlorobiphenyl	10	11	1490000	1600000	7	NA	± 15 %	AverageRF
Aroclor 1016	100	100	NA	NA	NA	4	± 15 %	NA
Aroclor 1016 {1}	100	99	22500	22200	-1	NA	± 100 %	AverageRF
Aroclor 1016 {2}	100	110	64500	71300	11	NA	± 100 %	AverageRF
Aroclor 1016 {3}	100	110	43000	45500	6	NA	± 100 %	AverageRF
Aroclor 1016 {4}	100	100	36000	36800	2	NA	± 100 %	AverageRF
Aroclor 1016 {5}	100	100	36600	37000	1	NA	± 100 %	AverageRF
Aroclor 1260	100	110	NA	NA	NA	6	± 15 %	NA
Aroclor 1260 {1}	100	97	51800	50500	-3	NA	± 100 %	AverageRF
Aroclor 1260 {2}	100	100	59500	61500	3	NA	± 100 %	AverageRF
Aroclor 1260 {3}	100	110	64300	68900	7	NA	± 100 %	AverageRF
Aroclor 1260 {4}	100	110	140000	153000	10	NA	± 100 %	AverageRF
Aroclor 1260 {5}	100	110	112000	125000	11	NA	± 100 %	AverageRF

Results flagged with an asterisk (*) indicate values outside control criteria.

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0910296
Date Analyzed: 11/20/2009

Continuing Calibration Verification Summary
Polychlorinated Biphenyls (PCBs)

Calibration Type: External Standard
Analysis Method: 8082

Calibration Date: 11/18/2009
Calibration ID: CAL9027
Analysis Lot: KWG0910908
Units: ng/mL

File ID: \\CASH1\ACQUDATA\GC22\DATA\111909_R.B\1119F030.D

Column ID: DB-XLB

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Decachlorobiphenyl	10	11	4470000	4720000	5	NA	± 15 %	AverageRF
Aroclor 1016	100	110	NA	NA	NA	7	± 15 %	NA
Aroclor 1016 {1}	100	100	131000	134000	2	NA	± 100 %	AverageRF
Aroclor 1016 {2}	100	110	230000	249000	8	NA	± 100 %	AverageRF
Aroclor 1016 {3}	100	100	113000	113000	0	NA	± 100 %	AverageRF
Aroclor 1016 {4}	100	100	120000	124000	4	NA	± 100 %	AverageRF
Aroclor 1016 {5}	100	120	62200	75100	21	NA	± 100 %	AverageRF
Aroclor 1260	100	110	NA	NA	NA	7	± 15 %	NA
Aroclor 1260 {1}	100	110	306000	327000	7	NA	± 100 %	AverageRF
Aroclor 1260 {2}	100	110	214000	226000	5	NA	± 100 %	AverageRF
Aroclor 1260 {3}	100	110	208000	223000	7	NA	± 100 %	AverageRF
Aroclor 1260 {4}	100	110	463000	502000	8	NA	± 100 %	AverageRF
Aroclor 1260 {5}	100	110	288000	306000	6	NA	± 100 %	AverageRF

Results flagged with an asterisk (*) indicate values outside control criteria.

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0910296
Date Analyzed: 11/20/2009

Continuing Calibration Verification Summary
Polychlorinated Biphenyls (PCBs)

Calibration Type: External Standard
Analysis Method: 8082

Calibration Date: 11/18/2009
Calibration ID: CAL9027
Analysis Lot: KWG0910908
Units: ng/mL

File ID: \\CASH1\ACQUDATA\GC22\DATA\111909.B\1119F046.D

Column ID: DB-35MS

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Decachlorobiphenyl	10	11	1490000	1670000	12	NA	± 15 %	AverageRF
Aroclor 1016	100	100	NA	NA	NA	2	± 15 %	NA
Aroclor 1016 {1}	100	97	22500	21900	-3	NA	± 100 %	AverageRF
Aroclor 1016 {2}	100	110	64500	71100	10	NA	± 100 %	AverageRF
Aroclor 1016 {3}	100	110	43000	45400	6	NA	± 100 %	AverageRF
Aroclor 1016 {4}	100	99	36000	35700	-1	NA	± 100 %	AverageRF
Aroclor 1016 {5}	100	99	36600	36200	-1	NA	± 100 %	AverageRF
Aroclor 1260	100	110	NA	NA	NA	6	± 15 %	NA
Aroclor 1260 {1}	100	96	51800	50000	-4	NA	± 100 %	AverageRF
Aroclor 1260 {2}	100	100	59500	60500	2	NA	± 100 %	AverageRF
Aroclor 1260 {3}	100	110	64300	69300	8	NA	± 100 %	AverageRF
Aroclor 1260 {4}	100	110	140000	157000	13	NA	± 100 %	AverageRF
Aroclor 1260 {5}	100	110	112000	126000	12	NA	± 100 %	AverageRF

Results flagged with an asterisk (*) indicate values outside control criteria.

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0910296
Date Analyzed: 11/20/2009

Continuing Calibration Verification Summary
Polychlorinated Biphenyls (PCBs)

Calibration Type: External Standard
Analysis Method: 8082

Calibration Date: 11/18/2009
Calibration ID: CAL9027
Analysis Lot: KWG0910908
Units: ng/mL

File ID: \\CASH1\ACQUDATA\GC22\DATA\111909_R.B\1119F046.D

Column ID: DB-XLB

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Decachlorobiphenyl	10	11	4470000	4970000	11	NA	± 15 %	AverageRF
Aroclor 1016	100	110	NA	NA	NA	5	± 15 %	NA
Aroclor 1016 {1}	100	100	131000	132000	1	NA	± 100 %	AverageRF
Aroclor 1016 {2}	100	100	230000	240000	4	NA	± 100 %	AverageRF
Aroclor 1016 {3}	100	99	113000	111000	-1	NA	± 100 %	AverageRF
Aroclor 1016 {4}	100	100	120000	123000	3	NA	± 100 %	AverageRF
Aroclor 1016 {5}	100	120	62200	73500	18	NA	± 100 %	AverageRF
Aroclor 1260	100	110	NA	NA	NA	6	± 15 %	NA
Aroclor 1260 {1}	100	110	306000	327000	7	NA	± 100 %	AverageRF
Aroclor 1260 {2}	100	100	214000	223000	4	NA	± 100 %	AverageRF
Aroclor 1260 {3}	100	110	208000	219000	5	NA	± 100 %	AverageRF
Aroclor 1260 {4}	100	110	463000	501000	8	NA	± 100 %	AverageRF
Aroclor 1260 {5}	100	110	288000	308000	7	NA	± 100 %	AverageRF

Results flagged with an asterisk (*) indicate values outside control criteria.

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0910296

Analysis Run Log
Polychlorinated Biphenyls (PCBs)

Analysis Method: 8082

Analysis Lot: KWG0910908
Instrument ID: GC22.i
Column: DB-35MS

File ID	Sample Name	Lab Code	Date Analysis Started	Start Time	Q	Date Analysis Finished	Finish Time
1119F019.D	ZZZZZZ	ZZZZZZ	11/19/2009	20:08		11/19/2009	20:08
1119F020.D	ZZZZZZ	ZZZZZZ	11/19/2009	20:37		11/19/2009	20:37
1119F021.D	ZZZZZZ	ZZZZZZ	11/19/2009	21:05		11/19/2009	21:05
1119F022.D	ZZZZZZ	ZZZZZZ	11/19/2009	21:34		11/19/2009	21:34
1119F023.D	ZZZZZZ	ZZZZZZ	11/19/2009	22:03		11/19/2009	22:03
1119F024.D	ZZZZZZ	ZZZZZZ	11/19/2009	22:32		11/19/2009	22:32
1119F025.D	ZZZZZZ	ZZZZZZ	11/19/2009	23:00		11/19/2009	23:00
1119F026.D	ZZZZZZ	ZZZZZZ	11/19/2009	23:29		11/19/2009	23:29
1118F024.D	Instrument Blank	KWG0910908-1	11/19/2009	09:27		11/19/2009	09:27
1118F025.D	Continuing Calibration Verification	KWG0910908-2	11/19/2009	09:56		11/19/2009	09:56
1119F002.D	ZZZZZZ	ZZZZZZ	11/19/2009	12:00		11/19/2009	12:00
1119F005.D	ZZZZZZ	ZZZZZZ	11/19/2009	13:26		11/19/2009	13:26
1119F006.D	ZZZZZZ	ZZZZZZ	11/19/2009	13:55		11/19/2009	13:55
1119F007.D	ZZZZZZ	ZZZZZZ	11/19/2009	14:23		11/19/2009	14:23
1119F008.D	ZZZZZZ	ZZZZZZ	11/19/2009	14:52		11/19/2009	14:52
1119F009.D	ZZZZZZ	ZZZZZZ	11/19/2009	15:21		11/19/2009	15:21
1119F010.D	ZZZZZZ	ZZZZZZ	11/19/2009	15:49		11/19/2009	15:49
1119F011.D	ZZZZZZ	ZZZZZZ	11/19/2009	16:18		11/19/2009	16:18
1119F012.D	ZZZZZZ	ZZZZZZ	11/19/2009	16:47		11/19/2009	16:47
1119F013.D	ZZZZZZ	ZZZZZZ	11/19/2009	17:15		11/19/2009	17:15
1119F015.D	Instrument Blank	KWG0910908-3	11/19/2009	18:13		11/19/2009	18:13
1119F016.D	Continuing Calibration Verification	KWG0910908-4	11/19/2009	18:42		11/19/2009	18:42
1119F027.D	ZZZZZZ	ZZZZZZ	11/19/2009	23:58		11/19/2009	23:58
1119F029.D	Instrument Blank	KWG0910908-5	11/20/2009	00:55		11/20/2009	00:55
1119F030.D	Continuing Calibration Verification	KWG0910908-6	11/20/2009	01:24		11/20/2009	01:24
1119F032.D	ZZZZZZ	ZZZZZZ	11/20/2009	02:22		11/20/2009	02:22
1119F033.D	ZZZZZZ	ZZZZZZ	11/20/2009	02:50		11/20/2009	02:50
1119F034.D	ZZZZZZ	ZZZZZZ	11/20/2009	03:19		11/20/2009	03:19
1119F035.D	ZZZZZZ	ZZZZZZ	11/20/2009	03:48		11/20/2009	03:48
1119F036.D	ZZZZZZ	ZZZZZZ	11/20/2009	04:16		11/20/2009	04:16
1119F037.D	ZZZZZZ	ZZZZZZ	11/20/2009	04:45		11/20/2009	04:45
1119F038.D	ZZZZZZ	ZZZZZZ	11/20/2009	05:13		11/20/2009	05:13
1119F039.D	ZZZZZZ	ZZZZZZ	11/20/2009	05:42		11/20/2009	05:42
1119F040.D	Batch QC	K0910268-012	11/20/2009	06:11		11/20/2009	06:11

Results flagged with an asterisk (*) indicate the holding time was exceeded for the analysis

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0910296

Analysis Run Log
Polychlorinated Biphenyls (PCBs)

Analysis Method: 8082

Analysis Lot: KWG0910908
Instrument ID: GC22.i
Column: DB-35MS

File ID	Sample Name	Lab Code	Date Analysis Started	Start Time	Q	Date Analysis Finished	Finish Time
1119F041.D	ZZZZZZ	ZZZZZZ	11/20/2009	06:39		11/20/2009	06:39
1119F042.D	ZZZZZZ	ZZZZZZ	11/20/2009	07:08		11/20/2009	07:08
1119F043.D	ZZZZZZ	ZZZZZZ	11/20/2009	07:37		11/20/2009	07:37
1119F045.D	Instrument Blank	KWG0910908-7	11/20/2009	08:34		11/20/2009	08:34
1119F046.D	Continuing Calibration Verification	KWG0910908-8	11/20/2009	09:03		11/20/2009	09:03
1119F048.D	ZZZZZZ	ZZZZZZ	11/20/2009	10:53		11/20/2009	10:53
1119F049.D	ZZZZZZ	ZZZZZZ	11/20/2009	11:22		11/20/2009	11:22
1119F050.D	ZZZZZZ	ZZZZZZ	11/20/2009	11:51		11/20/2009	11:51
1119F052.D	Instrument Blank	KWG0910908-9	11/20/2009	12:48		11/20/2009	12:48
1119F053.D	Continuing Calibration Verification	KWG0910908-10	11/20/2009	13:16		11/20/2009	13:16

Results flagged with an asterisk (*) indicate the holding time was exceeded for the analysis

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0910296

Analysis Run Log
Polychlorinated Biphenyls (PCBs)

Analysis Method: 8082

Analysis Lot: KWG0910692
Instrument ID: GC32.i
Column: DB-35MS

File ID	Sample Name	Lab Code	Date Analysis Started	Start Time	Q	Date Analysis Finished	Finish Time
1114F046.D	Instrument Blank	KWG0910692-1	11/15/2009	11:51		11/15/2009	11:51
1114F047.D	Continuing Calibration Verification	KWG0910692-2	11/15/2009	12:21		11/15/2009	12:21
1115F001.D	Method Blank	KWG0910037-4	11/15/2009	13:21		11/15/2009	13:21
1115F002.D	Lab Control Sample	KWG0910037-3	11/15/2009	13:51		11/15/2009	13:51
1115F005.D	ZZZZZZ	ZZZZZZ	11/15/2009	15:21		11/15/2009	15:21
1115F006.D	ZZZZZZ	ZZZZZZ	11/15/2009	15:51		11/15/2009	15:51
1115F007.D	ZZZZZZ	ZZZZZZ	11/15/2009	16:21		11/15/2009	16:21
1115F008.D	ZZZZZZ	ZZZZZZ	11/15/2009	16:52		11/15/2009	16:52
1115F009.D	ZZZZZZ	ZZZZZZ	11/15/2009	17:22		11/15/2009	17:22
1115F010.D	ZZZZZZ	ZZZZZZ	11/15/2009	17:52		11/15/2009	17:52
1115F011.D	ZZZZZZ	ZZZZZZ	11/15/2009	18:22		11/15/2009	18:22
1115F013.D	Instrument Blank	KWG0910692-3	11/15/2009	19:22		11/15/2009	19:22
1115F014.D	Continuing Calibration Verification	KWG0910692-4	11/15/2009	19:52		11/15/2009	19:52
1115F017.D	Batch QCMS	KWG0910037-1	11/15/2009	21:22		11/15/2009	21:22
1115F018.D	Batch QCDMS	KWG0910037-2	11/15/2009	21:53		11/15/2009	21:53
1115F019.D	RB-1	K0910296-001	11/15/2009	22:23		11/15/2009	22:23
1115F020.D	ZZZZZZ	ZZZZZZ	11/15/2009	22:53		11/15/2009	22:53
1115F021.D	ZZZZZZ	ZZZZZZ	11/15/2009	23:23		11/15/2009	23:23
1115F023.D	ZZZZZZ	ZZZZZZ	11/16/2009	00:23		11/16/2009	00:23
1115F024.D	ZZZZZZ	ZZZZZZ	11/16/2009	00:53		11/16/2009	00:53
1115F025.D	ZZZZZZ	ZZZZZZ	11/16/2009	01:23		11/16/2009	01:23
1115F028.D	Instrument Blank	KWG0910692-5	11/16/2009	02:54		11/16/2009	02:54
1115F029.D	Continuing Calibration Verification	KWG0910692-6	11/16/2009	03:24		11/16/2009	03:24
1115F031.D	ZZZZZZ	ZZZZZZ	11/16/2009	04:24		11/16/2009	04:24
1115F032.D	ZZZZZZ	ZZZZZZ	11/16/2009	04:54		11/16/2009	04:54
1115F037.D	ZZZZZZ	ZZZZZZ	11/16/2009	07:25		11/16/2009	07:25
1115F038.D	ZZZZZZ	ZZZZZZ	11/16/2009	07:55		11/16/2009	07:55
1115F041.D	Instrument Blank	KWG0910692-7	11/16/2009	09:26		11/16/2009	09:26
1115F042.D	Continuing Calibration Verification	KWG0910692-8	11/16/2009	09:56		11/16/2009	09:56

Results flagged with an asterisk (*) indicate the holding time was exceeded for the analysis

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009
Sample Matrix: Water

Service Request: K0910296
Date Extracted: 10/28/2009

Extraction Prep Log
Polychlorinated Biphenyls (PCBs)

Extraction Method: EPA 3535
Analysis Method: 8082

Extraction Lot: KWG0910037
Level: Low

Sample Name	Lab Code	Date Collected	Date Received	Sample Amount	Final Volume	% Solids	Note
RB-1	K0910296-001	10/22/09	10/23/09	1010ml	2ml	NA	
Method Blank	KWG0910037-4	NA	NA	1040ml	2ml	NA	
Batch QC	K0910268-012	NA	NA	1010ml	2ml	NA	
Batch QCMS	KWG0910037-1	NA	NA	1030ml	2ml	NA	
Batch QCDMS	KWG0910037-2	NA	NA	1030ml	2ml	NA	
Lab Control Sample	KWG0910037-3	NA	NA	1000ml	2ml	NA	

Results flagged with an asterisk (*) indicate the holding time was exceeded for the analysis

Organic Analysis:
Polychlorinated Biphenyls (PCBs)

Validation Package

Organic Analysis:
Polychlorinated Biphenyls (PCBs)

Validation Package

QC Reports

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009
Sample Matrix: Water

Service Request: K0910296

Surrogate Recovery Summary
Polychlorinated Biphenyls (PCBs)

Extraction Method: EPA 3535
Analysis Method: 8082

Units: PERCENT
Level: Low

Sample Name	Lab Code	Sur1
RB-1	K0910296-001	94
Method Blank	KWG0910037-4	93
Batch QC	K0910268-012	99
Batch QCMS	KWG0910037-1	97
Batch QCDMS	KWG0910037-2	101
Lab Control Sample	KWG0910037-3	90

Surrogate Recovery Control Limits (%)

Sur1 = Decachlorobiphenyl	36-113

Results flagged with an asterisk (*) indicate values outside control criteria.
Results flagged with a pound (#) indicate the control criteria is not applicable.

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009
Sample Matrix: Water

Service Request: K0910296
Date Extracted: 10/28/2009
Date Analyzed: 11/15/2009

Matrix Spike/Duplicate Matrix Spike Summary
Polychlorinated Biphenyls (PCBs)

Sample Name: Batch QC
Lab Code: K0910268-012

Extraction Method: EPA 3535
Analysis Method: 8082

Units: ug/L
Basis: NA

Level: Low
Extraction Lot: KWG0910037

Analyte Name	Sample Result	Batch QCMS KWG0910037-1 Matrix Spike			Batch QCDMS KWG0910037-2 Duplicate Matrix Spike			%Rec Limits	RPD	RPD Limit
		Result	Expected	%Rec	Result	Expected	%Rec			
Aroclor 1016	ND	0.465	0.194	240 *	0.490	0.194	253 *	31-118	5	30
Aroclor 1260	ND	0.164	0.194	84	0.169	0.194	87	47-115	3	30

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009
Sample Matrix: Water

Service Request: K0910296
Date Extracted: 10/28/2009
Date Analyzed: 11/15/2009

Lab Control Spike Summary
Polychlorinated Biphenyls (PCBs)

Extraction Method: EPA 3535
Analysis Method: 8082

Units: ug/L
Basis: NA
Level: Low
Extraction Lot: KWG0910037

	Lab Control Sample KWG0910037-3 Lab Control Spike			
Analyte Name	**Result**	**Expected**	**%Rec**	**%Rec Limits**
Aroclor 1016	0.152	0.200	76	41-113
Aroclor 1260	0.159	0.200	80	47-117

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	URS Corporation	**Service Request:**	K0910296
Project:	Boise St. Helens Pulp and Paper Mill-2009	**Date Extracted:**	10/28/2009
Sample Matrix:	Water	**Date Analyzed:**	11/15/2009
		Time Analyzed:	13:21

Method Blank Summary
Polychlorinated Biphenyls (PCBs)

Sample Name:	Method Blank	**File ID:**	J:\GC32\DATA\111509.B\1115F001.D
Lab Code:	KWG0910037-4	**Instrument ID:**	GC32.i
Extraction Method:	EPA 3535	**Level:**	Low
Analysis Method:	8082	**Extraction Lot:**	KWG0910037

This Method Blank applies to the following analyses:

Sample Name	Lab Code	File ID	Date Analyzed	Time Analyzed
Lab Control Sample	KWG0910037-3	J:\GC32\DATA\111509.B\1115F002.D	11/15/09	13:51
Batch QCMS	KWG0910037-1	J:\GC32\DATA\111509.B\1115F017.D	11/15/09	21:22
Batch QCDMS	KWG0910037-2	J:\GC32\DATA\111509.B\1115F018.D	11/15/09	21:53
RB-1	K0910296-001	J:\GC32\DATA\111509.B\1115F019.D	11/15/09	22:23
Batch QC	K0910268-012	J:\GC22\DATA\111909.B\1119F040.D	11/20/09	06:11

Client:	URS Corporation	**Service Request:**	K0910296
Project:	Boise St. Helens Pulp and Paper Mill-2009	**Date Extracted:**	10/28/2009
Sample Matrix:	Water	**Date Analyzed:**	11/15/2009
		Time Analyzed:	13:51

Lab Control Sample Summary
Polychlorinated Biphenyls (PCBs)

Sample Name:	Lab Control Sample	**File ID:**	J:\GC32\DATA\111509.B\1115F002.D
Lab Code:	KWG0910037-3	**Instrument ID:**	GC32.i
Extraction Method:	EPA 3535	**Level:**	Low
Analysis Method:	8082	**Extraction Lot:**	KWG0910037

This Lab Control Sample applies to the following analyses:

Sample Name	Lab Code	File ID	Date Analyzed	Time Analyzed
Method Blank	KWG0910037-4	J:\GC32\DATA\111509.B\1115F001.D	11/15/09	13:21
Batch QCMS	KWG0910037-1	J:\GC32\DATA\111509.B\1115F017.D	11/15/09	21:22
Batch QCDMS	KWG0910037-2	J:\GC32\DATA\111509.B\1115F018.D	11/15/09	21:53
RB-1	K0910296-001	J:\GC32\DATA\111509.B\1115F019.D	11/15/09	22:23
Batch QC	K0910268-012	J:\GC22\DATA\111909.B\1119F040.D	11/20/09	06:11

Organic Analysis:
Polychlorinated Biphenyls (PCBs)

Validation Package

Raw Data

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009
Sample Matrix: Water

Service Request: K0910296
Date Collected: 10/22/2009
Date Received: 10/23/2009

Polychlorinated Biphenyls (PCBs)

Sample Name: RB-1
Lab Code: K0910296-001

Extraction Method: EPA 3535
Analysis Method: 8082

Units: ug/L
Basis: NA

Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Aroclor 1016	ND	Ui	0.0054	0.0054	1	10/28/09	11/15/09	KWG0910037	
Aroclor 1221	ND	Ui	0.019	0.019	1	10/28/09	11/15/09	KWG0910037	
Aroclor 1232	ND	Ui	0.0076	0.0076	1	10/28/09	11/15/09	KWG0910037	
Aroclor 1242	ND	Ui	0.0050	0.0050	1	10/28/09	11/15/09	KWG0910037	
Aroclor 1248	ND	Ui	0.0058	0.0058	1	10/28/09	11/15/09	KWG0910037	
Aroclor 1254	ND	Ui	0.0050	0.0028	1	10/28/09	11/15/09	KWG0910037	
Aroclor 1260	ND	Ui	0.0050	0.0033	1	10/28/09	11/15/09	KWG0910037	
Aroclor 1262	ND	U	0.0050	0.00096	1	10/28/09	11/15/09	KWG0910037	
Aroclor 1268	ND	U	0.0050	0.00096	1	10/28/09	11/15/09	KWG0910037	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Decachlorobiphenyl	94	36-113	11/15/09	Acceptable

Comments:

Exception Report

Data File: \\CASH1\ACQUDATA\GC32\DATA\111509.B\1115F019.D
Lab ID: K0910296-001
RunType: SMPL
Matrix: WATER

Date Acquired: 11/15/2009 22:23
Date Quantitated: 11/17/2009 13:59
Batch ID: KWG0910692
Analysis Method: 8082
MethodJoinID: MJ702

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Analytical Holding Time	NA	NA	NA	x	
Preparation Holding Time	NA	NA	NA	x	
Pre-Preparation Holding Time	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA		x
Calibration Verification Pass/Fail	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA		x
Continuing Calibration Recovery (Closing)	NA	NA	NA		x
Method Blank	NA	NA	NA	x	
MB Surrogate Recovery	NA	NA	NA	x	
Lab Control Spike	NA	NA	NA		x
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA		x
Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
Second Source ICAL Verification	Aroclor 1016	-15.6	NA	15	
Continuing Calibration Recovery	Aroclor 1260	-21.3	NA	15	
	Aroclor 1016	-29.5	NA	15	
	Decachlorobiphenyl	-18.1	NA	15	
Continuing Calibration Recovery (Closing)	Aroclor 1260	-17.4	NA	15	
	Aroclor 1016	-27.2	NA	15	
Lab Control Spike	Aroclor 1260 {4}	0	47	117	
Analyte Co-elution	Aroclor 1016 {2}	8.433	NA	NA	
	Aroclor 1016 {3}	8.816	NA	NA	
	Aroclor 1016 {4}	9.913	NA	NA	
	Aroclor 1016 {5}	10.336	NA	NA	
	Aroclor 1232 {2}	7.963	NA	NA	
	Aroclor 1232 {3}	8.433	NA	NA	
	Aroclor 1232 {4}	8.816	NA	NA	
	Aroclor 1242 {1}	7.963	NA	NA	

Primary Review: [signature]

Secondary Review: [signature]

Exception Report

Data File: \\CASH1\ACQUDATA\GC32\DATA\111509.B\1115F019.D
Lab ID: K0910296-001
RunType: SMPL
Matrix: WATER

Date Acquired: 11/15/2009 22:23
Date Quantitated: 11/17/2009 13:59
Batch ID: KWG0910692
Analysis Method: 8082
MethodJoinID: MJ702

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
	Aroclor 1242 {2}	8.816	NA	NA	
	Aroclor 1242 {4}	9.913	NA	NA	
	Aroclor 1242 {5}	10.336	NA	NA	
	Aroclor 1248 {2}	9.913	NA	NA	
	Aroclor 1248 {3}	10.336	NA	NA	

Primary Review: 11/17/09

Secondary Review: 11/17/09

Exception Report

Data File: \\CASH1\ACQUDATA\GC32\DATA\111509_R.B\1115F019.D
Lab ID: K0910296-001
RunType: SMPL
Matrix: WATER

Date Acquired: 11/15/2009 22:23
Date Quantitated: 11/17/2009 14:00
Batch ID: KWG0910692
Analysis Method: 8082
MethodJoinID: MJ702

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Analytical Holding Time	NA	NA	NA	x	
Preparation Holding Time	NA	NA	NA	x	
Pre-Preparation Holding Time	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Calibration Verification Ave %D	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA	x	
Calibration Verification Ave %D (Closing)	NA	NA	NA	x	
Continuing Calibration Recovery (Closing)	NA	NA	NA	x	
Method Blank	NA	NA	NA	x	
MB Surrogate Recovery	NA	NA	NA	x	
Lab Control Spike	NA	NA	NA		x
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA		x
Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
Lab Control Spike	Aroclor 1260 {4}	0	47	117	
Analyte Co-elution	Aroclor 1016 {1}	9.19	NA	NA	
	Aroclor 1016 {4}	11.127	NA	NA	
	Aroclor 1016 {5}	11.59	NA	NA	
	Aroclor 1232 {2}	8.84	NA	NA	
	Aroclor 1232 {3}	9.19	NA	NA	
	Aroclor 1242 {1}	8.84	NA	NA	
	Aroclor 1242 {4}	10.757	NA	NA	
	Aroclor 1242 {5}	11.127	NA	NA	
	Aroclor 1248 {1}	10.757	NA	NA	
	Aroclor 1248 {2}	11.127	NA	NA	
	Aroclor 1248 {3}	11.59	NA	NA	
	Aroclor 1254 {5}	15.867	NA	NA	

Primary Review: [signature]

Secondary Review: [signature]

Exception Report

Data File: \\CASH1\ACQUDATA\GC32\DATA\111509_R.B\1115F019.D
Lab ID: K0910296-001
RunType: SMPL
Matrix: WATER

Date Acquired: 11/15/2009 22:23
Date Quantitated: 11/17/2009 14:00
Batch ID: KWG0910692
Analysis Method: 8082
MethodJoinID: MJ702

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
	Aroclor 1260 {2}	15.867	NA	NA	Ca

Primary Review: MM 11/17/09

Secondary Review: Acd 11/17/09

Quantitation Report

Bottle ID:		**Tier:**	V	**Matrix:**	WATER
Prod Code:	8082 PCB_LL	**Collect Date:**	10/22/2009	**Receive Date:**	10/23/2009

Analysis Lot:	KWG0910692	**Prep Lot:**	KWG0910037	**Report Group:**	K0910296
Analysis Method:	8082	**Prep Method:**	EPA 3535		
Prep Ref:	861921	**Prep Date:**	10/28/2009		

Quant Method:	\\CASH1\ACQUDATA\GC32\DATA\111509.B\111309UL_F.M	**Calibration ID:**	CAL9019
Title:	Polychlorinated Biphenyls (PCBs)	**Report List ID:**	LJ6212
MB Ref:	J:\GC32\DATA\111509.B\1115F001.D	**Method ID:**	MJ702
		Quant based on Report List	

Data File #1:	J:\GC32\DATA\111509.B\1115F019.D			**Instrument:**	GC32.i
Data File #2:	\\cash1\acqudata\GC32\Data\111509_r.b\1115F019.D			**Vial:**	69
Acqu Date:	11/15/2009 22:23	**Quant Date:**	11/17/2009 13:59	**Dilution:**	1.0
Run Type:	SMPL			**Soln Conc. Units:**	ng/mL
Lab ID:	K0910296-001				
Signal #1:	DB-35MS	**Signal #2:**	DB-XLB		

Surrogate Compounds

Parameter Name	RT #1	RT #2	Resp #1	Respe #2	ng/mL #1	ng/mL #2			Rpt
Decachlorobiphenyl	19.29	21.06 +0.00	6059953	4135708	3.75 CCV	4.68			94OK
			%Recovery =		75OK	94OK	Limits =	50-140	

Target Compounds

Final Conc. Units: ug/L

Parameter Name	RT #1	RT #2	Resp #1	Resp #2	ng/mL #1	ng/mL #2	ug/L #1	ug/L #2	Rpt
Aroclor 1016			0	0	4.44 CCV	2.72	0.0088	0.0054	**0.0088**P
Aroclor 1016 {1}	8.34 +0.01	9.19 -0.05 c	112044	69109	5.15	3.52	0.010	0.0070	
Aroclor 1016 {2}	8.43 +0.04 c	10.03	19215	47861	0.6330	0.8490	0.0013J	0.0017J	
Aroclor 1016 {3}	8.82 +0.02 c		294281	0	2.92	0.0000	0.0058	0.00096U	
Aroclor 1016 {4}	9.91 -0.02 c	11.13 +0.00 c	504133	23237	9.05	0.8290	0.018	0.0016J	RPD
Aroclor 1016 {5}	10.34 +0.05 c	11.59 +0.02 c	0	100990	0.0000	5.68	0.00096U	0.011	
Aroclor 1221			0	0	10.41	9.23	0.021	0.018	**0.021**
Aroclor 1221 {1}	6.15	6.59	25802	25301	1.67	2.06	0.0033J	0.0041J	
Aroclor 1221 {2}	6.82	7.25	99234	0	19.46	0.0000	0.039	0.00096U	
Aroclor 1221 {3}	7.01	7.45	0	89898	0.0000	18.91	0.00096U	0.037	
Aroclor 1221 {4}	7.26	7.93	147936	56341	10.10	6.72	0.020	0.013	
Aroclor 1232			0	0	4.42	3.82	0.0088	0.0076	**0.0088**
Aroclor 1232 {1}	7.39	8.13	87385	18246	2.03	0.7080	0.0040J	0.0014J	
Aroclor 1232 {2}	7.96 c	8.84 c	0	39034	0.0000	3.00	0.00096U	0.0059	
Aroclor 1232 {3}	8.43 c	9.19 c	19215	69109	1.46	6.62	0.0029J	0.013	RPD
Aroclor 1232 {4}	8.82 c	9.95	294281	97901	9.77	4.95	0.019	0.0098	
Aroclor 1242			0	0	16.23	2.39	0.032	0.0047J	0.0050Ui
Aroclor 1242 {1}	7.96 c	8.84 c	0	39034	0.0000	1.64	0.00096U	0.0032J	
Aroclor 1242 {2}	8.82 c	10.11	294281	26266	4.25	0.9350	0.0084	0.0019J	RPD
Aroclor 1242 {3}	9.21	10.67	1043081	0	32.21	0.0000	0.064	0.00096U	

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Data File #1:	J:\GC32\DATA\111509.B\1115F019.D			**Instrument:**	GC32.i
Data File #2:	\\cash1\acqudata\GC32\Data\111509_r.b\1115F019.D			**Vial:**	69
Acqu Date:	11/15/2009 22:23	**Quant Date:**	11/17/2009 13:59	**Dilution:**	1.0
Run Type:	SMPL			**Soln Conc. Units:**	ng/mL
Lab ID:	K0910296-001				
Signal #1:	DB-35MS	**Signal #2:**	DB-XLB		

Target Compounds

Final Conc. Units: ug/L

Parameter Name	RT #1		RT #2		Resp #1	Resp #2	ng/mL #1	ng/mL #2	ug/L #1	ug/L #2	Rpt
Aroclor 1242 {4}	9.91	c	10.76	c	504133	121400	12.22	5.87	0.024	0.012	
Aroclor 1242 {5}	10.34	c	11.13	c	0	23237	0.0000	1.11	0.00096U	0.0022J	
Aroclor 1248					0	0	4.72	2.89	0.0094	0.0057	**0.0094**P
Aroclor 1248 {1}	9.49		10.76	c	362750	121400	9.30	4.02	0.018	0.0080	
Aroclor 1248 {2}	9.91	c	11.13	c	504133	23237	7.83	0.6630	0.016	0.0013J	RPD
Aroclor 1248 {3}	10.34	c	11.59	c	0	100990	0.0000	4.33	0.00096U	0.0086	
Aroclor 1248 {4}	10.78		12.30		64960	111561	0.8300	2.54	0.0016J	0.0050	RPD
Aroclor 1248 {5}	10.89				81255	0	0.9300	0.0000	0.0018J	0.00096U	
Aroclor 1254					0	0	2.14	1.39	0.0042J	0.0028J	**0.0042J**
Aroclor 1254 {1}	11.20		12.82		0	90690	0.0000	1.77	0.00096U	0.0035J	
Aroclor 1254 {2}	12.19		13.63		144642	0	2.11	0.0000	0.0042J	0.00096U	
Aroclor 1254 {3}	12.46				469262	0	3.49	0.0000	0.0069	0.00096U	
Aroclor 1254 {4}	13.14		14.81		94797	63447	1.05	1.23	0.0021J	0.0024J	
Aroclor 1254 {5}	14.46		15.87	c	185127	61406	1.91	1.18	0.0038J	0.0023J	
Aroclor 1260					0	0	3.82^{ccv}	1.66	0.0076	0.0033J	**0.0076**P
Aroclor 1260 {1}	13.92	+0.00	15.16		329044	234456	5.68	3.27	0.011	0.0065	
Aroclor 1260 {2}	14.54	-0.03	15.87	-0.01 c	128618	61406	1.55	0.7270	0.0031J	0.0014J	
Aroclor 1260 {3}	15.36	+0.02	16.07	-0.06	653410	79635	7.49	1.81	0.015	0.0036J	RPD
Aroclor 1260 {4}	15.91	0.00	16.61	-0.03	109311	0	0.5880	0.0000	0.0012J	0.00096U	
Aroclor 1260 {5}	16.77	-0.06	17.39	+0.00	0	77298	0.0000	0.8240	0.00096U	0.0016J	

The -/+ after Retention Time symbolize the direction of the RT shift

Prep Amount:	1010 ml	**Dilution:**	1.0
Prep Final Vol:	2 ml	**Unit Factor:**	1

Final Concentration = ((Soln Conc x Prep Final Vol x Dilution) / Prep Amount) x Unit Factor

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Data File: \\cash1\acqudata\GC32\Data\111509.b\1115F019.D
Report Date: 17-Nov-2009 13:59

Laboratory Name

Sample #1 : \\cash1\acqudata\GC32\Data\111509.b\1115F019.D
Sample #2 : \\cash1\acqudata\GC32\Data\111509_r.b\1115F019.D
Inj Date : 15-NOV-2009 22:23
Sample Info: K0910296-001 | RB-1
Misc Info :
Cal Date : 16-NOV-2009 19:28
Operator : JMSmith
Inst ID : GC32.i
Dil Factor : 1.000000

Method #1 : \\cash1\acqudata\GC32\Data\111509.b\111309ul_f.m
Method #2 : \\cash1\acqudata\GC32\Data\111509_r.b\111309ul_r.m
Sub List #1 : ALL.SUB
Sub List #2 : ALL.SUB
Col #1 Phase : DB-35MS
Col #2 Phase : DB-XLB

Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2	Target Range	Ratio
Tetrachloro-m-xylene	6.626	7.600	3693012	3011516	2.05	2.74		100.00(R)
Aroclor 1016	8.343	9.190	112044	69109	5.15	3.52	80.00- 120.00	100.00
	8.433	10.033	19215	47861	0.633	0.849	107.98- 161.97	17.15
	8.816	0.000	294281		2.92		385.94- 578.91	262.65
	9.913	11.127	504133	23237	9.05	0.829	209.57- 314.36	449.94
	10.336	11.590		100990		5.68	72.53- 108.80	146.13
			Average of Peak Amounts =		4.44	2.72		
Aroclor 1221	6.146	6.587	25802	25301	1.67	2.06	80.00- 120.00	100.00
	6.820	7.253	99234		19.4		26.39- 39.58	384.60
	7.013	7.450		89898		18.9	30.94- 46.40	355.31
	7.256	7.933	147936	56341	10.1	6.72	75.82- 113.73	573.35
			Average of Peak Amounts =		10.4	9.23		
Aroclor 1232	7.386	8.133	87385	18246	2.03	0.708	80.00- 120.00	100.00
	7.963	8.840		39034		3.00	40.38- 60.57	213.93
	8.433	9.190	19215	69109	1.46	6.62	24.39- 36.59	21.99
	8.816	9.950	294281	97901	9.77	4.95	55.87- 83.81	336.76
			Average of Peak Amounts =		4.42	3.82		
Aroclor 1242	7.963	8.840		39034		1.64	80.00- 120.00	100.00
	8.816	10.110	294281	26266	4.25	0.935	143.60- 215.39	88.52
	9.213	10.667	1043081		32.2		67.18- 100.76	313.76
	9.913	10.757	504133	121400	12.2	5.87	85.59- 128.39	151.64
	10.336	11.127		23237		1.11	70.26- 105.39	59.53
			Average of Peak Amounts =		16.2	2.39		
Aroclor 1248	9.486	10.757	362750	121400	9.30	4.02	80.00- 120.00	100.00
	9.913	11.127	504133	23237	7.83	0.663	132.09- 198.13	138.98
	10.336	11.590		100990		4.33	61.77- 92.65	83.19
	10.776	12.303	64960	111561	0.830	2.54	160.64- 240.96	17.91
	10.886	0.000	81255		0.930		179.21- 268.82	22.40

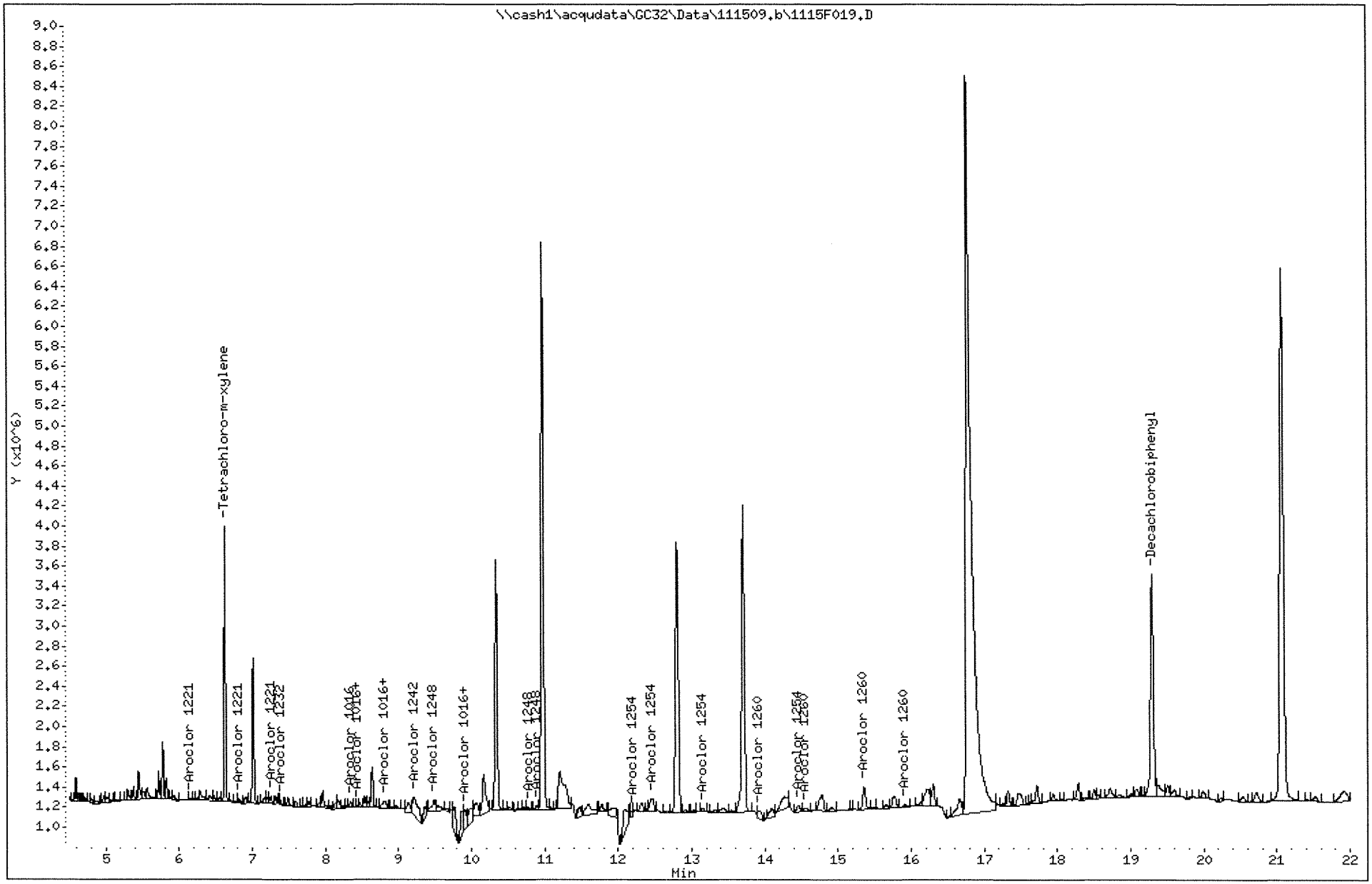
Data File: \\cash1\acqudata\GC32\Data\111509.b\1115F019.D
Report Date: 17-Nov-2009 13:59

Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2	Target Range	Ratio
		Average of Peak Amounts =			4.72	2.89		
Aroclor 1254	11.203	12.817		90690		1.77	80.00- 120.00	100.00
	12.193	13.627	144642		2.10		63.33- 94.99	6.34
	12.460	0.000	469262		3.49		123.84- 185.76	20.55
	13.143	14.810	94797	63447	1.05	1.23	83.24- 124.86	4.15
	14.456	15.867	185127	61406	1.91	1.18	89.12- 133.68	8.11
		Average of Peak Amounts =			2.14	1.39		
Aroclor 1260	13.916	15.163	329044	234456	5.67	3.27	80.00- 120.00	100.00
	14.543	15.867	128618	61406	1.55	0.727	114.97- 172.45	39.09
	15.356	16.067	653410	79635	7.48	1.81	122.71- 184.06	198.58
	15.913	16.610	109311		0.588		276.33- 414.49	33.22
	16.773	17.387		77298		0.824	115.81- 173.72	32.97
		Average of Peak Amounts =			3.82	1.66		
Decachlorobiphenyl	19.293	21.060	6059953	4135708	3.75	4.68		100.00(R)

QC Flag Legend

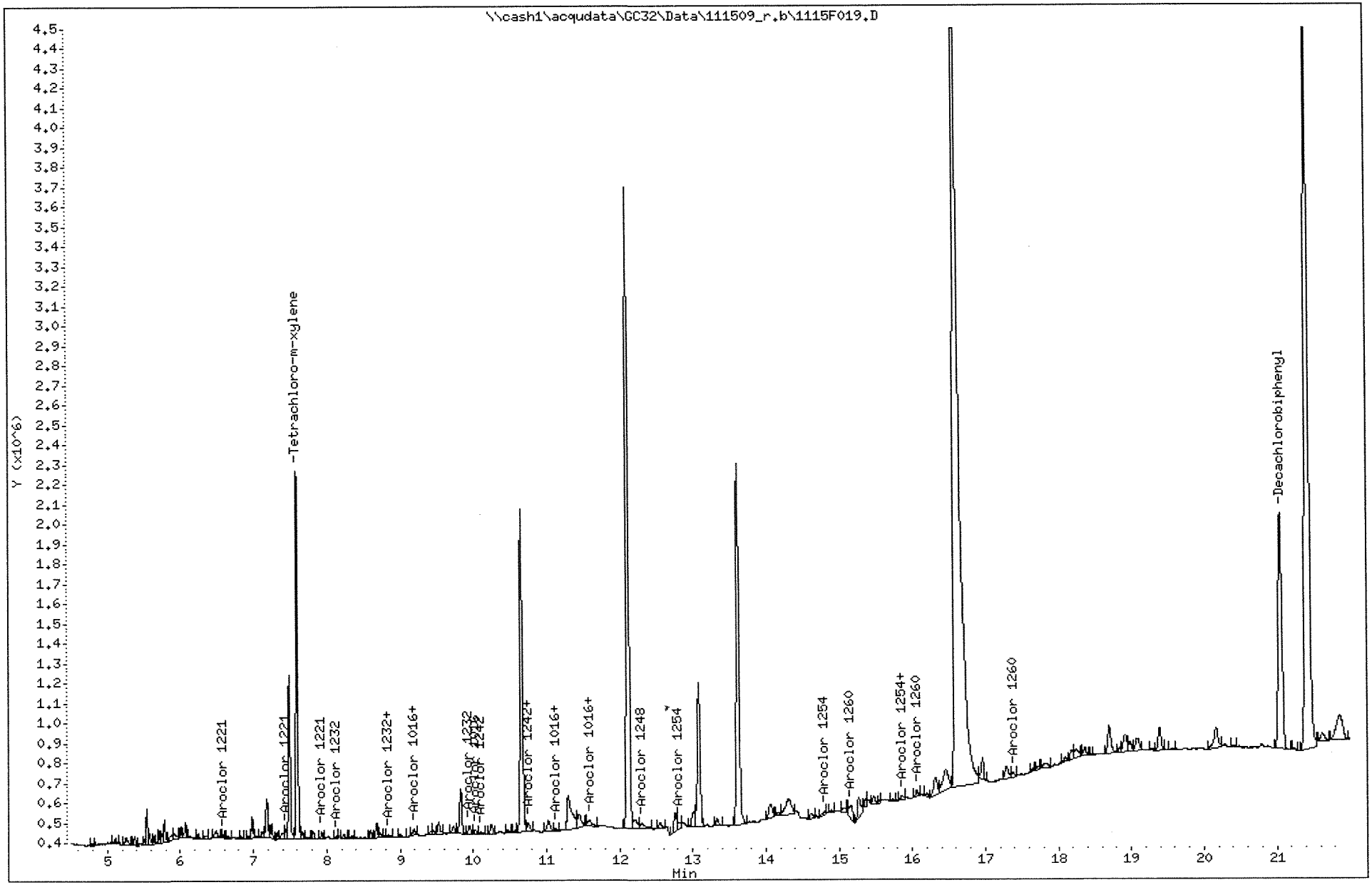
R - Spike/Surrogate failed recovery limits.

Data File: \\cash1\acqudata\GC32\Data\111509.b\1115F019.D
Date : 15-NOV-2009 22:23
Client ID:
Instrument: GC32.i
Sample Info: K0910296-001 | RB-1
Operator: JMSmith
Column phase: DB-35MS
Column diameter: 0.32



Data File: \\cash1\acqudata\GC32\Data\111509_r.b\1115F019.D
Date : 15-NOV-2009 22:23
Client ID:
Sample Info: K0910296-001 | RB-1

Instrument: GC32.i
Operator: JMSmith
Column phase: DB-XLB
Column diameter: 0.32



COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009
Sample Matrix: Water

Service Request: K0910296
Date Collected: NA
Date Received: NA

Polychlorinated Biphenyls (PCBs)

Sample Name: Method Blank
Lab Code: KWG0910037-4

Extraction Method: EPA 3535
Analysis Method: 8082

Units: ug/L
Basis: NA

Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Aroclor 1016	ND	U	0.0049	0.00096	1	10/28/09	11/15/09	KWG0910037	
Aroclor 1221	ND	U	0.0097	0.00096	1	10/28/09	11/15/09	KWG0910037	
Aroclor 1232	ND	U	0.0049	0.00096	1	10/28/09	11/15/09	KWG0910037	
Aroclor 1242	ND	U	0.0049	0.00096	1	10/28/09	11/15/09	KWG0910037	
Aroclor 1248	ND	U	0.0049	0.00096	1	10/28/09	11/15/09	KWG0910037	
Aroclor 1254	ND	U	0.0049	0.00096	1	10/28/09	11/15/09	KWG0910037	
Aroclor 1260	ND	U	0.0049	0.00096	1	10/28/09	11/15/09	KWG0910037	
Aroclor 1262	ND	U	0.0049	0.00096	1	10/28/09	11/15/09	KWG0910037	
Aroclor 1268	ND	U	0.0049	0.00096	1	10/28/09	11/15/09	KWG0910037	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Decachlorobiphenyl	93	36-113	11/15/09	Acceptable

Comments:

Exception Report

Data File: \\CASH1\ACQUDATA\GC32\DATA\111509.B\1115F001.D
Lab ID: KWG0910037-4
RunType: MB
Matrix: WATER

Date Acquired: 11/15/2009 13:21
Date Quantitated: 11/17/2009 13:58
Batch ID: KWG0910692
Analysis Method: 8082
MethodJoinID: MJ702

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Analytical Holding Time	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA		x
Calibration Verification Pass/Fail	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA		x
Continuing Calibration Recovery (Closing)	NA	NA	NA		x
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
Second Source ICAL Verification	Aroclor 1016	-15.6	NA	15	
Continuing Calibration Recovery	Tetrachloro-m-xylene	-33.8	NA	15	
Continuing Calibration Recovery (Closing)	Decachlorobiphenyl	-18.1	NA	15	
	Tetrachloro-m-xylene	-35.3	NA	15	

Primary Review:

Secondary Review:

Exception Report

Data File: \\CASH1\ACQUDATA\GC32\DATA\111509_R.B\1115F001.D
Lab ID: KWG0910037-4
RunType: MB
Matrix: WATER

Date Acquired: 11/15/2009 13:21
Date Quantitated: 11/17/2009 13:59
Batch ID: KWG0910692
Analysis Method: 8082
MethodJoinID: MJ702

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Analytical Holding Time	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Calibration Verification Ave %D	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA		x
Calibration Verification Ave %D (Closing)	NA	NA	NA	x	
Continuing Calibration Recovery (Closing)	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
Continuing Calibration Recovery	Tetrachloro-m-xylene	-15.3	NA	15	NA

Primary Review: 11/17/09

Secondary Review: AC 11/17/09

Quantitation Report

Bottle ID:		**Tier:**		**Matrix:**	WATER
Prod Code:	8082 PCB_LL	**Collect Date:**		**Receive Date:**	11/02/2009

Analysis Lot:	KWG0910692	**Prep Lot:**	KWG0910037	**Report Group:**	
Analysis Method:	8082	**Prep Method:**	EPA 3535		
		Prep Date:	10/28/2009		
Prep Ref:	861925				

Quant Method:	\\CASH1\ACQUDATA\GC32\DATA\111509.B\111309UL_F.M	**Calibration ID:**	CAL9019
Title:			
MB Ref:		**Method ID:**	MJ702
		Quant based on Method	

Data File #1:	J:\GC32\DATA\111509.B\1115F001.D			**Instrument:**	GC32.i
Data File #2:	\\cash1\acqudata\GC32\Data\111509_r.b\1115F001.D			**Vial:**	55
Acqu Date:	11/15/2009 13:21	**Quant Date:**	11/17/2009 13:58	**Dilution:**	1.0
Run Type:	MB			**Soln Conc. Units:**	ng/mL
Lab ID:	KWG0910037-4				
Signal #1:	DB-35MS	**Signal #2:**	DB-XLB		

Surrogate Compounds

Parameter Name	RT #1		RT #2		Resp #1	Respe #2	ng/mL #1	ng/mL #2			Rpt
Tetrachloro-m-xylene	6.63	0.00	7.60	0.00	4384134	2975009	2.43^{CCV}	2.70^{CCV}			54OK
					%Recovery =		49OK	54OK	Limits =	21-114	
Decachlorobiphenyl	19.29	+0.00	21.06	+0.00	6896703	4099201	4.27^{CCV}	4.64			93OK
					%Recovery =		85OK	93OK	Limits =	36-113	

Target Compounds

Final Conc. Units: ug/L

Parameter Name	RT #1	RT #2	Resp #1	Resp #2	ng/mL #1	ng/mL #2	ug/L #1	ug/L #2	Rpt
Aroclor 1016			0	0	0.0000	0.0000	0.00096U	0.00096U	0.00096U
Aroclor 1016 {1}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1016 {2}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1016 {3}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1016 {4}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1016 {5}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1221			0	0	0.0000	0.0000	0.00096U	0.00096U	0.00096U
Aroclor 1221 {1}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1221 {2}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1221 {3}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1221 {4}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1232			0	0	0.0000	0.0000	0.00096U	0.00096U	0.00096U
Aroclor 1232 {1}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1232 {2}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1232 {3}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1232 {4}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1242			0	0	0.0000	0.0000	0.00096U	0.00096U	0.00096U
Aroclor 1242 {1}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Data File #1:	J:\GC32\DATA\111509.B\1115F001.D			**Instrument:**	GC32.i
Data File #2:	\\cash1\acqudata\GC32\Data\111509_r.b\1115F001.D			**Vial:**	55
Acqu Date:	11/15/2009 13:21	**Quant Date:**	11/17/2009 13:58	**Dilution:**	1.0
Run Type:	MB			**Soln Conc. Units:**	ng/mL
Lab ID:	KWG0910037-4				
Signal #1:	DB-35MS	**Signal #2:**	DB-XLB		

Target Compounds

Final Conc. Units: ug/L

Parameter Name	RT #1	RT #2	Resp #1	Resp #2	ng/mL #1	ng/mL #2	ug/L #1	ug/L #2	Rpt
Aroclor 1242 {2}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1242 {3}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1242 {4}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1242 {5}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1248			0	0	0.0000	0.0000	0.00096U	0.00096U	0.00096U
Aroclor 1248 {1}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1248 {2}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1248 {3}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1248 {4}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1248 {5}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1254			0	0	0.0000	0.0000	0.00096U	0.00096U	0.00096U
Aroclor 1254 {1}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1254 {2}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1254 {3}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1254 {4}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1254 {5}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1260			0	0	0.0000	0.0000	0.00096U	0.00096U	0.00096U
Aroclor 1260 {1}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1260 {2}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1260 {3}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1260 {4}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1260 {5}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1262			0	0	0.0000	0.0000	0.00096U	0.00096U	0.00096U
Aroclor 1262 {1}			0d	0	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1262 {2}			0d	0	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1262 {3}			0d	0	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1262 {4}			0d	0	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1262 {5}			0d	0	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1268			0	0	0.0000	0.0000	0.00096U	0.00096U	0.00096U
Aroclor 1268 {1}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1268 {2}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1268 {3}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1268 {4}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1268 {5}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	

The -/+ after Retention Time symbolize the direction of the RT shift

Prep Amount:	1040 ml	**Dilution:**	1.0
Prep Final Vol:	2 ml	**Unit Factor:**	1

Final Concentration = ((Soln Conc x Prep Final Vol x Dilution) / Prep Amount) x Unit Factor

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Data File: \\cash1\acqudata\GC32\Data\111509.b\1115F001.D
Report Date: 17-Nov-2009 13:58

Laboratory Name

Sample #1 : \\cash1\acqudata\GC32\Data\111509.b\1115F001.D
Sample #2 : \\cash1\acqudata\GC32\Data\111509_r.b\1115F001.D
Inj Date : 15-NOV-2009 13:21
Sample Info: KWG0910037-4 | MB | 8082 PCB_LL | WATER
Misc Info :
Cal Date : 16-NOV-2009 19:27
Operator : JMSmith
Inst ID : GC32.i
Dil Factor : 1.000000

Method #1 : \\cash1\acqudata\GC32\Data\111509.b\111309ul_f.m
Method #2 : \\cash1\acqudata\GC32\Data\111509_r.b\111309ul_r.m
Sub List #1 : ALL.SUB
Sub List #2 : ALL.SUB
Col #1 Phase : DB-35MS
Col #2 Phase : DB-XLB

Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2	Target Range	Ratio
Tetrachloro-m-xylene	6.625	7.599	4384134	2975009	2.43	2.70		100.00(R)
Decachlorobiphenyl	19.292	21.055	6896703	4099201	4.26	4.63		100.00(R)

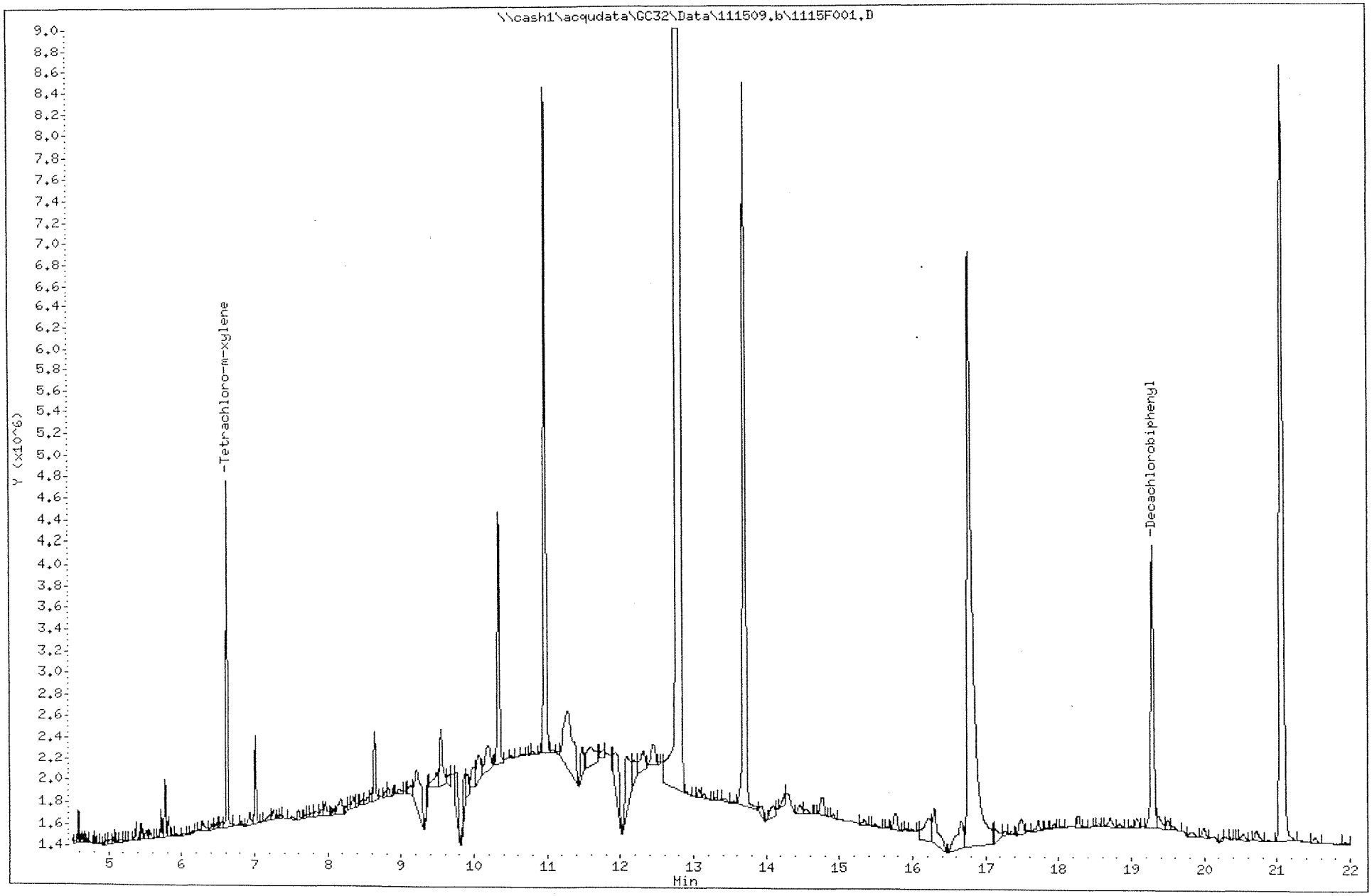
QC Flag Legend

R - Spike/Surrogate failed recovery limits.

Data File: \\cash1\acqudata\GC32\Data\111509.b\1115F001.D
Date : 15-NOV-2009 13:21
Client ID:
Sample Info: KWG0910037-4 | MB | 8082 PCB_LL | WATER

Instrument: GC32.i
Operator: JMSmith
Column diameter: 0.32

Column phase: DB-35MS

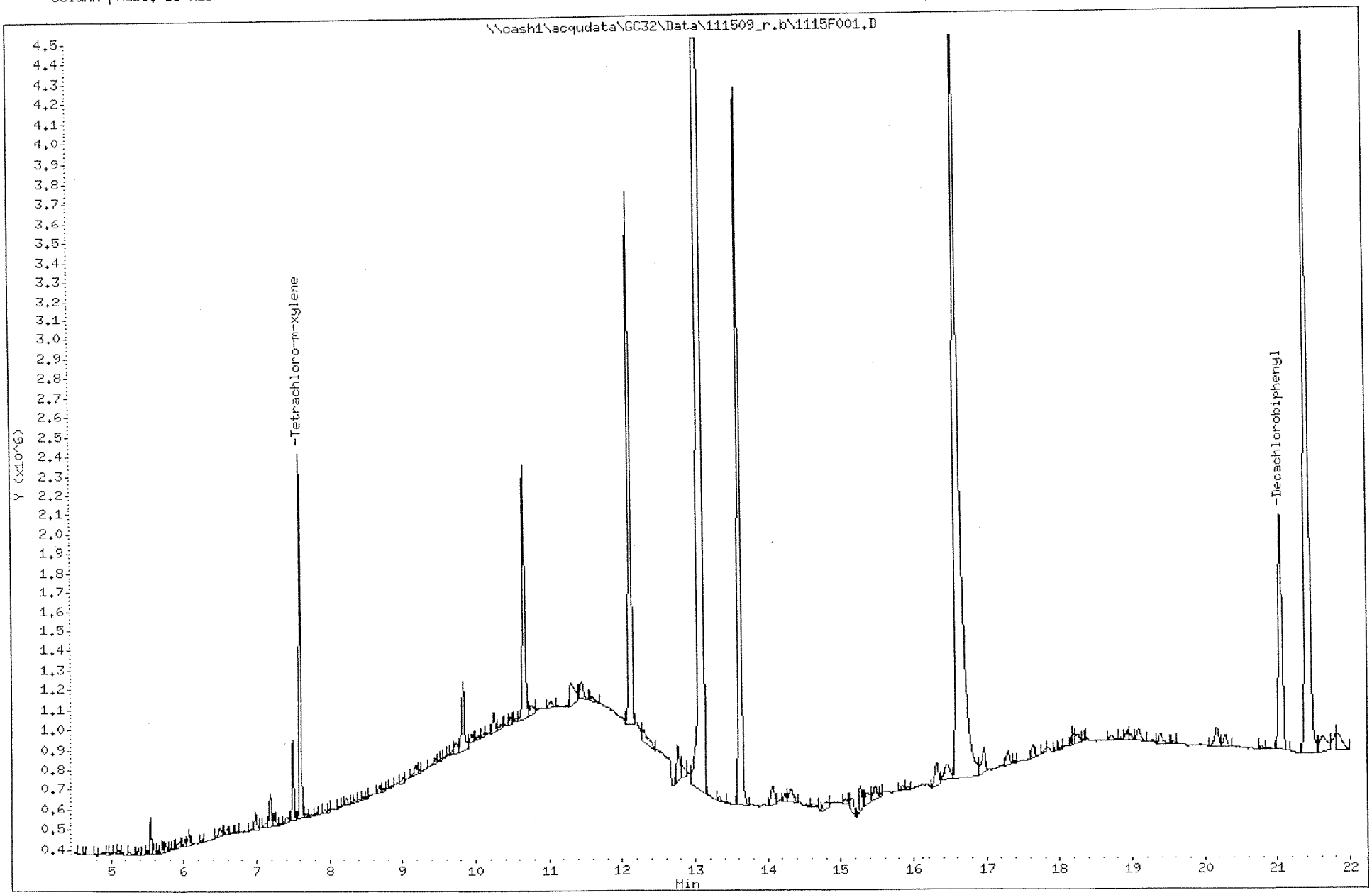


Data File: \\cash1\acqudata\GC32\Data\111509_r.b\1115F001.D
Date : 15-NOV-2009 13:21
Client ID:
Sample Info: KWG0910037-4 | MB | 8082 PCB_LL | WATER

Instrument: GC32.i

Operator: JMSmith
Column diameter: 0.32

Column phase: DB-XLB



COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009
Sample Matrix: Water

Service Request: K0910296
Date Collected: NA
Date Received: NA

Polychlorinated Biphenyls (PCBs)

Sample Name: Batch QC
Lab Code: K0910268-012

Extraction Method: EPA 3535
Analysis Method: 8082

Units: ug/L
Basis: NA

Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Aroclor 1016	ND	U	0.0050	0.00096	1	10/28/09	11/20/09	KWG0910037	
Aroclor 1221	ND	U	0.010	0.00096	1	10/28/09	11/20/09	KWG0910037	
Aroclor 1232	ND	U	0.0050	0.00096	1	10/28/09	11/20/09	KWG0910037	
Aroclor 1242	**0.46**		0.0050	0.00096	1	10/28/09	11/20/09	KWG0910037	
Aroclor 1248	ND	U	0.0050	0.00096	1	10/28/09	11/20/09	KWG0910037	
Aroclor 1254	ND	U	0.0050	0.00096	1	10/28/09	11/20/09	KWG0910037	
Aroclor 1260	ND	U	0.0050	0.00096	1	10/28/09	11/20/09	KWG0910037	
Aroclor 1262	ND	U	0.0050	0.00096	1	10/28/09	11/20/09	KWG0910037	
Aroclor 1268	ND	U	0.0050	0.00096	1	10/28/09	11/20/09	KWG0910037	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Decachlorobiphenyl	99	36-113	11/20/09	Acceptable

Comments:

Exception Report

Data File: \\CASH1\ACQUDATA\GC22\DATA\111909.B\1119F040.D
Lab ID: K0910268-012
RunType: SMPL
Matrix: WATER

Date Acquired: 11/20/2009 06:11
Date Quantitated: 11/20/2009 11:32
Batch ID: KWG0910908
Analysis Method: 8082
MethodJoinID: MJ702

Batch QC

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Analytical Holding Time	NA	NA	NA	x	
Preparation Holding Time	NA	NA	NA	x	
Pre-Preparation Holding Time	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA		x
Calibration Verification Pass/Fail	NA	NA	NA	x	
Calibration Verification Ave %D	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA	x	
Calibration Verification Ave %D (Closing)	NA	NA	NA	x	
Continuing Calibration Recovery (Closing)	NA	NA	NA	x	
Method Blank	NA	NA	NA	x	
MB Surrogate Recovery	NA	NA	NA	x	
Lab Control Spike	NA	NA	NA		x
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
Second Source ICAL Verification	Aroclor 1260	-17.3	NA	15	
	Aroclor 1016	-18.3	NA	15	
Lab Control Spike	Aroclor 1260 {4}	0	47	117	

Primary Review: _____

Secondary Review: _____

Exception Report

Data File: \\CASH1\ACQUDATA\GC22\DATA\111909_R.B\1119F040.D
Lab ID: K0910268-012
RunType: SMPL
Matrix: WATER

Date Acquired: 11/20/2009 06:11
Date Quantitated: 11/20/2009 11:33
Batch ID: KWG0910908
Analysis Method: 8082
MethodJoinID: MJ702

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Analytical Holding Time	NA	NA	NA	x	
Preparation Holding Time	NA	NA	NA	x	
Pre-Preparation Holding Time	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Calibration Verification Ave %D	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA	x	
Calibration Verification Ave %D (Closing)	NA	NA	NA	x	
Continuing Calibration Recovery (Closing)	NA	NA	NA	x	
Method Blank	NA	NA	NA	x	
MB Surrogate Recovery	NA	NA	NA	x	
Lab Control Spike	NA	NA	NA		x
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
Lab Control Spike	Aroclor 1260 {4}	0	47	117	WC

Primary Review: William

Secondary Review: William

Quantitation Report

Bottle ID:		**Tier:**	V	**Matrix:**	WATER
Prod Code:	8082 PCB_ULL	**Collect Date:**	10/21/2009	**Receive Date:**	10/23/2009

Analysis Lot:	KWG0910908	**Prep Lot:**	KWG0910037	**Report Group:**	K0910268
Analysis Method:	8082	**Prep Method:**	EPA 3535		
Prep Ref:	861920	**Prep Date:**	10/28/2009		

Quant Method:	\\CASH1\ACQUDATA\GC22\DATA\111909.B\111709UL_F.M	**Calibration ID:**	CAL9027
Title:	Polychlorinated Biphenyls (PCBs)	**Report List ID:**	LJ6212
MB Ref:	J:\GC32\DATA\111509.B\1115F001.D	**Method ID:**	MJ702
		Quant based on Report List	

Data File #1:	J:\GC22\DATA\111909.B\1119F040.D			**Instrument:**	GC22.i
Data File #2:	\\cash1\acqudata\GC22\data\111909_r.b\1119F040.D			**Vial:**	31
Acqu Date:	11/20/2009 06:11	**Quant Date:**	11/20/2009 11:32	**Dilution:**	1.0
Run Type:	SMPL			**Soln Conc. Units:**	ng/mL
Lab ID:	K0910268-012				
Signal #1:	DB-35MS	**Signal #2:**	DB-XLB		

Surrogate Compounds

Parameter Name	RT #1		RT #2		Resp #1	Respe #2	ng/mL #1	ng/mL #2			Rpt
Decachlorobiphenyl	13.57	0.00	14.72	0.00	8683878	22035880	5.85	4.93			117OK
					%Recovery =		117OK	99OK	Limits =	50-140	

Target Compounds

Final Conc. Units: ug/L

Parameter Name	RT #1	RT #2	Resp #1	Resp #2	ng/mL #1	ng/mL #2	ug/L #1	ug/L #2	Rpt
Aroclor 1016			0	0	0.0000	0.0000	0.00096U	0.00096U	0.00096U
Aroclor 1016 {1}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1016 {2}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1016 {3}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1016 {4}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1016 {5}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1221			0	0	0.0000	0.0000	0.00096U	0.00096U	0.00096U
Aroclor 1221 {1}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1221 {2}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1221 {3}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1221 {4}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1232			0	0	0.0000	0.0000	0.00096U	0.00096U	0.00096U
Aroclor 1232 {1}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1232 {2}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1232 {3}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1232 {4}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1242			0	0	232.79	209.16	0.46	0.41	0.46
Aroclor 1242 {1}	6.54	6.82	770354m	9308607m	46.13	95.43	0.091	0.19	
Aroclor 1242 {2}	6.79	7.74	13976388m	21044889m	286.21	213.88	0.57	0.42	
Aroclor 1242 {3}	7.07	7.97	3721913m	18738874m	196.09	204.14	0.39	0.40	

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Data File #1:	J:\GC22\DATA\111909.B\1119F040.D			**Instrument:**	GC22.i
Data File #2:	\\cash1\acqudata\GC22\data\111909_r.b\1119F040.D			**Vial:**	31
Acqu Date:	11/20/2009 06:11	**Quant Date:**	11/20/2009 11:32	**Dilution:**	1.0
Run Type:	SMPL			**Soln Conc. Units:**	ng/mL
Lab ID:	K0910268-012				
Signal #1:	DB-35MS	**Signal #2:**	DB-XLB		

Target Compounds

Final Conc. Units: ug/L

Parameter Name	RT #1	RT #2	Resp #1	Resp #2	ng/mL #1	ng/mL #2	ug/L #1	ug/L #2	Rpt
Aroclor 1242 {4}	7.18	8.18	5096891m	25455912m	296.01	275.41	0.59	0.55	
Aroclor 1242 {5}	7.47	8.44	8990331m	16435135m	339.52	256.93	0.67	0.51	
Aroclor 1248			0	0	0.0000	0.0000	0.00096U	0.00096U	0.00096U
Aroclor 1248 {1}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1248 {2}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1248 {3}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1248 {4}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1248 {5}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1254			0	0	0.0000	0.0000	0.00096U	0.00096U	0.00096U
Aroclor 1254 {1}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1254 {2}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1254 {3}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1254 {4}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1254 {5}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1260			0	0	0.0000	0.0000	0.00096U	0.00096U	0.00096U
Aroclor 1260 {1}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1260 {2}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1260 {3}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1260 {4}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1260 {5}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	

The -/+ after Retention Time symbolize the direction of the RT shift

Prep Amount:	1010 ml	**Dilution:**	1.0
Prep Final Vol:	2 ml	**Unit Factor:**	1

Final Concentration = ((Soln Conc x Prep Final Vol x Dilution) / Prep Amount) x Unit Factor

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Data File: \\cash1\acqudata\GC22\data\111909.b\1119F040.D
Report Date: 20-Nov-2009 11:32

Laboratory Name

Sample #1 : \\cash1\acqudata\GC22\data\111909.b\1119F040.D
Sample #2 : \\cash1\acqudata\GC22\data\111909_r.b\1119F040.D
Inj Date : 20-NOV-2009 06:11
Sample Info: K0910268-012 | HL-MW-29S
Misc Info :
Cal Date : 20-NOV-2009 09:33
Operator : JMSmith
Inst ID : GC22.i
Dil Factor : 1.000000

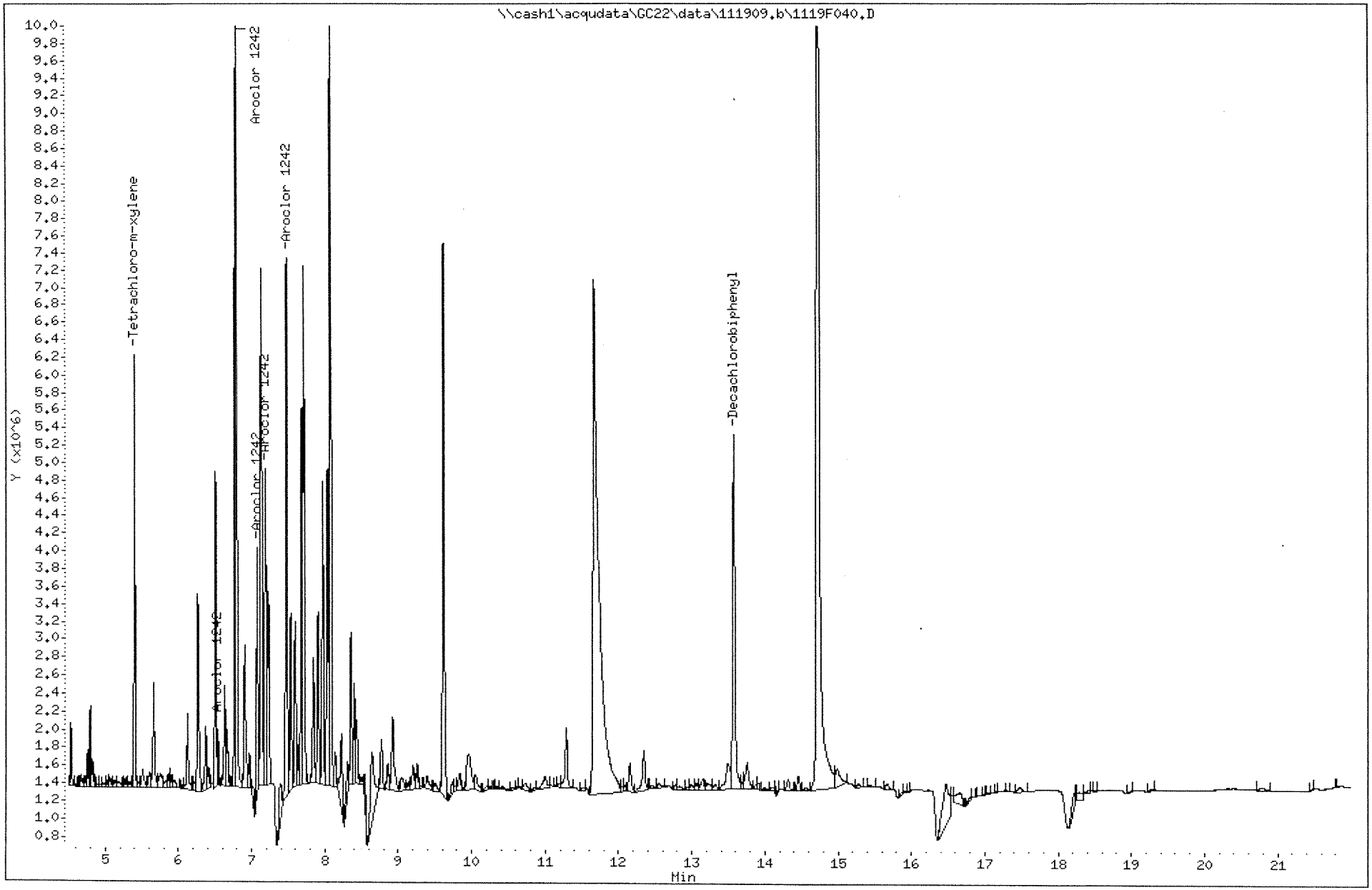
Method #1 : \\cash1\acqudata\GC22\data\111909.b\111709ul_f.m
Method #2 : \\cash1\acqudata\GC22\data\111909_r.b\111709ul_r.m
Sub List #1 : ALL.SUB
Sub List #2 : ALL.SUB
Col #1 Phase : DB-35MS
Col #2 Phase : DB-XLB

Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2	Target Range	Ratio
Tetrachloro-m-xylene	5.397	6.021	5071823	17616537	3.52	3.73		100.00(R)
Aroclor 1242	6.537	6.818	770354	9308607	46.1	95.4	80.00- 120.00	100.00(M)
	6.787	7.745	13976388	21044889	286	214	233.92- 350.88	1814.28(M)
	7.070	7.965	3721913	18738874	196	204	90.92- 136.39	483.14(M)
	7.183	8.181	5096891	25455912	296	275	82.48- 123.72	661.63(M)
	7.473	8.438	8990331	16435135	340	257	126.84- 190.26	1167.04(M)
			Average of Peak Amounts =		233	209		
Decachlorobiphenyl	13.573	14.721	8683878	22035880	5.84	4.92		100.00(R)

QC Flag Legend

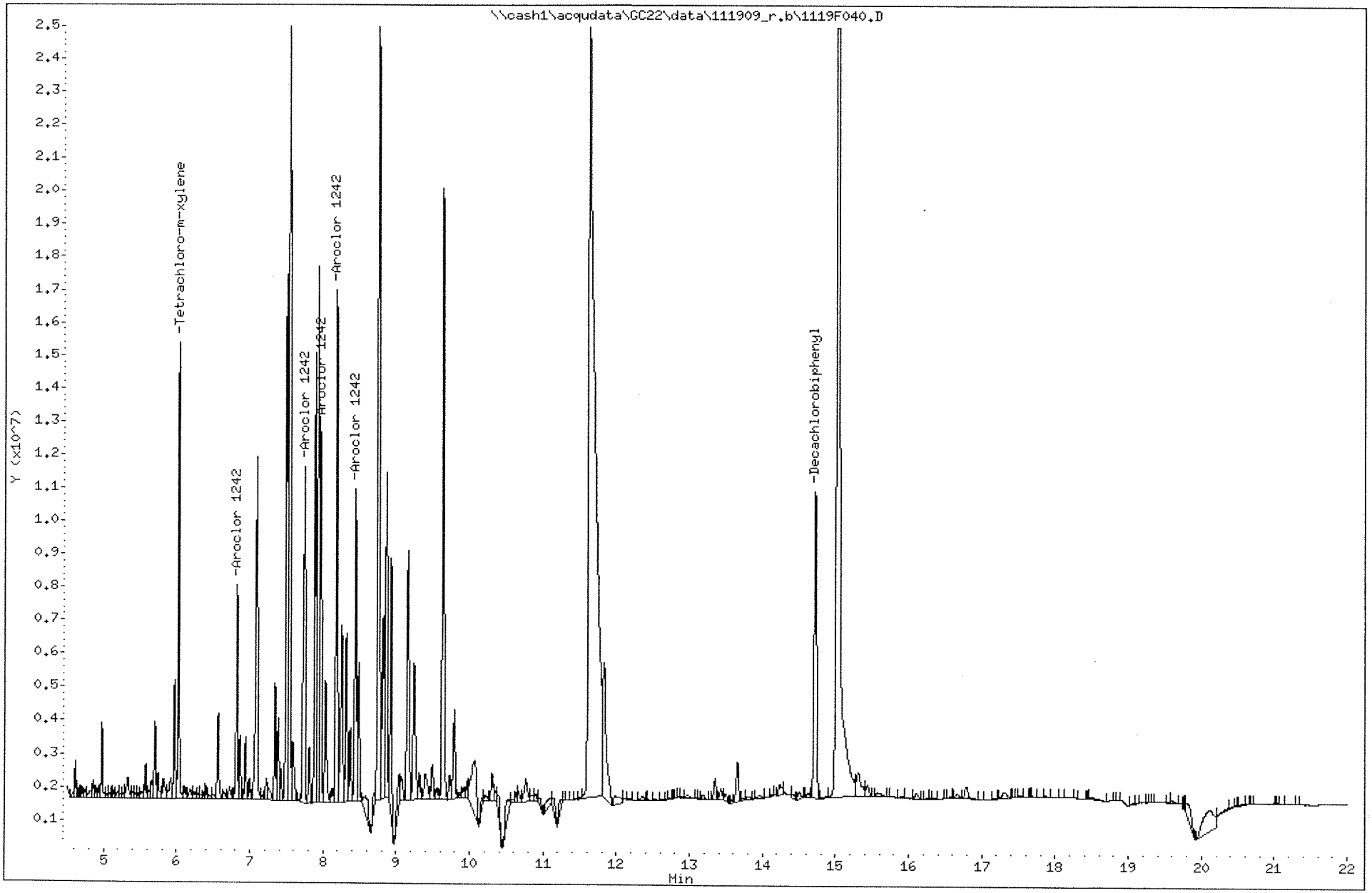
R - Spike/Surrogate failed recovery limits.
M - Compound response manually integrated.

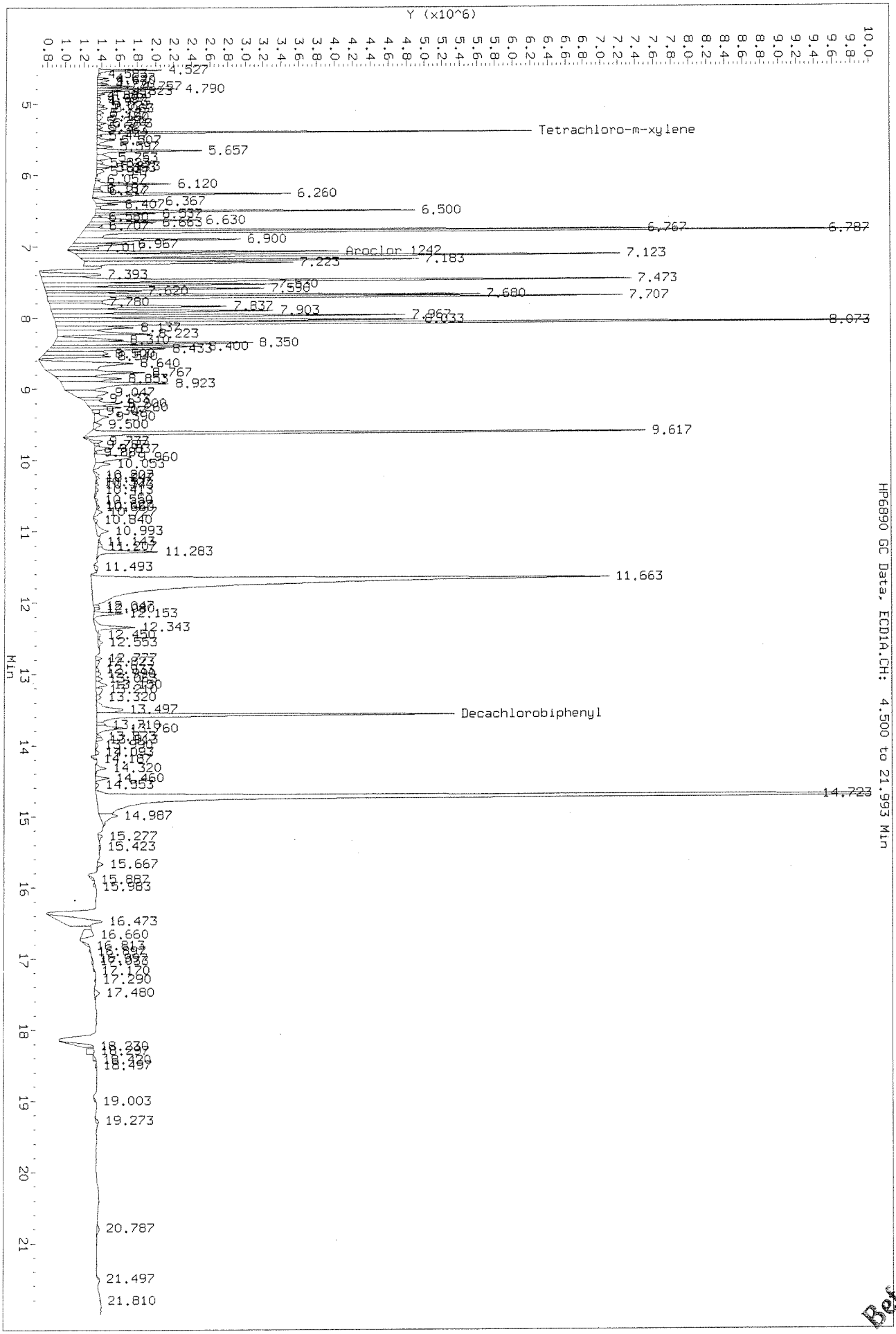
Data File: \\cash1\acqudata\GC22\data\111909.b\1119F040.D
Date : 20-NOV-2009 06:11
Client ID:
Instrument: GC22.i
Sample Info: K0910268-012 | HL-MW-29S
Operator: JMSmith
Column phase: DB-35MS
Column diameter: 0.32



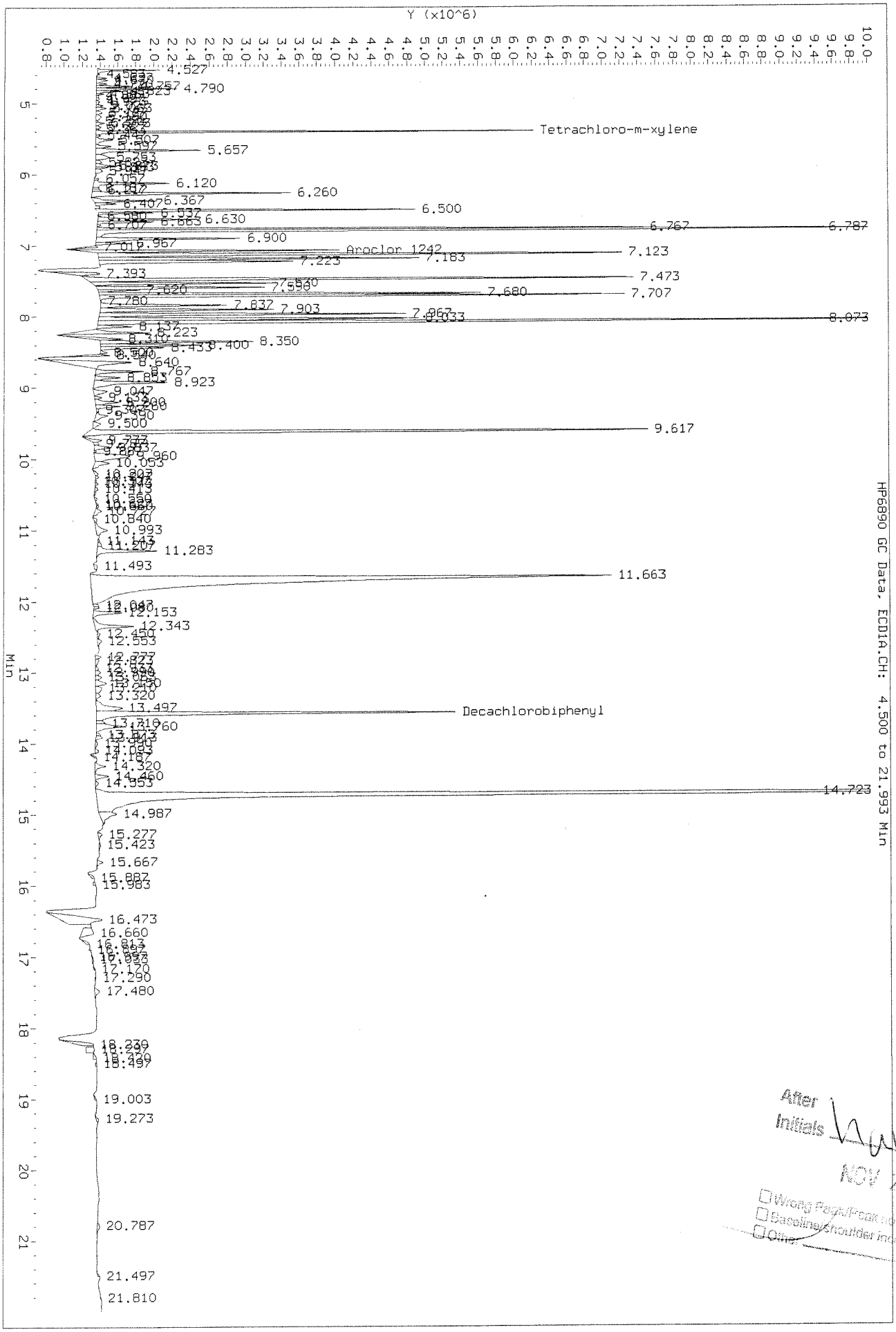
Data File: \\cash1\acqudata\GC22\data\111909_r.b\1119F040.D
Date : 20-NOV-2009 06:11
Client ID:
Sample Info: K0910268-012 | HL-MW-29S

Instrument: GC22.i
Operator: JMSmith
Column phase: DB-XLB
Column diameter: 0.32





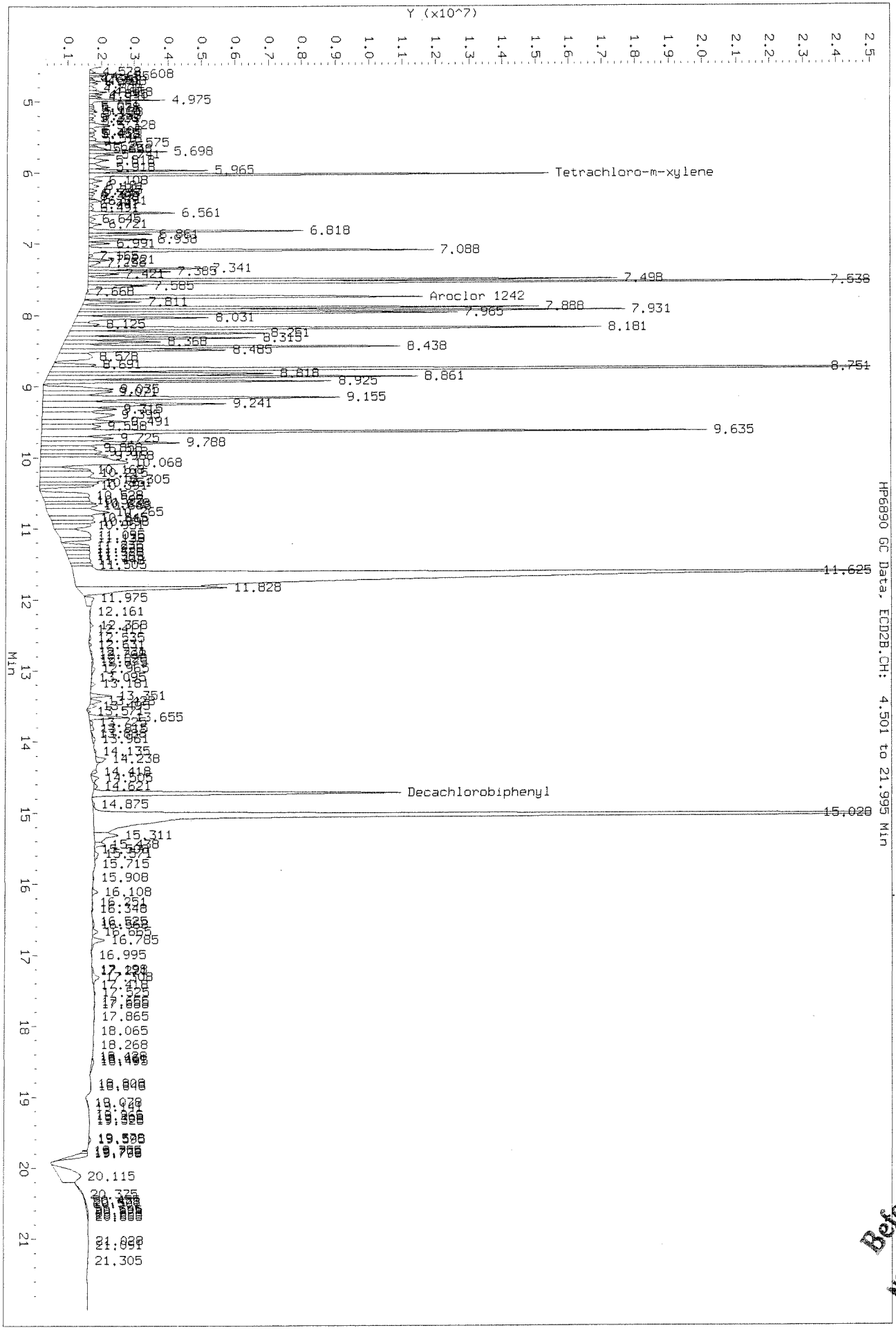
Before
NOV 20 2009



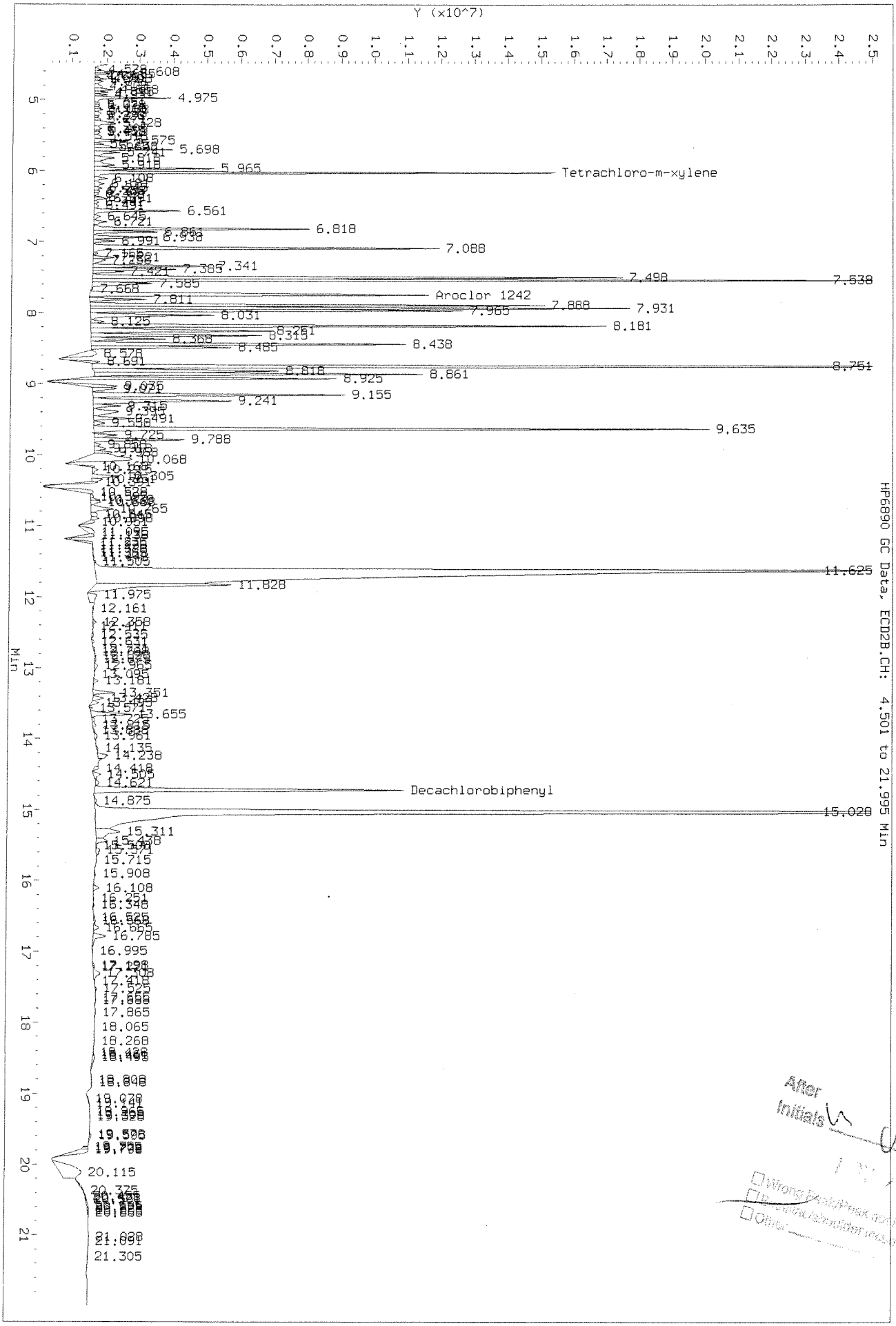
After Initials

NOV 20 2009

☐ Wrong Peak/Peak not Found
☐ Baseline/Shoulder Incorrect
☐ Other



Before
NOV 20 2009



After
Initials
Wrong Peak Picked
Peak Misidentified
Other

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	URS Corporation	**Service Request:**	K0910296
Project:	Boise St. Helens Pulp and Paper Mill-2009	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA

Polychlorinated Biphenyls (PCBs)

Sample Name:	Batch QCMS	**Units:**	ug/L
Lab Code:	KWG0910037-1	**Basis:**	NA
Extraction Method:	EPA 3535	**Level:**	Low
Analysis Method:	8082		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Aroclor 1016	**0.465**		0.0049	0.00096	1	10/28/09	11/15/09	KWG0910037	
Aroclor 1221	ND	U	0.0098	0.00096	1	10/28/09	11/15/09	KWG0910037	
Aroclor 1232	ND	U	0.0049	0.00096	1	10/28/09	11/15/09	KWG0910037	
Aroclor 1242	ND	U	0.0049	0.00096	1	10/28/09	11/15/09	KWG0910037	
Aroclor 1248	ND	U	0.0049	0.00096	1	10/28/09	11/15/09	KWG0910037	
Aroclor 1254	ND	U	0.0049	0.00096	1	10/28/09	11/15/09	KWG0910037	
Aroclor 1260	**0.164**		0.0049	0.00096	1	10/28/09	11/15/09	KWG0910037	
Aroclor 1262	ND	U	0.0049	0.00096	1	10/28/09	11/15/09	KWG0910037	
Aroclor 1268	ND	U	0.0049	0.00096	1	10/28/09	11/15/09	KWG0910037	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Decachlorobiphenyl	97	36-113	11/15/09	Acceptable

Comments:

Exception Report

Data File: \\CASH1\ACQUDATA\GC32\DATA\111509.B\1115F017.D
Lab ID: KWG0910037-1 -- K0910268-012MS
RunType: MS
Matrix: WATER

Date Acquired: 11/15/2009 21:22
Date Quantitated: 11/17/2009 13:59
Batch ID: KWG0910692
Analysis Method: 8082
MethodJoinID: MJ702

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Analytical Holding Time	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA		x
Calibration Verification Pass/Fail	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA		x
Continuing Calibration Recovery (Closing)	NA	NA	NA		x
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
Second Source ICAL Verification	Aroclor 1016	-15.6	NA	15	ICV
Continuing Calibration Recovery	Aroclor 1260	-21.3	NA	15	RO
	Aroclor 1016	-29.5	NA	15	
	Decachlorobiphenyl	-18.1	NA	15	
	Tetrachloro-m-xylene	-35.3	NA	15	
Continuing Calibration Recovery (Closing)	Aroclor 1260	-17.4	NA	15	
	Aroclor 1016	-27.2	NA	15	
	Tetrachloro-m-xylene	-35.0	NA	15	

Primary Review: WWD4

Secondary Review: [signature]

Printed: 11/17/2009 14:27:46
u:\Stealth\Crystal.rpt\except2.rpt

Exception Report

Data File: \\CASH1\ACQUDATA\GC32\DATA\111509_R.B\1115F017.D
Lab ID: KWG0910037-1 -- K0910268-012MS
RunType: MS
Matrix: WATER

Date Acquired: 11/15/2009 21:22
Date Quantitated: 11/17/2009 14:00
Batch ID: KWG0910692
Analysis Method: 8082
MethodJoinID: MJ702

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Analytical Holding Time	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Calibration Verification Ave %D	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA	x	
Calibration Verification Ave %D (Closing)	NA	NA	NA	x	
Continuing Calibration Recovery (Closing)	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Primary Review: _____

Secondary Review: _____

Printed: 11/17/2009 14:27:49
u:\Stealth\Crystal.rpt\except2.rpt

Quantitation Report

Bottle ID:		**Tier:**		**Matrix:**	WATER
Prod Code:	8082 PCB_ULL	**Collect Date:**		**Receive Date:**	11/06/2009

Analysis Lot:	KWG0910692	**Prep Lot:**	KWG0910037	**Report Group:**	
Analysis Method:	8082	**Prep Method:**	EPA 3535		
		Prep Date:	10/28/2009		
Prep Ref:	861922				

Quant Method:	\\CASH1\ACQUDATA\GC32\DATA\111509.B\111309UL_F.M	**Calibration ID:**	CAL9019
Title:			
MB Ref:	J:\GC32\DATA\111509.B\1115F001.D	**Method ID:**	MJ702
		Quant based on Method	

Data File #1:	J:\GC32\DATA\111509.B\1115F017.D			**Instrument:**	GC32.i
Data File #2:	\\cash1\acqudata\GC32\Data\111509_r.b\1115F017.D			**Vial:**	67
Acqu Date:	11/15/2009 21:22	**Quant Date:**	11/17/2009 13:59	**Dilution:**	1.0
Run Type:	MS			**Soln Conc. Units:**	ng/mL
Lab ID:	KWG0910037-1 -- K0910268-012MS				
Signal #1:	DB-35MS	**Signal #2:**	DB-XLB		

Surrogate Compounds

Parameter Name	RT #1		RT #2		Resp #1	Respe #2	ng/mL #1	ng/mL #2			Rpt
Tetrachloro-m-xylene	6.63	+0.00	7.60	+0.00	3897881	3158948	2.16[CCV]	2.87			57OK
						%Recovery =	43OK	57OK	Limits =	21-114	
Decachlorobiphenyl	19.29	+0.00	21.06	+0.00	6138643	4281137	3.80[CCV]	4.84			97OK
						%Recovery =	76OK	97OK	Limits =	36-113	

Target Compounds

Final Conc. Units: ug/L

Parameter Name	RT #1		RT #2		Resp #1	Resp #2	ng/mL #1	ng/mL #2	ug/L #1	ug/L #2	Rpt
Aroclor 1016					0	0	193.40[CCV]	239.57	0.376	0.465	**0.465**
Aroclor 1016 {1}	8.34	+0.00	9.24	+0.00	5467799m	2013072	251.41	102.61	0.488	0.199	
Aroclor 1016 {2}	8.39	+0.00	10.03	0.00	2573448m	14115075	84.83	250.39	0.165	0.486	
Aroclor 1016 {3}	8.80	+0.00	10.37	+0.00	18444351m	7615268	183.16	245.51	0.356	0.477	
Aroclor 1016 {4}	9.94	+0.00	11.13	+0.00	11928494m	8115016	214.14	289.41	0.416	0.562	
Aroclor 1016 {5}	10.28	+0.00	11.57	0.00	8630718m	5508703	233.44	309.91	0.453	0.602	
Aroclor 1221					0	0	0.0000	0.0000	0.00096U	0.00096U	0.00096U
Aroclor 1221 {1}					0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1221 {2}					0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1221 {3}					0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1221 {4}					0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1232					0	0	0.0000	0.0000	0.00096U	0.00096U	0.00096U
Aroclor 1232 {1}					0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1232 {2}					0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1232 {3}					0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1232 {4}					0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1242					0	0	0.0000	0.0000	0.00096U	0.00096U	0.00096U
Aroclor 1242 {1}					0d	0d	0.0000	0.0000	0.00096U	0.00096U	

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Data File #1:	J:\GC32\DATA\111509.B\1115F017.D			**Instrument:**	GC32.i
Data File #2:	\\cash1\acqudata\GC32\Data\111509_r.b\1115F017.D			**Vial:**	67
Acqu Date:	11/15/2009 21:22	**Quant Date:**	11/17/2009 13:59	**Dilution:**	1.0
Run Type:	MS			**Soln Conc. Units:**	ng/mL
Lab ID:	KWG0910037-1 -- K0910268-012MS				
Signal #1:	DB-35MS	**Signal #2:**	DB-XLB		

Target Compounds

Final Conc. Units: ug/L

Parameter Name	RT #1	RT #2	Resp #1	Resp #2	ng/mL #1	ng/mL #2	ug/L #1	ug/L #2	Rpt
Aroclor 1242 {2}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1242 {3}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1242 {4}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1242 {5}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1248			0	0	0.0000	0.0000	0.00096U	0.00096U	0.00096U
Aroclor 1248 {1}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1248 {2}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1248 {3}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1248 {4}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1248 {5}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1254			0	0	0.0000	0.0000	0.00096U	0.00096U	0.00096U
Aroclor 1254 {1}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1254 {2}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1254 {3}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1254 {4}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1254 {5}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1260			0	0	70.00[CCV]	84.42	0.136	0.164	**0.164**
Aroclor 1260 {1}	13.91 +0.00	15.16 +0.00	3468570	5428011	59.82	75.73	0.116	0.147	
Aroclor 1260 {2}	14.58 +0.00	15.87 0.00	6139355	6061430	73.82	71.80	0.143	0.139	
Aroclor 1260 {3}	15.34 +0.00	16.12 0.00	6314208	4026237	72.34	91.49	0.140	0.178	
Aroclor 1260 {4}	15.92 +0.00	16.61 -0.03	13761165	0	74.02	0.0000	0.144	0.00096U	
Aroclor 1260 {5}	16.83 0.00	17.38 +0.00	0	9253659	0.0000	98.66	0.00096U	0.192	
Aroclor 1262			0	0	0.0000	0.0000	0.00096U	0.00096U	0.00096U
Aroclor 1262 {1}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1262 {2}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1262 {3}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1262 {4}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1262 {5}			0	0	0.0000	0.0000	0.00096U	0.00096U	0.00096U
Aroclor 1268			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1268 {1}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1268 {2}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1268 {3}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1268 {4}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1268 {5}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	

The -/+ after Retention Time symbolize the direction of the RT shift

Prep Amount:	1030 ml	**Dilution:**	1.0
Prep Final Vol:	2 ml	**Unit Factor:**	1

Final Concentration = ((Soln Conc x Prep Final Vol x Dilution) / Prep Amount) x Unit Factor

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Data File: \\cash1\acqudata\GC32\Data\111509.b\1115F017.D
Report Date: 17-Nov-2009 13:58

Laboratory Name

Sample #1 : \\cash1\acqudata\GC32\Data\111509.b\1115F017.D
Sample #2 : \\cash1\acqudata\GC32\Data\111509_r.b\1115F017.D
Inj Date : 15-NOV-2009 21:22
Sample Info: KWG0910037-1 | K0910268-012MS | 8082 PCB_ULL
Misc Info :
Cal Date : 16-NOV-2009 19:28
Operator : JMSmith
Inst ID : GC32.i
Dil Factor : 1.000000

Method #1 : \\cash1\acqudata\GC32\Data\111509.b\111309ul_f.m
Method #2 : \\cash1\acqudata\GC32\Data\111509_r.b\111309ul_r.m
Sub List #1 : ALL.SUB
Sub List #2 : ALL.SUB
Col #1 Phase : DB-35MS
Col #2 Phase : DB-XLB

Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2	Target Range	Ratio
Tetrachloro-m-xylene	6.627	7.601	3897881	3158948	2.16	2.87		100.00(R)
Aroclor 1016	8.337	9.244	5467799	2013072	251	103	80.00- 120.00	100.00(M)
	8.394	10.031	2573448	14115075	84.8	250	107.98- 161.97	47.07(M)
	8.797	10.371	18444351	7615268	183	246	385.94- 578.91	337.33(M)
	9.937	11.128	11928494	8115016	214	289	209.57- 314.36	218.16(M)
	10.284	11.568	8630718	5508703	233	310	151.68- 227.52	157.85(M)
			Average of Peak Amounts =		193	240		
Aroclor 1260	13.914	15.164	3468570	5428011	59.8	75.7	80.00- 120.00	100.00
	14.577	15.874	6139355	6061430	73.8	71.8	114.97- 172.45	177.00
	15.337	16.121	6314208	4026237	72.3	91.5	122.71- 184.06	182.04
	15.917	16.611	13761165		74.0		276.33- 414.49	396.74
	16.827	17.384		9253659		98.6	115.81- 173.72	170.48
			Average of Peak Amounts =		70.0	84.4		
Decachlorobiphenyl	19.294	21.058	6138643	4281137	3.80	4.84		100.00(R)

QC Flag Legend

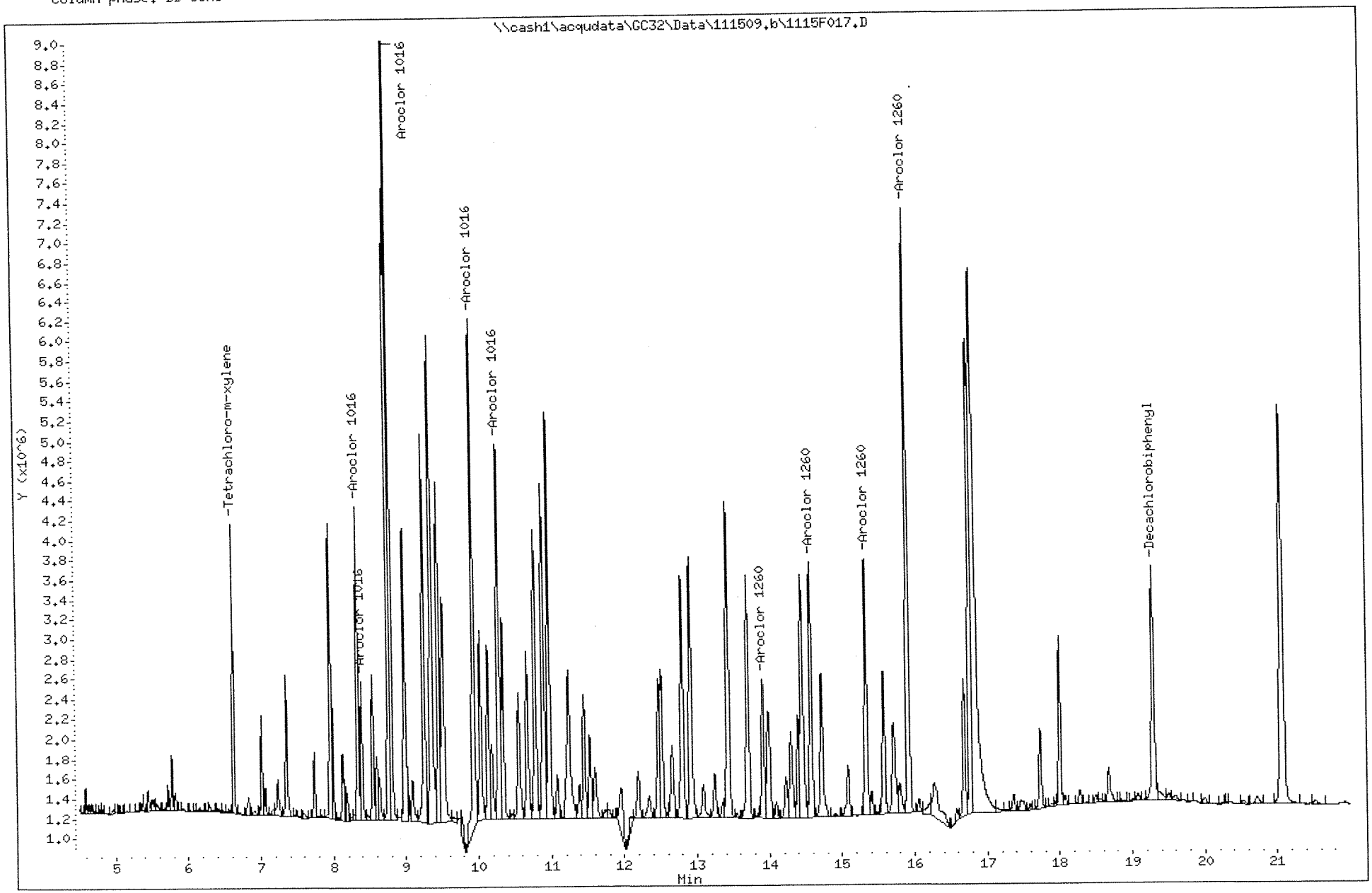
R - Spike/Surrogate failed recovery limits.
M - Compound response manually integrated.

Data File: \\cash1\acqudata\GC32\Data\111509.b\1115F017.D
Date : 15-NOV-2009 21:22
Client ID:
Sample Info: KWG0910037-1 | K0910268-012MS | 8082 PCB_ULL

Instrument: GC32.i

Operator: JMSmith
Column diameter: 0.32

Column phase: DB-35MS

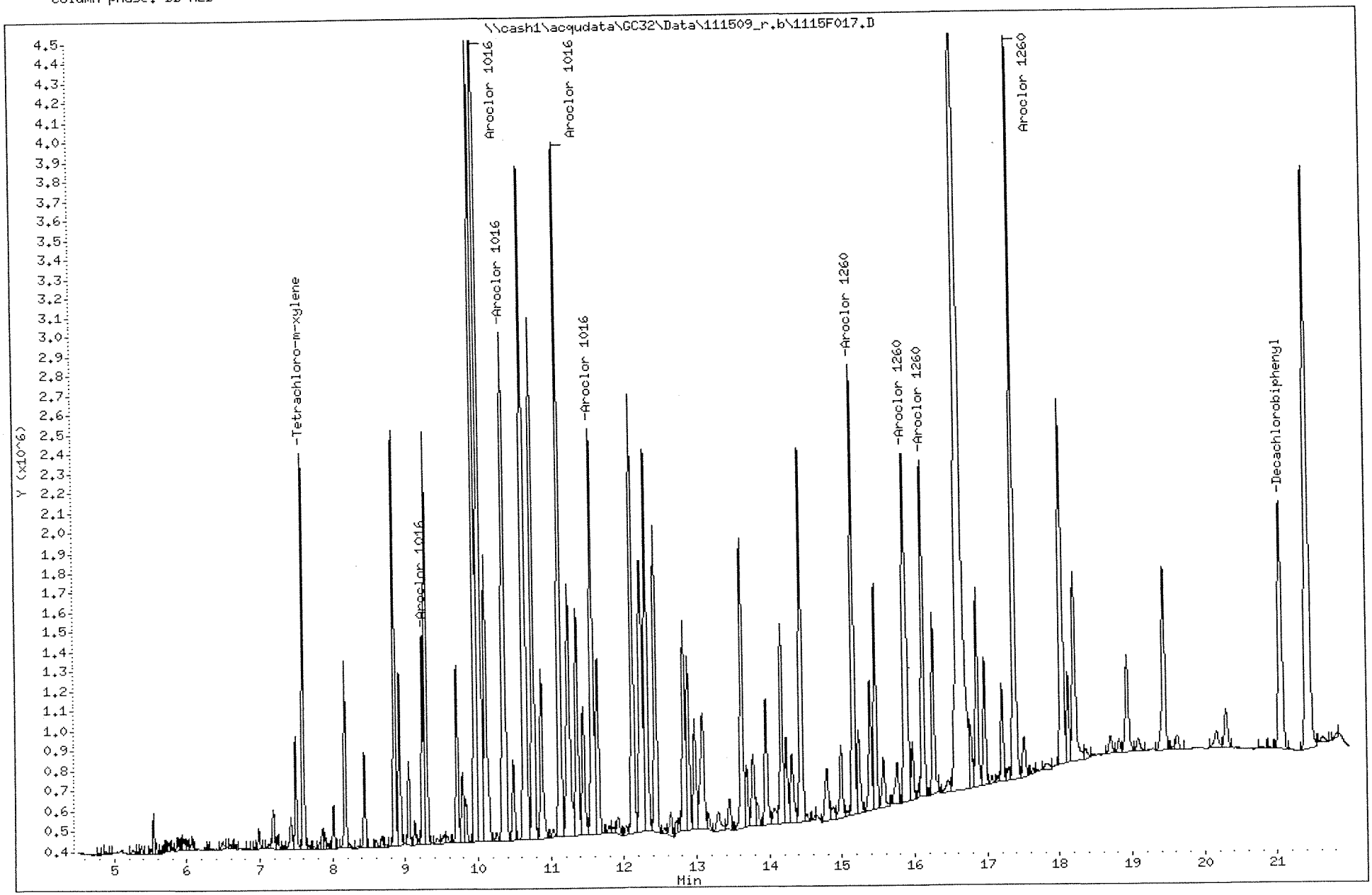


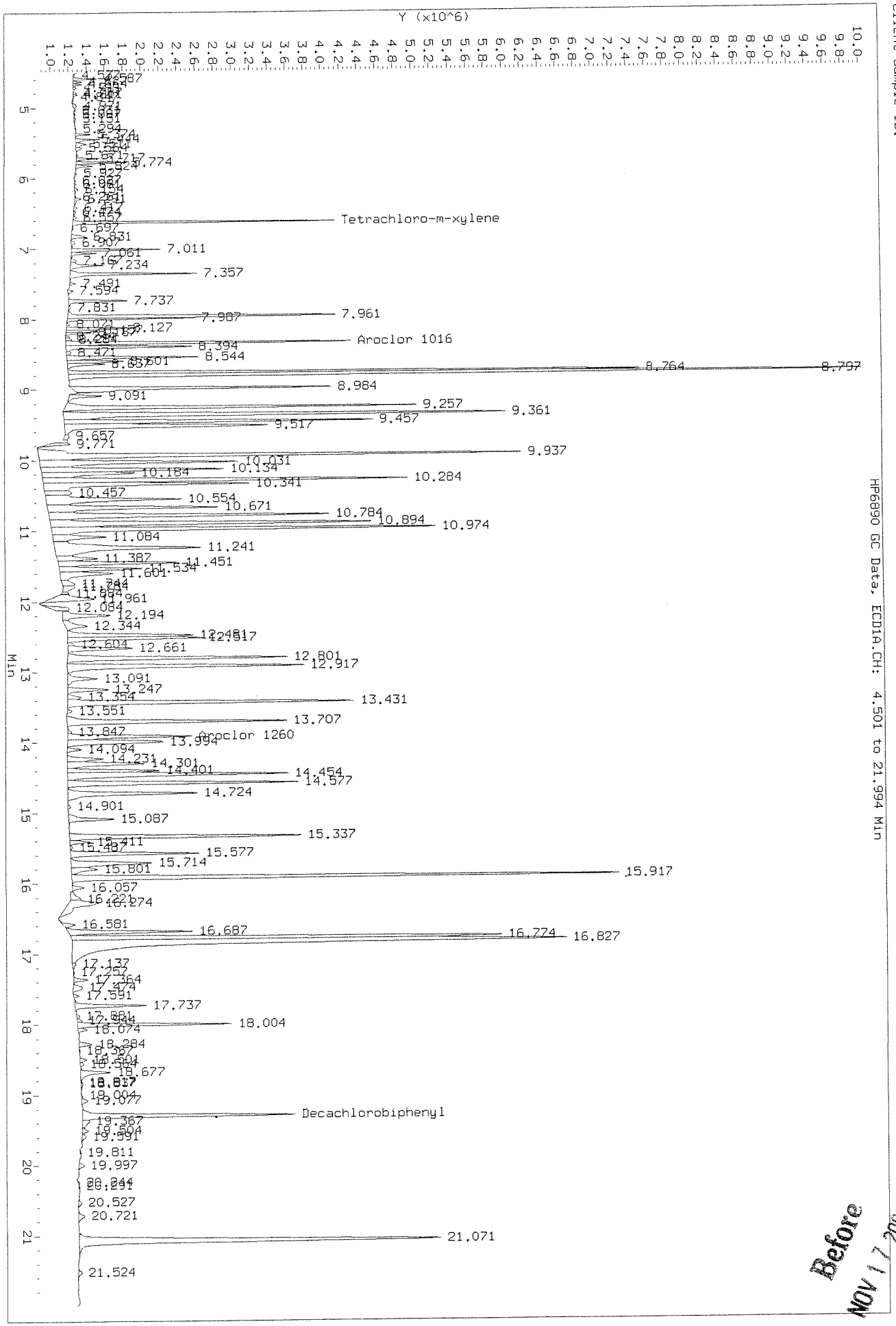
Data File: \\cash1\acqudata\GC32\Data\111509_r.b\1115F017.D
Date : 15-NOV-2009 21:22
Client ID:
Sample Info: KWG0910037-1 | K0910268-012MS | 8082 PCB_ULL

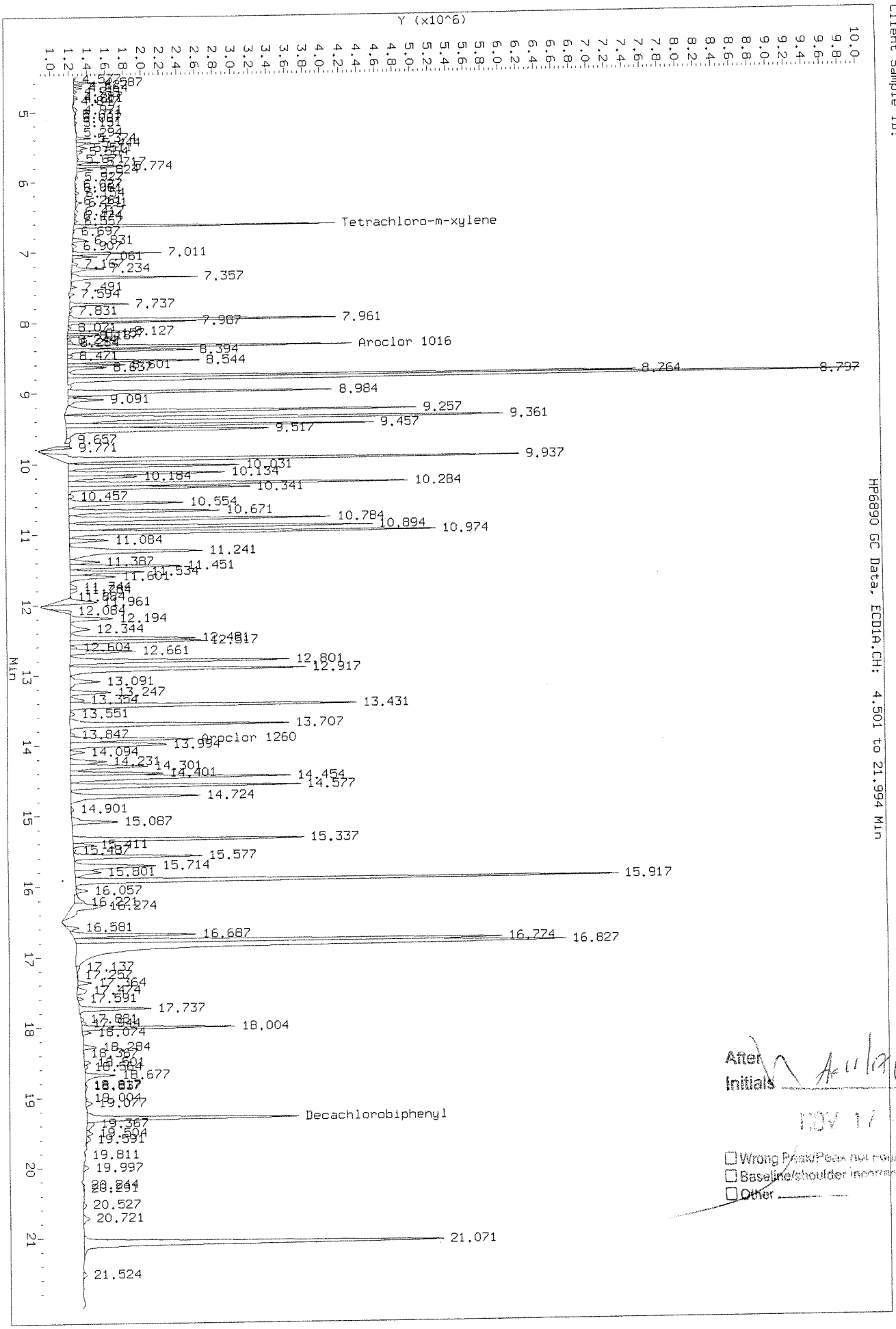
Instrument: GC32.i

Operator: JMSmith
Column diameter: 0.32

Column phase: DB-XLB




Data File: \\cash1\acqudata\GC32\Data\111509.b\1115F017.D
Injection Date: 15-NOV-2009 21:22
Instrument: GC32.i
Client Sample ID:
HP6890 GC Data, ECD1A.CH: 4.501 to 21.994 Min
Y (x10^6)
Min
Tetrachloro-m-xylene
Aroclor 1016
Aroclor 1260
Decachlorobiphenyl
Before
NOV 17 2009


Data File: \\cash\acqudata\GC32\Data\111509.b\1115F017.D
Injection Date: 15-NOV-2009 21:22
Instrument: GC32.1
Client Sample ID:
HP6890 GC Data, ECD1A.CH: 4.501 to 21.994 Min
Y (x10^6)
Min
Tetrachloro-m-xylene
Aroclor 1016
Aroclor 1260
Decachlorobiphenyl
7.011
7.357
7.737
7.961
8.394
8.544
8.264
8.797
8.984
9.091
9.257
9.361
9.457
9.517
9.937
10.284
10.974
11.241
11.451
12.961
12.194
12.661
12.801
12.917
13.431
13.707
13.994
14.301
14.454
14.577
14.724
15.087
15.337
15.577
15.714
15.917
16.581
16.687
16.774
16.827
17.737
18.004
21.071
21.524
After
Initials
NOV 17
Wrong Peak/Peak not found
Baseline/shoulder incorrect
Other

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009
Sample Matrix: Water

Service Request: K0910296
Date Collected: NA
Date Received: NA

Polychlorinated Biphenyls (PCBs)

Sample Name: Batch QCDMS
Lab Code: KWG0910037-2

Extraction Method: EPA 3535
Analysis Method: 8082

Units: ug/L
Basis: NA

Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Aroclor 1016	**0.490**		0.0049	0.00096	1	10/28/09	11/15/09	KWG0910037	
Aroclor 1221	ND	U	0.0098	0.00096	1	10/28/09	11/15/09	KWG0910037	
Aroclor 1232	ND	U	0.0049	0.00096	1	10/28/09	11/15/09	KWG0910037	
Aroclor 1242	ND	U	0.0049	0.00096	1	10/28/09	11/15/09	KWG0910037	
Aroclor 1248	ND	U	0.0049	0.00096	1	10/28/09	11/15/09	KWG0910037	
Aroclor 1254	ND	U	0.0049	0.00096	1	10/28/09	11/15/09	KWG0910037	
Aroclor 1260	**0.169**		0.0049	0.00096	1	10/28/09	11/15/09	KWG0910037	
Aroclor 1262	ND	U	0.0049	0.00096	1	10/28/09	11/15/09	KWG0910037	
Aroclor 1268	ND	U	0.0049	0.00096	1	10/28/09	11/15/09	KWG0910037	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Decachlorobiphenyl	101	36-113	11/15/09	Acceptable

Comments:

Exception Report

Data File: \\CASH1\ACQUDATA\GC32\DATA\111509.B\1115F018.D
Lab ID: KWG0910037-2 -- K0910268-012DMS
RunType: DMS
Matrix: WATER

Date Acquired: 11/15/2009 21:53
Date Quantitated: 11/17/2009 13:59
Batch ID: KWG0910692
Analysis Method: 8082
MethodJoinID: MJ702

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Analytical Holding Time	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA		x
Calibration Verification Pass/Fail	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA		x
Continuing Calibration Recovery (Closing)	NA	NA	NA		x
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
Second Source ICAL Verification	Aroclor 1016	-15.6	NA	15	ICV
Continuing Calibration Recovery	Aroclor 1260	-21.3	NA	15	VD
	Aroclor 1016	-29.5	NA	15	
	Decachlorobiphenyl	-18.1	NA	15	
	Tetrachloro-m-xylene	-35.3	NA	15	
Continuing Calibration Recovery (Closing)	Aroclor 1260	-17.4	NA	15	
	Aroclor 1016	-27.2	NA	15	
	Tetrachloro-m-xylene	-35.0	NA	15	

Primary Review: WMW 11/19/09

Secondary Review: Andrea 11/19/09

Printed: 11/17/2009 14:27:52
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Exception Report

Data File: \\CASH1\ACQUDATA\GC32\DATA\111509_R.B\1115F018.D
Lab ID: KWG0910037-2 -- K0910268-012DMS
RunType: DMS
Matrix: WATER

Date Acquired: 11/15/2009 21:53
Date Quantitated: 11/17/2009 14:00
Batch ID: KWG0910692
Analysis Method: 8082
MethodJoinID: MJ702

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Analytical Holding Time	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Calibration Verification Ave %D	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA	x	
Calibration Verification Ave %D (Closing)	NA	NA	NA	x	
Continuing Calibration Recovery (Closing)	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Primary Review: [signature]

Secondary Review: Audited by

Printed: 11/17/2009 14:27:55
u:\Stealth\Crystal.rpt\except2.rpt

Quantitation Report

Bottle ID:		**Tier:**		**Matrix:**	WATER
Prod Code:	8082 PCB_ULL	**Collect Date:**		**Receive Date:**	11/06/2009

Analysis Lot:	KWG0910692	**Prep Lot:**	KWG0910037	**Report Group:**	
Analysis Method:	8082	**Prep Method:**	EPA 3535		
		Prep Date:	10/28/2009		
Prep Ref:	861923				

Quant Method:	\\CASH1\ACQUDATA\GC32\DATA\111509.B\111309UL_F.M	**Calibration ID:**	CAL9019
Title:			
MB Ref:	J:\GC32\DATA\111509.B\1115F001.D	**Method ID:**	MJ702
		Quant based on Method	

Data File #1:	J:\GC32\DATA\111509.B\1115F018.D			**Instrument:**	GC32.i
Data File #2:	\\cash1\acqudata\GC32\Data\111509_r.b\1115F018.D			**Vial:**	68
Acqu Date:	11/15/2009 21:53	**Quant Date:**	11/17/2009 13:59	**Dilution:**	1.0
Run Type:	DMS			**Soln Conc. Units:**	ng/mL
Lab ID:	KWG0910037-2 -- K0910268-012DMS				
Signal #1:	DB-35MS	**Signal #2:**	DB-XLB		

Surrogate Compounds

Parameter Name	RT #1		RT #2		Resp #1	Respe #2	ng/mL #1	ng/mL #2			Rpt
Tetrachloro-m-xylene	6.62	0.00	7.60	+0.00	4208397	3406206	2.34^{CCV}	3.10			62OK
						%Recovery =	47OK	62OK	Limits =	21-114	
Decachlorobiphenyl	19.29	+0.00	21.06	+0.00	6612898	4459341	4.09^{CCV}	5.04			101OK
						%Recovery =	82OK	101OK	Limits =	36-113	

Target Compounds

Final Conc. Units: ug/L

Parameter Name	RT #1		RT #2		Resp #1	Resp #2	ng/mL #1	ng/mL #2	ug/L #1	ug/L #2	Rpt
Aroclor 1016					0	0	205.28^{CCV}	252.53	0.399	0.490	**0.490**
Aroclor 1016 {1}	8.34	+0.00	9.24	+0.00	5893153m	2225106	270.97	113.42	0.526	0.220	
Aroclor 1016 {2}	8.39	+0.00	10.03	0.00	2744431m	14782326	90.47	262.23	0.176	0.509	
Aroclor 1016 {3}	8.80	+0.00	10.37	+0.00	19340910m	8000924	192.06	257.94	0.373	0.501	
Aroclor 1016 {4}	9.93	0.00	11.13	+0.00	12576452m	8479654	225.78	302.41	0.438	0.587	
Aroclor 1016 {5}	10.28	+0.00	11.57	0.00	9137636m	5806161	247.16	326.64	0.480	0.634	
Aroclor 1221					0	0	0.0000	0.0000	0.00096U	0.00096U	0.00096U
Aroclor 1221 {1}					0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1221 {2}					0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1221 {3}					0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1221 {4}					0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1232					0	0	0.0000	0.0000	0.00096U	0.00096U	0.00096U
Aroclor 1232 {1}					0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1232 {2}					0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1232 {3}					0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1232 {4}					0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1242					0	0	0.0000	0.0000	0.00096U	0.00096U	0.00096U
Aroclor 1242 {1}					0d	0d	0.0000	0.0000	0.00096U	0.00096U	

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Data File #1:	J:\GC32\DATA\111509.B\1115F018.D			**Instrument:**	GC32.i
Data File #2:	\\cash1\acqudata\GC32\Data\111509_r.b\1115F018.D			**Vial:**	68
Acqu Date:	11/15/2009 21:53	**Quant Date:**	11/17/2009 13:59	**Dilution:**	1.0
Run Type:	DMS			**Soln Conc. Units:**	ng/mL
Lab ID:	KWG0910037-2 -- K0910268-012DMS				
Signal #1:	DB-35MS	**Signal #2:**	DB-XLB		

Target Compounds

Final Conc. Units: ug/L

Parameter Name	RT #1	RT #2	Resp #1	Resp #2	ng/mL #1	ng/mL #2	ug/L #1	ug/L #2	Rpt
Aroclor 1242 {2}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1242 {3}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1242 {4}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1242 {5}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1248			0	0	0.0000	0.0000	0.00096U	0.00096U	0.00096U
Aroclor 1248 {1}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1248 {2}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1248 {3}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1248 {4}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1248 {5}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1254			0	0	0.0000	0.0000	0.00096U	0.00096U	0.00096U
Aroclor 1254 {1}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1254 {2}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1254 {3}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1254 {4}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1254 {5}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1260			0	0	72.35[CCV]	86.80	0.140	0.169	**0.169**
Aroclor 1260 {1}	13.91 +0.00	15.16 +0.00	3537890	5392161	61.02	75.23	0.118	0.146	
Aroclor 1260 {2}	14.58 +0.00	15.87 0.00	6458352	6331961	77.66	75.01	0.151	0.146	
Aroclor 1260 {3}	15.34 +0.00	16.12 0.00	6469808	4214045	74.12	95.76	0.144	0.186	
Aroclor 1260 {4}	15.92 +0.00	16.61 -0.03	14240947	0	76.60	0.0000	0.149	0.00096U	
Aroclor 1260 {5}	16.83 0.00	17.38 0.00	0	9493870	0.0000	101.22	0.00096U	0.197	
Aroclor 1262			0	0	0.0000	0.0000	0.00096U	0.00096U	0.00096U
Aroclor 1262 {1}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1262 {2}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1262 {3}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1262 {4}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1262 {5}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1268			0	0	0.0000	0.0000	0.00096U	0.00096U	0.00096U
Aroclor 1268 {1}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1268 {2}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1268 {3}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1268 {4}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1268 {5}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	

The -/+ after Retention Time symbolize the direction of the RT shift

Prep Amount:	1030 ml	**Dilution:**	1.0
Prep Final Vol:	2 ml	**Unit Factor:**	1

Final Concentration = ((Soln Conc x Prep Final Vol x Dilution) / Prep Amount) x Unit Factor

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Data File: \\cash1\acqudata\GC32\Data\111509.b\1115F018.D
Report Date: 17-Nov-2009 13:59

Laboratory Name

Sample #1 : \\cash1\acqudata\GC32\Data\111509.b\1115F018.D
Sample #2 : \\cash1\acqudata\GC32\Data\111509_r.b\1115F018.D
Inj Date : 15-NOV-2009 21:53
Sample Info: KWG0910037-2 | K0910268-012DMS | 8082 PCB_ULL
Misc Info :
Cal Date : 16-NOV-2009 19:28
Operator : JMSmith
Inst ID : GC32.i
Dil Factor : 1.000000

Method #1 : \\cash1\acqudata\GC32\Data\111509.b\111309ul_f.m
Method #2 : \\cash1\acqudata\GC32\Data\111509_r.b\111309ul_r.m
Sub List #1 : ALL.SUB
Sub List #2 : ALL.SUB
Col #1 Phase : DB-35MS
Col #2 Phase : DB-XLB

Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2	Target Range	Ratio
Tetrachloro-m-xylene	6.624	7.601	4208397	3406206	2.33	3.10		100.00(R)
Aroclor 1016	8.337	9.244	5893153	2225106	271	113	80.00- 120.00	100.00(M)
	8.394	10.031	2744431	14782326	90.5	262	107.98- 161.97	46.57(M)
	8.797	10.371	19340910	8000924	192	258	385.94- 578.91	328.19(M)
	9.934	11.128	12576452	8479654	226	302	209.57- 314.36	213.41(M)
	10.284	11.568	9137636	5806161	247	327	151.68- 227.52	155.06(M)
			Average of Peak Amounts =		205	252		
Aroclor 1260	13.914	15.164	3537890	5392161	61.0	75.2	80.00- 120.00	100.00
	14.577	15.874	6458352	6331961	77.6	75.0	114.97- 172.45	182.55
	15.337	16.121	6469808	4214045	74.1	95.8	122.71- 184.06	182.87
	15.917	16.611	14240947		76.6		276.33- 414.49	402.53
	16.827	17.381		9493870		101	115.81- 173.72	176.07
			Average of Peak Amounts =		72.3	86.8		
Decachlorobiphenyl	19.294	21.058	6612898	4459341	4.09	5.04		100.00(R)

QC Flag Legend

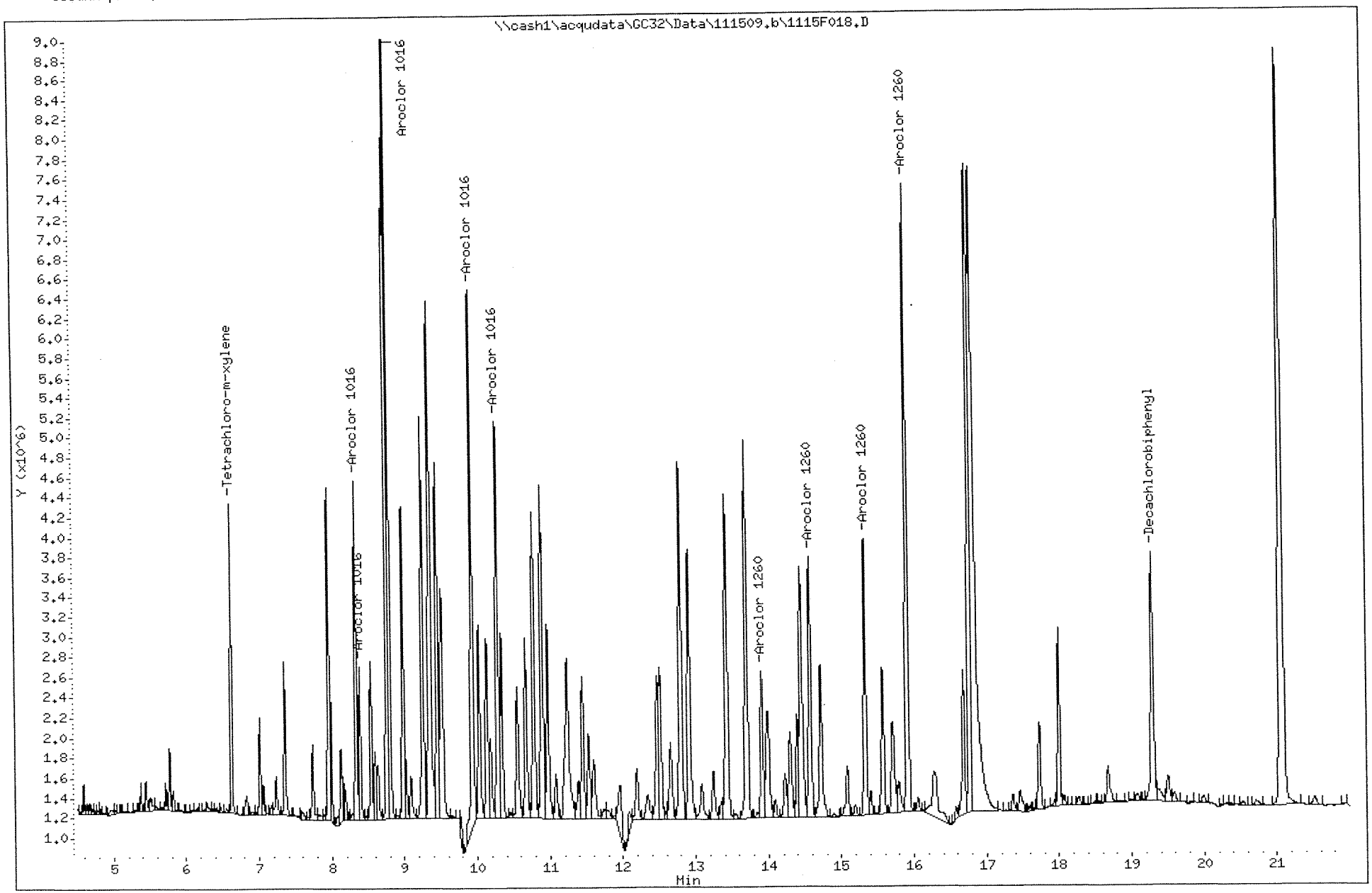
R - Spike/Surrogate failed recovery limits.
M - Compound response manually integrated.

Data File: \\cash1\acqudata\GC32\Data\111509.b\1115F018.D
Date : 15-NOV-2009 21:53
Client ID:
Sample Info: KWG0910037-2 | K0910268-012DMS | 8082 PCB_ULL

Instrument: GC32.i

Operator: JMSmith
Column diameter: 0.32

Column phase: DB-35MS

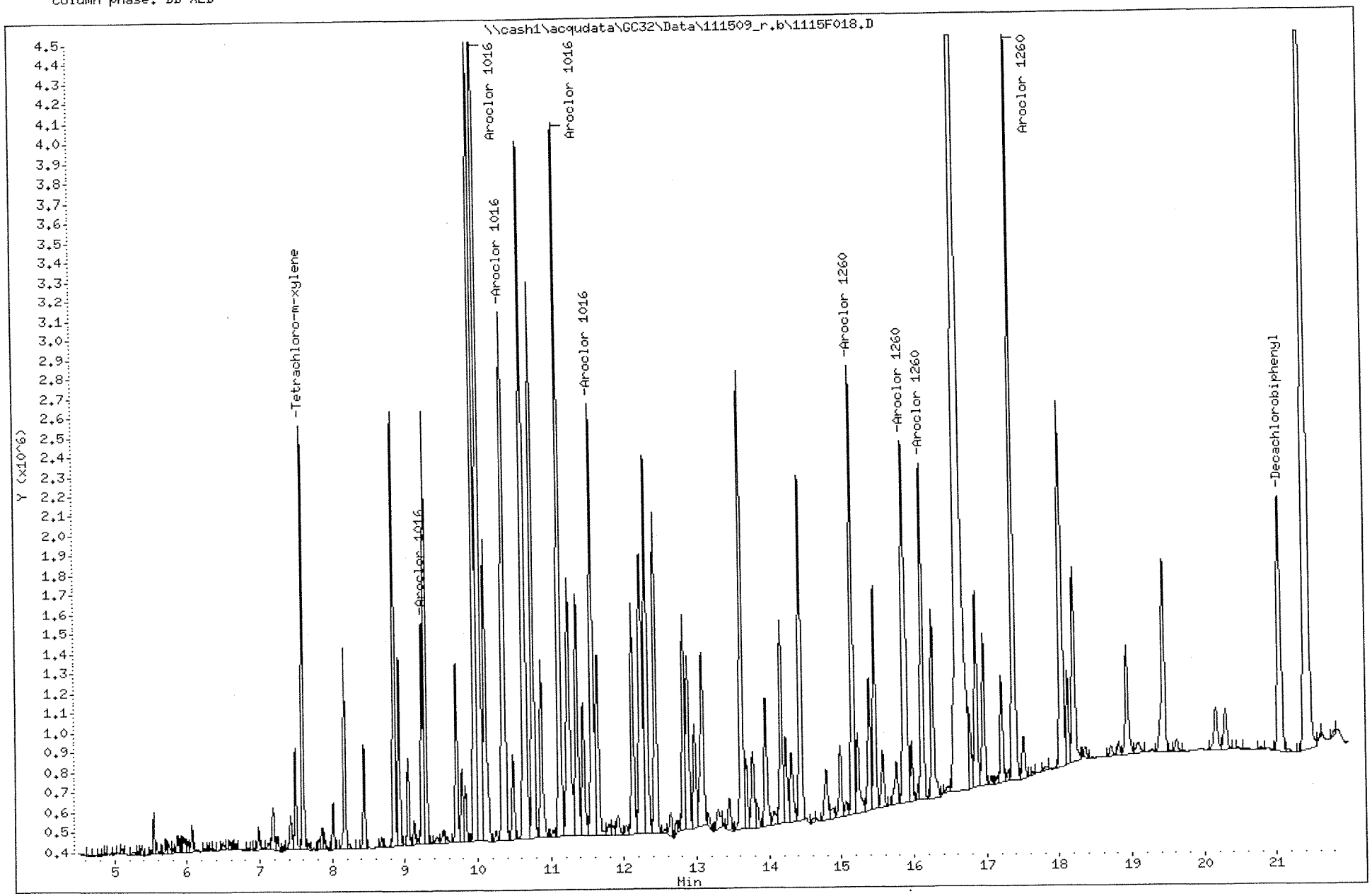


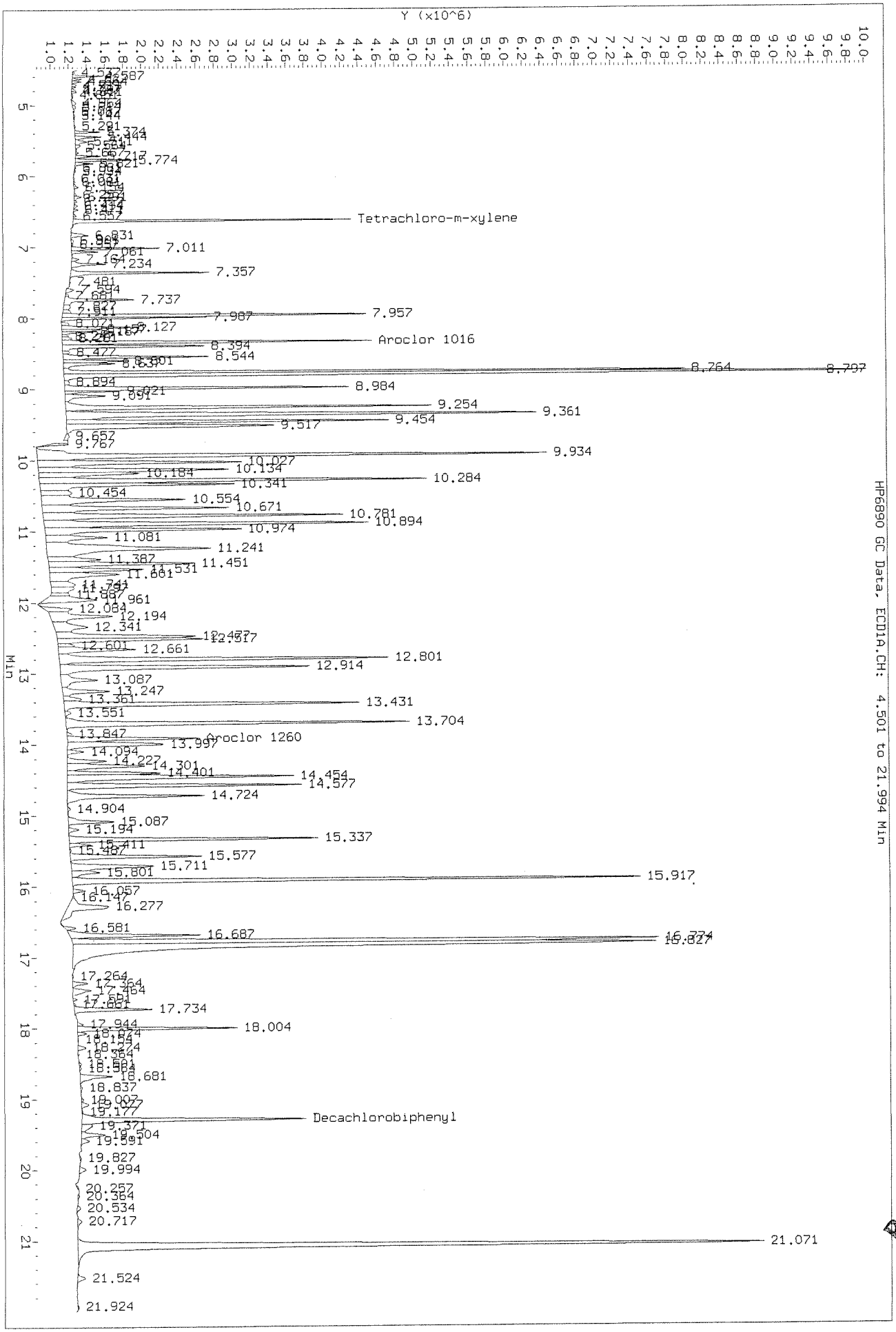
Data File: \\cash1\acqudata\GC32\Data\111509_r.b\1115F018.D
Date : 15-NOV-2009 21:53
Client ID:
Sample Info: KWG0910037-2 | K0910268-012DMS | 8082 PCB_ULL

Instrument: GC32.i

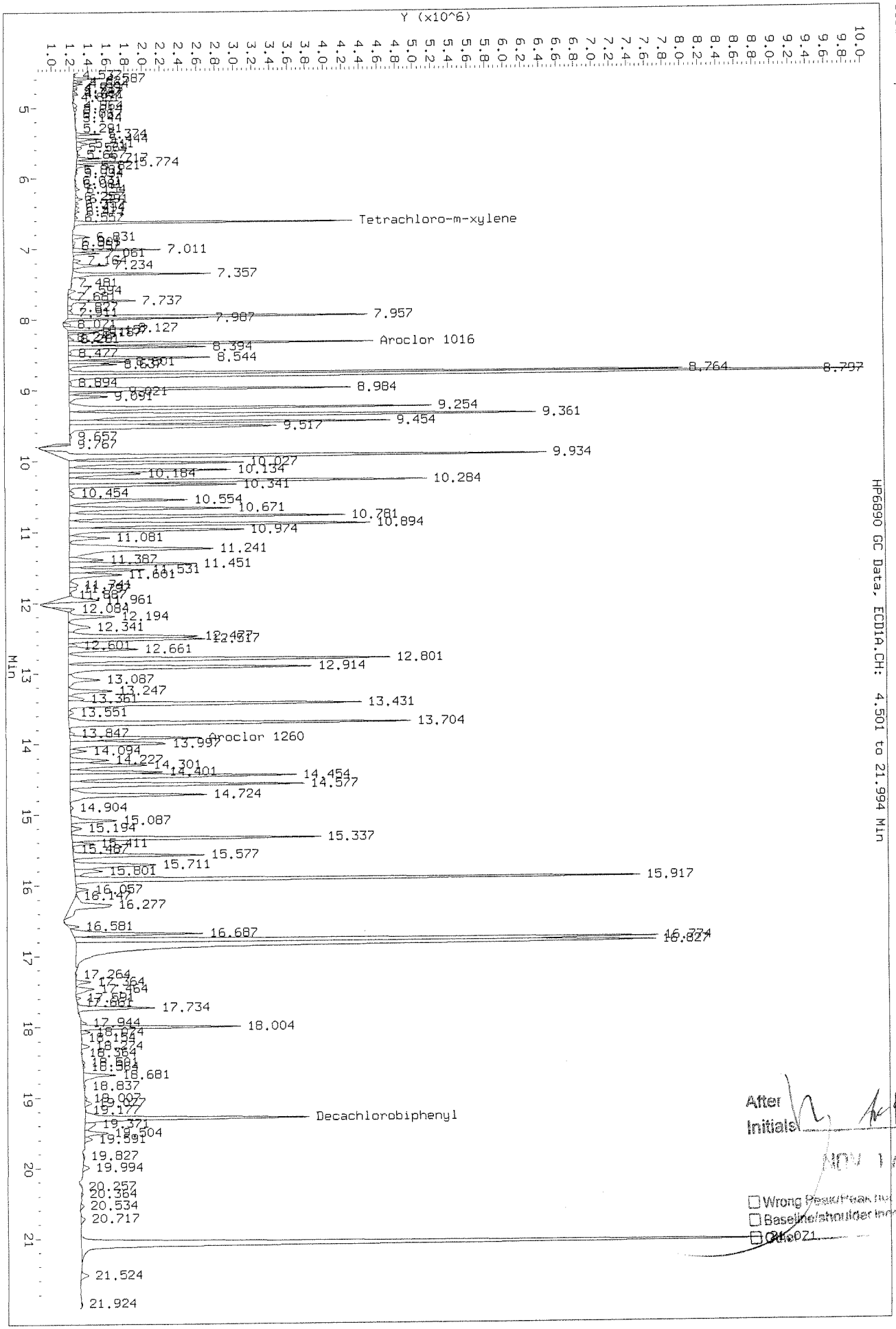
Operator: JMSmith
Column diameter: 0.32

Column phase: DB-XLB





Before
NOV 17 2009



Data File: \\cash1\acqudata\GC32\Data\111509.b\1115F018.D
Injection Date: 15-NOV-2009 21:53
Instrument: GC32.i
Client Sample ID:

HP6890 GC Data, ECD1A.CH: 4.501 to 21.994 Min

After Initials

☐ Wrong Peak/Peak not found
☐ Baseline/shoulder incorrect
☐ Other

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009
Sample Matrix: Water

Service Request: K0910296
Date Collected: NA
Date Received: NA

Polychlorinated Biphenyls (PCBs)

Sample Name: Lab Control Sample
Lab Code: KWG0910037-3

Extraction Method: EPA 3535
Analysis Method: 8082

Units: ug/L
Basis: NA

Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Aroclor 1016	**0.152**		0.0050	0.00096	1	10/28/09	11/15/09	KWG0910037	
Aroclor 1221	ND	U	0.010	0.00096	1	10/28/09	11/15/09	KWG0910037	
Aroclor 1232	ND	U	0.0050	0.00096	1	10/28/09	11/15/09	KWG0910037	
Aroclor 1242	ND	U	0.0050	0.00096	1	10/28/09	11/15/09	KWG0910037	
Aroclor 1248	ND	U	0.0050	0.00096	1	10/28/09	11/15/09	KWG0910037	
Aroclor 1254	ND	U	0.0050	0.00096	1	10/28/09	11/15/09	KWG0910037	
Aroclor 1260	**0.159**		0.0050	0.00096	1	10/28/09	11/15/09	KWG0910037	
Aroclor 1262	ND	U	0.0050	0.00096	1	10/28/09	11/15/09	KWG0910037	
Aroclor 1268	ND	U	0.0050	0.00096	1	10/28/09	11/15/09	KWG0910037	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Decachlorobiphenyl	90	36-113	11/15/09	Acceptable

Comments:

Exception Report

Data File: \\CASH1\ACQUDATA\GC32\DATA\111509.B\1115F002.D
Lab ID: KWG0910037-3
RunType: LCS
Matrix: WATER

Date Acquired: 11/15/2009 13:51
Date Quantitated: 11/17/2009 13:58
Batch ID: KWG0910692
Analysis Method: 8082
MethodJoinID: MJ702

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Analytical Holding Time	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA		x
Calibration Verification Pass/Fail	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA		x
Continuing Calibration Recovery (Closing)	NA	NA	NA		x
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
Second Source ICAL Verification	Aroclor 1016	-15.6	NA	15	
Continuing Calibration Recovery	Aroclor 1016	-22.8	NA	15	
	Tetrachloro-m-xylene	-33.8	NA	15	
Continuing Calibration Recovery (Closing)	Aroclor 1260	-21.3	NA	15	
	Aroclor 1016	-29.5	NA	15	
	Decachlorobiphenyl	-18.1	NA	15	
	Tetrachloro-m-xylene	-35.3	NA	15	

Primary Review: MMXC

Secondary Review: 11/17/09

Printed: 11/17/2009 14:26:46
u:\Stealth\Crystal.rpt\except2.rpt

Exception Report

Data File: \\CASH1\ACQUDATA\GC32\DATA\111509_R.B\1115F002.D
Lab ID: KWG0910037-3
RunType: LCS
Matrix: WATER

Date Acquired: 11/15/2009 13:51
Date Quantitated: 11/17/2009 13:59
Batch ID: KWG0910692
Analysis Method: 8082
MethodJoinID: MJ702

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Analytical Holding Time	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Calibration Verification Ave %D	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA		x
Calibration Verification Ave %D (Closing)	NA	NA	NA	x	
Continuing Calibration Recovery (Closing)	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
Continuing Calibration Recovery	Tetrachloro-m-xylene	-15.3	NA	15	ON

Primary Review: [signature]

Secondary Review: [signature] 11/17/09

Printed: 11/17/2009 14:26:49
u:\Stealth\Crystal.rpt\except2.rpt

Quantitation Report

Bottle ID:		**Tier:**		**Matrix:**	WATER
Prod Code:	8082 PCB_LL	**Collect Date:**		**Receive Date:**	11/02/2009

Analysis Lot:	KWG0910692	**Prep Lot:**	KWG0910037	**Report Group:**	
Analysis Method:	8082	**Prep Method:**	EPA 3535		
		Prep Date:	10/28/2009		
Prep Ref:	861924				

Quant Method:	\\CASH1\ACQUDATA\GC32\DATA\111509.B\111309UL_F.M	**Calibration ID:**	CAL9019
Title:			
MB Ref:	J:\GC32\DATA\111509.B\1115F001.D	**Method ID:**	MJ702
		Quant based on Method	

Data File #1:	J:\GC32\DATA\111509.B\1115F002.D			**Instrument:**	GC32.i
Data File #2:	\\cash1\acqudata\GC32\Data\111509_r.b\1115F002.D			**Vial:**	56
Acqu Date:	11/15/2009 13:51	**Quant Date:**	11/17/2009 13:58	**Dilution:**	1.0
Run Type:	LCS			**Soln Conc. Units:**	ng/mL
Lab ID:	KWG0910037-3				
Signal #1:	DB-35MS	**Signal #2:**	DB-XLB		

Surrogate Compounds

Parameter Name	RT #1		RT #2		Resp #1	Respe #2	ng/mL #1	ng/mL #2			Rpt
Tetrachloro-m-xylene	6.63		7.60		4012602	2857376	2.23^{ccv}	2.60^{ccv}			52OK
					%Recovery =		45OK	52OK	Limits =	21-114	
Decachlorobiphenyl	19.29	+0.00	21.05		6403958	3980362	3.96^{ccv}	4.50			90OK
					%Recovery =		79OK	90OK	Limits =	36-113	

Target Compounds

Final Conc. Units: ug/L

Parameter Name	RT #1		RT #2		Resp #1	Resp #2	ng/mL #1	ng/mL #2	ug/L #1	ug/L #2	Rpt
Aroclor 1016					0	0	60.47^{ccv}	76.08	0.121	0.152	0.152
Aroclor 1016 {1}	8.34	+0.00	9.24		1391230m	1450419m	63.97	73.93	0.128	0.148	
Aroclor 1016 {2}	8.39		10.03	0.00	1700370m	3964614m	56.05	70.33	0.112	0.141	
Aroclor 1016 {3}	8.80		10.37	0.00	5834057m	2229869m	57.93	71.89	0.116	0.144	
Aroclor 1016 {4}	9.93		11.13	0.00	2865734m	1948225m	51.45	69.48	0.103	0.139	
Aroclor 1016 {5}	10.28		11.57	+0.00	2697035m	1684734m	72.95	94.78	0.146	0.190	
Aroclor 1221					0	0	0.0000	0.0000	0.00096U	0.00096U	0.00096U
Aroclor 1221 {1}					0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1221 {2}					0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1221 {3}					0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1221 {4}					0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1232					0	0	0.0000	0.0000	0.00096U	0.00096U	0.00096U
Aroclor 1232 {1}					0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1232 {2}					0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1232 {3}					0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1232 {4}					0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1242					0	0	0.0000	0.0000	0.00096U	0.00096U	0.00096U
Aroclor 1242 {1}					0d	0d	0.0000	0.0000	0.00096U	0.00096U	

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Data File #1:	J:\GC32\DATA\111509.B\1115F002.D			**Instrument:**	GC32.i
Data File #2:	\\cash1\acqudata\GC32\Data\111509_r.b\1115F002.D			**Vial:**	56
Acqu Date:	11/15/2009 13:51	**Quant Date:**	11/17/2009 13:58	**Dilution:**	1.0
Run Type:	LCS			**Soln Conc. Units:**	ng/mL
Lab ID:	KWG0910037-3				
Signal #1:	DB-35MS	**Signal #2:**	DB-XLB		

Target Compounds

Final Conc. Units: ug/L

Parameter Name	RT #1	RT #2	Resp #1	Resp #2	ng/mL #1	ng/mL #2	ug/L #1	ug/L #2	Rpt
Aroclor 1242 {2}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1242 {3}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1242 {4}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1242 {5}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1248			0	0	0.0000	0.0000	0.00096U	0.00096U	0.00096U
Aroclor 1248 {1}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1248 {2}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1248 {3}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1248 {4}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1248 {5}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1254			0	0	0.0000	0.0000	0.00096U	0.00096U	0.00096U
Aroclor 1254 {1}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1254 {2}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1254 {3}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1254 {4}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1254 {5}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1260			0	0	70.71 ccv	79.66	0.141	0.159	0.159
Aroclor 1260 {1}	13.91	15.16	3295441m	5075469	56.84	70.81	0.114	0.142	
Aroclor 1260 {2}	14.58	15.88 +0.00	6246885m	5687549	75.12	67.37	0.150	0.135	
Aroclor 1260 {3}	15.34 +0.00	16.12	6494413m	3856231	74.40	87.63	0.149	0.175	
Aroclor 1260 {4}	15.92	16.61 -0.03	14217413m	0	76.47	0.0000	0.153	0.00096U	
Aroclor 1260 {5}	16.83 0.00	17.38	0m	8705614	0.0000	92.82	0.00096U	0.186	
Aroclor 1262			0	0	0.0000	0.0000	0.00096U	0.00096U	0.00096U
Aroclor 1262 {1}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1262 {2}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1262 {3}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1262 {4}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1262 {5}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1268			0	0	0.0000	0.0000	0.00096U	0.00096U	0.00096U
Aroclor 1268 {1}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1268 {2}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1268 {3}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1268 {4}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1268 {5}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	

The -/+ after Retention Time symbolize the direction of the RT shift

Prep Amount:	1000 ml	**Dilution:**	1.0
Prep Final Vol:	2 ml	**Unit Factor:**	1

Final Concentration = ((Soln Conc x Prep Final Vol x Dilution) / Prep Amount) x Unit Factor

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Data File: \\cash1\acqudata\GC32\Data\111509.b\1115F002.D
Report Date: 17-Nov-2009 13:58

Laboratory Name

Sample #1 : \\cash1\acqudata\GC32\Data\111509.b\1115F002.D
Sample #2 : \\cash1\acqudata\GC32\Data\111509_r.b\1115F002.D
Inj Date : 15-NOV-2009 13:51
Sample Info: KWG0910037-3 | LCS | 8082 PCB_LL | WATER
Misc Info :
Cal Date : 16-NOV-2009 19:27
Operator : JMSmith
Inst ID : GC32.i
Dil Factor : 1.000000

Method #1 : \\cash1\acqudata\GC32\Data\111509.b\111309ul_f.m
Method #2 : \\cash1\acqudata\GC32\Data\111509_r.b\111309ul_r.m
Sub List #1 : ALL.SUB
Sub List #2 : ALL.SUB
Col #1 Phase : DB-35MS
Col #2 Phase : DB-XLB

Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2	Target Range	Ratio
Tetrachloro-m-xylene	6.626	7.600	4012602	2857376	2.23	2.60		100.00(R)
Aroclor 1016	8.339	9.243	1391230	1450419	64.0	73.9	80.00- 120.00	100.00(M)
	8.393	10.030	1700370	3964614	56.0	70.3	107.98- 161.97	122.22(M)
	8.796	10.370	5834057	2229869	57.9	71.9	385.94- 578.91	419.35(M)
	9.933	11.126	2865734	1948225	51.4	69.5	209.57- 314.36	205.99(M)
	10.283	11.570	2697035	1684734	72.9	94.8	151.68- 227.52	193.86(M)
			Average of Peak Amounts =		60.4	76.1		
Aroclor 1260	13.913	15.163	3295441	5075469	56.8	70.8	80.00- 120.00	100.00(M)
	14.576	15.876	6246885	5687549	75.1	67.4	114.97- 172.45	189.56(M)
	15.336	16.120	6494413	3856231	74.4	87.6	122.71- 184.06	197.07(M)
	15.916	16.610	14217413		76.5		276.33- 414.49	431.43(M)
	16.826	17.380		8705614		92.8	115.81- 173.72	171.52(M)
			Average of Peak Amounts =		70.7	79.6		
Decachlorobiphenyl	19.293	21.053	6403958	3980362	3.96	4.50		100.00(R)

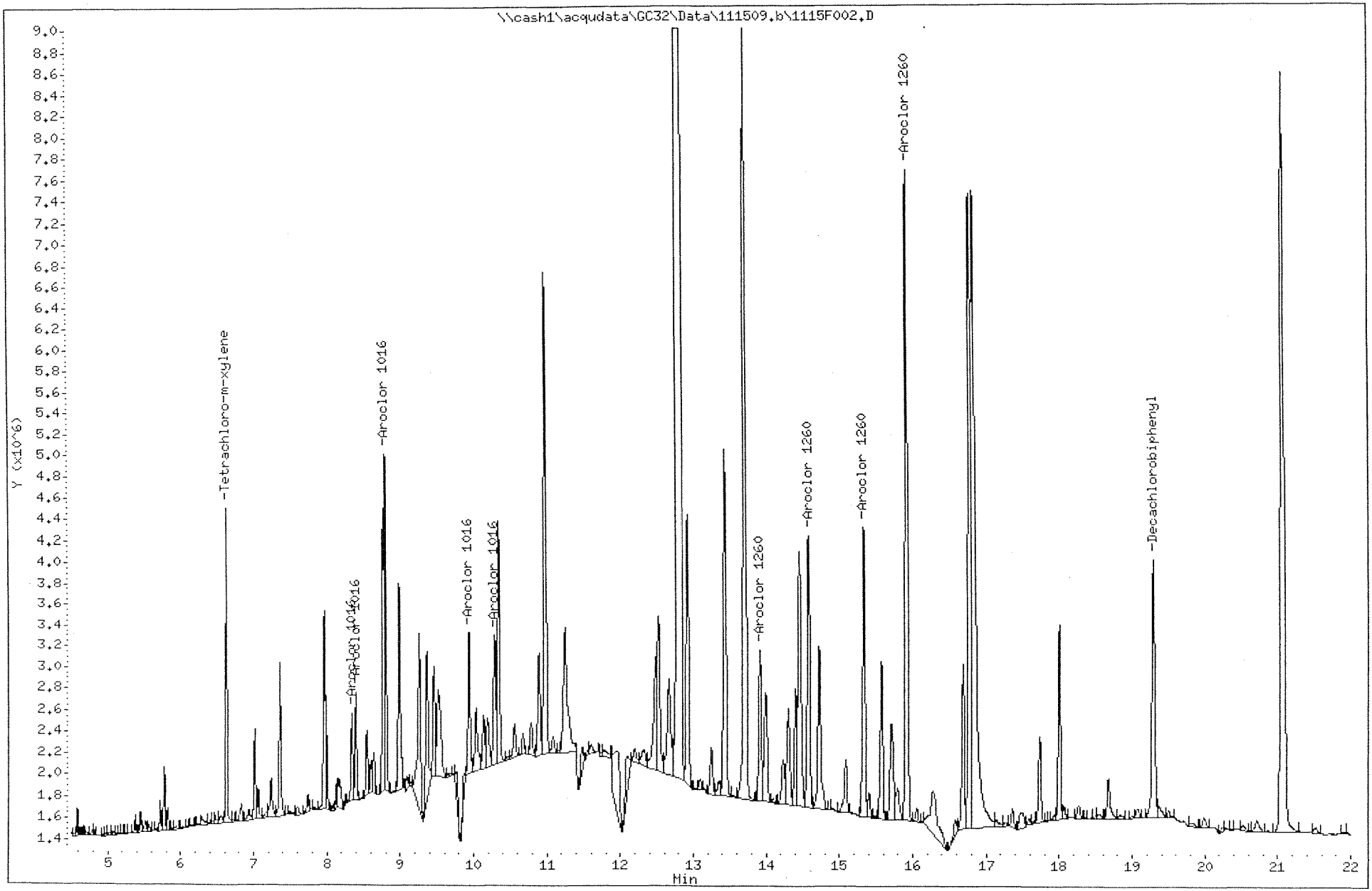
QC Flag Legend

R - Spike/Surrogate failed recovery limits.
M - Compound response manually integrated.

Data File: \\cash1\acqudata\GC32\Data\111509.b\1115F002.D
Date : 15-NOV-2009 13:51
Client ID:
Sample Info: KWG0910037-3 | LCS | 8082 PCB_LL | WATER

Instrument: GC32.i
Operator: JMSmith
Column diameter: 0.32

Column phase: DB-35MS

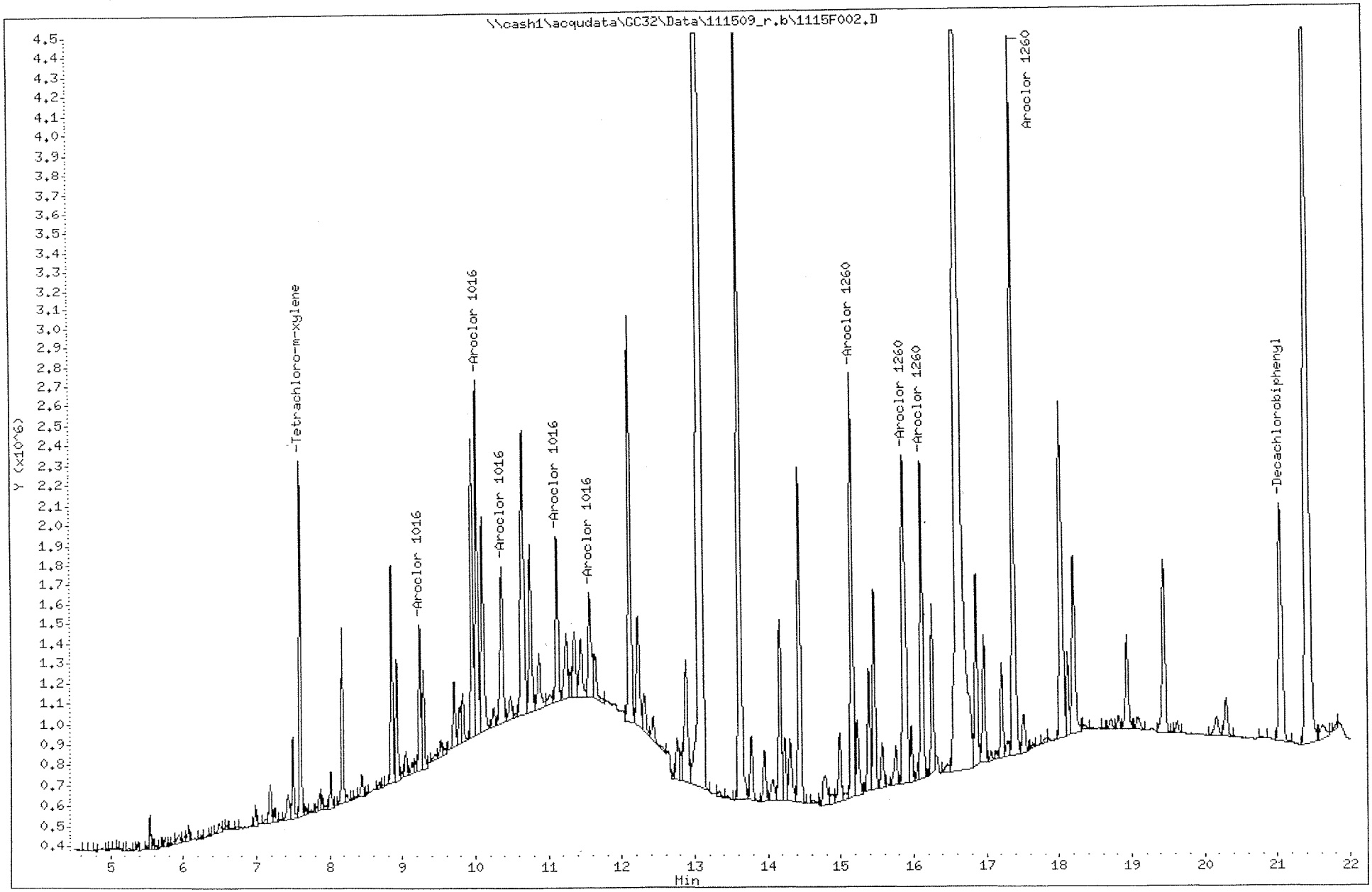


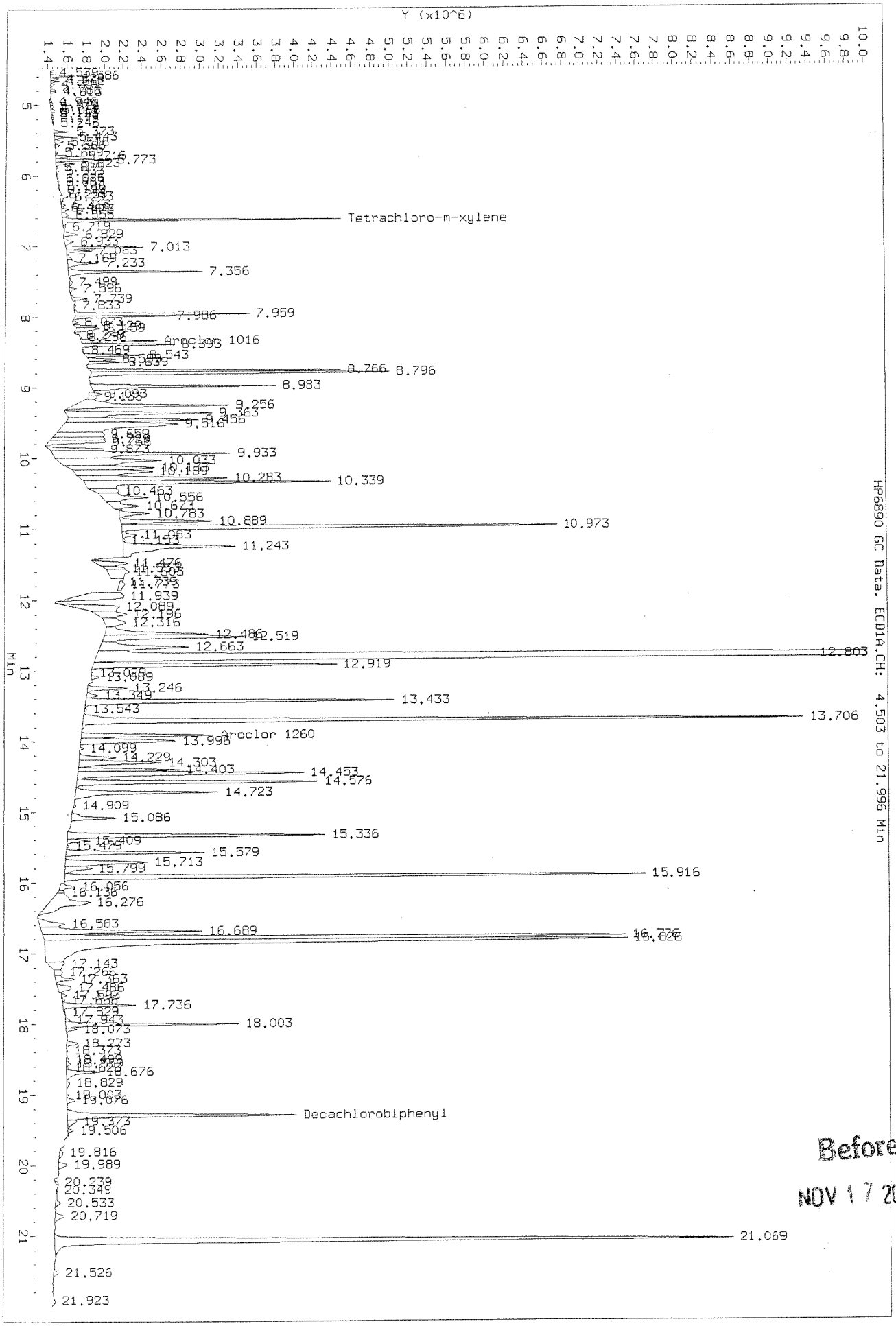
Data File: \\cash1\acqudata\GC32\Data\111509_r.b\1115F002.D
Date : 15-NOV-2009 13:51
Client ID:
Sample Info: KWG0910037-3 | LCS | 8082 PCB_LL | WATER

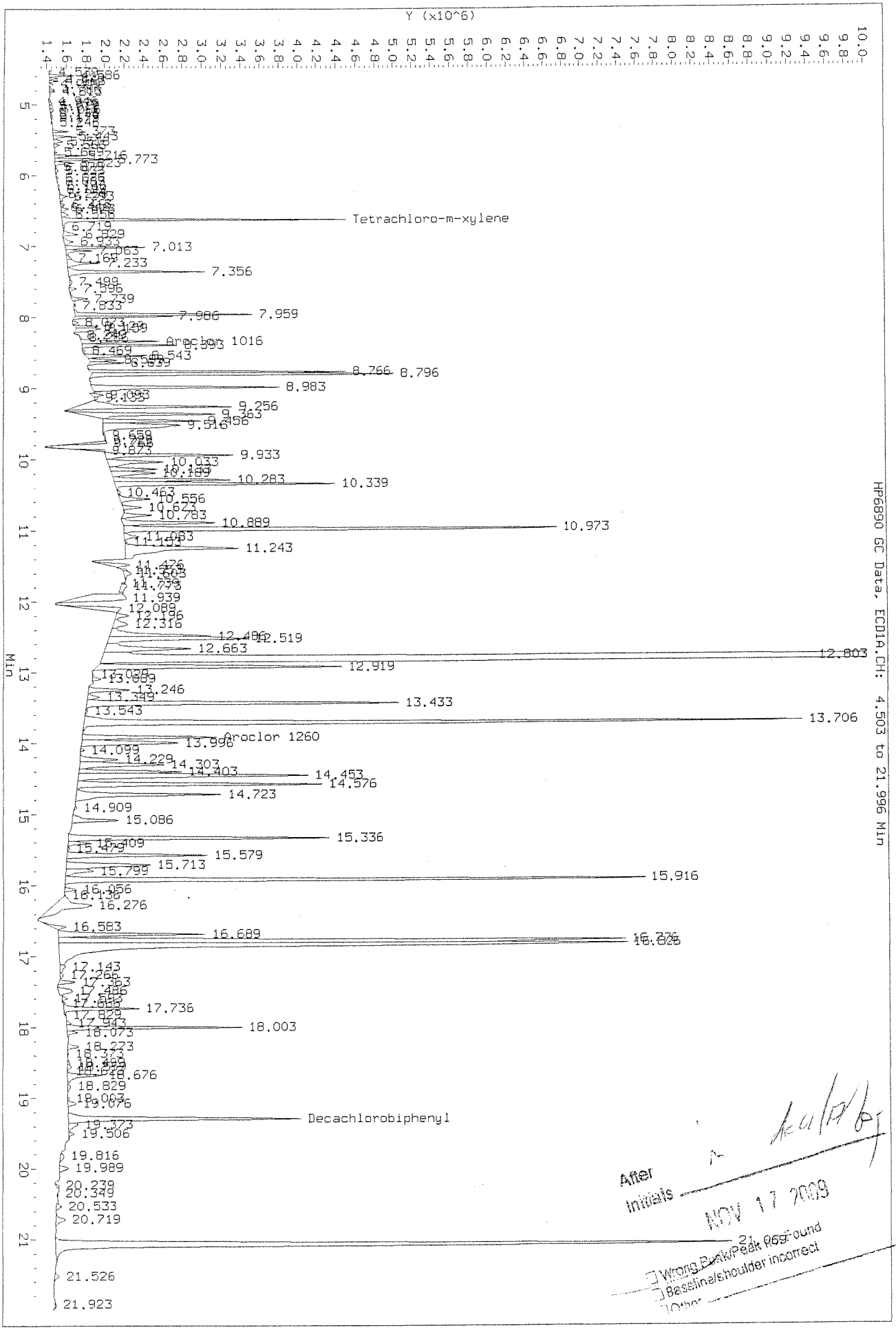
Instrument: GC32.i

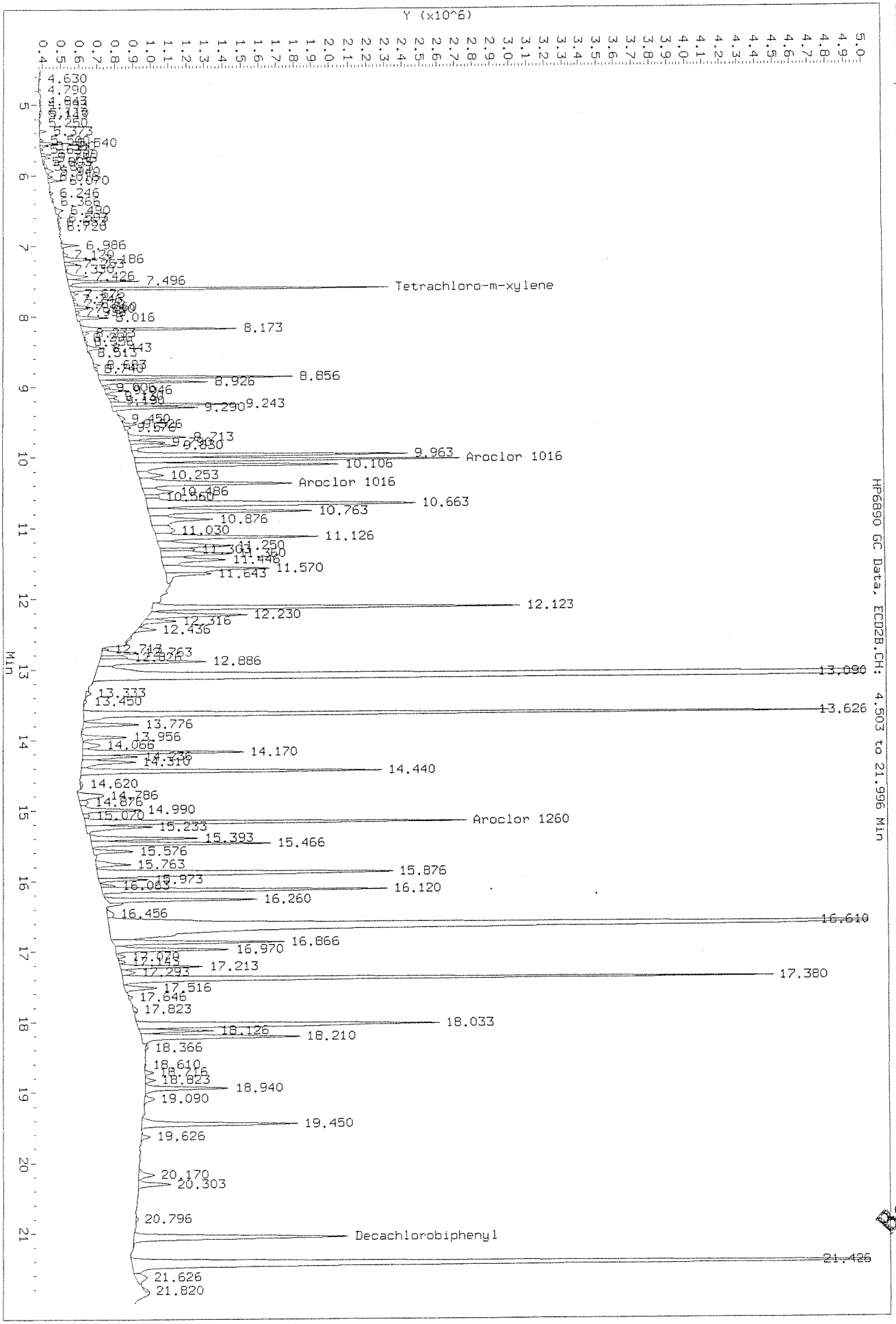
Operator: JMSmith
Column diameter: 0.32

Column phase: DB-XLB

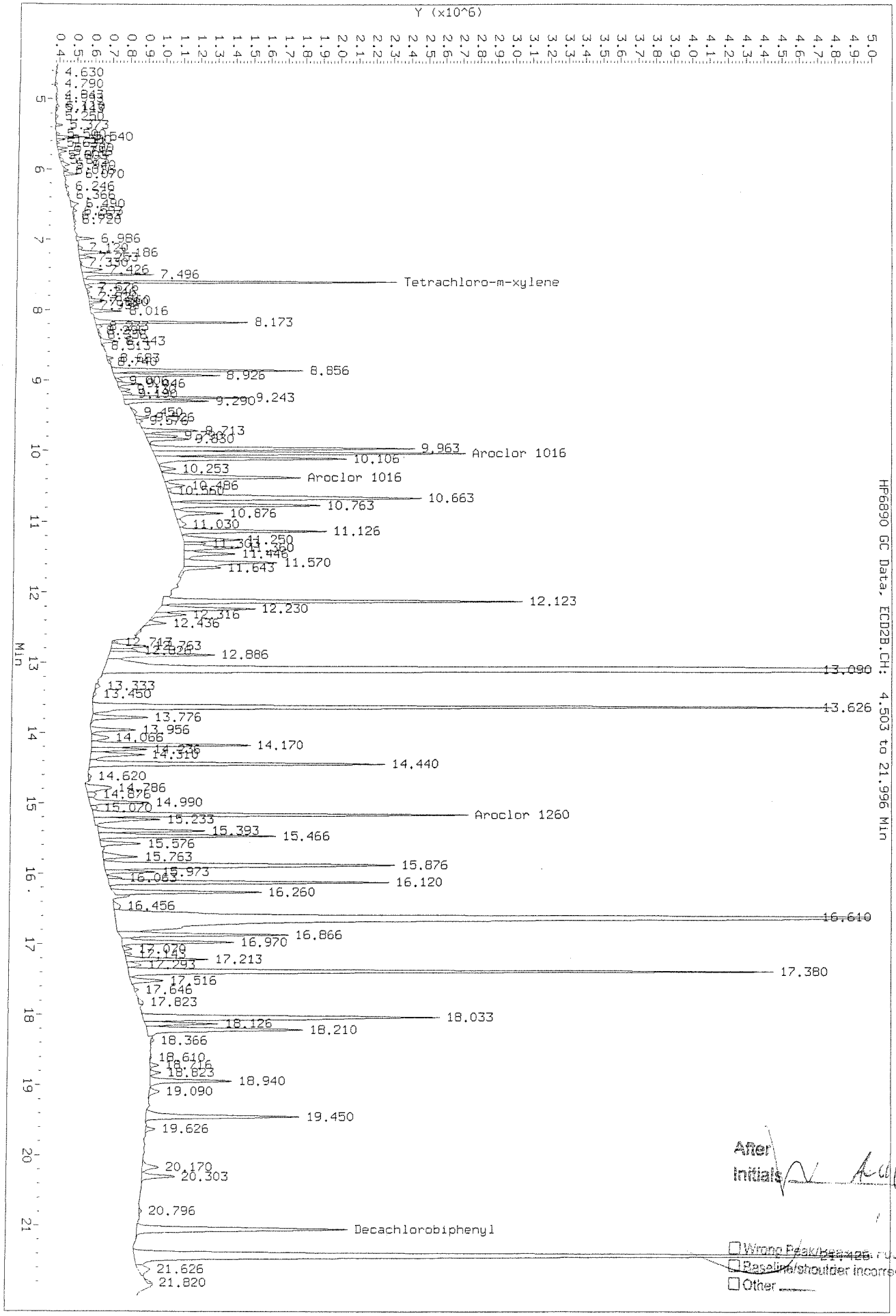



Data File: \\cash1\acqudata\GC32\Data\111509.b\1115F002.D
Injection Date: 15-NOV-2009 13:51
Instrument: GC32.i
Client Sample ID:
Y (x10^6)
Min
HP6890 GC Data, ECD1A.CH: 4.503 to 21.996 Min
Tetrachloro-m-xylene
Aroclor 1016
Aroclor 1260
Decachlorobiphenyl
7.013
7.356
7.959
8.796
8.983
9.933
10.339
10.973
11.243
12.803
13.433
13.706
15.336
15.579
15.916
16.689
17.736
18.003
21.069
Before
NOV 17 2009


Y (x10^6)
Min
Tetrachloro-m-xylene
7.013
7.233
7.356
7.959
7.986
Aroclor 1016
8.266
8.796
8.983
9.256
9.456
9.933
10.283
10.339
10.889
10.973
11.243
12.519
12.663
12.803
12.919
13.246
13.433
13.543
13.706
Aroclor 1260
13.998
14.403
14.453
14.576
14.723
14.909
15.086
15.336
15.579
15.713
15.799
15.916
16.276
16.583
16.689
17.143
17.736
18.003
18.073
18.676
18.829
Decachlorobiphenyl
19.506
19.816
19.989
20.239
20.349
20.533
20.719
21.526
21.923
Data File: \\cash1\acqudata\GC32\Data\111509.b\1115F002.D
Injection Date: 15-NOV-2009 13:51
Instrument: GC32.1
Client Sample ID:
HP6890 GC Data, ECD1A.CH: 4.503 to 21.996 Min
After
Initials
NOV 17 2009
Wrong Peak/Peak not found
Baseline/shoulder incorrect
Other



Before
NOV 17 2009


Data File: \\cash1\acqudata\GC32\Data\111509_r.b\1115F002.D
Injection Date: 15-NOV-2009 13:51
Instrument: GC32.i
Client Sample ID:
Y (x10^6)
Min
HP6890 GC Data, ECD2B.CH: 4.503 to 21.996 Min
4.630
6.986
7.496
Tetrachloro-m-xylene
8.016
8.173
8.856
8.926
9.243
9.963
Aroclor 1016
10.106
10.253
Aroclor 1016
10.663
10.763
10.876
11.030
11.126
11.570
12.123
12.230
12.886
13.090
13.333
13.450
13.626
13.776
13.956
14.066
14.170
14.310
14.440
14.620
14.990
Aroclor 1260
15.233
15.393
15.466
15.576
15.763
15.876
15.973
16.120
16.260
16.456
16.610
16.866
16.970
17.213
17.380
17.516
17.646
17.823
18.033
18.126
18.210
18.366
18.610
18.823
18.940
19.090
19.450
19.626
20.170
20.303
20.796
Decachlorobiphenyl
21.626
21.820
After
Initials
Wrong Peak/Missed Peak
Baseline/shoulder incorrect
Other

Organic Analysis:
Polychlorinated Biphenyls (PCBs)

Validation Package

Standards Data

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Results

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0910296
Calibration Date: 11/18/2009

Initial Calibration Summary
Polychlorinated Biphenyls (PCBs)

Calibration ID: CAL9027
Instrument ID: GC22.i

Column: DB-35MS

Level ID	File ID
A	\\cash1\acqudata\GC22\data\111709A.b\1117F003.D
B	\\cash1\acqudata\GC22\data\111709A.b\1117F004.D
C	\\cash1\acqudata\GC22\data\111709A.b\1117F005.D
D	\\cash1\acqudata\GC22\data\111709A.b\1117F006.D
E	\\cash1\acqudata\GC22\data\111709A.b\1117F007.D
F	\\cash1\acqudata\GC22\data\111709A.b\1117F008.D
G	\\cash1\acqudata\GC22\data\111709A.b\1117F009.D
H	\\cash1\acqudata\GC22\data\111709A.b\1117F010.D
I	\\cash1\acqudata\GC22\data\111709A.b\1117F011.D
J	\\cash1\acqudata\GC22\data\111709A.b\1117F012.D
K	\\cash1\acqudata\GC22\data\111709A.b\1117F013.D
L	\\cash1\acqudata\GC22\data\111709A.b\1117F014.D
M	\\cash1\acqudata\GC22\data\111709A.b\1117F015.D

Analyte Name	Level ID	Amt	RF	Level ID	Amt	RF	Level ID	Amt	RF	Level ID	Amt	RF	Level ID	Amt	RF
Decachlorobiphenyl							H	0.25	1.69E+6	I	0.50	1.66E+6	J	5.0	1.49E+6
	K	10	1.36E+6	L	20	1.35E+6	M	50	1.37E+6						
Aroclor 1016 {1}							H	2.5	29900	I	5.0	25300	J	50	21900
	K	100	20000	L	200	19300	M	500	18700						
Aroclor 1016 {2}							H	2.5	70600	I	5.0	75400	J	50	61900
	K	100	62400	L	200	57900	M	500	59000						
Aroclor 1016 {3}							H	2.5	46500	I	5.0	50400	J	50	42900
	K	100	40200	L	200	39000	M	500	39000						
Aroclor 1016 {4}							H	2.5	43500	I	5.0	39900	J	50	37000
	K	100	33400	L	200	31300	M	500	30700						
Aroclor 1016 {5}							H	2.5	41500	I	5.0	41200	J	50	40900
	K	100	32600	L	200	31800	M	500	31800						
Aroclor 1260 {1}							H	2.5	62000	I	5.0	59400	J	50	57700
	K	100	45500	L	200	43300	M	500	43000						
Aroclor 1260 {2}							H	2.5	69600	I	5.0	66200	J	50	63200
	K	100	53400	L	200	52800	M	500	51500						
Aroclor 1260 {3}							H	2.5	71900	I	5.0	72500	J	50	64500
	K	100	59400	L	200	58200	M	500	59100						
Aroclor 1260 {4}							H	2.5	1.55E+5	I	5.0	1.47E+5	J	50	1.39E+5
	K	100	1.29E+5	L	200	1.31E+5	M	500	1.36E+5						
Aroclor 1260 {5}							H	2.5	1.23E+5	I	5.0	1.25E+5	J	50	1.12E+5
	K	100	1.04E+5	L	200	1.04E+5	M	500	1.07E+5						

Results flagged with an asterisk (*) indicate values outside control criteria.

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0910296
Calibration Date: 11/18/2009

Initial Calibration Summary
Polychlorinated Biphenyls (PCBs)

Calibration ID: CAL9027
Instrument ID: GC22.i

Column: DB-35MS

Analyte Name	Compound Type	Calibration Evaluation				
		Fit Type	Eval.	Eval. Result	Q	Control Criteria
Decachlorobiphenyl	SURR	AverageRF	% RSD	10.4		≤ 20
Aroclor 1016 {1}	MULTI	AverageRF	% RSD	19.2		≤ 20
Aroclor 1016 {2}	MULTI	AverageRF	% RSD	10.8		≤ 20
Aroclor 1016 {3}	MULTI	AverageRF	% RSD	10.7		≤ 20
Aroclor 1016 {4}	MULTI	AverageRF	% RSD	14.1		≤ 20
Aroclor 1016 {5}	MULTI	AverageRF	% RSD	13.7		≤ 20
Aroclor 1260 {1}	MULTI	AverageRF	% RSD	17.0		≤ 20
Aroclor 1260 {2}	MULTI	AverageRF	% RSD	13.2		≤ 20
Aroclor 1260 {3}	MULTI	AverageRF	% RSD	10.2		≤ 20
Aroclor 1260 {4}	MULTI	AverageRF	% RSD	7.1		≤ 20
Aroclor 1260 {5}	MULTI	AverageRF	% RSD	8.5		≤ 20

Results flagged with an asterisk (*) indicate values outside control criteria.

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0910296
Calibration Date: 11/18/2009
Date Analyzed: 11/18/2009

Second Source Calibration Verification
Polychlorinated Biphenyls (PCBs)

Calibration Type: External Standard
Analysis Method: 8082

Calibration ID: CAL9027
Units: ng/mL

File ID: \\cash1\acqudata\GC22\data\111709A.b\1117F016.D
\\cash1\acqudata\GC22\data\111709A.b\1117F017.D
\\cash1\acqudata\GC22\data\111709A.b\1117F018.D
\\cash1\acqudata\GC22\data\111709A.b\1117F019.D
\\cash1\acqudata\GC22\data\111709A.b\1117F020.D
\\cash1\acqudata\GC22\data\111709A.b\1117F021.D
\\cash1\acqudata\GC22\data\111709A.b\1117F022.D
\\cash1\acqudata\GC22\data\111709A.b\1117F023.D
\\cash1\acqudata\GC22\data\111709A.b\1117F024.D

Column ID: DB-35MS

Analyte Name	Expected	Result	Average RF	SSV RF	%D	%Drift		Criteria	Curve Fit
Aroclor 1016	100	82	NA	NA	NA	18	*	± 15 %	NA
Aroclor 1016 {1}	100	80	22500	18000	-20	NA		± 100 %	AverageRF
Aroclor 1016 {2}	100	81	64500	52500	-19	NA		± 100 %	AverageRF
Aroclor 1016 {3}	100	84	43000	36200	-16	NA		± 100 %	AverageRF
Aroclor 1016 {4}	100	80	36000	28900	-20	NA		± 100 %	AverageRF
Aroclor 1016 {5}	100	83	36600	30300	-17	NA		± 100 %	AverageRF
Aroclor 1260	100	83	NA	NA	NA	17	*	± 15 %	NA
Aroclor 1260 {1}	100	71	51800	37000	-29	NA		± 100 %	AverageRF
Aroclor 1260 {2}	100	88	59500	52100	-12	NA		± 100 %	AverageRF
Aroclor 1260 {3}	100	87	64300	56100	-13	NA		± 100 %	AverageRF
Aroclor 1260 {4}	100	85	140000	119000	-15	NA		± 100 %	AverageRF
Aroclor 1260 {5}	100	82	112000	92600	-18	NA		± 100 %	AverageRF

Results flagged with an asterisk (*) indicate values outside control criteria.

† SPCC Compound ‡ CCC Compound

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0910296
Calibration Date: 11/18/2009

Initial Calibration Summary
Polychlorinated Biphenyls (PCBs)

Calibration ID: CAL9027
Instrument ID: GC22.i

Column: DB-XLB

Level ID	File ID
A	\\cash1\acqudata\GC22\data\111709A_r.b\1117F003.D
B	\\cash1\acqudata\GC22\data\111709A_r.b\1117F004.D
C	\\cash1\acqudata\GC22\data\111709A_r.b\1117F005.D
D	\\cash1\acqudata\GC22\data\111709A_r.b\1117F006.D
E	\\cash1\acqudata\GC22\data\111709A_r.b\1117F007.D
F	\\cash1\acqudata\GC22\data\111709A_r.b\1117F008.D
G	\\cash1\acqudata\GC22\data\111709A_r.b\1117F009.D
H	\\cash1\acqudata\GC22\data\111709A_r.b\1117F010.D
I	\\cash1\acqudata\GC22\data\111709A_r.b\1117F011.D
J	\\cash1\acqudata\GC22\data\111709A_r.b\1117F012.D
K	\\cash1\acqudata\GC22\data\111709A_r.b\1117F013.D
L	\\cash1\acqudata\GC22\data\111709A_r.b\1117F014.D
M	\\cash1\acqudata\GC22\data\111709A_r.b\1117F015.D

Analyte Name	Level ID	Amt	RF	Level ID	Amt	RF	Level ID	Amt	RF	Level ID	Amt	RF	Level ID	Amt	RF
Decachlorobiphenyl							H	0.25	5.13E+6	I	0.50	4.98E+6	J	5.0	4.55E+6
	K	10	4.16E+6	L	20	4.04E+6	M	50	4.00E+6						
Aroclor 1016 {1}							H	2.5	1.49E+5	I	5.0	1.57E+5	J	50	1.33E+5
	K	100	1.22E+5	L	200	1.16E+5	M	500	1.11E+5						
Aroclor 1016 {2}							H	2.5	2.79E+5	I	5.0	2.62E+5	J	50	2.21E+5
	K	100	2.04E+5	L	200	2.06E+5	M	500	2.06E+5						
Aroclor 1016 {3}							H	2.5	1.32E+5	I	5.0	1.33E+5	J	50	1.15E+5
	K	100	1.02E+5	L	200	98700	M	500	94200						
Aroclor 1016 {4}							H	2.5	1.36E+5	I	5.0	1.34E+5	J	50	1.28E+5
	K	100	1.09E+5	L	200	1.08E+5	M	500	1.05E+5						
Aroclor 1016 {5}							H	2.5	51300	I	5.0	59800	J	50	70200
	K	100	62300	L	200	65400	M	500	64300						
Aroclor 1260 {1}							H	2.5	3.39E+5	I	5.0	3.43E+5	J	50	3.08E+5
	K	100	2.86E+5	L	200	2.78E+5	M	500	2.80E+5						
Aroclor 1260 {2}							H	2.5	2.36E+5	I	5.0	2.36E+5	J	50	2.19E+5
	K	100	2.03E+5	L	200	1.96E+5	M	500	1.95E+5						
Aroclor 1260 {3}							H	2.5	2.35E+5	I	5.0	2.34E+5	J	50	2.10E+5
	K	100	1.93E+5	L	200	1.88E+5	M	500	1.90E+5						
Aroclor 1260 {4}							H	2.5	5.09E+5	I	5.0	4.93E+5	J	50	4.65E+5
	K	100	4.33E+5	L	200	4.32E+5	M	500	4.47E+5						
Aroclor 1260 {5}							H	2.5	3.13E+5	I	5.0	3.11E+5	J	50	3.08E+5
	K	100	2.68E+5	L	200	2.63E+5	M	500	2.67E+5						

Results flagged with an asterisk (*) indicate values outside control criteria.

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0910296
Calibration Date: 11/18/2009

Initial Calibration Summary
Polychlorinated Biphenyls (PCBs)

Calibration ID: CAL9027
Instrument ID: GC22.i

Column: DB-XLB

Analyte Name	Compound Type	Calibration Evaluation				
		Fit Type	Eval.	Eval. Result	Q	Control Criteria
Decachlorobiphenyl	SURR	AverageRF	% RSD	11.0		≤ 20
Aroclor 1016 {1}	MULTI	AverageRF	% RSD	14.0		≤ 20
Aroclor 1016 {2}	MULTI	AverageRF	% RSD	14.1		≤ 20
Aroclor 1016 {3}	MULTI	AverageRF	% RSD	15.2		≤ 20
Aroclor 1016 {4}	MULTI	AverageRF	% RSD	11.8		≤ 20
Aroclor 1016 {5}	MULTI	AverageRF	% RSD	10.3		≤ 20
Aroclor 1260 {1}	MULTI	AverageRF	% RSD	9.7		≤ 20
Aroclor 1260 {2}	MULTI	AverageRF	% RSD	8.8		≤ 20
Aroclor 1260 {3}	MULTI	AverageRF	% RSD	10.5		≤ 20
Aroclor 1260 {4}	MULTI	AverageRF	% RSD	6.9		≤ 20
Aroclor 1260 {5}	MULTI	AverageRF	% RSD	8.5		≤ 20

Results flagged with an asterisk (*) indicate values outside control criteria.

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0910296
Calibration Date: 11/18/2009
Date Analyzed: 11/18/2009

Second Source Calibration Verification
Polychlorinated Biphenyls (PCBs)

Calibration Type: External Standard
Analysis Method: 8082

Calibration ID: CAL9027
Units: ng/mL

File ID: \\cash1\acqudata\GC22\data\111709A_r.b\1117F016.D
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\\cash1\acqudata\GC22\data\111709A_r.b\1117F018.D
\\cash1\acqudata\GC22\data\111709A_r.b\1117F019.D
\\cash1\acqudata\GC22\data\111709A_r.b\1117F020.D
\\cash1\acqudata\GC22\data\111709A_r.b\1117F021.D
\\cash1\acqudata\GC22\data\111709A_r.b\1117F022.D
\\cash1\acqudata\GC22\data\111709A_r.b\1117F023.D
\\cash1\acqudata\GC22\data\111709A_r.b\1117F024.D

Column ID: DB-XLB

Analyte Name	Expected	Result	Average RF	SSV RF	%D	%Drift	Criteria	Curve Fit
Aroclor 1016	100	89	NA	NA	NA	11	± 15 %	NA
Aroclor 1016 {1}	100	85	131000	112000	-15	NA	± 100 %	AverageRF
Aroclor 1016 {2}	100	84	230000	192000	-16	NA	± 100 %	AverageRF
Aroclor 1016 {3}	100	82	113000	92700	-18	NA	± 100 %	AverageRF
Aroclor 1016 {4}	100	87	120000	105000	-13	NA	± 100 %	AverageRF
Aroclor 1016 {5}	100	110	62200	67600	9	NA	± 100 %	AverageRF
Aroclor 1260	100	85	NA	NA	NA	15	± 15 %	NA
Aroclor 1260 {1}	100	76	306000	234000	-24	NA	± 100 %	AverageRF
Aroclor 1260 {2}	100	93	214000	200000	-7	NA	± 100 %	AverageRF
Aroclor 1260 {3}	100	87	208000	180000	-13	NA	± 100 %	AverageRF
Aroclor 1260 {4}	100	88	463000	406000	-12	NA	± 100 %	AverageRF
Aroclor 1260 {5}	100	83	288000	239000	-17	NA	± 100 %	AverageRF

Results flagged with an asterisk (*) indicate values outside control criteria.

† **SPCC Compound** ‡ **CCC Compound**

Sequence Name: C:\GC22\SEQUENCE\111709A.S
Comment:
Operator: JMSmith
Data Path: C:\GC22\DATA\111709A\
Pre-Seq Cmd:
Post-Seq Cmd:

Method Sections To Run
(X) Full Method
( ) Reprocessing Only

On A Barcode Mismatch
(X) Inject Anyway
( ) Don't Inject

ICAL 9027

Line	Type	Vial	DataFile	Method	Sample Name
1	Comment	- PCB Aroclors by EPA 8082			
2	SOLN	100	1117FP01	PCB-UL	PRIMER
3	SOLN	100	1117FP02	PCB-UL	PRIMER
4	SOLN	100	1117FP03	PCB-UL	PRIMER
5	SOLN	100	1117FP04	PCB-UL	PRIMER
6	SOLN	100	1117FP05	PCB-UL	PRIMER
7	SOLN	100	1117FP06	PCB-UL	PRIMER
8	SOLN	100	1117FP07	PCB-UL	PRIMER
9	SOLN	100	1117FP08	PCB-UL	PRIMER
10	SOLN	100	1117FP09	PCB-UL	PRIMER
11	SOLN	100	1117FP10	PCB-UL	PRIMER
12	IB	86	1117F001	PCB-UL	IB
13	IB	87	1117F002	PCB-UL	IB | 8082 PCB_ULL
14	ICAL	1	1117F003	PCB-UL	1221 @ 100ppb | PCB5-45J
15	ICAL	2	1117F004	PCB-UL	1232 @ 100ppb | PCB5-45K
16	ICAL	3	1117F005	PCB-UL	1242 @ 100ppb | PCB5-45L
17	ICAL	4	1117F006	PCB-UL	1248 @ 100ppb | PCB5-45M
18	ICAL	5	1117F007	PCB-UL	1254 @ 100ppb | PCB5-45N
19	ICAL	6	1117F008	PCB-UL	1262 @ 100ppb | PCB5-45O
20	ICAL	7	1117F009	PCB-UL	1268 @ 100ppb | PCB5-45P
21	ICAL	8	1117F010	PCB-UL	1660 @ 2.5ppb | PCB5-44I
22	ICAL	9	1117F011	PCB-UL	1660 @ 5.0ppb | PCB5-44J
23	ICAL	10	1117F012	PCB-UL	1660 @ 50ppb | PCB5-44K
24	ICAL	11	1117F013	PCB-UL	1660 @ 100ppb | PCB5-44L
25	ICAL	12	1117F014	PCB-UL	1660 @ 200ppb | PCB5-44M
26	ICAL	13	1117F015	PCB-UL	1660 @ 500ppb | PCB5-44N
27	ICV	14	1117F016	PCB-UL	1016 @ 100ppb | PCB5-46D
28	ICV	15	1117F017	PCB-UL	1221 @ 100ppb | PCB5-44B
29	ICV	16	1117F018	PCB-UL	1232 @ 100ppb | PCB5-46E
30	ICV	17	1117F019	PCB-UL	1242 @ 100ppb | PCB5-46F
31	ICV	18	1117F020	PCB-UL	1248 @ 100ppb | PCB5-46G
32	ICV	19	1117F021	PCB-UL	1254 @ 100ppb | PCB5-44C
33	ICV	20	1117F022	PCB-UL	1260 @ 100ppb | PCB5-46H
34	ICV	21	1117F023	PCB-UL	1262 @ 100ppb | PCB5-46I
35	ICV	22	1117F024	PCB-UL	1268 @ 100ppb | PCB5-46J

Last Modified: Tue Nov 17 18:00:44 2009

Data File: \\cash1\acqudata\GC22\data\111709A.b\1117F002.D
Report Date: 19-Nov-2009 13:22

Laboratory Name

Sample #1 : \\cash1\acqudata\GC22\data\111709A.b\1117F002.D
Sample #2 : \\cash1\acqudata\GC22\data\111709A_r.b\1117F002.D
Inj Date : 17-NOV-2009 23:44
Sample Info: IB | 8082 PCB_ULL
Misc Info :
Cal Date : 19-NOV-2009 11:12
Operator : JMSmith
Inst ID : GC22.i
Dil Factor : 1.000000

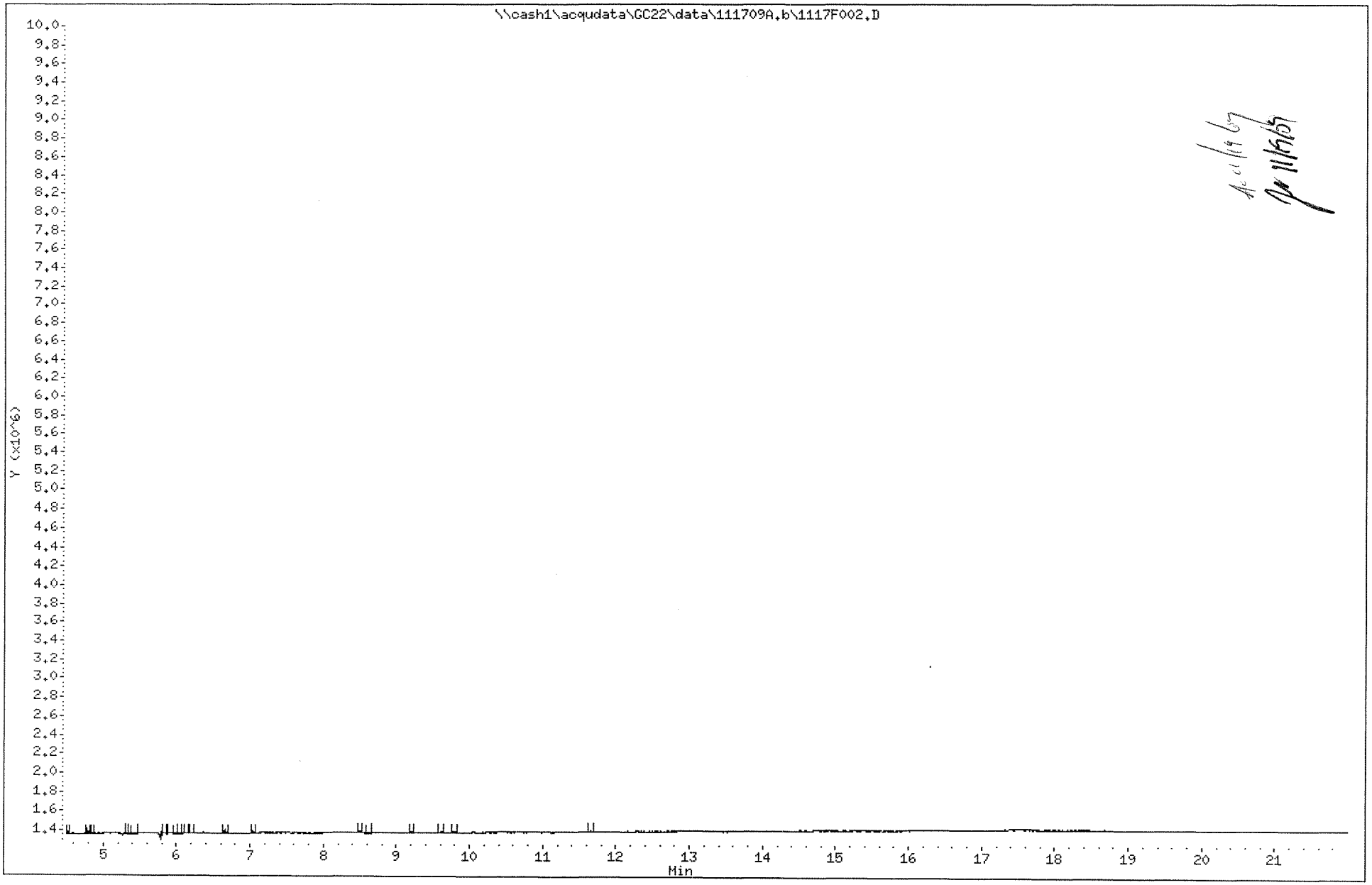
Method #1 : \\cash1\acqudata\GC22\data\111709A.b\111709ul_f.m
Method #2 : \\cash1\acqudata\GC22\data\111709A_r.b\111709ul_r.m
Sub List #1 : ALL.SUB
Sub List #2 : ALL.SUB
Col #1 Phase : DB-35MS
Col #2 Phase : DB-XLB

Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2	Target Range	Ratio

11/19/09
11/19/09

Data File: \\cash1\acqudata\GC22\data\111709A.b\1117F002.D
Date : 17-NOV-2009 23:44
Client ID:
Sample Info: IB | 8082 PCB_ULL

Instrument: GC22.i
Operator: JMSmith
Column phase: DB-35MS
Column diameter: 0.32



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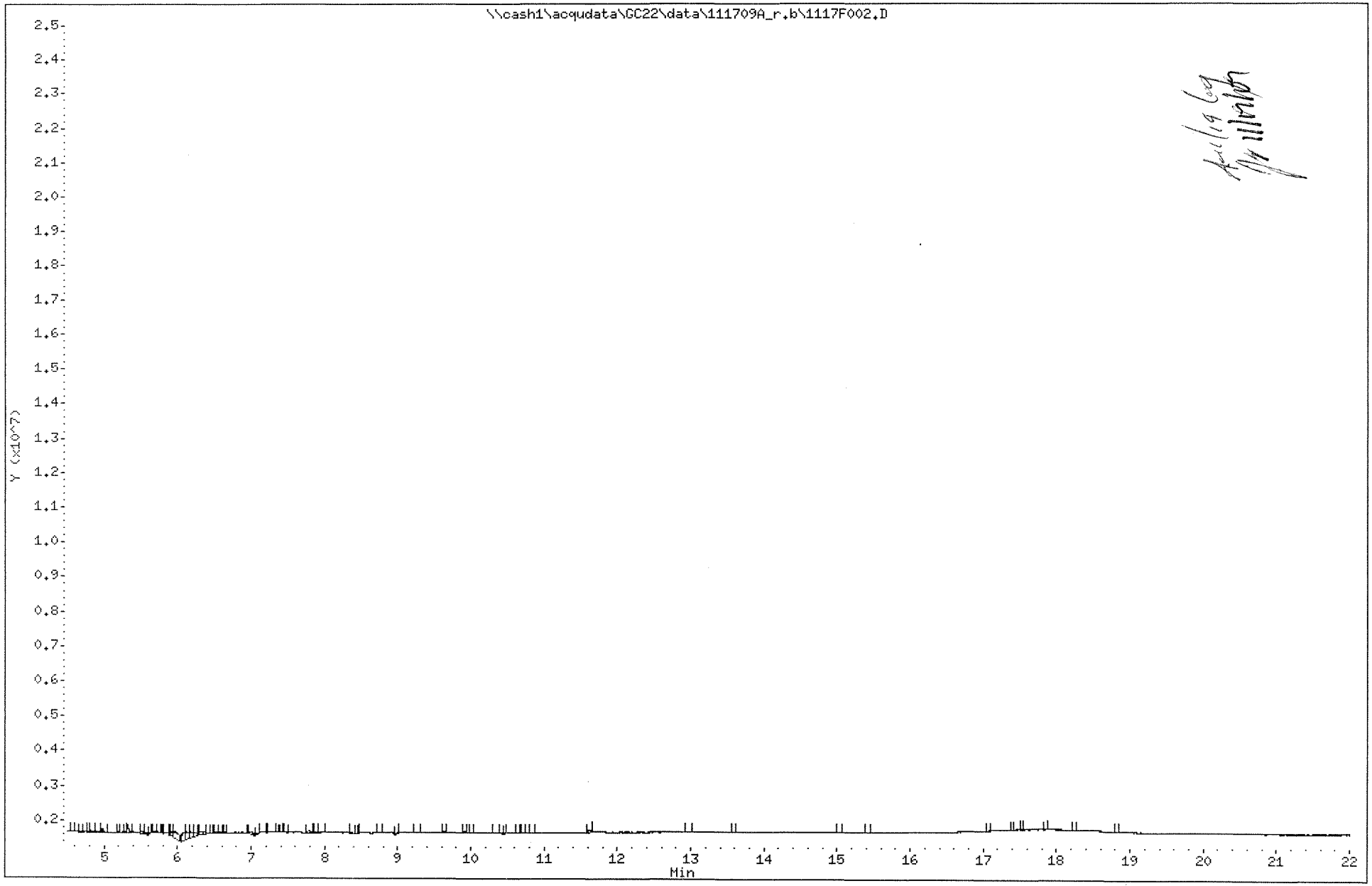
Date : 17-NOV-2009 23:44
Client ID:
Instrument: GC22.i
Sample Info: IB | 8082 PCB_ULL
Operator: JMSmith
Column phase: DB-XLB
Column diameter: 0.32



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Report Date: 19-Nov-2009 13:22

Laboratory Name

Sample #1 : \\cash1\acqudata\GC22\data\111709A.b\1117F003.D
Sample #2 : \\cash1\acqudata\GC22\data\111709A_r.b\1117F003.D
Inj Date : 18-NOV-2009 00:13
Sample Info: 1221 @ 100ppb | PCB5-45J
Misc Info :
Cal Date : 19-NOV-2009 12:24
Operator : JMSmith
Inst ID : GC22.i
Dil Factor : 1.000000

Method #1 : \\cash1\acqudata\GC22\data\111709A.b\111709ul_f.m
Method #2 : \\cash1\acqudata\GC22\data\111709A_r.b\111709ul_r.m
Sub List #1 : AR1221.SUB
Sub List #2 : AR1221.SUB
Col #1 Phase : DB-35MS
Col #2 Phase : DB-XLB

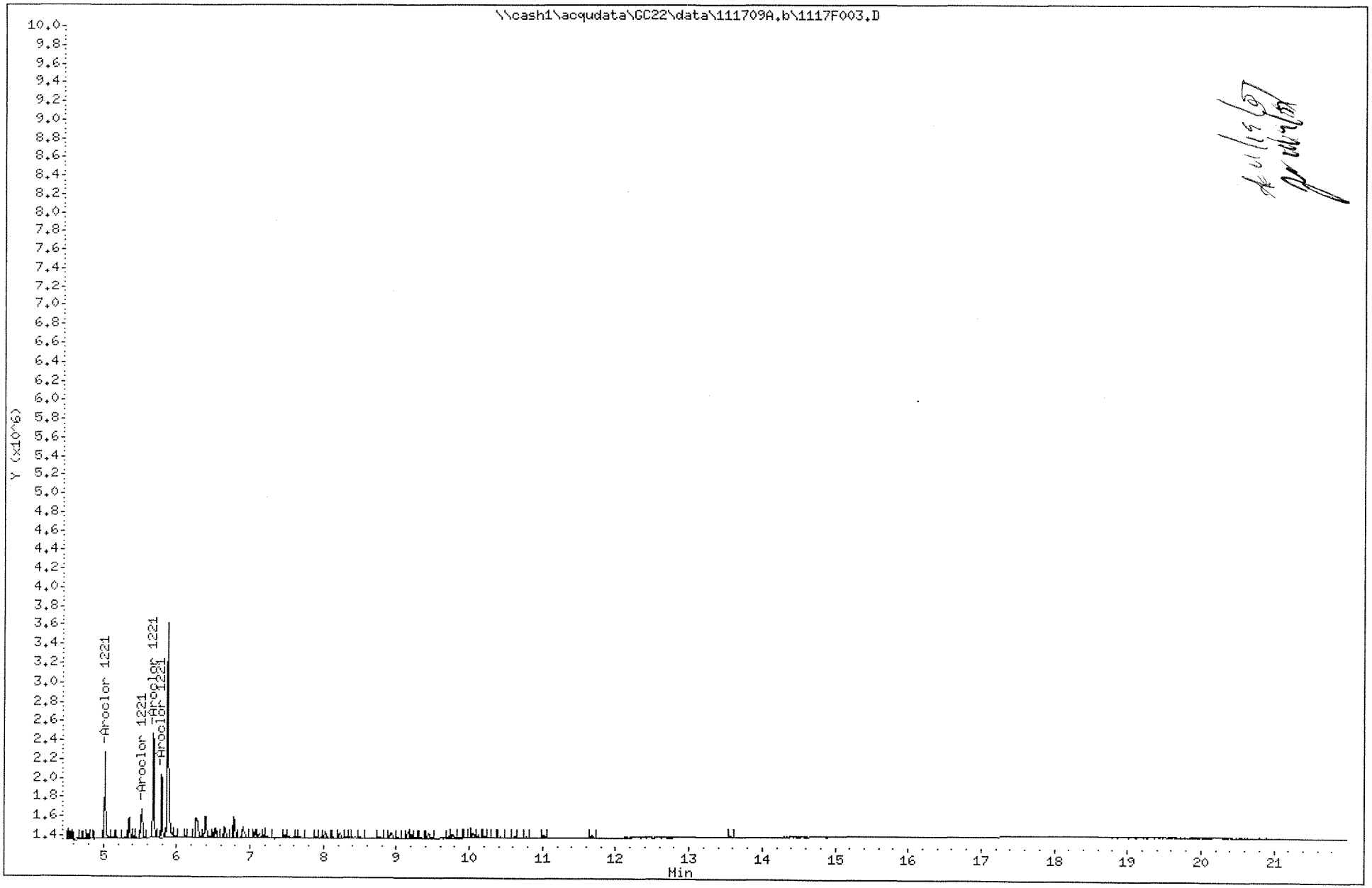
Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2	Target Range	Ratio
Aroclor 1221	5.020	5.351	1037120	3302355	100	100	80.00- 120.00	100.00(M)
	5.527	5.801	536582	972715	100	100	41.39- 62.09	51.74(M)
	5.680	5.908	1340358	1803090	100	100	103.39- 155.09	129.24(M)
	5.793	6.288	810658	3454114	100	100	62.53- 93.80	78.16(M)
			Average of Peak Amounts =		100	100		

QC Flag Legend

M - Compound response manually integrated.

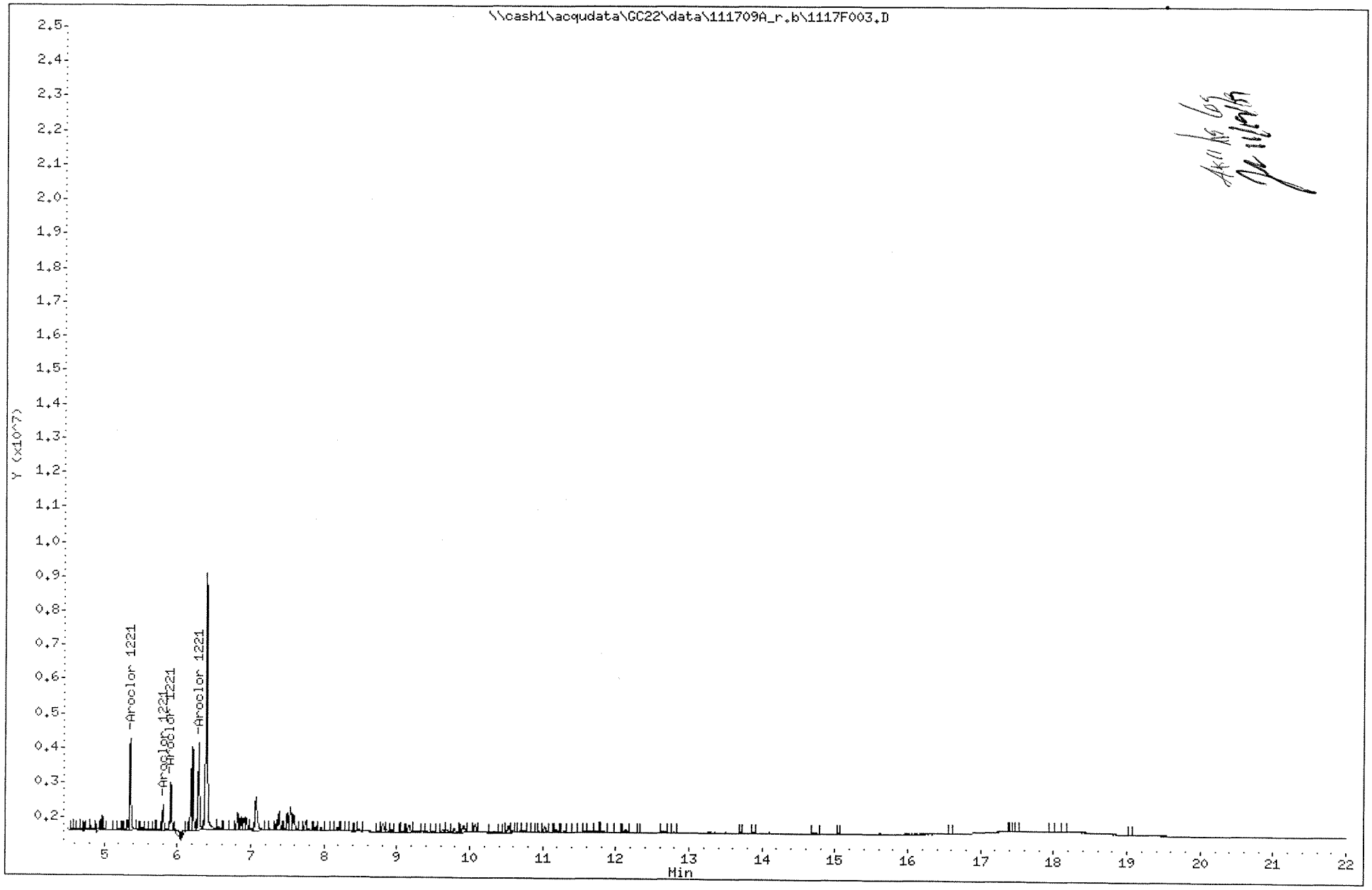
Data File: \\cash1\acqudata\GC22\data\111709A.b\1117F003.D
Date : 18-NOV-2009 00:13
Client ID:
Sample Info: 1221 @ 100ppb | PCB5-45J

Instrument: GC22.i
Operator: JMSmith
Column phase: DB-35MS
Column diameter: 0.32



Data File: \\cash1\acqudata\GC22\data\111709A_r.b\1117F003.D
Date : 18-NOV-2009 00:13
Client ID:
Sample Info: 1221 @ 100ppb | PCB5-45J

Instrument: GC22.i
Operator: JMSmith
Column phase: DB-XLB
Column diameter: 0.32



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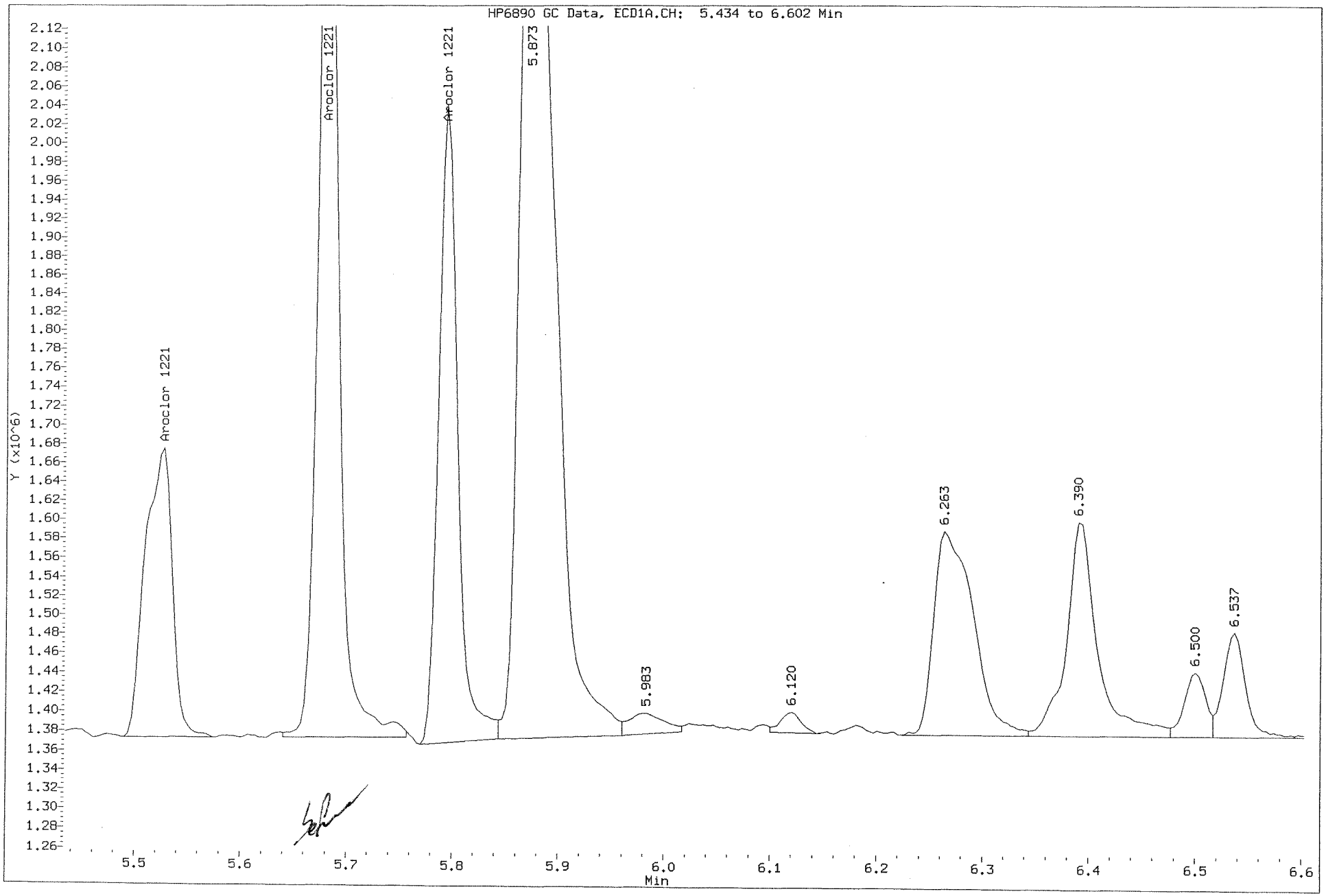
Injection Date: 18-NOV-2009 00:13
Instrument: GC22.i
Client Sample ID:



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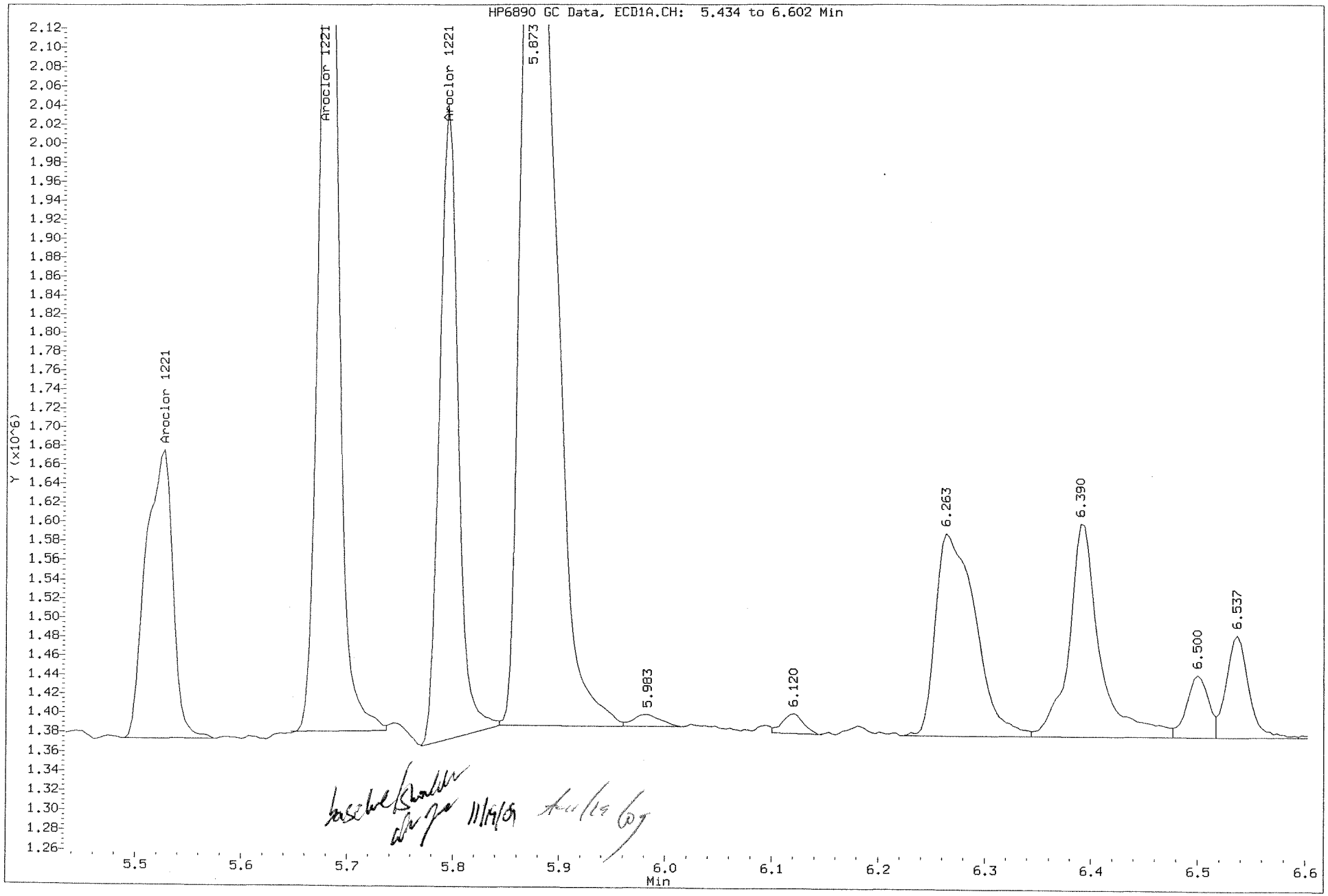
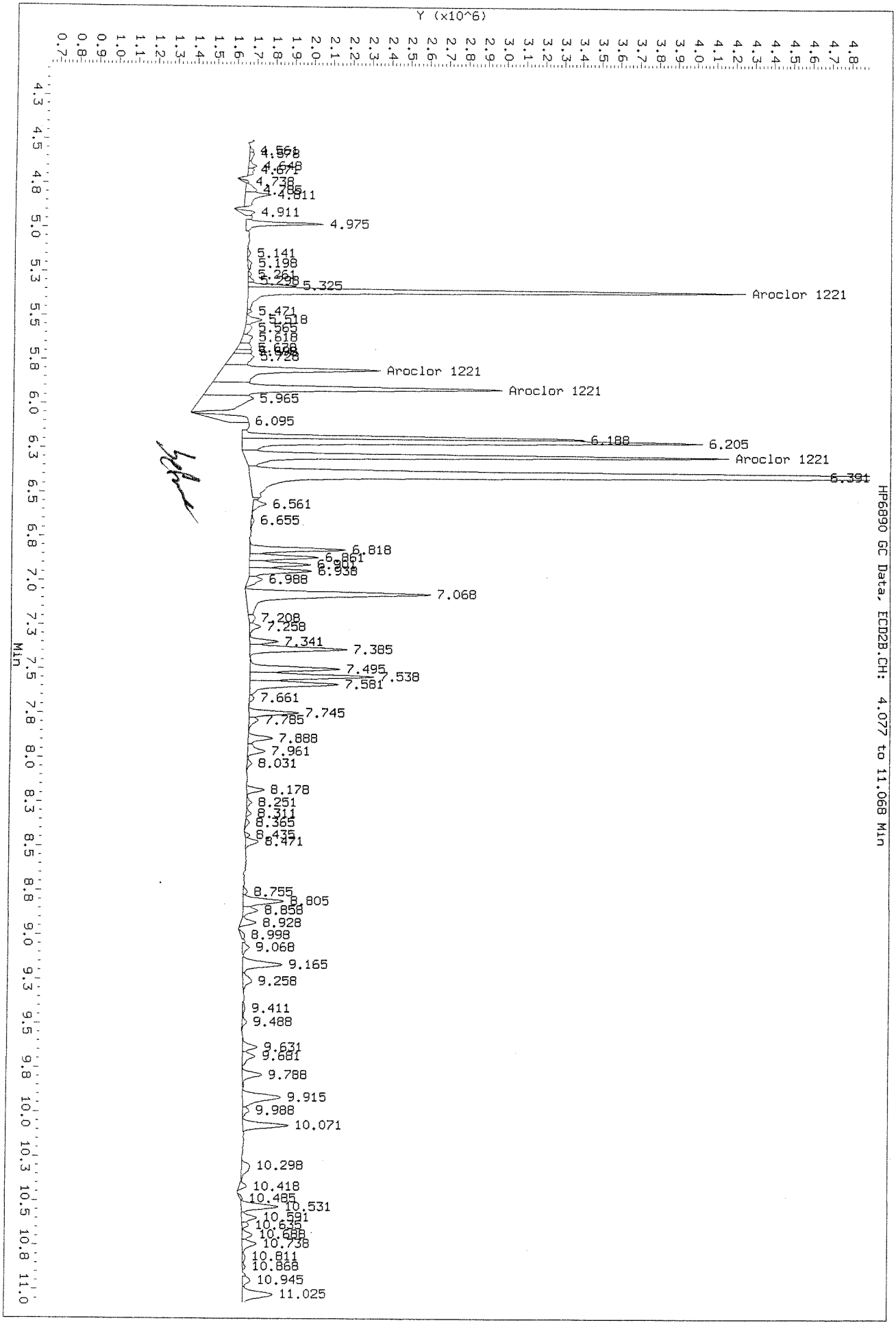
Injection Date: 18-NOV-2009 00:13
Instrument: GC22.i
Client Sample ID:

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Injection Date: 18-NOV-2009 00:13
Instrument: GC22.i
Client Sample ID:
Y (x10^6)
Min
HP6890 GC Data, ECD2B.CH: 4.077 to 11.068 Min
Aroclor 1221
Aroclor 1221
Aroclor 1221
Aroclor 1221
4.561
4.578
4.648
4.671
4.738
4.785
4.811
4.911
4.975
5.141
5.198
5.325
5.471
5.518
5.728
5.965
6.095
6.188
6.205
6.391
6.561
6.655
6.818
6.861
6.901
6.938
6.988
7.068
7.208
7.258
7.341
7.385
7.495
7.538
7.581
7.661
7.745
7.785
7.888
7.961
8.031
8.178
8.251
8.311
8.365
8.435
8.471
8.755
8.805
8.858
8.928
8.998
9.068
9.165
9.258
9.411
9.488
9.631
9.681
9.788
9.915
9.988
10.071
10.298
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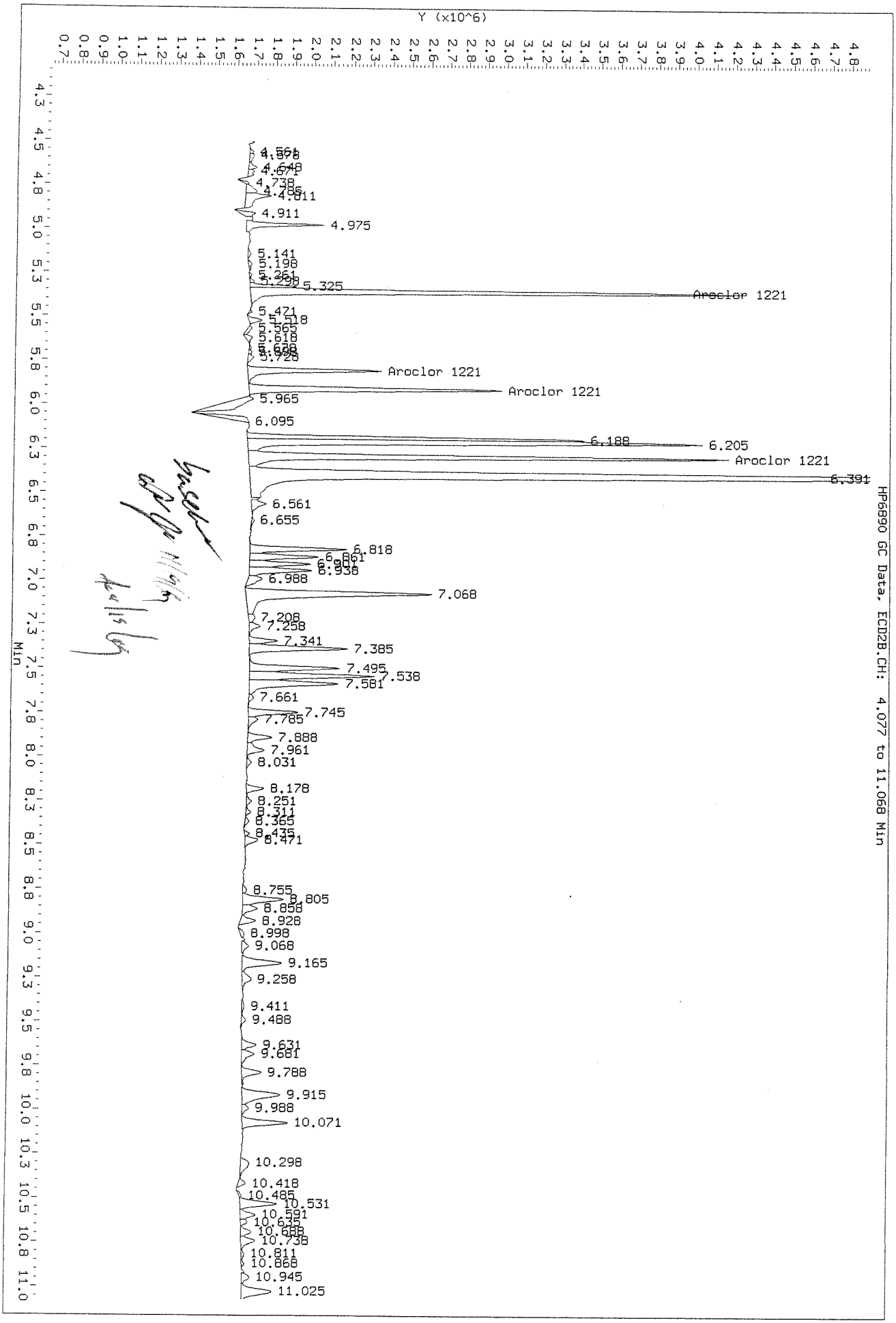
10.945
11.025


Data File: \\cash1\acqudata\GC22\data\1117090_r.b\1117F003.D
Injection Date: 18-NOV-2009 00:13
Instrument: GC22.i
Client Sample ID:
HP6890 GC Data, ECD2B.CH: 4.077 to 11.068 Min
Y (x10^6)
Min
Aroclor 1221
Aroclor 1221
Aroclor 1221
Aroclor 1221

Data File: \\cash1\acqudata\GC22\data\111709A.b\1117F004.D
Report Date: 19-Nov-2009 13:22

Laboratory Name

Sample #1 : \\cash1\acqudata\GC22\data\111709A.b\1117F004.D
Sample #2 : \\cash1\acqudata\GC22\data\111709A_r.b\1117F004.D
Inj Date : 18-NOV-2009 00:42
Sample Info: 1232 @ 100ppb | PCB5-45K
Misc Info :
Cal Date : 19-NOV-2009 12:24
Operator : JMSmith
Inst ID : GC22.i
Dil Factor : 1.000000

Method #1 : \\cash1\acqudata\GC22\data\111709A.b\111709ul_f.m
Method #2 : \\cash1\acqudata\GC22\data\111709A_r.b\111709ul_r.m
Sub List #1 : AR1232.SUB
Sub List #2 : AR1232.SUB
Col #1 Phase : DB-35MS
Col #2 Phase : DB-XLB

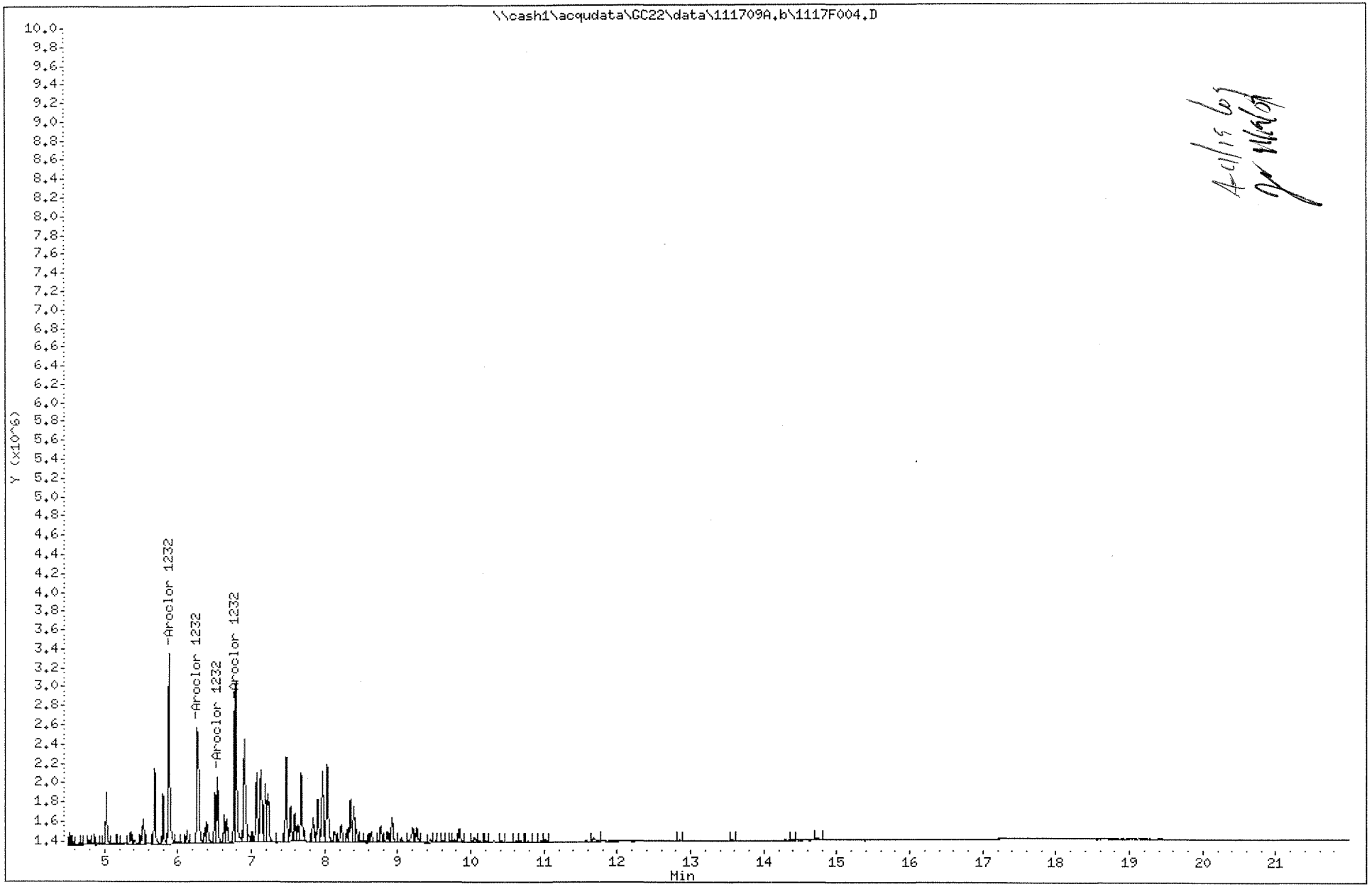
Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2	Target Range	Ratio
Aroclor 1232	5.874	6.392	2847977	10252195	100	100	80.00- 120.00	100.00
	6.261	6.819	2402163	5469566	100	100	67.48- 101.22	84.35
	6.537	7.062	947654	3390516	100	100	26.62- 39.93	33.27
	6.767	7.495	1570497	7474060	100	100	44.12- 66.17	55.14
			Average of Peak Amounts =		100	100		

Data File: \\cash1\acqudata\GC22\data\111709A.b\1117F004.D
Date : 18-NOV-2009 00:42
Client ID:
Sample Info: 1232 @ 100ppb | PCB5-45K

Column phase: DB-35MS

Instrument: GC22.i

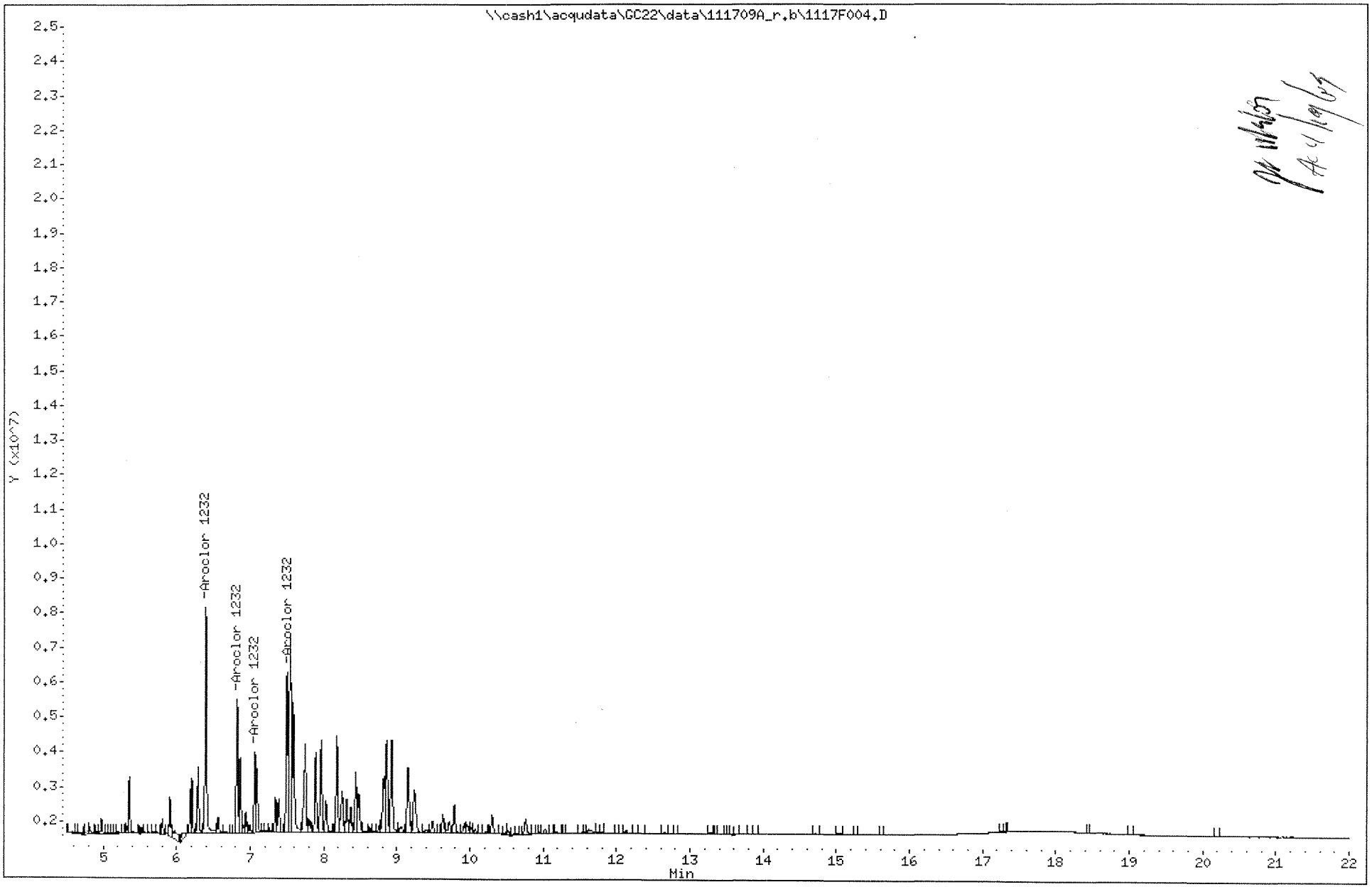
Operator: JMSmith
Column diameter: 0.32

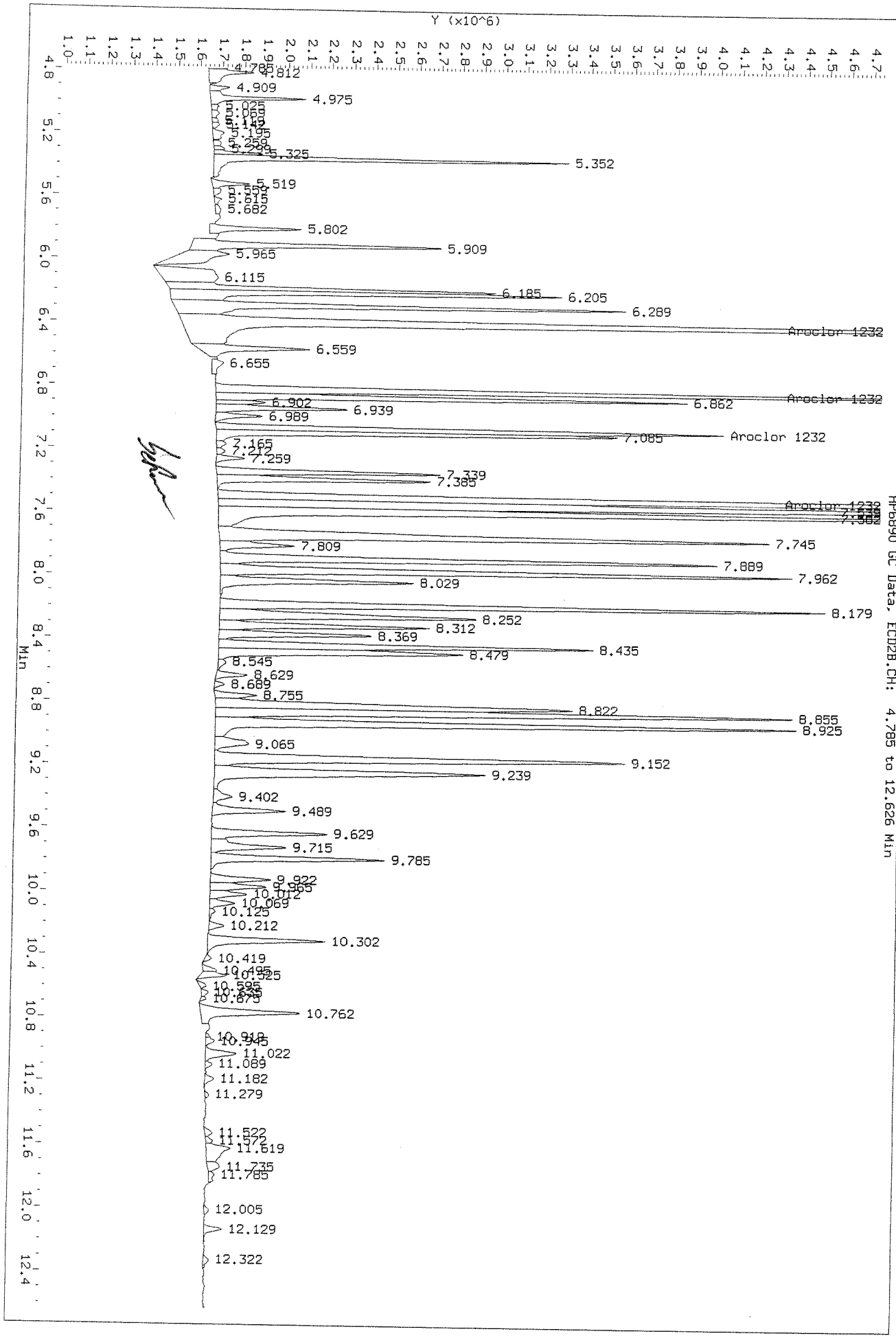


Analyzed by JMSmith

Data File: \\cash1\acqudata\GC22\data\111709A_r.b\1117F004.D
Date : 18-NOV-2009 00:42
Client ID:
Sample Info: 1232 @ 100ppb | PCB5-45K

Instrument: GC22.i
Operator: JMSmith
Column phase: DB-XLB
Column diameter: 0.32




Data File: \\cash1\acqudata\GC22\data\111709A_r.b\1117F004.D
Injection Date: 18-NOV-2009 00:42
Instrument: GC22.i
Client Sample ID:
Y (x10^6)
Min
HP6890 GC Data, ECD2B.CH: 4.785 to 12.626 Min
4.785
4.812
4.909
4.975
5.325
5.352
5.519
5.682
5.802
5.909
5.965
6.115
6.185
6.205
6.289
Aroclor 1232
6.559
6.655
6.862
Aroclor 1232
6.902
6.939
6.989
7.085
Aroclor 1232
7.165
7.259
7.339
7.385
7.745
7.809
7.889
7.962
8.029
8.179
8.252
8.312
8.369
8.435
8.479
8.545
8.629
8.689
8.755
8.822
8.855
8.925
9.065
9.152
9.239
9.402
9.489
9.629
9.715
9.785
10.069
10.125
10.212
10.302
10.419
10.525
10.762
11.022
11.089
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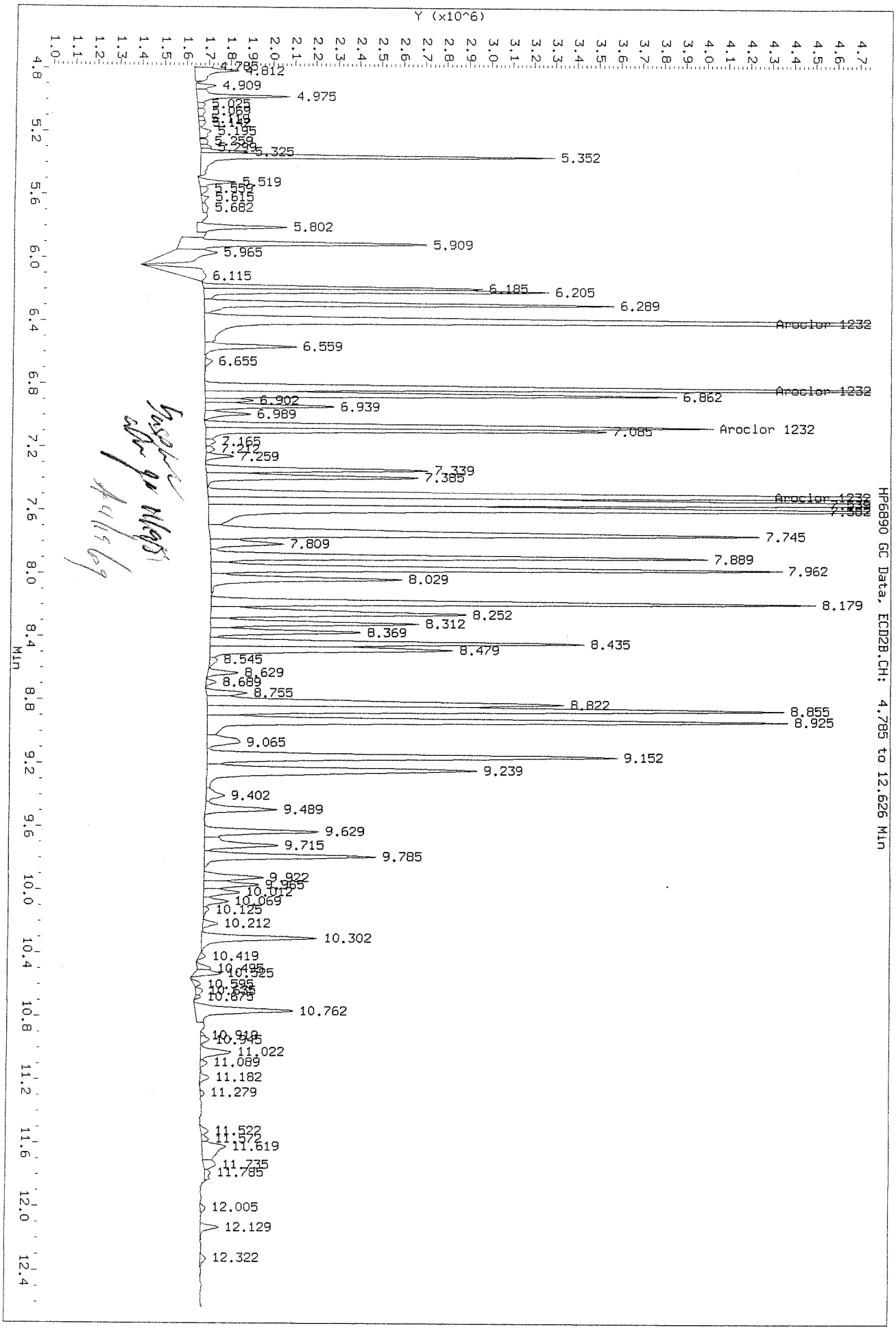
12.005
12.129
12.322


Data File: \\cash1\acqudata\GC22\data\111709A_r.b\1117F004.D
Injection Date: 18-NOV-2009 00:42
Instrument: GC22.i
Client Sample ID:
HP6890 GC Data, ECD2B.CH: 4.785 to 12.626 Min
Y (x10^6)
Min
Aroclor 1232
Aroclor 1232
Aroclor 1232
Aroclor 1232

Data File: \\cash1\acqudata\GC22\data\111709A.b\1117F005.D
Report Date: 19-Nov-2009 13:22

Laboratory Name

Sample #1 : \\cash1\acqudata\GC22\data\111709A.b\1117F005.D
Sample #2 : \\cash1\acqudata\GC22\data\111709A_r.b\1117F005.D
Inj Date : 18-NOV-2009 01:10
Sample Info: 1242 @ 100ppb | PCB5-45L
Misc Info :
Cal Date : 19-NOV-2009 12:25
Operator : JMSmith
Inst ID : GC22.i
Dil Factor : 1.000000

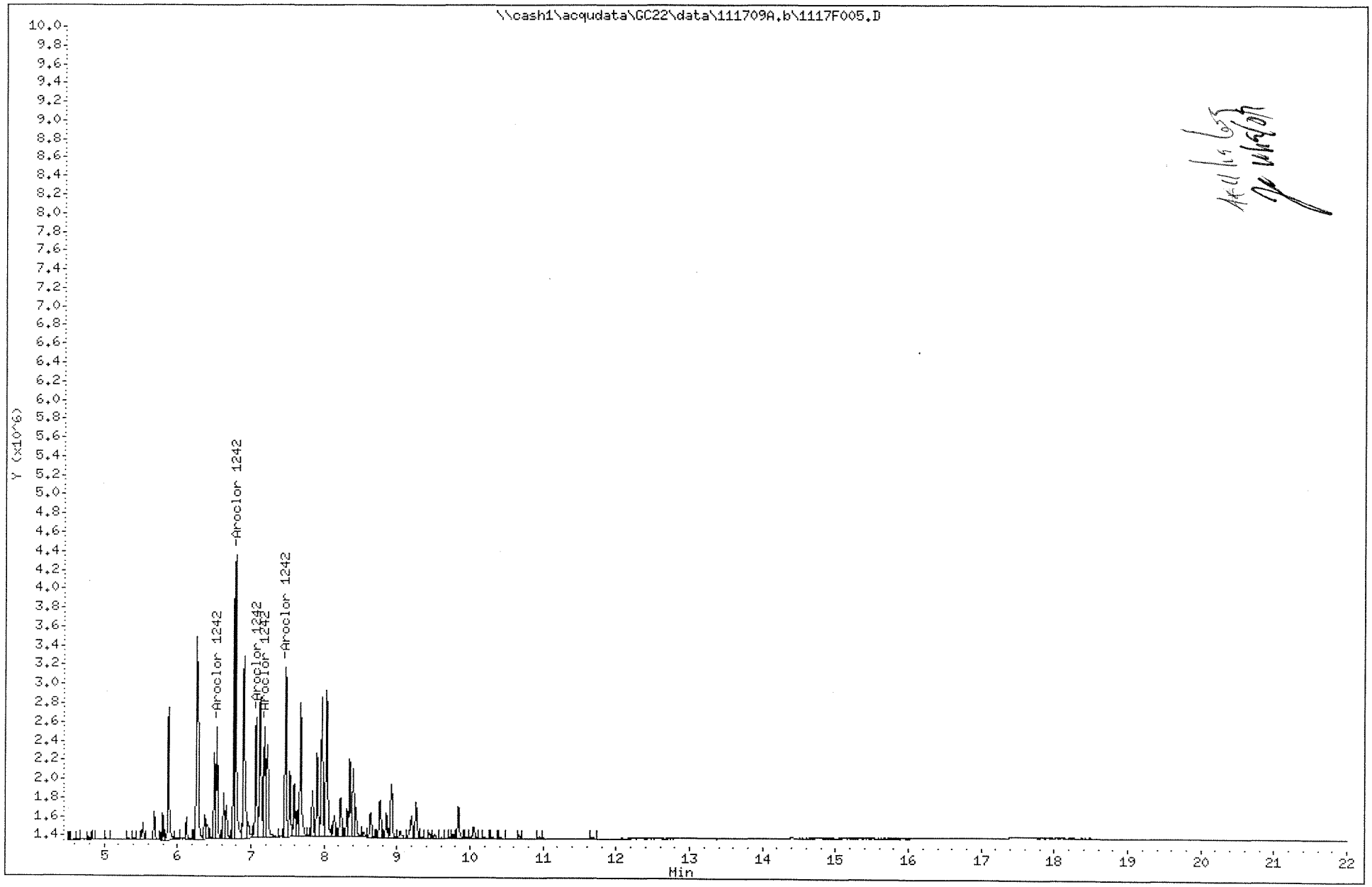
Method #1 : \\cash1\acqudata\GC22\data\111709A.b\111709ul_f.m
Method #2 : \\cash1\acqudata\GC22\data\111709A_r.b\111709ul_r.m
Sub List #1 : AR1242.SUB
Sub List #2 : AR1242.SUB
Col #1 Phase : DB-35MS
Col #2 Phase : DB-XLB

Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2	Target Range	Ratio
Aroclor 1242	6.535	6.817	1670061	9754316	100	100	80.00- 120.00	100.00
	6.785	7.743	4883204	9839441	100	100	233.92- 350.88	292.40
	7.065	7.963	1898102	9179485	100	100	90.92- 136.39	113.65
	7.182	8.180	1721859	9242900	100	100	82.48- 123.72	103.10
	7.472	8.437	2647932	6396798	100	100	126.84- 190.26	158.55
			Average of Peak Amounts =		100	100		

Reviewed by

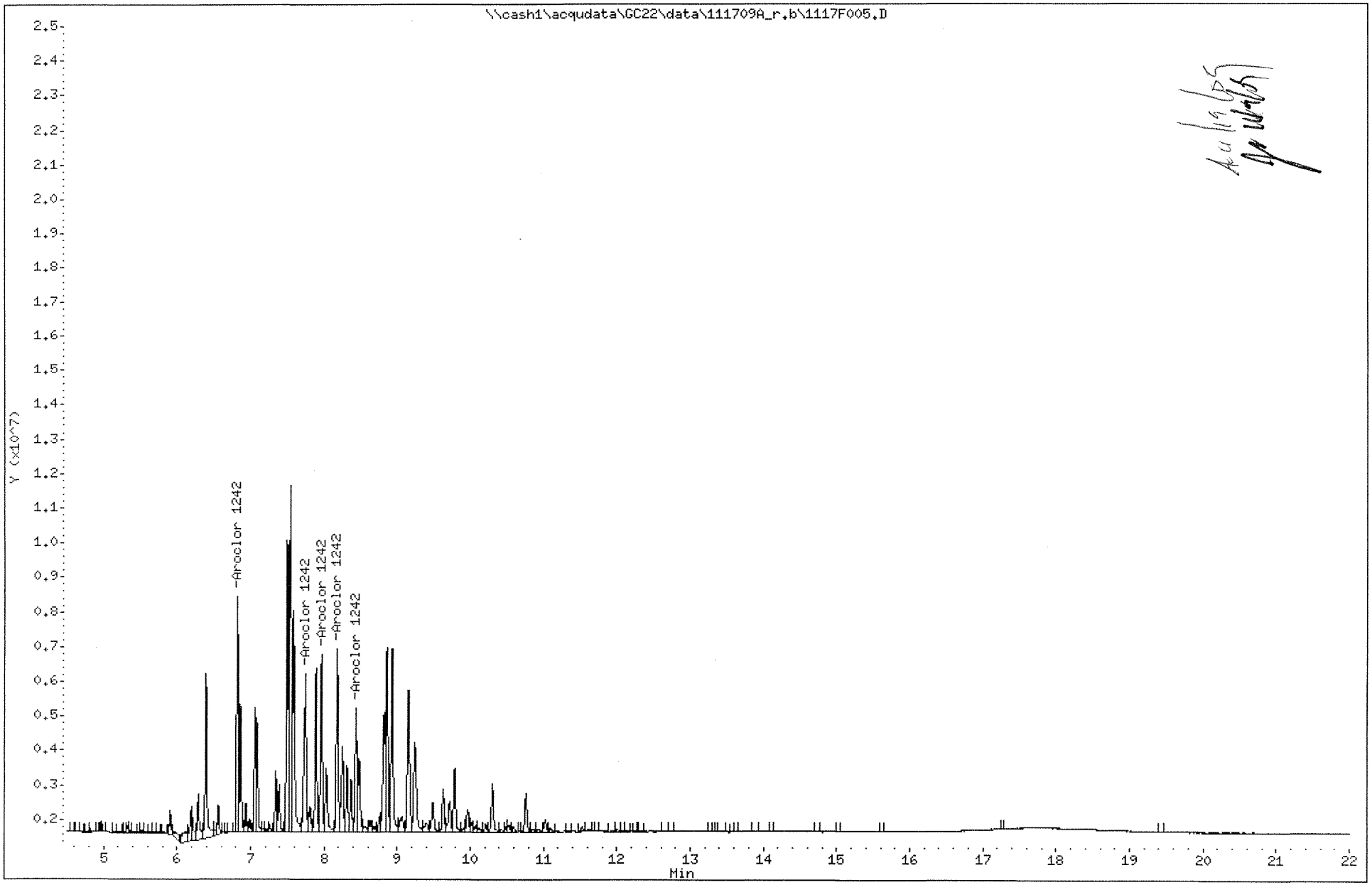
Data File: \\cash1\acqudata\GC22\data\111709A.b\1117F005.D
Date : 18-NOV-2009 01:10
Client ID:
Sample Info: 1242 @ 100ppb | PCB5-45L

Instrument: GC22.i
Operator: JMSmith
Column phase: DB-35MS
Column diameter: 0.32



Data File: \\cash1\acqudata\GC22\data\111709A_r.b\1117F005.D
Date : 18-NOV-2009 01:10
Client ID:
Sample Info: 1242 @ 100ppb | PCB5-45L

Instrument: GC22.i
Operator: JHSmith
Column phase: DB-XLB
Column diameter: 0.32



Data File: \\cash1\acqudata\GC22\data\111709A.b\1117F006.D
Report Date: 19-Nov-2009 13:22

Laboratory Name

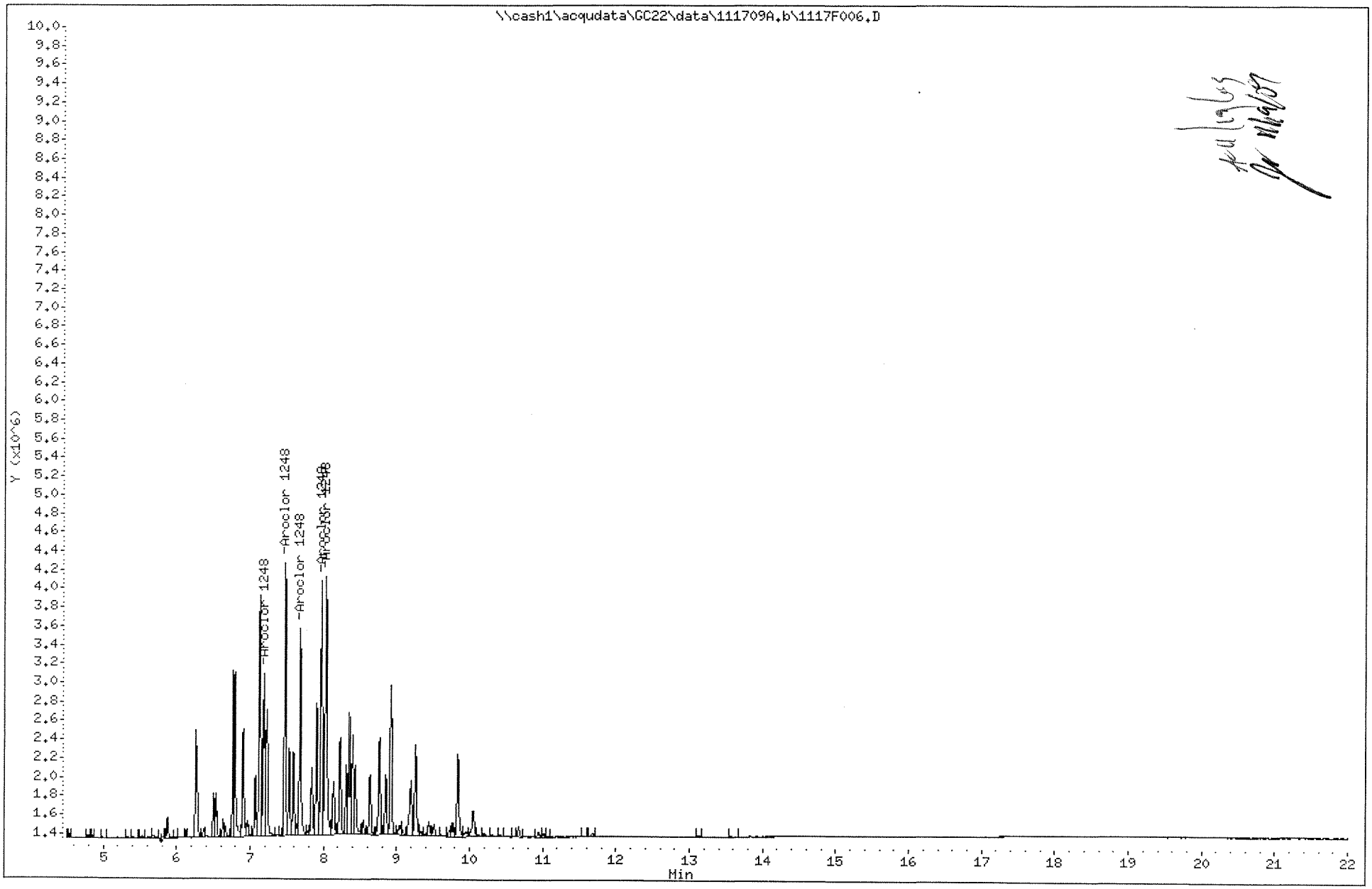
Sample #1 : \\cash1\acqudata\GC22\data\111709A.b\1117F006.D
Sample #2 : \\cash1\acqudata\GC22\data\111709A_r.b\1117F006.D
Inj Date : 18-NOV-2009 01:39
Sample Info: 1248 @ 100ppb | PCB5-45M
Misc Info :
Cal Date : 19-NOV-2009 12:25
Operator : JMSmith
Inst ID : GC22.i
Dil Factor : 1.000000

Method #1 : \\cash1\acqudata\GC22\data\111709A.b\111709ul_f.m
Method #2 : \\cash1\acqudata\GC22\data\111709A_r.b\111709ul_r.m
Sub List #1 : AR1248.SUB
Sub List #2 : AR1248.SUB
Col #1 Phase : DB-35MS
Col #2 Phase : DB-XLB

Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2	Target Range	Ratio
Aroclor 1248	7.182	7.960	2589082	12810516	100	100	80.00- 120.00	100.00
	7.472	8.177	4217839	14812518	100	100	130.33- 195.49	162.91
	7.676	8.437	3509679	9711655	100	100	108.45- 162.67	135.56
	7.966	8.857	4323145	17377459	100	100	133.58- 200.37	166.98
	8.029	8.927	5364098	17194416	100	100	165.75- 248.62	207.18
			Average of Peak Amounts =		100	100		

Data File: \\cash1\acqudata\GC22\data\111709A.b\1117F006.D
Date : 18-NOV-2009 01:39
Client ID:
Sample Info: 1248 @ 100ppb | PCB5-45M

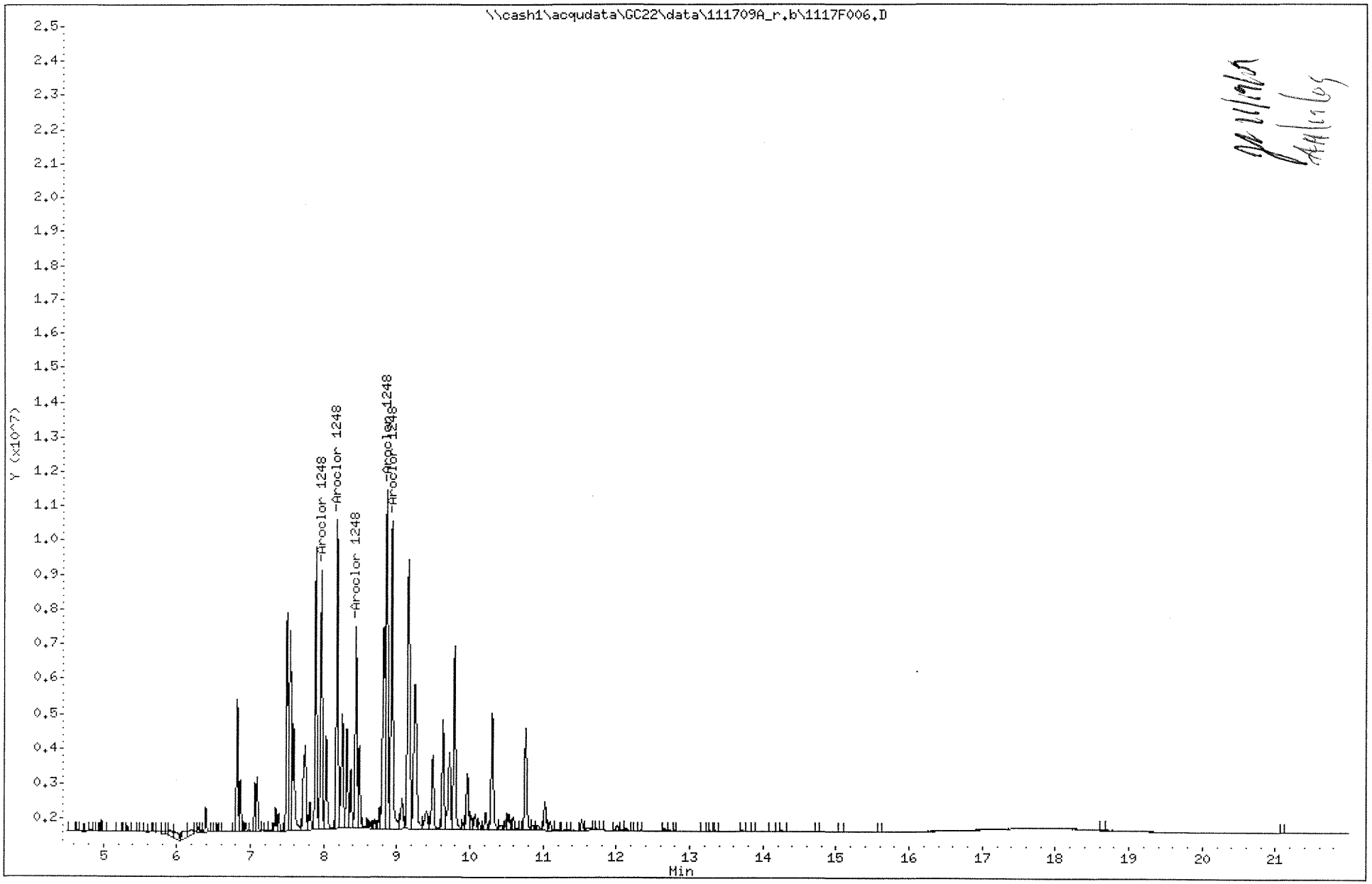
Instrument: GC22.i
Operator: JMSmith
Column phase: DB-35MS
Column diameter: 0.32



Data File: \\cash1\acqudata\GC22\data\111709A_r.b\1117F006.D
Date : 18-NOV-2009 01:39
Client ID:
Sample Info: 1248 @ 100ppb | PCB5-45M

Instrument: GC22.i
Operator: JMSmith
Column diameter: 0.32

Column phase: DB-XLB



Data File: \\cash1\acqudata\GC22\data\111709A.b\1117F007.D
Report Date: 19-Nov-2009 13:23

Laboratory Name

Sample #1 : \\cash1\acqudata\GC22\data\111709A.b\1117F007.D
Sample #2 : \\cash1\acqudata\GC22\data\111709A_r.b\1117F007.D
Inj Date : 18-NOV-2009 02:07
Sample Info: 1254 @ 100ppb | PCB5-45N
Misc Info :
Cal Date : 19-NOV-2009 12:25
Operator : JMSmith
Inst ID : GC22.i
Dil Factor : 1.000000

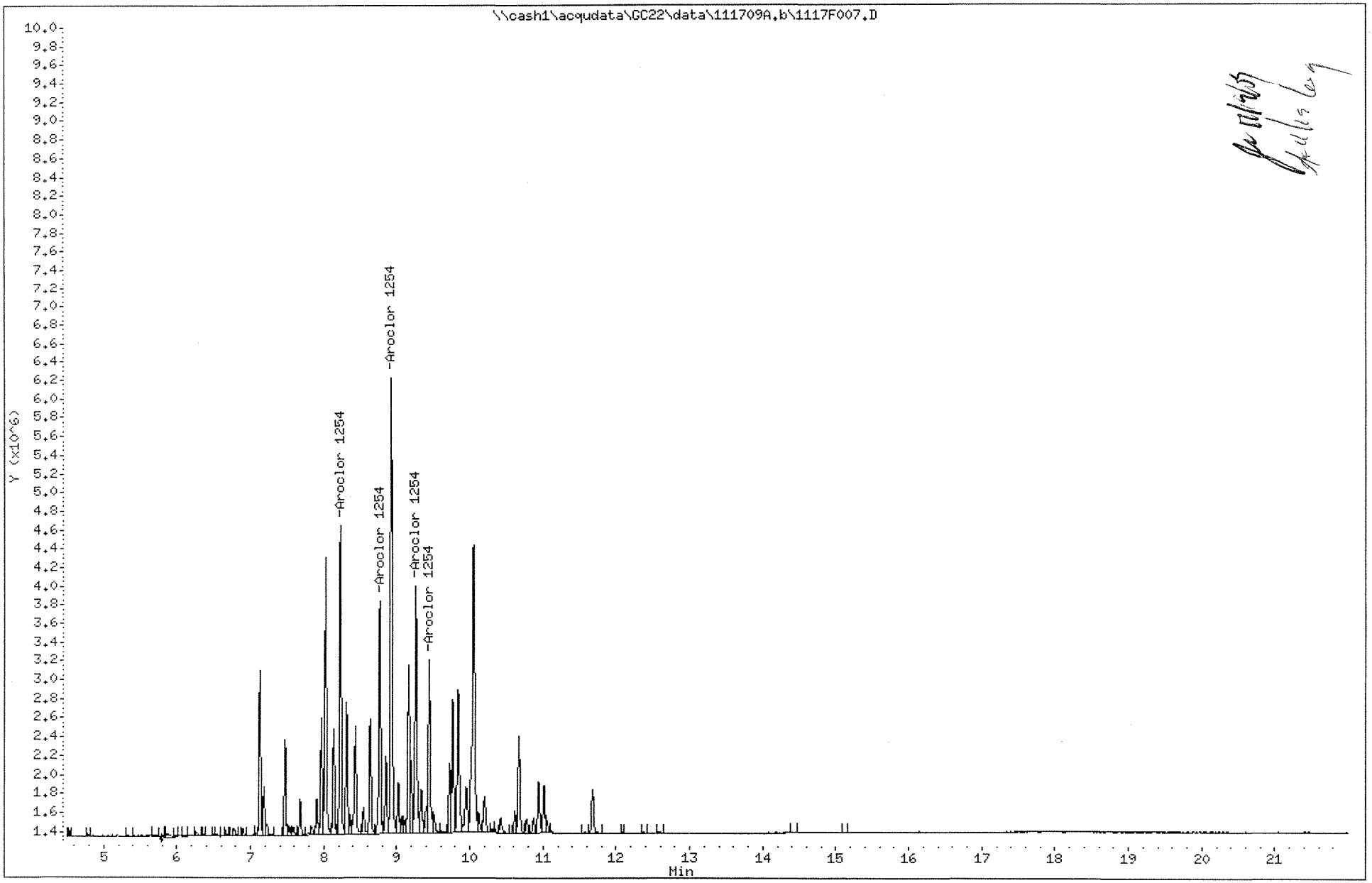
Method #1 : \\cash1\acqudata\GC22\data\111709A.b\111709ul_f.m
Method #2 : \\cash1\acqudata\GC22\data\111709A_r.b\111709ul_r.m
Sub List #1 : AR1254.SUB
Sub List #2 : AR1254.SUB
Col #1 Phase : DB-35MS
Col #2 Phase : DB-XLB

Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2	Target Range	Ratio
Aroclor 1254	8.224	8.802	5294604	17266726	100	100	80.00- 120.00	100.00
	8.761	9.162	4331859	27077210	100	100	65.45- 98.18	81.82
	8.918	9.629	8706101	14379005	100	100	131.55- 197.32	164.43
	9.258	9.786	4810041	27668551	100	100	72.68- 109.02	90.85
	9.441	10.529	3520628	12914905	100	100	53.20- 79.79	66.49
			Average of Peak Amounts =		100	100		

Data File: \\cash1\acqudata\GC22\data\111709A.b\1117F007.D
Date : 18-NOV-2009 02:07
Client ID:
Sample Info: 1254 @ 100ppb | PCB5-45N

Instrument: GC22.i
Operator: JMSmith
Column diameter: 0.32

Column phase: DB-35MS

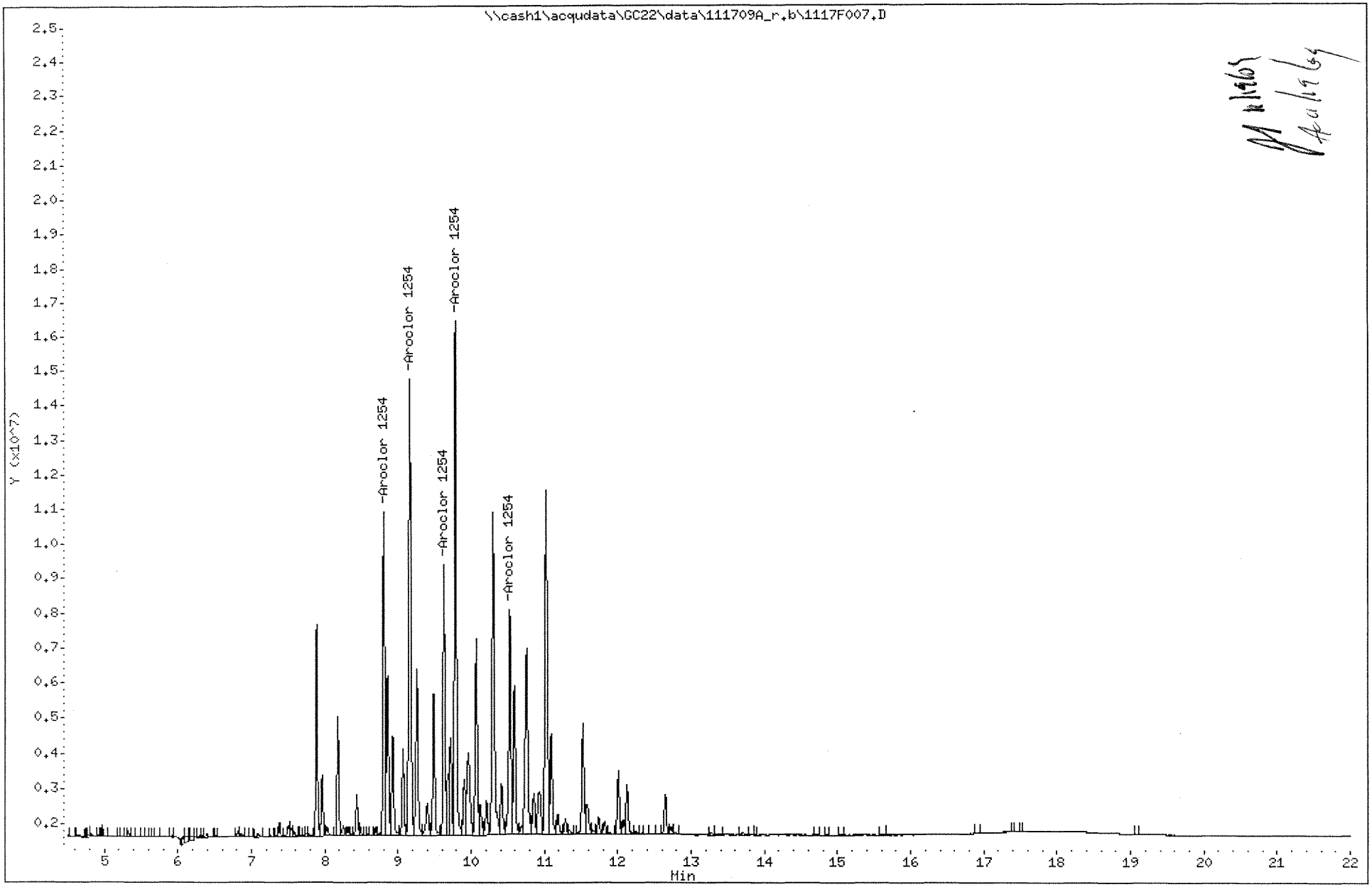


Data File: \\cash1\acqudata\GC22\data\111709A_r.b\1117F007.D
Date : 18-NOV-2009 02:07
Client ID:
Sample Info: 1254 @ 100ppb | PCB5-45N

Column phase: DB-XLB

Instrument: GC22.i

Operator: JMSmith
Column diameter: 0.32



Data File: \\cash1\acqudata\GC22\data\111709A.b\1117F008.D
Report Date: 19-Nov-2009 13:23

Laboratory Name

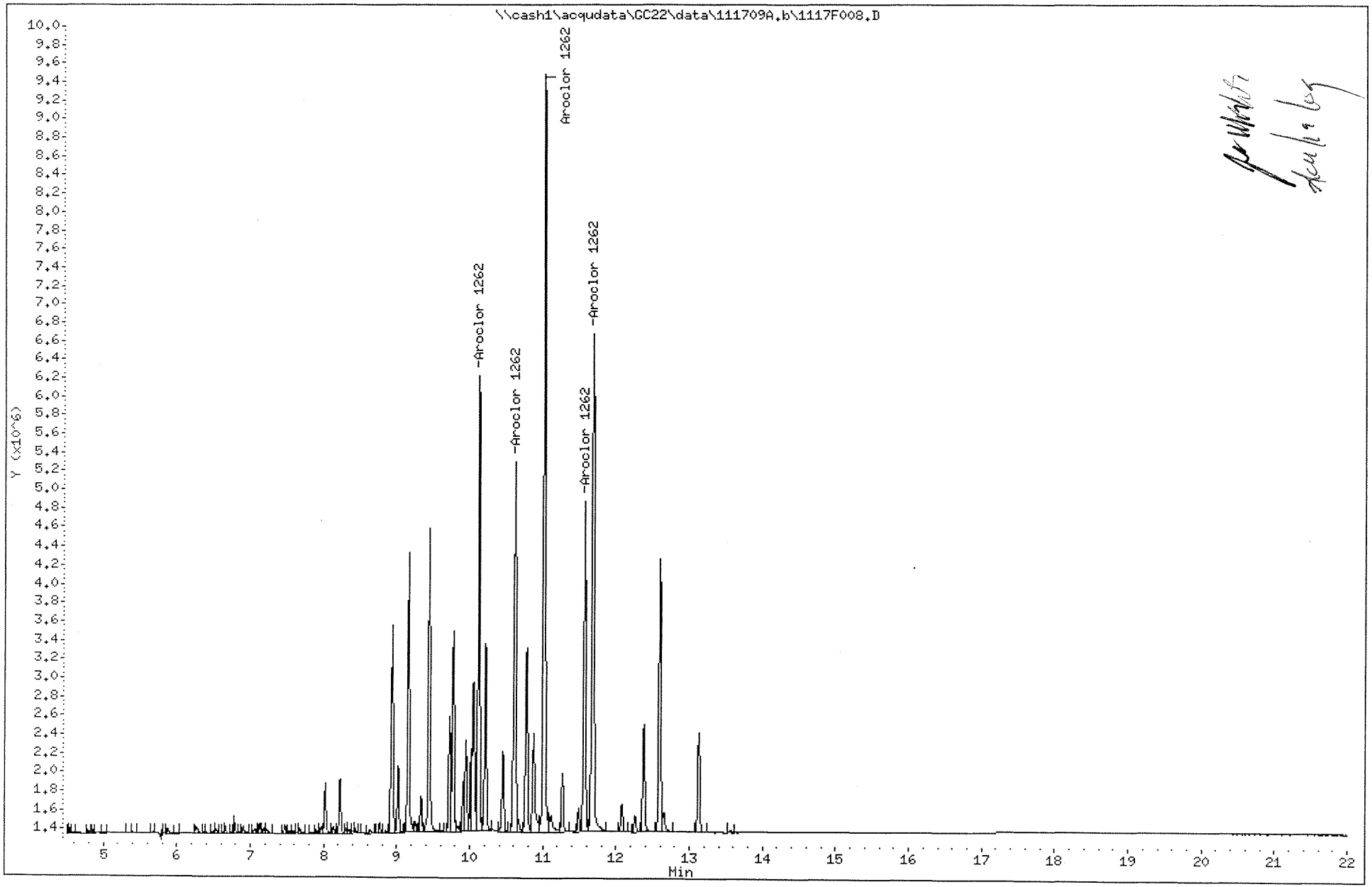
Sample #1 : \\cash1\acqudata\GC22\data\111709A.b\1117F008.D
Sample #2 : \\cash1\acqudata\GC22\data\111709A_r.b\1117F008.D
Inj Date : 18-NOV-2009 02:36
Sample Info: 1262 @ 100ppb | PCB5-45O
Misc Info :
Cal Date : 19-NOV-2009 12:25
Operator : JMSmith
Inst ID : GC22.i
Dil Factor : 1.000000

Method #1 : \\cash1\acqudata\GC22\data\111709A.b\111709ul_f.m
Method #2 : \\cash1\acqudata\GC22\data\111709A_r.b\111709ul_r.m
Sub List #1 : AR1262.SUB
Sub List #2 : AR1262.SUB
Col #1 Phase : DB-35MS
Col #2 Phase : DB-XLB

Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2	Target Range	Ratio
Aroclor 1262	10.119	11.030	8445892	18587643	100	100	80.00- 120.00	100.00
	10.616	11.184	8063546	31491804	100	100	76.38- 114.57	95.47
	11.012	12.127	15279055	50607469	100	100	144.72- 217.09	180.91
	11.566	12.654	6399231	34305874	100	100	60.61- 90.92	75.77
	11.676	12.787	11982356	24181710	100	100	113.50- 170.25	141.87
			Average of Peak Amounts =		100	100		

Data File: \\cash1\acqudata\GC22\data\111709A.b\1117F008.D
Date : 18-NOV-2009 02:36
Client ID:
Sample Info: 1262 @ 100ppb | PCB5-450

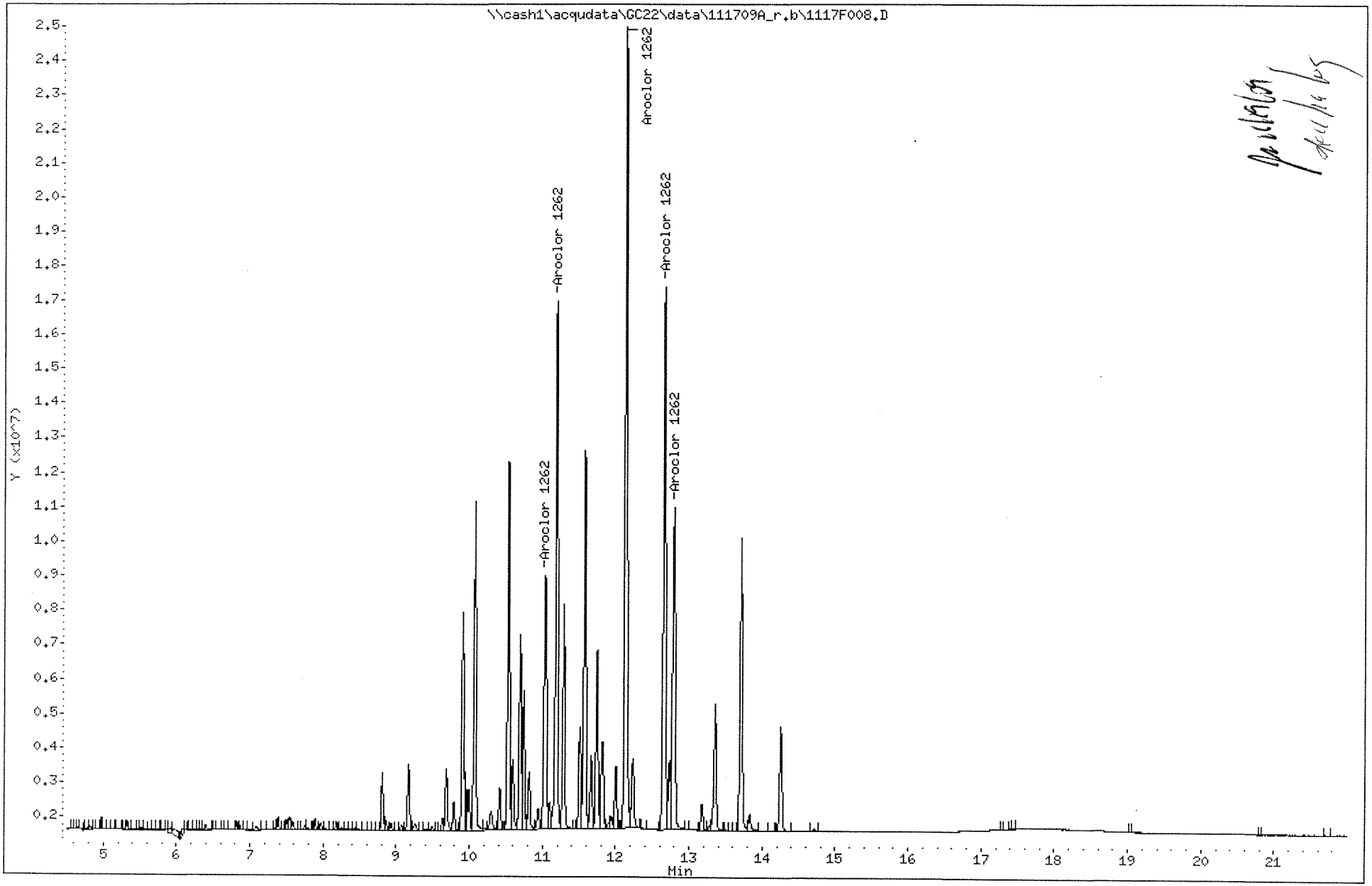
Instrument: GC22.i
Operator: JMSmith
Column phase: DB-35MS
Column diameter: 0.32



Data File: \\cash1\acqudata\GC22\data\111709A_r.b\1117F008.D
Date : 18-NOV-2009 02:36
Client ID:
Sample Info: 1262 @ 100ppb | PCB5-450

Instrument: GC22.i

Operator: JMSmith
Column phase: DB-XLB
Column diameter: 0.32



Data File: \\cash1\acqudata\GC22\data\111709A.b\1117F009.D
Report Date: 19-Nov-2009 13:23

Laboratory Name

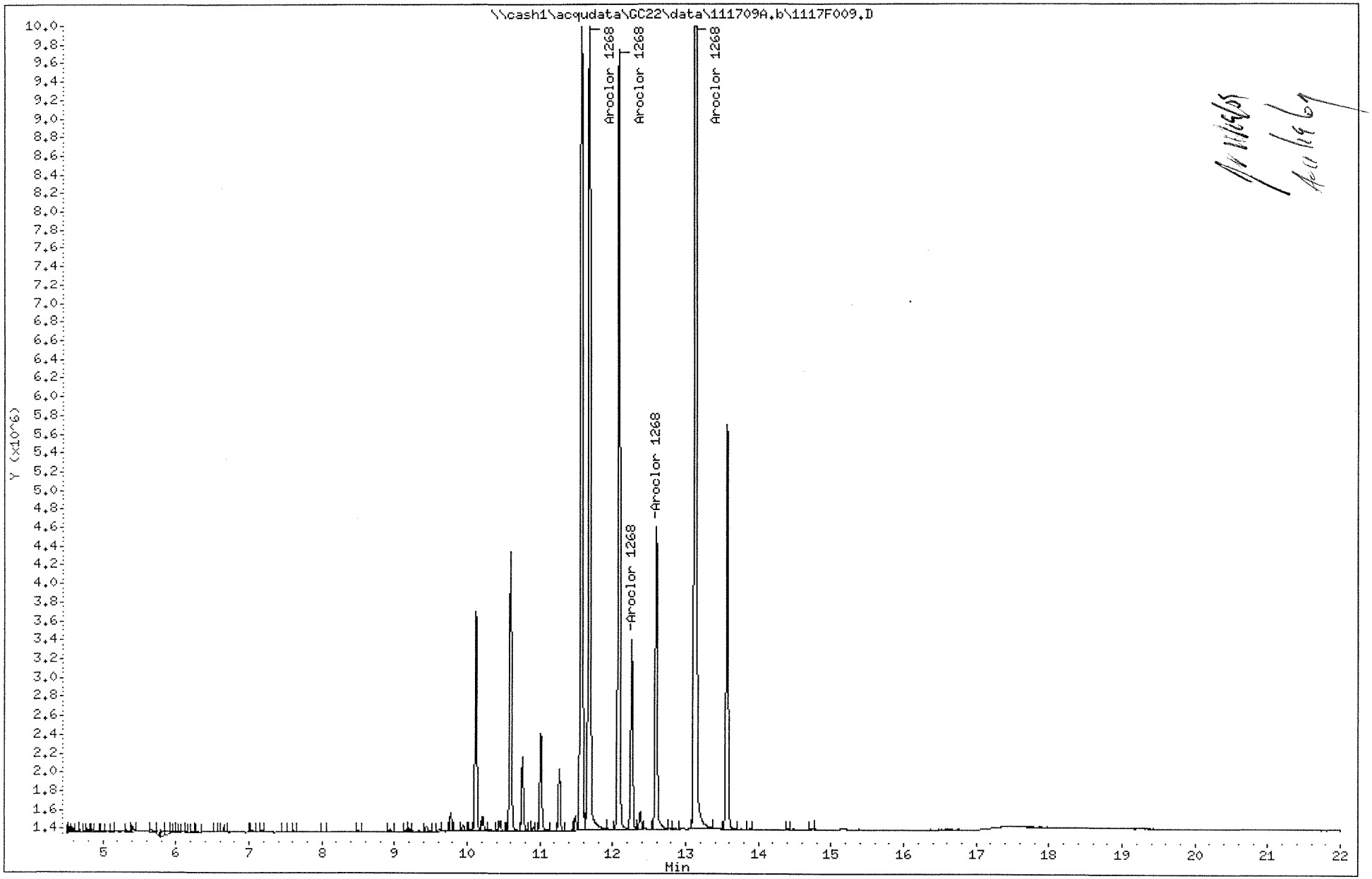
Sample #1 : \\cash1\acqudata\GC22\data\111709A.b\1117F009.D
Sample #2 : \\cash1\acqudata\GC22\data\111709A_r.b\1117F009.D
Inj Date : 18-NOV-2009 03:05
Sample Info: 1268 @ 100ppb | PCB5-45P
Misc Info :
Cal Date : 19-NOV-2009 12:25
Operator : JMSmith
Inst ID : GC22.i
Dil Factor : 1.000000

Method #1 : \\cash1\acqudata\GC22\data\111709A.b\111709ul_f.m
Method #2 : \\cash1\acqudata\GC22\data\111709A_r.b\111709ul_r.m
Sub List #1 : AR1268.SUB
Sub List #2 : AR1268.SUB
Col #1 Phase : DB-35MS
Col #2 Phase : DB-XLB

Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2	Target Range	Ratio
Aroclor 1268	11.675	12.793	19381365	65398340	100	100	80.00- 120.00	100.00
	12.078	13.176	15380253	52293156	100	100	63.48- 95.23	79.36
	12.258	13.326	3862692	13919310	100	100	15.94- 23.92	19.93
	12.592	13.706	6389083	19984250	100	100	26.37- 39.56	32.97
	13.125	14.250	46594356	141056128	100	100	192.33- 288.49	240.41
			Average of Peak Amounts =		100	100		

Data File: \\cash1\acqudata\GC22\data\111709A.b\1117F009.D
Date : 18-NOV-2009 03:05
Client ID:
Sample Info: 1268 @ 100ppb | PCB5-45P

Instrument: GC22.i
Operator: JMSmith
Column phase: DB-35MS
Column diameter: 0.32

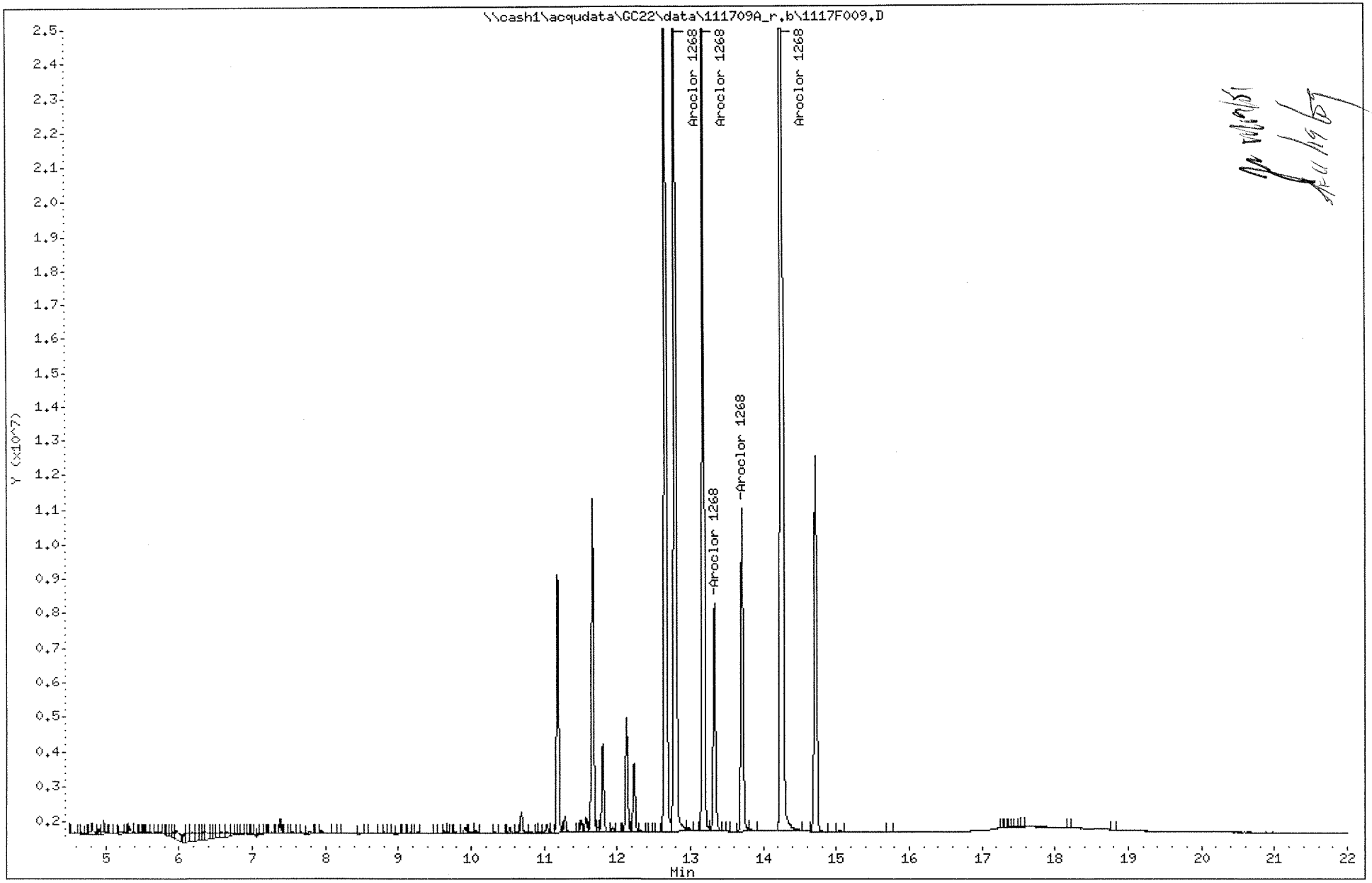


Data File: \\cash1\acqudata\GC22\data\111709A_r.b\1117F009.D
Date : 18-NOV-2009 03:05
Client ID:
Sample Info: 1268 @ 100ppb | PCB5-45P

Instrument: GC22.i

Operator: JHSmith
Column diameter: 0.32

Column phase: DB-XLB



Data File: \\cash1\acqudata\GC22\data\111709A.b\1117F010.D
Report Date: 19-Nov-2009 13:23

Laboratory Name

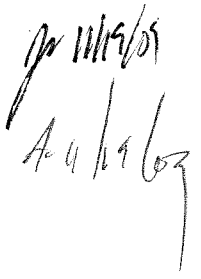
Sample #1 : \\cash1\acqudata\GC22\data\111709A.b\1117F010.D
Sample #2 : \\cash1\acqudata\GC22\data\111709A_r.b\1117F010.D
Inj Date : 18-NOV-2009 03:33
Sample Info: 1660 @ 2.5ppb | PCB5-44I
Misc Info :
Cal Date : 19-NOV-2009 12:25
Operator : JMSmith
Inst ID : GC22.i
Dil Factor : 1.000000

Method #1 : \\cash1\acqudata\GC22\data\111709A.b\111709ul_f.m
Method #2 : \\cash1\acqudata\GC22\data\111709A_r.b\111709ul_r.m
Sub List #1 : AR1660.SUB
Sub List #2 : AR1660.SUB
Col #1 Phase : DB-35MS
Col #2 Phase : DB-XLB

Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2	Target Range	Ratio
Tetrachloro-m-xylene	5.397	6.022	392802	1273438	0.273	0.270		100.00(M)
Aroclor 1016	6.534	6.815	74772	371278	3.32	2.83	80.00- 120.00	100.00(M)
	6.784	7.539	176582	697106	2.74	3.03	252.28- 378.42	236.16(M)
	6.901	7.885	116220	330307	2.70	2.93	166.75- 250.13	155.43(M)
	7.124	8.179	108815	339481	3.02	2.83	131.34- 197.00	145.53(M)
	7.471	8.432	103808	128149	2.83	2.06	135.86- 203.79	138.83(M)
			Average of Peak Amounts =		2.92	2.74		
Aroclor 1260	9.767	10.529	155052	848052	2.99	2.77	80.00- 120.00	100.00(M)
	10.117	11.182	174043	589827	2.93	2.75	95.87- 143.80	112.25(M)
	10.614	11.569	179802	587568	2.80	2.82	109.86- 164.78	115.96(M)
	11.011	12.125	387019	1272399	2.77	2.75	253.24- 379.86	249.61(M)
	11.677	12.652	307523	783685	2.73	2.72	198.25- 297.38	198.34(M)
			Average of Peak Amounts =		2.84	2.76		
Decachlorobiphenyl	13.567	14.712	421302	1282014	0.284	0.286		100.00

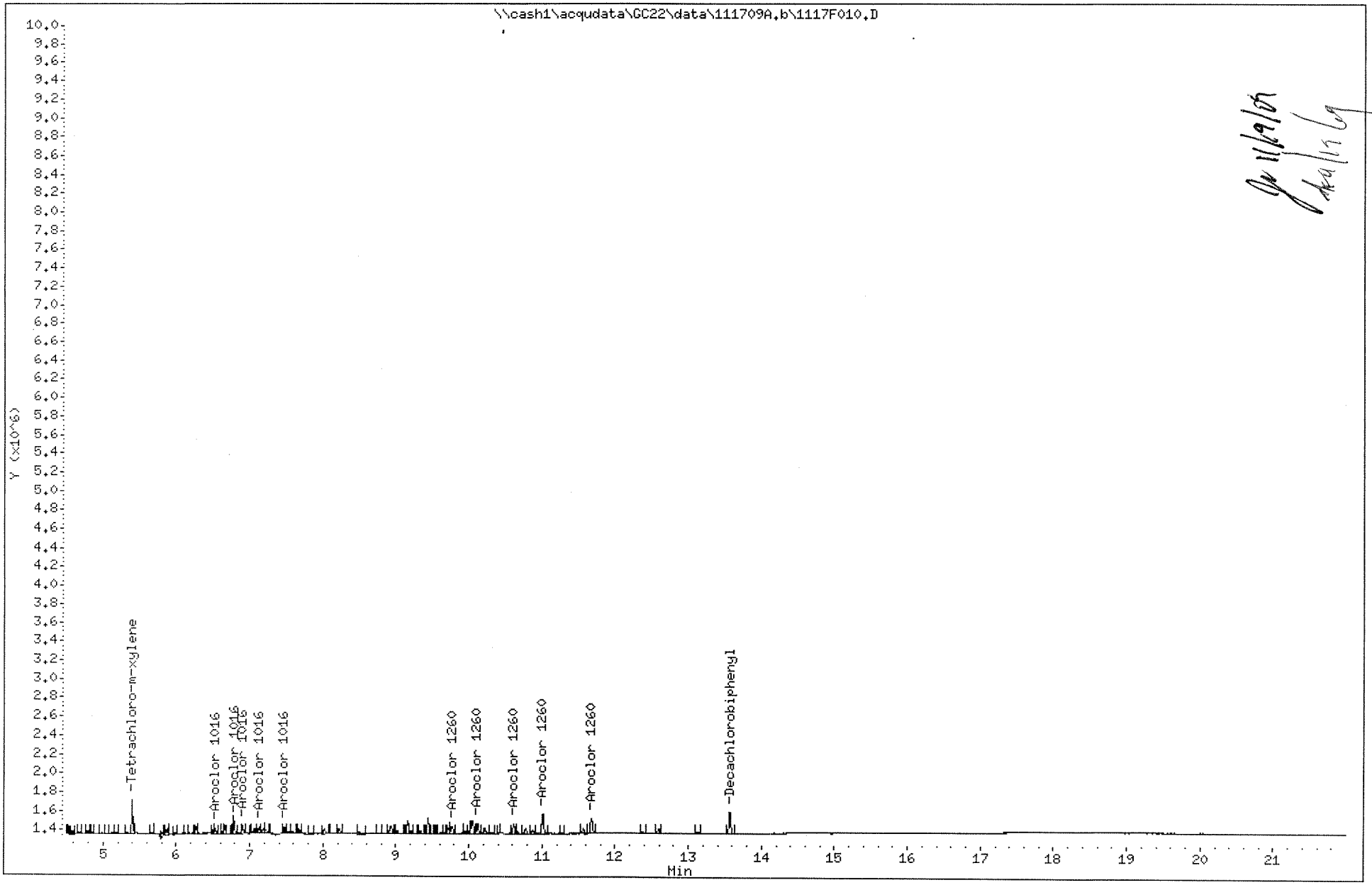
QC Flag Legend

M - Compound response manually integrated.



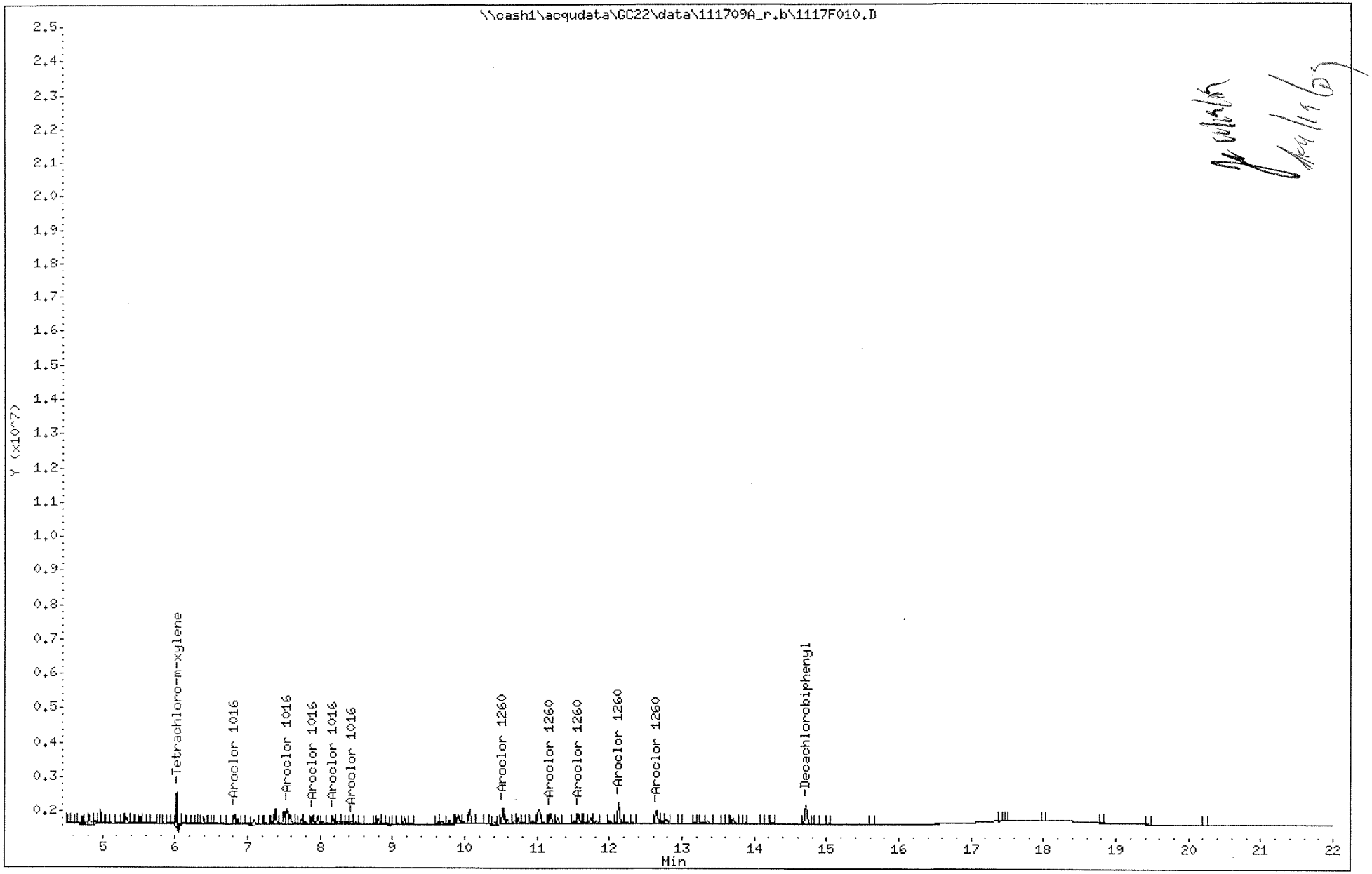
Data File: \\cash1\acqudata\GC22\data\111709A.b\1117F010.D
Date : 18-NOV-2009 03:33
Client ID:
Sample Info: 1660 @ 2.5ppb | PCB5-44I

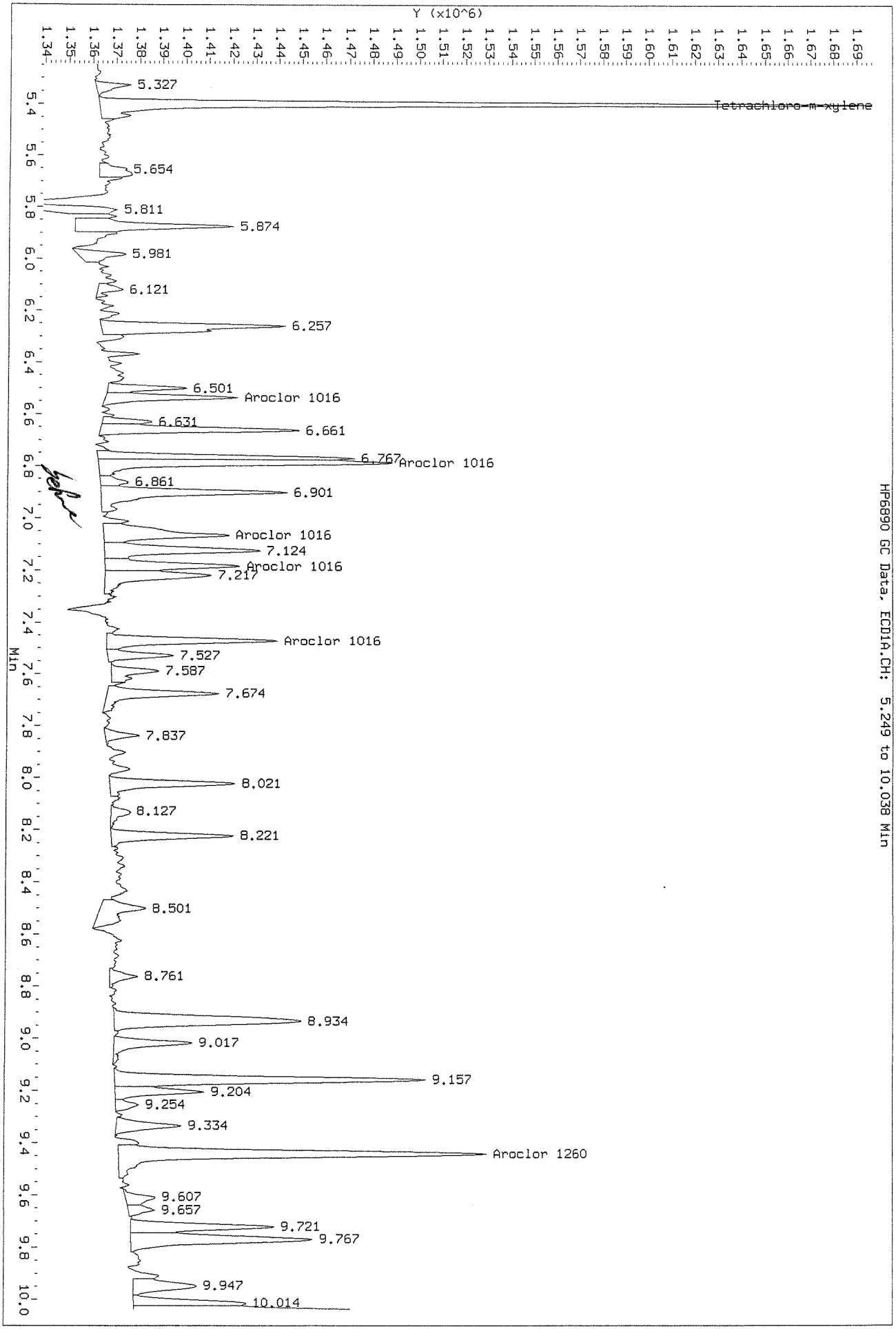
Instrument: GC22.i
Operator: JMSmith
Column phase: DB-35MS
Column diameter: 0.32

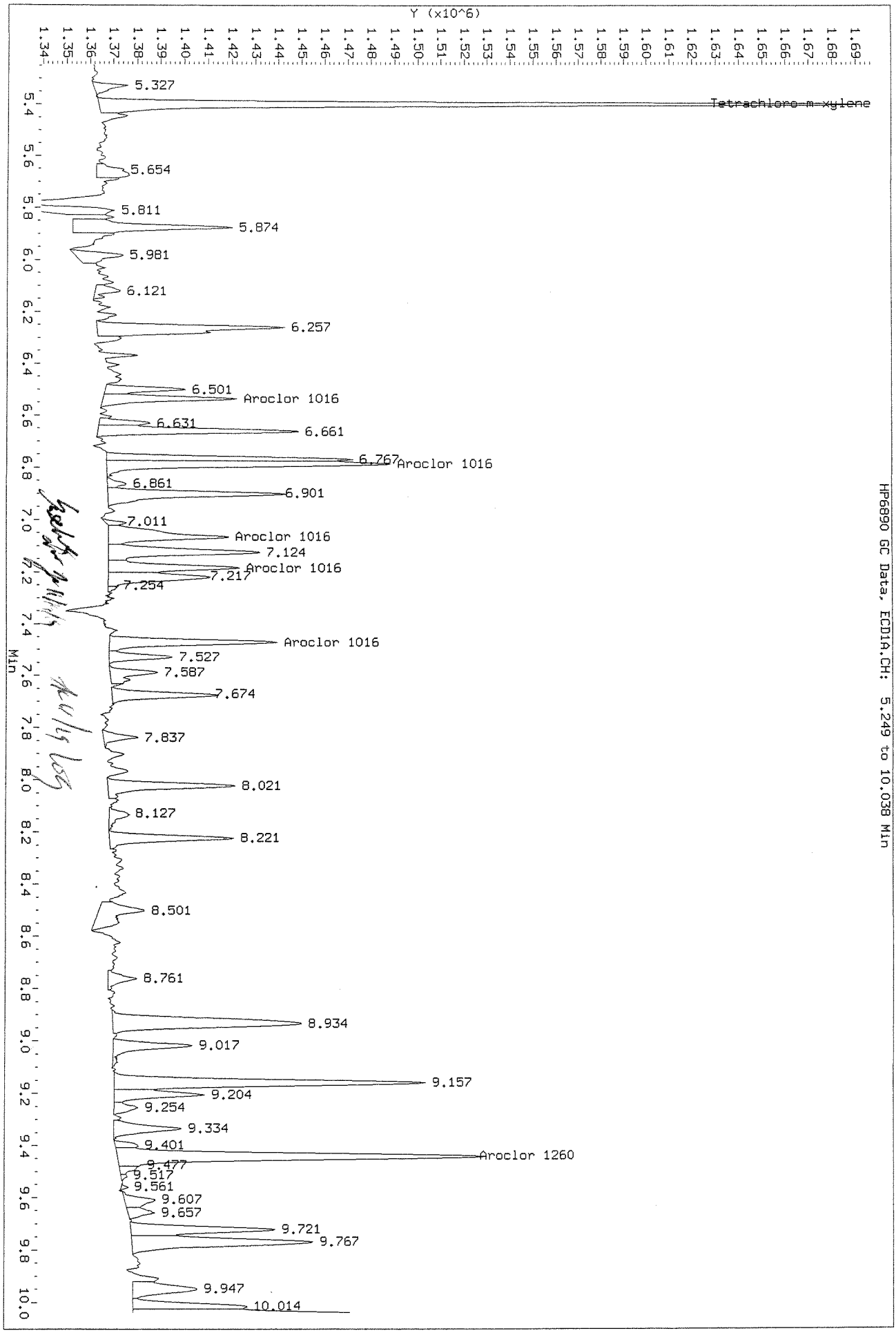


Data File: \\cash1\acqudata\GC22\data\111709A_r.b\1117F010.D
Date : 18-NOV-2009 03:33
Client ID:
Sample Info: 1660 @ 2.5ppb | PCB5-44I

Instrument: GC22.i
Operator: JMSmith
Column phase: DB-XLB
Column diameter: 0.32




Data File: \\cash1\acqudata\GC22\data\111709A.b\1117F010.D
Injection Date: 18-NOV-2009 03:33
Instrument: GC22.i
Client Sample ID:
HP6890 GC Data, ECD1A.CH: 5.249 to 10.038 Min
Y (x10^6)
Min
5.327
Tetrachloro-m-xylene
5.654
5.811
5.874
5.981
6.121
6.257
6.501
Aroclor 1016
6.631
6.661
6.767
Aroclor 1016
6.861
6.901
Aroclor 1016
7.124
Aroclor 1016
7.217
Aroclor 1016
7.527
7.587
7.674
7.837
8.021
8.127
8.221
8.501
8.761
8.934
9.017
9.157
9.204
9.254
9.334
Aroclor 1260
9.607
9.657
9.721
9.767
9.947
10.014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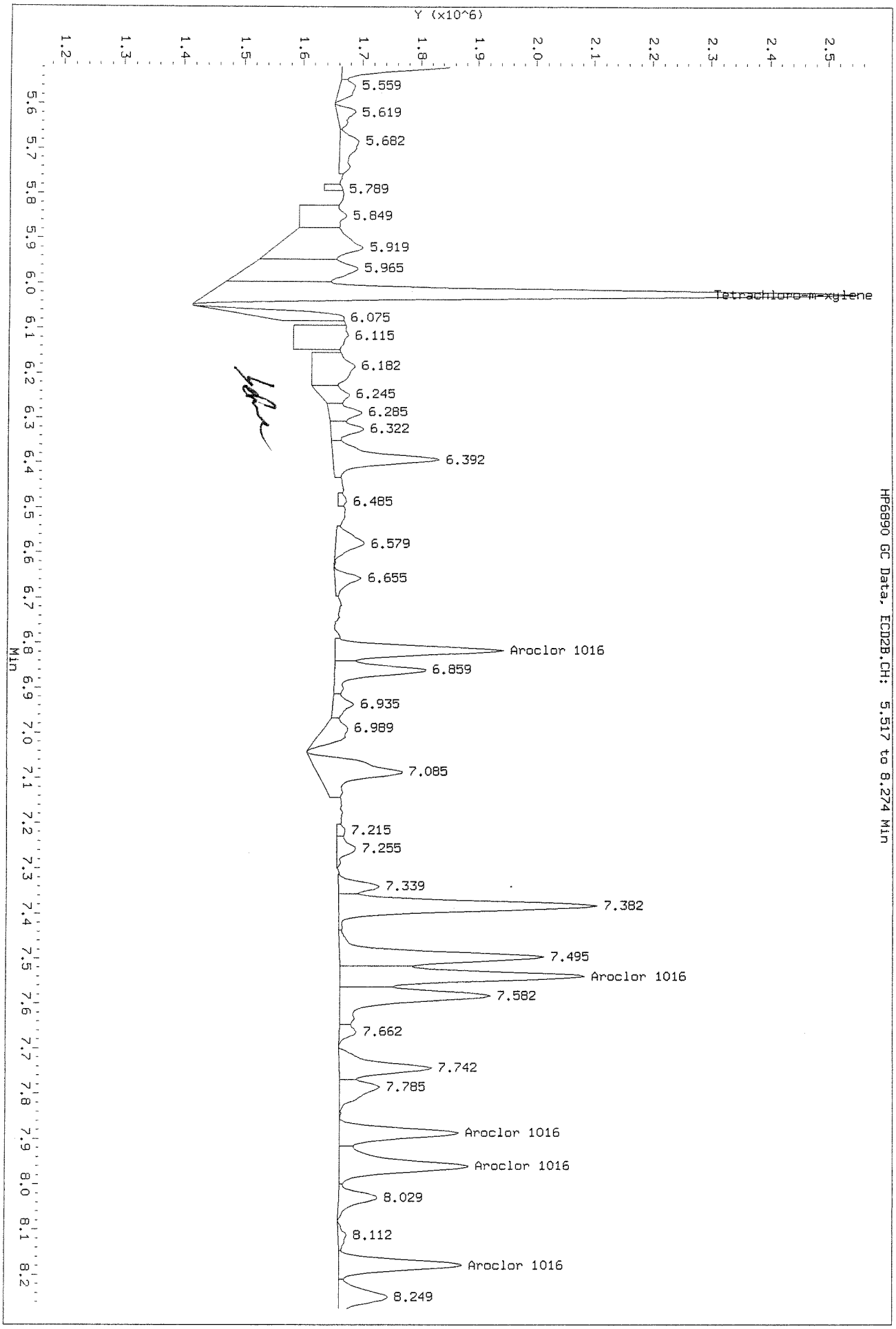
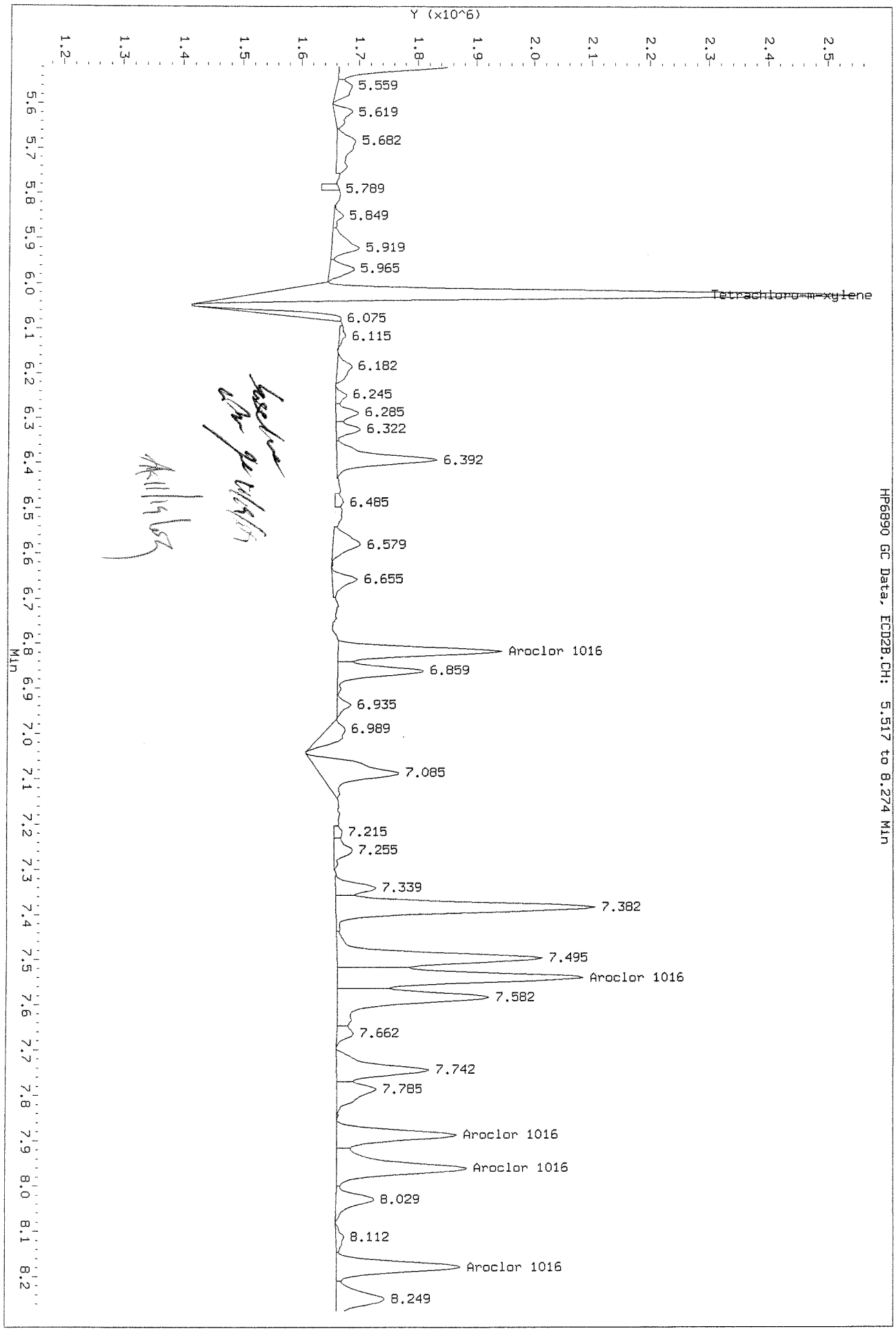
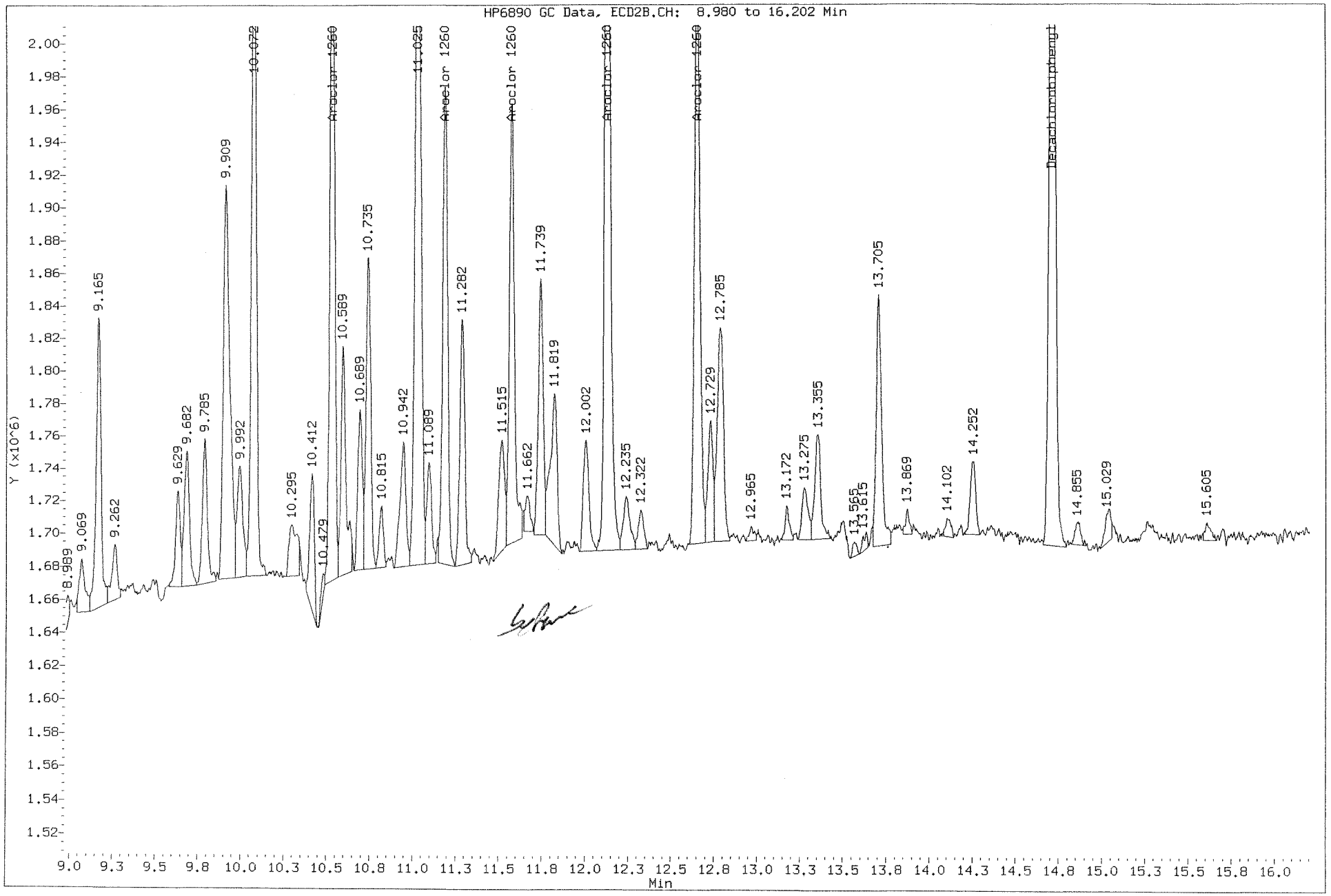
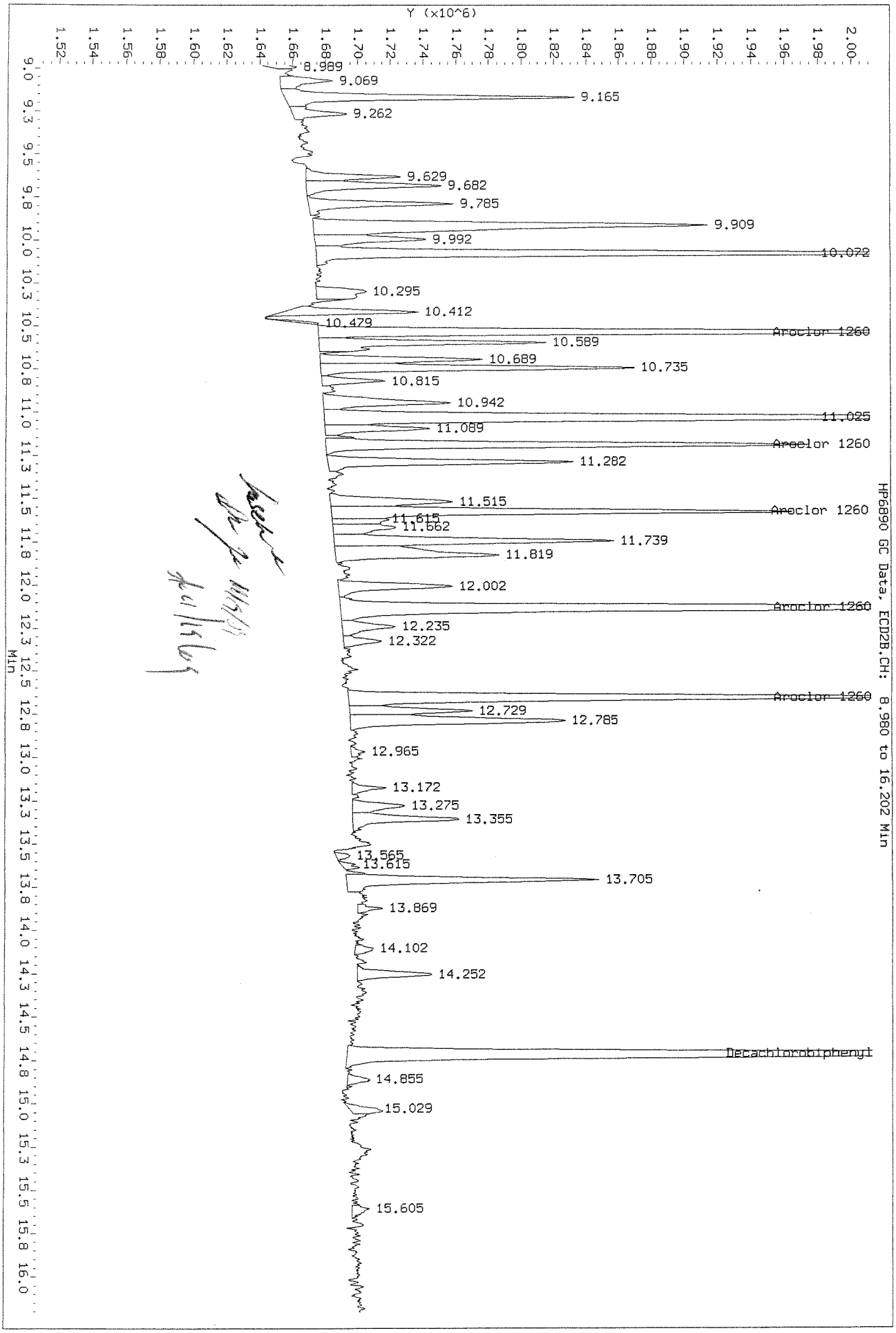
Injection Date: 18-NOV-2009 03:33
Instrument: GC22.1
Client Sample ID:
HP6890 GC Data, ECD1A.CH: 5.249 to 10.038 Min
Y (x10^6)
Min
5.327
Tetrachloro-m-xylene
5.654
5.811
5.874
5.981
6.121
6.257
6.501
Aroclor 1016
6.631
6.661
6.767
Aroclor 1016
6.861
6.901
7.011
Aroclor 1016
7.124
Aroclor 1016
7.217
7.254
Aroclor 1016
7.527
7.587
7.674
7.837
8.021
8.127
8.221
8.501
8.761
8.934
9.017
9.157
9.204
9.254
9.334
9.401
Aroclor 1260
9.477
9.517
9.561
9.607
9.657
9.721
9.767
9.947
10.014


Data File: \\cash1\acqudata\GC22\data\111709A_r.b\1117F010.D
Injection Date: 18-NOV-2009 03:33
Instrument: GC22.1
Client Sample ID:
HP6890 GC Data, ECD2B.CH: 5.517 to 8.274 Min
Y (x10^6)
Min
5.559
5.619
5.682
5.789
5.849
5.919
5.965
Tetrachloro-m-xylene
6.075
6.115
6.182
6.245
6.285
6.322
6.392
6.485
6.579
6.655
Aroclor 1016
6.859
6.935
6.989
7.085
7.215
7.255
7.339
7.382
7.495
Aroclor 1016
7.582
7.662
7.742
7.785
Aroclor 1016
Aroclor 1016
8.029
8.112
Aroclor 1016
8.249


Data File: \\cash1\acqudata\GC22\data\111709A_r.b\1117F010.D
Injection Date: 18-NOV-2009 03:33
Instrument: GC22.i
Client Sample ID:
HP6890 GC Data, ECD2B.CH: 5.517 to 8.274 Min
Y (x10^6)
Min
5.559
5.619
5.682
5.789
5.849
5.919
5.965
Tetrachloro-m-xylene
6.075
6.115
6.182
6.245
6.285
6.322
6.392
6.485
6.579
6.655
Aroclor 1016
6.859
6.935
6.989
7.085
7.215
7.255
7.339
7.382
7.495
Aroclor 1016
7.582
7.662
7.742
7.785
Aroclor 1016
Aroclor 1016
8.029
8.112
Aroclor 1016
8.249

Data File: \\cash1\acqudata\GC22\data\111709A_r.b\1117F010.D
Injection Date: 18-NOV-2009 03:33
Instrument: GC22.i
Client Sample ID:




Data File: \\cash1\acqudata\GC22\data\111709A_r.b\1117F010.D
Injection Date: 18-NOV-2009 03:33
Instrument: GC22.i
Client Sample ID:
HP6890 GC Data, ECD2B.CH: 8.980 to 16.202 Min
Y (x10^6)
Min
8.989
9.069
9.165
9.262
9.629
9.682
9.785
9.909
9.992
10.072
10.295
10.412
10.479
Aroclor 1260
10.589
10.689
10.735
10.815
10.942
11.025
11.089
Aroclor 1260
11.282
11.515
Aroclor 1260
11.615
11.662
11.739
11.819
12.002
Aroclor 1260
12.235
12.322
Aroclor 1260
12.729
12.785
12.965
13.172
13.275
13.355
13.565
13.615
13.705
13.869
14.102
14.252
Decachlorobiphenyl
14.855
15.029
15.605

Data File: \\cash1\acqudata\GC22\data\111709A.b\1117F011.D
Report Date: 19-Nov-2009 13:23

Laboratory Name

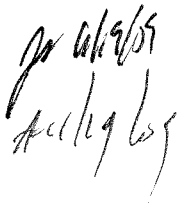
Sample #1 : \\cash1\acqudata\GC22\data\111709A.b\1117F011.D
Sample #2 : \\cash1\acqudata\GC22\data\111709A_r.b\1117F011.D
Inj Date : 18-NOV-2009 04:02
Sample Info: 1660 @ 5.0ppb | PCB5-44J
Misc Info :
Cal Date : 19-NOV-2009 12:25
Operator : JMSmith
Inst ID : GC22.i
Dil Factor : 1.000000

Method #1 : \\cash1\acqudata\GC22\data\111709A.b\111709ul_f.m
Method #2 : \\cash1\acqudata\GC22\data\111709A_r.b\111709ul_r.m
Sub List #1 : AR1660.SUB
Sub List #2 : AR1660.SUB
Col #1 Phase : DB-35MS
Col #2 Phase : DB-XLB

Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2	Target Range	Ratio
Tetrachloro-m-xylene	5.397	6.022	696887	2418076	0.484	0.512		100.00
Aroclor 1016	6.534	6.815	126627	782550	5.62	5.97	80.00- 120.00	100.00(M)
	6.787	7.539	377221	1308750	5.84	5.70	252.28- 378.42	297.90(M)
	6.901	7.889	252214	667242	5.86	5.93	166.75- 250.13	199.18(M)
	7.124	8.178	199745	669766	5.55	5.58	131.34- 197.00	157.74(M)
	7.471	8.435	205769	298922	5.62	4.80	135.86- 203.79	162.50(M)
			Average of Peak Amounts =		5.70	5.60		
Aroclor 1260	9.767	10.529	297155	1714161	5.73	5.61	80.00- 120.00	100.00
	10.121	11.185	331177	1180465	5.57	5.51	95.87- 143.80	111.45
	10.614	11.572	362691	1172214	5.64	5.63	109.86- 164.78	122.05
	11.011	12.125	735501	2463723	5.27	5.32	253.24- 379.86	247.51
	11.677	12.652	626054	1553263	5.56	5.39	198.25- 297.38	210.68
			Average of Peak Amounts =		5.55	5.49		
Decachlorobiphenyl	13.567	14.715	830521	2487532	0.559	0.556		100.00

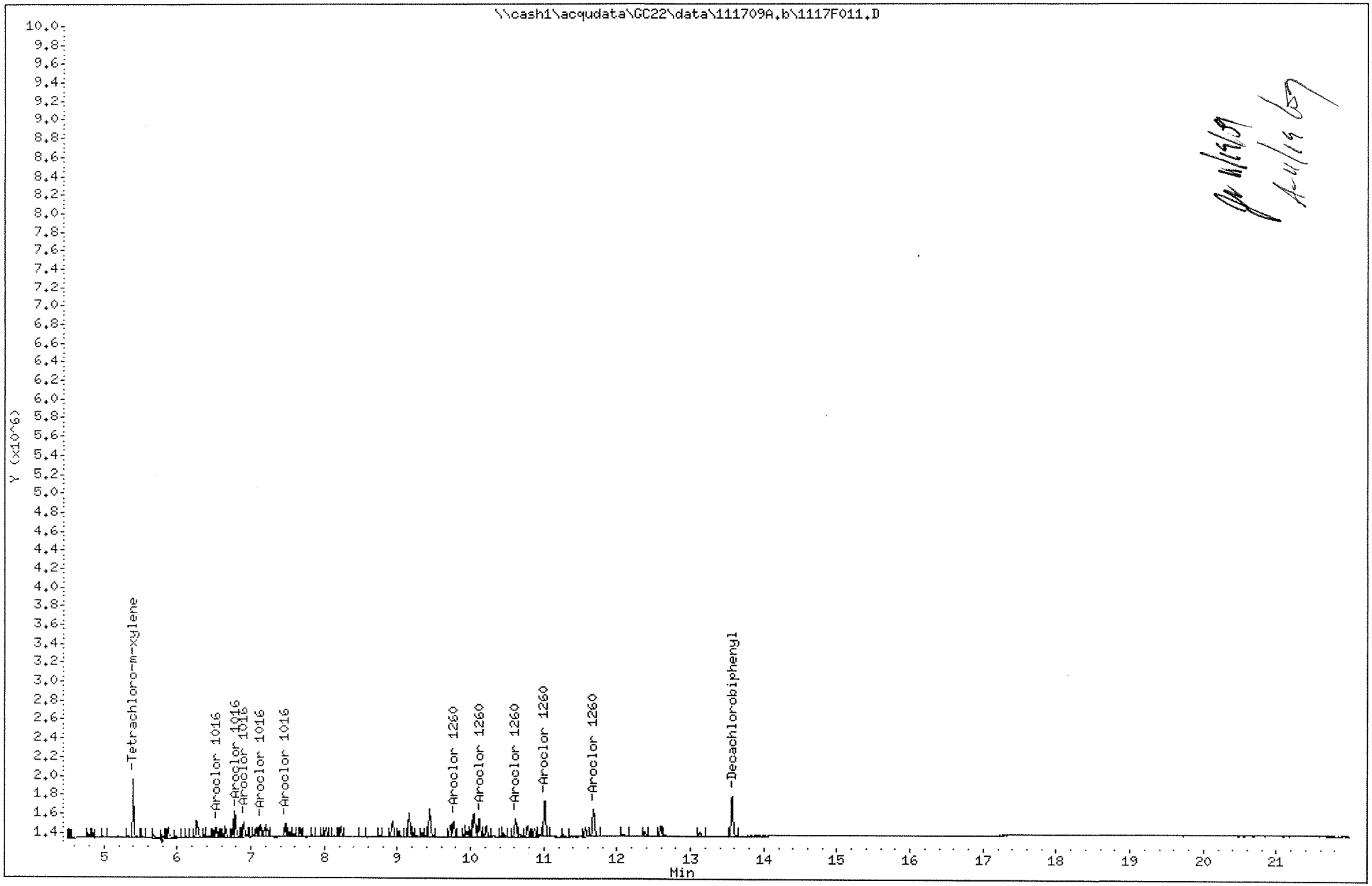
QC Flag Legend

M - Compound response manually integrated.



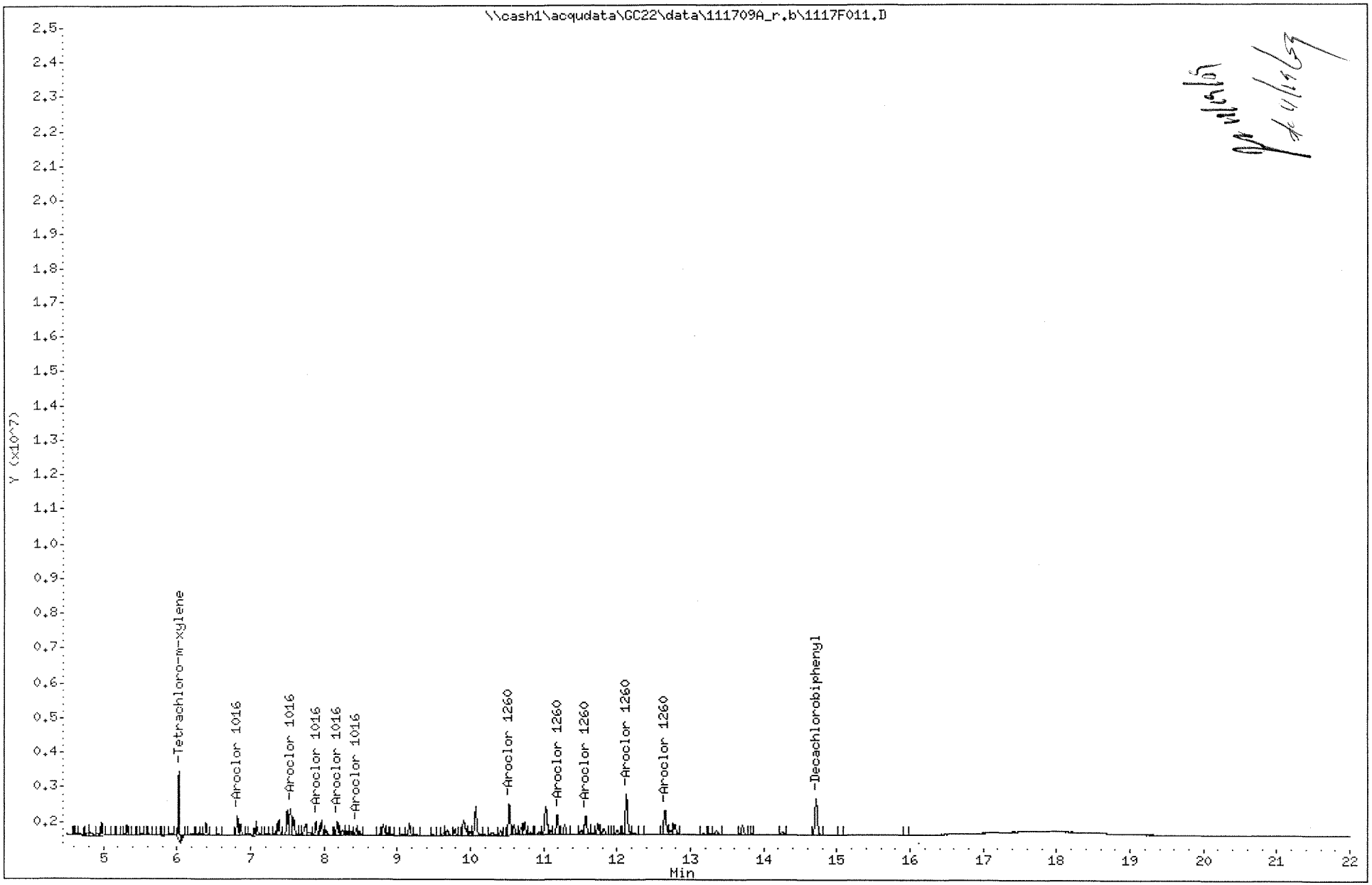
Data File: \\cash1\acqudata\GC22\data\111709A.b\1117F011.D
Date : 18-NOV-2009 04:02
Client ID:
Sample Info: 1660 @ 5.0ppb | PCB5-44J

Instrument: GC22.i
Operator: JMSmith
Column phase: DB-35MS
Column diameter: 0.32

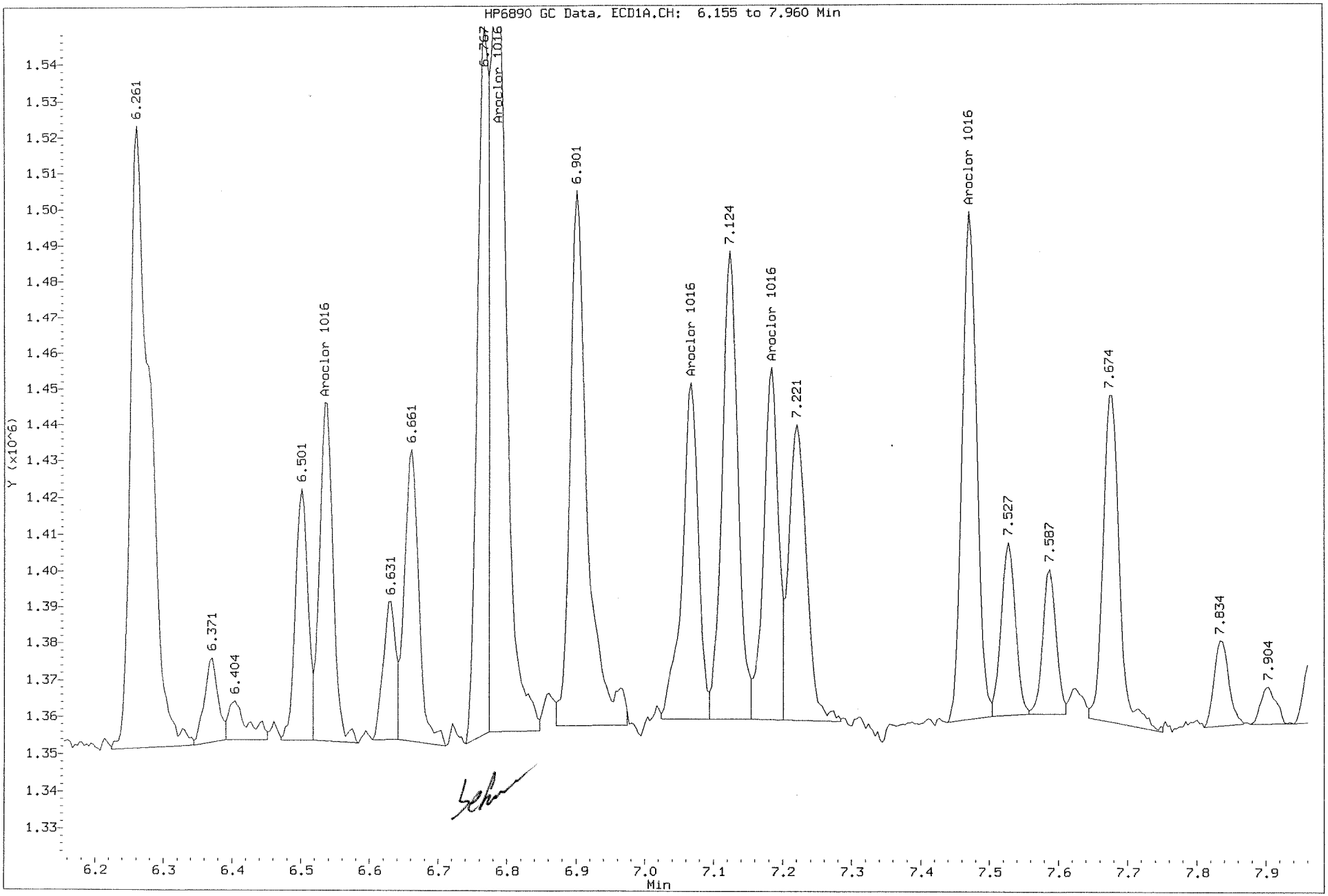


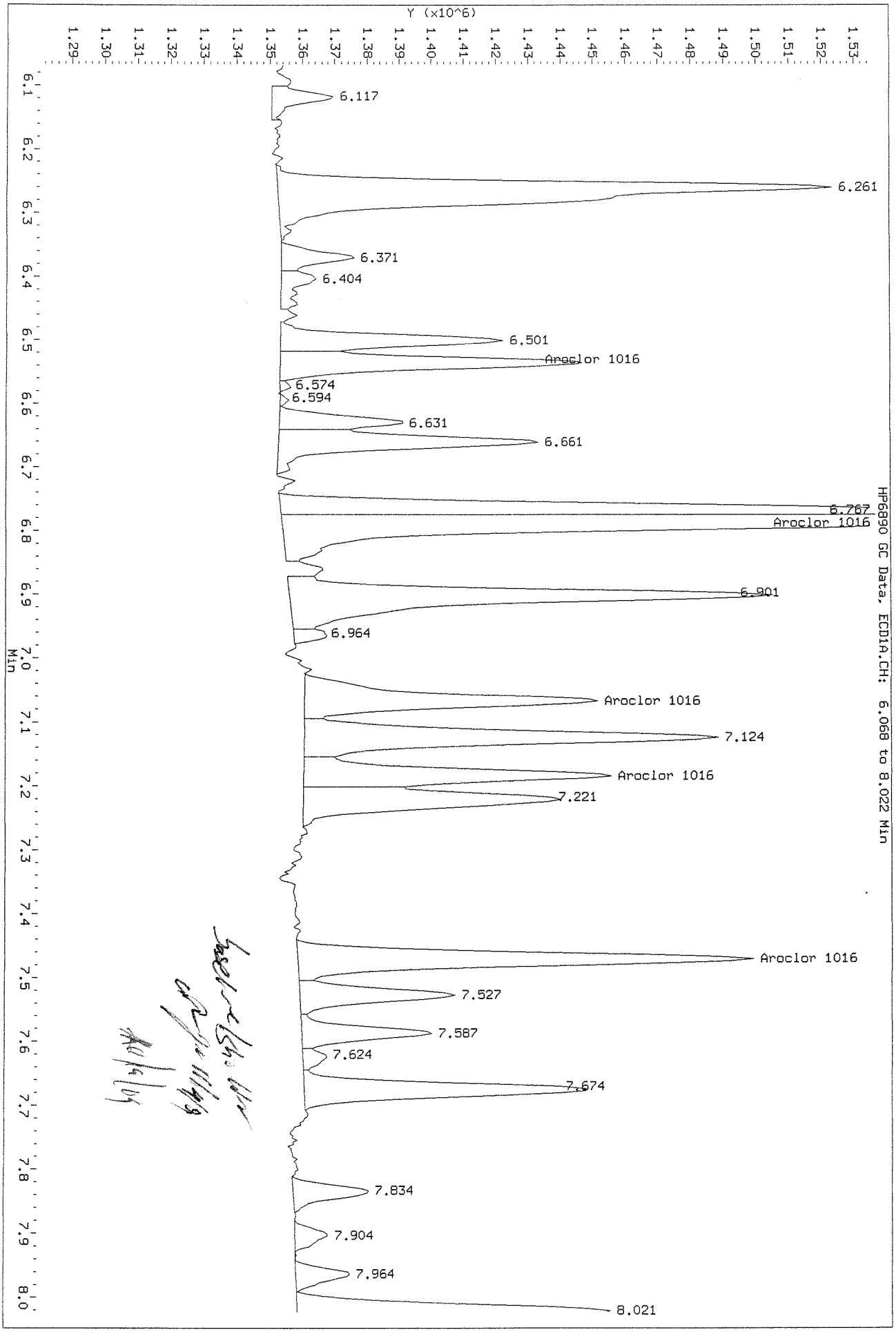
Data File: \\cash1\acqudata\GC22\data\111709A_r.b\1117F011.D
Date : 18-NOV-2009 04:02
Client ID:
Sample Info: 1660 @ 5.0ppb | PCB5-44J

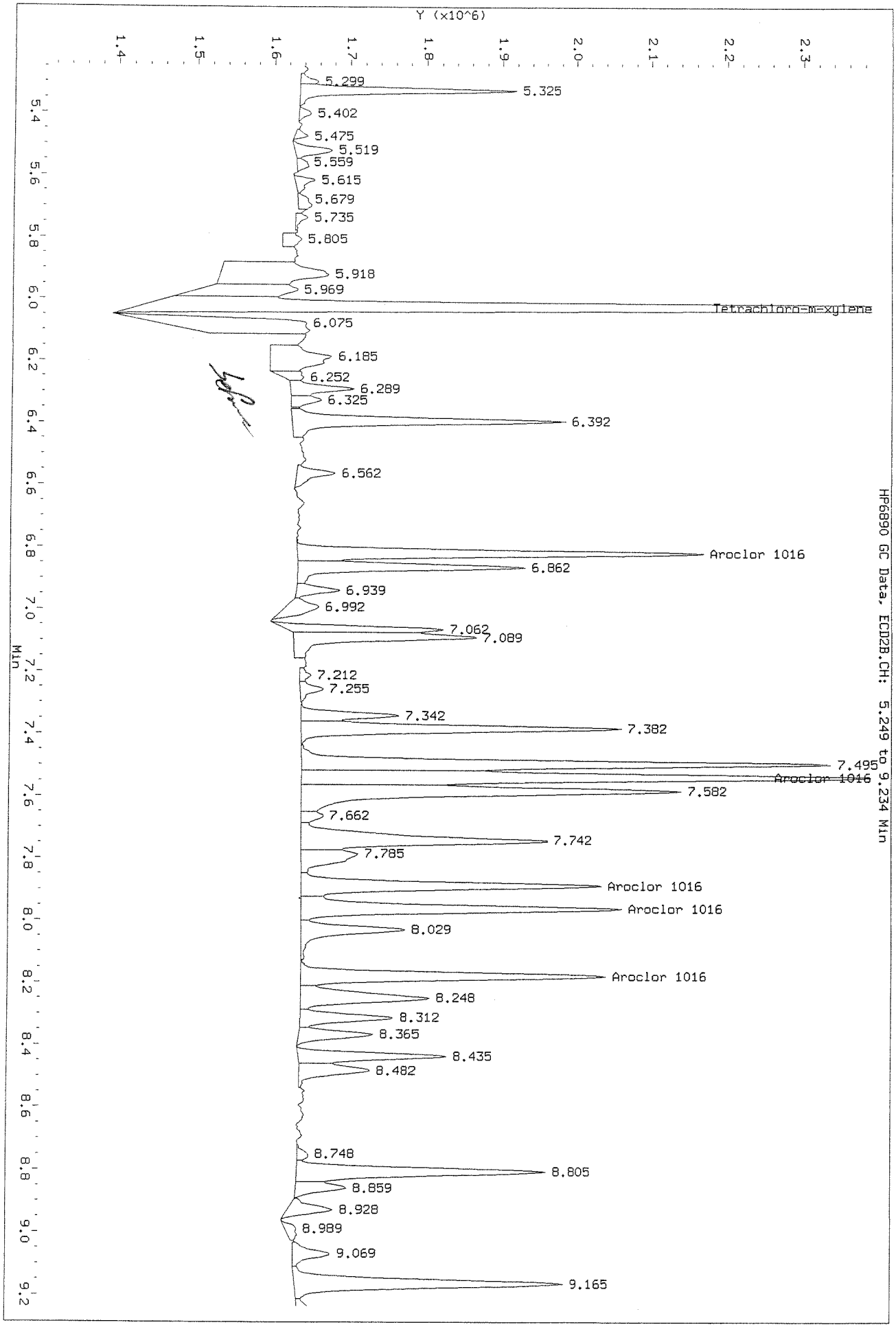
Instrument: GC22.i
Operator: JHSmith
Column phase: DB-XLB
Column diameter: 0.32

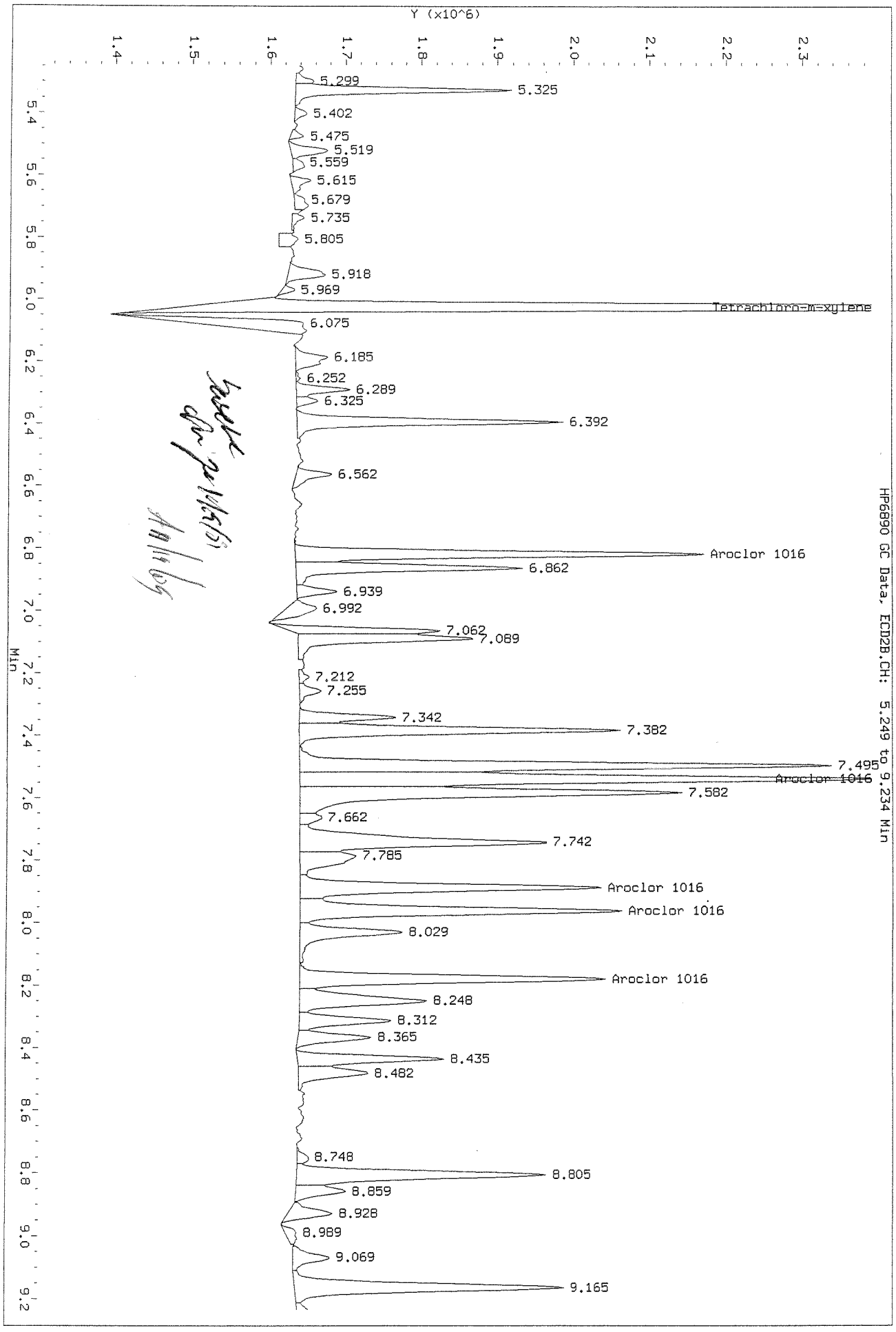


Data File: \\cash1\acqudata\GC22\data\111709A.b\1117F011.D
Injection Date: 18-NOV-2009 04:02
Instrument: GC22.i
Client Sample ID:




Data File: \\cash1\acqudata\GC22\data\111709A.b\1117F011.D
Injection Date: 18-NOV-2009 04:02
Instrument: GC22.i
Client Sample ID:
Y (x10^6)
HP6890 GC Data, ECD1A.CH: 6.068 to 8.022 Min
Min
6.117
6.261
6.371
6.404
6.501
Aroclor 1016
6.574
6.594
6.631
6.661
6.767
Aroclor 1016
6.901
6.964
Aroclor 1016
7.124
Aroclor 1016
7.221
Aroclor 1016
7.527
7.587
7.624
7.674
7.834
7.904
7.964
8.021


Data File: \\cash1\acqudata\GC22\data\111709A_r.b\1117F011.D
Injection Date: 18-NOV-2009 04:02
Instrument: GC22.i
Client Sample ID:
HP6890 GC Data, ECD2B.CH: 5.249 to 9.234 Min
Y (x10^6)
Min
5.299
5.325
5.402
5.475
5.519
5.559
5.615
5.679
5.735
5.805
5.918
5.969
Tetrachloro-m-xylene
6.075
6.185
6.252
6.289
6.325
6.392
6.562
Aroclor 1016
6.862
6.939
6.992
7.062
7.089
7.212
7.255
7.342
7.382
7.495
Aroclor 1016
7.582
7.662
7.742
7.785
Aroclor 1016
Aroclor 1016
8.029
Aroclor 1016
8.248
8.312
8.365
8.435
8.482
8.748
8.805
8.859
8.928
8.989
9.069
9.165


Data File: \\cash1\acqudata\GC22\data\111709A_r.b\1117F011.D
Injection Date: 18-NOV-2009 04:02
Instrument: GC22.i
Client Sample ID:
HP6890 GC Data, ECD2B.CH: 5.249 to 9.234 Min
Y (x10^6)
Min
5.299
5.325
5.402
5.475
5.519
5.559
5.615
5.679
5.735
5.805
5.918
5.969
Tetrachloro-m-xylene
6.075
6.185
6.252
6.289
6.325
6.392
6.562
Aroclor 1016
6.862
6.939
6.992
7.062
7.089
7.212
7.255
7.342
7.382
7.495
Aroclor 1016
7.582
7.662
7.742
7.785
Aroclor 1016
Aroclor 1016
8.029
Aroclor 1016
8.248
8.312
8.365
8.435
8.482
8.748
8.805
8.859
8.928
8.989
9.069
9.165

Data File: \\cash1\acqudata\GC22\data\111709A.b\1117F012.D
Report Date: 19-Nov-2009 13:23

Laboratory Name

Sample #1 : \\cash1\acqudata\GC22\data\111709A.b\1117F012.D
Sample #2 : \\cash1\acqudata\GC22\data\111709A_r.b\1117F012.D
Inj Date : 18-NOV-2009 04:30
Sample Info: 1660 @ 50ppb | PCB5-44K
Misc Info :
Cal Date : 19-NOV-2009 12:25
Operator : JMSmith
Inst ID : GC22.i
Dil Factor : 1.000000

Method #1 : \\cash1\acqudata\GC22\data\111709A.b\111709ul_f.m
Method #2 : \\cash1\acqudata\GC22\data\111709A_r.b\111709ul_r.m
Sub List #1 : AR1660.SUB
Sub List #2 : AR1660.SUB
Col #1 Phase : DB-35MS
Col #2 Phase : DB-XLB

Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2	Target Range	Ratio
Tetrachloro-m-xylene	5.398	6.023	6924468	22663264	4.81	4.80		100.00
Aroclor 1016	6.535	6.816	1095822	6645540	48.6	50.7	80.00- 120.00	100.00
	6.785	7.539	3094198	11050125	47.9	48.1	252.28- 378.42	282.36
	6.901	7.886	2146088	5755272	49.9	51.1	166.75- 250.13	195.84
	7.125	8.179	1848489	6420013	51.4	53.5	131.34- 197.00	168.69
	7.471	8.436	2045690	3507876	55.8	56.4	135.86- 203.79	186.68
			Average of Peak Amounts =		50.7	52.0		
Aroclor 1260	9.768	10.529	2886541	15417411	55.7	50.4	80.00- 120.00	100.00
	10.118	11.183	3159856	10966645	53.1	51.2	95.87- 143.80	109.47
	10.615	11.569	3222580	10478277	50.1	50.3	109.86- 164.78	111.64
	11.011	12.126	6940936	23269307	49.8	50.2	253.24- 379.86	240.46
	11.675	12.649	5611876	15387785	49.9	53.4	198.25- 297.38	194.42
			Average of Peak Amounts =		51.7	51.1		
Decachlorobiphenyl	13.565	14.713	7442038	22774986	5.01	5.09		100.00

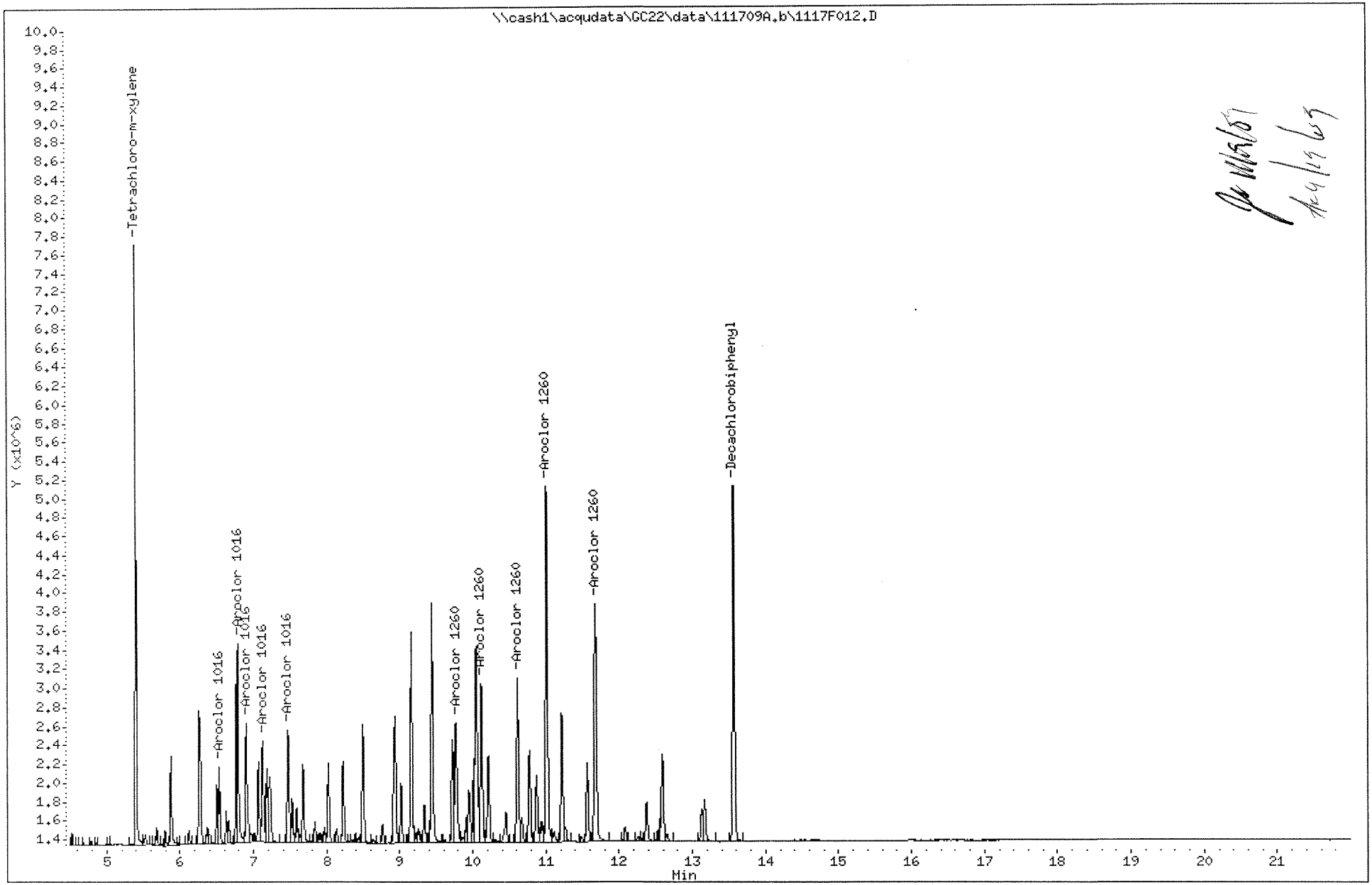
11/19/09
11/19/09

Data File: \\cash1\acqudata\GC22\data\111709A.b\1117F012.D
Date : 18-NOV-2009 04:30
Client ID:
Sample Info: 1660 @ 50ppb | PCB5-44K

Column phase: DB-35MS

Instrument: GC22.i

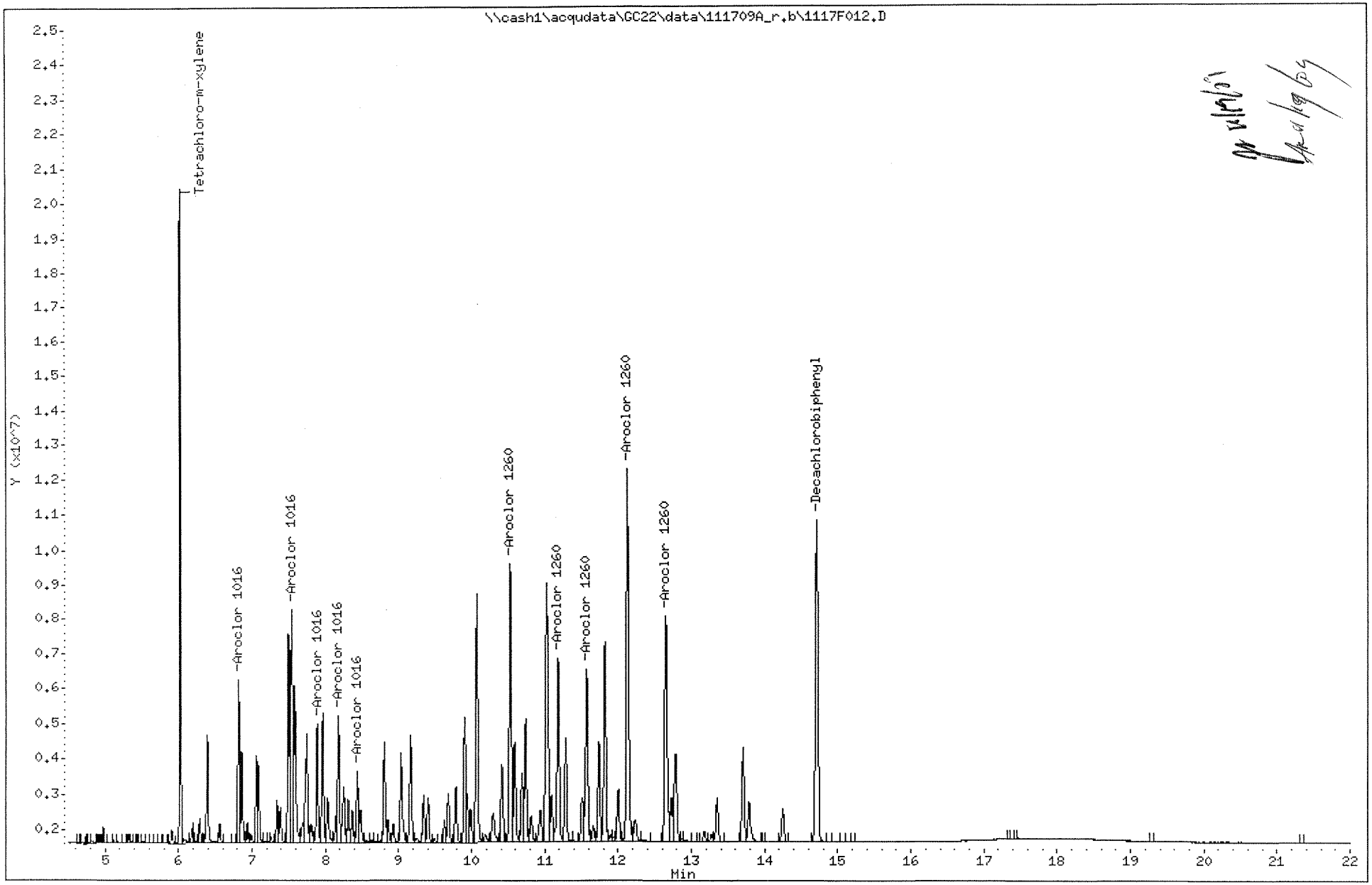
Operator: JMSmith
Column diameter: 0.32



Data File: \\cash1\acqudata\GC22\data\111709A_r.b\1117F012.D
Date : 18-NOV-2009 04:30
Client ID:
Sample Info: 1660 @ 50ppb | PCB5-44K

Instrument: GC22.i
Operator: JMSmith
Column diameter: 0.32

Column phase: DB-XLB



Data File: \\cash1\acqudata\GC22\data\111709A.b\1117F013.D
Report Date: 19-Nov-2009 13:23

Laboratory Name

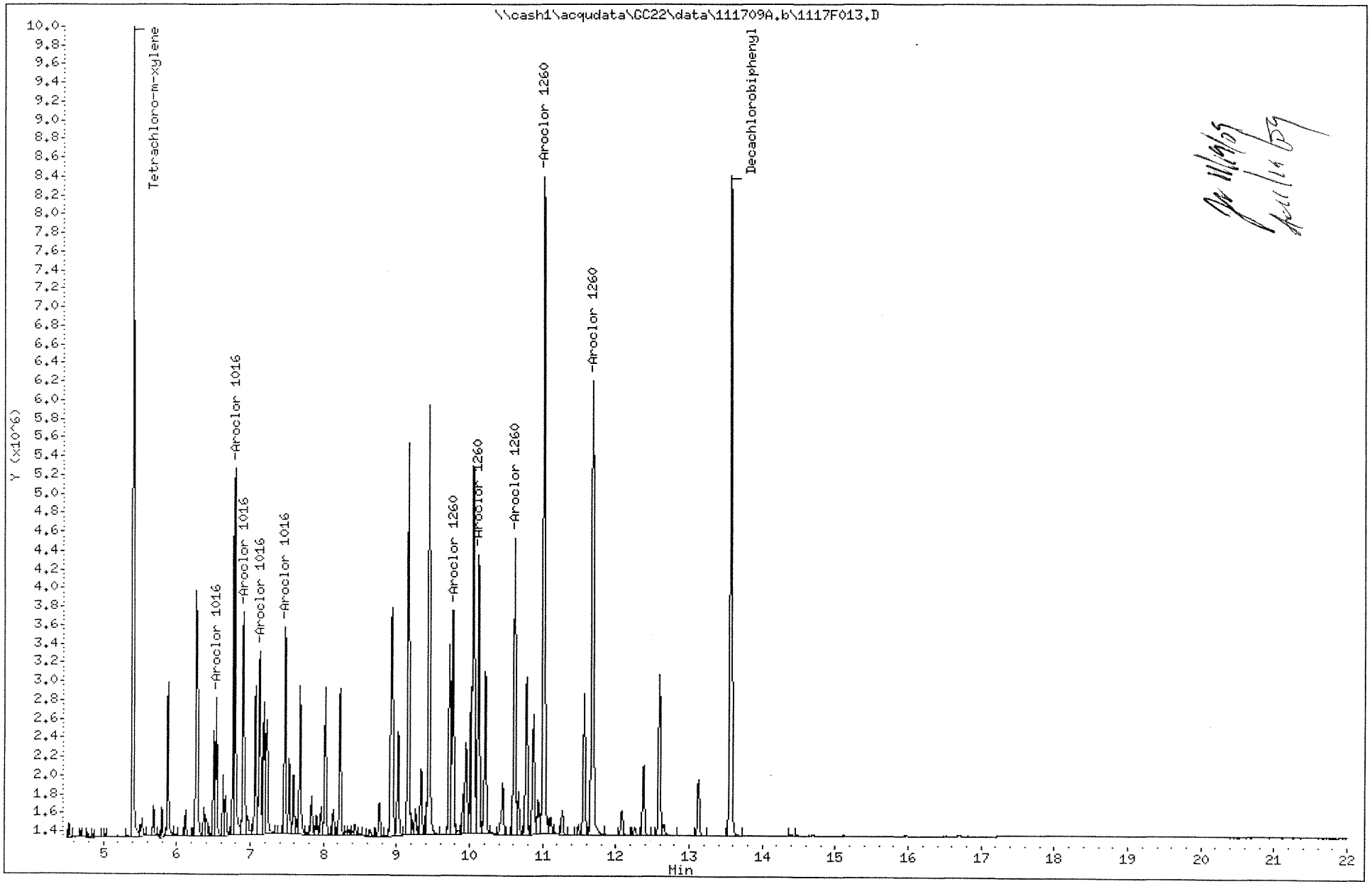
Sample #1 : \\cash1\acqudata\GC22\data\111709A.b\1117F013.D
Sample #2 : \\cash1\acqudata\GC22\data\111709A_r.b\1117F013.D
Inj Date : 18-NOV-2009 04:59
Sample Info: 1660 @ 100ppb | PCB5-44L
Misc Info :
Cal Date : 19-NOV-2009 12:25
Operator : JMSmith
Inst ID : GC22.i
Dil Factor : 1.000000

Method #1 : \\cash1\acqudata\GC22\data\111709A.b\111709ul_f.m
Method #2 : \\cash1\acqudata\GC22\data\111709A_r.b\111709ul_r.m
Sub List #1 : AR1660.SUB
Sub List #2 : AR1660.SUB
Col #1 Phase : DB-35MS
Col #2 Phase : DB-XLB

Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2	Target Range	Ratio
Tetrachloro-m-xylene	5.399	6.023	13683744	44852570	9.50	9.50		100.00
Aroclor 1016	6.535	6.817	2002679	12152545	88.9	92.7	80.00- 120.00	100.00
	6.785	7.537	6240865	20445517	96.7	89.0	252.28- 378.42	311.63
	6.899	7.887	4024246	10193836	93.5	90.5	166.75- 250.13	200.94
	7.122	8.177	3337958	10928094	92.8	91.0	131.34- 197.00	166.67
	7.472	8.437	3262700	6230265	89.1	100	135.86- 203.79	162.92
			Average of Peak Amounts =		92.2	92.6		
Aroclor 1260	9.769	10.527	4545239	28565566	87.7	93.5	80.00- 120.00	100.00
	10.119	11.183	5343246	20322243	89.8	94.8	95.87- 143.80	117.56
	10.612	11.570	5943283	19282570	92.5	92.6	109.86- 164.78	130.76
	11.012	12.127	12905875	43342497	92.5	93.5	253.24- 379.86	283.94
	11.675	12.650	10356978	26761259	92.1	92.8	198.25- 297.38	227.86
			Average of Peak Amounts =		90.9	93.4		
Decachlorobiphenyl	13.565	14.710	13641676	41590389	9.18	9.29		100.00

Data File: \\cash1\acqudata\GC22\data\111709A.b\1117F013.D
Date : 18-NOV-2009 04:59
Client ID:
Sample Info: 1660 @ 100ppb | PCB5-44L

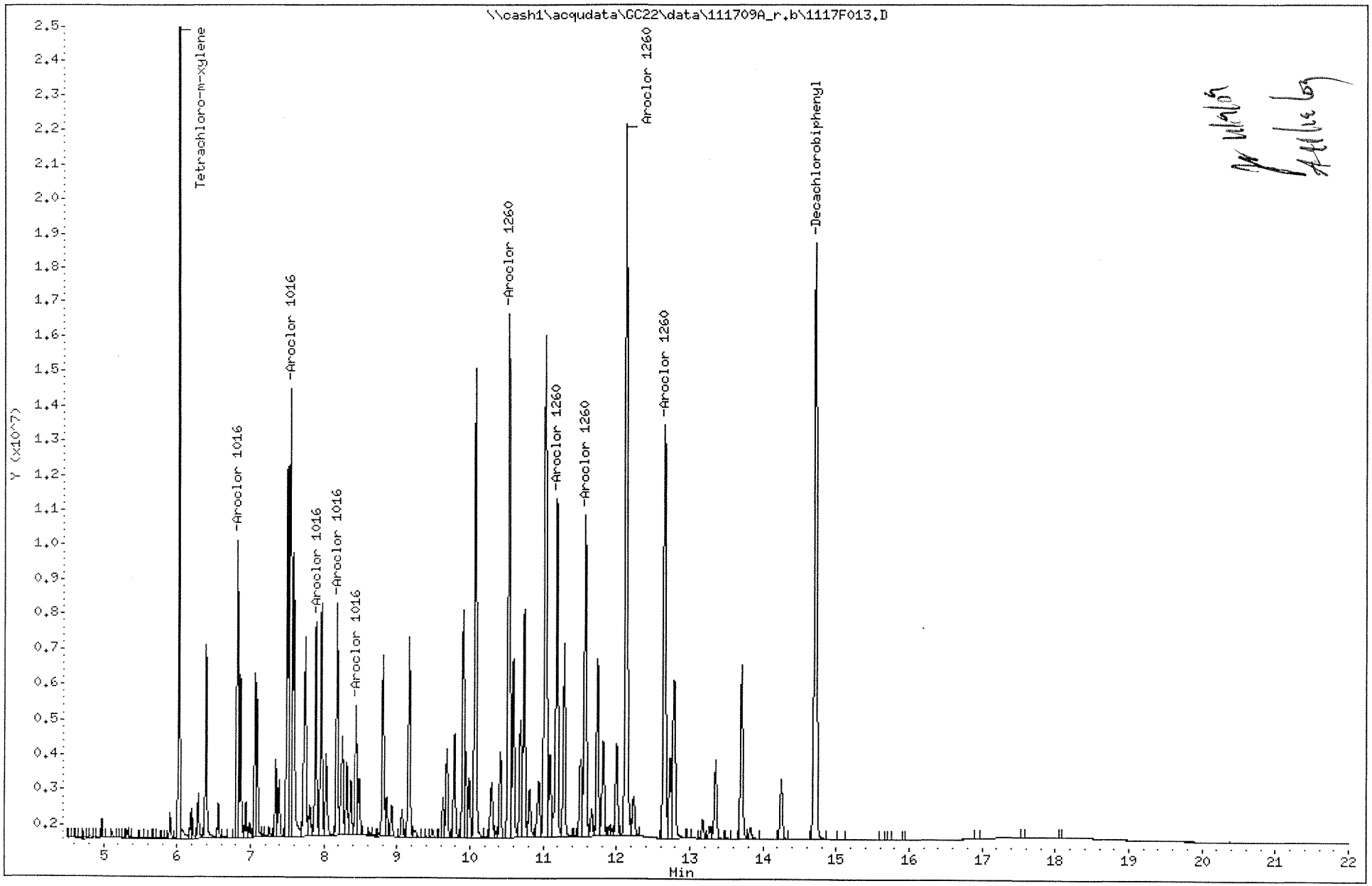
Instrument: GC22.i
Operator: JMSmith
Column phase: DB-35MS
Column diameter: 0.32



Data File: \\cash1\acqudata\GC22\data\111709A_r.b\1117F013.D
Date : 18-NOV-2009 04:59
Client ID:
Sample Info: 1660 @ 100ppb | PCB5-44L

Instrument: GC22.i

Operator: JMSmith
Column phase: DB-XLB
Column diameter: 0.32



Data File: \\cash1\acqudata\GC22\data\111709A.b\1117F014.D
Report Date: 19-Nov-2009 13:23

Laboratory Name

Sample #1 : \\cash1\acqudata\GC22\data\111709A.b\1117F014.D
Sample #2 : \\cash1\acqudata\GC22\data\111709A_r.b\1117F014.D
Inj Date : 18-NOV-2009 05:27
Sample Info: 1660 @ 200ppb | PCB5-44M
Misc Info :
Cal Date : 19-NOV-2009 12:25
Operator : JMSmith
Inst ID : GC22.i
Dil Factor : 1.000000

Method #1 : \\cash1\acqudata\GC22\data\111709A.b\111709ul_f.m
Method #2 : \\cash1\acqudata\GC22\data\111709A_r.b\111709ul_r.m
Sub List #1 : AR1660.SUB
Sub List #2 : AR1660.SUB
Col #1 Phase : DB-35MS
Col #2 Phase : DB-XLB

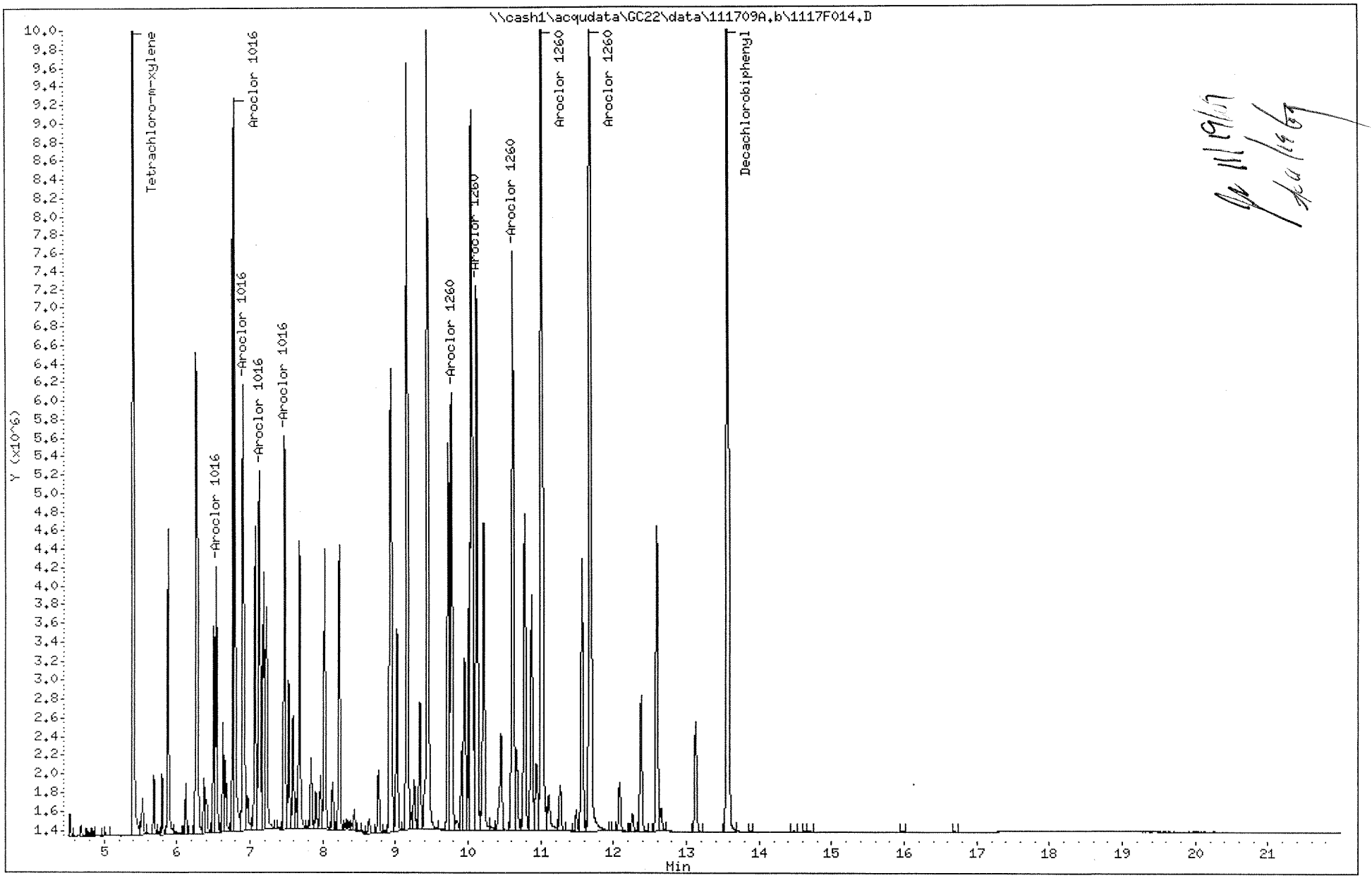
Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2	Target Range	Ratio
Tetrachloro-m-xylene	5.397	6.022	28448214	92206708	19.8	19.5		100.00
Aroclor 1016	6.537	6.815	3863641	23226974	171	177	80.00- 120.00	100.00
	6.784	7.538	11576553	41238382	179	179	252.28- 378.42	299.63
	6.900	7.885	7808607	19732958	181	175	166.75- 250.13	202.10
	7.124	8.178	6269014	21571619	174	180	131.34- 197.00	162.26
	7.470	8.435	6353651	13084261	173	210	135.86- 203.79	164.45
			Average of Peak Amounts =		176	184		
Aroclor 1260	9.767	10.528	8657342	55528995	167	182	80.00- 120.00	100.00
	10.117	11.182	10560089	39220955	178	183	95.87- 143.80	121.98
	10.614	11.572	11649803	37547849	181	180	109.86- 164.78	134.57
	11.010	12.128	26217513	86484652	188	187	253.24- 379.86	302.84
	11.677	12.652	20877132	52652318	186	183	198.25- 297.38	241.15
			Average of Peak Amounts =		180	183		
Decachlorobiphenyl	13.564	14.712	26940734	80712597	18.1	18.0		100.00

Data File: \\cash1\acqudata\GC22\data\111709A,b\1117F014.D
Date : 18-NOV-2009 05:27
Client ID:
Sample Info: 1660 @ 200ppb | PCB5-44M

Instrument: GC22.i

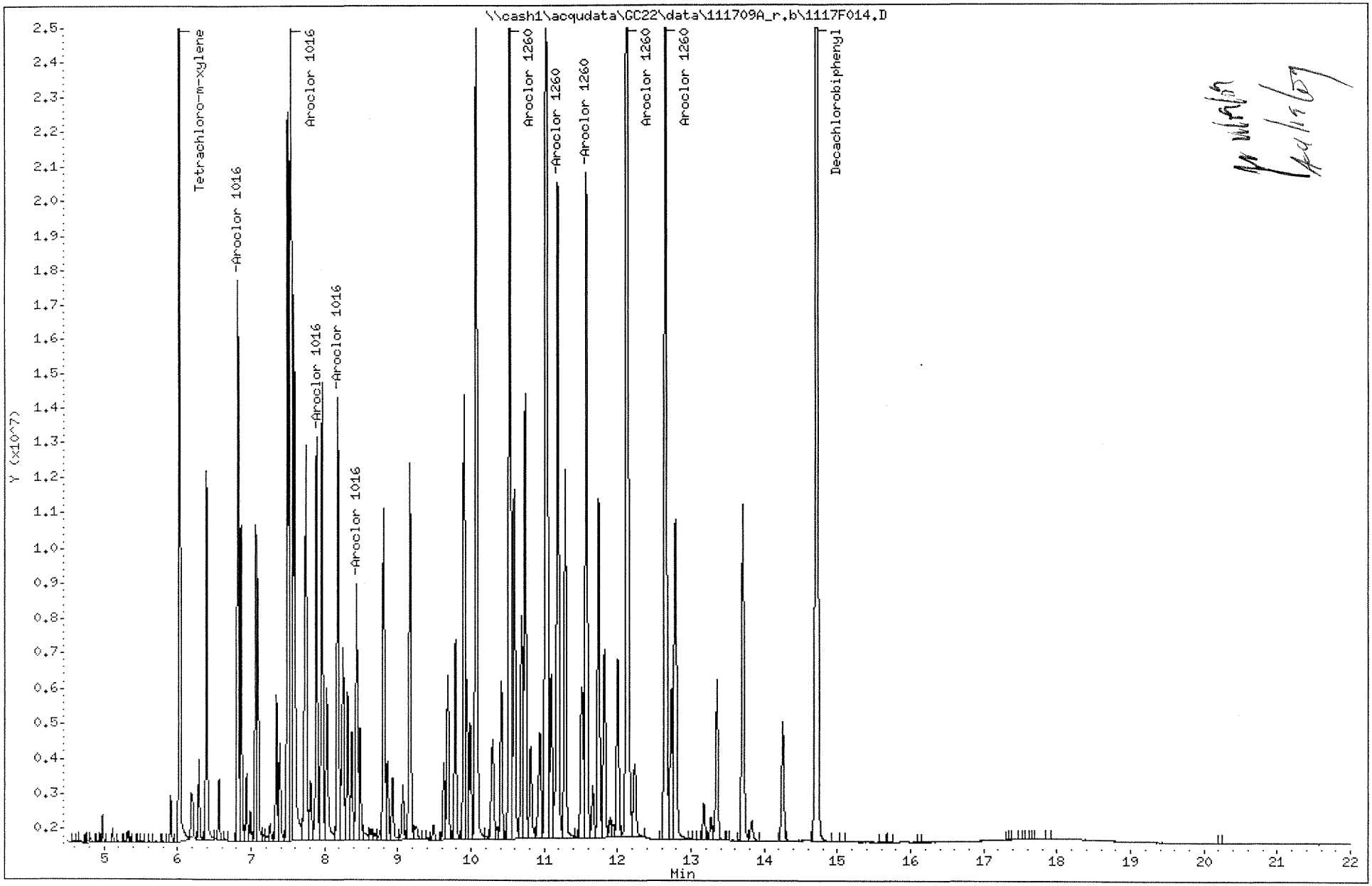
Operator: JMSmith
Column diameter: 0.32

Column phase: DB-35MS



Data File: \\cash1\acqudata\GC22\data\111709A_r.b\1117F014.D
Date : 18-NOV-2009 05:27
Client ID:
Sample Info: 1660 @ 200ppb | PCB5-44M

Instrument: GC22.i
Operator: JMSmith
Column phase: DB-XLB
Column diameter: 0.32



Data File: \\cash1\acqudata\GC22\data\111709A.b\1117F015.D
Report Date: 19-Nov-2009 13:23

Laboratory Name

Sample #1 : \\cash1\acqudata\GC22\data\111709A.b\1117F015.D
Sample #2 : \\cash1\acqudata\GC22\data\111709A_r.b\1117F015.D
Inj Date : 18-NOV-2009 05:56
Sample Info: 1660 @ 500ppb | PCB5-44N
Misc Info :
Cal Date : 19-NOV-2009 12:25
Operator : JMSmith
Inst ID : GC22.i
Dil Factor : 1.000000

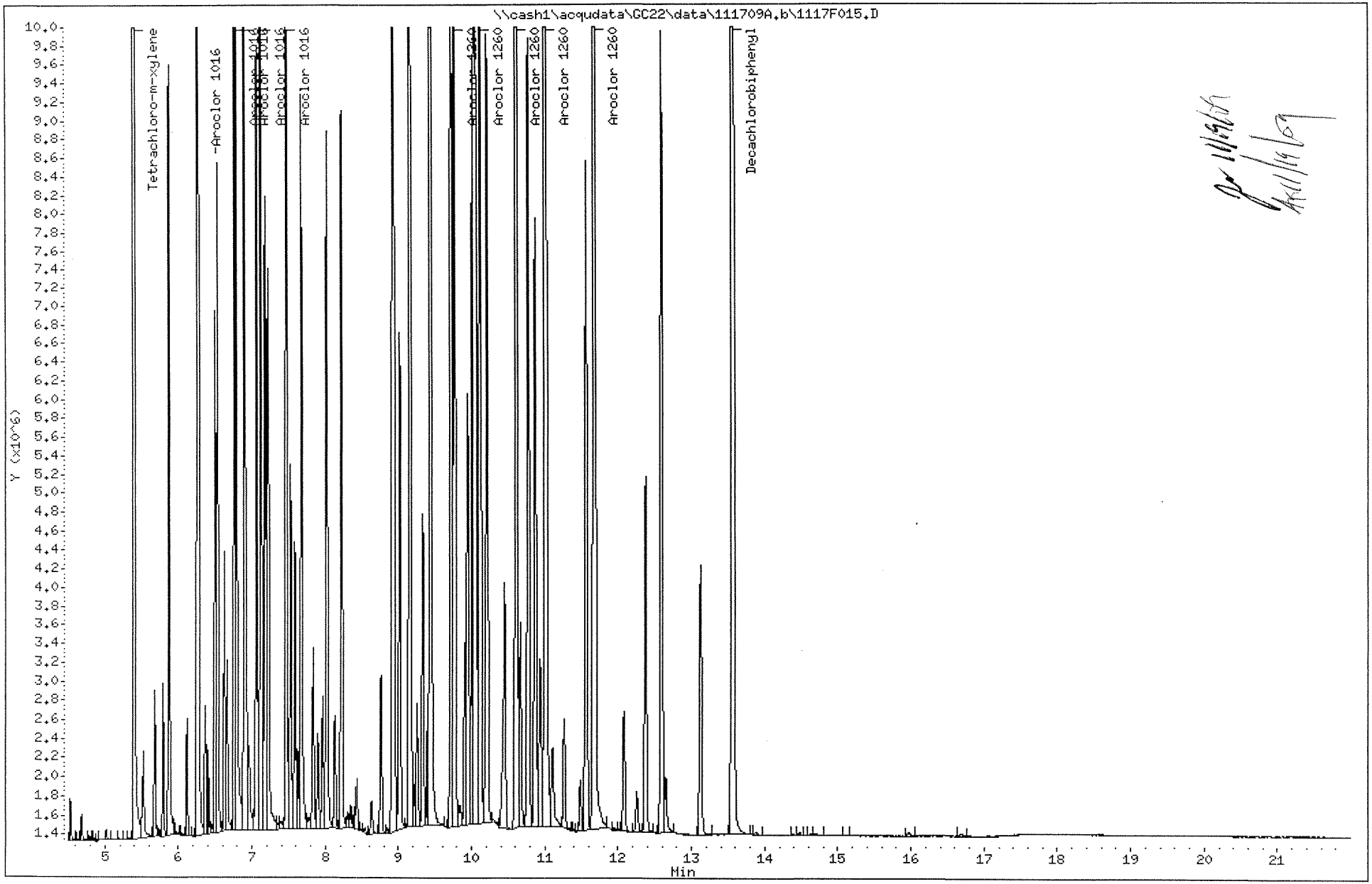
Method #1 : \\cash1\acqudata\GC22\data\111709A.b\111709ul_f.m
Method #2 : \\cash1\acqudata\GC22\data\111709A_r.b\111709ul_r.m
Sub List #1 : AR1660.SUB
Sub List #2 : AR1660.SUB
Col #1 Phase : DB-35MS
Col #2 Phase : DB-XLB

Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2	Target Range	Ratio
Tetrachloro-m-xylene	5.394	6.019	74916092	238764187	52.0	50.6		100.00
Aroclor 1016	6.531	6.812	9358359	55349985	415	422	80.00- 120.00	100.00
	6.781	7.536	29511602	103172811	457	449	252.28- 378.42	315.35
	6.898	7.886	19506666	47110415	453	418	166.75- 250.13	208.44
	7.121	8.176	15363517	52531867	427	438	131.34- 197.00	164.17
	7.468	8.432	15893143	32135843	434	517	135.86- 203.79	169.83
			Average of Peak Amounts =		437	449		
Aroclor 1260	9.764	10.526	21502111	140058652	415	458	80.00- 120.00	100.00
	10.118	11.182	25767281	97527517	433	455	95.87- 143.80	119.84
	10.611	11.569	29526760	94942272	459	456	109.86- 164.78	137.32
	11.011	12.126	68064615	223466972	488	482	253.24- 379.86	316.55
	11.674	12.649	53285980	133326468	474	462	198.25- 297.38	247.82
			Average of Peak Amounts =		454	463		
Decachlorobiphenyl	13.564	14.712	68345594	199763623	46.0	44.6		100.00

11/19/09

Data File: \\cash1\acqudata\GC22\data\111709A.b\1117F015.D
Date : 18-NOV-2009 05:56
Client ID:
Sample Info: 1660 @ 500ppb | PCB5-44N

Instrument: GC22.i
Operator: JMSmith
Column phase: DB-35MS
Column diameter: 0.32

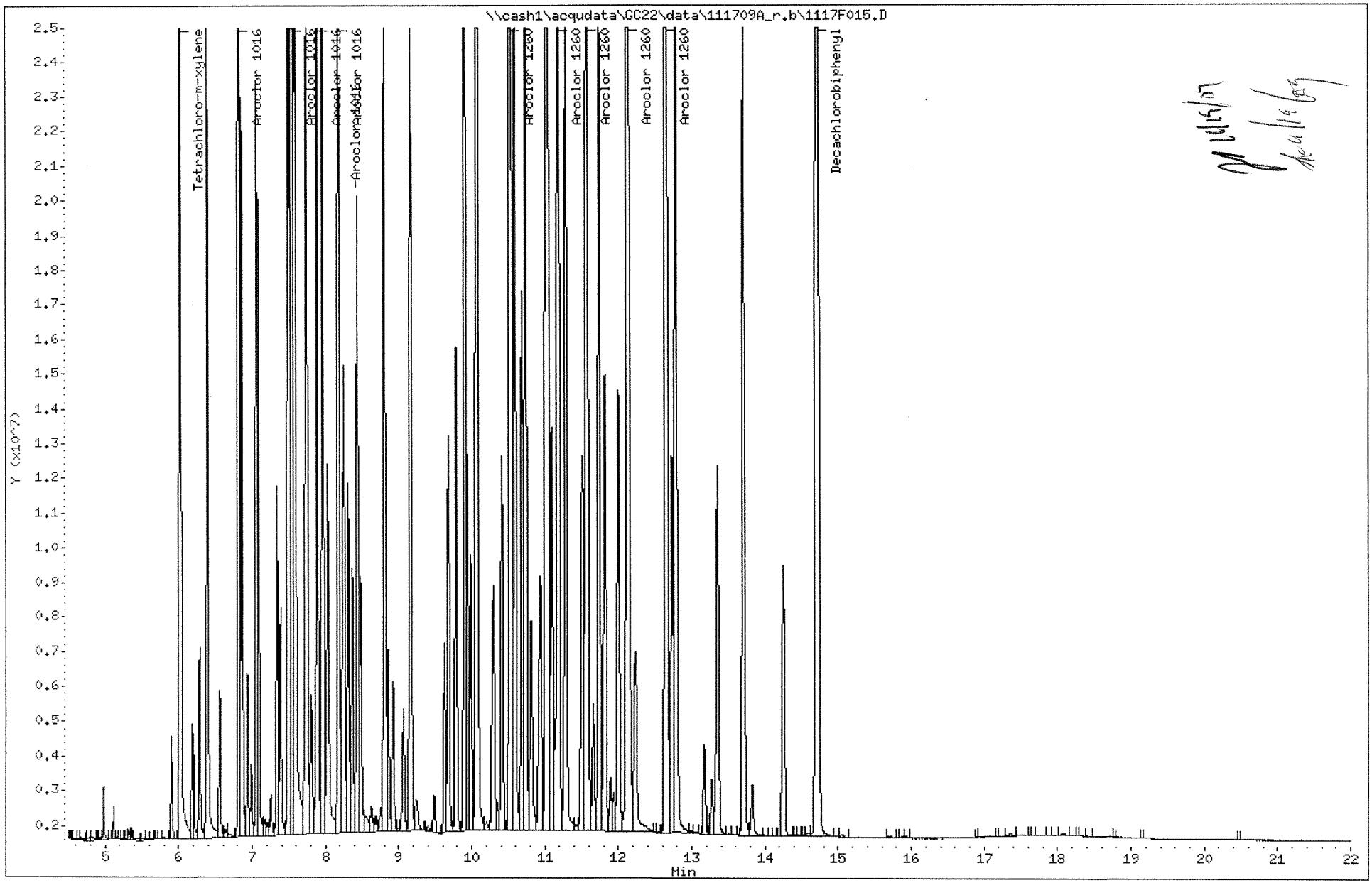


Data File: \\cash1\acqudata\GC22\data\111709A_r.b\1117F015.D
Date : 18-NOV-2009 05:56
Client ID:
Sample Info: 1660 @ 500ppb | PCB5-44N

Instrument: GC22.i

Operator: JMSmith
Column diameter: 0.32

Column phase: DB-XLB



Data File: \\cash1\acqudata\GC22\data\111709A.b\1117F016.D
Report Date: 19-Nov-2009 13:23

Laboratory Name

Sample #1 : \\cash1\acqudata\GC22\data\111709A.b\1117F016.D
Sample #2 : \\cash1\acqudata\GC22\data\111709A_r.b\1117F016.D
Inj Date : 18-NOV-2009 06:24
Sample Info: 1016 @ 100ppb | PCB5-46D
Misc Info :
Cal Date : 19-NOV-2009 12:25
Operator : JMSmith
Inst ID : GC22.i
Dil Factor : 1.000000

Method #1 : \\cash1\acqudata\GC22\data\111709A.b\111709ul_f.m
Method #2 : \\cash1\acqudata\GC22\data\111709A_r.b\111709ul_r.m
Sub List #1 : AR1016.sub
Sub List #2 : AR1016.sub
Col #1 Phase : DB-35MS
Col #2 Phase : DB-XLB

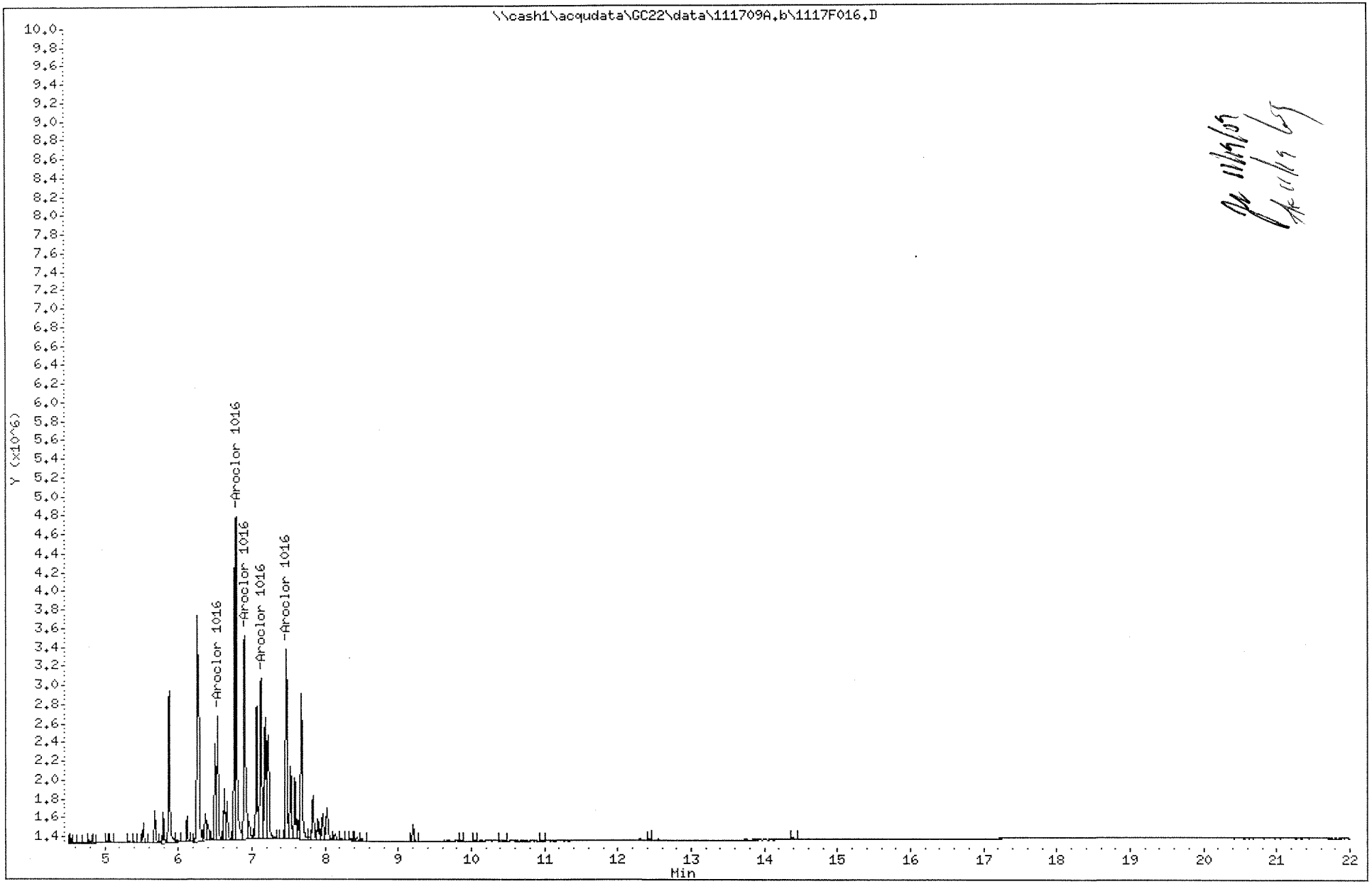
Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2	Target Range	Ratio
Aroclor 1016	6.533	6.814	1802150	11190172	80.0	85.4	80.00- 120.00	100.00
	6.786	7.538	5246977	19227865	81.3	83.7	252.28- 378.42	291.15
	6.900	7.884	3617535	9266918	84.1	82.3	166.75- 250.13	200.73
	7.123	8.178	2894606	10476666	80.4	87.3	131.34- 197.00	160.62
	7.470	8.434	3033306	6758903	82.8	109	135.86- 203.79	168.32
			Average of Peak Amounts =		81.7	89.5		

Data File: \\cash1\acqudata\GC22\data\111709A.b\1117F016.D
Date : 18-NOV-2009 06:24
Client ID:
Sample Info: 1016 @ 100ppb | PCB5-46D

Instrument: GC22.i

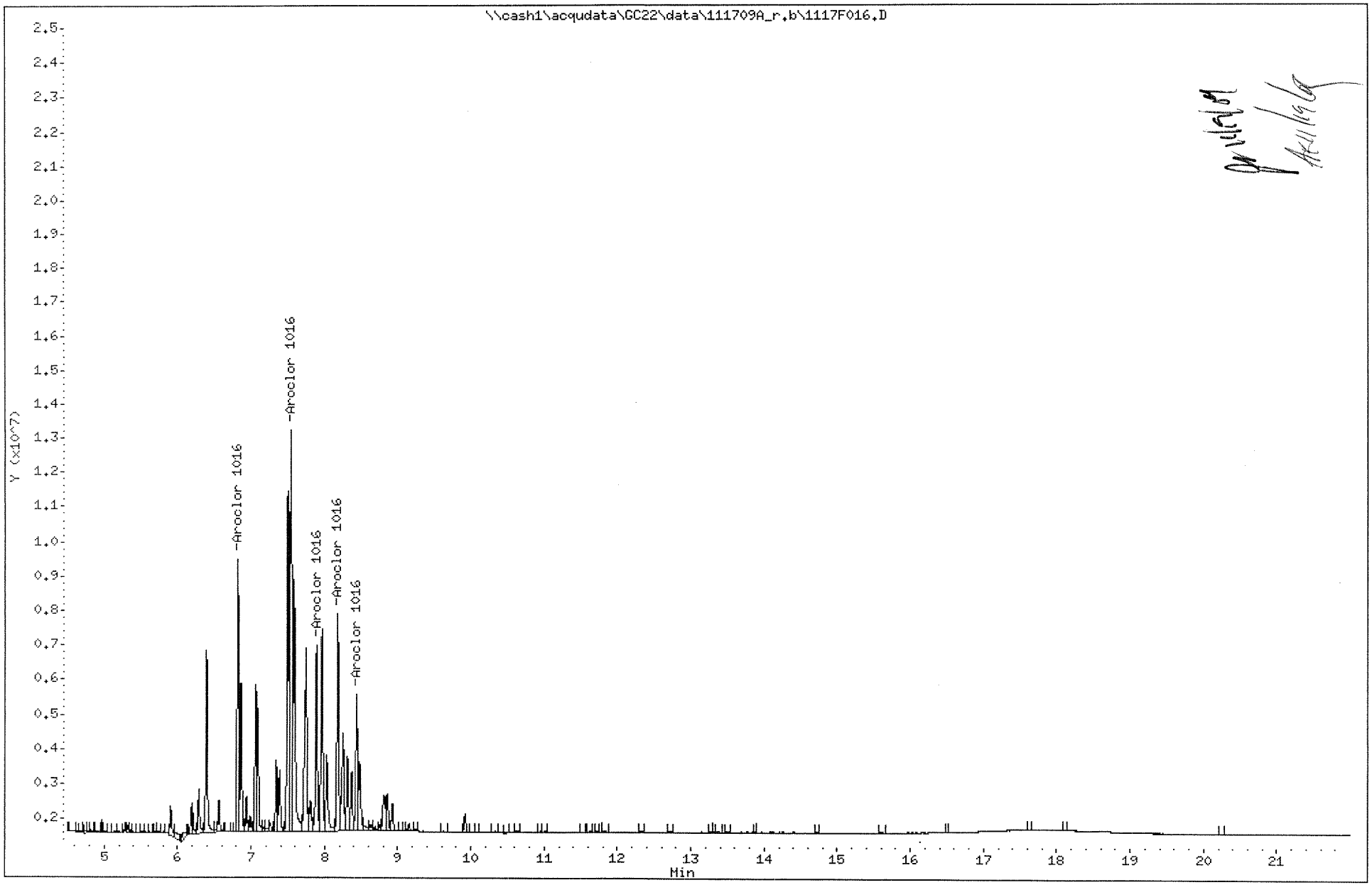
Operator: JMSmith
Column diameter: 0.32

Column phase: DB-35MS



Data File: \\cash1\acqudata\GC22\data\111709A_r.b\1117F016.D
Date : 18-NOV-2009 06:24
Client ID:
Sample Info: 1016 @ 100ppb | PCB5-46D

Instrument: GC22.i
Operator: JMSmith
Column phase: DB-XLB
Column diameter: 0.32



Data File: \\cash1\acqudata\GC22\data\111709A.b\1117F017.D
Report Date: 19-Nov-2009 13:23

Laboratory Name

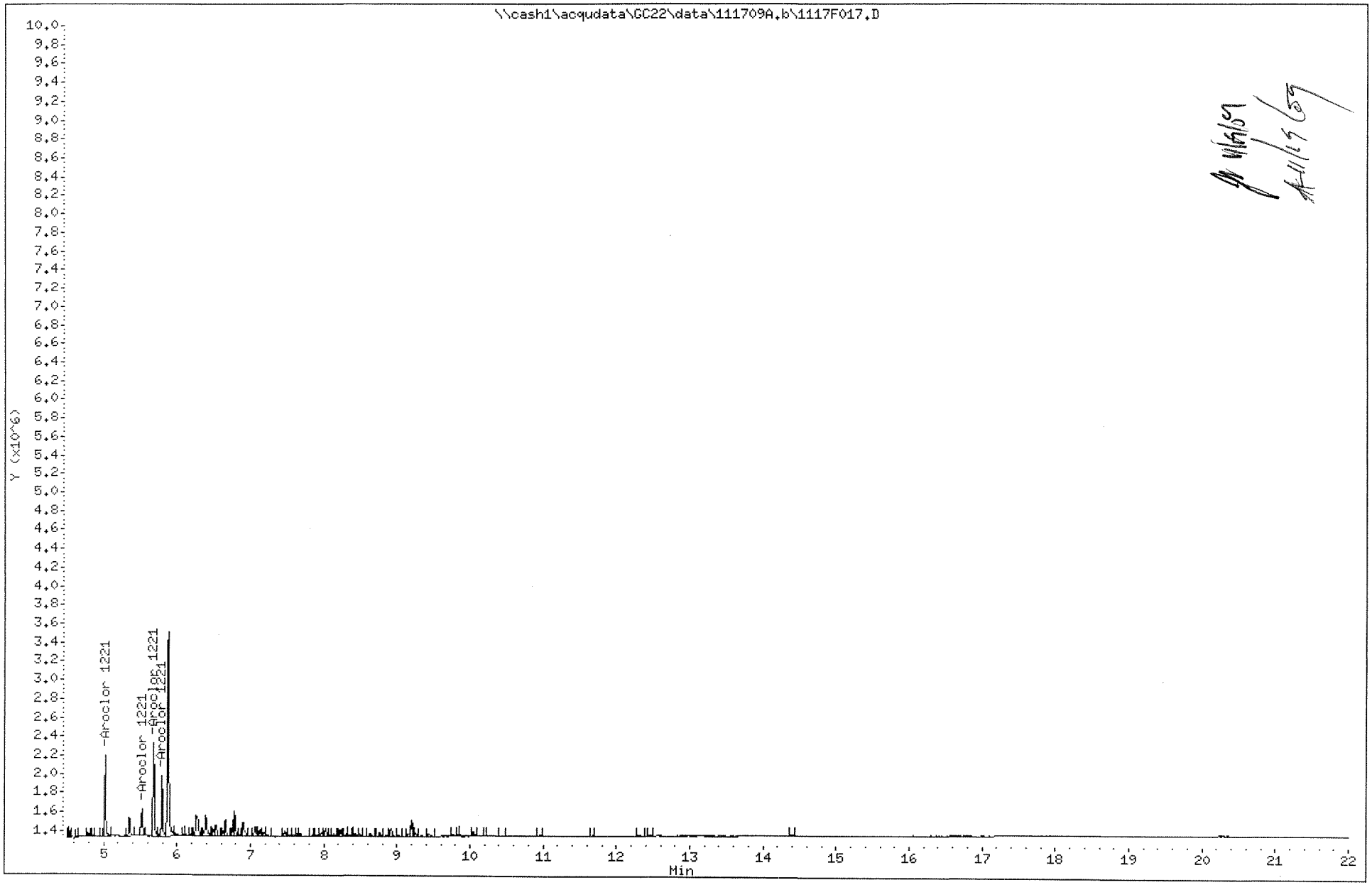
Sample #1 : \\cash1\acqudata\GC22\data\111709A.b\1117F017.D
Sample #2 : \\cash1\acqudata\GC22\data\111709A_r.b\1117F017.D
Inj Date : 18-NOV-2009 06:53
Sample Info: 1221 @ 100ppb | PCB5-44B
Misc Info :
Cal Date : 19-NOV-2009 12:25
Operator : JMSmith
Inst ID : GC22.i
Dil Factor : 1.000000

Method #1 : \\cash1\acqudata\GC22\data\111709A.b\111709ul_f.m
Method #2 : \\cash1\acqudata\GC22\data\111709A_r.b\111709ul_r.m
Sub List #1 : AR1221.SUB
Sub List #2 : AR1221.SUB
Col #1 Phase : DB-35MS
Col #2 Phase : DB-XLB

Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2	Target Range	Ratio
Aroclor 1221	5.019	5.351	998858	3276579	96.3	99.2	80.00- 120.00	100.00
	5.523	5.801	505628	932223	94.2	95.8	41.39- 62.09	50.62
	5.679	5.907	1286378	1775676	96.0	98.5	103.39- 155.09	128.78
	5.793	6.287	783120	3339846	96.6	96.7	62.53- 93.80	78.40
			Average of Peak Amounts =		95.8	97.6		

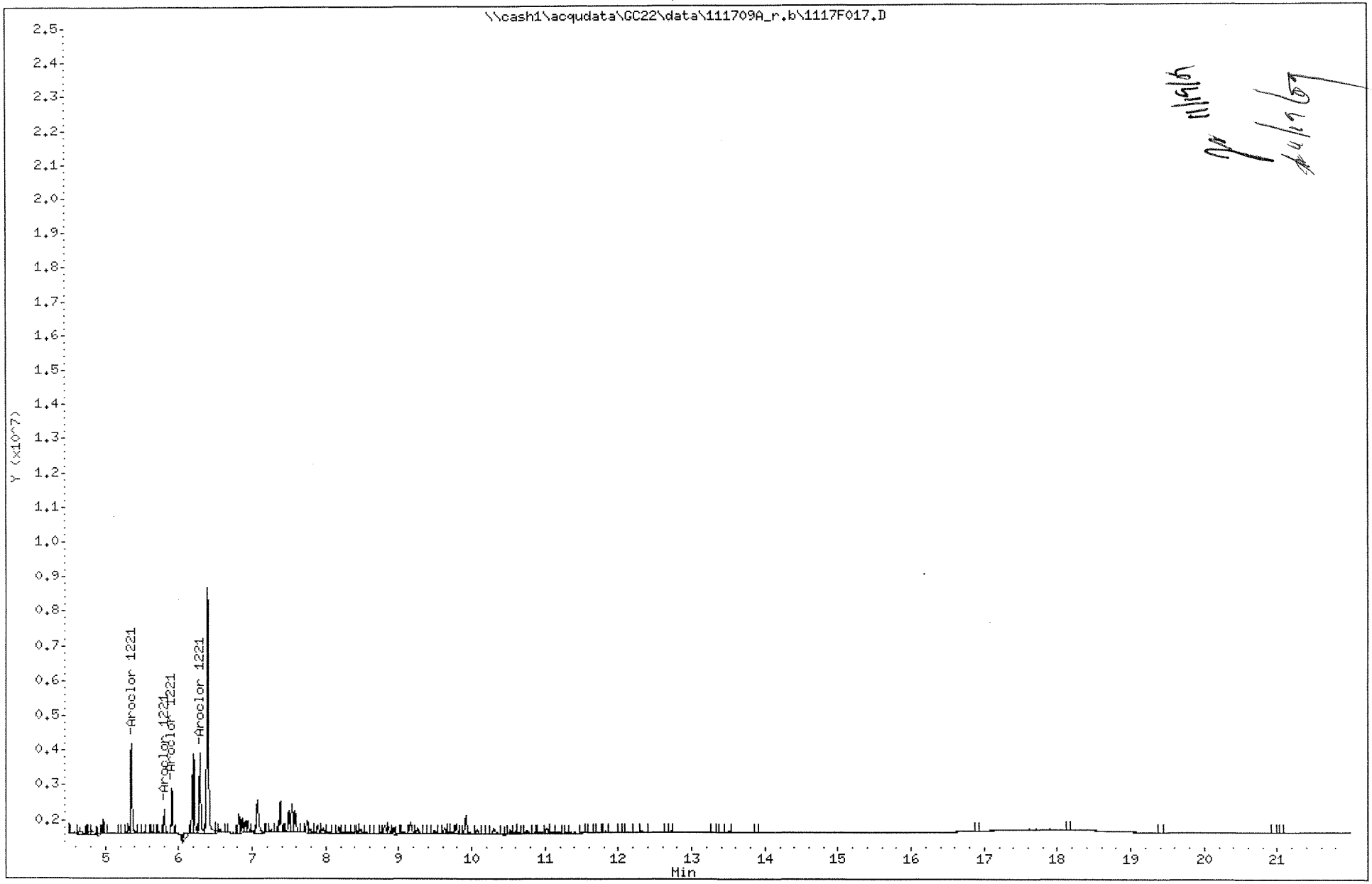
Data File: \\cash1\acqudata\GC22\data\111709A.b\1117F017.D
Date : 18-NOV-2009 06:53
Client ID:
Sample Info: 1221 @ 100ppb | PCB5-44B

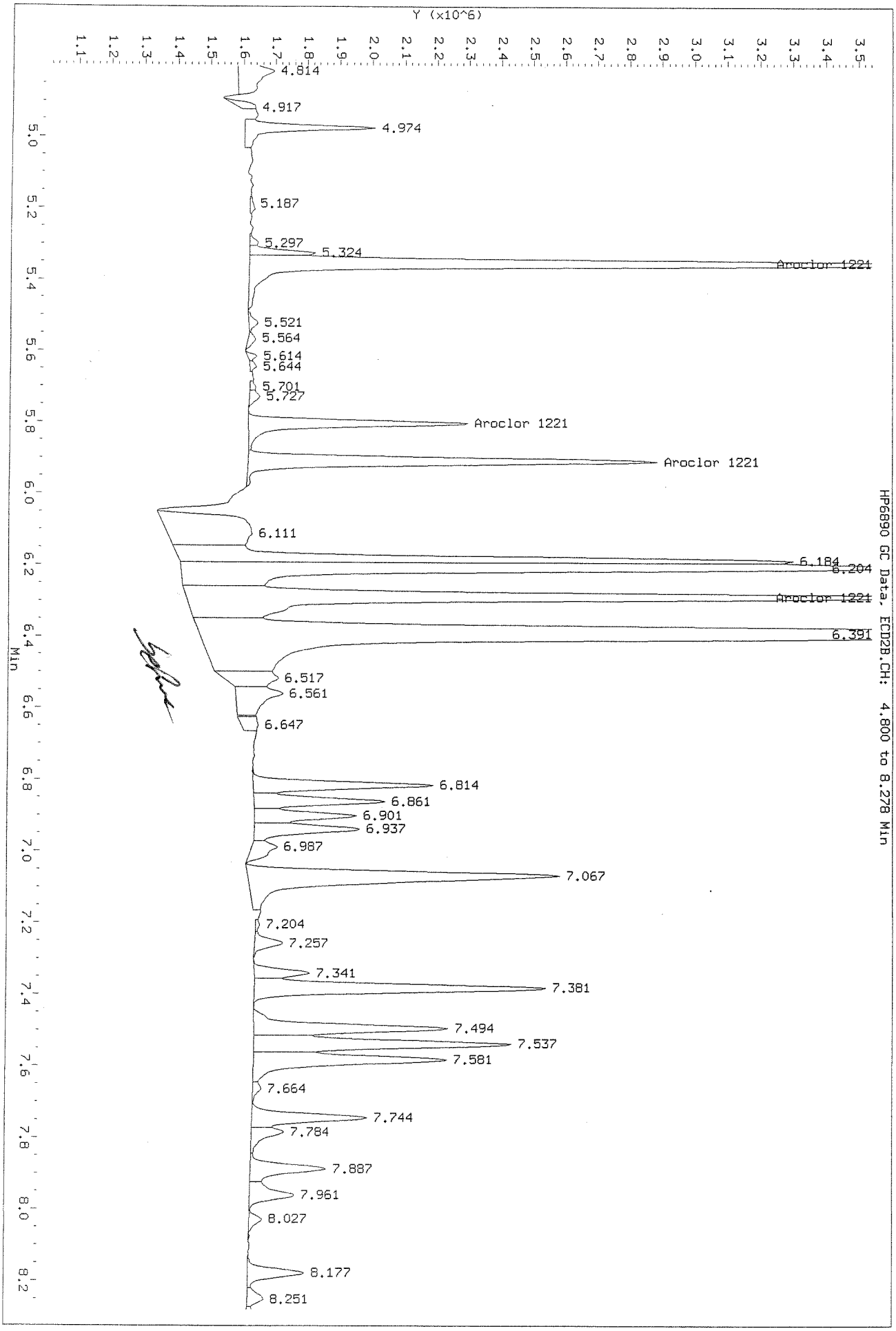
Instrument: GC22.i
Operator: JHSmith
Column phase: DB-35MS
Column diameter: 0.32

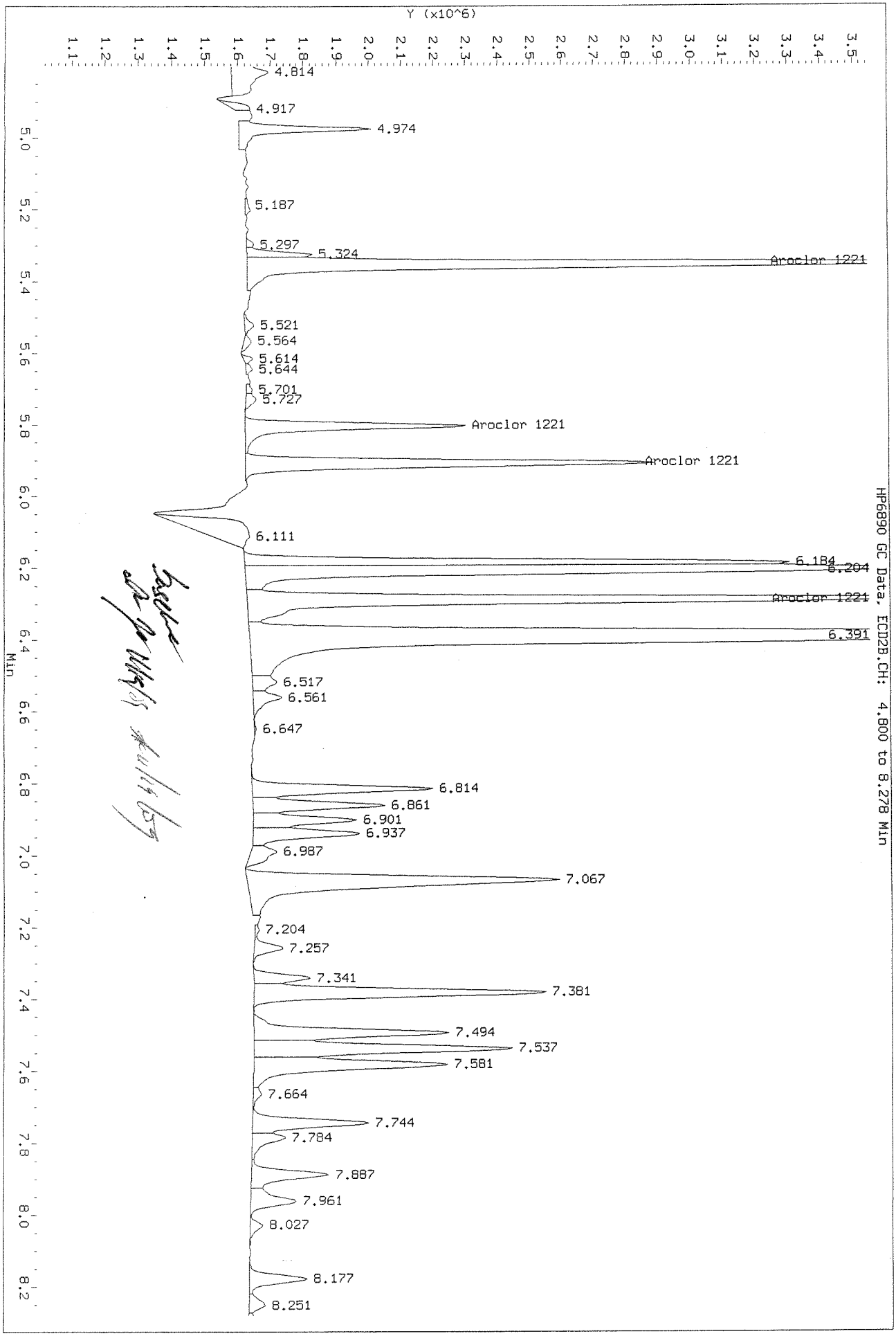


Data File: \\cash1\acqudata\GC22\data\111709A_r.b\1117F017.D
Date : 18-NOV-2009 06:53
Client ID:
Sample Info: 1221 @ 100ppb | PCB5-44B

Instrument: GC22.i
Operator: JMSmith
Column phase: DB-XLB
Column diameter: 0.32




Data File: \\cash1\acqudata\GC22\data\111709A_r.b\1117f017.D
Injection Date: 18-NOV-2009 06:53
Instrument: GC22.1
Client Sample ID:
HP6890 GC Data, ECD2B.CH: 4.800 to 8.278 Min
Y (x10^6)
Min
4.814
4.917
4.974
5.187
5.297
5.324
Aroclor 1221
5.521
5.564
5.614
5.644
5.701
5.727
Aroclor 1221
Aroclor 1221
6.111
6.184
6.204
Aroclor 1221
6.391
6.517
6.561
6.647
6.814
6.861
6.901
6.937
6.987
7.067
7.204
7.257
7.341
7.381
7.494
7.537
7.581
7.664
7.744
7.784
7.887
7.961
8.027
8.177
8.251


Data File: \\cash1\acqudata\GC22\data\111709A_r.b\1117F017.D
Injection Date: 18-NOV-2009 06:53
Instrument: GC22.i
Client Sample ID:
HP6890 GC Data, ECD2B.CH: 4.800 to 8.278 Min
Y (x10^6)
Min
4.814
4.917
4.974
5.187
5.297
5.324
Aroclor 1221
5.521
5.564
5.614
5.644
5.701
5.727
Aroclor 1221
Aroclor 1221
6.111
6.184
6.204
Aroclor 1221
6.391
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8.177
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Data File: \\cash1\acqudata\GC22\data\111709A.b\1117F018.D
Report Date: 19-Nov-2009 13:23

Laboratory Name

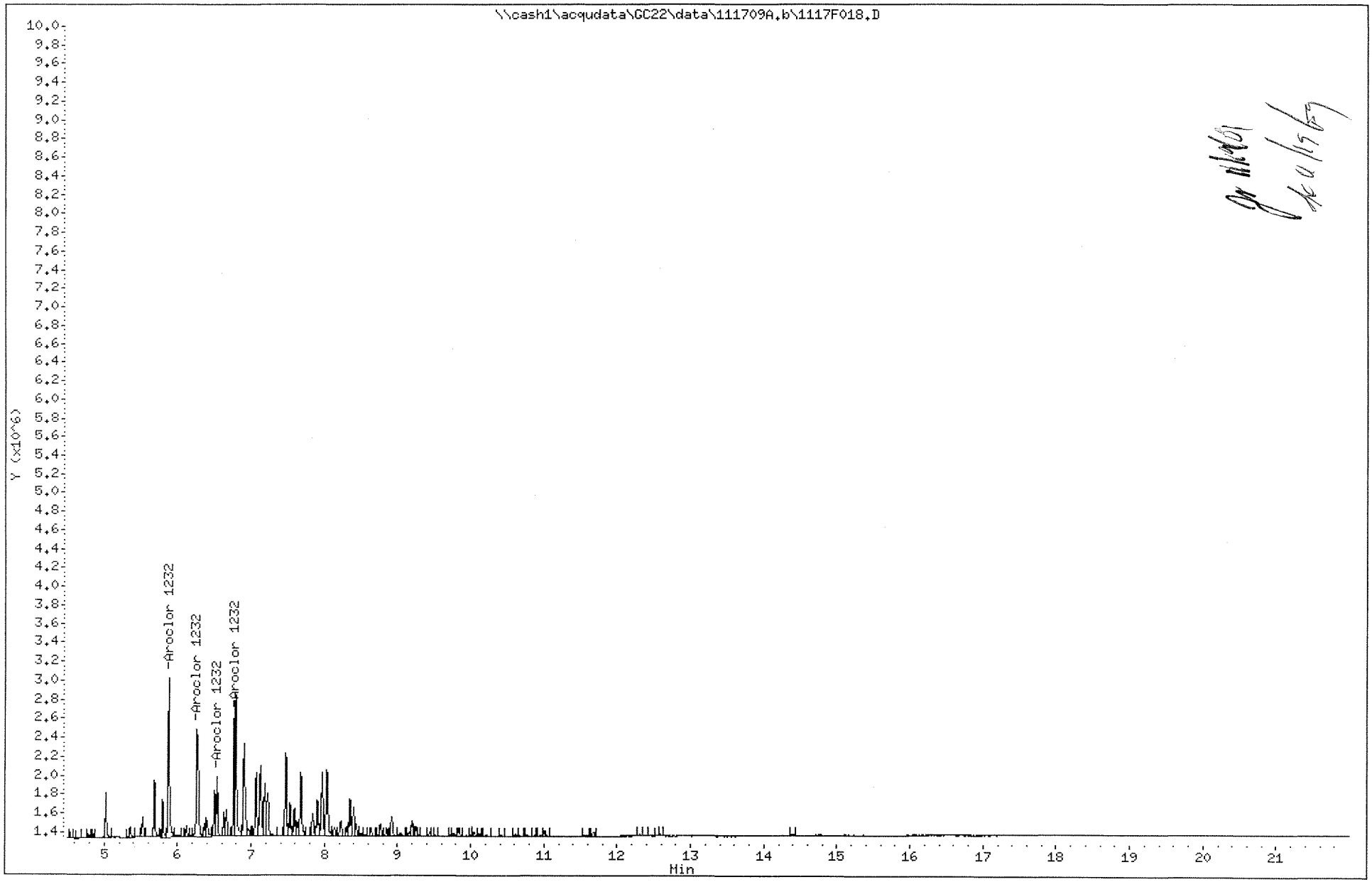
Sample #1 : \\cash1\acqudata\GC22\data\111709A.b\1117F018.D
Sample #2 : \\cash1\acqudata\GC22\data\111709A_r.b\1117F018.D
Inj Date : 18-NOV-2009 07:21
Sample Info: 1232 @ 100ppb | PCB5-46E
Misc Info :
Cal Date : 19-NOV-2009 12:25
Operator : JMSmith
Inst ID : GC22.i
Dil Factor : 1.000000

Method #1 : \\cash1\acqudata\GC22\data\111709A.b\111709ul_f.m
Method #2 : \\cash1\acqudata\GC22\data\111709A_r.b\111709ul_r.m
Sub List #1 : AR1232.SUB
Sub List #2 : AR1232.SUB
Col #1 Phase : DB-35MS
Col #2 Phase : DB-XLB

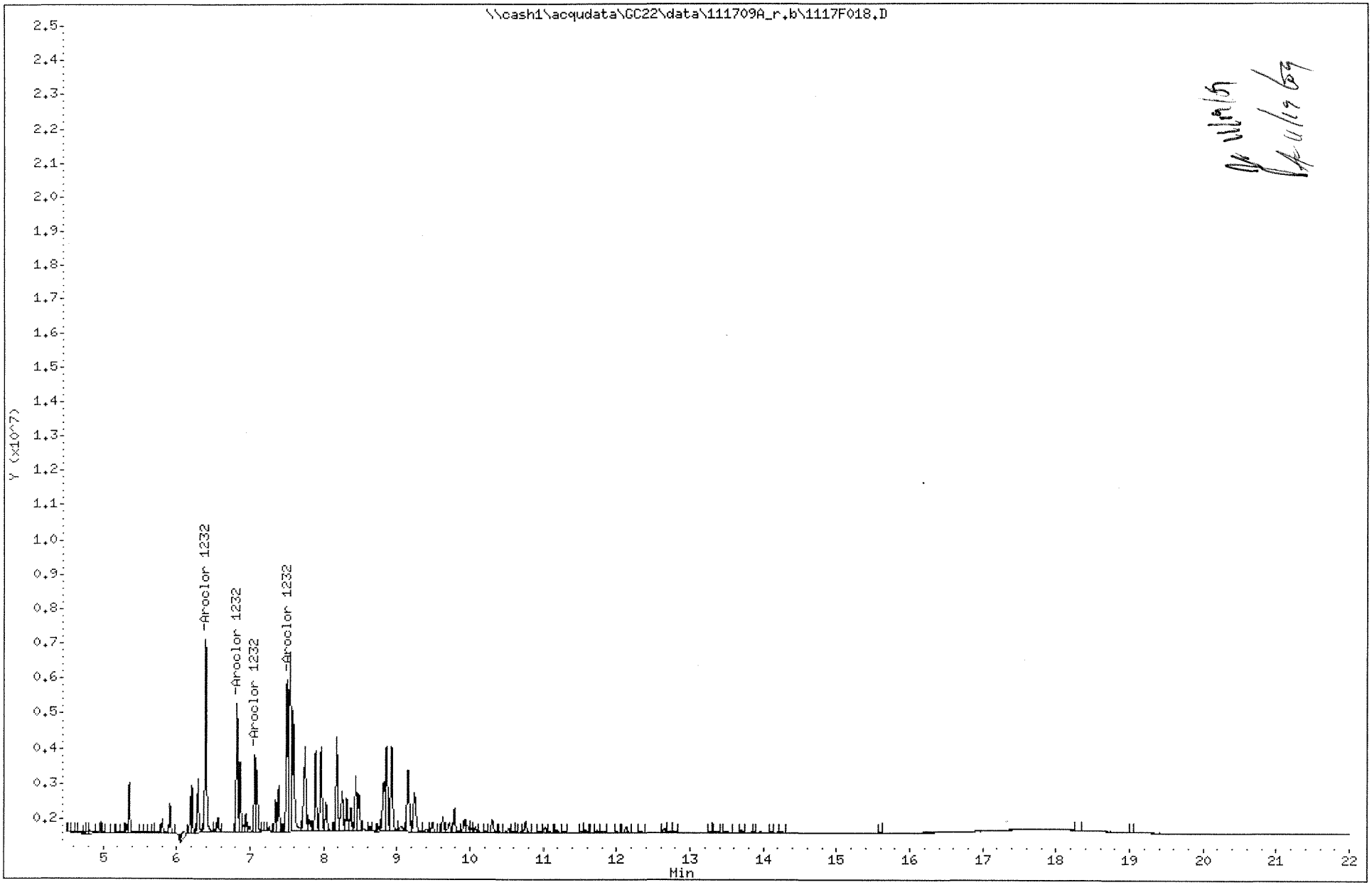
Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2	Target Range	Ratio
Aroclor 1232	5.874	6.392	2471732	8847167	86.8	86.3	80.00- 120.00	100.00
	6.261	6.816	2329664	5235505	97.0	95.7	67.48- 101.22	94.25
	6.534	7.062	875417	3151904	92.4	93.0	26.62- 39.93	35.42
	6.768	7.496	1468913	7067843	93.5	94.6	44.12- 66.17	59.43
			Average of Peak Amounts =		92.4	92.4		

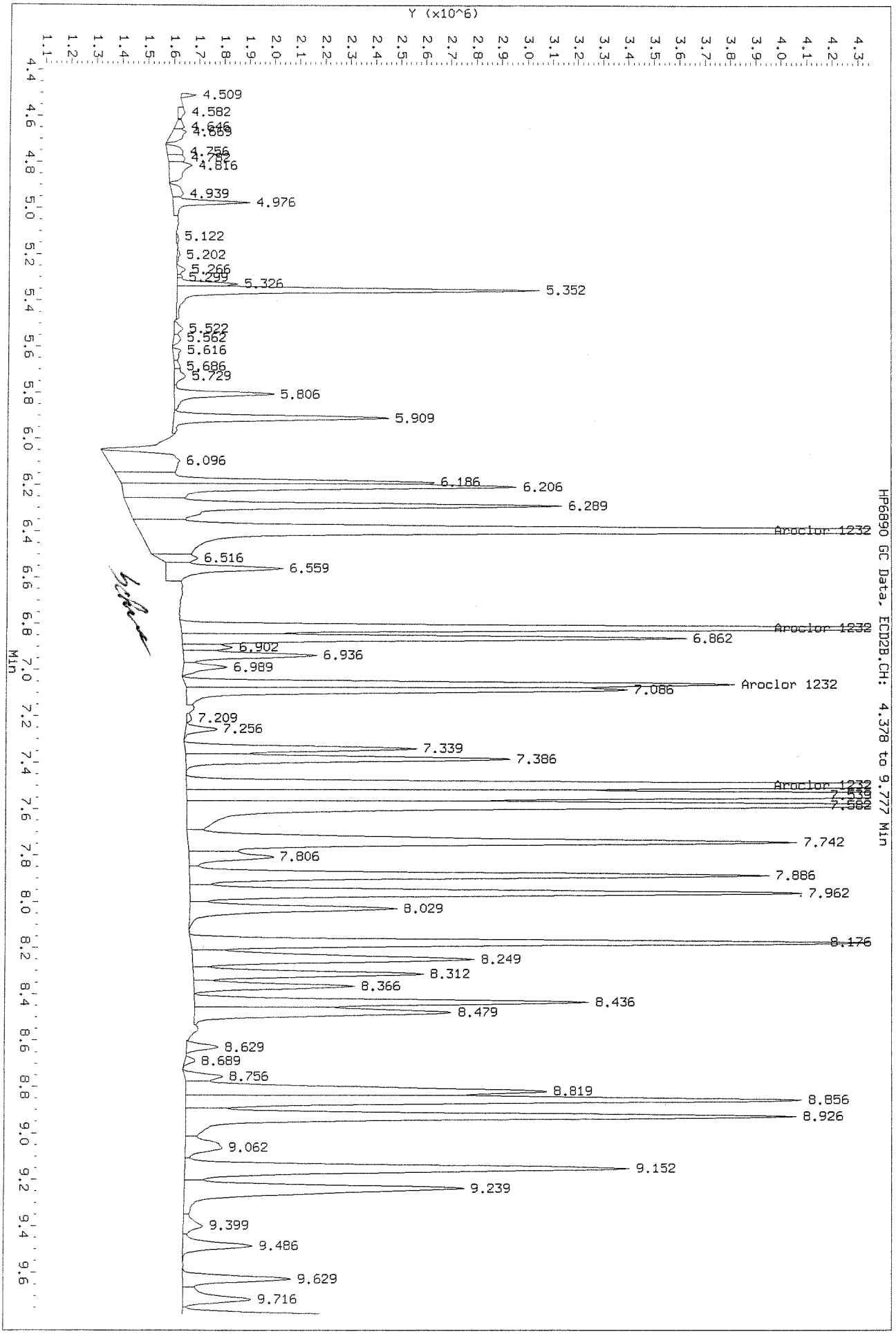
Data File: \\cash1\acqudata\GC22\data\111709A.b\1117F018.D
Date : 18-NOV-2009 07:21
Client ID:
Sample Info: 1232 @ 100ppb | PCB5-46E

Instrument: GC22.i
Operator: JMSmith
Column phase: DB-35MS
Column diameter: 0.32



Data File: \\cash1\acqudata\GC22\data\111709A_r.b\1117F018.D
Date : 18-NOV-2009 07:21
Client ID:
Instrument: GC22.i
Sample Info: 1232 @ 100ppb | PCB5-46E
Operator: JMSmith
Column phase: DB-XLB
Column diameter: 0.32




Data File: \\cash1\acqudata\GC22\data\111709A_r.b\1117F018.D
Injection Date: 18-NOV-2009 07:21
Instrument: GC22.i
Client Sample ID:
HP6890 GC Data, ECD2B.CH: 4.378 to 9.777 Min
Y (x10^6)
Min
4.509
4.582
4.646
4.659
4.756
4.783
4.816
4.939
4.976
5.122
5.202
5.266
5.299
5.326
5.352
5.522
5.562
5.616
5.686
5.729
5.806
5.909
6.096
6.186
6.206
6.289
Aroclor 1232
6.516
6.559
Aroclor 1232
6.862
6.902
6.936
6.989
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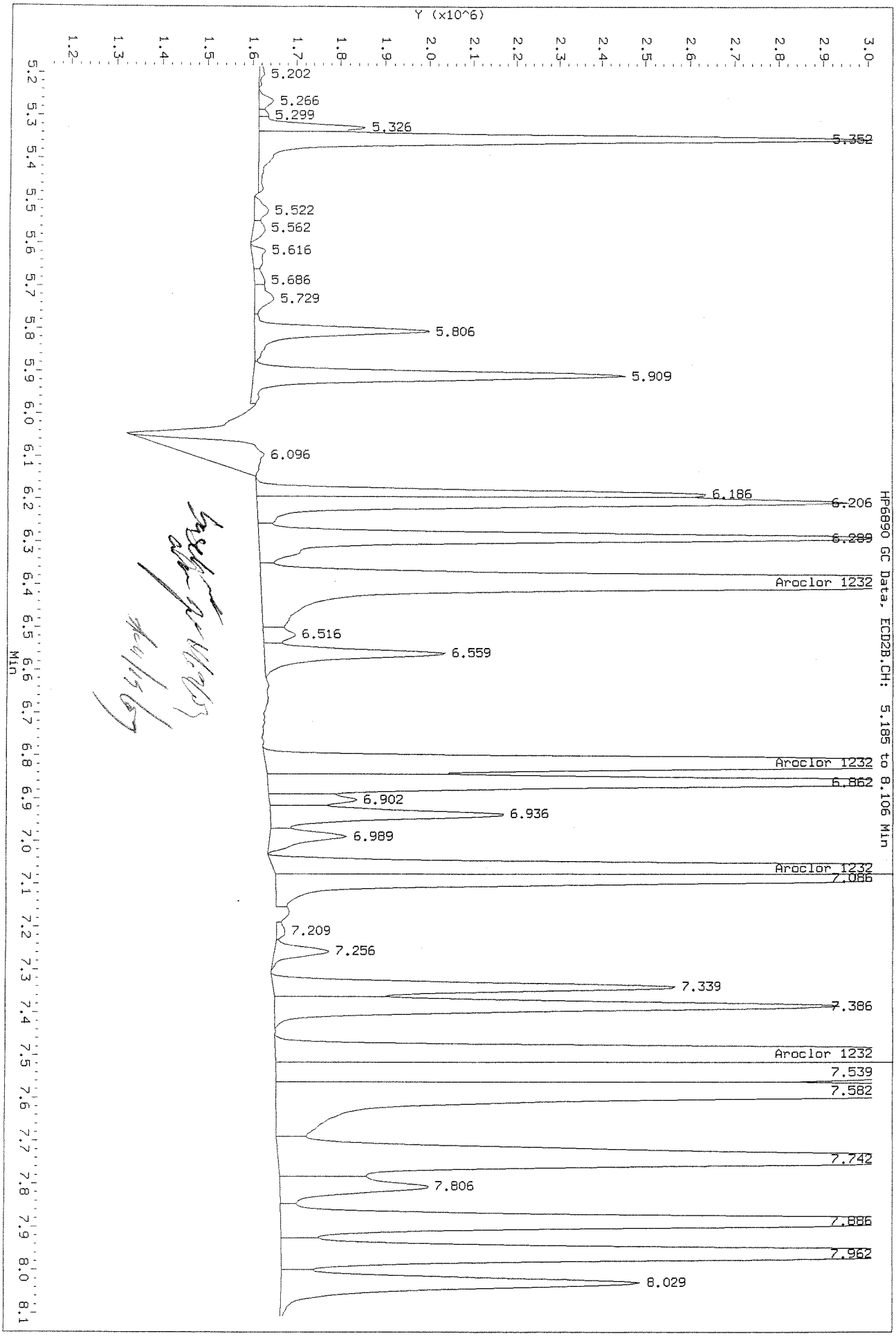
9.716


Data File: \\cash1\acqudata\GC22\data\111709A_r.b\1117F018.D
Injection Date: 18-NOV-2009 07:21
Instrument: GC22.1
Client Sample ID:
Y (x10^6)
Min
HP6890 GC Data, ECD2B.CH: 5.185 to 8.106 Min
5.202
5.266
5.299
5.326
5.352
5.522
5.562
5.616
5.686
5.729
5.806
5.909
6.096
6.186
6.206
6.289
Aroclor 1232
6.516
6.559
Aroclor 1232
6.862
6.902
6.936
6.989
Aroclor 1232
7.086
7.209
7.256
7.339
7.386
Aroclor 1232
7.539
7.582
7.742
7.806
7.886
7.962
8.029

Data File: \\cash1\acqudata\GC22\data\111709A.b\1117F019.D
Report Date: 19-Nov-2009 13:23

Laboratory Name

Sample #1 : \\cash1\acqudata\GC22\data\111709A.b\1117F019.D
Sample #2 : \\cash1\acqudata\GC22\data\111709A_r.b\1117F019.D
Inj Date : 18-NOV-2009 07:50
Sample Info: 1242 @ 100ppb | PCB5-46F
Misc Info :
Cal Date : 19-NOV-2009 12:25
Operator : JMSmith
Inst ID : GC22.i
Dil Factor : 1.000000

Method #1 : \\cash1\acqudata\GC22\data\111709A.b\111709ul_f.m
Method #2 : \\cash1\acqudata\GC22\data\111709A_r.b\111709ul_r.m
Sub List #1 : AR1242.SUB
Sub List #2 : AR1242.SUB
Col #1 Phase : DB-35MS
Col #2 Phase : DB-XLB

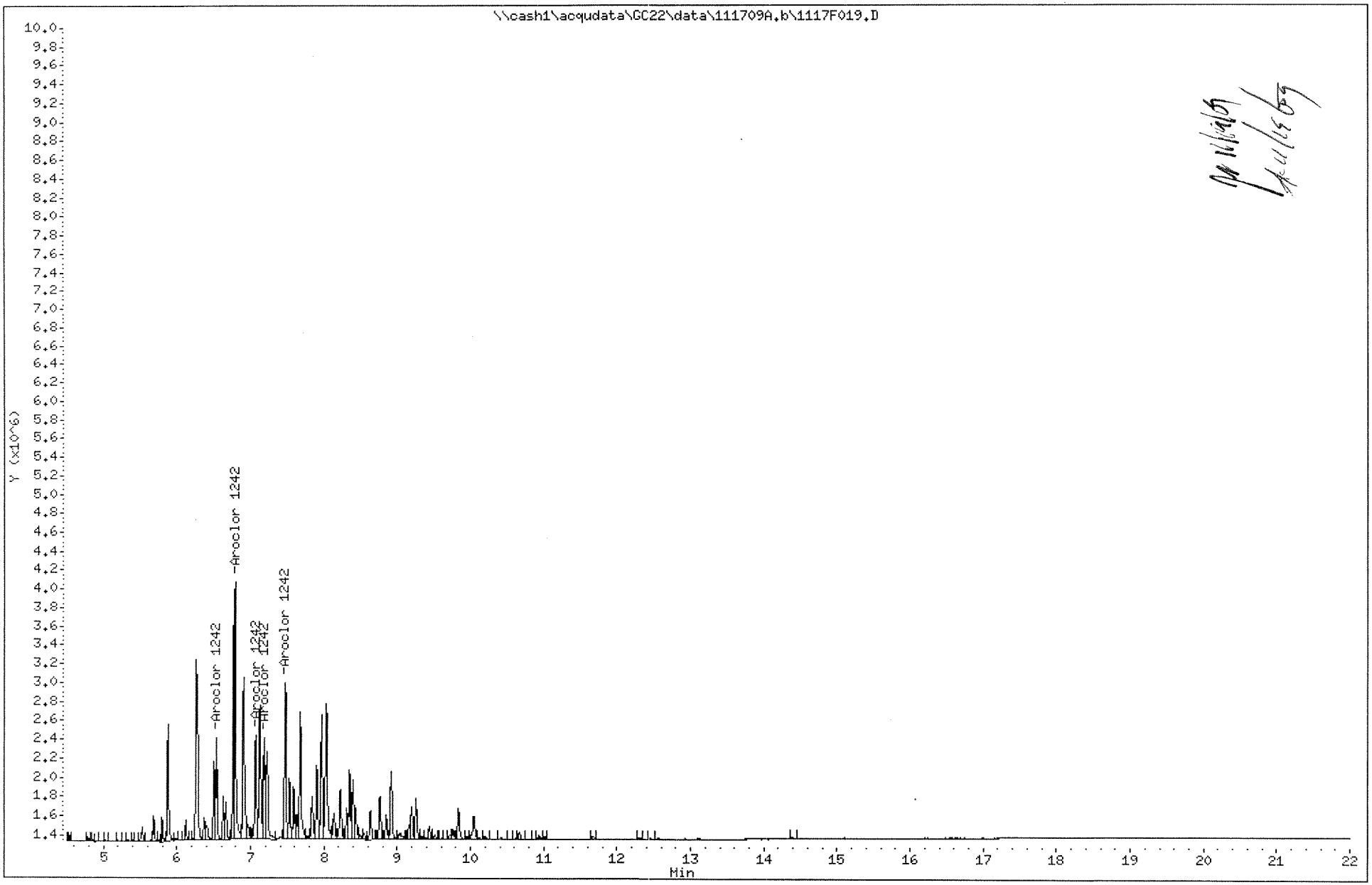
Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2	Target Range	Ratio
Aroclor 1242	6.536	6.817	1471718	8717640	88.1	89.4	80.00- 120.00	100.00(M)
	6.786	7.744	4190403	8855980	85.8	90.0	233.92- 350.88	284.73(M)
	7.069	7.960	1742092	8404720	91.8	91.6	90.92- 136.39	118.37(M)
	7.182	8.177	1637811	8503563	95.1	92.0	82.48- 123.72	111.29(M)
	7.472	8.434	2465210	5565608	93.1	87.0	126.84- 190.26	167.51(M)
			Average of Peak Amounts =		90.8	90.0		

QC Flag Legend

M - Compound response manually integrated.

Data File: \\cash1\acqudata\GC22\data\111709A.b\1117F019.D
Date : 18-NOV-2009 07:50
Client ID:
Sample Info: 1242 @ 100ppb | PCB5-46F

Instrument: GC22.i
Operator: JMSmith
Column phase: DB-35MS
Column diameter: 0.32

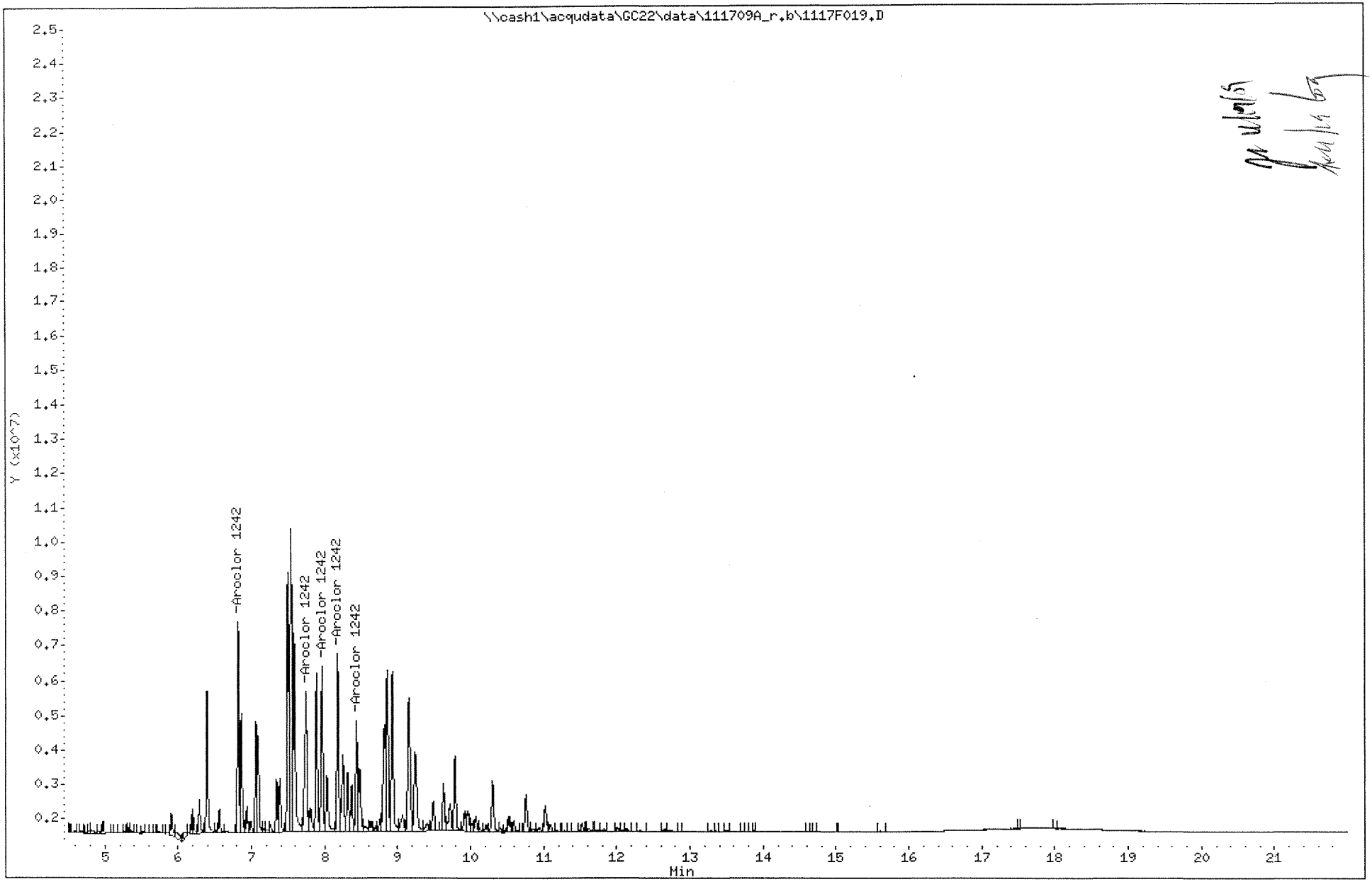


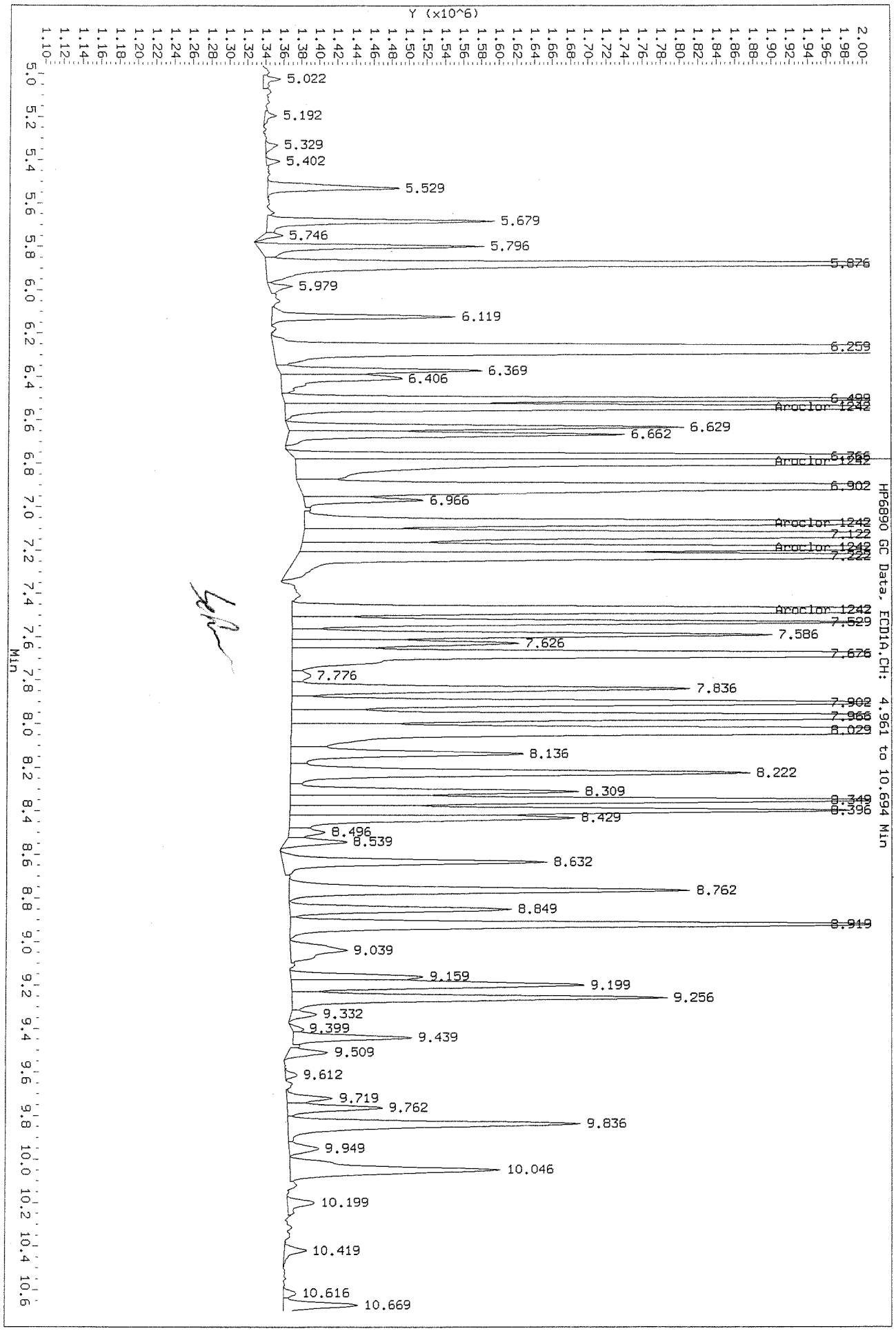
Data File: \\cash1\acqudata\GC22\data\111709A_r.b\1117F019.D
Date : 18-NOV-2009 07:50
Client ID:
Sample Info: 1242 @ 100ppb | PCB5-46F

Column phase: DB-XLB

Instrument: GC22.i

Operator: JMSmith
Column diameter: 0.32




Data File: \\cash1\acqudata\GC22\data\111709A.b\1117F019.D
Injection Date: 18-NOV-2009 07:50
Instrument: GC22.1
Client Sample ID:
HP6890 GC Data, ECD1A.CH: 4.961 to 10.694 Min
Y (x10^6)
Min
5.022
5.192
5.329
5.402
5.529
5.679
5.746
5.796
5.876
5.979
6.119
6.259
6.369
6.406
6.499
Aroclor 1242
6.629
6.662
Aroclor 1242
6.902
6.966
Aroclor 1242
7.122
Aroclor 1242
7.222
Aroclor 1242
7.529
7.586
7.626
7.676
7.776
7.836
7.902
7.966
8.029
8.136
8.222
8.309
8.349
8.396
8.429
8.496
8.539
8.632
8.762
8.849
8.919
9.039
9.159
9.199
9.256
9.332
9.399
9.439
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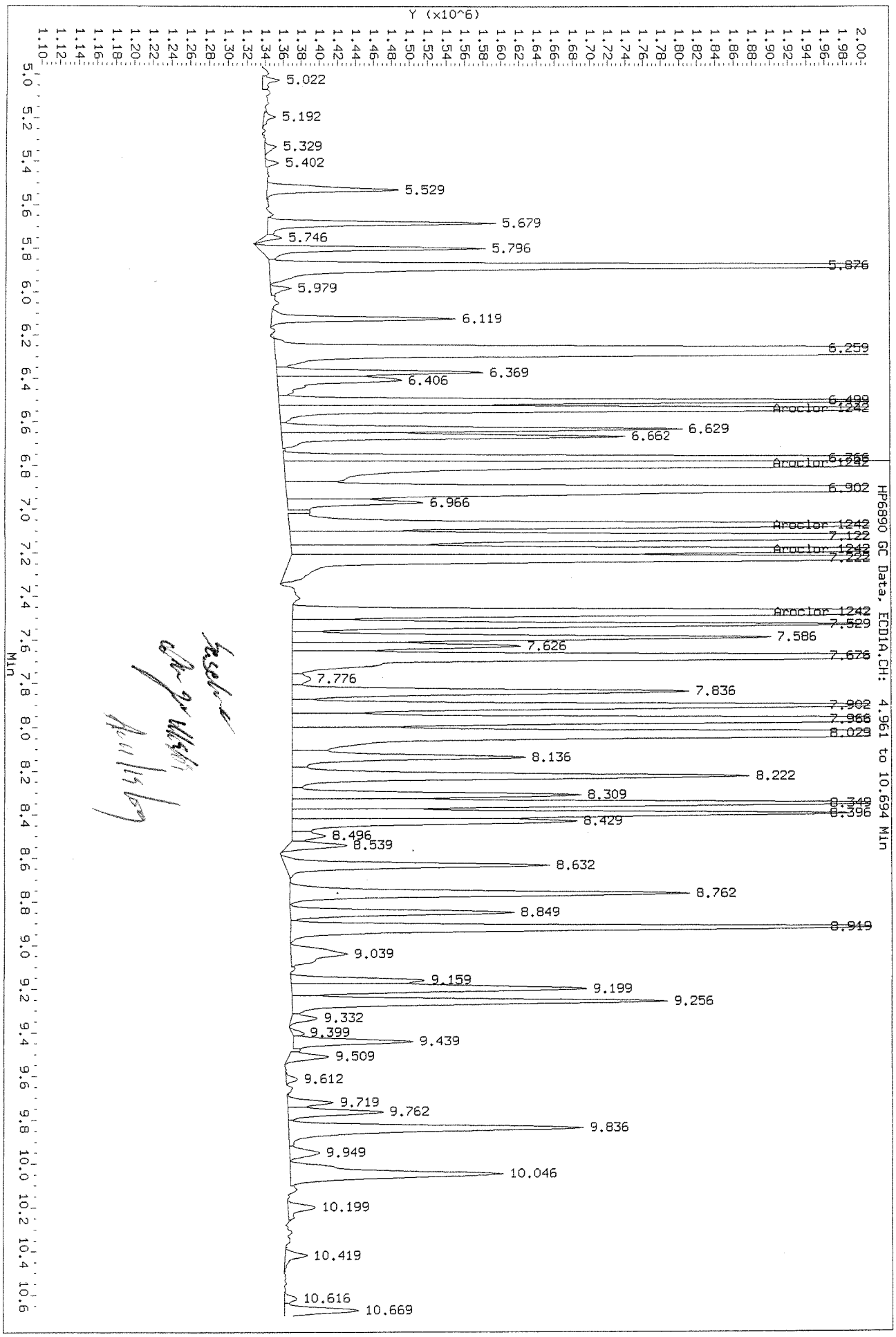
10.616
10.669


Data File: \\cash1\acqudata\GC22\data\111709A.b\1117F019.D
Injection Date: 18-NOV-2009 07:50
Instrument: GC22.i
Client Sample ID:
HP6890 GC Data, ECD1A.CH: 4.961 to 10.694 Min
Y (x10^6)
Min
5.022
5.192
5.329
5.402
5.529
5.679
5.746
5.796
5.876
5.979
6.119
6.259
6.369
6.406
6.490
Aroclor 1242
6.629
6.662
6.902
6.966
7.122
7.529
7.586
7.626
7.676
7.776
7.836
7.902
7.966
8.029
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9.199
9.256
9.332
9.399
9.439
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9.762
9.836
9.949
10.046
10.199
10.419
10.616
10.669

Data File: \\cash1\acqudata\GC22\data\111709A.b\1117F020.D
Report Date: 19-Nov-2009 13:23

Laboratory Name

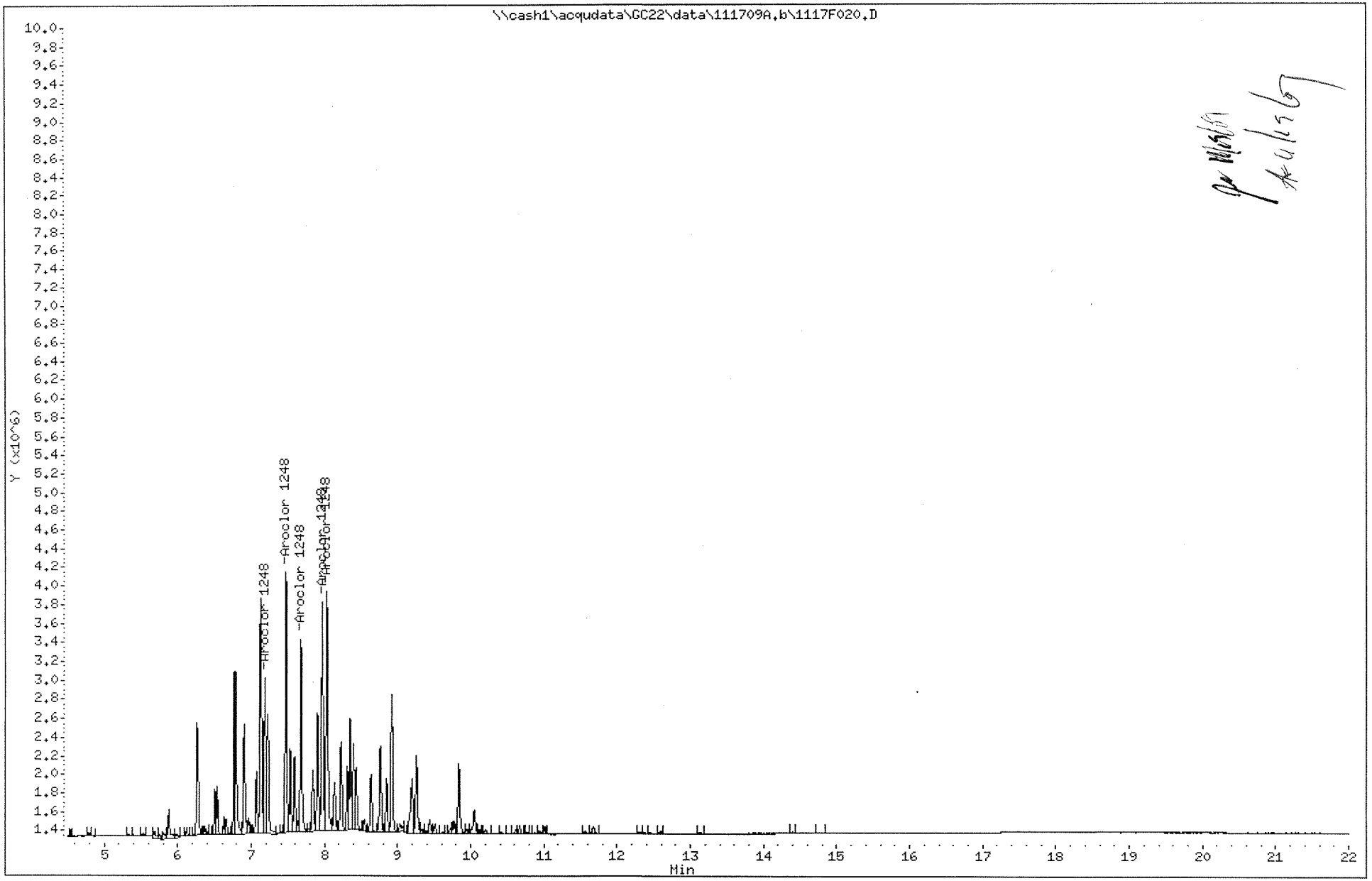
Sample #1 : \\cash1\acqudata\GC22\data\111709A.b\1117F020.D
Sample #2 : \\cash1\acqudata\GC22\data\111709A_r.b\1117F020.D
Inj Date : 18-NOV-2009 08:19
Sample Info: 1248 @ 100ppb | PCB5-46G
Misc Info :
Cal Date : 19-NOV-2009 12:25
Operator : JMSmith
Inst ID : GC22.i
Dil Factor : 1.000000

Method #1 : \\cash1\acqudata\GC22\data\111709A.b\111709ul_f.m
Method #2 : \\cash1\acqudata\GC22\data\111709A_r.b\111709ul_r.m
Sub List #1 : AR1248.SUB
Sub List #2 : AR1248.SUB
Col #1 Phase : DB-35MS
Col #2 Phase : DB-XLB

Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2	Target Range	Ratio
Aroclor 1248	7.185	7.963	2384906	12546846	92.1	97.9	80.00- 120.00	100.00
	7.472	8.180	4058432	14737327	96.2	99.5	130.33- 195.49	170.17
	7.678	8.436	3253076	9586453	92.7	98.7	108.45- 162.67	136.40
	7.965	8.856	3975803	16521919	92.0	95.1	133.58- 200.37	166.71
	8.028	8.926	4865524	16052453	90.7	93.4	165.75- 248.62	204.01
			Average of Peak Amounts =		92.7	96.9		

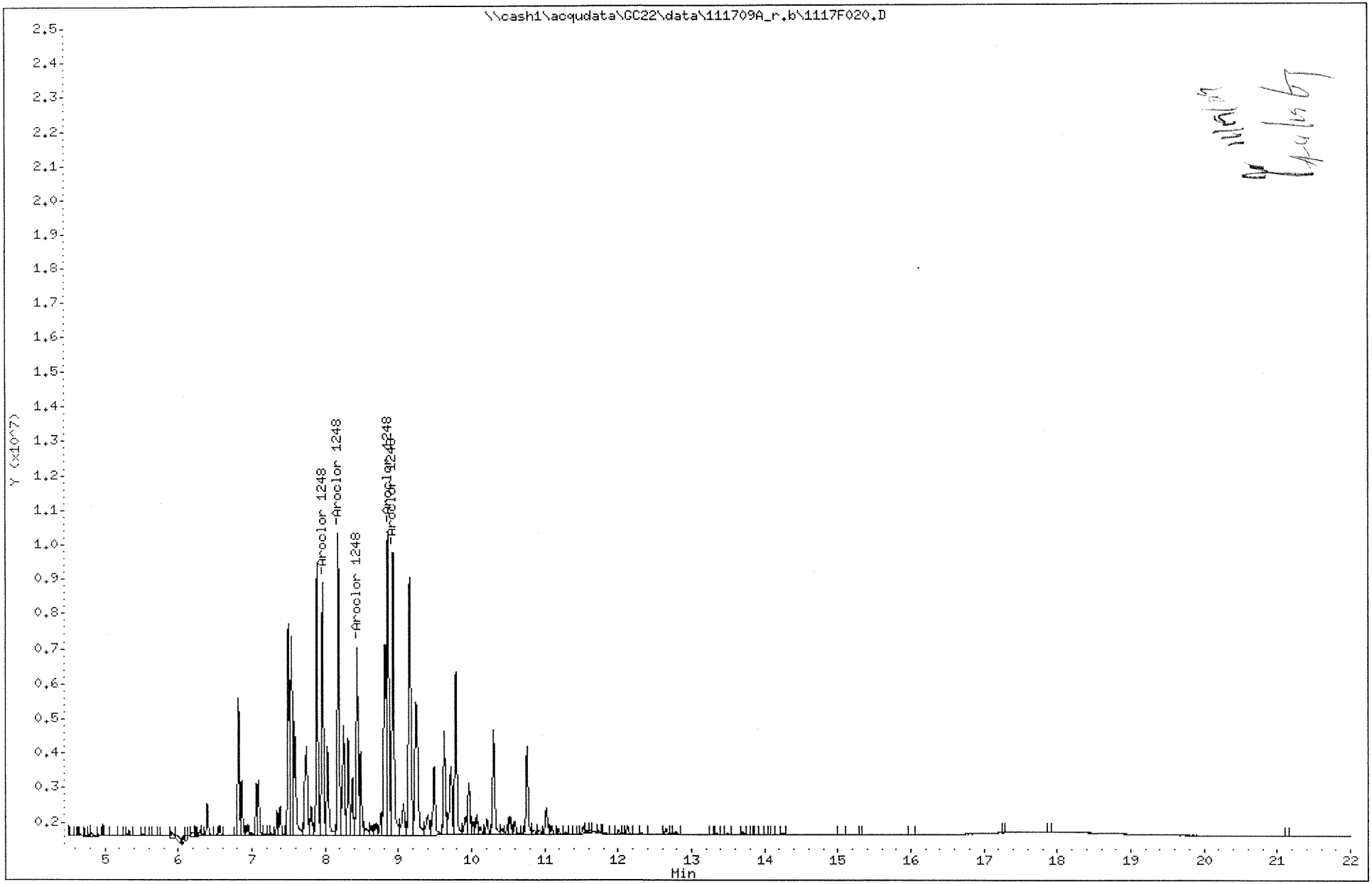
Data File: \\cash1\acqudata\GC22\data\111709A.b\1117F020.D
Date : 18-NOV-2009 08:19
Client ID:
Sample Info: 1248 @ 100ppb | PCB5-46G

Instrument: GC22.i
Operator: JMSmith
Column phase: DB-35MS
Column diameter: 0.32



Data File: \\cash1\acqudata\GC22\data\111709A_r.b\1117F020.D
Date : 18-NOV-2009 08:19
Client ID:
Sample Info: 1248 @ 100ppb | PCB5-46G

Instrument: GC22.i
Operator: JHSmith
Column phase: DB-XLB
Column diameter: 0.32



Data File: \\cash1\acqudata\GC22\data\111709A.b\1117F021.D
Report Date: 19-Nov-2009 13:23

Laboratory Name

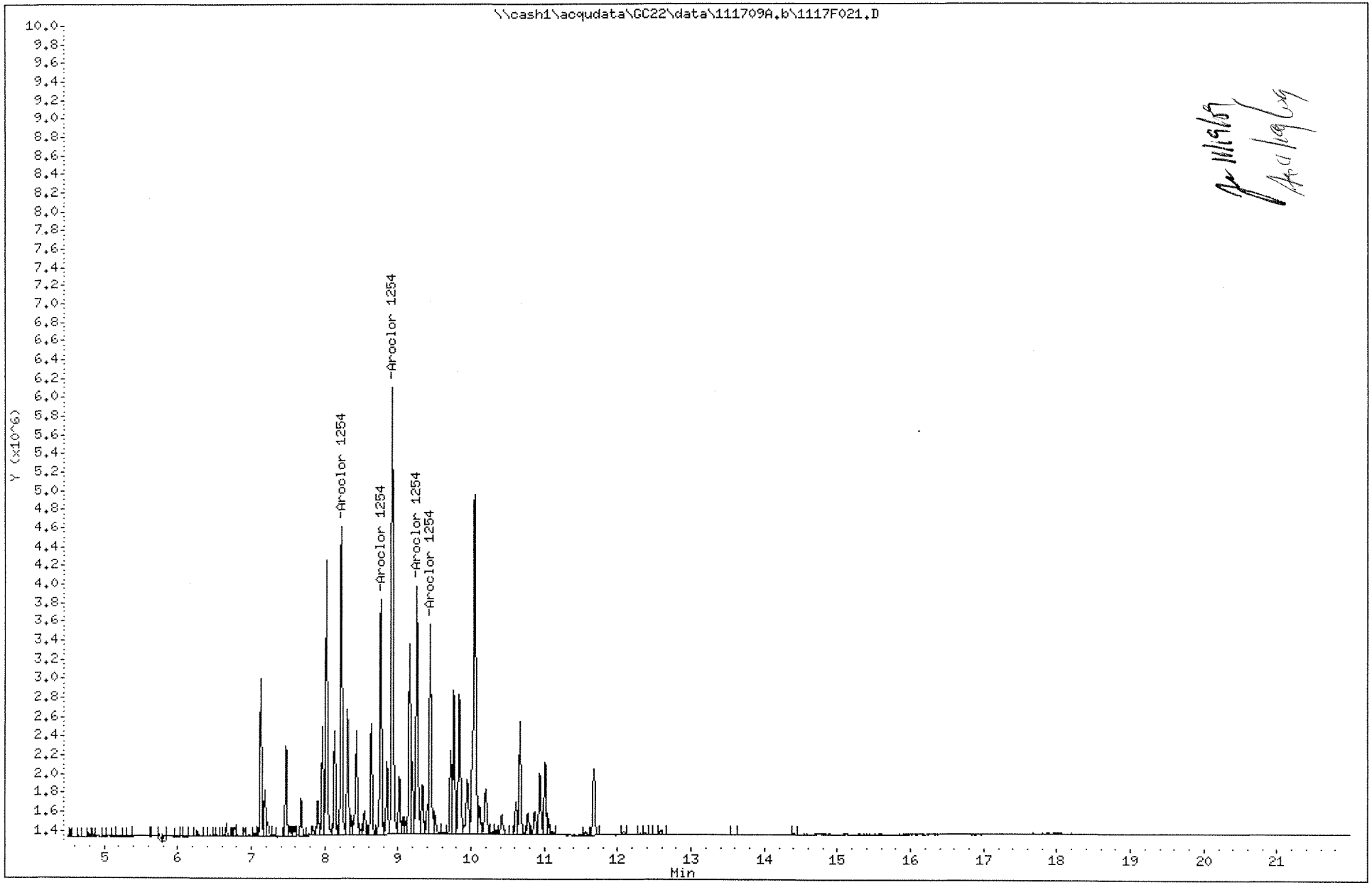
Sample #1 : \\cash1\acqudata\GC22\data\111709A.b\1117F021.D
Sample #2 : \\cash1\acqudata\GC22\data\111709A_r.b\1117F021.D
Inj Date : 18-NOV-2009 08:47
Sample Info: 1254 @ 100ppb | PCB5-44C
Misc Info :
Cal Date : 19-NOV-2009 12:25
Operator : JMSmith
Inst ID : GC22.i
Dil Factor : 1.000000

Method #1 : \\cash1\acqudata\GC22\data\111709A.b\111709ul_f.m
Method #2 : \\cash1\acqudata\GC22\data\111709A_r.b\111709ul_r.m
Sub List #1 : AR1254.SUB
Sub List #2 : AR1254.SUB
Col #1 Phase : DB-35MS
Col #2 Phase : DB-XLB

Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2	Target Range	Ratio
Aroclor 1254	8.225	8.806	5357120	17154464	101	99.3	80.00- 120.00	100.00
	8.765	9.163	4247877	26426874	98.1	97.6	65.45- 98.18	79.29
	8.918	9.626	8708868	13939826	100	96.9	131.55- 197.32	162.57
	9.258	9.786	4772517	26530951	99.2	95.9	72.68- 109.02	89.09
	9.438	10.526	4017121	14549385	114	113	53.20- 79.79	74.99
			Average of Peak Amounts =		102	100		

Data File: \\cash1\acqudata\GC22\data\111709A.b\1117F021.D
Date : 18-NOV-2009 08:47
Client ID:
Sample Info: 1254 @ 100ppb | PCB5-44C

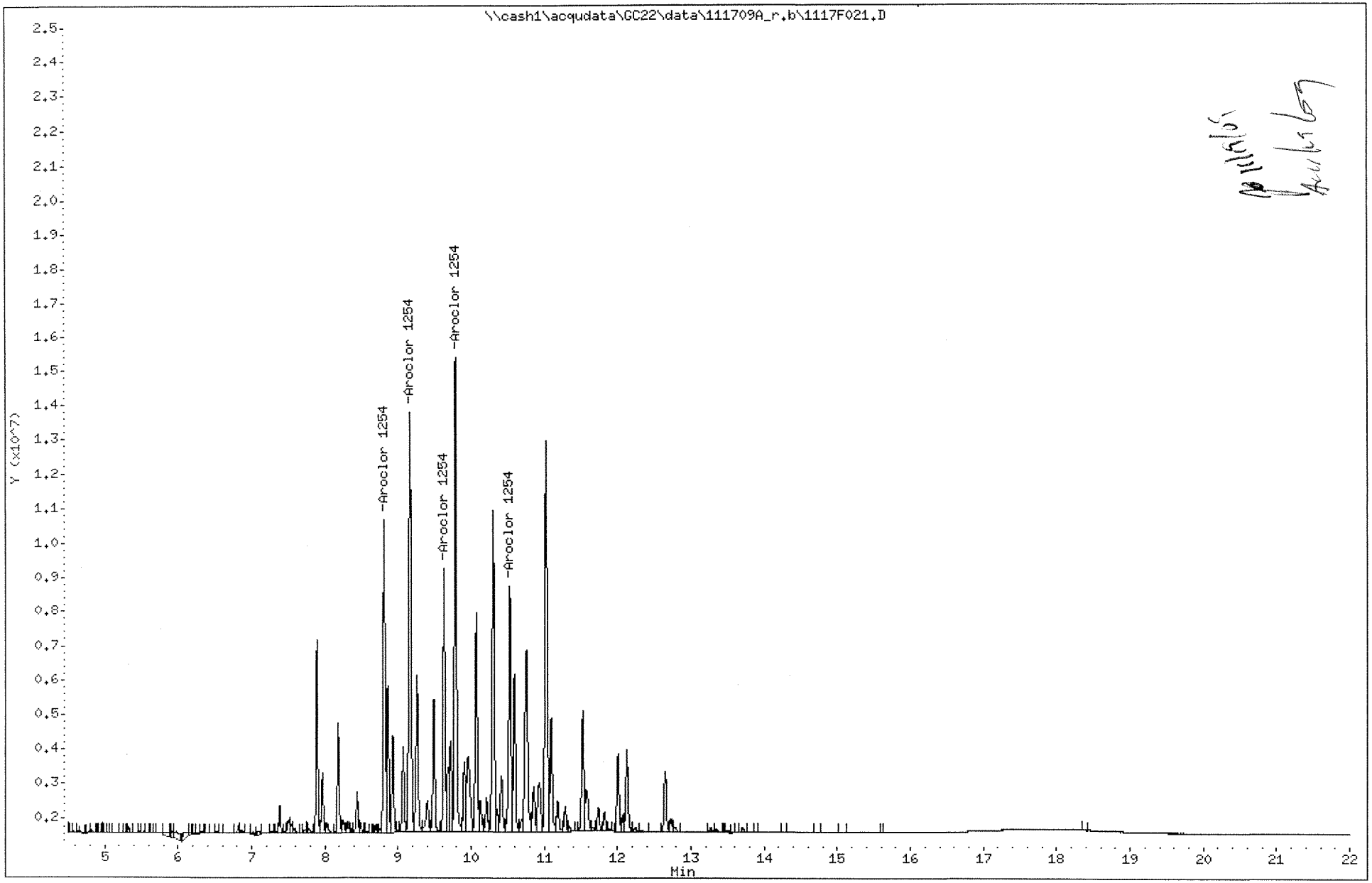
Instrument: GC22.i
Operator: JHSmith
Column phase: DB-35MS
Column diameter: 0.32



Data File: \\cash1\acqudata\GC22\data\111709A_r.b\1117F021.D
Date : 18-NOV-2009 08:47
Client ID:
Sample Info: 1254 @ 100ppb | PCB5-44C

Instrument: GC22.i
Operator: JHSmith
Column diameter: 0.32

Column phase: DB-XLB



Data File: \\cash1\acqudata\GC22\data\111709A.b\1117F022.D
Report Date: 19-Nov-2009 13:23

Laboratory Name

Sample #1 : \\cash1\acqudata\GC22\data\111709A.b\1117F022.D
Sample #2 : \\cash1\acqudata\GC22\data\111709A_r.b\1117F022.D
Inj Date : 18-NOV-2009 09:16
Sample Info: 1260 @ 100ppb | PCB5-46H
Misc Info :
Cal Date : 19-NOV-2009 12:25
Operator : JMSmith
Inst ID : GC22.i
Dil Factor : 1.000000

Method #1 : \\cash1\acqudata\GC22\data\111709A.b\111709ul_f.m
Method #2 : \\cash1\acqudata\GC22\data\111709A_r.b\111709ul_r.m
Sub List #1 : AR1260.sub
Sub List #2 : AR1260.sub
Col #1 Phase : DB-35MS
Col #2 Phase : DB-XLB

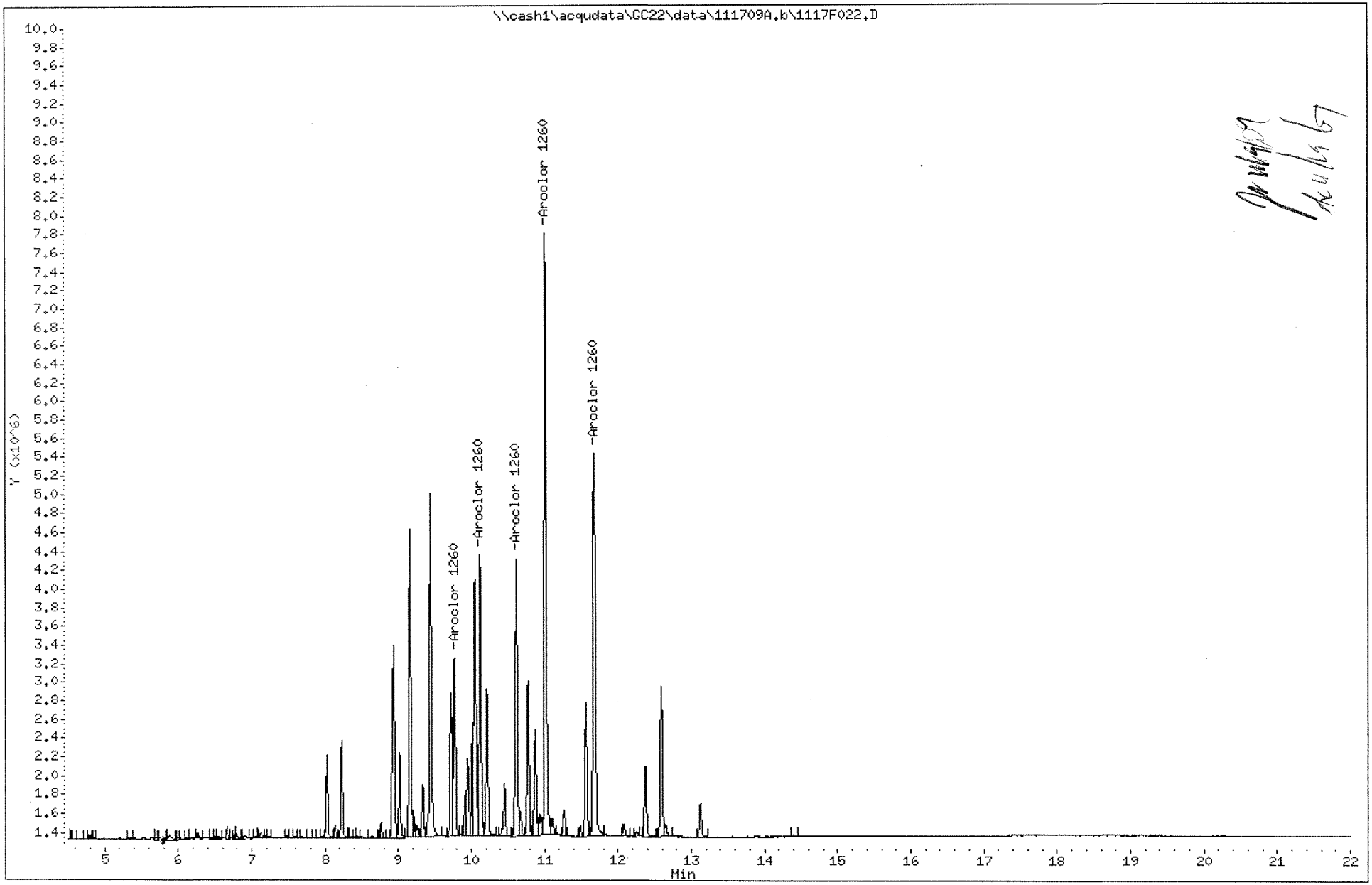
Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2	Target Range	Ratio
Aroclor 1260	9.770	10.528	3696508	23358110	71.3	76.4	80.00- 120.00	100.00
	10.120	11.181	5206345	19986112	87.5	93.3	95.87- 143.80	140.84
	10.613	11.568	5610313	18019656	87.3	86.5	109.86- 164.78	151.77
	11.010	12.124	11888317	40649116	85.2	87.7	253.24- 379.86	321.61
	11.676	12.651	9255550	23941788	82.3	83.1	198.25- 297.38	250.39
			Average of Peak Amounts =		82.7	85.4		

Data File: \\cash1\acqudata\GC22\data\111709A.b\1117F022.D
Date : 18-NOV-2009 09:16
Client ID:
Sample Info: 1260 @ 100ppb | PCB5-46H

Instrument: GC22.i

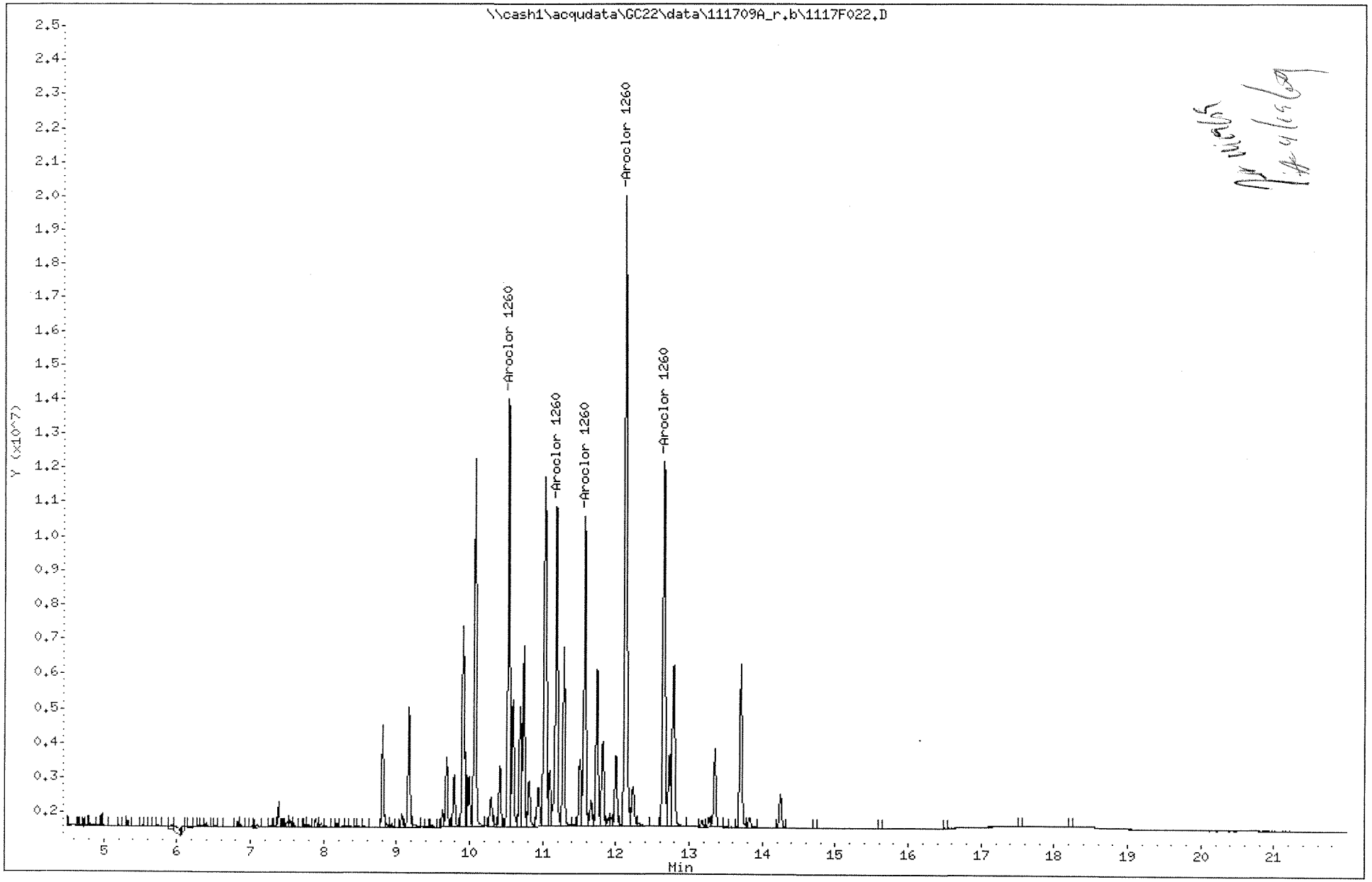
Operator: JMSmith
Column diameter: 0.32

Column phase: DB-35MS



Data File: \\cash1\acqudata\GC22\data\111709A_r.b\1117F022.D
Date : 18-NOV-2009 09:16
Client ID:
Sample Info: 1260 @ 100ppb | PCB5-46H

Instrument: GC22.i
Operator: JMSmith
Column phase: DB-XLB
Column diameter: 0.32



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Report Date: 19-Nov-2009 13:23

Laboratory Name

Sample #1 : \\cash1\acqudata\GC22\data\111709A.b\1117F023.D
Sample #2 : \\cash1\acqudata\GC22\data\111709A_r.b\1117F023.D
Inj Date : 18-NOV-2009 09:44
Sample Info: 1262 @ 100ppb | PCB5-46I
Misc Info :
Cal Date : 19-NOV-2009 12:25
Operator : JMSmith
Inst ID : GC22.i
Dil Factor : 1.000000

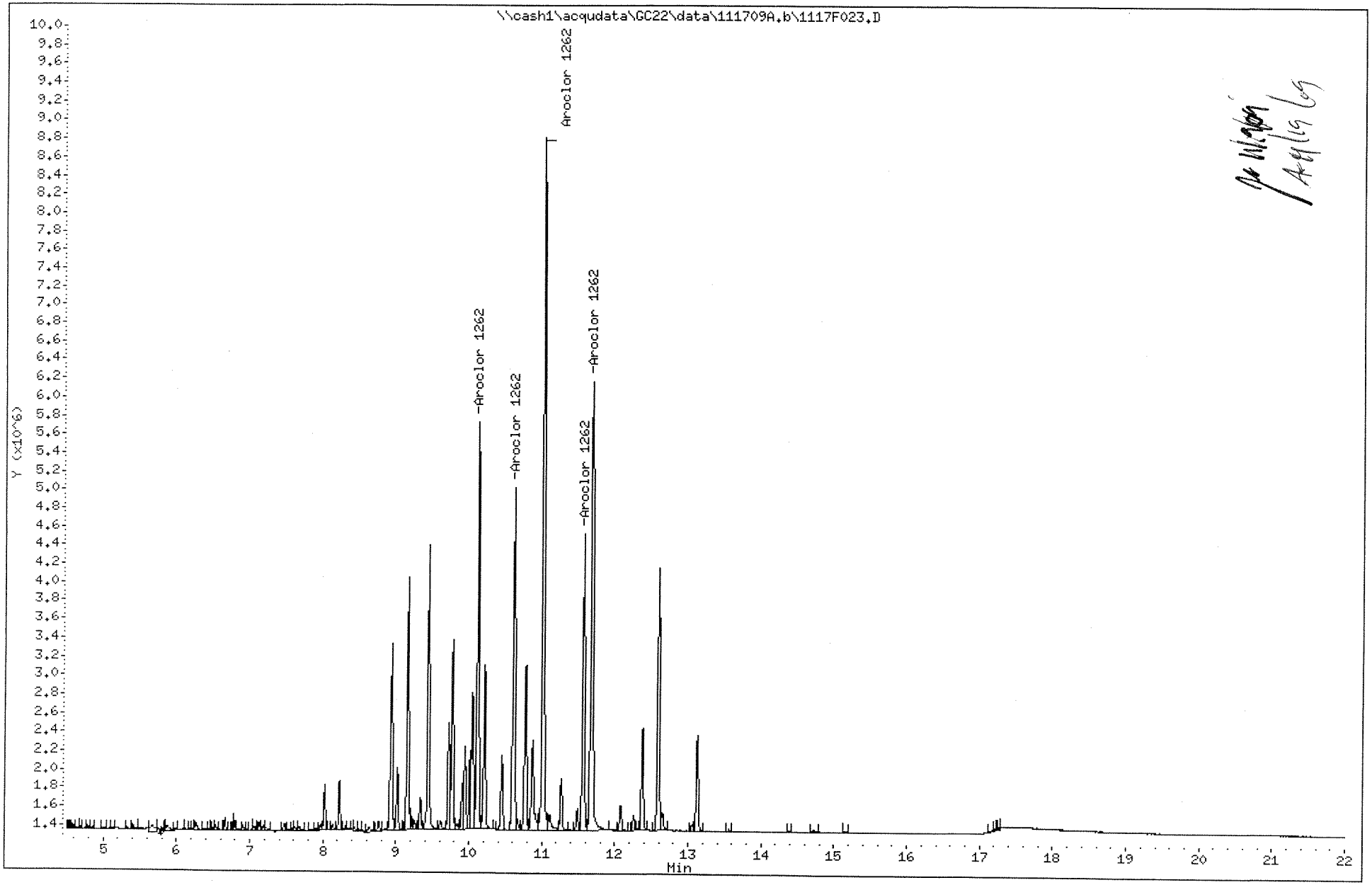
Method #1 : \\cash1\acqudata\GC22\data\111709A.b\111709ul_f.m
Method #2 : \\cash1\acqudata\GC22\data\111709A_r.b\111709ul_r.m
Sub List #1 : AR1262.SUB
Sub List #2 : AR1262.SUB
Col #1 Phase : DB-35MS
Col #2 Phase : DB-XLB

Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2	Target Range	Ratio
Aroclor 1262	10.115	11.030	7835599	17243028	92.8	92.8	80.00- 120.00	100.00
	10.612	11.180	7432484	29037609	92.2	92.2	76.38- 114.57	94.86
	11.008	12.123	14252346	47502263	93.3	93.9	144.72- 217.09	181.89
	11.562	12.653	5934692	31979720	92.7	93.2	60.61- 90.92	75.74
	11.672	12.783	11442477	22531879	95.5	93.2	113.50- 170.25	146.03
			Average of Peak Amounts =		93.3	93.1		

Data File: \\cash1\acqudata\GC22\data\111709A.b\1117F023.D
Date : 18-NOV-2009 09:44
Client ID:
Sample Info: 1262 @ 100ppb | PCB5-46I

Instrument: GC22.i

Operator: JMSmith
Column phase: DB-35MS
Column diameter: 0.32



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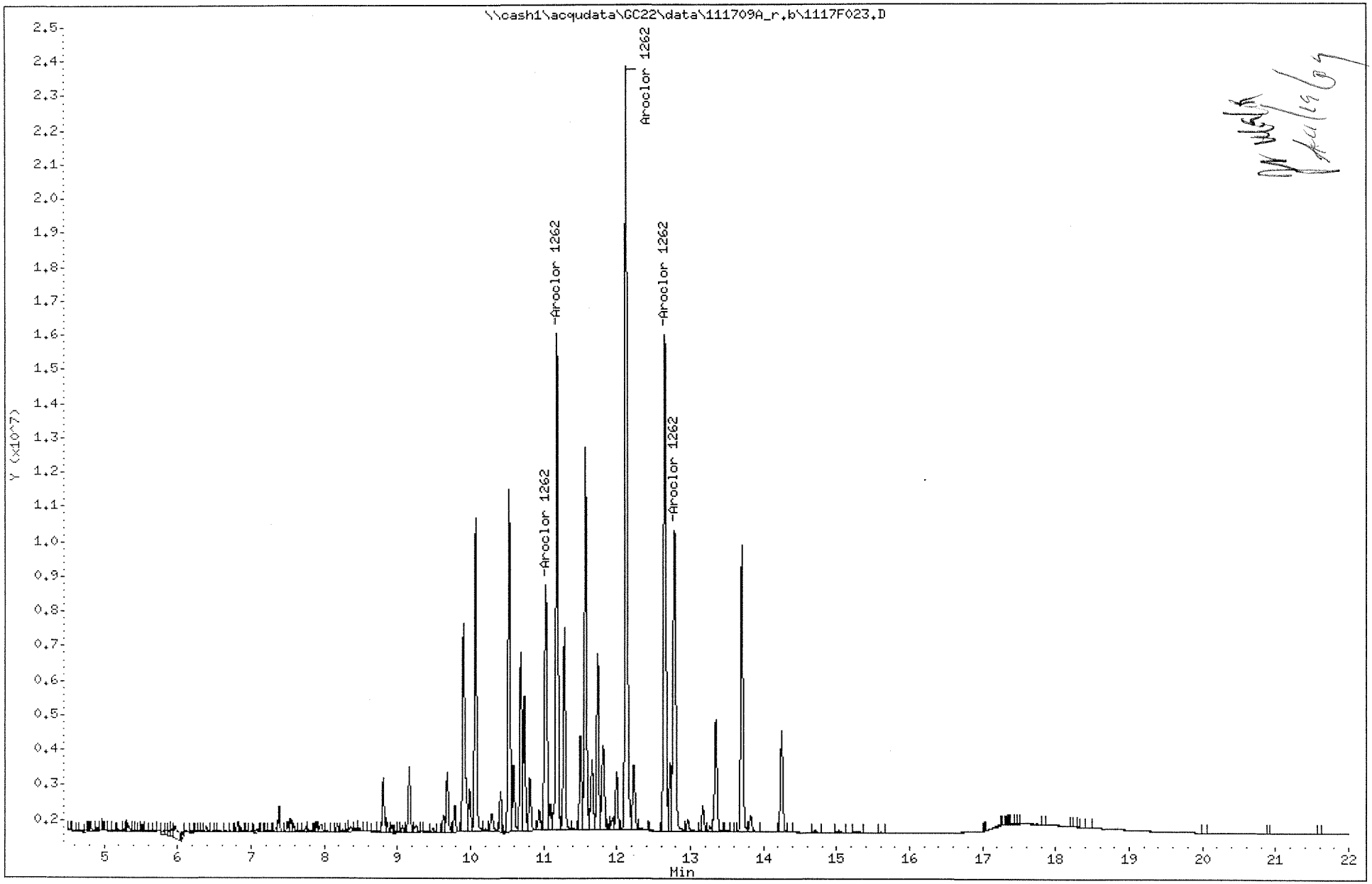
Date : 18-NOV-2009 09:44
Client ID:
Sample Info: 1262 @ 100ppb | PCB5-46I

Instrument: GC22.i

Operator: JMSmith
Column diameter: 0.32

Column phase: DB-XLB



Data File: \\cash1\acqudata\GC22\data\111709A.b\1117F024.D
Report Date: 19-Nov-2009 13:23

Laboratory Name

Sample #1 : \\cash1\acqudata\GC22\data\111709A.b\1117F024.D
Sample #2 : \\cash1\acqudata\GC22\data\111709A_r.b\1117F024.D
Inj Date : 18-NOV-2009 10:13
Sample Info: 1268 @ 100ppb | PCB5-46J
Misc Info :
Cal Date : 19-NOV-2009 12:25
Operator : JMSmith
Inst ID : GC22.i
Dil Factor : 1.000000

Method #1 : \\cash1\acqudata\GC22\data\111709A.b\111709ul_f.m
Method #2 : \\cash1\acqudata\GC22\data\111709A_r.b\111709ul_r.m
Sub List #1 : AR1268.SUB
Sub List #2 : AR1268.SUB
Col #1 Phase : DB-35MS
Col #2 Phase : DB-XLB

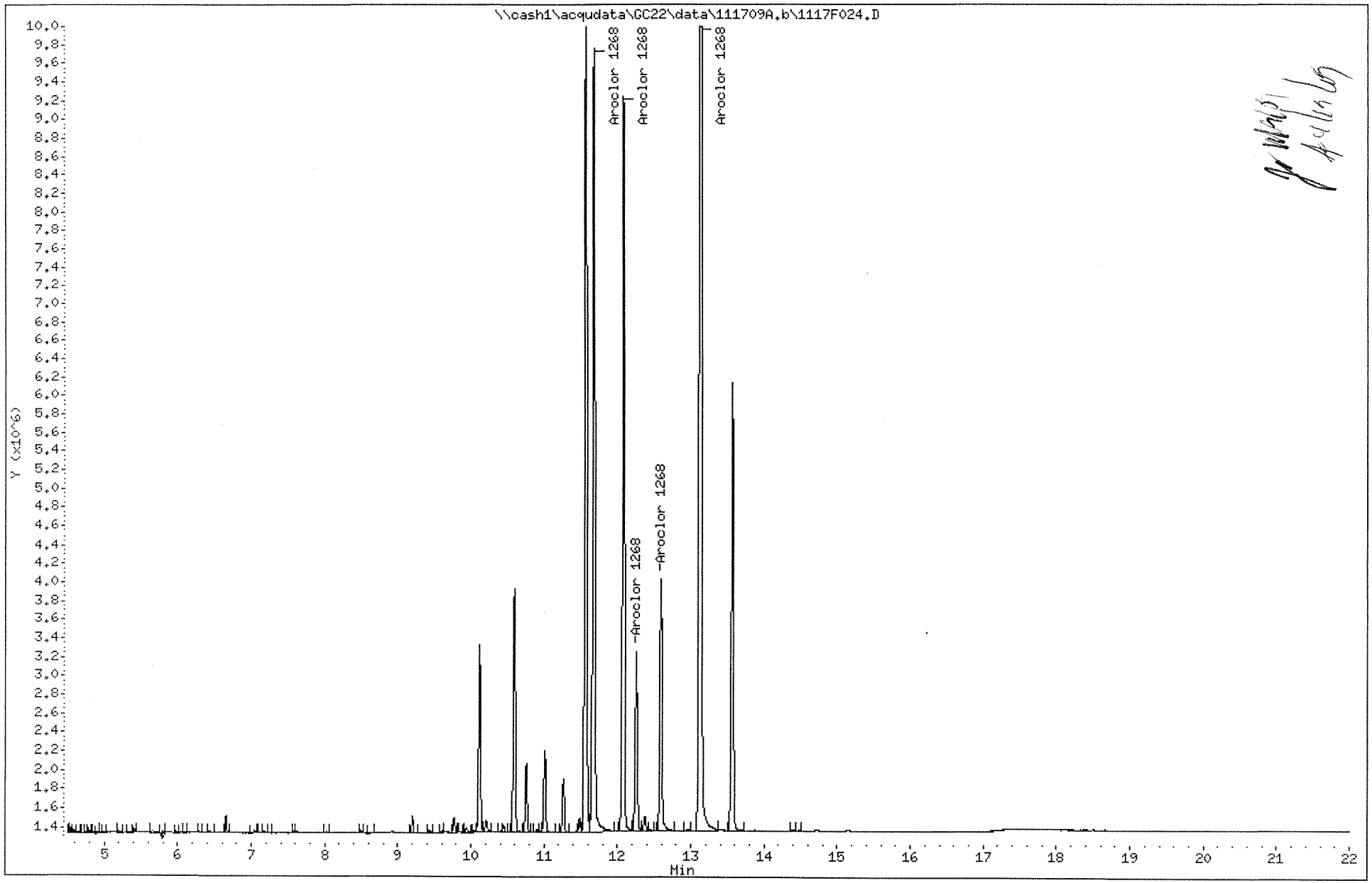
Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2	Target Range	Ratio
Aroclor 1268	11.669	12.790	17179090	57886171	88.6	88.5	80.00- 120.00	100.00
	12.075	13.170	15030806	51224293	97.7	98.0	63.48- 95.23	87.49
	12.255	13.323	3669895	13170030	95.0	94.6	15.94- 23.92	21.36
	12.589	13.703	5437814	16884196	85.1	84.5	26.37- 39.56	31.65
	13.122	14.247	43983637	132628826	94.4	94.0	192.33- 288.49	256.03
			Average of Peak Amounts =		92.2	91.9		

Data File: \\cash1\acqudata\GC22\data\111709A.b\1117F024.D
Date : 18-NOV-2009 10:13
Client ID:
Sample Info: 1268 @ 100ppb | PCB5-46J

Instrument: GC22.i

Operator: JMSmith
Column diameter: 0.32

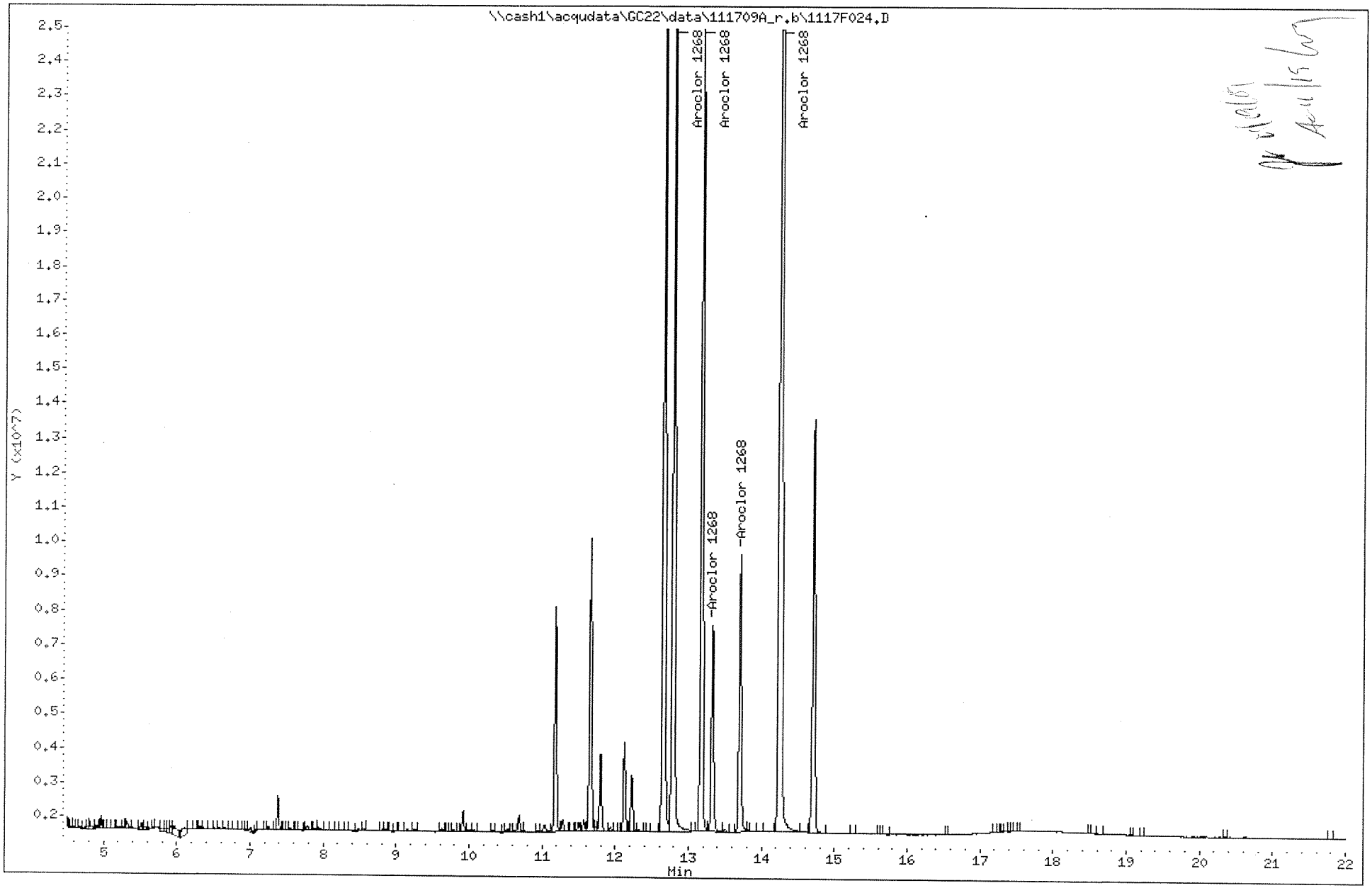
Column phase: DB-35MS



Data File: \\cash1\acqudata\GC22\data\111709A_r.b\1117F024.D
Date : 18-NOV-2009 10:13
Client ID:
Sample Info: 1268 @ 100ppb | PCB5-46J

Instrument: GC22.i

Operator: JMSmith
Column phase: DB-XLB
Column diameter: 0.32



Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0910296
Calibration Date: 11/14/2009

Initial Calibration Summary
Polychlorinated Biphenyls (PCBs)

Calibration ID: CAL9019
Instrument ID: GC32.i

Column: DB-35MS

Level ID	File ID
A	\\cash1\acqudata\GC32\Data\111309.b\1113F003.D
B	\\cash1\acqudata\GC32\Data\111309.b\1113F004.D
C	\\cash1\acqudata\GC32\Data\111309.b\1113F005.D
D	\\cash1\acqudata\GC32\Data\111309.b\1113F006.D
E	\\cash1\acqudata\GC32\Data\111309.b\1113F007.D
F	\\cash1\acqudata\GC32\Data\111309.b\1113F008.D
G	\\cash1\acqudata\GC32\Data\111309.b\1113F009.D
H	\\cash1\acqudata\GC32\Data\111309.b\1113F010.D
I	\\cash1\acqudata\GC32\Data\111309.b\1113F011.D
J	\\cash1\acqudata\GC32\Data\111309.b\1113F012.D
K	\\cash1\acqudata\GC32\Data\111309.b\1113F013.D
L	\\cash1\acqudata\GC32\Data\111309.b\1113F014.D
M	\\cash1\acqudata\GC32\Data\111309.b\1113F015.D

Analyte Name	Level ID	Amt	RF	Level ID	Amt	RF	Level ID	Amt	RF	Level ID	Amt	RF	Level ID	Amt	RF
Decachlorobiphenyl							H	0.25	1.77E+6	I	0.50	1.79E+6	J	5.0	1.65E+6
	K	10	1.53E+6	L	20	1.51E+6	M	50	1.45E+6						
Aroclor 1016 {1}							H	2.5	21900	I	5.0	25000	J	50	23900
	K	100	22000	L	200	19800	M	500	17900						
Aroclor 1016 {2}							H	2.5	34000	I	5.0	35300	J	50	32700
	K	100	29700	L	200	26700	M	500	23600						
Aroclor 1016 {3}							H	2.5	1.27E+5	I	5.0	1.18E+5	J	50	1.03E+5
	K	100	91900	L	200	86000	M	500	78400						
Aroclor 1016 {4}							H	2.5	72100	I	5.0	64400	J	50	56500
	K	100	51100	L	200	47600	M	500	42600						
Aroclor 1016 {5}							H	2.5	41100	I	5.0	40600	J	50	38500
	K	100	36000	L	200	34300	M	500	31400						
Aroclor 1260 {1}							H	2.5	76400	I	5.0	66600	J	50	55700
	K	100	51700	L	200	49800	M	500	47700						
Aroclor 1260 {2}							H	2.5	99400	I	5.0	96100	J	50	90200
	K	100	74800	L	200	72200	M	500	66300						
Aroclor 1260 {3}							H	2.5	1.08E+5	I	5.0	1.01E+5	J	50	86900
	K	100	79400	L	200	76700	M	500	72000						
Aroclor 1260 {4}							H	2.5	2.21E+5	I	5.0	2.09E+5	J	50	1.82E+5
	K	100	1.69E+5	L	200	1.69E+5	M	500	1.65E+5						
Aroclor 1260 {5}							H	2.5	1.67E+5	I	5.0	1.58E+5	J	50	1.40E+5
	K	100	1.29E+5	L	200	1.28E+5	M	500	1.24E+5						

Results flagged with an asterisk (*) indicate values outside control criteria.

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0910296
Calibration Date: 11/14/2009

Initial Calibration Summary
Polychlorinated Biphenyls (PCBs)

Calibration ID: CAL9019
Instrument ID: GC32.i

Column: DB-35MS

Analyte Name	Compound Type	Calibration Evaluation				
		Fit Type	Eval.	Eval. Result	Q	Control Criteria
Decachlorobiphenyl	SURR	AverageRF	% RSD	8.7		≤ 20
Aroclor 1016 {1}	MULTI	AverageRF	% RSD	11.9		≤ 20
Aroclor 1016 {2}	MULTI	AverageRF	% RSD	15.0		≤ 20
Aroclor 1016 {3}	MULTI	AverageRF	% RSD	18.8		≤ 20
Aroclor 1016 {4}	MULTI	AverageRF	% RSD	19.7		≤ 20
Aroclor 1016 {5}	MULTI	AverageRF	% RSD	10.2		≤ 20
Aroclor 1260 {1}	MULTI	AverageRF	% RSD	19.3		≤ 20
Aroclor 1260 {2}	MULTI	AverageRF	% RSD	16.6		≤ 20
Aroclor 1260 {3}	MULTI	AverageRF	% RSD	16.4		≤ 20
Aroclor 1260 {4}	MULTI	AverageRF	% RSD	12.8		≤ 20
Aroclor 1260 {5}	MULTI	AverageRF	% RSD	12.6		≤ 20

Results flagged with an asterisk (*) indicate values outside control criteria.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Results

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0910296
Calibration Date: 11/14/2009
Date Analyzed: 11/14/2009

Second Source Calibration Verification
Polychlorinated Biphenyls (PCBs)

Calibration Type: External Standard
Analysis Method: 8082

Calibration ID: CAL9019
Units: ng/mL

File ID: \\cash1\acqudata\GC32\Data\111309.b\1113F016.D
\\cash1\acqudata\GC32\Data\111309.b\1113F017.D
\\cash1\acqudata\GC32\Data\111309.b\1113F018.D
\\cash1\acqudata\GC32\Data\111309.b\1113F019.D
\\cash1\acqudata\GC32\Data\111309.b\1113F020.D
\\cash1\acqudata\GC32\Data\111309.b\1113F021.D
\\cash1\acqudata\GC32\Data\111309.b\1113F022.D
\\cash1\acqudata\GC32\Data\111309.b\1113F023.D
\\cash1\acqudata\GC32\Data\111309.b\1113F024.D

Column ID: DB-35MS

Analyte Name	Expected	Result	Average RF	SSV RF	%D	%Drift		Criteria	Curve Fit
Aroclor 1016	100	84	NA	NA	NA	16	*	± 15 %	NA
Aroclor 1016 {1}	100	83	21700	18100	-17	NA		± 100 %	AverageRF
Aroclor 1016 {2}	100	81	30300	24700	-19	NA		± 100 %	AverageRF
Aroclor 1016 {3}	100	81	101000	81500	-19	NA		± 100 %	AverageRF
Aroclor 1016 {4}	100	81	55700	45200	-19	NA		± 100 %	AverageRF
Aroclor 1016 {5}	100	96	37000	35400	-4	NA		± 100 %	AverageRF
Aroclor 1260	100	88	NA	NA	NA	12		± 15 %	NA
Aroclor 1260 {1}	100	76	58000	44000	-24	NA		± 100 %	AverageRF
Aroclor 1260 {2}	100	93	83200	77100	-7	NA		± 100 %	AverageRF
Aroclor 1260 {3}	100	91	87300	79200	-9	NA		± 100 %	AverageRF
Aroclor 1260 {4}	100	91	186000	169000	-9	NA		± 100 %	AverageRF
Aroclor 1260 {5}	100	90	141000	126000	-10	NA		± 100 %	AverageRF

Results flagged with an asterisk (*) indicate values outside control criteria.

† **SPCC Compound** ‡ **CCC Compound**

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0910296
Calibration Date: 11/14/2009

Initial Calibration Summary
Polychlorinated Biphenyls (PCBs)

Calibration ID: CAL9019
Instrument ID: GC32.i

Column: DB-XLB

Level ID	File ID
A	\\cash1\acqudata\GC32\Data\111309_r.b\1113F003.D
B	\\cash1\acqudata\GC32\Data\111309_r.b\1113F004.D
C	\\cash1\acqudata\GC32\Data\111309_r.b\1113F005.D
D	\\cash1\acqudata\GC32\Data\111309_r.b\1113F006.D
E	\\cash1\acqudata\GC32\Data\111309_r.b\1113F007.D
F	\\cash1\acqudata\GC32\Data\111309_r.b\1113F008.D
G	\\cash1\acqudata\GC32\Data\111309_r.b\1113F009.D
H	\\cash1\acqudata\GC32\Data\111309_r.b\1113F010.D
I	\\cash1\acqudata\GC32\Data\111309_r.b\1113F011.D
J	\\cash1\acqudata\GC32\Data\111309_r.b\1113F012.D
K	\\cash1\acqudata\GC32\Data\111309_r.b\1113F013.D
L	\\cash1\acqudata\GC32\Data\111309_r.b\1113F014.D
M	\\cash1\acqudata\GC32\Data\111309_r.b\1113F015.D

Analyte Name	Level ID	Amt	RF	Level ID	Amt	RF	Level ID	Amt	RF	Level ID	Amt	RF	Level ID	Amt	RF
Decachlorobiphenyl							H	0.25	1.00E+6	I	0.50	1.05E+6	J	5.0	9.23E+5
	K	10	8.28E+5	L	20	7.84E+5	M	50	7.24E+5						
Aroclor 1016 {1}							H	2.5	20000	I	5.0	21500	J	50	21600
	K	100	20100	L	200	18300	M	500	16200						
Aroclor 1016 {2}							H	2.5	61400	I	5.0	61900	J	50	59400
	K	100	53900	L	200	52300	M	500	49300						
Aroclor 1016 {3}							H	2.5	35600	I	5.0	33100	J	50	33800
	K	100	29300	L	200	28300	M	500	26100						
Aroclor 1016 {4}							H	2.5	32000	I	5.0	30800	J	50	32100
	K	100	26000	L	200	24800	M	500	22700						
Aroclor 1016 {5}							H	2.5	19900	I	5.0	19800	J	50	17800
	K	100	16600	L	200	16600	M	500	15900						
Aroclor 1260 {1}							H	2.5	90100	I	5.0	84200	J	50	71900
	K	100	64400	L	200	61700	M	500	57800						
Aroclor 1260 {2}							H	2.5	1.07E+5	I	5.0	97400	J	50	83800
	K	100	75400	L	200	73200	M	500	69300						
Aroclor 1260 {3}							H	2.5	53000	I	5.0	50400	J	50	45100
	K	100	40500	L	200	39000	M	500	36000						
Aroclor 1260 {4}							H	2.5	58000	I	5.0	53900	J	50	47100
	K	100	42200	L	200	40500	M	500	37800						
Aroclor 1260 {5}							H	2.5	1.06E+5	I	5.0	1.06E+5	J	50	95600
	K	100	87500	L	200	85700	M	500	82500						

Results flagged with an asterisk (*) indicate values outside control criteria.

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0910296
Calibration Date: 11/14/2009

Initial Calibration Summary
Polychlorinated Biphenyls (PCBs)

Calibration ID: CAL9019
Instrument ID: GC32.i

Column: DB-XLB

Analyte Name	Compound Type	Calibration Evaluation				
		Fit Type	Eval.	Eval. Result	Q	Control Criteria
Decachlorobiphenyl	SURR	AverageRF	% RSD	14.3		≤ 20
Aroclor 1016 {1}	MULTI	AverageRF	% RSD	10.5		≤ 20
Aroclor 1016 {2}	MULTI	AverageRF	% RSD	9.3		≤ 20
Aroclor 1016 {3}	MULTI	AverageRF	% RSD	11.9		≤ 20
Aroclor 1016 {4}	MULTI	AverageRF	% RSD	14.5		≤ 20
Aroclor 1016 {5}	MULTI	AverageRF	% RSD	9.7		≤ 20
Aroclor 1260 {1}	MULTI	AverageRF	% RSD	18.1		≤ 20
Aroclor 1260 {2}	MULTI	AverageRF	% RSD	17.8		≤ 20
Aroclor 1260 {3}	MULTI	AverageRF	% RSD	15.2		≤ 20
Aroclor 1260 {4}	MULTI	AverageRF	% RSD	17.1		≤ 20
Aroclor 1260 {5}	MULTI	AverageRF	% RSD	10.9		≤ 20

Results flagged with an asterisk (*) indicate values outside control criteria.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Results

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0910296
Calibration Date: 11/14/2009
Date Analyzed: 11/14/2009

Second Source Calibration Verification
Polychlorinated Biphenyls (PCBs)

Calibration Type: External Standard
Analysis Method: 8082

Calibration ID: CAL9019
Units: ng/mL

File ID: \\cash1\acqudata\GC32\Data\111309_r.b\1113F016.D
\\cash1\acqudata\GC32\Data\111309_r.b\1113F017.D
\\cash1\acqudata\GC32\Data\111309_r.b\1113F018.D
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\\cash1\acqudata\GC32\Data\111309_r.b\1113F020.D
\\cash1\acqudata\GC32\Data\111309_r.b\1113F021.D
\\cash1\acqudata\GC32\Data\111309_r.b\1113F022.D
\\cash1\acqudata\GC32\Data\111309_r.b\1113F023.D
\\cash1\acqudata\GC32\Data\111309_r.b\1113F024.D

Column ID: DB-XLB

Analyte Name	Expected	Result	Average RF	SSV RF	%D	%Drift	Criteria	Curve Fit
Aroclor 1016	100	86	NA	NA	NA	14	± 15 %	NA
Aroclor 1016 {1}	100	86	19600	16900	-14	NA	± 100 %	AverageRF
Aroclor 1016 {2}	100	82	56400	46400	-18	NA	± 100 %	AverageRF
Aroclor 1016 {3}	100	81	31000	25000	-19	NA	± 100 %	AverageRF
Aroclor 1016 {4}	100	81	28000	22800	-19	NA	± 100 %	AverageRF
Aroclor 1016 {5}	100	97	17800	17300	-3	NA	± 100 %	AverageRF
Aroclor 1260	100	86	NA	NA	NA	14	± 15 %	NA
Aroclor 1260 {1}	100	79	71700	56300	-21	NA	± 100 %	AverageRF
Aroclor 1260 {2}	100	73	84400	61700	-27	NA	± 100 %	AverageRF
Aroclor 1260 {3}	100	95	44000	42000	-5	NA	± 100 %	AverageRF
Aroclor 1260 {4}	100	89	46600	41400	-11	NA	± 100 %	AverageRF
Aroclor 1260 {5}	100	94	93800	88000	-6	NA	± 100 %	AverageRF

Results flagged with an asterisk (*) indicate values outside control criteria.

† **SPCC Compound** ‡ **CCC Compound**

Sequence Name: C:\GC32\SEQUENCE\111309.S
Comment:
Operator: JMSmith
Data Path: C:\GC32\DATA\111309\
Pre-Seq Cmd:
Post-Seq Cmd:

Method Sections To Run
(X) Full Method
( ) Reprocessing Only

On A Barcode Mismatch
(X) Inject Anyway
( ) Don't Inject

ICAL 9019

Line	Type	Vial	DataFile	Method	Sample Name
1	Comment	- PCB Aroclors by EPA 8082			
2	IB	86	1113FP01	PCB5	IB
3	IB	86	1113FP02	PCB5	IB
4	IB	86	1113FP03	PCB5	IB
5	IB	86	1113FP04	PCB5	IB
6	IB	86	1113FP05	PCB5	IB
7	IB	86	1113FP06	PCB5	IB
8	IB	86	1113FP07	PCB5	IB
9	IB	86	1113FP08	PCB5	IB
10	IB	86	1113FP09	PCB5	IB
11	IB	86	1113FP10	PCB5	IB
12	IB	86	1113F001	PCB5	IB
13	IB	87	1113F002	PCB5	IB | 8082 PCB_ULL
14	ICAL	1	1113F003	PCB5	1221 @ 100ppb | PCB5-45J
15	ICAL	2	1113F004	PCB5	1232 @ 100ppb | PCB5-45K
16	ICAL	3	1113F005	PCB5	1242 @ 100ppb | PCB5-45L
17	ICAL	4	1113F006	PCB5	1248 @ 100ppb | PCB5-45M
18	ICAL	5	1113F007	PCB5	1254 @ 100ppb | PCB5-45N
19	ICAL	6	1113F008	PCB5	1262 @ 100ppb | PCB5-45O
20	ICAL	7	1113F009	PCB5	1268 @ 100ppb | PCB5-45P
21	ICAL	8	1113F010	PCB5	1660 @ 2.5ppb | PCB5-44I
22	ICAL	9	1113F011	PCB5	1660 @ 5.0ppb | PCB5-44J
23	ICAL	10	1113F012	PCB5	1660 @ 50ppb | PCB5-44K
24	ICAL	11	1113F013	PCB5	1660 @ 100ppb | PCB5-44L
25	ICAL	12	1113F014	PCB5	1660 @ 200ppb | PCB5-44M
26	ICAL	13	1113F015	PCB5	1660 @ 500ppb | PCB5-44N
27	ICV	14	1113F016	PCB5	1016 @ 100ppb | PCB5-45Q
28	ICV	15	1113F017	PCB5	1221 @ 100ppb | PCB5-44B
29	ICV	16	1113F018	PCB5	1232 @ 100ppb | PCB5-45R
30	ICV	17	1113F019	PCB5	1242 @ 100ppb | PCB5-45S
31	ICV	18	1113F020	PCB5	1248 @ 100ppb | PCB5-45T
32	ICV	19	1113F021	PCB5	1254 @ 100ppb | PCB5-44C
33	ICV	20	1113F022	PCB5	1260 @ 100ppb | PCB5-45U
34	ICV	21	1113F023	PCB5	1262 @ 100ppb | PCB5-46A
35	ICV	22	1113F024	PCB5	1268 @ 100ppb | PCB5-46B

Data File: \\cash1\acqudata\GC32\Data\111309.b\1113F002.D
Report Date: 16-Nov-2009 15:36

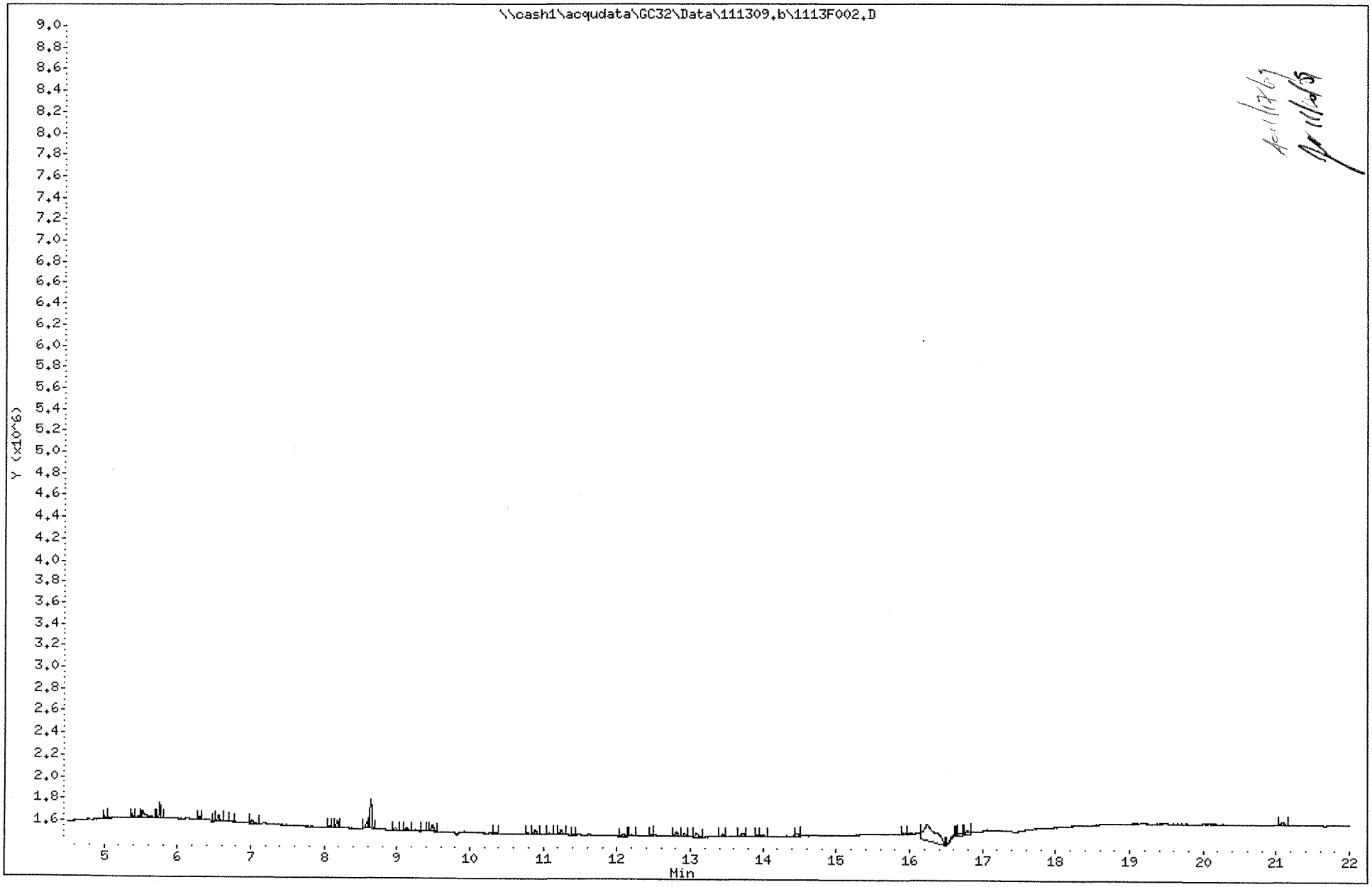
Laboratory Name

Sample #1 : \\cash1\acqudata\GC32\Data\111309.b\1113F002.D
Sample #2 : \\cash1\acqudata\GC32\Data\111309_r.b\1113F002.D
Inj Date : 14-NOV-2009 01:46
Sample Info: IB | 8082 PCB_ULL
Misc Info :
Cal Date : 16-NOV-2009 15:21
Operator : JMSmith
Inst ID : GC32.i
Dil Factor : 1.000000

Method #1 : \\cash1\acqudata\GC32\Data\111309.b\111309ul_f.m
Method #2 : \\cash1\acqudata\GC32\Data\111309_r.b\111309ul_r.m
Sub List #1 : ALL.SUB
Sub List #2 : ALL.SUB
Col #1 Phase : DB-35MS
Col #2 Phase : DB-XLB

Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2	Target Range	Ratio

Data File: \\cash1\acqudata\GC32\Data\111309,b\1113F002,D
Date : 14-NOV-2009 01:46
Client ID:
Instrument: GC32,i
Sample Info: IB | 8082 PCB_ULL
Operator: JMSmith
Column phase: DB-35MS
Column diameter: 0.32



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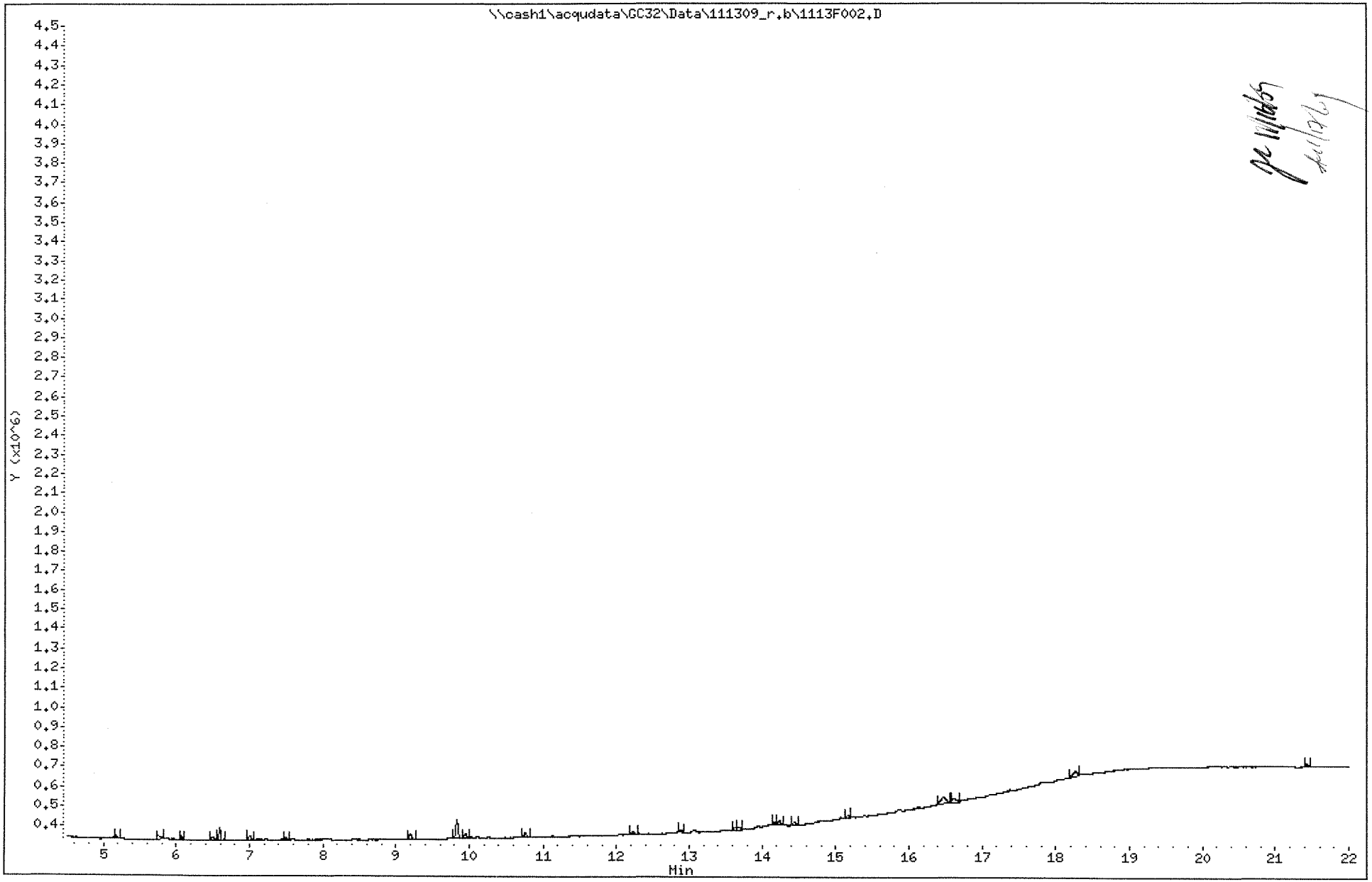
Date : 14-NOV-2009 01:46
Client ID:
Instrument: GC32.i
Sample Info: IB | 8082 PCB_ULL
Operator: JMSmith
Column phase: DB-XLB
Column diameter: 0.32



Data File: \\cash1\acqudata\GC32\Data\111309.b\1113F003.D
Report Date: 16-Nov-2009 15:36

Laboratory Name

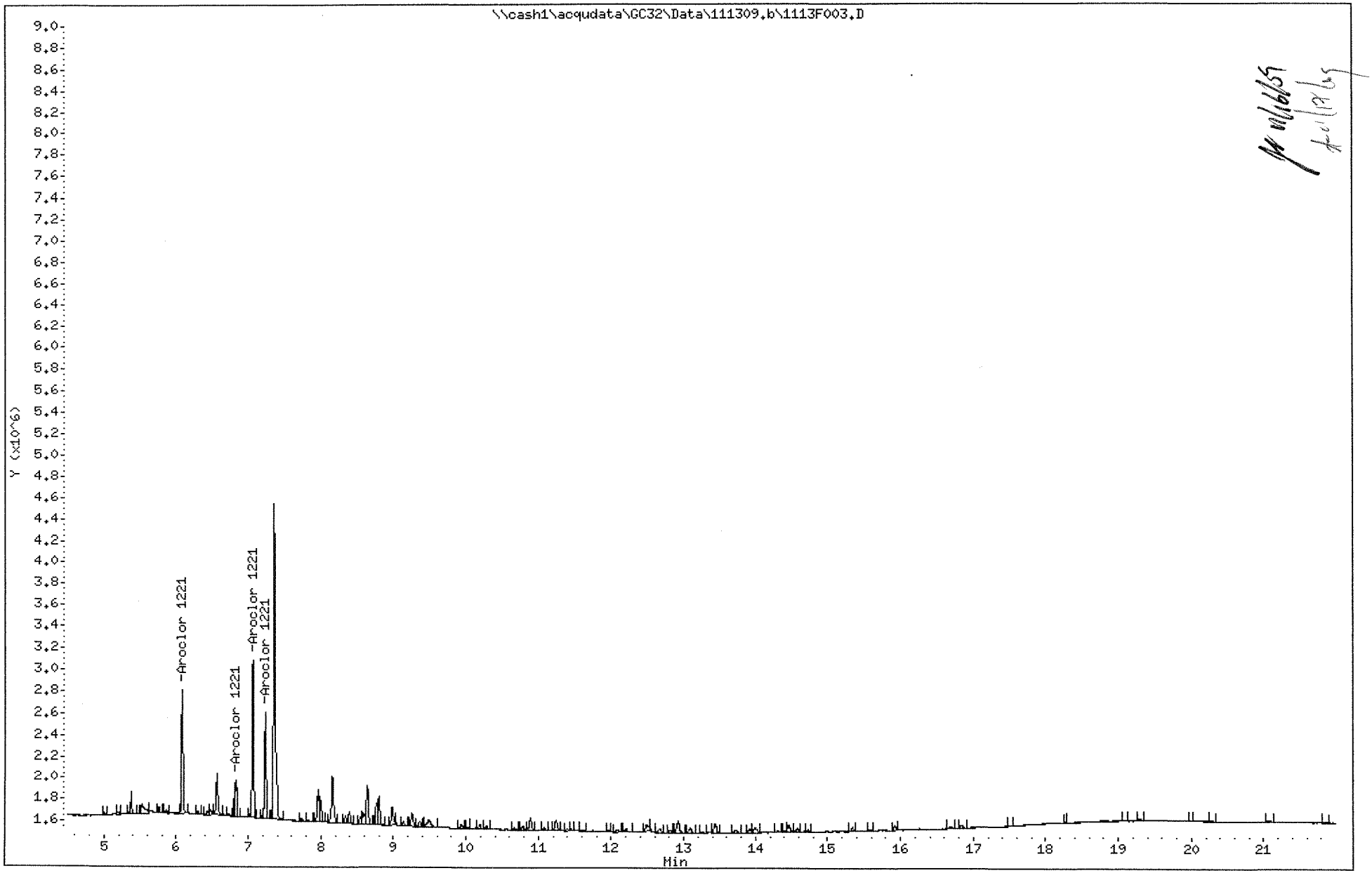
Sample #1 : \\cash1\acqudata\GC32\Data\111309.b\1113F003.D
Sample #2 : \\cash1\acqudata\GC32\Data\111309_r.b\1113F003.D
Inj Date : 14-NOV-2009 02:16
Sample Info: 1221 @ 100ppb | PCB5-45J
Misc Info :
Cal Date : 16-NOV-2009 15:25
Operator : JMSmith
Inst ID : GC32.i
Dil Factor : 1.000000

Method #1 : \\cash1\acqudata\GC32\Data\111309.b\111309ul_f.m
Method #2 : \\cash1\acqudata\GC32\Data\111309_r.b\111309ul_r.m
Sub List #1 : AR1221.SUB
Sub List #2 : AR1221.SUB
Col #1 Phase : DB-35MS
Col #2 Phase : DB-XLB

Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2	Target Range	Ratio
Aroclor 1221	6.081	6.594	1546058	1229371	100	100	80.00- 120.00	100.00
	6.834	7.268	509985	358766	100	100	26.39- 39.58	32.99
	7.064	7.428	2118875	475406	100	100	109.64- 164.46	137.05
	7.234	8.014	1465262	838022	100	100	75.82- 113.73	94.77
			Average of Peak Amounts =		100	100		

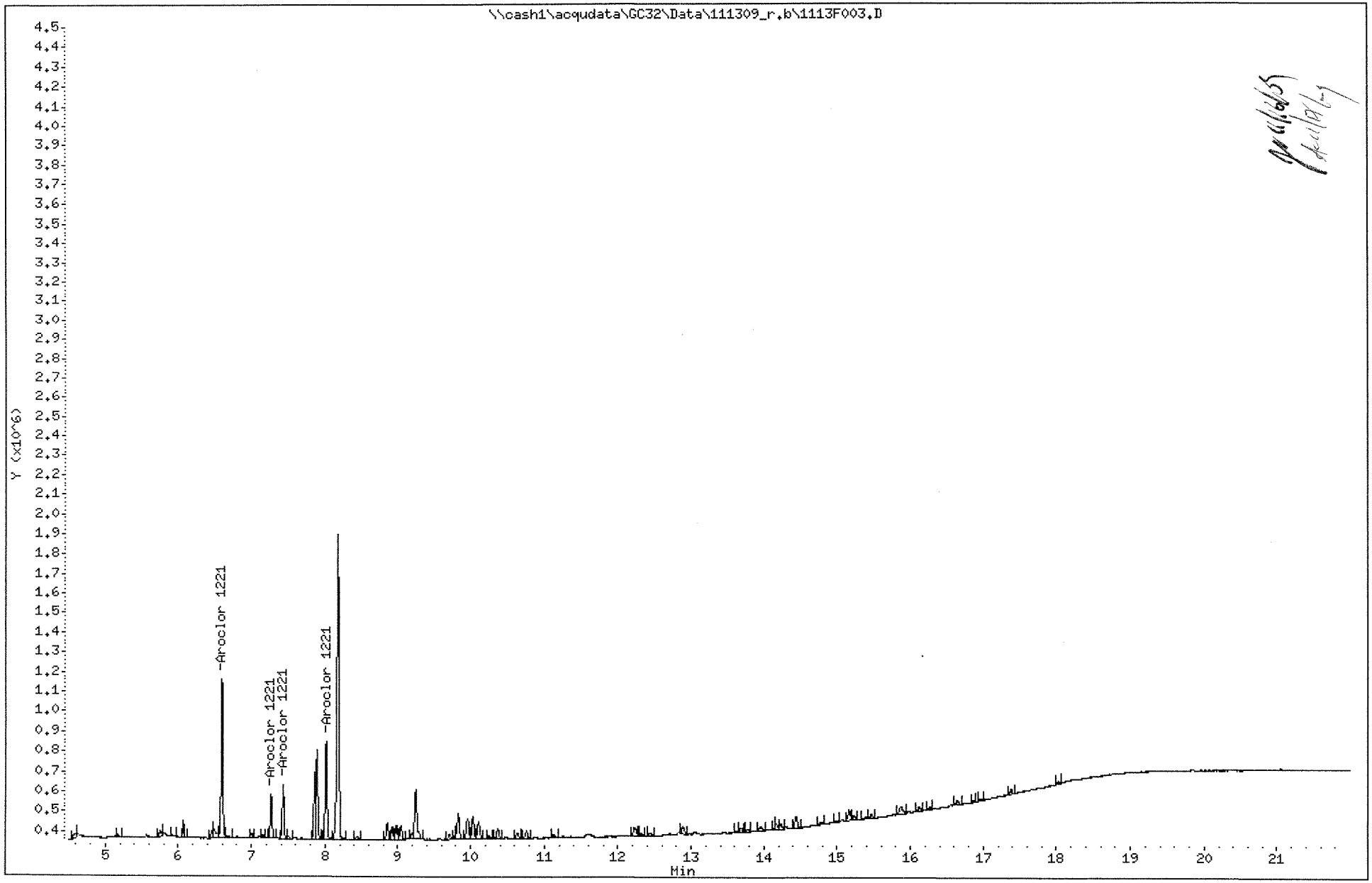
Data File: \\cash1\acqudata\GC32\Data\111309.b\1113F003.D
Date : 14-NOV-2009 02:16
Client ID:
Sample Info: 1221 @ 100ppb | PCB5-45J

Instrument: GC32.i
Operator: JMSmith
Column phase: DB-35MS
Column diameter: 0.32

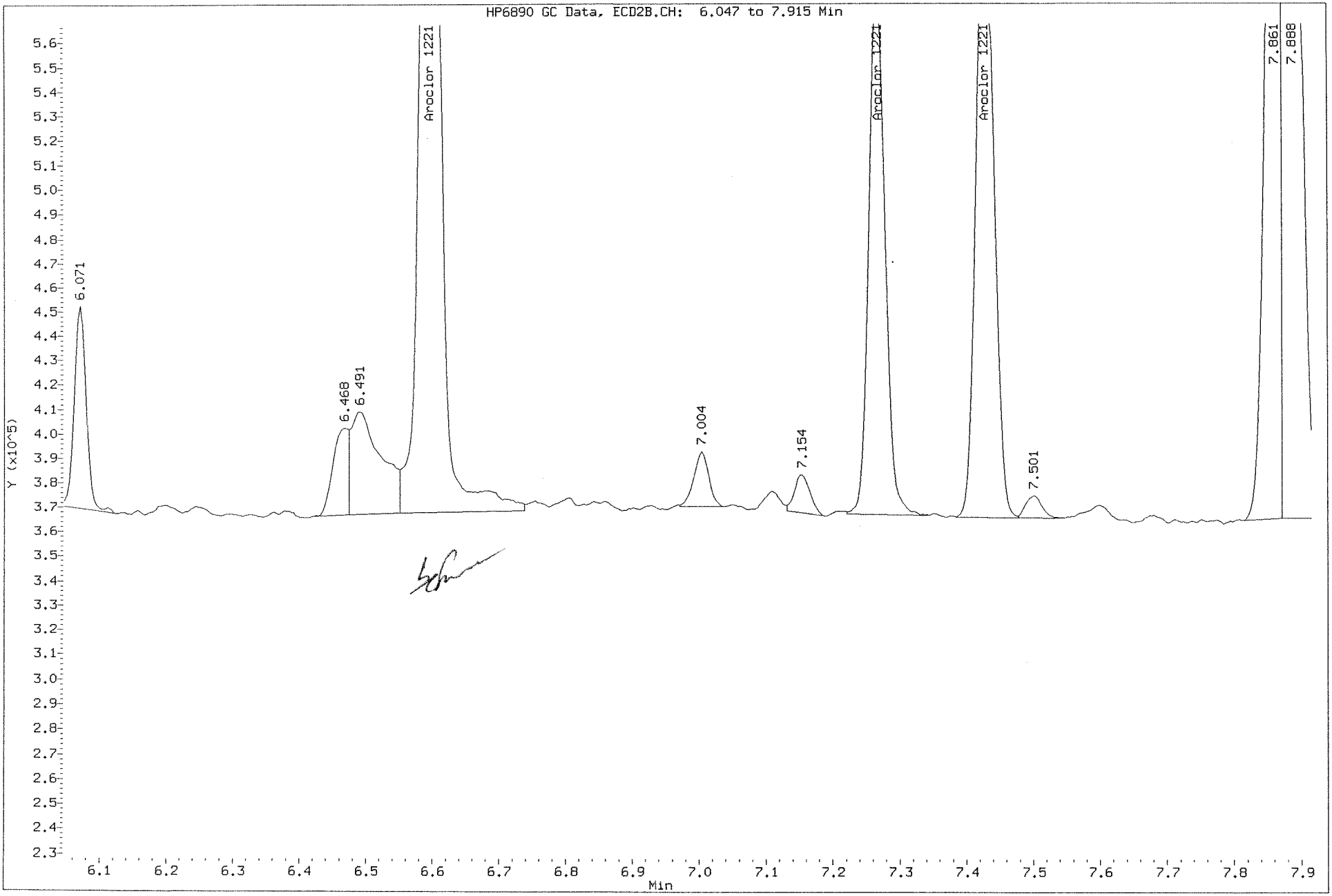


Data File: \\cash1\acqudata\GC32\Data\111309_r.b\1113F003.D
Date : 14-NOV-2009 02:16
Client ID:
Sample Info: 1221 @ 100ppb | PCB5-45J

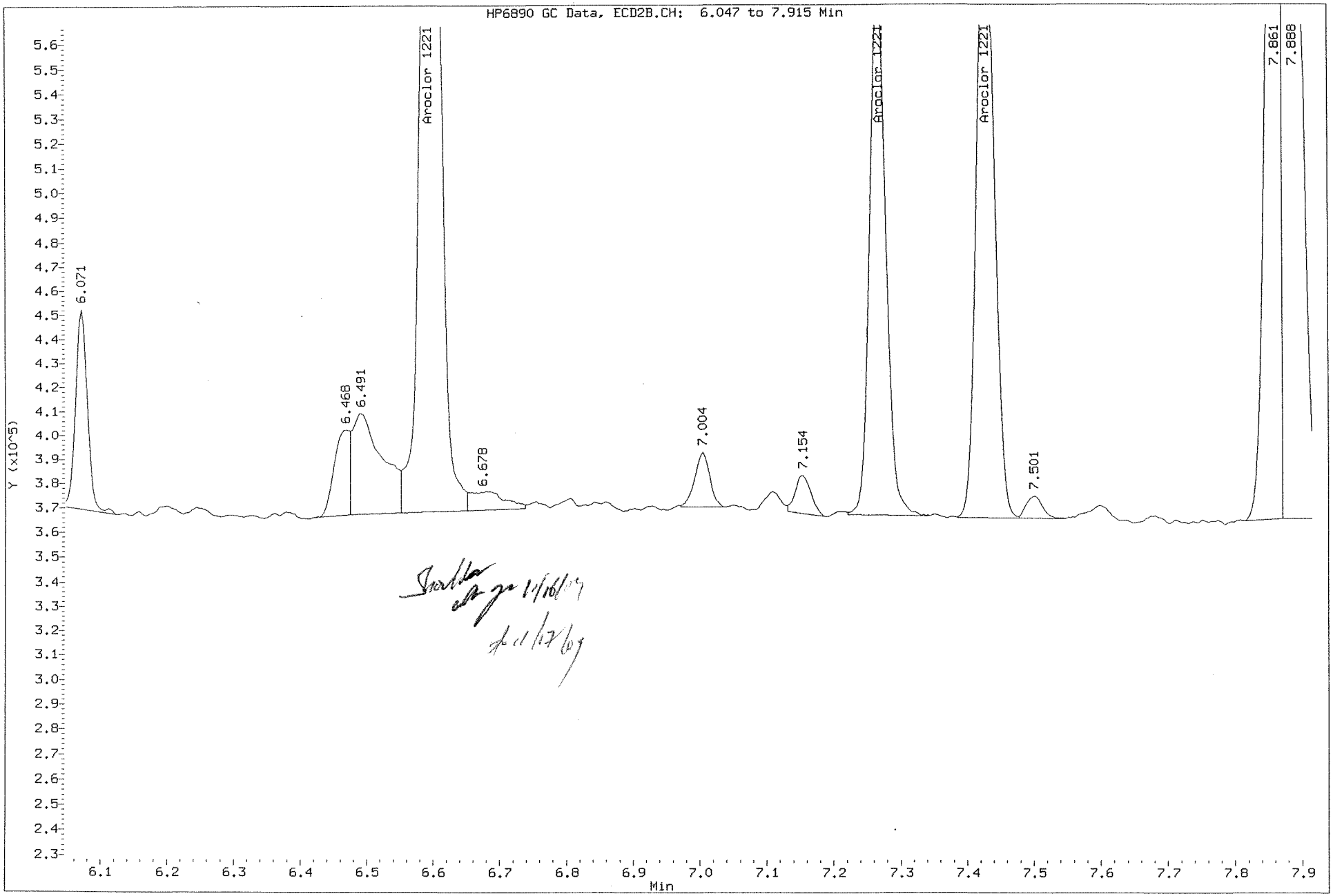
Instrument: GC32.i
Operator: JHSmith
Column phase: DB-XLB
Column diameter: 0.32



Data File: \\cash1\acqudata\GC32\Data\111309_r.b\1113F003.D
Injection Date: 14-NOV-2009 02:16
Instrument: GC32.i
Client Sample ID:



Data File: \\cash1\acqudata\GC32\Data\111309_r.b\1113F003.D
Injection Date: 14-NOV-2009 02:16
Instrument: GC32.i
Client Sample ID:



Data File: \\cash1\acqudata\GC32\Data\111309.b\1113F004.D
Report Date: 16-Nov-2009 15:36

Laboratory Name

Sample #1 : \\cash1\acqudata\GC32\Data\111309.b\1113F004.D
Sample #2 : \\cash1\acqudata\GC32\Data\111309_r.b\1113F004.D
Inj Date : 14-NOV-2009 02:46
Sample Info: 1232 @ 100ppb | PCB5-45K
Misc Info :
Cal Date : 16-NOV-2009 15:25
Operator : JMSmith
Inst ID : GC32.i
Dil Factor : 1.000000

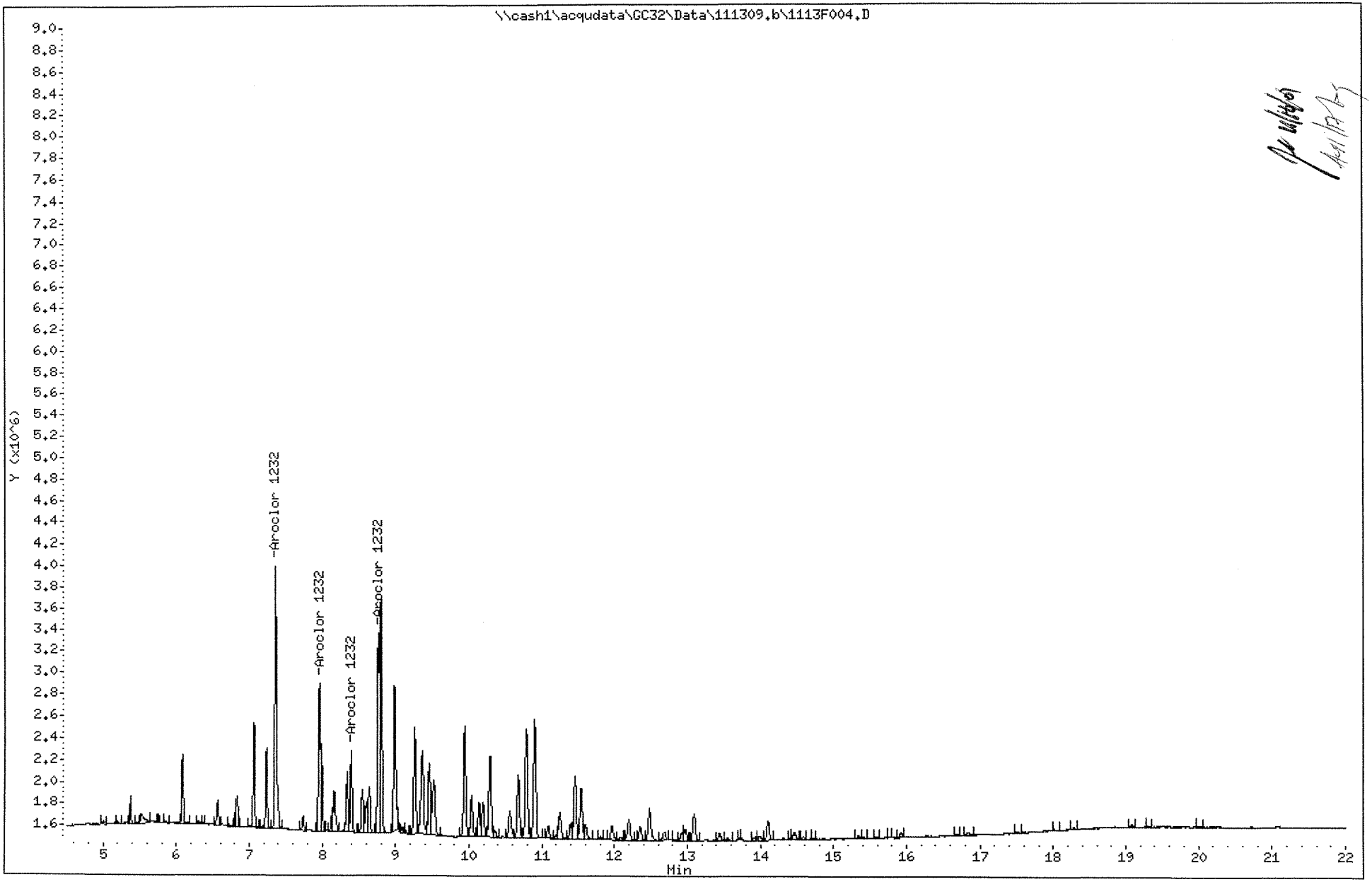
Method #1 : \\cash1\acqudata\GC32\Data\111309.b\111309ul_f.m
Method #2 : \\cash1\acqudata\GC32\Data\111309_r.b\111309ul_r.m
Sub List #1 : AR1232.SUB
Sub List #2 : AR1232.SUB
Col #1 Phase : DB-35MS
Col #2 Phase : DB-XLB

Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2	Target Range	Ratio
Aroclor 1232	7.356	8.176	4311226	2578569	100	100	80.00- 120.00	100.00
	7.959	8.856	2288811	1301426	100	100	42.47- 63.71	53.09
	8.396	9.243	1314532	1044024	100	100	24.39- 36.59	30.49
	8.766	9.963	3010955	1976836	100	100	55.87- 83.81	69.84
			Average of Peak Amounts =		100	100		

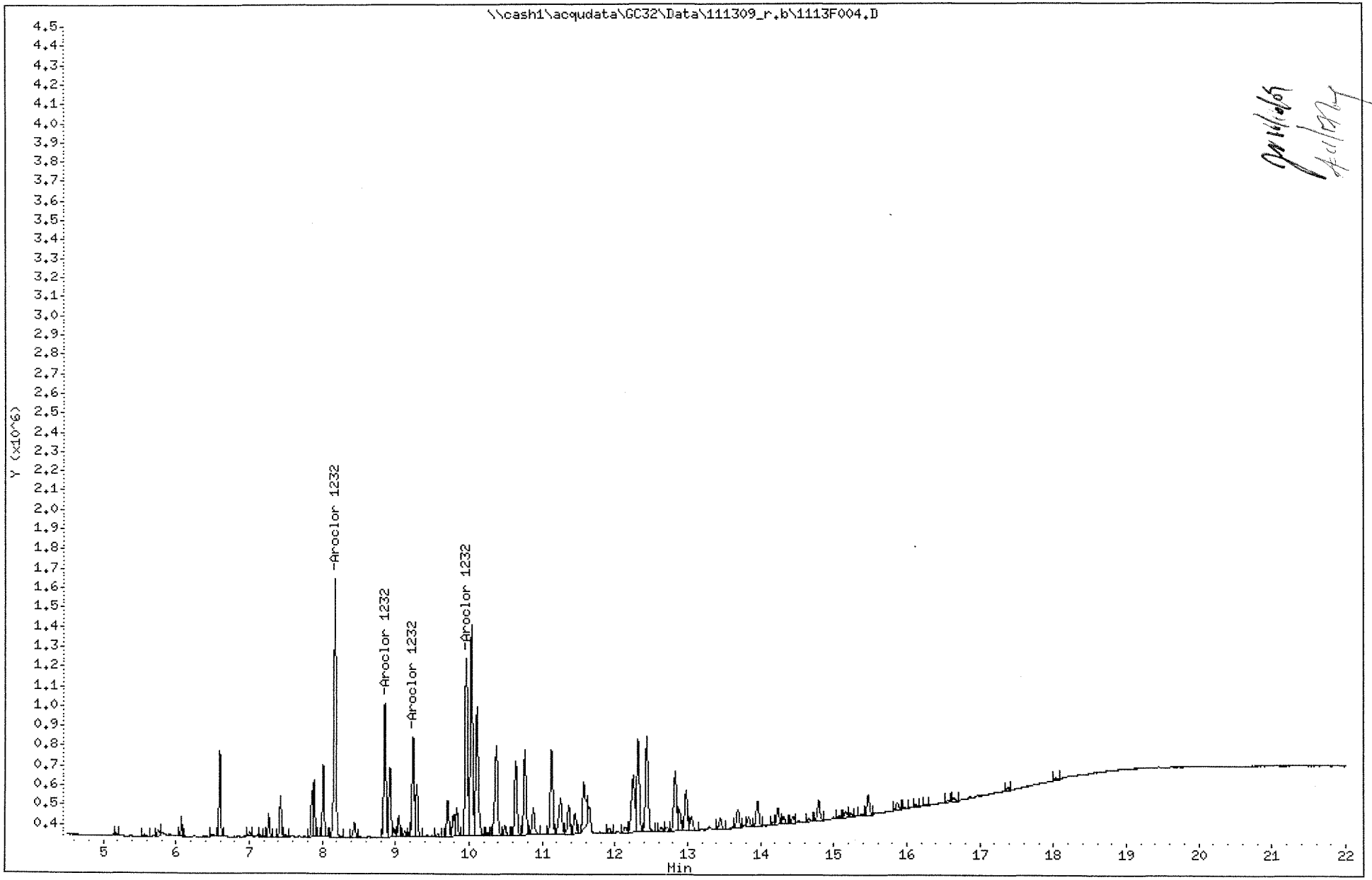
Data File: \\cash1\acqudata\GC32\Data\111309.b\1113F004.D
Date : 14-NOV-2009 02:46
Client ID:
Sample Info: 1232 @ 100ppb | PCB5-45K

Instrument: GC32.i

Operator: JMSmith
Column phase: DB-35MS
Column diameter: 0.32



Data File: \\cash1\acqudata\GC32\Data\111309_r.b\1113F004.D
Date : 14-NOV-2009 02:46
Client ID:
Instrument: GC32.i
Sample Info: 1232 @ 100ppb | PCB5-45K
Operator: JMSmith
Column phase: DB-XLB
Column diameter: 0.32



Data File: \\cash1\acqudata\GC32\Data\111309.b\1113F005.D
Report Date: 16-Nov-2009 15:36

Laboratory Name

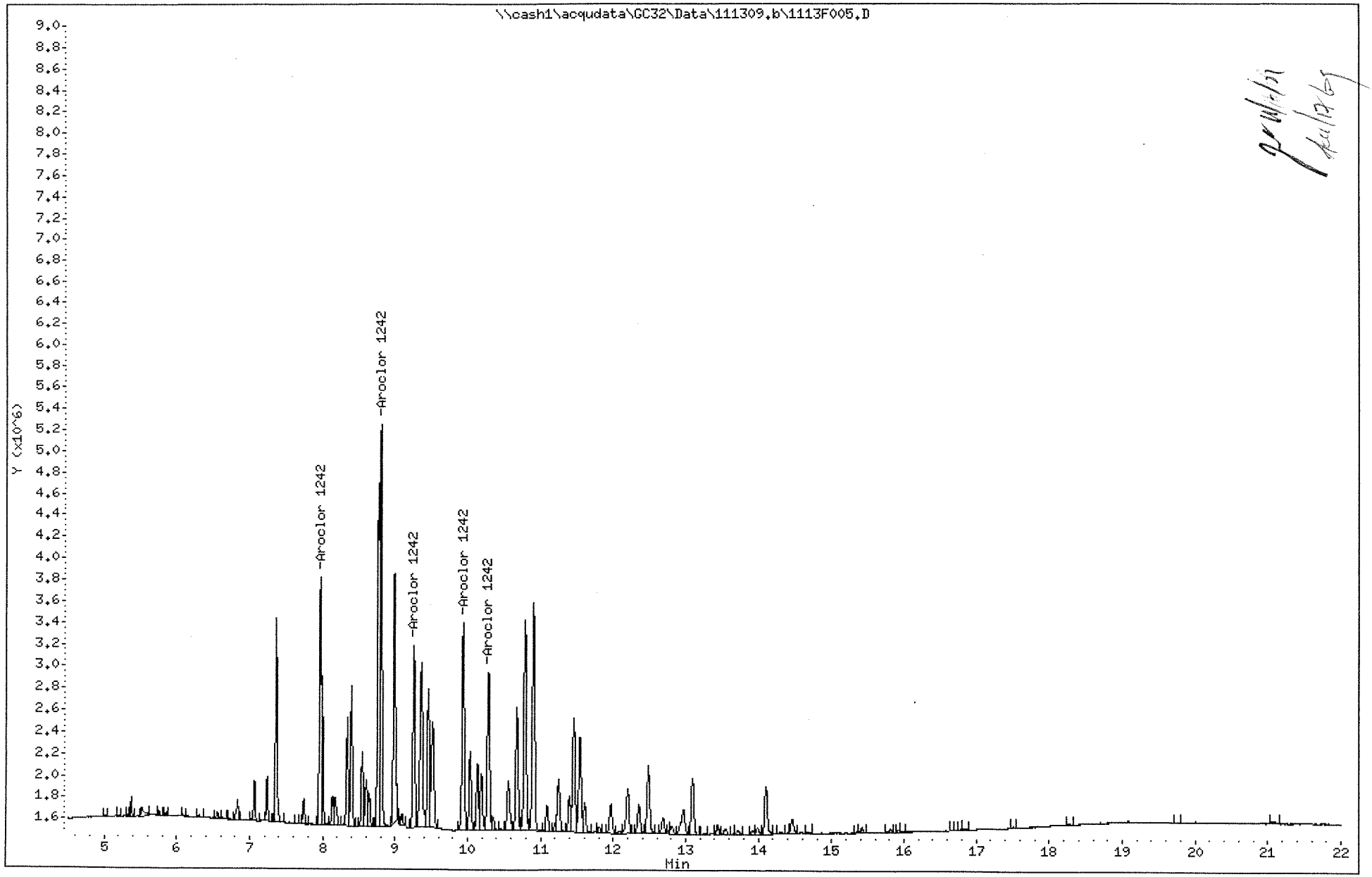
Sample #1 : \\cash1\acqudata\GC32\Data\111309.b\1113F005.D
Sample #2 : \\cash1\acqudata\GC32\Data\111309_r.b\1113F005.D
Inj Date : 14-NOV-2009 03:16
Sample Info: 1242 @ 100ppb | PCB5-45L
Misc Info :
Cal Date : 16-NOV-2009 15:25
Operator : JMSmith
Inst ID : GC32.i
Dil Factor : 1.000000

Method #1 : \\cash1\acqudata\GC32\Data\111309.b\111309ul_f.m
Method #2 : \\cash1\acqudata\GC32\Data\111309_r.b\111309ul_r.m
Sub List #1 : AR1242.SUB
Sub List #2 : AR1242.SUB
Col #1 Phase : DB-35MS
Col #2 Phase : DB-XLB

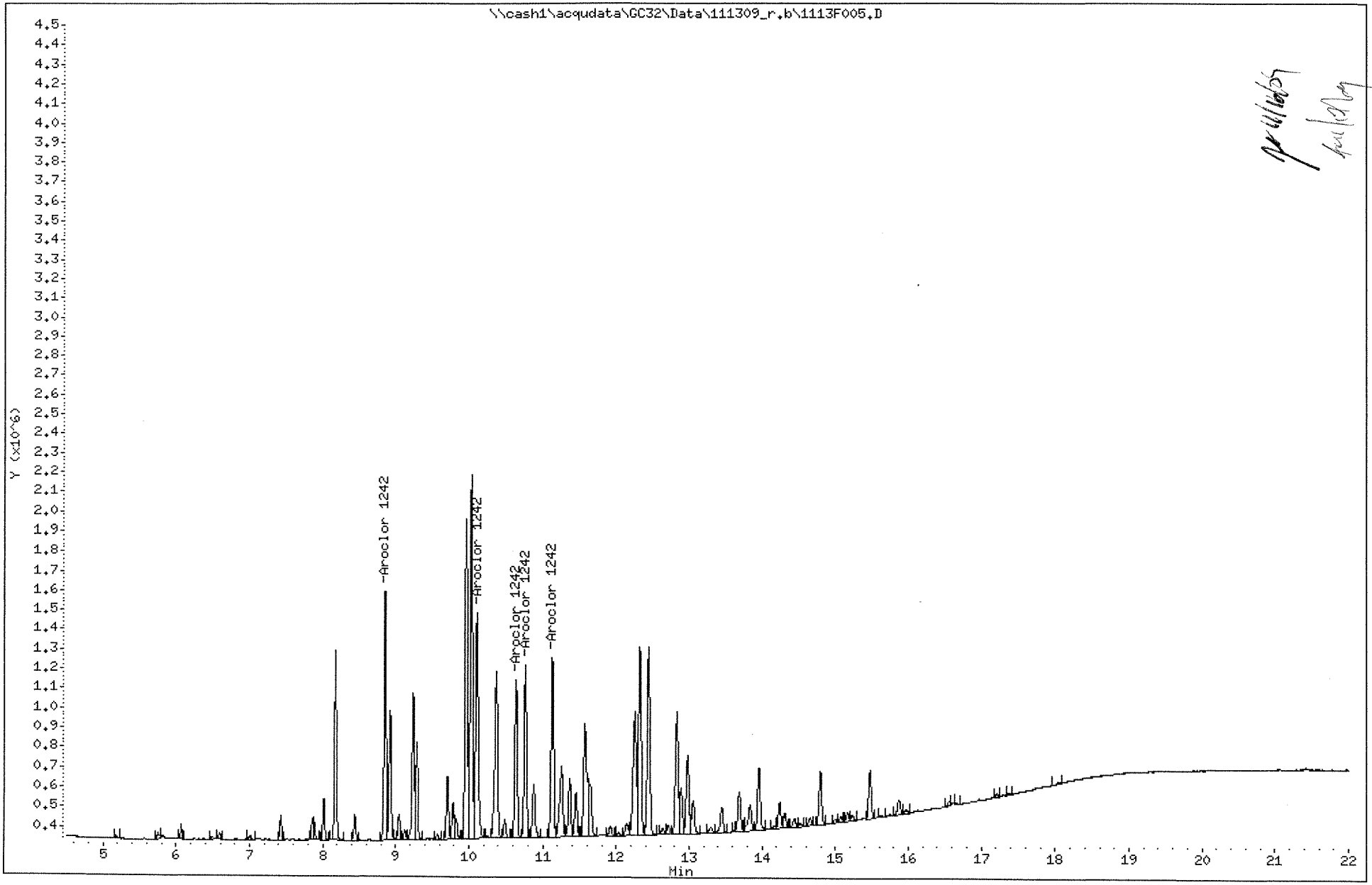
Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2	Target Range	Ratio
Aroclor 1242	7.963	8.853	3856831	2386165	100	100	80.00- 120.00	100.00
	8.800	10.107	6922820	2808738	100	100	143.60- 215.39	179.50
	9.260	10.637	3238537	1795709	100	100	67.18- 100.76	83.97
	9.940	10.763	4126510	2068012	100	100	85.59- 128.39	106.99
	10.286	11.127	3373276	2095587	100	100	69.97- 104.95	87.46
			Average of Peak Amounts =		100	100		

Data File: \\cash1\acqudata\GC32\Data\111309.b\1113F005.D
Date : 14-NOV-2009 03:16
Client ID:
Sample Info: 1242 @ 100ppb | PCB5-45L

Instrument: GC32.i
Operator: JMSmith
Column phase: DB-35MS
Column diameter: 0.32



Data File: \\cash1\acqudata\GC32\Data\111309_r.b\1113F005.D
Date : 14-NOV-2009 03:16
Client ID:
Instrument: GC32.i
Sample Info: 1242 @ 100ppb | PCB5-45L
Operator: JMSmith
Column phase: DB-XLB
Column diameter: 0.32



Data File: \\cash1\acqudata\GC32\Data\111309.b\1113F006.D
Report Date: 16-Nov-2009 15:36

Laboratory Name

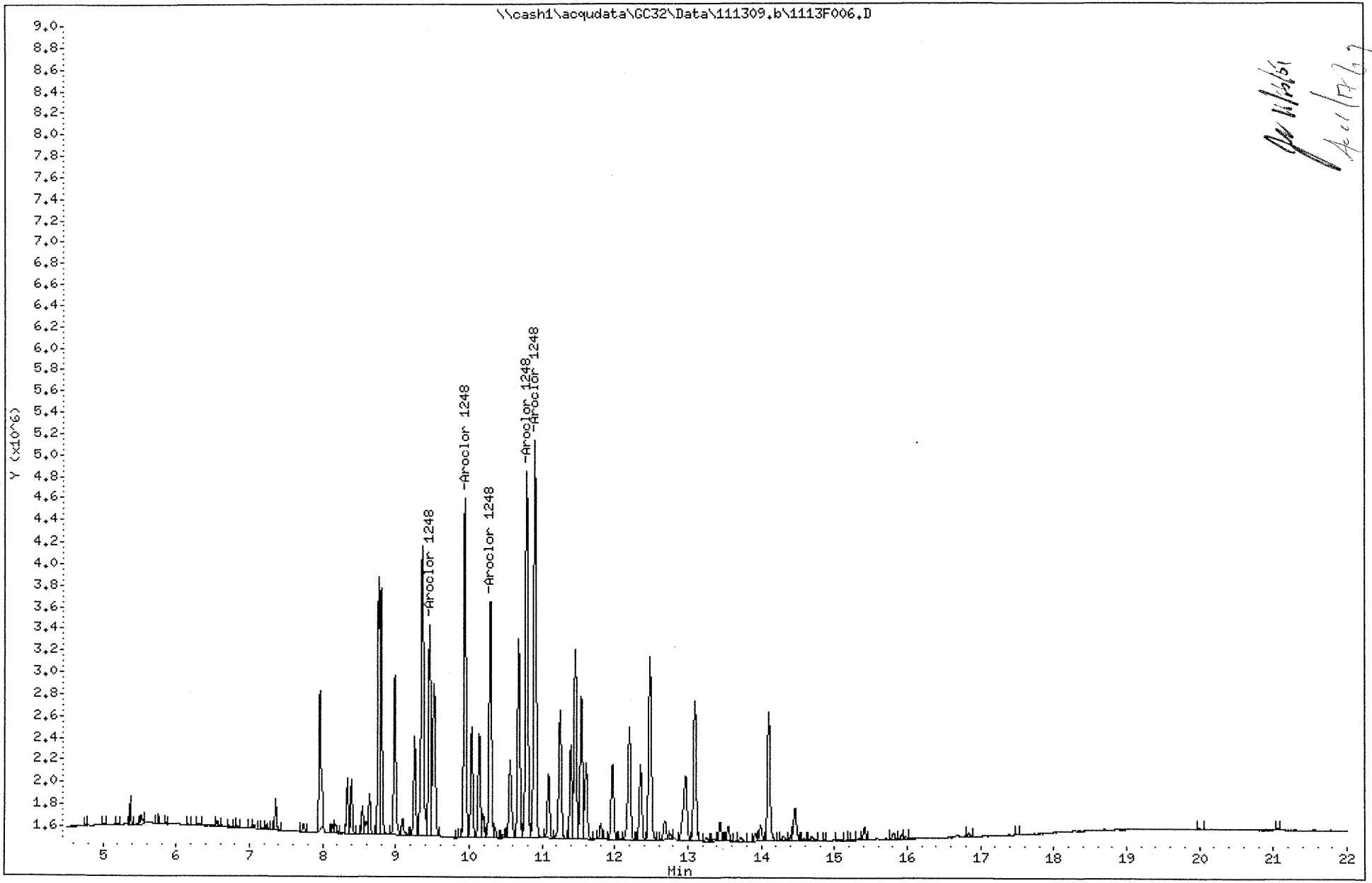
Sample #1 : \\cash1\acqudata\GC32\Data\111309.b\1113F006.D
Sample #2 : \\cash1\acqudata\GC32\Data\111309_r.b\1113F006.D
Inj Date : 14-NOV-2009 03:46
Sample Info: 1248 @ 100ppb | PCB5-45M
Misc Info :
Cal Date : 16-NOV-2009 15:25
Operator : JMSmith
Inst ID : GC32.i
Dil Factor : 1.000000

Method #1 : \\cash1\acqudata\GC32\Data\111309.b\111309ul_f.m
Method #2 : \\cash1\acqudata\GC32\Data\111309_r.b\111309ul_r.m
Sub List #1 : AR1248.SUB
Sub List #2 : AR1248.SUB
Col #1 Phase : DB-35MS
Col #2 Phase : DB-XLB

Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2	Target Range	Ratio
Aroclor 1248	9.456	10.763	3899607	3017809	100	100	80.00- 120.00	100.00
	9.940	11.127	6438591	3502581	100	100	132.09- 198.13	165.11
	10.286	11.570	4983386	2330123	100	100	102.23- 153.35	127.79
	10.786	12.317	7830444	4394541	100	100	160.64- 240.96	200.80
	10.900	12.440	8735768	4143613	100	100	179.21- 268.82	224.02
			Average of Peak Amounts =		100	100		

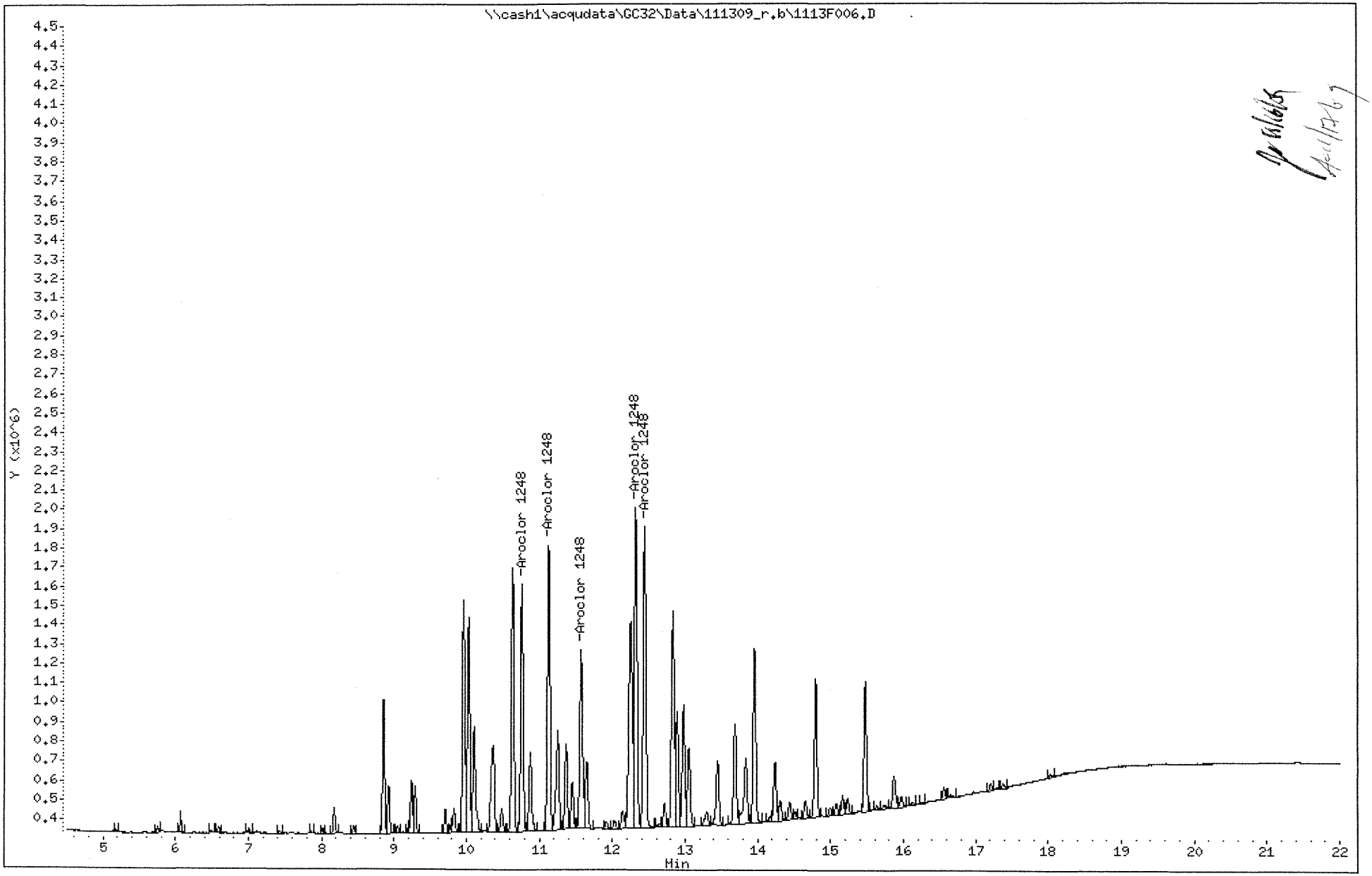
Data File: \\cash1\acqudata\GC32\Data\111309.b\1113F006.D
Date : 14-NOV-2009 03:46
Client ID:
Sample Info: 1248 @ 100ppb | PCB5-45M

Instrument: GC32.i
Operator: JMSmith
Column phase: DB-35MS
Column diameter: 0.32



Data File: \\cash1\acqudata\GC32\Data\111309_r.b\1113F006.D
Date : 14-NOV-2009 03:46
Client ID:
Sample Info: 1248 @ 100ppb | PCB5-45M

Instrument: GC32.i
Operator: JMSmith
Column phase: DB-XLB
Column diameter: 0.32



Data File: \\cash1\acqudata\GC32\Data\111309.b\1113F007.D
Report Date: 16-Nov-2009 15:36

Laboratory Name

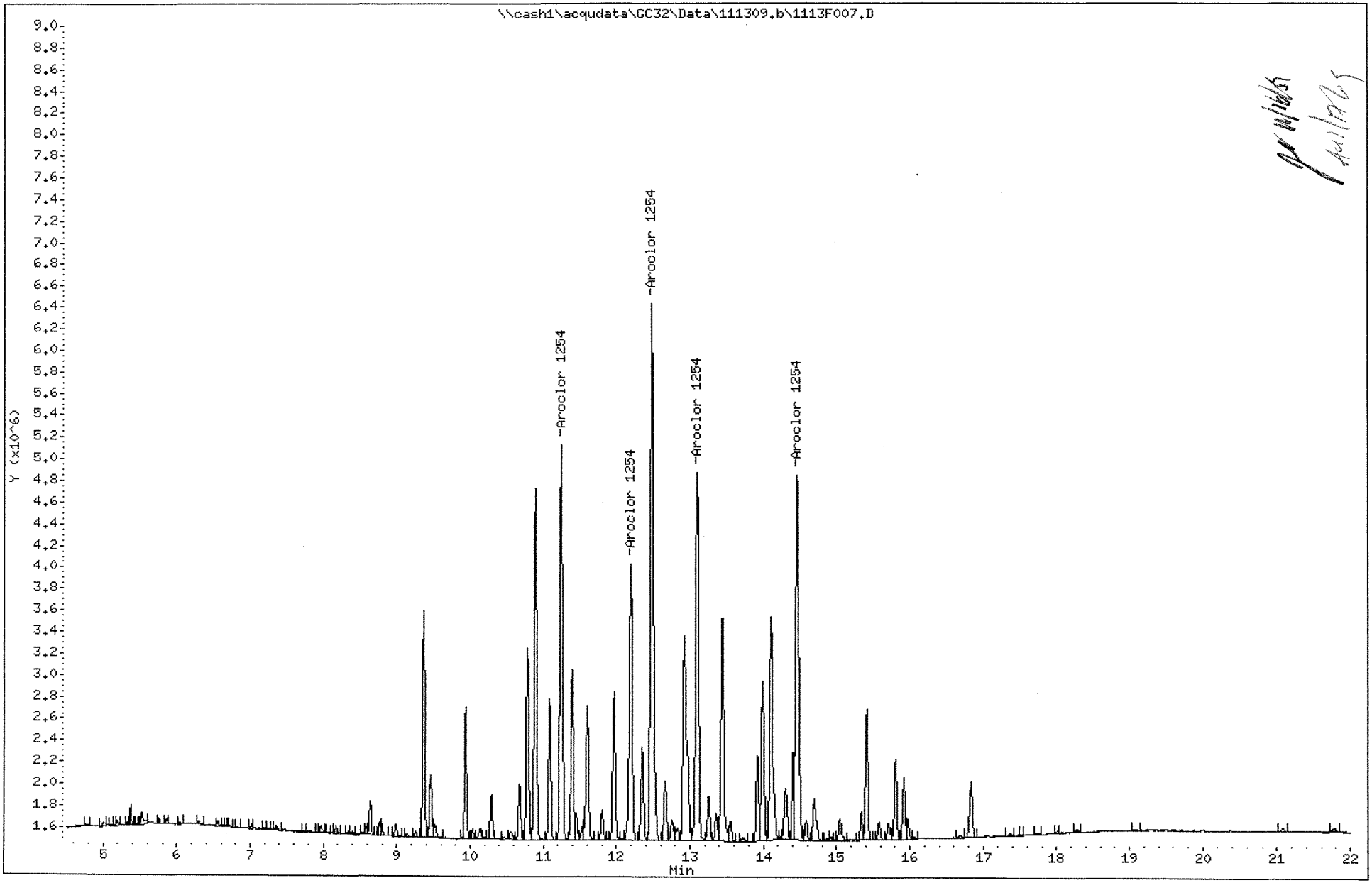
Sample #1 : \\cash1\acqudata\GC32\Data\111309.b\1113F007.D
Sample #2 : \\cash1\acqudata\GC32\Data\111309_r.b\1113F007.D
Inj Date : 14-NOV-2009 04:16
Sample Info: 1254 @ 100ppb | PCB5-45N
Misc Info :
Cal Date : 16-NOV-2009 15:25
Operator : JMSmith
Inst ID : GC32.i
Dil Factor : 1.000000

Method #1 : \\cash1\acqudata\GC32\Data\111309.b\111309ul_f.m
Method #2 : \\cash1\acqudata\GC32\Data\111309_r.b\111309ul_r.m
Sub List #1 : AR1254.SUB
Sub List #2 : AR1254.SUB
Col #1 Phase : DB-35MS
Col #2 Phase : DB-XLB

Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2	Target Range	Ratio
Aroclor 1254	11.246	12.886	8681829	5129122	100	100	80.00- 120.00	100.00
	12.199	13.690	6872677	3481202	100	100	63.33- 94.99	79.16
	12.483	13.956	13439309	6467125	100	100	123.84- 185.76	154.80
	13.096	14.793	9033793	5142014	100	100	83.24- 124.86	104.05
	14.459	15.870	9671687	5199693	100	100	89.12- 133.68	111.40
			Average of Peak Amounts =		100	100		

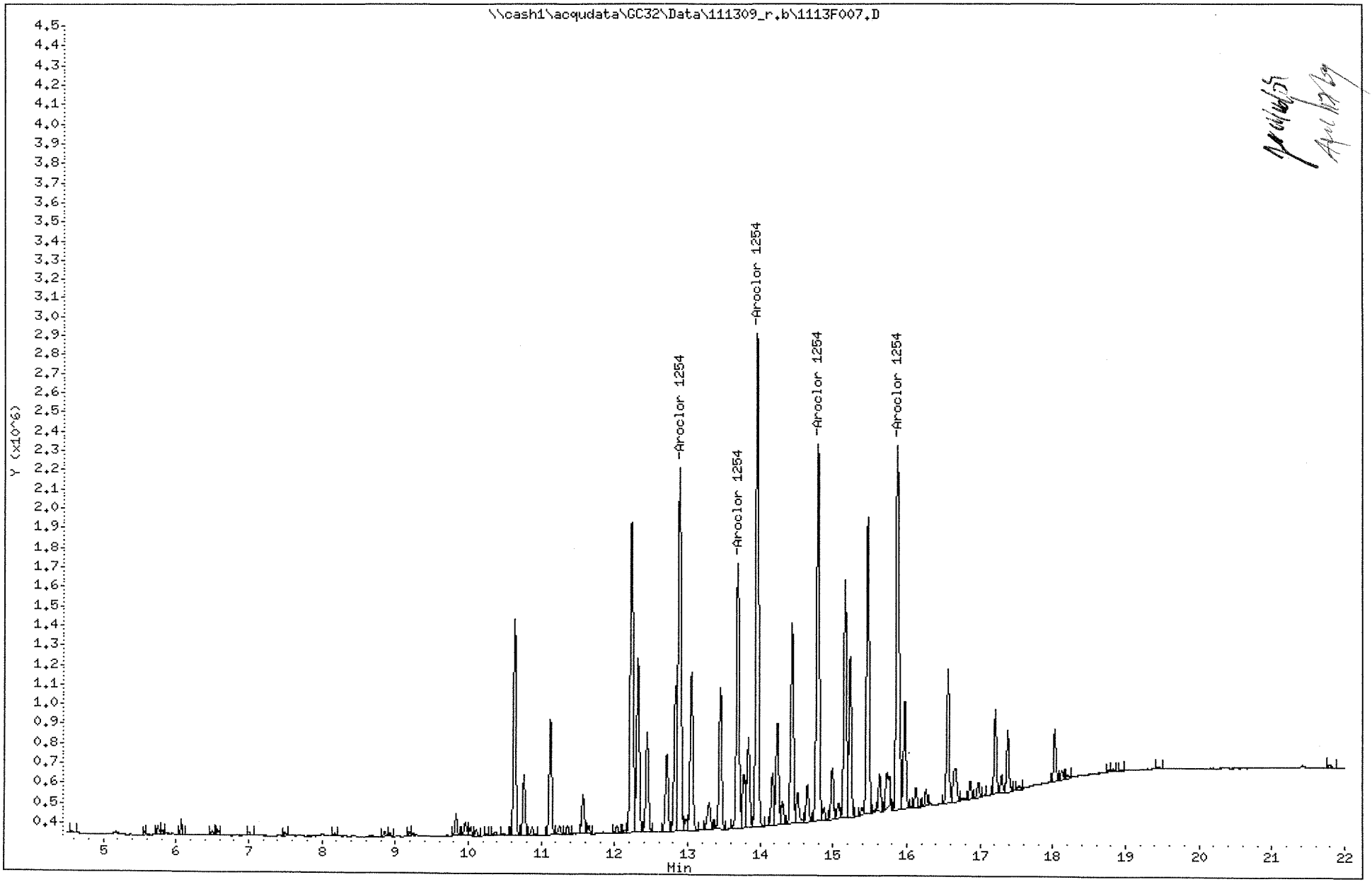
Data File: \\cash1\acqudata\GC32\Data\111309.b\1113F007.D
Date : 14-NOV-2009 04:16
Client ID:
Sample Info: 1254 @ 100ppb | PCB5-45N

Instrument: GC32.i
Operator: JMSmith
Column phase: DB-35MS
Column diameter: 0.32



Data File: \\cash1\acqudata\GC32\Data\111309_r.b\1113F007.D
Date : 14-NOV-2009 04:16
Client ID:
Sample Info: 1254 @ 100ppb | PCB5-45N

Instrument: GC32.i
Operator: JMSmith
Column phase: DB-XLB
Column diameter: 0.32



Data File: \\cash1\acqudata\GC32\Data\111309.b\1113F008.D
Report Date: 16-Nov-2009 15:36

Laboratory Name

Sample #1 : \\cash1\acqudata\GC32\Data\111309.b\1113F008.D
Sample #2 : \\cash1\acqudata\GC32\Data\111309_r.b\1113F008.D
Inj Date : 14-NOV-2009 04:46
Sample Info: 1262 @ 100ppb | PCB5-45O
Misc Info :
Cal Date : 16-NOV-2009 15:25
Operator : JMSmith
Inst ID : GC32.i
Dil Factor : 1.000000

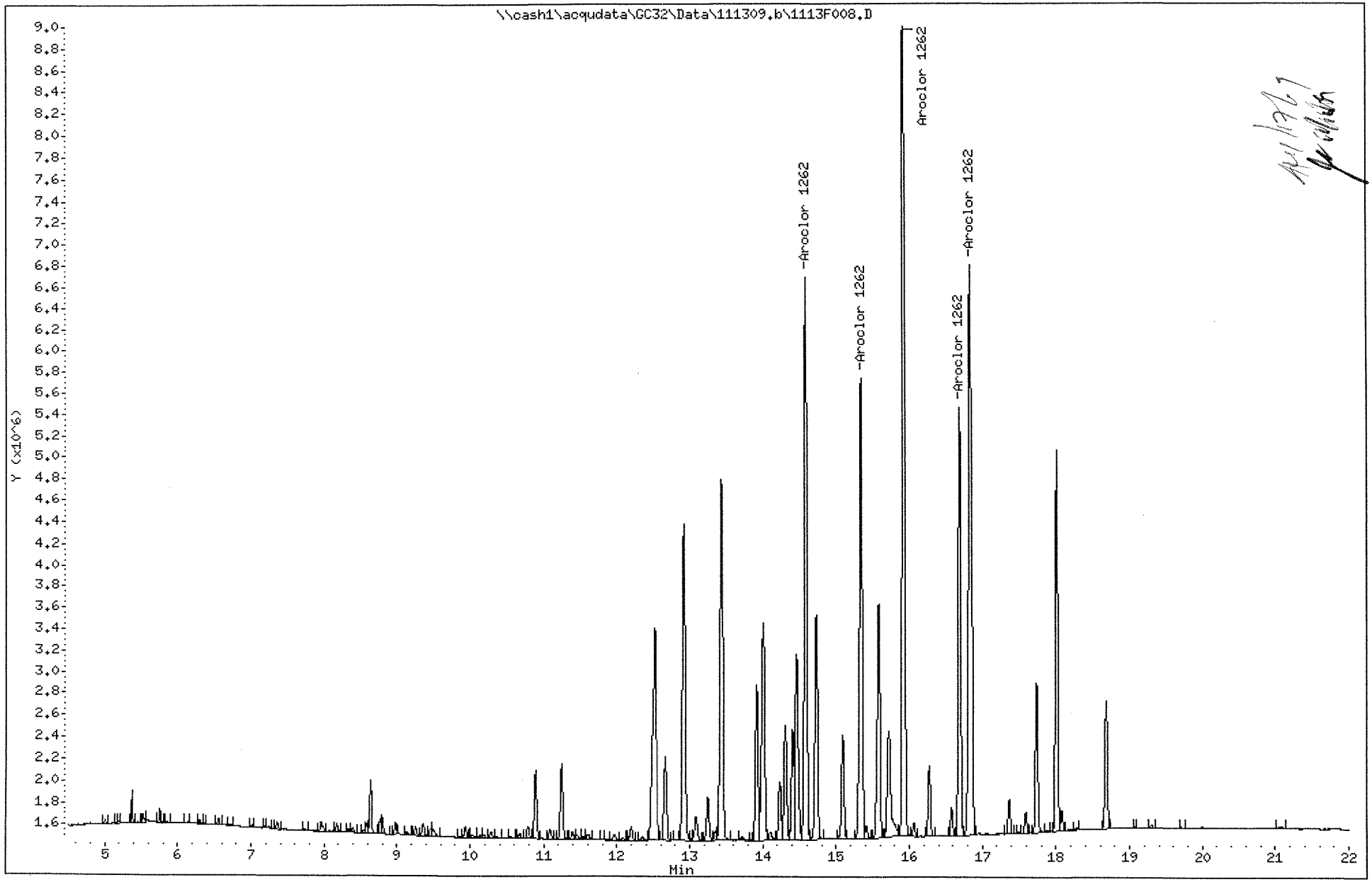
Method #1 : \\cash1\acqudata\GC32\Data\111309.b\111309ul_f.m
Method #2 : \\cash1\acqudata\GC32\Data\111309_r.b\111309ul_r.m
Sub List #1 : AR1262.SUB
Sub List #2 : AR1262.SUB
Col #1 Phase : DB-35MS
Col #2 Phase : DB-XLB

Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2	Target Range	Ratio
Aroclor 1262	14.579	16.119	12012381	6567442	100	100	80.00- 120.00	100.00
	15.339	16.643	10930293	5208178	100	100	72.79- 109.19	90.99
	15.922	17.379	20426096	10606627	100	100	136.03- 204.05	170.04
	16.692	18.056	8661902	7400490	100	100	57.69- 86.53	72.11
	16.832	18.213	15444457	4766882	100	100	102.86- 154.29	128.57
			Average of Peak Amounts =		100	100		

Data File: \\cash1\acqudata\GC32\Data\111309.b\1113F008.D
Date : 14-NOV-2009 04:46
Client ID:
Sample Info: 1262 @ 100ppb | PCB5-450

Instrument: GC32.i

Operator: JMSmith
Column phase: DB-35MS
Column diameter: 0.32

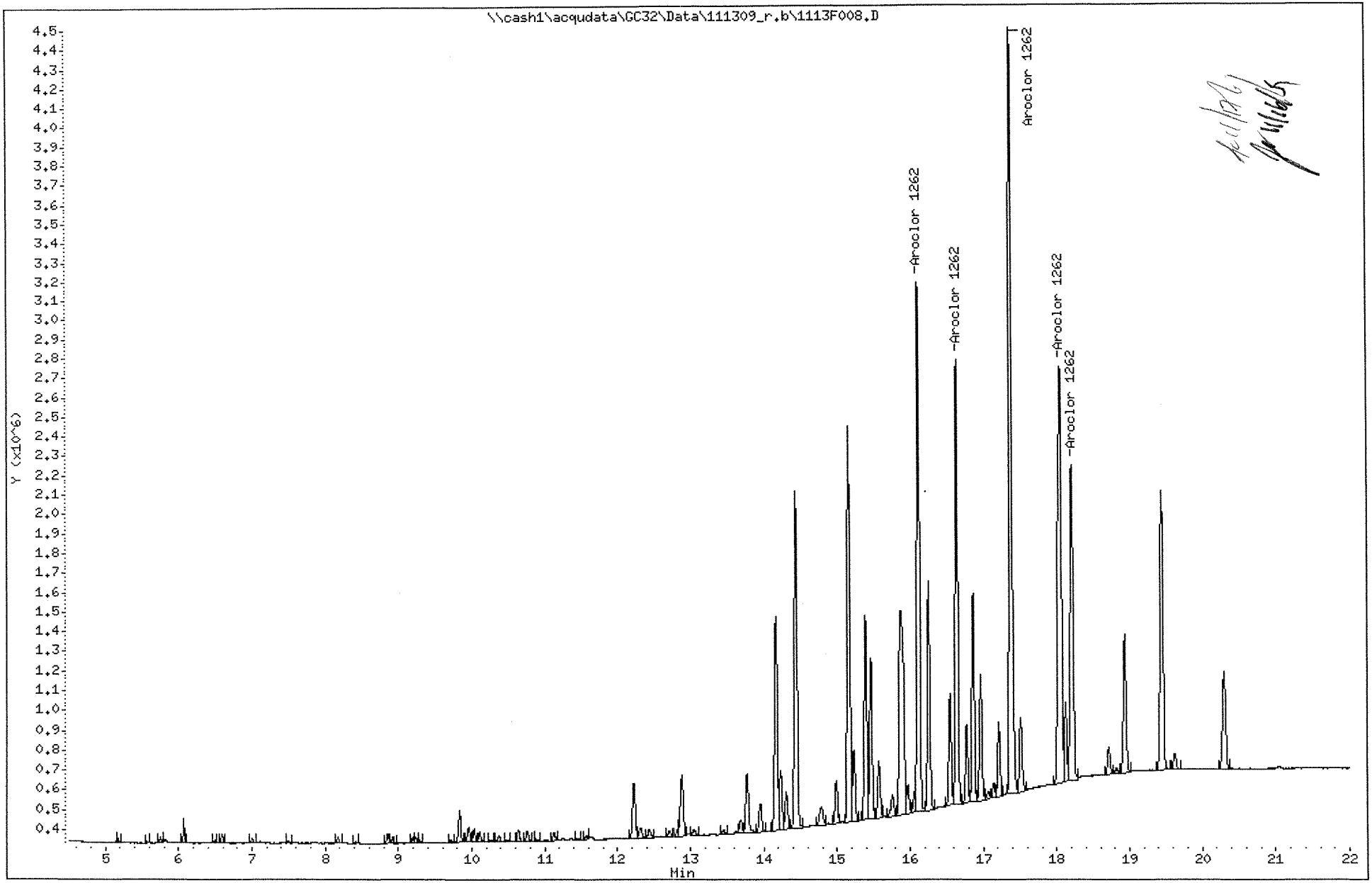


Data File: \\cash1\acqudata\GC32\Data\111309_r.b\1113F008.D
Date : 14-NOV-2009 04:46
Client ID:
Sample Info: 1262 @ 100ppb | PCB5-450

Instrument: GC32.i

Operator: JMSmith
Column diameter: 0.32

Column phase: DB-XLB



Data File: \\cash1\acqudata\GC32\Data\111309.b\1113F009.D
Report Date: 16-Nov-2009 15:36

Laboratory Name

Sample #1 : \\cash1\acqudata\GC32\Data\111309.b\1113F009.D
Sample #2 : \\cash1\acqudata\GC32\Data\111309_r.b\1113F009.D
Inj Date : 14-NOV-2009 05:17
Sample Info: 1268 @ 100ppb | PCB5-45P
Misc Info :
Cal Date : 16-NOV-2009 15:25
Operator : JMSmith
Inst ID : GC32.i
Dil Factor : 1.000000

Method #1 : \\cash1\acqudata\GC32\Data\111309.b\111309ul_f.m
Method #2 : \\cash1\acqudata\GC32\Data\111309_r.b\111309ul_r.m
Sub List #1 : AR1268.SUB
Sub List #2 : AR1268.SUB
Col #1 Phase : DB-35MS
Col #2 Phase : DB-XLB

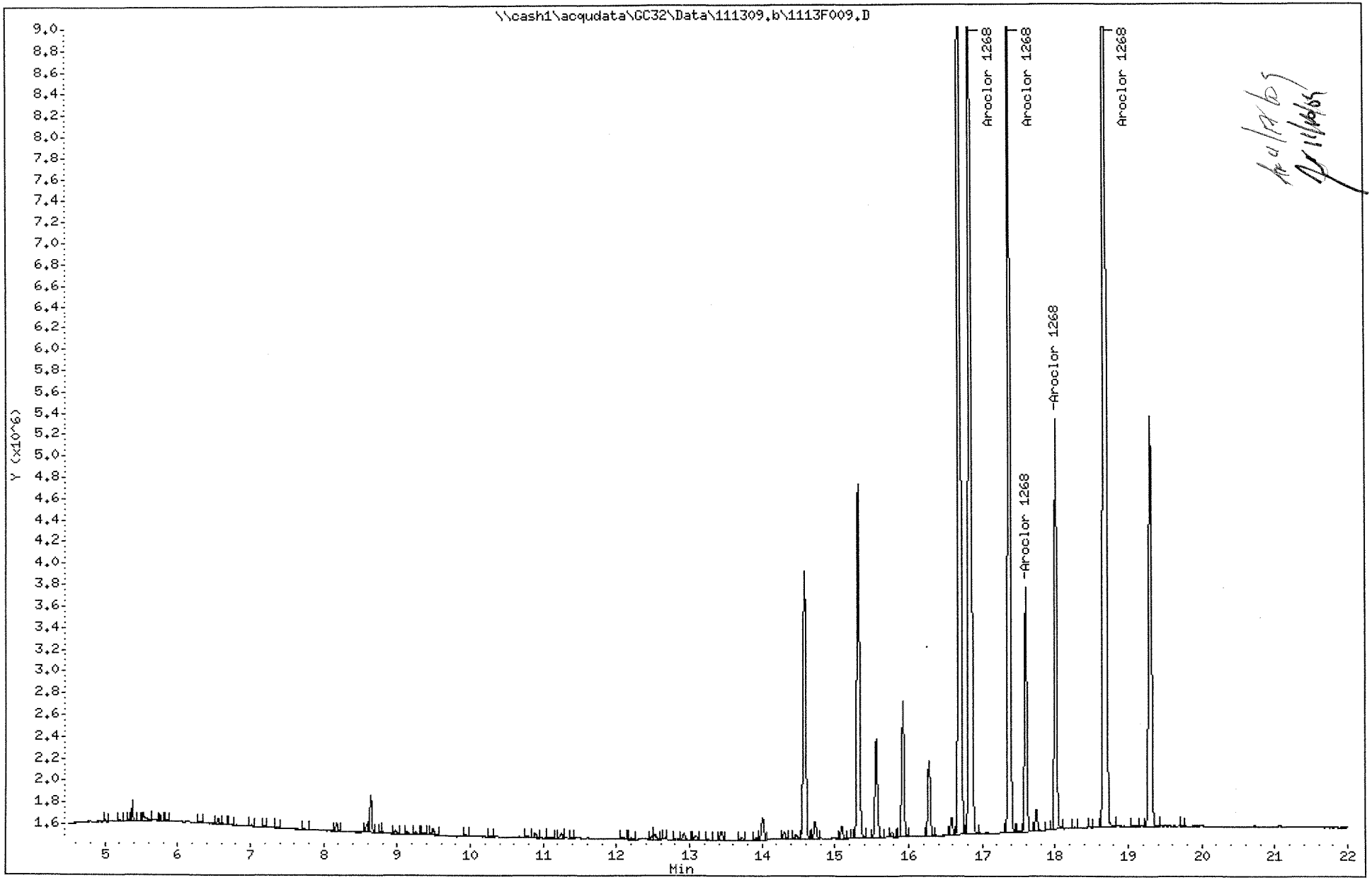
Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2	Target Range	Ratio
Aroclor 1268	16.835	18.219	23659277	11714889	100	100	80.00- 120.00	100.00
	17.372	18.719	18864683	9473081	100	100	63.79- 95.68	79.73
	17.598	18.922	4738110	2785332	100	100	16.02- 24.03	20.03
	18.008	19.448	7870339	4207429	100	100	26.61- 39.92	33.27
	18.682	20.302	52972940	26113415	100	100	179.12- 268.68	223.90
			Average of Peak Amounts =		100	100		

Data File: \\cash1\acqudata\GC32\Data\111309.b\1113F009.D
Date : 14-NOV-2009 05:17
Client ID:
Sample Info: 1268 @ 100ppb | PCB5-45P

Instrument: GC32.i

Operator: JMSmith
Column diameter: 0.32

Column phase: DB-35MS

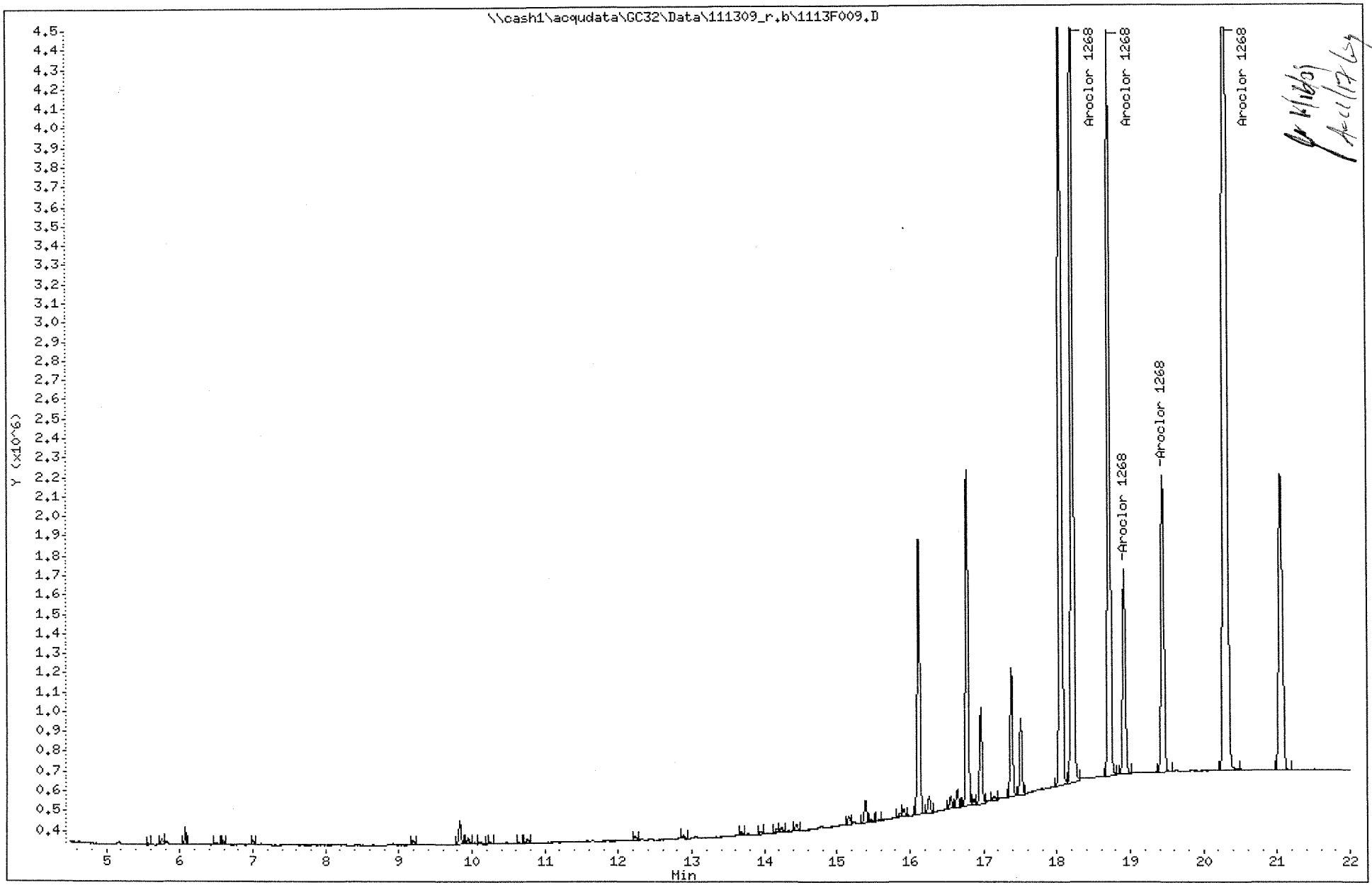


Data File: \\cash1\acqudata\GC32\Data\111309_r.b\1113F009.D
Date : 14-NOV-2009 05:17
Client ID:
Sample Info: 1268 @ 100ppb | PCB5-45P

Instrument: GC32.i

Operator: JMSmith
Column diameter: 0.32

Column phase: DB-XLB



Data File: \\cash1\acqudata\GC32\Data\111309.b\1113F010.D
Report Date: 16-Nov-2009 15:37

Laboratory Name

Sample #1 : \\cash1\acqudata\GC32\Data\111309.b\1113F010.D
Sample #2 : \\cash1\acqudata\GC32\Data\111309_r.b\1113F010.D
Inj Date : 14-NOV-2009 05:47
Sample Info: 1660 @ 2.5ppb | PCB5-44I
Misc Info :
Cal Date : 16-NOV-2009 15:25
Operator : JMSmith
Inst ID : GC32.i
Dil Factor : 1.000000

Method #1 : \\cash1\acqudata\GC32\Data\111309.b\111309ul_f.m
Method #2 : \\cash1\acqudata\GC32\Data\111309_r.b\111309ul_r.m
Sub List #1 : AR1660.SUB
Sub List #2 : AR1660.SUB
Col #1 Phase : DB-35MS
Col #2 Phase : DB-XLB

Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2	Target Range	Ratio
Tetrachloro-m-xylene	6.627	7.601	467470	265081	0.259	0.241		100.00
Aroclor 1016	8.341	9.241	54718	49875	2.52	2.54	80.00- 120.00	100.00 (M)
	8.394	10.031	85047	153557	2.80	2.72	105.20- 157.80	155.43 (M)
	8.797	10.371	318021	88989	3.16	2.87	350.07- 525.10	581.20 (M)
	9.937	11.128	180217	79968	3.24	2.85	190.39- 285.59	329.36 (M)
	10.287	11.568	102745	49821	2.78	2.80	140.33- 210.50	187.77 (M)
			Average of Peak Amounts =		2.90	2.76		
Aroclor 1260	13.917	15.164	190882	225171	3.29	3.14	80.00- 120.00	100.00
	14.581	15.871	248497	268511	2.99	3.18	111.19- 166.79	130.18
	15.344	16.121	270220	132440	3.10	3.01	120.89- 181.34	141.56
	15.924	16.644	552913	145073	2.97	3.11	276.10- 414.15	289.66
	16.834	17.381	417665	264048	2.96	2.82	207.76- 311.63	218.81
			Average of Peak Amounts =		3.06	3.05		
Decachlorobiphenyl	19.297	21.058	443145	249957	0.274	0.283		100.00

QC Flag Legend

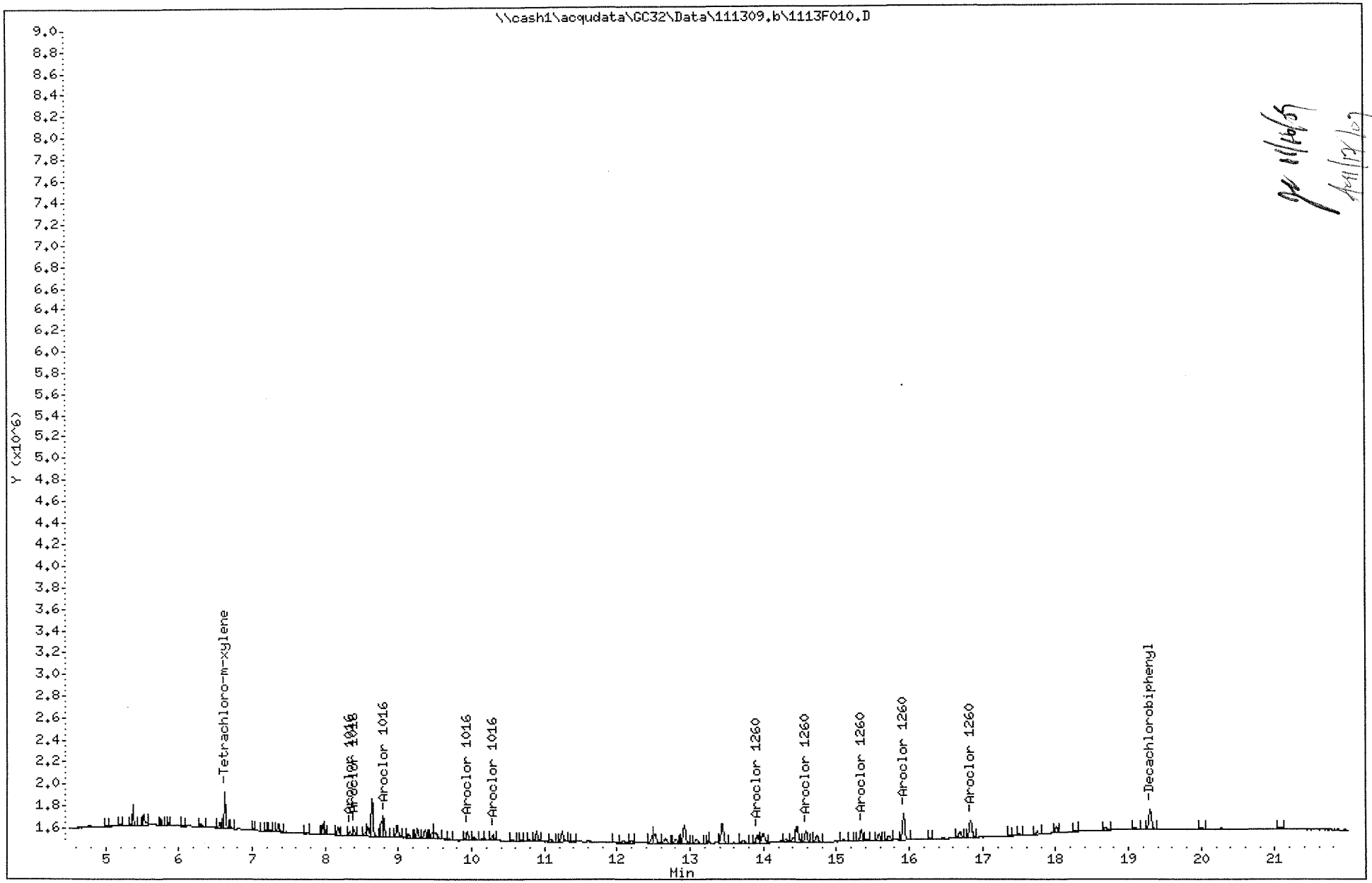
M - Compound response manually integrated.

Data File: \\cash1\acqudata\GC32\Data\111309.b\1113F010.D
Date : 14-NOV-2009 05:47
Client ID:
Sample Info: 1660 @ 2.5ppb | PCB5-44I

Instrument: GC32.i

Operator: JMSmith
Column diameter: 0.32

Column phase: DB-35MS

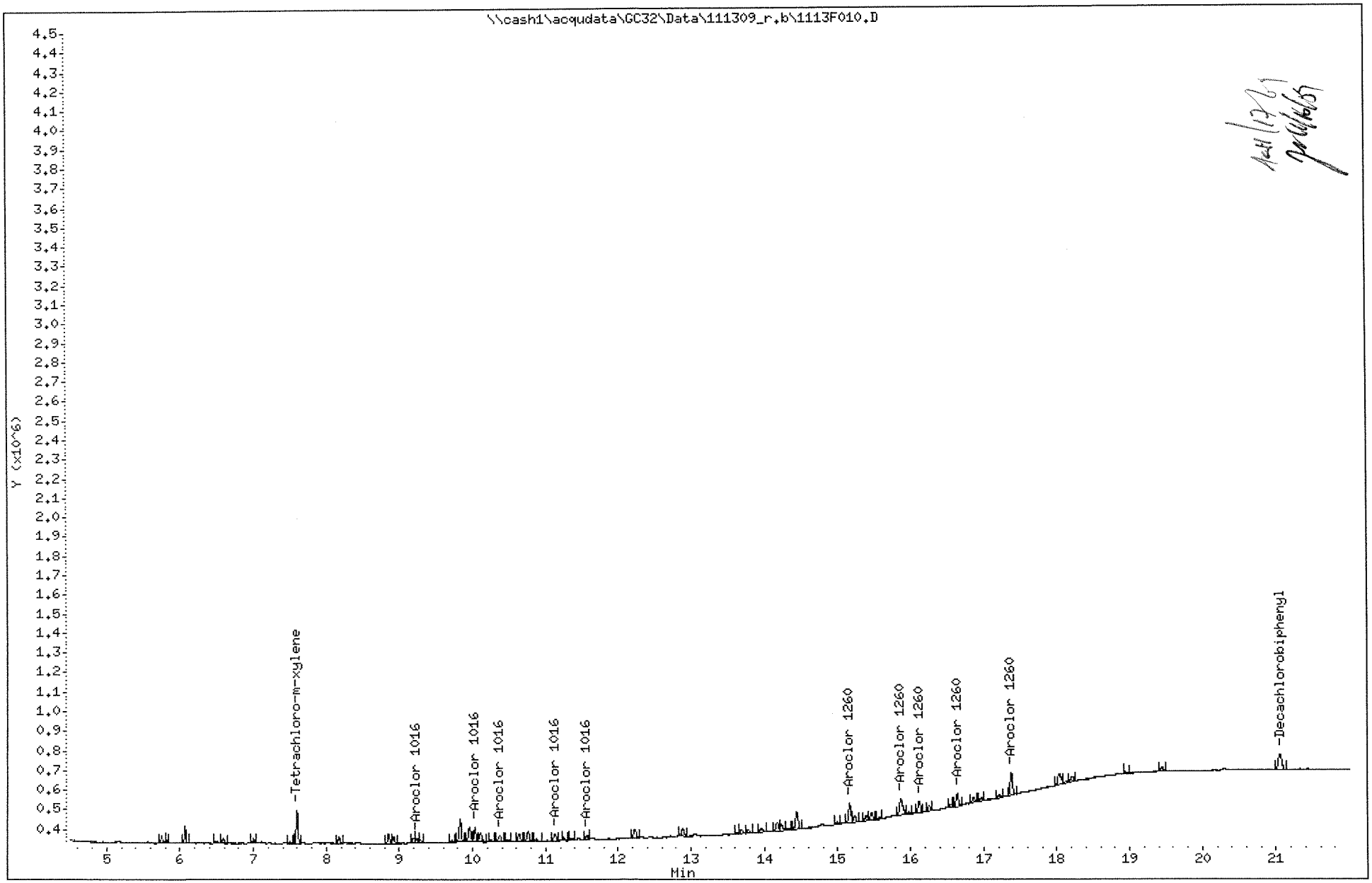


Data File: \\cash1\acqudata\GC32\Data\111309_r.b\1113F010.D
Date : 14-NOV-2009 05:47
Client ID:
Sample Info: 1660 @ 2.5ppb | PCB5-44I

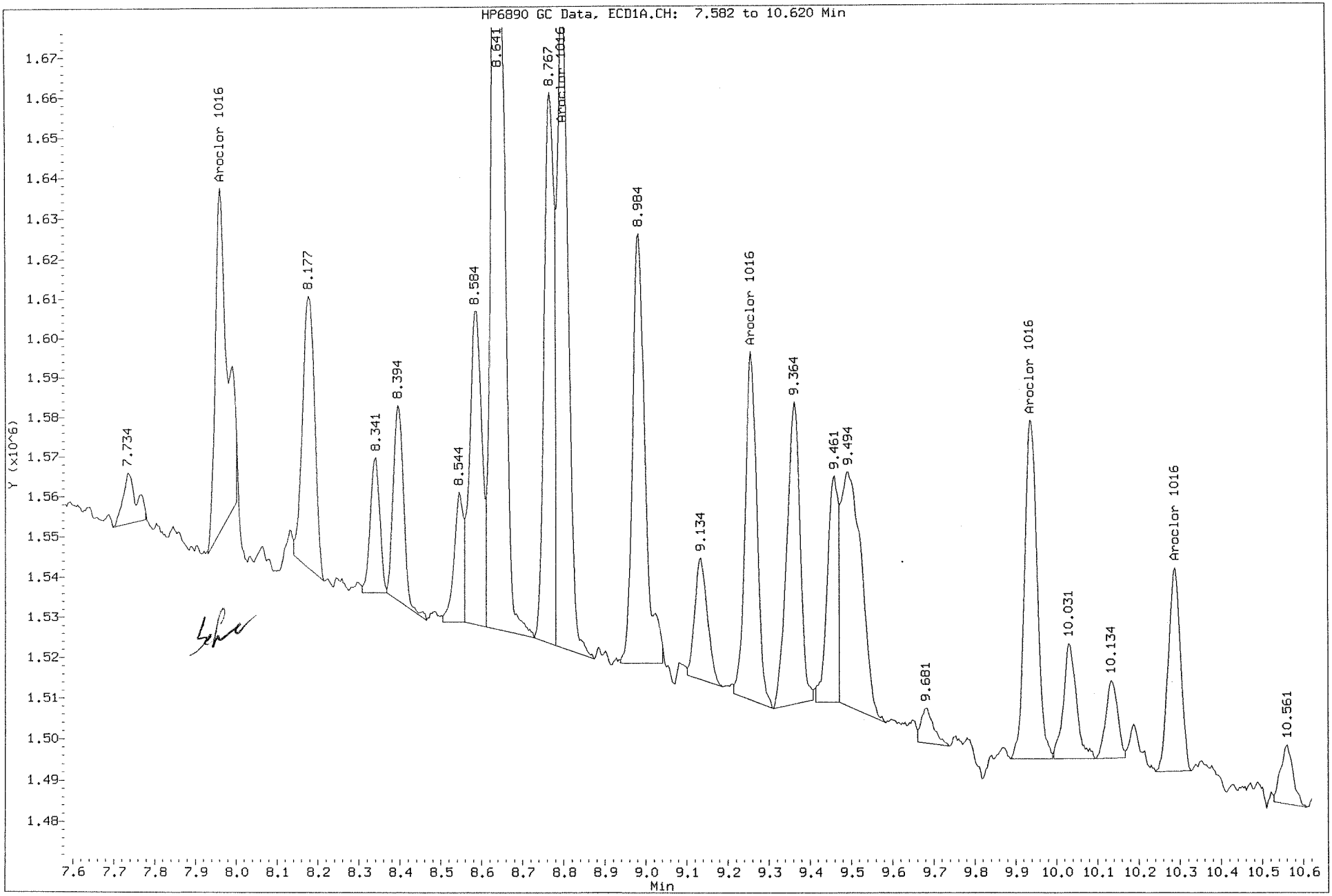
Instrument: GC32.i

Operator: JMSmith
Column diameter: 0.32

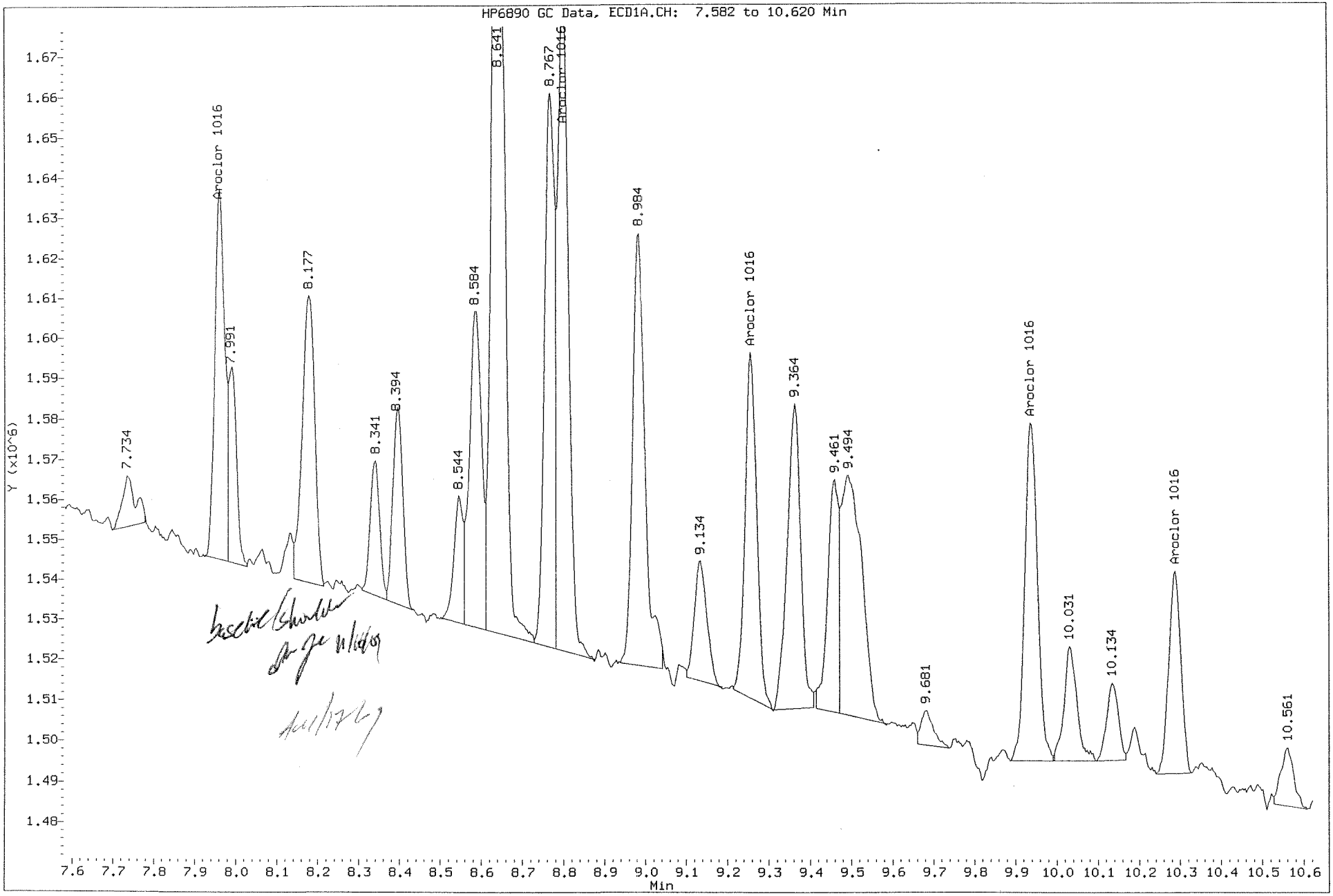
Column phase: DB-XLB



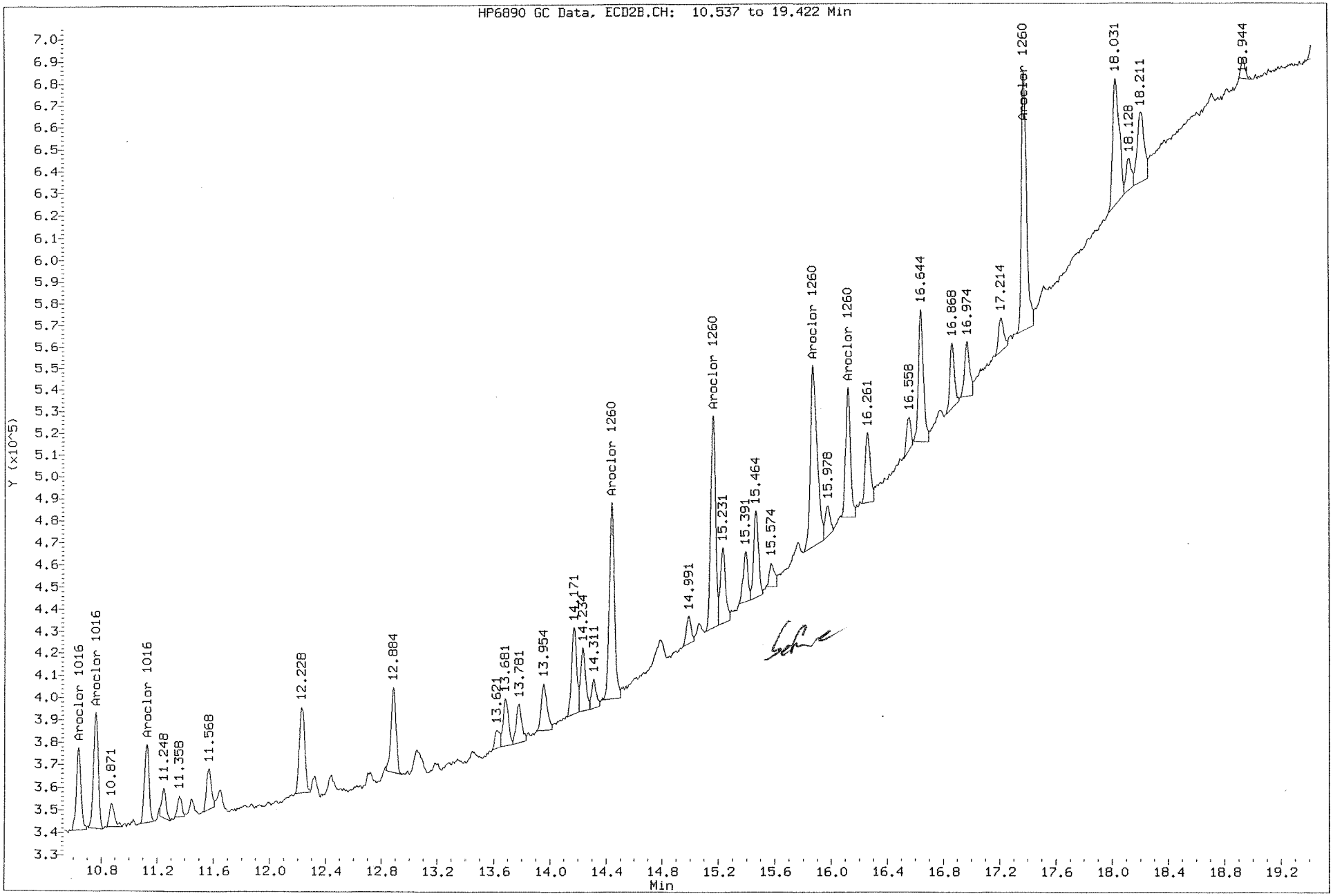
Data File: \\cash1\acqudata\GC32\Data\111309.b\1113F010.D
Injection Date: 14-NOV-2009 05:47
Instrument: GC32.i
Client Sample ID:

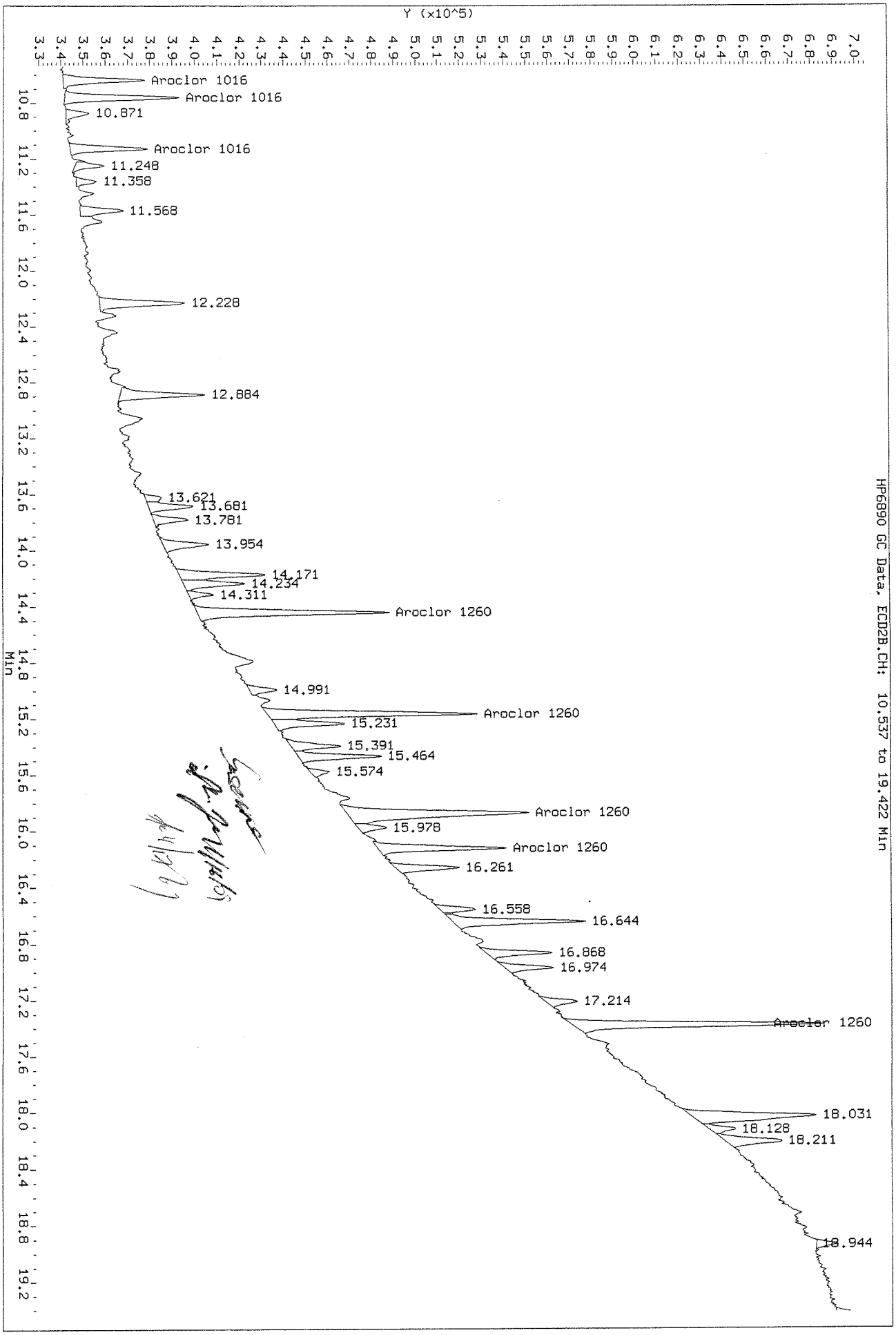


Data File: \\cash1\acqudata\GC32\Data\111309.b\1113F010.D
Injection Date: 14-NOV-2009 05:47
Instrument: GC32.i
Client Sample ID:



Data File: \\cash1\acqudata\GC32\Data\111309_r.b\1113F010.D
Injection Date: 14-NOV-2009 05:47
Instrument: GC32.i
Client Sample ID:




Data File: \\cash1\acqudata\GC32\Data\111309_r.b\1113F010.D
Injection Date: 14-NOV-2009 05:47
Instrument: GC32.i
Client Sample ID:
HP6890 GC Data, ECD2B.CH: 10.537 to 19.422 Min
Y (x10^5)
Min
Aroclor 1016
Aroclor 1016
10.871
Aroclor 1016
11.248
11.358
11.568
12.228
12.884
13.621
13.681
13.781
13.954
14.171
14.234
14.311
Aroclor 1260
14.991
Aroclor 1260
15.231
15.391
15.464
15.574
Aroclor 1260
15.978
Aroclor 1260
16.261
16.558
16.644
16.868
16.974
17.214
Aroclor 1260
18.031
18.128
18.211
18.944

Data File: \\cash1\acqudata\GC32\Data\111309.b\1113F011.D
Report Date: 16-Nov-2009 15:37

Laboratory Name

Sample #1 : \\cash1\acqudata\GC32\Data\111309.b\1113F011.D
Sample #2 : \\cash1\acqudata\GC32\Data\111309_r.b\1113F011.D
Inj Date : 14-NOV-2009 06:17
Sample Info: 1660 @ 5.0ppb | PCB5-44J
Misc Info :
Cal Date : 16-NOV-2009 15:25
Operator : JMSmith
Inst ID : GC32.i
Dil Factor : 1.000000

Method #1 : \\cash1\acqudata\GC32\Data\111309.b\111309ul_f.m
Method #2 : \\cash1\acqudata\GC32\Data\111309_r.b\111309ul_r.m
Sub List #1 : AR1660.SUB
Sub List #2 : AR1660.SUB
Col #1 Phase : DB-35MS
Col #2 Phase : DB-XLB

Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2	Target Range	Ratio
Tetrachloro-m-xylene	6.628	7.601	960892	534559	0.533	0.486		100.00
Aroclor 1016	8.338	9.241	124859	107458	5.74	4.78	80.00- 120.00	100.00(M)
	8.394	10.031	176453	309478	5.82	5.49	105.20- 157.80	141.32(M)
	8.798	10.371	588633	165397	5.84	5.33	350.07- 525.10	471.44(M)
	9.938	11.125	321856	153784	5.78	5.48	190.39- 285.59	257.78(M)
	10.284	11.568	202760	98921	5.48	5.56	140.33- 210.50	162.39(M)
			Average of Peak Amounts =		5.73	5.33		
Aroclor 1260	13.918	15.161	332831	420801	5.74	5.87	80.00- 120.00	100.00
	14.581	15.875	480600	486879	5.78	5.77	111.19- 166.79	144.40
	15.341	16.121	503307	252075	5.76	5.73	120.89- 181.34	151.22
	15.924	16.645	1046877	269656	5.63	5.79	276.10- 414.15	314.54
	16.834	17.381	790417	529250	5.60	5.64	207.76- 311.63	237.48
			Average of Peak Amounts =		5.70	5.76		
Decachlorobiphenyl	19.298	21.055	892852	523582	0.552	0.592		100.00

QC Flag Legend

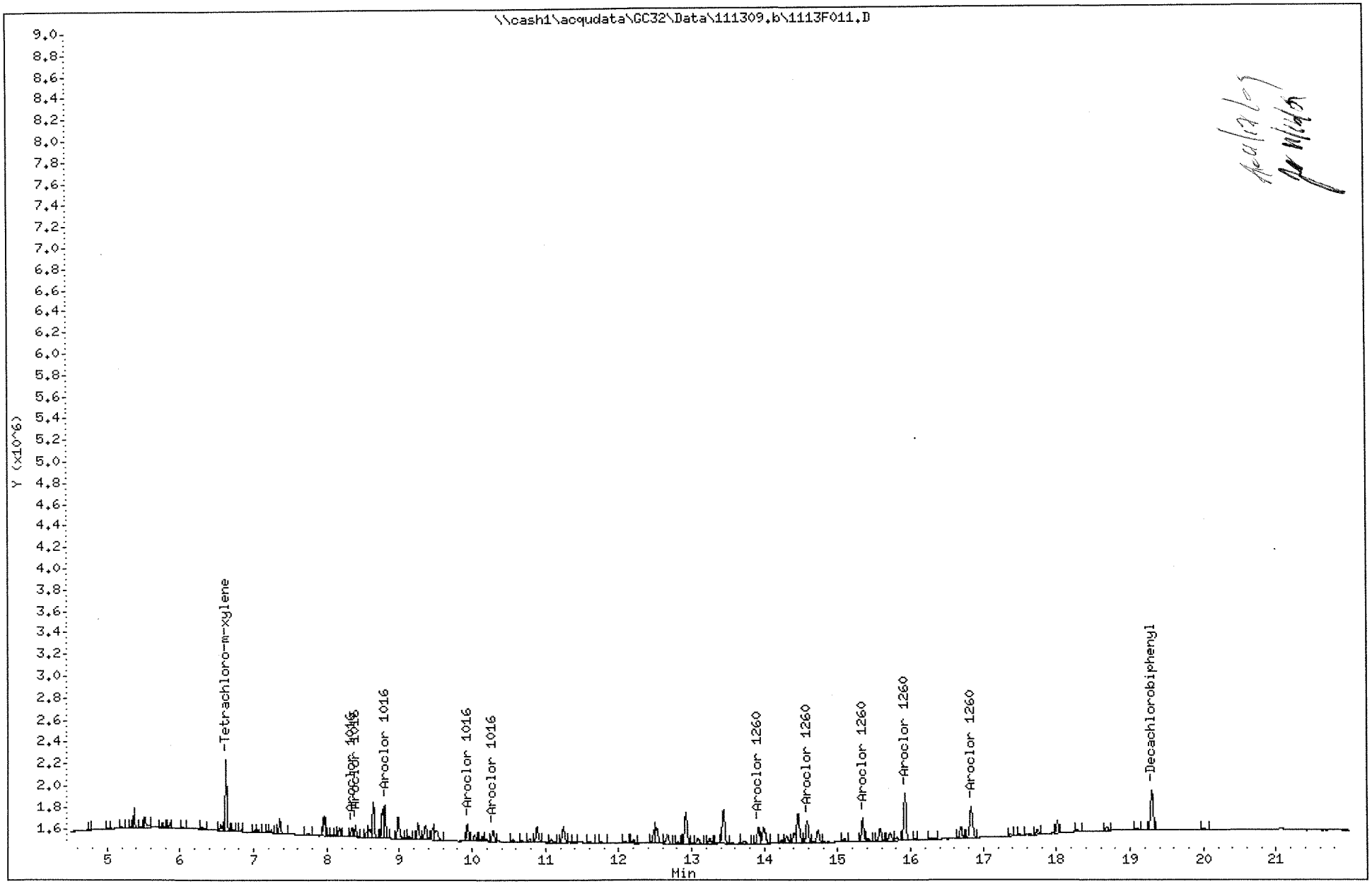
M - Compound response manually integrated.

Data File: \\cash1\acqudata\GC32\Data\111309.b\1113F011.D
Date : 14-NOV-2009 06:17
Client ID:
Sample Info: 1660 @ 5.0ppb | PCB5-44J

Instrument: GC32.i

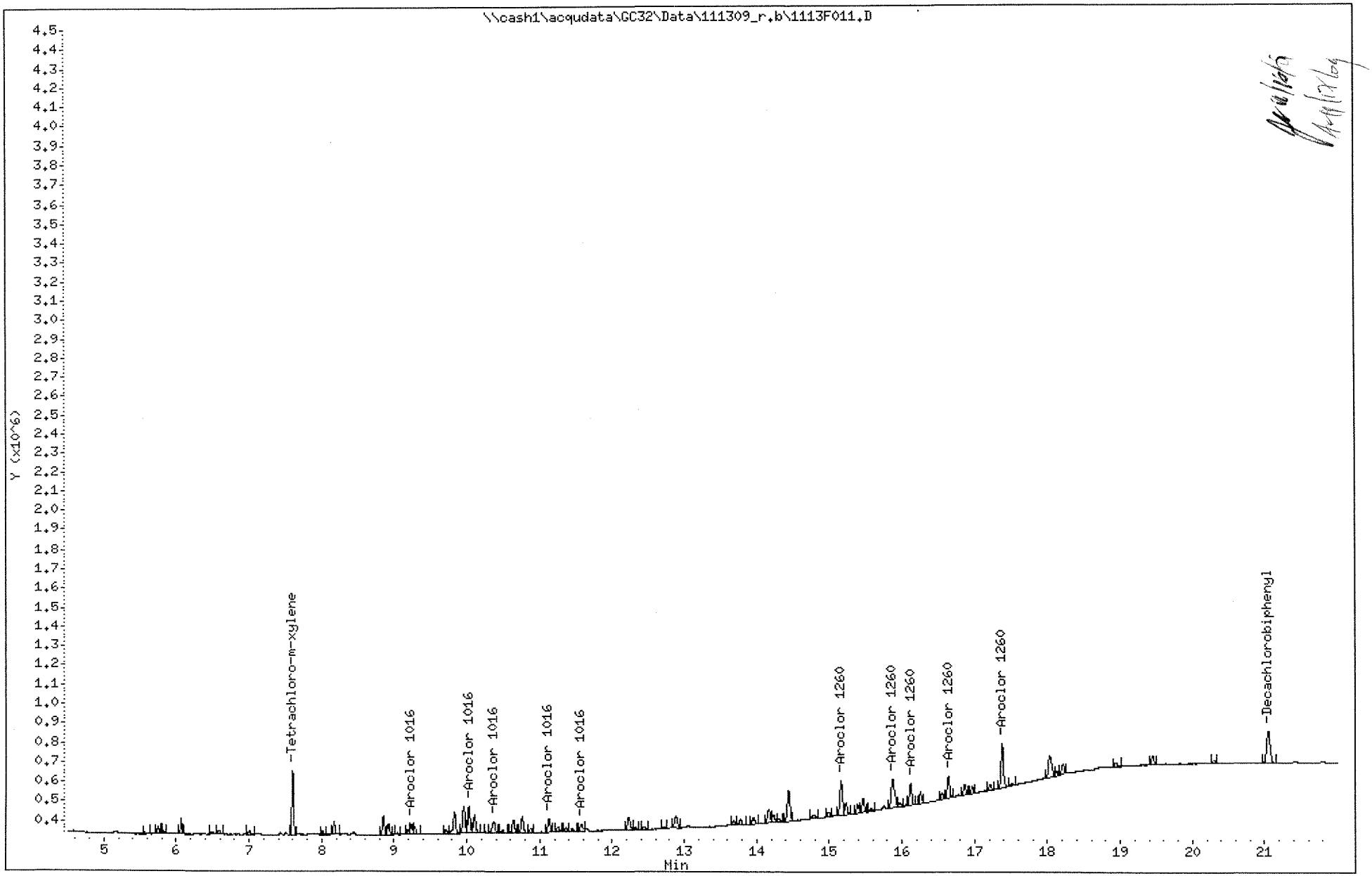
Operator: JMSmith
Column diameter: 0.32

Column phase: DB-35MS



Data File: \\cash1\acqudata\GC32\Data\111309_r.b\1113F011.D
Date : 14-NOV-2009 06:17
Client ID:
Sample Info: 1660 @ 5.0ppb | PCB5-44J

Instrument: GC32.i
Operator: JMSmith
Column phase: DB-XLB
Column diameter: 0.32



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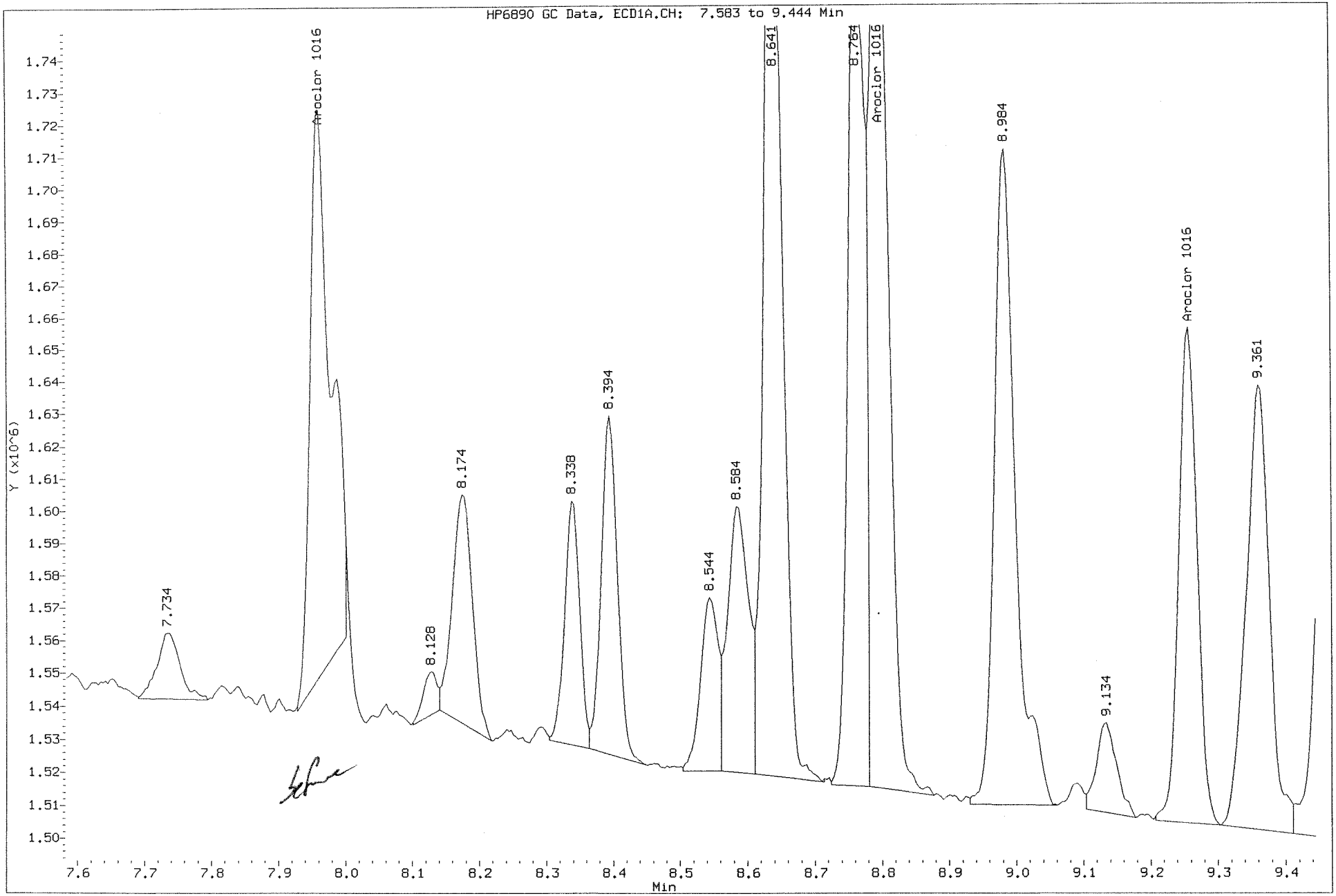
Injection Date: 14-NOV-2009 06:17
Instrument: GC32.i
Client Sample ID:



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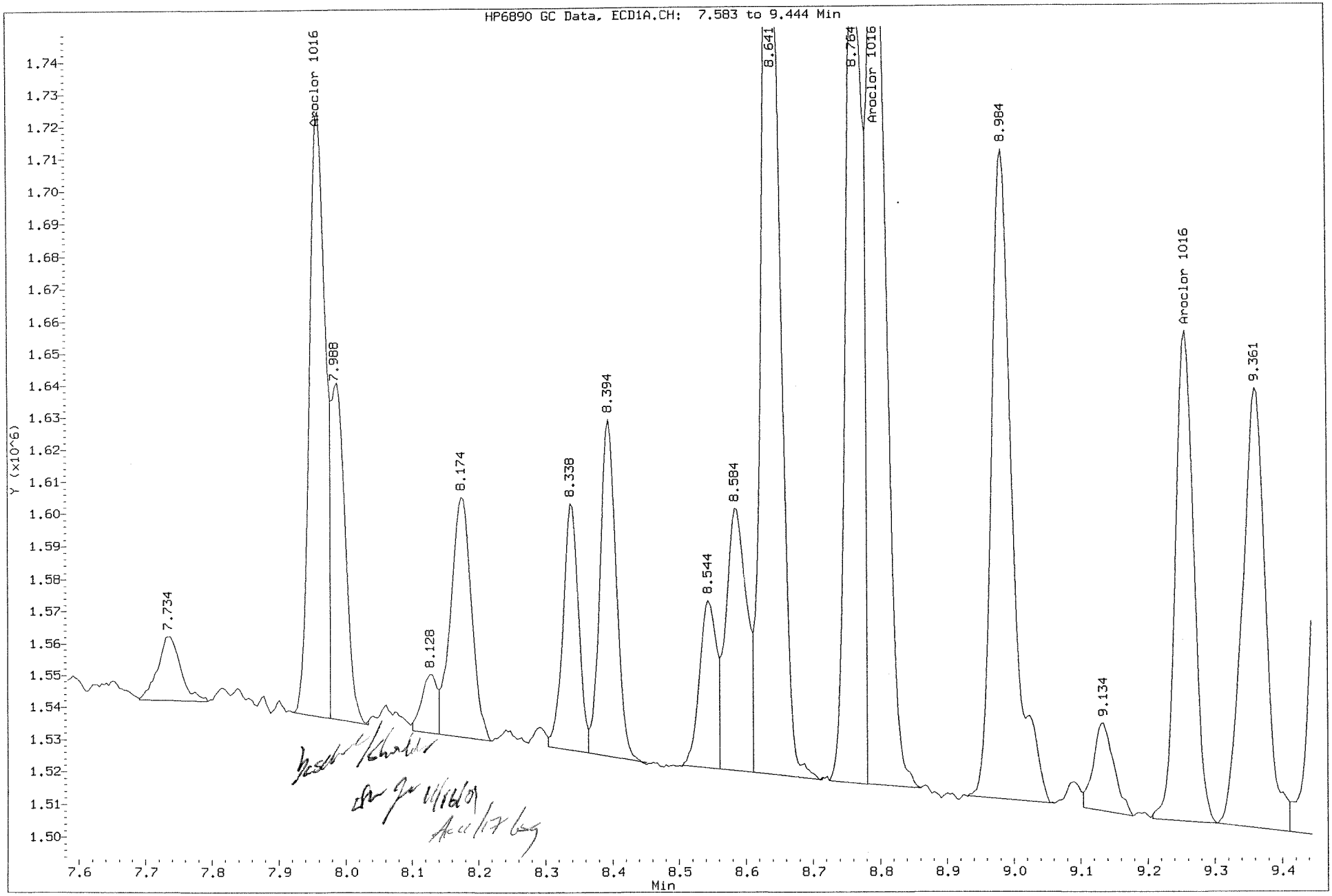
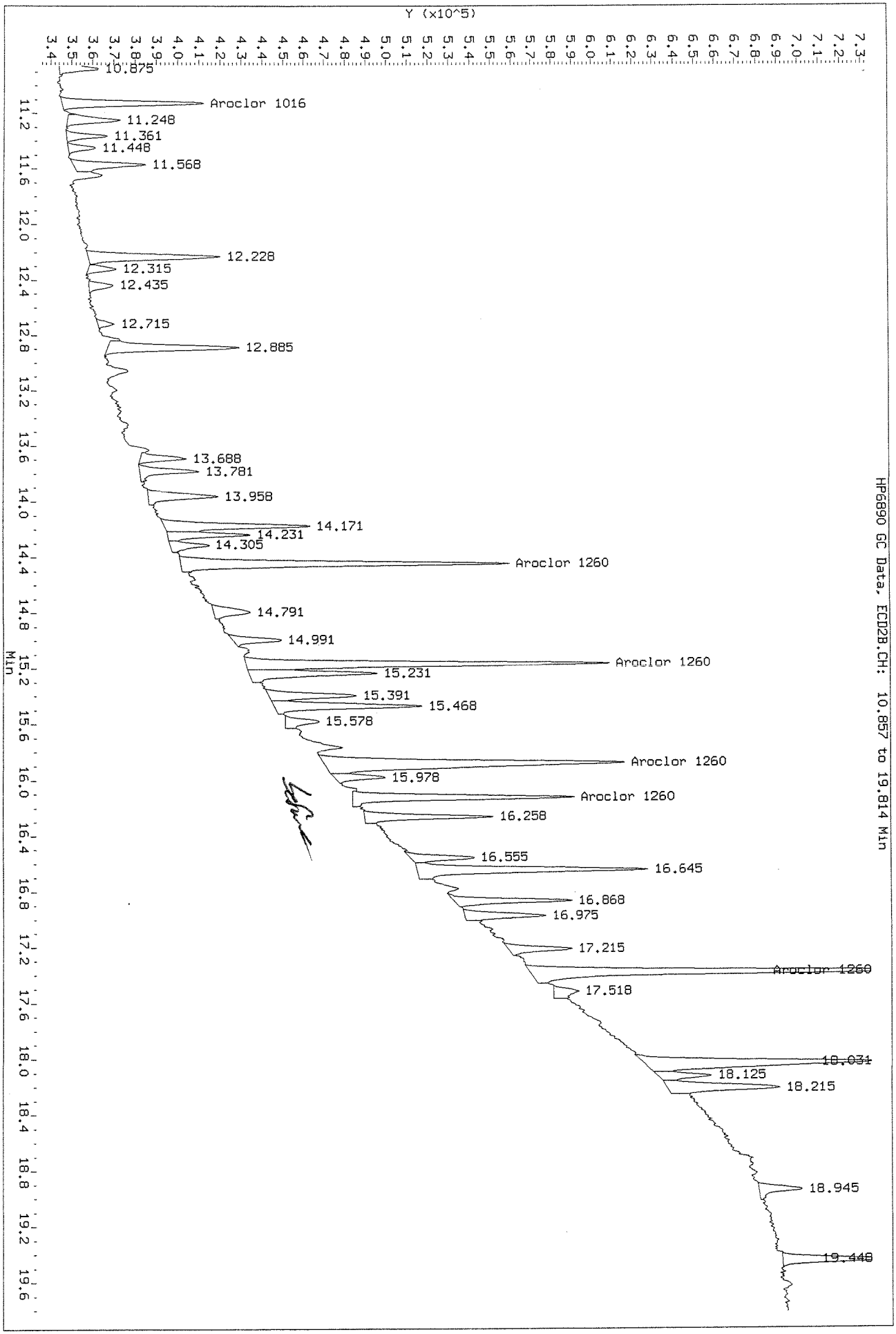
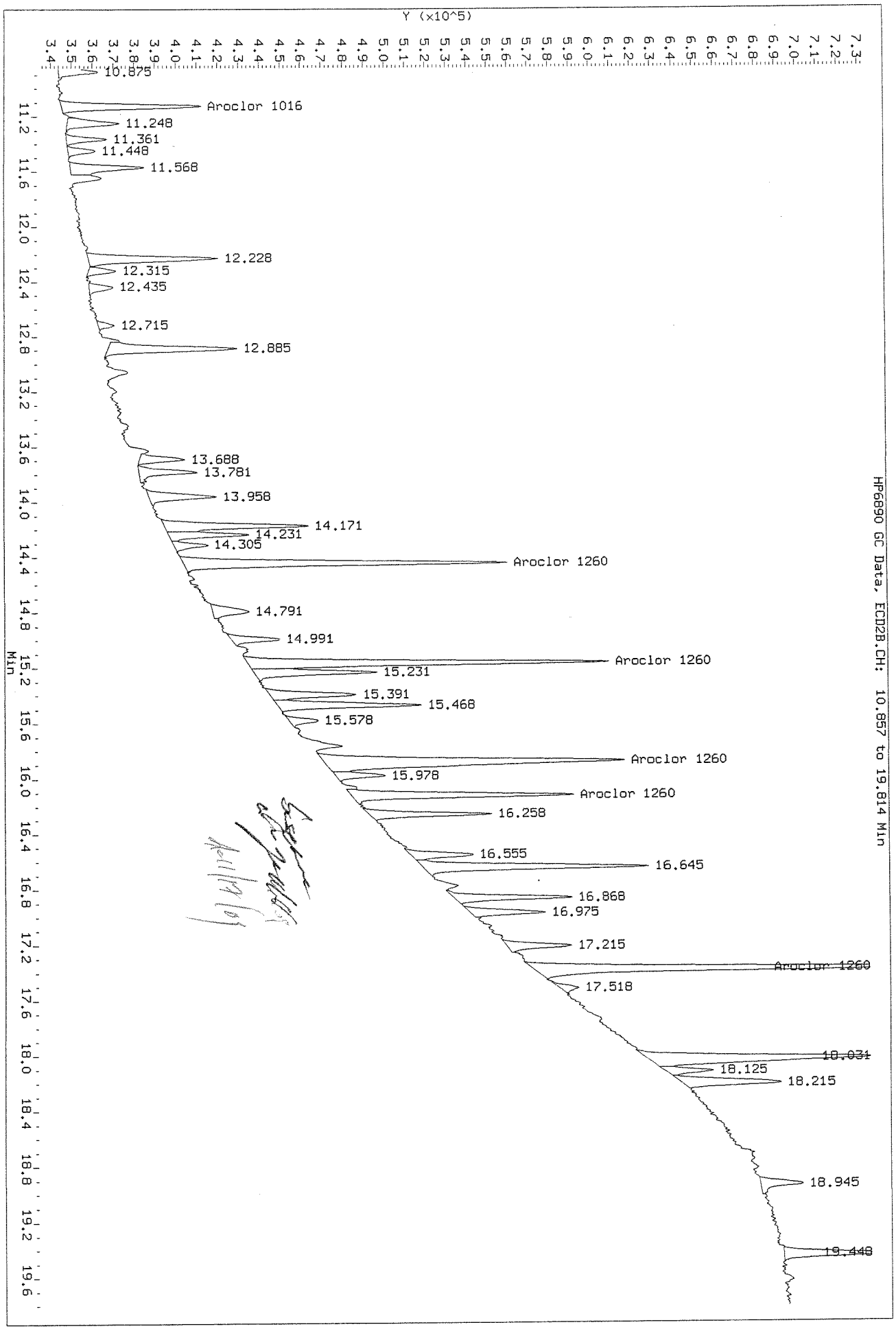
Injection Date: 14-NOV-2009 06:17
Instrument: GC32.i
Client Sample ID:




Data File: \\cash1\acqudata\GC32\Data\111309_r.b\1113F011.D
Injection Date: 14-NOV-2009 06:17
Instrument: GC32.i
Client Sample ID:
HP6890 GC Data, ECD2B.CH: 10.857 to 19.814 Min
Y (x10^5)
Min
10.875
Aroclor 1016
11.248
11.361
11.448
11.568
12.228
12.315
12.435
12.715
12.885
13.688
13.781
13.958
14.171
14.231
14.305
Aroclor 1260
14.791
14.991
Aroclor 1260
15.231
15.391
15.468
15.578
Aroclor 1260
15.978
Aroclor 1260
16.258
16.555
16.645
16.868
16.975
17.215
Aroclor 1260
17.518
18.031
18.125
18.215
18.945
19.448


Data File: \\cash1\acqudata\GC32\Data\111309_r.b\1113F011.D
Injection Date: 14-NOV-2009 06:17
Instrument: GC32.1
Client Sample ID:
HP6890 GC Data, ECD2B.CH: 10.857 to 19.814 Min
Y (x10^5)
Min
10.875
Aroclor 1016
11.248
11.361
11.448
11.568
12.228
12.315
12.435
12.715
12.885
13.688
13.781
13.958
14.171
14.231
14.305
Aroclor 1260
14.791
14.991
Aroclor 1260
15.231
15.391
15.468
15.578
Aroclor 1260
15.978
Aroclor 1260
16.258
16.555
16.645
16.868
16.975
17.215
Aroclor 1260
17.518
18.031
18.125
18.215
18.945
19.448

Data File: \\cash1\acqudata\GC32\Data\111309.b\1113F012.D
Report Date: 16-Nov-2009 15:37

Laboratory Name

Sample #1 : \\cash1\acqudata\GC32\Data\111309.b\1113F012.D
Sample #2 : \\cash1\acqudata\GC32\Data\111309_r.b\1113F012.D
Inj Date : 14-NOV-2009 06:47
Sample Info: 1660 @ 50ppb | PCB5-44K
Misc Info :
Cal Date : 16-NOV-2009 15:25
Operator : JMSmith
Inst ID : GC32.i
Dil Factor : 1.000000

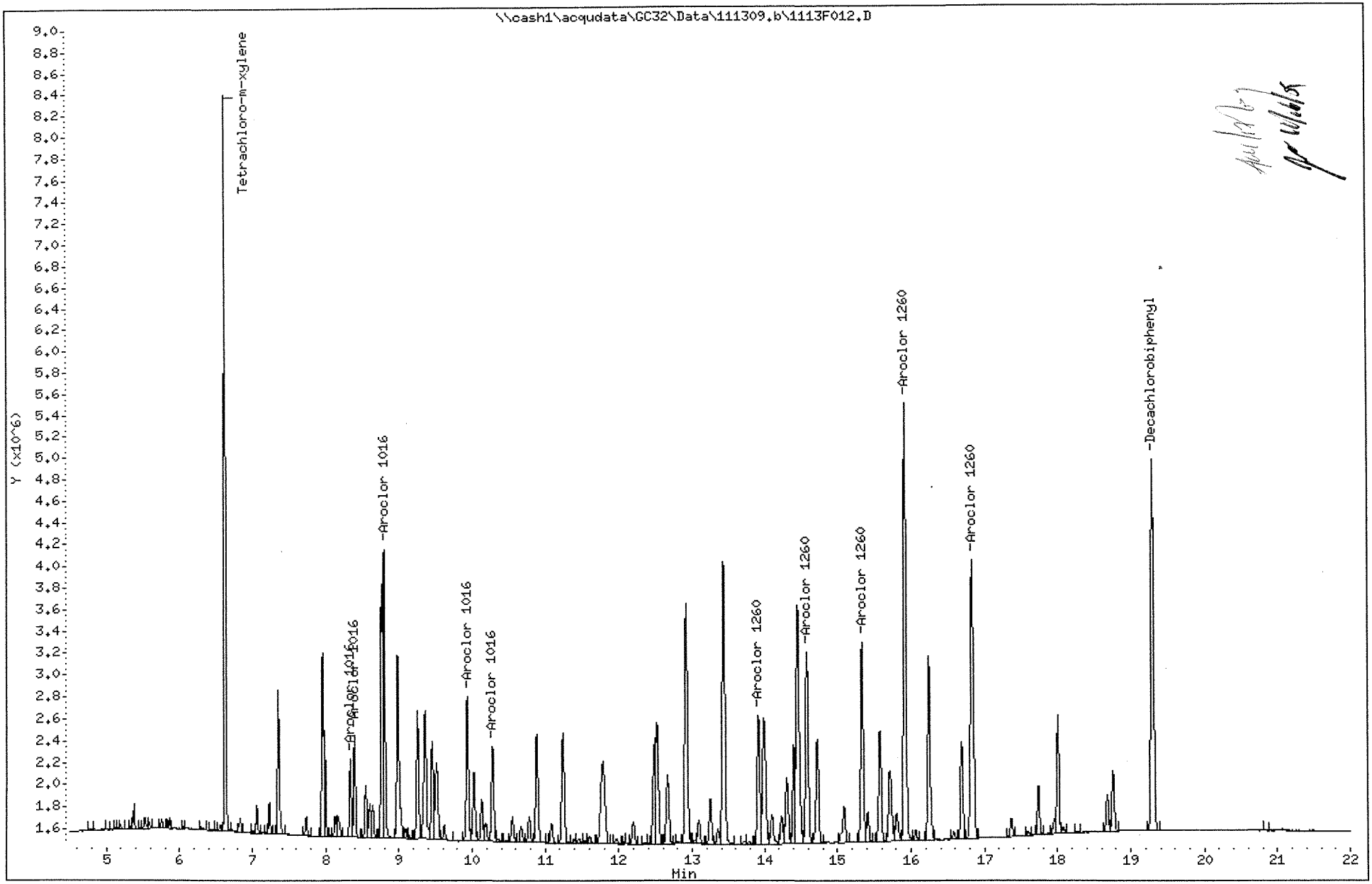
Method #1 : \\cash1\acqudata\GC32\Data\111309.b\111309ul_f.m
Method #2 : \\cash1\acqudata\GC32\Data\111309_r.b\111309ul_r.m
Sub List #1 : AR1660.SUB
Sub List #2 : AR1660.SUB
Col #1 Phase : DB-35MS
Col #2 Phase : DB-XLB

Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2	Target Range	Ratio
Tetrachloro-m-xylene	6.626	7.599	9577146	6056310	5.31	5.50		100.00
Aroclor 1016	8.339	9.243	1194955	1082283	54.9	43.3	80.00- 120.00	100.00
	8.392	10.033	1637371	2969648	54.0	52.7	105.20- 157.80	137.02
	8.799	10.369	5147127	1690230	51.1	54.5	350.07- 525.10	430.74
	9.936	11.126	2825574	1602952	50.7	57.2	190.39- 285.59	236.46
	10.286	11.569	1923814	892033	52.0	50.2	140.33- 210.50	160.99
			Average of Peak Amounts =		52.5	51.6		
Aroclor 1260	13.919	15.163	2786510	3594445	48.0	50.1	80.00- 120.00	100.00
	14.582	15.873	4507880	4188770	54.2	49.6	111.19- 166.79	161.78
	15.342	16.119	4343105	2255736	49.8	51.3	120.89- 181.34	155.86
	15.922	16.643	9114467	2353412	49.0	50.5	276.10- 414.15	327.09
	16.832	17.379	7007194	4781284	49.7	51.0	207.76- 311.63	251.47
			Average of Peak Amounts =		50.1	50.5		
Decachlorobiphenyl	19.299	21.056	8245005	4614022	5.10	5.22		100.00

Data File: \\cash1\acqudata\GC32\Data\111309.b\1113F012.D
Date : 14-NOV-2009 06:47
Client ID:
Sample Info: 1660 @ 50ppb | PCB5-44K

Instrument: GC32.i
Operator: JMSmith
Column diameter: 0.32

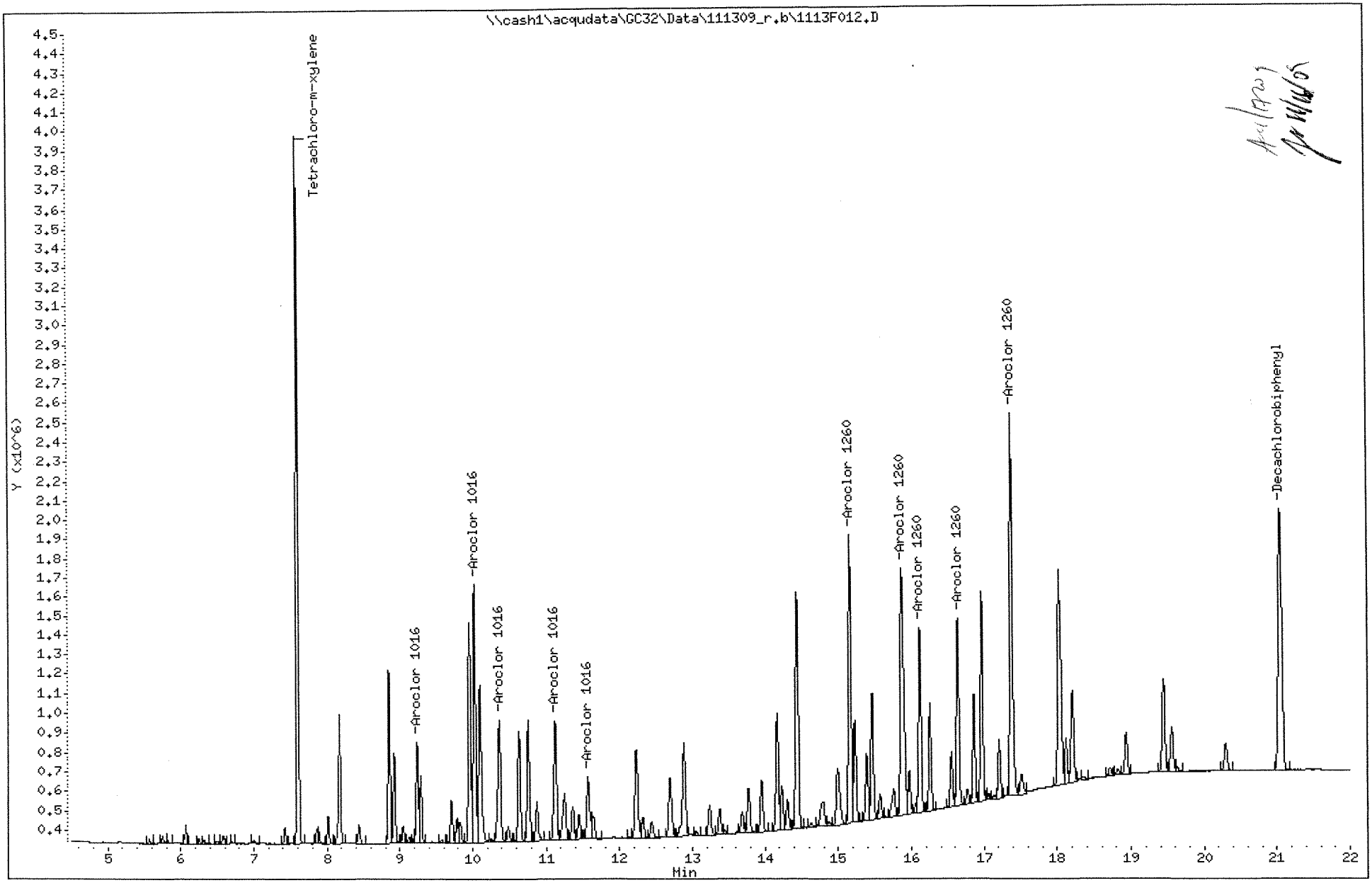
Column phase: DB-35MS



Data File: \\cash1\acqudata\GC32\Data\111309_r.b\1113F012.D
Date : 14-NOV-2009 06:47
Client ID:
Sample Info: 1660 @ 50ppb | PCB5-44K

Instrument: GC32.i
Operator: JMSmith
Column diameter: 0.32

Column phase: DB-XLB



Data File: \\cash1\acqudata\GC32\Data\111309.b\1113F013.D
Report Date: 16-Nov-2009 15:37

Laboratory Name

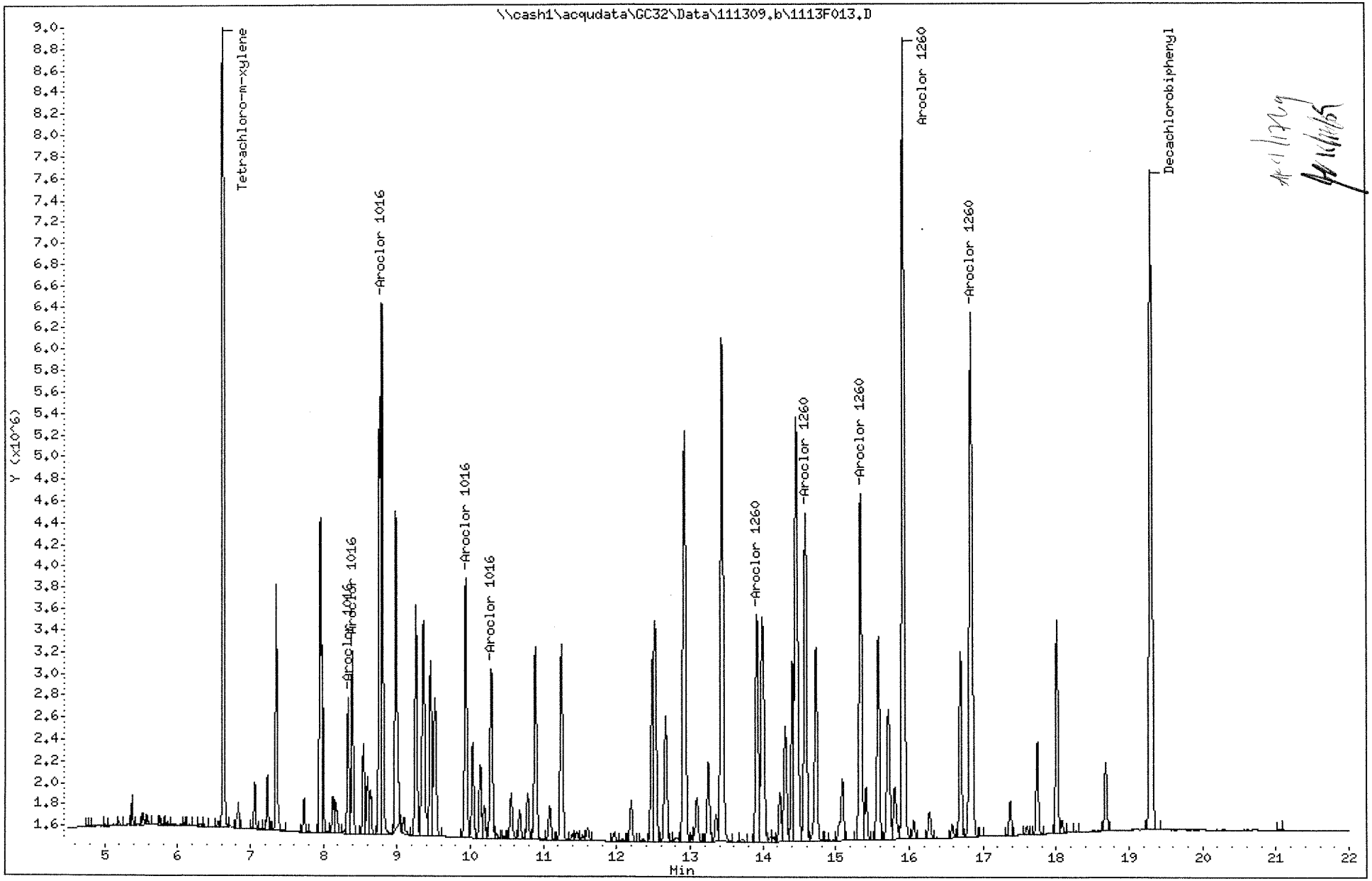
Sample #1 : \\cash1\acqudata\GC32\Data\111309.b\1113F013.D
Sample #2 : \\cash1\acqudata\GC32\Data\111309_r.b\1113F013.D
Inj Date : 14-NOV-2009 07:17
Sample Info: 1660 @ 100ppb | PCB5-44L
Misc Info :
Cal Date : 16-NOV-2009 15:25
Operator : JMSmith
Inst ID : GC32.i
Dil Factor : 1.000000

Method #1 : \\cash1\acqudata\GC32\Data\111309.b\111309ul_f.m
Method #2 : \\cash1\acqudata\GC32\Data\111309_r.b\111309ul_r.m
Sub List #1 : AR1660.SUB
Sub List #2 : AR1660.SUB
Col #1 Phase : DB-35MS
Col #2 Phase : DB-XLB

Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2	Target Range	Ratio
Tetrachloro-m-xylene	6.626	7.599	17877169	11346065	9.92	10.3		100.00
Aroclor 1016	8.336	9.243	2201731	2012258	101	66.2	80.00- 120.00	100.00
	8.392	10.029	2973646	5391053	98.0	95.6	105.20- 157.80	135.06
	8.796	10.369	9191980	2928045	91.3	94.4	350.07- 525.10	417.49
	9.939	11.126	5106376	2599222	91.7	92.7	190.39- 285.59	231.93
	10.286	11.569	3598131	1659788	97.3	93.4	140.33- 210.50	163.42
			Average of Peak Amounts =		95.9	88.5		
Aroclor 1260	13.916	15.163	5172478	6444096	89.2	89.9	80.00- 120.00	100.00
	14.582	15.873	7482403	7541640	90.0	89.3	111.19- 166.79	144.66
	15.342	16.119	7937905	4047125	90.9	92.0	120.89- 181.34	153.46
	15.922	16.643	16926338	4215099	91.0	90.5	276.10- 414.15	327.24
	16.836	17.379	12922076	8749630	91.6	93.3	207.76- 311.63	249.82
			Average of Peak Amounts =		90.5	91.0		
Decachlorobiphenyl	19.299	21.056	15335571	8283665	9.48	9.37		100.00

Data File: \\cash1\acqudata\GC32\Data\111309.b\1113F013.D
Date : 14-NOV-2009 07:17
Client ID:
Sample Info: 1660 @ 100ppb | PCB5-44L

Instrument: GC32.i
Operator: JMSmith
Column phase: DB-35MS
Column diameter: 0.32

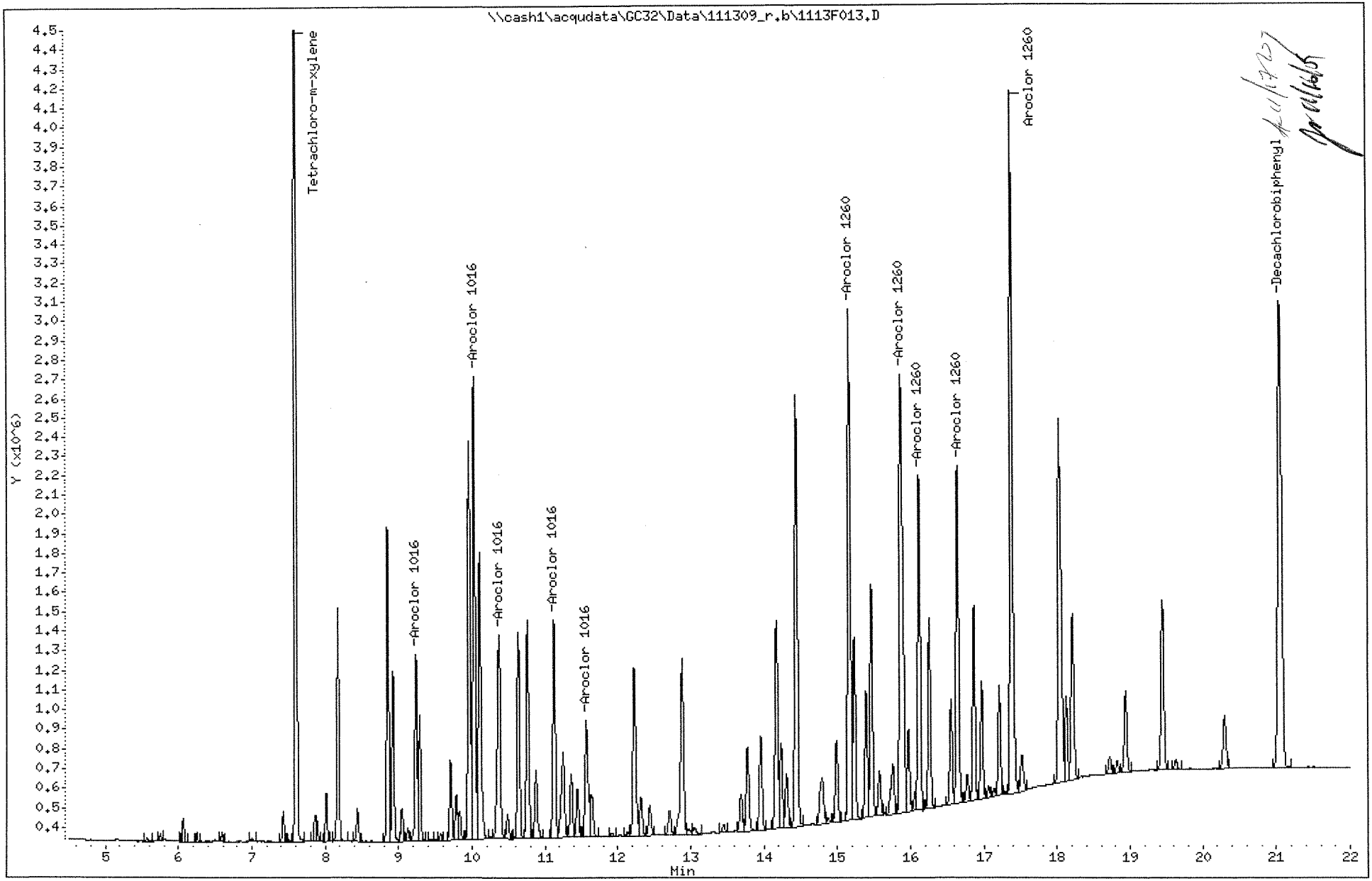


Data File: \\cash1\acqudata\GC32\Data\111309_r.b\1113F013.D
Date : 14-NOV-2009 07:17
Client ID:
Sample Info: 1660 @ 100ppb | PCB5-44L

Instrument: GC32.i

Operator: JMSmith
Column diameter: 0.32

Column phase: DB-XLB



Data File: \\cash1\acqudata\GC32\Data\111309.b\1113F014.D
Report Date: 16-Nov-2009 15:37

Laboratory Name

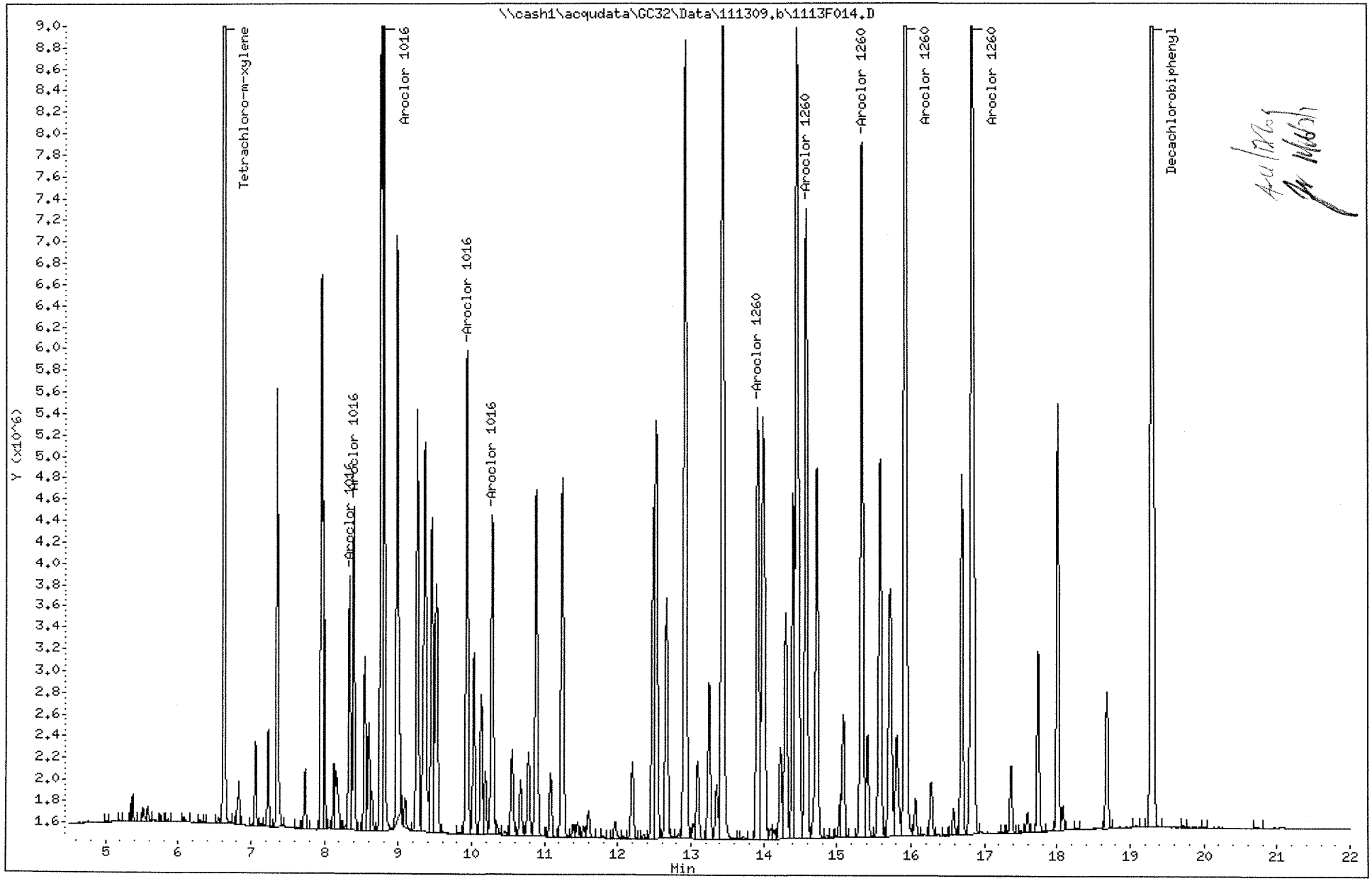
Sample #1 : \\cash1\acqudata\GC32\Data\111309.b\1113F014.D
Sample #2 : \\cash1\acqudata\GC32\Data\111309_r.b\1113F014.D
Inj Date : 14-NOV-2009 07:47
Sample Info: 1660 @ 200ppb | PCB5-44M
Misc Info :
Cal Date : 16-NOV-2009 15:25
Operator : JMSmith
Inst ID : GC32.i
Dil Factor : 1.000000

Method #1 : \\cash1\acqudata\GC32\Data\111309.b\111309ul_f.m
Method #2 : \\cash1\acqudata\GC32\Data\111309_r.b\111309ul_r.m
Sub List #1 : AR1660.SUB
Sub List #2 : AR1660.SUB
Col #1 Phase : DB-35MS
Col #2 Phase : DB-XLB

Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2	Target Range	Ratio
Tetrachloro-m-xylene	6.626	7.600	33697719	21922112	18.7	19.9		100.00
Aroclor 1016	8.336	9.240	3960178	3656335	182	135	80.00- 120.00	100.00
	8.393	10.030	5333996	10451802	176	185	105.20- 157.80	134.69
	8.799	10.370	17205573	5659294	171	182	350.07- 525.10	434.46
	9.936	11.123	9510025	4952325	171	177	190.39- 285.59	240.14
	10.286	11.566	6858603	3312715	186	186	140.33- 210.50	173.19
			Average of Peak Amounts =		177	173		
Aroclor 1260	13.916	15.163	9968647	12336614	172	172	80.00- 120.00	100.00
	14.579	15.873	14443560	14640970	174	173	111.19- 166.79	144.89
	15.339	16.120	15339937	7803422	176	177	120.89- 181.34	153.88
	15.923	16.643	33771867	8093630	182	174	276.10- 414.15	338.78
	16.833	17.380	25601308	17131754	181	183	207.76- 311.63	256.82
			Average of Peak Amounts =		177	176		
Decachlorobiphenyl	19.296	21.053	30219930	15678343	18.7	17.7		100.00

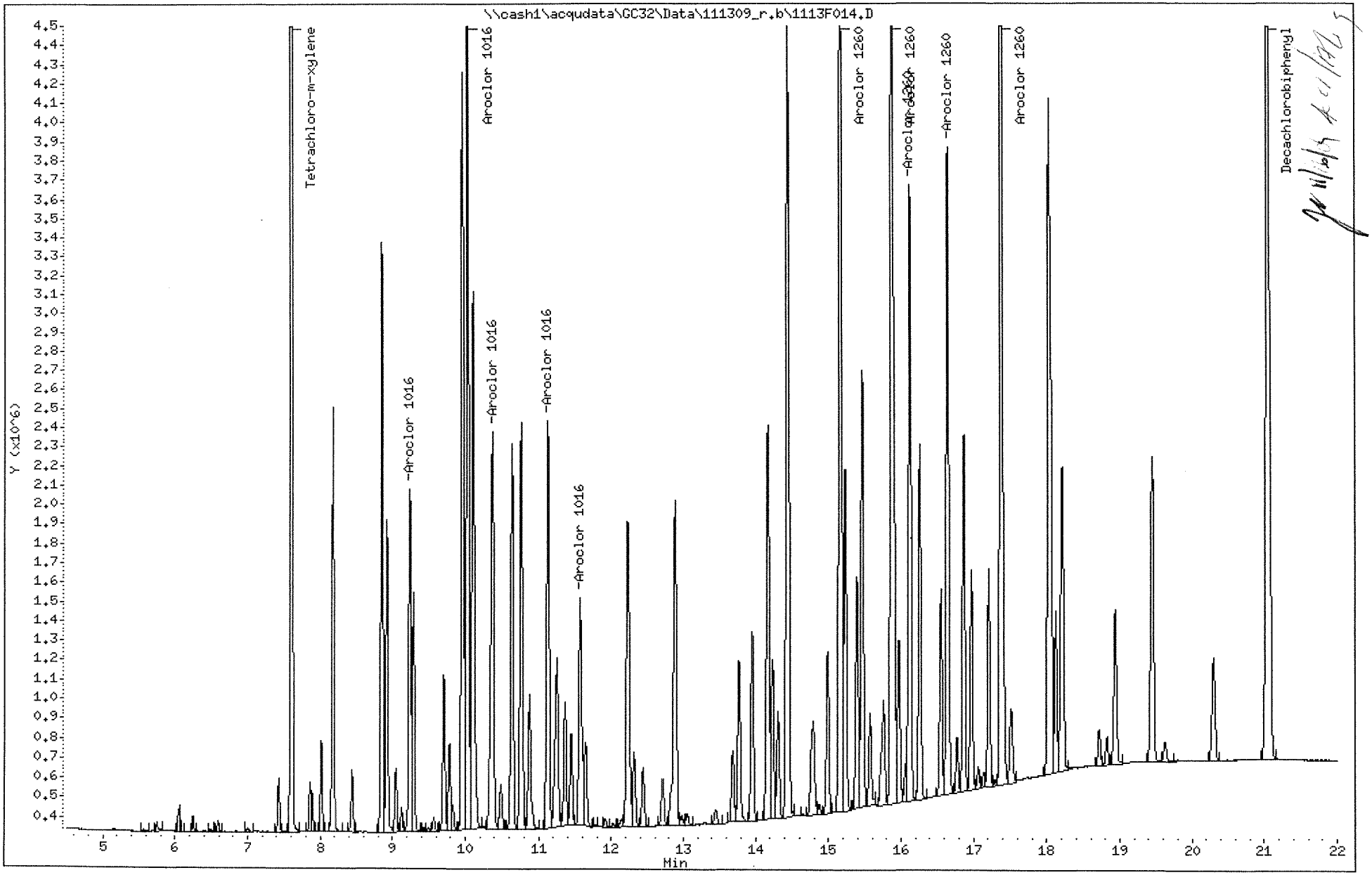
Data File: \\cash1\acqudata\GC32\Data\111309.b\1113F014.D
Date : 14-NOV-2009 07:47
Client ID:
Sample Info: 1660 @ 200ppb | PCB5-44M

Instrument: GC32.i
Operator: JMSmith
Column phase: DB-35MS
Column diameter: 0.32



Data File: \\cash1\acqudata\GC32\Data\111309_r.b\1113F014.D
Date : 14-NOV-2009 07:47
Client ID:
Sample Info: 1660 @ 200ppb | PCB5-44M

Instrument: GC32.i
Operator: JMSmith
Column phase: DB-XLB
Column diameter: 0.32



Data File: \\cash1\acqudata\GC32\Data\111309.b\1113F015.D
Report Date: 16-Nov-2009 15:37

Laboratory Name

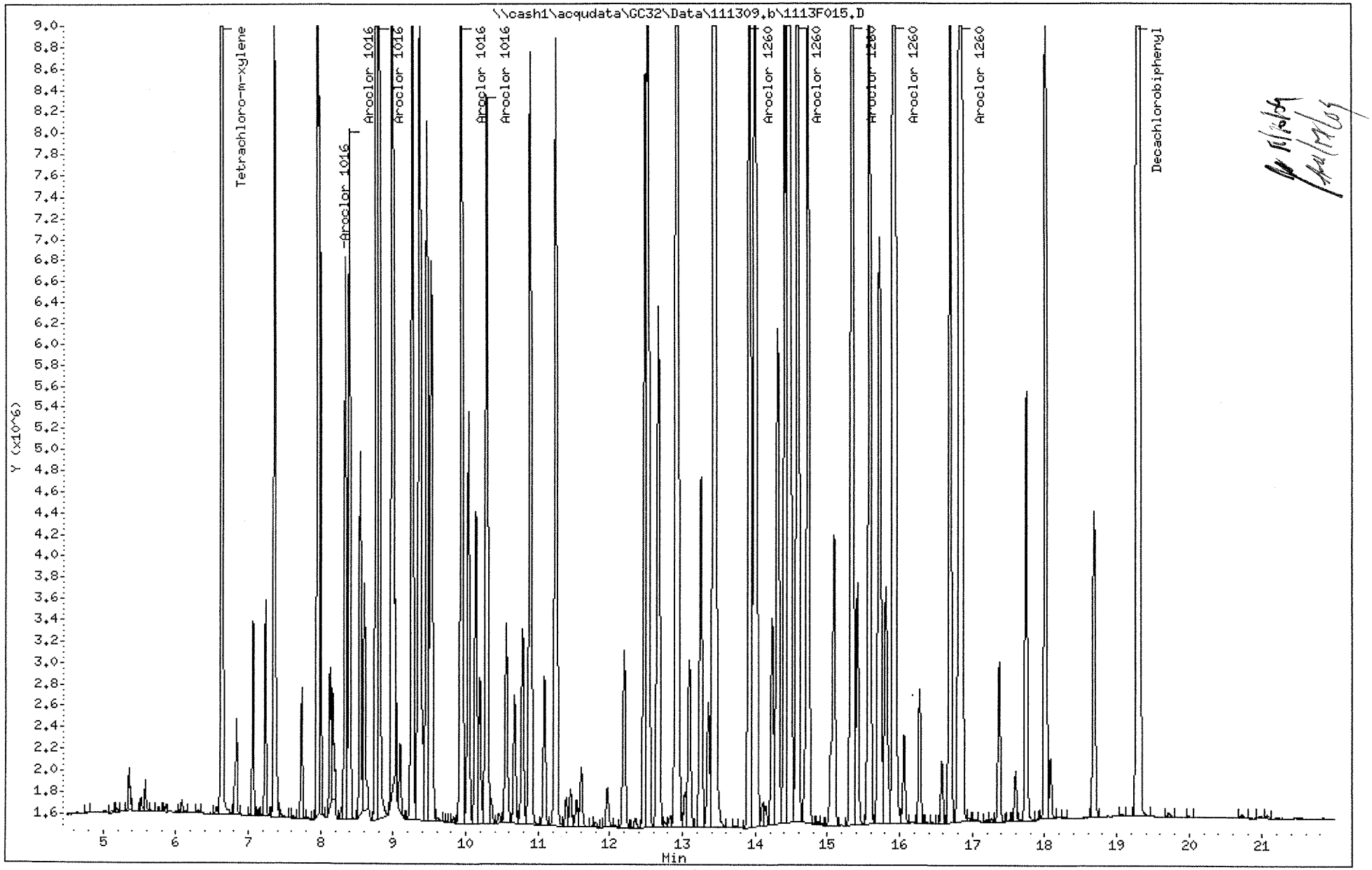
Sample #1 : \\cash1\acqudata\GC32\Data\111309.b\1113F015.D
Sample #2 : \\cash1\acqudata\GC32\Data\111309_r.b\1113F015.D
Inj Date : 14-NOV-2009 08:17
Sample Info: 1660 @ 500ppb | PCB5-44N
Misc Info :
Cal Date : 16-NOV-2009 15:25
Operator : JMSmith
Inst ID : GC32.i
Dil Factor : 1.000000

Method #1 : \\cash1\acqudata\GC32\Data\111309.b\111309ul_f.m
Method #2 : \\cash1\acqudata\GC32\Data\111309_r.b\111309ul_r.m
Sub List #1 : AR1660.SUB
Sub List #2 : AR1660.SUB
Col #1 Phase : DB-35MS
Col #2 Phase : DB-XLB

Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2	Target Range	Ratio
Tetrachloro-m-xylene	6.627	7.601	81790609	51516425	45.4	46.8		100.00
Aroclor 1016	8.337	9.241	8957739	8111774	412	281	80.00- 120.00	100.00
	8.394	10.031	11779308	24673815	388	438	105.20- 157.80	131.50
	8.797	10.371	39197640	13027105	389	420	350.07- 525.10	437.58
	9.937	11.124	21318316	11341949	383	404	190.39- 285.59	237.99
	10.284	11.567	15713390	7968337	425	448	140.33- 210.50	175.42
			Average of Peak Amounts =		399	398		
Aroclor 1260	13.917	15.161	23837856	28909413	411	403	80.00- 120.00	100.00
	14.584	15.871	33132223	34671159	398	411	111.19- 166.79	138.99
	15.340	16.121	36022461	18019497	413	409	120.89- 181.34	151.11
	15.920	16.644	82270446	18922321	442	406	276.10- 414.15	345.13
	16.834	17.381	61905546	41256063	439	440	207.76- 311.63	259.69
			Average of Peak Amounts =		421	414		
Decachlorobiphenyl	19.297	21.054	72578670	36217292	44.9	41.0		100.00

Data File: \\cash1\acqudata\GC32\Data\111309,b\1113F015.D
Date : 14-NOV-2009 08:17
Client ID:
Sample Info: 1660 @ 500ppb | PCB5-44N

Instrument: GC32.i
Operator: JMSmith
Column phase: DB-35MS
Column diameter: 0.32

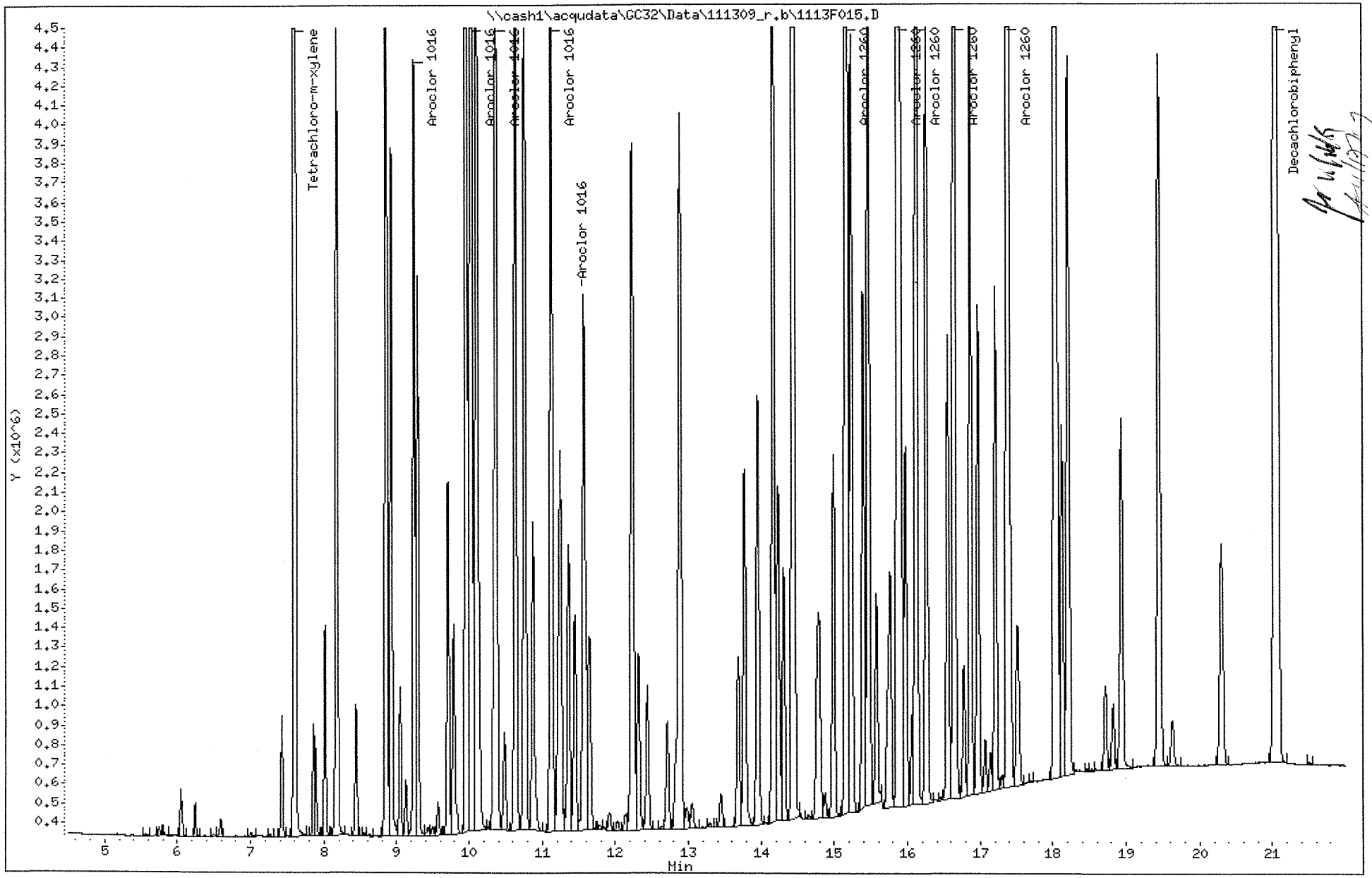


Data File: \\cash1\acqudata\GC32\Data\111309_r.b\1113F015.D
Date : 14-NOV-2009 08:17
Client ID:
Sample Info: 1660 @ 500ppb | PCB5-44N

Instrument: GC32.i

Operator: JMSmith
Column diameter: 0.32

Column phase: DB-XLB



Data File: \\cash1\acqudata\GC32\Data\111309.b\1113F016.D
Report Date: 16-Nov-2009 15:37

Laboratory Name

Sample #1 : \\cash1\acqudata\GC32\Data\111309.b\1113F016.D
Sample #2 : \\cash1\acqudata\GC32\Data\111309_r.b\1113F016.D
Inj Date : 14-NOV-2009 08:47
Sample Info: 1016 @ 100ppb | PCB5-45Q
Misc Info :
Cal Date : 16-NOV-2009 15:25
Operator : JMSmith
Inst ID : GC32.i
Dil Factor : 1.000000

Method #1 : \\cash1\acqudata\GC32\Data\111309.b\111309ul_f.m
Method #2 : \\cash1\acqudata\GC32\Data\111309_r.b\111309ul_r.m
Sub List #1 : AR1016.sub
Sub List #2 : AR1016.sub
Col #1 Phase : DB-35MS
Col #2 Phase : DB-XLB

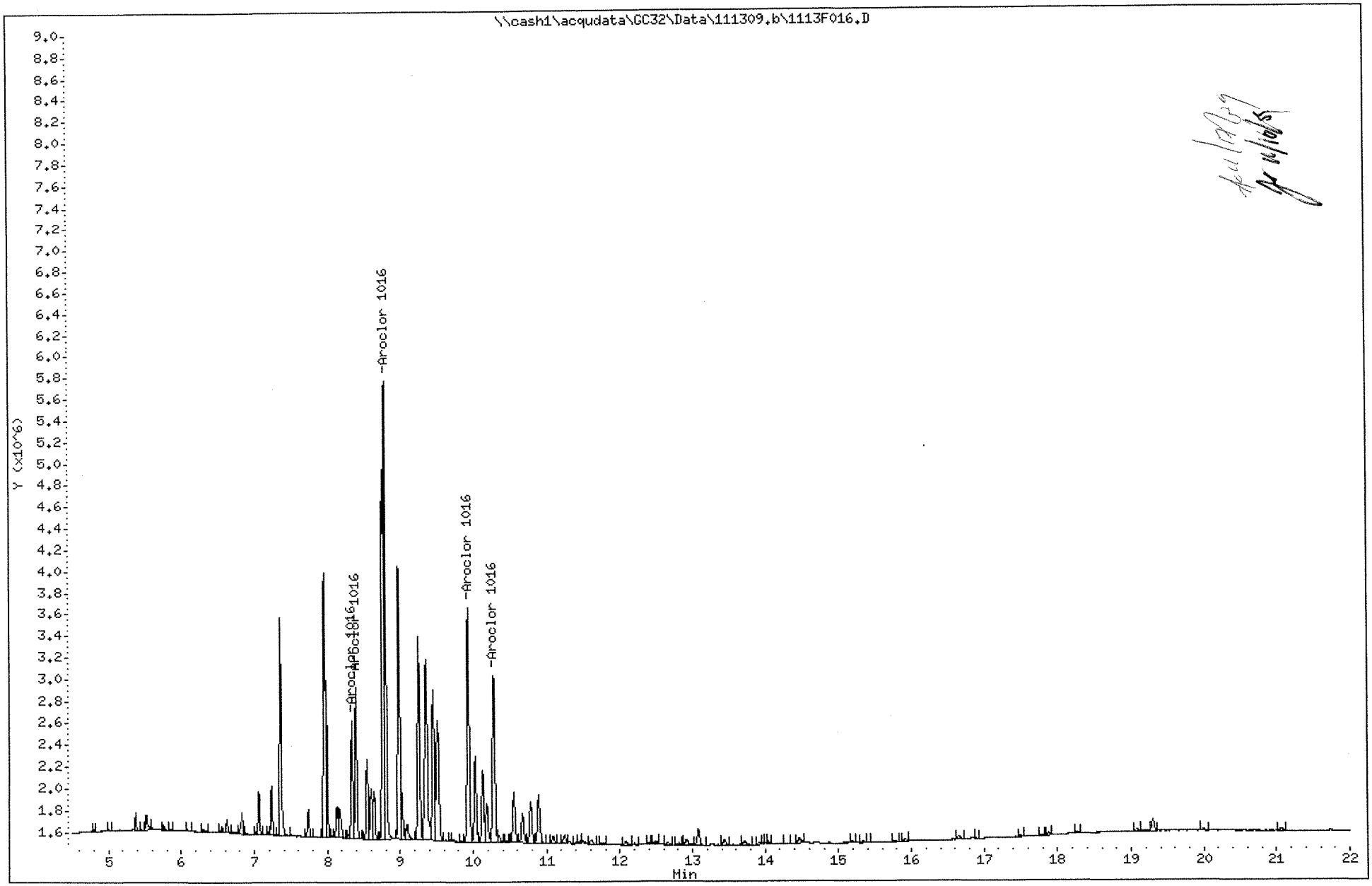
Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2	Target Range	Ratio
Aroclor 1016	8.335	9.242	1806567	1692481	83.1	86.3	80.00- 120.00	100.00
	8.392	10.032	2465791	4637468	81.3	82.3	105.20- 157.80	136.49
	8.798	10.372	8149539	2504193	80.9	80.7	350.07- 525.10	451.11
	9.938	11.125	4520547	2280255	81.2	81.3	190.39- 285.59	250.23
	10.285	11.565	3538552	1732226	95.7	97.4	140.33- 210.50	195.87
			Average of Peak Amounts =		84.4	85.6		

Data File: \\cash1\acqudata\GC32\Data\111309.b\1113F016.D
Date : 14-NOV-2009 08:47
Client ID:
Sample Info: 1016 @ 100ppb | PCB5-45Q

Instrument: GC32.i

Operator: JMSmith
Column diameter: 0.32

Column phase: DB-35MS



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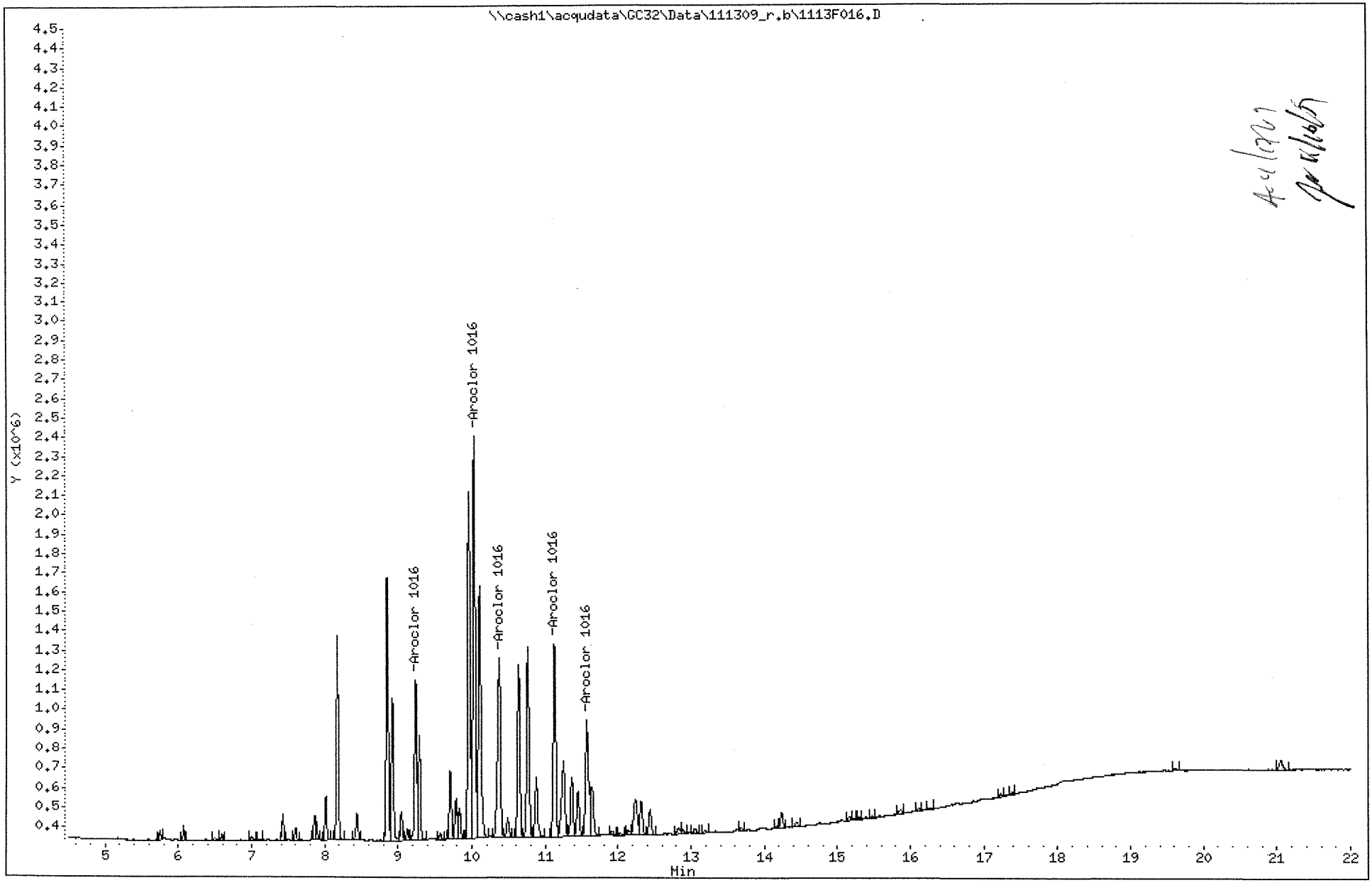
Date : 14-NOV-2009 08:47
Client ID:
Sample Info: 1016 @ 100ppb | PCB5-45Q

Instrument: GC32.i

Operator: JMSmith
Column diameter: 0.32

Column phase: DB-XLB



Data File: \\cash1\acqudata\GC32\Data\111309.b\1113F017.D
Report Date: 16-Nov-2009 15:37

Laboratory Name

Sample #1 : \\cash1\acqudata\GC32\Data\111309.b\1113F017.D
Sample #2 : \\cash1\acqudata\GC32\Data\111309_r.b\1113F017.D
Inj Date : 14-NOV-2009 09:17
Sample Info: 1221 @ 100ppb | PCB5-44B
Misc Info :
Cal Date : 16-NOV-2009 15:25
Operator : JMSmith
Inst ID : GC32.i
Dil Factor : 1.000000

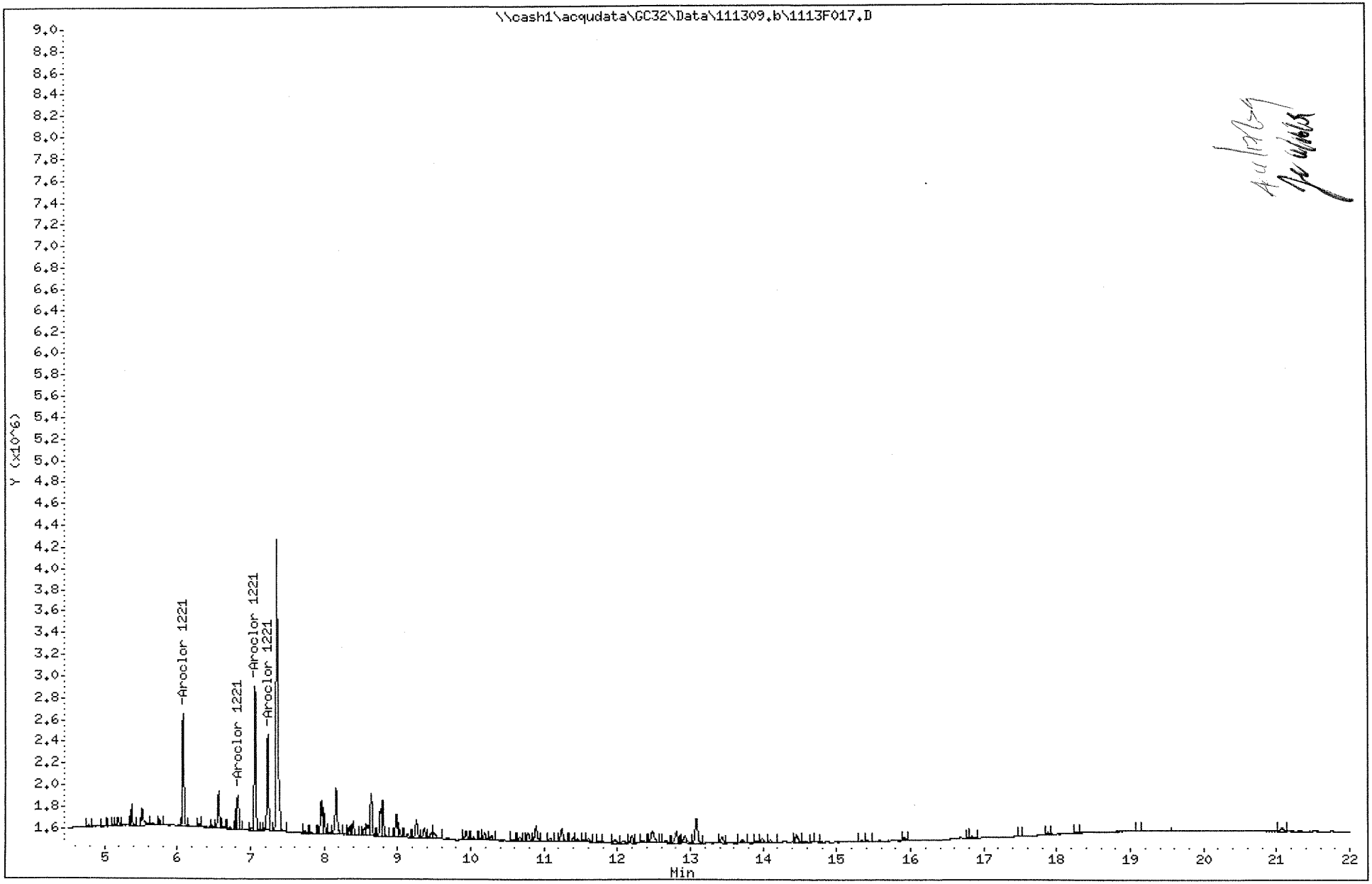
Method #1 : \\cash1\acqudata\GC32\Data\111309.b\111309ul_f.m
Method #2 : \\cash1\acqudata\GC32\Data\111309_r.b\111309ul_r.m
Sub List #1 : AR1221.SUB
Sub List #2 : AR1221.SUB
Col #1 Phase : DB-35MS
Col #2 Phase : DB-XLB

Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2	Target Range	Ratio
Aroclor 1221	6.079	6.592	1410538	1089105	91.2	88.6	80.00- 120.00	100.00
	6.832	7.266	469858	329067	92.1	91.7	26.39- 39.58	33.31
	7.062	7.426	1944495	449457	91.8	94.5	109.64- 164.46	137.85
	7.232	8.012	1336236	785180	91.2	93.7	75.82- 113.73	94.73
			Average of Peak Amounts =		91.6	92.1		

Data File: \\cash1\acqudata\GC32\Data\111309.b\1113F017.D
Date : 14-NOV-2009 09:17
Client ID:
Sample Info: 1221 @ 100ppb | PCB5-44B

Instrument: GC32.i
Operator: JMSmith
Column diameter: 0.32

Column phase: DB-35MS

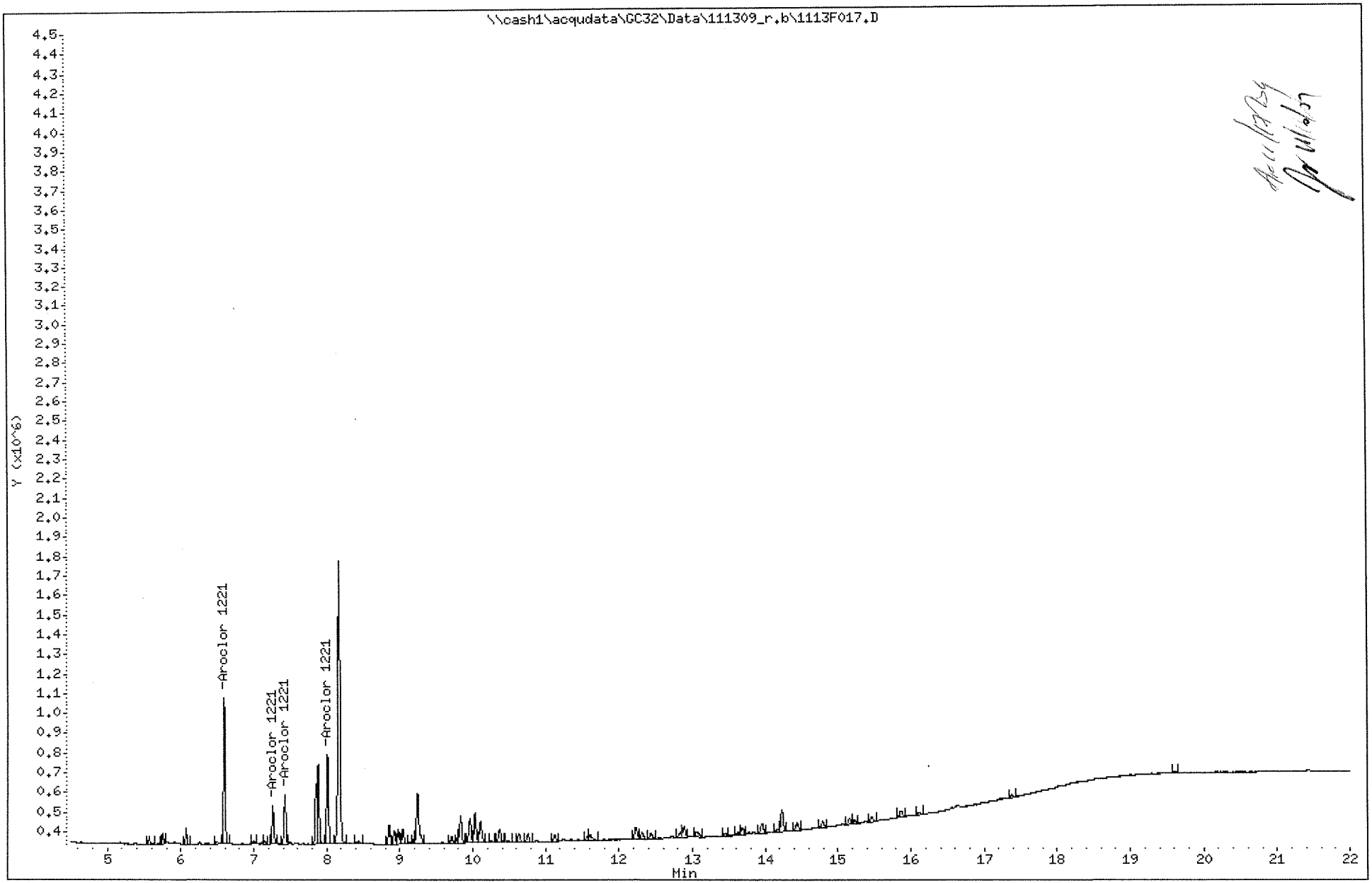


Data File: \\cash1\acqudata\GC32\Data\111309_r.b\1113F017.D
Date : 14-NOV-2009 09:17
Client ID:
Sample Info: 1221 @ 100ppb | PCB5-44B

Instrument: GC32.i

Operator: JMSmith
Column diameter: 0.32

Column phase: DB-XLB



Data File: \\cash1\acqudata\GC32\Data\111309.b\1113F018.D
Report Date: 16-Nov-2009 15:37

Laboratory Name

Sample #1 : \\cash1\acqudata\GC32\Data\111309.b\1113F018.D
Sample #2 : \\cash1\acqudata\GC32\Data\111309_r.b\1113F018.D
Inj Date : 14-NOV-2009 09:47
Sample Info: 1232 @ 100ppb | PCB5-45R
Misc Info :
Cal Date : 16-NOV-2009 15:25
Operator : JMSmith
Inst ID : GC32.i
Dil Factor : 1.000000

Method #1 : \\cash1\acqudata\GC32\Data\111309.b\111309ul_f.m
Method #2 : \\cash1\acqudata\GC32\Data\111309_r.b\111309ul_r.m
Sub List #1 : AR1232.SUB
Sub List #2 : AR1232.SUB
Col #1 Phase : DB-35MS
Col #2 Phase : DB-XLB

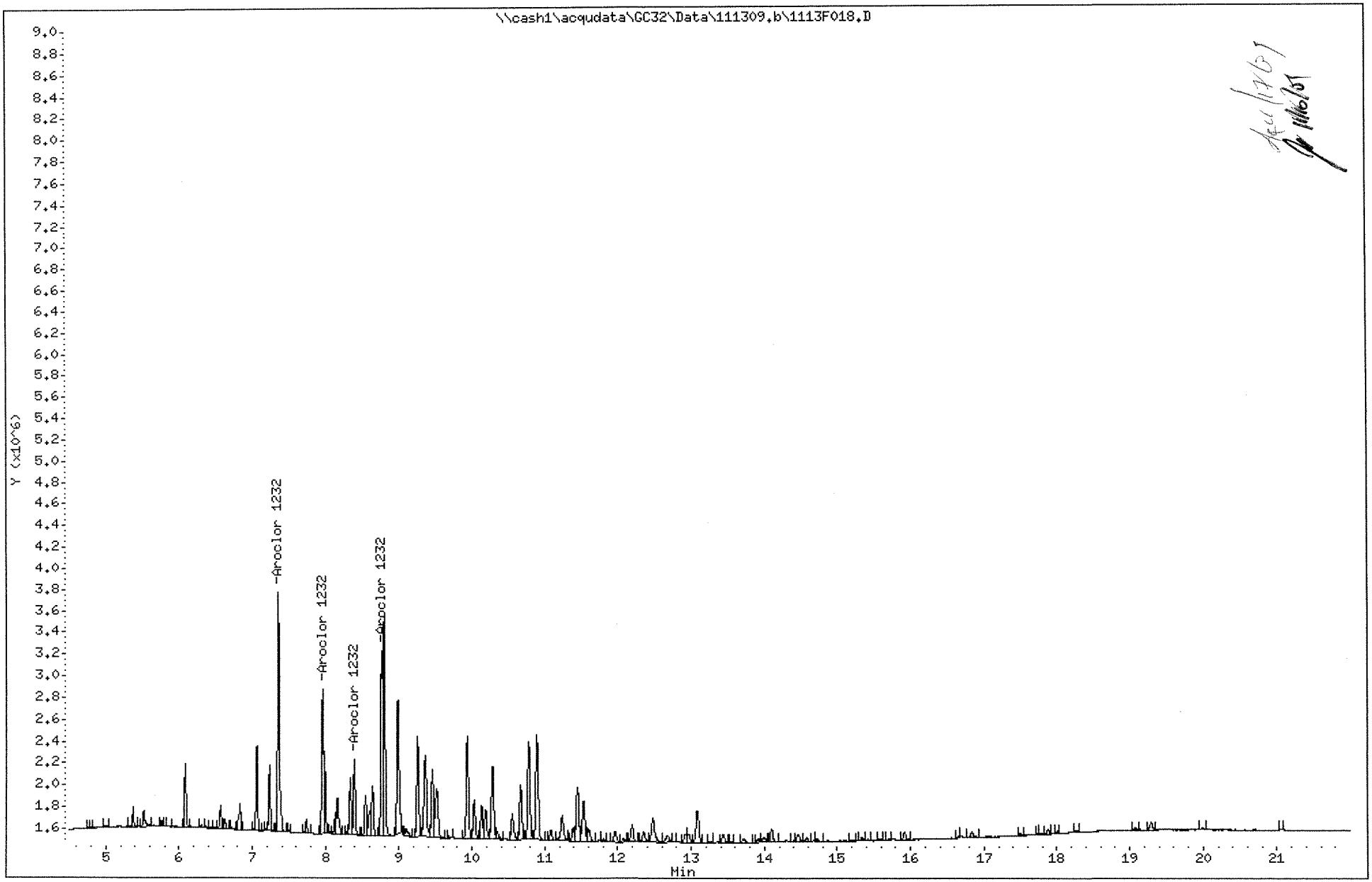
Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2	Target Range	Ratio
Aroclor 1232	7.357	8.174	3728693	2169054	86.5	84.1	80.00- 120.00	100.00
	7.961	8.854	2256243	1222872	98.6	94.0	42.47- 63.71	60.51
	8.394	9.244	1249862	975585	95.1	93.4	24.39- 36.59	33.52
	8.764	9.964	2955000	1810316	98.1	91.6	55.87- 83.81	79.25
			Average of Peak Amounts =		94.6	90.8		

Data File: \\cash1\acqudata\GC32\Data\111309.b\1113F018.D
Date : 14-NOV-2009 09:47
Client ID:
Sample Info: 1232 @ 100ppb | PCB5-45R

Instrument: GC32.i

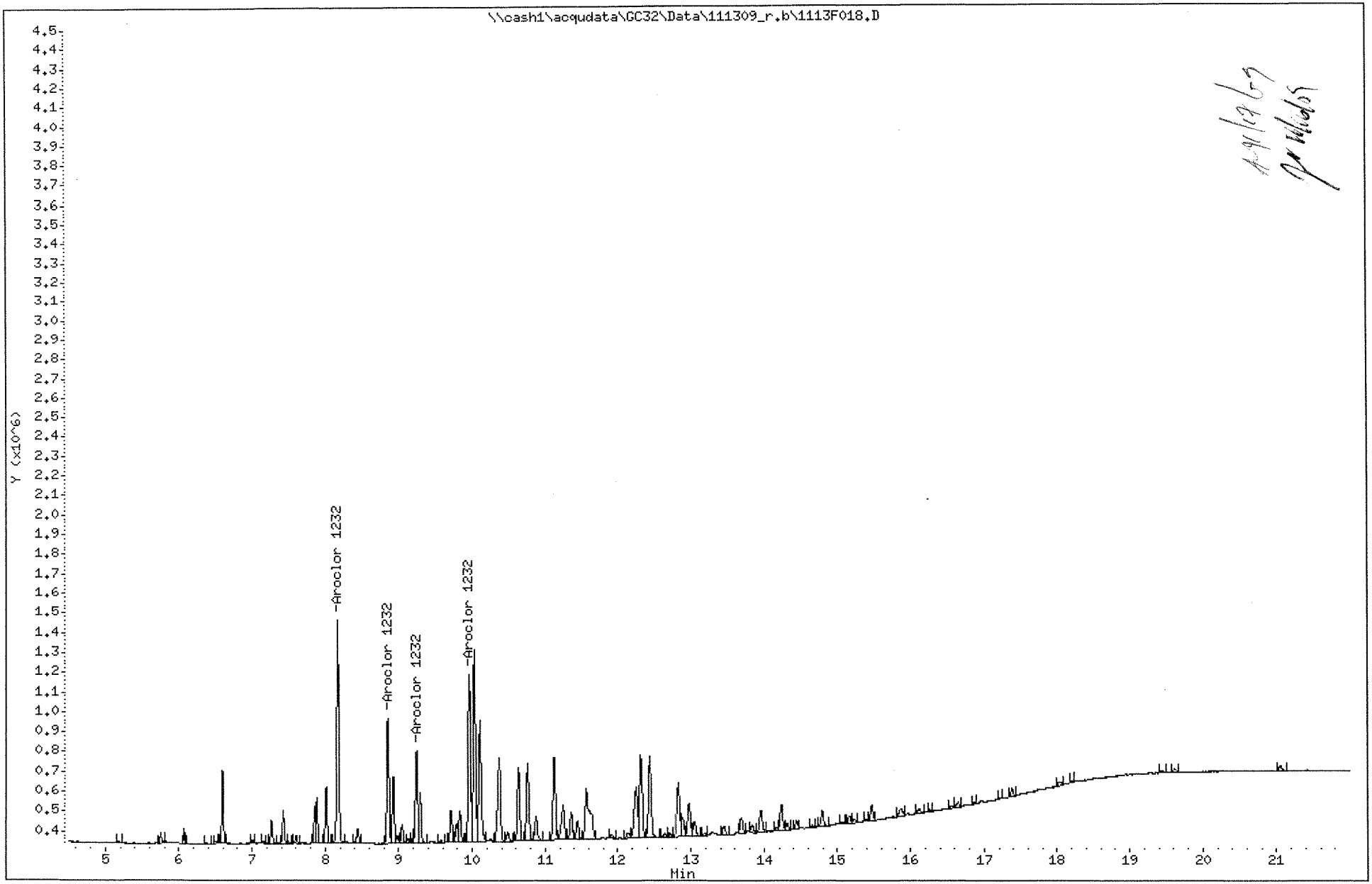
Operator: JMSmith
Column diameter: 0.32

Column phase: DB-35MS



Data File: \\cash1\acqudata\GC32\Data\111309_r.b\1113F018.D
Date : 14-NOV-2009 09:47
Client ID:
Sample Info: 1232 @ 100ppb | PCB5-45R

Instrument: GC32.i
Operator: JMSmith
Column phase: DB-XLB
Column diameter: 0.32



Data File: \\cash1\acqudata\GC32\Data\111309.b\1113F019.D
Report Date: 16-Nov-2009 17:47

Laboratory Name

Sample #1 : \\cash1\acqudata\GC32\Data\111309.b\1113F019.D
Sample #2 : \\cash1\acqudata\GC32\Data\111309_r.b\1113F019.D
Inj Date : 14-NOV-2009 10:17
Sample Info: 1242 @ 100ppb | PCB5-45S
Misc Info :
Cal Date : 16-NOV-2009 17:41
Operator : JMSmith
Inst ID : GC32.i
Dil Factor : 1.000000

Method #1 : \\cash1\acqudata\GC32\Data\111309.b\111309ul_f.m
Method #2 : \\cash1\acqudata\GC32\Data\111309_r.b\111309ul_r.m
Sub List #1 : AR1242.SUB
Sub List #2 : AR1242.SUB
Col #1 Phase : DB-35MS
Col #2 Phase : DB-XLB

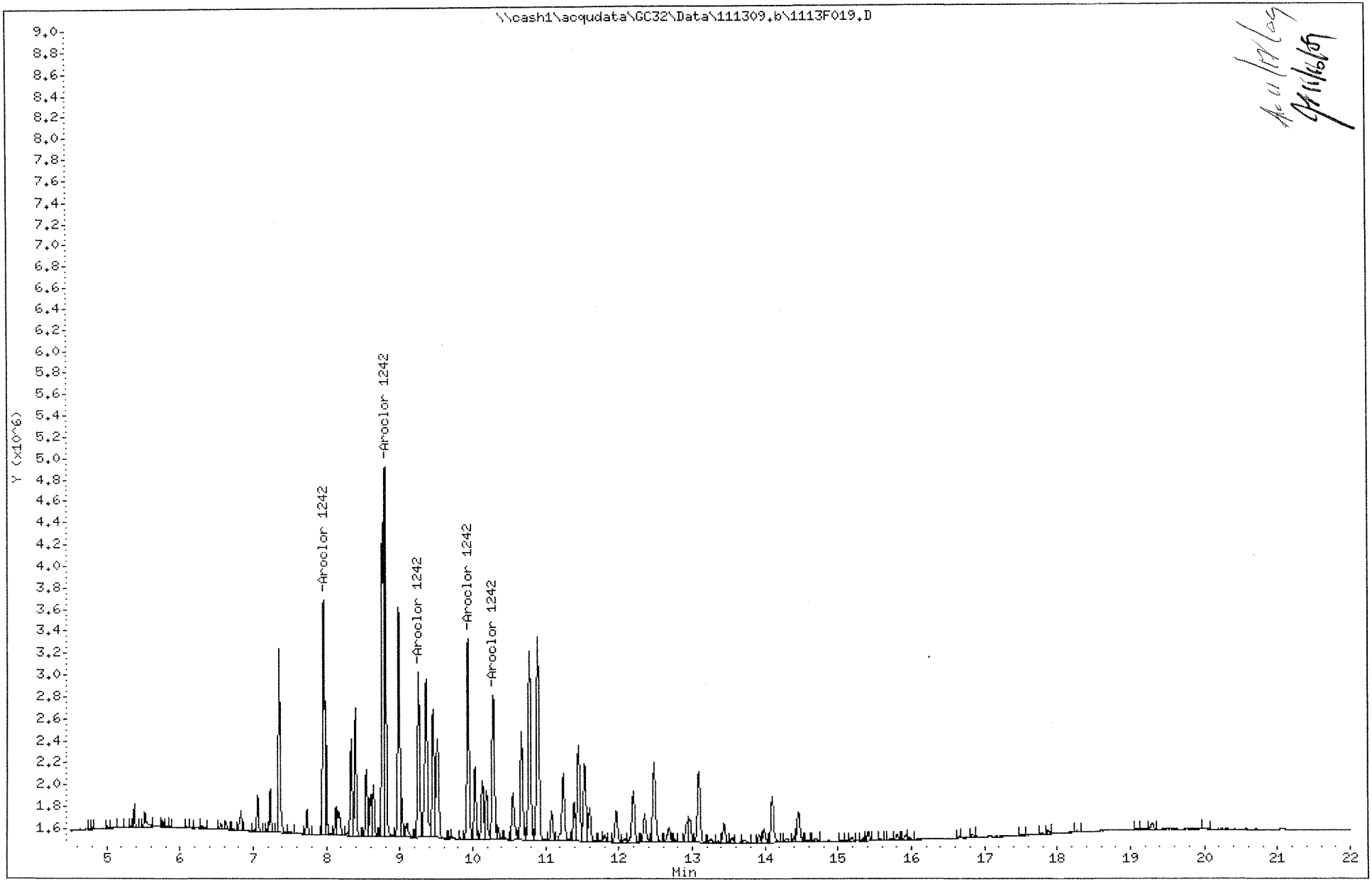
Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2	Target Range	Ratio
Aroclor 1242	7.959	8.853	3700505	2152989	95.9	90.2	80.00- 120.00	100.00
	8.799	10.103	6464626	2469170	93.4	87.9	143.60- 215.39	174.70
	9.256	10.633	2888661	1701940	89.2	94.8	67.18- 100.76	78.06
	9.936	10.760	3836740	1883002	93.0	91.0	85.59- 128.39	103.68
	10.286	11.123	3033236	1914824	89.9	91.4	69.97- 104.95	81.97
			Average of Peak Amounts =		92.3	91.1		

Data File: \\cash1\acqudata\GC32\Data\111309,b\1113F019,D
Date : 14-NOV-2009 10:17
Client ID:
Sample Info: 1242 @ 100ppb | PCB5-45S

Instrument: GC32,i

Operator: JMSmith
Column diameter: 0.32

Column phase: DB-35MS

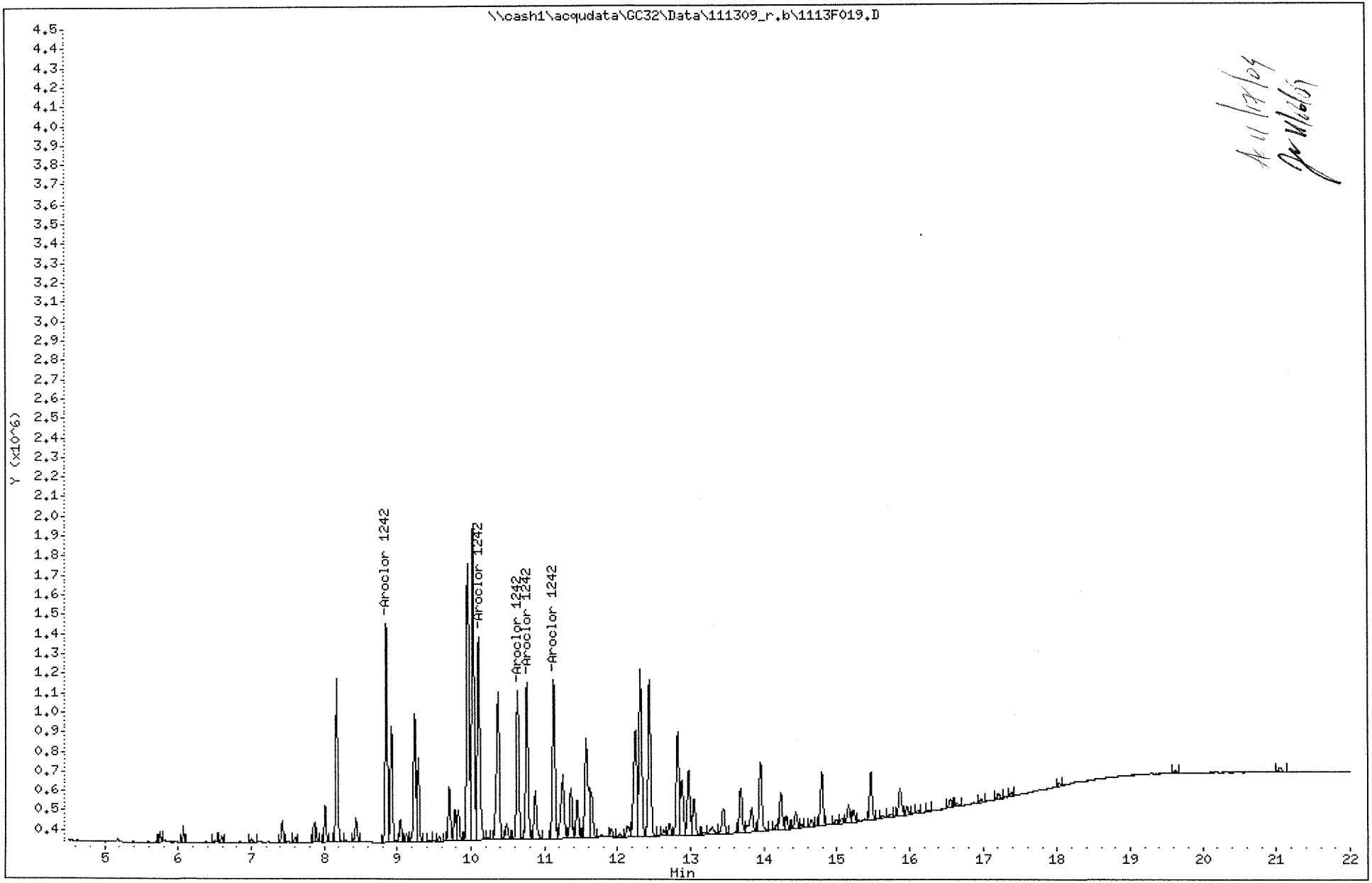


Data File: \\cash1\acqudata\GC32\Data\111309_r.b\1113F019.D
Date : 14-NOV-2009 10:17
Client ID:
Sample Info: 1242 @ 100ppb | PCB5-45S

Instrument: GC32.i

Operator: JMSmith
Column diameter: 0.32

Column phase: DB-XLB



Data File: \\cash1\acqudata\GC32\Data\111309.b\1113F020.D
Report Date: 16-Nov-2009 15:37

Laboratory Name

Sample #1 : \\cash1\acqudata\GC32\Data\111309.b\1113F020.D
Sample #2 : \\cash1\acqudata\GC32\Data\111309_r.b\1113F020.D
Inj Date : 14-NOV-2009 10:47
Sample Info: 1248 @ 100ppb | PCB5-45T
Misc Info :
Cal Date : 16-NOV-2009 15:25
Operator : JMSmith
Inst ID : GC32.i
Dil Factor : 1.000000

Method #1 : \\cash1\acqudata\GC32\Data\111309.b\111309ul_f.m
Method #2 : \\cash1\acqudata\GC32\Data\111309_r.b\111309ul_r.m
Sub List #1 : AR1248.SUB
Sub List #2 : AR1248.SUB
Col #1 Phase : DB-35MS
Col #2 Phase : DB-XLB

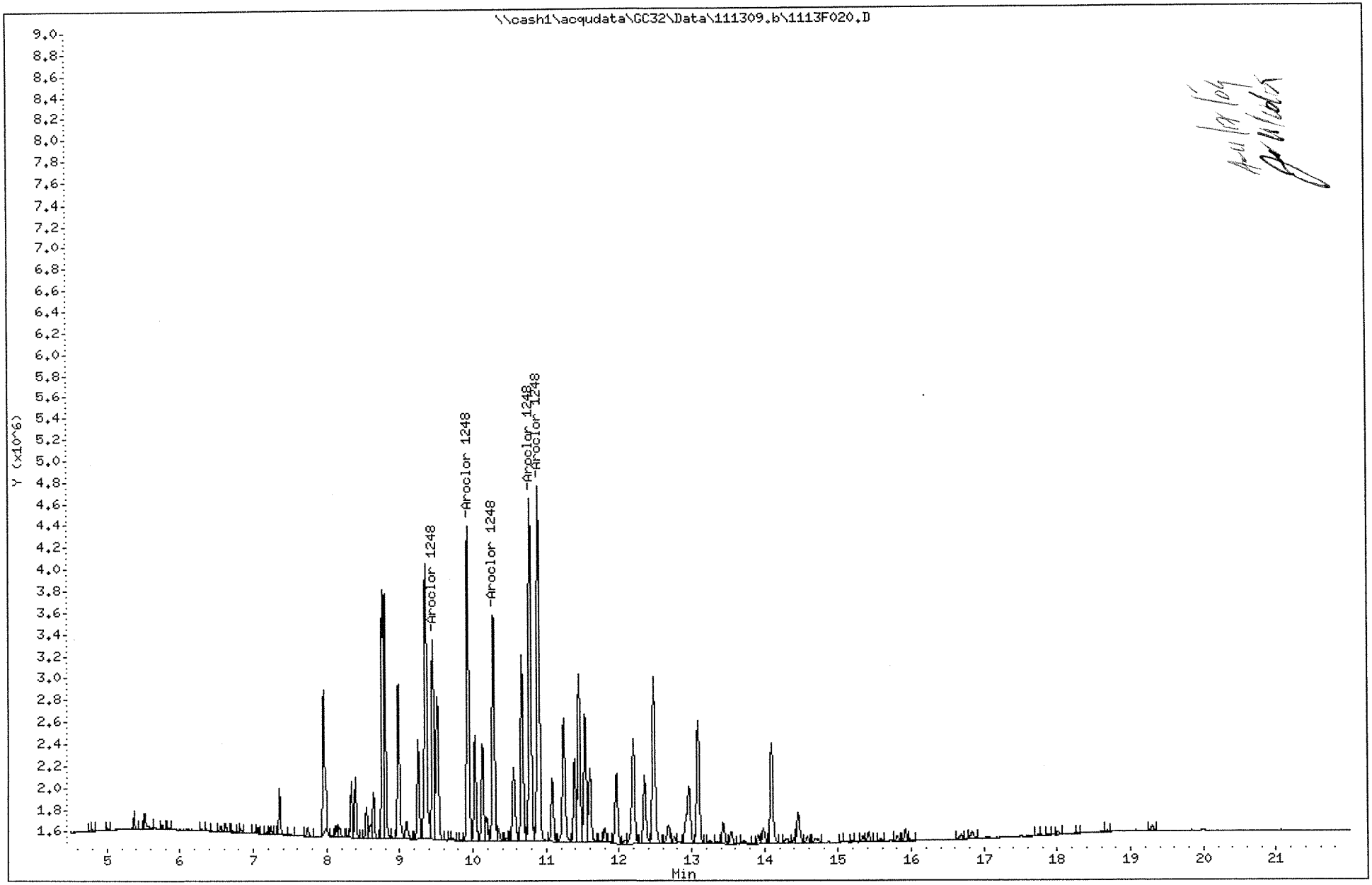
Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2	Target Range	Ratio
Aroclor 1248	9.454	10.761	3694003	2876749	94.7	95.3	80.00- 120.00	100.00
	9.938	11.125	6215231	3356685	96.5	95.8	132.09- 198.13	168.25
	10.284	11.565	4650629	2181531	93.3	93.6	102.23- 153.35	125.90
	10.784	12.315	7155453	4057531	91.4	92.3	160.64- 240.96	193.70
	10.894	12.435	8008341	3693639	91.7	89.1	179.21- 268.82	216.79
			Average of Peak Amounts =		93.5	93.2		

Data File: \\cash1\acqudata\GC32\Data\111309.b\1113F020.D
Date : 14-NOV-2009 10:47
Client ID:
Sample Info: 1248 @ 100ppb | PCB5-45T

Instrument: GC32.i

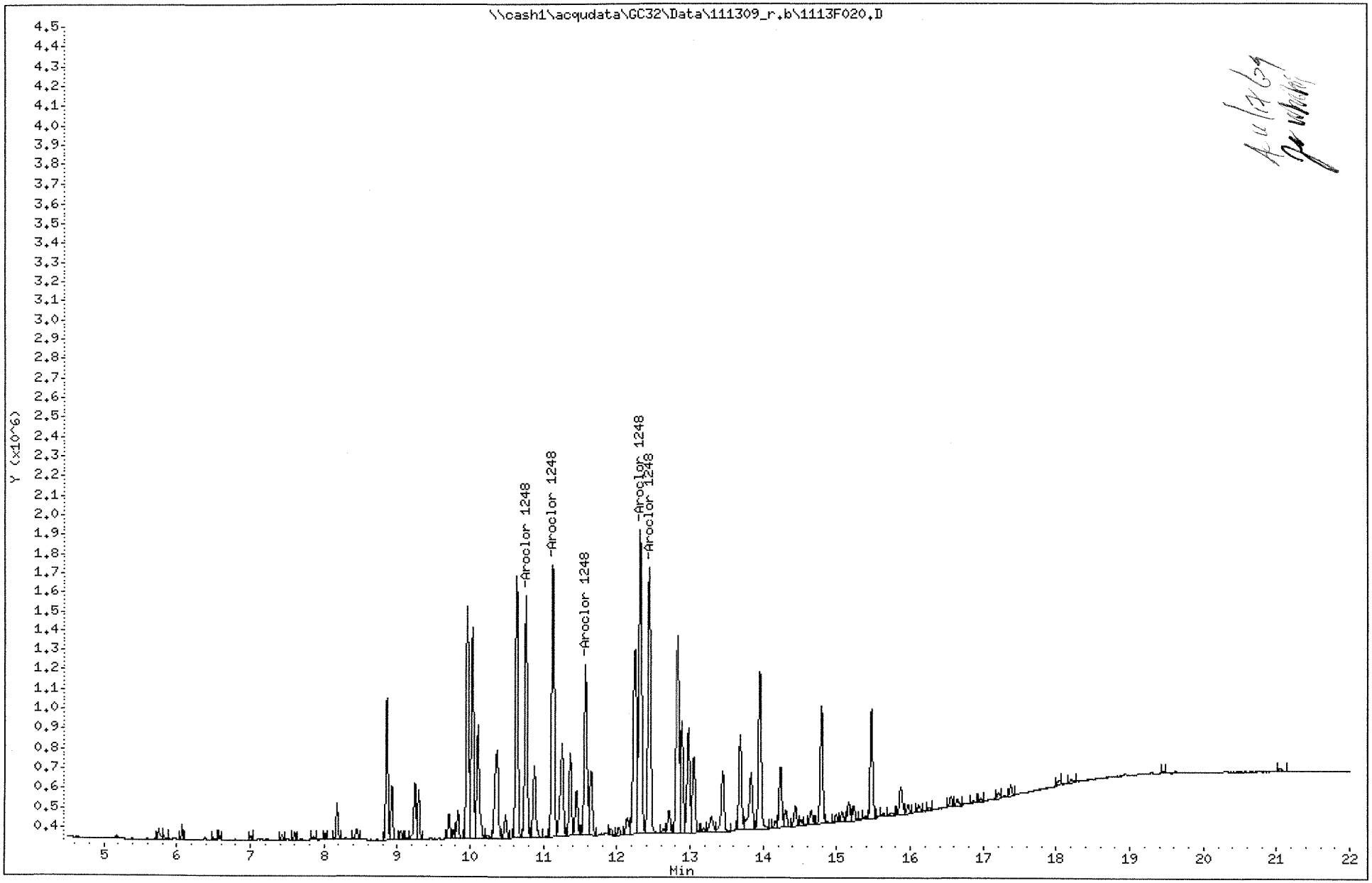
Operator: JMSmith
Column diameter: 0.32

Column phase: DB-35MS



Data File: \\cash1\acqudata\GC32\Data\111309_r.b\1113F020.D
Date : 14-NOV-2009 10:47
Client ID:
Sample Info: 1248 @ 100ppb | PCB5-45T

Instrument: GC32.i
Operator: JMSmith
Column phase: DB-XLB
Column diameter: 0.32



Data File: \\cash1\acqudata\GC32\Data\111309.b\1113F021.D
Report Date: 16-Nov-2009 15:37

Laboratory Name

Sample #1 : \\cash1\acqudata\GC32\Data\111309.b\1113F021.D
Sample #2 : \\cash1\acqudata\GC32\Data\111309_r.b\1113F021.D
Inj Date : 14-NOV-2009 11:17
Sample Info: 1254 @ 100ppb | PCB5-44C
Misc Info :
Cal Date : 16-NOV-2009 15:25
Operator : JMSmith
Inst ID : GC32.i
Dil Factor : 1.000000

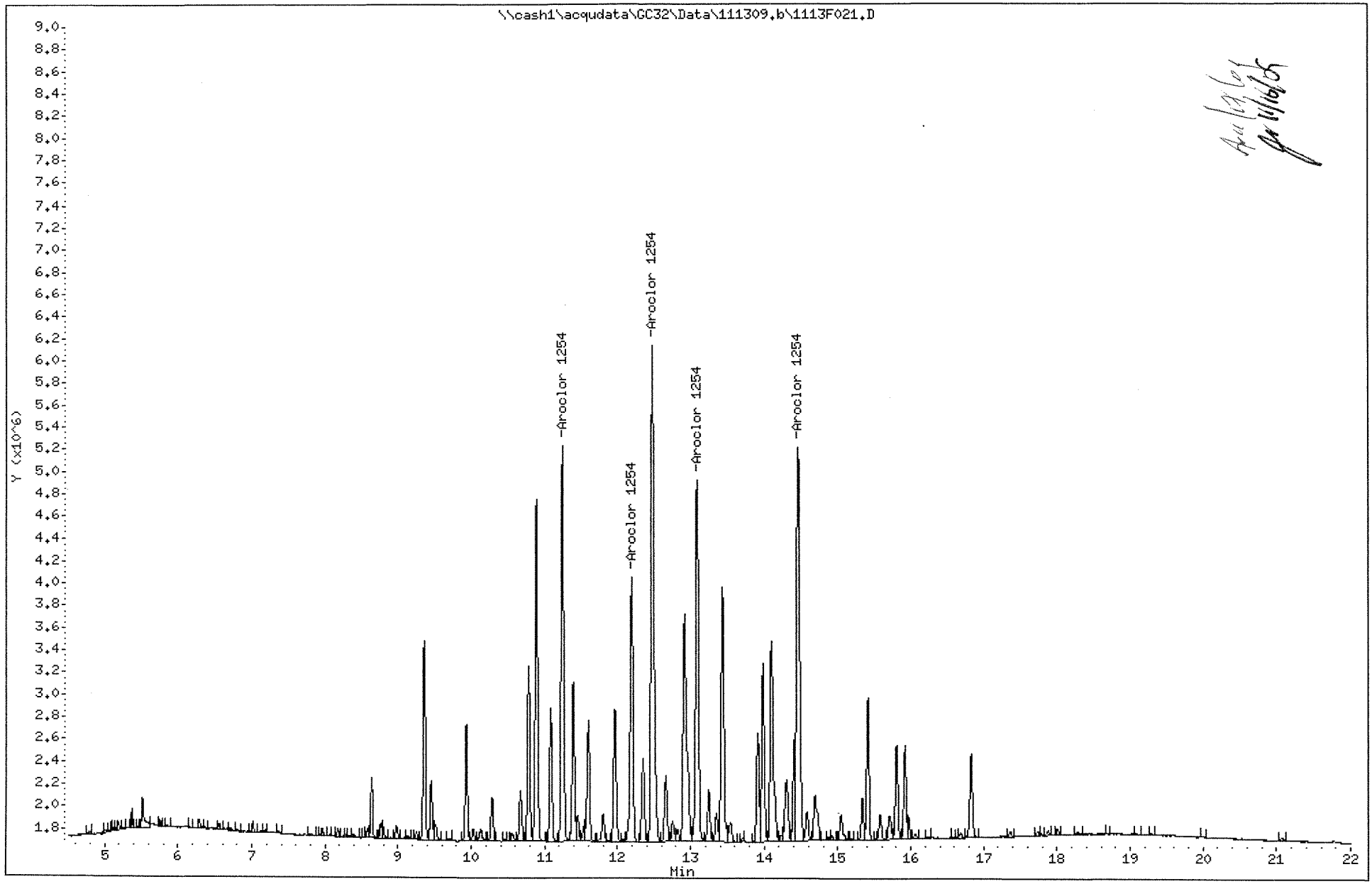
Method #1 : \\cash1\acqudata\GC32\Data\111309.b\111309ul_f.m
Method #2 : \\cash1\acqudata\GC32\Data\111309_r.b\111309ul_r.m
Sub List #1 : AR1254.SUB
Sub List #2 : AR1254.SUB
Col #1 Phase : DB-35MS
Col #2 Phase : DB-XLB

Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2	Target Range	Ratio
Aroclor 1254	11.242	12.883	8203611	4878031	94.5	95.1	80.00- 120.00	100.00
	12.192	13.686	6313874	3209016	91.9	92.2	63.33- 94.99	76.96
	12.479	13.956	12682671	5949208	94.4	92.0	123.84- 185.76	154.60
	13.089	14.793	8690859	4816283	96.2	93.7	83.24- 124.86	105.94
	14.456	15.869	10426623	5666740	108	109	89.12- 133.68	127.10
			Average of Peak Amounts =		97.0	96.4		

Data File: \\cash1\acqudata\GC32\Data\111309.b\1113F021.D
Date : 14-NOV-2009 11:17
Client ID:
Sample Info: 1254 @ 100ppb | PCB5-44C

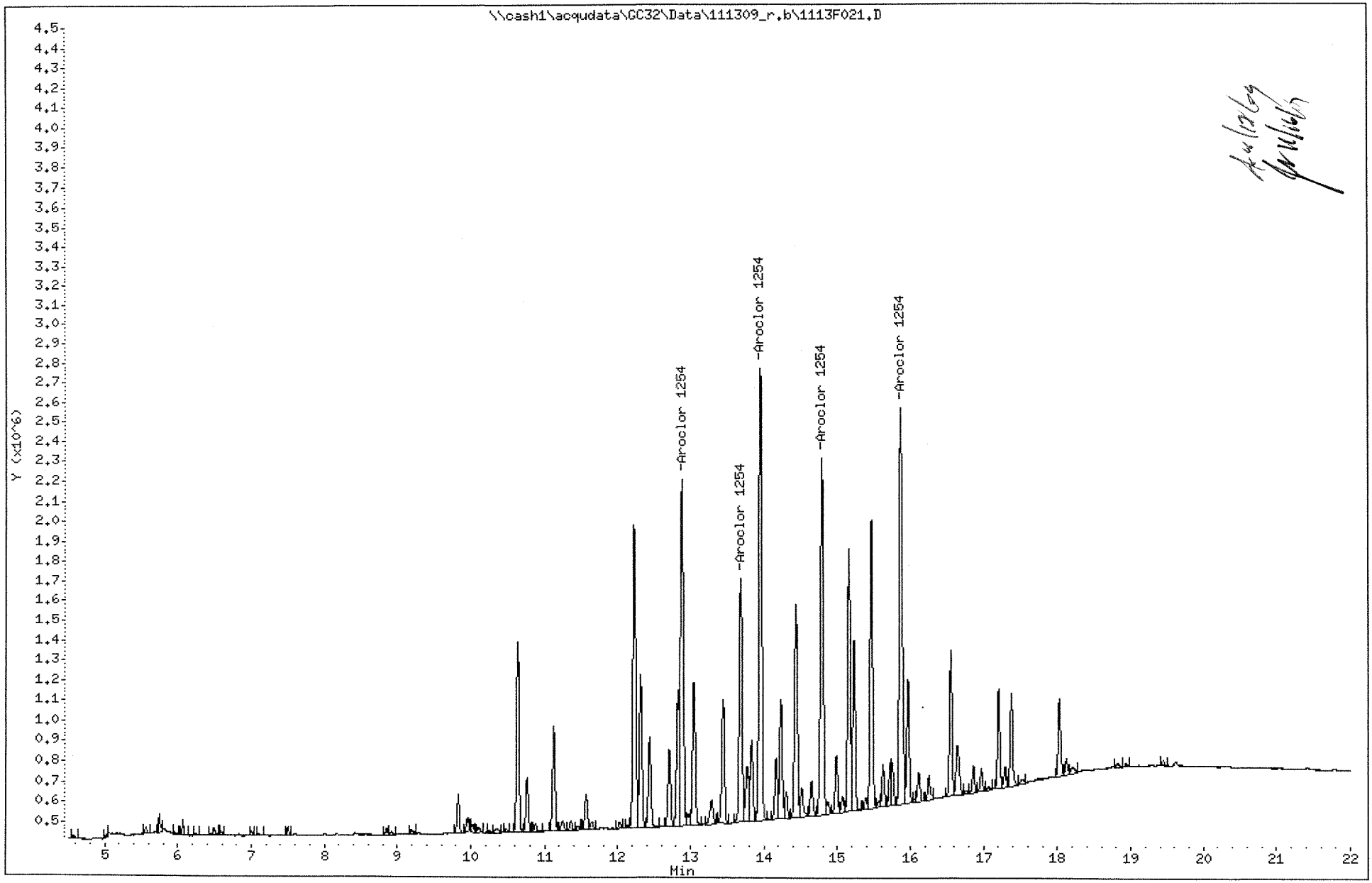
Instrument: GC32.i

Operator: JMSmith
Column phase: DB-35MS
Column diameter: 0.32



Data File: \\cash1\acqudata\GC32\Data\111309_r.b\1113F021.D
Date : 14-NOV-2009 11:17
Client ID:
Sample Info: 1254 @ 100ppb | PCB5-44C

Instrument: GC32.i
Operator: JMSmith
Column phase: DB-XLB
Column diameter: 0.32



Data File: \\cash1\acqudata\GC32\Data\111309.b\1113F022.D
Report Date: 16-Nov-2009 15:37

Laboratory Name

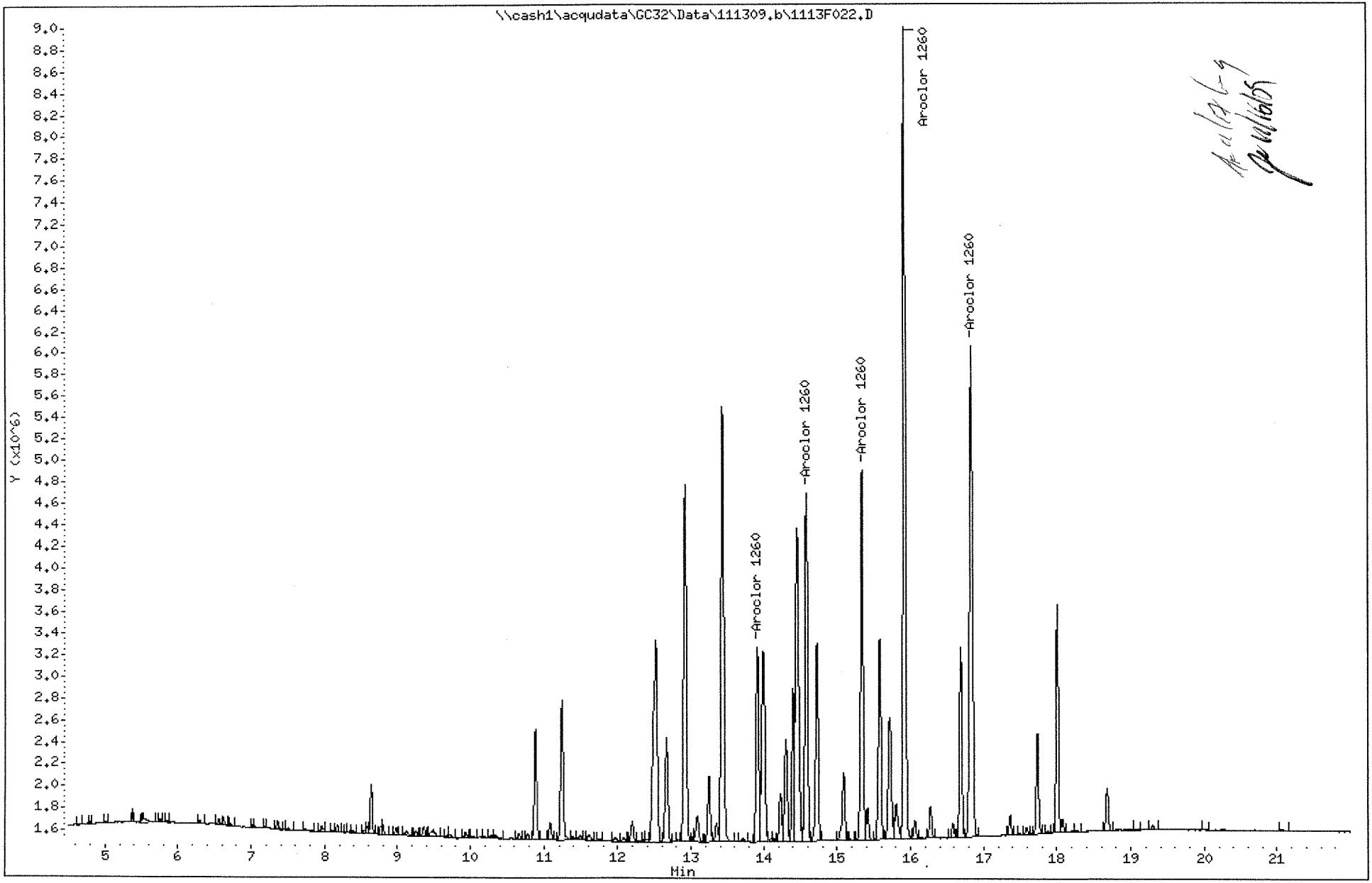
Sample #1 : \\cash1\acqudata\GC32\Data\111309.b\1113F022.D
Sample #2 : \\cash1\acqudata\GC32\Data\111309_r.b\1113F022.D
Inj Date : 14-NOV-2009 11:47
Sample Info: 1260 @ 100ppb | PCB5-45U
Misc Info :
Cal Date : 16-NOV-2009 15:25
Operator : JMSmith
Inst ID : GC32.i
Dil Factor : 1.000000

Method #1 : \\cash1\acqudata\GC32\Data\111309.b\111309ul_f.m
Method #2 : \\cash1\acqudata\GC32\Data\111309_r.b\111309ul_r.m
Sub List #1 : AR1260.sub
Sub List #2 : AR1260.sub
Col #1 Phase : DB-35MS
Col #2 Phase : DB-XLB

Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2	Target Range	Ratio
Aroclor 1260	13.914	15.161	4402083	5631190	75.9	78.6	80.00- 120.00	100.00
	14.578	15.871	7707587	6173432	92.7	73.1	111.19- 166.79	175.09
	15.338	16.118	7922844	4200981	90.8	95.5	120.89- 181.34	179.98
	15.921	16.641	16942343	4144869	91.1	89.0	276.10- 414.15	384.87
	16.834	17.378	12628843	8803558	89.5	93.9	207.76- 311.63	286.88
			Average of Peak Amounts =		88.0	86.0		

Data File: \\cash1\acqudata\GC32\Data\111309.b\1113F022.D
Date : 14-NOV-2009 11:47
Client ID:
Sample Info: 1260 @ 100ppb | PCB5-45U

Instrument: GC32.i
Operator: JMSmith
Column phase: DB-35MS
Column diameter: 0.32

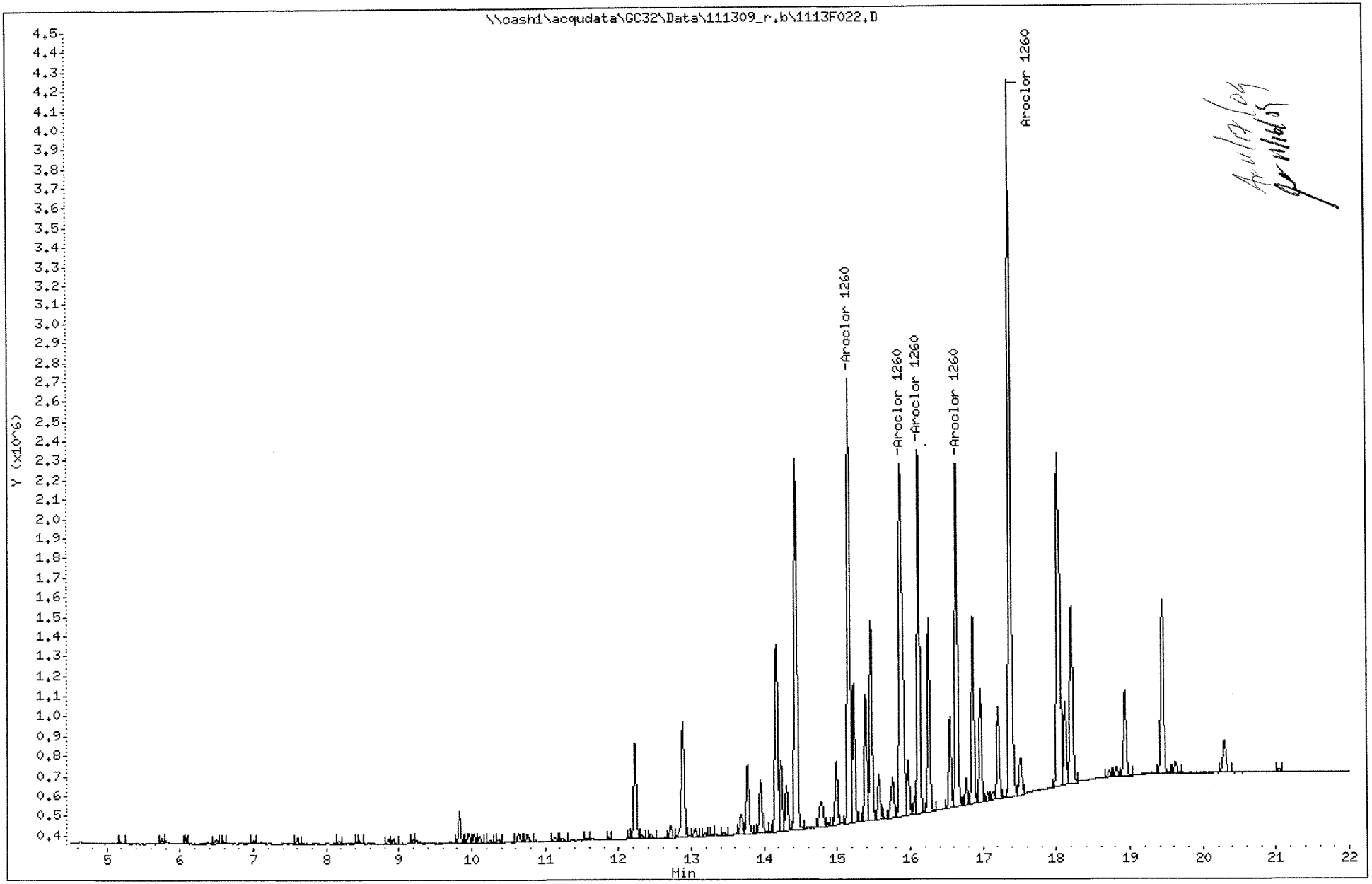


Data File: \\cash1\acqudata\GC32\Data\111309_r.b\1113F022.D
Date : 14-NOV-2009 11:47
Client ID:
Sample Info: 1260 @ 100ppb | PCB5-45U

Instrument: GC32.i

Operator: JMSmith
Column diameter: 0.32

Column phase: DB-XLB



Data File: \\cash1\acqudata\GC32\Data\111309.b\1113F023.D
Report Date: 16-Nov-2009 15:37

Laboratory Name

Sample #1 : \\cash1\acqudata\GC32\Data\111309.b\1113F023.D
Sample #2 : \\cash1\acqudata\GC32\Data\111309_r.b\1113F023.D
Inj Date : 14-NOV-2009 12:18
Sample Info: 1262 @ 100ppb | PCB5-46A
Misc Info :
Cal Date : 16-NOV-2009 15:25
Operator : JMSmith
Inst ID : GC32.i
Dil Factor : 1.000000

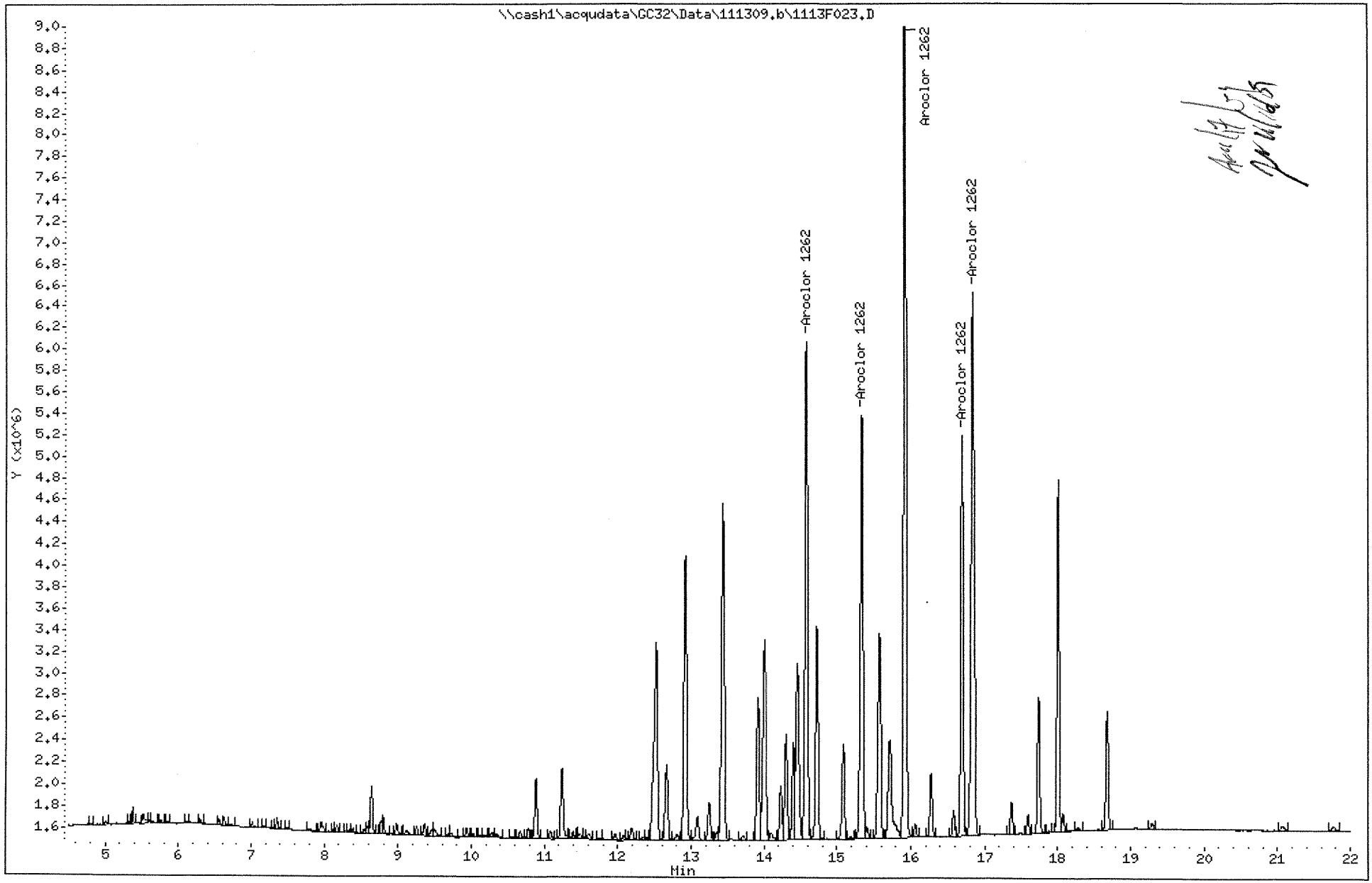
Method #1 : \\cash1\acqudata\GC32\Data\111309.b\111309ul_f.m
Method #2 : \\cash1\acqudata\GC32\Data\111309_r.b\111309ul_r.m
Sub List #1 : AR1262.SUB
Sub List #2 : AR1262.SUB
Col #1 Phase : DB-35MS
Col #2 Phase : DB-XLB

Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2	Target Range	Ratio
Aroclor 1262	14.577	16.117	11022281	6042085	91.8	92.0	80.00- 120.00	100.00
	15.337	16.640	9987707	4800237	91.4	92.2	72.79- 109.19	90.61
	15.920	17.377	18787777	9728322	92.0	91.7	136.03- 204.05	170.45
	16.690	18.054	7953277	6825857	91.8	92.2	57.69- 86.53	72.16
	16.833	18.207	14198365	4371921	91.9	91.7	102.86- 154.29	128.82
			Average of Peak Amounts =		91.8	92.0		

11/17/09

Data File: \\cash1\acqudata\GC32\Data\111309.b\1113F023.D
Date : 14-NOV-2009 12:18
Client ID:
Sample Info: 1262 @ 100ppb | PCB5-46A

Instrument: GC32.i
Operator: JMSmith
Column phase: DB-35MS
Column diameter: 0.32

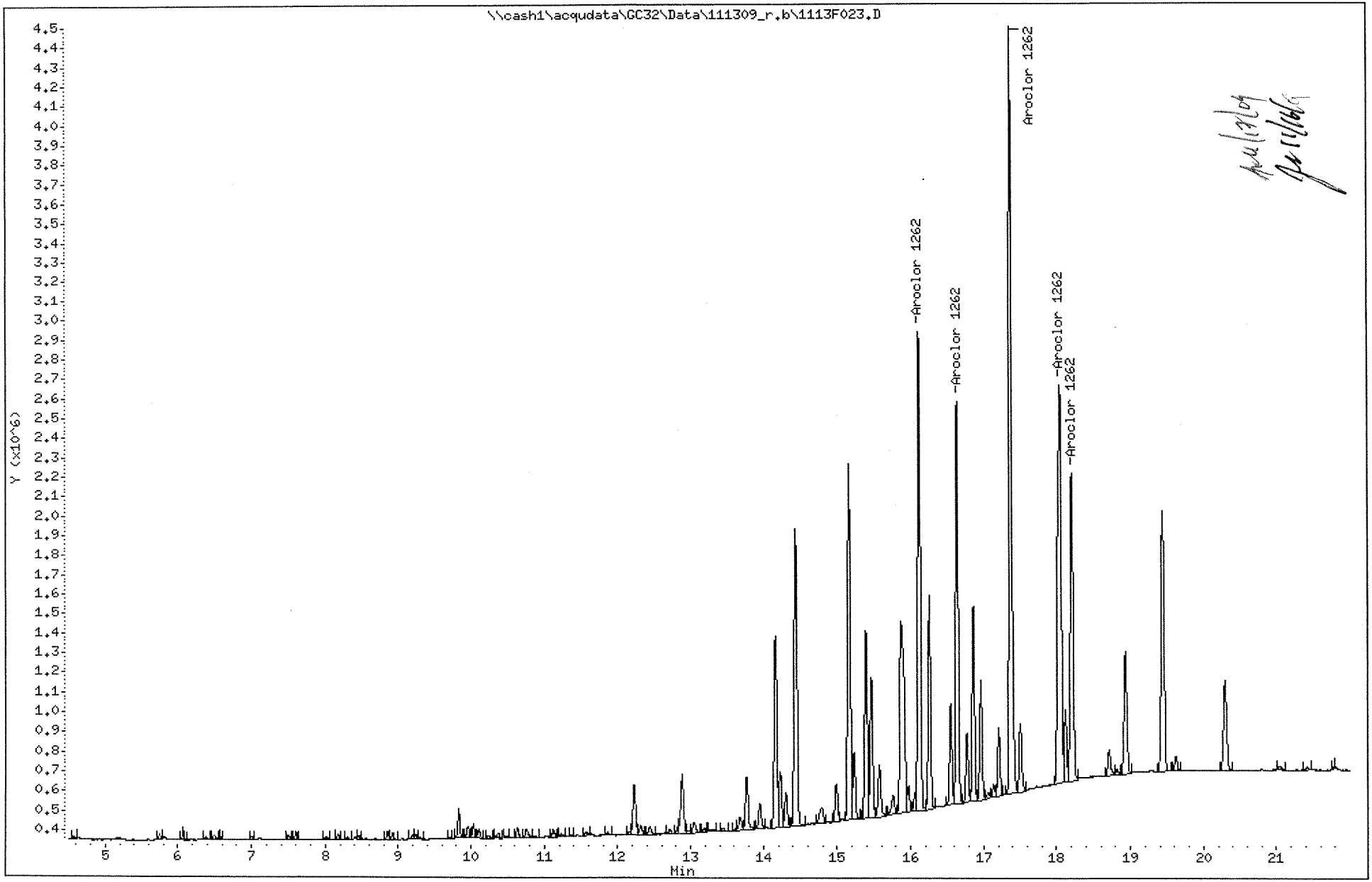


Data File: \\cash1\acqudata\GC32\Data\111309_r.b\1113F023.D
Date : 14-NOV-2009 12:18
Client ID:
Sample Info: 1262 @ 100ppb | PCB5-46A

Instrument: GC32.i

Operator: JMSmith
Column diameter: 0.32

Column phase: DB-XLB



Data File: \\cash1\acqudata\GC32\Data\111309.b\1113F024.D
Report Date: 16-Nov-2009 15:37

Laboratory Name

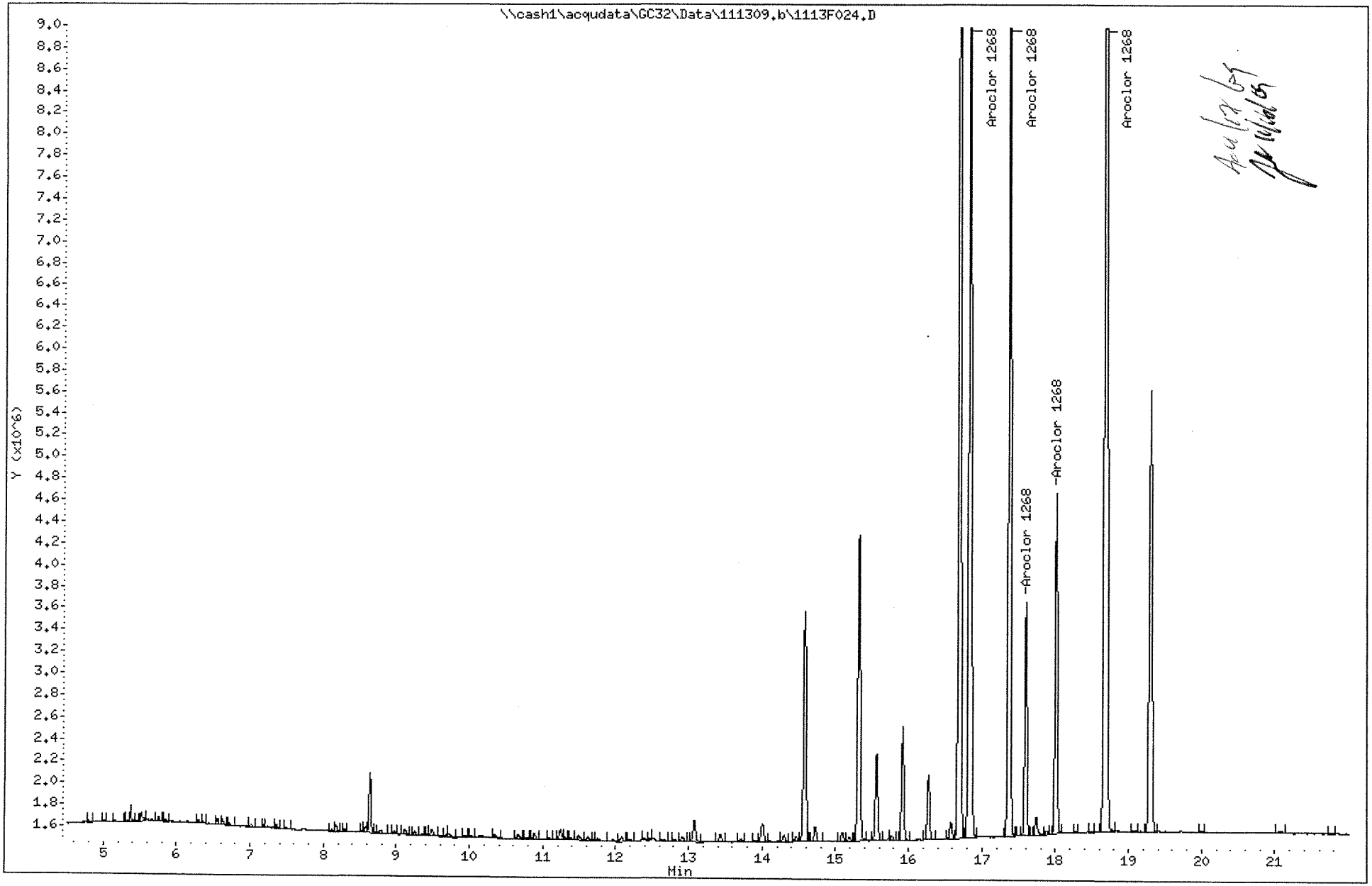
Sample #1 : \\cash1\acqudata\GC32\Data\111309.b\1113F024.D
Sample #2 : \\cash1\acqudata\GC32\Data\111309_r.b\1113F024.D
Inj Date : 14-NOV-2009 12:48
Sample Info: 1268 @ 100ppb | PCB5-46B
Misc Info :
Cal Date : 16-NOV-2009 15:25
Operator : JMSmith
Inst ID : GC32.i
Dil Factor : 1.000000

Method #1 : \\cash1\acqudata\GC32\Data\111309.b\111309ul_f.m
Method #2 : \\cash1\acqudata\GC32\Data\111309_r.b\111309ul_r.m
Sub List #1 : AR1268.SUB
Sub List #2 : AR1268.SUB
Col #1 Phase : DB-35MS
Col #2 Phase : DB-XLB

Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2	Target Range	Ratio
Aroclor 1268	16.828	18.218	20776182	10414825	87.8	88.9	80.00- 120.00	100.00
	17.371	18.718	18276833	9219112	96.9	97.3	63.79- 95.68	87.97
	17.594	18.918	4436483	2607395	93.6	93.6	16.02- 24.03	21.35
	18.008	19.445	6662670	3592965	84.6	85.4	26.61- 39.92	32.07
	18.681	20.298	48908025	24267232	92.3	92.9	179.12- 268.68	235.40
			Average of Peak Amounts =		91.0	91.6		

Data File: \\cash1\acqudata\GC32\Data\111309.b\1113F024.D
Date : 14-NOV-2009 12:48
Client ID:
Sample Info: 1268 @ 100ppb | PCB5-46B

Instrument: GC32.i
Operator: JMSmith
Column phase: DB-35MS
Column diameter: 0.32



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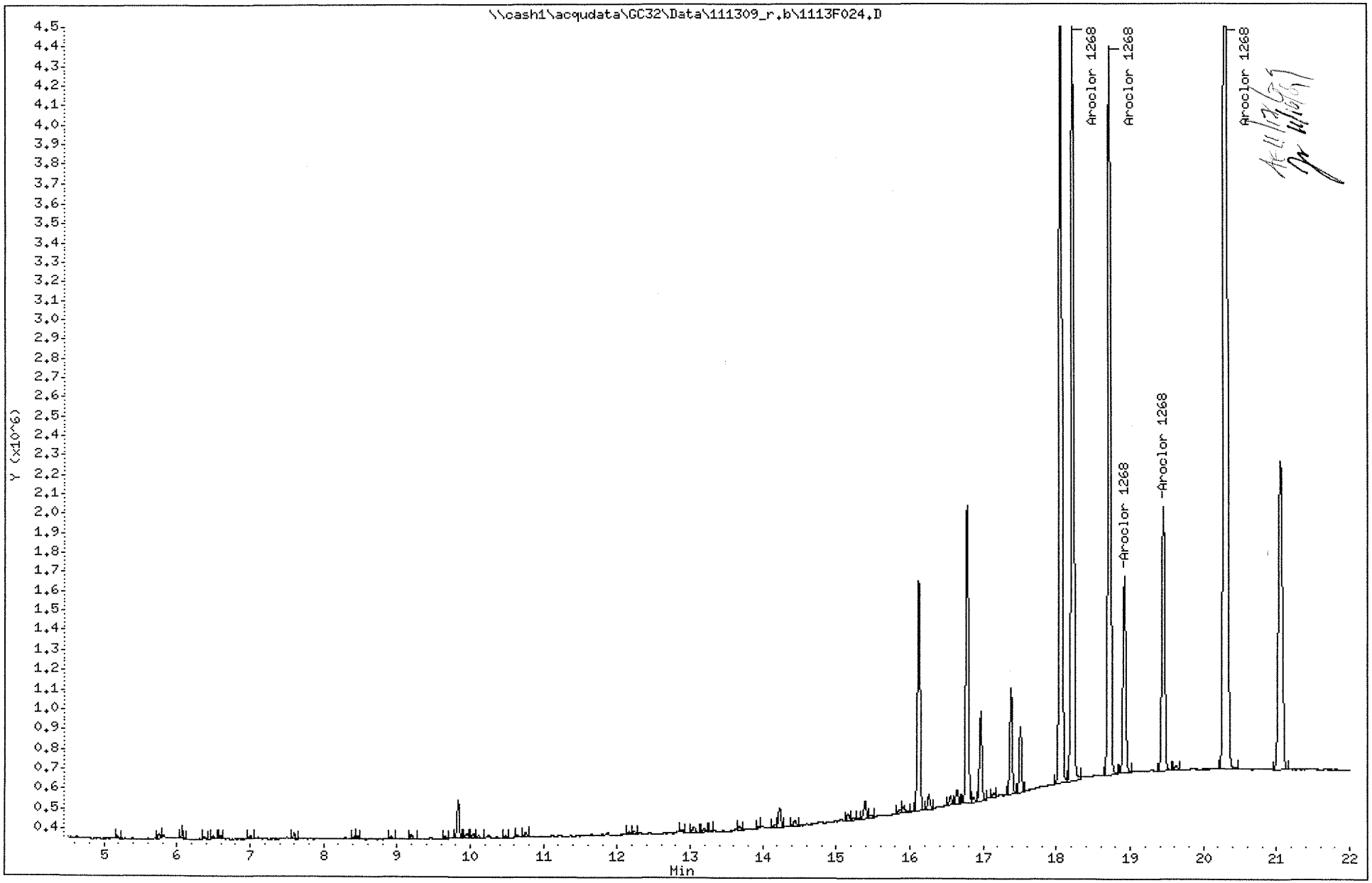
Date : 14-NOV-2009 12:48
Client ID:
Sample Info: 1268 @ 100ppb | PCB5-46B

Instrument: GC32.i
Operator: JMSmith
Column phase: DB-XLB
Column diameter: 0.32



COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Results

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0910296
Date Analyzed: 11/15/2009

Continuing Calibration Verification Summary
Polychlorinated Biphenyls (PCBs)

Calibration Type: External Standard
Analysis Method: 8082

Calibration Date: 11/14/2009
Calibration ID: CAL9019
Analysis Lot: KWG0910692
Units: ng/mL

File ID: \\CASH1\ACQUDATA\GC32\DATA\111509.B\1114F047.D

Column ID: DB-35MS

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift		Criteria	Curve Fit
Decachlorobiphenyl	10	9.7	1620000	1560000	-3	NA		± 15 %	AverageRF
Aroclor 1016	100	77	NA	NA	NA	-23	*	± 15 %	NA
Aroclor 1016 {1}	100	75	21700	16300	-25	NA		± 100 %	AverageRF
Aroclor 1016 {2}	100	73	30300	22000	-27	NA		± 100 %	AverageRF
Aroclor 1016 {3}	100	78	101000	78700	-22	NA		± 100 %	AverageRF
Aroclor 1016 {4}	100	77	55700	42700	-23	NA		± 100 %	AverageRF
Aroclor 1016 {5}	100	84	37000	30900	-16	NA		± 100 %	AverageRF
Aroclor 1260	100	91	NA	NA	NA	-9		± 15 %	NA
Aroclor 1260 {1}	100	87	58000	50200	-13	NA		± 100 %	AverageRF
Aroclor 1260 {2}	100	87	83200	72200	-13	NA		± 100 %	AverageRF
Aroclor 1260 {3}	100	88	87300	77000	-12	NA		± 100 %	AverageRF
Aroclor 1260 {4}	100	93	186000	173000	-7	NA		± 100 %	AverageRF
Aroclor 1260 {5}	100	98	141000	139000	-2	NA		± 100 %	AverageRF

Results flagged with an asterisk (*) indicate values outside control criteria.

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0910296
Date Analyzed: 11/15/2009

Continuing Calibration Verification Summary
Polychlorinated Biphenyls (PCBs)

Calibration Type: External Standard
Analysis Method: 8082

Calibration Date: 11/14/2009
Calibration ID: CAL9019
Analysis Lot: KWG0910692
Units: ng/mL

File ID: \\CASH1\ACQUDATA\GC32\DATA\111509_R.B\1114F047.D

Column ID: DB-XLB

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Decachlorobiphenyl	10	11	884000	970000	10	NA	± 15 %	AverageRF
Aroclor 1016	100	91	NA	NA	NA	-9	± 15 %	NA
Aroclor 1016 {1}	100	89	19600	17400	-11	NA	± 100 %	AverageRF
Aroclor 1016 {2}	100	92	56400	52100	-8	NA	± 100 %	AverageRF
Aroclor 1016 {3}	100	91	31000	28100	-9	NA	± 100 %	AverageRF
Aroclor 1016 {4}	100	88	28000	24800	-12	NA	± 100 %	AverageRF
Aroclor 1016 {5}	100	96	17800	17100	-4	NA	± 100 %	AverageRF
Aroclor 1260	100	100	NA	NA	NA	1	± 15 %	NA
Aroclor 1260 {1}	100	97	71700	69500	-3	NA	± 100 %	AverageRF
Aroclor 1260 {2}	100	97	84400	81800	-3	NA	± 100 %	AverageRF
Aroclor 1260 {3}	100	99	44000	43800	-1	NA	± 100 %	AverageRF
Aroclor 1260 {4}	100	110	46600	49100	5	NA	± 100 %	AverageRF
Aroclor 1260 {5}	100	110	93800	102000	9	NA	± 100 %	AverageRF

Results flagged with an asterisk (*) indicate values outside control criteria.

Exception Report

Data File:	\\CASH1\ACQUDATA\GC32\DATA\111409.B\1114F047.D	**Date Acquired:**	11/15/2009 12:21
Lab ID:	KWG0910691-8	**Date Quantitated:**	11/17/2009 14:05
RunType:	CCV	**Batch ID:**	KWG0910691
Matrix:	LIQUID	**Analysis Method:**	8082
		ListJoinID:	LJ6212

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA		x
Analyte Co-elution	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
Second Source ICAL Verification	Aroclor 1016	-15.6	NA	15	ICV

Primary Review: _____

Secondary Review: _____

Exception Report

Data File: \\CASH1\ACQUDATA\GC32\DATA\111409_R.B\1114F047.D
Lab ID: KWG0910691-8
RunType: CCV
Matrix: LIQUID

Date Acquired: 11/15/2009 12:21
Date Quantitated: 11/17/2009 14:07
Batch ID: KWG0910691
Analysis Method: 8082
ListJoinID: LJ6212

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	

Primary Review: [signature]

Secondary Review: [signature]

Quantitation Report

Bottle ID:		**Tier:**		**Matrix:**	LIQUID
Prod Code:	8082 PCB_ULL	**Collect Date:**		**Receive Date:**	11/13/2009

Analysis Lot:	KWG0910691	**Prep Lot:**		**Report Group:**	
Analysis Method:	8082	**Prep Method:**			
Prep Ref:		**Prep Date:**			

Quant Method:	\\CASH1\ACQUDATA\GC32\DATA\111409.B\111309UL_F.M	**Calibration ID:**	CAL9019
Title:			
MB Ref:		**Method ID:**	MJ702
		Quant based on Method	

Data File #1:	J:\GC32\DATA\111409.B\1114F047.D			**Instrument:**	GC32.i
Data File #2:	\\cash1\acqudata\GC32\Data\111409_r.b\1114F047.D			**Vial:**	97
Acqu Date:	11/15/2009 12:21	**Quant Date:**	11/17/2009 14:05	**Dilution:**	1.0
Run Type:	CCV			**Soln Conc. Units:**	ng/mL
Lab ID:	KWG0910691-8				
Signal #1:	DB-35MS	**Signal #2:**	DB-XLB		

Surrogate Compounds

Parameter Name	RT #1	RT #2	Resp #1	Respe #2	ng/mL #1	ng/mL #2			Rpt
Tetrachloro-m-xylene	6.63	7.60	11934625	9317148	6.62	8.47			NA
				%Recovery =	NA	NA	**Limits =**	21-114	
Decachlorobiphenyl	19.29	21.05	15645437	9703548	9.67	10.97			NA
				%Recovery =	NA	NA	**Limits =**	36-113	

Target Compounds

Final Conc. Units: ug/L

Parameter Name	RT #1	RT #2	Resp #1	Resp #2	ng/mL #1	ng/mL #2	ug/L #1	ug/L #2	Rpt
Aroclor 1016			0	0	77.16	91.20			
Aroclor 1016 {1}	8.34	9.24	1631406m	1739902	75.01	88.68			
Aroclor 1016 {2}	8.39	10.03	2202029m	5210430	72.59	92.43			
Aroclor 1016 {3}	8.80	10.37	7870331m	2810071	78.15	90.59			
Aroclor 1016 {4}	9.93	11.13	4270291m	2475951	76.66	88.30			
Aroclor 1016 {5}	10.28	11.57	3082882m	1706473	83.39	96.00			
Aroclor 1260			0	0	90.65	101.50			
Aroclor 1260 {1}	13.91	15.16	5020621	6954466	86.59	97.03			
Aroclor 1260 {2}	14.58	15.87	7215056	8181564	86.76	96.92			
Aroclor 1260 {3}	15.33	16.12	7700904	4376846	88.22	99.46			
Aroclor 1260 {4}	15.92	16.64	17341769	4913812	93.28	105.49			
Aroclor 1260 {5}	16.83	17.38	13881332	10186936	98.41	108.61			

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Calibration Verification Report

Calibration ID: CAL9019
Method ID: MJ702
DataFile: \\CASH1\ACQUDATA\GC32\DATA\111409.B\1114F047.D

Parameter Name	Type	PARM Type	Curve Fit	Method Criteria	Min RF	ICAL RF	CCV RF	%Diff	Sol'n Conc.	True Value	% Drift
Aroclor 1016		MS	NA	15					77.16	100.0	-22.8 *
Aroclor 1260		MS	NA	15					90.65	100.0	-9.3
Tetrachloro-m-xylene		SURR	AverageRF	15		1.8E+6	1.2E+6	-33.8 *			
Aroclor 1016 {1}		MULTI	AverageRF	100		2.2E+4	1.6E+4	-25.0			
Aroclor 1016 {2}		MULTI	AverageRF	100		3.0E+4	2.2E+4	-27.4			
Aroclor 1016 {3}		MULTI	AverageRF	100		1.0E+5	7.9E+4	-21.8			
Aroclor 1016 {4}		MULTI	AverageRF	100		5.6E+4	4.3E+4	-23.3			
Aroclor 1016 {5}		MULTI	AverageRF	100		3.7E+4	3.1E+4	-16.6			
Aroclor 1260 {1}		MULTI	AverageRF	100		5.8E+4	5.0E+4	-13.4			
Aroclor 1260 {2}		MULTI	AverageRF	100		8.3E+4	7.2E+4	-13.2			
Aroclor 1260 {3}		MULTI	AverageRF	100		8.7E+4	7.7E+4	-11.8			
Aroclor 1260 {4}		MULTI	AverageRF	100		1.9E+5	1.7E+5	-6.7			
Aroclor 1260 {5}		MULTI	AverageRF	100		1.4E+5	1.4E+5	-1.6			
Decachlorobiphenyl		SURR	AverageRF	15		1.6E+6	1.6E+6	-3.3			

Alternate Calibration Evaluation Summary

Maximum Allowable Average %D =	15.0
Calculated Average %D =	16.5

2 Compounds Failed CCV Criteria

Calibration Verification Report

Calibration ID: CAL9019
Method ID: MJ702
DataFile: \\CASH1\ACQUDATA\GC32\DATA\111409_R.B\1114F047.D

Parameter Name	Type	PARM Type	Curve Fit	Method Criteria	Min RF	ICAL RF	CCV RF	%Diff	Sol'n Conc.	True Value	% Drift
Aroclor 1016		MS	NA	15					91.20	100.0	-8.8
Aroclor 1260		MS	NA	15					101.5	100.0	1.5
Tetrachloro-m-xylene		SURR	AverageRF	15		1.1E+6	9.3E+5	-15.3 *			
Aroclor 1016 {1}		MULTI	AverageRF	100		2.0E+4	1.7E+4	-11.3			
Aroclor 1016 {2}		MULTI	AverageRF	100		5.6E+4	5.2E+4	-7.6			
Aroclor 1016 {3}		MULTI	AverageRF	100		3.1E+4	2.8E+4	-9.4			
Aroclor 1016 {4}		MULTI	AverageRF	100		2.8E+4	2.5E+4	-11.7			
Aroclor 1016 {5}		MULTI	AverageRF	100		1.8E+4	1.7E+4	-4.0			
Aroclor 1260 {1}		MULTI	AverageRF	100		7.2E+4	7.0E+4	-3.0			
Aroclor 1260 {2}		MULTI	AverageRF	100		8.4E+4	8.2E+4	-3.1			
Aroclor 1260 {3}		MULTI	AverageRF	100		4.4E+4	4.4E+4	-0.5			
Aroclor 1260 {4}		MULTI	AverageRF	100		4.7E+4	4.9E+4	5.5			
Aroclor 1260 {5}		MULTI	AverageRF	100		9.4E+4	1.0E+5	8.6			
Decachlorobiphenyl		SURR	AverageRF	15		8.8E+5	9.7E+5	9.7			

Alternate Calibration Evaluation Summary

Maximum Allowable Average %D =	15.0
Calculated Average %D =	7.5

Data File: \\cash1\acqudata\GC32\Data\111409.b\1114F047.D
Report Date: 17-Nov-2009 14:05

Laboratory Name

Sample #1 : \\cash1\acqudata\GC32\Data\111409.b\1114F047.D
Sample #2 : \\cash1\acqudata\GC32\Data\111409_r.b\1114F047.D
Inj Date : 15-NOV-2009 12:21
Sample Info: 1660 @ 100ppb | PCB5-44L | KWG0910691-8
Misc Info :
Cal Date : 16-NOV-2009 18:15
Operator : JMSmith
Inst ID : GC32.i
Dil Factor : 1.000000

Method #1 : \\cash1\acqudata\GC32\Data\111409.b\111309ul_f.m
Method #2 : \\cash1\acqudata\GC32\Data\111409_r.b\111309ul_r.m
Sub List #1 : AR1660.SUB
Sub List #2 : AR1660.SUB
Col #1 Phase : DB-35MS
Col #2 Phase : DB-XLB

Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2	Target Range	Ratio
Tetrachloro-m-xylene	6.626	7.600	11934625	9317148	6.62	8.47		100.00
Aroclor 1016	8.336	9.243	1631406	1739902	75.0	88.7	80.00- 120.00	100.00(M)
	8.393	10.033	2202029	5210430	72.6	92.4	107.98- 161.97	134.98(M)
	8.796	10.373	7870331	2810071	78.2	90.6	385.94- 578.91	482.43(M)
	9.933	11.127	4270291	2475951	76.7	88.3	209.40- 314.11	261.76(M)
	10.283	11.567	3082882	1706473	83.4	96.0	151.18- 226.77	188.97(M)
			Average of Peak Amounts =		77.2	91.2		
Aroclor 1260	13.913	15.163	5020621	6954466	86.6	97.0	80.00- 120.00	100.00
	14.576	15.873	7215056	8181564	86.8	96.9	114.97- 172.45	143.71
	15.333	16.120	7700904	4376846	88.2	99.5	122.71- 184.06	153.39
	15.916	16.643	17341769	4913812	93.3	105	276.33- 414.49	345.41
	16.830	17.380	13881332	10186936	98.4	109	221.19- 331.78	276.49
			Average of Peak Amounts =		90.7	101		
Decachlorobiphenyl	19.290	21.053	15645437	9703548	9.67	11.0		100.00

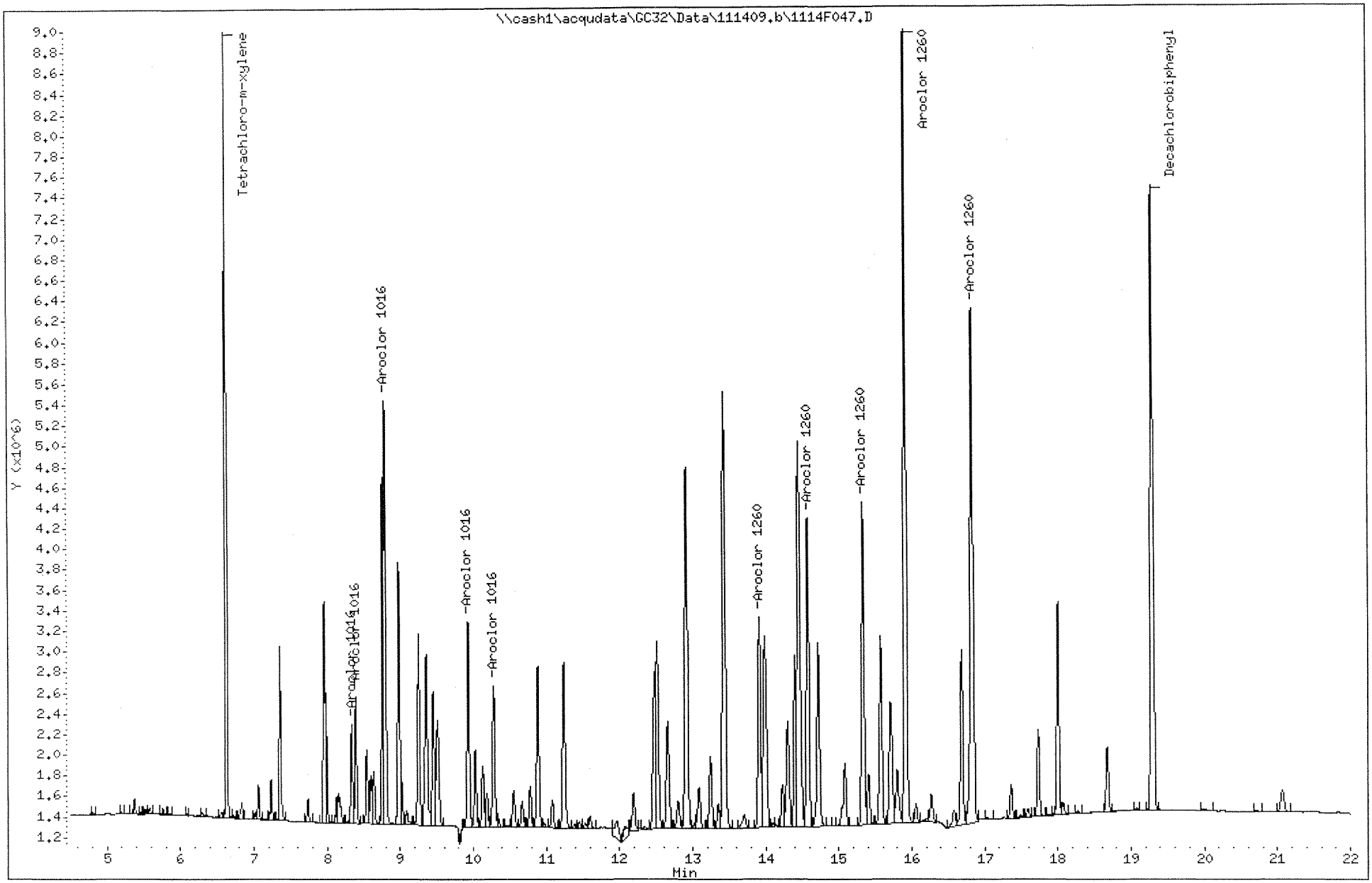
QC Flag Legend

M - Compound response manually integrated.

Data File: \\cash1\acqudata\GC32\Data\111409.b\1114F047.D
Date : 15-NOV-2009 12:21
Client ID:
Sample Info: 1660 @ 100ppb | PCB5-44L | KWG0910691-8

Instrument: GC32.i
Operator: JMSmith
Column diameter: 0.32

Column phase: DB-35MS



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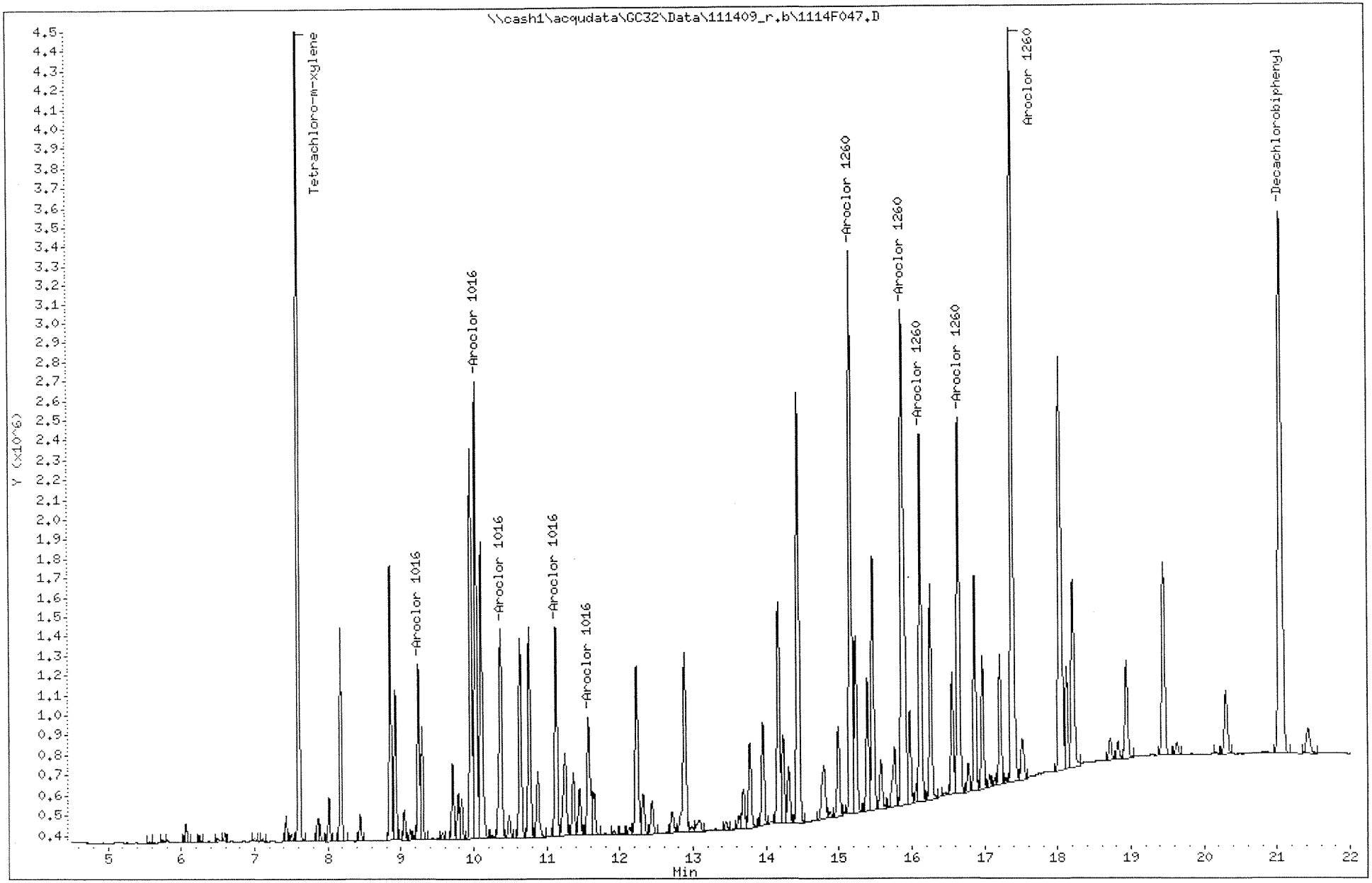
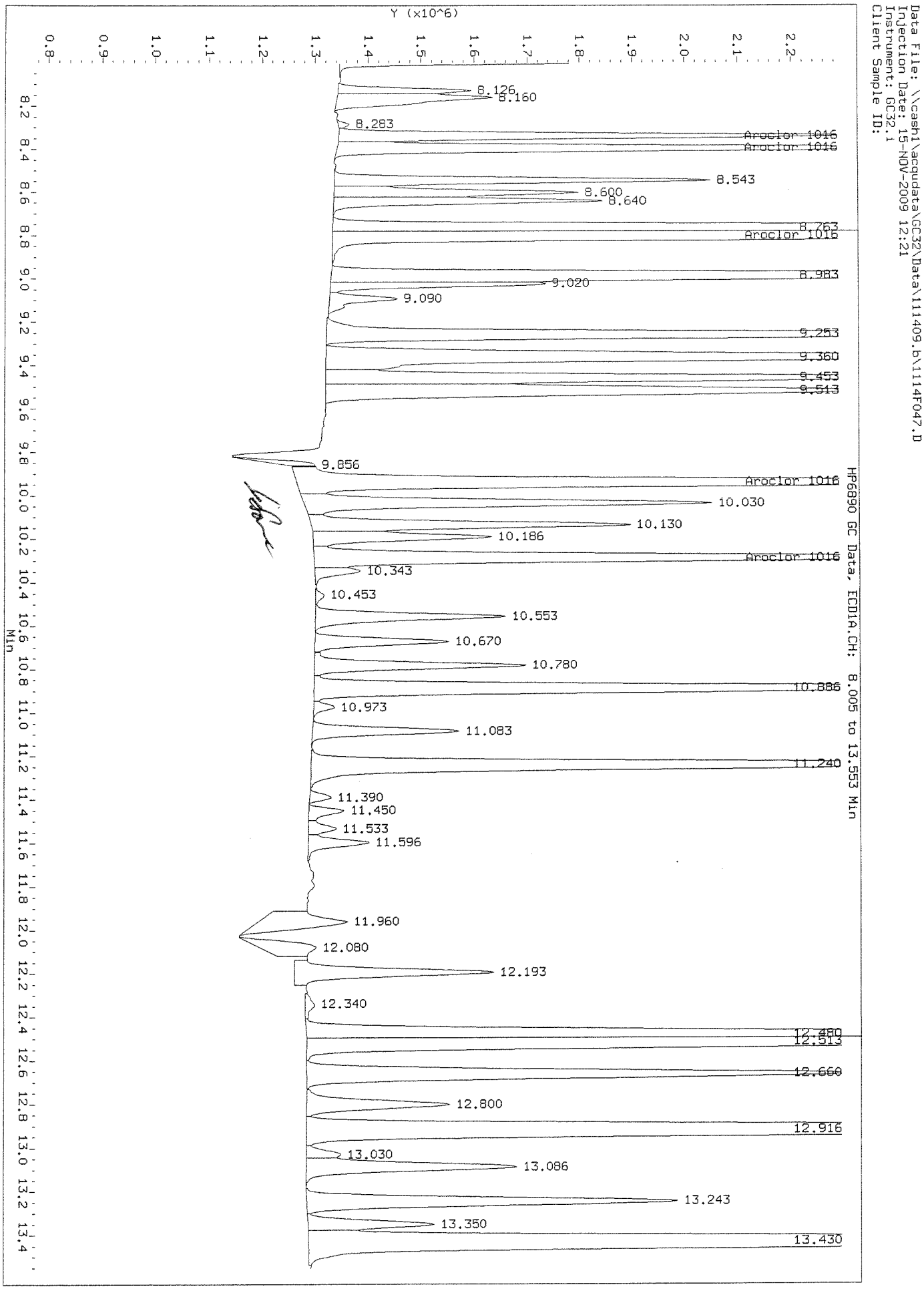
Date : 15-NOV-2009 12:21
Client ID:
Sample Info: 1660 @ 100ppb | PCB5-44L | KWG0910691-8

Instrument: GC32.i

Operator: JMSmith
Column diameter: 0.32

Column phase: DB-XLB




Data File: \\cash1\acqudata\GC32\Data\111409.b\1114F047.D
Injection Date: 15-NOV-2009 12:21
Instrument: GC32.i
Client Sample ID:
Y (x10^6)
Min
HP6890 GC Data, ECD1A.CH: 8.005 to 13.553 Min
8.126
8.160
8.283
Aroclor 1016
Aroclor 1016
8.543
8.600
8.640
8.763
Aroclor 1016
8.983
9.020
9.090
9.253
9.360
9.453
9.513
9.856
Aroclor 1016
10.030
10.130
10.186
Aroclor 1016
10.343
10.453
10.553
10.670
10.780
10.886
10.973
11.083
11.240
11.390
11.450
11.533
11.596
11.960
12.080
12.193
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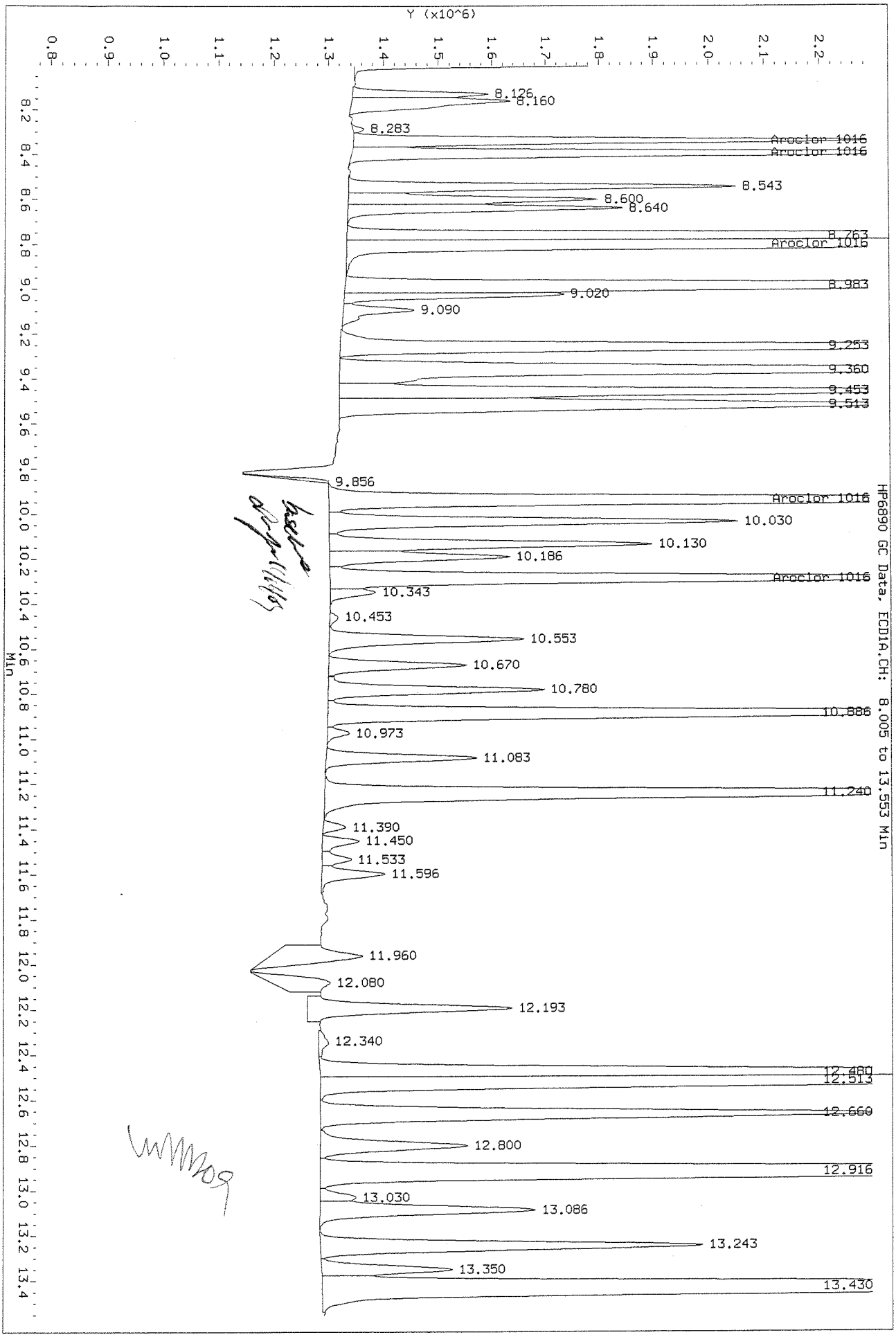
13.350
13.430


Data File: \\cash1\acqudata\GC32\Data\111409.b\1114F047.D
Injection Date: 15-NOV-2009 12:21
Instrument: GC32.i
Client Sample ID:
HP6890 GC Data, ECD1A.CH: 8.005 to 13.553 Min
Y (x10^6)
Min
8.126
8.160
8.283
Aroclor 1016
Aroclor 1016
8.543
8.600
8.640
8.763
Aroclor 1016
8.983
9.020
9.090
9.253
9.360
9.453
9.513
9.856
Aroclor 1016
10.030
10.130
10.186
Aroclor 1016
10.343
10.453
10.553
10.670
10.780
10.886
10.973
11.083
11.240
11.390
11.450
11.533
11.596
11.960
12.080
12.193
12.340
12.480
12.513
12.660
12.800
12.916
13.030
13.086
13.243
13.350
13.430

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0910296
Date Analyzed: 11/15/2009

Continuing Calibration Verification Summary
Polychlorinated Biphenyls (PCBs)

Calibration Type: External Standard
Analysis Method: 8082

Calibration Date: 11/14/2009
Calibration ID: CAL9019
Analysis Lot: KWG0910692
Units: ng/mL

File ID: \\CASH1\ACQUDATA\GC32\DATA\111509.B\1115F014.D

Column ID: DB-35MS

Analyte Name	Expected	Result	Average RF	CCV RF	%D		%Drift		Criteria	Curve Fit
Decachlorobiphenyl	10	8.2	1620000	1320000	-18	*	NA		± 15 %	AverageRF
Aroclor 1016	100	71	NA	NA	NA		-29	*	± 15 %	NA
Aroclor 1016 {1}	100	71	21700	15500	-29		NA		± 100 %	AverageRF
Aroclor 1016 {2}	100	69	30300	20900	-31		NA		± 100 %	AverageRF
Aroclor 1016 {3}	100	67	101000	67700	-33		NA		± 100 %	AverageRF
Aroclor 1016 {4}	100	70	55700	39100	-30		NA		± 100 %	AverageRF
Aroclor 1016 {5}	100	75	37000	27800	-25		NA		± 100 %	AverageRF
Aroclor 1260	100	79	NA	NA	NA		-21	*	± 15 %	NA
Aroclor 1260 {1}	100	77	58000	44600	-23		NA		± 100 %	AverageRF
Aroclor 1260 {2}	100	77	83200	63600	-23		NA		± 100 %	AverageRF
Aroclor 1260 {3}	100	77	87300	67400	-23		NA		± 100 %	AverageRF
Aroclor 1260 {4}	100	81	186000	150000	-19		NA		± 100 %	AverageRF
Aroclor 1260 {5}	100	82	141000	116000	-18		NA		± 100 %	AverageRF

Results flagged with an asterisk (*) indicate values outside control criteria.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Results

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0910296
Date Analyzed: 11/15/2009

Continuing Calibration Verification Summary
Polychlorinated Biphenyls (PCBs)

Calibration Type: External Standard
Analysis Method: 8082

Calibration Date: 11/14/2009
Calibration ID: CAL9019
Analysis Lot: KWG0910692
Units: ng/mL

File ID: \\CASH1\ACQUDATA\GC32\DATA\111509_R.B\1115F014.D

Column ID: DB-XLB

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Decachlorobiphenyl	10	11	884000	930000	5	NA	± 15 %	AverageRF
Aroclor 1016	100	94	NA	NA	NA	-6	± 15 %	NA
Aroclor 1016 {1}	100	94	19600	18300	-6	NA	± 100 %	AverageRF
Aroclor 1016 {2}	100	94	56400	53200	-6	NA	± 100 %	AverageRF
Aroclor 1016 {3}	100	93	31000	28800	-7	NA	± 100 %	AverageRF
Aroclor 1016 {4}	100	90	28000	25300	-10	NA	± 100 %	AverageRF
Aroclor 1016 {5}	100	100	17800	17800	0	NA	± 100 %	AverageRF
Aroclor 1260	100	98	NA	NA	NA	-2	± 15 %	NA
Aroclor 1260 {1}	100	95	71700	68400	-5	NA	± 100 %	AverageRF
Aroclor 1260 {2}	100	96	84400	81100	-4	NA	± 100 %	AverageRF
Aroclor 1260 {3}	100	97	44000	42700	-3	NA	± 100 %	AverageRF
Aroclor 1260 {4}	100	98	46600	45500	-2	NA	± 100 %	AverageRF
Aroclor 1260 {5}	100	110	93800	98700	5	NA	± 100 %	AverageRF

Results flagged with an asterisk (*) indicate values outside control criteria.

Exception Report

Data File: \\CASHI\ACQUDATA\GC32\DATA\111509.B\1115F014.D
Lab ID: KWG0910692-4
RunType: CCV
Matrix: LIQUID

Date Acquired: 11/15/2009 19:52
Date Quantitated: 11/17/2009 13:58
Batch ID: KWG0910692
Analysis Method: 8082
MethodJoinID: MJ702

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA		x
Analyte Co-elution	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
Second Source ICAL Verification	Aroclor 1016	-15.6	NA	15	NA

Primary Review: [signature]

Secondary Review: 11/17/09

Printed: 11/17/2009 14:27:40
u:\Stealth\Crystal.rpt\except2.rpt

Exception Report

Data File: \\CASH1\ACQUDATA\GC32\DATA\111509_R.B\1115F014.D
Lab ID: KWG0910692-4
RunType: CCV
Matrix: LIQUID

Date Acquired: 11/15/2009 19:52
Date Quantitated: 11/17/2009 14:00
Batch ID: KWG0910692
Analysis Method: 8082
MethodJoinID: MJ702

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	

Primary Review: 11/17/09

Secondary Review: AK 11/17/09

Printed: 11/17/2009 14:27:43
u:\Stealth\Crystal.rpt\except2.rpt

Quantitation Report

Bottle ID:		**Tier:**		**Matrix:**	LIQUID
Prod Code:	8082 PCB_ULL	**Collect Date:**		**Receive Date:**	11/13/2009

Analysis Lot:	KWG0910692	**Prep Lot:**		**Report Group:**	
Analysis Method:	8082	**Prep Method:**			
Prep Ref:		**Prep Date:**			

Quant Method:	\\CASH1\ACQUDATA\GC32\DATA\111509.B\111309UL_F.M	**Calibration ID:**	CAL9019
Title:			
MB Ref:		**Method ID:**	MJ702
		Quant based on Method	

Data File #1:	J:\GC32\DATA\111509.B\1115F014.D			**Instrument:**	GC32.i
Data File #2:	\\cash1\acqudata\GC32\Data\111509_r.b\1115F014.D			**Vial:**	98
Acqu Date:	11/15/2009 19:52	**Quant Date:**	11/17/2009 13:58	**Dilution:**	1.0
Run Type:	CCV			**Soln Conc. Units:**	ng/mL
Lab ID:	KWG0910692-4				
Signal #1:	DB-35MS	**Signal #2:**	DB-XLB		

Surrogate Compounds

Parameter Name	RT #1	RT #2	Resp #1	Respe #2	ng/mL #1	ng/mL #2			Rpt
Tetrachloro-m-xylene	6.63	7.60	11661588	9780233	6.47	8.89			NA
				%Recovery =	NA	NA	Limits =	21-114	
Decachlorobiphenyl	19.29	21.06	13244344	9297914	8.19	10.51			NA
				%Recovery =	NA	NA	Limits =	36-113	

Target Compounds

Final Conc. Units: ug/L

Parameter Name	RT #1	RT #2	Resp #1	Resp #2	ng/mL #1	ng/mL #2	ug/L #1	ug/L #2	Rpt
Aroclor 1016			0	0	70.55	94.23			
Aroclor 1016 {1}	8.34	9.24	1552662	1834843	71.39	93.52			
Aroclor 1016 {2}	8.39	10.03	2088781	5323735	68.85	94.44			
Aroclor 1016 {3}	8.80	10.37	6771624	2876034	67.24	92.72			
Aroclor 1016 {4}	9.94	11.13	3909939	2533812	70.19	90.36			
Aroclor 1016 {5}	10.28	11.57	2775263	1779326	75.07	100.10			
Aroclor 1260			0	0	78.72	98.26			
Aroclor 1260 {1}	13.91	15.16	4464539	6844787	77.00	95.50			
Aroclor 1260 {2}	14.58	15.88	6363835	8109471	76.52	96.06			
Aroclor 1260 {3}	15.34	16.12	6738323	4267910	77.20	96.99			
Aroclor 1260 {4}	15.92	16.64	15042968	4545181	80.91	97.57			
Aroclor 1260 {5}	16.83	17.38	11564369	9865792	81.99	105.19			

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Calibration Verification Report

Calibration ID: CAL9019
Method ID: MJ702
DataFile: \\CASH1\ACQUDATA\GC32\DATA\111509.B\1115F014.D

Parameter Name	Type	PARM Type	Curve Fit	Method Criteria	Min RF	ICAL RF	CCV RF	%Diff	Sol'n Conc.	True Value	% Drift
Aroclor 1016		MS	NA	15					70.55	100.0	-29.5 *
Aroclor 1260		MS	NA	15					78.72	100.0	-21.3 *
Tetrachloro-m-xylene		SURR	AverageRF	15		1.8E+6	1.2E+6	-35.3 *			
Aroclor 1016 {1}		MULTI	AverageRF	100		2.2E+4	1.6E+4	-28.6			
Aroclor 1016 {2}		MULTI	AverageRF	100		3.0E+4	2.1E+4	-31.1			
Aroclor 1016 {3}		MULTI	AverageRF	100		1.0E+5	6.8E+4	-32.8			
Aroclor 1016 {4}		MULTI	AverageRF	100		5.6E+4	3.9E+4	-29.8			
Aroclor 1016 {5}		MULTI	AverageRF	100		3.7E+4	2.8E+4	-24.9			
Aroclor 1260 {1}		MULTI	AverageRF	100		5.8E+4	4.5E+4	-23.0			
Aroclor 1260 {2}		MULTI	AverageRF	100		8.3E+4	6.4E+4	-23.5			
Aroclor 1260 {3}		MULTI	AverageRF	100		8.7E+4	6.7E+4	-22.8			
Aroclor 1260 {4}		MULTI	AverageRF	100		1.9E+5	1.5E+5	-19.1			
Aroclor 1260 {5}		MULTI	AverageRF	100		1.4E+5	1.2E+5	-18.0			
Decachlorobiphenyl		SURR	AverageRF	15		1.6E+6	1.3E+6	-18.1 *			

Alternate Calibration Evaluation Summary

Maximum Allowable Average %D =	15.0
Calculated Average %D =	25.6

5 Compounds Failed CCV Criteria

Calibration Verification Report

Calibration ID: CAL9019
Method ID: MJ702
DataFile: \\CASH1\ACQUDATA\GC32\DATA\111509_R.B\1115F014.D

Parameter Name	Type	PARM Type	Curve Fit	Method Criteria	Min RF	ICAL RF	CCV RF	%Diff	Sol'n Conc.	True Value	% Drift
Aroclor 1016		MS	NA	15					94.23	100.0	-5.8
Aroclor 1260		MS	NA	15					98.26	100.0	-1.7
Tetrachloro-m-xylene		SURR	AverageRF	15		1.1E+6	9.8E+5	-11.1			
Aroclor 1016 {1}		MULTI	AverageRF	100		2.0E+4	1.8E+4	-6.5			
Aroclor 1016 {2}		MULTI	AverageRF	100		5.6E+4	5.3E+4	-5.6			
Aroclor 1016 {3}		MULTI	AverageRF	100		3.1E+4	2.9E+4	-7.3			
Aroclor 1016 {4}		MULTI	AverageRF	100		2.8E+4	2.5E+4	-9.6			
Aroclor 1016 {5}		MULTI	AverageRF	100		1.8E+4	1.8E+4	0.1			
Aroclor 1260 {1}		MULTI	AverageRF	100		7.2E+4	6.8E+4	-4.5			
Aroclor 1260 {2}		MULTI	AverageRF	100		8.4E+4	8.1E+4	-3.9			
Aroclor 1260 {3}		MULTI	AverageRF	100		4.4E+4	4.3E+4	-3.0			
Aroclor 1260 {4}		MULTI	AverageRF	100		4.7E+4	4.5E+4	-2.4			
Aroclor 1260 {5}		MULTI	AverageRF	100		9.4E+4	9.9E+4	5.2			
Decachlorobiphenyl		SURR	AverageRF	15		8.8E+5	9.3E+5	5.1			

Alternate Calibration Evaluation Summary

Maximum Allowable Average %D =	15.0
Calculated Average %D =	5.4

Data File: \\cash1\acqudata\GC32\Data\111509.b\1115F014.D
Report Date: 17-Nov-2009 13:58

Laboratory Name

Sample #1 : \\cash1\acqudata\GC32\Data\111509.b\1115F014.D
Sample #2 : \\cash1\acqudata\GC32\Data\111509_r.b\1115F014.D
Inj Date : 15-NOV-2009 19:52
Sample Info: 1660 @ 100ppb | PCB5-44L | KWG0910692-4
Misc Info :
Cal Date : 16-NOV-2009 19:28
Operator : JMSmith
Inst ID : GC32.i
Dil Factor : 1.000000

Method #1 : \\cash1\acqudata\GC32\Data\111509.b\111309ul_f.m
Method #2 : \\cash1\acqudata\GC32\Data\111509_r.b\111309ul_r.m
Sub List #1 : AR1660.SUB
Sub List #2 : AR1660.SUB
Col #1 Phase : DB-35MS
Col #2 Phase : DB-XLB

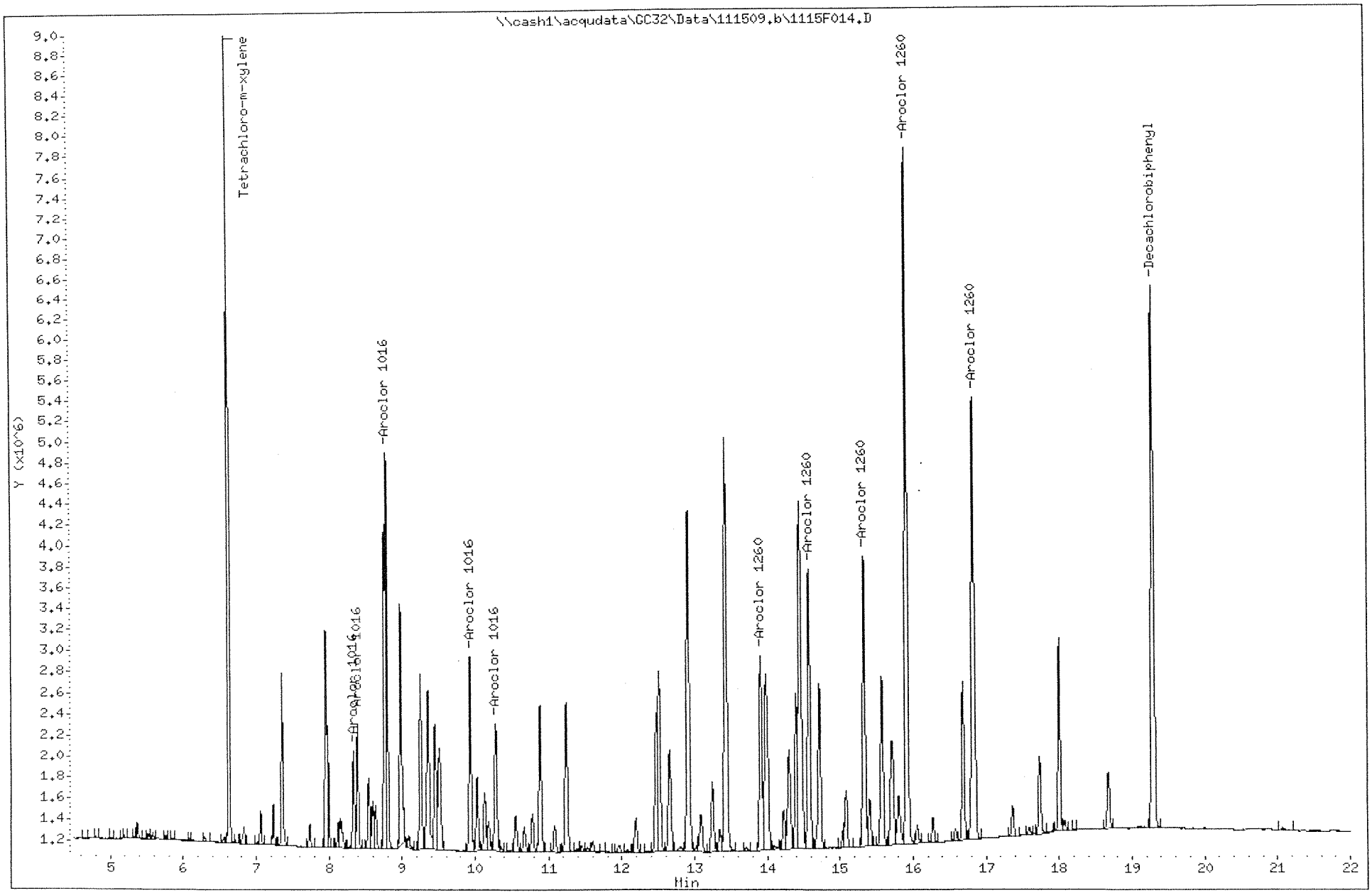
Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2	Target Range	Ratio
Tetrachloro-m-xylene	6.626	7.600	11661588	9780233	6.47	8.89		100.00
Aroclor 1016	8.336	9.243	1552662	1834843	71.4	93.5	80.00- 120.00	100.00
	8.393	10.033	2088781	5323735	68.8	94.4	107.98- 161.97	134.53
	8.796	10.370	6771624	2876034	67.2	92.7	385.94- 578.91	436.13
	9.936	11.126	3909939	2533812	70.2	90.4	209.57- 314.36	251.82
	10.283	11.570	2775263	1779326	75.1	100	151.68- 227.52	178.74
			Average of Peak Amounts =		70.5	94.2		
Aroclor 1260	13.913	15.163	4464539	6844787	77.0	95.5	80.00- 120.00	100.00
	14.576	15.876	6363835	8109471	76.5	96.1	114.97- 172.45	142.54
	15.336	16.123	6738323	4267910	77.2	97.0	122.71- 184.06	150.93
	15.916	16.643	15042968	4545181	80.9	97.6	276.33- 414.49	336.94
	16.829	17.383	11564369	9865792	82.0	105	221.19- 331.78	259.03
			Average of Peak Amounts =		78.7	98.2		
Decachlorobiphenyl	19.293	21.056	13244344	9297914	8.19	10.5		100.00

Data File: \\cash1\acqudata\GC32\Data\111509.b\1115F014.D
Date : 15-NOV-2009 19:52
Client ID:
Sample Info: 1660 @ 100ppb | PCB5-44L | KWG0910692-4

Instrument: GC32.i

Operator: JMSmith
Column diameter: 0.32

Column phase: DB-35MS

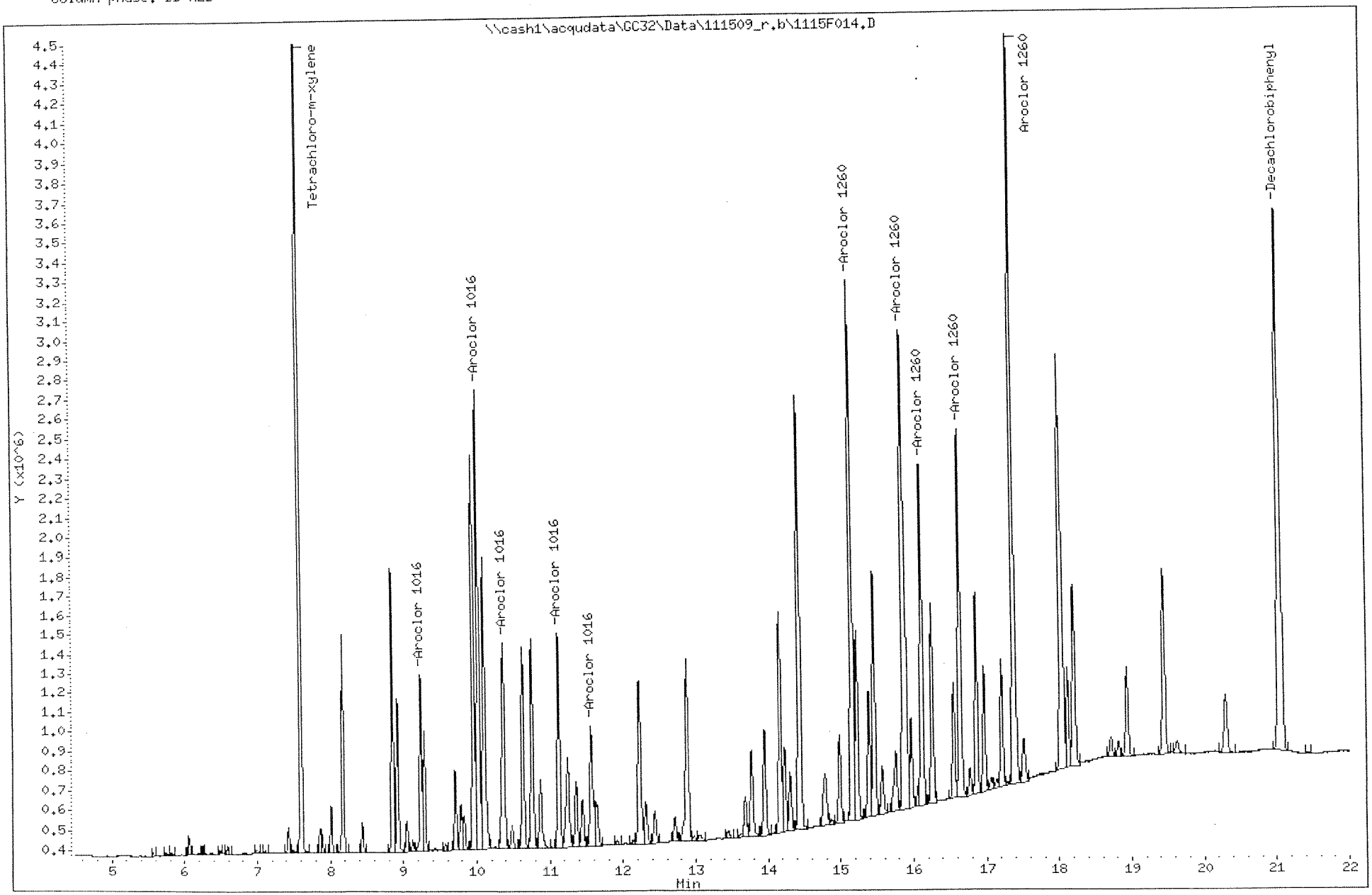


Data File: \\cash1\acqudata\GC32\Data\111509_r.b\1115F014.D
Date : 15-NOV-2009 19:52
Client ID:
Sample Info: 1660 @ 100ppb | PCB5-44L | KWG0910692-4

Instrument: GC32.i

Operator: JHSmith
Column diameter: 0.32

Column phase: DB-XLB



COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Results

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0910296
Date Analyzed: 11/16/2009

Continuing Calibration Verification Summary
Polychlorinated Biphenyls (PCBs)

Calibration Type: External Standard
Analysis Method: 8082

Calibration Date: 11/14/2009
Calibration ID: CAL9019
Analysis Lot: KWG0910692
Units: ng/mL

File ID: \\CASH1\ACQUDATA\GC32\DATA\111509.B\1115F029.D

Column ID: DB-35MS

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift		Criteria	Curve Fit
Decachlorobiphenyl	10	8.7	1620000	1400000	-13	NA		± 15 %	AverageRF
Aroclor 1016	100	73	NA	NA	NA	-27	*	± 15 %	NA
Aroclor 1016 {1}	100	73	21700	16000	-27	NA		± 100 %	AverageRF
Aroclor 1016 {2}	100	71	30300	21400	-29	NA		± 100 %	AverageRF
Aroclor 1016 {3}	100	69	101000	69400	-31	NA		± 100 %	AverageRF
Aroclor 1016 {4}	100	73	55700	40600	-27	NA		± 100 %	AverageRF
Aroclor 1016 {5}	100	78	37000	28900	-22	NA		± 100 %	AverageRF
Aroclor 1260	100	83	NA	NA	NA	-17	*	± 15 %	NA
Aroclor 1260 {1}	100	80	58000	46400	-20	NA		± 100 %	AverageRF
Aroclor 1260 {2}	100	80	83200	66600	-20	NA		± 100 %	AverageRF
Aroclor 1260 {3}	100	81	87300	70900	-19	NA		± 100 %	AverageRF
Aroclor 1260 {4}	100	85	186000	158000	-15	NA		± 100 %	AverageRF
Aroclor 1260 {5}	100	87	141000	122000	-13	NA		± 100 %	AverageRF

Results flagged with an asterisk (*) indicate values outside control criteria.

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0910296
Date Analyzed: 11/16/2009

Continuing Calibration Verification Summary
Polychlorinated Biphenyls (PCBs)

Calibration Type: External Standard
Analysis Method: 8082

Calibration Date: 11/14/2009
Calibration ID: CAL9019
Analysis Lot: KWG0910692
Units: ng/mL

File ID: \\CASH1\ACQUDATA\GC32\DATA\111509_R.B\1115F029.D

Column ID: DB-XLB

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Decachlorobiphenyl	10	11	884000	953000	8	NA	± 15 %	AverageRF
Aroclor 1016	100	95	NA	NA	NA	-5	± 15 %	NA
Aroclor 1016 {1}	100	94	19600	18400	-6	NA	± 100 %	AverageRF
Aroclor 1016 {2}	100	95	56400	53300	-5	NA	± 100 %	AverageRF
Aroclor 1016 {3}	100	93	31000	28900	-7	NA	± 100 %	AverageRF
Aroclor 1016 {4}	100	91	28000	25600	-9	NA	± 100 %	AverageRF
Aroclor 1016 {5}	100	100	17800	17800	0	NA	± 100 %	AverageRF
Aroclor 1260	100	100	NA	NA	NA	1	± 15 %	NA
Aroclor 1260 {1}	100	98	71700	70100	-2	NA	± 100 %	AverageRF
Aroclor 1260 {2}	100	99	84400	83700	-1	NA	± 100 %	AverageRF
Aroclor 1260 {3}	100	100	44000	44400	1	NA	± 100 %	AverageRF
Aroclor 1260 {4}	100	100	46600	47200	1	NA	± 100 %	AverageRF
Aroclor 1260 {5}	100	110	93800	101000	8	NA	± 100 %	AverageRF

Results flagged with an asterisk (*) indicate values outside control criteria.

Exception Report

Data File:	\\CASH1\ACQUDATA\GC32\DATA\111509.B\1115F029.D	**Date Acquired:**	11/16/2009 03:24
Lab ID:	KWG0910692-6	**Date Quantitated:**	11/17/2009 13:59
RunType:	CCV	**Batch ID:**	KWG0910692
Matrix:	LIQUID	**Analysis Method:**	8082
		MethodJoinID:	MJ702

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA		x
Analyte Co-elution	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
Second Source ICAL Verification	Aroclor 1016	-15.6	NA	15	NA

Primary Review: LM 11/20/09

Secondary Review: AC 11/17/09

Exception Report

Data File: \\CASH1\ACQUDATA\GC32\DATA\111509_R.B\1115F029.D
Lab ID: KWG0910692-6
RunType: CCV
Matrix: LIQUID

Date Acquired: 11/16/2009 03:24
Date Quantitated: 11/17/2009 14:00
Batch ID: KWG0910692
Analysis Method: 8082
MethodJoinID: MJ702

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	

Primary Review: [signature]

Secondary Review: 12/4/17 [signature]

Quantitation Report

Bottle ID:		**Tier:**		**Matrix:**	LIQUID
Prod Code:	8082 PCB_ULL	**Collect Date:**		**Receive Date:**	11/13/2009

Analysis Lot:	KWG0910692	**Prep Lot:**		**Report Group:**	
Analysis Method:	8082	**Prep Method:**			
Prep Ref:		**Prep Date:**			

Quant Method:	\\CASH1\ACQUDATA\GC32\DATA\111509.B\111309UL_F.M	**Calibration ID:**	CAL9019
Title:			
MB Ref:		**Method ID:**	MJ702
		Quant based on Method	

Data File #1:	J:\GC32\DATA\111509.B\1115F029.D			**Instrument:**	GC32.i
Data File #2:	\\cash1\acqudata\GC32\Data\111509_r.b\1115F029.D			**Vial:**	98
Acqu Date:	11/16/2009 03:24	**Quant Date:**	11/17/2009 13:59	**Dilution:**	1.0
Run Type:	CCV			**Soln Conc. Units:**	ng/mL
Lab ID:	KWG0910692-6				
Signal #1:	DB-35MS	**Signal #2:**	DB-XLB		

Surrogate Compounds

Parameter Name	RT #1	RT #2	Resp #1	Respe #2	ng/mL #1	ng/mL #2			Rpt
Tetrachloro-m-xylene	6.63	7.60	11723700	9725688	6.50	8.84			NA
				%Recovery =	NA	NA	Limits =	21-114	
Decachlorobiphenyl	19.30	21.06	14007260	9532790	8.66	10.78			NA
				%Recovery =	NA	NA	Limits =	36-113	

Target Compounds

Final Conc. Units: ug/L

Parameter Name	RT #1	RT #2	Resp #1	Resp #2	ng/mL #1	ng/mL #2	ug/L #1	ug/L #2	Rpt
Aroclor 1016			0	0	72.83	94.63			
Aroclor 1016 {1}	8.34	9.24	1598199	1843277	73.49	93.95			
Aroclor 1016 {2}	8.40	10.03	2140438	5330236	70.56	94.56			
Aroclor 1016 {3}	8.80	10.38	6944719	2887378	68.96	93.09			
Aroclor 1016 {4}	9.94	11.13	4060339	2556425	72.89	91.17			
Aroclor 1016 {5}	10.28	11.57	2893171	1783956	78.26	100.36			
Aroclor 1260			0	0	82.58	101.43			
Aroclor 1260 {1}	13.91	15.16	4641416	7013544	80.05	97.85			
Aroclor 1260 {2}	14.58	15.88	6661439	8369304	80.10	99.14			
Aroclor 1260 {3}	15.34	16.12	7094098	4438793	81.27	100.87			
Aroclor 1260 {4}	15.92	16.65	15789304	4716707	84.93	101.26			
Aroclor 1260 {5}	16.83	17.39	12208013	10130992	86.55	108.01			

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Calibration Verification Report

Calibration ID: CAL9019
Method ID: MJ702
DataFile: \\CASH1\ACQUDATA\GC32\DATA\111509.B\1115F029.D

Parameter Name	Type	PARM Type	Curve Fit	Method Criteria	Min RF	ICAL RF	CCV RF	%Diff	Sol'n Conc.	True Value	% Drift
Aroclor 1016		MS	NA	15					72.83	100.0	-27.2 *
Aroclor 1260		MS	NA	15					82.58	100.0	-17.4 *
Tetrachloro-m-xylene		SURR	AverageRF	15		1.8E+6	1.2E+6	-35.0 *			
Aroclor 1016 {1}		MULTI	AverageRF	100		2.2E+4	1.6E+4	-26.5			
Aroclor 1016 {2}		MULTI	AverageRF	100		3.0E+4	2.1E+4	-29.4			
Aroclor 1016 {3}		MULTI	AverageRF	100		1.0E+5	6.9E+4	-31.0			
Aroclor 1016 {4}		MULTI	AverageRF	100		5.6E+4	4.1E+4	-27.1			
Aroclor 1016 {5}		MULTI	AverageRF	100		3.7E+4	2.9E+4	-21.7			
Aroclor 1260 {1}		MULTI	AverageRF	100		5.8E+4	4.6E+4	-20.0			
Aroclor 1260 {2}		MULTI	AverageRF	100		8.3E+4	6.7E+4	-19.9			
Aroclor 1260 {3}		MULTI	AverageRF	100		8.7E+4	7.1E+4	-18.7			
Aroclor 1260 {4}		MULTI	AverageRF	100		1.9E+5	1.6E+5	-15.1			
Aroclor 1260 {5}		MULTI	AverageRF	100		1.4E+5	1.2E+5	-13.5			
Decachlorobiphenyl		SURR	AverageRF	15		1.6E+6	1.4E+6	-13.4			

Alternate Calibration Evaluation Summary

Maximum Allowable Average %D =	15.0
Calculated Average %D =	22.6

5 Compounds Failed CCV Criteria

Calibration Verification Report

Calibration ID: CAL9019
Method ID: MJ702
DataFile: \\CASH1\ACQUDATA\GC32\DATA\111509_R.B\1115F029.D

Parameter Name	Type	PARM Type	Curve Fit	Method Criteria	Min RF	ICAL RF	CCV RF	%Diff	Sol'n Conc.	True Value	% Drift
Aroclor 1016		MS	NA	15					94.63	100.0	-5.4
Aroclor 1260		MS	NA	15					101.4	100.0	1.4
Tetrachloro-m-xylene		SURR	AverageRF	15		1.1E+6	9.7E+5	-11.6			
Aroclor 1016 {1}		MULTI	AverageRF	100		2.0E+4	1.8E+4	-6.0			
Aroclor 1016 {2}		MULTI	AverageRF	100		5.6E+4	5.3E+4	-5.4			
Aroclor 1016 {3}		MULTI	AverageRF	100		3.1E+4	2.9E+4	-6.9			
Aroclor 1016 {4}		MULTI	AverageRF	100		2.8E+4	2.6E+4	-8.8			
Aroclor 1016 {5}		MULTI	AverageRF	100		1.8E+4	1.8E+4	0.4			
Aroclor 1260 {1}		MULTI	AverageRF	100		7.2E+4	7.0E+4	-2.2			
Aroclor 1260 {2}		MULTI	AverageRF	100		8.4E+4	8.4E+4	-0.9			
Aroclor 1260 {3}		MULTI	AverageRF	100		4.4E+4	4.4E+4	0.9			
Aroclor 1260 {4}		MULTI	AverageRF	100		4.7E+4	4.7E+4	1.3			
Aroclor 1260 {5}		MULTI	AverageRF	100		9.4E+4	1.0E+5	8.0			
Decachlorobiphenyl		SURR	AverageRF	15		8.8E+5	9.5E+5	7.8			

Alternate Calibration Evaluation Summary

Maximum Allowable Average %D =	15.0
Calculated Average %D =	5.0

Data File: \\cash1\acqudata\GC32\Data\111509.b\1115F029.D
Report Date: 17-Nov-2009 13:59

Laboratory Name

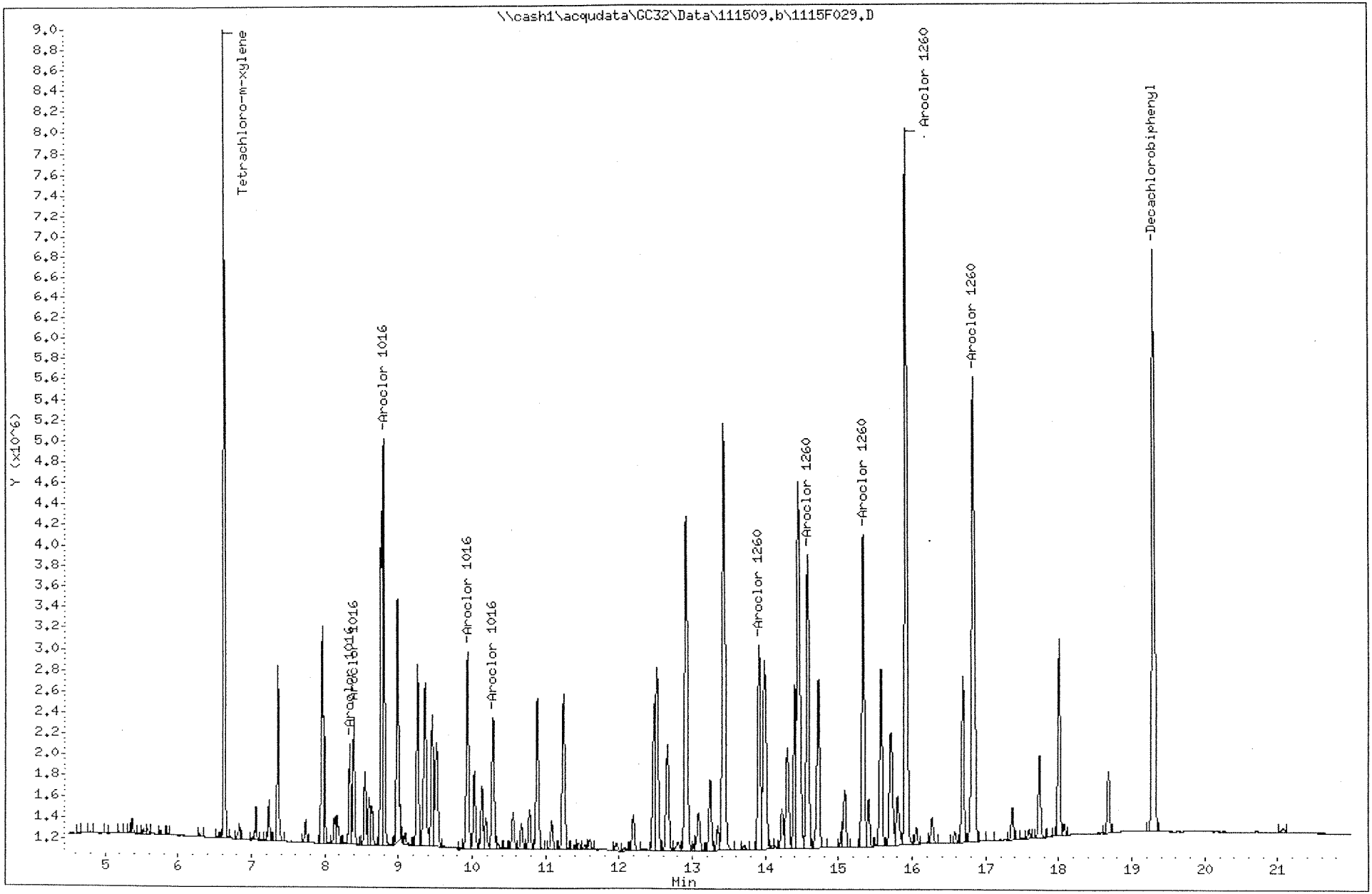
Sample #1 : \\cash1\acqudata\GC32\Data\111509.b\1115F029.D
Sample #2 : \\cash1\acqudata\GC32\Data\111509_r.b\1115F029.D
Inj Date : 16-NOV-2009 03:24
Sample Info: 1660 @ 100ppb | PCB5-44L | KWG0910692-6
Misc Info :
Cal Date : 16-NOV-2009 19:30
Operator : JMSmith
Inst ID : GC32.i
Dil Factor : 1.000000

Method #1 : \\cash1\acqudata\GC32\Data\111509.b\111309ul_f.m
Method #2 : \\cash1\acqudata\GC32\Data\111509_r.b\111309ul_r.m
Sub List #1 : AR1660.SUB
Sub List #2 : AR1660.SUB
Col #1 Phase : DB-35MS
Col #2 Phase : DB-XLB

Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2	Target Range	Ratio
Tetrachloro-m-xylene	6.628	7.602	11723700	9725688	6.50	8.84		100.00
Aroclor 1016	8.338	9.245	1598199	1843277	73.5	94.0	80.00- 120.00	100.00
	8.395	10.035	2140438	5330236	70.6	94.6	107.98- 161.97	133.93
	8.798	10.375	6944719	2887378	69.0	93.1	385.94- 578.91	434.53
	9.938	11.128	4060339	2556425	72.9	91.2	209.57- 314.36	254.06
	10.285	11.572	2893171	1783956	78.2	100	151.68- 227.52	181.03
			Average of Peak Amounts =		72.8	94.6		
Aroclor 1260	13.915	15.165	4641416	7013544	80.0	97.8	80.00- 120.00	100.00
	14.578	15.875	6661439	8369304	80.1	99.1	114.97- 172.45	143.52
	15.338	16.122	7094098	4438793	81.3	101	122.71- 184.06	152.84
	15.918	16.645	15789304	4716707	84.9	101	276.33- 414.49	340.18
	16.831	17.385	12208013	10130992	86.5	108	221.19- 331.78	263.02
			Average of Peak Amounts =		82.6	101		
Decachlorobiphenyl	19.298	21.062	14007260	9532790	8.66	10.8		100.00

Data File: \\cash1\acqudata\GC32\Data\111509.b\1115F029.D
Date : 16-NOV-2009 03:24
Client ID:
Sample Info: 1660 @ 100ppb | PCB5-44L | KWG0910692-6

Instrument: GC32.i
Operator: JMSmith
Column phase: DB-35MS
Column diameter: 0.32

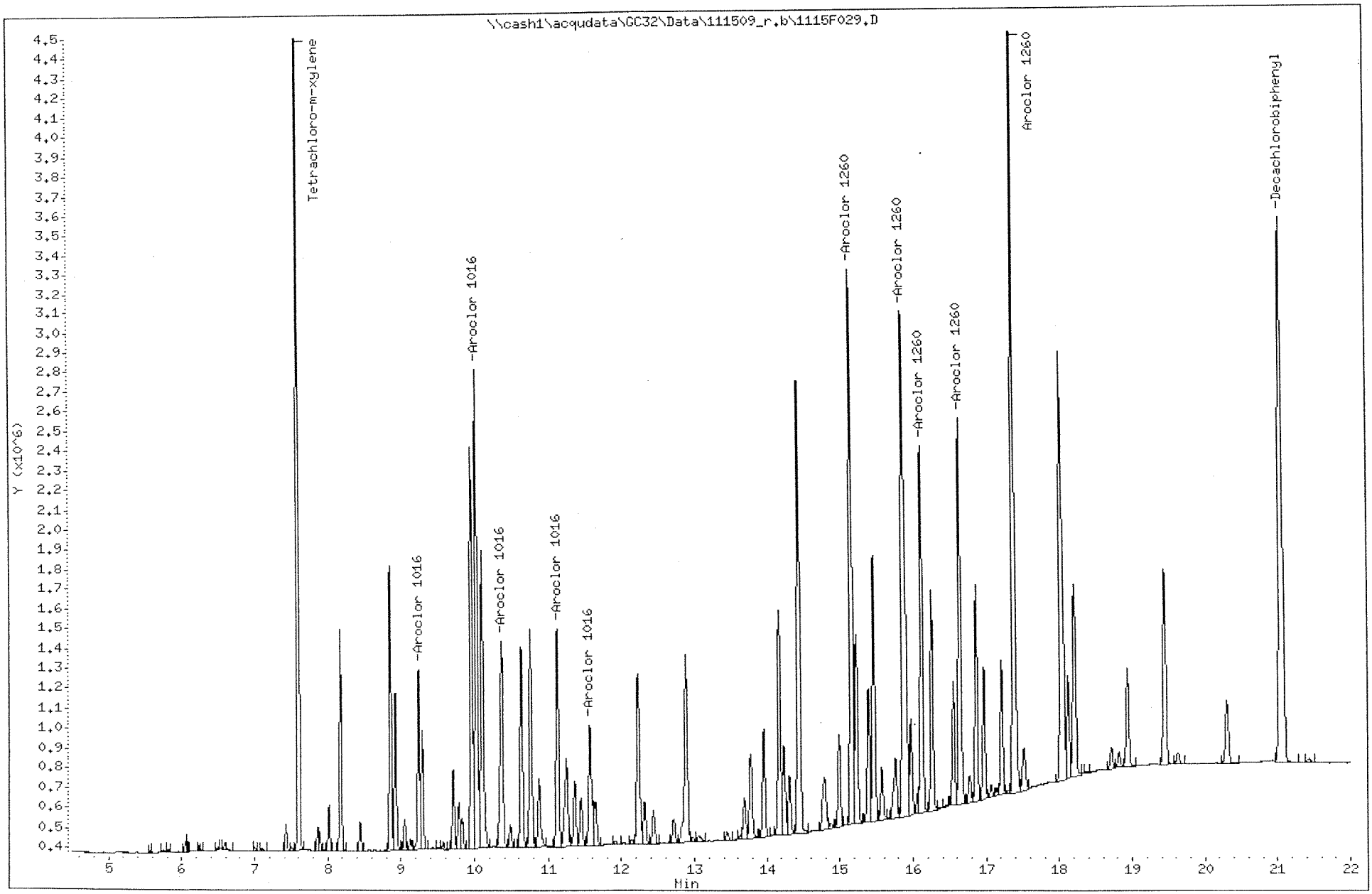


Data File: \\cash1\acqudata\GC32\Data\111509_r.b\1115F029.D
Date : 16-NOV-2009 03:24
Client ID:
Sample Info: 1660 @ 100ppb | PCB5-44L | KWG0910692-6

Instrument: GC32.i

Operator: JMSmith
Column diameter: 0.32

Column phase: DB-XLB



COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Results

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0910296
Date Analyzed: 11/20/2009

Continuing Calibration Verification Summary
Polychlorinated Biphenyls (PCBs)

Calibration Type: External Standard
Analysis Method: 8082

Calibration Date: 11/18/2009
Calibration ID: CAL9027
Analysis Lot: KWG0910908
Units: ng/mL

File ID: \\CASH1\ACQUDATA\GC22\DATA\111909.B\1119F030.D

Column ID: DB-35MS

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Decachlorobiphenyl	10	11	1490000	1600000	7	NA	± 15 %	AverageRF
Aroclor 1016	100	100	NA	NA	NA	4	± 15 %	NA
Aroclor 1016 {1}	100	99	22500	22200	-1	NA	± 100 %	AverageRF
Aroclor 1016 {2}	100	110	64500	71300	11	NA	± 100 %	AverageRF
Aroclor 1016 {3}	100	110	43000	45500	6	NA	± 100 %	AverageRF
Aroclor 1016 {4}	100	100	36000	36800	2	NA	± 100 %	AverageRF
Aroclor 1016 {5}	100	100	36600	37000	1	NA	± 100 %	AverageRF
Aroclor 1260	100	110	NA	NA	NA	6	± 15 %	NA
Aroclor 1260 {1}	100	97	51800	50500	-3	NA	± 100 %	AverageRF
Aroclor 1260 {2}	100	100	59500	61500	3	NA	± 100 %	AverageRF
Aroclor 1260 {3}	100	110	64300	68900	7	NA	± 100 %	AverageRF
Aroclor 1260 {4}	100	110	140000	153000	10	NA	± 100 %	AverageRF
Aroclor 1260 {5}	100	110	112000	125000	11	NA	± 100 %	AverageRF

Results flagged with an asterisk (*) indicate values outside control criteria.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Results

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0910296
Date Analyzed: 11/20/2009

Continuing Calibration Verification Summary
Polychlorinated Biphenyls (PCBs)

Calibration Type: External Standard
Analysis Method: 8082

Calibration Date: 11/18/2009
Calibration ID: CAL9027
Analysis Lot: KWG0910908
Units: ng/mL

File ID: \\CASH1\ACQUDATA\GC22\DATA\111909_R.B\1119F030.D

Column ID: DB-XLB

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Decachlorobiphenyl	10	11	4470000	4720000	5	NA	± 15 %	AverageRF
Aroclor 1016	100	110	NA	NA	NA	7	± 15 %	NA
Aroclor 1016 {1}	100	100	131000	134000	2	NA	± 100 %	AverageRF
Aroclor 1016 {2}	100	110	230000	249000	8	NA	± 100 %	AverageRF
Aroclor 1016 {3}	100	100	113000	113000	0	NA	± 100 %	AverageRF
Aroclor 1016 {4}	100	100	120000	124000	4	NA	± 100 %	AverageRF
Aroclor 1016 {5}	100	120	62200	75100	21	NA	± 100 %	AverageRF
Aroclor 1260	100	110	NA	NA	NA	7	± 15 %	NA
Aroclor 1260 {1}	100	110	306000	327000	7	NA	± 100 %	AverageRF
Aroclor 1260 {2}	100	110	214000	226000	5	NA	± 100 %	AverageRF
Aroclor 1260 {3}	100	110	208000	223000	7	NA	± 100 %	AverageRF
Aroclor 1260 {4}	100	110	463000	502000	8	NA	± 100 %	AverageRF
Aroclor 1260 {5}	100	110	288000	306000	6	NA	± 100 %	AverageRF

Results flagged with an asterisk (*) indicate values outside control criteria.

Exception Report

Data File: \\CASH1\ACQUDATA\GC22\DATA\111909.B\1119F030.D
Lab ID: KWG0910908-6
RunType: CCV
Matrix: LIQUID

Date Acquired: 11/20/2009 01:24
Date Quantitated: 11/20/2009 11:32
Batch ID: KWG0910908
Analysis Method: 8082
MethodJoinID: MJ702

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA		x
Analyte Co-elution	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
Second Source ICAL Verification	Aroclor 1260	-17.3	NA	15	
	Aroclor 1016	-18.3	NA	15	

Primary Review: _____

Secondary Review: _____

Exception Report

Data File: \\CASH1\ACQUDATA\GC22\DATA\111909_R.B\1119F030.D
Lab ID: KWG0910908-6
RunType: CCV
Matrix: LIQUID

Date Acquired: 11/20/2009 01:24
Date Quantitated: 11/20/2009 11:33
Batch ID: KWG0910908
Analysis Method: 8082
MethodJoinID: MJ702

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	

Primary Review: _____

Secondary Review: _____

Quantitation Report

Bottle ID:		**Tier:**		**Matrix:**	LIQUID
Prod Code:	8082 PCB	**Collect Date:**		**Receive Date:**	11/19/2009

Analysis Lot:	KWG0910908	**Prep Lot:**		**Report Group:**	
Analysis Method:	8082	**Prep Method:**			
Prep Ref:		**Prep Date:**			

Quant Method:	\\CASH1\ACQUDATA\GC22\DATA\111909.B\111709UL_F.M	**Calibration ID:**	CAL9027
Title:			
MB Ref:		**Method ID:**	MJ702
		Quant based on Method	

Data File #1:	J:\GC22\DATA\111909.B\1119F030.D			**Instrument:**	GC22.i
Data File #2:	\\cash1\acqudata\GC22\data\111909_r.b\1119F030.D			**Vial:**	96
Acqu Date:	11/20/2009 01:24	**Quant Date:**	11/20/2009 11:32	**Dilution:**	1.0
Run Type:	CCV			**Soln Conc. Units:**	ng/mL
Lab ID:	KWG0910908-6				
Signal #1:	DB-35MS	**Signal #2:**	DB-XLB		

Surrogate Compounds

Parameter Name	RT #1	RT #2	Resp #1	Respe #2	ng/mL #1	ng/mL #2			Rpt
Tetrachloro-m-xylene	5.40	6.03	14622774m	48352317	10.16	10.24			NA
				%Recovery =	NA	NA	Limits =	21-114	
Decachlorobiphenyl	13.57	14.72	15951872	47180072	10.74	10.54			NA
				%Recovery =	NA	NA	Limits =	36-113	

Target Compounds

Final Conc. Units: ug/L

Parameter Name	RT #1	RT #2	Resp #1	Resp #2	ng/mL #1	ng/mL #2	ug/L #1	ug/L #2	Rpt
Aroclor 1016			0	0	103.59	106.99			
Aroclor 1016 {1}	6.54	6.82	2221066m	13389617m	98.56	102.17			
Aroclor 1016 {2}	6.79	7.54	7133386m	24905771m	110.52	108.40			
Aroclor 1016 {3}	6.90	7.89	4547495m	11267221m	105.69	100.08			
Aroclor 1016 {4}	7.13	8.18	3676959m	12428160m	102.19	103.52			
Aroclor 1016 {5}	7.47	8.44	3699368m	7512498m	101.00	120.78			
Aroclor 1260			0	0	105.92	106.80			
Aroclor 1260 {1}	9.77	10.53	5050125	32662324m	97.45	106.87			
Aroclor 1260 {2}	10.12	11.19	6151601	22555269m	103.44	105.26			
Aroclor 1260 {3}	10.62	11.57	6892983	22348836m	107.24	107.32			
Aroclor 1260 {4}	11.02	12.13	15347205	50175216m	110.02	108.30			
Aroclor 1260 {5}	11.68	12.66	12535319	30626106m	111.43	106.25			

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Calibration Verification Report

Calibration ID: CAL9027
Method ID: MJ702
DataFile: \\CASH1\ACQUDATA\GC22\DATA\111909.B\1119F030.D

Parameter Name	Type	PARM Type	Curve Fit	Method Criteria	Min RF	ICAL RF	CCV RF	%Diff	Sol'n Conc.	True Value	% Drift
Aroclor 1016		MS	NA	15					103.6	100.0	3.6
Aroclor 1260		MS	NA	15					105.9	100.0	5.9
Tetrachloro-m-xylene		SURR	AverageRF	15		1.4E+6	1.5E+6	1.6			
Aroclor 1016 {1}		MULTI	AverageRF	100		2.3E+4	2.2E+4	-1.4			
Aroclor 1016 {2}		MULTI	AverageRF	100		6.5E+4	7.1E+4	10.5			
Aroclor 1016 {3}		MULTI	AverageRF	100		4.3E+4	4.5E+4	5.7			
Aroclor 1016 {4}		MULTI	AverageRF	100		3.6E+4	3.7E+4	2.2			
Aroclor 1016 {5}		MULTI	AverageRF	100		3.7E+4	3.7E+4	1.0			
Aroclor 1260 {1}		MULTI	AverageRF	100		5.2E+4	5.1E+4	-2.5			
Aroclor 1260 {2}		MULTI	AverageRF	100		5.9E+4	6.2E+4	3.4			
Aroclor 1260 {3}		MULTI	AverageRF	100		6.4E+4	6.9E+4	7.2			
Aroclor 1260 {4}		MULTI	AverageRF	100		1.4E+5	1.5E+5	10.0			
Aroclor 1260 {5}		MULTI	AverageRF	100		1.1E+5	1.3E+5	11.4			
Decachlorobiphenyl		SURR	AverageRF	15		1.5E+6	1.6E+6	7.4			

Alternate Calibration Evaluation Summary

Maximum Allowable Average %D =	15.0
Calculated Average %D =	5.4

Calibration Verification Report

Calibration ID: CAL9027
Method ID: MJ702
DataFile: \\CASH1\ACQUDATA\GC22\DATA\111909_R.B\1119F030.D

Parameter Name	Type	PARM Type	Curve Fit	Method Criteria	Min RF	ICAL RF	CCV RF	%Diff	Sol'n Conc.	True Value	% Drift
Aroclor 1016		MS	NA	15					107.0	100.0	7.0
Aroclor 1260		MS	NA	15					106.8	100.0	6.8
Tetrachloro-m-xylene		SURR	AverageRF	15		4.7E+6	4.8E+6	2.4			
Aroclor 1016 {1}		MULTI	AverageRF	100		1.3E+5	1.3E+5	2.2			
Aroclor 1016 {2}		MULTI	AverageRF	100		2.3E+5	2.5E+5	8.4			
Aroclor 1016 {3}		MULTI	AverageRF	100		1.1E+5	1.1E+5	0.1			
Aroclor 1016 {4}		MULTI	AverageRF	100		1.2E+5	1.2E+5	3.5			
Aroclor 1016 {5}		MULTI	AverageRF	100		6.2E+4	7.5E+4	20.8			
Aroclor 1260 {1}		MULTI	AverageRF	100		3.1E+5	3.3E+5	6.9			
Aroclor 1260 {2}		MULTI	AverageRF	100		2.1E+5	2.3E+5	5.3			
Aroclor 1260 {3}		MULTI	AverageRF	100		2.1E+5	2.2E+5	7.3			
Aroclor 1260 {4}		MULTI	AverageRF	100		4.6E+5	5.0E+5	8.3			
Aroclor 1260 {5}		MULTI	AverageRF	100		2.9E+5	3.1E+5	6.3			
Decachlorobiphenyl		SURR	AverageRF	15		4.5E+6	4.7E+6	5.4			

Alternate Calibration Evaluation Summary

Maximum Allowable Average %D =	15.0
Calculated Average %D =	6.4

Data File: \\cash1\acqudata\GC22\data\111909.b\1119F030.D
Report Date: 20-Nov-2009 11:32

Laboratory Name

Sample #1 : \\cash1\acqudata\GC22\data\111909.b\1119F030.D
Sample #2 : \\cash1\acqudata\GC22\data\111909_r.b\1119F030.D
Inj Date : 20-NOV-2009 01:24
Sample Info: 1660 @ 100ppb | PCB5-44L | KWG0910908-6
Misc Info :
Cal Date : 20-NOV-2009 09:33
Operator : JMSmith
Inst ID : GC22.i
Dil Factor : 1.000000

Method #1 : \\cash1\acqudata\GC22\data\111909.b\111709ul_f.m
Method #2 : \\cash1\acqudata\GC22\data\111909_r.b\111709ul_r.m
Sub List #1 : AR1660.SUB
Sub List #2 : AR1660.SUB
Col #1 Phase : DB-35MS
Col #2 Phase : DB-XLB

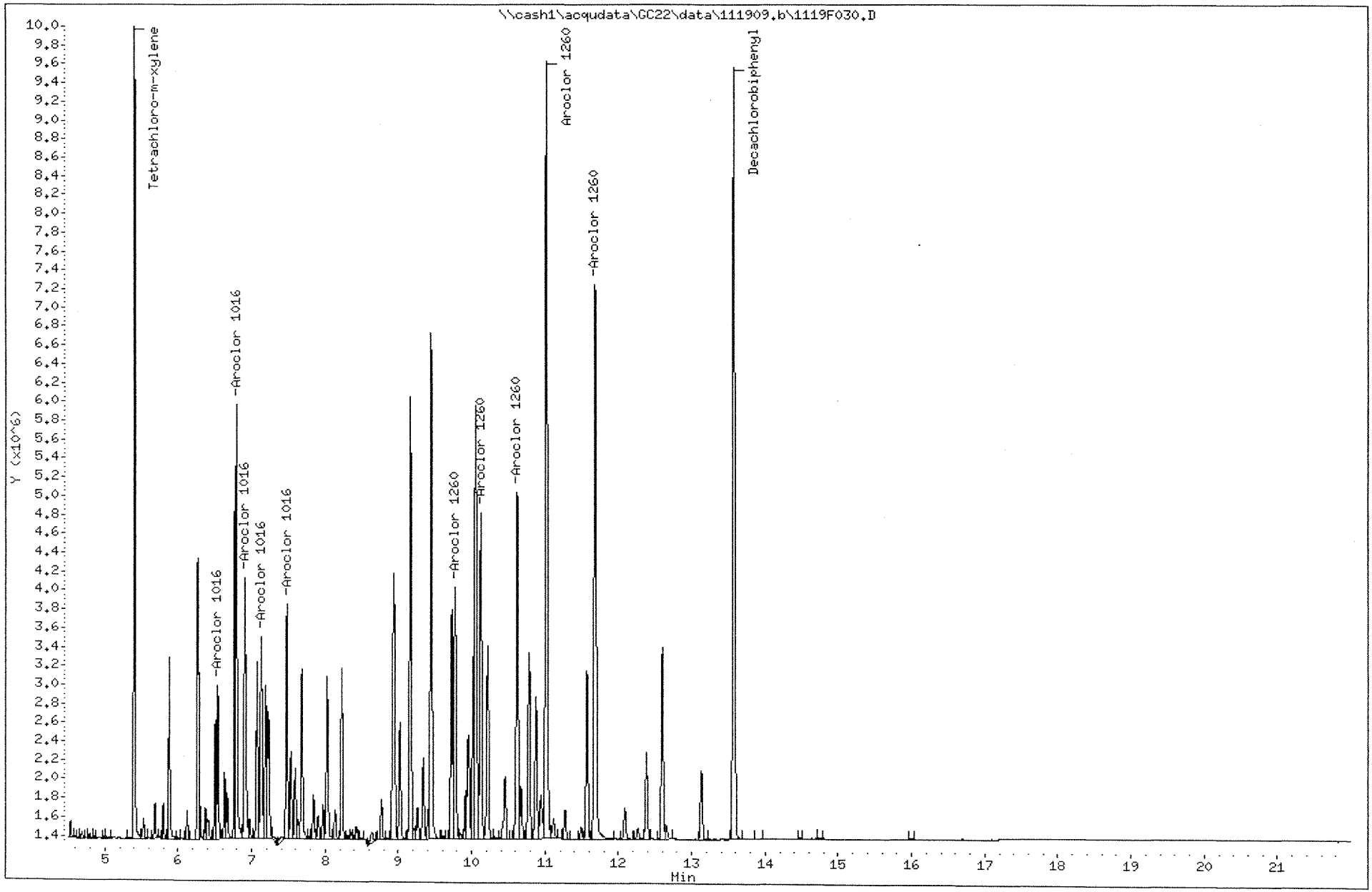
Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2	Target Range	Ratio
Tetrachloro-m-xylene	5.401	6.025	14622774	48352317	10.2	10.2		100.00(M)
Aroclor 1016	6.541	6.819	2221066	13389617	98.6	102	80.00- 120.00	100.00(M)
	6.791	7.542	7133386	24905771	110	108	259.91- 389.86	321.17(M)
	6.904	7.892	4547495	11267221	106	100	165.97- 248.95	204.74(M)
	7.127	8.182	3676959	12428160	102	104	130.47- 195.71	165.55(M)
	7.474	8.439	3699368	7512498	101	121	132.21- 198.31	166.56(M)
			Average of Peak Amounts =		104	107		
Aroclor 1260	9.774	10.532	5050125	32662324	97.4	107	80.00- 120.00	100.00
	10.124	11.189	6151601	22555269	103	105	96.90- 145.34	121.81
	10.621	11.575	6892983	22348836	107	107	111.01- 166.51	136.49
	11.017	12.132	15347205	50175216	110	108	251.52- 377.27	303.90
	11.681	12.659	12535319	30626106	111	106	202.31- 303.46	248.22
			Average of Peak Amounts =		106	107		
Decachlorobiphenyl	13.574	14.722	15951872	47180072	10.7	10.5		100.00

QC Flag Legend

M - Compound response manually integrated.

Data File: \\cash1\acqudata\GC22\data\111909.b\1119F030.D
Date : 20-NOV-2009 01:24
Client ID:
Sample Info: 1660 @ 100ppb | PCB5-44L | KWG0910908-6

Instrument: GC22.i
Operator: JMSmith
Column phase: DB-35MS
Column diameter: 0.32



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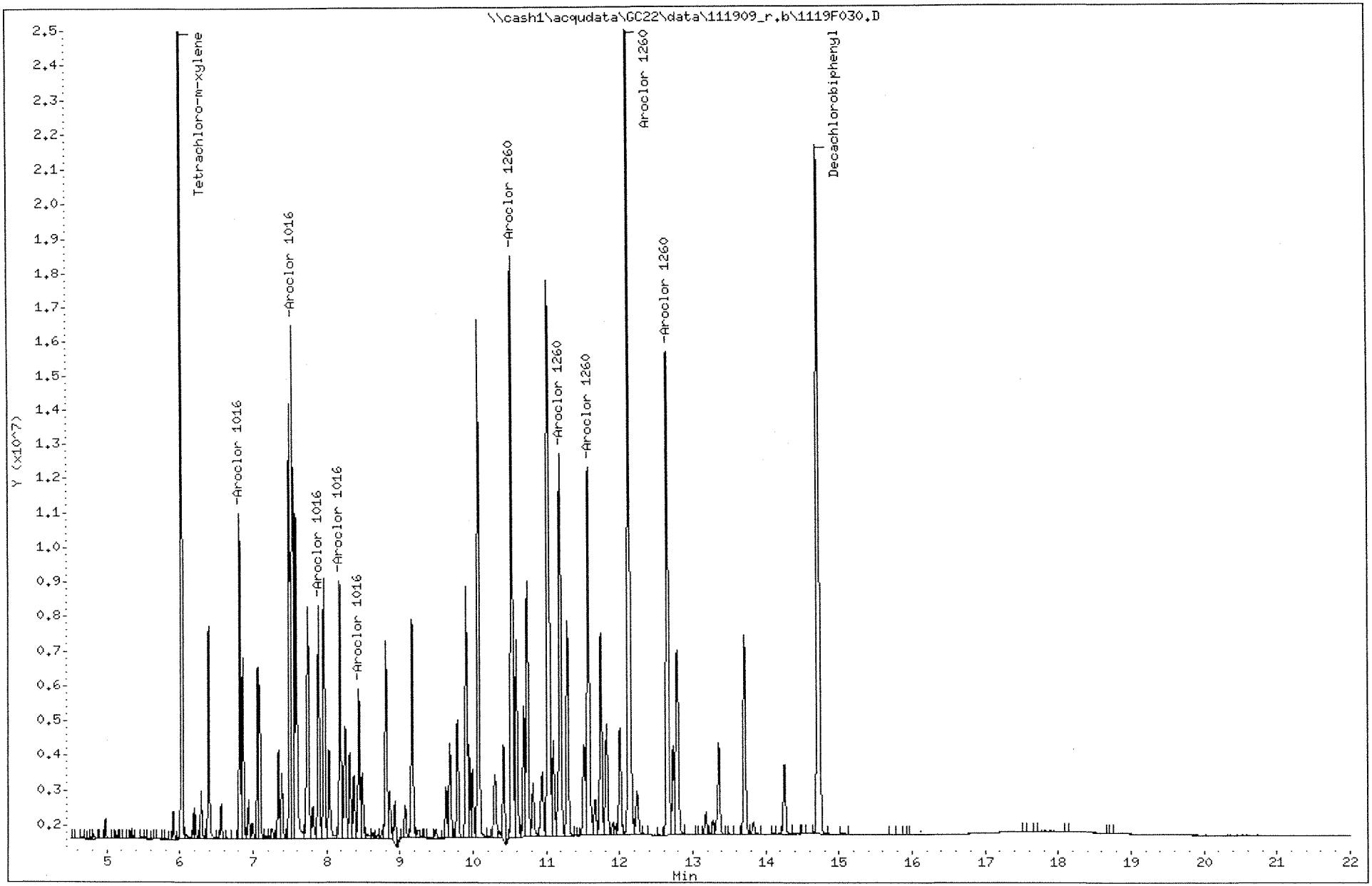
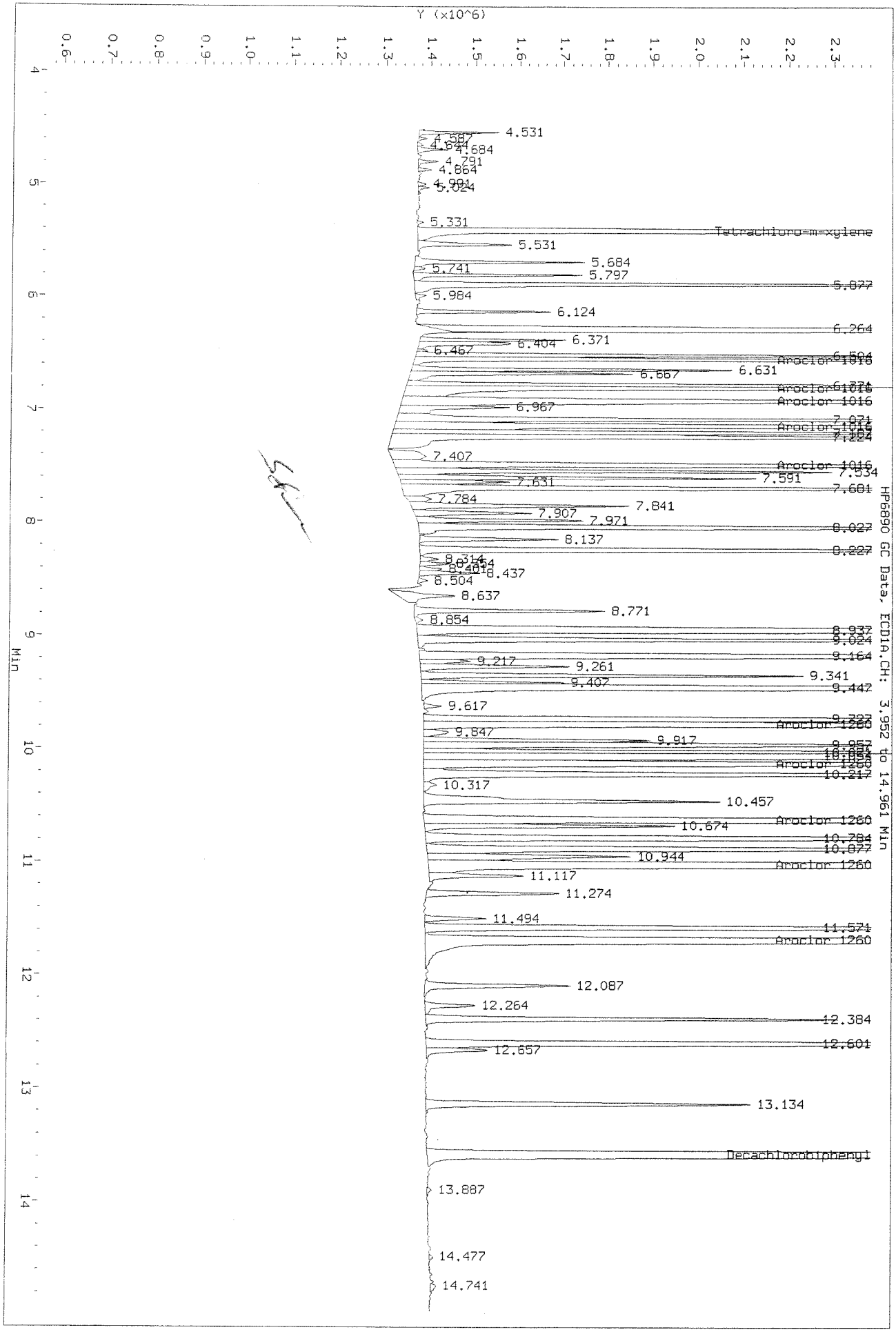
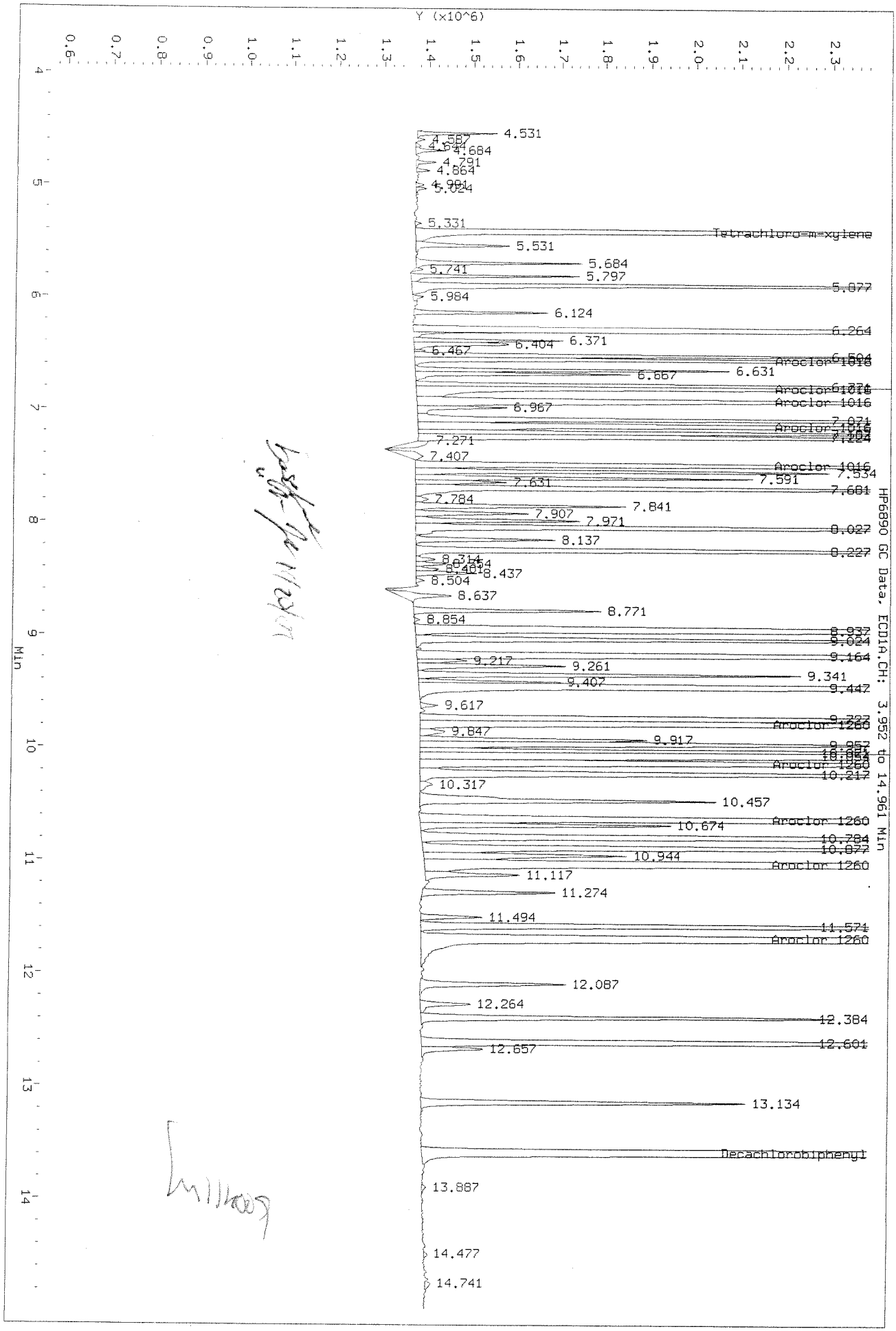
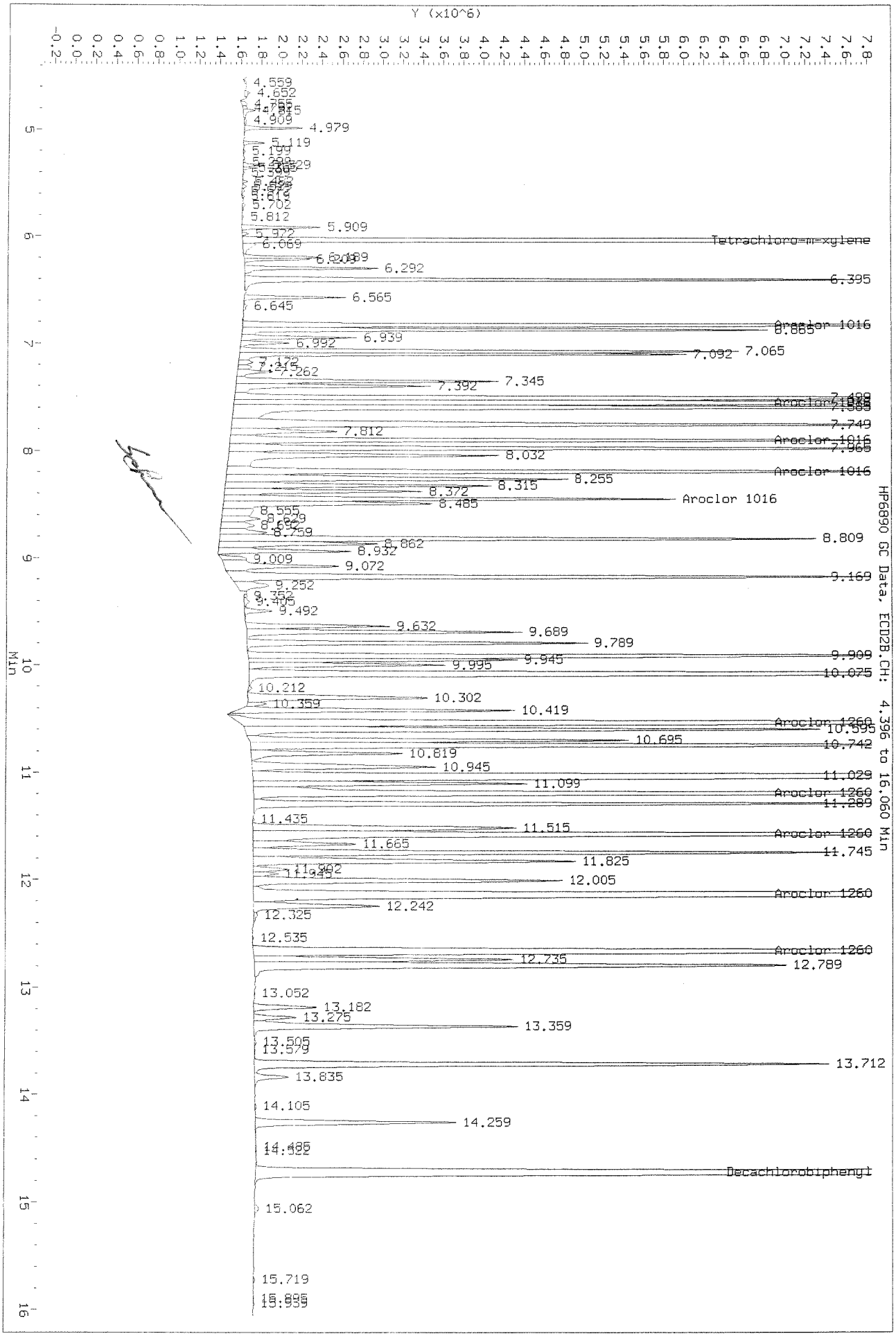
Date : 20-NOV-2009 01:24
Client ID:
Sample Info: 1660 @ 100ppb | PCB5-44L | KWG0910908-6

Instrument: GC22.i
Operator: JMSmith
Column phase: DB-XLB
Column diameter: 0.32




Data File: \\cash1\acqudata\GC22\data\111909.b\1119F030.D
Injection Date: 20-NOV-2009 01:24
Instrument: GC22.1
Client Sample ID:
HP6890 GC Data, ECD1A.CH: 3.952 to 14.961 Min
Y (x10^6)
Min
4.531
4.684
4.291
4.864
5.024
5.331
Tetrachloro-m-xylene
5.531
5.684
5.741
5.797
5.877
5.984
6.124
6.264
6.371
6.404
6.467
Aroclor 1016
6.631
6.667
Aroclor 1016
6.967
Aroclor 1016
7.224
7.407
Aroclor 1016
7.534
7.591
7.631
7.681
7.784
7.841
7.907
7.971
8.027
8.137
8.227
8.437
8.504
8.637
8.771
8.854
9.024
9.164
9.217
9.261
9.341
9.407
9.442
9.617
Aroclor 1260
9.847
9.917
Aroclor 1260
10.217
10.317
10.457
10.674
Aroclor 1260
10.784
10.877
10.944
Aroclor 1260
11.117
11.274
11.494
11.571
Aroclor 1260
12.087
12.264
12.384
12.601
12.657
13.134
Decachlorobiphenyl
13.887
14.477
14.741


Data File: \\cash1\acqudata\GC22\data\111909.b\1119F030.D
Injection Date: 20-NOV-2009 01:24
Instrument: GC22.i
Client Sample ID:
Y (x10^6)
Min
HP6890 GC Data, ECD1A.CH: 3.952 to 14.961 Min
4.531
5.331
Tetrachloro-m-xylene
5.531
5.684
5.741
5.797
5.877
5.984
6.124
6.264
6.371
6.404
6.467
6.504
Aroclor 1016
6.631
6.667
6.774
Aroclor 1016
6.967
7.071
Aroclor 1016
7.271
7.407
Aroclor 1016
7.534
7.591
7.631
7.681
7.784
7.841
7.907
7.971
8.027
8.137
8.227
8.314
8.354
8.401
8.437
8.504
8.637
8.771
8.854
8.937
9.024
9.164
9.217
9.261
9.341
9.402
9.447
9.617
9.727
Aroclor 1260
9.847
9.917
9.957
10.051
Aroclor 1260
10.217
10.317
10.457
Aroclor 1260
10.674
10.784
10.877
10.944
Aroclor 1260
11.117
11.274
11.494
11.571
Aroclor 1260
12.087
12.264
12.384
12.601
12.657
13.134
Decachlorobiphenyl
13.887
14.477
14.741


Data File: \\cash1\acqudata\GC22\data\111909_r.b\111909030.D
Injection Date: 20-NOV-2009 01:24
Instrument: GC22.1
Client Sample ID:
HP6890 GC Data, ECD2B.CH: 4.396 to 16.060 Min
Y (x10^6)
Min
Tetrachloro-m-xylene
Decachlorobiphenyl
Aroclor 1016
Aroclor 1260
4.559
4.652
4.909
4.979
5.119
5.702
5.812
5.909
5.972
6.069
6.292
6.395
6.565
6.645
6.939
6.992
7.065
7.092
7.262
7.345
7.392
7.812
8.032
8.255
8.315
8.372
8.485
8.759
8.809
8.862
8.932
9.009
9.072
9.169
9.252
9.492
9.632
9.689
9.789
9.909
9.945
9.995
10.075
10.212
10.302
10.359
10.419
10.595
10.695
10.742
10.819
10.945
11.029
11.099
11.289
11.435
11.515
11.665
11.745
11.825
12.005
12.242
12.325
12.535
12.735
12.789
13.052
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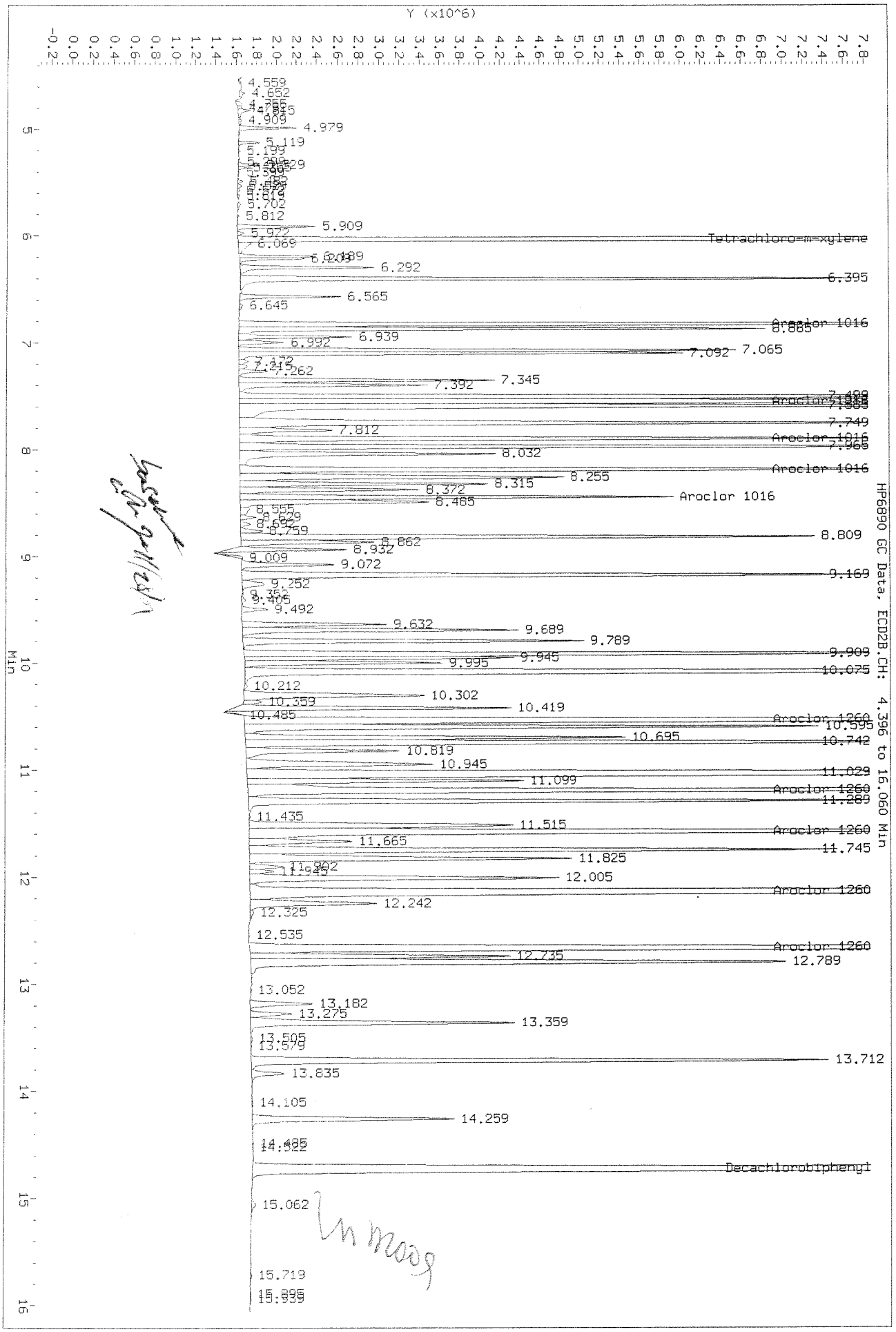
13.275
13.359
13.505
13.712
13.835
14.105
14.259
15.062
15.719


Data File: \\cash1\acqudata\GC22\data\111909_r.b\1119F030.D
Injection Date: 20-NOV-2009 01:24
Instrument: GC22.1
Client Sample ID:
HP6890 GC Data, ECD2B.CH: 4.396 to 16.060 Min
Y (x10^6)
Min
Tetrachloro-m-xylene
Aroclor 1016
Aroclor 1260
Decachlorobiphenyl

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0910296
Date Analyzed: 11/20/2009

Continuing Calibration Verification Summary
Polychlorinated Biphenyls (PCBs)

Calibration Type: External Standard
Analysis Method: 8082

Calibration Date: 11/18/2009
Calibration ID: CAL9027
Analysis Lot: KWG0910908
Units: ng/mL

File ID: \\CASH1\ACQUDATA\GC22\DATA\111909.B\1119F046.D

Column ID: DB-35MS

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Decachlorobiphenyl	10	11	1490000	1670000	12	NA	± 15 %	AverageRF
Aroclor 1016	100	100	NA	NA	NA	2	± 15 %	NA
Aroclor 1016 {1}	100	97	22500	21900	-3	NA	± 100 %	AverageRF
Aroclor 1016 {2}	100	110	64500	71100	10	NA	± 100 %	AverageRF
Aroclor 1016 {3}	100	110	43000	45400	6	NA	± 100 %	AverageRF
Aroclor 1016 {4}	100	99	36000	35700	-1	NA	± 100 %	AverageRF
Aroclor 1016 {5}	100	99	36600	36200	-1	NA	± 100 %	AverageRF
Aroclor 1260	100	110	NA	NA	NA	6	± 15 %	NA
Aroclor 1260 {1}	100	96	51800	50000	-4	NA	± 100 %	AverageRF
Aroclor 1260 {2}	100	100	59500	60500	2	NA	± 100 %	AverageRF
Aroclor 1260 {3}	100	110	64300	69300	8	NA	± 100 %	AverageRF
Aroclor 1260 {4}	100	110	140000	157000	13	NA	± 100 %	AverageRF
Aroclor 1260 {5}	100	110	112000	126000	12	NA	± 100 %	AverageRF

Results flagged with an asterisk (*) indicate values outside control criteria.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Results

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0910296
Date Analyzed: 11/20/2009

Continuing Calibration Verification Summary
Polychlorinated Biphenyls (PCBs)

Calibration Type: External Standard
Analysis Method: 8082

Calibration Date: 11/18/2009
Calibration ID: CAL9027
Analysis Lot: KWG0910908
Units: ng/mL

File ID: \\CASH1\ACQUDATA\GC22\DATA\111909_R.B\1119F046.D

Column ID: DB-XLB

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Decachlorobiphenyl	10	11	4470000	4970000	11	NA	± 15 %	AverageRF
Aroclor 1016	100	110	NA	NA	NA	5	± 15 %	NA
Aroclor 1016 {1}	100	100	131000	132000	1	NA	± 100 %	AverageRF
Aroclor 1016 {2}	100	100	230000	240000	4	NA	± 100 %	AverageRF
Aroclor 1016 {3}	100	99	113000	111000	-1	NA	± 100 %	AverageRF
Aroclor 1016 {4}	100	100	120000	123000	3	NA	± 100 %	AverageRF
Aroclor 1016 {5}	100	120	62200	73500	18	NA	± 100 %	AverageRF
Aroclor 1260	100	110	NA	NA	NA	6	± 15 %	NA
Aroclor 1260 {1}	100	110	306000	327000	7	NA	± 100 %	AverageRF
Aroclor 1260 {2}	100	100	214000	223000	4	NA	± 100 %	AverageRF
Aroclor 1260 {3}	100	110	208000	219000	5	NA	± 100 %	AverageRF
Aroclor 1260 {4}	100	110	463000	501000	8	NA	± 100 %	AverageRF
Aroclor 1260 {5}	100	110	288000	308000	7	NA	± 100 %	AverageRF

Results flagged with an asterisk (*) indicate values outside control criteria.

Exception Report

Data File: \\CASH1\ACQUDATA\GC22\DATA\111909.B\1119F046.D
Lab ID: KWG0910908-8
RunType: CCV
Matrix: LIQUID

Date Acquired: 11/20/2009 09:03
Date Quantitated: 11/20/2009 11:32
Batch ID: KWG0910908
Analysis Method: 8082
MethodJoinID: MJ702

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA		x
Analyte Co-elution	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
Second Source ICAL Verification	Aroclor 1260	-17.3	NA	15	
	Aroclor 1016	-18.3	NA	15	

Primary Review: _____

Secondary Review: _____

Exception Report

Data File: \\CASH1\ACQUDATA\GC22\DATA\111909_R.B\1119F046.D
Lab ID: KWG0910908-8
RunType: CCV
Matrix: LIQUID

Date Acquired: 11/20/2009 09:03
Date Quantitated: 11/20/2009 11:33
Batch ID: KWG0910908
Analysis Method: 8082
MethodJoinID: MJ702

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	

Primary Review: _____

Secondary Review: _____

Quantitation Report

Bottle ID:		**Tier:**		**Matrix:**	LIQUID
Prod Code:	8082 PCB	**Collect Date:**		**Receive Date:**	11/19/2009

Analysis Lot:	KWG0910908	**Prep Lot:**		**Report Group:**	
Analysis Method:	8082	**Prep Method:**			
Prep Ref:		**Prep Date:**			

Quant Method:	\\CASH1\ACQUDATA\GC22\DATA\111909.B\111709UL_F.M	**Calibration ID:**	CAL9027
Title:			
MB Ref:		**Method ID:**	MJ702
		Quant based on Method	

Data File #1:	J:\GC22\DATA\111909.B\1119F046.D			**Instrument:**	GC22.i
Data File #2:	\\cash1\acqudata\GC22\data\111909_r.b\1119F046.D			**Vial:**	97
Acqu Date:	11/20/2009 09:03	**Quant Date:**	11/20/2009 11:32	**Dilution:**	1.0
Run Type:	CCV			**Soln Conc. Units:**	ng/mL
Lab ID:	KWG0910908-8				
Signal #1:	DB-35MS	**Signal #2:**	DB-XLB		

Surrogate Compounds

Parameter Name	RT #1	RT #2	Resp #1	Respe #2	ng/mL #1	ng/mL #2			Rpt
Tetrachloro-m-xylene	5.40	6.02	14227978	47441085	9.88	10.05			NA
				%Recovery =	NA	NA	Limits =	21-114	
Decachlorobiphenyl	13.57	14.72	16675263	49652806	11.23	11.10			NA
				%Recovery =	NA	NA	Limits =	36-113	

Target Compounds

Final Conc. Units: ug/L

Parameter Name	RT #1	RT #2	Resp #1	Resp #2	ng/mL #1	ng/mL #2	ug/L #1	ug/L #2	Rpt
Aroclor 1016			0	0	102.15	105.02			
Aroclor 1016 {1}	6.54	6.82	2188538m	13188693	97.12	100.64			
Aroclor 1016 {2}	6.79	7.54	7110218m	24004111	110.16	104.47			
Aroclor 1016 {3}	6.90	7.89	4540323m	11149379	105.53	99.03			
Aroclor 1016 {4}	7.12	8.18	3569248m	12339576	99.19	102.78			
Aroclor 1016 {5}	7.47	8.44	3616755m	7349927	98.74	118.17			
Aroclor 1260			0	0	106.22	106.25			
Aroclor 1260 {1}	9.77	10.53	4997501	32707536	96.44	107.01			
Aroclor 1260 {2}	10.12	11.19	6052961	22322031	101.78	104.17			
Aroclor 1260 {3}	10.62	11.57	6934449	21872416	107.89	105.03			
Aroclor 1260 {4}	11.02	12.13	15711860	50129573	112.63	108.20			
Aroclor 1260 {5}	11.68	12.65	12637976	30795974	112.34	106.84			

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Calibration Verification Report

Calibration ID: CAL9027
Method ID: MJ702
DataFile: \\CASH1\ACQUDATA\GC22\DATA\111909.B\1119F046.D

Parameter Name	Type	PARM Type	Curve Fit	Method Criteria	Min RF	ICAL RF	CCV RF	%Diff	Sol'n Conc.	True Value	% Drift
Aroclor 1016		MS	NA	15					102.1	100.0	2.1
Aroclor 1260		MS	NA	15					106.2	100.0	6.2
Tetrachloro-m-xylene		SURR	AverageRF	15		1.4E+6	1.4E+6	-1.2			
Aroclor 1016 {1}		MULTI	AverageRF	100		2.3E+4	2.2E+4	-2.9			
Aroclor 1016 {2}		MULTI	AverageRF	100		6.5E+4	7.1E+4	10.2			
Aroclor 1016 {3}		MULTI	AverageRF	100		4.3E+4	4.5E+4	5.5			
Aroclor 1016 {4}		MULTI	AverageRF	100		3.6E+4	3.6E+4	-0.8			
Aroclor 1016 {5}		MULTI	AverageRF	100		3.7E+4	3.6E+4	-1.3			
Aroclor 1260 {1}		MULTI	AverageRF	100		5.2E+4	5.0E+4	-3.6			
Aroclor 1260 {2}		MULTI	AverageRF	100		5.9E+4	6.1E+4	1.8			
Aroclor 1260 {3}		MULTI	AverageRF	100		6.4E+4	6.9E+4	7.9			
Aroclor 1260 {4}		MULTI	AverageRF	100		1.4E+5	1.6E+5	12.6			
Aroclor 1260 {5}		MULTI	AverageRF	100		1.1E+5	1.3E+5	12.3			
Decachlorobiphenyl		SURR	AverageRF	15		1.5E+6	1.7E+6	12.3			

Alternate Calibration Evaluation Summary

Maximum Allowable Average %D =	15.0
Calculated Average %D =	6.0

Calibration Verification Report

Calibration ID: CAL9027
Method ID: MJ702
DataFile: \\CASH1\ACQUDATA\GC22\DATA\111909_R.B\1119F046.D

Parameter Name	Type	PARM Type	Curve Fit	Method Criteria	Min RF	ICAL RF	CCV RF	%Diff	Sol'n Conc.	True Value	% Drift
Aroclor 1016		MS	NA	15					105.0	100.0	5.0
Aroclor 1260		MS	NA	15					106.3	100.0	6.3
Tetrachloro-m-xylene		SURR	AverageRF	15		4.7E+6	4.7E+6	0.5			
Aroclor 1016 {1}		MULTI	AverageRF	100		1.3E+5	1.3E+5	0.6			
Aroclor 1016 {2}		MULTI	AverageRF	100		2.3E+5	2.4E+5	4.5			
Aroclor 1016 {3}		MULTI	AverageRF	100		1.1E+5	1.1E+5	-1.0			
Aroclor 1016 {4}		MULTI	AverageRF	100		1.2E+5	1.2E+5	2.8			
Aroclor 1016 {5}		MULTI	AverageRF	100		6.2E+4	7.3E+4	18.2			
Aroclor 1260 {1}		MULTI	AverageRF	100		3.1E+5	3.3E+5	7.0			
Aroclor 1260 {2}		MULTI	AverageRF	100		2.1E+5	2.2E+5	4.2			
Aroclor 1260 {3}		MULTI	AverageRF	100		2.1E+5	2.2E+5	5.0			
Aroclor 1260 {4}		MULTI	AverageRF	100		4.6E+5	5.0E+5	8.2			
Aroclor 1260 {5}		MULTI	AverageRF	100		2.9E+5	3.1E+5	6.8			
Decachlorobiphenyl		SURR	AverageRF	15		4.5E+6	5.0E+6	11.0			

Alternate Calibration Evaluation Summary

Maximum Allowable Average %D =	15.0
Calculated Average %D =	5.8

Data File: \\cash1\acqudata\GC22\data\111909.b\1119F046.D
Report Date: 20-Nov-2009 11:32

Laboratory Name

Sample #1 : \\cash1\acqudata\GC22\data\111909.b\1119F046.D
Sample #2 : \\cash1\acqudata\GC22\data\111909_r.b\1119F046.D
Inj Date : 20-NOV-2009 09:03
Sample Info: 1660 @ 100ppb | PCB5-44L | KWG0910908-8
Misc Info :
Cal Date : 20-NOV-2009 09:33
Operator : JMSmith
Inst ID : GC22.i
Dil Factor : 1.000000

Method #1 : \\cash1\acqudata\GC22\data\111909.b\111709ul_f.m
Method #2 : \\cash1\acqudata\GC22\data\111909_r.b\111709ul_r.m
Sub List #1 : AR1660.SUB
Sub List #2 : AR1660.SUB
Col #1 Phase : DB-35MS
Col #2 Phase : DB-XLB

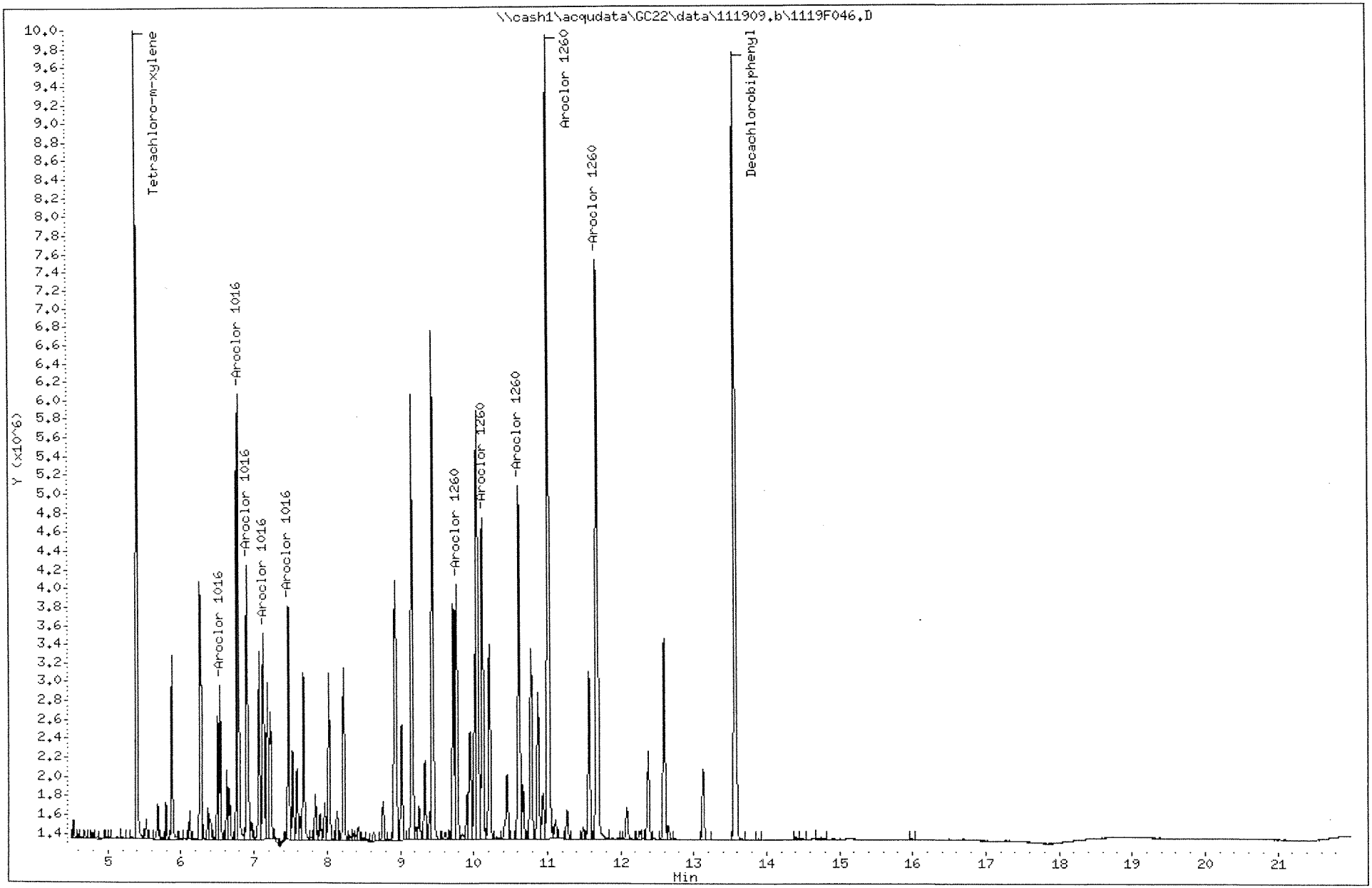
Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2	Target Range	Ratio
Tetrachloro-m-xylene	5.397	6.021	14227978	47441085	9.88	10.0		100.00
Aroclor 1016	6.537	6.818	2188538	13188693	97.1	101	80.00- 120.00	100.00(M)
	6.787	7.538	7110218	24004111	110	104	259.91- 389.86	324.88(M)
	6.900	7.888	4540323	11149379	106	99.0	165.97- 248.95	207.46(M)
	7.123	8.178	3569248	12339576	99.2	103	130.47- 195.71	163.09(M)
	7.470	8.438	3616755	7349927	98.7	118	132.21- 198.31	165.26(M)
			Average of Peak Amounts =		102	105		
Aroclor 1260	9.770	10.531	4997501	32707536	96.4	107	80.00- 120.00	100.00
	10.120	11.188	6052961	22322031	102	104	96.90- 145.34	121.12
	10.617	11.575	6934449	21872416	108	105	111.01- 166.51	138.76
	11.017	12.131	15711860	50129573	113	108	251.52- 377.27	314.39
	11.680	12.655	12637976	30795974	112	107	202.31- 303.46	252.89
			Average of Peak Amounts =		106	106		
Decachlorobiphenyl	13.570	14.718	16675263	49652806	11.2	11.1		100.00

QC Flag Legend

M - Compound response manually integrated.

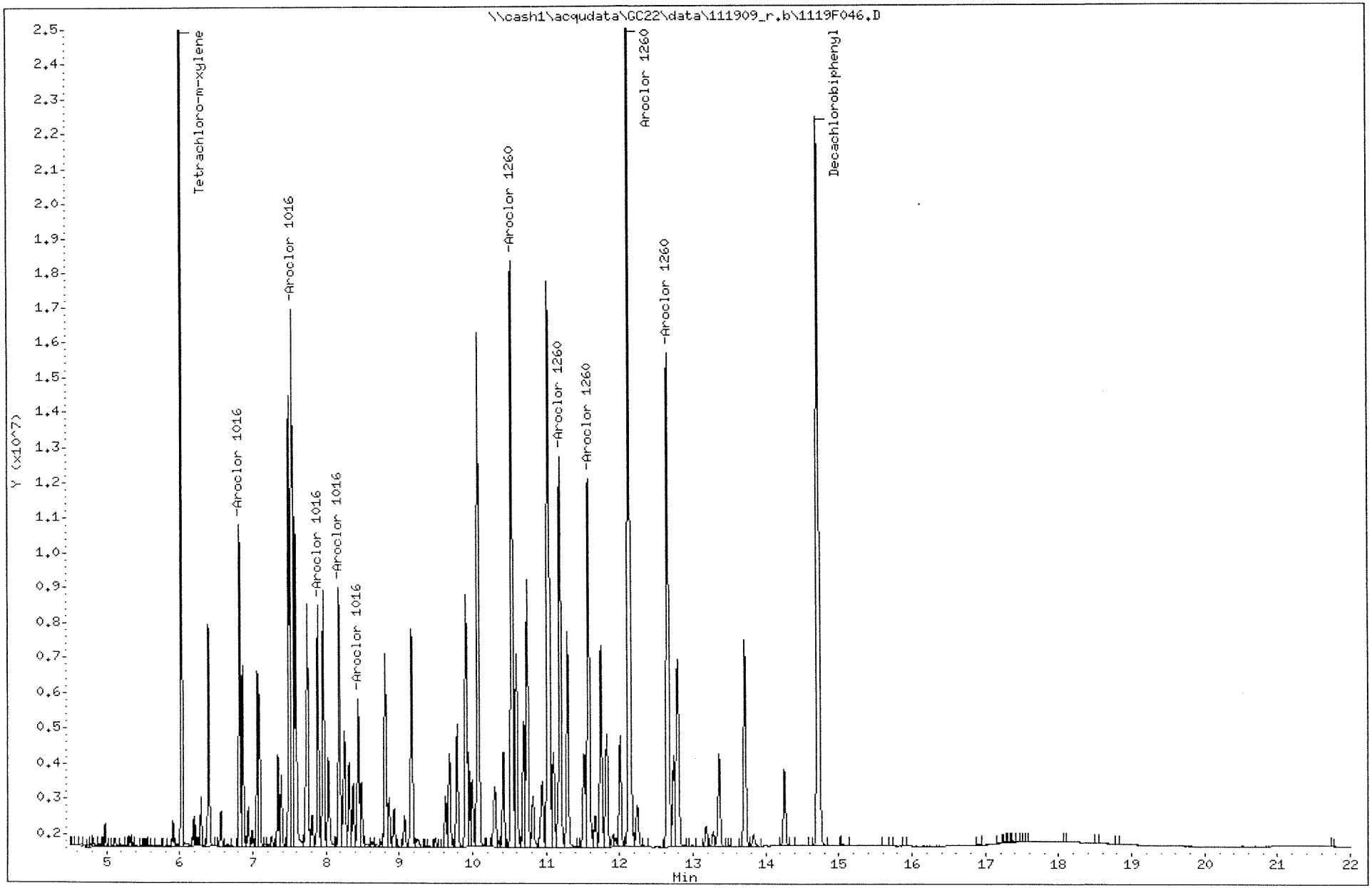
Data File: \\cash1\acqudata\GC22\data\111909,b\1119F046.D
Date : 20-NOV-2009 09:03
Client ID:
Sample Info: 1660 @ 100ppb | PCB5-44L | KWG0910908-8

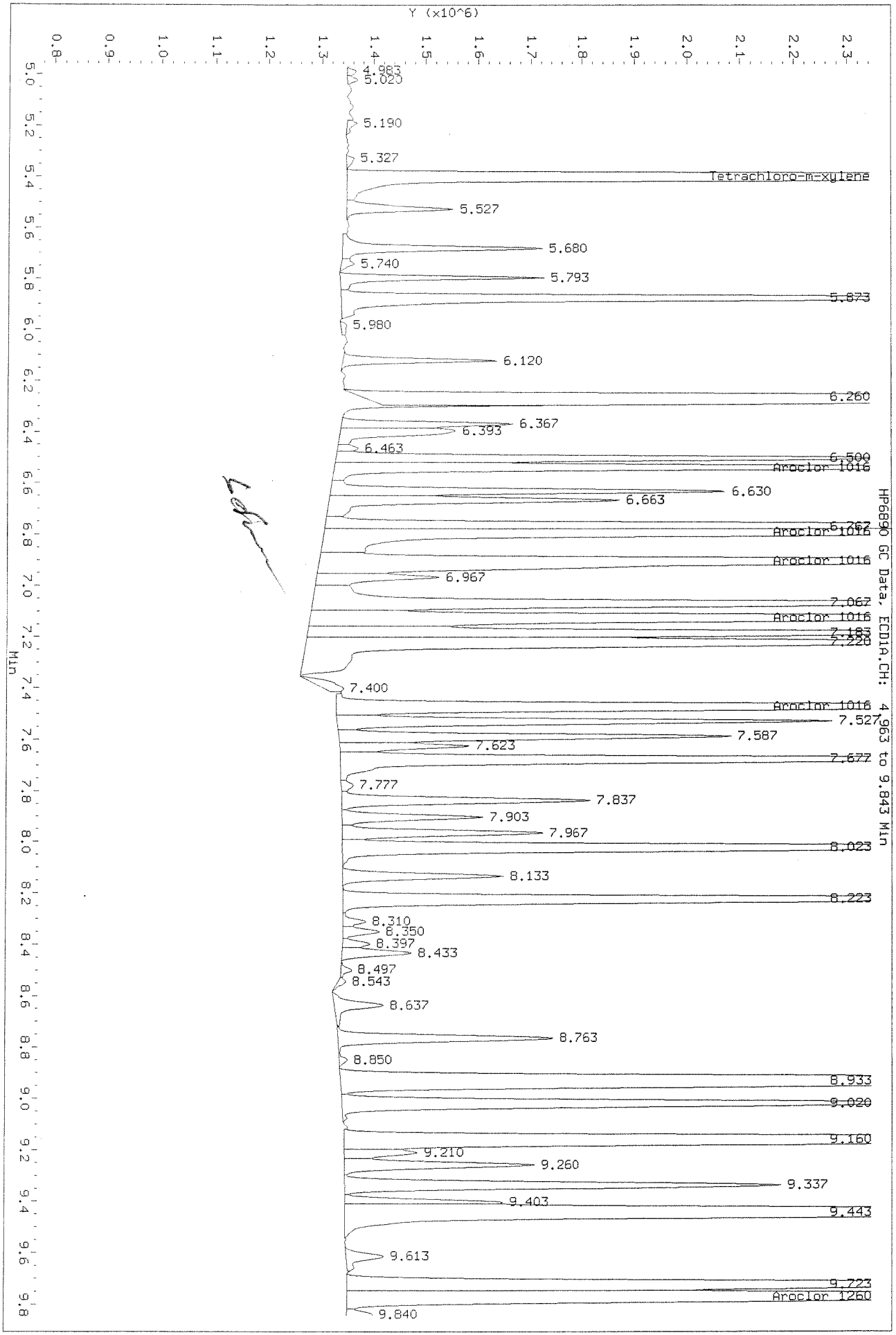
Instrument: GC22.i
Operator: JMSmith
Column phase: DB-35MS
Column diameter: 0.32



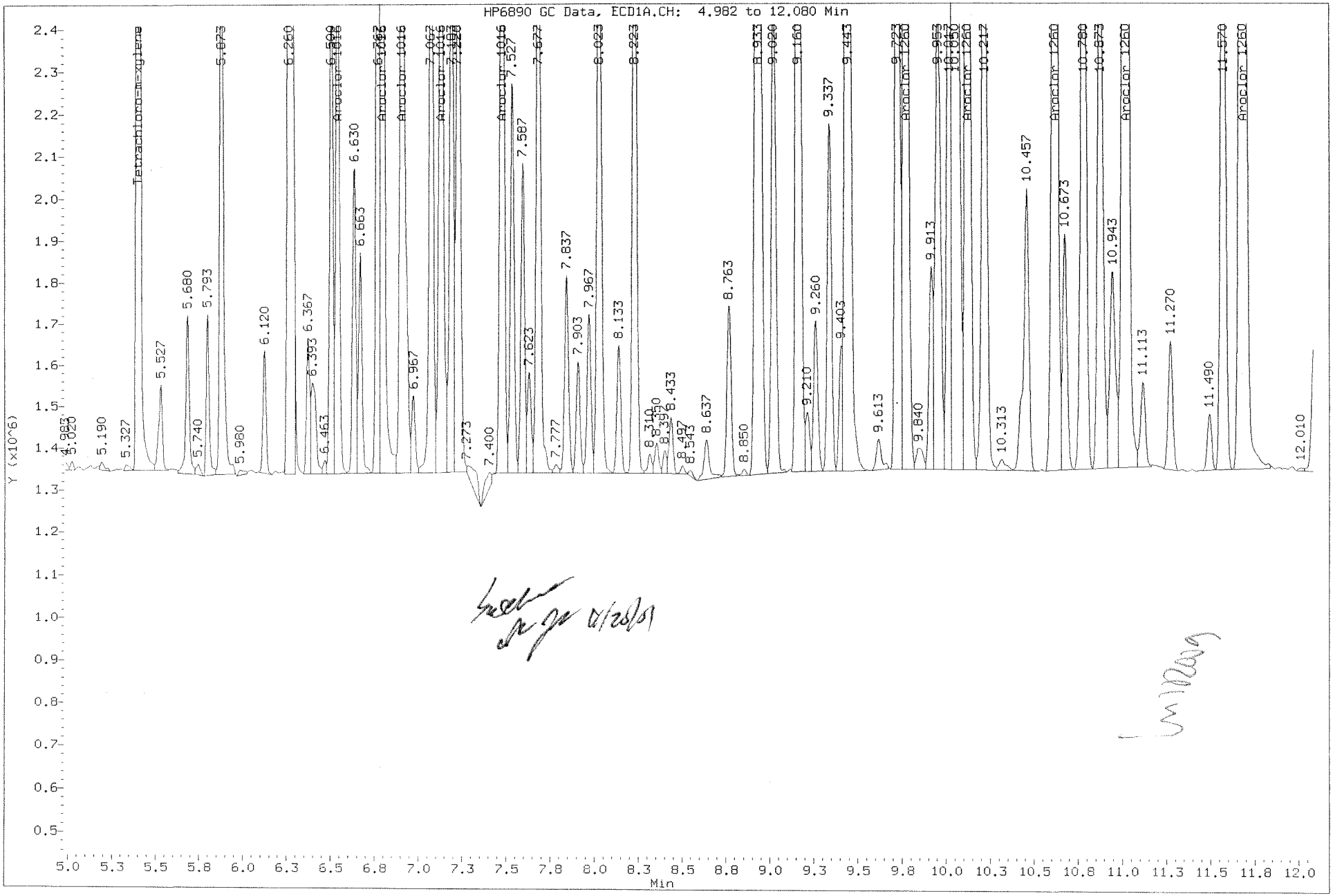
Data File: \\cash1\acqudata\GC22\data\111909_r.b\1119F046.D
Date : 20-NOV-2009 09:03
Client ID:
Sample Info: 1660 @ 100ppb | PCB5-44L | KWG0910908-8

Instrument: GC22.i
Operator: JMSmith
Column phase: DB-XLB
Column diameter: 0.32




Data File: \\cash1\acqudata\GC22\data\111909.b\1119F046.D
Injection Date: 20-NOV-2009 09:03
Instrument: GC22.i
Client Sample ID:
HP6890 GC Data, ECD1A.CH: 4.963 to 9.843 Min
Y (x10^6)
Min
4.983
5.020
5.190
5.327
Tetrachloro-m-xylene
5.527
5.680
5.740
5.793
5.873
5.980
6.120
6.260
6.367
6.393
6.463
6.500
Aroclor 1016
6.630
6.663
6.767
Aroclor 1016
Aroclor 1016
6.967
7.067
Aroclor 1016
7.400
Aroclor 1016
7.527
7.587
7.623
7.677
7.777
7.837
7.903
7.967
8.023
8.133
8.223
8.310
8.350
8.397
8.433
8.497
8.543
8.637
8.763
8.850
8.933
9.020
9.160
9.210
9.260
9.337
9.403
9.443
9.613
9.723
Aroclor 1260
9.840

Data File: \\cash1\acqudata\GC22\data\111909.b\1119F046.D
Injection Date: 20-NOV-2009 09:03
Instrument: GC22.i
Client Sample ID:



Organic Analysis:
Polychlorinated Biphenyls (PCBs)

Validation Package

Sample Prep and Screen Data

Preparation Information

Group ID: KWG0910037 **Prep Method:** EPA 3535 **Prep Date:** 10/28/09 00:00
Department: Semivoa GC

Lab Code	Client ID	Product	Matrix	Amt. Ext.	Final Vol.
K0910197-001	TOF	8082 PCB_ULL	WATER	1020ml	2ml
K0910268-001	CM-MW-1S	8082 PCB_ULL	WATER	1020ml	2ml
K0910268-002	CM-MW-2S	8082 PCB_ULL	WATER	1020ml	2ml
K0910268-003	CM-MW-3S	8082 PCB_ULL	WATER	1040ml	2ml
K0910268-004	CM-MW-4S	8082 PCB_ULL	WATER	980ml	2ml
K0910268-005	CM-MW-5S	8082 PCB_ULL	WATER	1010ml	2ml
K0910268-006	CM-MW-6S	8082 PCB_ULL	WATER	1030ml	2ml
K0910268-007	CM-MW-7S	8082 PCB_ULL	WATER	1040ml	2ml
K0910268-008	CM-MW-8S	8082 PCB_ULL	WATER	1010ml	2ml
K0910268-012	HL-MW-29S	8082 PCB_ULL	WATER	1010ml	2ml
K0910296-001	RB-1	8082 PCB_LL	WATER	1010ml	2ml
KWG0910037-1	Matrix Spike	8082 PCB_LL	WATER	1030ml	2ml
KWG0910037-2	Duplicate Matrix Spike	8082 PCB_LL	WATER	1030ml	2ml
KWG0910037-3	Lab Control Sample	8082 PCB_LL	WATER	1000ml	2ml
KWG0910037-4	Method Blank	8082 PCB_LL	WATER	1040ml	2ml

Lab Code	Parent Lab Code	Comments
KWG0910037-1	K0910268-012	
KWG0910037-2	K0910268-012	

Lab Code	Prep Event ID	Surrogate Solution ID	Amount Added	Spike Solution ID	Amount Added	Witness
K0910197-001	861911	PCB5-36E	50uL			RLarsen
K0910268-001	861912	PCB5-36E	50uL			RLarsen
K0910268-002	861913	PCB5-36E	50uL			RLarsen
K0910268-003	861914	PCB5-36E	50uL			RLarsen
K0910268-004	861915	PCB5-36E	50uL			RLarsen
K0910268-005	861916	PCB5-36E	50uL			RLarsen
K0910268-006	861917	PCB5-36E	50uL			RLarsen
K0910268-007	861918	PCB5-36E	50uL			RLarsen
K0910268-008	861919	PCB5-36E	50uL			RLarsen
K0910268-012	861920	PCB5-36E	50uL			RLarsen
K0910296-001	861921	PCB5-36E	50uL			RLarsen
KWG0910037-1	861922	PCB5-36E	50uL	PCB5-44D	200uL	RLarsen
KWG0910037-2	861923	PCB5-36E	50uL	PCB5-44D	200uL	RLarsen
KWG0910037-3	861924	PCB5-36E	50uL	PCB5-44D	200uL	RLarsen

Comments:

Started By: HBailey Assisted By: Training Yes (No)
Completed By: EErickso Assisted By: Yes No
Reviewed By: Date: 11/2/09 Storage:

Chain of Custody

Relinquished By: EE Date: 11-2
Received By: Date: 11/06/09 Extracts Examined (Yes) No

Group ID:	KWG0910037	**Prep Method:**	EPA 3535	**Prep Date:**	10/28/09 00:00
Department:	Semivoa GC				

Lab Code	Prep Event ID	Surrogate Solution ID	Amount Added	Spike Solution ID	Amount Added	Witness
KWG0910037-4	861925	PCB5-36E	50uL			RLarsen

Comments:

Started By: HBailey Assisted By: Training Yes No

Completed By: EErickso Assisted By: Yes No

Reviewed By: Date: Storage:

Chain of Custody

Relinquished By: EE Date: 11-2

Received By: Date: 11/06/09 Extracts Examined Yes No

Preparation Information

DUE 10/30

Group ID:	KWG0910037	Prep Method:	EPA 3535	Prep Date:	10/28/09 00:00
Department:	Semivoa GC				

#	Lab Code	Client ID	B#	√	Product	Matrix	Amt. Ext. mL	pH	Int. Vol.	Final Vol.	Surr. Added	Spike Added
1	K0910197-001	TOF	.02	/	8082 PCB_ULL	WATER	1020	2	NA	2ml	50µl	—
2	K0910268-001	CM-MW-1S	.06	/	8082 PCB_ULL	WATER	1020					—
3	K0910268-002	CM-MW-2S	.04	/	8082 PCB_ULL	WATER	1020					—
4	K0910268-003	CM-MW-3S	.07	/	8082 PCB_ULL	WATER	1040					—
5	K0910268-004	CM-MW-4S	.01	/	8082 PCB_ULL	WATER	980					—
6	K0910268-005	CM-MW-5S	.09	/	8082 PCB_ULL	WATER	1010					—
7	K0910268-006	CM-MW-6S	.07	/	8082 PCB_ULL	WATER	1030					—
8	K0910268-007	CM-MW-7S	.04	/	8082 PCB_ULL	WATER	1040					—
9	K0910268-008	CM-MW-8S	.05	/	8082 PCB_ULL	WATER	1010					—
10	K0910268-012	HL-MW-29S	.17	/	8082 PCB_ULL	WATER	1010					—
11	K0910296-001	RB-1	.03	/	8082 PCB_LL	WATER	1010					—
12	KWG0910037-1	Matrix Spike 10268-12	.05	/	8082 PCB_LL	WATER	1030					200µl
13	KWG0910037-2	Duplicate Matrix Spike 10268-12	.04	/	8082 PCB_LL	WATER	1030					
14	KWG0910037-3	Lab Control Sample			8082 PCB_LL	WATER	1000					
15	KWG0910037-4	Method Blank			8082 PCB_LL	WATER	1040	↓	↓	↓	↓	—

Comments: *SAMPLE CONTAINS HIGH AMOUNTS OF SUSPENDED SOLIDS. ∩ UN# 99381

Surrogate ID: PCB5-36E, Exp 1/2/10, 2ppm, 50µl, EPP# D

Spike ID: PCB5-44D, Exp 3/23/10, 1ppm, 200µl, EPP# 10

Witness: Klarsen 10/28/09

Started By: HBailey Assisted By:

Completed By: ~~HBailey~~ EErickson Assisted By:

Additional Prep Information For Pest/PCB Water by 3535

Service Request # 1L0910197, 10268, 10296 Work Group # Pest: —

PCB: 1LWG0910037

Solvents/Reagents used:

Methanol Lot#: H14E12 Sulfuric Acid Lot#: 48242

Acetone Lot #: 49029 Hexane Lot #: 49175

C18 extraction cartridge Lot #: 643N27

Extraction Program # 8081.6 Initial Purge Prog # 8081.4
Between Sample Purge Program# 8081.8

Start (Time/Date/Initial): 1125 10/28/09 HB

Stop (Time/Date/Initial): 1605 10/28/09 HB

Dry Disk Lot #: L0906050 3

Cleanups:

Sulfuric Acid Clean-up (3665): 10-31-09 EE (PCB aliquots only) Lot #: 47264

Carbon Clean-up : — ☐ all samples ☐ some samples: — Lot #: —

Florisil Clean-up : — ☐ all samples ☐ some samples: — Lot#: —

Pest Vial: — Vial Storage: —

PCB Vial: GREEN Vial Storage: Ludwig A1-B5

Comments/Observations:

Bench Sheet Review Check List
☑ Hold Times Met (if no, Reason:)
☑ Prep date, dept, method, product code correct in stealth
☐ Spike Information correct
☐ Weights/Volumes and units correct on raw and final bench sheets
☐ Sample IDs have been checked—Bottle numbers appended if required
☐ Names present for: Started by, Completed by, relinquished by, and witnessed by.
☐ Training has been circled
☐ Extract Storage recorded
☐ Additional Prep Sheet completely filled out (NA or line out Blanks)
☐ All clean-ups have been noted on additional prep sheet
☑ Signed service request with Form V, if applicable, has been attached

Sequence Name: C:\GC32\SEQUENCE\111509.S
Comment:
Operator: JMSmith
Data Path: C:\GC32\DATA\111509\
Pre-Seq Cmd:
Post-Seq Cmd:

VR - rerun any hits in Samples

Method Sections To Run
(X) Full Method
( ) Reprocessing Only

On A Barcode Mismatch
(X) Inject Anyway
( ) Don't Inject

CAL 2019

Line	Type	Vial	DataFile	Method	Sample Name			
1	Comment	- PCB Aroclors by EPA 8082						
2	Comment	- USE 111409.B\1114F046,F047 FOR OPENING IB,CCV						
3	MB	55	1115F001	PCB5	KWG0910037-4	MB	8082 PCB	
4	LCS	56	1115F002	PCB5	KWG0910037-3	LCS	8082 PCB	
5	SMPL	57	1115F003	PCB5	K0910197-001	TOF - rerun		
6	SMPL	58	1115F004	PCB5	K0910268-001	CM-MW-1S - rerun		
7	SMPL	59	1115F005	PCB5	K0910268-002	CM-MW-2S		
8	SMPL	60	1115F006	PCB5	K0910268-003	CM-MW-3S		
9	SMPL	61	1115F007	PCB5	K0910268-004	CM-MW-4S		
10	SMPL	62	1115F008	PCB5	K0910268-005	CM-MW-5S		
11	SMPL	63	1115F009	PCB5	K0910268-006	CM-MW-6S		
12	SMPL	64	1115F010	PCB5	K0910268-007	CM-MW-7S		
13	SMPL	65	1115F011	PCB5	K0910268-008	CM-MW-8S		
14	IB	87	1115F012	PCB5	IB			
15	IB	88	1115F013	PCB5	KWG0910692-3	IB	8082 PCB	
16	CCV	98	1115F014	PCB5	1660 @ 100ppb	PCB5-44L	KW	
17	IB	87	1115F015	PCB5	IB			
18	SMPL	66	1115F016	PCB5	K0910268-012	HL-MW-29S - rerun		
19	MS	67	1115F017	PCB5	KWG0910037-1	K0910268-012MS		
20	DMS	68	1115F018	PCB5	KWG0910037-2	K0910268-012DM		
21	SMPL	69	1115F019	PCB5	K0910296-001	RB-1		
22	MB	70	1115F020	PCB5	KWG0910038-4	MB	8082 PCB	
23	LCS	71	1115F021	PCB5	KWG0910038-3	LCS	8082 PCB	
24	SMPL	72	1115F022	PCB5	K0910268-013	RM-MW-1S - rerun		
25	MS	73	1115F023	PCB5	KWG0910038-1	K0910268-013MS		
26	DMS	74	1115F024	PCB5	KWG0910038-2	K0910268-013DM		
27	SMPL	75	1115F025	PCB5	K0910268-014	RM-MW-2D		
28	SMPL	76	1115F026	PCB5	K0910268-015	RM-MW-3S - rerun		
29	IB	87	1115F027	PCB5	IB			
30	IB	88	1115F028	PCB5	KWG0910692-5	IB	8082 PCB	
31	CCV	98	1115F029	PCB5	1660 @ 100ppb	PCB5-44L	KW	
32	IB	87	1115F030	PCB5	IB			
33	SMPL	77	1115F031	PCB5	K0910268-016	RM-MW-4D		
34	SMPL	78	1115F032	PCB5	K0910268-017	RM-MW-9S		
35	SMPL	79	1115F033	PCB5	K0910268-018	RM-MW-10S - rerun		
36	SMPL	80	1115F034	PCB5	K0910268-019	RM-MW-13S - rerun		
37	SMPL	81	1115F035	PCB5	K0910268-020	RM-MW-14S - rerun		
38	SMPL	82	1115F036	PCB5	K0910268-021	HL-MW-14S - rerun		
39	SMPL	83	1115F037	PCB5	K0910268-022	HL-MW-24DD		
40	SMPL	84	1115F038	PCB5	K0910268-023	RM-MW-5S		
41	SMPL	85	1115F039	PCB5	K0910268-025	HL-MW-2900S - rerun		
42	IB	87	1115F040	PCB5	IB			
43	IB	88	1115F041	PCB5	KWG0910692-7	IB	8082 PCB	

Last Modified: Fri Nov 13 19:55:48 2009 Page: 1

Sequence Name: C:\GC32\SEQUENCE\111509.S

Line	Type	Vial	DataFile	Method	Sample Name
44	CCV	99	1115F042	PCB5	1660 @ 100ppb | PCB5-44L | KW
45	IB	87	1115F043	PCB5	IB

Exception Report

Data File: \\CASH1\ACQUDATA\GC32\DATA\111509.B\1115F013.D
Lab ID: KWG0910692-3
RunType: IB
Matrix: LIQUID

Date Acquired: 11/15/2009 19:22
Date Quantitated: 11/17/2009 13:58
Batch ID: KWG0910692
Analysis Method: 8082
MethodJoinID: MJ702

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA		x
Analyte Co-elution	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
Second Source ICAL Verification	Aroclor 1016	-15.6	NA	15	

Primary Review: [signature] 11/17/09

Secondary Review: [signature] 11/17/09

Exception Report

Data File: \\CASH1\ACQUDATA\GC32\DATA\111509_R.B\1115F013.D
Lab ID: KWG0910692-3
RunType: IB
Matrix: LIQUID

Date Acquired: 11/15/2009 19:22
Date Quantitated: 11/17/2009 14:00
Batch ID: KWG0910692
Analysis Method: 8082
MethodJoinID: MJ702

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	

Primary Review: WMDQ

Secondary Review: 4-4-10

Printed: 11/17/2009 14:27:37
u:\Stealth\Crystal.rpt\except2.rpt

Quantitation Report

Bottle ID:		**Tier:**		**Matrix:**	LIQUID
Prod Code:	8082 PCB_ULL	**Collect Date:**		**Receive Date:**	11/13/2009

Analysis Lot:	KWG0910692	**Prep Lot:**		**Report Group:**	
Analysis Method:	8082	**Prep Method:**			
Prep Ref:		**Prep Date:**			

Quant Method:	\\CASH1\ACQUDATA\GC32\DATA\111509.B\111309UL_F.M	**Calibration ID:**	CAL9019
Title:			
MB Ref:		**Method ID:**	MJ702
		Quant based on Method	

Data File #1:	J:\GC32\DATA\111509.B\1115F013.D			**Instrument:**	GC32.i
Data File #2:	\\cash1\acqudata\GC32\Data\111509_r.b\1115F013.D			**Vial:**	88
Acqu Date:	11/15/2009 19:22	**Quant Date:**	11/17/2009 13:58	**Dilution:**	1.0
Run Type:	IB			**Soln Conc. Units:**	ng/mL
Lab ID:	KWG0910692-3				
Signal #1:	DB-35MS	**Signal #2:**	DB-XLB		

Surrogate Compounds

Parameter Name	RT #1	RT #2	Resp #1	Respe #2	ng/mL #1	ng/mL #2			Rpt
Tetrachloro-m-xylene	0.00		0d	0d		0.0000			NA
			%Recovery =		NA	NA	Limits =	21-114	
Decachlorobiphenyl	0.00		0	0		0.0000			NA
			%Recovery =		NA	NA	Limits =	36-113	

Target Compounds

Final Conc. Units: ug/L

Parameter Name	RT #1	RT #2	Resp #1	Resp #2	ng/mL #1	ng/mL #2	ug/L #1	ug/L #2	Rpt
Aroclor 1016			0	0	0.0000	0.0000			
Aroclor 1016 {1}			0	0	0.0000	0.0000			
Aroclor 1016 {2}			0	0	0.0000	0.0000			
Aroclor 1016 {3}			0	0	0.0000	0.0000			
Aroclor 1016 {4}			0	0	0.0000	0.0000			
Aroclor 1016 {5}			0	0	0.0000	0.0000			
Aroclor 1221			0	0	0.0000	0.0000			
Aroclor 1221 {1}			0	0	0.0000	0.0000			
Aroclor 1221 {2}			0	0	0.0000	0.0000			
Aroclor 1221 {3}			0	0	0.0000	0.0000			
Aroclor 1221 {4}			0	0	0.0000	0.0000			
Aroclor 1232			0	0	0.0000	0.0000			
Aroclor 1232 {1}			0	0	0.0000	0.0000			
Aroclor 1232 {2}			0	0	0.0000	0.0000			
Aroclor 1232 {3}			0	0	0.0000	0.0000			
Aroclor 1232 {4}			0	0	0.0000	0.0000			
Aroclor 1242			0	0	0.0000	0.0000			
Aroclor 1242 {1}			0	0	0.0000	0.0000			

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Data File #1:	J:\GC32\DATA\111509.B\1115F013.D			Instrument:	GC32.i
Data File #2:	\\cash1\acqudata\GC32\Data\111509_r.b\1115F013.D			Vial:	88
Acqu Date:	11/15/2009 19:22	Quant Date:	11/17/2009 13:58	Dilution:	1.0
Run Type:	IB			Soln Conc. Units:	ng/mL
Lab ID:	KWG0910692-3				
Signal #1:	DB-35MS	Signal #2:	DB-XLB		

Target Compounds — Final Conc. Units: ug/L

Parameter Name	RT #1	RT #2	Resp #1	Resp #2	ng/mL #1	ng/mL #2	ug/L #1	ug/L #2	Rpt
Aroclor 1242 {2}			0	0	0.0000	0.0000			
Aroclor 1242 {3}			0	0	0.0000	0.0000			
Aroclor 1242 {4}			0	0	0.0000	0.0000			
Aroclor 1242 {5}			0	0	0.0000	0.0000			
Aroclor 1248			0	0	0.0000	0.0000			
Aroclor 1248 {1}			0d	0	0.0000	0.0000			
Aroclor 1248 {2}			0d	0	0.0000	0.0000			
Aroclor 1248 {3}			0d	0	0.0000	0.0000			
Aroclor 1248 {4}			0d	0	0.0000	0.0000			
Aroclor 1248 {5}			0d	0	0.0000	0.0000			
Aroclor 1254			0	0	0.0000	0.0000			
Aroclor 1254 {1}			0d	0d	0.0000	0.0000			
Aroclor 1254 {2}			0d	0d	0.0000	0.0000			
Aroclor 1254 {3}			0d	0d	0.0000	0.0000			
Aroclor 1254 {4}			0d	0d	0.0000	0.0000			
Aroclor 1254 {5}			0d	0d	0.0000	0.0000			
Aroclor 1260			0	0	0.0000	0.0000			
Aroclor 1260 {1}			0d	0d	0.0000	0.0000			
Aroclor 1260 {2}			0d	0d	0.0000	0.0000			
Aroclor 1260 {3}			0d	0d	0.0000	0.0000			
Aroclor 1260 {4}			0d	0d	0.0000	0.0000			
Aroclor 1260 {5}			0d	0d	0.0000	0.0000			
Aroclor 1262			0	0	0.0000	0.0000			
Aroclor 1262 {1}			0d	0d	0.0000	0.0000			
Aroclor 1262 {2}			0d	0d	0.0000	0.0000			
Aroclor 1262 {3}			0d	0d	0.0000	0.0000			
Aroclor 1262 {4}			0d	0d	0.0000	0.0000			
Aroclor 1262 {5}			0d	0d	0.0000	0.0000			
Aroclor 1268			0	0	0.0000	0.0000			
Aroclor 1268 {1}			0d	0	0.0000	0.0000			
Aroclor 1268 {2}			0d	0	0.0000	0.0000			
Aroclor 1268 {3}			0d	0	0.0000	0.0000			
Aroclor 1268 {4}			0d	0	0.0000	0.0000			
Aroclor 1268 {5}			0d	0	0.0000	0.0000			

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Data File: \\cash1\acqudata\GC32\Data\111509.b\1115F013.D
Report Date: 17-Nov-2009 13:58

Laboratory Name

Sample #1 : \\cash1\acqudata\GC32\Data\111509.b\1115F013.D
Sample #2 : \\cash1\acqudata\GC32\Data\111509_r.b\1115F013.D
Inj Date : 15-NOV-2009 19:22
Sample Info: KWG0910692-3 | IB | 8082 PCB_ULL
Misc Info :
Cal Date : 16-NOV-2009 19:27
Operator : JMSmith
Inst ID : GC32.i
Dil Factor : 1.000000

Method #1 : \\cash1\acqudata\GC32\Data\111509.b\111309ul_f.m
Method #2 : \\cash1\acqudata\GC32\Data\111509_r.b\111309ul_r.m
Sub List #1 : ALL.SUB
Sub List #2 : ALL.SUB
Col #1 Phase : DB-35MS
Col #2 Phase : DB-XLB

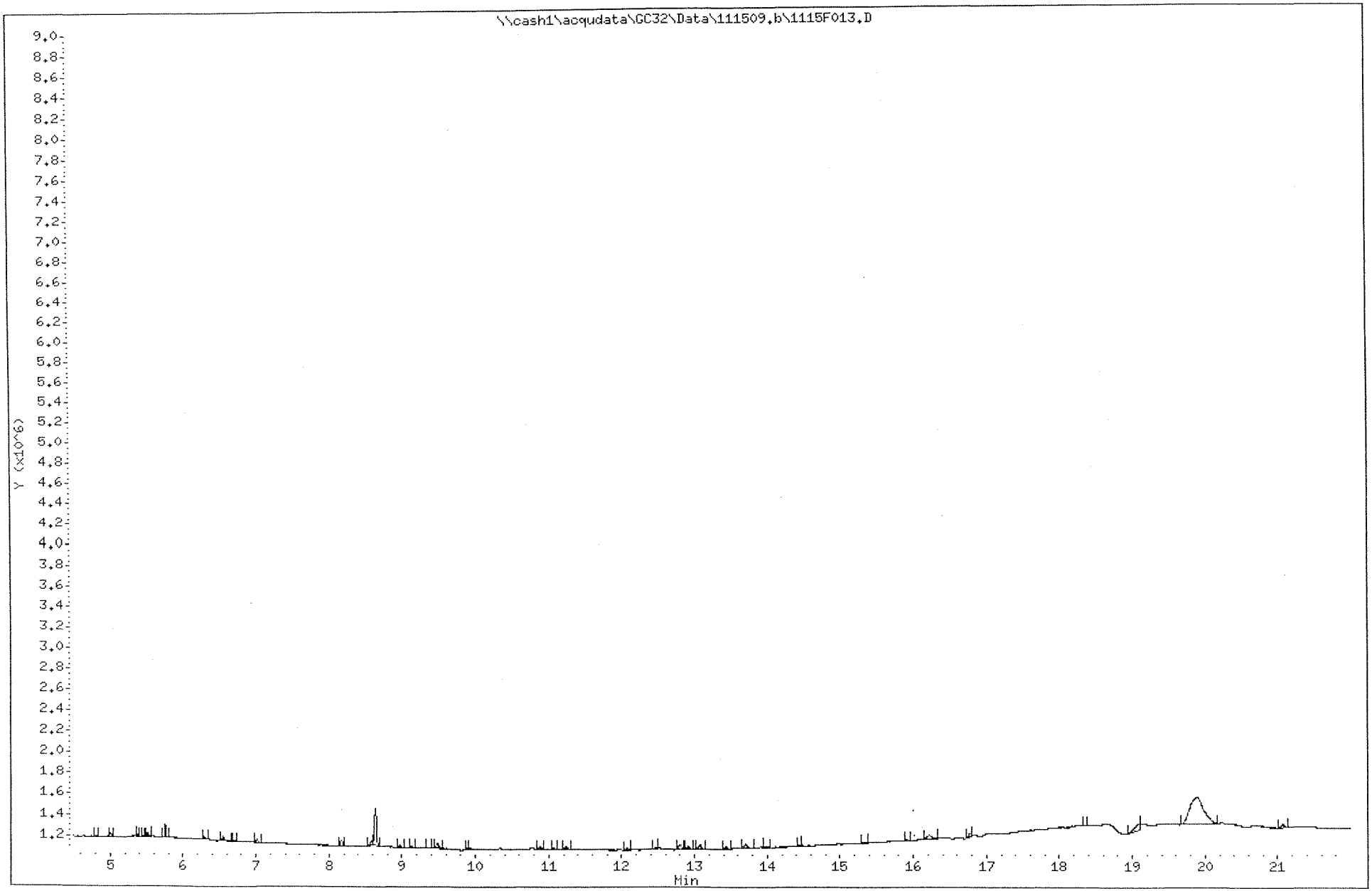
Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2	Target Range	Ratio

Data File: \\cash1\acqudata\GC32\Data\111509.b\1115F013.D
Date : 15-NOV-2009 19:22
Client ID:
Sample Info: KWG0910692-3 | IB | 8082 PCB_ULL

Instrument: GC32.i

Operator: JMSmith
Column diameter: 0.32

Column phase: DB-35MS

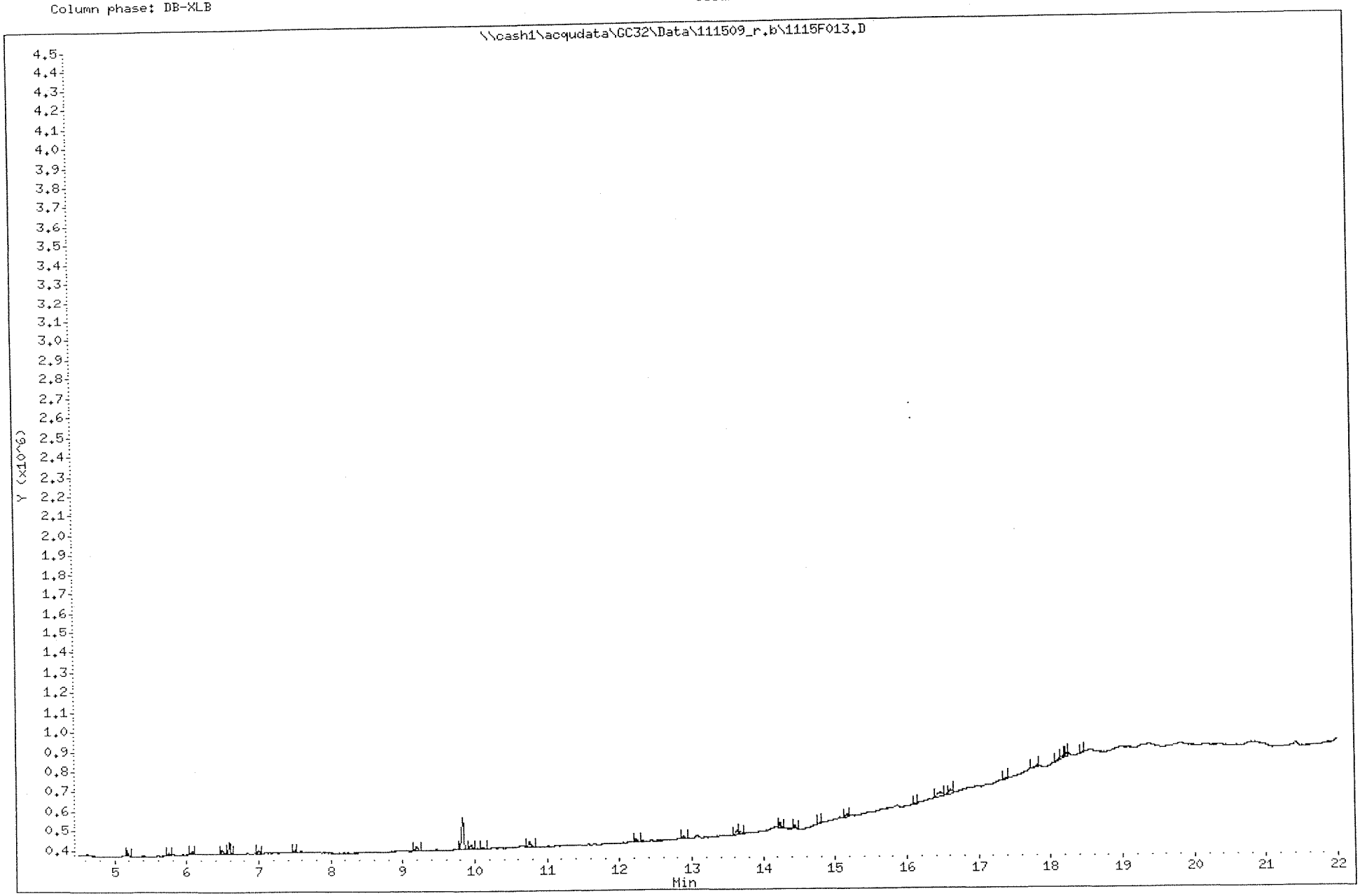


Data File: \\cash1\acqudata\GC32\Data\111509_r.b\1115F013.D
Date : 15-NOV-2009 19:22
Client ID:
Sample Info: KWG0910692-3 | IB | 8082 PCB_ULL

Instrument: GC32.i

Operator: JMSmith
Column diameter: 0.32

Column phase: DB-XLB



Exception Report

Data File: \\CASH1\ACQUDATA\GC32\DATA\111509.B\1115F028.D
Lab ID: KWG0910692-5
RunType: IB
Matrix: LIQUID

Date Acquired: 11/16/2009 02:54
Date Quantitated: 11/17/2009 13:59
Batch ID: KWG0910692
Analysis Method: 8082
MethodJoinID: MJ702

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA		x
Analyte Co-elution	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
Second Source ICAL Verification	Aroclor 1016	-15.6	NA	15	

Primary Review: [signature]

Secondary Review: [signature] 11/17/09

nted: 11/17/2009 14:28:34
ealth\Crystal.rpt\except2.rpt

Exception Report

Data File:	\\CASH1\ACQUDATA\GC32\DATA\111509_R.B\1115F028.D	**Date Acquired:**	11/16/2009 02:54
Lab ID:	KWG0910692-5	**Date Quantitated:**	11/17/2009 14:00
RunType:	IB	**Batch ID:**	KWG0910692
Matrix:	LIQUID	**Analysis Method:**	8082
		MethodJoinID:	MJ702

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	

Primary Review: 12/17/09

Secondary Review: 12/17/09

Quantitation Report

Bottle ID:		**Tier:**		**Matrix:**	LIQUID
Prod Code:	8082 PCB_ULL	**Collect Date:**		**Receive Date:**	11/13/2009

Analysis Lot:	KWG0910692	**Prep Lot:**		**Report Group:**	
Analysis Method:	8082	**Prep Method:**			
Prep Ref:		**Prep Date:**			

Quant Method:	\\CASH1\ACQUDATA\GC32\DATA\111509.B\111309UL_F.M	**Calibration ID:**	CAL9019
Title:			
MB Ref:		**Method ID:**	MJ702
		Quant based on Method	

Data File #1:	J:\GC32\DATA\111509.B\1115F028.D			**Instrument:**	GC32.i
Data File #2:	\\cash1\acqudata\GC32\Data\111509_r.b\1115F028.D			**Vial:**	88
Acqu Date:	11/16/2009 02:54	**Quant Date:**	11/17/2009 13:59	**Dilution:**	1.0
Run Type:	IB			**Soln Conc. Units:**	ng/mL
Lab ID:	KWG0910692-5				
Signal #1:	DB-35MS	**Signal #2:**	DB-XLB		

Surrogate Compounds

Parameter Name	RT #1	RT #2	Resp #1	Respe #2	ng/mL #1	ng/mL #2			Rpt
Tetrachloro-m-xylene	0.00		0d	0		0.0000			NA
			%Recovery =		NA	NA	Limits =	21-114	
Decachlorobiphenyl	0.00		0	0		0.0000			NA
			%Recovery =		NA	NA	Limits =	36-113	

Target Compounds

Final Conc. Units: ug/L

Parameter Name	RT #1	RT #2	Resp #1	Resp #2	ng/mL #1	ng/mL #2	ug/L #1	ug/L #2	Rpt
Aroclor 1016			0	0	0.0000	0.0000			
Aroclor 1016 {1}			0d	0	0.0000	0.0000			
Aroclor 1016 {2}			0d	0	0.0000	0.0000			
Aroclor 1016 {3}			0d	0	0.0000	0.0000			
Aroclor 1016 {4}			0d	0	0.0000	0.0000			
Aroclor 1016 {5}			0d	0	0.0000	0.0000			
Aroclor 1221			0	0	0.0000	0.0000			
Aroclor 1221 {1}			0	0	0.0000	0.0000			
Aroclor 1221 {2}			0	0	0.0000	0.0000			
Aroclor 1221 {3}			0	0	0.0000	0.0000			
Aroclor 1221 {4}			0	0	0.0000	0.0000			
Aroclor 1232			0	0	0.0000	0.0000			
Aroclor 1232 {1}			0d	0	0.0000	0.0000			
Aroclor 1232 {2}			0d	0	0.0000	0.0000			
Aroclor 1232 {3}			0d	0	0.0000	0.0000			
Aroclor 1232 {4}			0d	0	0.0000	0.0000			
Aroclor 1242			0	0	0.0000	0.0000			
Aroclor 1242 {1}			0d	0d	0.0000	0.0000			

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Data File #1:	J:\GC32\DATA\111509.B\1115F028.D			**Instrument:**	GC32.i
Data File #2:	\\cash1\acqudata\GC32\Data\111509_r.b\1115F028.D			**Vial:**	88
Acqu Date:	11/16/2009 02:54	**Quant Date:**	11/17/2009 13:59	**Dilution:**	1.0
Run Type:	IB			**Soln Conc. Units:**	ng/mL
Lab ID:	KWG0910692-5				
Signal #1:	DB-35MS	**Signal #2:**	DB-XLB		

Target Compounds — **Final Conc. Units:** ug/L

Parameter Name	RT #1	RT #2	Resp #1	Resp #2	ng/mL #1	ng/mL #2	ug/L #1	ug/L #2	Rpt
Aroclor 1242 {2}			0d	0d	0.0000	0.0000			
Aroclor 1242 {3}			0d	0d	0.0000	0.0000			
Aroclor 1242 {4}			0d	0d	0.0000	0.0000			
Aroclor 1242 {5}			0d	0d	0.0000	0.0000			
Aroclor 1248			0	0	0.0000	0.0000			
Aroclor 1248 {1}			0d	0	0.0000	0.0000			
Aroclor 1248 {2}			0d	0	0.0000	0.0000			
Aroclor 1248 {3}			0d	0	0.0000	0.0000			
Aroclor 1248 {4}			0d	0	0.0000	0.0000			
Aroclor 1248 {5}			0d	0	0.0000	0.0000			
Aroclor 1254			0	0	1.30	0.0000			
Aroclor 1254 {1}	11.23		0	0d	0.0000	0.0000			
Aroclor 1254 {2}	12.19		118865	0d	1.73	0.0000			
Aroclor 1254 {3}	12.46		201306	0d	1.50	0.0000			
Aroclor 1254 {4}	13.08		97463	0d	1.08	0.0000			
Aroclor 1254 {5}	14.46		84708	0d	0.8760	0.0000			
Aroclor 1260			0	0	0.0000	0.0000			
Aroclor 1260 {1}			0d	0d	0.0000	0.0000			
Aroclor 1260 {2}			0d	0d	0.0000	0.0000			
Aroclor 1260 {3}			0d	0d	0.0000	0.0000			
Aroclor 1260 {4}			0d	0d	0.0000	0.0000			
Aroclor 1260 {5}			0d	0d	0.0000	0.0000			
Aroclor 1262			0	0	0.0000	0.0000			
Aroclor 1262 {1}			0d	0	0.0000	0.0000			
Aroclor 1262 {2}			0d	0	0.0000	0.0000			
Aroclor 1262 {3}			0d	0	0.0000	0.0000			
Aroclor 1262 {4}			0d	0	0.0000	0.0000			
Aroclor 1262 {5}			0d	0	0.0000	0.0000			
Aroclor 1268			0	0	0.0000	0.0000			
Aroclor 1268 {1}			0d	0	0.0000	0.0000			
Aroclor 1268 {2}			0d	0	0.0000	0.0000			
Aroclor 1268 {3}			0d	0	0.0000	0.0000			
Aroclor 1268 {4}			0d	0	0.0000	0.0000			
Aroclor 1268 {5}			0d	0	0.0000	0.0000			

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Data File: \\cash1\acqudata\GC32\Data\111509.b\1115F028.D
Report Date: 17-Nov-2009 13:59

Laboratory Name

Sample #1 : \\cash1\acqudata\GC32\Data\111509.b\1115F028.D
Sample #2 : \\cash1\acqudata\GC32\Data\111509_r.b\1115F028.D
Inj Date : 16-NOV-2009 02:54
Sample Info: KWG0910692-5 | IB | 8082 PCB_ULL
Misc Info :
Cal Date : 16-NOV-2009 19:28
Operator : JMSmith
Inst ID : GC32.i
Dil Factor : 1.000000

Method #1 : \\cash1\acqudata\GC32\Data\111509.b\111309ul_f.m
Method #2 : \\cash1\acqudata\GC32\Data\111509_r.b\111309ul_r.m
Sub List #1 : ALL.SUB
Sub List #2 : ALL.SUB
Col #1 Phase : DB-35MS
Col #2 Phase : DB-XLB

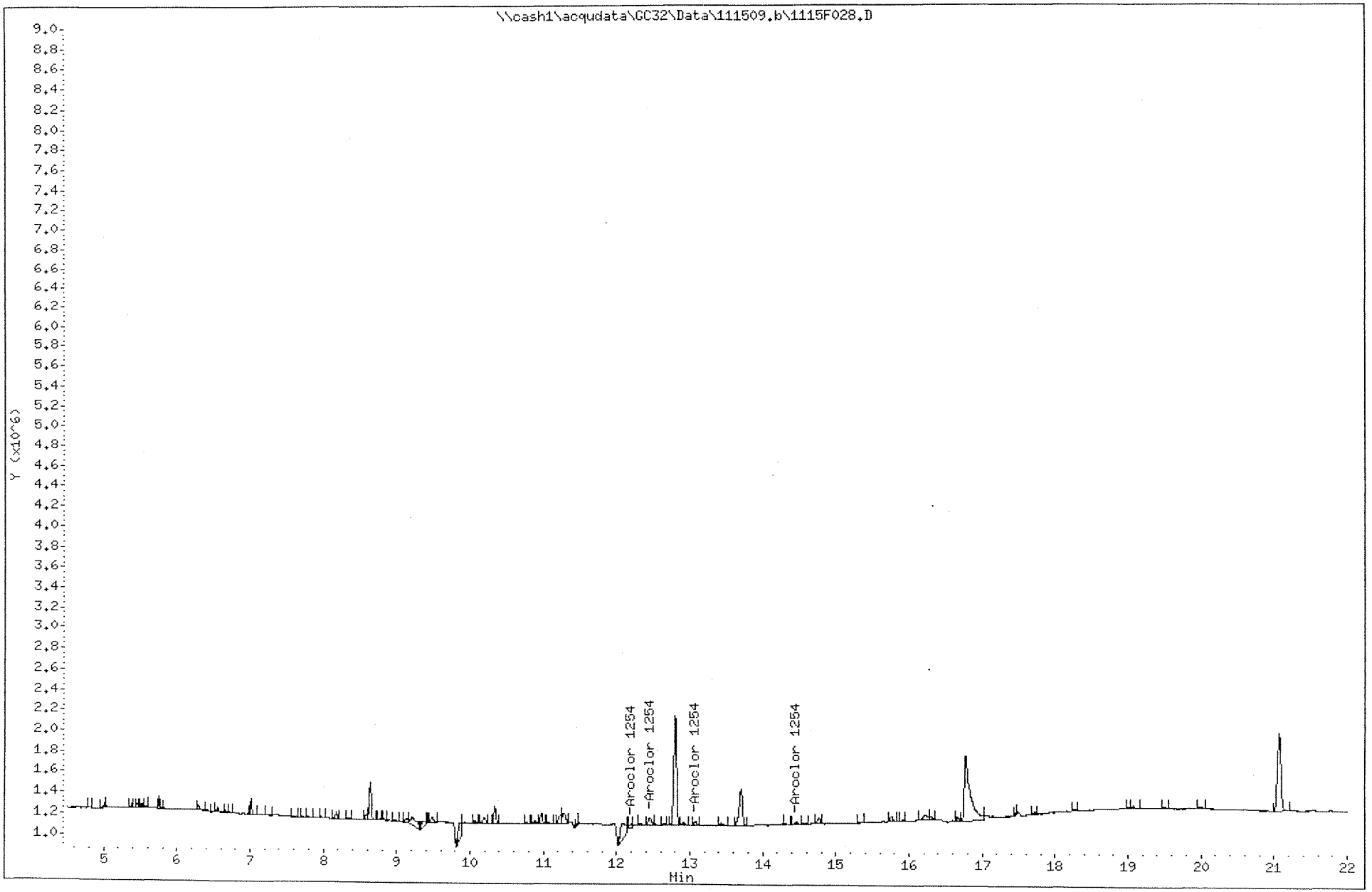
Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2	Target Range	Ratio
Aroclor 1254	11.233	0.000	0	0	0.000	0.000	80.00- 120.00	0.00(H)
	12.193	0.000	118865	0	1.73	0.000	63.33- 94.99	47.51(H)
	12.457	0.000	201306	0	1.50	0.000	123.84- 185.76	80.47(H)
	13.080	0.000	97463	0	1.08	0.000	83.24- 124.86	38.96(H)
	14.460	0.000	84708	0	0.876	0.000	89.12- 133.68	33.86(H)
			Average of Peak Amounts =		1.30	0.000		

QC Flag Legend

H - Operator selected an alternate compound hit.

Data File: \\cash1\acqudata\GC32\Data\111509.b\1115F028.D
Date : 16-NOV-2009 02:54
Client ID:
Sample Info: KWG0910692-5 | IB | 8082 PCB_ULL

Instrument: GC32.i
Operator: JMSmith
Column phase: DB-35MS
Column diameter: 0.32

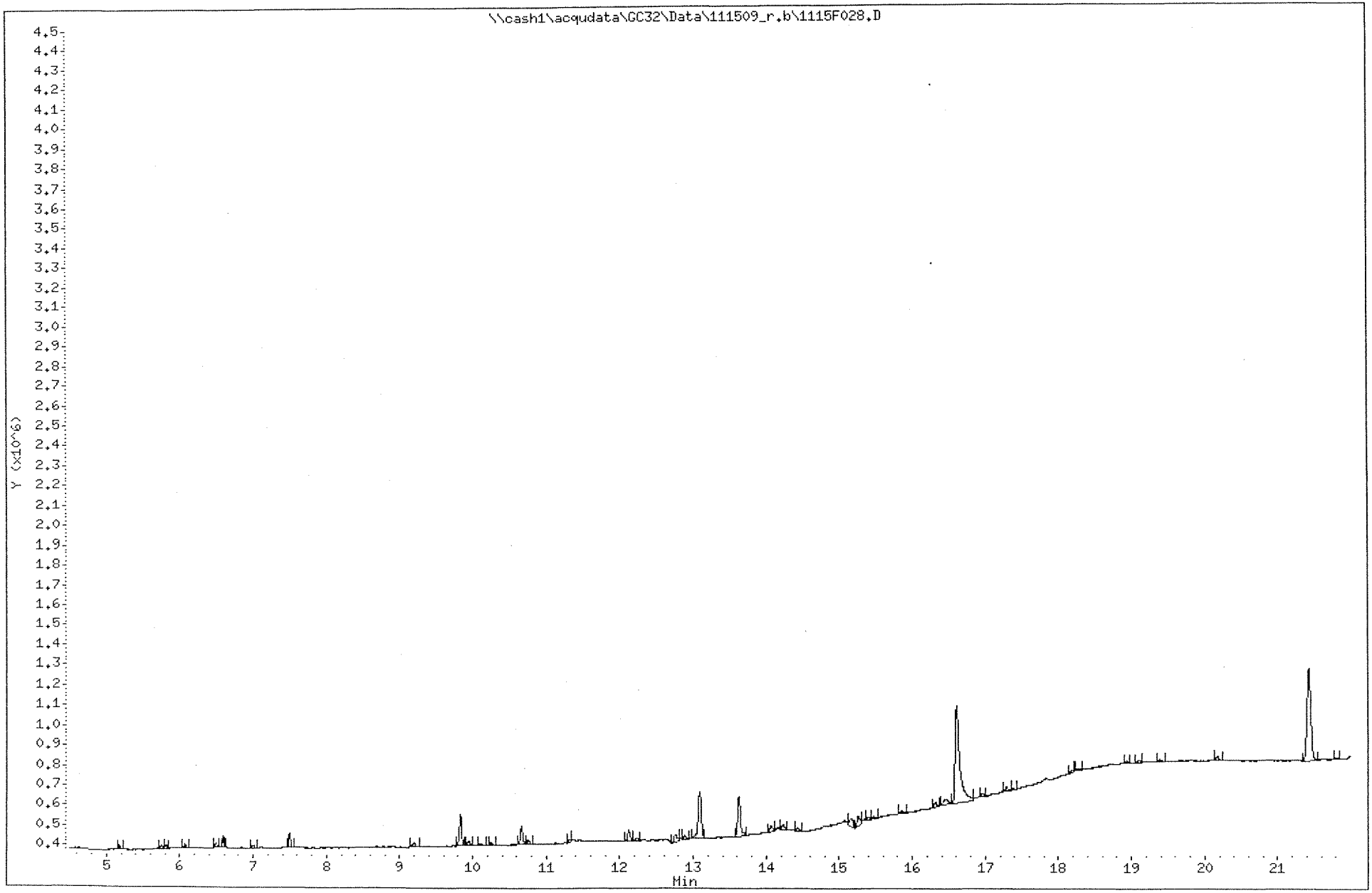


Data File: \\cash1\acqudata\GC32\Data\111509_r.b\1115F028.D
Date : 16-NOV-2009 02:54
Client ID:
Sample Info: KWG0910692-5 | IB | 8082 PCB_ULL

Instrument: GC32.i

Operator: JMSmith
Column diameter: 0.32

Column phase: DB-XLB



Exception Report

Data File: \\CASH1\ACQUDATA\GC32\DATA\111509.B\1115F041.D
Lab ID: KWG0910692-7
RunType: IB
Matrix: LIQUID

Date Acquired: 11/16/2009 09:26
Date Quantitated: 11/17/2009 13:59
Batch ID: KWG0910692
Analysis Method: 8082
MethodJoinID: MJ702

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA		x
Analyte Co-elution	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
Second Source ICAL Verification	Aroclor 1016	-15.6	NA	15	

Primary Review: [signature]

Secondary Review: [signature] 11/17/09

Printed: 11/17/2009 14:29:10
u:\Stealth\Crystal.rpt\except2.rpt

Exception Report

Data File: \\CASH1\ACQUDATA\GC32\DATA\111509_R.B\1115F041.D
Lab ID: KWG0910692-7
RunType: IB
Matrix: LIQUID

Date Acquired: 11/16/2009 09:26
Date Quantitated: 11/17/2009 14:00
Batch ID: KWG0910692
Analysis Method: 8082
MethodJoinID: MJ702

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	

Primary Review: 11/17/09

Secondary Review: 11/17/09

Printed: 11/17/2009 14:29:13
u:\Stealth\Crystal.rpt\except2.rpt

Quantitation Report

Bottle ID:		**Tier:**		**Matrix:**	LIQUID
Prod Code:	8082 PCB_ULL	**Collect Date:**		**Receive Date:**	11/13/2009

Analysis Lot:	KWG0910692	**Prep Lot:**		**Report Group:**	
Analysis Method:	8082	**Prep Method:**			
Prep Ref:		**Prep Date:**			

Quant Method:	\\CASH1\ACQUDATA\GC32\DATA\111509.B\111309UL_F.M	**Calibration ID:**	CAL9019
Title:			
MB Ref:		**Method ID:**	MJ702
		Quant based on Method	

Data File #1:	J:\GC32\DATA\111509.B\1115F041.D			**Instrument:**	GC32.i
Data File #2:	\\cash1\acqudata\GC32\Data\111509_r.b\1115F041.D			**Vial:**	88
Acqu Date:	11/16/2009 09:26	**Quant Date:**	11/17/2009 13:59	**Dilution:**	1.0
Run Type:	IB			**Soln Conc. Units:**	ng/mL
Lab ID:	KWG0910692-7				
Signal #1:	DB-35MS	**Signal #2:**	DB-XLB		

Surrogate Compounds

Parameter Name	RT #1	RT #2	Resp #1	Respe #2	ng/mL #1	ng/mL #2			Rpt
Tetrachloro-m-xylene	6.66		24793	0	0.0140	0.0000			NA
			%Recovery =		NA	NA	Limits =	21-114	
Decachlorobiphenyl	0.00		0	0		0.0000			NA
			%Recovery =		NA	NA	Limits =	36-113	

Target Compounds

Final Conc. Units: ug/L

Parameter Name	RT #1	RT #2	Resp #1	Resp #2	ng/mL #1	ng/mL #2	ug/L #1	ug/L #2	Rpt
Aroclor 1016			0	0	0.0000	0.0000			
Aroclor 1016 {1}			0d	0	0.0000	0.0000			
Aroclor 1016 {2}			0d	0	0.0000	0.0000			
Aroclor 1016 {3}			0d	0	0.0000	0.0000			
Aroclor 1016 {4}			0d	0	0.0000	0.0000			
Aroclor 1016 {5}			0d	0	0.0000	0.0000			
Aroclor 1221			0	0	0.0000	0.0000			
Aroclor 1221 {1}			0	0d	0.0000	0.0000			
Aroclor 1221 {2}			0	0d	0.0000	0.0000			
Aroclor 1221 {3}			0	0d	0.0000	0.0000			
Aroclor 1221 {4}			0	0d	0.0000	0.0000			
Aroclor 1232			0	0	0.0000	0.0000			
Aroclor 1232 {1}			0d	0	0.0000	0.0000			
Aroclor 1232 {2}			0d	0	0.0000	0.0000			
Aroclor 1232 {3}			0d	0	0.0000	0.0000			
Aroclor 1232 {4}			0d	0	0.0000	0.0000			
Aroclor 1242			0	0	0.0000	0.0000			
Aroclor 1242 {1}			0d	0	0.0000	0.0000			

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Data File #1:	J:\GC32\DATA\111509.B\1115F041.D			**Instrument:**	GC32.i
Data File #2:	\\cash1\acqudata\GC32\Data\111509_r.b\1115F041.D			**Vial:**	88
Acqu Date:	11/16/2009 09:26	**Quant Date:**	11/17/2009 13:59	**Dilution:**	1.0
Run Type:	IB			**Soln Conc. Units:**	ng/mL
Lab ID:	KWG0910692-7				
Signal #1:	DB-35MS	**Signal #2:**	DB-XLB		

Target Compounds — **Final Conc. Units:** ug/L

Parameter Name	RT #1	RT #2	Resp #1	Resp #2	ng/mL #1	ng/mL #2	ug/L #1	ug/L #2	Rpt
Aroclor 1242 {2}			0d	0	0.0000	0.0000			
Aroclor 1242 {3}			0d	0	0.0000	0.0000			
Aroclor 1242 {4}			0d	0	0.0000	0.0000			
Aroclor 1242 {5}			0d	0	0.0000	0.0000			
Aroclor 1248			0	0	0.0000	0.0000			
Aroclor 1248 {1}			0d	0	0.0000	0.0000			
Aroclor 1248 {2}			0d	0	0.0000	0.0000			
Aroclor 1248 {3}			0d	0	0.0000	0.0000			
Aroclor 1248 {4}			0d	0	0.0000	0.0000			
Aroclor 1248 {5}			0d	0	0.0000	0.0000			
Aroclor 1254			0	0	2.70	0.0000			
Aroclor 1254 {1}	11.22		633372	0d	7.30	0.0000			
Aroclor 1254 {2}	12.19		144682	0d	2.11	0.0000			
Aroclor 1254 {3}	12.46		261661	0d	1.95	0.0000			
Aroclor 1254 {4}	13.08		118286	0d	1.31	0.0000			
Aroclor 1254 {5}	14.46		82507	0d	0.8530	0.0000			
Aroclor 1260			0	0	0.0000	0.0000			
Aroclor 1260 {1}			0d	0d	0.0000	0.0000			
Aroclor 1260 {2}			0d	0d	0.0000	0.0000			
Aroclor 1260 {3}			0d	0d	0.0000	0.0000			
Aroclor 1260 {4}			0d	0d	0.0000	0.0000			
Aroclor 1260 {5}			0d	0d	0.0000	0.0000			
Aroclor 1262			0	0	0.0000	0.0000			
Aroclor 1262 {1}			0d	0	0.0000	0.0000			
Aroclor 1262 {2}			0d	0	0.0000	0.0000			
Aroclor 1262 {3}			0d	0	0.0000	0.0000			
Aroclor 1262 {4}			0d	0	0.0000	0.0000			
Aroclor 1262 {5}			0d	0	0.0000	0.0000			
Aroclor 1268			0	0	0.0000	0.0000			
Aroclor 1268 {1}			0d	0	0.0000	0.0000			
Aroclor 1268 {2}			0d	0	0.0000	0.0000			
Aroclor 1268 {3}			0d	0	0.0000	0.0000			
Aroclor 1268 {4}			0d	0	0.0000	0.0000			
Aroclor 1268 {5}			0d	0	0.0000	0.0000			

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Data File: \\cash1\acqudata\GC32\Data\111509.b\1115F041.D
Report Date: 17-Nov-2009 13:59

Laboratory Name

Sample #1 : \\cash1\acqudata\GC32\Data\111509.b\1115F041.D
Sample #2 : \\cash1\acqudata\GC32\Data\111509_r.b\1115F041.D
Inj Date : 16-NOV-2009 09:26
Sample Info: KWG0910692-7 | IB | 8082 PCB_ULL
Misc Info :
Cal Date : 16-NOV-2009 19:30
Operator : JMSmith
Inst ID : GC32.i
Dil Factor : 1.000000

Method #1 : \\cash1\acqudata\GC32\Data\111509.b\111309ul_f.m
Method #2 : \\cash1\acqudata\GC32\Data\111509_r.b\111309ul_r.m
Sub List #1 : ALL.SUB
Sub List #2 : ALL.SUB
Col #1 Phase : DB-35MS
Col #2 Phase : DB-XLB

Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2	Target Range	Ratio
Tetrachloro-m-xylene	6.663	0.000	24793	0	0.0138	0.000		100.00(R)
Aroclor 1254	11.220	0.000	633372	0	7.30	0.000	80.00- 120.00	100.00
	12.193	0.000	144682	0	2.10	0.000	63.33- 94.99	22.84
	12.463	0.000	261661	0	1.95	0.000	123.84- 185.76	41.31
	13.076	0.000	118286	0	1.31	0.000	83.24- 124.86	18.68
	14.463	0.000	82507	0	0.853	0.000	89.12- 133.68	13.03
			Average of Peak Amounts =		2.70	0.000		

QC Flag Legend

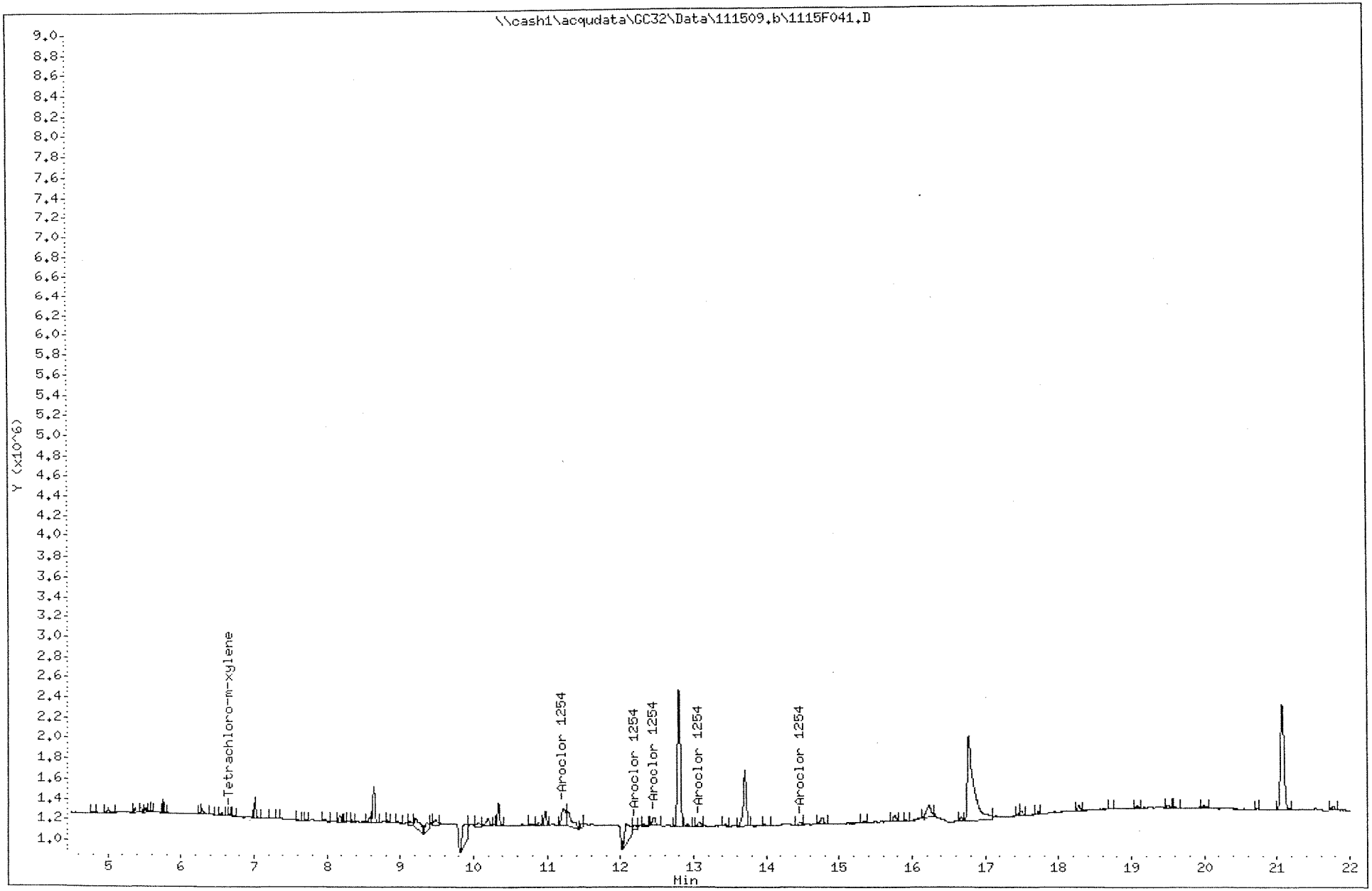
R - Spike/Surrogate failed recovery limits.

Data File: \\cash1\acqudata\GC32\Data\111509.b\1115F041.D
Date : 16-NOV-2009 09:26
Client ID:
Sample Info: KWG0910692-7 | IB | 8082 PCB_ULL

Instrument: GC32.i

Operator: JMSmith
Column diameter: 0.32

Column phase: DB-35MS

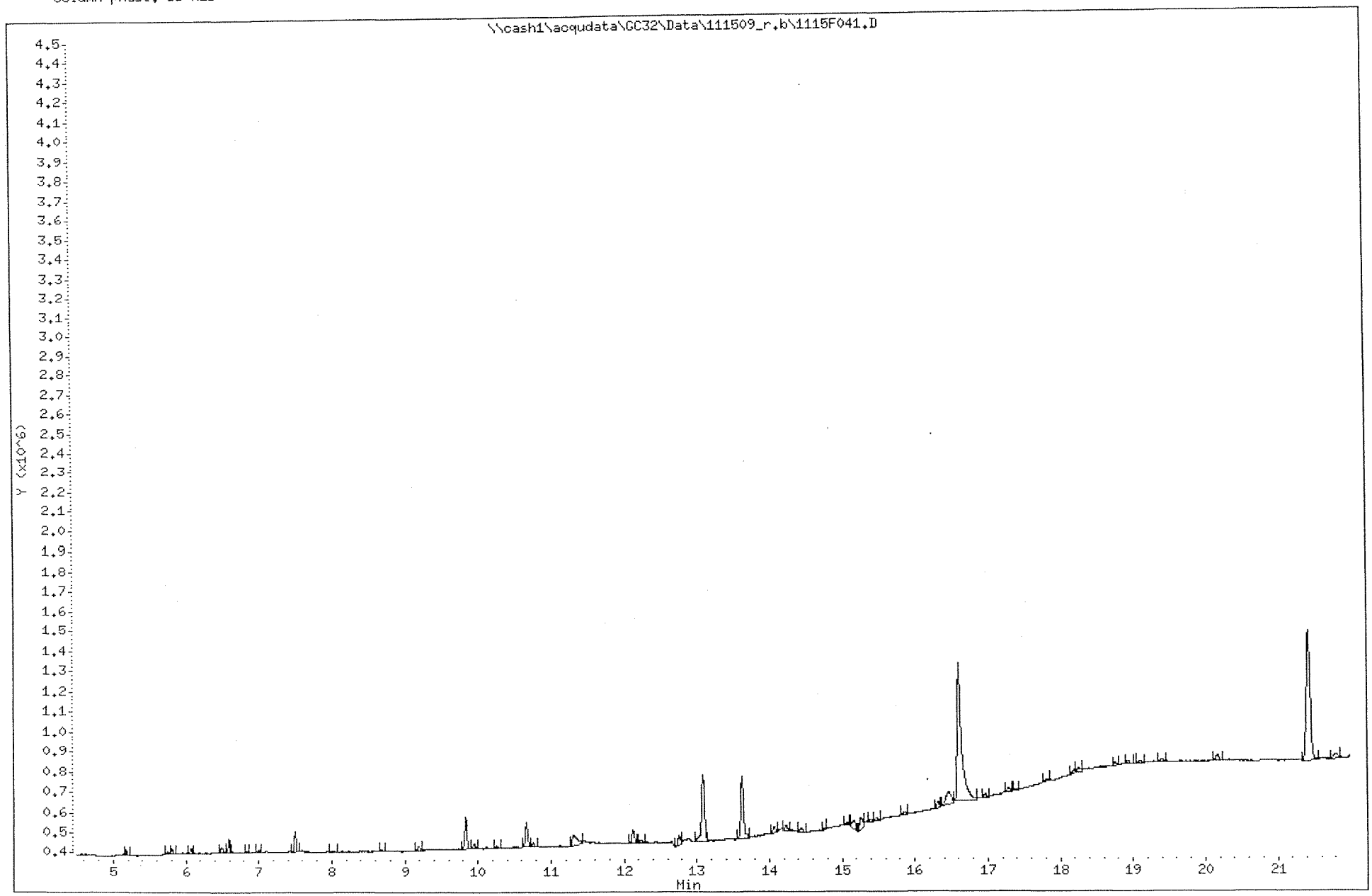


Data File: \\cash1\acqudata\GC32\Data\111509_r.b\1115F041.D
Date : 16-NOV-2009 09:26
Client ID:
Sample Info: KWG0910692-7 | IB | 8082 PCB_ULL

Instrument: GC32.i

Operator: JMSmith
Column diameter: 0.32

Column phase: DB-XLB



Sequence Name: C:\GC22\SEQUENCE\111909.S
Comment:
Operator: JMSmith
Data Path: C:\GC22\DATA\111909\
Pre-Seq Cmd:
Post-Seq Cmd:

Method Sections To Run
(X) Full Method
( ) Reprocessing Only

On A Barcode Mismatch
(X) Inject Anyway
( ) Don't Inject

CAL9027 Run # 180193

Line	Type	Vial	DataFile	Method	Sample Name
1	Comment	- PCB Aroclors by EPA 8082			
2	Comment	- USE 111809.B\1118F024,F025 FOR OPENING IB,CCV			
3	IB	86	1119F001	PCB-UL	IB
4	MB	1	1119F002	PCB-UL	KWG0910092-4 | MB | 8082 PCB
5	LCS	2	1119F003	PCB-UL	KWG0910092-3 | LCS | 8082 PCB
6	SMPL	3	1119F004	PCB-UL	K0910308-001 | RM-MW-15S
7	SMPL	4	1119F005	PCB-UL	K0910308-002 | RM-MW-16S
8	SMPL	5	1119F006	PCB-UL	K0910308-003 @ 10X | RM-MW-17
9	SMPL	6	1119F007	PCB-UL	K0910308-004 | HL-MW-6A
10	MS	7	1119F008	PCB-UL	KWG0910092-1 | K0910308-004MS
11	DMS	8	1119F009	PCB-UL	KWG0910092-2 | K0910308-004DM
12	SMPL	9	1119F010	PCB-UL	K0910308-005 | HL-MW-7S
13	SMPL	10	1119F011	PCB-UL	K0910308-006 | HL-MW-8D
14	SMPL	11	1119F012	PCB-UL	K0910308-007 | HL-MW-9D
15	SMPL	12	1119F013	PCB-UL	K0910308-008 | HL-MW-12S
16	IB	86	1119F014	PCB-UL	IB
17	IB	87	1119F015	PCB-UL	KWG0910908-3 | IB | 8082 PCB
18	CCV	96	1119F016	PCB-UL	1660 @ 100ppb | PCB5-44L | KW
19	IB	86	1119F017	PCB-UL	IB
20	SMPL	13	1119F018	PCB-UL	K0910308-009 | HL-MW-13DD
21	SMPL	14	1119F019	PCB-UL	K0910308-010 | HL-MW-25S
22	SMPL	15	1119F020	PCB-UL	K0910308-011 | HL-MW-28DD
23	SMPL	16	1119F021	PCB-UL	K0910308-012 | WW-MW-12
24	SMPL	17	1119F022	PCB-UL	K0910308-013 | WW-MW-17
25	SMPL	18	1119F023	PCB-UL	K0910308-014 | HL-MW-2
26	SMPL	19	1119F024	PCB-UL	K0910308-016 | HL-MW-32S
27	SMPL	20	1119F025	PCB-UL	K0910308-017 | HL-MW-31S
28	SMPL	21	1119F026	PCB-UL	K0910308-022 | HL-MW-31S-RB
29	SMPL	22	1119F027	PCB-UL	K0910308-023 | HL-MW-32S-RB
30	IB	86	1119F028	PCB-UL	IB
31	IB	87	1119F029	PCB-UL	KWG0910908-5 | IB | 8082 PCB
32	CCV	96	1119F030	PCB-UL	1660 @ 100ppb | PCB5-44L | KW
33	IB	86	1119F031	PCB-UL	IB
34	MB	23	1119F032	PCB-UL	KWG0910537-3 | MB | 8082 PCB
35	LCS	24	1119F033	PCB-UL	KWG0910537-1 | LCS | 8082 PCB
36	DLCS	25	1119F034	PCB-UL	KWG0910537-2 | DLCS | 8082 PC
37	SMPL	26	1119F035	PCB-UL	K0910726-001 | TOF
38	SMPL	27	1119F036	PCB-UL	K0910210-013 | HL-MW-1700S
39	SMPL	28	1119F037	PCB-UL	K0910210-016 | HL-MW-26S
40	SMPL	29	1119F038	PCB-UL	K0910210-024 | OH-MW-26
41	SMPL	30	1119F039	PCB-UL	K0910197-001 | TOF
42	SMPL	31	1119F040	PCB-UL	K0910268-012 | HL-MW-29S
43	SMPL	32	1119F041	PCB-UL	K0910268-019 | RM-MW-13S

Last Modified: Thu Nov 19 18:08:33 2009

Sequence Name: C:\GC22\SEQUENCE\111909.S

Line	Type	Vial	DataFile	Method	Sample Name
44	SMPL	33	1119F042	PCB-UL	K0910268-021 | HL-MW-14S
45	SMPL	34	1119F043	PCB-UL	K0910268-025 | HL-MW-2900S
46	IB	86	1119F044	PCB-UL	IB
47	IB	87	1119F045	PCB-UL	KWG0910908-7 | IB | 8082 PCB
48	CCV	97	1119F046	PCB-UL	1660 @ 100ppb | PCB5-44L | KW
49	IB	86	1119F047	PCB-UL	IB
50	SOLN	100	1119FP01	PCB-UL	PRIMER
51	LCS	2	1119F048	PCB-UL	KWG0910092-3 | LCS | 8082 PCB
52	SMPL	3	1119F049	PCB-UL	K0910308-001 | RM-MW-15S
53	SMPL	13	1119F050	PCB-UL	K0910308-009 | HL-MW-13DD
54	IB	86	1119F051	PCB-UL	IB
55	IB	87	1119F052	PCB-UL	KWG0910908-9 | IB | 8082 PCB
56	CCV	97	1119F053	PCB-UL	1660 @ 100ppb | PCB5-44L | KW
57	IB	86	1119F054	PCB-UL	IB

Exception Report

Data File: \\CASH1\ACQUDATA\GC22\DATA\111909.B\1119F029.D
Lab ID: KWG0910908-5
RunType: IB
Matrix: LIQUID

Date Acquired: 11/20/2009 00:55
Date Quantitated: 11/20/2009 11:32
Batch ID: KWG0910908
Analysis Method: 8082
MethodJoinID: MJ702

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA		x
Analyte Co-elution	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
Second Source ICAL Verification	Aroclor 1260	-17.3	NA	15	
	Aroclor 1016	-18.3	NA	15	

Primary Review:

Secondary Review:

Exception Report

Data File: \\CASH1\ACQUDATA\GC22\DATA\111909_R.B\1119F029.D
Lab ID: KWG0910908-5
RunType: IB
Matrix: LIQUID

Date Acquired: 11/20/2009 00:55
Date Quantitated: 11/20/2009 11:33
Batch ID: KWG0910908
Analysis Method: 8082
MethodJoinID: MJ702

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	

Primary Review: _____

Secondary Review: _____

Quantitation Report

Bottle ID:		**Tier:**		**Matrix:**	LIQUID
Prod Code:	8082 PCB	**Collect Date:**		**Receive Date:**	11/19/2009

Analysis Lot:	KWG0910908	**Prep Lot:**		**Report Group:**	
Analysis Method:	8082	**Prep Method:**			
Prep Ref:		**Prep Date:**			

Quant Method:	\\CASH1\ACQUDATA\GC22\DATA\111909.B\111709UL_F.M	**Calibration ID:**	CAL9027
Title:			
MB Ref:		**Method ID:**	MJ702
		Quant based on Method	

Data File #1:	J:\GC22\DATA\111909.B\1119F029.D			**Instrument:**	GC22.i
Data File #2:	\\cash1\acqudata\GC22\data\111909_r.b\1119F029.D			**Vial:**	87
Acqu Date:	11/20/2009 00:55	**Quant Date:**	11/20/2009 11:32	**Dilution:**	1.0
Run Type:	IB			**Soln Conc. Units:**	ng/mL
Lab ID:	KWG0910908-5				
Signal #1:	DB-35MS	**Signal #2:**	DB-XLB		

Surrogate Compounds

Parameter Name	RT #1	RT #2	Resp #1	Respe #2	ng/mL #1	ng/mL #2			Rpt
Tetrachloro-m-xylene	0.00		0d	0d	0.0000				NA
			%Recovery =		NA	NA	Limits =	21-114	
Decachlorobiphenyl	0.00		0d	0	0.0000				NA
			%Recovery =		NA	NA	Limits =	36-113	

Target Compounds

Final Conc. Units: ug/L

Parameter Name	RT #1	RT #2	Resp #1	Resp #2	ng/mL #1	ng/mL #2	ug/L #1	ug/L #2	Rpt
Aroclor 1016			0	0	0.0000	0.0000			
Aroclor 1016 {1}			0d	0d	0.0000	0.0000			
Aroclor 1016 {2}			0d	0d	0.0000	0.0000			
Aroclor 1016 {3}			0d	0d	0.0000	0.0000			
Aroclor 1016 {4}			0d	0d	0.0000	0.0000			
Aroclor 1016 {5}			0d	0d	0.0000	0.0000			
Aroclor 1221			0	0	0.0000	0.0000			
Aroclor 1221 {1}			0d	0d	0.0000	0.0000			
Aroclor 1221 {2}			0d	0d	0.0000	0.0000			
Aroclor 1221 {3}			0d	0d	0.0000	0.0000			
Aroclor 1221 {4}			0d	0d	0.0000	0.0000			
Aroclor 1232			0	0	0.0000	0.0000			
Aroclor 1232 {1}			0	0d	0.0000	0.0000			
Aroclor 1232 {2}			0	0d	0.0000	0.0000			
Aroclor 1232 {3}			0	0d	0.0000	0.0000			
Aroclor 1232 {4}			0	0d	0.0000	0.0000			
Aroclor 1242			0	0	0.0000	0.0000			
Aroclor 1242 {1}			0d	0d	0.0000	0.0000			

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Data File #1:	J:\GC22\DATA\111909.B\1119F029.D			**Instrument:**	GC22.i
Data File #2:	\\cash1\acqudata\GC22\data\111909_r.b\1119F029.D			**Vial:**	87
Acqu Date:	11/20/2009 00:55	**Quant Date:**	11/20/2009 11:32	**Dilution:**	1.0
Run Type:	IB			**Soln Conc. Units:**	ng/mL
Lab ID:	KWG0910908-5				
Signal #1:	DB-35MS	**Signal #2:**	DB-XLB		

Target Compounds **Final Conc. Units:** ug/L

Parameter Name	RT #1	RT #2	Resp #1	Resp #2	ng/mL #1	ng/mL #2	ug/L #1	ug/L #2	Rpt
Aroclor 1242 {2}			0d	0d	0.0000	0.0000			
Aroclor 1242 {3}			0d	0d	0.0000	0.0000			
Aroclor 1242 {4}			0d	0d	0.0000	0.0000			
Aroclor 1242 {5}			0d	0d	0.0000	0.0000			
Aroclor 1248			0	0	0.0000	0.0000			
Aroclor 1248 {1}			0d	0d	0.0000	0.0000			
Aroclor 1248 {2}			0d	0d	0.0000	0.0000			
Aroclor 1248 {3}			0d	0d	0.0000	0.0000			
Aroclor 1248 {4}			0d	0d	0.0000	0.0000			
Aroclor 1248 {5}			0d	0d	0.0000	0.0000			
Aroclor 1254			0	0	0.0000	0.0000			
Aroclor 1254 {1}			0d	0d	0.0000	0.0000			
Aroclor 1254 {2}			0d	0d	0.0000	0.0000			
Aroclor 1254 {3}			0d	0d	0.0000	0.0000			
Aroclor 1254 {4}			0d	0d	0.0000	0.0000			
Aroclor 1254 {5}			0d	0d	0.0000	0.0000			
Aroclor 1260			0	0	0.0000	0.0000			
Aroclor 1260 {1}			0d	0d	0.0000	0.0000			
Aroclor 1260 {2}			0d	0d	0.0000	0.0000			
Aroclor 1260 {3}			0d	0d	0.0000	0.0000			
Aroclor 1260 {4}			0d	0d	0.0000	0.0000			
Aroclor 1260 {5}			0d	0d	0.0000	0.0000			
Aroclor 1262			0	0	0.0000	0.0000			
Aroclor 1262 {1}			0d	0	0.0000	0.0000			
Aroclor 1262 {2}			0d	0	0.0000	0.0000			
Aroclor 1262 {3}			0d	0	0.0000	0.0000			
Aroclor 1262 {4}			0d	0	0.0000	0.0000			
Aroclor 1262 {5}			0d	0	0.0000	0.0000			
Aroclor 1268			0	0	0.0000	0.0000			
Aroclor 1268 {1}			0d	0	0.0000	0.0000			
Aroclor 1268 {2}			0d	0	0.0000	0.0000			
Aroclor 1268 {3}			0d	0	0.0000	0.0000			
Aroclor 1268 {4}			0d	0	0.0000	0.0000			
Aroclor 1268 {5}			0d	0	0.0000	0.0000			

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Data File: \\cash1\acqudata\GC22\data\111909.b\1119F029.D
Report Date: 20-Nov-2009 11:32

Laboratory Name

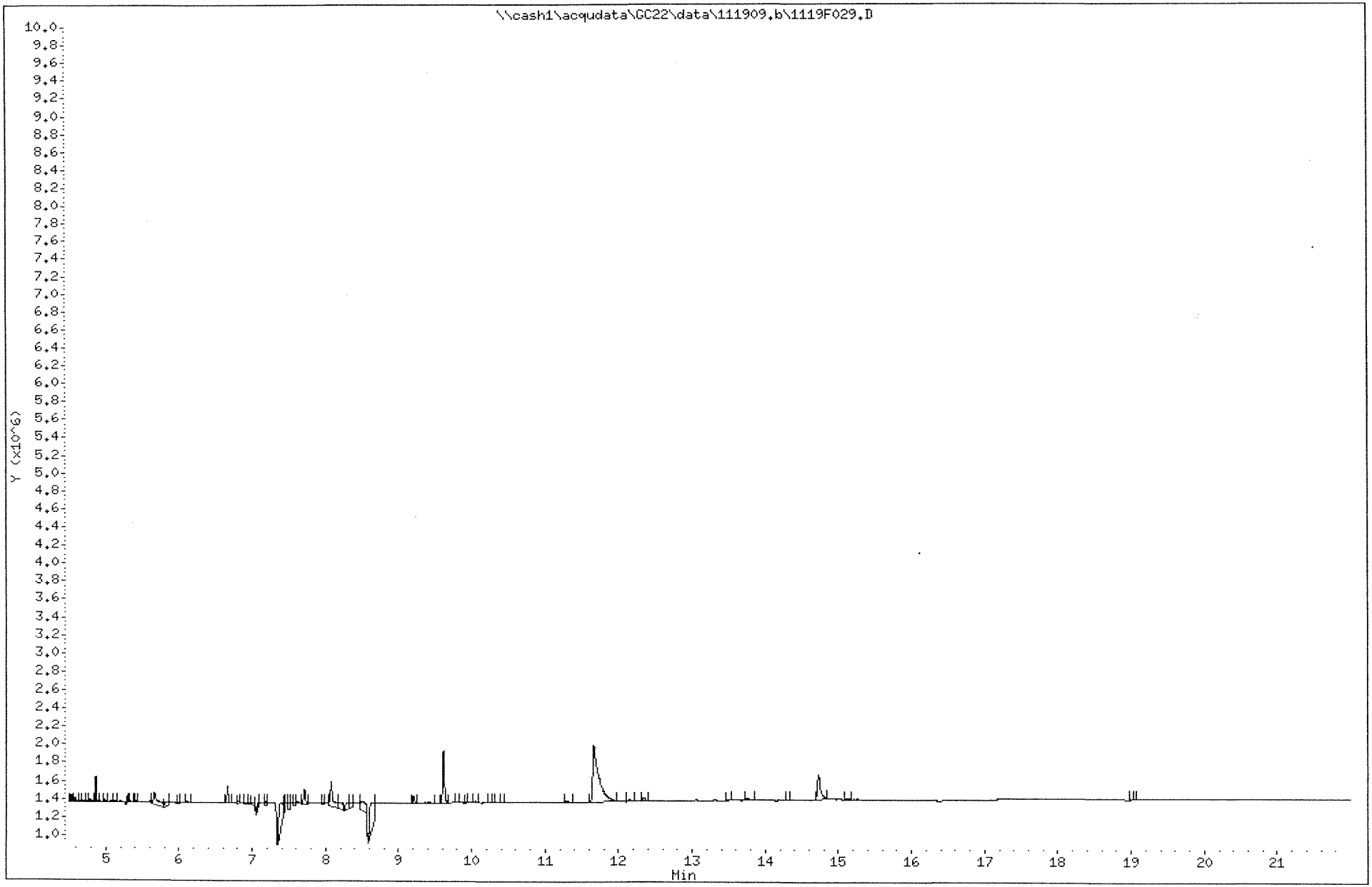
Sample #1 : \\cash1\acqudata\GC22\data\111909.b\1119F029.D
Sample #2 : \\cash1\acqudata\GC22\data\111909_r.b\1119F029.D
Inj Date : 20-NOV-2009 00:55
Sample Info: KWG0910908-5 | IB | 8082 PCB
Misc Info :
Cal Date : 20-NOV-2009 09:32
Operator : JMSmith
Inst ID : GC22.i
Dil Factor : 1.000000

Method #1 : \\cash1\acqudata\GC22\data\111909.b\111709ul_f.m
Method #2 : \\cash1\acqudata\GC22\data\111909_r.b\111709ul_r.m
Sub List #1 : ALL.SUB
Sub List #2 : ALL.SUB
Col #1 Phase : DB-35MS
Col #2 Phase : DB-XLB

Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2	Target Range	Ratio

Data File: \\cash1\acqudata\GC22\data\111909.b\1119F029.D
Date : 20-NOV-2009 00:55
Client ID:
Sample Info: KWG0910908-5 | IB | 8082 PCB

Instrument: GC22.i
Operator: JMSmith
Column phase: DB-35MS
Column diameter: 0.32

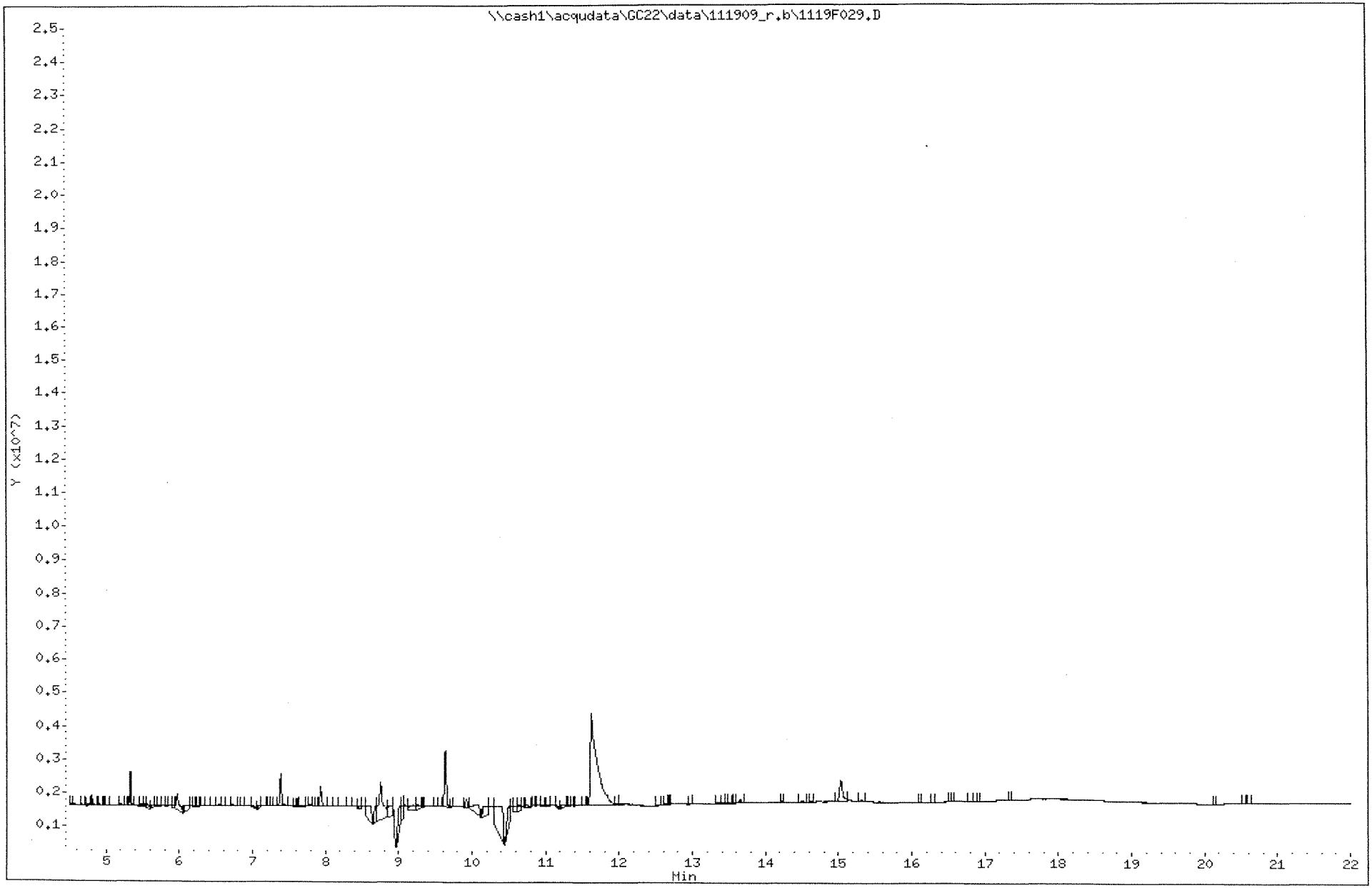


Data File: \\cash1\acqudata\GC22\data\111909_r.b\1119F029.D
Date : 20-NOV-2009 00:55
Client ID:
Sample Info: KWG0910908-5 | IB | 8082 PCB

Instrument: GC22.i

Operator: JMSmith
Column diameter: 0.32

Column phase: DB-XLB



Exception Report

Data File: \\CASH1\ACQUDATA\GC22\DATA\111909.B\1119F045.D
Lab ID: KWG0910908-7
RunType: IB
Matrix: LIQUID

Date Acquired: 11/20/2009 08:34
Date Quantitated: 11/20/2009 11:32
Batch ID: KWG0910908
Analysis Method: 8082
MethodJoinID: MJ702

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA		x
Analyte Co-elution	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
Second Source ICAL Verification	Aroclor 1260	-17.3	NA	15	
	Aroclor 1016	-18.3	NA	15	

Primary Review: _____

Secondary Review: _____

Exception Report

Data File: \\CASH1\ACQUDATA\GC22\DATA\111909_R.B\1119F045.D
Lab ID: KWG0910908-7
RunType: IB
Matrix: LIQUID

Date Acquired: 11/20/2009 08:34
Date Quantitated: 11/20/2009 11:33
Batch ID: KWG0910908
Analysis Method: 8082
MethodJoinID: MJ702

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	

Primary Review: _____

Secondary Review: _____

Quantitation Report

Bottle ID:		**Tier:**		**Matrix:**	LIQUID
Prod Code:	8082 PCB	**Collect Date:**		**Receive Date:**	11/19/2009

Analysis Lot:	KWG0910908	**Prep Lot:**		**Report Group:**	
Analysis Method:	8082	**Prep Method:**			
Prep Ref:		**Prep Date:**			

Quant Method:	\\CASH1\ACQUDATA\GC22\DATA\111909.B\111709UL_F.M	**Calibration ID:**	CAL9027
Title:			
MB Ref:		**Method ID:**	MJ702
		Quant based on Method	

Data File #1:	J:\GC22\DATA\111909.B\1119F045.D			**Instrument:**	GC22.i
Data File #2:	\\cash1\acqudata\GC22\data\111909_r.b\1119F045.D			**Vial:**	87
Acqu Date:	11/20/2009 08:34	**Quant Date:**	11/20/2009 11:32	**Dilution:**	1.0
Run Type:	IB			**Soln Conc. Units:**	ng/mL
Lab ID:	KWG0910908-7				
Signal #1:	DB-35MS	**Signal #2:**	DB-XLB		

Surrogate Compounds

Parameter Name	RT #1	RT #2	Resp #1	Respe #2	ng/mL #1	ng/mL #2			Rpt
Tetrachloro-m-xylene	0.00		0d	0d		0.0000			NA
			%Recovery =		NA	NA	Limits =	21-114	
Decachlorobiphenyl	0.00		0d	0		0.0000			NA
			%Recovery =		NA	NA	Limits =	36-113	

Target Compounds

Final Conc. Units: ug/L

Parameter Name	RT #1	RT #2	Resp #1	Resp #2	ng/mL #1	ng/mL #2	ug/L #1	ug/L #2	Rpt
Aroclor 1016			0	0	0.0000	0.0000			
Aroclor 1016 {1}			0d	0d	0.0000	0.0000			
Aroclor 1016 {2}			0d	0d	0.0000	0.0000			
Aroclor 1016 {3}			0d	0d	0.0000	0.0000			
Aroclor 1016 {4}			0d	0d	0.0000	0.0000			
Aroclor 1016 {5}			0d	0d	0.0000	0.0000			
Aroclor 1221			0	0	0.0000	0.0000			
Aroclor 1221 {1}			0d	0d	0.0000	0.0000			
Aroclor 1221 {2}			0d	0d	0.0000	0.0000			
Aroclor 1221 {3}			0d	0d	0.0000	0.0000			
Aroclor 1221 {4}			0d	0d	0.0000	0.0000			
Aroclor 1232			0	0	0.0000	0.0000			
Aroclor 1232 {1}			0d	0d	0.0000	0.0000			
Aroclor 1232 {2}			0d	0d	0.0000	0.0000			
Aroclor 1232 {3}			0d	0d	0.0000	0.0000			
Aroclor 1232 {4}			0d	0d	0.0000	0.0000			
Aroclor 1242			0	0	0.0000	0.0000			
Aroclor 1242 {1}			0d	0d	0.0000	0.0000			

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Data File #1:	J:\GC22\DATA\111909.B\1119F045.D			**Instrument:**	GC22.i
Data File #2:	\\cash1\acqudata\GC22\data\111909_r.b\1119F045.D			**Vial:**	87
Acqu Date:	11/20/2009 08:34	**Quant Date:**	11/20/2009 11:32	**Dilution:**	1.0
Run Type:	IB			**Soln Conc. Units:**	ng/mL
Lab ID:	KWG0910908-7				
Signal #1:	DB-35MS	**Signal #2:**	DB-XLB		

Target Compounds **Final Conc. Units:** ug/L

Parameter Name	RT #1	RT #2	Resp #1	Resp #2	ng/mL #1	ng/mL #2	ug/L #1	ug/L #2	Rpt
Aroclor 1242 {2}			0d	0d	0.0000	0.0000			
Aroclor 1242 {3}			0d	0d	0.0000	0.0000			
Aroclor 1242 {4}			0d	0d	0.0000	0.0000			
Aroclor 1242 {5}			0d	0d	0.0000	0.0000			
Aroclor 1248			0	0	0.0000	0.0000			
Aroclor 1248 {1}			0d	0d	0.0000	0.0000			
Aroclor 1248 {2}			0d	0d	0.0000	0.0000			
Aroclor 1248 {3}			0d	0d	0.0000	0.0000			
Aroclor 1248 {4}			0d	0d	0.0000	0.0000			
Aroclor 1248 {5}			0d	0d	0.0000	0.0000			
Aroclor 1254			0	0	0.0000	0.0000			
Aroclor 1254 {1}			0d	0d	0.0000	0.0000			
Aroclor 1254 {2}			0d	0d	0.0000	0.0000			
Aroclor 1254 {3}			0d	0d	0.0000	0.0000			
Aroclor 1254 {4}			0d	0d	0.0000	0.0000			
Aroclor 1254 {5}			0d	0d	0.0000	0.0000			
Aroclor 1260			0	0	0.0000	0.0000			
Aroclor 1260 {1}			0d	0d	0.0000	0.0000			
Aroclor 1260 {2}			0d	0d	0.0000	0.0000			
Aroclor 1260 {3}			0d	0d	0.0000	0.0000			
Aroclor 1260 {4}			0d	0d	0.0000	0.0000			
Aroclor 1260 {5}			0d	0d	0.0000	0.0000			
Aroclor 1262			0	0	0.0000	0.0000			
Aroclor 1262 {1}			0d	0	0.0000	0.0000			
Aroclor 1262 {2}			0d	0	0.0000	0.0000			
Aroclor 1262 {3}			0d	0	0.0000	0.0000			
Aroclor 1262 {4}			0d	0	0.0000	0.0000			
Aroclor 1262 {5}			0d	0	0.0000	0.0000			
Aroclor 1268			0	0	0.0000	0.0000			
Aroclor 1268 {1}			0d	0d	0.0000	0.0000			
Aroclor 1268 {2}			0d	0d	0.0000	0.0000			
Aroclor 1268 {3}			0d	0d	0.0000	0.0000			
Aroclor 1268 {4}			0d	0d	0.0000	0.0000			
Aroclor 1268 {5}			0d	0d	0.0000	0.0000			

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Data File: \\cash1\acqudata\GC22\data\111909.b\1119F045.D
Report Date: 20-Nov-2009 11:32

Laboratory Name

Sample #1 : \\cash1\acqudata\GC22\data\111909.b\1119F045.D
Sample #2 : \\cash1\acqudata\GC22\data\111909_r.b\1119F045.D
Inj Date : 20-NOV-2009 08:34
Sample Info: KWG0910908-7 | IB | 8082 PCB
Misc Info :
Cal Date : 20-NOV-2009 09:33
Operator : JMSmith
Inst ID : GC22.i
Dil Factor : 1.000000

Method #1 : \\cash1\acqudata\GC22\data\111909.b\111709ul_f.m
Method #2 : \\cash1\acqudata\GC22\data\111909_r.b\111709ul_r.m
Sub List #1 : ALL.SUB
Sub List #2 : ALL.SUB
Col #1 Phase : DB-35MS
Col #2 Phase : DB-XLB

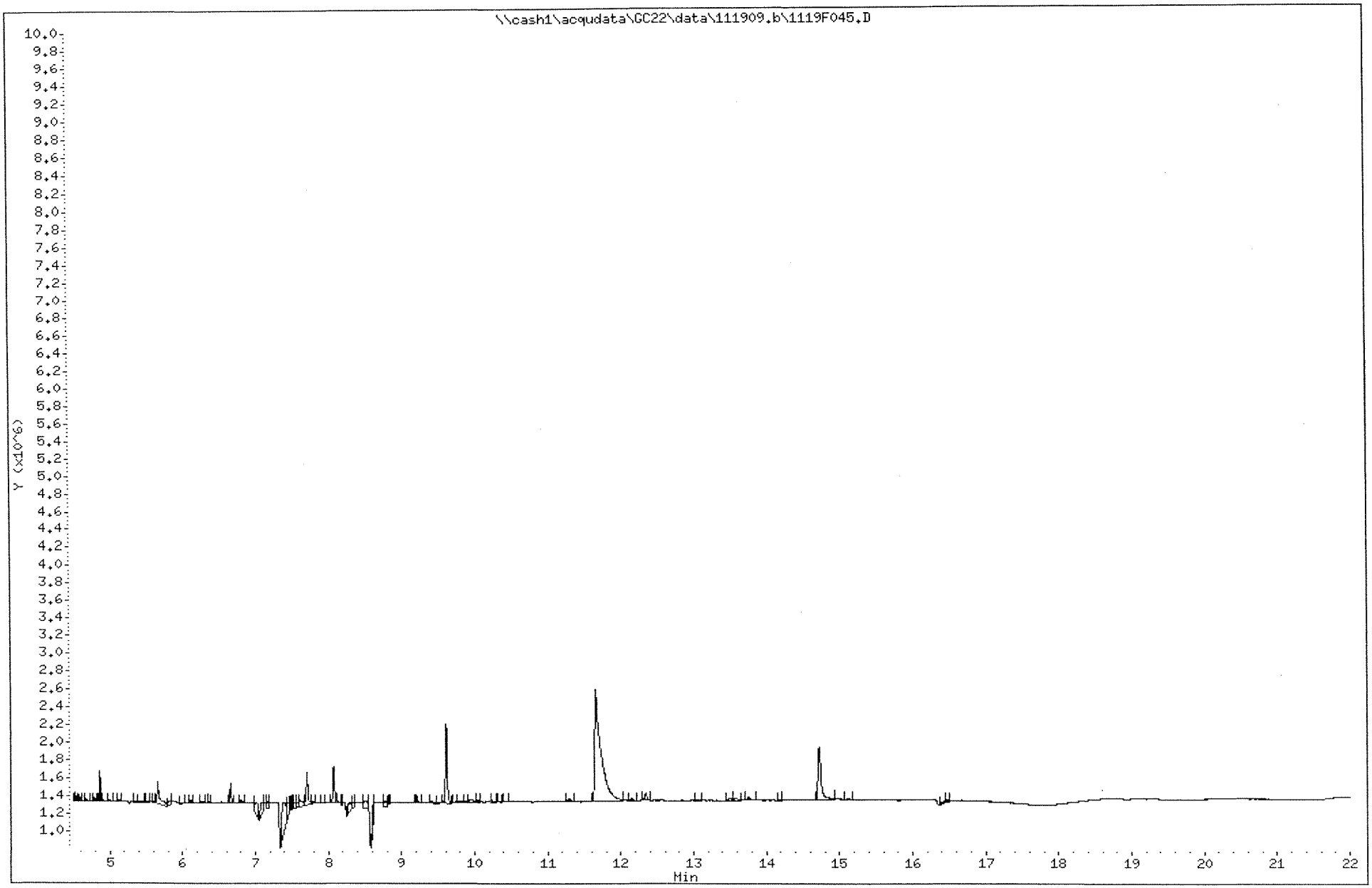
Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2	Target Range	Ratio

Data File: \\cash1\acqudata\GC22\data\111909.b\1119F045.D
Date : 20-NOV-2009 08:34
Client ID:
Sample Info: KWG0910908-7 | IB | 8082 PCB

Instrument: GC22.i

Operator: JMSmith
Column diameter: 0.32

Column phase: DB-35MS

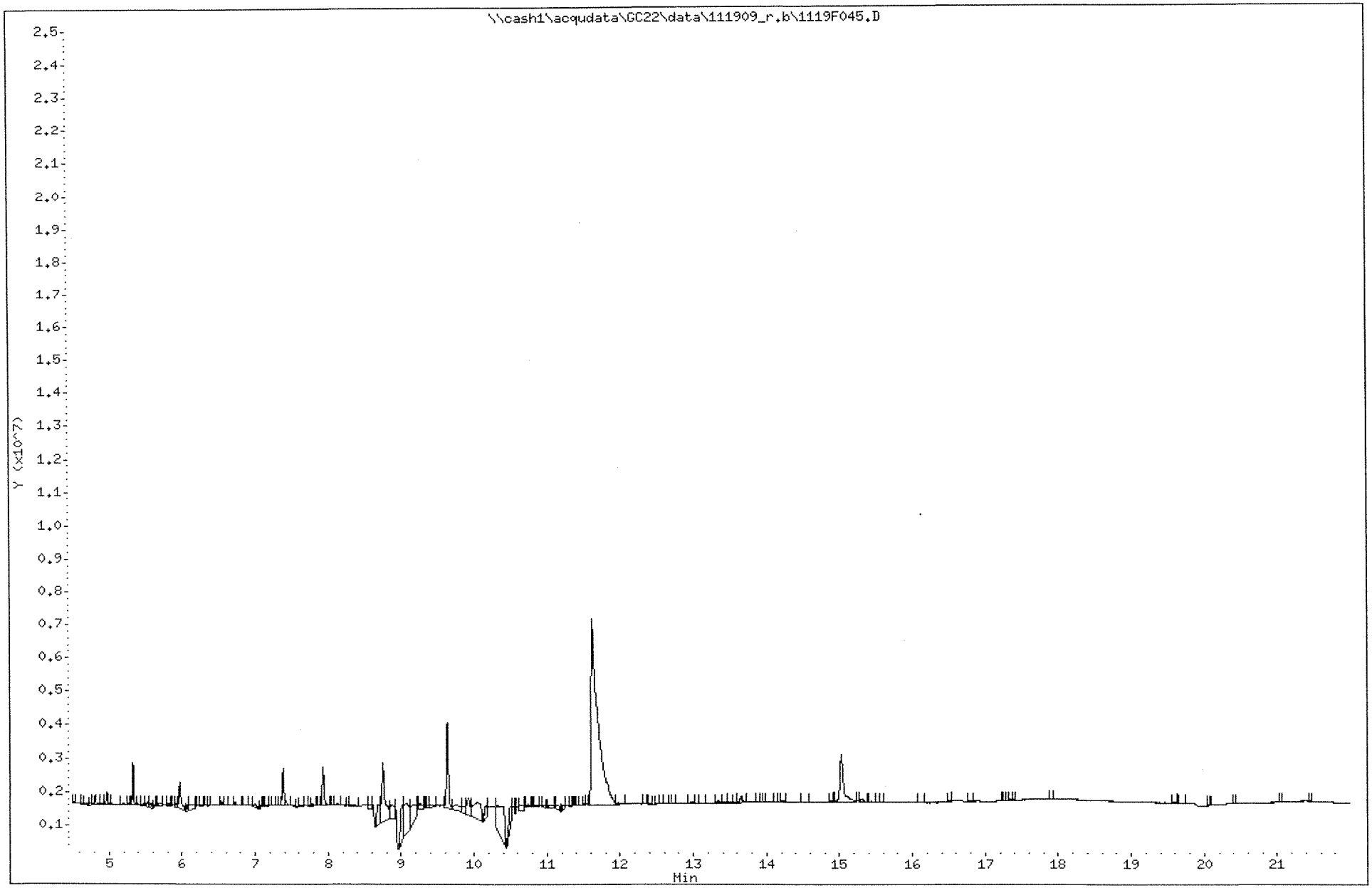


Data File: \\cash1\acqudata\GC22\data\111909_r.b\1119F045.D
Date : 20-NOV-2009 08:34
Client ID:
Sample Info: KWG0910908-7 | IB | 8082 PCB

Instrument: GC22.i

Operator: JMSmith
Column diameter: 0.32

Column phase: DB-XLB



Exception Report

Data File: \\CASH1\ACQUDATA\GC32\DATA\111409.B\1114F046.D
Lab ID: KWG0910691-7
RunType: IB
Matrix: LIQUID

Date Acquired: 11/15/2009 11:51
Date Quantitated: 11/17/2009 14:05
Batch ID: KWG0910691
Analysis Method: 8082
ListJoinID: LJ6212

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA		x
Analyte Co-elution	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
Second Source ICAL Verification	Aroclor 1016	-15.6	NA	15	rev

Primary Review: [signature] 11/17/09

Secondary Review: [signature] 11/17/09

Exception Report

Data File: \\CASH1\ACQUDATA\GC32\DATA\111409_R.B\1114F046.D
Lab ID: KWG0910691-7
RunType: IB
Matrix: LIQUID

Date Acquired: 11/15/2009 11:51
Date Quantitated: 11/17/2009 14:06
Batch ID: KWG0910691
Analysis Method: 8082
ListJoinID: LJ6212

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	

Primary Review: [signature]

Secondary Review: [signature] 11/17/09

Quantitation Report

Bottle ID:		**Tier:**		**Matrix:**	LIQUID
Prod Code:	8082 PCB_ULL	**Collect Date:**		**Receive Date:**	11/13/2009

Analysis Lot:	KWG0910691	**Prep Lot:**		**Report Group:**	
Analysis Method:	8082	**Prep Method:**			
Prep Ref:		**Prep Date:**			

Quant Method:	\\CASH1\ACQUDATA\GC32\DATA\111409.B\111309UL_F.M	**Calibration ID:**	CAL9019
Title:			
MB Ref:		**Method ID:**	MJ702
		Quant based on Method	

Data File #1:	J:\GC32\DATA\111409.B\1114F046.D			**Instrument:**	GC32.i
Data File #2:	\\cash1\acqudata\GC32\Data\111409_r.b\1114F046.D			**Vial:**	87
Acqu Date:	11/15/2009 11:51	**Quant Date:**	11/17/2009 14:05	**Dilution:**	1.0
Run Type:	IB			**Soln Conc. Units:**	ng/mL
Lab ID:	KWG0910691-7				
Signal #1:	DB-35MS	**Signal #2:**	DB-XLB		

Surrogate Compounds

Parameter Name	RT #1	RT #2	Resp #1	Respe #2	ng/mL #1	ng/mL #2			Rpt
Tetrachloro-m-xylene	0.00		0d	0	0.0000				NA
			%Recovery =		NA	NA	Limits =	21-114	
Decachlorobiphenyl	0.00		0d	0	0.0000				NA
			%Recovery =		NA	NA	Limits =	36-113	

Target Compounds

Final Conc. Units: ug/L

Parameter Name	RT #1	RT #2	Resp #1	Resp #2	ng/mL #1	ng/mL #2	ug/L #1	ug/L #2	Rpt
Aroclor 1016			0	0	0.0000	0.0000			
Aroclor 1016 {1}			0d	0	0.0000	0.0000			
Aroclor 1016 {2}			0d	0	0.0000	0.0000			
Aroclor 1016 {3}			0d	0	0.0000	0.0000			
Aroclor 1016 {4}			0d	0	0.0000	0.0000			
Aroclor 1016 {5}			0d	0	0.0000	0.0000			
Aroclor 1221			0	0	0.0000	0.0000			
Aroclor 1221 {1}			0d	0	0.0000	0.0000			
Aroclor 1221 {2}			0d	0	0.0000	0.0000			
Aroclor 1221 {3}			0d	0	0.0000	0.0000			
Aroclor 1221 {4}			0d	0	0.0000	0.0000			
Aroclor 1232			0	0	0.0000	0.0000			
Aroclor 1232 {1}			0d	0	0.0000	0.0000			
Aroclor 1232 {2}			0d	0	0.0000	0.0000			
Aroclor 1232 {3}			0d	0	0.0000	0.0000			
Aroclor 1232 {4}			0d	0	0.0000	0.0000			
Aroclor 1242			0	0	0.0000	0.0000			
Aroclor 1242 {1}			0d	0d	0.0000	0.0000			

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Data File #1:	J:\GC32\DATA\111409.B\1114F046.D			**Instrument:**	GC32.i
Data File #2:	\\cash1\acqudata\GC32\Data\111409_r.b\1114F046.D			**Vial:**	87
Acqu Date:	11/15/2009 11:51	**Quant Date:**	11/17/2009 14:05	**Dilution:**	1.0
Run Type:	IB			**Soln Conc. Units:**	ng/mL
Lab ID:	KWG0910691-7				
Signal #1:	DB-35MS	**Signal #2:**	DB-XLB		

Target Compounds **Final Conc. Units:** ug/L

Parameter Name	RT #1	RT #2	Resp #1	Resp #2	ng/mL #1	ng/mL #2	ug/L #1	ug/L #2	Rpt
Aroclor 1242 {2}			0d	0d	0.0000	0.0000			
Aroclor 1242 {3}			0d	0d	0.0000	0.0000			
Aroclor 1242 {4}			0d	0d	0.0000	0.0000			
Aroclor 1242 {5}			0d	0d	0.0000	0.0000			
Aroclor 1248			0	0	0.0000	0.0000			
Aroclor 1248 {1}			0d	0	0.0000	0.0000			
Aroclor 1248 {2}			0d	0	0.0000	0.0000			
Aroclor 1248 {3}			0d	0	0.0000	0.0000			
Aroclor 1248 {4}			0d	0	0.0000	0.0000			
Aroclor 1248 {5}			0d	0	0.0000	0.0000			
Aroclor 1254			0	0	0.0000	0.0000			
Aroclor 1254 {1}			0d	0d	0.0000	0.0000			
Aroclor 1254 {2}			0d	0d	0.0000	0.0000			
Aroclor 1254 {3}			0d	0d	0.0000	0.0000			
Aroclor 1254 {4}			0d	0d	0.0000	0.0000			
Aroclor 1254 {5}			0d	0d	0.0000	0.0000			
Aroclor 1260			0	0	0.0000	0.0000			
Aroclor 1260 {1}			0d	0d	0.0000	0.0000			
Aroclor 1260 {2}			0d	0d	0.0000	0.0000			
Aroclor 1260 {3}			0d	0d	0.0000	0.0000			
Aroclor 1260 {4}			0d	0d	0.0000	0.0000			
Aroclor 1260 {5}			0d	0d	0.0000	0.0000			
Aroclor 1262			0	0	0.0000	0.0000			
Aroclor 1262 {1}			0d	0	0.0000	0.0000			
Aroclor 1262 {2}			0d	0	0.0000	0.0000			
Aroclor 1262 {3}			0d	0	0.0000	0.0000			
Aroclor 1262 {4}			0d	0	0.0000	0.0000			
Aroclor 1262 {5}			0d	0	0.0000	0.0000			
Aroclor 1268			0	0	0.0000	0.0000			
Aroclor 1268 {1}			0d	0	0.0000	0.0000			
Aroclor 1268 {2}			0d	0	0.0000	0.0000			
Aroclor 1268 {3}			0d	0	0.0000	0.0000			
Aroclor 1268 {4}			0d	0	0.0000	0.0000			
Aroclor 1268 {5}			0d	0	0.0000	0.0000			

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Data File: \\cash1\acqudata\GC32\Data\111409.b\1114F046.D
Report Date: 17-Nov-2009 14:05

Laboratory Name

Sample #1 : \\cash1\acqudata\GC32\Data\111409.b\1114F046.D
Sample #2 : \\cash1\acqudata\GC32\Data\111409_r.b\1114F046.D
Inj Date : 15-NOV-2009 11:51
Sample Info: KWG0910691-7 | IB | 8082 PCB_ULL
Misc Info :
Cal Date : 16-NOV-2009 18:14
Operator : JMSmith
Inst ID : GC32.i
Dil Factor : 1.000000

Method #1 : \\cash1\acqudata\GC32\Data\111409.b\111309ul_f.m
Method #2 : \\cash1\acqudata\GC32\Data\111409_r.b\111309ul_r.m
Sub List #1 : ALL.SUB
Sub List #2 : ALL.SUB
Col #1 Phase : DB-35MS
Col #2 Phase : DB-XLB

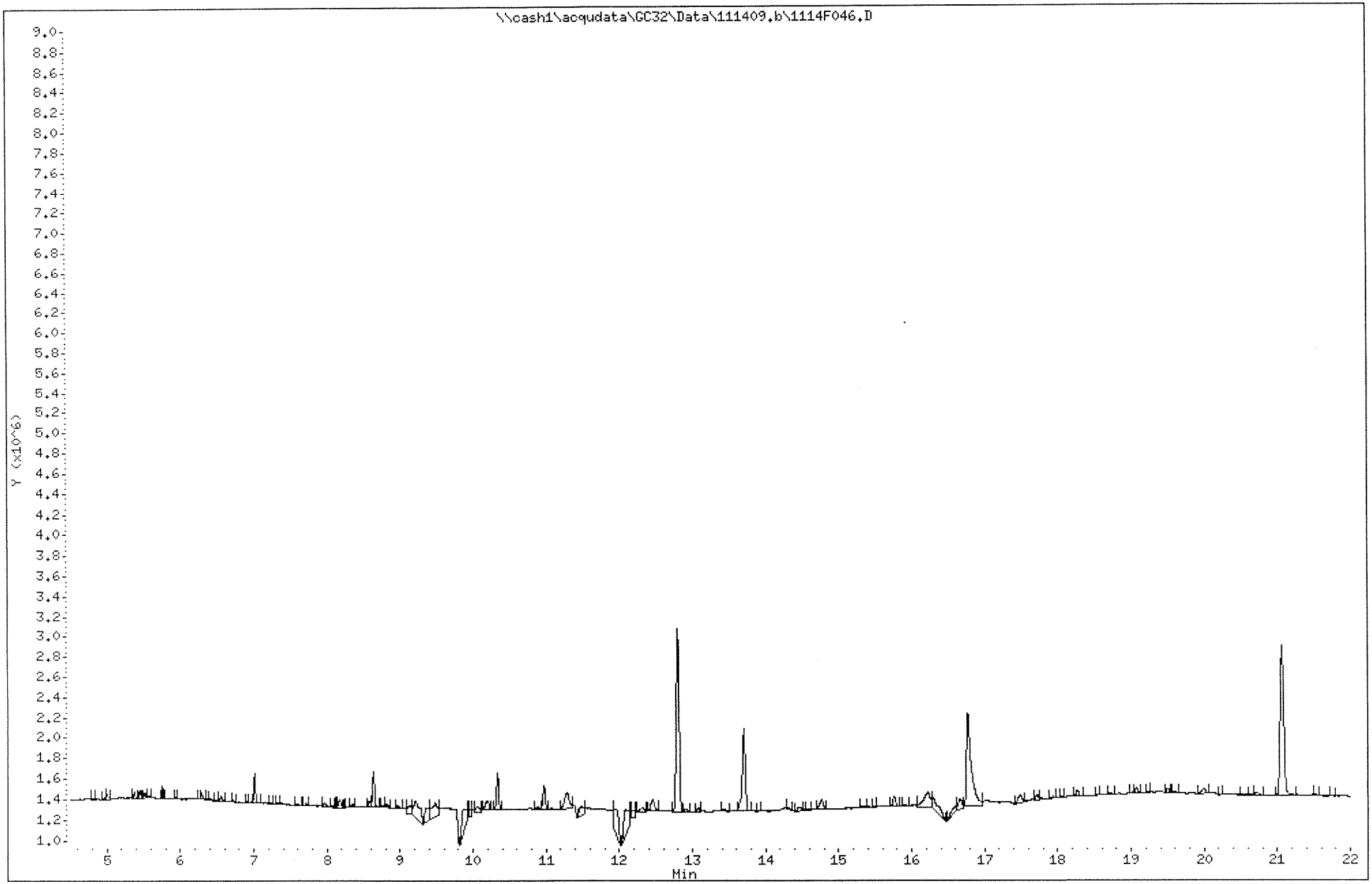
Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2	Target Range	Ratio

Data File: \\cash1\acqudata\GC32\Data\111409.b\1114F046.D
Date : 15-NOV-2009 11:51
Client ID:
Sample Info: KWG0910691-7 | IB | 8082 PCB_ULL

Instrument: GC32.i

Operator: JHSmith
Column diameter: 0.32

Column phase: DB-35MS

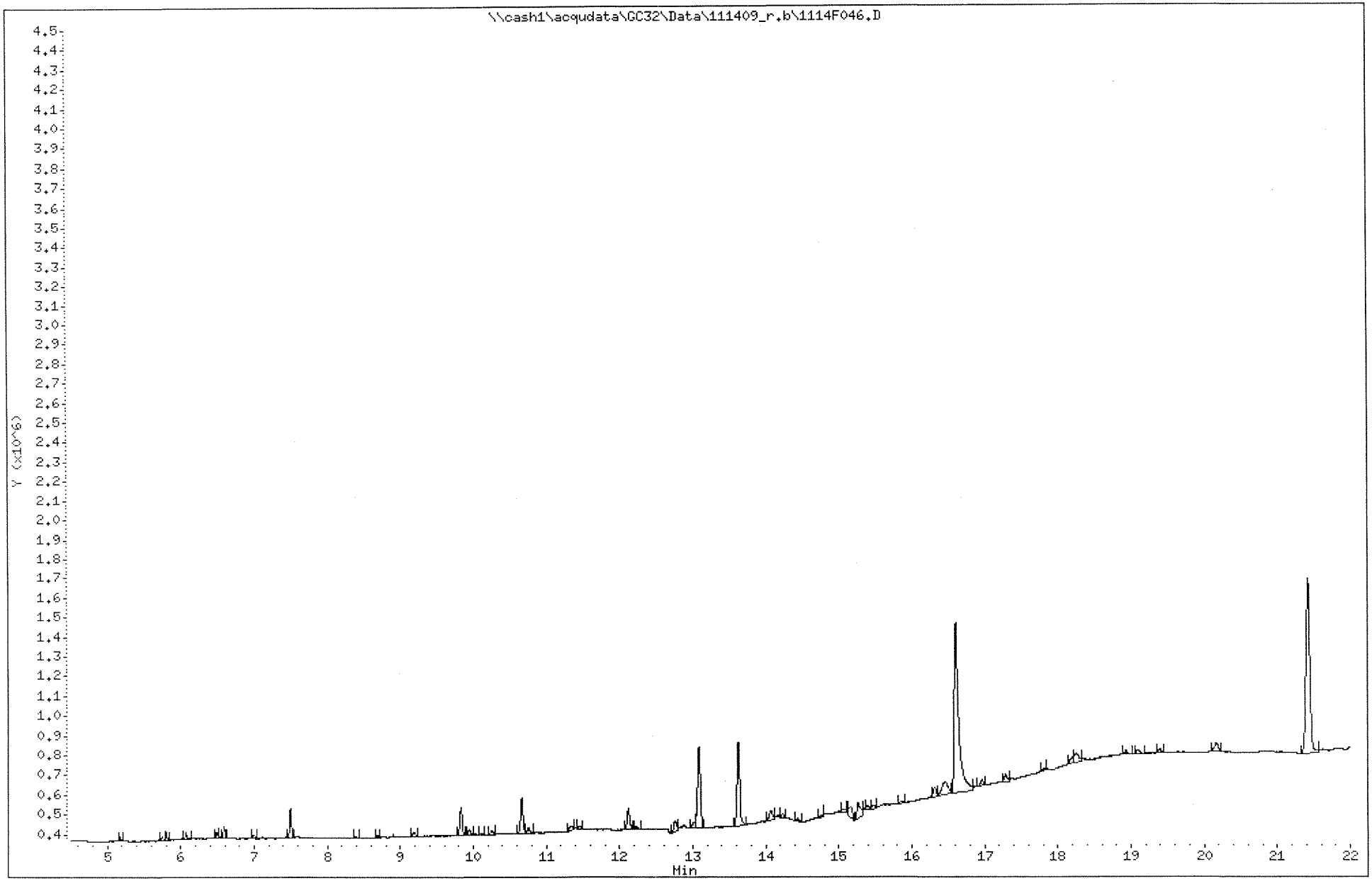


Data File: \\cash1\acqudata\GC32\Data\111409_r.b\1114F046.D
Date : 15-NOV-2009 11:51
Client ID:
Sample Info: KWG0910691-7 | IB | 8082 PCB_ULL

Instrument: GC32.i

Operator: JMSmith
Column diameter: 0.32

Column phase: DB-XLB



Polynuclear Aromatic Hydrocarbons
EPA Method 8270C SIM

Organic Analysis:
Polynuclear Aromatic Hydrocarbons

Summary Package

Sample and QC Results

COLUMBIA ANALYTICAL SERVICES, INC.

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0910296

Cover Page - Organic Analysis Data Package
Polynuclear Aromatic Hydrocarbons

Sample Name	Lab Code	Date Collected	Date Received
RB-1	K0910296-001	10/22/2009	10/23/2009

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed in the case narrative. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on floppy diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Signature: _____ Name: Carl Dyer

Date: 11/16/09 Title: SVR Supervisor

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	URS Corporation	**Service Request:**	K0910296
Project:	Boise St. Helens Pulp and Paper Mill-2009	**Date Collected:**	10/22/2009
Sample Matrix:	Water	**Date Received:**	10/23/2009

Polynuclear Aromatic Hydrocarbons

Sample Name:	RB-1	**Units:**	ug/L
Lab Code:	K0910296-001	**Basis:**	NA
Extraction Method:	EPA 3520C	**Level:**	Low
Analysis Method:	8270C SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Naphthalene	**0.017**	J	0.022	0.0032	1	10/28/09	11/06/09	KWG0909945	
2-Methylnaphthalene	**0.0037**	J	0.022	0.0025	1	10/28/09	11/06/09	KWG0909945	
1-Methylnaphthalene	ND	U	0.022	0.0037	1	10/28/09	11/06/09	KWG0909945	
2,6-Dimethylnaphthalene	ND	U	0.022	0.0024	1	10/28/09	11/06/09	KWG0909945	
Acenaphthylene	ND	U	0.022	0.0036	1	10/28/09	11/06/09	KWG0909945	
Acenaphthene	ND	U	0.022	0.0047	1	10/28/09	11/06/09	KWG0909945	
Dibenzofuran	ND	U	0.022	0.0049	1	10/28/09	11/06/09	KWG0909945	
2,3,5-Trimethylnaphthalene	ND	U	0.022	0.0053	1	10/28/09	11/06/09	KWG0909945	
Fluorene	ND	U	0.022	0.0040	1	10/28/09	11/06/09	KWG0909945	
Phenanthrene	ND	U	0.022	0.0053	1	10/28/09	11/06/09	KWG0909945	
Anthracene	ND	U	0.022	0.0038	1	10/28/09	11/06/09	KWG0909945	
1-Methylphenanthrene	ND	U	0.022	0.0044	1	10/28/09	11/06/09	KWG0909945	
Fluoranthene	ND	U	0.022	0.0047	1	10/28/09	11/06/09	KWG0909945	
Pyrene	ND	U	0.022	0.0037	1	10/28/09	11/06/09	KWG0909945	
Benz(a)anthracene	**0.0040**	J	0.022	0.0028	1	10/28/09	11/06/09	KWG0909945	
Chrysene	ND	U	0.022	0.0036	1	10/28/09	11/06/09	KWG0909945	
Benzo(b)fluoranthene	**0.0060**	J	0.022	0.0025	1	10/28/09	11/06/09	KWG0909945	
Benzo(k)fluoranthene	**0.0037**	J	0.022	0.0027	1	10/28/09	11/06/09	KWG0909945	
Benzo(e)pyrene	**0.0091**	J	0.022	0.0043	1	10/28/09	11/06/09	KWG0909945	
Benzo(a)pyrene	ND	U	0.022	0.0046	1	10/28/09	11/06/09	KWG0909945	
Indeno(1,2,3-cd)pyrene	**0.0037**	J	0.022	0.0028	1	10/28/09	11/06/09	KWG0909945	
Dibenz(a,h)anthracene	**0.0038**	J	0.022	0.0027	1	10/28/09	11/06/09	KWG0909945	
Benzo(g,h,i)perylene	**0.0077**	J	0.022	0.0031	1	10/28/09	11/06/09	KWG0909945	
Perylene	ND	U	0.022	0.0053	1	10/28/09	11/06/09	KWG0909945	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	114	28-98	11/06/09	Outside Control Limits
Fluoranthene-d10	106	31-105	11/06/09	Outside Control Limits
Terphenyl-d14	106	27-112	11/06/09	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	URS Corporation	**Service Request:**	K0910296
Project:	Boise St. Helens Pulp and Paper Mill-2009	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA

Polynuclear Aromatic Hydrocarbons

Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	KWG0909945-4	**Basis:**	NA
Extraction Method:	EPA 3520C	**Level:**	Low
Analysis Method:	8270C SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Naphthalene	ND	U	0.019	0.0030	1	10/28/09	11/09/09	KWG0909945	
2-Methylnaphthalene	ND	U	0.019	0.0023	1	10/28/09	11/09/09	KWG0909945	
1-Methylnaphthalene	ND	U	0.019	0.0035	1	10/28/09	11/09/09	KWG0909945	
2,6-Dimethylnaphthalene	ND	U	0.019	0.0022	1	10/28/09	11/09/09	KWG0909945	
Acenaphthylene	ND	U	0.019	0.0034	1	10/28/09	11/09/09	KWG0909945	
Acenaphthene	ND	U	0.019	0.0044	1	10/28/09	11/09/09	KWG0909945	
Dibenzofuran	ND	U	0.019	0.0046	1	10/28/09	11/09/09	KWG0909945	
2,3,5-Trimethylnaphthalene	ND	U	0.019	0.0050	1	10/28/09	11/09/09	KWG0909945	
Fluorene	ND	U	0.019	0.0038	1	10/28/09	11/09/09	KWG0909945	
Phenanthrene	ND	U	0.019	0.0050	1	10/28/09	11/09/09	KWG0909945	
Anthracene	ND	U	0.019	0.0036	1	10/28/09	11/09/09	KWG0909945	
1-Methylphenanthrene	ND	U	0.019	0.0041	1	10/28/09	11/09/09	KWG0909945	
Fluoranthene	ND	U	0.019	0.0044	1	10/28/09	11/09/09	KWG0909945	
Pyrene	ND	U	0.019	0.0035	1	10/28/09	11/09/09	KWG0909945	
Benz(a)anthracene	**0.0029**	J	0.019	0.0026	1	10/28/09	11/09/09	KWG0909945	
Chrysene	ND	U	0.019	0.0034	1	10/28/09	11/09/09	KWG0909945	
Benzo(b)fluoranthene	**0.0035**	J	0.019	0.0023	1	10/28/09	11/09/09	KWG0909945	
Benzo(k)fluoranthene	ND	U	0.019	0.0025	1	10/28/09	11/09/09	KWG0909945	
Benzo(e)pyrene	ND	U	0.019	0.0040	1	10/28/09	11/09/09	KWG0909945	
Benzo(a)pyrene	ND	U	0.019	0.0043	1	10/28/09	11/09/09	KWG0909945	
Indeno(1,2,3-cd)pyrene	ND	U	0.019	0.0026	1	10/28/09	11/09/09	KWG0909945	
Dibenz(a,h)anthracene	ND	U	0.019	0.0025	1	10/28/09	11/09/09	KWG0909945	
Benzo(g,h,i)perylene	ND	U	0.019	0.0029	1	10/28/09	11/09/09	KWG0909945	
Perylene	ND	U	0.019	0.0050	1	10/28/09	11/09/09	KWG0909945	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	71	28-98	11/09/09	Acceptable
Fluoranthene-d10	59	31-105	11/09/09	Acceptable
Terphenyl-d14	62	27-112	11/09/09	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009
Sample Matrix: Water

Service Request: K0910296

Surrogate Recovery Summary
Polynuclear Aromatic Hydrocarbons

Extraction Method: EPA 3520C
Analysis Method: 8270C SIM

Units: PERCENT
Level: Low

Sample Name	Lab Code	Sur1		Sur2		Sur3
RB-1	K0910296-001	114	*	106	*	106
Method Blank	KWG0909945-4	71		59		62
Batch QC	K0910308-019	84		81		69
Batch QCMS	KWG0909945-1	73		67		57
Batch QCDMS	KWG0909945-2	71		68		56
Lab Control Sample	KWG0909945-3	64		62		57

Surrogate Recovery Control Limits (%)

Sur1 = Fluorene-d10	28-98
Sur2 = Fluoranthene-d10	31-105
Sur3 = Terphenyl-d14	27-112

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0910296
Date Analyzed: 11/06/2009
Time Analyzed: 09:33

Internal Standard Area and RT Summary
Polynuclear Aromatic Hydrocarbons

File ID: J:\MS11\DATA\110609\1106F002.D
Instrument ID: MS11
Analysis Method: 8270C SIM

Lab Code: KWG0910516-2
Analysis Lot: KWG0910516

		Naphthalene-d8		Acenaphthene-d10		Phenanthrene-d10	
		Area	**RT**	**Area**	**RT**	**Area**	**RT**
	Results ==>	223,388	4.64	125,197	6.05	217,665	7.27
	Upper Limit ==>	446,776	5.14	250,394	6.55	435,330	7.77
	Lower Limit ==>	111,694	4.14	62,599	5.55	108,833	6.77
	ICAL Result ==>	287,363	4.67	143,632	6.10	187,662	7.32
Associated Analyses							
Lab Control Sample	KWG0909945-3	233,458	4.63	126,989	6.05	202,098	7.27
Batch QCMS	KWG0909945-1	219,669	4.63	126,244	6.05	213,077	7.27
Batch QCDMS	KWG0909945-2	209,296	4.63	117,931	6.05	199,333	7.27
Batch QC	K0910308-019	217,866	4.64	125,117	6.05	201,333	7.27
RB-1	K0910296-001	213,899	4.64	116,467	6.05	184,864	7.27

Results flagged with an asterisk (*) indicate values outside control criteria.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0910296
Date Analyzed: 11/06/2009
Time Analyzed: 09:33

Internal Standard Area and RT Summary
Polynuclear Aromatic Hydrocarbons

File ID: J:\MS11\DATA\110609\1106F002.D
Instrument ID: MS11
Analysis Method: 8270C SIM

Lab Code: KWG0910516-2
Analysis Lot: KWG0910516

		Chrysene-d12		Perylene-d12			
		Area	**RT**	**Area**	**RT**	**Area**	**RT**
	Results ==>	260,249	9.77	255,004	12.78		
	Upper Limit ==>	520,498	10.27	510,008	13.28		
	Lower Limit ==>	130,125	9.27	127,502	12.28		
	ICAL Result ==>	216,839	9.84	240,902	12.92		
Associated Analyses							
Lab Control Sample	KWG0909945-3	247,318	9.77	254,259	12.78		
Batch QCMS	KWG0909945-1	291,202	9.76	280,224	12.78		
Batch QCDMS	KWG0909945-2	270,701	9.76	255,048	12.78		
Batch QC	K0910308-019	276,339	9.76	256,838	12.78		
RB-1	K0910296-001	214,636	9.77	206,022	12.78		

Results flagged with an asterisk (*) indicate values outside control criteria.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0910296
Date Analyzed: 11/09/2009
Time Analyzed: 08:10

Internal Standard Area and RT Summary
Polynuclear Aromatic Hydrocarbons

File ID: J:\MS11\DATA\110909\1109F002.D
Instrument ID: MS11
Analysis Method: 8270C SIM

Lab Code: KWG0910548-2
Analysis Lot: KWG0910548

		Naphthalene-d8		Acenaphthene-d10		Phenanthrene-d10	
		Area	**RT**	**Area**	**RT**	**Area**	**RT**
	Results ==>	192,128	4.63	104,633	6.05	206,819	7.27
	Upper Limit ==>	384,256	5.13	209,266	6.55	413,638	7.77
	Lower Limit ==>	96,064	4.13	52,317	5.55	103,410	6.77
	ICAL Result ==>	287,363	4.67	143,632	6.10	187,662	7.32
Associated Analyses							
Method Blank	KWG0909945-4	173,792	4.63	114,407	6.05	220,505	7.27

Results flagged with an asterisk (*) indicate values outside control criteria.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0910296
Date Analyzed: 11/09/2009
Time Analyzed: 08:10

Internal Standard Area and RT Summary
Polynuclear Aromatic Hydrocarbons

File ID: J:\MS11\DATA\110909\1109F002.D
Instrument ID: MS11
Analysis Method: 8270C SIM

Lab Code: KWG0910548-2
Analysis Lot: KWG0910548

		Chrysene-d12		Perylene-d12			
		Area	**RT**	**Area**	**RT**	**Area**	**RT**
	Results ==>	312,820	9.77	304,691	12.78		
	Upper Limit ==>	625,640	10.27	609,382	13.28		
	Lower Limit ==>	156,410	9.27	152,346	12.28		
	ICAL Result ==>	216,839	9.84	240,902	12.92		
Associated Analyses							
Method Blank	KWG0909945-4	267,332	9.76	237,771	12.78		

Results flagged with an asterisk (*) indicate values outside control criteria.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	URS Corporation	**Service Request:**	K0910296
Project:	Boise St. Helens Pulp and Paper Mill-2009	**Date Extracted:**	10/28/2009
Sample Matrix:	Water	**Date Analyzed:**	11/06/2009

Matrix Spike/Duplicate Matrix Spike Summary
Polynuclear Aromatic Hydrocarbons

Sample Name:	Batch QC	**Units:**	ug/L
Lab Code:	K0910308-019	**Basis:**	NA
Extraction Method:	EPA 3520C	**Level:**	Low
Analysis Method:	8270C SIM	**Extraction Lot:**	KWG0909945

Analyte Name	Sample Result	Batch QCMS KWG0909945-1 Matrix Spike			Batch QCDMS KWG0909945-2 Duplicate Matrix Spike			%Rec Limits	RPD	RPD Limit
		Result	Expected	%Rec	Result	Expected	%Rec			
Naphthalene	0.036	2.06	2.38	85	1.99	2.38	82	37-118	4	30
2-Methylnaphthalene	0.011	1.88	2.38	79	1.78	2.38	74	37-117	6	30
1-Methylnaphthalene	ND	1.99	2.38	83	1.86	2.38	78	34-125	6	30
2,6-Dimethylnaphthalene	ND	2.60	2.38	109	2.40	2.38	101	38-120	8	30
Acenaphthylene	ND	2.15	2.38	90	2.02	2.38	85	43-114	6	30
Acenaphthene	ND	2.17	2.38	91	2.05	2.38	86	45-114	6	30
Dibenzofuran	ND	2.34	2.38	98	2.21	2.38	93	44-122	6	30
2,3,5-Trimethylnaphthalene	ND	2.79	2.38	117	2.57	2.38	108	43-129	8	30
Fluorene	0.020	2.52	2.38	105	2.31	2.38	96	45-123	9	30
Phenanthrene	0.054	2.02	2.38	83	1.92	2.38	78	42-127	5	30
Anthracene	0.0053	2.03	2.38	85	1.94	2.38	81	32-125	4	30
1-Methylphenanthrene	ND	2.33	2.38	98	2.20	2.38	93	48-134	6	30
Fluoranthene	0.0096	2.18	2.38	91	2.07	2.38	87	48-134	5	30
Pyrene	0.0078	1.92	2.38	80	1.87	2.38	78	44-130	3	30
Benz(a)anthracene	0.0086	1.99	2.38	83	1.87	2.38	78	41-128	6	30
Chrysene	0.019	2.01	2.38	84	1.90	2.38	79	48-128	5	30
Benzo(b)fluoranthene	0.015	2.20	2.38	92	2.10	2.38	88	40-139	4	30
Benzo(k)fluoranthene	0.012	2.21	2.38	92	2.14	2.38	90	48-134	3	30
Benzo(e)pyrene	0.019	2.30	2.38	96	2.21	2.38	92	46-135	4	30
Benzo(a)pyrene	0.0094	2.08	2.38	87	1.99	2.38	83	35-132	5	30
Indeno(1,2,3-cd)pyrene	0.011	2.04	2.38	85	1.92	2.38	80	40-135	6	30
Dibenz(a,h)anthracene	0.011	1.96	2.38	82	1.83	2.38	77	43-135	7	30
Benzo(g,h,i)perylene	0.018	2.05	2.38	85	1.94	2.38	81	44-128	5	30
Perylene	0.011	2.09	2.38	87	2.00	2.38	84	49-132	4	30

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	URS Corporation	**Service Request:**	K0910296
Project:	Boise St. Helens Pulp and Paper Mill-2009	**Date Extracted:**	10/28/2009
Sample Matrix:	Water	**Date Analyzed:**	11/06/2009

Lab Control Spike Summary
Polynuclear Aromatic Hydrocarbons

Extraction Method:	EPA 3520C	**Units:**	ug/L
Analysis Method:	8270C SIM	**Basis:**	NA
		Level:	Low
		Extraction Lot:	KWG0909945

	Lab Control Sample KWG0909945-3 Lab Control Spike			
Analyte Name	**Result**	**Expected**	**%Rec**	**%Rec Limits**
Naphthalene	1.84	2.50	74	39-110
2-Methylnaphthalene	1.65	2.50	66	39-115
1-Methylnaphthalene	1.76	2.50	70	40-122
2,6-Dimethylnaphthalene	2.15	2.50	86	38-120
Acenaphthylene	2.00	2.50	80	44-115
Acenaphthene	1.98	2.50	79	44-113
Dibenzofuran	2.14	2.50	85	46-116
2,3,5-Trimethylnaphthalene	2.42	2.50	97	43-129
Fluorene	2.29	2.50	92	48-118
Phenanthrene	1.96	2.50	79	47-120
Anthracene	2.03	2.50	81	44-117
1-Methylphenanthrene	2.28	2.50	91	48-134
Fluoranthene	2.13	2.50	85	48-128
Pyrene	2.09	2.50	84	42-133
Benz(a)anthracene	1.89	2.50	76	48-125
Chrysene	1.93	2.50	77	50-128
Benzo(b)fluoranthene	2.11	2.50	84	49-131
Benzo(k)fluoranthene	2.16	2.50	87	54-131
Benzo(e)pyrene	2.21	2.50	88	46-135
Benzo(a)pyrene	2.00	2.50	80	43-134
Indeno(1,2,3-cd)pyrene	2.02	2.50	81	45-133
Dibenz(a,h)anthracene	1.93	2.50	77	49-133
Benzo(g,h,i)perylene	2.06	2.50	83	51-124
Perylene	2.01	2.50	81	49-132

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	URS Corporation	**Service Request:**	K0910296
Project:	Boise St. Helens Pulp and Paper Mill-2009	**Date Extracted:**	10/28/2009
Sample Matrix:	Water	**Date Analyzed:**	11/09/2009
		Time Analyzed:	18:14

Method Blank Summary
Polynuclear Aromatic Hydrocarbons

Sample Name:	Method Blank	**File ID:**	J:\MS11\DATA\110909\1109F024.D
Lab Code:	KWG0909945-4	**Instrument ID:**	MS11
Extraction Method:	EPA 3520C	**Level:**	Low
Analysis Method:	8270C SIM	**Extraction Lot:**	KWG0909945

This Method Blank applies to the following analyses:

Sample Name	Lab Code	File ID	Date Analyzed	Time Analyzed
Lab Control Sample	KWG0909945-3	J:\MS11\DATA\110609\1106F012.D	11/06/09	14:03
Batch QCMS	KWG0909945-1	J:\MS11\DATA\110609\1106F013.D	11/06/09	14:30
Batch QCDMS	KWG0909945-2	J:\MS11\DATA\110609\1106F014.D	11/06/09	14:57
Batch QC	K0910308-019	J:\MS11\DATA\110609\1106F015.D	11/06/09	15:25
RB-1	K0910296-001	J:\MS11\DATA\110609\1106F016.D	11/06/09	15:51

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	URS Corporation	**Service Request:**	K0910296
Project:	Boise St. Helens Pulp and Paper Mill-2009	**Date Extracted:**	10/28/2009
Sample Matrix:	Water	**Date Analyzed:**	11/06/2009
		Time Analyzed:	14:03

Lab Control Sample Summary
Polynuclear Aromatic Hydrocarbons

Sample Name:	Lab Control Sample	**File ID:**	J:\MS11\DATA\110609\1106F012.D
Lab Code:	KWG0909945-3	**Instrument ID:**	MS11
Extraction Method:	EPA 3520C	**Level:**	Low
Analysis Method:	8270C SIM	**Extraction Lot:**	KWG0909945

This Lab Control Sample applies to the following analyses:

Sample Name	Lab Code	File ID	Date Analyzed	Time Analyzed
Batch QCMS	KWG0909945-1	J:\MS11\DATA\110609\1106F013.D	11/06/09	14:30
Batch QCDMS	KWG0909945-2	J:\MS11\DATA\110609\1106F014.D	11/06/09	14:57
Batch QC	K0910308-019	J:\MS11\DATA\110609\1106F015.D	11/06/09	15:25
RB-1	K0910296-001	J:\MS11\DATA\110609\1106F016.D	11/06/09	15:51
Method Blank	KWG0909945-4	J:\MS11\DATA\110909\1109F024.D	11/09/09	18:14

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Results

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0910296
Date Analyzed: 11/06/2009
Time Analyzed: 09:07

Tune Summary
Polynuclear Aromatic Hydrocarbons

File ID: J:\MS11\DATA\110609\1106F001.D
Instrument ID: MS11
Column:

Analysis Method: 8270C SIM
Analysis Lot: KWG0910516

Target Mass	Relative to Mass	Lower Limit%	Upper Limit%	Relative Abundance %	Raw Abundance	Result Pass/Fail
51	198	10	80	29.7	122152	PASS
68	69	0	2	0.0	0	PASS
69	198	0	100	32.7	134400	PASS
70	69	0	2	0.8	1101	PASS
127	198	10	80	43.2	177472	PASS
197	198	0	2	0.0	0	PASS
198	442	30	100	34.5	410752	PASS
199	198	5	9	6.8	27808	PASS
275	198	10	60	40.1	164864	PASS
365	442	1	50	2.3	27264	PASS
441	443	0	100	72.9	169088	PASS
442	442	100	100	100.0	1189376	PASS
443	442	15	24	19.5	232064	PASS

Sample Name	Lab Code	File ID	Date Analyzed	Time Analyzed	Q
Continuing Calibration Verification	KWG0910516-2	J:\MS11\DATA\110609\1106F002.D	11/06/2009	09:33	
Lab Control Sample	KWG0909945-3	J:\MS11\DATA\110609\1106F012.D	11/06/2009	14:03	
Batch QCMS	KWG0909945-1	J:\MS11\DATA\110609\1106F013.D	11/06/2009	14:30	
Batch QCDMS	KWG0909945-2	J:\MS11\DATA\110609\1106F014.D	11/06/2009	14:57	
Batch QC	K0910308-019	J:\MS11\DATA\110609\1106F015.D	11/06/2009	15:25	
RB-1	K0910296-001	J:\MS11\DATA\110609\1106F016.D	11/06/2009	15:51	

Results flagged with an asterisk (*) indicate the analysis performed outside specified tune window

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Results

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0910296
Date Analyzed: 11/09/2009
Time Analyzed: 07:40

Tune Summary
Polynuclear Aromatic Hydrocarbons

File ID: J:\MS11\DATA\110909\1109F001.D
Instrument ID: MS11
Column:

Analysis Method: 8270C SIM
Analysis Lot: KWG0910548

Target Mass	Relative to Mass	Lower Limit%	Upper Limit%	Relative Abundance %	Raw Abundance	Result Pass/Fail
51	198	10	80	31.6	138560	PASS
68	69	0	2	0.0	0	PASS
69	198	0	100	34.7	152192	PASS
70	69	0	2	0.7	1070	PASS
127	198	10	80	45.5	199488	PASS
197	198	0	2	0.0	0	PASS
198	442	30	100	43.8	438592	PASS
199	198	5	9	6.7	29256	PASS
275	198	10	60	36.1	158400	PASS
365	442	1	50	2.5	25272	PASS
441	443	0	100	70.8	142656	PASS
442	442	100	100	100.0	1002176	PASS
443	442	15	24	20.1	201408	PASS

Sample Name	Lab Code	File ID	Date Analyzed	Time Analyzed	Q
Continuing Calibration Verification	KWG0910548-2	J:\MS11\DATA\110909\1109F002.D	11/09/2009	08:10	
Method Blank	KWG0909945-4	J:\MS11\DATA\110909\1109F024.D	11/09/2009	18:14	

Results flagged with an asterisk (*) indicate the analysis performed outside specified tune window

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0910296
Calibration Date: 10/15/2009

Initial Calibration Summary
Polynuclear Aromatic Hydrocarbons

Calibration ID: CAL8928
Instrument ID: MS11

Column: MS

Level ID	File ID
A	J:\MS11\DATA\101509\1015F003.D
B	J:\MS11\DATA\101509\1015F004.D
C	J:\MS11\DATA\101509\1015F005.D
D	J:\MS11\DATA\101509\1015F006.D
E	J:\MS11\DATA\101509\1015F007.D
F	J:\MS11\DATA\101509\1015F008.D
G	J:\MS11\DATA\101509\1015F009.D
H	J:\MS11\DATA\101509\1015F010.D
I	J:\MS11\DATA\101509\1015F011.D
J	J:\MS11\DATA\101509\1015F012.D

Analyte Name	Level ID	Amt	RRF	Level ID	Amt	RRF	Level ID	Amt	RRF	Level ID	Amt	RRF	Level ID	Amt	RRF
Naphthalene	A	2.0	0.900	B	4.0	1.01	C	8.0	0.978	D	20	0.978	E	100	0.990
	F	200	1.00	G	400	0.933	H	1000	0.866	I	1600	0.797	J	2000	0.750
2-Methylnaphthalene	A	2.0	0.595	B	4.0	0.667	C	8.0	0.611	D	20	0.632	E	100	0.636
	F	200	0.691	G	400	0.677	H	1000	0.651	I	1600	0.614	J	2000	0.569
1-Methylnaphthalene	A	2.0	0.816	B	4.0	0.743	C	8.0	0.712	D	20	0.693	E	100	0.647
	F	200	0.679	G	400	0.660	H	1000	0.638	I	1600	0.602	J	2000	0.553
2,6-Dimethylnaphthalene	A	2.0	0.530	B	4.0	0.468	C	8.0	0.480	D	20	0.485	E	100	0.488
	F	200	0.533	G	400	0.530	H	1000	0.515	I	1600	0.511	J	2000	0.446
Acenaphthylene	A	2.0	1.65	B	4.0	1.79	C	8.0	1.69	D	20	1.86	E	100	1.82
	F	200	1.90	G	400	1.85	H	1000	1.72	I	1600	1.57	J	2000	1.51
Acenaphthene	A	2.0	1.12	B	4.0	1.09	C	8.0	1.02	D	20	1.11	E	100	1.07
	F	200	1.08	G	400	1.05	H	1000	0.991	I	1600	0.930	J	2000	0.886
Dibenzofuran	A	2.0	1.43	B	4.0	1.44	C	8.0	1.37	D	20	1.46	E	100	1.47
	F	200	1.52	G	400	1.45	H	1000	1.34	I	1600	1.25	J	2000	1.19
2,3,5-Trimethylnaphthalene	A	2.0	0.917	B	4.0	0.940	C	8.0	0.880	D	20	0.951	E	100	0.898
	F	200	0.909	G	400	0.864	H	1000	0.810	I	1600	0.790	J	2000	0.732
Fluorene	A	2.0	1.26	B	4.0	1.20	C	8.0	1.13	D	20	1.20	E	100	1.16
	F	200	1.19	G	400	1.11	H	1000	1.02	I	1600	0.968	J	2000	0.909
Phenanthrene	A	2.0	1.35	B	4.0	1.21	C	8.0	1.10	D	20	1.13	E	100	1.14
	F	200	1.19	G	400	1.13	H	1000	1.06	I	1600	0.987	J	2000	0.927
Anthracene	A	2.0	1.14	B	4.0	1.09	C	8.0	1.06	D	20	1.06	E	100	1.11
	F	200	1.21	G	400	1.12	H	1000	1.06	I	1600	0.965	J	2000	0.927
1-Methylphenanthrene	A	2.0	0.899	B	4.0	0.837	C	8.0	0.785	D	20	0.811	E	100	0.831
	F	200	0.872	G	400	0.815	H	1000	0.775	I	1600	0.720	J	2000	0.686
Fluoranthene	A	2.0	1.47	B	4.0	1.41	C	8.0	1.24	D	20	1.25	E	100	1.26
	F	200	1.33	G	400	1.23	H	1000	1.14	I	1600	1.02	J	2000	0.981
Pyrene	A	2.0	1.27	B	4.0	1.13	C	8.0	1.08	D	20	1.14	E	100	1.07
	F	200	1.17	G	400	1.11	H	1000	1.07	I	1600	0.978	J	2000	0.926

Results flagged with an asterisk (*) indicate values outside control criteria.

† SPCC Compound **‡ CCC Compound**

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0910296
Calibration Date: 10/15/2009

Initial Calibration Summary
Polynuclear Aromatic Hydrocarbons

Calibration ID: CAL8928
Instrument ID: MS11

Column: MS

Analyte Name	Level ID	Amt	RRF	Level ID	Amt	RRF	Level ID	Amt	RRF	Level ID	Amt	RRF	Level ID	Amt	RRF
Benz(a)anthracene	A	2.0	1.42	B	4.0	1.21	C	8.0	1.02	D	20	1.04	E	100	1.01
	F	200	1.11	G	400	1.06	H	1000	1.05	I	1600	0.989	J	2000	0.965
Chrysene	A	2.0	1.16	B	4.0	1.18	C	8.0	1.07	D	20	1.09	E	100	1.04
	F	200	1.09	G	400	1.07	H	1000	1.03	I	1600	0.945	J	2000	0.914
Benzo(b)fluoranthene	A	2.0	1.17	B	4.0	1.03	C	8.0	0.989	D	20	1.01	E	100	1.00
	F	200	1.11	G	400	1.06	H	1000	1.07	I	1600	1.02	J	2000	0.956
Benzo(k)fluoranthene	A	2.0	1.01	B	4.0	1.03	C	8.0	0.997	D	20	1.04	E	100	1.03
	F	200	1.09	G	400	1.06	H	1000	1.07	I	1600	1.02	J	2000	0.942
Benzo(e)pyrene	A	2.0	1.06	B	4.0	1.04	C	8.0	0.922	D	20	0.938	E	100	0.947
	F	200	1.01	G	400	0.990	H	1000	1.01	I	1600	0.955	J	2000	0.903
Benzo(a)pyrene	A	2.0	1.13	B	4.0	1.05	C	8.0	0.899	D	20	0.941	E	100	0.937
	F	200	1.01	G	400	0.994	H	1000	1.02	I	1600	0.971	J	2000	0.923
Indeno(1,2,3-cd)pyrene	A	2.0	0.970	B	4.0	0.947	C	8.0	0.806	D	20	0.888	E	100	0.893
	F	200	0.962	G	400	0.925	H	1000	0.938	I	1600	0.884	J	2000	0.851
Dibenz(a,h)anthracene	A	2.0	1.02	B	4.0	1.01	C	8.0	0.876	D	20	0.970	E	100	0.966
	F	200	1.02	G	400	1.00	H	1000	1.01	I	1600	0.967	J	2000	0.918
Benzo(g,h,i)perylene	A	2.0	1.11	B	4.0	1.09	C	8.0	1.06	D	20	1.09	E	100	1.05
	F	200	1.09	G	400	1.05	H	1000	1.02	I	1600	0.967	J	2000	0.918
Perylene	A	2.0	1.07	B	4.0	1.00	C	8.0	0.915	D	20	0.949	E	100	0.913
	F	200	0.988	G	400	0.975	H	1000	1.00	I	1600	0.961	J	2000	0.907
Fluorene-d10	A	2.0	1.06	B	4.0	1.05	C	8.0	0.892	D	20	0.996	E	100	0.945
	F	200	0.989	G	400	0.924	H	1000	0.863	I	1600	0.831	J	2000	0.778
Fluoranthene-d10				B	4.0	1.42	C	8.0	1.09	D	20	1.10	E	100	1.10
	F	200	1.18	G	400	1.13	H	1000	1.07	I	1600	0.960	J	2000	0.921
Terphenyl-d14				B	4.0	1.05	C	8.0	0.790	D	20	0.866	E	100	0.800
	F	200	0.870	G	400	0.825	H	1000	0.794	I	1600	0.736	J	2000	0.708

Results flagged with an asterisk (*) indicate values outside control criteria.

† **SPCC Compound** ‡ **CCC Compound**

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0910296
Calibration Date: 10/15/2009

Initial Calibration Summary
Polynuclear Aromatic Hydrocarbons

Calibration ID: CAL8928
Instrument ID: MS11

Column: MS

Analyte Name	Compound Type	Calibration Evaluation					RRF Evaluation		
		Fit Type	Eval.	Eval. Result	Q	Control Criteria	Average RRF	Q	Minimum RRF
Naphthalene	MS	AverageRF	% RSD	9.8		≤ 15	0.920		0.01
2-Methylnaphthalene	MS	AverageRF	% RSD	6.0		≤ 15	0.634		0.01
1-Methylnaphthalene	MS	AverageRF	% RSD	10.9		≤ 15	0.674		0.01
2,6-Dimethylnaphthalene	MS	AverageRF	% RSD	5.9		≤ 15	0.499		0.01
Acenaphthylene	MS	AverageRF	% RSD	7.4		≤ 15	1.74		0.01
Acenaphthene	MS	AverageRF	% RSD	7.6		≤ 15	1.03		0.01
Dibenzofuran	MS	AverageRF	% RSD	7.4		≤ 15	1.39		0.01
2,3,5-Trimethylnaphthalene	MS	AverageRF	% RSD	8.1		≤ 15	0.869		0.01
Fluorene	MS	AverageRF	% RSD	10.2		≤ 15	1.12		0.01
Phenanthrene	MS	AverageRF	% RSD	10.5		≤ 15	1.12		0.01
Anthracene	MS	AverageRF	% RSD	7.6		≤ 15	1.07		0.01
1-Methylphenanthrene	MS	AverageRF	% RSD	8.1		≤ 15	0.803		0.01
Fluoranthene	MS	AverageRF	% RSD	12.5		≤ 15	1.23		0.01
Pyrene	MS	AverageRF	% RSD	8.7		≤ 15	1.10		0.01
Benz(a)anthracene	MS	AverageRF	% RSD	12.3		≤ 15	1.09		0.01
Chrysene	MS	AverageRF	% RSD	7.9		≤ 15	1.06		0.01
Benzo(b)fluoranthene	MS	AverageRF	% RSD	6.1		≤ 15	1.04		0.01
Benzo(k)fluoranthene	MS	AverageRF	% RSD	4.1		≤ 15	1.03		0.01
Benzo(e)pyrene	MS	AverageRF	% RSD	5.3		≤ 15	0.977		0.01
Benzo(a)pyrene	MS	AverageRF	% RSD	7.0		≤ 15	0.988		0.01
Indeno(1,2,3-cd)pyrene	MS	AverageRF	% RSD	5.7		≤ 15	0.907		0.01
Dibenz(a,h)anthracene	MS	AverageRF	% RSD	5.0		≤ 15	0.977		0.01
Benzo(g,h,i)perylene	MS	AverageRF	% RSD	5.8		≤ 15	1.04		0.01
Perylene	MS	AverageRF	% RSD	5.3		≤ 15	0.969		0.01
Fluorene-d10	SURR	AverageRF	% RSD	10.0		≤ 15	0.933		0.01
Fluoranthene-d10	SURR	AverageRF	% RSD	12.8		≤ 15	1.11		0.01
Terphenyl-d14	SURR	AverageRF	% RSD	12.1		≤ 15	0.827		0.01

Results flagged with an asterisk (*) indicate values outside control criteria.

† **SPCC Compound** ‡ **CCC Compound**

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Results

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0910296
Calibration Date: 10/15/2009
Date Analyzed: 10/15/2009

Second Source Calibration Verification
Polynuclear Aromatic Hydrocarbons

Calibration Type: Internal Standard
Analysis Method: 8270C SIM

Calibration ID: CAL8928
Units: ng/ml

File ID: J:\MS11\DATA\101509\1015G014.D

Analyte Name	Expected	Result	Average RF	SSV RF	%D	%Drift	Criteria	Curve Fit
Naphthalene	400	390	0.920	0.904	-2	NA	± 20 %	AverageRF
2-Methylnaphthalene	400	410	0.634	0.650	3	NA	± 20 %	AverageRF
1-Methylnaphthalene	400	380	0.674	0.637	-6	NA	± 20 %	AverageRF
2,6-Dimethylnaphthalene	400	400	0.499	0.500	0	NA	± 20 %	AverageRF
Acenaphthylene	400	440	1.74	1.92	10	NA	± 20 %	AverageRF
Acenaphthene	400	420	1.03	1.09	6	NA	± 20 %	AverageRF
Dibenzofuran	400	440	1.39	1.52	9	NA	± 20 %	AverageRF
2,3,5-Trimethylnaphthalene	400	420	0.869	0.913	5	NA	± 20 %	AverageRF
Fluorene	400	420	1.12	1.16	4	NA	± 20 %	AverageRF
Phenanthrene	400	400	1.12	1.11	-1	NA	± 20 %	AverageRF
Anthracene	400	420	1.07	1.14	6	NA	± 20 %	AverageRF
1-Methylphenanthrene	400	410	0.803	0.824	3	NA	± 20 %	AverageRF
Fluoranthene	400	400	1.23	1.22	-1	NA	± 20 %	AverageRF
Pyrene	400	360	1.10	0.987	-10	NA	± 20 %	AverageRF
Benz(a)anthracene	400	360	1.09	0.966	-11	NA	± 20 %	AverageRF
Chrysene	400	370	1.06	0.969	-8	NA	± 20 %	AverageRF
Benzo(b)fluoranthene	400	400	1.04	1.06	1	NA	± 20 %	AverageRF
Benzo(k)fluoranthene	400	410	1.03	1.06	3	NA	± 20 %	AverageRF
Benzo(e)pyrene	400	400	0.977	0.980	0	NA	± 20 %	AverageRF
Benzo(a)pyrene	400	390	0.988	0.965	-2	NA	± 20 %	AverageRF
Indeno(1,2,3-cd)pyrene	400	380	0.907	0.870	-4	NA	± 20 %	AverageRF
Dibenz(a,h)anthracene	400	380	0.977	0.936	-4	NA	± 20 %	AverageRF
Benzo(g,h,i)perylene	400	380	1.04	0.996	-5	NA	± 20 %	AverageRF
Perylene	400	400	0.969	0.966	0	NA	± 20 %	AverageRF

Results flagged with an asterisk (*) indicate values outside control criteria.

† SPCC Compound **‡ CCC Compound**

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Results

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0910296
Date Analyzed: 11/06/2009

Continuing Calibration Verification Summary
Polynuclear Aromatic Hydrocarbons

Calibration Type: Internal Standard
Analysis Method: 8270C SIM

Calibration Date: 10/15/2009
Calibration ID: CAL8928
Analysis Lot: KWG0910516
Units: ng/ml

File ID: J:\MS11\DATA\110609\1106F002.D

Analyte Name	Expected	Result	Min RF	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Naphthalene	400	360	0.01	0.920	0.836	-9	NA	± 20 %	AverageRF
2-Methylnaphthalene	400	390	0.01	0.634	0.615	-3	NA	± 20 %	AverageRF
1-Methylnaphthalene	400	350	0.01	0.674	0.594	-12	NA	± 20 %	AverageRF
2,6-Dimethylnaphthalene	400	460	0.01	0.499	0.571	14	NA	± 20 %	AverageRF
Acenaphthylene	400	380	0.01	1.74	1.65	-5	NA	± 20 %	AverageRF
Acenaphthene	400	380	0.01	1.03	0.995	-4	NA	± 20 %	AverageRF
Dibenzofuran	400	420	0.01	1.39	1.46	5	NA	± 20 %	AverageRF
2,3,5-Trimethylnaphthalene	400	470	0.01	0.869	1.03	19	NA	± 20 %	AverageRF
Fluorene	400	440	0.01	1.12	1.22	10	NA	± 20 %	AverageRF
Phenanthrene	400	350	0.01	1.12	0.969	-14	NA	± 20 %	AverageRF
Anthracene	400	380	0.01	1.07	1.02	-5	NA	± 20 %	AverageRF
1-Methylphenanthrene	400	390	0.01	0.803	0.776	-3	NA	± 20 %	AverageRF
Fluoranthene	400	370	0.01	1.23	1.14	-7	NA	± 20 %	AverageRF
Pyrene	400	370	0.01	1.10	1.01	-8	NA	± 20 %	AverageRF
Benz(a)anthracene	400	340	0.01	1.09	0.926	-15	NA	± 20 %	AverageRF
Chrysene	400	340	0.01	1.06	0.909	-14	NA	± 20 %	AverageRF
Benzo(b)fluoranthene	400	390	0.01	1.04	1.02	-2	NA	± 20 %	AverageRF
Benzo(k)fluoranthene	400	390	0.01	1.03	1.01	-2	NA	± 20 %	AverageRF
Benzo(e)pyrene	400	380	0.01	0.977	0.935	-4	NA	± 20 %	AverageRF
Benzo(a)pyrene	400	370	0.01	0.988	0.915	-7	NA	± 20 %	AverageRF
Indeno(1,2,3-cd)pyrene	400	360	0.01	0.907	0.809	-11	NA	± 20 %	AverageRF
Dibenz(a,h)anthracene	400	350	0.01	0.977	0.862	-12	NA	± 20 %	AverageRF
Benzo(g,h,i)perylene	400	360	0.01	1.04	0.937	-10	NA	± 20 %	AverageRF
Perylene	400	370	0.01	0.969	0.894	-8	NA	± 20 %	AverageRF
Fluorene-d10	400	410	0.01	0.933	0.950	2	NA	± 20 %	AverageRF
Fluoranthene-d10	400	360	0.01	1.11	1.00	-9	NA	± 20 %	AverageRF
Terphenyl-d14	400	410	0.01	0.827	0.840	2	NA	± 20 %	AverageRF

Results flagged with an asterisk (*) indicate values outside control criteria.

† SPCC Compound **‡ CCC Compound**

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Results

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0910296
Date Analyzed: 11/09/2009

Continuing Calibration Verification Summary
Polynuclear Aromatic Hydrocarbons

Calibration Type: Internal Standard
Analysis Method: 8270C SIM

Calibration Date: 10/15/2009
Calibration ID: CAL8928
Analysis Lot: KWG0910548
Units: ng/ml

File ID: J:\MS11\DATA\110909\1109F002.D

Analyte Name	Expected	Result	Min RF	Average RF	CCV RF	%D		%Drift	Criteria	Curve Fit
Naphthalene	400	360	0.01	0.920	0.829	-10		NA	± 20 %	AverageRF
2-Methylnaphthalene	400	380	0.01	0.634	0.598	-6		NA	± 20 %	AverageRF
1-Methylnaphthalene	400	340	0.01	0.674	0.577	-14		NA	± 20 %	AverageRF
2,6-Dimethylnaphthalene	400	450	0.01	0.499	0.560	12		NA	± 20 %	AverageRF
Acenaphthylene	400	380	0.01	1.74	1.67	-4		NA	± 20 %	AverageRF
Acenaphthene	400	390	0.01	1.03	1.01	-3		NA	± 20 %	AverageRF
Dibenzofuran	400	440	0.01	1.39	1.54	10		NA	± 20 %	AverageRF
2,3,5-Trimethylnaphthalene	400	500	0.01	0.869	1.08	24	*	NA	± 20 %	AverageRF
Fluorene	400	460	0.01	1.12	1.30	16		NA	± 20 %	AverageRF
Phenanthrene	400	360	0.01	1.12	1.00	-11		NA	± 20 %	AverageRF
Anthracene	400	380	0.01	1.07	1.02	-5		NA	± 20 %	AverageRF
1-Methylphenanthrene	400	410	0.01	0.803	0.821	2		NA	± 20 %	AverageRF
Fluoranthene	400	410	0.01	1.23	1.27	3		NA	± 20 %	AverageRF
Pyrene	400	320	0.01	1.10	0.880	-20		NA	± 20 %	AverageRF
Benz(a)anthracene	400	340	0.01	1.09	0.925	-15		NA	± 20 %	AverageRF
Chrysene	400	350	0.01	1.06	0.914	-14		NA	± 20 %	AverageRF
Benzo(b)fluoranthene	400	400	0.01	1.04	1.05	1		NA	± 20 %	AverageRF
Benzo(k)fluoranthene	400	400	0.01	1.03	1.02	-1		NA	± 20 %	AverageRF
Benzo(e)pyrene	400	390	0.01	0.977	0.940	-4		NA	± 20 %	AverageRF
Benzo(a)pyrene	400	380	0.01	0.988	0.939	-5		NA	± 20 %	AverageRF
Indeno(1,2,3-cd)pyrene	400	350	0.01	0.907	0.804	-11		NA	± 20 %	AverageRF
Dibenz(a,h)anthracene	400	360	0.01	0.977	0.877	-10		NA	± 20 %	AverageRF
Benzo(g,h,i)perylene	400	350	0.01	1.04	0.905	-13		NA	± 20 %	AverageRF
Perylene	400	370	0.01	0.969	0.901	-7		NA	± 20 %	AverageRF
Fluorene-d10	400	440	0.01	0.933	1.02	10		NA	± 20 %	AverageRF
Fluoranthene-d10	400	390	0.01	1.11	1.09	-1		NA	± 20 %	AverageRF
Terphenyl-d14	400	380	0.01	0.827	0.777	-6		NA	± 20 %	AverageRF

Results flagged with an asterisk (*) indicate values outside control criteria.

† SPCC Compound **‡ CCC Compound**

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Results

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0910296

Analysis Run Log
Polynuclear Aromatic Hydrocarbons

Analysis Method: 8270C SIM

Analysis Lot: KWG0910516
Instrument ID: MS11

File ID	Sample Name	Lab Code	Date Analysis Started	Start Time	Q	Date Analysis Finished	Finish Time
1106F001.D	GC/MS Tuning - Decafluorotripheny	KWG0910516-1	11/6/2009	09:07		11/6/2009	09:26
1106F002.D	Continuing Calibration Verification	KWG0910516-2	11/6/2009	09:33		11/6/2009	09:52
1106F003.D	ZZZZZZ	ZZZZZZ	11/6/2009	10:01		11/6/2009	10:20
1106F004.D	ZZZZZZ	ZZZZZZ	11/6/2009	10:28		11/6/2009	10:47
1106F005.D	ZZZZZZ	ZZZZZZ	11/6/2009	10:55		11/6/2009	11:14
1106F006.D	ZZZZZZ	ZZZZZZ	11/6/2009	11:21		11/6/2009	11:40
1106F007.D	ZZZZZZ	ZZZZZZ	11/6/2009	11:49		11/6/2009	12:08
1106F008.D	ZZZZZZ	ZZZZZZ	11/6/2009	12:15		11/6/2009	12:34
1106F009.D	ZZZZZZ	ZZZZZZ	11/6/2009	12:42		11/6/2009	13:01
1106F010.D	ZZZZZZ	ZZZZZZ	11/6/2009	13:08		11/6/2009	13:27
1106F011.D	ZZZZZZ	ZZZZZZ	11/6/2009	13:36		11/6/2009	13:55
1106F012.D	Lab Control Sample	KWG0909945-3	11/6/2009	14:03		11/6/2009	14:22
1106F013.D	Batch QCMS	KWG0909945-1	11/6/2009	14:30		11/6/2009	14:49
1106F014.D	Batch QCDMS	KWG0909945-2	11/6/2009	14:57		11/6/2009	15:16
1106F015.D	Batch QC	K0910308-019	11/6/2009	15:25		11/6/2009	15:44
1106F016.D	RB-1	K0910296-001	11/6/2009	15:51		11/6/2009	16:10
1106F017.D	ZZZZZZ	ZZZZZZ	11/6/2009	16:19		11/6/2009	16:38
1106F018.D	ZZZZZZ	ZZZZZZ	11/6/2009	16:45		11/6/2009	17:04
1106F019.D	ZZZZZZ	ZZZZZZ	11/6/2009	17:12		11/6/2009	17:31
1106F020.D	ZZZZZZ	ZZZZZZ	11/6/2009	17:38		11/6/2009	17:57
1106F021.D	ZZZZZZ	ZZZZZZ	11/6/2009	18:05		11/6/2009	18:24
1106F022.D	ZZZZZZ	ZZZZZZ	11/6/2009	18:33		11/6/2009	18:52
1106F023.D	ZZZZZZ	ZZZZZZ	11/6/2009	19:00		11/6/2009	19:19
1106F024.D	ZZZZZZ	ZZZZZZ	11/6/2009	19:27		11/6/2009	19:46
1106F025.D	ZZZZZZ	ZZZZZZ	11/6/2009	19:54		11/6/2009	20:13
1106F026.D	ZZZZZZ	ZZZZZZ	11/6/2009	20:21		11/6/2009	20:40
1106F027.D	ZZZZZZ	ZZZZZZ	11/6/2009	20:48		11/6/2009	21:07

Results flagged with an asterisk (*) indicate the holding time was exceeded for the analysis

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Results

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0910296

Analysis Run Log
Polynuclear Aromatic Hydrocarbons

Analysis Method: 8270C SIM

Analysis Lot: KWG0910548
Instrument ID: MS11

File ID	Sample Name	Lab Code	Date Analysis Started	Start Time	Q	Date Analysis Finished	Finish Time
1109F001.D	GC/MS Tuning - Decafluorotripheny	KWG0910548-1	11/9/2009	07:40		11/9/2009	07:59
1109F002.D	Continuing Calibration Verification	KWG0910548-2	11/9/2009	08:10		11/9/2009	08:29
1109F004.D	ZZZZZZ	ZZZZZZ	11/9/2009	09:10		11/9/2009	09:29
1109F005.D	ZZZZZZ	ZZZZZZ	11/9/2009	09:38		11/9/2009	09:57
1109F006.D	ZZZZZZ	ZZZZZZ	11/9/2009	10:07		11/9/2009	10:26
1109F007.D	ZZZZZZ	ZZZZZZ	11/9/2009	10:35		11/9/2009	10:54
1109F008.D	ZZZZZZ	ZZZZZZ	11/9/2009	11:03		11/9/2009	11:22
1109F009.D	ZZZZZZ	ZZZZZZ	11/9/2009	11:31		11/9/2009	11:50
1109F010.D	ZZZZZZ	ZZZZZZ	11/9/2009	11:58		11/9/2009	12:17
1109F011.D	ZZZZZZ	ZZZZZZ	11/9/2009	12:26		11/9/2009	12:45
1109F012.D	ZZZZZZ	ZZZZZZ	11/9/2009	12:53		11/9/2009	13:12
1109F013.D	ZZZZZZ	ZZZZZZ	11/9/2009	13:21		11/9/2009	13:40
1109F014.D	ZZZZZZ	ZZZZZZ	11/9/2009	13:48		11/9/2009	14:07
1109F015.D	ZZZZZZ	ZZZZZZ	11/9/2009	14:15		11/9/2009	14:34
1109F016.D	ZZZZZZ	ZZZZZZ	11/9/2009	14:41		11/9/2009	15:00
1109F017.D	ZZZZZZ	ZZZZZZ	11/9/2009	15:09		11/9/2009	15:28
1109F018.D	ZZZZZZ	ZZZZZZ	11/9/2009	15:35		11/9/2009	15:54
1109F019.D	ZZZZZZ	ZZZZZZ	11/9/2009	16:02		11/9/2009	16:21
1109F020.D	ZZZZZZ	ZZZZZZ	11/9/2009	16:28		11/9/2009	16:47
1109F021.D	ZZZZZZ	ZZZZZZ	11/9/2009	16:55		11/9/2009	17:14
1109F022.D	ZZZZZZ	ZZZZZZ	11/9/2009	17:21		11/9/2009	17:40
1109F023.D	ZZZZZZ	ZZZZZZ	11/9/2009	17:48		11/9/2009	18:07
1109F024.D	Method Blank	KWG0909945-4	11/9/2009	18:14		11/9/2009	18:33
1109F026.D	ZZZZZZ	ZZZZZZ	11/9/2009	19:07		11/9/2009	19:26

Results flagged with an asterisk (*) indicate the holding time was exceeded for the analysis

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Results

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009
Sample Matrix: Water

Service Request: K0910296
Date Extracted: 10/28/2009

Extraction Prep Log
Polynuclear Aromatic Hydrocarbons

Extraction Method: EPA 3520C
Analysis Method: 8270C SIM

Extraction Lot: KWG0909945
Level: Low

Sample Name	Lab Code	Date Collected	Date Received	Sample Amount	Final Volume	% Solids	Note
RB-1	K0910296-001	10/22/09	10/23/09	950ml	5ml	NA	
Method Blank	KWG0909945-4	NA	NA	1060ml	5ml	NA	
Batch QC	K0910308-019	NA	NA	1060ml	5ml	NA	
Batch QCMS	KWG0909945-1	NA	NA	1050ml	5ml	NA	
Batch QCDMS	KWG0909945-2	NA	NA	1050ml	5ml	NA	
Lab Control Sample	KWG0909945-3	NA	NA	1000ml	5ml	NA	

Results flagged with an asterisk (*) indicate the holding time was exceeded for the analysis

Organic Analysis:
Polynuclear Aromatic Hydrocarbons

Validation Package

Organic Analysis:
Polynuclear Aromatic Hydrocarbons

Validation Package

QC Reports

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009
Sample Matrix: Water

Service Request: K0910296

Surrogate Recovery Summary
Polynuclear Aromatic Hydrocarbons

Extraction Method: EPA 3520C
Analysis Method: 8270C SIM

Units: PERCENT
Level: Low

Sample Name	Lab Code	Sur1		Sur2		Sur3
RB-1	K0910296-001	114	*	106	*	106
Method Blank	KWG0909945-4	71		59		62
Batch QC	K0910308-019	84		81		69
Batch QCMS	KWG0909945-1	73		67		57
Batch QCDMS	KWG0909945-2	71		68		56
Lab Control Sample	KWG0909945-3	64		62		57

Surrogate Recovery Control Limits (%)

Sur1	= Fluorene-d10	28-98
Sur2	= Fluoranthene-d10	31-105
Sur3	= Terphenyl-d14	27-112

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0910296
Date Analyzed: 11/06/2009
Time Analyzed: 09:33

Internal Standard Area and RT Summary
Polynuclear Aromatic Hydrocarbons

File ID: J:\MS11\DATA\110609\1106F002.D
Instrument ID: MS11
Analysis Method: 8270C SIM

Lab Code: KWG0910516-2
Analysis Lot: KWG0910516

		Naphthalene-d8		Acenaphthene-d10		Phenanthrene-d10	
		Area	**RT**	**Area**	**RT**	**Area**	**RT**
	Results ==>	223,388	4.64	125,197	6.05	217,665	7.27
	Upper Limit ==>	446,776	5.14	250,394	6.55	435,330	7.77
	Lower Limit ==>	111,694	4.14	62,599	5.55	108,833	6.77
	ICAL Result ==>	287,363	4.67	143,632	6.10	187,662	7.32
Associated Analyses							
Lab Control Sample	KWG0909945-3	233,458	4.63	126,989	6.05	202,098	7.27
Batch QCMS	KWG0909945-1	219,669	4.63	126,244	6.05	213,077	7.27
Batch QCDMS	KWG0909945-2	209,296	4.63	117,931	6.05	199,333	7.27
Batch QC	K0910308-019	217,866	4.64	125,117	6.05	201,333	7.27
RB-1	K0910296-001	213,899	4.64	116,467	6.05	184,864	7.27

Results flagged with an asterisk (*) indicate values outside control criteria.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0910296
Date Analyzed: 11/06/2009
Time Analyzed: 09:33

Internal Standard Area and RT Summary
Polynuclear Aromatic Hydrocarbons

File ID: J:\MS11\DATA\110609\1106F002.D
Instrument ID: MS11
Analysis Method: 8270C SIM

Lab Code: KWG0910516-2
Analysis Lot: KWG0910516

		Chrysene-d12		Perylene-d12			
		Area	**RT**	**Area**	**RT**	**Area**	**RT**
	Results ==>	260,249	9.77	255,004	12.78		
	Upper Limit ==>	520,498	10.27	510,008	13.28		
	Lower Limit ==>	130,125	9.27	127,502	12.28		
	ICAL Result ==>	216,839	9.84	240,902	12.92		
Associated Analyses							
Lab Control Sample	KWG0909945-3	247,318	9.77	254,259	12.78		
Batch QCMS	KWG0909945-1	291,202	9.76	280,224	12.78		
Batch QCDMS	KWG0909945-2	270,701	9.76	255,048	12.78		
Batch QC	K0910308-019	276,339	9.76	256,838	12.78		
RB-1	K0910296-001	214,636	9.77	206,022	12.78		

Results flagged with an asterisk (*) indicate values outside control criteria.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0910296
Date Analyzed: 11/09/2009
Time Analyzed: 08:10

Internal Standard Area and RT Summary
Polynuclear Aromatic Hydrocarbons

File ID: J:\MS11\DATA\110909\1109F002.D
Instrument ID: MS11
Analysis Method: 8270C SIM

Lab Code: KWG0910548-2
Analysis Lot: KWG0910548

		Naphthalene-d8		Acenaphthene-d10		Phenanthrene-d10	
		Area	**RT**	**Area**	**RT**	**Area**	**RT**
	Results ==>	192,128	4.63	104,633	6.05	206,819	7.27
	Upper Limit ==>	384,256	5.13	209,266	6.55	413,638	7.77
	Lower Limit ==>	96,064	4.13	52,317	5.55	103,410	6.77
	ICAL Result ==>	287,363	4.67	143,632	6.10	187,662	7.32
Associated Analyses							
Method Blank	KWG0909945-4	173,792	4.63	114,407	6.05	220,505	7.27

Results flagged with an asterisk (*) indicate values outside control criteria.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0910296
Date Analyzed: 11/09/2009
Time Analyzed: 08:10

Internal Standard Area and RT Summary
Polynuclear Aromatic Hydrocarbons

File ID: J:\MS11\DATA\110909\1109F002.D
Instrument ID: MS11
Analysis Method: 8270C SIM

Lab Code: KWG0910548-2
Analysis Lot: KWG0910548

		Chrysene-d12		Perylene-d12			
		Area	**RT**	**Area**	**RT**	**Area**	**RT**
	Results ==>	312,820	9.77	304,691	12.78		
	Upper Limit ==>	625,640	10.27	609,382	13.28		
	Lower Limit ==>	156,410	9.27	152,346	12.28		
	ICAL Result ==>	216,839	9.84	240,902	12.92		
Associated Analyses							
Method Blank	KWG0909945-4	267,332	9.76	237,771	12.78		

Results flagged with an asterisk (*) indicate values outside control criteria.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	URS Corporation	**Service Request:**	K0910296
Project:	Boise St. Helens Pulp and Paper Mill-2009	**Date Extracted:**	10/28/2009
Sample Matrix:	Water	**Date Analyzed:**	11/06/2009

Matrix Spike/Duplicate Matrix Spike Summary
Polynuclear Aromatic Hydrocarbons

Sample Name:	Batch QC	**Units:**	ug/L
Lab Code:	K0910308-019	**Basis:**	NA
Extraction Method:	EPA 3520C	**Level:**	Low
Analysis Method:	8270C SIM	**Extraction Lot:**	KWG0909945

Analyte Name	Sample Result	Batch QCMS KWG0909945-1 Matrix Spike			Batch QCDMS KWG0909945-2 Duplicate Matrix Spike			%Rec Limits	RPD	RPD Limit
		Result	Expected	%Rec	Result	Expected	%Rec			
Naphthalene	0.036	2.06	2.38	85	1.99	2.38	82	37-118	4	30
2-Methylnaphthalene	0.011	1.88	2.38	79	1.78	2.38	74	37-117	6	30
1-Methylnaphthalene	ND	1.99	2.38	83	1.86	2.38	78	34-125	6	30
2,6-Dimethylnaphthalene	ND	2.60	2.38	109	2.40	2.38	101	38-120	8	30
Acenaphthylene	ND	2.15	2.38	90	2.02	2.38	85	43-114	6	30
Acenaphthene	ND	2.17	2.38	91	2.05	2.38	86	45-114	6	30
Dibenzofuran	ND	2.34	2.38	98	2.21	2.38	93	44-122	6	30
2,3,5-Trimethylnaphthalene	ND	2.79	2.38	117	2.57	2.38	108	43-129	8	30
Fluorene	0.020	2.52	2.38	105	2.31	2.38	96	45-123	9	30
Phenanthrene	0.054	2.02	2.38	83	1.92	2.38	78	42-127	5	30
Anthracene	0.0053	2.03	2.38	85	1.94	2.38	81	32-125	4	30
1-Methylphenanthrene	ND	2.33	2.38	98	2.20	2.38	93	48-134	6	30
Fluoranthene	0.0096	2.18	2.38	91	2.07	2.38	87	48-134	5	30
Pyrene	0.0078	1.92	2.38	80	1.87	2.38	78	44-130	3	30
Benz(a)anthracene	0.0086	1.99	2.38	83	1.87	2.38	78	41-128	6	30
Chrysene	0.019	2.01	2.38	84	1.90	2.38	79	48-128	5	30
Benzo(b)fluoranthene	0.015	2.20	2.38	92	2.10	2.38	88	40-139	4	30
Benzo(k)fluoranthene	0.012	2.21	2.38	92	2.14	2.38	90	48-134	3	30
Benzo(e)pyrene	0.019	2.30	2.38	96	2.21	2.38	92	46-135	4	30
Benzo(a)pyrene	0.0094	2.08	2.38	87	1.99	2.38	83	35-132	5	30
Indeno(1,2,3-cd)pyrene	0.011	2.04	2.38	85	1.92	2.38	80	40-135	6	30
Dibenz(a,h)anthracene	0.011	1.96	2.38	82	1.83	2.38	77	43-135	7	30
Benzo(g,h,i)perylene	0.018	2.05	2.38	85	1.94	2.38	81	44-128	5	30
Perylene	0.011	2.09	2.38	87	2.00	2.38	84	49-132	4	30

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	URS Corporation	**Service Request:**	K0910296
Project:	Boise St. Helens Pulp and Paper Mill-2009	**Date Extracted:**	10/28/2009
Sample Matrix:	Water	**Date Analyzed:**	11/06/2009

Lab Control Spike Summary
Polynuclear Aromatic Hydrocarbons

Extraction Method:	EPA 3520C	**Units:**	ug/L
Analysis Method:	8270C SIM	**Basis:**	NA
		Level:	Low
		Extraction Lot:	KWG0909945

	Lab Control Sample KWG0909945-3 Lab Control Spike			
Analyte Name	**Result**	**Expected**	**%Rec**	**%Rec Limits**
Naphthalene	1.84	2.50	74	39-110
2-Methylnaphthalene	1.65	2.50	66	39-115
1-Methylnaphthalene	1.76	2.50	70	40-122
2,6-Dimethylnaphthalene	2.15	2.50	86	38-120
Acenaphthylene	2.00	2.50	80	44-115
Acenaphthene	1.98	2.50	79	44-113
Dibenzofuran	2.14	2.50	85	46-116
2,3,5-Trimethylnaphthalene	2.42	2.50	97	43-129
Fluorene	2.29	2.50	92	48-118
Phenanthrene	1.96	2.50	79	47-120
Anthracene	2.03	2.50	81	44-117
1-Methylphenanthrene	2.28	2.50	91	48-134
Fluoranthene	2.13	2.50	85	48-128
Pyrene	2.09	2.50	84	42-133
Benz(a)anthracene	1.89	2.50	76	48-125
Chrysene	1.93	2.50	77	50-128
Benzo(b)fluoranthene	2.11	2.50	84	49-131
Benzo(k)fluoranthene	2.16	2.50	87	54-131
Benzo(e)pyrene	2.21	2.50	88	46-135
Benzo(a)pyrene	2.00	2.50	80	43-134
Indeno(1,2,3-cd)pyrene	2.02	2.50	81	45-133
Dibenz(a,h)anthracene	1.93	2.50	77	49-133
Benzo(g,h,i)perylene	2.06	2.50	83	51-124
Perylene	2.01	2.50	81	49-132

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	URS Corporation	**Service Request:**	K0910296
Project:	Boise St. Helens Pulp and Paper Mill-2009	**Date Extracted:**	10/28/2009
Sample Matrix:	Water	**Date Analyzed:**	11/09/2009
		Time Analyzed:	18:14

Method Blank Summary
Polynuclear Aromatic Hydrocarbons

Sample Name:	Method Blank	**File ID:**	J:\MS11\DATA\110909\1109F024.D
Lab Code:	KWG0909945-4	**Instrument ID:**	MS11
Extraction Method:	EPA 3520C	**Level:**	Low
Analysis Method:	8270C SIM	**Extraction Lot:**	KWG0909945

This Method Blank applies to the following analyses:

Sample Name	Lab Code	File ID	Date Analyzed	Time Analyzed
Lab Control Sample	KWG0909945-3	J:\MS11\DATA\110609\1106F012.D	11/06/09	14:03
Batch QCMS	KWG0909945-1	J:\MS11\DATA\110609\1106F013.D	11/06/09	14:30
Batch QCDMS	KWG0909945-2	J:\MS11\DATA\110609\1106F014.D	11/06/09	14:57
Batch QC	K0910308-019	J:\MS11\DATA\110609\1106F015.D	11/06/09	15:25
RB-1	K0910296-001	J:\MS11\DATA\110609\1106F016.D	11/06/09	15:51

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	URS Corporation	**Service Request:**	K0910296
Project:	Boise St. Helens Pulp and Paper Mill-2009	**Date Extracted:**	10/28/2009
Sample Matrix:	Water	**Date Analyzed:**	11/06/2009
		Time Analyzed:	14:03

Lab Control Sample Summary
Polynuclear Aromatic Hydrocarbons

Sample Name:	Lab Control Sample	**File ID:**	J:\MS11\DATA\110609\1106F012.D
Lab Code:	KWG0909945-3	**Instrument ID:**	MS11
Extraction Method:	EPA 3520C	**Level:**	Low
Analysis Method:	8270C SIM	**Extraction Lot:**	KWG0909945

This Lab Control Sample applies to the following analyses:

Sample Name	Lab Code	File ID	Date Analyzed	Time Analyzed
Batch QCMS	KWG0909945-1	J:\MS11\DATA\110609\1106F013.D	11/06/09	14:30
Batch QCDMS	KWG0909945-2	J:\MS11\DATA\110609\1106F014.D	11/06/09	14:57
Batch QC	K0910308-019	J:\MS11\DATA\110609\1106F015.D	11/06/09	15:25
RB-1	K0910296-001	J:\MS11\DATA\110609\1106F016.D	11/06/09	15:51
Method Blank	KWG0909945-4	J:\MS11\DATA\110909\1109F024.D	11/09/09	18:14

Organic Analysis:
Polynuclear Aromatic Hydrocarbons

Validation Package

Raw Data

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	URS Corporation	**Service Request:**	K0910296
Project:	Boise St. Helens Pulp and Paper Mill-2009	**Date Collected:**	10/22/2009
Sample Matrix:	Water	**Date Received:**	10/23/2009

Polynuclear Aromatic Hydrocarbons

Sample Name:	RB-1	**Units:**	ug/L
Lab Code:	K0910296-001	**Basis:**	NA
Extraction Method:	EPA 3520C	**Level:**	Low
Analysis Method:	8270C SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Naphthalene	**0.017**	J	0.022	0.0032	1	10/28/09	11/06/09	KWG0909945	
2-Methylnaphthalene	**0.0037**	J	0.022	0.0025	1	10/28/09	11/06/09	KWG0909945	
1-Methylnaphthalene	ND	U	0.022	0.0037	1	10/28/09	11/06/09	KWG0909945	
2,6-Dimethylnaphthalene	ND	U	0.022	0.0024	1	10/28/09	11/06/09	KWG0909945	
Acenaphthylene	ND	U	0.022	0.0036	1	10/28/09	11/06/09	KWG0909945	
Acenaphthene	ND	U	0.022	0.0047	1	10/28/09	11/06/09	KWG0909945	
Dibenzofuran	ND	U	0.022	0.0049	1	10/28/09	11/06/09	KWG0909945	
2,3,5-Trimethylnaphthalene	ND	U	0.022	0.0053	1	10/28/09	11/06/09	KWG0909945	
Fluorene	ND	U	0.022	0.0040	1	10/28/09	11/06/09	KWG0909945	
Phenanthrene	ND	U	0.022	0.0053	1	10/28/09	11/06/09	KWG0909945	
Anthracene	ND	U	0.022	0.0038	1	10/28/09	11/06/09	KWG0909945	
1-Methylphenanthrene	ND	U	0.022	0.0044	1	10/28/09	11/06/09	KWG0909945	
Fluoranthene	ND	U	0.022	0.0047	1	10/28/09	11/06/09	KWG0909945	
Pyrene	ND	U	0.022	0.0037	1	10/28/09	11/06/09	KWG0909945	
Benz(a)anthracene	**0.0040**	J	0.022	0.0028	1	10/28/09	11/06/09	KWG0909945	
Chrysene	ND	U	0.022	0.0036	1	10/28/09	11/06/09	KWG0909945	
Benzo(b)fluoranthene	**0.0060**	J	0.022	0.0025	1	10/28/09	11/06/09	KWG0909945	
Benzo(k)fluoranthene	**0.0037**	J	0.022	0.0027	1	10/28/09	11/06/09	KWG0909945	
Benzo(e)pyrene	**0.0091**	J	0.022	0.0043	1	10/28/09	11/06/09	KWG0909945	
Benzo(a)pyrene	ND	U	0.022	0.0046	1	10/28/09	11/06/09	KWG0909945	
Indeno(1,2,3-cd)pyrene	**0.0037**	J	0.022	0.0028	1	10/28/09	11/06/09	KWG0909945	
Dibenz(a,h)anthracene	**0.0038**	J	0.022	0.0027	1	10/28/09	11/06/09	KWG0909945	
Benzo(g,h,i)perylene	**0.0077**	J	0.022	0.0031	1	10/28/09	11/06/09	KWG0909945	
Perylene	ND	U	0.022	0.0053	1	10/28/09	11/06/09	KWG0909945	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	114	28-98	11/06/09	Outside Control Limits
Fluoranthene-d10	106	31-105	11/06/09	Outside Control Limits
Terphenyl-d14	106	27-112	11/06/09	Acceptable

Comments:

Exception Report

Data File: J:\MS11\DATA\110609\1106F016.D
Lab ID: K0910296-001
RunType: SMPL
Matrix: WATER

Date Acquired: 11/06/2009 15:51
Date Quantitated: 11/10/2009 13:16
Batch ID: KWG0910516
Analysis Method: 8270C SIM
ListJoinID: LJ10945

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Tune Window	NA	NA	NA	x	
Analytical Holding Time	NA	NA	NA	x	
Preparation Holding Time	NA	NA	NA	x	
Pre-Preparation Holding Time	NA	NA	NA	x	
ICAL Pass/Fail	NA	NA	NA	x	
ICAL Average RSD	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Initial Calibration Minimum RF	NA	NA	NA	x	
Initial Calibration SPCC/CCC	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA	x	
Continuing Calibration Minimum RF	NA	NA	NA	x	
Continuing Calibration SPCC/CCC	NA	NA	NA	x	
Method Blank	NA	NA	NA	x	
MB Surrogate Recovery	NA	NA	NA	x	
Lab Control Spike	NA	NA	NA	x	
Internal Standards	NA	NA	NA	x	
Surrogates	NA	NA	NA		x
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Relative Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
Surrogates	Fluorene-d10	114	28	98	out high - no hits > MRL
	Fluoranthene-d10	106	31	105	

Primary Review: KW 11/11/09

Secondary Review: _____

Quantitation Report

Bottle ID:		**Tier:**	V	**Matrix:**	WATER
Prod Code:	8270C SIM SVO_S	**Collect Date:**	10/22/2009	**Receive Date:**	10/23/2009

Analysis Lot:	KWG0910516	**Prep Lot:**	KWG0909945	**Report Group:**	K0910296
Analysis Method:	8270C SIM	**Prep Method:**	EPA 3520C		
Prep Ref:	861278	**Prep Date:**	10/28/2009		

Quant Method:	J:\MS11\METHODS\SIM\1015ALK.M	**Calibration ID:**	CAL8928
Title:	Polynuclear Aromatic Hydrocarbons	**Report List ID:**	LJ10945
Tune Ref:	J:\MS11\DATA\110609\1106F001.D	**Method ID:**	MJ138
MB Ref:	J:\MS11\DATA\110909\1109F024.D	**Quant based on Report List**	

Data File:	J:\MS11\DATA\110609\1106F016.D			**Instrument:**	MS11
Acqu Date:	11/06/2009 15:51	**Quant Date:**	11/10/2009 13:16	**Vial:**	14
Run Type:	SMPL			**Dilution:**	1.0
Lab ID:	K0910296-001			**Soln Conc. Units:**	ng/ml

Internal Standard Compounds

IS Ref	Parameter Name	RT	RT Dev	Quant Mass	Response	Solution Conc	Area Criteria
1	Naphthalene-d8	4.64	0.00	136	213899	200.00	OK
2	Acenaphthene-d10	6.05	0.00	164	116467	200.00	OK
3	Phenanthrene-d10	7.27	0.00	188	184864	200.00	OK
4	Chrysene-d12	9.77	0.00	240	214636	200.00	OK
5	Perylene-d12	12.78	0.00	264	206022	200.00	OK

Surrogate Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	%Rec	%Rec Limits		Rpt?
2	Fluorene-d10	6.47	0.00	0.00	176	247392	455.27	114	28-98	*	
3	Fluoranthene-d10	8.24	0.00	0.00	212	435335	424.95	106	31-105	*	
4	Terphenyl-d14	8.58	-0.01	0.00	244	375047	422.68	106	27-112	OK	

Target Compounds

Final Conc. Units: ug/L

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	Final Conc	Q	Rpt?
1	Naphthalene	4.65		0.00	128	3195	3.25	0.017	J	
1	2-Methylnaphthalene	5.21		0.00	142	480	0.7100	0.0037	J	
1	1-Methylnaphthalene	5.29	0.01	0.00	142	290	0.4000	0.0037	U	
1	2,6-Dimethylnaphthalene				156	0**d**		0.0024	U	
2	Acenaphthylene				152	0**d**		0.0036	U	
2	Acenaphthene				154	0**d**		0.0047	U	
2	Dibenzofuran				168	0**d**		0.0049	U	
2	2,3,5-Trimethylnaphthalene				170	0**d**		0.0053	U	
2	Fluorene				166	0**d**		0.0040	U	
3	Phenanthrene				178	0**d**		0.0053	U	
3	Anthracene				178	0**d**		0.0038	U	
3	1-Methylphenanthrene				192	0**d**		0.0044	U	
3	Fluoranthene	8.25		0.00	202	415**m**	0.3600	0.0047	U	

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Data File:	J:\MS11\DATA\110609\1106F016.D			**Instrument:**	MS11
Acqu Date:	11/06/2009 15:51	**Quant Date:**	11/10/2009 13:16	**Vial:**	14
Run Type:	SMPL			**Dilution:**	1.0
Lab ID:	K0910296-001			**Soln Conc. Units:**	ng/ml

Target Compounds

Final Conc. Units: ug/L

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	Final Conc	Q	Rpt?
4	Pyrene	8.45	0.01	0.00	202	730	0.6200	0.0037	U	
4	Benz(a)anthracene	9.76	0.01	0.00	228	885	0.7600	0.0040	J	
4	Chrysene	9.80		0.00	228	645	0.5700	0.0036	U	
5	Benzo(b)fluoranthene	11.78	0.02	0.00	252	1224	1.14	0.0060	J	
5	Benzo(k)fluoranthene	11.84	0.01	0.00	252	741	0.7000	0.0037	J	
5	Benzo(e)pyrene	12.48	0.02	0.00	252	1741	1.73	0.0091	J	
5	Benzo(a)pyrene	12.63	0.02	0.00	252	583	0.5700	0.0046	U	
5	Perylene	12.86		0.00	252	772	0.7700	0.0053	U	
5	Indeno(1,2,3-cd)pyrene	16.38	0.05	0.00	276	665	0.7100	0.0037	J	
5	Dibenz(a,h)anthracene	16.46	0.05	0.00	278	721**m**	0.7200	0.0038	J	
5	Benzo(g,h,i)perylene	16.84	0.03	0.00	276	1567	1.46	0.0077	J	

Prep Amount:	950 ml	**Dilution:**	1.0
Prep Final Vol:	5 ml	**Unit Factor:**	1

Final Concentration = ((Soln Conc x Prep Final Vol x Dilution) / Prep Amount) x Unit Factor

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\110609\1106F016.D Vial: 14
Acq On : 6 Nov 2009 3:51 pm Operator: LWeiskopf
Sample : K0910296-001 Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 10 08:36:44 2009 Quant Results File: 1015ALK.RES

Quant Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Tue Nov 10 08:36:05 2009
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

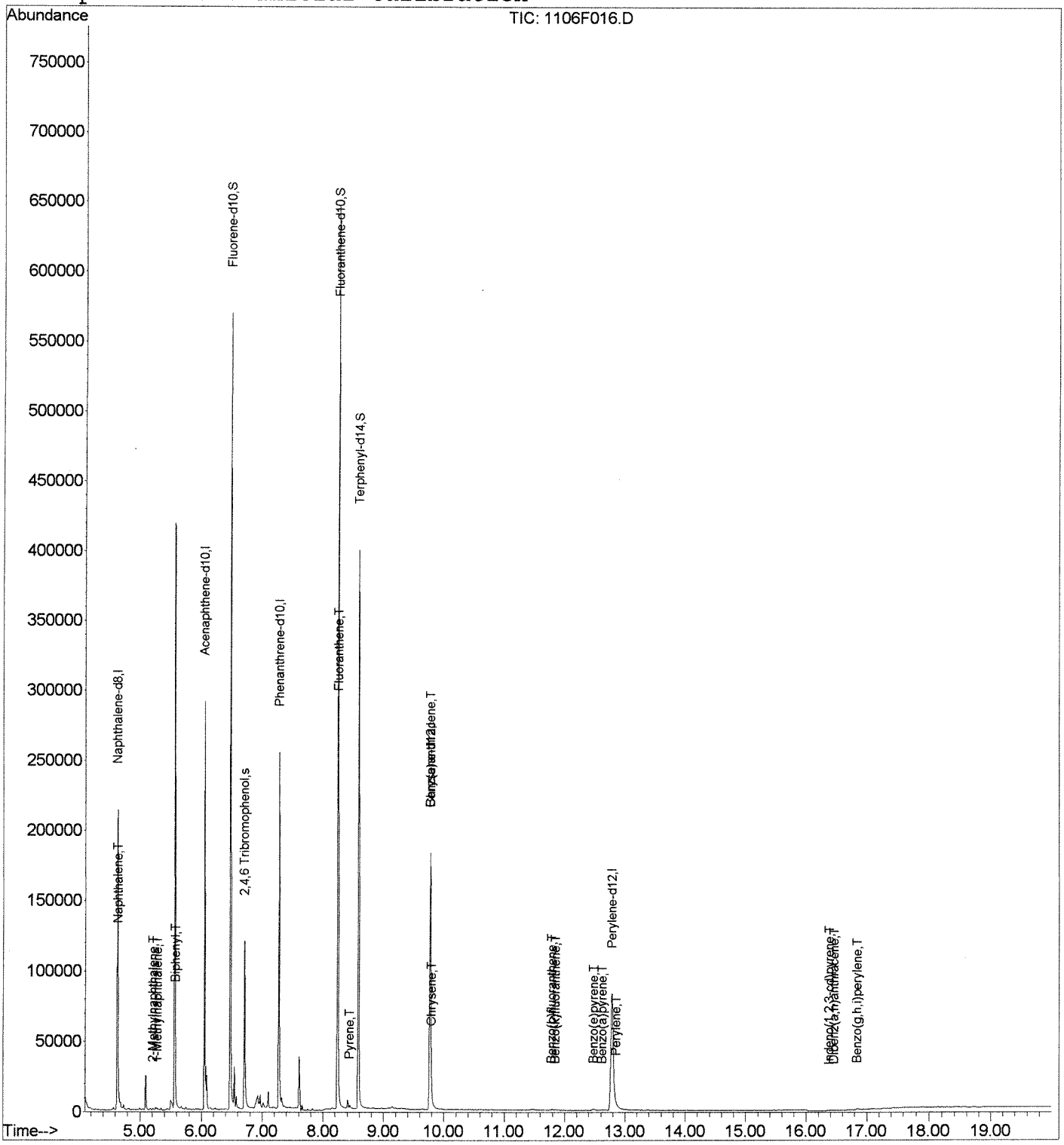
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	4.64	136	213899	200.00	ng/ml	-0.02
10) Acenaphthene-d10	6.05	164	116467	200.00	ng/ml	-0.02
22) Phenanthrene-d10	7.27	188	184864	200.00	ng/ml	-0.02
37) Chrysene-d12	9.77	240	214636	200.00	ng/ml	-0.03
49) Perylene-d12	12.78	264	206022	200.00	ng/ml	-0.07
System Monitoring Compounds						
15) Fluorene-d10	6.47	176	247392	455.27	ng/ml	-0.02
Spiked Amount 200.000			Recovery = 227.63%			
20) 2,4,6 Tribromophenol	6.70	330	61089	584.02	ng/ml	-0.02
Spiked Amount 375.000			Recovery = 155.74%			
36) Fluoranthene-d10	8.24	212	435335	424.95	ng/ml	-0.02
Spiked Amount 200.000			Recovery = 212.48%			
42) Terphenyl-d14	8.58	244	375047	422.68	ng/ml	-0.02
Spiked Amount 200.000			Recovery = 211.34%			
Target Compounds						Qvalue
2) Naphthalene	4.65	128	3195	3.25	ng/ml	97
3) 2-Methylnaphthalene	5.21	142	480	0.71	ng/ml	85
4) 1-Methylnaphthalene	5.29	142	290	0.40	ng/ml	82
5) Biphenyl	5.58	154	613m	0.79	ng/ml	
35) Fluoranthene	8.25	202	415m	0.36	ng/ml	
38) Pyrene	8.45	202	730	0.62	ng/ml#	1
43) Benz(a)anthracene	9.76	228	885	0.76	ng/ml	73
44) Chrysene	9.80	228	645	0.57	ng/ml	98
50) Benzo(b)fluoranthene	11.78	252	1224	1.14	ng/ml	95
51) Benzo(k)fluoranthene	11.84	252	741	0.70	ng/ml	80
52) Benzo(e)pyrene	12.48	252	1741	1.73	ng/ml	92
53) Benzo(a)pyrene	12.63	252	583	0.57	ng/ml	93
54) Perylene	12.86	252	772	0.77	ng/ml	45
55) Indeno(1,2,3-cd)pyrene	16.38	276	665	0.71	ng/ml	89
56) Dibenz(a,h)anthracene	16.46	278	721m	0.72	ng/ml	
57) Benzo(g,h,i)perylene	16.84	276	1567	1.46	ng/ml	91

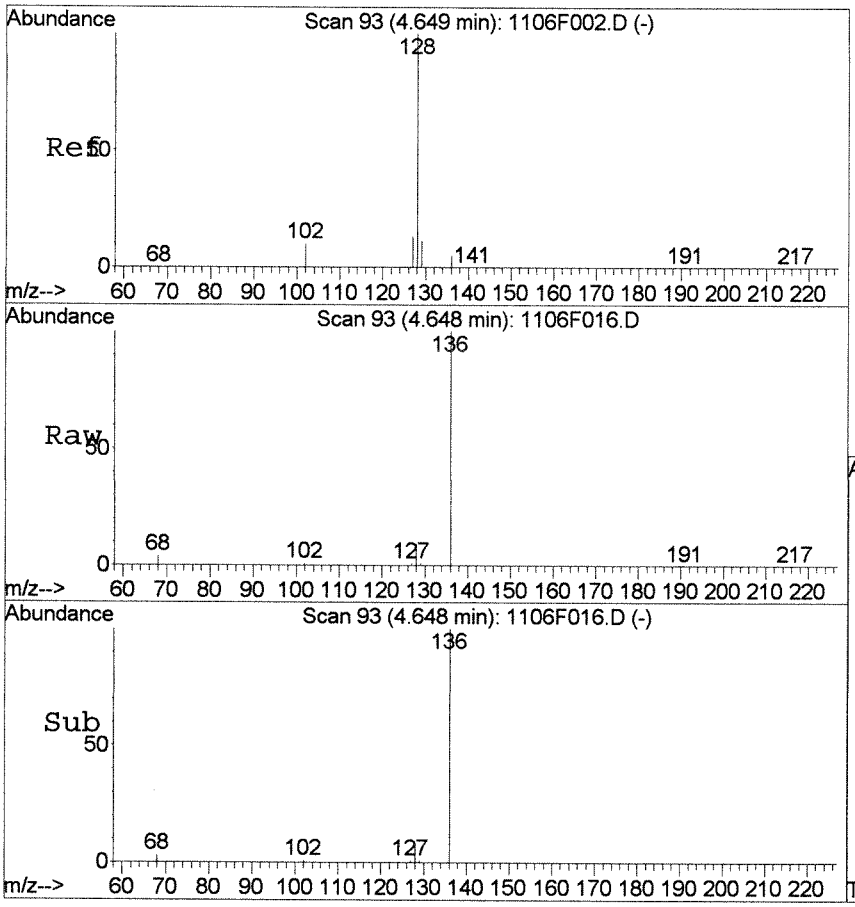
(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\110609\1106F016.D Vial: 14
Acq On : 6 Nov 2009 3:51 pm Operator: LWeiskopf
Sample : K0910296-001 Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 10 13:16 2009 Quant Results File: 1015ALK.RES

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Tue Nov 10 08:36:05 2009
Response via : Initial Calibration

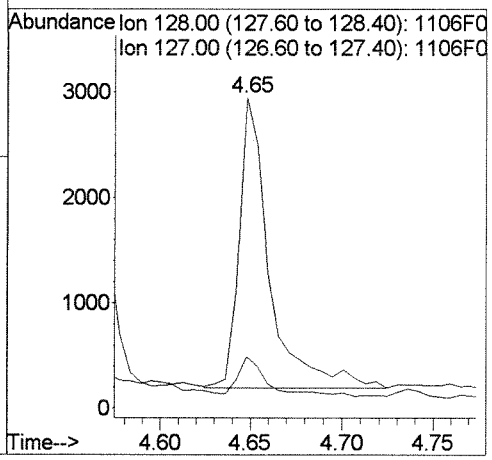


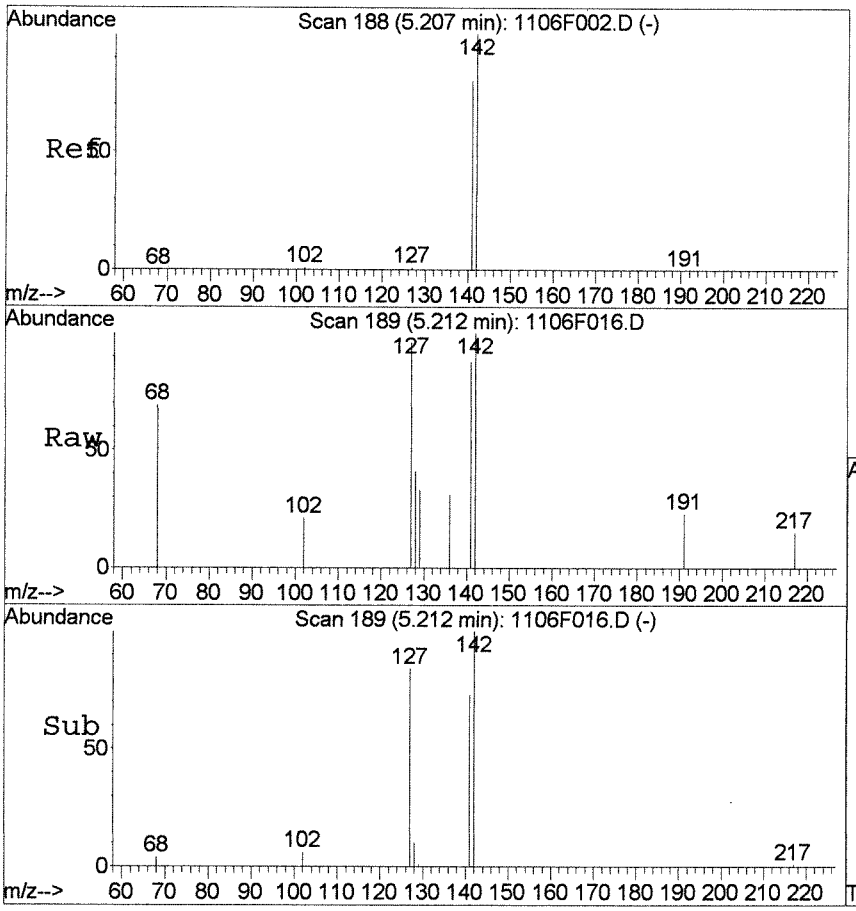


#2
Naphthalene
Concen: 3.25 ng/ml
RT: 4.65 min Scan# 93
Delta R.T. -0.03 min
Lab File: 1106F016.D
Acq: 6 Nov 2009 3:51 pm

Tgt Ion:128 Resp: 3195

Ion	Ratio	Lower	Upper
128	100		
127	13.5	0.0	42.4

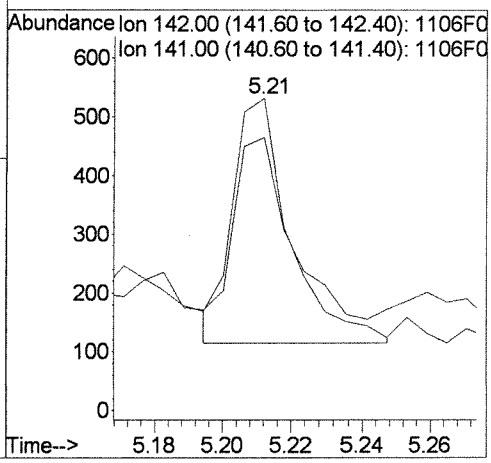


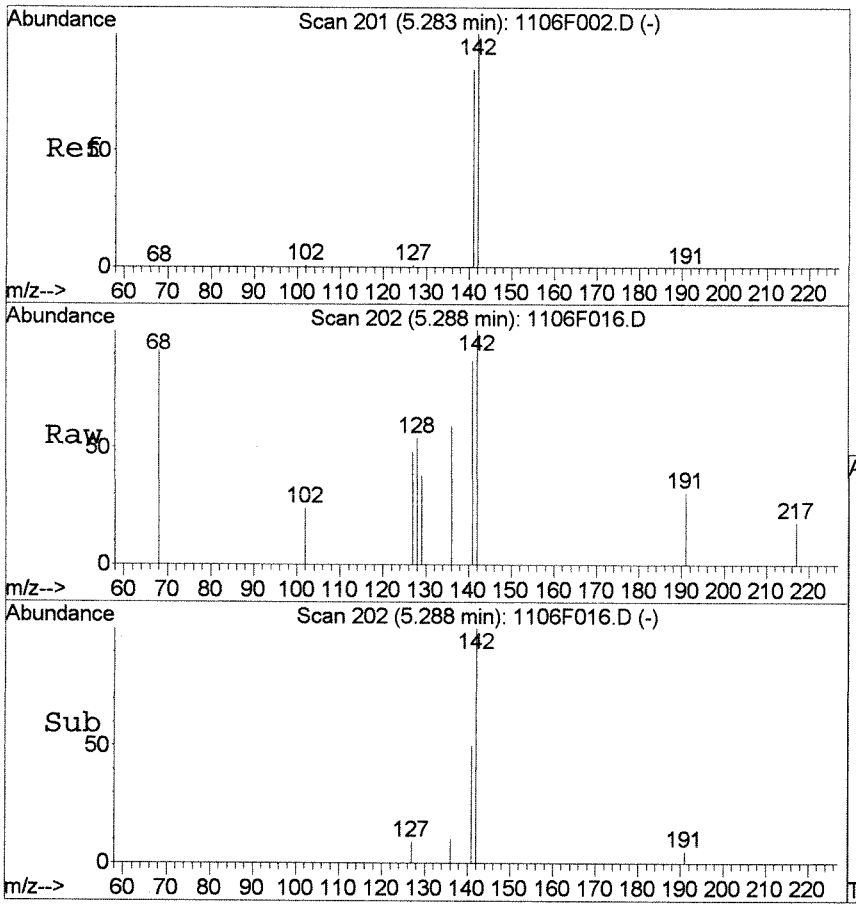


#3
2-Methylnaphthalene
Concen: 0.71 ng/ml
RT: 5.21 min Scan# 189
Delta R.T. -0.01 min
Lab File: 1106F016.D
Acq: 6 Nov 2009 3:51 pm

Tgt Ion:142 Resp: 480

Ion	Ratio	Lower	Upper
142	100		
141	72.2	56.1	116.1

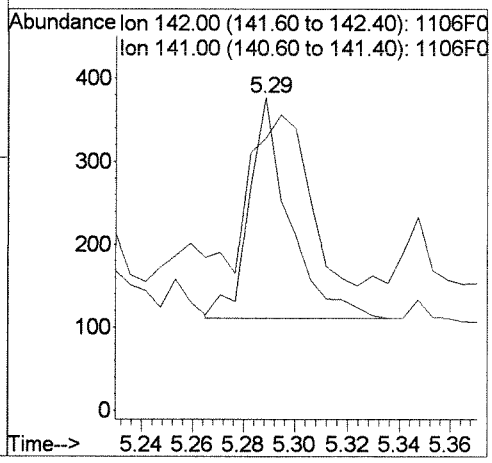


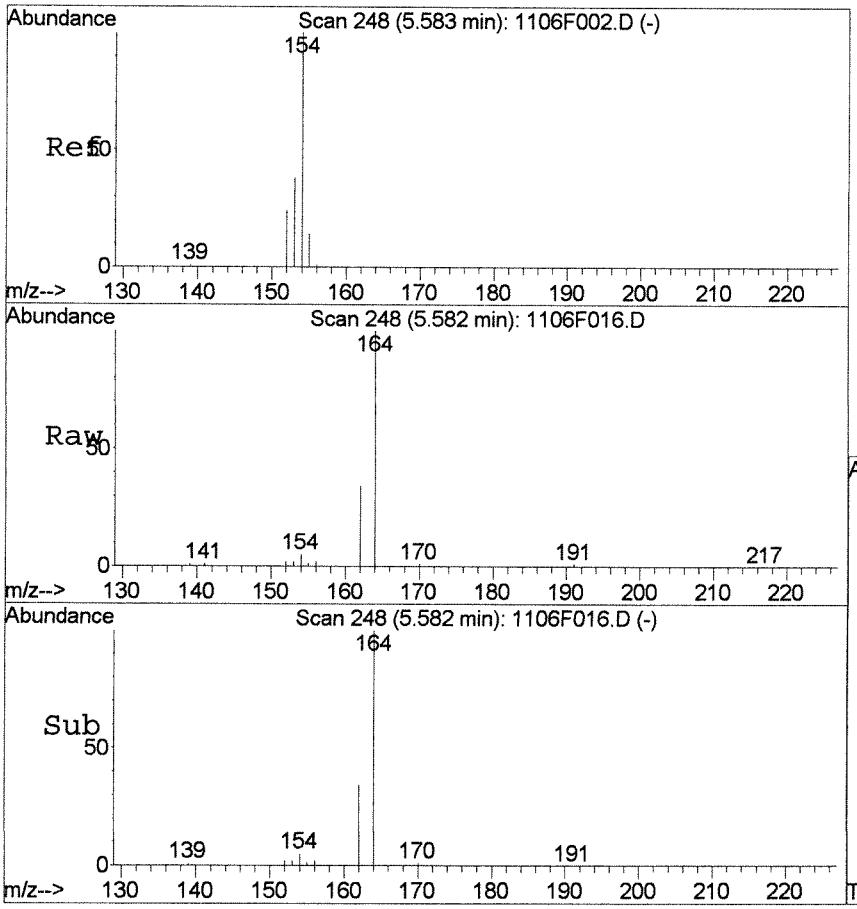


#4
1-Methylnaphthalene
Concen: 0.40 ng/ml
RT: 5.29 min Scan# 202
Delta R.T. -0.01 min
Lab File: 1106F016.D
Acq: 6 Nov 2009 3:51 pm

Tgt Ion:142 Resp: 290

Ion	Ratio	Lower	Upper
142	100		
141	65.8	51.7	111.7

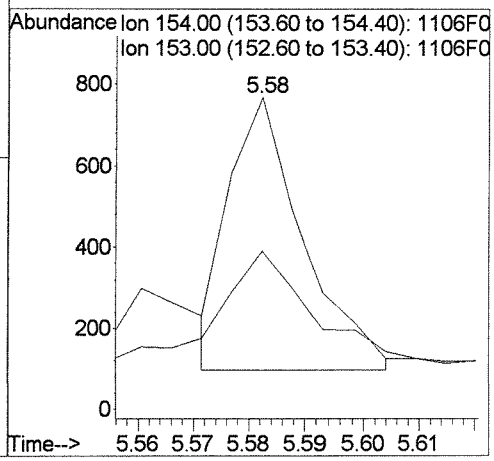


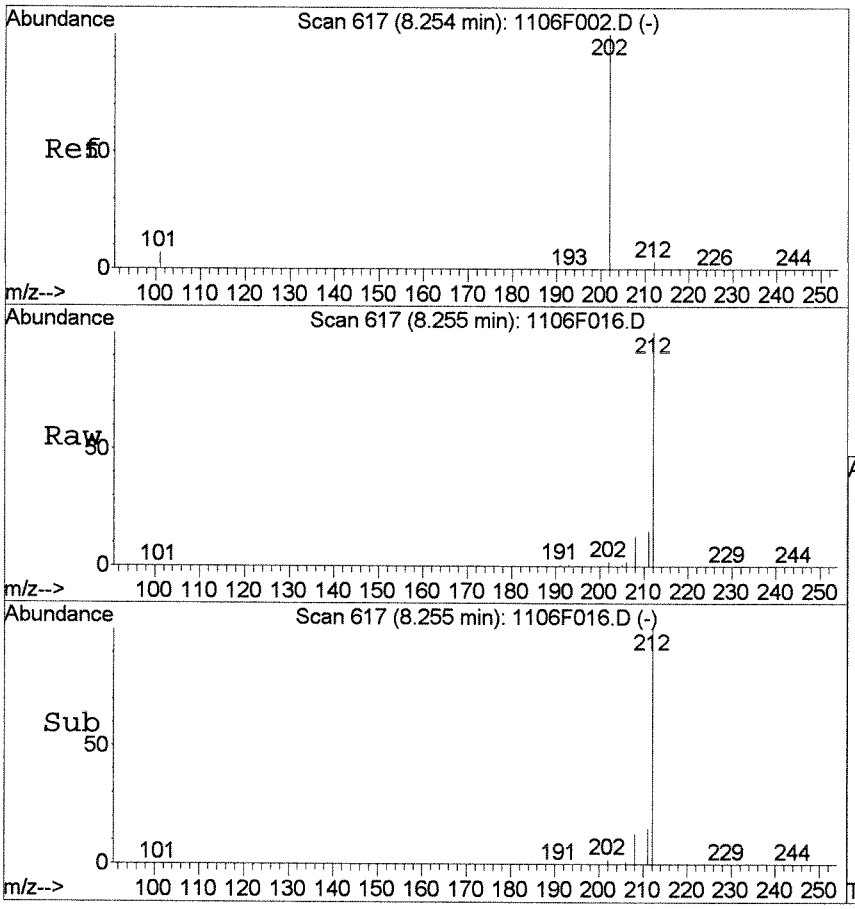


#5
Biphenyl
Concen: 0.79 ng/ml m
RT: 5.58 min Scan# 248
Delta R.T. -0.02 min
Lab File: 1106F016.D
Acq: 6 Nov 2009 3:51 pm

Tgt Ion:154 Resp: 613

Ion	Ratio	Lower	Upper
154	100		
153	50.8	8.7	68.7

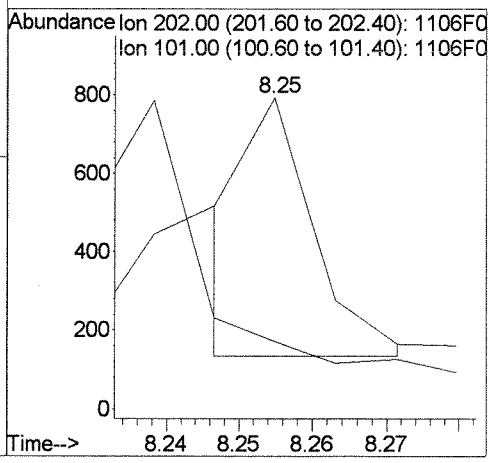


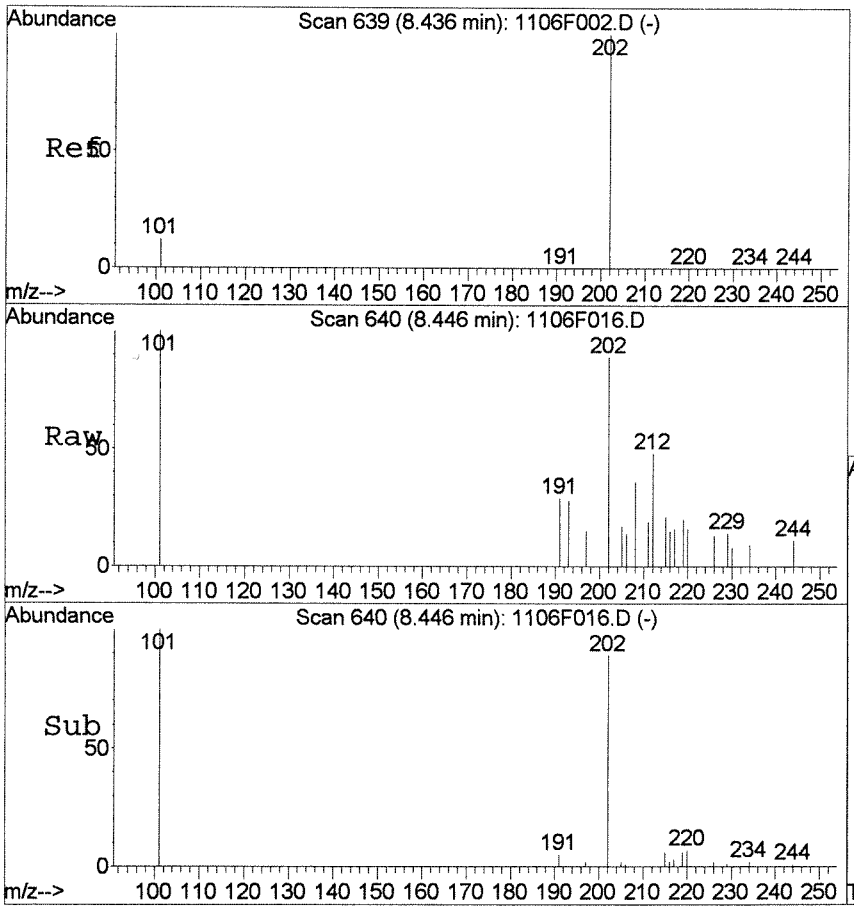


#35
Fluoranthene
Concen: 0.36 ng/ml m
RT: 8.25 min Scan# 617
Delta R.T. -0.02 min
Lab File: 1106F016.D
Acq: 6 Nov 2009 3:51 pm

Tgt Ion:202 Resp: 415

Ion	Ratio	Lower	Upper
202	100		
101	21.6	0.0	36.5

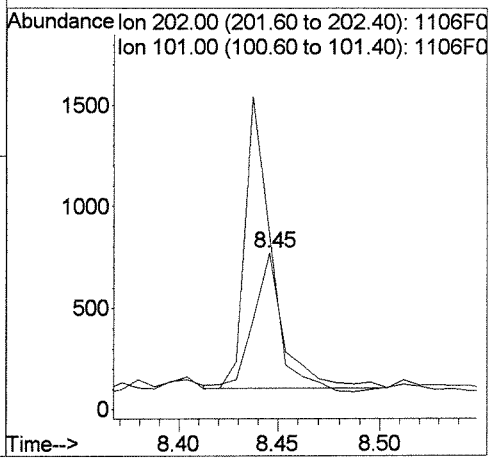


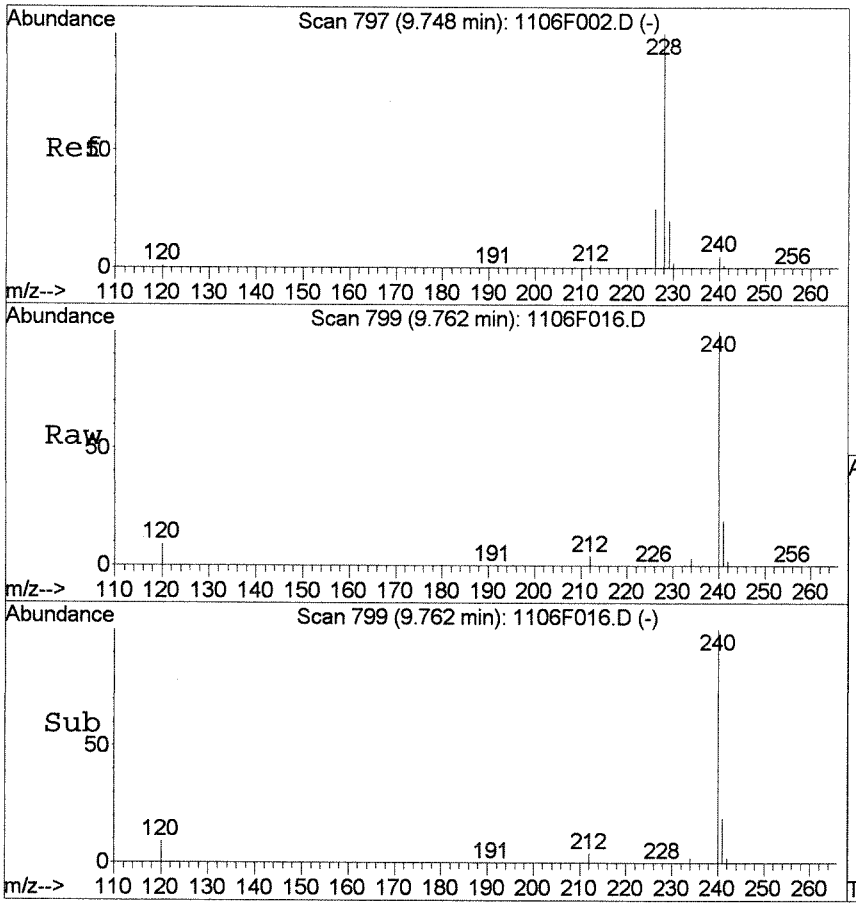


#38
Pyrene
Concen: 0.62 ng/ml
RT: 8.45 min Scan# 640
Delta R.T. -0.02 min
Lab File: 1106F016.D
Acq: 6 Nov 2009 3:51 pm

Tgt Ion:202 Resp: 730

Ion	Ratio	Lower	Upper
202	100		
101	114.2	0.0	36.4#

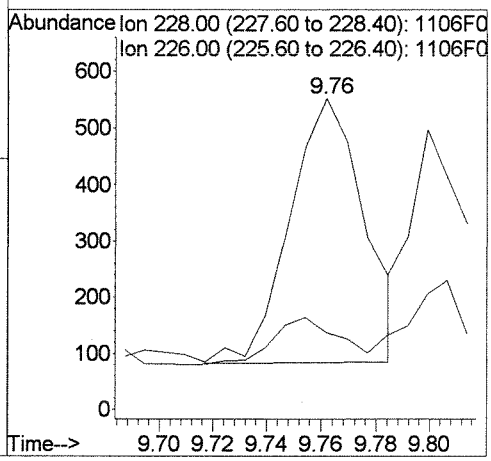


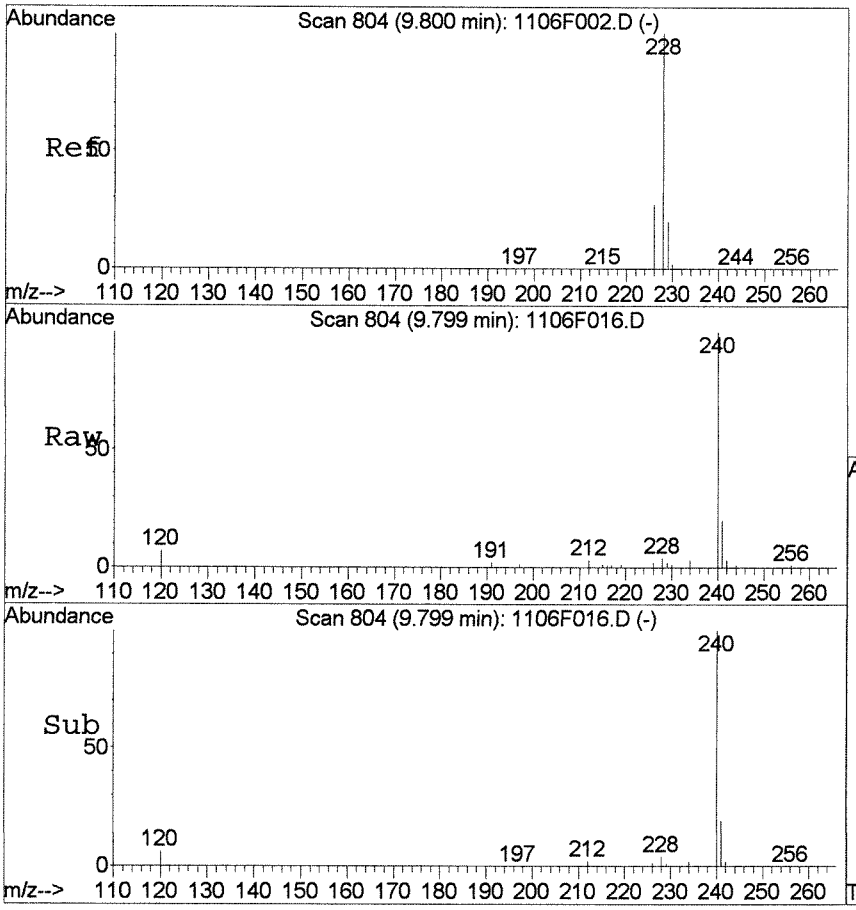


#43
Benz(a)anthracene
Concen: 0.76 ng/ml
RT: 9.76 min Scan# 799
Delta R.T. -0.02 min
Lab File: 1106F016.D
Acq: 6 Nov 2009 3:51 pm

Tgt Ion:228 Resp: 885

Ion	Ratio	Lower	Upper
228	100		
226	12.0	0.0	55.9

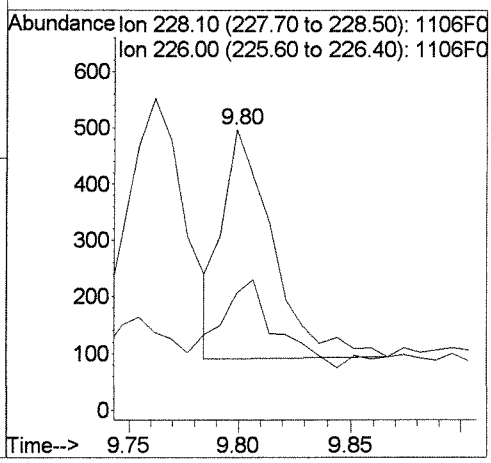


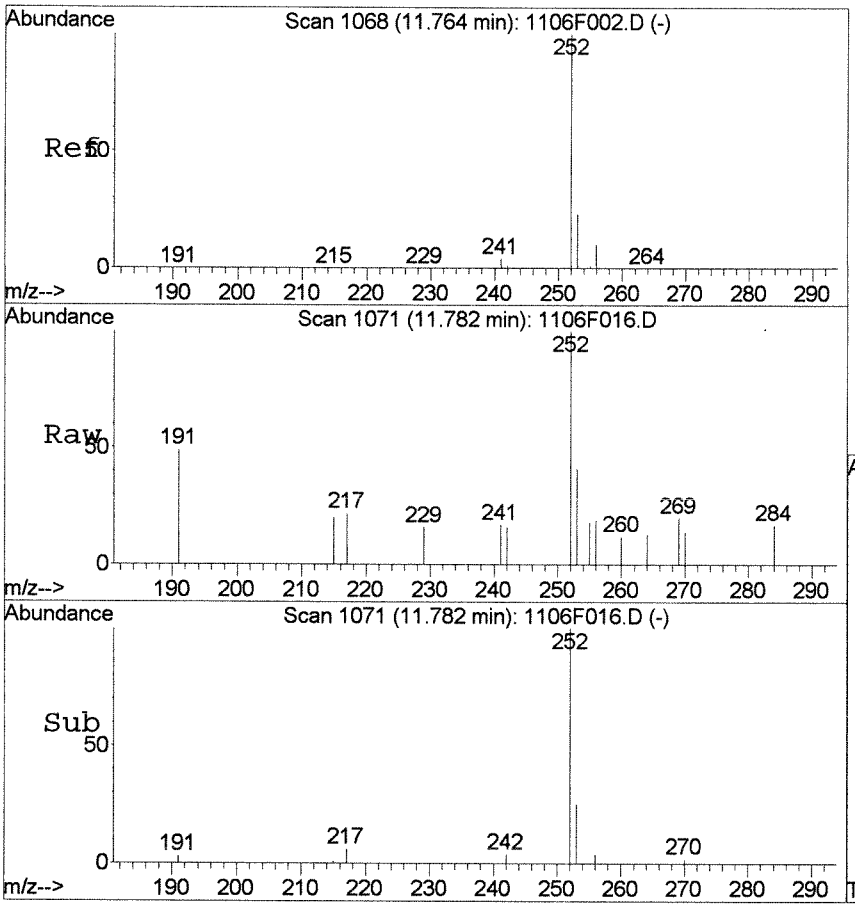


#44
Chrysene
Concen: 0.57 ng/ml
RT: 9.80 min Scan# 804
Delta R.T. -0.04 min
Lab File: 1106F016.D
Acq: 6 Nov 2009 3:51 pm

Tgt Ion:228 Resp: 645

Ion	Ratio	Lower	Upper
228	100		
226	27.8	0.0	58.8

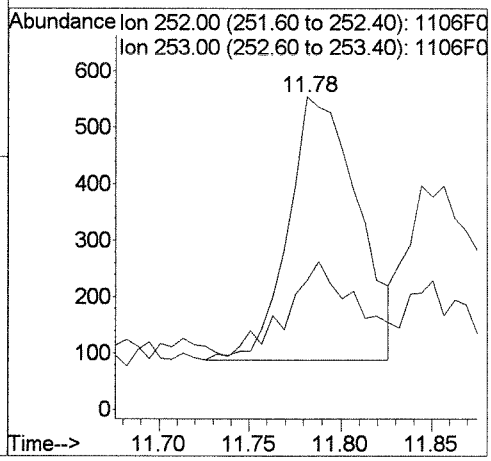


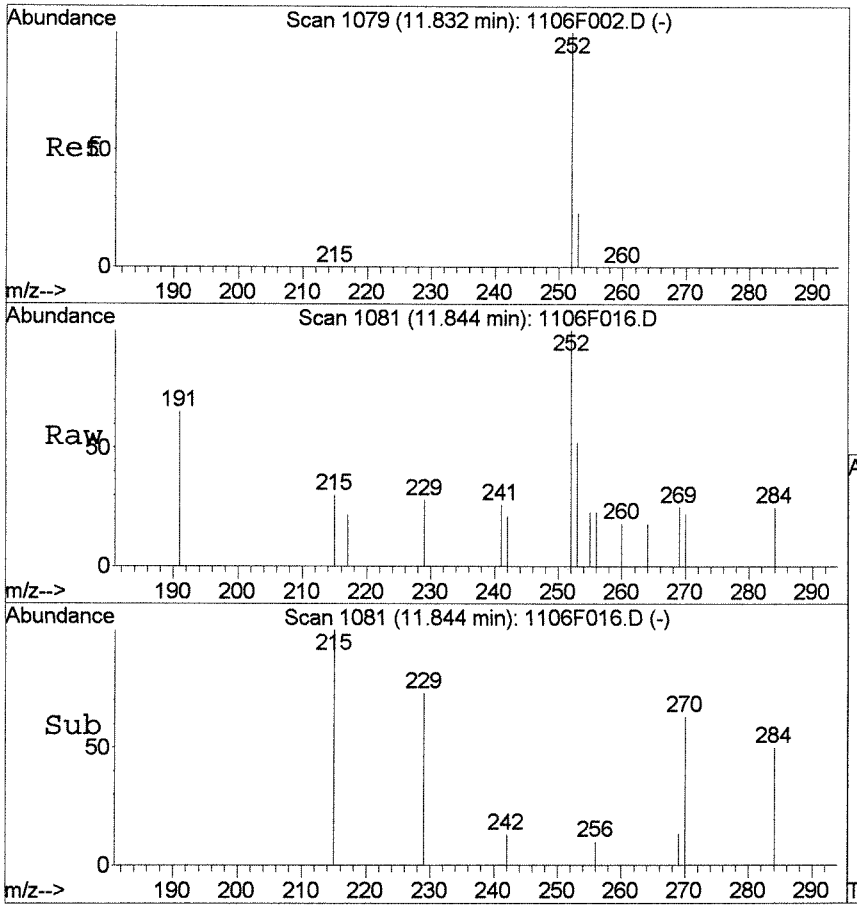


#50
Benzo(b)fluoranthene
Concen: 1.14 ng/ml
RT: 11.78 min Scan# 1071
Delta R.T. -0.05 min
Lab File: 1106F016.D
Acq: 6 Nov 2009 3:51 pm

Tgt Ion:252 Resp: 1224

Ion	Ratio	Lower	Upper
252	100		
253	25.1	0.0	52.8

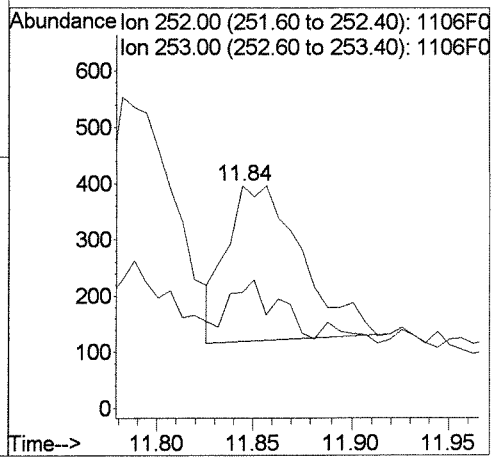


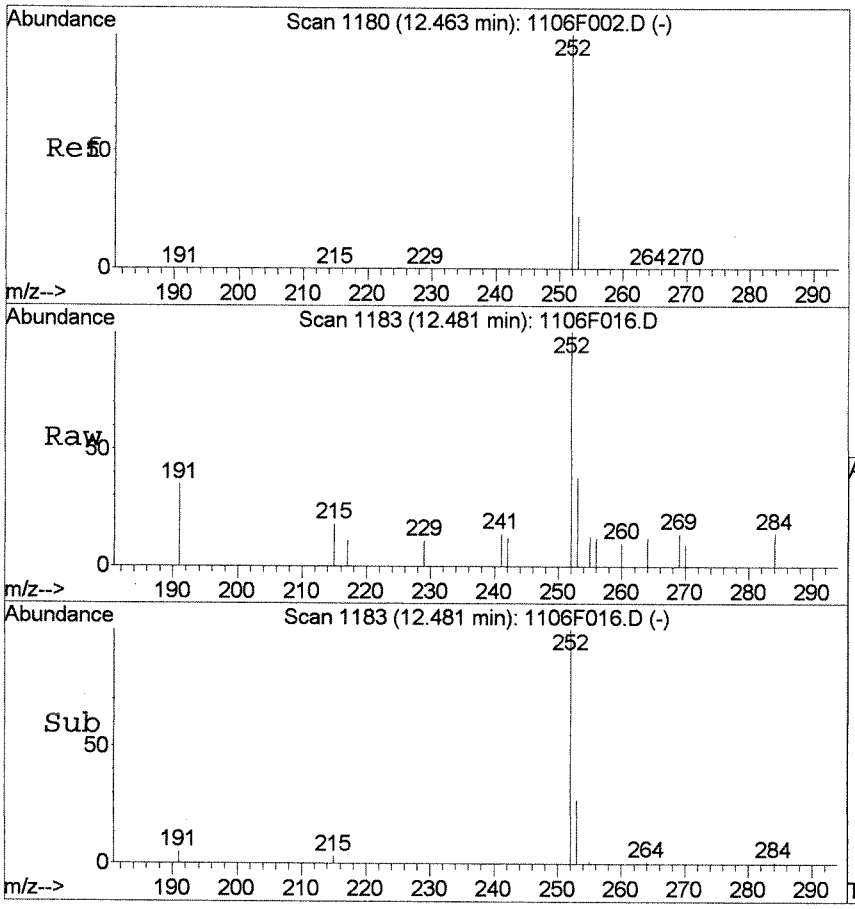


#51
Benzo(k)fluoranthene
Concen: 0.70 ng/ml
RT: 11.84 min Scan# 1081
Delta R.T. -0.05 min
Lab File: 1106F016.D
Acq: 6 Nov 2009 3:51 pm

Tgt Ion:252 Resp: 741

Ion	Ratio	Lower	Upper
252	100		
253	32.1	0.0	52.5

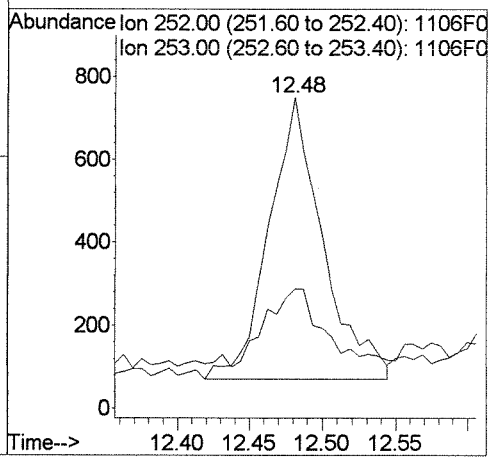


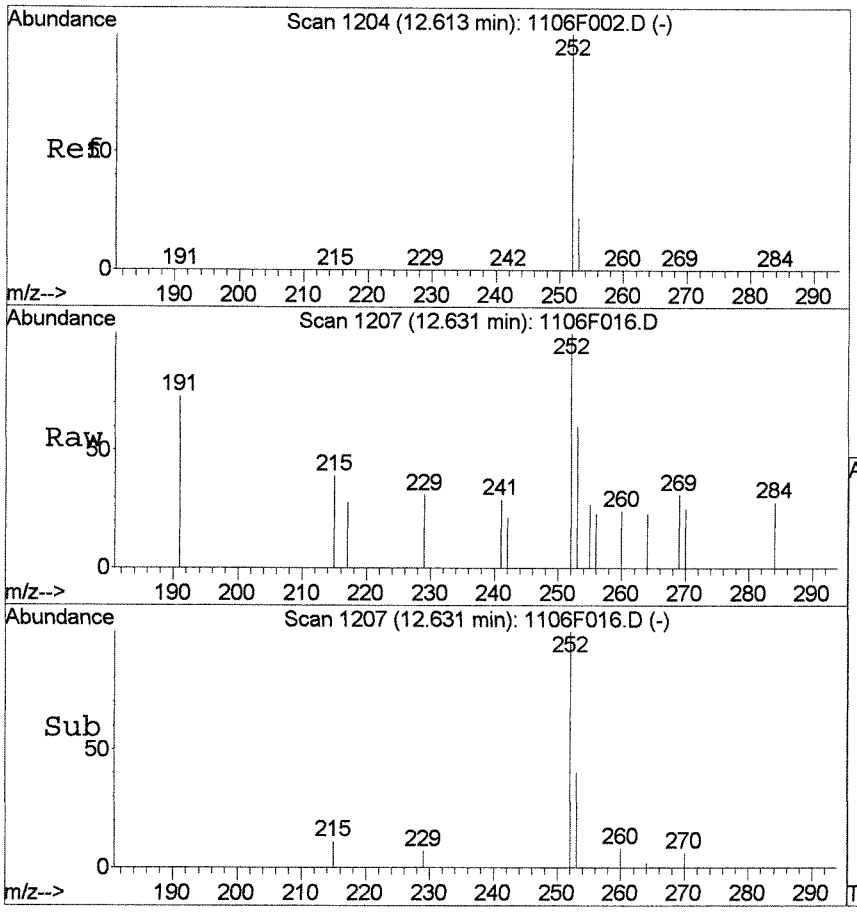


#52
Benzo(e)pyrene
Concen: 1.73 ng/ml
RT: 12.48 min Scan# 1183
Delta R.T. -0.05 min
Lab File: 1106F016.D
Acq: 6 Nov 2009 3:51 pm

Tgt Ion:252 Resp: 1741

Ion	Ratio	Lower	Upper
252	100		
253	26.4	0.0	52.3

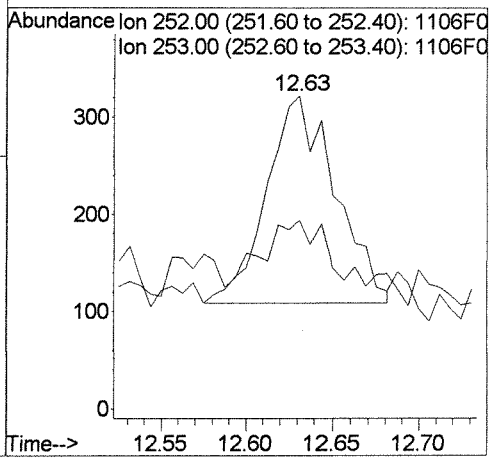


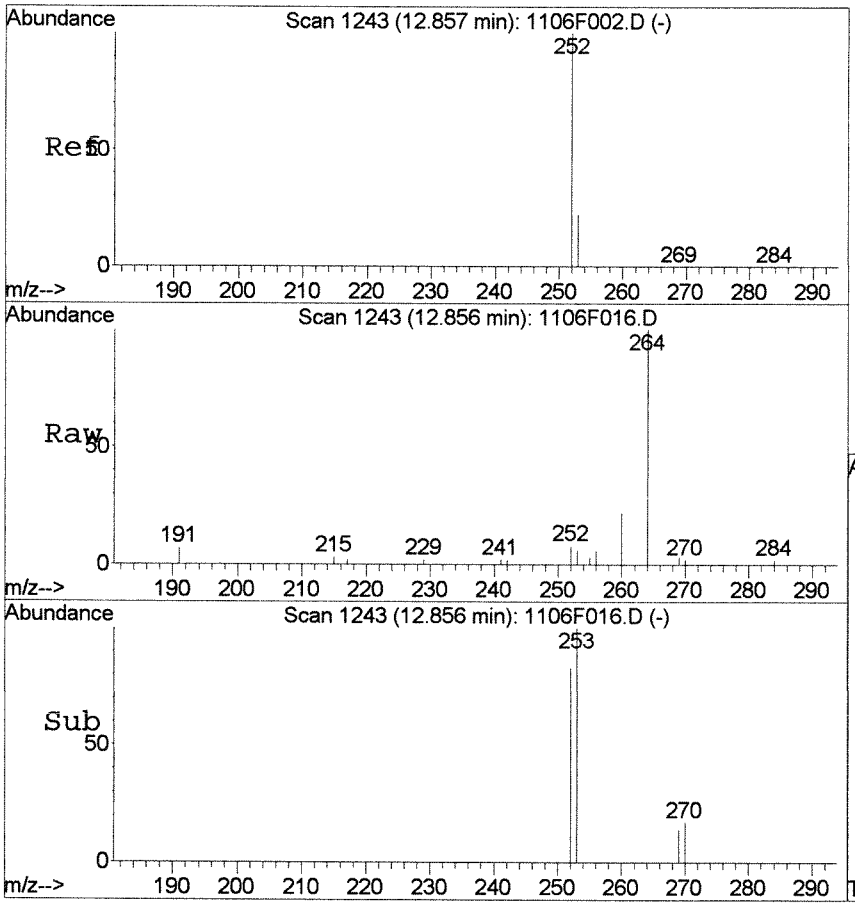


#53
Benzo(a)pyrene
Concen: 0.57 ng/ml
RT: 12.63 min Scan# 1207
Delta R.T. -0.05 min
Lab File: 1106F016.D
Acq: 6 Nov 2009 3:51 pm

Tgt Ion:252 Resp: 583

Ion	Ratio	Lower	Upper
252	100		
253	25.8	0.0	52.6

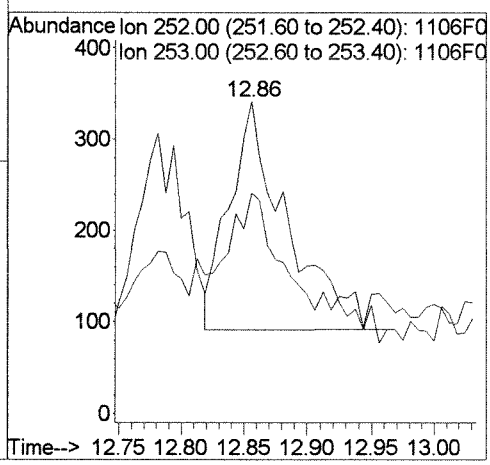


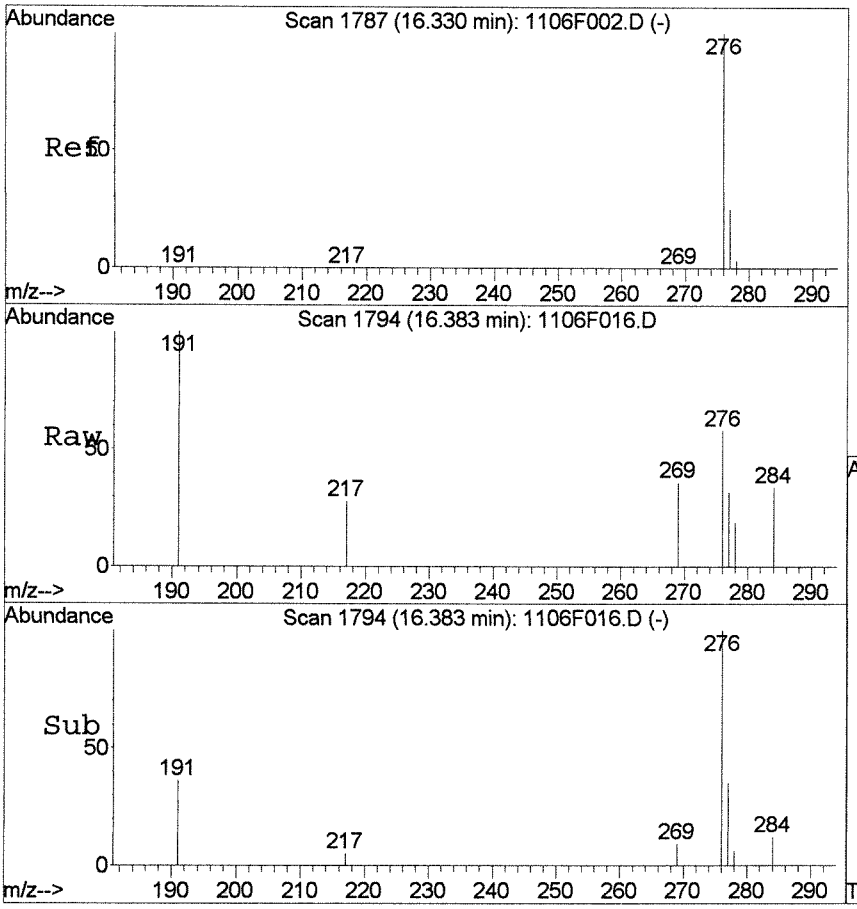


#54
Perylene
Concen: 0.77 ng/ml
RT: 12.86 min Scan# 1243
Delta R.T. -0.07 min
Lab File: 1106F016.D
Acq: 6 Nov 2009 3:51 pm

Tgt Ion:252 Resp: 772

Ion	Ratio	Lower	Upper
252	100		
253	48.2	0.0	52.0

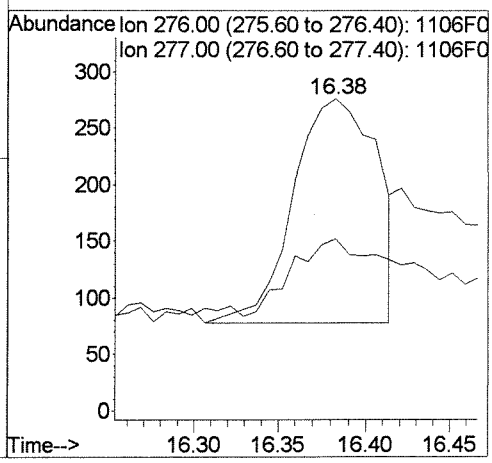


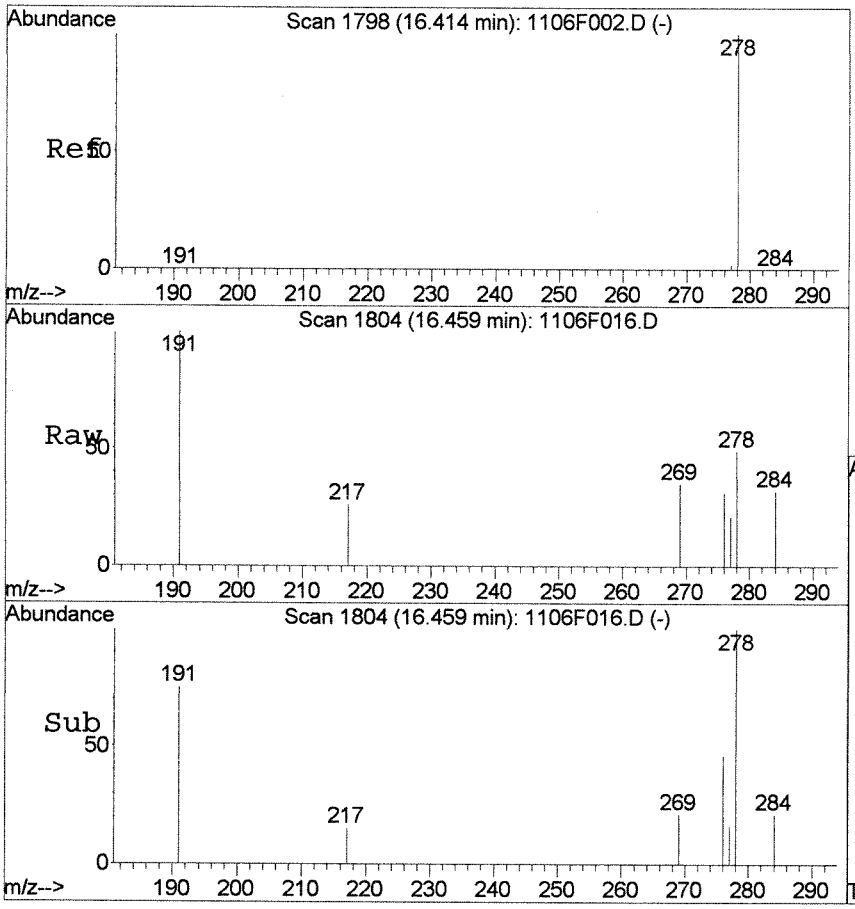


#55
Indeno(1,2,3-cd)pyrene
Concen: 0.71 ng/ml
RT: 16.38 min Scan# 1794
Delta R.T. -0.00 min
Lab File: 1106F016.D
Acq: 6 Nov 2009 3:51 pm

Tgt Ion:276 Resp: 665

Ion	Ratio	Lower	Upper
276	100		
277	30.8	0.0	55.1

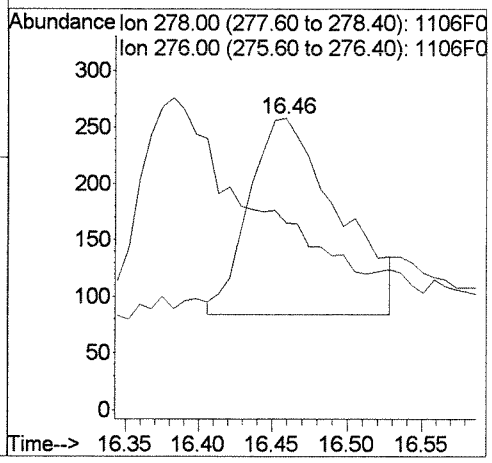


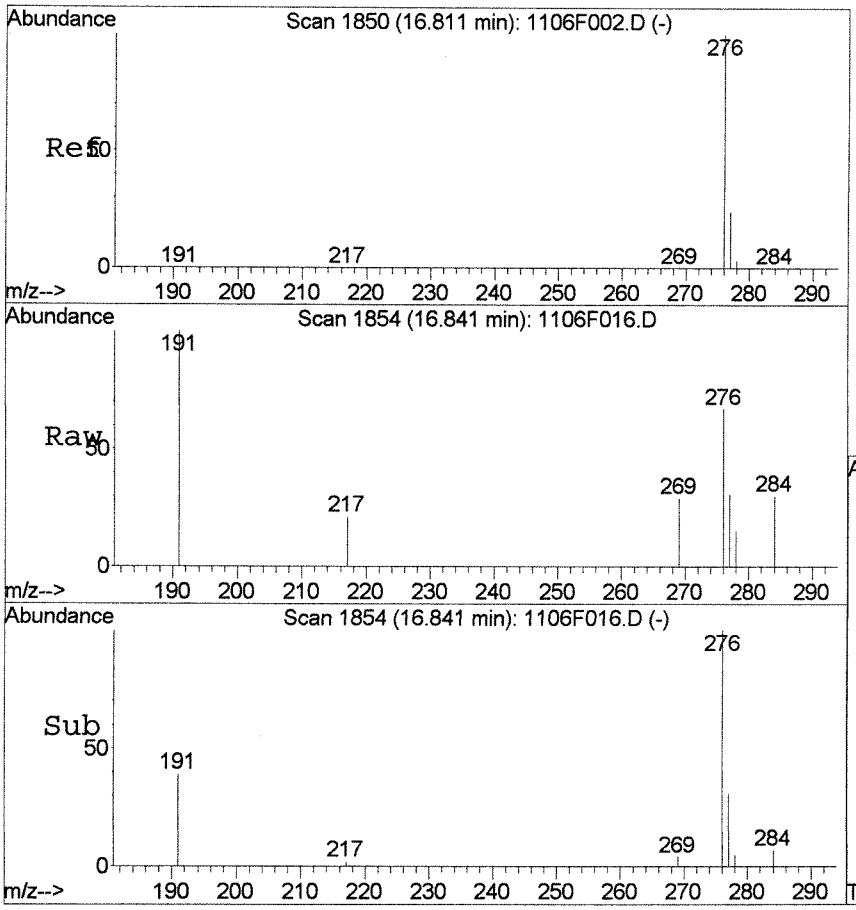


#56
Dibenz(a,h)anthracene
Concen: 0.72 ng/ml m
RT: 16.46 min Scan# 1804
Delta R.T. -0.00 min
Lab File: 1106F016.D
Acq: 6 Nov 2009 3:51 pm

Tgt Ion:278 Resp: 721

Ion	Ratio	Lower	Upper
278	100		
276	64.0	0.0	52.1#

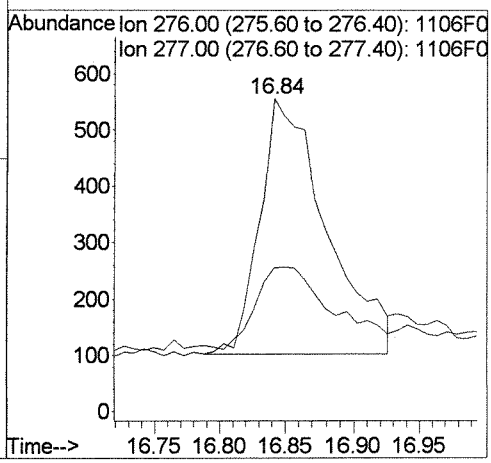




#57
Benzo(g,h,i)perylene
Concen: 1.46 ng/ml
RT: 16.84 min Scan# 1854
Delta R.T. -0.02 min
Lab File: 1106F016.D
Acq: 6 Nov 2009 3:51 pm

Tgt Ion:276 Resp: 1567

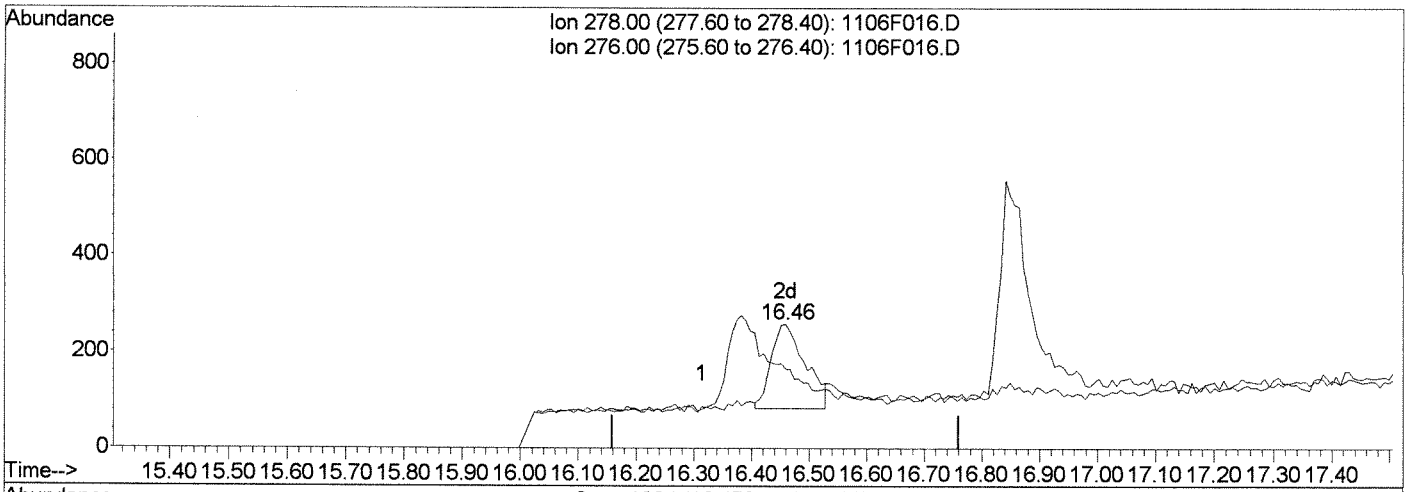
Ion	Ratio	Lower	Upper
276	100		
277	30.2	0.0	55.7

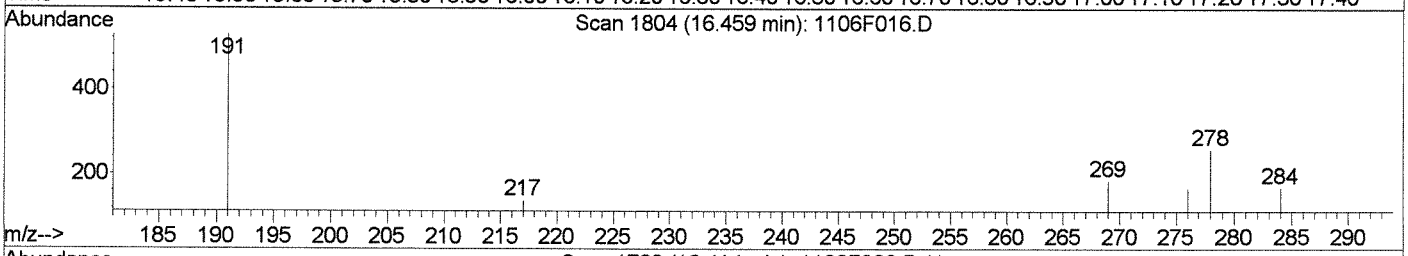


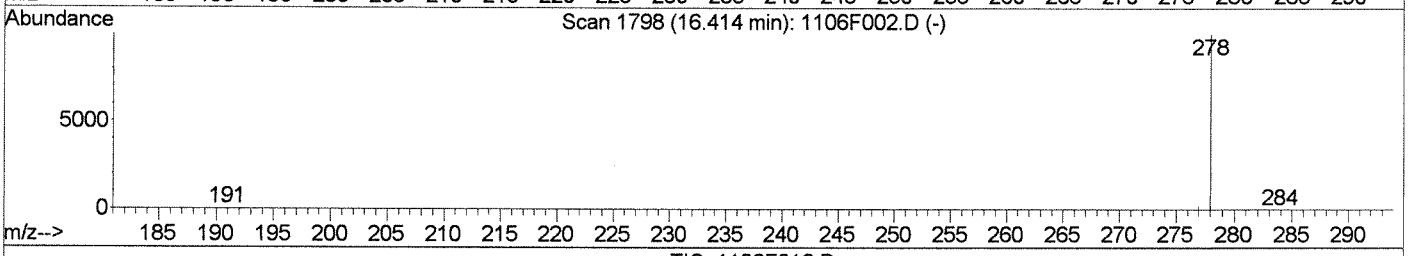
Quantitation Report (Qedit)

Data File : J:\MS11\DATA\110609\1106F016.D Vial: 14
Acq On : 6 Nov 2009 3:51 pm Operator: LWeiskopf
Sample : K0910296-001 Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 10 13:16 2009 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Tue Nov 10 08:36:05 2009
Response via : Multiple Level Calibration







TIC: 1106F016.D

(56) Dibenz(a,h)anthracene (T)

16.46min 0.72ng/ml m

response 721

Ion	Exp%	Act%
278.00	100	100
276.00	22.10	63.95#
0.00	0.00	0.00
0.00	0.00	0.00

WP 11/10/09

1106F016.D 1015ALK.M Tue Nov 10 13:16:47 2009

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009
Sample Matrix: Water

Service Request: K0910296
Date Collected: NA
Date Received: NA

Polynuclear Aromatic Hydrocarbons

Sample Name: Method Blank
Lab Code: KWG0909945-4

Units: ug/L
Basis: NA

Extraction Method: EPA 3520C
Analysis Method: 8270C SIM

Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Naphthalene	ND	U	0.019	0.0030	1	10/28/09	11/09/09	KWG0909945	
2-Methylnaphthalene	ND	U	0.019	0.0023	1	10/28/09	11/09/09	KWG0909945	
1-Methylnaphthalene	ND	U	0.019	0.0035	1	10/28/09	11/09/09	KWG0909945	
2,6-Dimethylnaphthalene	ND	U	0.019	0.0022	1	10/28/09	11/09/09	KWG0909945	
Acenaphthylene	ND	U	0.019	0.0034	1	10/28/09	11/09/09	KWG0909945	
Acenaphthene	ND	U	0.019	0.0044	1	10/28/09	11/09/09	KWG0909945	
Dibenzofuran	ND	U	0.019	0.0046	1	10/28/09	11/09/09	KWG0909945	
2,3,5-Trimethylnaphthalene	ND	U	0.019	0.0050	1	10/28/09	11/09/09	KWG0909945	
Fluorene	ND	U	0.019	0.0038	1	10/28/09	11/09/09	KWG0909945	
Phenanthrene	ND	U	0.019	0.0050	1	10/28/09	11/09/09	KWG0909945	
Anthracene	ND	U	0.019	0.0036	1	10/28/09	11/09/09	KWG0909945	
1-Methylphenanthrene	ND	U	0.019	0.0041	1	10/28/09	11/09/09	KWG0909945	
Fluoranthene	ND	U	0.019	0.0044	1	10/28/09	11/09/09	KWG0909945	
Pyrene	ND	U	0.019	0.0035	1	10/28/09	11/09/09	KWG0909945	
Benz(a)anthracene	**0.0029**	J	0.019	0.0026	1	10/28/09	11/09/09	KWG0909945	
Chrysene	ND	U	0.019	0.0034	1	10/28/09	11/09/09	KWG0909945	
Benzo(b)fluoranthene	**0.0035**	J	0.019	0.0023	1	10/28/09	11/09/09	KWG0909945	
Benzo(k)fluoranthene	ND	U	0.019	0.0025	1	10/28/09	11/09/09	KWG0909945	
Benzo(e)pyrene	ND	U	0.019	0.0040	1	10/28/09	11/09/09	KWG0909945	
Benzo(a)pyrene	ND	U	0.019	0.0043	1	10/28/09	11/09/09	KWG0909945	
Indeno(1,2,3-cd)pyrene	ND	U	0.019	0.0026	1	10/28/09	11/09/09	KWG0909945	
Dibenz(a,h)anthracene	ND	U	0.019	0.0025	1	10/28/09	11/09/09	KWG0909945	
Benzo(g,h,i)perylene	ND	U	0.019	0.0029	1	10/28/09	11/09/09	KWG0909945	
Perylene	ND	U	0.019	0.0050	1	10/28/09	11/09/09	KWG0909945	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	71	28-98	11/09/09	Acceptable
Fluoranthene-d10	59	31-105	11/09/09	Acceptable
Terphenyl-d14	62	27-112	11/09/09	Acceptable

Comments:

Exception Report

Data File: J:\MS11\DATA\110909\1109F024.D
Lab ID: KWG0909945-4
RunType: MB
Matrix: WATER

Date Acquired: 11/09/2009 18:14
Date Quantitated: 11/11/2009 09:31
Batch ID: KWG0910548
Analysis Method: 8270C SIM
MethodJoinID: MJ138

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Tune Window	NA	NA	NA	x	
Analytical Holding Time	NA	NA	NA	x	
ICAL Pass/Fail	NA	NA	NA	x	
ICAL Average RSD	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Initial Calibration Minimum RF	NA	NA	NA	x	
Initial Calibration SPCC/CCC	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA		x
Continuing Calibration Minimum RF	NA	NA	NA	x	
Continuing Calibration SPCC/CCC	NA	NA	NA	x	
Internal Standards	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Relative Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

K10296

K10308

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
Continuing Calibration Recovery	2,4,6-Tribromophenol	40.0	NA	20	NT
	Pentachlorophenol	-40.8	NA	20	I

Primary Review: 11/11/09

Secondary Review: 11-13-09

Quantitation Report

Bottle ID:		**Tier:**		**Matrix:**	WATER
Prod Code:	8270C SIM PAH_S	**Collect Date:**		**Receive Date:**	10/30/2009

Analysis Lot:	KWG0910548	**Prep Lot:**	KWG0909945	**Report Group:**	
Analysis Method:	8270C SIM	**Prep Method:**	EPA 3520C		
Prep Ref:	861282	**Prep Date:**	10/28/2009		

Quant Method:	J:\MS11\METHODS\SIM\1015ALK.M	**Calibration ID:**	CAL8928
Title:			
Tune Ref:	J:\MS11\DATA\110909\1109F001.D	**Method ID:**	MJ138
MB Ref:		**Quant based on Method**	

Data File:	J:\MS11\DATA\110909\1109F024.D			**Instrument:**	MS11
Acqu Date:	11/09/2009 18:14	**Quant Date:**	11/11/2009 09:31	**Vial:**	22
Run Type:	MB			**Dilution:**	1.0
Lab ID:	KWG0909945-4			**Soln Conc. Units:**	ng/ml

Internal Standard Compounds

IS Ref	Parameter Name	RT	RT Dev	Quant Mass	Response	Solution Conc	Area Criteria
1	Naphthalene-d8	4.63	0.00	136	173792	200.00	OK
2	Acenaphthene-d10	6.05	0.00	164	114407	200.00	OK
3	Phenanthrene-d10	7.27	0.00	188	220505	200.00	OK
4	Chrysene-d12	9.76	-0.01	240	267332	200.00	OK
5	Perylene-d12	12.78	0.00	264	237771	200.00	OK

Surrogate Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	%Rec	%Rec Limits		Rpt?
2	Fluorene-d10	6.47	0.00	0.00	176	150687	282.30	71	28-98	OK	
2	2,4,6-Tribromophenol	6.71	0.00	0.00	330	34402	334.81	56	10-136	OK	
3	Fluoranthene-d10	8.24	0.00	0.00	212	289373	236.82	59	31-105	OK	
4	Terphenyl-d14	8.58	-0.01	0.00	244	274507	248.39	62	27-112	OK	

Target Compounds

Final Conc. Units: ug/L

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	Final Conc	Q	Rpt?
1	Naphthalene	4.65		0.00	128	273**m**	0.3400	0.0030	U	
1	2-Methylnaphthalene	5.21		0.00	142	127**m**	0.2300	0.0023	U	
1	1-Methylnaphthalene	5.29	0.01	0.00	142	120	0.2000	0.0035	U	
1	Biphenyl	5.58		0.00	154	340**m**	0.5400	0.00255	J	
1	2,6-Dimethylnaphthalene				156	0**d**		0.0022	U	
1	C2-Naphthalenes				156	0		0.020	U	
1	C3-Naphthalenes				170	0		0.020	U	
1	C4-Naphthalenes				184	0		0.020	U	
2	Acenaphthylene				152	0**d**		0.0034	U	
2	Acenaphthene				154	0**d**		0.0044	U	
2	Dibenzofuran				168	0**d**		0.0046	U	
2	2,3,5-Trimethylnaphthalene				170	0**d**		0.0050	U	

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Data File:	J:\MS11\DATA\110909\1109F024.D			**Instrument:**	MS11
Acqu Date:	11/09/2009 18:14	**Quant Date:**	11/11/2009 09:31	**Vial:**	22
Run Type:	MB			**Dilution:**	1.0
Lab ID:	KWG0909945-4			**Soln Conc. Units:**	ng/ml

Target Compounds **Final Conc. Units:** ug/L

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	Final Conc	Q	Rpt?
2	Fluorene				166	0**d**		0.0038	U	
2	C1-Fluorenes				180	0		0.020	U	
2	C2-Fluorenes				194	0		0.020	U	
2	C3-Fluorenes				208	0		0.020	U	
2	Pentachlorophenol				266	0**d**		0.013	U	
3	Dibenzothiophene				184	0**d**		0.0038	U	
3	C1-Dibenzothiophenes				198	0		0.020	U	
3	C2-Dibenzothiophenes				212	0		0.020	U	
3	C3-Dibenzothiophenes				226	0		0.020	U	
3	Phenanthrene	7.29		0.00	178	641	0.5200	0.0050	U	
3	Anthracene				178	0**d**		0.0036	U	
3	Carbazole				167	0**d**		0.0045	U	
3	1-Methylphenanthrene				192	0**d**		0.0041	U	
3	C1-Phenanthrenes/Anthracenes				192	0		0.020	U	
3	C2-Phenanthrenes/Anthracenes				206	0		0.020	U	
3	C3-Phenanthrenes/Anthracenes				220	0		0.020	U	
3	C4-Phenanthrenes/Anthracenes				234	0		0.020	U	
3	Fluoranthene	8.25		0.00	202	421**m**	0.3100	0.0044	U	
4	Pyrene				202	0**d**		0.0035	U	
4	C1-Fluoranthenes/Pyrenes				216	0		0.020	U	
4	C2-Fluoranthenes/Pyrenes				230	0		0.020	U	
4	C3-Fluoranthenes/Pyrenes				244	0		0.020	U	
4	Benz(a)anthracene	9.76	0.01	0.00	228	883	0.6100	0.00288	J	
4	Chrysene	9.80	-0.01	0.00	228	492	0.3500	0.0034	U	
4	C1-Chrysenes				242	0		0.020	U	
4	C2-Chrysenes				256	0		0.020	U	
4	C3-Chrysenes				270	0		0.020	U	
4	C4-Chrysenes				284	0		0.020	U	
5	Benzo(b)fluoranthene	11.79	0.02	0.00	252	922	0.7400	0.00349	J	
5	Benzo(k)fluoranthene				252	0**d**		0.0025	U	
5	Benzo(e)pyrene	12.47	0.01	0.00	252	741	0.6400	0.0040	U	
5	Benzo(a)pyrene				252	0**d**		0.0043	U	
5	Perylene				252	0**d**		0.0050	U	
5	Indeno(1,2,3-cd)pyrene	16.38	0.04	0.00	276	275	0.2600	0.0026	U	
5	Dibenz(a,h)anthracene				278	0**d**		0.0025	U	
5	Benzo(g,h,i)perylene	16.86	0.04	0.00	276	676	0.5400	0.0029	U	

Prep Amount:	1060 ml	**Dilution:**	1.0
Prep Final Vol:	5 ml	**Unit Factor:**	1

Final Concentration = ((Soln Conc x Prep Final Vol x Dilution) / Prep Amount) x Unit Factor

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\110909\1109F024.D
Acq On : 9 Nov 2009 6:14 pm
Sample : KWG0909945-4 MB
Misc :
MS Integration Params: RTEINT.P
Quant Time: Nov 11 07:44:25 2009

Vial: 22
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00
Quant Results File: 1015ALK.RES

Quant Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Wed Nov 11 07:43:44 2009
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

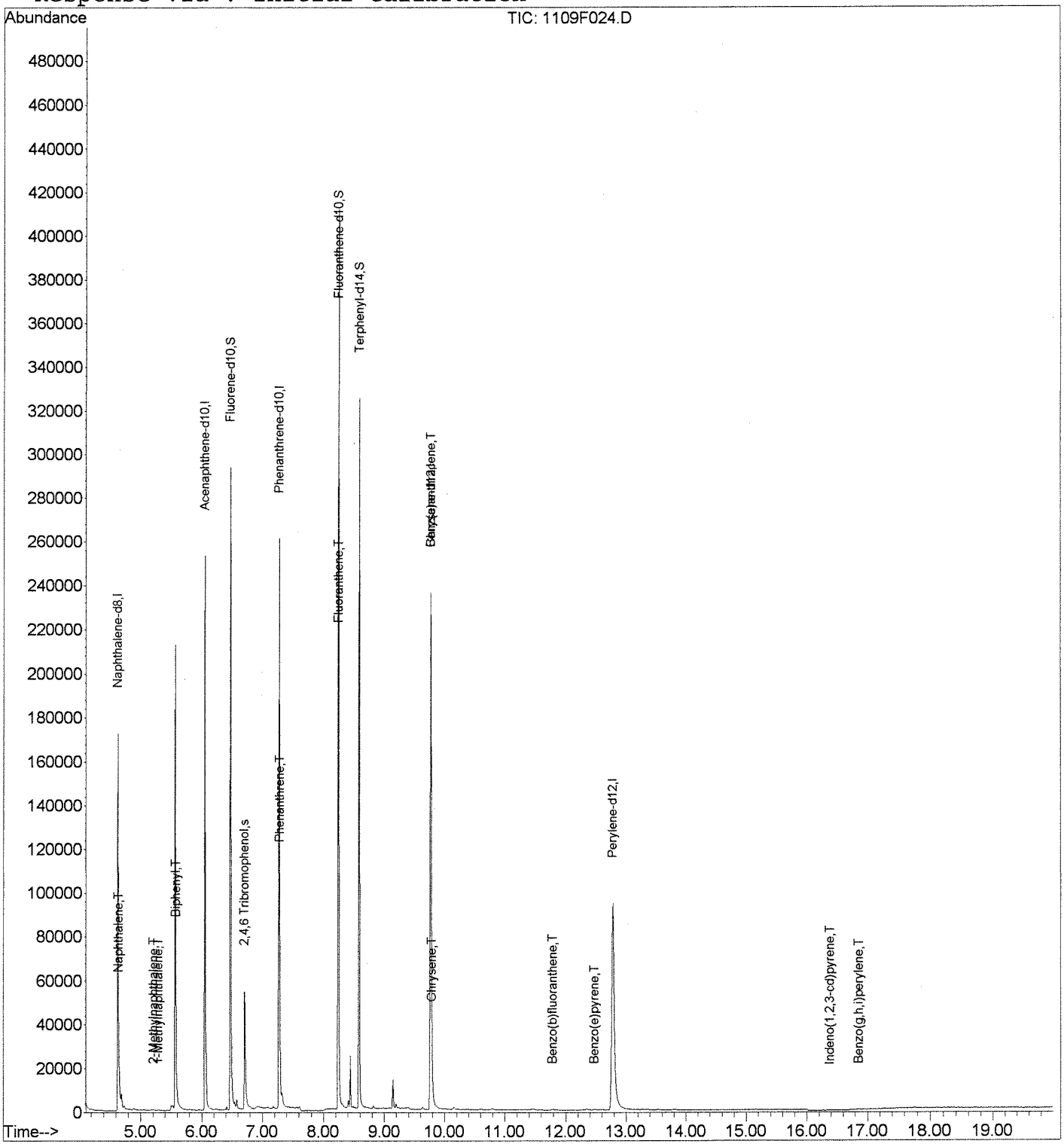
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	4.63	136	173792	200.00	ng/ml	0.00
10) Acenaphthene-d10	6.05	164	114407	200.00	ng/ml	0.00
22) Phenanthrene-d10	7.27	188	220505	200.00	ng/ml	0.00
37) Chrysene-d12	9.76	240	267332	200.00	ng/ml	0.00
49) Perylene-d12	12.78	264	237771	200.00	ng/ml	0.00
System Monitoring Compounds						
15) Fluorene-d10	6.47	176	150687	282.30	ng/ml	0.00
Spiked Amount 200.000			Recovery = 141.15%			
20) 2,4,6 Tribromophenol	6.71	330	34402	334.81	ng/ml	0.00
Spiked Amount 375.000			Recovery = 89.28%			
36) Fluoranthene-d10	8.24	212	289373	236.82	ng/ml	0.00
Spiked Amount 200.000			Recovery = 118.41%			
42) Terphenyl-d14	8.58	244	274507	248.39	ng/ml	0.00
Spiked Amount 200.000			Recovery = 124.19%			
Target Compounds						Qvalue
2) Naphthalene	4.65	128	273m	0.34	ng/ml	
3) 2-Methylnaphthalene	5.21	142	127m	0.23	ng/ml	
4) 1-Methylnaphthalene	5.29	142	120	0.20	ng/ml	87
5) Biphenyl	5.58	154	340m	0.54	ng/ml	
27) Phenanthrene	7.29	178	641	0.52	ng/ml	94
35) Fluoranthene	8.25	202	421m	0.31	ng/ml	
43) Benz(a)anthracene	9.76	228	883	0.61	ng/ml	59
44) Chrysene	9.80	228	492	0.35	ng/ml	95
50) Benzo(b)fluoranthene	11.79	252	922	0.74	ng/ml	92
52) Benzo(e)pyrene	12.47	252	741	0.64	ng/ml	90
55) Indeno(1,2,3-cd)pyrene	16.38	276	275	0.26	ng/ml	68
57) Benzo(g,h,i)perylene	16.86	276	676	0.54	ng/ml	78

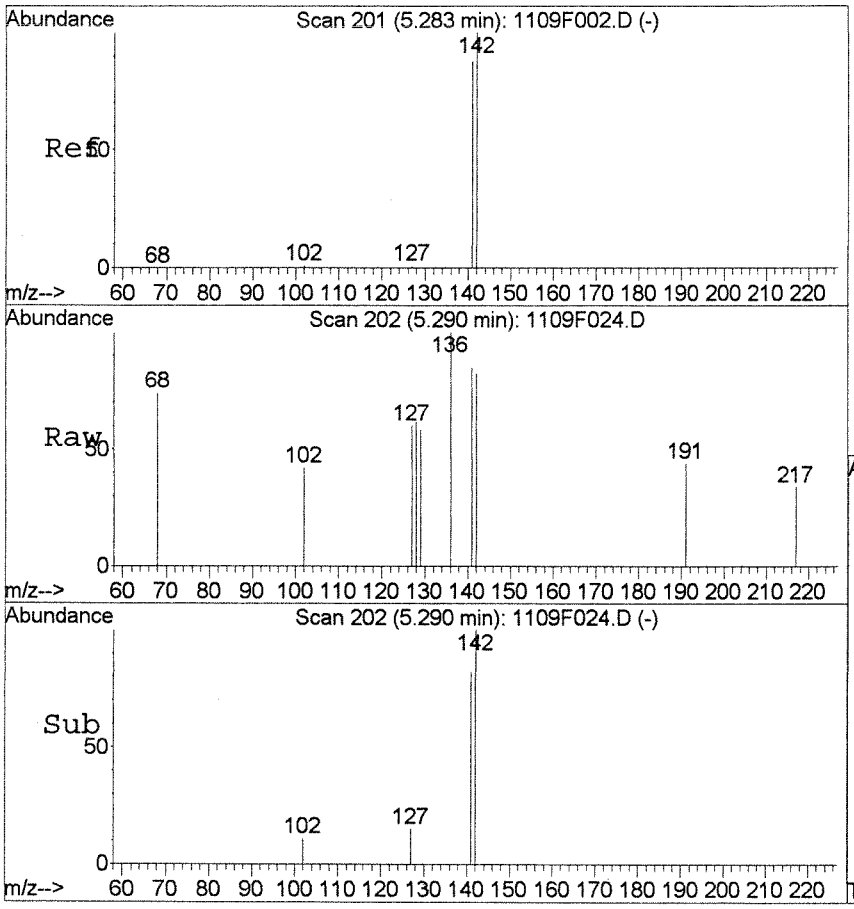
(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\110909\1109F024.D Vial: 22
Acq On : 9 Nov 2009 6:14 pm Operator: LWeiskopf
Sample : KWG0909945-4 MB Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 11 9:31 2009 Quant Results File: 1015ALK.RES

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Wed Nov 11 07:43:44 2009
Response via : Initial Calibration

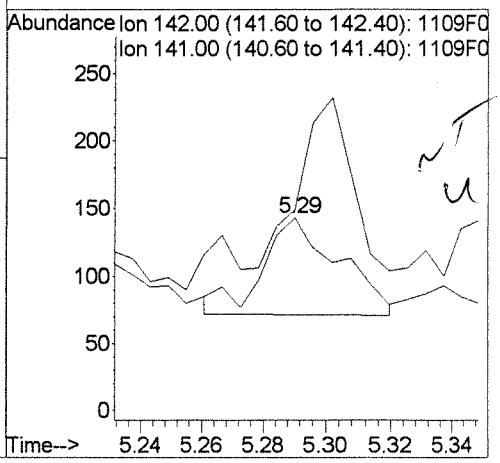


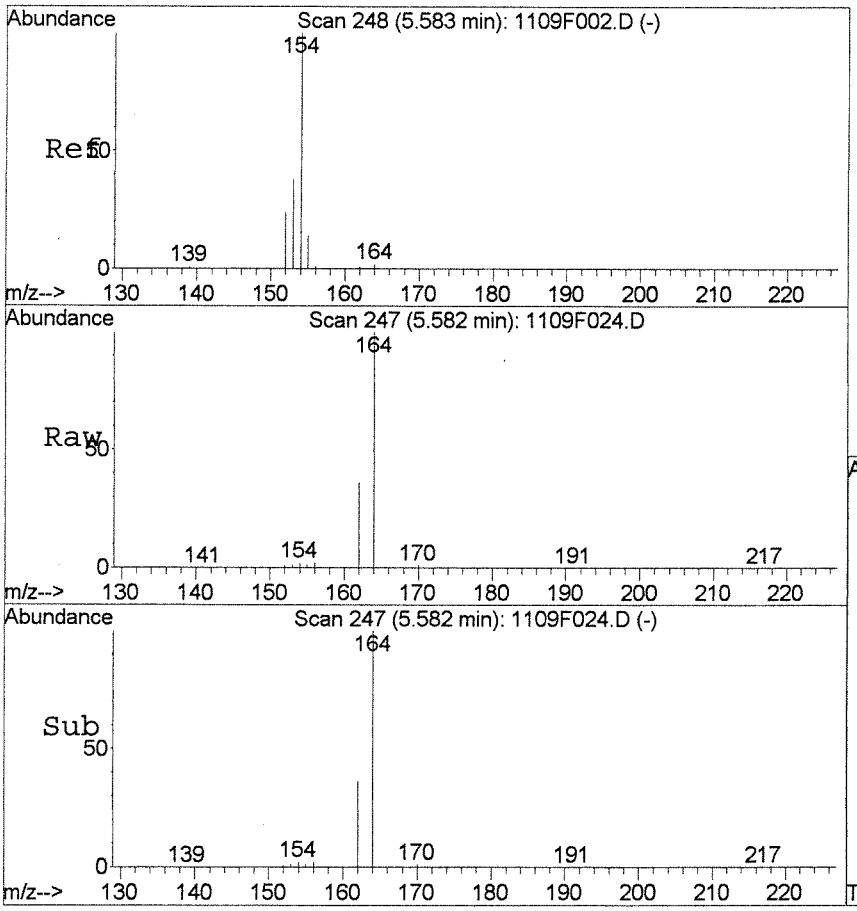


#4
1-Methylnaphthalene
Concen: 0.20 ng/ml
RT: 5.29 min Scan# 202
Delta R.T. 0.01 min
Lab File: 1109F024.D
Acq: 9 Nov 2009 6:14 pm

Tgt Ion:142 Resp: 120

Ion	Ratio	Lower	Upper
142	100		
141	70.3	51.7	111.7

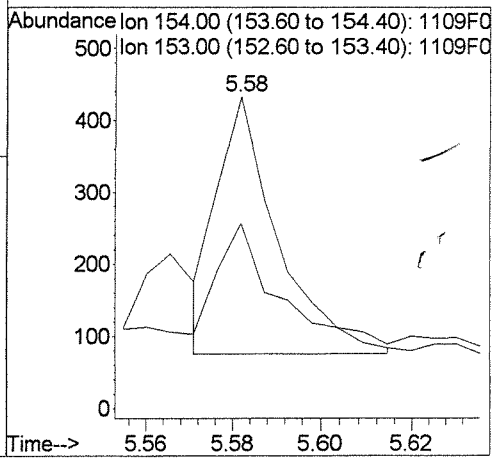


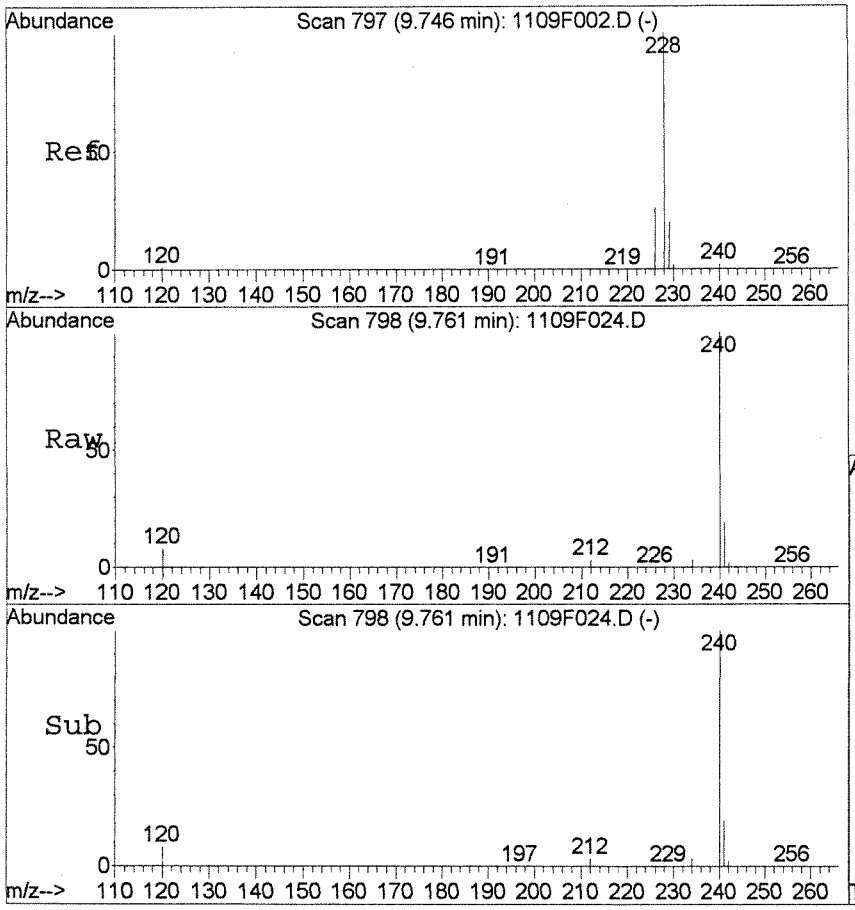


#5
Biphenyl
Concen: 0.54 ng/ml m
RT: 5.58 min Scan# 247
Delta R.T. -0.00 min
Lab File: 1109F024.D
Acq: 9 Nov 2009 6:14 pm

Tgt Ion:154 Resp: 340

Ion	Ratio	Lower	Upper
154	100		
153	59.4	8.7	68.7

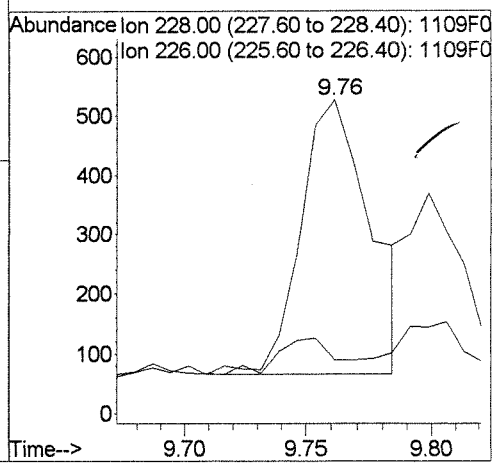


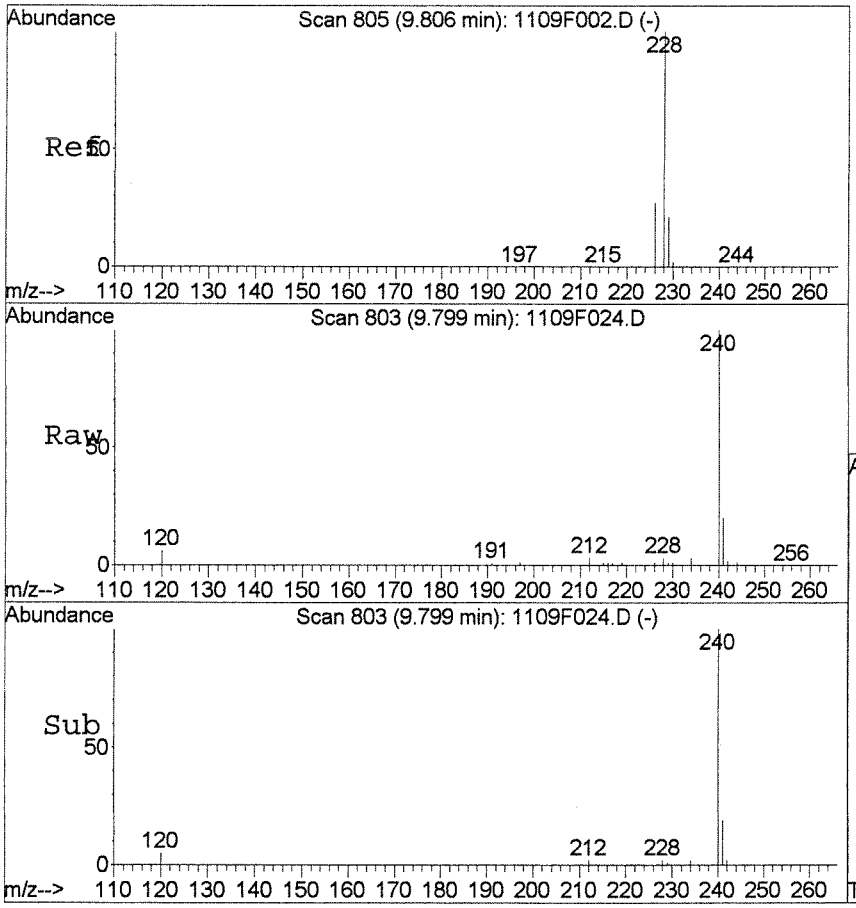


#43
Benz(a)anthracene
Concen: 0.61 ng/ml
RT: 9.76 min Scan# 798
Delta R.T. 0.02 min
Lab File: 1109F024.D
Acq: 9 Nov 2009 6:14 pm

Tgt Ion:228 Resp: 883

Ion	Ratio	Lower	Upper
228	100		
226	5.0	0.0	55.9

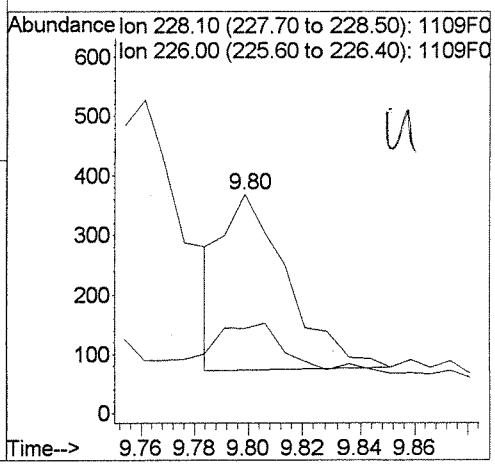




#44
Chrysene
Concen: 0.35 ng/ml
RT: 9.80 min Scan# 803
Delta R.T. -0.01 min
Lab File: 1109F024.D
Acq: 9 Nov 2009 6:14 pm

Tgt Ion:228 Resp: 492

Ion	Ratio	Lower	Upper
228	100		
226	26.1	0.0	58.8



COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	URS Corporation	**Service Request:**	K0910296
Project:	Boise St. Helens Pulp and Paper Mill-2009	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA

Polynuclear Aromatic Hydrocarbons

Sample Name:	Batch QC	**Units:**	ug/L
Lab Code:	K0910308-019	**Basis:**	NA
Extraction Method:	EPA 3520C	**Level:**	Low
Analysis Method:	8270C SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Naphthalene	**0.036**		0.019	0.0030	1	10/28/09	11/06/09	KWG0909945	
2-Methylnaphthalene	**0.011**	J	0.019	0.0023	1	10/28/09	11/06/09	KWG0909945	
1-Methylnaphthalene	ND	U	0.019	0.0035	1	10/28/09	11/06/09	KWG0909945	
2,6-Dimethylnaphthalene	ND	U	0.019	0.0022	1	10/28/09	11/06/09	KWG0909945	
Acenaphthylene	ND	U	0.019	0.0034	1	10/28/09	11/06/09	KWG0909945	
Acenaphthene	ND	U	0.019	0.0044	1	10/28/09	11/06/09	KWG0909945	
Dibenzofuran	ND	U	0.019	0.0046	1	10/28/09	11/06/09	KWG0909945	
2,3,5-Trimethylnaphthalene	ND	U	0.019	0.0050	1	10/28/09	11/06/09	KWG0909945	
Fluorene	**0.020**		0.019	0.0038	1	10/28/09	11/06/09	KWG0909945	
Phenanthrene	**0.054**		0.019	0.0050	1	10/28/09	11/06/09	KWG0909945	
Anthracene	**0.0053**	J	0.019	0.0036	1	10/28/09	11/06/09	KWG0909945	
1-Methylphenanthrene	ND	U	0.019	0.0041	1	10/28/09	11/06/09	KWG0909945	
Fluoranthene	**0.0096**	J	0.019	0.0044	1	10/28/09	11/06/09	KWG0909945	
Pyrene	**0.0078**	J	0.019	0.0035	1	10/28/09	11/06/09	KWG0909945	
Benz(a)anthracene	**0.0086**	J	0.019	0.0026	1	10/28/09	11/06/09	KWG0909945	
Chrysene	**0.019**		0.019	0.0034	1	10/28/09	11/06/09	KWG0909945	
Benzo(b)fluoranthene	**0.015**	J	0.019	0.0023	1	10/28/09	11/06/09	KWG0909945	
Benzo(k)fluoranthene	**0.012**	J	0.019	0.0025	1	10/28/09	11/06/09	KWG0909945	
Benzo(e)pyrene	**0.019**		0.019	0.0040	1	10/28/09	11/06/09	KWG0909945	
Benzo(a)pyrene	**0.0094**	J	0.019	0.0043	1	10/28/09	11/06/09	KWG0909945	
Indeno(1,2,3-cd)pyrene	**0.011**	J	0.019	0.0026	1	10/28/09	11/06/09	KWG0909945	
Dibenz(a,h)anthracene	**0.011**	J	0.019	0.0025	1	10/28/09	11/06/09	KWG0909945	
Benzo(g,h,i)perylene	**0.018**	J	0.019	0.0029	1	10/28/09	11/06/09	KWG0909945	
Perylene	**0.011**	J	0.019	0.0050	1	10/28/09	11/06/09	KWG0909945	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	84	28-98	11/06/09	Acceptable
Fluoranthene-d10	81	31-105	11/06/09	Acceptable
Terphenyl-d14	69	27-112	11/06/09	Acceptable

Comments:

Exception Report

Data File: J:\MS11\DATA\110609\1106F015.D
Lab ID: K0910308-019
RunType: SMPL
Matrix: WATER

Date Acquired: 11/06/2009 15:25
Date Quantitated: 11/10/2009 13:15
Batch ID: KWG0910516
Analysis Method: 8270C SIM
ListJoinID: LJ4448

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Tune Window	NA	NA	NA	x	
Analytical Holding Time	NA	NA	NA	x	
Preparation Holding Time	NA	NA	NA	x	
Pre-Preparation Holding Time	NA	NA	NA	x	
ICAL Pass/Fail	NA	NA	NA	x	
ICAL Average RSD	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Initial Calibration Minimum RF	NA	NA	NA	x	
Initial Calibration SPCC/CCC	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA	x	
Continuing Calibration Minimum RF	NA	NA	NA	x	
Continuing Calibration SPCC/CCC	NA	NA	NA	x	
Method Blank	NA	NA	NA	x	
MB Surrogate Recovery	NA	NA	NA	x	
Lab Control Spike	NA	NA	NA	x	
Internal Standards	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Relative Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Batch QC
K0296

Primary Review: 11/10/09

Secondary Review: 11-11-09

Quantitation Report

Bottle ID:		**Tier:**	V	**Matrix:**	WATER
Prod Code:	8270C SIM PAH_S	**Collect Date:**	10/22/2009	**Receive Date:**	10/24/2009

Analysis Lot:	KWG0910516	**Prep Lot:**	KWG0909945	**Report Group:**	K0910308
Analysis Method:	8270C SIM	**Prep Method:**	EPA 3520C		
Prep Ref:	861275	**Prep Date:**	10/28/2009		

Quant Method:	J:\MS11\METHODS\SIM\1015ALK.M	**Calibration ID:**	CAL8928
Title:	Polynuclear Aromatic Hydrocarbons	**Report List ID:**	LJ4448
Tune Ref:	J:\MS11\DATA\110609\1106F001.D	**Method ID:**	MJ138
MB Ref:		**Quant based on Report List**	

Data File:	J:\MS11\DATA\110609\1106F015.D			**Instrument:**	MS11
Acqu Date:	11/06/2009 15:25	**Quant Date:**	11/10/2009 13:15	**Vial:**	13
Run Type:	SMPL			**Dilution:**	1.0
Lab ID:	K0910308-019			**Soln Conc. Units:**	ng/ml

Internal Standard Compounds

IS Ref	Parameter Name	RT	RT Dev	Quant Mass	Response	Solution Conc	Area Criteria
1	Naphthalene-d8	4.64	0.00	136	217866	200.00	OK
2	Acenaphthene-d10	6.05	0.00	164	125117	200.00	OK
3	Phenanthrene-d10	7.27	0.00	188	201333	200.00	OK
4	Chrysene-d12	9.76	-0.01	240	276339	200.00	OK
5	Perylene-d12	12.78	0.00	264	256838	200.00	OK

Surrogate Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	%Rec	%Rec Limits		Rpt?
2	Fluorene-d10	6.47	0.00	0.00	176	196414	336.47	84	28-98	OK	
3	Fluoranthene-d10	8.24	0.00	0.00	212	359657	322.36	81	31-105	OK	
4	Terphenyl-d14	8.58	-0.01	0.00	244	315638	276.30	69	27-112	OK	

Target Compounds

Final Conc. Units: ug/L

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	Final Conc	Q	Rpt?
1	Naphthalene	4.66	0.01	0.00	128	7573**m**	7.55	0.036		
1	2-Methylnaphthalene	5.21		0.00	142	1660**m**	2.40	0.011	J	
2	Acenaphthylene	5.94	0.01	0.00	152	787**m**	0.7200	0.0034	U	
2	Acenaphthene	6.04	-0.03	0.00	154	429	0.6600	0.0044	U	
2	Dibenzofuran	6.22		0.00	168	253	0.2900	0.0046	U	
2	Fluorene	6.50	0.01	0.00	166	2977**m**	4.27	0.020		
3	Phenanthrene	7.29		0.00	178	12889**m**	11.41	0.054		
3	Anthracene	7.34	0.01	0.00	178	1210**m**	1.12	0.0053	J	
3	Fluoranthene	8.26	0.01	0.00	202	2525	2.04	0.0096	J	
4	Pyrene	8.45	0.01	0.00	202	2515**m**	1.66	0.0078	J	
4	Benz(a)anthracene	9.76	0.01	0.00	228	2735	1.82	0.0086	J	
4	Chrysene	9.80		0.00	228	5983	4.09	0.019		
5	Benzo(b)fluoranthene	11.78	0.02	0.00	252	4161	3.11	0.015	J	

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Data File:	J:\MS11\DATA\110609\1106F015.D			**Instrument:**	MS11
Acqu Date:	11/06/2009 15:25	**Quant Date:**	11/10/2009 13:15	**Vial:**	13
Run Type:	SMPL			**Dilution:**	1.0
Lab ID:	K0910308-019			**Soln Conc. Units:**	ng/ml

Target Compounds **Final Conc. Units:** ug/L

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	Final Conc	Q	Rpt?
5	Benzo(k)fluoranthene	11.85	0.02	0.00	252	3247	2.46	0.012	J	
5	Benzo(a)pyrene	12.63	0.02	0.00	252	2528	1.99	0.0094	J	
5	Indeno(1,2,3-cd)pyrene	16.36	0.03	0.00	276	2666	2.29	0.011	J	
5	Dibenz(a,h)anthracene	16.44	0.03	0.00	278	2946	2.35	0.011	J	
5	Benzo(g,h,i)perylene	16.83	0.02	0.00	276	5032	3.75	0.018	J	

Prep Amount: 1060 ml **Dilution:** 1.0
Prep Final Vol: 5 ml **Unit Factor:** 1

Final Concentration = ((Soln Conc x Prep Final Vol x Dilution) / Prep Amount) x Unit Factor

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\110609\1106F015.D Vial: 13
Acq On : 6 Nov 2009 3:25 pm Operator: LWeiskopf
Sample : K0910308-019 Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 10 08:36:43 2009 Quant Results File: 1015ALK.RES

Quant Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Tue Nov 10 08:36:05 2009
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

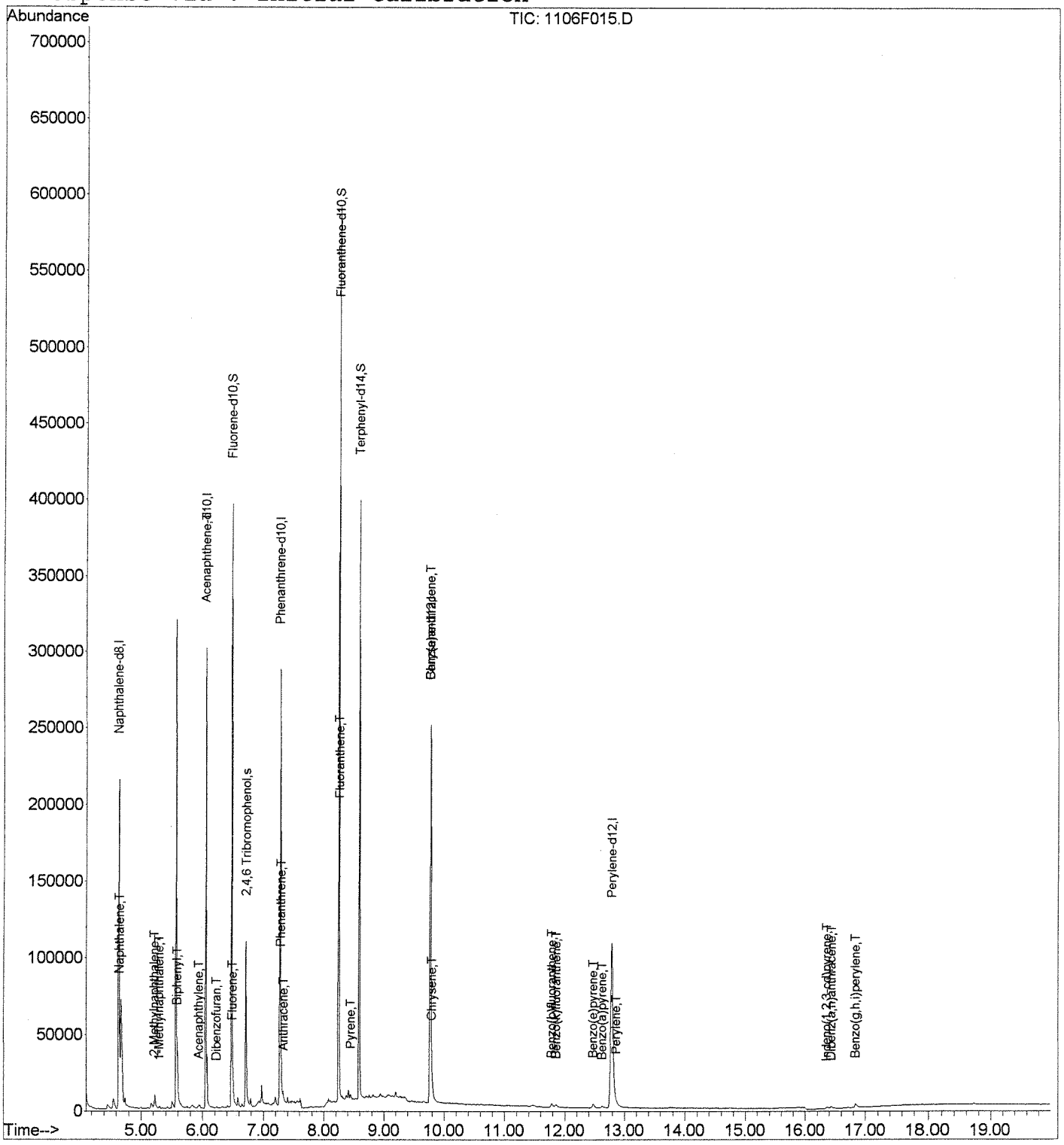
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	4.64	136	217866	200.00	ng/ml	-0.02
10) Acenaphthene-d10	6.05	164	125117	200.00	ng/ml	-0.02
22) Phenanthrene-d10	7.27	188	201333	200.00	ng/ml	-0.02
37) Chrysene-d12	9.76	240	276339	200.00	ng/ml	-0.04
49) Perylene-d12	12.78	264	256838	200.00	ng/ml	-0.07
System Monitoring Compounds						
15) Fluorene-d10	6.47	176	196414	336.47	ng/ml	-0.02
Spiked Amount 200.000			Recovery = 168.24%			
20) 2,4,6 Tribromophenol	6.71	330	57814	514.50	ng/ml	-0.02
Spiked Amount 375.000			Recovery = 137.20%			
36) Fluoranthene-d10	8.24	212	359657	322.36	ng/ml	-0.02
Spiked Amount 200.000			Recovery = 161.18%			
42) Terphenyl-d14	8.58	244	315638	276.30	ng/ml	-0.02
Spiked Amount 200.000			Recovery = 138.15%			
Target Compounds						Qvalue
2) Naphthalene	4.66	128	7573m	7.55	ng/ml	
3) 2-Methylnaphthalene	5.21	142	1660m	2.40	ng/ml	
4) 1-Methylnaphthalene	5.30	142	457m	0.62	ng/ml	
5) Biphenyl	5.59	154	16215m	20.58	ng/ml	
11) Acenaphthylene	5.94	152	787m	0.72	ng/ml	
12) Acenaphthene	6.04	154	429	0.66	ng/ml	87
13) Dibenzofuran	6.22	168	253	0.29	ng/ml	60
16) Fluorene	6.50	166	2977m	4.27	ng/ml	
27) Phenanthrene	7.29	178	12889m	11.41	ng/ml	
28) Anthracene	7.34	178	1210m	1.12	ng/ml	
35) Fluoranthene	8.26	202	2525	2.04	ng/ml	99
38) Pyrene	8.45	202	2515m	1.66	ng/ml	
43) Benz(a)anthracene	9.76	228	2735	1.82	ng/ml	93
44) Chrysene	9.80	228	5983	4.09	ng/ml	97
50) Benzo(b)fluoranthene	11.78	252	4161	3.11	ng/ml	97
51) Benzo(k)fluoranthene	11.85	252	3247	2.46	ng/ml	86
52) Benzo(e)pyrene	12.48	252	5065	4.04	ng/ml	96
53) Benzo(a)pyrene	12.63	252	2528	1.99	ng/ml	92
54) Perylene	12.87	252	2818	2.27	ng/ml	80
55) Indeno(1,2,3-cd)pyrene	16.36	276	2666	2.29	ng/ml	92
56) Dibenz(a,h)anthracene	16.44	278	2946	2.35	ng/ml	89
57) Benzo(g,h,i)perylene	16.83	276	5032	3.75	ng/ml	98

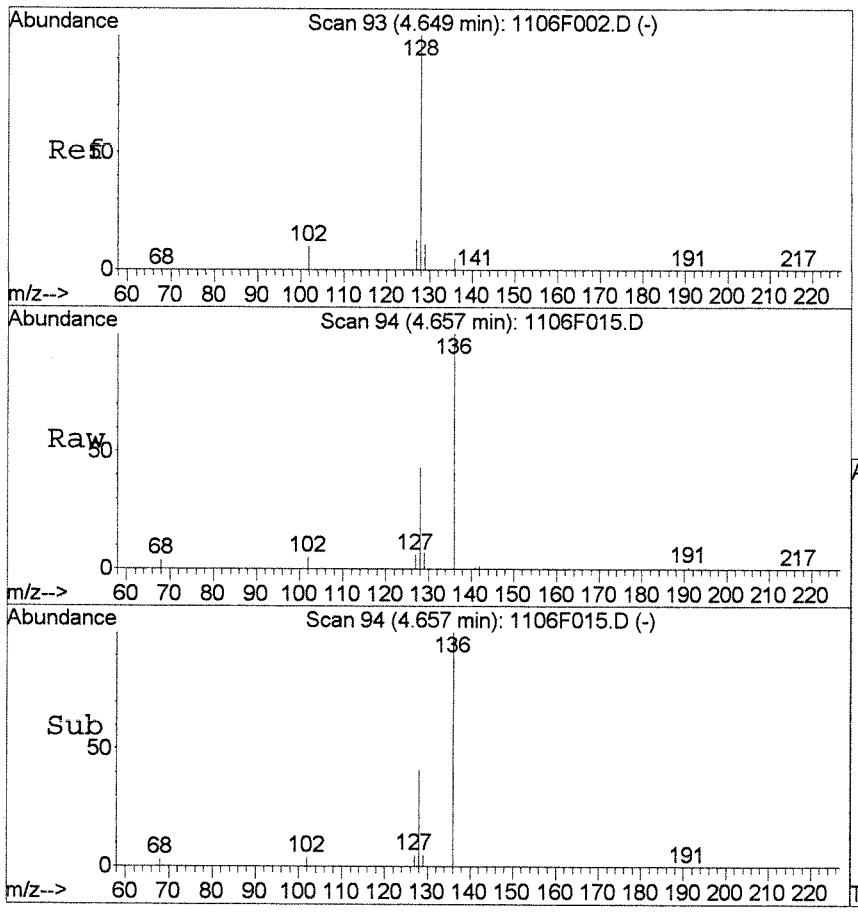
(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\110609\1106F015.D Vial: 13
Acq On : 6 Nov 2009 3:25 pm Operator: LWeiskopf
Sample : K0910308-019 Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 10 13:15 2009 Quant Results File: 1015ALK.RES

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Tue Nov 10 08:36:05 2009
Response via : Initial Calibration

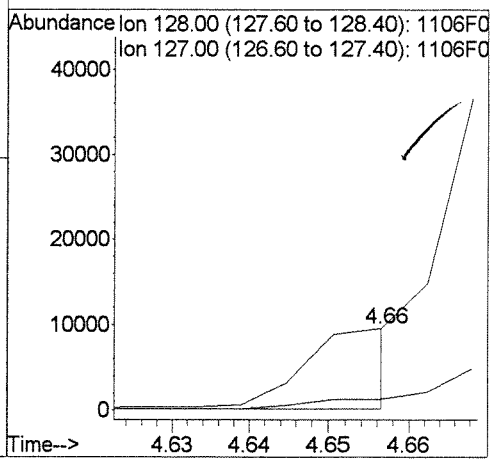


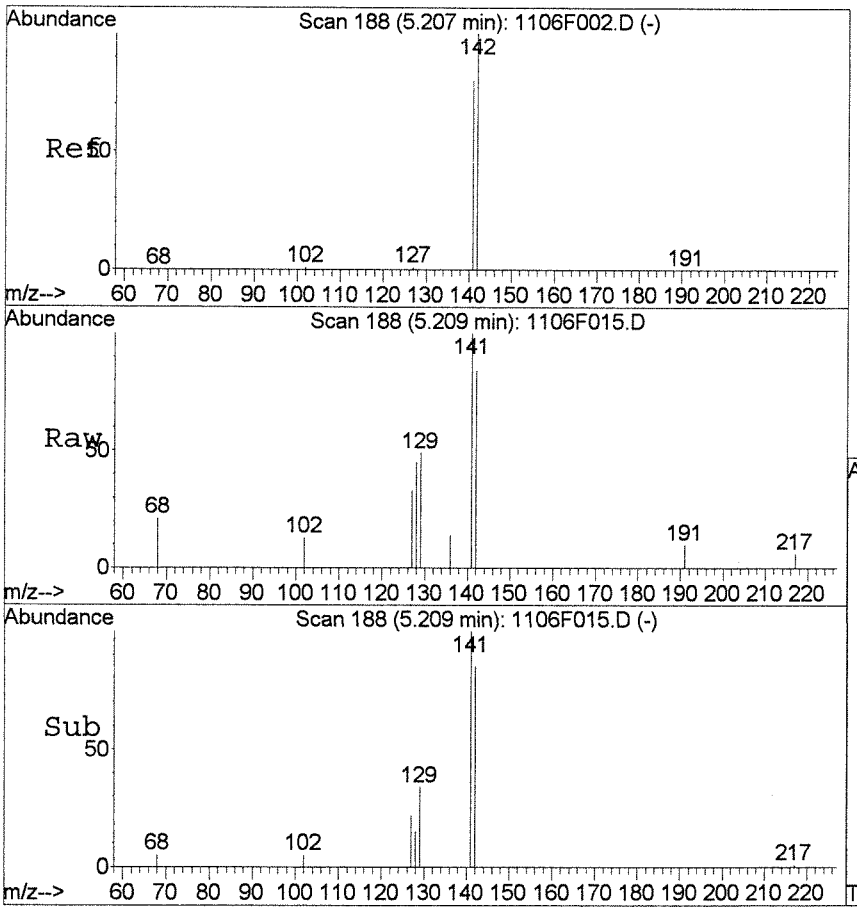


#2
Naphthalene
Concen: 7.55 ng/ml m
RT: 4.66 min Scan# 94
Delta R.T. -0.02 min
Lab File: 1106F015.D
Acq: 6 Nov 2009 3:25 pm

Tgt Ion:128 Resp: 7573

Ion	Ratio	Lower	Upper
128	100		
127	13.9	0.0	42.4

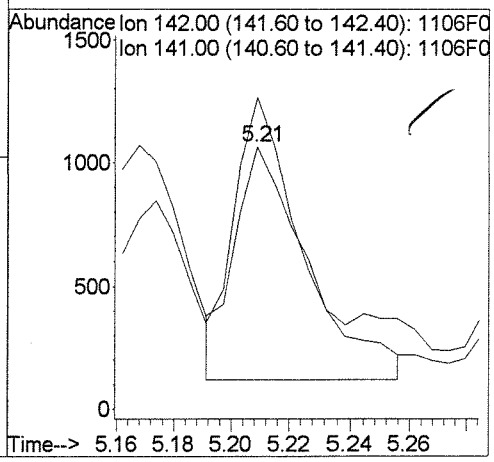


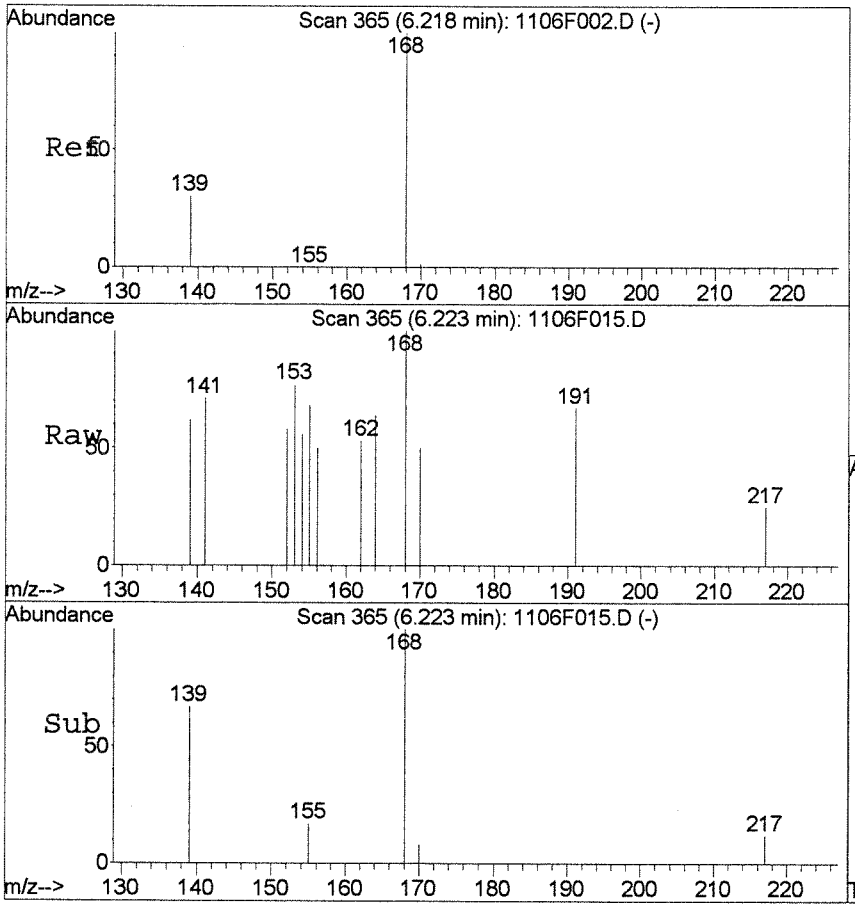


#3
2-Methylnaphthalene
Concen: 2.40 ng/ml m
RT: 5.21 min Scan# 188
Delta R.T. -0.02 min
Lab File: 1106F015.D
Acq: 6 Nov 2009 3:25 pm

Tgt Ion:142 Resp: 1660

Ion	Ratio	Lower	Upper
142	100		
141	118.8	56.1	116.1#

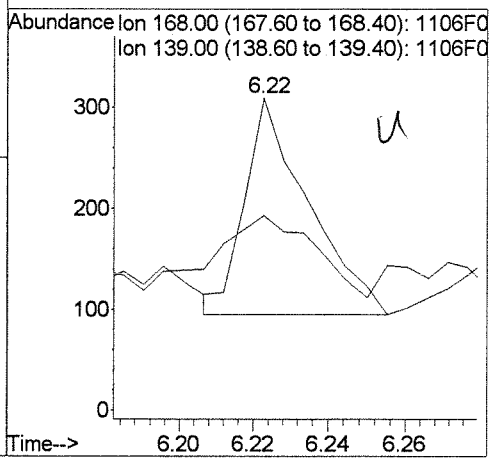


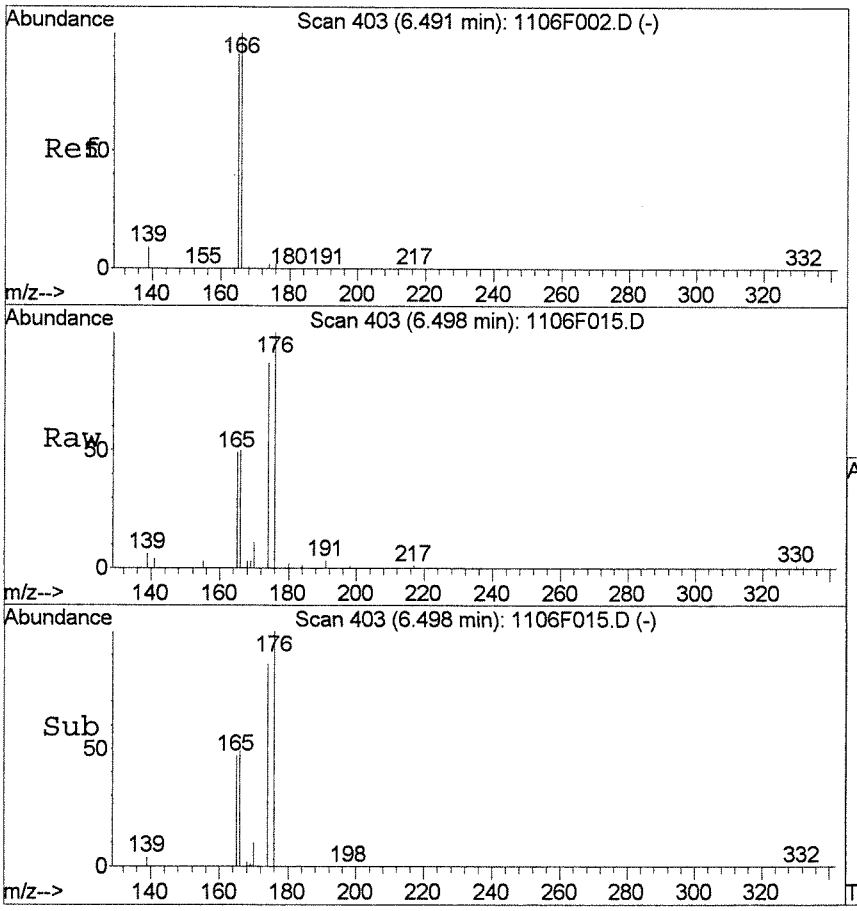


#13
Dibenzofuran
Concen: 0.29 ng/ml
RT: 6.22 min Scan# 365
Delta R.T. -0.02 min
Lab File: 1106F015.D
Acq: 6 Nov 2009 3:25 pm

Tgt Ion:168 Resp: 253

Ion	Ratio	Lower	Upper
168	100		
139	24.8	23.3	83.3

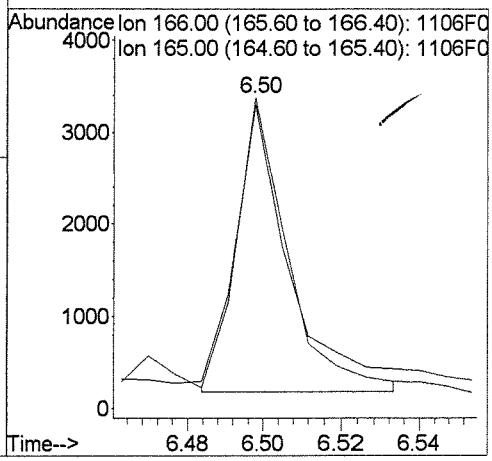


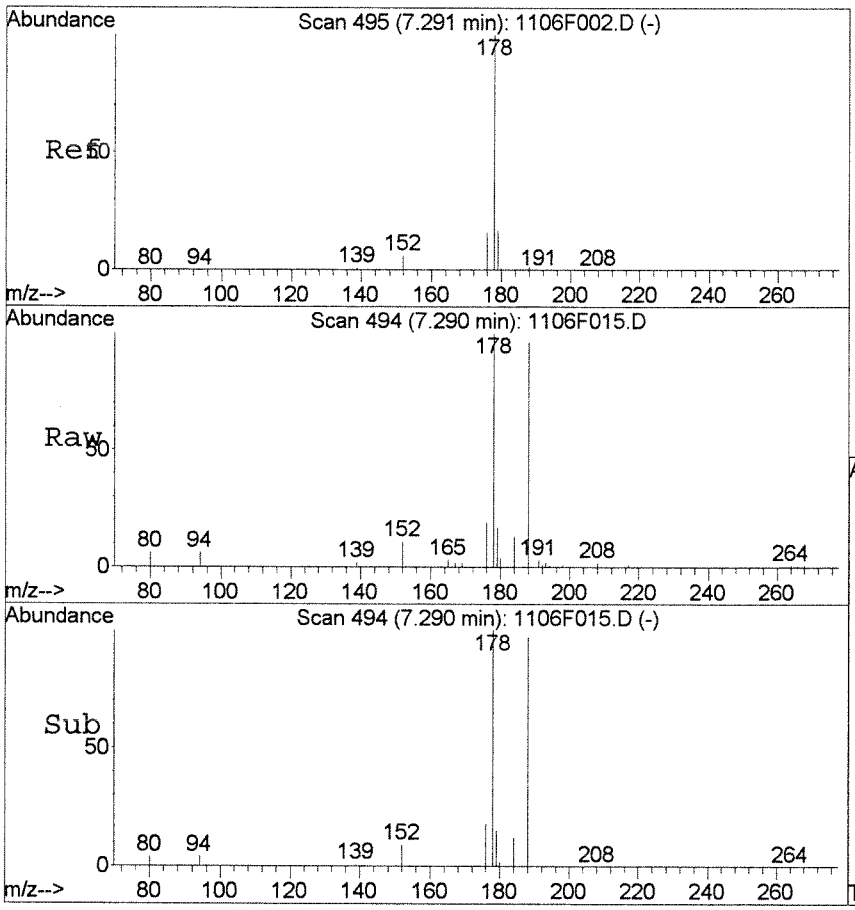


#16
Fluorene
Concen: 4.27 ng/ml m
RT: 6.50 min Scan# 403
Delta R.T. -0.02 min
Lab File: 1106F015.D
Acq: 6 Nov 2009 3:25 pm

Tgt Ion:166 Resp: 2977

Ion	Ratio	Lower	Upper
166	100		
165	97.9	57.8	117.8

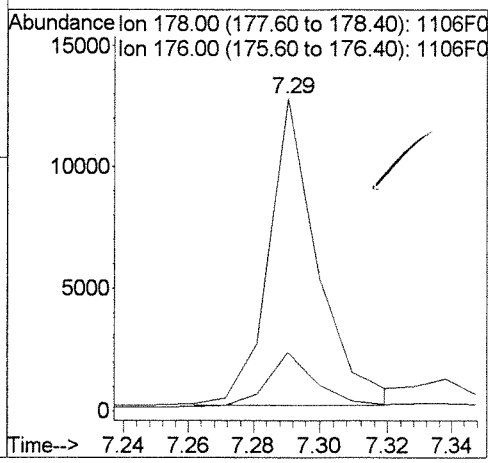


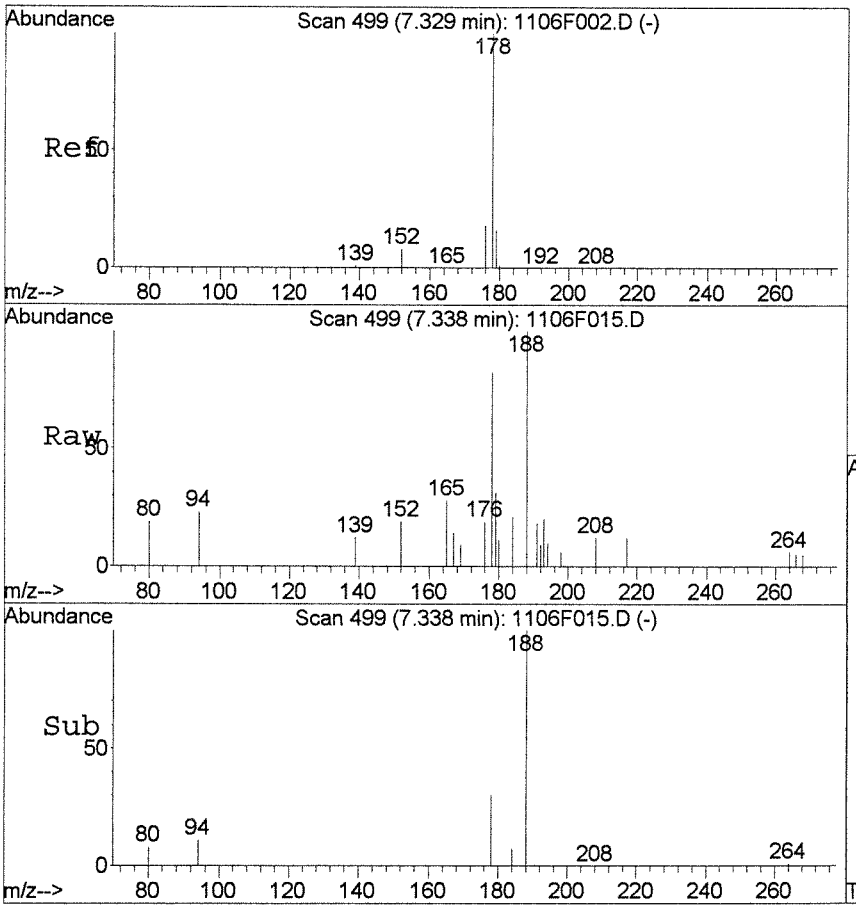


#27
Phenanthrene
Concen: 11.41 ng/ml m
RT: 7.29 min Scan# 494
Delta R.T. -0.02 min
Lab File: 1106F015.D
Acq: 6 Nov 2009 3:25 pm

Tgt Ion:178 Resp: 12889

Ion	Ratio	Lower	Upper
178	100		
176	18.8	0.0	49.6

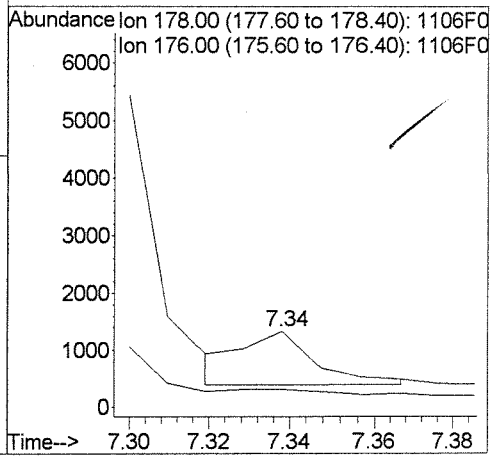


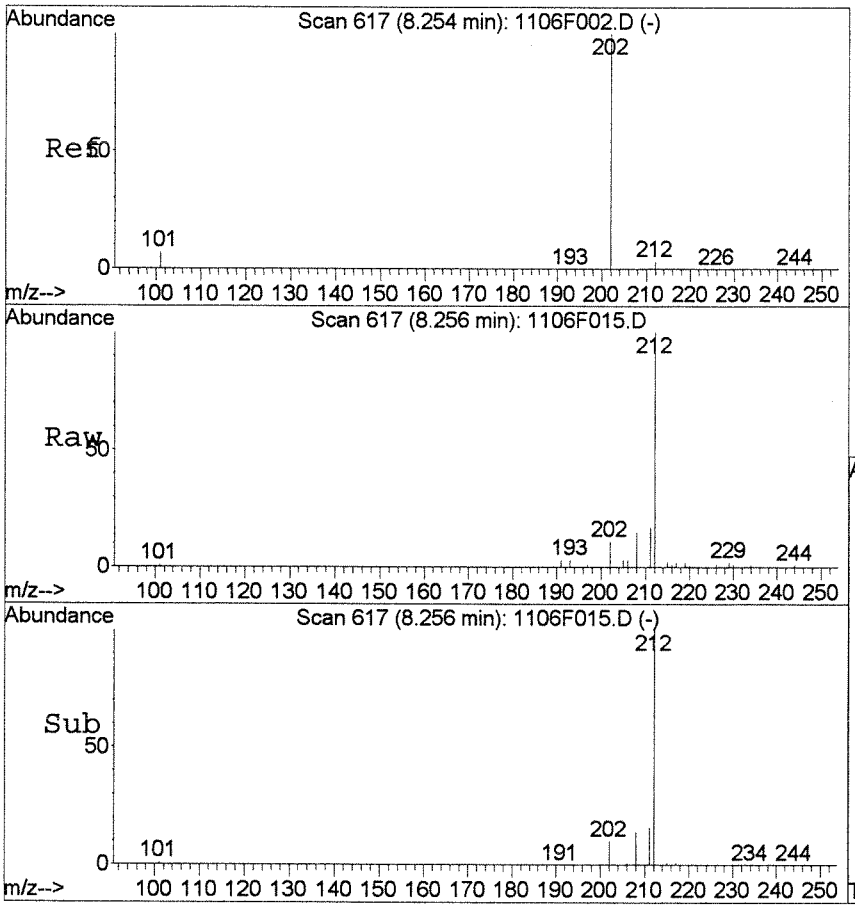


#28
Anthracene
Concen: 1.12 ng/ml m
RT: 7.34 min Scan# 499
Delta R.T. -0.01 min
Lab File: 1106F015.D
Acq: 6 Nov 2009 3:25 pm

Tgt Ion:178 Resp: 1210

Ion	Ratio	Lower	Upper
178	100		
176	23.7	0.0	47.6

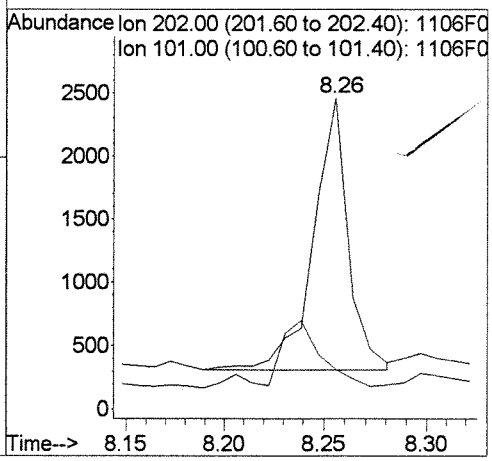


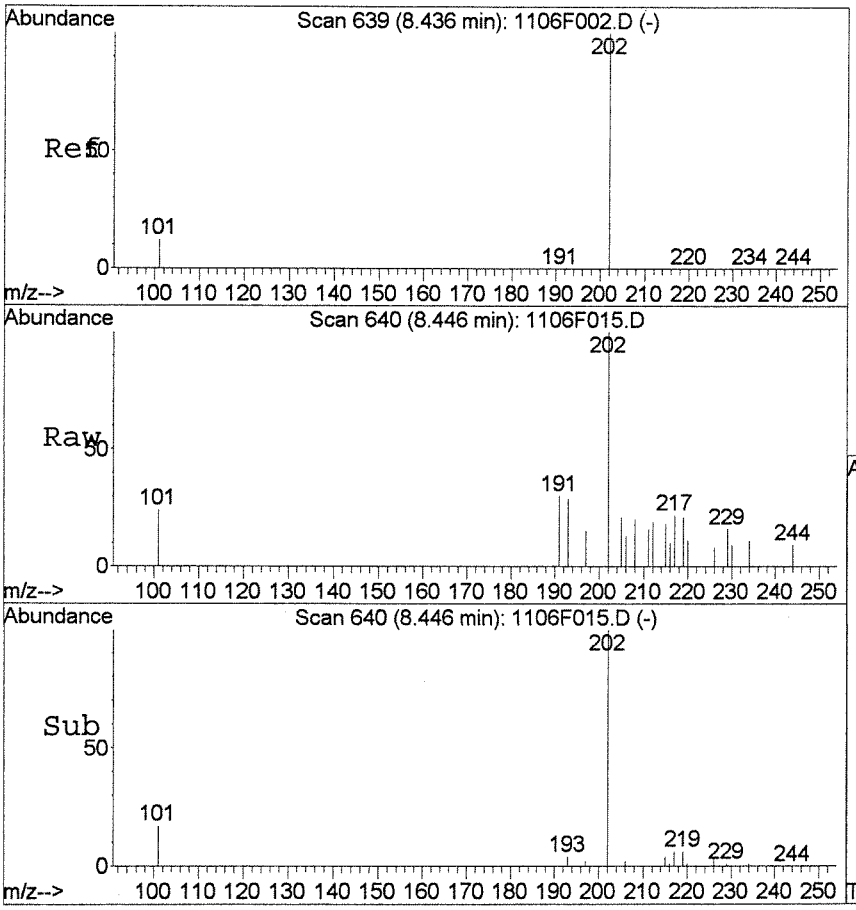


#35
Fluoranthene
Concen: 2.04 ng/ml
RT: 8.26 min Scan# 617
Delta R.T. -0.01 min
Lab File: 1106F015.D
Acq: 6 Nov 2009 3:25 pm

Tgt Ion:202 Resp: 2525

Ion	Ratio	Lower	Upper
202	100		
101	6.9	0.0	36.5

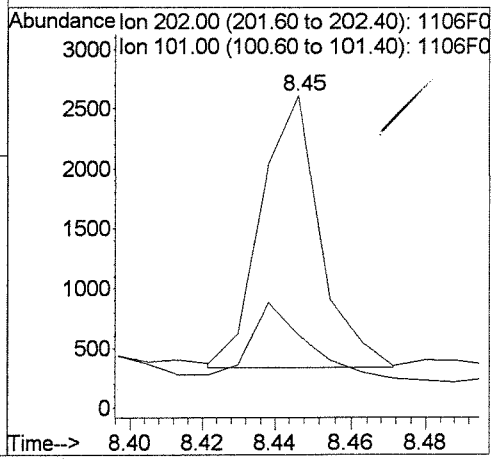


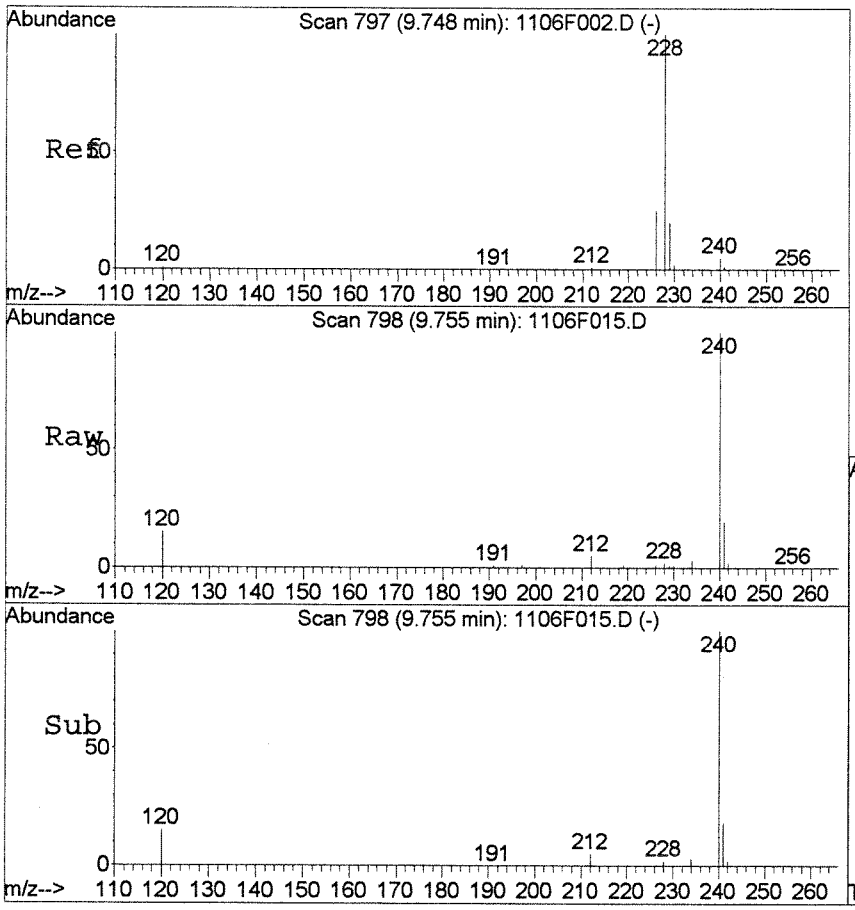


#38
Pyrene
Concen: 1.66 ng/ml m
RT: 8.45 min Scan# 640
Delta R.T. -0.01 min
Lab File: 1106F015.D
Acq: 6 Nov 2009 3:25 pm

Tgt Ion:202 Resp: 2515

Ion	Ratio	Lower	Upper
202	100		
101	23.6	0.0	36.4

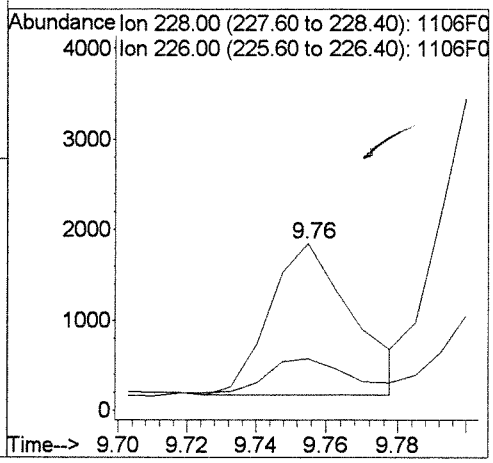


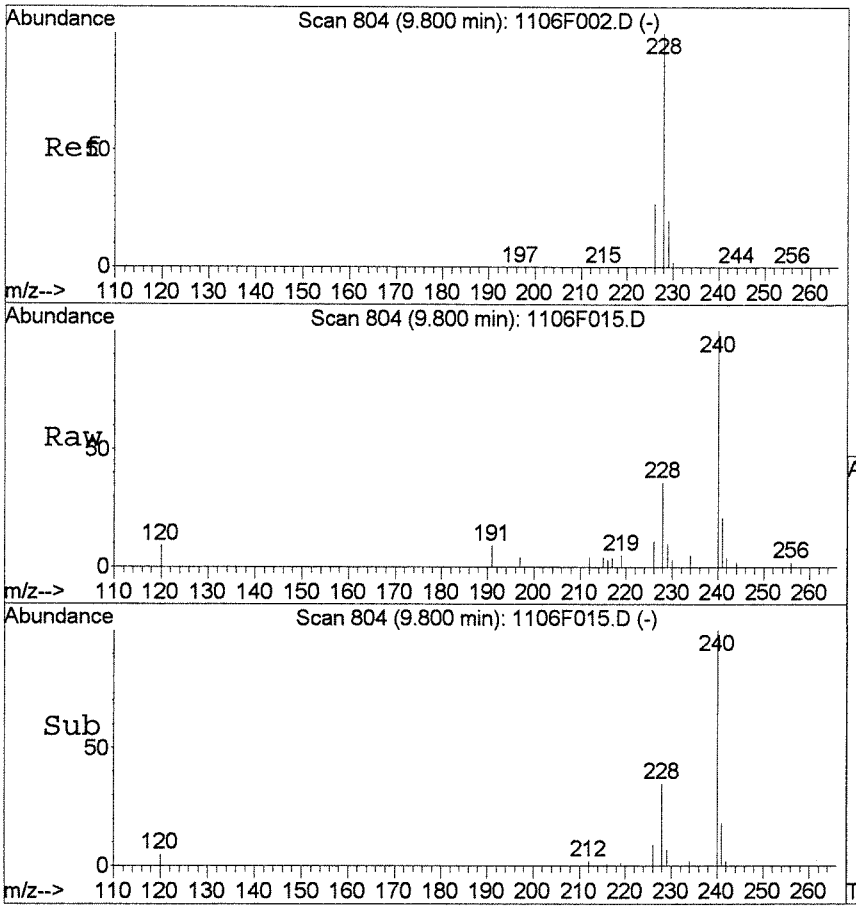


#43
Benz(a)anthracene
Concen: 1.82 ng/ml
RT: 9.76 min Scan# 798
Delta R.T. -0.03 min
Lab File: 1106F015.D
Acq: 6 Nov 2009 3:25 pm

Tgt Ion:228 Resp: 2735

Ion	Ratio	Lower	Upper
228	100		
226	22.5	0.0	55.9

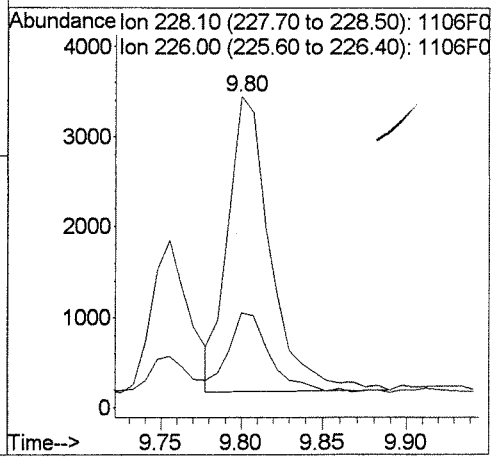


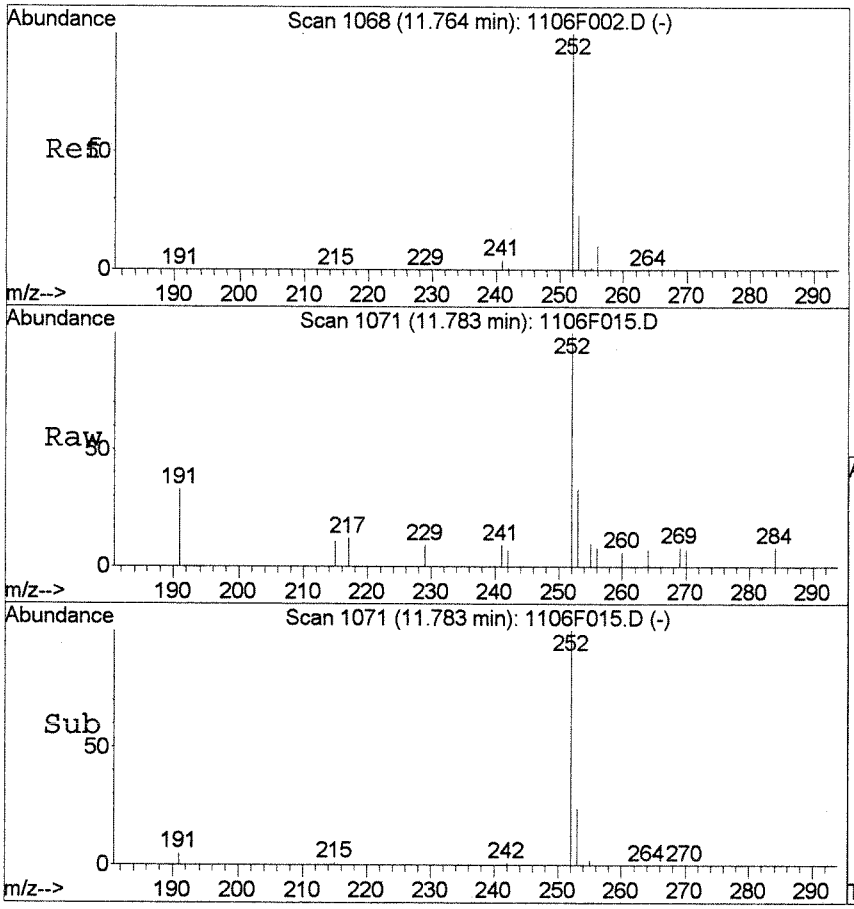


#44
Chrysene
Concen: 4.09 ng/ml
RT: 9.80 min Scan# 804
Delta R.T. -0.04 min
Lab File: 1106F015.D
Acq: 6 Nov 2009 3:25 pm

Tgt Ion:228 Resp: 5983

Ion	Ratio	Lower	Upper
228	100		
226	27.1	0.0	58.8

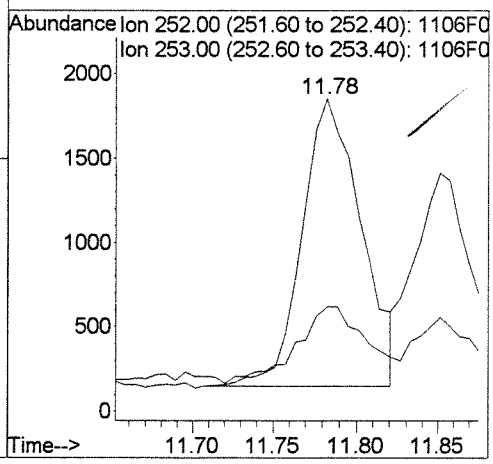


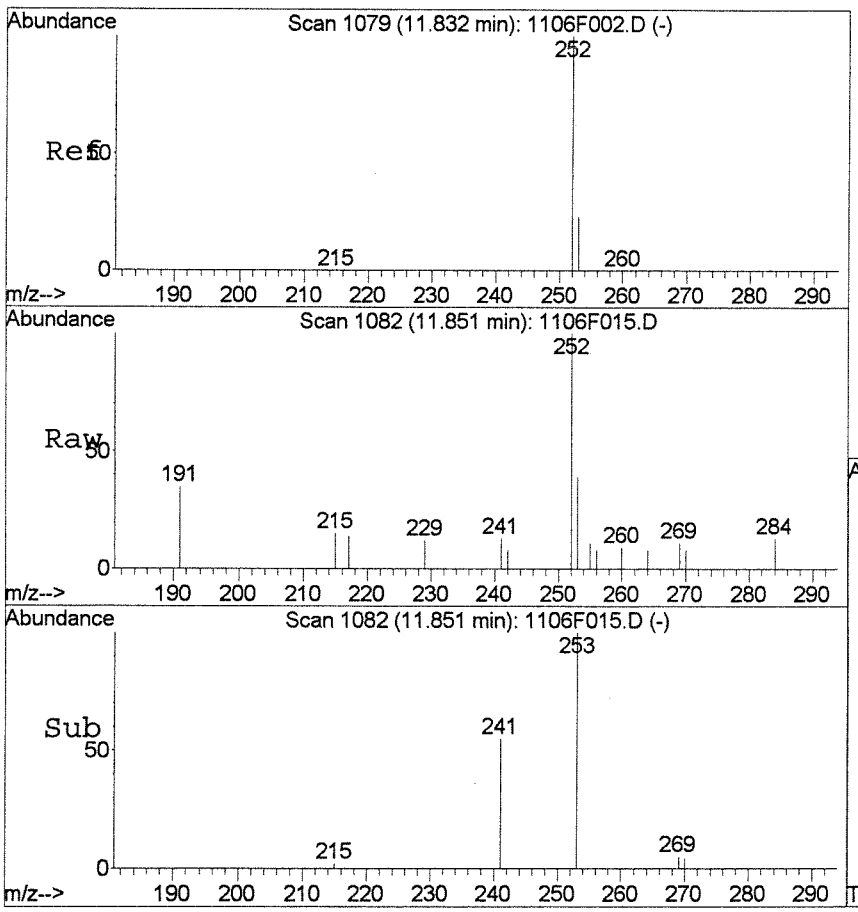


#50
Benzo(b)fluoranthene
Concen: 3.11 ng/ml
RT: 11.78 min Scan# 1071
Delta R.T. -0.05 min
Lab File: 1106F015.D
Acq: 6 Nov 2009 3:25 pm

Tgt Ion:252 Resp: 4161

Ion	Ratio	Lower	Upper
252	100		
253	24.2	0.0	52.8

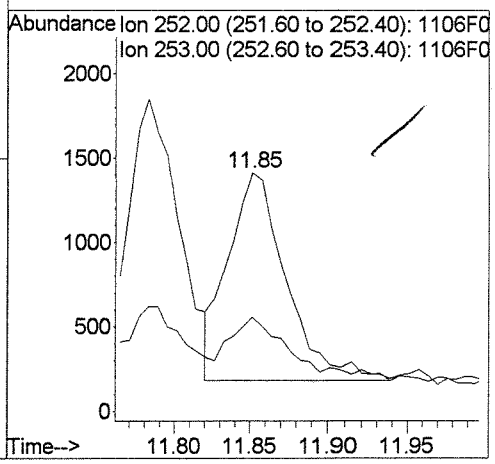


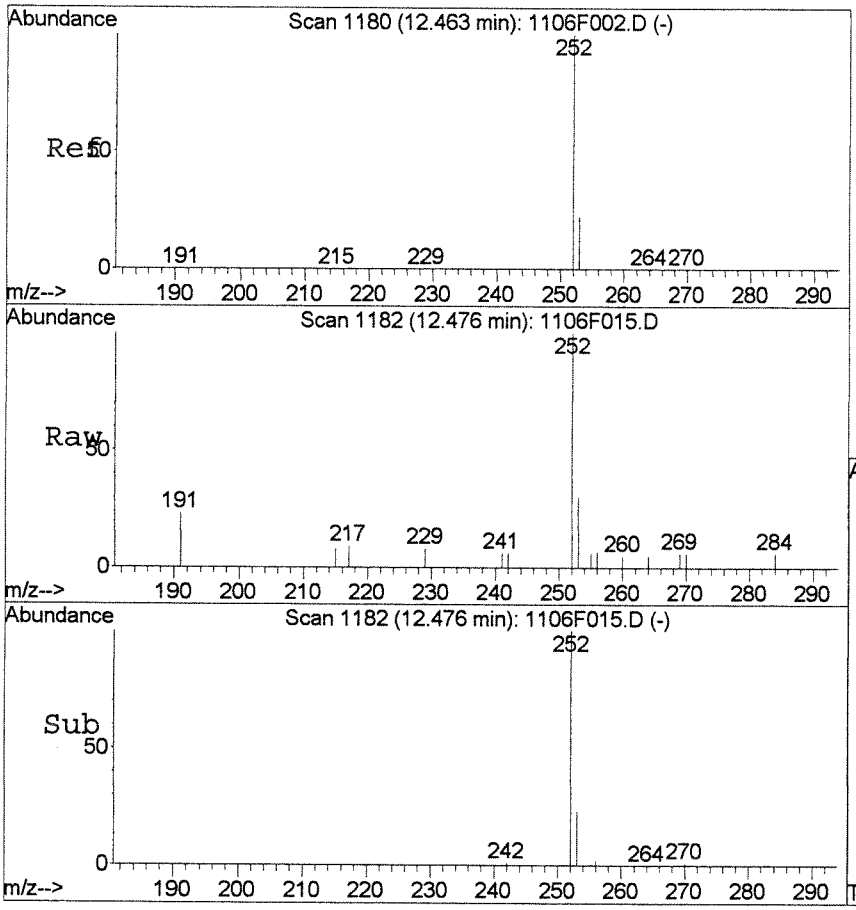


#51
Benzo(k)fluoranthene
Concen: 2.46 ng/ml
RT: 11.85 min Scan# 1082
Delta R.T. -0.05 min
Lab File: 1106F015.D
Acq: 6 Nov 2009 3:25 pm

Tgt Ion:252 Resp: 3247

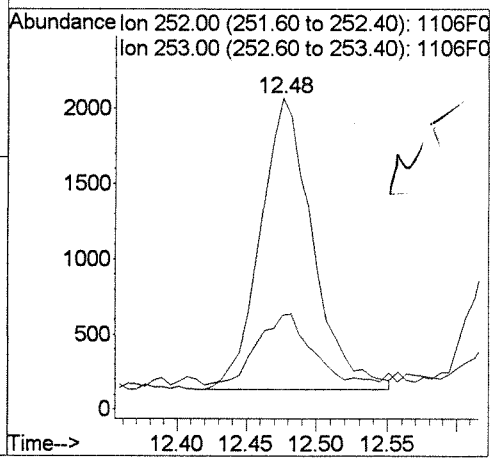
Ion	Ratio	Lower	Upper
252	100		
253	29.3	0.0	52.5

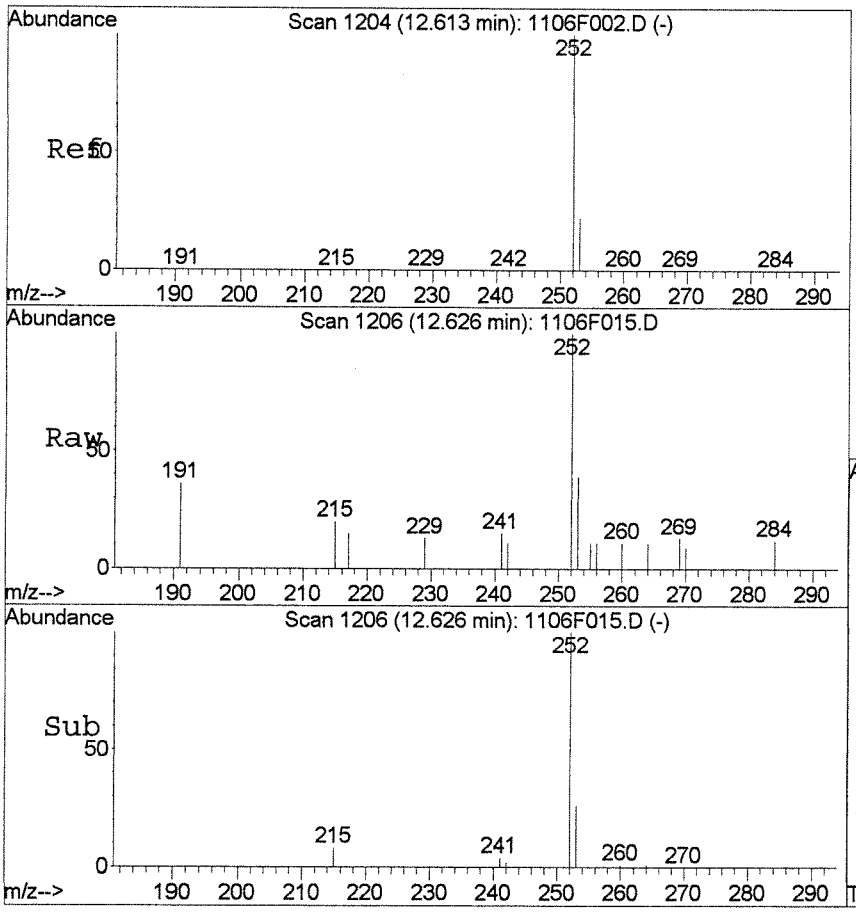




#52
Benzo(e)pyrene
Concen: 4.04 ng/ml
RT: 12.48 min Scan# 1182
Delta R.T. -0.06 min
Lab File: 1106F015.D
Acq: 6 Nov 2009 3:25 pm

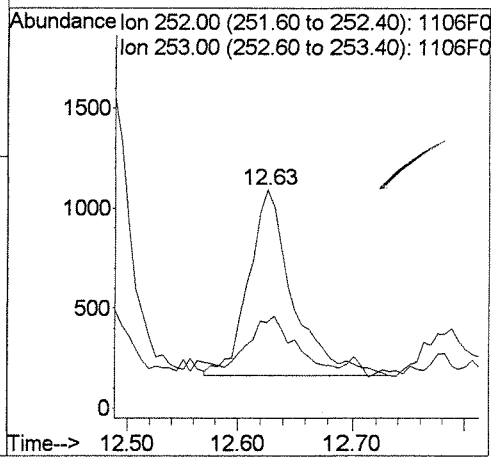
Tgt Ion:252	Resp:	5065	
Ion	Ratio	Lower	Upper
252	100		
253	24.0	0.0	52.3

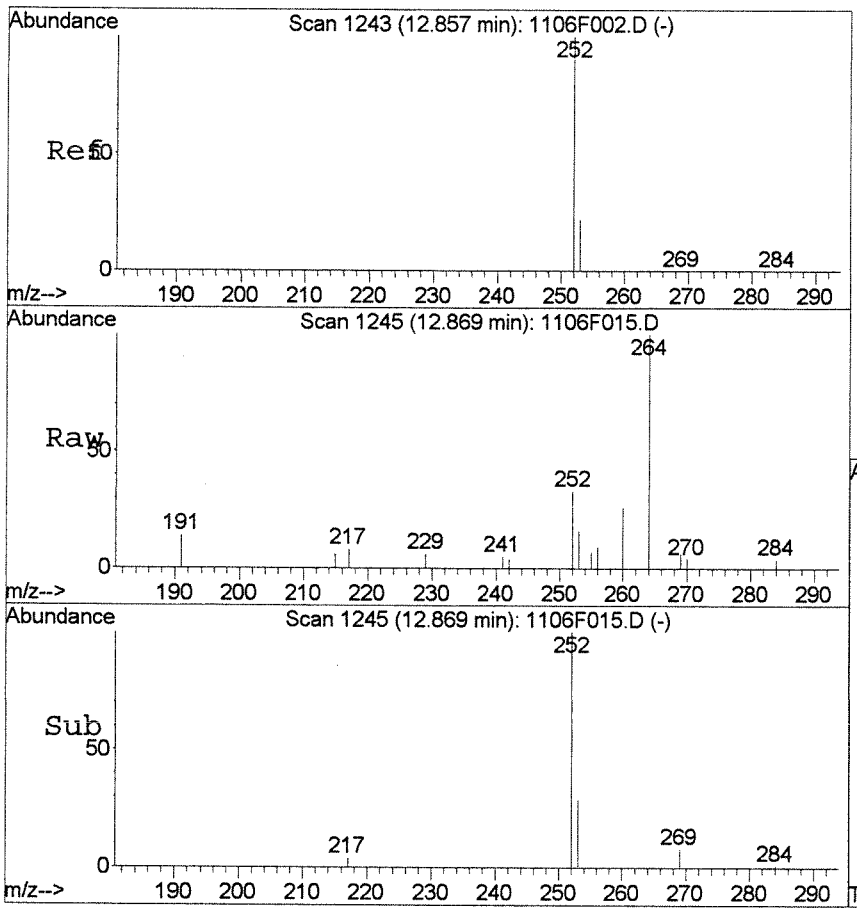




#53
Benzo(a)pyrene
Concen: 1.99 ng/ml
RT: 12.63 min Scan# 1206
Delta R.T. -0.05 min
Lab File: 1106F015.D
Acq: 6 Nov 2009 3:25 pm

Tgt Ion:252	Resp:	2528	
Ion	Ratio	Lower	Upper
252	100		
253	26.5	0.0	52.6

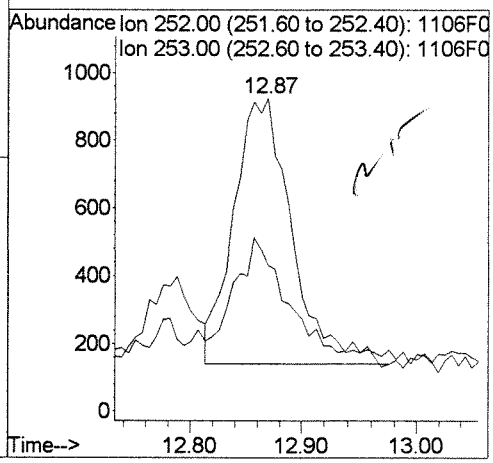


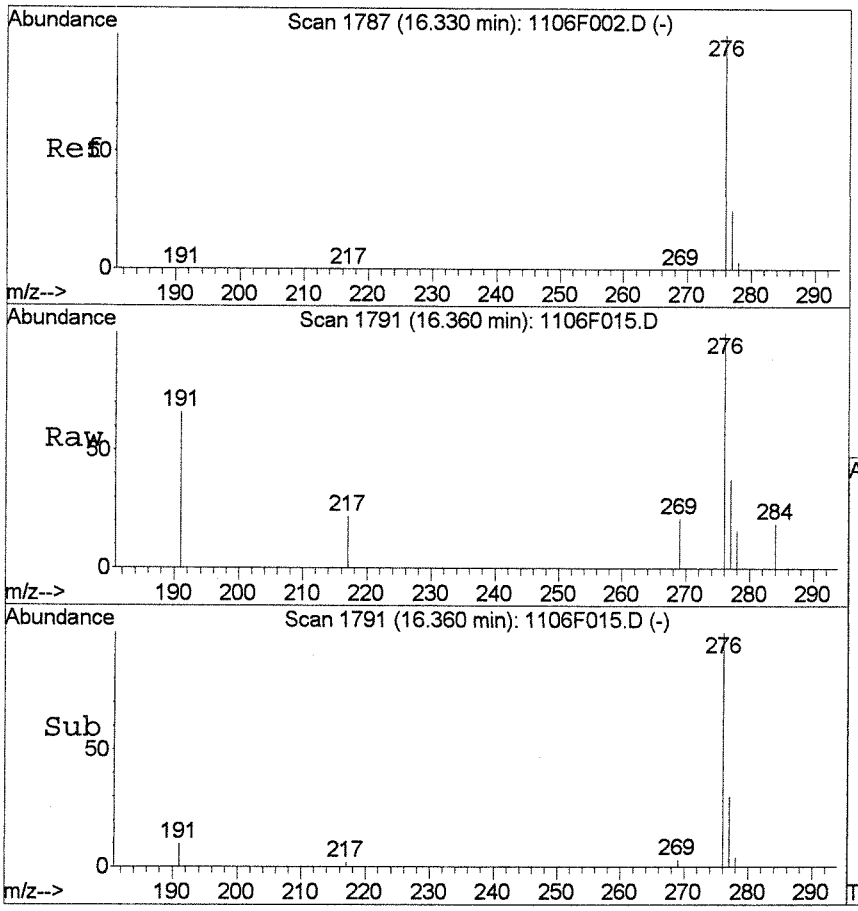


#54
Perylene
Concen: 2.27 ng/ml
RT: 12.87 min Scan# 1245
Delta R.T. -0.06 min
Lab File: 1106F015.D
Acq: 6 Nov 2009 3:25 pm

Tgt Ion:252 Resp: 2818

Ion	Ratio	Lower	Upper
252	100		
253	31.7	0.0	52.0

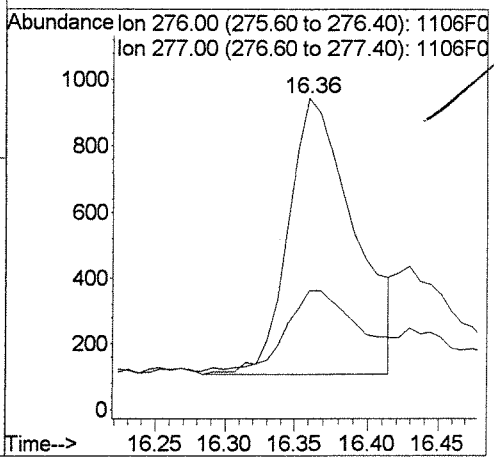


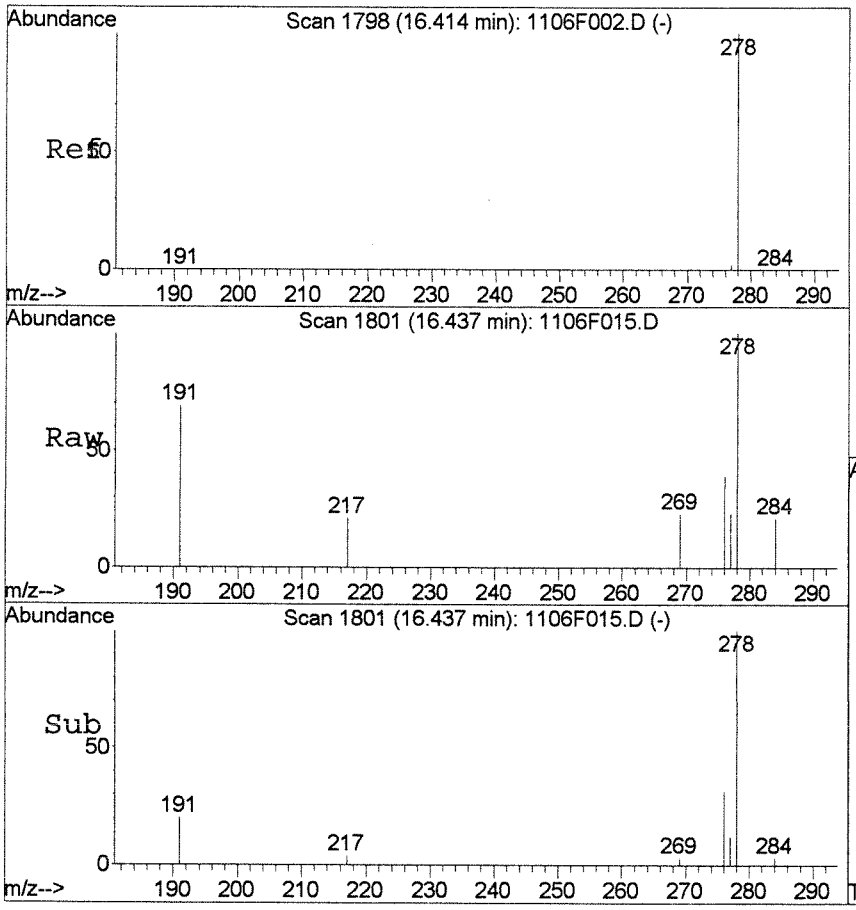


#55
Indeno(1,2,3-cd)pyrene
Concen: 2.29 ng/ml
RT: 16.36 min Scan# 1791
Delta R.T. -0.02 min
Lab File: 1106F015.D
Acq: 6 Nov 2009 3:25 pm

Tgt Ion:276 Resp: 2666

Ion	Ratio	Lower	Upper
276	100		
277	29.2	0.0	55.1

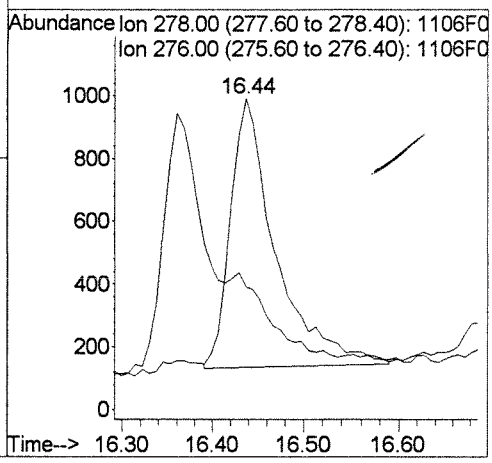


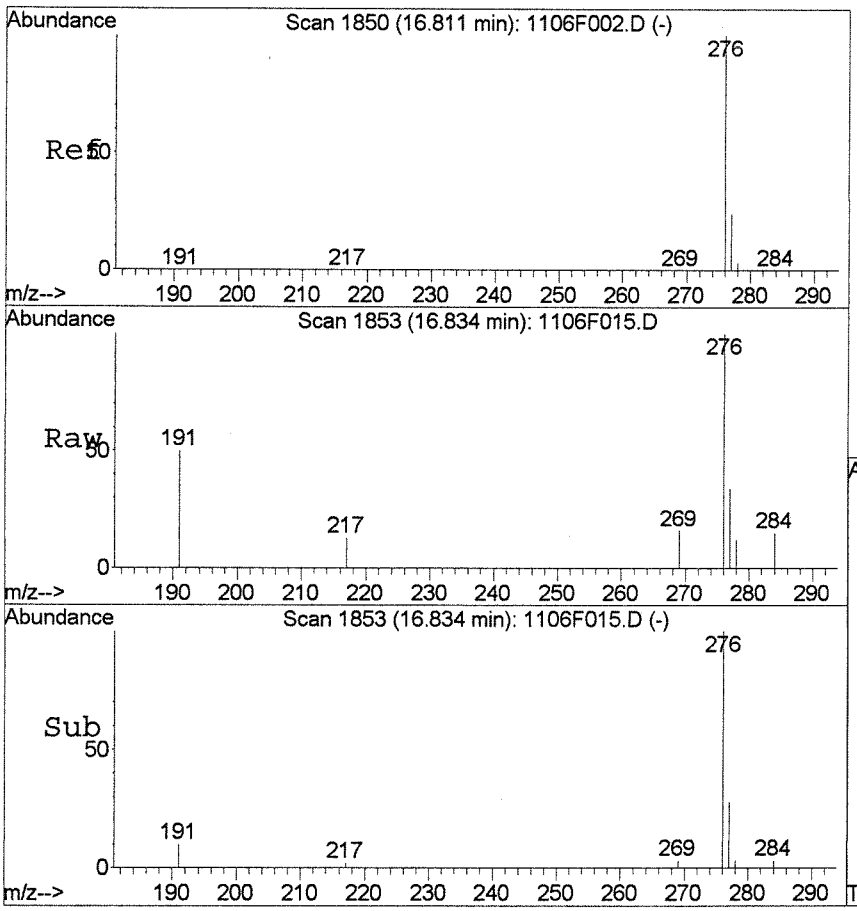


#56
Dibenz(a,h)anthracene
Concen: 2.35 ng/ml
RT: 16.44 min Scan# 1801
Delta R.T. -0.02 min
Lab File: 1106F015.D
Acq: 6 Nov 2009 3:25 pm

Tgt Ion:278 Resp: 2946

Ion	Ratio	Lower	Upper
278	100		
276	27.4	0.0	52.1

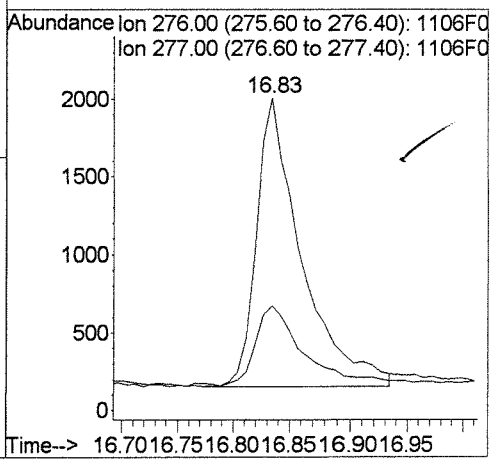




#57
Benzo(g,h,i)perylene
Concen: 3.75 ng/ml
RT: 16.83 min Scan# 1853
Delta R.T. -0.02 min
Lab File: 1106F015.D
Acq: 6 Nov 2009 3:25 pm

Tgt Ion:276 Resp: 5032

Ion	Ratio	Lower	Upper
276	100		
277	26.9	0.0	55.7

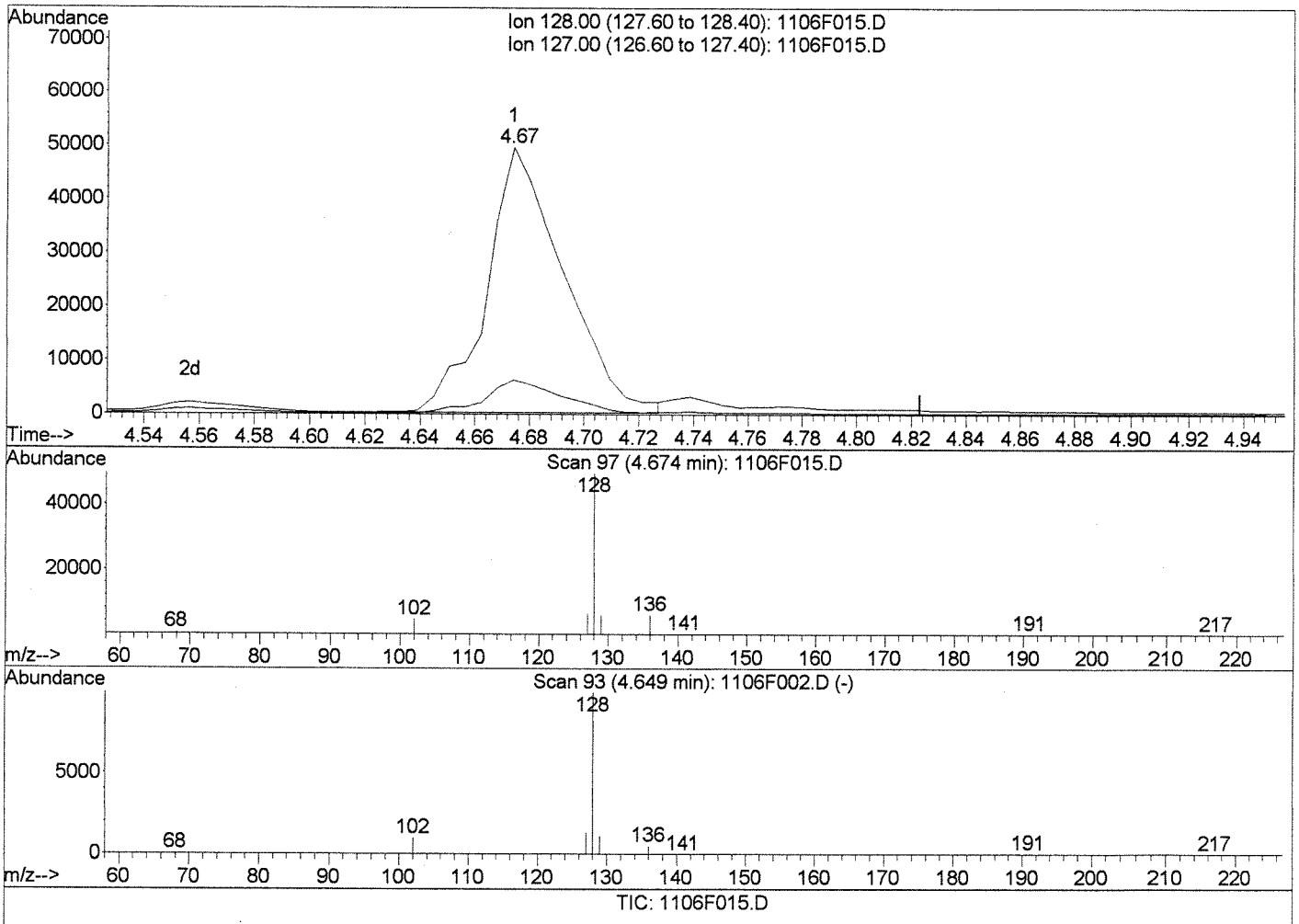


Quantitation Report (Qedit)

Data File : J:\MS11\DATA\110609\1106F015.D
Acq On : 6 Nov 2009 3:25 pm
Sample : K0910308-019
Misc :
MS Integration Params: RTEINT.P
Quant Time: Nov 10 8:36 2009

Vial: 13
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Tue Nov 10 08:36:05 2009
Response via : Multiple Level Calibration



TIC: 1106F015.D

(2) Naphthalene (T)

4.67min 95.91ng/ml

response 96157

Ion	Exp%	Act%
128.00	100	100
127.00	12.40	12.56
0.00	0.00	0.00
0.00	0.00	0.00

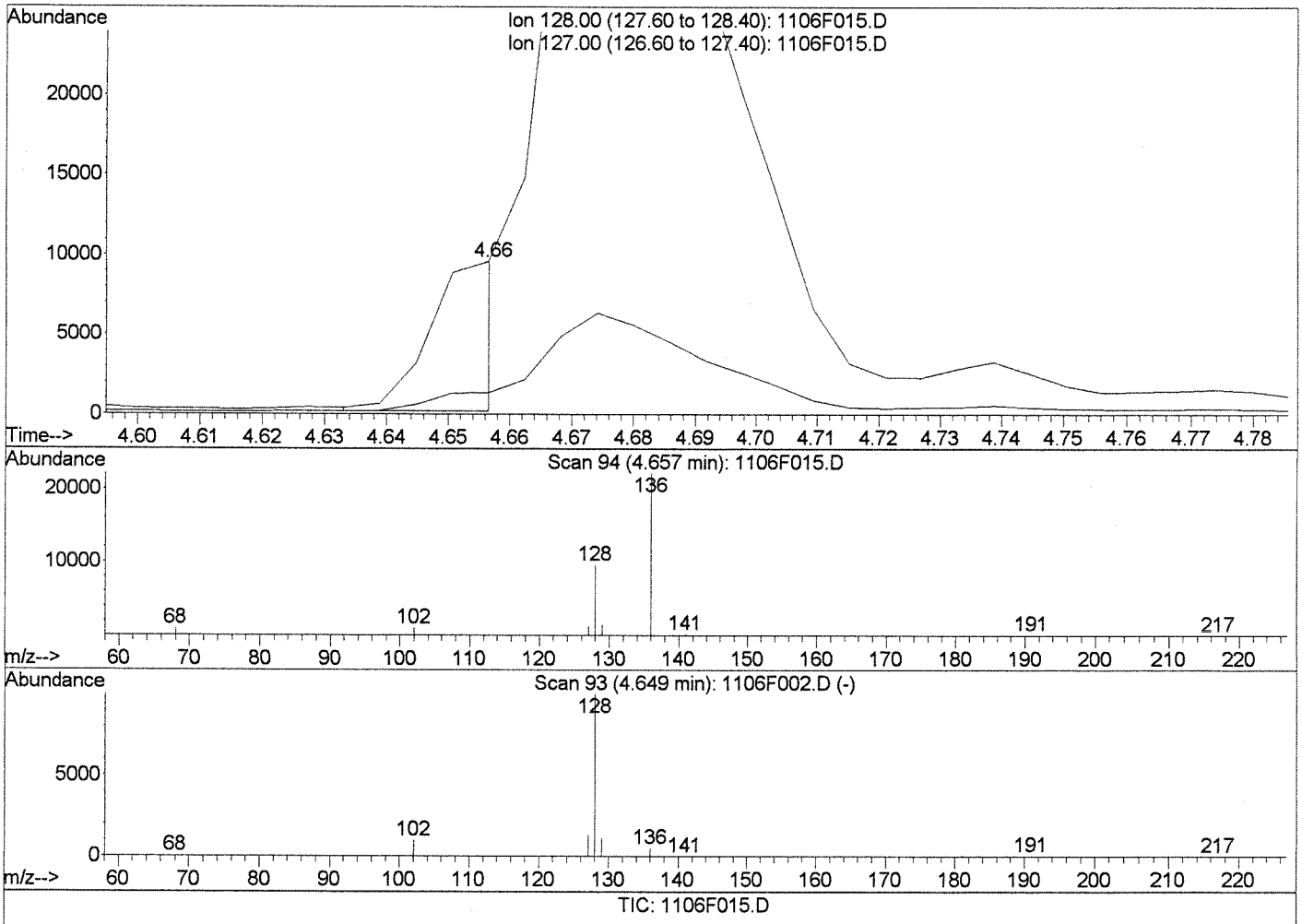
1106F015.D 1015ALK.M Tue Nov 10 13:14:09 2009

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\110609\1106F015.D
Acq On : 6 Nov 2009 3:25 pm
Sample : K0910308-019
Misc :
MS Integration Params: RTEINT.P
Quant Time: Nov 10 13:14 2009

Vial: 13
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Tue Nov 10 08:36:05 2009
Response via : Multiple Level Calibration



TIC: 1106F015.D

(2) Naphthalene (T)

4.66min 7.55ng/ml m

response 7573

Ion	Exp%	Act%
128.00	100	100
127.00	12.40	13.90
0.00	0.00	0.00
0.00	0.00	0.00

wp 11/10/09
m 11-11-09

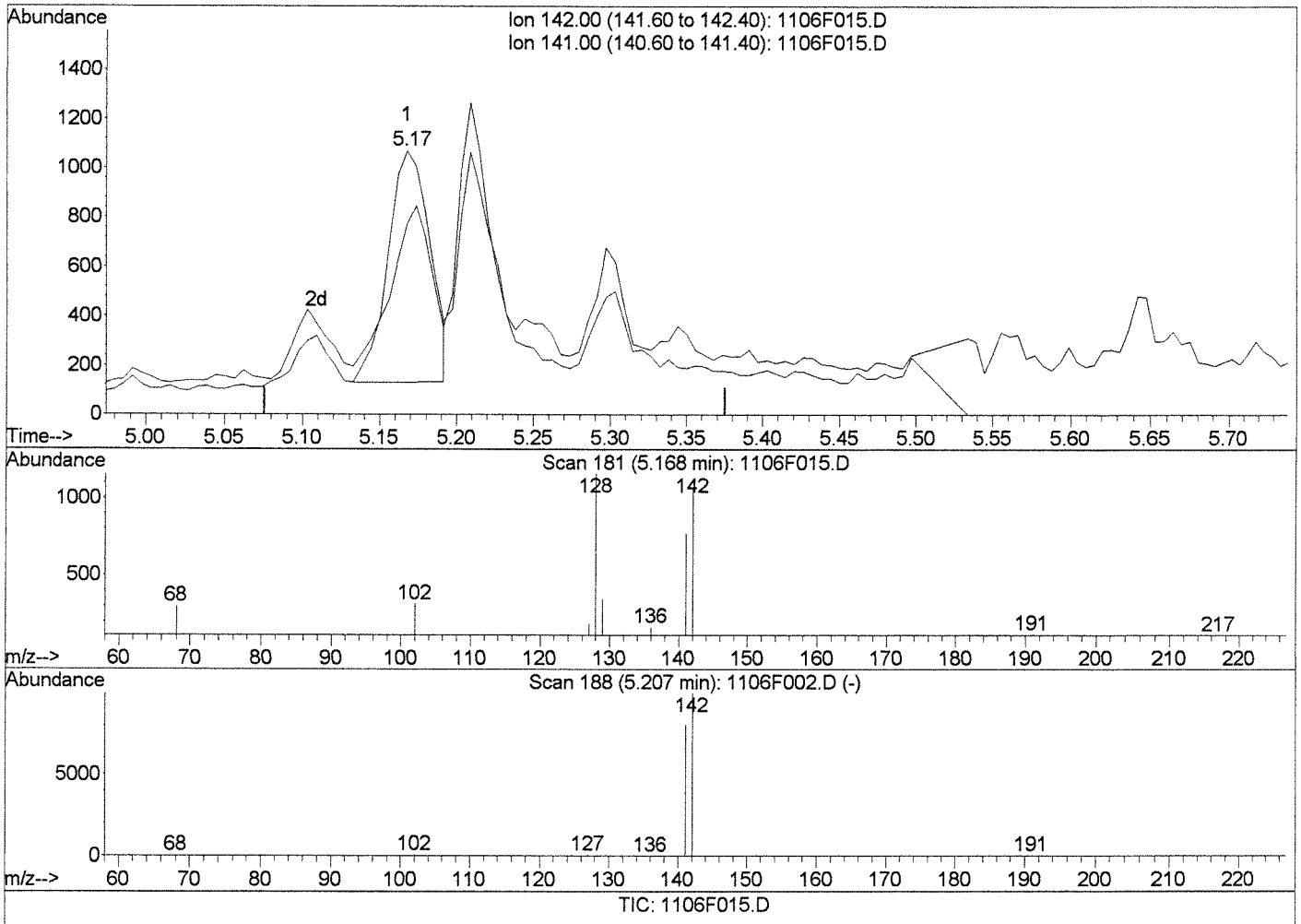
1106F015.D 1015ALK.M Tue Nov 10 13:14:16 2009

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\110609\1106F015.D
Acq On : 6 Nov 2009 3:25 pm
Sample : K0910308-019
Misc :
MS Integration Params: RTEINT.P
Quant Time: Nov 10 13:14 2009

Vial: 13
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Tue Nov 10 08:36:05 2009
Response via : Multiple Level Calibration



TIC: 1106F015.D

(3) 2-Methylnaphthalene (T)

5.17min 2.59ng/ml

response 1788

Ion	Exp%	Act%
142.00	100	100
141.00	86.10	61.55
0.00	0.00	0.00
0.00	0.00	0.00

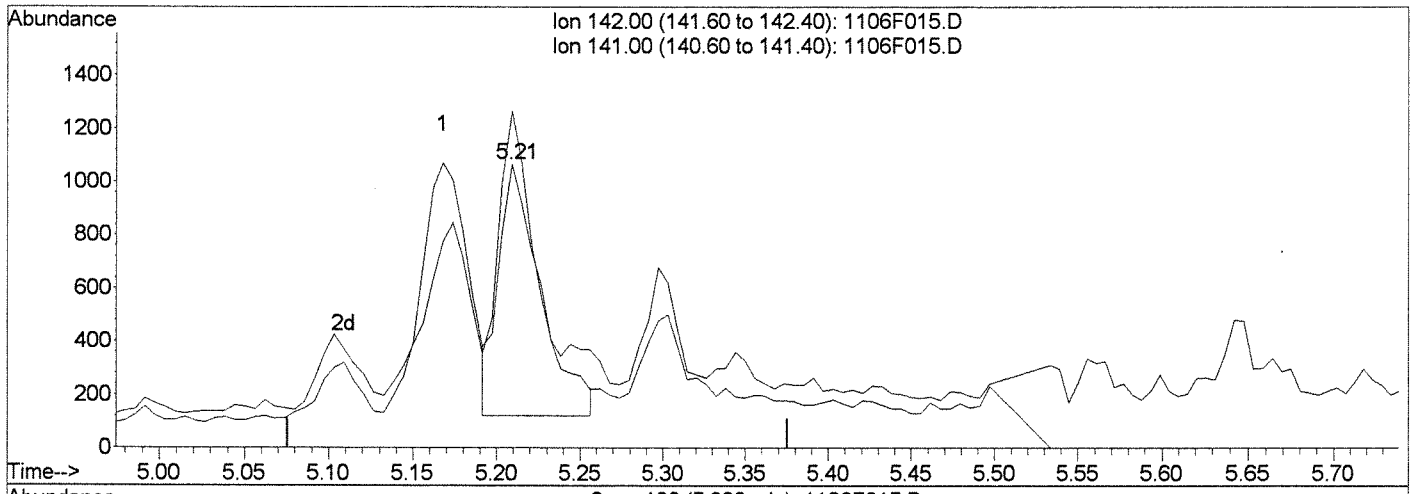
1106F015.D 1015ALK.M Tue Nov 10 13:14:22 2009

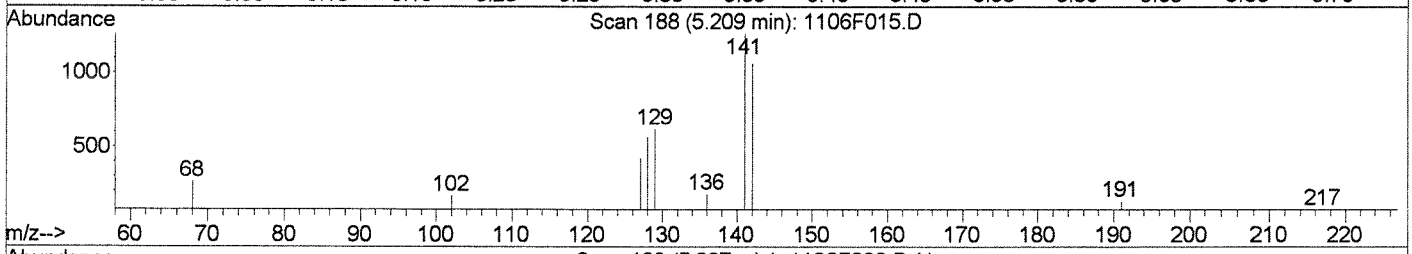
Quantitation Report (Qedit)

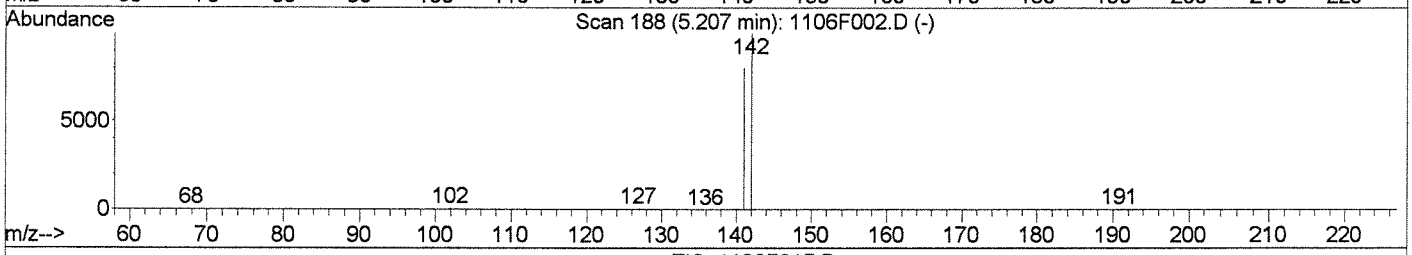
Data File : J:\MS11\DATA\110609\1106F015.D
Acq On : 6 Nov 2009 3:25 pm
Sample : K0910308-019
Misc :
MS Integration Params: RTEINT.P
Quant Time: Nov 10 13:14 2009

Vial: 13
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Tue Nov 10 08:36:05 2009
Response via : Multiple Level Calibration







TIC: 1106F015.D

(3) 2-Methylnaphthalene (T)

5.21min 2.40ng/ml m

response 1660

Ion	Exp%	Act%
142.00	100	100
141.00	86.10	118.78#
0.00	0.00	0.00
0.00	0.00	0.00

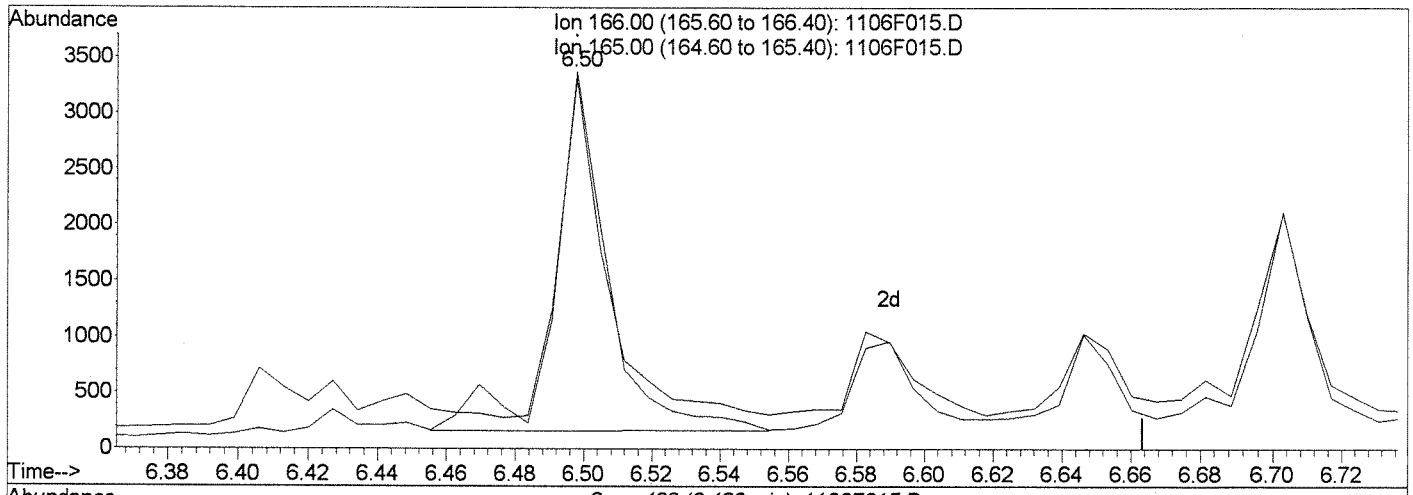
WP 11/10/09 11-11-09

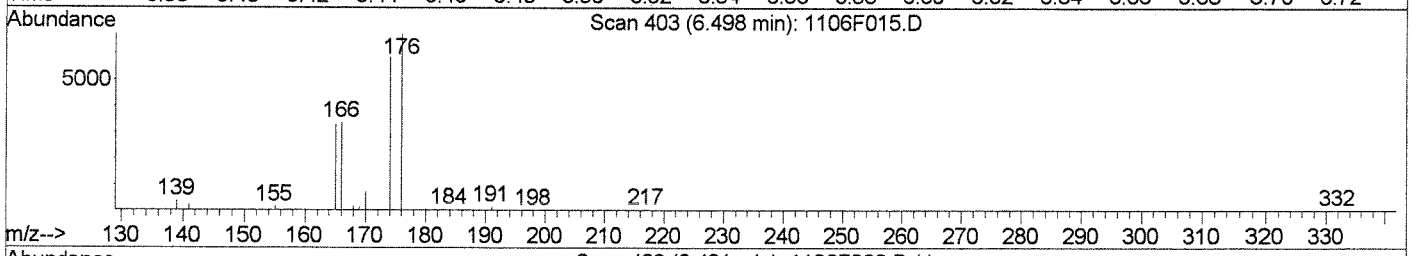
1106F015.D 1015ALK.M Tue Nov 10 13:14:26 2009

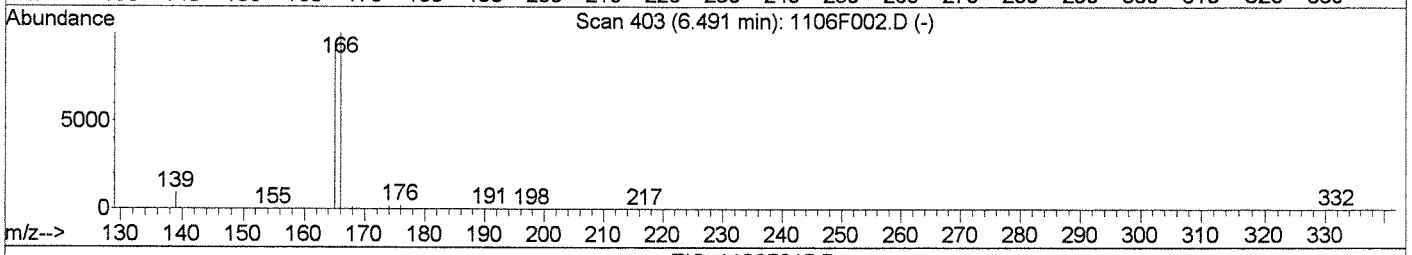
Quantitation Report (Qedit)

Data File : J:\MS11\DATA\110609\1106F015.D Vial: 13
Acq On : 6 Nov 2009 3:25 pm Operator: LWeiskopf
Sample : K0910308-019 Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 10 13:14 2009 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Tue Nov 10 08:36:05 2009
Response via : Multiple Level Calibration







TIC: 1106F015.D

(16) Fluorene (T)

6.50min 4.98ng/ml

response 3476

Ion	Exp%	Act%
166.00	100	100
165.00	87.80	93.39
0.00	0.00	0.00
0.00	0.00	0.00

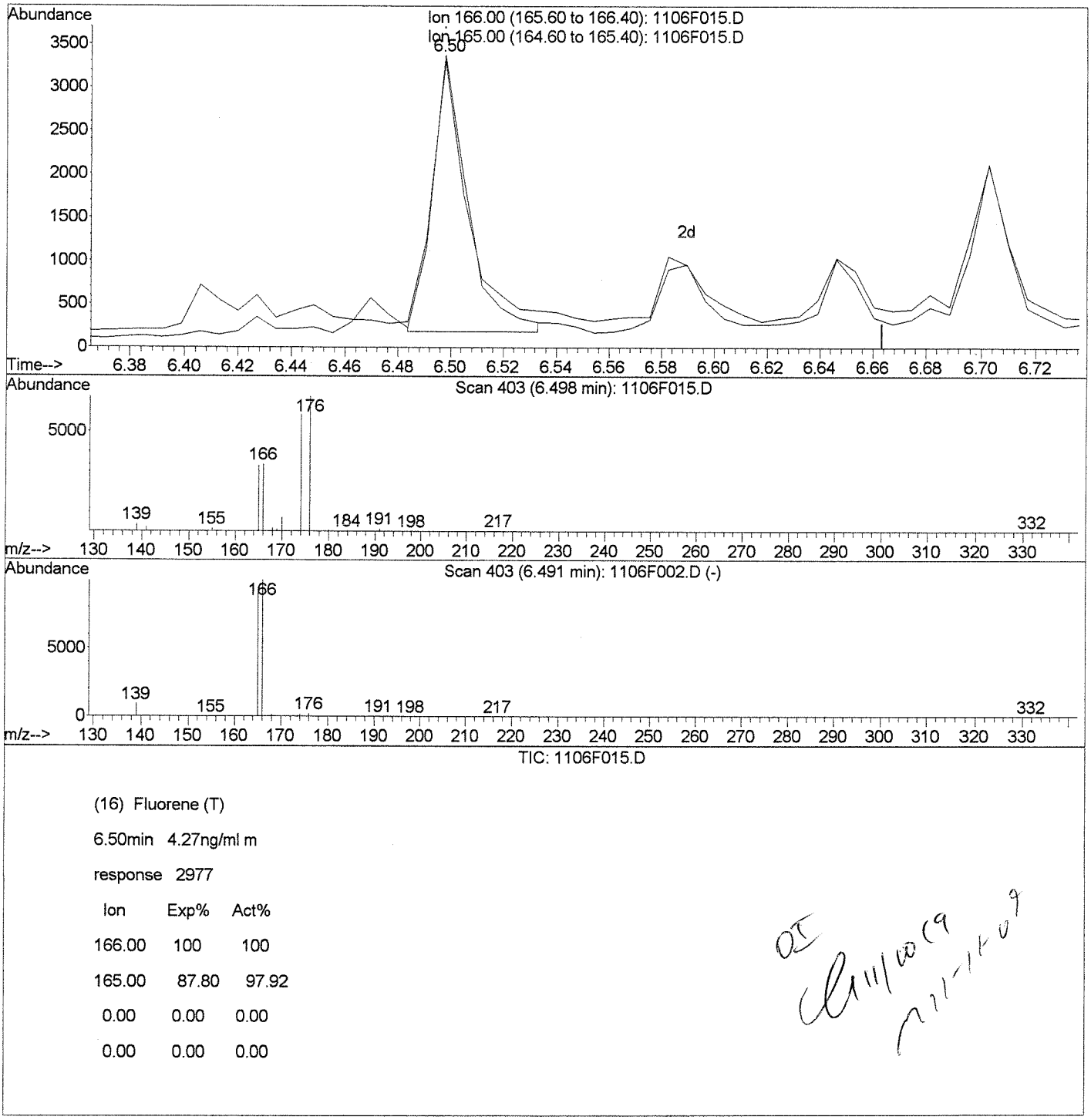
1106F015.D 1015ALK.M Tue Nov 10 13:14:54 2009

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\110609\1106F015.D
Acq On : 6 Nov 2009 3:25 pm
Sample : K0910308-019
Misc :
MS Integration Params: RTEINT.P
Quant Time: Nov 10 13:14 2009

Vial: 13
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Tue Nov 10 08:36:05 2009
Response via : Multiple Level Calibration



(16) Fluorene (T)

6.50min 4.27ng/ml m

response 2977

Ion	Exp%	Act%
166.00	100	100
165.00	87.80	97.92
0.00	0.00	0.00
0.00	0.00	0.00

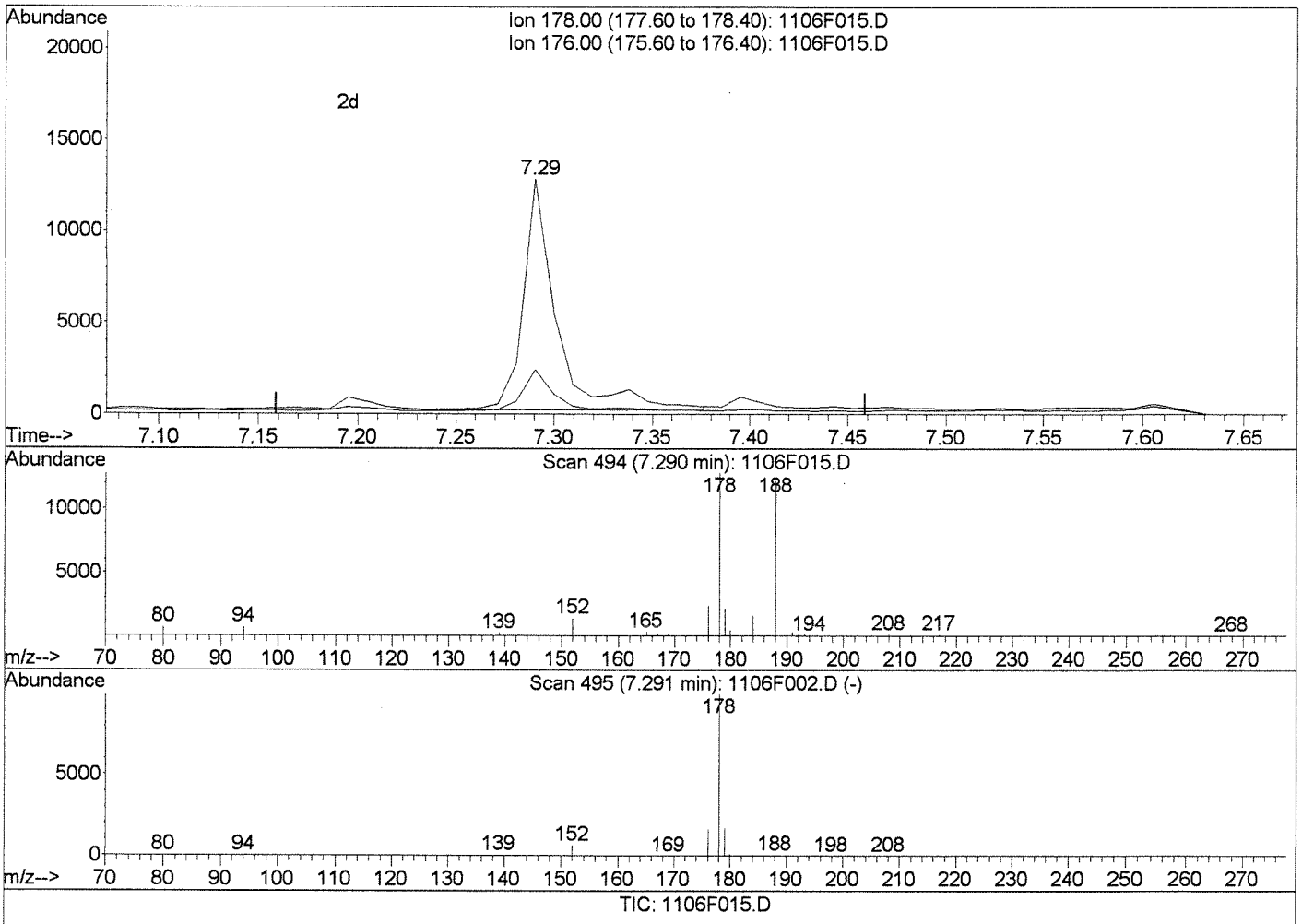
DE 11/10/09 11-10-09

1106F015.D 1015ALK.M Tue Nov 10 13:14:59 2009

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\110609\1106F015.D Vial: 13
Acq On : 6 Nov 2009 3:25 pm Operator: LWeiskopf
Sample : K0910308-019 Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 10 13:15 2009 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Tue Nov 10 08:36:05 2009
Response via : Multiple Level Calibration



TIC: 1106F015.D

(27) Phenanthrene (T)

7.29min 13.09ng/ml

response 14779

Ion	Exp%	Act%
178.00	100	100
176.00	19.60	17.74
0.00	0.00	0.00
0.00	0.00	0.00

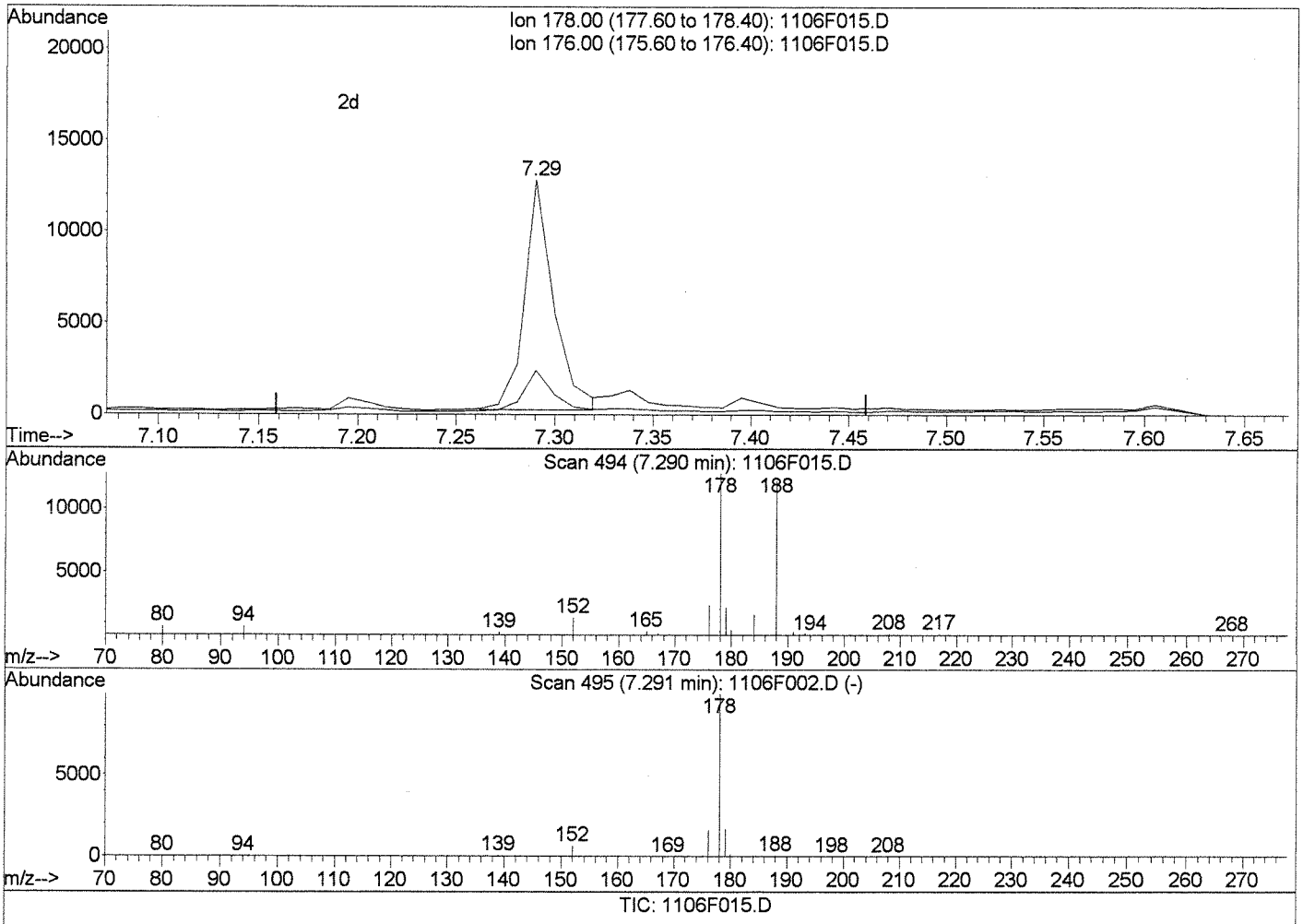
1106F015.D 1015ALK.M Tue Nov 10 13:15:08 2009

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\110609\1106F015.D
Acq On : 6 Nov 2009 3:25 pm
Sample : K0910308-019
Misc :
MS Integration Params: RTEINT.P
Quant Time: Nov 10 13:15 2009

Vial: 13
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Tue Nov 10 08:36:05 2009
Response via : Multiple Level Calibration



TIC: 1106F015.D

(27) Phenanthrene (T)

7.29min 11.41ng/ml m

response 12889

Ion	Exp%	Act%
178.00	100	100
176.00	19.60	18.79
0.00	0.00	0.00
0.00	0.00	0.00

DI 11/10/09 11-11-09

1106F015.D 1015ALK.M Tue Nov 10 13:15:13 2009

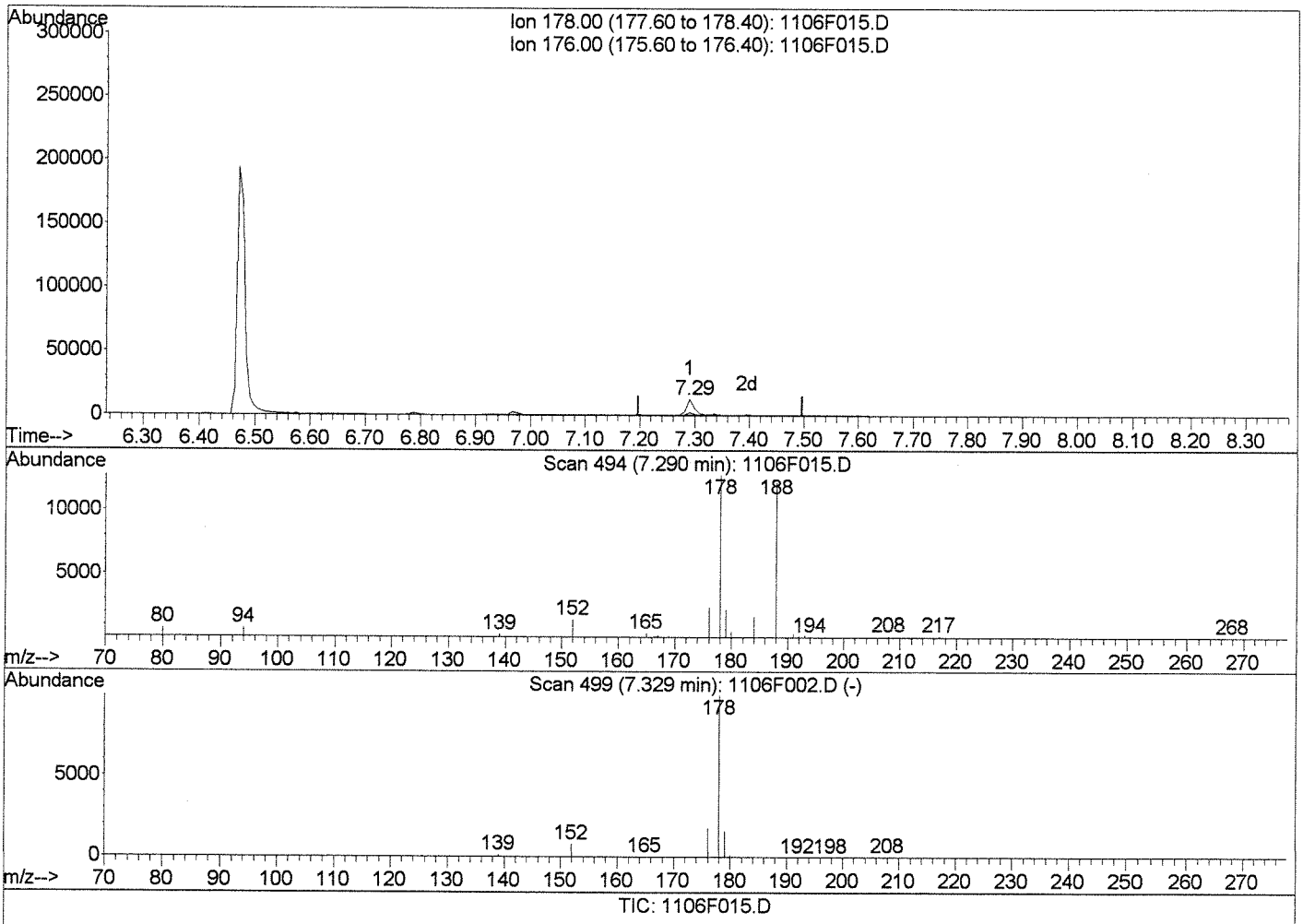
Quantitation Report (Qedit)

Data File : J:\MS11\DATA\110609\1106F015.D
Acq On : 6 Nov 2009 3:25 pm
Sample : K0910308-019
Misc :
MS Integration Params: RTEINT.P
Quant Time: Nov 10 13:15 2009

Vial: 13
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Tue Nov 10 08:36:05 2009
Response via : Multiple Level Calibration



TIC: 1106F015.D

(28) Anthracene (T)

7.29min 13.69ng/ml

response 14779

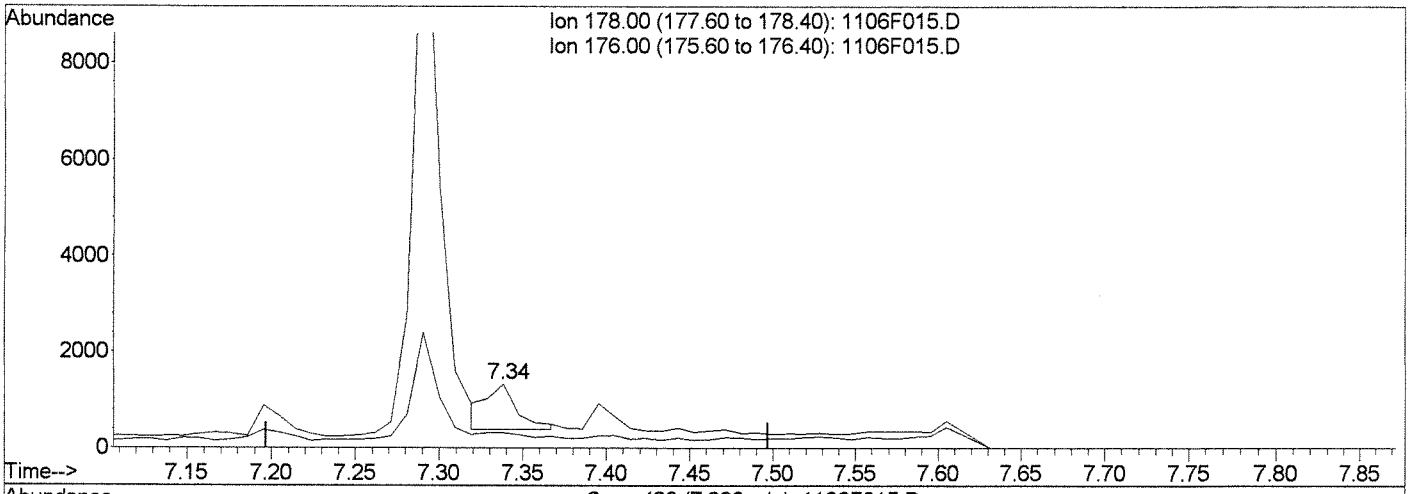
Ion	Exp%	Act%
178.00	100	100
176.00	17.60	17.74
0.00	0.00	0.00
0.00	0.00	0.00

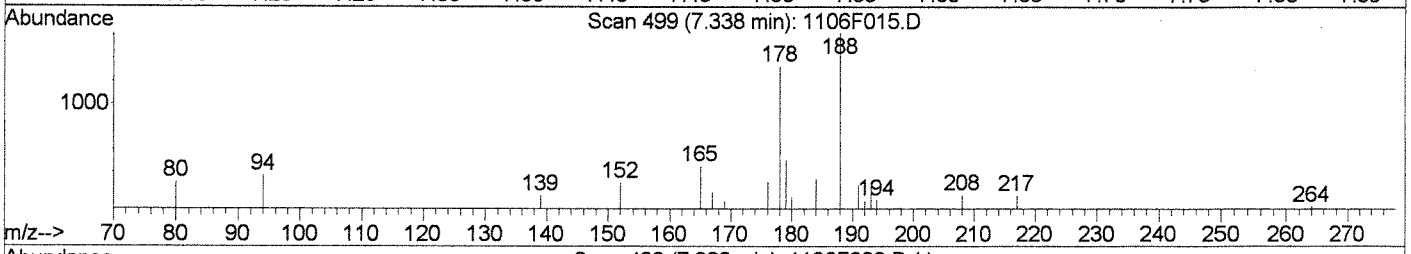
1106F015.D 1015ALK.M Tue Nov 10 13:15:15 2009

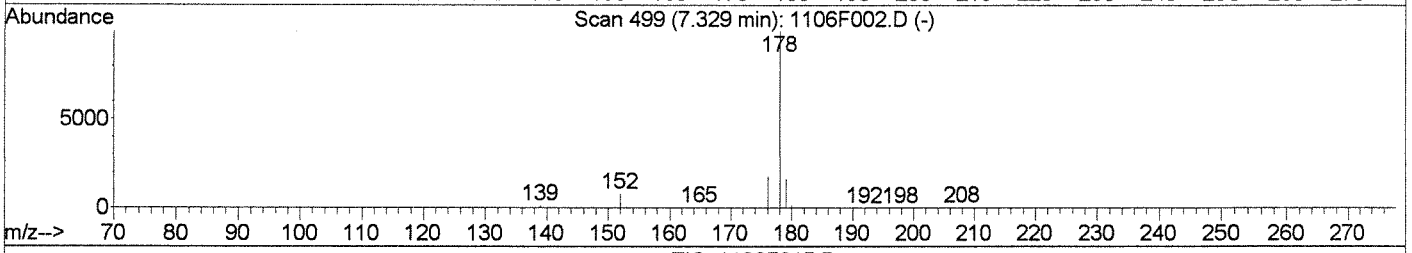
Quantitation Report (Qedit)

Data File : J:\MS11\DATA\110609\1106F015.D Vial: 13
Acq On : 6 Nov 2009 3:25 pm Operator: LWeiskopf
Sample : K0910308-019 Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 10 13:15 2009 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Tue Nov 10 08:36:05 2009
Response via : Multiple Level Calibration







TIC: 1106F015.D

(28) Anthracene (T)

7.34min 1.12ng/ml m

response 1210

Ion	Exp%	Act%
178.00	100	100
176.00	17.60	23.74
0.00	0.00	0.00
0.00	0.00	0.00

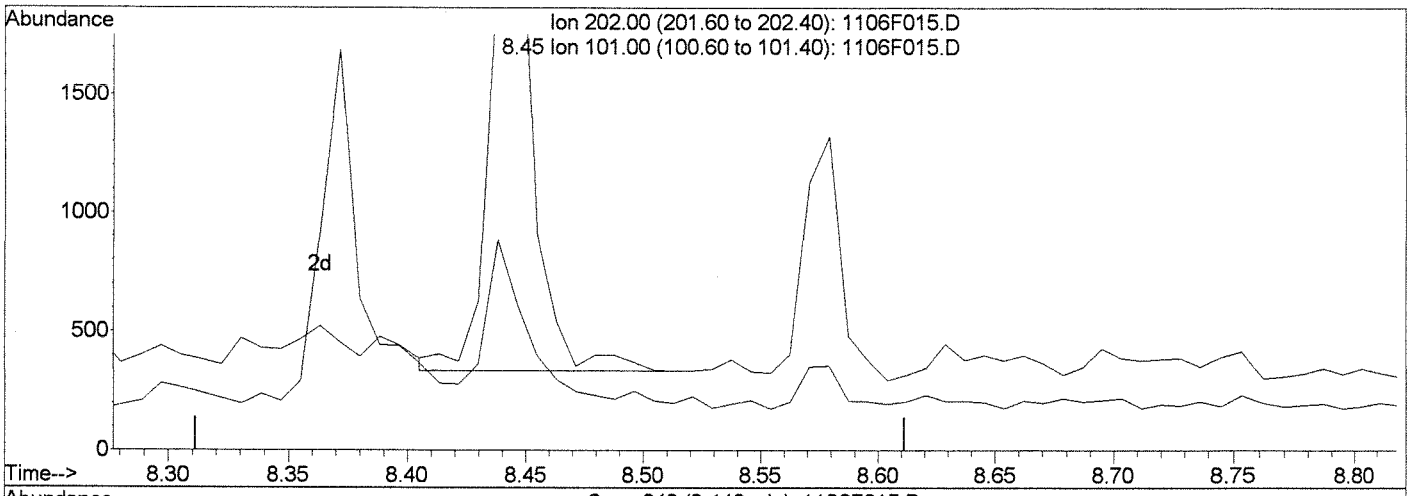
11/10/09
11-11-09

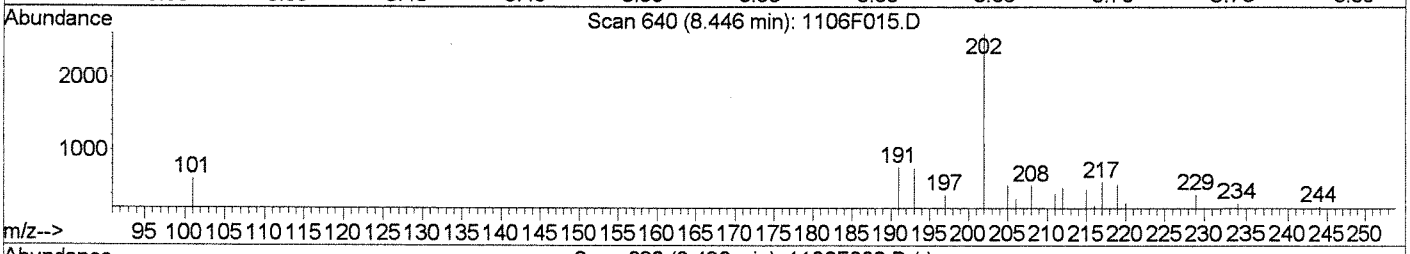
1106F015.D 1015ALK.M Tue Nov 10 13:15:22 2009

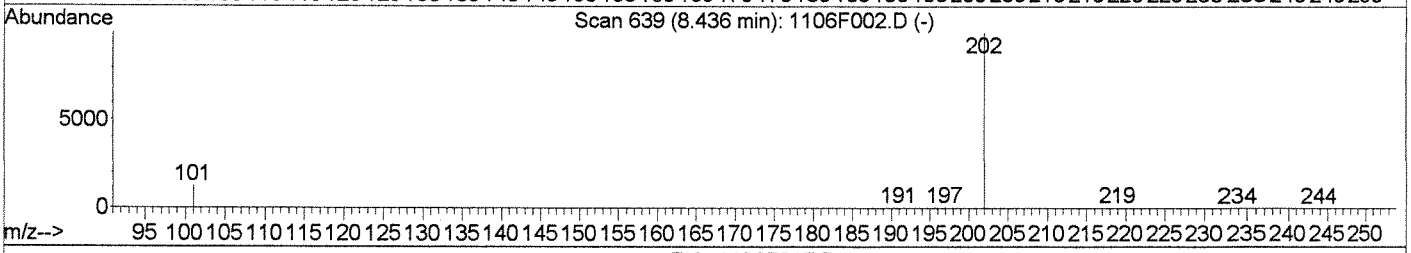
Quantitation Report (Qedit)

Data File : J:\MS11\DATA\110609\1106F015.D Vial: 13
Acq On : 6 Nov 2009 3:25 pm Operator: LWeiskopf
Sample : K0910308-019 Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 10 13:15 2009 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Tue Nov 10 08:36:05 2009
Response via : Multiple Level Calibration







TIC: 1106F015.D

(38) Pyrene (T)

8.45min 1.76ng/ml

response 2670

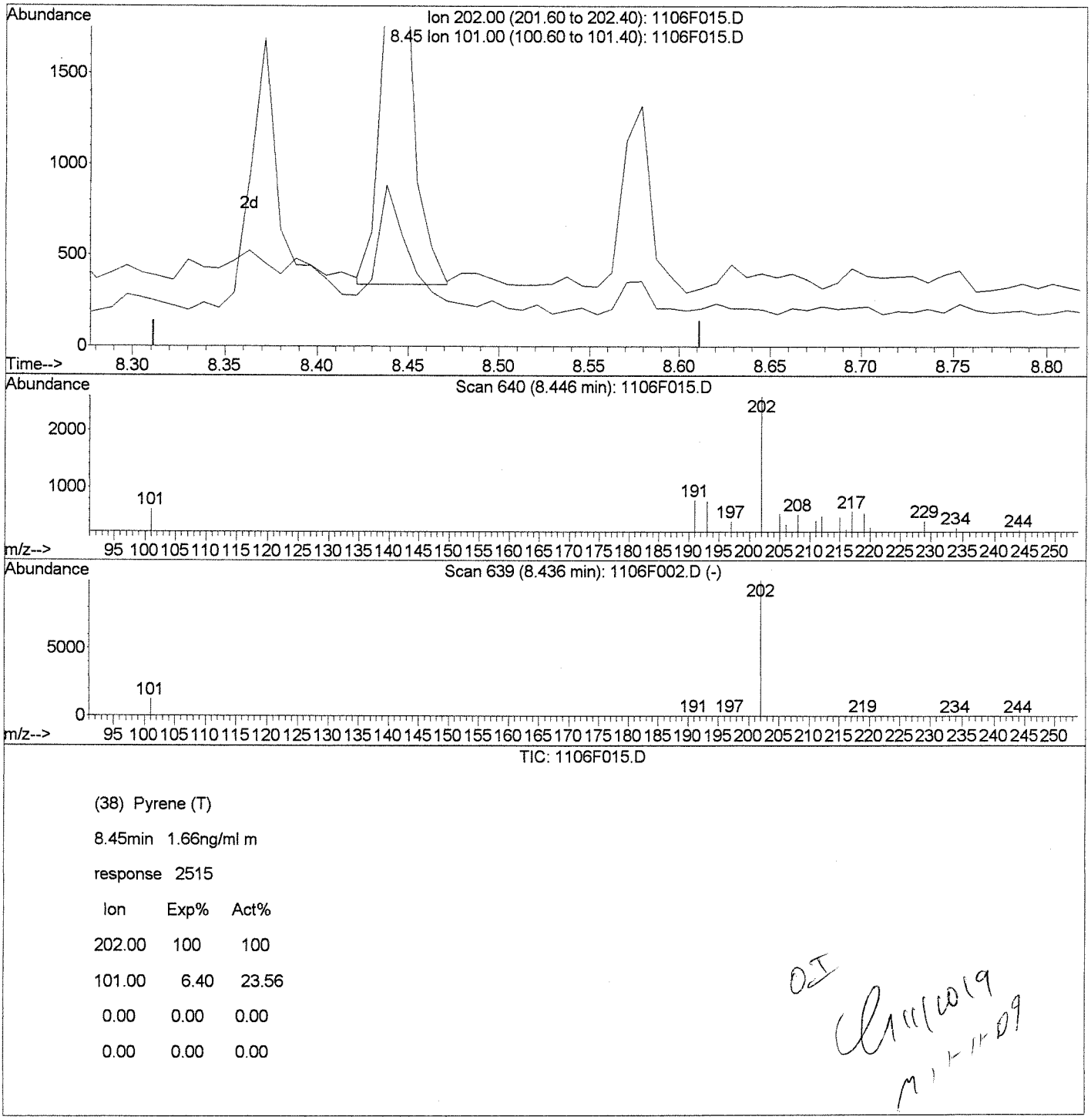
Ion	Exp%	Act%
202.00	100	100
101.00	6.40	18.28
0.00	0.00	0.00
0.00	0.00	0.00

1106F015.D 1015ALK.M Tue Nov 10 13:15:33 2009

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\110609\1106F015.D Vial: 13
Acq On : 6 Nov 2009 3:25 pm Operator: LWeiskopf
Sample : K0910308-019 Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 10 13:15 2009 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Tue Nov 10 08:36:05 2009
Response via : Multiple Level Calibration



TIC: 1106F015.D

(38) Pyrene (T)

8.45min 1.66ng/ml m

response 2515

Ion	Exp%	Act%
202.00	100	100
101.00	6.40	23.56
0.00	0.00	0.00
0.00	0.00	0.00

DI 11/10/09 11-10-09

1106F015.D 1015ALK.M Tue Nov 10 13:15:37 2009

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009
Sample Matrix: Water

Service Request: K0910296
Date Collected: NA
Date Received: NA

Polynuclear Aromatic Hydrocarbons

Sample Name: Batch QCMS
Lab Code: KWG0909945-1

Units: ug/L
Basis: NA

Extraction Method: EPA 3520C
Analysis Method: 8270C SIM

Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Naphthalene	**2.06**		0.020	0.0030	1	10/28/09	11/06/09	KWG0909945	
2-Methylnaphthalene	**1.88**		0.020	0.0023	1	10/28/09	11/06/09	KWG0909945	
1-Methylnaphthalene	**1.99**		0.020	0.0035	1	10/28/09	11/06/09	KWG0909945	
2,6-Dimethylnaphthalene	**2.60**		0.020	0.0022	1	10/28/09	11/06/09	KWG0909945	
Acenaphthylene	**2.15**		0.020	0.0034	1	10/28/09	11/06/09	KWG0909945	
Acenaphthene	**2.17**		0.020	0.0044	1	10/28/09	11/06/09	KWG0909945	
Dibenzofuran	**2.34**		0.020	0.0046	1	10/28/09	11/06/09	KWG0909945	
2,3,5-Trimethylnaphthalene	**2.79**		0.020	0.0050	1	10/28/09	11/06/09	KWG0909945	
Fluorene	**2.52**		0.020	0.0038	1	10/28/09	11/06/09	KWG0909945	
Phenanthrene	**2.02**		0.020	0.0050	1	10/28/09	11/06/09	KWG0909945	
Anthracene	**2.03**		0.020	0.0036	1	10/28/09	11/06/09	KWG0909945	
1-Methylphenanthrene	**2.33**		0.020	0.0041	1	10/28/09	11/06/09	KWG0909945	
Fluoranthene	**2.18**		0.020	0.0044	1	10/28/09	11/06/09	KWG0909945	
Pyrene	**1.92**		0.020	0.0035	1	10/28/09	11/06/09	KWG0909945	
Benz(a)anthracene	**1.99**		0.020	0.0026	1	10/28/09	11/06/09	KWG0909945	
Chrysene	**2.01**		0.020	0.0034	1	10/28/09	11/06/09	KWG0909945	
Benzo(b)fluoranthene	**2.20**		0.020	0.0023	1	10/28/09	11/06/09	KWG0909945	
Benzo(k)fluoranthene	**2.21**		0.020	0.0025	1	10/28/09	11/06/09	KWG0909945	
Benzo(e)pyrene	**2.30**		0.020	0.0040	1	10/28/09	11/06/09	KWG0909945	
Benzo(a)pyrene	**2.08**		0.020	0.0043	1	10/28/09	11/06/09	KWG0909945	
Indeno(1,2,3-cd)pyrene	**2.04**		0.020	0.0026	1	10/28/09	11/06/09	KWG0909945	
Dibenz(a,h)anthracene	**1.96**		0.020	0.0025	1	10/28/09	11/06/09	KWG0909945	
Benzo(g,h,i)perylene	**2.05**		0.020	0.0029	1	10/28/09	11/06/09	KWG0909945	
Perylene	**2.09**		0.020	0.0050	1	10/28/09	11/06/09	KWG0909945	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	73	28-98	11/06/09	Acceptable
Fluoranthene-d10	67	31-105	11/06/09	Acceptable
Terphenyl-d14	57	27-112	11/06/09	Acceptable

Comments:

Exception Report

Data File: J:\MS11\DATA\110609\1106F013.D
Lab ID: KWG0909945-1 -- K0910308-019MS
RunType: MS
Matrix: WATER

Date Acquired: 11/06/2009 14:30
Date Quantitated: 11/10/2009 13:12
Batch ID: KWG0910516
Analysis Method: 8270C SIM
MethodJoinID: MJ138

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Tune Window	NA	NA	NA	x	
Analytical Holding Time	NA	NA	NA	x	
ICAL Pass/Fail	NA	NA	NA	x	
ICAL Average RSD	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Initial Calibration Minimum RF	NA	NA	NA	x	
Initial Calibration SPCC/CCC	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA		x
Continuing Calibration Minimum RF	NA	NA	NA	x	
Continuing Calibration SPCC/CCC	NA	NA	NA	x	
Internal Standards	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Relative Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Batch QC
K10296

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
Continuing Calibration Recovery	Pentachlorophenol	-58.4	NA	20	NT

Primary Review: 11/11/2019
Secondary Review: 11-11-09

Quantitation Report

Bottle ID:		**Tier:**		**Matrix:**	WATER
Prod Code:	8270C SIM PAH_S	**Collect Date:**		**Receive Date:**	10/30/2009

Analysis Lot:	KWG0910516	**Prep Lot:**	KWG0909945	**Report Group:**	
Analysis Method:	8270C SIM	**Prep Method:**	EPA 3520C		
Prep Ref:	861279	**Prep Date:**	10/28/2009		

Quant Method:	J:\MS11\METHODS\SIM\1015ALK.M	**Calibration ID:**	CAL8928
Title:			
Tune Ref:	J:\MS11\DATA\110609\1106F001.D	**Method ID:**	MJ138
MB Ref:		**Quant based on Method**	

Data File:	J:\MS11\DATA\110609\1106F013.D			**Instrument:**	MS11
Acqu Date:	11/06/2009 14:30	**Quant Date:**	11/10/2009 13:12	**Vial:**	11
Run Type:	MS			**Dilution:**	1.0
Lab ID:	KWG0909945-1 -- K0910308-019MS			**Soln Conc. Units:**	ng/ml

Internal Standard Compounds

IS Ref	Parameter Name	RT	RT Dev	Quant Mass	Response	Solution Conc	Area Criteria
1	Naphthalene-d8	4.63	-0.01	136	219669	200.00	OK
2	Acenaphthene-d10	6.05	0.00	164	126244	200.00	OK
3	Phenanthrene-d10	7.27	0.00	188	213077	200.00	OK
4	Chrysene-d12	9.76	-0.01	240	291202	200.00	OK
5	Perylene-d12	12.78	0.00	264	280224	200.00	OK

Surrogate Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	%Rec	%Rec Limits		Rpt?
2	Fluorene-d10	6.47	0.00	0.00	176	171819	291.71	73	28-98	OK	
2	2,4,6-Tribromophenol	6.71	0.01	0.00	330	40280	355.26	59	10-136	OK	
3	Fluoranthene-d10	8.24	0.00	0.00	212	314829	266.63	67	31-105	OK	
4	Terphenyl-d14	8.58	-0.01	0.00	244	273564	227.24	57	27-112	OK	

Target Compounds

Final Conc. Units: ug/L

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	Final Conc	Q	Rpt?
1	Naphthalene	4.65		0.00	128	437604	432.90	2.06		
1	2-Methylnaphthalene	5.21		0.00	142	275517	395.48	1.88		
1	1-Methylnaphthalene	5.28		0.00	142	308951	417.13	1.99		
1	Biphenyl	5.58		0.00	154	387340	487.60	2.32		
1	2,6-Dimethylnaphthalene	5.71		0.00	156	299043	545.93	2.60		
1	C2-Naphthalenes				156	0		0.020	U	
1	C3-Naphthalenes				170	0		0.020	U	
1	C4-Naphthalenes				184	0		0.020	U	
2	Acenaphthylene	5.93		0.00	152	494852	451.71	2.15		
2	Acenaphthene	6.07		0.00	154	298236	456.62	2.17		
2	Dibenzofuran	6.22		0.00	168	432179	491.93	2.34		
2	2,3,5-Trimethylnaphthalene	6.38	-0.01	0.00	170	320955	584.98	2.79		

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Data File:	J:\MS11\DATA\110609\1106F013.D			**Instrument:**	MS11
Acqu Date:	11/06/2009 14:30	**Quant Date:**	11/10/2009 13:12	**Vial:**	11
Run Type:	MS			**Dilution:**	1.0
Lab ID:	KWG0909945-1 -- K0910308-019MS			**Soln Conc. Units:**	ng/ml

Target Compounds **Final Conc. Units:** ug/L

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	Final Conc	Q	Rpt?
2	Fluorene	6.49		0.00	166	372374	528.79	2.52		
2	C1-Fluorenes				180	0		0.020	U	
2	C2-Fluorenes				194	0		0.020	U	
2	C3-Fluorenes				208	0		0.020	U	
2	Pentachlorophenol				266	0d		0.013	U	
3	Dibenzothiophene	7.18	-0.01	0.00	184	492912	457.57	2.18		
3	C1-Dibenzothiophenes				198	0		0.020	U	
3	C2-Dibenzothiophenes				212	0		0.020	U	
3	C3-Dibenzothiophenes				226	0		0.020	U	
3	Phenanthrene	7.29		0.00	178	507102	424.34	2.02		
3	Anthracene	7.33		0.00	178	487572	426.69	2.03		
3	Carbazole	7.48		0.00	167	422059	432.13	2.06		
3	1-Methylphenanthrene	7.78		0.00	192	418888	489.53	2.33		
3	C1-Phenanthrenes/Anthracenes				192	0		0.020	U	
3	C2-Phenanthrenes/Anthracenes				206	0		0.020	U	
3	C3-Phenanthrenes/Anthracenes				220	0		0.020	U	
3	C4-Phenanthrenes/Anthracenes				234	0		0.020	U	
3	Fluoranthene	8.25		0.00	202	600213	457.21	2.18		
4	Pyrene	8.44		0.00	202	644328	404.08	1.92		
4	C1-Fluoranthenes/Pyrenes				216	0		0.020	U	
4	C2-Fluoranthenes/Pyrenes				230	0		0.020	U	
4	C3-Fluoranthenes/Pyrenes				244	0		0.020	U	
4	Benz(a)anthracene	9.75		0.00	228	661381	417.88	1.99		
4	Chrysene	9.80		0.00	228	650100	421.69	2.01		
4	C1-Chrysenes				242	0		0.020	U	
4	C2-Chrysenes				256	0		0.020	U	
4	C3-Chrysenes				270	0		0.020	U	
4	C4-Chrysenes				284	0		0.020	U	
5	Benzo(b)fluoranthene	11.77	0.01	0.00	252	674098	461.14	2.20		
5	Benzo(k)fluoranthene	11.83		0.00	252	669418	464.81	2.21		
5	Benzo(e)pyrene	12.46		0.00	252	659910	482.06	2.30		
5	Benzo(a)pyrene	12.61		0.00	252	604988	436.98	2.08		
5	Perylene	12.85	-0.01	0.00	252	596225	439.32	2.09		
5	Indeno(1,2,3-cd)pyrene	16.33		0.00	276	544733	428.88	2.04		
5	Dibenz(a,h)anthracene	16.41		0.00	278	564267	412.35	1.96		
5	Benzo(g,h,i)perylene	16.81		0.00	276	628987	429.97	2.05		

Prep Amount: 1050 ml **Dilution:** 1.0
Prep Final Vol: 5 ml **Unit Factor:** 1

Final Concentration = ((Soln Conc x Prep Final Vol x Dilution) / Prep Amount) x Unit Factor

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\110609\1106F013.D Vial: 11
Acq On : 6 Nov 2009 2:30 pm Operator: LWeiskopf
Sample : KWG0909945-1 K0910308-019MS Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 10 08:36:41 2009 Quant Results File: 1015ALK.RES

Quant Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Tue Nov 10 08:36:05 2009
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	4.63	136	219669	200.00	ng/ml	-0.02
10) Acenaphthene-d10	6.05	164	126244	200.00	ng/ml	-0.02
22) Phenanthrene-d10	7.27	188	213077	200.00	ng/ml	-0.02
37) Chrysene-d12	9.76	240	291202	200.00	ng/ml	-0.04
49) Perylene-d12	12.78	264	280224	200.00	ng/ml	-0.08
System Monitoring Compounds						
15) Fluorene-d10	6.47	176	171819	291.71	ng/ml	-0.02
Spiked Amount 200.000			Recovery = 145.85%			
20) 2,4,6 Tribromophenol	6.71	330	40280	355.26	ng/ml	-0.02
Spiked Amount 375.000			Recovery = 94.74%			
36) Fluoranthene-d10	8.24	212	314829	266.63	ng/ml	-0.02
Spiked Amount 200.000			Recovery = 133.32%			
42) Terphenyl-d14	8.58	244	273564	227.24	ng/ml	-0.02
Spiked Amount 200.000			Recovery = 113.62%			
Target Compounds						Qvalue
2) Naphthalene	4.65	128	437604	432.90	ng/ml	99
3) 2-Methylnaphthalene	5.21	142	275517	395.48	ng/ml	88
4) 1-Methylnaphthalene	5.28	142	308951	417.13	ng/ml	100
5) Biphenyl	5.58	154	387340	487.60	ng/ml	98
6) 2,6-Dimethylnaphthalene	5.71	156	299043	545.93	ng/ml	97
11) Acenaphthylene	5.93	152	494852	451.71	ng/ml	99
12) Acenaphthene	6.07	154	298236	456.62	ng/ml	93
13) Dibenzofuran	6.22	168	432179	491.93	ng/ml	71
14) 2,3,5-Trimethylnaphthalene	6.38	170	320955	584.98	ng/ml	92
16) Fluorene	6.49	166	372374	528.79	ng/ml	97
23) Dibenzothiophene	7.18	184	492912	457.57	ng/ml	91
27) Phenanthrene	7.29	178	507102	424.34	ng/ml	94
28) Anthracene	7.33	178	487572	426.69	ng/ml	100
29) Carbazole	7.48	167	422059	432.13	ng/ml	88
30) 1-Methylphenanthrene	7.78	192	418888	489.53	ng/ml	95
35) Fluoranthene	8.25	202	600213	457.21	ng/ml	100
38) Pyrene	8.44	202	644328	404.08	ng/ml	87
43) Benz(a)anthracene	9.75	228	661381	417.88	ng/ml	97
44) Chrysene	9.80	228	650100	421.69	ng/ml	97
50) Benzo(b)fluoranthene	11.77	252	674098	461.14	ng/ml	100
51) Benzo(k)fluoranthene	11.83	252	669418	464.81	ng/ml	100
52) Benzo(e)pyrene	12.46	252	659910	482.06	ng/ml	100
53) Benzo(a)pyrene	12.61	252	604988	436.98	ng/ml	99
54) Perylene	12.85	252	596225	439.32	ng/ml	99
55) Indeno(1,2,3-cd)pyrene	16.33	276	544733	428.88	ng/ml	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\110609\1106F013.D Vial: 11
Acq On : 6 Nov 2009 2:30 pm Operator: LWeiskopf
Sample : KWG0909945-1 K0910308-019MS Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 10 08:36:41 2009 Quant Results File: 1015ALK.RES

Quant Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Tue Nov 10 08:36:05 2009
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

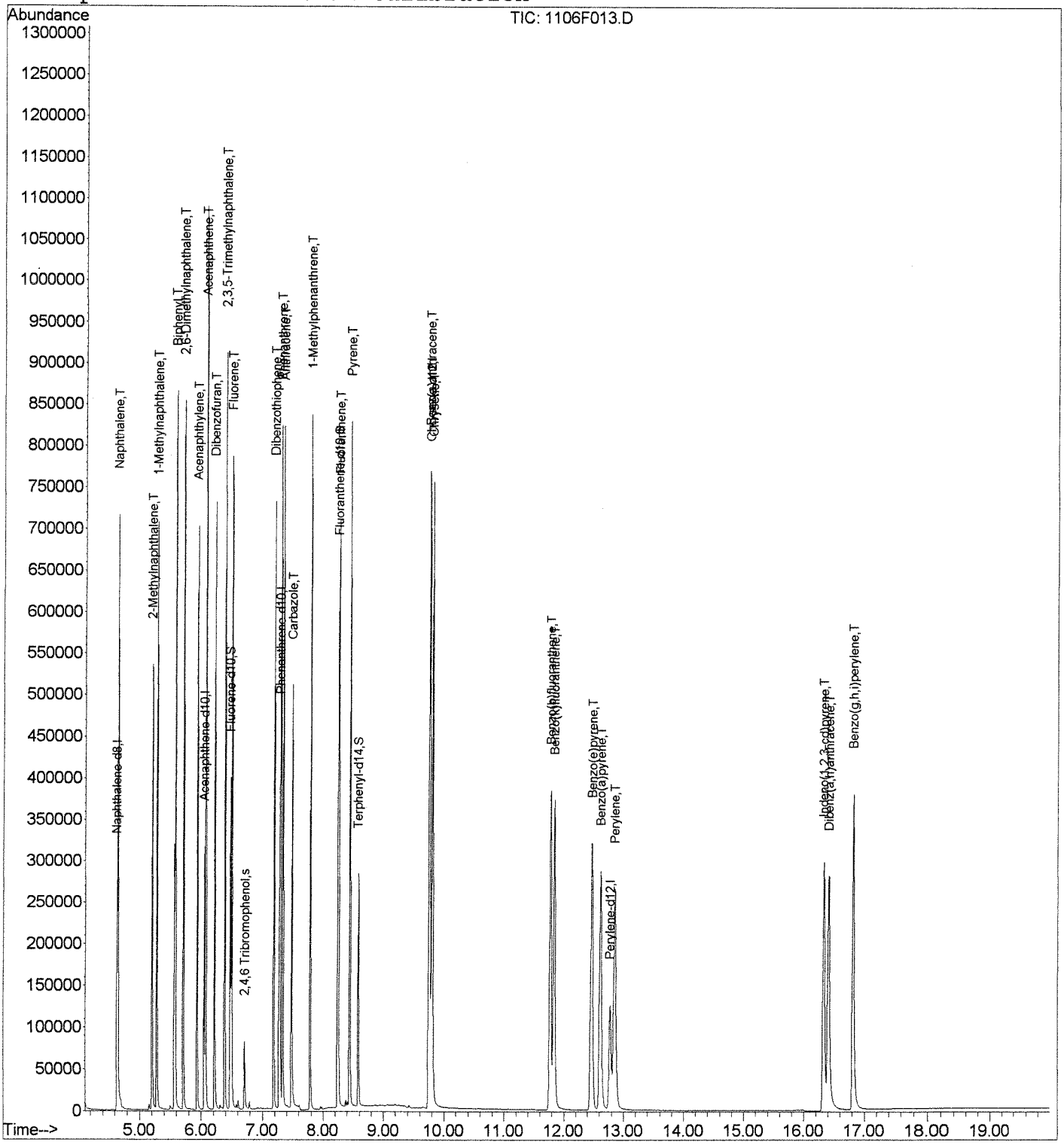
	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
56)	Dibenz(a,h)anthracene	16.41	278	564267	412.35	ng/ml	99
57)	Benzo(g,h,i)perylene	16.81	276	628987	429.97	ng/ml	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\110609\1106F013.D Vial: 11
Acq On : 6 Nov 2009 2:30 pm Operator: LWeiskopf
Sample : KWG0909945-1 K0910308-019MS Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 10 13:12 2009 Quant Results File: 1015ALK.RES

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Tue Nov 10 08:36:05 2009
Response via : Initial Calibration



COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009
Sample Matrix: Water

Service Request: K0910296
Date Collected: NA
Date Received: NA

Polynuclear Aromatic Hydrocarbons

Sample Name: Batch QCDMS
Lab Code: KWG0909945-2

Units: ug/L
Basis: NA

Extraction Method: EPA 3520C
Analysis Method: 8270C SIM

Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Naphthalene	**1.99**		0.020	0.0030	1	10/28/09	11/06/09	KWG0909945	
2-Methylnaphthalene	**1.78**		0.020	0.0023	1	10/28/09	11/06/09	KWG0909945	
1-Methylnaphthalene	**1.86**		0.020	0.0035	1	10/28/09	11/06/09	KWG0909945	
2,6-Dimethylnaphthalene	**2.40**		0.020	0.0022	1	10/28/09	11/06/09	KWG0909945	
Acenaphthylene	**2.02**		0.020	0.0034	1	10/28/09	11/06/09	KWG0909945	
Acenaphthene	**2.05**		0.020	0.0044	1	10/28/09	11/06/09	KWG0909945	
Dibenzofuran	**2.21**		0.020	0.0046	1	10/28/09	11/06/09	KWG0909945	
2,3,5-Trimethylnaphthalene	**2.57**		0.020	0.0050	1	10/28/09	11/06/09	KWG0909945	
Fluorene	**2.31**		0.020	0.0038	1	10/28/09	11/06/09	KWG0909945	
Phenanthrene	**1.92**		0.020	0.0050	1	10/28/09	11/06/09	KWG0909945	
Anthracene	**1.94**		0.020	0.0036	1	10/28/09	11/06/09	KWG0909945	
1-Methylphenanthrene	**2.20**		0.020	0.0041	1	10/28/09	11/06/09	KWG0909945	
Fluoranthene	**2.07**		0.020	0.0044	1	10/28/09	11/06/09	KWG0909945	
Pyrene	**1.87**		0.020	0.0035	1	10/28/09	11/06/09	KWG0909945	
Benz(a)anthracene	**1.87**		0.020	0.0026	1	10/28/09	11/06/09	KWG0909945	
Chrysene	**1.90**		0.020	0.0034	1	10/28/09	11/06/09	KWG0909945	
Benzo(b)fluoranthene	**2.10**		0.020	0.0023	1	10/28/09	11/06/09	KWG0909945	
Benzo(k)fluoranthene	**2.14**		0.020	0.0025	1	10/28/09	11/06/09	KWG0909945	
Benzo(e)pyrene	**2.21**		0.020	0.0040	1	10/28/09	11/06/09	KWG0909945	
Benzo(a)pyrene	**1.99**		0.020	0.0043	1	10/28/09	11/06/09	KWG0909945	
Indeno(1,2,3-cd)pyrene	**1.92**		0.020	0.0026	1	10/28/09	11/06/09	KWG0909945	
Dibenz(a,h)anthracene	**1.83**		0.020	0.0025	1	10/28/09	11/06/09	KWG0909945	
Benzo(g,h,i)perylene	**1.94**		0.020	0.0029	1	10/28/09	11/06/09	KWG0909945	
Perylene	**2.00**		0.020	0.0050	1	10/28/09	11/06/09	KWG0909945	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	71	28-98	11/06/09	Acceptable
Fluoranthene-d10	68	31-105	11/06/09	Acceptable
Terphenyl-d14	56	27-112	11/06/09	Acceptable

Comments:

Exception Report

Data File: J:\MS11\DATA\110609\1106F014.D
Lab ID: KWG0909945-2 -- K0910308-019DMS
RunType: DMS
Matrix: WATER

Date Acquired: 11/06/2009 14:57
Date Quantitated: 11/10/2009 13:13
Batch ID: KWG0910516
Analysis Method: 8270C SIM
MethodJoinID: MJ138

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Tune Window	NA	NA	NA	x	
Analytical Holding Time	NA	NA	NA	x	
ICAL Pass/Fail	NA	NA	NA	x	
ICAL Average RSD	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Initial Calibration Minimum RF	NA	NA	NA	x	
Initial Calibration SPCC/CCC	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA		x
Continuing Calibration Minimum RF	NA	NA	NA	x	
Continuing Calibration SPCC/CCC	NA	NA	NA	x	
Internal Standards	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Relative Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Batch QC
K10296

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
Continuing Calibration Recovery	Pentachlorophenol	-58.4	NA	20	NT

Primary Review: 11/10/09
Secondary Review: 11-11-09

Quantitation Report

Bottle ID:		**Tier:**		**Matrix:**	WATER
Prod Code:	8270C SIM PAH_S	**Collect Date:**		**Receive Date:**	10/30/2009

Analysis Lot:	KWG0910516	**Prep Lot:**	KWG0909945	**Report Group:**	
Analysis Method:	8270C SIM	**Prep Method:**	EPA 3520C		
		Prep Date:	10/28/2009		
Prep Ref:	861280				

Quant Method:	J:\MS11\METHODS\SIM\1015ALK.M	**Calibration ID:**	CAL8928
Title:			
Tune Ref:	J:\MS11\DATA\110609\1106F001.D	**Method ID:**	MJ138
MB Ref:		**Quant based on Method**	

Data File:	J:\MS11\DATA\110609\1106F014.D			**Instrument:**	MS11
Acqu Date:	11/06/2009 14:57	**Quant Date:**	11/10/2009 13:13	**Vial:**	12
Run Type:	DMS			**Dilution:**	1.0
Lab ID:	KWG0909945-2 -- K0910308-019DMS			**Soln Conc. Units:**	ng/ml

Internal Standard Compounds

IS Ref	Parameter Name	RT	RT Dev	Quant Mass	Response	Solution Conc	Area Criteria
1	Naphthalene-d8	4.63	-0.01	136	209296	200.00	OK
2	Acenaphthene-d10	6.05	0.00	164	117931	200.00	OK
3	Phenanthrene-d10	7.27	0.00	188	199333	200.00	OK
4	Chrysene-d12	9.76	-0.01	240	270701	200.00	OK
5	Perylene-d12	12.78	0.00	264	255048	200.00	OK

Surrogate Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	%Rec	%Rec Limits		Rpt?
2	Fluorene-d10	6.47	0.00	0.00	176	155734	283.04	71	28-98	OK	
2	2,4,6-Tribromophenol	6.70	0.00	0.00	330	33940	320.45	53	10-136	OK	
3	Fluoranthene-d10	8.24	0.00	0.00	212	299891	271.49	68	31-105	OK	
4	Terphenyl-d14	8.59	0.00	0.00	244	249295	222.77	56	27-112	OK	

Target Compounds

Final Conc. Units: ug/L

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	Final Conc	Q	Rpt?
1	Naphthalene	4.65		0.00	128	401623	417.00	1.99		
1	2-Methylnaphthalene	5.20	-0.01	0.00	142	248250	374.01	1.78		
1	1-Methylnaphthalene	5.29	0.01	0.00	142	276208	391.41	1.86		
1	Biphenyl	5.58		0.00	154	409734	541.35	2.58		
1	2,6-Dimethylnaphthalene	5.71		0.00	156	263304	504.51	2.40		
1	C2-Naphthalenes				156	0		0.020	U	
1	C3-Naphthalenes				170	0		0.020	U	
1	C4-Naphthalenes				184	0		0.020	U	
2	Acenaphthylene	5.93		0.00	152	434679	424.76	2.02		
2	Acenaphthene	6.07		0.00	154	263136	431.28	2.05		
2	Dibenzofuran	6.22		0.00	168	381445	464.79	2.21		
2	2,3,5-Trimethylnaphthalene	6.39		0.00	170	276809	540.08	2.57		

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Data File:	J:\MS11\DATA\110609\1106F014.D		**Instrument:** MS11
Acqu Date:	11/06/2009 14:57	**Quant Date:** 11/10/2009 13:13	**Vial:** 12
Run Type:	DMS		**Dilution:** 1.0
Lab ID:	KWG0909945-2 -- K0910308-019DMS		**Soln Conc. Units:** ng/ml

Target Compounds

Final Conc. Units: ug/L

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	Final Conc	Q	Rpt?
2	Fluorene	6.49		0.00	166	319211	485.25	2.31		
2	C1-Fluorenes				180	0		0.020	U	
2	C2-Fluorenes				194	0		0.020	U	
2	C3-Fluorenes				208	0		0.020	U	
2	Pentachlorophenol				266	0d		0.013	U	
3	Dibenzothiophene	7.19		0.00	184	421540	418.29	1.99		
3	C1-Dibenzothiophenes				198	0		0.020	U	
3	C2-Dibenzothiophenes				212	0		0.020	U	
3	C3-Dibenzothiophenes				226	0		0.020	U	
3	Phenanthrene	7.28	-0.01	0.00	178	451158	403.55	1.92		
3	Anthracene	7.33		0.00	178	436053	407.92	1.94		
3	Carbazole	7.48		0.00	167	363130	397.43	1.89		
3	1-Methylphenanthrene	7.78		0.00	192	370635	463.01	2.20		
3	C1-Phenanthrenes/Anthracenes				192	0		0.020	U	
3	C2-Phenanthrenes/Anthracenes				206	0		0.020	U	
3	C3-Phenanthrenes/Anthracenes				220	0		0.020	U	
3	C4-Phenanthrenes/Anthracenes				234	0		0.020	U	
3	Fluoranthene	8.25		0.00	202	534411	435.15	2.07		
4	Pyrene	8.44		0.00	202	582372	392.89	1.87		
4	C1-Fluoranthenes/Pyrenes				216	0		0.020	U	
4	C2-Fluoranthenes/Pyrenes				230	0		0.020	U	
4	C3-Fluoranthenes/Pyrenes				244	0		0.020	U	
4	Benz(a)anthracene	9.75		0.00	228	578700	393.33	1.87		
4	Chrysene	9.80		0.00	228	572860	399.73	1.90		
4	C1-Chrysenes				242	0		0.020	U	
4	C2-Chrysenes				256	0		0.020	U	
4	C3-Chrysenes				270	0		0.020	U	
4	C4-Chrysenes				284	0		0.020	U	
5	Benzo(b)fluoranthene	11.77	0.01	0.00	252	586720	440.98	2.10		
5	Benzo(k)fluoranthene	11.83		0.00	252	589821	449.97	2.14		
5	Benzo(e)pyrene	12.46		0.00	252	577129	463.20	2.21		
5	Benzo(a)pyrene	12.61		0.00	252	525391	416.95	1.99		
5	Perylene	12.85	-0.01	0.00	252	519940	420.93	2.00		
5	Indeno(1,2,3-cd)pyrene	16.33		0.00	276	465690	402.84	1.92		
5	Dibenz(a,h)anthracene	16.41		0.00	278	479356	384.88	1.83		
5	Benzo(g,h,i)perylene	16.81		0.00	276	543691	408.35	1.94		

Prep Amount: 1050 ml **Dilution:** 1.0
Prep Final Vol: 5 ml **Unit Factor:** 1

Final Concentration = ((Soln Conc x Prep Final Vol x Dilution) / Prep Amount) x Unit Factor

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\110609\1106F014.D Vial: 12
Acq On : 6 Nov 2009 2:57 pm Operator: LWeiskopf
Sample : KWG0909945-2 K0910308-019DMS Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 10 08:36:42 2009 Quant Results File: 1015ALK.RES

Quant Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Tue Nov 10 08:36:05 2009
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	4.63	136	209296	200.00	ng/ml	-0.02
10) Acenaphthene-d10	6.05	164	117931	200.00	ng/ml	-0.02
22) Phenanthrene-d10	7.27	188	199333	200.00	ng/ml	-0.02
37) Chrysene-d12	9.76	240	270701	200.00	ng/ml	-0.04
49) Perylene-d12	12.78	264	255048	200.00	ng/ml	-0.07
System Monitoring Compounds						
15) Fluorene-d10	6.47	176	155734	283.04	ng/ml	-0.02
Spiked Amount 200.000			Recovery = 141.52%			
20) 2,4,6 Tribromophenol	6.70	330	33940	320.45	ng/ml	-0.02
Spiked Amount 375.000			Recovery = 85.45%			
36) Fluoranthene-d10	8.24	212	299891	271.49	ng/ml	-0.03
Spiked Amount 200.000			Recovery = 135.75%			
42) Terphenyl-d14	8.59	244	249295	222.77	ng/ml	-0.02
Spiked Amount 200.000			Recovery = 111.39%			
Target Compounds						Qvalue
2) Naphthalene	4.65	128	401623	417.00	ng/ml	98
3) 2-Methylnaphthalene	5.20	142	248250	374.01	ng/ml	99
4) 1-Methylnaphthalene	5.29	142	276208	391.41	ng/ml	98
5) Biphenyl	5.58	154	409734	541.35	ng/ml	100
6) 2,6-Dimethylnaphthalene	5.71	156	263304	504.51	ng/ml	99
11) Acenaphthylene	5.93	152	434679	424.76	ng/ml	100
12) Acenaphthene	6.07	154	263136	431.28	ng/ml	94
13) Dibenzofuran	6.22	168	381445	464.79	ng/ml	70
14) 2,3,5-Trimethylnaphthalene	6.39	170	276809	540.08	ng/ml	81
16) Fluorene	6.49	166	319211	485.25	ng/ml	100
23) Dibenzothiophene	7.19	184	421540	418.29	ng/ml	87
27) Phenanthrene	7.28	178	451158	403.55	ng/ml	99
28) Anthracene	7.33	178	436053	407.92	ng/ml	99
29) Carbazole	7.48	167	363130	397.43	ng/ml	88
30) 1-Methylphenanthrene	7.78	192	370635	463.01	ng/ml	93
35) Fluoranthene	8.25	202	534411	435.15	ng/ml	99
38) Pyrene	8.44	202	582372	392.89	ng/ml	86
43) Benz(a)anthracene	9.75	228	578700	393.33	ng/ml	99
44) Chrysene	9.80	228	572860	399.73	ng/ml	97
50) Benzo(b)fluoranthene	11.77	252	586720	440.98	ng/ml	99
51) Benzo(k)fluoranthene	11.83	252	589821	449.97	ng/ml	100
52) Benzo(e)pyrene	12.46	252	577129	463.20	ng/ml	100
53) Benzo(a)pyrene	12.61	252	525391	416.95	ng/ml	100
54) Perylene	12.85	252	519940	420.93	ng/ml	99
55) Indeno(1,2,3-cd)pyrene	16.33	276	465690	402.84	ng/ml	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\110609\1106F014.D Vial: 12
Acq On : 6 Nov 2009 2:57 pm Operator: LWeiskopf
Sample : KWG0909945-2 K0910308-019DMS Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 10 08:36:42 2009 Quant Results File: 1015ALK.RES

Quant Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Tue Nov 10 08:36:05 2009
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

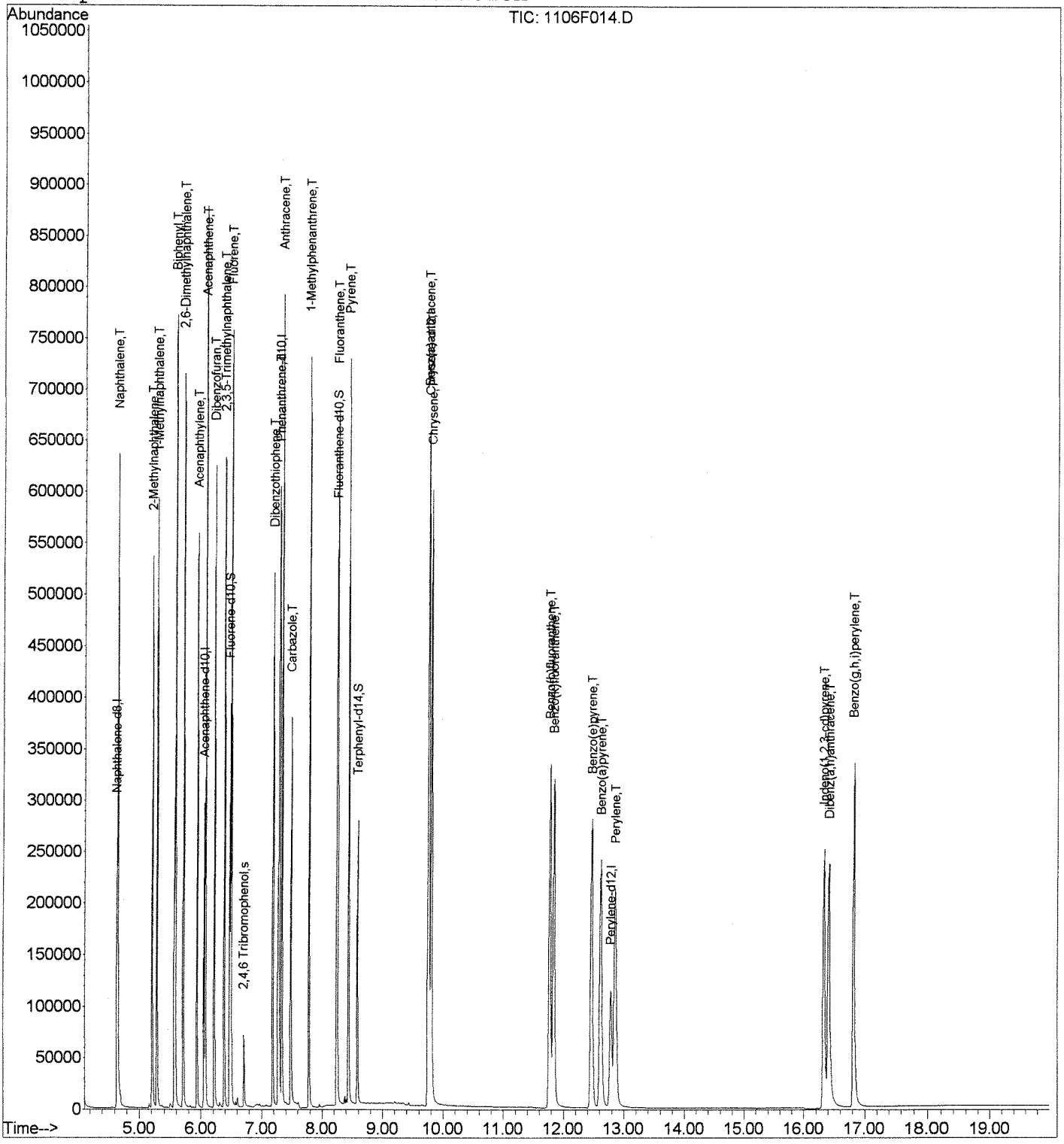
	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
56)	Dibenz(a,h)anthracene	16.41	278	479356	384.88	ng/ml	98
57)	Benzo(g,h,i)perylene	16.81	276	543691	408.35	ng/ml	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\110609\1106F014.D Vial: 12
Acq On : 6 Nov 2009 2:57 pm Operator: LWeiskopf
Sample : KWG0909945-2 K0910308-019DMS Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 10 13:13 2009 Quant Results File: 1015ALK.RES

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Tue Nov 10 08:36:05 2009
Response via : Initial Calibration



COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009
Sample Matrix: Water

Service Request: K0910296
Date Collected: NA
Date Received: NA

Polynuclear Aromatic Hydrocarbons

Sample Name: Lab Control Sample
Lab Code: KWG0909945-3

Units: ug/L
Basis: NA

Extraction Method: EPA 3520C
Analysis Method: 8270C SIM

Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Naphthalene	**1.84**		0.020	0.0030	1	10/28/09	11/06/09	KWG0909945	
2-Methylnaphthalene	**1.65**		0.020	0.0023	1	10/28/09	11/06/09	KWG0909945	
1-Methylnaphthalene	**1.76**		0.020	0.0035	1	10/28/09	11/06/09	KWG0909945	
2,6-Dimethylnaphthalene	**2.15**		0.020	0.0022	1	10/28/09	11/06/09	KWG0909945	
Acenaphthylene	**2.00**		0.020	0.0034	1	10/28/09	11/06/09	KWG0909945	
Acenaphthene	**1.98**		0.020	0.0044	1	10/28/09	11/06/09	KWG0909945	
Dibenzofuran	**2.14**		0.020	0.0046	1	10/28/09	11/06/09	KWG0909945	
2,3,5-Trimethylnaphthalene	**2.42**		0.020	0.0050	1	10/28/09	11/06/09	KWG0909945	
Fluorene	**2.29**		0.020	0.0038	1	10/28/09	11/06/09	KWG0909945	
Phenanthrene	**1.96**		0.020	0.0050	1	10/28/09	11/06/09	KWG0909945	
Anthracene	**2.03**		0.020	0.0036	1	10/28/09	11/06/09	KWG0909945	
1-Methylphenanthrene	**2.28**		0.020	0.0041	1	10/28/09	11/06/09	KWG0909945	
Fluoranthene	**2.13**		0.020	0.0044	1	10/28/09	11/06/09	KWG0909945	
Pyrene	**2.09**		0.020	0.0035	1	10/28/09	11/06/09	KWG0909945	
Benz(a)anthracene	**1.89**		0.020	0.0026	1	10/28/09	11/06/09	KWG0909945	
Chrysene	**1.93**		0.020	0.0034	1	10/28/09	11/06/09	KWG0909945	
Benzo(b)fluoranthene	**2.11**		0.020	0.0023	1	10/28/09	11/06/09	KWG0909945	
Benzo(k)fluoranthene	**2.16**		0.020	0.0025	1	10/28/09	11/06/09	KWG0909945	
Benzo(e)pyrene	**2.21**		0.020	0.0040	1	10/28/09	11/06/09	KWG0909945	
Benzo(a)pyrene	**2.00**		0.020	0.0043	1	10/28/09	11/06/09	KWG0909945	
Indeno(1,2,3-cd)pyrene	**2.02**		0.020	0.0026	1	10/28/09	11/06/09	KWG0909945	
Dibenz(a,h)anthracene	**1.93**		0.020	0.0025	1	10/28/09	11/06/09	KWG0909945	
Benzo(g,h,i)perylene	**2.06**		0.020	0.0029	1	10/28/09	11/06/09	KWG0909945	
Perylene	**2.01**		0.020	0.0050	1	10/28/09	11/06/09	KWG0909945	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	64	28-98	11/06/09	Acceptable
Fluoranthene-d10	62	31-105	11/06/09	Acceptable
Terphenyl-d14	57	27-112	11/06/09	Acceptable

Comments:

Exception Report

Data File: J:\MS11\DATA\110609\1106F012.D
Lab ID: KWG0909945-3
RunType: LCS
Matrix: WATER

Date Acquired: 11/06/2009 14:03
Date Quantitated: 11/10/2009 13:12
Batch ID: KWG0910516
Analysis Method: 8270C SIM
MethodJoinID: MJ138

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Tune Window	NA	NA	NA	x	
Analytical Holding Time	NA	NA	NA	x	
ICAL Pass/Fail	NA	NA	NA	x	
ICAL Average RSD	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Initial Calibration Minimum RF	NA	NA	NA	x	
Initial Calibration SPCC/CCC	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA		x
Continuing Calibration Minimum RF	NA	NA	NA	x	
Continuing Calibration SPCC/CCC	NA	NA	NA	x	
Internal Standards	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Relative Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

K10296
K10308

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
Continuing Calibration Recovery	Pentachlorophenol	-58.4	NA	20	NT

Primary Review: 11/10/09

Secondary Review: 11-11-09

Quantitation Report

Bottle ID:		**Tier:**		**Matrix:**	WATER
Prod Code:	8270C SIM PAH_S	**Collect Date:**		**Receive Date:**	10/30/2009

Analysis Lot:	KWG0910516	**Prep Lot:**	KWG0909945	**Report Group:**	
Analysis Method:	8270C SIM	**Prep Method:**	EPA 3520C		
		Prep Date:	10/28/2009		
Prep Ref:	861281				

Quant Method:	J:\MS11\METHODS\SIM\1015ALK.M	**Calibration ID:**	CAL8928
Title:			
Tune Ref:	J:\MS11\DATA\110609\1106F001.D	**Method ID:**	MJ138
MB Ref:		**Quant based on Method**	

Data File:	J:\MS11\DATA\110609\1106F012.D			**Instrument:**	MS11
Acqu Date:	11/06/2009 14:03	**Quant Date:**	11/10/2009 13:12	**Vial:**	10
Run Type:	LCS			**Dilution:**	1.0
Lab ID:	KWG0909945-3			**Soln Conc. Units:**	ng/ml

Internal Standard Compounds

IS Ref	Parameter Name	RT	RT Dev	Quant Mass	Response	Solution Conc	Area Criteria
1	Naphthalene-d8	4.63	-0.01	136	233458	200.00	OK
2	Acenaphthene-d10	6.05	0.00	164	126989	200.00	OK
3	Phenanthrene-d10	7.27	0.00	188	202098	200.00	OK
4	Chrysene-d12	9.77	0.00	240	247318	200.00	OK
5	Perylene-d12	12.78	0.00	264	254259	200.00	OK

Surrogate Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	%Rec	%Rec Limits		Rpt?
2	Fluorene-d10	6.47	0.00	0.00	176	152175	256.84	64	28-98	OK	
2	2,4,6-Tribromophenol	6.71	0.01	0.00	330	29052	254.73	42	10-136	OK	
3	Fluoranthene-d10	8.24	0.00	0.00	212	276676	247.05	62	31-105	OK	
4	Terphenyl-d14	8.59	0.00	0.00	244	231886	226.80	57	27-112	OK	

Target Compounds

Final Conc. Units: ug/L

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	Final Conc	Q	Rpt?
1	Naphthalene	4.65		0.00	128	395427	368.07	1.84		
1	2-Methylnaphthalene	5.20	-0.01	0.00	142	244287	329.94	1.65		
1	1-Methylnaphthalene	5.29	0.01	0.00	142	277013	351.92	1.76		
1	Biphenyl	5.58		0.00	154	337192	399.40	2.00		
1	2,6-Dimethylnaphthalene	5.71		0.00	156	250101	429.62	2.15		
1	C2-Naphthalenes				156	0		0.020	U	
1	C3-Naphthalenes				170	0		0.020	U	
1	C4-Naphthalenes				184	0		0.020	U	
2	Acenaphthylene	5.93		0.00	152	440767	399.98	2.00		
2	Acenaphthene	6.07		0.00	154	260075	395.86	1.98		
2	Dibenzofuran	6.22		0.00	168	377625	427.31	2.14		
2	2,3,5-Trimethylnaphthalene	6.39		0.00	170	267501	484.69	2.42		

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Data File:	J:\MS11\DATA\110609\1106F012.D			**Instrument:**	MS11
Acqu Date:	11/06/2009 14:03	**Quant Date:**	11/10/2009 13:12	**Vial:**	10
Run Type:	LCS			**Dilution:**	1.0
Lab ID:	KWG0909945-3			**Soln Conc. Units:**	ng/ml

Target Compounds **Final Conc. Units:** ug/L

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	Final Conc	Q	Rpt?
2	Fluorene	6.49		0.00	166	324496	458.09	2.29		
2	C1-Fluorenes				180	0		0.020	U	
2	C2-Fluorenes				194	0		0.020	U	
2	C3-Fluorenes				208	0		0.020	U	
2	Pentachlorophenol				266	0d		0.013	U	
3	Dibenzothiophene	7.19		0.00	184	428114	419.00	2.10		
3	C1-Dibenzothiophenes				198	0		0.020	U	
3	C2-Dibenzothiophenes				212	0		0.020	U	
3	C3-Dibenzothiophenes				226	0		0.020	U	
3	Phenanthrene	7.29		0.00	178	445040	392.63	1.96		
3	Anthracene	7.33		0.00	178	440598	406.53	2.03		
3	Carbazole	7.48		0.00	167	374618	404.40	2.02		
3	1-Methylphenanthrene	7.78		0.00	192	370691	456.74	2.28		
3	C1-Phenanthrenes/Anthracenes				192	0		0.020	U	
3	C2-Phenanthrenes/Anthracenes				206	0		0.020	U	
3	C3-Phenanthrenes/Anthracenes				220	0		0.020	U	
3	C4-Phenanthrenes/Anthracenes				234	0		0.020	U	
3	Fluoranthene	8.25		0.00	202	529657	425.38	2.13		
4	Pyrene	8.44		0.00	202	565848	417.83	2.09		
4	C1-Fluoranthenes/Pyrenes				216	0		0.020	U	
4	C2-Fluoranthenes/Pyrenes				230	0		0.020	U	
4	C3-Fluoranthenes/Pyrenes				244	0		0.020	U	
4	Benz(a)anthracene	9.75		0.00	228	508324	378.16	1.89		
4	Chrysene	9.80		0.00	228	505284	385.91	1.93		
4	C1-Chrysenes				242	0		0.020	U	
4	C2-Chrysenes				256	0		0.020	U	
4	C3-Chrysenes				270	0		0.020	U	
4	C4-Chrysenes				284	0		0.020	U	
5	Benzo(b)fluoranthene	11.76		0.00	252	559113	421.54	2.11		
5	Benzo(k)fluoranthene	11.84	0.01	0.00	252	565443	432.71	2.16		
5	Benzo(e)pyrene	12.46		0.00	252	548047	441.22	2.21		
5	Benzo(a)pyrene	12.61		0.00	252	501621	399.32	2.00		
5	Perylene	12.86		0.00	252	495894	402.70	2.01		
5	Indeno(1,2,3-cd)pyrene	16.33		0.00	276	466116	404.46	2.02		
5	Dibenz(a,h)anthracene	16.41		0.00	278	478534	385.41	1.93		
5	Benzo(g,h,i)perylene	16.81		0.00	276	547937	412.81	2.06		

Prep Amount:	1000 ml	**Dilution:**	1.0
Prep Final Vol:	5 ml	**Unit Factor:**	1

Final Concentration = ((Soln Conc x Prep Final Vol x Dilution) / Prep Amount) x Unit Factor

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\110609\1106F012.D Vial: 10
Acq On : 6 Nov 2009 2:03 pm Operator: LWeiskopf
Sample : KWG0909945-3 LCS Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 10 08:36:40 2009 Quant Results File: 1015ALK.RES

Quant Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Tue Nov 10 08:36:05 2009
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	4.63	136	233458	200.00	ng/ml	-0.02
10) Acenaphthene-d10	6.05	164	126989	200.00	ng/ml	-0.02
22) Phenanthrene-d10	7.27	188	202098	200.00	ng/ml	-0.02
37) Chrysene-d12	9.77	240	247318	200.00	ng/ml	-0.03
49) Perylene-d12	12.78	264	254259	200.00	ng/ml	-0.07
System Monitoring Compounds						
15) Fluorene-d10	6.47	176	152175	256.84	ng/ml	-0.02
Spiked Amount 200.000			Recovery = 128.42%			
20) 2,4,6 Tribromophenol	6.71	330	29052	254.73	ng/ml	-0.02
Spiked Amount 375.000			Recovery = 67.93%			
36) Fluoranthene-d10	8.24	212	276676	247.05	ng/ml	-0.02
Spiked Amount 200.000			Recovery = 123.52%			
42) Terphenyl-d14	8.59	244	231886	226.80	ng/ml	-0.02
Spiked Amount 200.000			Recovery = 113.40%			
Target Compounds						Qvalue
2) Naphthalene	4.65	128	395427	368.07	ng/ml	99
3) 2-Methylnaphthalene	5.20	142	244287	329.94	ng/ml	98
4) 1-Methylnaphthalene	5.29	142	277013	351.92	ng/ml	100
5) Biphenyl	5.58	154	337192	399.40	ng/ml	98
6) 2,6-Dimethylnaphthalene	5.71	156	250101	429.62	ng/ml	97
11) Acenaphthylene	5.93	152	440767	399.98	ng/ml	98
12) Acenaphthene	6.07	154	260075	395.86	ng/ml	93
13) Dibenzofuran	6.22	168	377625	427.31	ng/ml	66
14) 2,3,5-Trimethylnaphthalene	6.39	170	267501	484.69	ng/ml	83
16) Fluorene	6.49	166	324496	458.09	ng/ml	97
23) Dibenzothiophene	7.19	184	428114	419.00	ng/ml	90
27) Phenanthrene	7.29	178	445040	392.63	ng/ml	93
28) Anthracene	7.33	178	440598	406.53	ng/ml	99
29) Carbazole	7.48	167	374618	404.40	ng/ml	88
30) 1-Methylphenanthrene	7.78	192	370691	456.74	ng/ml	98
35) Fluoranthene	8.25	202	529657	425.38	ng/ml	99
38) Pyrene	8.44	202	565848	417.83	ng/ml	88
43) Benz(a)anthracene	9.75	228	508324	378.16	ng/ml	98
44) Chrysene	9.80	228	505284	385.91	ng/ml	98
50) Benzo(b)fluoranthene	11.76	252	559113	421.54	ng/ml	99
51) Benzo(k)fluoranthene	11.84	252	565443	432.71	ng/ml	99
52) Benzo(e)pyrene	12.46	252	548047	441.22	ng/ml	99
53) Benzo(a)pyrene	12.61	252	501621	399.32	ng/ml	99
54) Perylene	12.86	252	495894	402.70	ng/ml	99
55) Indeno(1,2,3-cd)pyrene	16.33	276	466116	404.46	ng/ml	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\110609\1106F012.D Vial: 10
Acq On : 6 Nov 2009 2:03 pm Operator: LWeiskopf
Sample : KWG0909945-3 LCS Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 10 08:36:40 2009 Quant Results File: 1015ALK.RES

Quant Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Tue Nov 10 08:36:05 2009
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

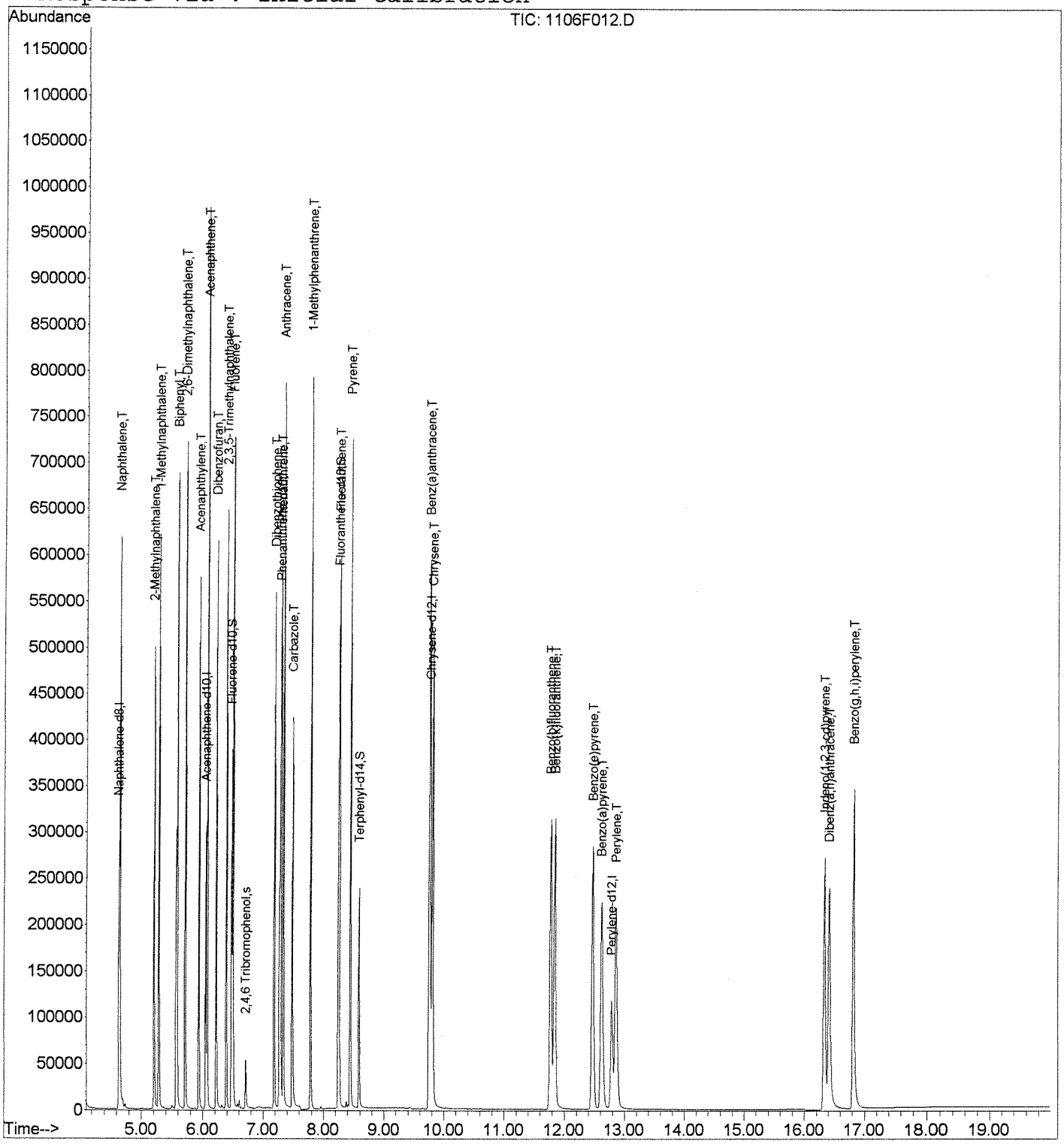
	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
56)	Dibenz(a,h)anthracene	16.41	278	478534	385.41	ng/ml	99
57)	Benzo(g,h,i)perylene	16.81	276	547937	412.81	ng/ml	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\110609\1106F012.D Vial: 10
Acq On : 6 Nov 2009 2:03 pm Operator: LWeiskopf
Sample : KWG0909945-3 LCS Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 10 13:12 2009 Quant Results File: 1015ALK.RES

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Tue Nov 10 08:36:05 2009
Response via : Initial Calibration



1106F012.D 1015ALK.M Tue Nov 10 13:13:42 2009 Page 3

Organic Analysis:
Polynuclear Aromatic Hydrocarbons

Validation Package

Standards Data

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Results

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0910296
Date Analyzed: 11/06/2009
Time Analyzed: 09:07

Tune Summary
Polynuclear Aromatic Hydrocarbons

File ID: J:\MS11\DATA\110609\1106F001.D
Instrument ID: MS11
Column:

Analysis Method: 8270C SIM
Analysis Lot: KWG0910516

Target Mass	Relative to Mass	Lower Limit%	Upper Limit%	Relative Abundance %	Raw Abundance	Result Pass/Fail
51	198	10	80	29.7	122152	PASS
68	69	0	2	0.0	0	PASS
69	198	0	100	32.7	134400	PASS
70	69	0	2	0.8	1101	PASS
127	198	10	80	43.2	177472	PASS
197	198	0	2	0.0	0	PASS
198	442	30	100	34.5	410752	PASS
199	198	5	9	6.8	27808	PASS
275	198	10	60	40.1	164864	PASS
365	442	1	50	2.3	27264	PASS
441	443	0	100	72.9	169088	PASS
442	442	100	100	100.0	1189376	PASS
443	442	15	24	19.5	232064	PASS

Sample Name	Lab Code	File ID	Date Analyzed	Time Analyzed	Q
Continuing Calibration Verification	KWG0910516-2	J:\MS11\DATA\110609\1106F002.D	11/06/2009	09:33	
Lab Control Sample	KWG0909945-3	J:\MS11\DATA\110609\1106F012.D	11/06/2009	14:03	
Batch QCMS	KWG0909945-1	J:\MS11\DATA\110609\1106F013.D	11/06/2009	14:30	
Batch QCDMS	KWG0909945-2	J:\MS11\DATA\110609\1106F014.D	11/06/2009	14:57	
Batch QC	K0910308-019	J:\MS11\DATA\110609\1106F015.D	11/06/2009	15:25	
RB-1	K0910296-001	J:\MS11\DATA\110609\1106F016.D	11/06/2009	15:51	

Results flagged with an asterisk (*) indicate the analysis performed outside specified tune window

Exception Report

Data File: J:\MS11\DATA\110609\1106F001.D
Lab ID: KWG0910516-1
RunType: DFTPP
Matrix: WATER

Date Acquired: 11/06/2009 09:07
Date Quantitated:
Batch ID: KWG0910516
Analysis Method: 8270C SIM
ListJoinID: LJ4448

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Tune Ion Ratio	NA	NA	NA	x	

Primary Review: 11/10/09

Secondary Review: 11-11-09

Quantitation Report

Bottle ID:		**Tier:**		**Matrix:**	WATER
Prod Code:	8270C SIM	**Collect Date:**		**Receive Date:**	11/10/2009

Analysis Lot:	KWG0910516	**Prep Lot:**		**Report Group:**	
Analysis Method:	DFTPP	**Prep Method:**			
Prep Ref:		**Prep Date:**			

Quant Method:	J:\MS11\METHODS\SIM\DFTPPPAH.M	**Calibration ID:**	CAL8928
Title:		**Report List ID:**	LJ1965
Tune Ref:		**Method ID:**	MJ190
MB Ref:		**Quant based on Report List**	

Data File:	J:\MS11\DATA\110609\1106F001.D			**Instrument:**	MS11
Acqu Date:	11/06/2009 09:07	**Quant Date:**		**Vial:**	1
Run Type:	DFTPP			**Dilution:**	1.0
Lab ID:	KWG0910516-1			**Soln Conc. Units:**	

Tune Results

Target Mass	Relative to Mass	Lower Limit%	Upper Limit%	Relative Abundance %	Raw Abundance	Result Pass/Fail
51	198	10	80	29.7	122152	Pass
68	69	0	2	0.0	0	Pass
69	198	0	100	32.7	134400	Pass
70	69	0	2	0.8	1101	Pass
127	198	10	80	43.2	177472	Pass
197	198	0	2	0.0	0	Pass
198	442	30	100	34.5	410752	Pass
199	198	5	9	6.8	27808	Pass
275	198	10	60	40.1	164864	Pass
365	442	1	50	2.3	27264	Pass
441	443	0.01	100	72.9	169088	Pass
442	442	100	100	100.0	1189376	Pass
443	442	15	24	19.5	232064	Pass

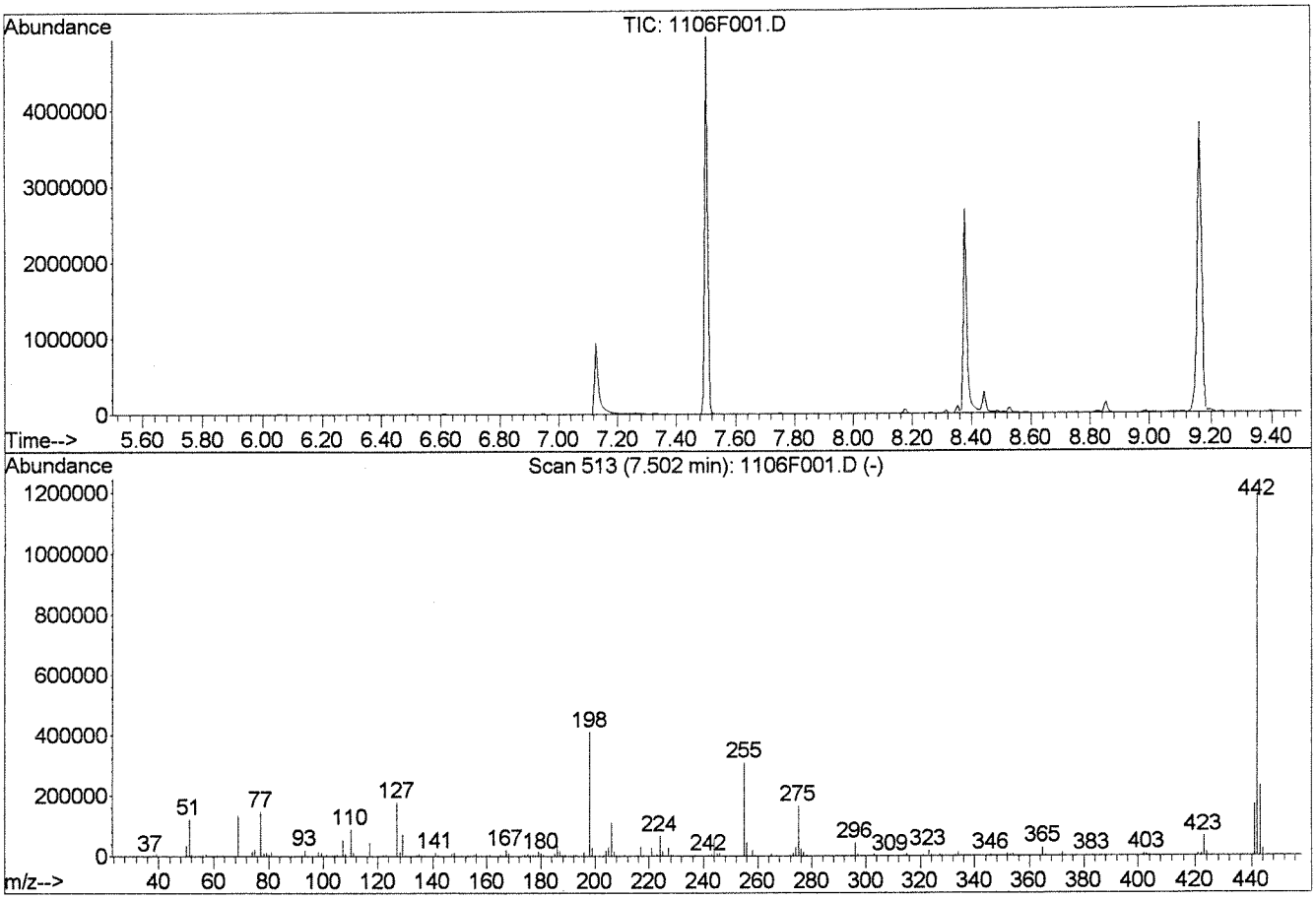
U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Data File : J:\MS11\DATA\110609\1106F001.D
Acq On : 6 Nov 2009 9:07 am
Sample : DFTPP @ 3.0ug/mL | SVM30-40C
Misc :
MS Integration Params: RTEINT.P
Method : J:\MS11\METHODS\SIM\DFTPPPAH.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS

Vial: 1
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00



Spectrum Information: Scan 513

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	10	80	29.7	122152	PASS
68	69	0.00	2	0.0	0	PASS
70	69	0.00	2	0.8	1101	PASS
127	198	10	80	43.2	177472	PASS
197	198	0.00	2	0.0	0	PASS
198	442	30	100	34.5	410752	PASS
199	198	5	9	6.8	27808	PASS
275	198	10	60	40.1	164864	PASS
365	442	1	50	2.3	27264	PASS
441	443	0.01	100	72.9	169088	PASS
442	442	30	100	100.0	1189376	PASS
443	442	15	24	19.5	232064	PASS

1106F001.D DFTPPPAH.M Tue Nov 10 08:34:45 2009

Scan 513 (7.502 min): 1106F001.D
DFTPP @ 3.0ug/mL | SVM30-40C
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
37.10	682	61.10	1415	78.10	9321	91.10	2567
38.10	1832	62.10	2314	79.10	11230	92.10	3562
39.10	8756	63.10	4897	80.00	7685	93.10	19184
40.10	587	64.10	940	81.00	12032	94.10	1588
41.20	592	65.10	2549	82.00	2671	95.10	537
50.10	35496	67.20	551	83.10	2285	96.20	825
51.10	122152	69.00	134400	85.00	2259	98.00	14983
52.10	7253	70.10	1101	86.10	3415	99.10	10633
55.00	873	74.10	14890	87.00	1662	100.10	1032
56.00	4432	75.00	21512	88.00	532	101.00	6575
57.10	7524	77.10	146944	88.90	550	103.10	2071

Scan 513 (7.502 min): 1106F001.D
DFTPP @ 3.0ug/mL | SVM30-40C
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
104.00	4064	122.00	3616	135.00	5713	148.00	10731
105.00	4411	123.00	5296	136.00	2259	149.00	1596
107.10	51744	124.00	2255	137.00	2860	151.00	1370
108.00	7463	125.00	2616	140.10	966	151.80	809
110.00	88000	127.00	177472	141.00	11307	153.00	2247
111.00	13786	128.00	14001	142.00	3357	154.00	3397
112.10	1830	129.00	71496	143.10	1509	155.00	4968
113.00	555	130.10	5397	144.00	777	156.00	7762
117.00	45040	131.10	1377	145.20	556	157.00	1973
118.00	3381	132.10	755	146.00	1399	158.00	1707
120.10	755	134.00	2563	147.00	5769	159.00	1115

Scan 513 (7.502 min): 1106F001.D
DFTPP @ 3.0ug/mL | SVM30-40C
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
160.00	3215	172.00	1778	183.00	831	194.10	1245
161.10	3779	173.00	2469	184.10	1172	194.90	786
161.90	1036	174.00	4493	185.00	6597	196.00	14383
164.00	825	175.10	7516	186.00	59208	198.00	410752
165.00	3891	176.00	2576	187.00	17400	199.00	27808
166.00	3415	177.00	4152	188.00	1727	200.00	2693
167.00	18872	177.90	1286	189.00	3798	201.60	2097
168.00	9636	179.00	15438	190.00	529	203.00	3008
169.00	1286	180.00	10095	191.00	1924	204.00	17064
170.00	706	181.00	4896	192.00	5154	205.00	29672
171.00	897	182.00	1268	193.00	5569	206.00	110272

Scan 513 (7.502 min): 1106F001.D
DFTPP @ 3.0ug/mL | SVM30-40C
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
207.10	15413	223.00	7809	235.00	2104	247.00	2631
208.00	4101	224.00	66272	236.00	1343	248.90	1865
208.90	1205	225.00	17000	237.00	2610	252.00	648
210.90	4444	225.90	1589	239.00	1370	253.10	1209
212.00	704	227.00	28728	240.10	1311	255.00	308416
215.00	1397	228.00	4166	241.00	1578	256.00	45576
216.10	3473	229.00	6068	241.90	3499	257.00	2883
217.00	29496	229.90	1010	243.00	3951	258.00	18776
218.00	4072	231.00	2485	244.00	57248	259.00	2903
219.00	514	233.10	816	245.00	7894	260.00	536
221.00	28232	233.90	2174	246.00	10952	260.90	893

Scan 513 (7.502 min): 1106F001.D
DFTPP @ 3.0ug/mL | SVM30-40C
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
263.95	421	278.90	726	301.00	1166	317.10	749
265.00	6783	282.00	799	301.90	984	321.00	2149
265.90	752	283.10	1077	303.00	5545	321.90	1213
271.00	727	284.00	1091	304.10	1442	323.00	17040
272.00	823	285.00	2344	308.00	953	324.00	3595
273.00	9259	289.80	516	309.00	508	327.00	3405
274.00	27504	292.00	634	310.00	576	327.90	1444
275.00	164864	292.90	2918	313.00	714	331.90	1336
276.00	23808	294.00	897	314.00	2807	333.00	1659
277.00	13429	296.00	43240	315.00	5665	334.00	12447
278.00	2661	297.00	6751	316.00	3084	335.10	3012

Scan 513 (7.502 min): 1106F001.D
DFTPP @ 3.0ug/mL | SVM30-40C
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
341.00	1884	370.90	1847	404.00	2422	445.00	1205
346.00	4657	372.00	11367	414.90	627		
347.10	743	373.00	3079	421.00	7069		
351.20	543	383.00	2948	422.00	7672		
352.00	6599	384.10	579	423.00	64296		
353.00	4507	390.00	1612	424.00	13428		
354.10	6677	391.00	1476	424.90	1134		
354.90	914	392.00	920	441.00	169088		
364.90	27264	401.00	1164	442.00	1189376		
366.00	3518	402.00	5563	443.00	232064		
370.00	748	403.00	7750	444.00	22152		

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Results

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0910296
Date Analyzed: 11/09/2009
Time Analyzed: 07:40

Tune Summary
Polynuclear Aromatic Hydrocarbons

File ID: J:\MS11\DATA\110909\1109F001.D
Instrument ID: MS11
Column:

Analysis Method: 8270C SIM
Analysis Lot: KWG0910548

Target Mass	Relative to Mass	Lower Limit%	Upper Limit%	Relative Abundance %	Raw Abundance	Result Pass/Fail
51	198	10	80	31.6	138560	PASS
68	69	0	2	0.0	0	PASS
69	198	0	100	34.7	152192	PASS
70	69	0	2	0.7	1070	PASS
127	198	10	80	45.5	199488	PASS
197	198	0	2	0.0	0	PASS
198	442	30	100	43.8	438592	PASS
199	198	5	9	6.7	29256	PASS
275	198	10	60	36.1	158400	PASS
365	442	1	50	2.5	25272	PASS
441	443	0	100	70.8	142656	PASS
442	442	100	100	100.0	1002176	PASS
443	442	15	24	20.1	201408	PASS

Sample Name	Lab Code	File ID	Date Analyzed	Time Analyzed	Q
Continuing Calibration Verification	KWG0910548-2	J:\MS11\DATA\110909\1109F002.D	11/09/2009	08:10	
Method Blank	KWG0909945-4	J:\MS11\DATA\110909\1109F024.D	11/09/2009	18:14	

Results flagged with an asterisk (*) indicate the analysis performed outside specified tune window

Exception Report

Data File: J:\MS11\DATA\110909\1109F001.D
Lab ID: KWG0910548-1
RunType: DFTPP
Matrix: WATER

Date Acquired: 11/09/2009 07:40
Date Quantitated:
Batch ID: KWG0910548
Analysis Method: 8270C SIM
MethodJoinID: MJ139

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Tune Ion Ratio	NA	NA	NA	x	

Primary Review: 11/11/09

Secondary Review: 11-13-09

Quantitation Report

Bottle ID:		**Tier:**		**Matrix:**	WATER
Prod Code:	8270C SIM	**Collect Date:**		**Receive Date:**	11/11/2009

Analysis Lot:	KWG0910548	**Prep Lot:**		**Report Group:**	
Analysis Method:	DFTPP	**Prep Method:**			
Prep Ref:		**Prep Date:**			

Quant Method:	J:\MS11\METHODS\SIM\DFTPPPAH.M	**Calibration ID:**	CAL8928
Title:		**Report List ID:**	LJ1965
Tune Ref:		**Method ID:**	MJ190
MB Ref:		**Quant based on Report List**	

Data File:	J:\MS11\DATA\110909\1109F001.D			**Instrument:**	MS11
Acqu Date:	11/09/2009 07:40	**Quant Date:**		**Vial:**	1
Run Type:	DFTPP			**Dilution:**	1.0
Lab ID:	KWG0910548-1			**Soln Conc. Units:**	

Tune Results

Target Mass	Relative to Mass	Lower Limit%	Upper Limit%	Relative Abundance %	Raw Abundance	Result Pass/Fail
51	198	10	80	31.6	138560	Pass
68	69	0	2	0.0	0	Pass
69	198	0	100	34.7	152192	Pass
70	69	0	2	0.7	1070	Pass
127	198	10	80	45.5	199488	Pass
197	198	0	2	0.0	0	Pass
198	442	30	100	43.8	438592	Pass
199	198	5	9	6.7	29256	Pass
275	198	10	60	36.1	158400	Pass
365	442	1	50	2.5	25272	Pass
441	443	0.01	100	70.8	142656	Pass
442	442	100	100	100.0	1002176	Pass
443	442	15	24	20.1	201408	Pass

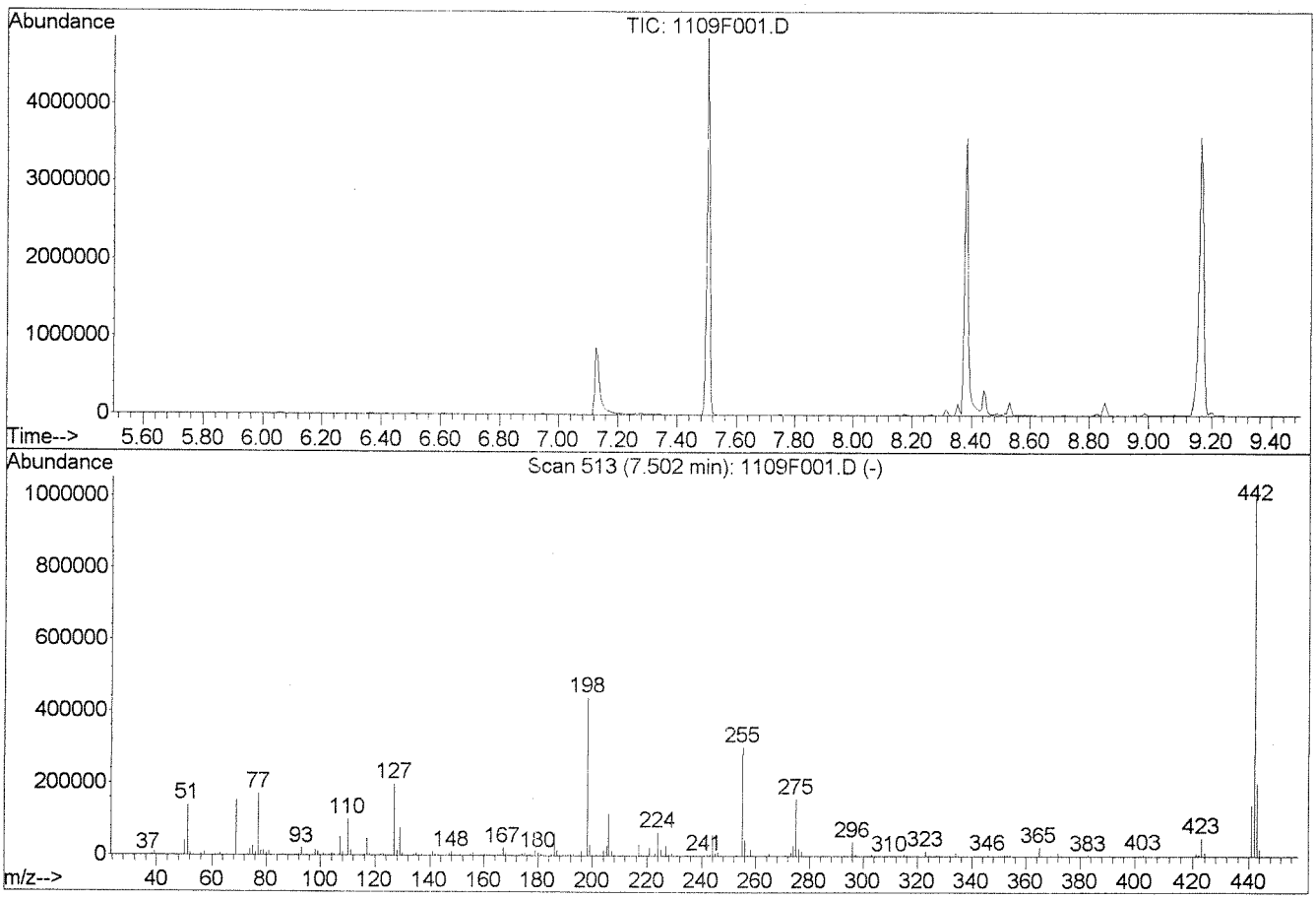
U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Data File : J:\MS11\DATA\110909\1109F001.D
Acq On : 9 Nov 2009 7:40 am
Sample : DFTPP @ 3.0ug/mL | SVM30-40C
Misc :
MS Integration Params: RTEINT.P
Method : J:\MS11\METHODS\SIM\DFTPPPAH.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS

Vial: 1
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00



Spectrum Information: Scan 513

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	10	80	31.6	138560	PASS
68	69	0.00	2	0.0	0	PASS
70	69	0.00	2	0.7	1070	PASS
127	198	10	80	45.5	199488	PASS
197	198	0.00	2	0.0	0	PASS
198	442	30	100	43.8	438592	PASS
199	198	5	9	6.7	29256	PASS
275	198	10	60	36.1	158400	PASS
365	442	1	50	2.5	25272	PASS
441	443	0.01	100	70.8	142656	PASS
442	442	30	100	100.0	1002176	PASS
443	442	15	24	20.1	201408	PASS

1109F001.D DFTPPPAH.M Wed Nov 11 07:44:48 2009

Scan 513 (7.502 min): 1109F001.D
DFTPP @ 3.0ug/mL | SVM30-40C
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
37.10	735	61.10	1892	77.10	171200	91.00	3265
38.20	2422	62.00	2332	78.10	12476	92.10	3456
39.10	11786	63.10	5714	79.00	13701	93.00	20696
39.90	513	64.10	683	80.00	8313	94.00	1133
40.10	521	65.20	2634	81.10	12237	95.20	609
50.10	40952	69.00	152192	82.00	3039	96.20	1149
51.10	138560	70.00	1070	83.10	2085	98.10	15607
52.10	7161	73.10	1839	85.10	2373	99.00	12119
55.10	979	74.10	17408	86.10	3410	100.00	1292
56.00	4528	75.10	25480	87.10	1969	101.00	5473
57.10	9308	76.20	8755	88.00	649	103.10	2387

Scan 513 (7.502 min): 1109F001.D
DFTPP @ 3.0ug/mL | SVM30-40C
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
104.10	5895	118.00	3858	132.10	625	145.20	550
105.00	4364	120.00	698	134.10	3078	146.00	2811
107.00	51200	122.00	4419	135.00	6611	147.10	5231
108.00	8269	123.00	6689	136.00	2312	148.00	12242
110.00	100720	124.00	2430	137.10	3431	149.10	3417
111.00	16364	125.10	2653	138.10	627	150.00	840
112.00	2286	127.00	199488	139.10	1013	151.20	1534
112.90	549	128.10	14828	140.00	1820	151.90	945
115.10	564	129.00	79712	141.00	11303	152.90	2682
116.00	3740	130.00	6870	142.00	3625	153.90	2623
117.00	46792	131.00	1463	143.00	2231	155.00	5931

Scan 513 (7.502 min): 1109F001.D
DFTPP @ 3.0ug/mL | SVM30-40C
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
156.00	9062	169.10	1393	180.10	10015	191.90	5292
157.00	1981	170.00	1249	181.00	4413	193.00	5371
158.00	1491	170.90	1222	182.10	808	193.90	1049
159.00	1261	172.00	1719	184.00	1253	195.00	1113
160.10	3700	173.00	2632	185.00	6808	196.00	13918
161.00	3908	174.00	4855	186.00	64408	198.00	438592
162.00	1982	175.00	7970	187.00	16295	199.00	29256
165.00	4087	176.10	2652	188.00	2035	200.00	2694
166.00	3926	177.00	4472	189.00	4286	201.50	2066
167.00	22184	178.10	1236	189.90	611	203.00	2876
168.00	8456	179.00	17024	191.00	1733	204.00	15759

Scan 513 (7.502 min): 1109F001.D
DFTPP @ 3.0ug/mL | SVM30-40C
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
205.10	29168	218.90	509	232.00	634	245.00	8454
206.00	116784	221.00	25200	234.00	1506	245.90	11656
207.00	15270	223.00	7037	235.00	2132	247.00	2060
208.00	3619	224.00	66400	235.90	1229	248.10	858
209.00	1093	225.00	18248	237.00	2441	248.90	2267
210.30	2345	225.90	1671	239.10	1253	253.00	1187
211.10	4543	227.00	29384	240.10	730	255.00	301824
215.00	1694	228.00	4291	241.00	1877	256.00	43832
216.00	2840	229.00	6399	242.00	3662	257.00	3851
217.00	31816	229.90	709	243.00	4385	258.00	18224
217.90	3726	231.00	2999	244.00	60560	259.00	2038

Scan 513 (7.502 min): 1109F001.D
DFTPP @ 3.0ug/mL | SVM30-40C
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
259.90	666	276.00	21488	293.90	797	314.00	2194
260.90	563	277.00	12175	294.80	1056	315.00	5319
263.90	346	278.00	2118	296.00	39576	316.00	3020
265.00	7461	278.80	724	297.00	5712	317.00	570
265.75	842	283.10	1311	301.10	562	321.00	1364
269.90	547	284.10	1261	301.90	816	322.00	812
271.00	884	285.00	2170	303.00	5811	323.00	14786
271.90	975	289.00	790	304.00	1827	324.00	3390
273.00	11878	290.10	662	308.10	620	326.90	3199
274.00	28816	292.10	889	309.00	517	328.00	1902
275.00	158400	293.00	3322	310.00	851	329.10	547

Scan 513 (7.502 min): 1109F001.D
DFTPP @ 3.0ug/mL | SVM30-40C
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
332.00	1499	364.90	25272	401.90	3994	444.00	20016
333.00	1652	366.00	3299	403.00	6239	445.10	1102
334.00	10913	370.90	1428	404.00	2699		
334.90	2576	372.00	11094	421.00	7198		
341.00	2182	373.00	2869	422.00	6200		
341.90	631	383.00	3289	423.00	51240		
346.00	3608	384.00	1170	424.10	10275		
352.10	5420	390.00	1816	425.00	716		
353.00	3482	390.90	1755	441.00	142656		
354.10	5233	392.10	874	442.00	1002176		
355.00	1051	400.90	588	443.00	201408		

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0910296
Calibration Date: 10/15/2009

Initial Calibration Summary
Polynuclear Aromatic Hydrocarbons

Calibration ID: CAL8928
Instrument ID: MS11

Column: MS

Level ID	File ID
A	J:\MS11\DATA\101509\1015F003.D
B	J:\MS11\DATA\101509\1015F004.D
C	J:\MS11\DATA\101509\1015F005.D
D	J:\MS11\DATA\101509\1015F006.D
E	J:\MS11\DATA\101509\1015F007.D
F	J:\MS11\DATA\101509\1015F008.D
G	J:\MS11\DATA\101509\1015F009.D
H	J:\MS11\DATA\101509\1015F010.D
I	J:\MS11\DATA\101509\1015F011.D
J	J:\MS11\DATA\101509\1015F012.D

Analyte Name	Level ID	Amt	RRF	Level ID	Amt	RRF	Level ID	Amt	RRF	Level ID	Amt	RRF	Level ID	Amt	RRF
Naphthalene	A	2.0	0.900	B	4.0	1.01	C	8.0	0.978	D	20	0.978	E	100	0.990
	F	200	1.00	G	400	0.933	H	1000	0.866	I	1600	0.797	J	2000	0.750
2-Methylnaphthalene	A	2.0	0.595	B	4.0	0.667	C	8.0	0.611	D	20	0.632	E	100	0.636
	F	200	0.691	G	400	0.677	H	1000	0.651	I	1600	0.614	J	2000	0.569
1-Methylnaphthalene	A	2.0	0.816	B	4.0	0.743	C	8.0	0.712	D	20	0.693	E	100	0.647
	F	200	0.679	G	400	0.660	H	1000	0.638	I	1600	0.602	J	2000	0.553
2,6-Dimethylnaphthalene	A	2.0	0.530	B	4.0	0.468	C	8.0	0.480	D	20	0.485	E	100	0.488
	F	200	0.533	G	400	0.530	H	1000	0.515	I	1600	0.511	J	2000	0.446
Acenaphthylene	A	2.0	1.65	B	4.0	1.79	C	8.0	1.69	D	20	1.86	E	100	1.82
	F	200	1.90	G	400	1.85	H	1000	1.72	I	1600	1.57	J	2000	1.51
Acenaphthene	A	2.0	1.12	B	4.0	1.09	C	8.0	1.02	D	20	1.11	E	100	1.07
	F	200	1.08	G	400	1.05	H	1000	0.991	I	1600	0.930	J	2000	0.886
Dibenzofuran	A	2.0	1.43	B	4.0	1.44	C	8.0	1.37	D	20	1.46	E	100	1.47
	F	200	1.52	G	400	1.45	H	1000	1.34	I	1600	1.25	J	2000	1.19
2,3,5-Trimethylnaphthalene	A	2.0	0.917	B	4.0	0.940	C	8.0	0.880	D	20	0.951	E	100	0.898
	F	200	0.909	G	400	0.864	H	1000	0.810	I	1600	0.790	J	2000	0.732
Fluorene	A	2.0	1.26	B	4.0	1.20	C	8.0	1.13	D	20	1.20	E	100	1.16
	F	200	1.19	G	400	1.11	H	1000	1.02	I	1600	0.968	J	2000	0.909
Phenanthrene	A	2.0	1.35	B	4.0	1.21	C	8.0	1.10	D	20	1.13	E	100	1.14
	F	200	1.19	G	400	1.13	H	1000	1.06	I	1600	0.987	J	2000	0.927
Anthracene	A	2.0	1.14	B	4.0	1.09	C	8.0	1.06	D	20	1.06	E	100	1.11
	F	200	1.21	G	400	1.12	H	1000	1.06	I	1600	0.965	J	2000	0.927
1-Methylphenanthrene	A	2.0	0.899	B	4.0	0.837	C	8.0	0.785	D	20	0.811	E	100	0.831
	F	200	0.872	G	400	0.815	H	1000	0.775	I	1600	0.720	J	2000	0.686
Fluoranthene	A	2.0	1.47	B	4.0	1.41	C	8.0	1.24	D	20	1.25	E	100	1.26
	F	200	1.33	G	400	1.23	H	1000	1.14	I	1600	1.02	J	2000	0.981
Pyrene	A	2.0	1.27	B	4.0	1.13	C	8.0	1.08	D	20	1.14	E	100	1.07
	F	200	1.17	G	400	1.11	H	1000	1.07	I	1600	0.978	J	2000	0.926

Results flagged with an asterisk (*) indicate values outside control criteria.

† **SPCC Compound** ‡ **CCC Compound**

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0910296
Calibration Date: 10/15/2009

Initial Calibration Summary
Polynuclear Aromatic Hydrocarbons

Calibration ID: CAL8928
Instrument ID: MS11

Column: MS

Analyte Name	Level ID	Amt	RRF	Level ID	Amt	RRF	Level ID	Amt	RRF	Level ID	Amt	RRF	Level ID	Amt	RRF
Benz(a)anthracene	A	2.0	1.42	B	4.0	1.21	C	8.0	1.02	D	20	1.04	E	100	1.01
	F	200	1.11	G	400	1.06	H	1000	1.05	I	1600	0.989	J	2000	0.965
Chrysene	A	2.0	1.16	B	4.0	1.18	C	8.0	1.07	D	20	1.09	E	100	1.04
	F	200	1.09	G	400	1.07	H	1000	1.03	I	1600	0.945	J	2000	0.914
Benzo(b)fluoranthene	A	2.0	1.17	B	4.0	1.03	C	8.0	0.989	D	20	1.01	E	100	1.00
	F	200	1.11	G	400	1.06	H	1000	1.07	I	1600	1.02	J	2000	0.956
Benzo(k)fluoranthene	A	2.0	1.01	B	4.0	1.03	C	8.0	0.997	D	20	1.04	E	100	1.03
	F	200	1.09	G	400	1.06	H	1000	1.07	I	1600	1.02	J	2000	0.942
Benzo(e)pyrene	A	2.0	1.06	B	4.0	1.04	C	8.0	0.922	D	20	0.938	E	100	0.947
	F	200	1.01	G	400	0.990	H	1000	1.01	I	1600	0.955	J	2000	0.903
Benzo(a)pyrene	A	2.0	1.13	B	4.0	1.05	C	8.0	0.899	D	20	0.941	E	100	0.937
	F	200	1.01	G	400	0.994	H	1000	1.02	I	1600	0.971	J	2000	0.923
Indeno(1,2,3-cd)pyrene	A	2.0	0.970	B	4.0	0.947	C	8.0	0.806	D	20	0.888	E	100	0.893
	F	200	0.962	G	400	0.925	H	1000	0.938	I	1600	0.884	J	2000	0.851
Dibenz(a,h)anthracene	A	2.0	1.02	B	4.0	1.01	C	8.0	0.876	D	20	0.970	E	100	0.966
	F	200	1.02	G	400	1.00	H	1000	1.01	I	1600	0.967	J	2000	0.918
Benzo(g,h,i)perylene	A	2.0	1.11	B	4.0	1.09	C	8.0	1.06	D	20	1.09	E	100	1.05
	F	200	1.09	G	400	1.05	H	1000	1.02	I	1600	0.967	J	2000	0.918
Perylene	A	2.0	1.07	B	4.0	1.00	C	8.0	0.915	D	20	0.949	E	100	0.913
	F	200	0.988	G	400	0.975	H	1000	1.00	I	1600	0.961	J	2000	0.907
Fluorene-d10	A	2.0	1.06	B	4.0	1.05	C	8.0	0.892	D	20	0.996	E	100	0.945
	F	200	0.989	G	400	0.924	H	1000	0.863	I	1600	0.831	J	2000	0.778
Fluoranthene-d10				B	4.0	1.42	C	8.0	1.09	D	20	1.10	E	100	1.10
	F	200	1.18	G	400	1.13	H	1000	1.07	I	1600	0.960	J	2000	0.921
Terphenyl-d14				B	4.0	1.05	C	8.0	0.790	D	20	0.866	E	100	0.800
	F	200	0.870	G	400	0.825	H	1000	0.794	I	1600	0.736	J	2000	0.708

Results flagged with an asterisk (*) indicate values outside control criteria.

† **SPCC Compound** ‡ **CCC Compound**

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0910296
Calibration Date: 10/15/2009

Initial Calibration Summary
Polynuclear Aromatic Hydrocarbons

Calibration ID: CAL8928
Instrument ID: MS11

Column: MS

Analyte Name	Compound Type	Calibration Evaluation					RRF Evaluation		
		Fit Type	Eval.	Eval. Result	Q	Control Criteria	Average RRF	Q	Minimum RRF
Naphthalene	MS	AverageRF	% RSD	9.8		≤ 15	0.920		0.01
2-Methylnaphthalene	MS	AverageRF	% RSD	6.0		≤ 15	0.634		0.01
1-Methylnaphthalene	MS	AverageRF	% RSD	10.9		≤ 15	0.674		0.01
2,6-Dimethylnaphthalene	MS	AverageRF	% RSD	5.9		≤ 15	0.499		0.01
Acenaphthylene	MS	AverageRF	% RSD	7.4		≤ 15	1.74		0.01
Acenaphthene	MS	AverageRF	% RSD	7.6		≤ 15	1.03		0.01
Dibenzofuran	MS	AverageRF	% RSD	7.4		≤ 15	1.39		0.01
2,3,5-Trimethylnaphthalene	MS	AverageRF	% RSD	8.1		≤ 15	0.869		0.01
Fluorene	MS	AverageRF	% RSD	10.2		≤ 15	1.12		0.01
Phenanthrene	MS	AverageRF	% RSD	10.5		≤ 15	1.12		0.01
Anthracene	MS	AverageRF	% RSD	7.6		≤ 15	1.07		0.01
1-Methylphenanthrene	MS	AverageRF	% RSD	8.1		≤ 15	0.803		0.01
Fluoranthene	MS	AverageRF	% RSD	12.5		≤ 15	1.23		0.01
Pyrene	MS	AverageRF	% RSD	8.7		≤ 15	1.10		0.01
Benz(a)anthracene	MS	AverageRF	% RSD	12.3		≤ 15	1.09		0.01
Chrysene	MS	AverageRF	% RSD	7.9		≤ 15	1.06		0.01
Benzo(b)fluoranthene	MS	AverageRF	% RSD	6.1		≤ 15	1.04		0.01
Benzo(k)fluoranthene	MS	AverageRF	% RSD	4.1		≤ 15	1.03		0.01
Benzo(e)pyrene	MS	AverageRF	% RSD	5.3		≤ 15	0.977		0.01
Benzo(a)pyrene	MS	AverageRF	% RSD	7.0		≤ 15	0.988		0.01
Indeno(1,2,3-cd)pyrene	MS	AverageRF	% RSD	5.7		≤ 15	0.907		0.01
Dibenz(a,h)anthracene	MS	AverageRF	% RSD	5.0		≤ 15	0.977		0.01
Benzo(g,h,i)perylene	MS	AverageRF	% RSD	5.8		≤ 15	1.04		0.01
Perylene	MS	AverageRF	% RSD	5.3		≤ 15	0.969		0.01
Fluorene-d10	SURR	AverageRF	% RSD	10.0		≤ 15	0.933		0.01
Fluoranthene-d10	SURR	AverageRF	% RSD	12.8		≤ 15	1.11		0.01
Terphenyl-d14	SURR	AverageRF	% RSD	12.1		≤ 15	0.827		0.01

Results flagged with an asterisk (*) indicate values outside control criteria.

† **SPCC Compound** ‡ **CCC Compound**

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Results

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0910296
Calibration Date: 10/15/2009
Date Analyzed: 10/15/2009

Second Source Calibration Verification
Polynuclear Aromatic Hydrocarbons

Calibration Type: Internal Standard
Analysis Method: 8270C SIM

Calibration ID: CAL8928
Units: ng/ml

File ID: J:\MS11\DATA\101509\1015G014.D

Analyte Name	Expected	Result	Average RF	SSV RF	%D	%Drift	Criteria	Curve Fit
Naphthalene	400	390	0.920	0.904	-2	NA	± 20 %	AverageRF
2-Methylnaphthalene	400	410	0.634	0.650	3	NA	± 20 %	AverageRF
1-Methylnaphthalene	400	380	0.674	0.637	-6	NA	± 20 %	AverageRF
2,6-Dimethylnaphthalene	400	400	0.499	0.500	0	NA	± 20 %	AverageRF
Acenaphthylene	400	440	1.74	1.92	10	NA	± 20 %	AverageRF
Acenaphthene	400	420	1.03	1.09	6	NA	± 20 %	AverageRF
Dibenzofuran	400	440	1.39	1.52	9	NA	± 20 %	AverageRF
2,3,5-Trimethylnaphthalene	400	420	0.869	0.913	5	NA	± 20 %	AverageRF
Fluorene	400	420	1.12	1.16	4	NA	± 20 %	AverageRF
Phenanthrene	400	400	1.12	1.11	-1	NA	± 20 %	AverageRF
Anthracene	400	420	1.07	1.14	6	NA	± 20 %	AverageRF
1-Methylphenanthrene	400	410	0.803	0.824	3	NA	± 20 %	AverageRF
Fluoranthene	400	400	1.23	1.22	-1	NA	± 20 %	AverageRF
Pyrene	400	360	1.10	0.987	-10	NA	± 20 %	AverageRF
Benz(a)anthracene	400	360	1.09	0.966	-11	NA	± 20 %	AverageRF
Chrysene	400	370	1.06	0.969	-8	NA	± 20 %	AverageRF
Benzo(b)fluoranthene	400	400	1.04	1.06	1	NA	± 20 %	AverageRF
Benzo(k)fluoranthene	400	410	1.03	1.06	3	NA	± 20 %	AverageRF
Benzo(e)pyrene	400	400	0.977	0.980	0	NA	± 20 %	AverageRF
Benzo(a)pyrene	400	390	0.988	0.965	-2	NA	± 20 %	AverageRF
Indeno(1,2,3-cd)pyrene	400	380	0.907	0.870	-4	NA	± 20 %	AverageRF
Dibenz(a,h)anthracene	400	380	0.977	0.936	-4	NA	± 20 %	AverageRF
Benzo(g,h,i)perylene	400	380	1.04	0.996	-5	NA	± 20 %	AverageRF
Perylene	400	400	0.969	0.966	0	NA	± 20 %	AverageRF

Results flagged with an asterisk (*) indicate values outside control criteria.

† SPCC Compound **‡ CCC Compound**

Injection Log

Directory: J:\MS11\DATA\101509

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	1	1015F001.D	1.	DFTPP @ 3.0ug/mL | SVM30-24C		15 Oct 2009 06:3
2	2	1015F002.D	1.	IB		15 Oct 2009 07:0
3	3	1015F003.D	1.	SIM-PAH ICAL @.002/.05ug/mL | SVM29-21C		15 Oct 2009 07:3
4	4	1015F004.D	1.	SIM-PAH ICAL @.004/0.1ug/mL | SVM29-21D		15 Oct 2009 08:0
5	5	1015F005.D	1.	SIM-PAH ICAL @.008/0.2ug/mL | SVM29-21E		15 Oct 2009 08:2
6	6	1015F006.D	1.	SIM-PAH ICAL @0.02/0.4ug/mL | SVM29-21F		15 Oct 2009 08:5
7	7	1015F007.D	1.	SIM-PAH ICAL @0.1/0.6ug/mL | SVM29-21G		15 Oct 2009 09:2
8	8	1015F008.D	1.	SIM-PAH ICAL @0.2/0.8ug/mL | SVM29-21H		15 Oct 2009 09:4
9	9	1015F009.D	1.	SIM-PAH ICAL @0.4/1.0ug/mL | SVM29-21I		15 Oct 2009 10:1
10	10	1015F010.D	1.	SIM-PAH ICAL @1.0/2.0ug/mL | SVM29-21J		15 Oct 2009 10:4
11	11	1015F011.D	1.	SIM-PAH ICAL @1.6/2.4ug/mL | SVM29-21K		15 Oct 2009 11:0
12	12	1015F012.D	1.	SIM-PAH ICAL @2.0/3.0ug/mL | SVM29-21L		15 Oct 2009 11:3
13	1	1015F013.D	1.	DFTPP @ 3.0ug/mL | SVM30-24C		15 Oct 2009 13:3
14	2	1015F014.D	1.	SIM-PAH ICV @ 0.4ug/mL | SVM30-24D		15 Oct 2009 14:0
15	1	1015F015.D	1.	KWG0908523-4 MB (NR)		15 Oct 2009 14:2

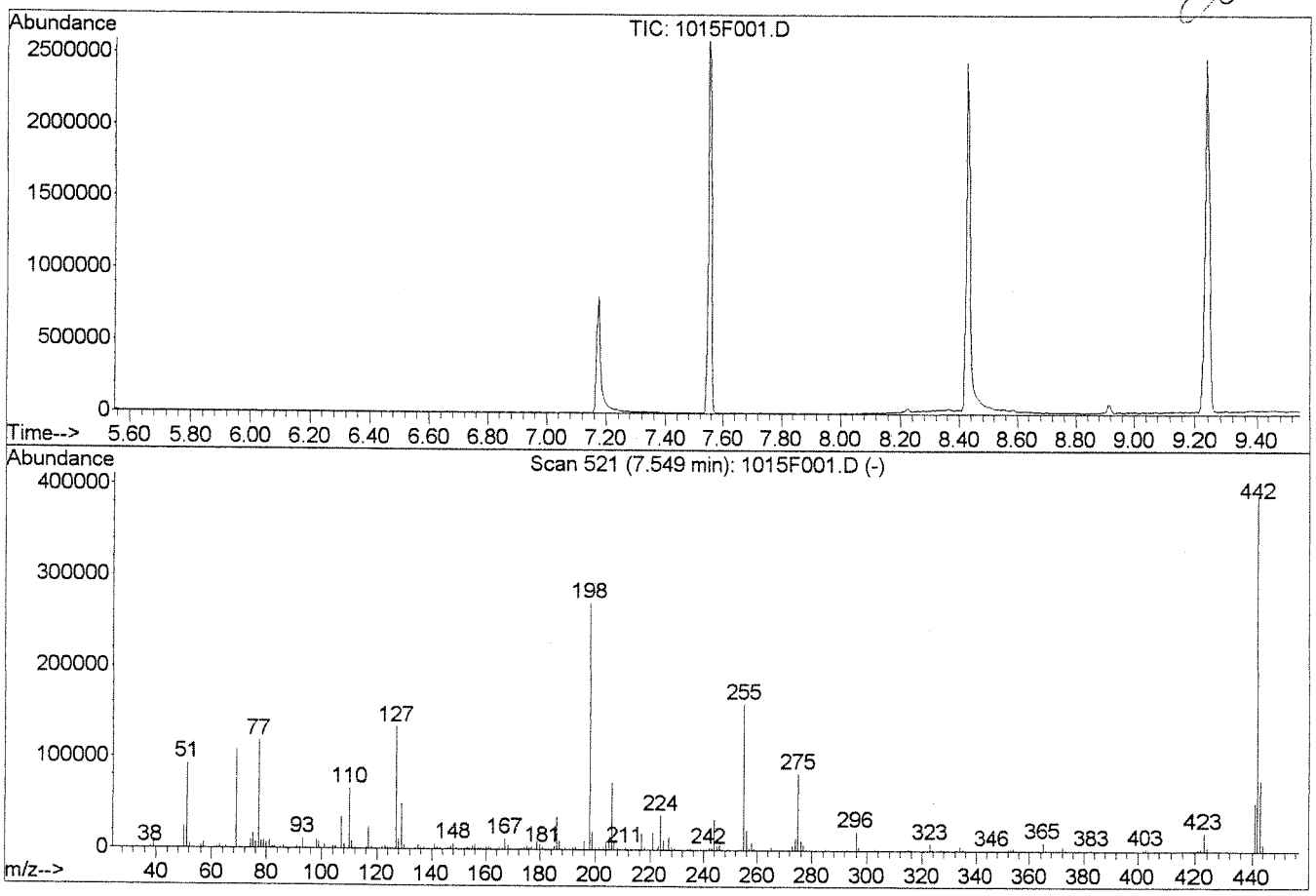
CAL8928
SIM-PAH-PCP ICAL
10/19/09

DFTPP

Data File : J:\MS11\DATA\101509\1015F001.D
Acq On : 15 Oct 2009 6:34 am
Sample : DFTPP @ 3.0ug/mL | SVM30-24C
Misc :
MS Integration Params: RTEINT.P
Method : J:\MS11\METHODS\SIM\DFTPPPAH.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS

Vial: 1
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00

10/19/19



Spectrum Information: Scan 521

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	10	80	34.1	92616	PASS
68	69	0.00	2	0.0	0	PASS
70	69	0.00	2	0.7	714	PASS
127	198	10	80	49.3	133824	PASS
197	198	0.00	2	0.0	0	PASS
198	442	30	100	69.4	271296	PASS
199	198	5	9	7.2	19600	PASS
275	198	10	60	30.8	83528	PASS
365	442	1	50	2.4	9359	PASS
441	443	0.01	100	69.2	53024	PASS
442	442	30	100	100.0	390784	PASS
443	442	15	24	19.6	76664	PASS

1015F001.D DFTPPPAH.M Thu Oct 15 14:35:46 2009

Scan 521 (7.549 min): 1015F001.D
DFTPP @ 3.0ug/mL | SVM30-24C
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
38.10	1277	62.00	1284	78.10	8529	93.00	11078
39.10	7527	63.00	3795	79.00	8956	94.10	866
40.10	515	64.10	769	80.00	6622	95.10	764
41.10	805	65.10	2228	81.10	9267	96.10	547
49.10	926	69.00	107832	82.10	2295	98.00	9567
50.10	24024	70.00	714	83.00	2455	99.00	7379
51.10	92616	73.20	832	85.00	1326	100.20	611
52.10	4524	74.10	9413	86.10	2672	101.00	4663
56.10	2936	75.00	16400	87.00	1063	102.90	1076
57.00	6448	76.10	7034	91.00	2285	104.00	2789
61.10	1029	77.10	117712	92.00	1805	105.00	2851

Scan 521 (7.549 min): 1015F001.D
DFTPP @ 3.0ug/mL | SVM30-24C
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
107.00	34456	124.00	1425	137.00	2067	151.10	988
108.10	5119	125.00	1769	138.10	694	152.10	612
110.00	65896	127.00	133824	140.00	636	153.00	2709
111.00	8515	128.00	11159	141.00	5382	153.90	1735
112.00	1453	129.00	49128	142.00	2086	155.00	4106
116.10	2022	130.00	4453	143.00	1449	156.00	5465
117.00	23824	131.10	1055	143.90	600	157.10	1185
118.00	2157	131.90	608	146.00	1256	158.00	1487
120.00	516	134.10	1195	147.00	3371	159.00	689
121.90	2516	135.00	5236	148.00	6228	160.00	2232
123.00	3405	136.00	1547	149.00	1700	161.00	2760

Scan 521 (7.549 min): 1015F001.D
DFTPP @ 3.0ug/mL | SVM30-24C
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
161.90	1177	175.90	2260	187.00	9762	201.40	2247
165.00	2615	176.90	2722	187.90	613	203.00	2161
166.10	1279	178.10	749	189.00	1923	204.00	9893
167.00	11891	179.00	9093	190.90	971	205.00	14763
168.00	4255	180.00	6201	191.90	3028	206.00	73072
169.00	813	181.00	2803	193.00	3395	207.00	9976
170.00	762	181.90	552	194.00	758	208.10	2102
172.10	1311	183.00	503	196.00	9642	208.90	819
173.00	1619	184.00	574	197.90	271296	210.90	3139
174.00	2452	185.00	4609	199.00	19600	211.60	1158
175.10	4752	186.00	35744	200.00	1647	214.80	668

Scan 521 (7.549 min): 1015F001.D
DFTPP @ 3.0ug/mL | SVM30-24C
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
216.00	1209	230.90	1345	246.00	5435	265.80	430
216.90	17904	234.00	1307	247.00	1150	271.00	618
217.90	2924	235.00	1375	248.90	1585	272.90	5422
221.00	19480	235.90	821	253.00	644	274.00	13100
223.00	4279	236.90	872	253.90	697	275.00	83528
224.00	38144	239.10	707	255.00	160512	276.00	10245
225.00	10306	240.90	1100	256.00	23000	276.90	6239
226.10	1160	242.00	2134	257.00	2001	278.00	1191
227.00	13967	242.90	2362	257.90	8402	285.00	1764
228.00	2757	244.00	33664	258.90	2046	292.90	1634
228.90	2585	245.00	4261	265.00	3318	296.00	20848

Scan 521 (7.549 min): 1015F001.D
DFTPP @ 3.0ug/mL | SVM30-24C
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
297.00	3605	332.10	503	370.90	620	423.00	19952
303.00	2521	332.70	627	372.00	4417	424.00	4477
304.10	566	334.00	4724	373.00	876	441.00	53024
314.00	1207	335.00	1496	382.90	1613	442.00	390784
314.90	2302	341.00	806	389.80	789	443.00	76664
315.90	1498	346.00	1263	391.90	612	444.00	7774
320.80	581	352.10	2432	401.90	1336		
323.00	8071	353.00	1715	403.00	2688		
323.90	1660	353.90	2520	403.90	1180		
327.00	1471	364.90	9359	420.90	2482		
328.00	743	365.90	1447	422.00	2994		

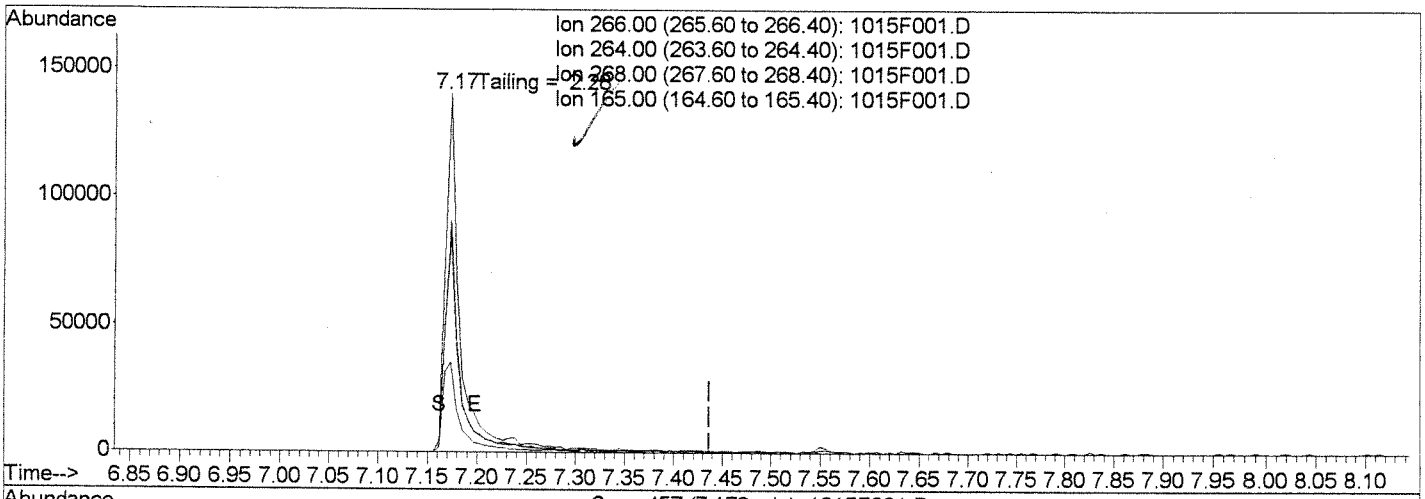
6/19/19

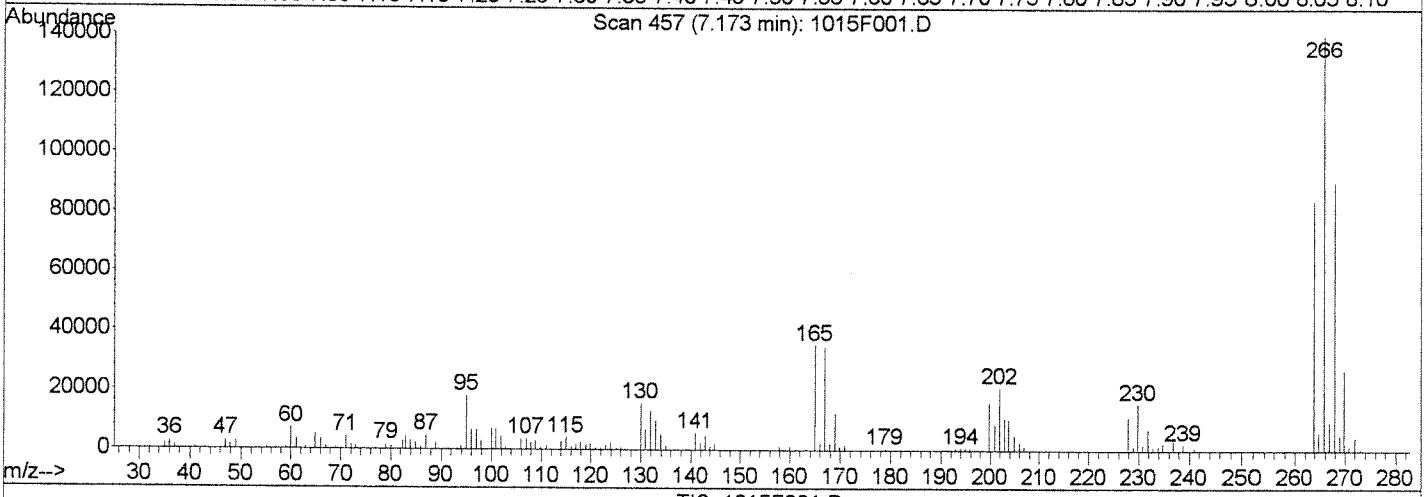
Quantitation Report (Qedit)

Data File : J:\MS11\DATA\101509\1015F001.D
Acq On : 15 Oct 2009 6:34 am
Sample : DFTPP @ 3.0ug/mL | SVM30-24C
Misc :
MS Integration Params: RTEINT.P
Quant Time: Oct 15 12:43 2009

Vial: 1
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\DFTPPPAH.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Tue Oct 12 13:33:42 2004
Response via : Single Level Calibration





TIC: 1015F001.D

(1) Pentachlorophenol

6.94min 0.00ng/ml

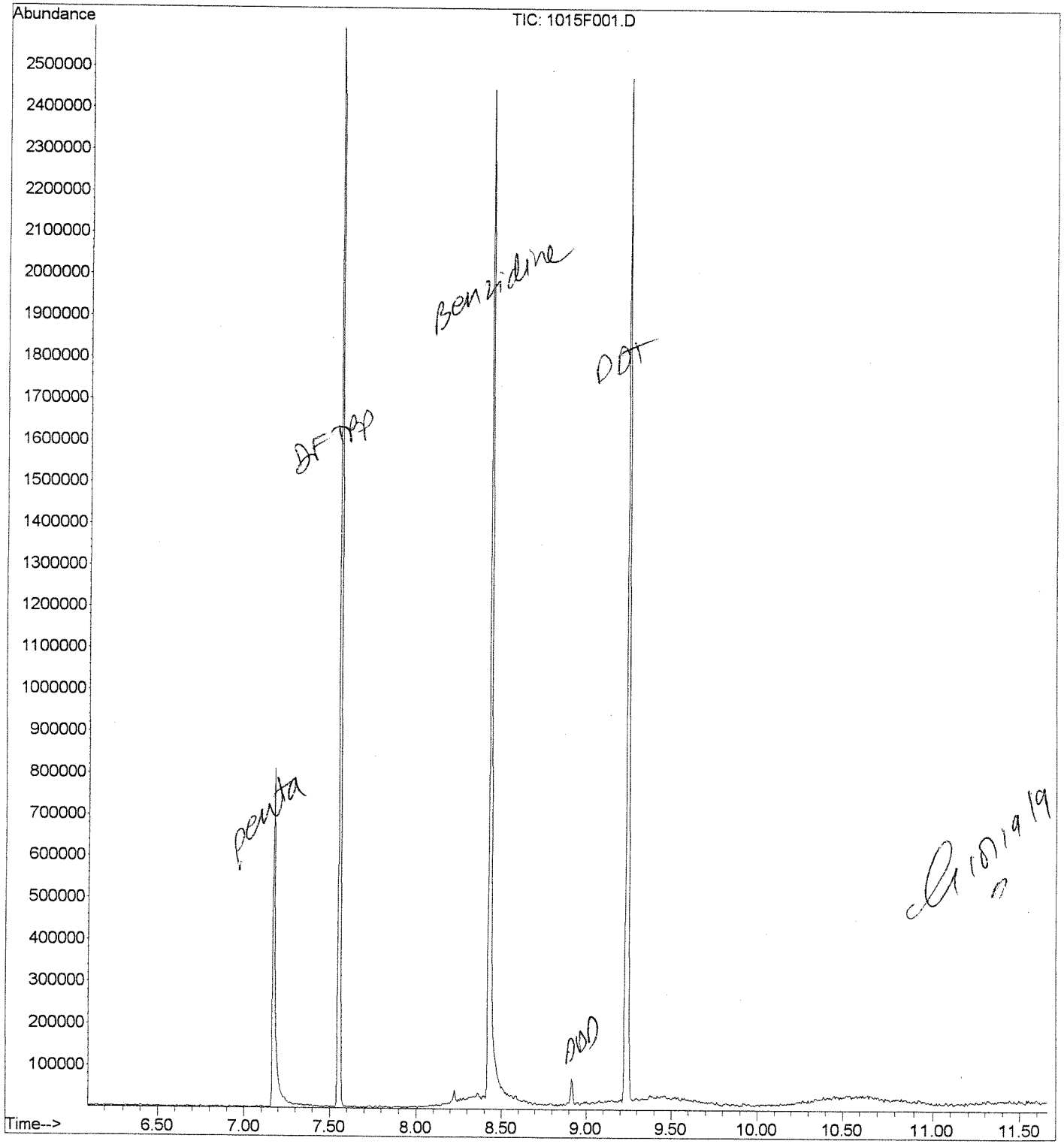
response 0

Ion	Exp%	Act%
266.00	100	0.00
264.00	64.50	0.00#
268.00	63.70	0.00#
165.00	28.70	0.00

10/19/09

1015F001.D DFTPPPAH.M Thu Oct 15 14:35:57 2009

File : J:\MS11\DATA\101509\1015F001.D
Operator : LWeiskopf
Acquired : 15 Oct 2009 6:34 am using AcqMethod SIMLOC
Instrument : MS11
Sample Name: DFTPP @ 3.0ug/mL | SVM30-24C
Misc Info :
Vial Number: 1



1	4.735	rVB	0.065		13236	4.723	4.788
2	7.173	rBV	0.153		892492	7.138	7.291
3	7.414	rVB	0.059		9804	7.402	7.461
4	7.485	rBV	0.041		7275	7.461	7.502
5	7.549	rVV	0.082		2093557	7.526	7.608
6	7.732	rVB	0.047		6468	7.708	7.755
7	7.826	rVB	0.047		5522	7.808	7.855
8	7.990	rBV	0.059		8088	7.949	8.008
9	8.166	rBV	0.024		6118	8.149	8.172
10	8.225	rVV	0.047		33200	8.196	8.243
11	8.425	rVB	0.165		2473150	8.407	8.572
12	8.789	rVB	0.047		8907	8.771	8.818
13	8.912	rBV	0.059		66194	8.877	8.936
14	8.954	rVB	0.029		8332	8.936	8.965
15	8.989	rBV	0.029	DDD	10420	8.965	8.995
16	9.042	rBV	0.029		5083	9.024	9.054
17	9.077	rBV	0.047		11102	9.054	9.101
18	9.236	rBV	0.094	DDT	2334351	9.189	9.283
19	9.377	rBV	0.041		14113	9.359	9.400
20	9.823	rBV	0.041		8023	9.800	9.841
21	9.917	rBV	0.041		11243	9.900	9.941
22	10.135	rBV	0.029		6682	10.129	10.158
23	10.252	rVB	0.041		7467	10.217	10.258
24	10.270	rBV	0.035		11619	10.258	10.293
25	10.340	rBV	0.041		15019	10.311	10.352
26	10.922	rVB	0.024		6379	10.916	10.940
27	11.075	rVB	0.029		5854	11.057	11.086
28	11.186	rBV	0.018		5513	11.180	11.198
29	11.286	rVB	0.024		5727	11.280	11.304
30	11.316	rBV	0.035		11001	11.304	11.339
31	11.498	rVB	0.047		12468	11.486	11.533
32	11.539	rBV	0.029		12187	11.533	11.562
33	12.062	rBV	0.029		6376	12.044	12.073
34	12.485	rVB	0.047		14850	12.473	12.520
35	12.532	rBV	0.029		7097	12.520	12.549
36	12.767	rVB	0.041		5189	12.755	12.796
37	12.837	rBV	0.029		5504	12.820	12.849
38	13.090	rBV	0.024		5402	13.078	13.102
39	13.155	rBV	0.041		7892	13.143	13.184
40	14.007	rBV	0.029		6739	13.995	14.024
41	14.465	rBV	0.029		5573	14.447	14.477
42	14.565	rVB	0.035		7861	14.553	14.588
43	14.635	rVB	0.024		6059	14.623	14.647
44	14.653	rBV	0.018		7149	14.647	14.665
45	14.747	rBV	0.041		11125	14.723	14.764
46	15.487	rVB	0.029		9274	15.475	15.505
47	15.857	rVB	0.029		10199	15.840	15.869

10/14/19

DDT Breakdown = 0.4 %

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\101509\1015F002.D
Acq On : 15 Oct 2009 7:09 am
Sample : IB
Misc :
MS Integration Params: RTEINT.P
Quant Time: Oct 15 13:11:25 2009

Vial: 2
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00

Quant Results File: 1015ALK.RES

Quant Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 12:27:11 2009
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	4.68	136	170700	200.00	ng/ml	0.00
10) Acenaphthene-d10	6.10	164	95879	200.00	ng/ml	0.00
22) Phenanthrene-d10	7.32	188	154112	200.00	ng/ml	0.00
37) Chrysene-d12	9.85	240	190694	200.00	ng/ml	0.00
49) Perylene-d12	12.93	264	203645	200.00	ng/ml	-0.02
System Monitoring Compounds						
15) Fluorene-d10	0.00	176	0	0.00	ng/ml	
Spiked Amount 200.000			Recovery =	0.00%		
20) 2,4,6 Tribromophenol	0.00	330	0d	0.00	ng/ml	
Spiked Amount 375.000			Recovery =	0.00%		
36) Fluoranthene-d10	0.00	212	0d	0.00	ng/ml	
Spiked Amount 200.000			Recovery =	0.00%		
42) Terphenyl-d14	0.00	244	0d	0.00	ng/ml	
Spiked Amount 200.000			Recovery =	0.00%		

Target Compounds Qvalue

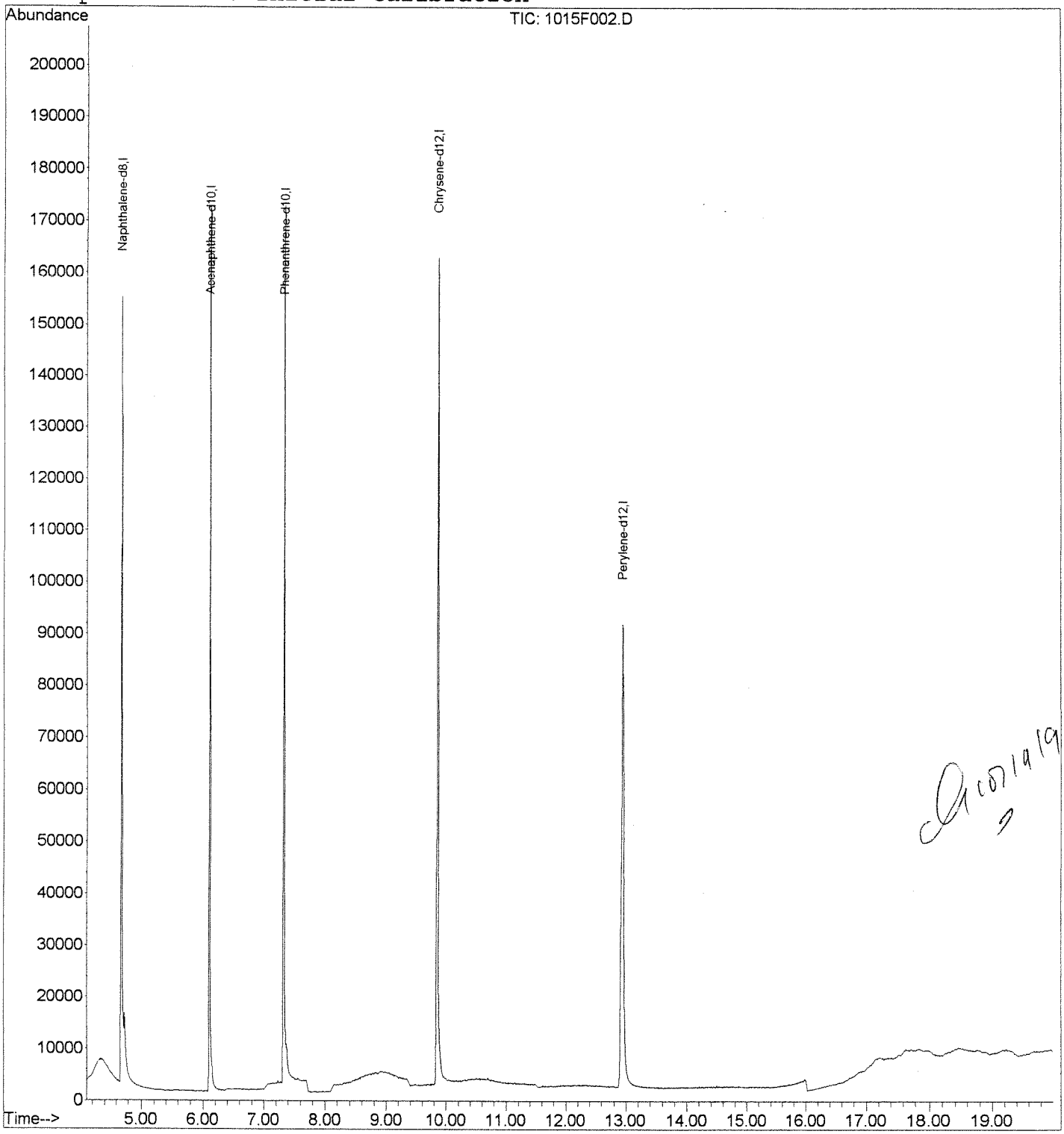
10/19/19

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\101509\1015F002.D Vial: 2
Acq On : 15 Oct 2009 7:09 am Operator: LWeiskopf
Sample : IB Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 15 13:12 2009 Quant Results File: 1015ALK.RES

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 12:27:11 2009
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\101509\1015F003.D Vial: 3
Acq On : 15 Oct 2009 7:35 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @.002/.05ug/mL | SVM29-21C Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 15 07:58:13 2009 Quant Results File: 1015ALK.RES

Quant Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 06:04:30 2009
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	4.68	136	189497	200.00	ng/ml	0.00
10) Acenaphthene-d10	6.10	164	101590	200.00	ng/ml	0.00
22) Phenanthrene-d10	7.32	188	154756	200.00	ng/ml	0.00
37) Chrysene-d12	9.85	240	188852	200.00	ng/ml	0.00
49) Perylene-d12	12.93	264	208905	200.00	ng/ml	-0.02
System Monitoring Compounds						
15) Fluorene-d10	6.53	176	1079	1.68	ng/ml	0.01
Spiked Amount 200.000			Recovery =	0.84%		
20) 2,4,6 Tribromophenol	6.77	330	222m	2.09	ng/ml	0.01
Spiked Amount 375.000			Recovery =	0.56%		
36) Fluoranthene-d10	8.30	212	2261m	2.41	ng/ml	0.00
Spiked Amount 200.000			Recovery =	1.21%		
42) Terphenyl-d14	8.64	244	2011m	2.46	ng/ml	0.00
Spiked Amount 200.000			Recovery =	1.23%		
Target Compounds						Qvalue
2) Naphthalene	4.69	128	1705m	1.83	ng/ml	
3) 2-Methylnaphthalene	5.28	142	1127	1.46	ng/ml	96
4) 1-Methylnaphthalene	5.34	142	1547	1.93	ng/ml	91
5) Biphenyl	5.64	154	1535	1.16	ng/ml	84
6) 2,6-Dimethylnaphthalene	5.77	156	1004	1.05	ng/ml	98
11) Acenaphthylene	5.98	152	1677m	1.97	ng/ml	
12) Acenaphthene	6.13	154	1138	2.11	ng/ml	93
13) Dibenzofuran	6.28	168	1452	1.72	ng/ml	65
14) 2,3,5-Trimethylnaphthalene	6.44	170	932m	1.56	ng/ml	
16) Fluorene	6.56	166	1282	1.66	ng/ml	92
21) Pentachlorophenol	7.21	266	897	14.14	ng/ml	99
23) Dibenzothiophene	7.24	184	1599	1.98	ng/ml	86
27) Phenanthrene	7.34	178	2083	2.22	ng/ml	96
28) Anthracene	7.39	178	1768m	2.06	ng/ml	
29) Carbazole	7.54	167	1412m	1.99	ng/ml	
30) 1-Methylphenanthrene	7.84	192	1391	1.78	ng/ml	95
35) Fluoranthene	8.31	202	2273	2.12	ng/ml	95
38) Pyrene	8.49	202	2393m	2.18	ng/ml	
43) Benz(a)anthracene	9.84	228	2674	2.54	ng/ml	98
44) Chrysene	9.89	228	2190	2.12	ng/ml	82
50) Benzo(b)fluoranthene	11.91	252	2453	2.14	ng/ml	91
51) Benzo(k)fluoranthene	11.98	252	2109	1.91	ng/ml	98
52) Benzo(e)pyrene	12.62	252	2207	2.10	ng/ml	96
53) Benzo(a)pyrene	12.76	252	2359	2.30	ng/ml	92
54) Perylene	13.01	252	2242	2.28	ng/ml	91

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\101509\1015F003.D Vial: 3
Acq On : 15 Oct 2009 7:35 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @.002/.05ug/mL | SVM29-21C Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 15 07:58:13 2009 Quant Results File: 1015ALK.RES

Quant Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 06:04:30 2009
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

10/19/09

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
55)	Indeno(1,2,3-cd)pyrene	16.45	276	2027	2.36	ng/ml	97
56)	Dibenz(a,h)anthracene	16.54	278	2141m	2.25	ng/ml	
57)	Benzo(g,h,i)perylene	16.91	276	2312m	2.17	ng/ml	

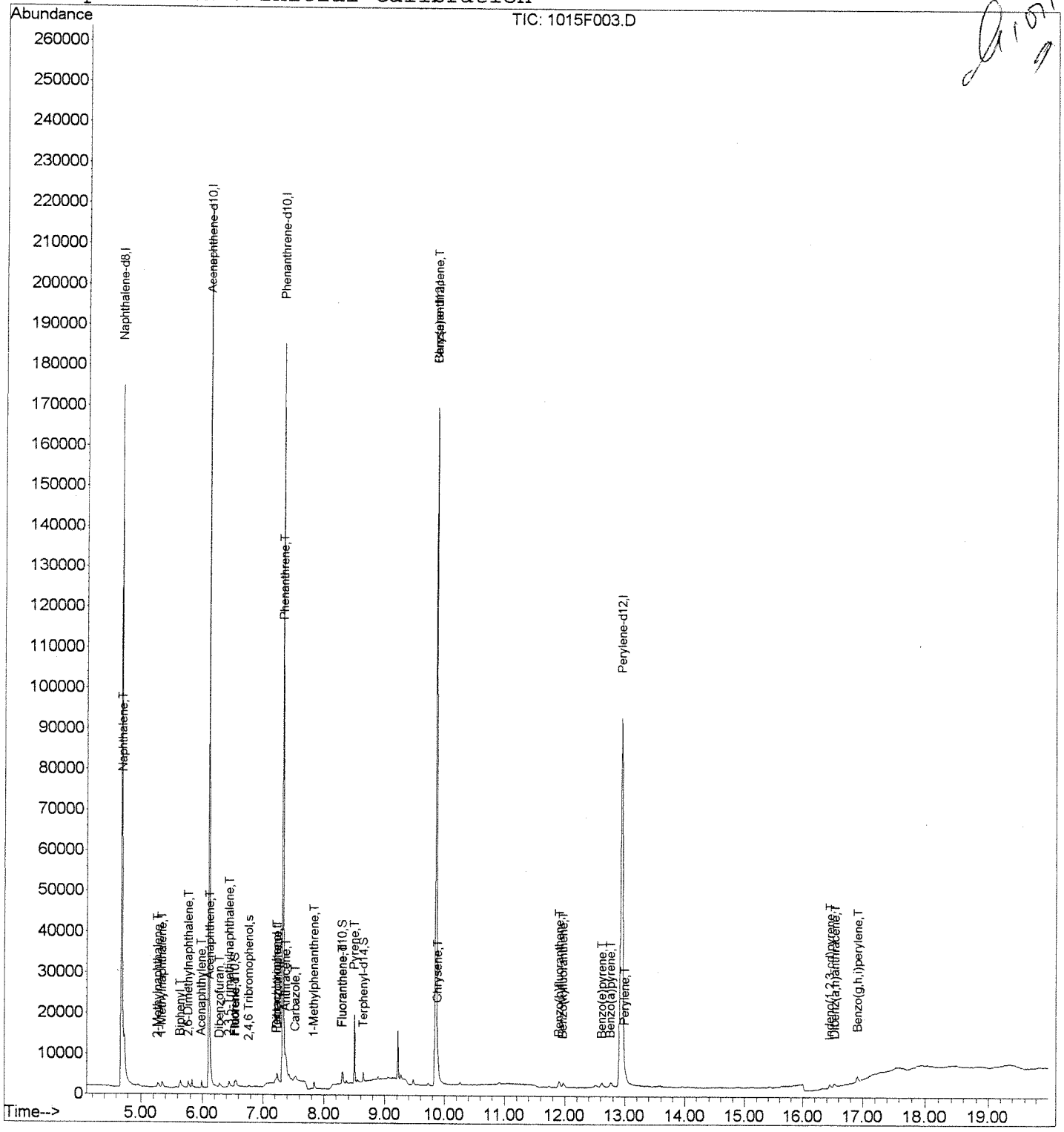
(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\101509\1015F003.D Vial: 3
Acq On : 15 Oct 2009 7:35 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @.002/.05ug/mL | SVM29-21C Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 15 10:47 2009 Quant Results File: 1015ALK.RES

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 10:46:38 2009
Response via : Initial Calibration

10/19

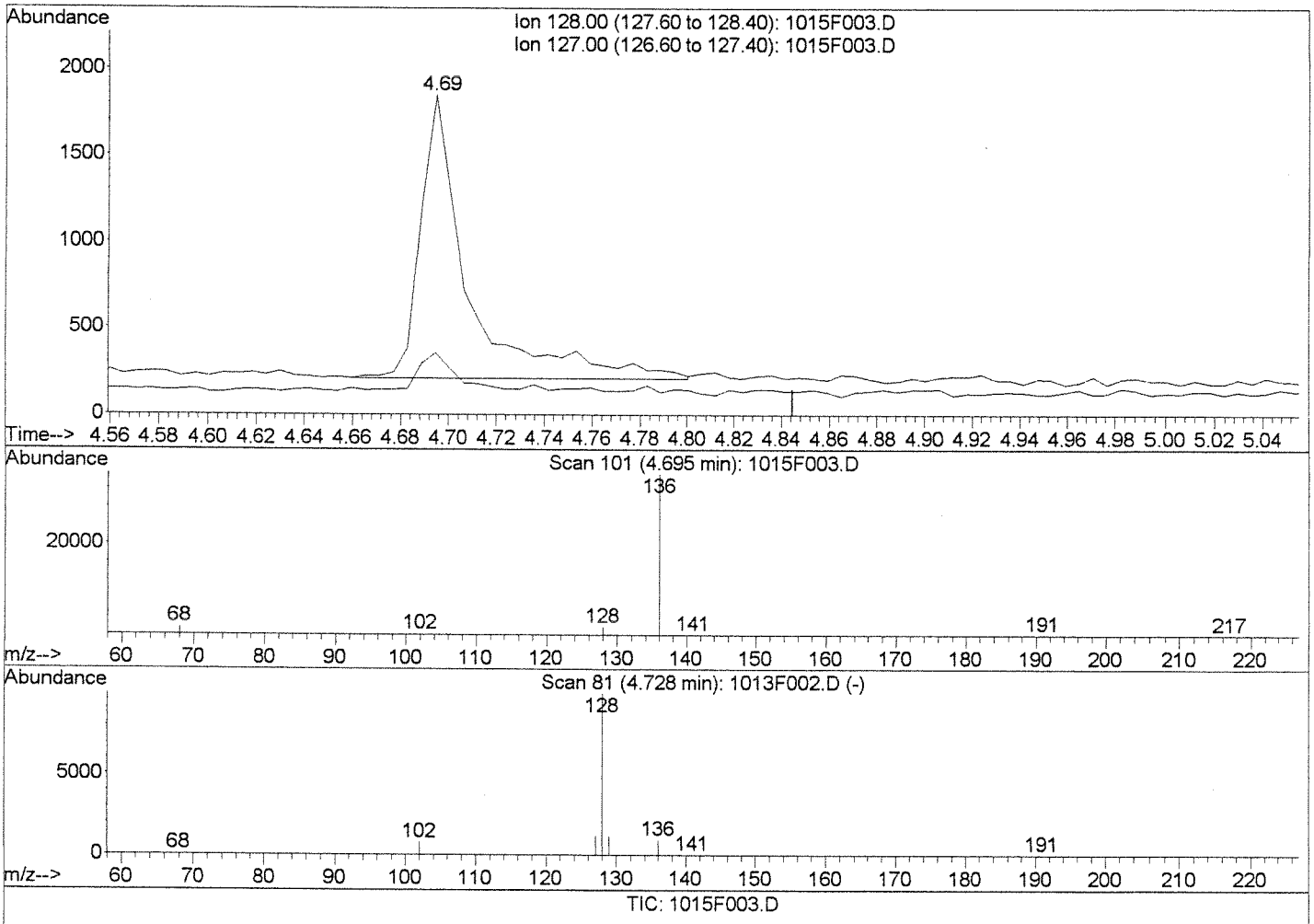


1015F003.D 1015ALK.M Thu Oct 15 10:47:32 2009 Page 3

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\101509\1015F003.D Vial: 3
Acq On : 15 Oct 2009 7:35 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @.002/.05ug/mL | SVM29-21C Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 15 7:58 2009 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 06:04:30 2009
Response via : Multiple Level Calibration



TIC: 1015F003.D

(2) Naphthalene (T)

4.69min 2.41ng/ml

response 2241

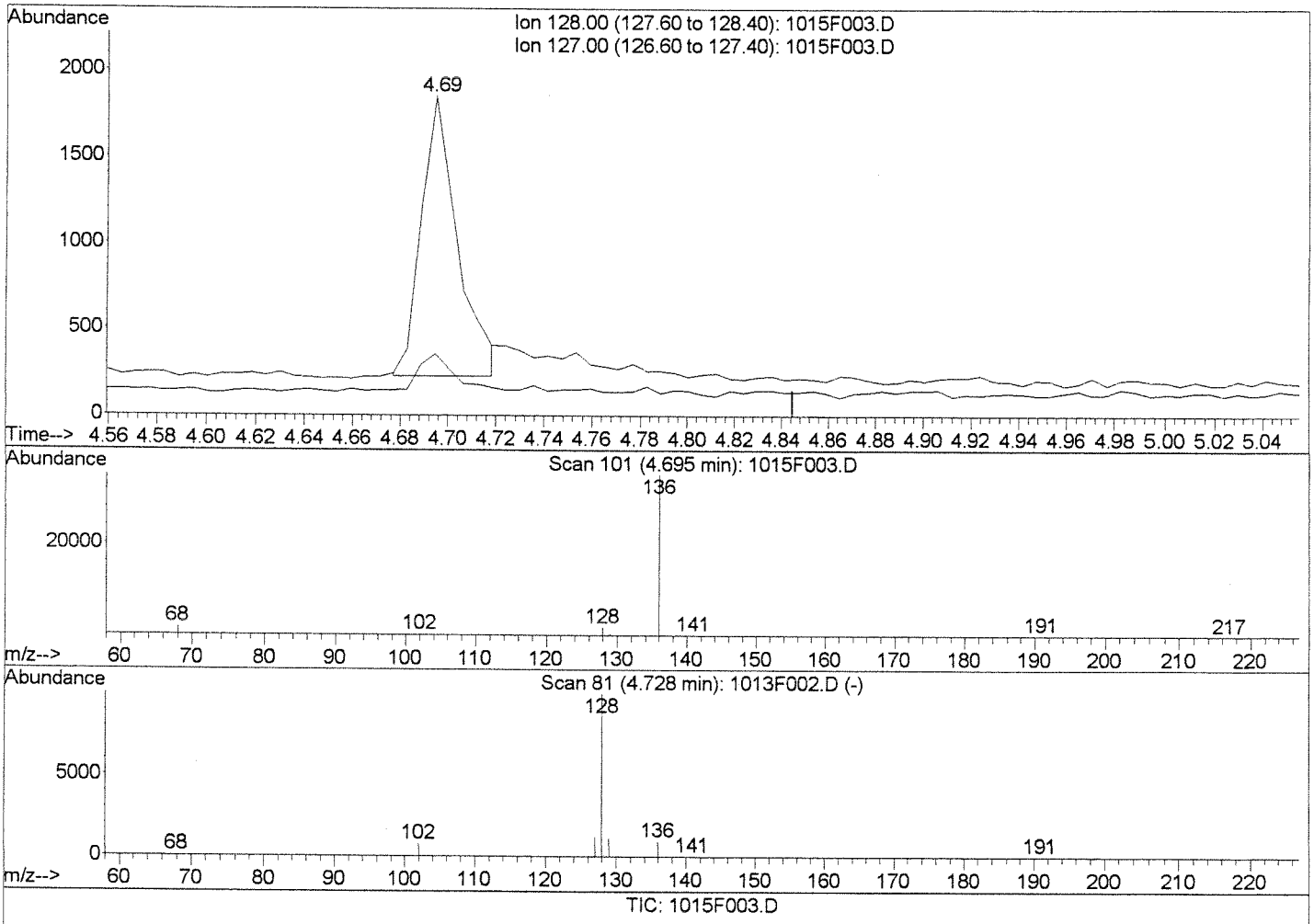
Ion	Exp%	Act%
128.00	100	100
127.00	12.40	12.80
0.00	0.00	0.00
0.00	0.00	0.00

1015F003.D 1015ALK.M Thu Oct 15 10:35:26 2009

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\101509\1015F003.D Vial: 3
Acq On : 15 Oct 2009 7:35 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @.002/.05ug/mL | SVM29-21C Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 15 10:35 2009 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 06:04:30 2009
Response via : Multiple Level Calibration



(2) Naphthalene (T)

4.69min 1.83ng/ml m

response 1705

Ion	Exp%	Act%
128.00	100	100
127.00	12.40	19.08
0.00	0.00	0.00
0.00	0.00	0.00

OI 10/19/09

1015F003.D 1015ALK.M Thu Oct 15 10:35:30 2009

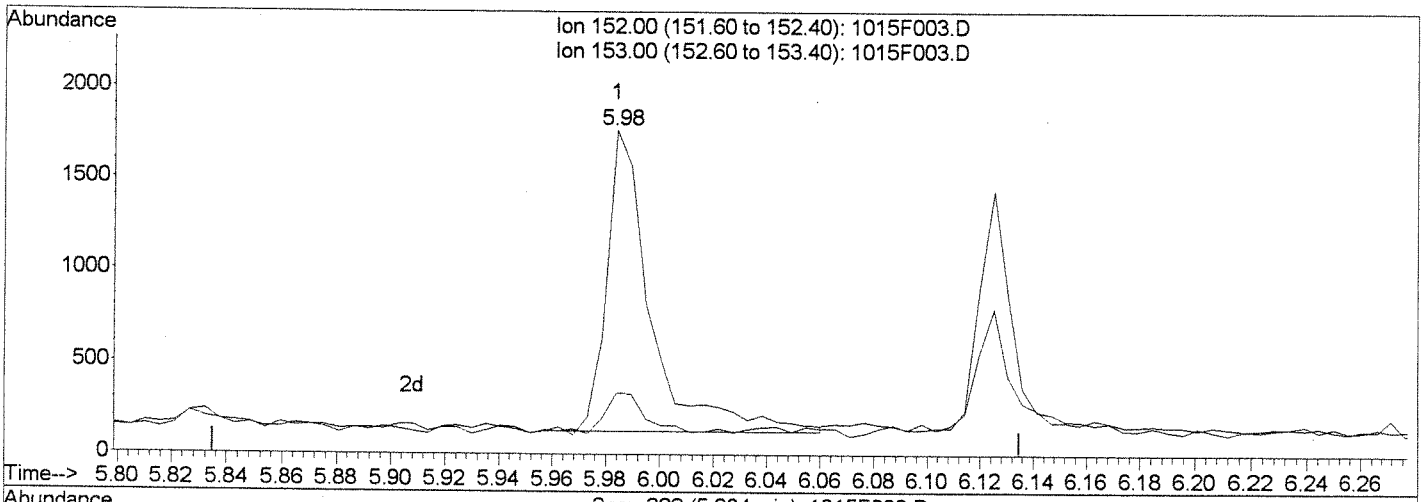
Quantitation Report (Qedit)

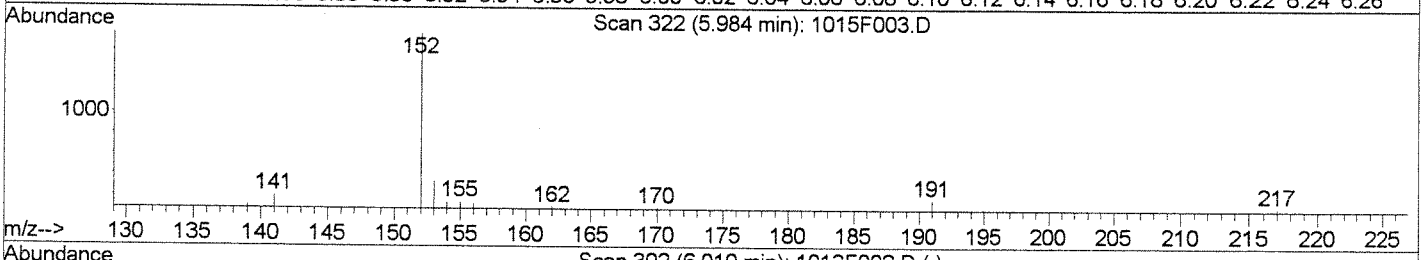
Data File : J:\MS11\DATA\101509\1015F003.D
Acq On : 15 Oct 2009 7:35 am
Sample : SIM-PAH ICAL @.002/.05ug/mL | SVM29-21C
Misc :
MS Integration Params: RTEINT.P
Quant Time: Oct 15 10:35 2009

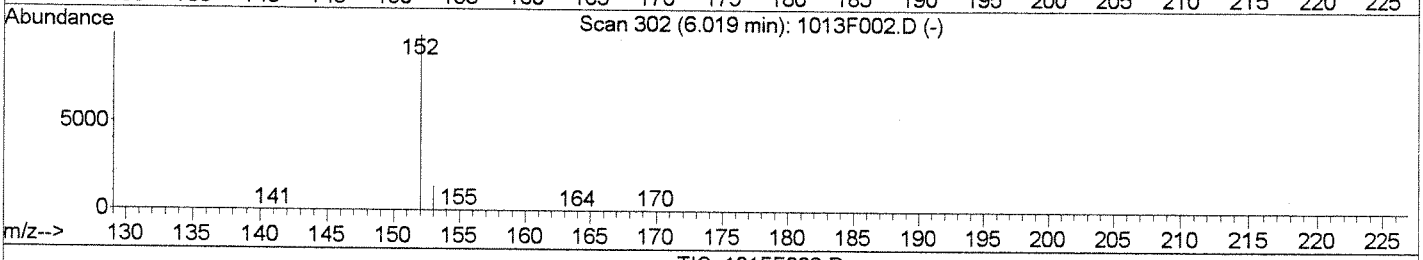
Vial: 3
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 06:04:30 2009
Response via : Multiple Level Calibration







TIC: 1015F003.D

(11) Acenaphthylene (T)

5.98min 2.20ng/ml

response 1874

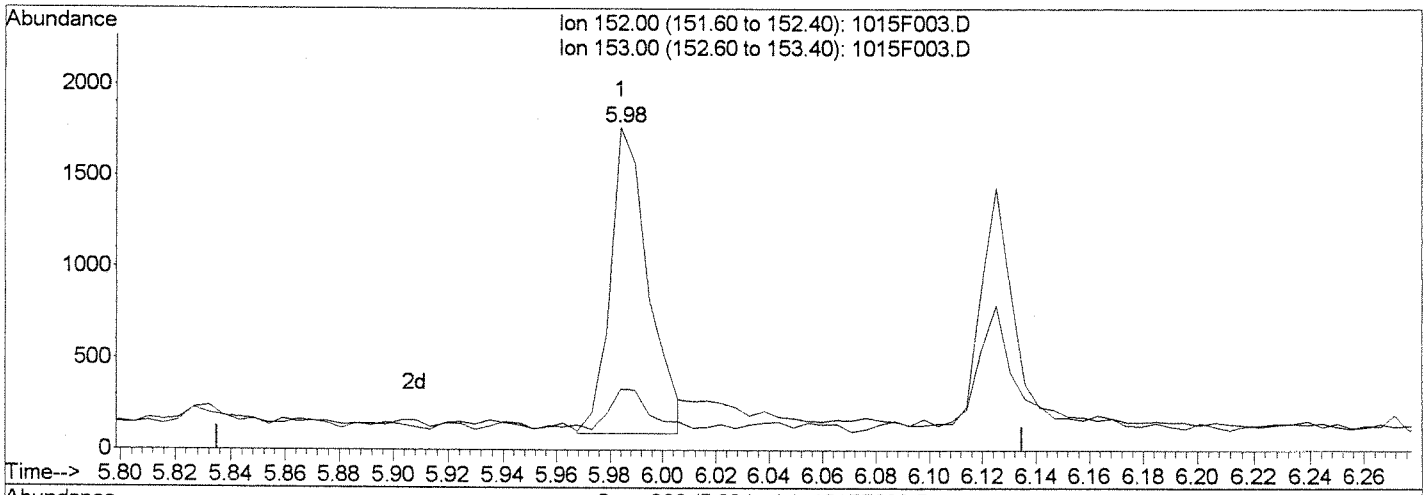
Ion	Exp%	Act%
152.00	100	100
153.00	14.10	12.25
0.00	0.00	0.00
0.00	0.00	0.00

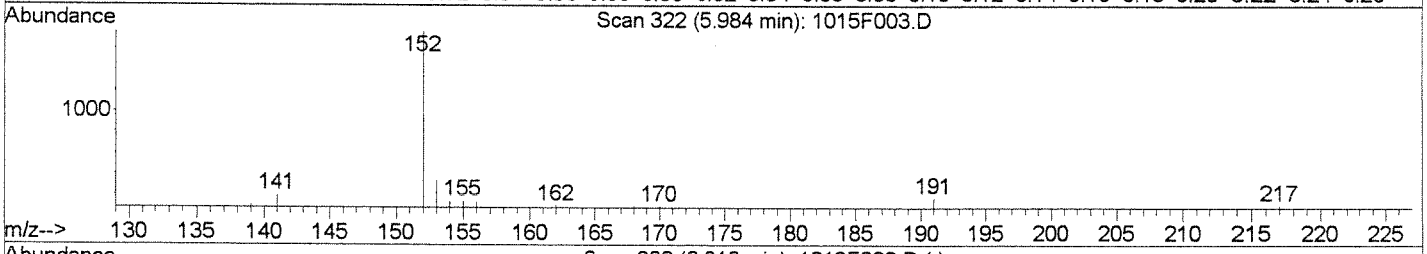
1015F003.D 1015ALK.M Thu Oct 15 10:35:51 2009

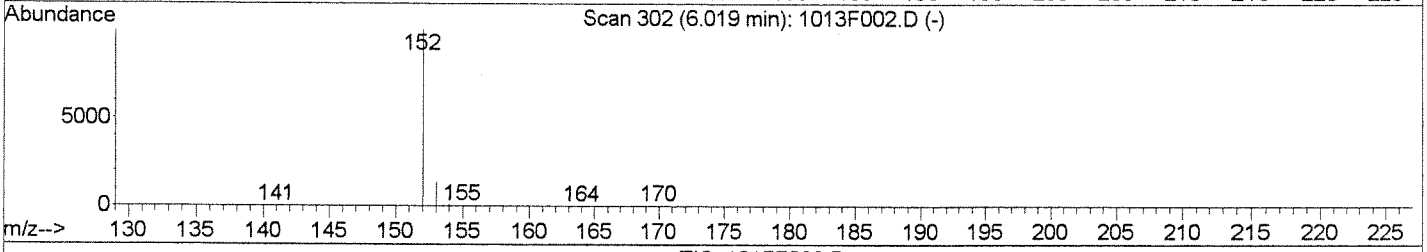
Quantitation Report (Qedit)

Data File : J:\MS11\DATA\101509\1015F003.D Vial: 3
Acq On : 15 Oct 2009 7:35 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @.002/.05ug/mL | SVM29-21C Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 15 10:35 2009 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 06:04:30 2009
Response via : Multiple Level Calibration







TIC: 1015F003.D

(11) Acenaphthylene (T)

5.98min 1.97ng/ml m

response 1677

Ion	Exp%	Act%
152.00	100	100
153.00	14.10	18.85
0.00	0.00	0.00
0.00	0.00	0.00

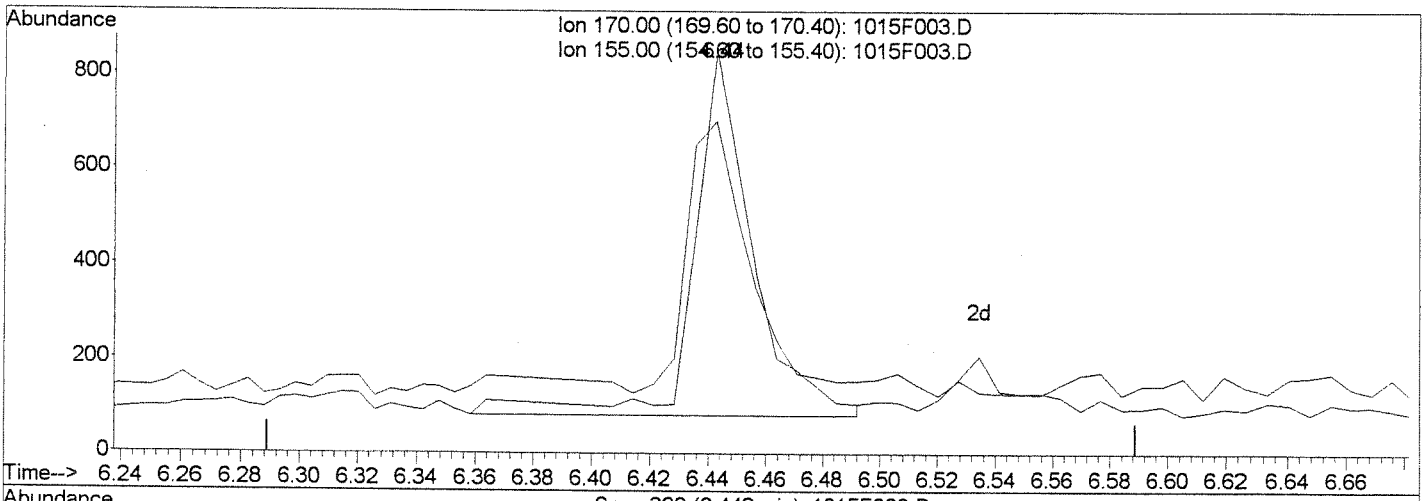
OI 10/19/09

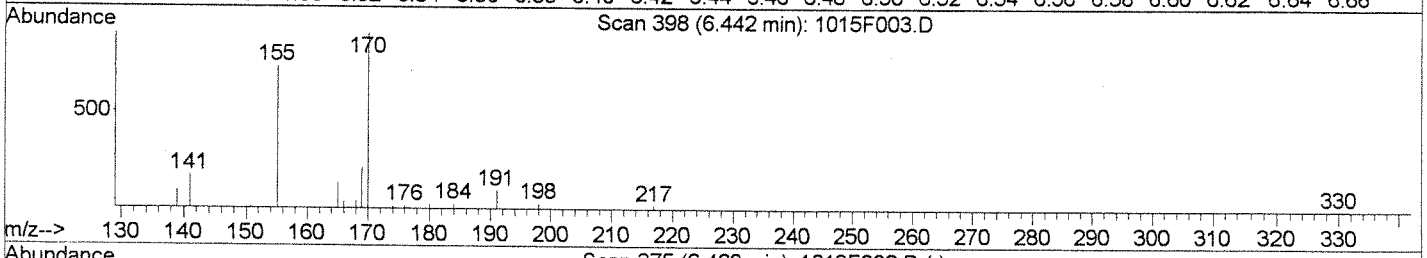
1015F003.D 1015ALK.M Thu Oct 15 10:35:56 2009

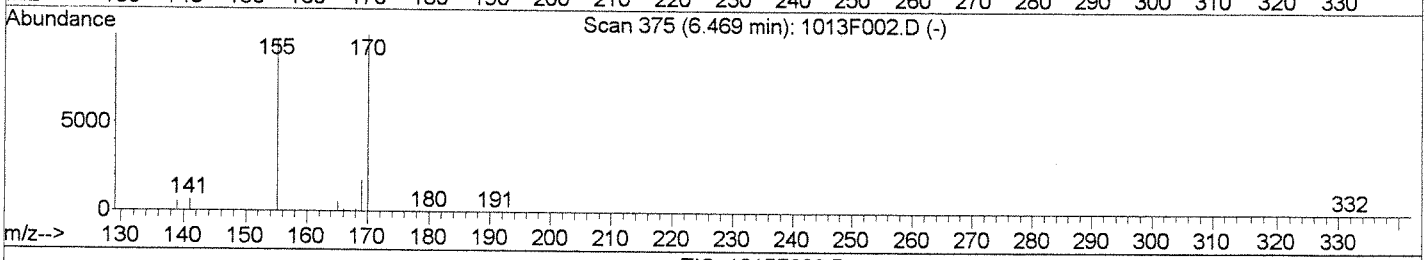
Quantitation Report (Qedit)

Data File : J:\MS11\DATA\101509\1015F003.D Vial: 3
Acq On : 15 Oct 2009 7:35 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @.002/.05ug/mL | SVM29-21C Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 15 10:35 2009 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 06:04:30 2009
Response via : Multiple Level Calibration







TIC: 1015F003.D

(14) 2,3,5-Trimethylnaphthalene (T)

6.44min 2.34ng/ml

response 1396

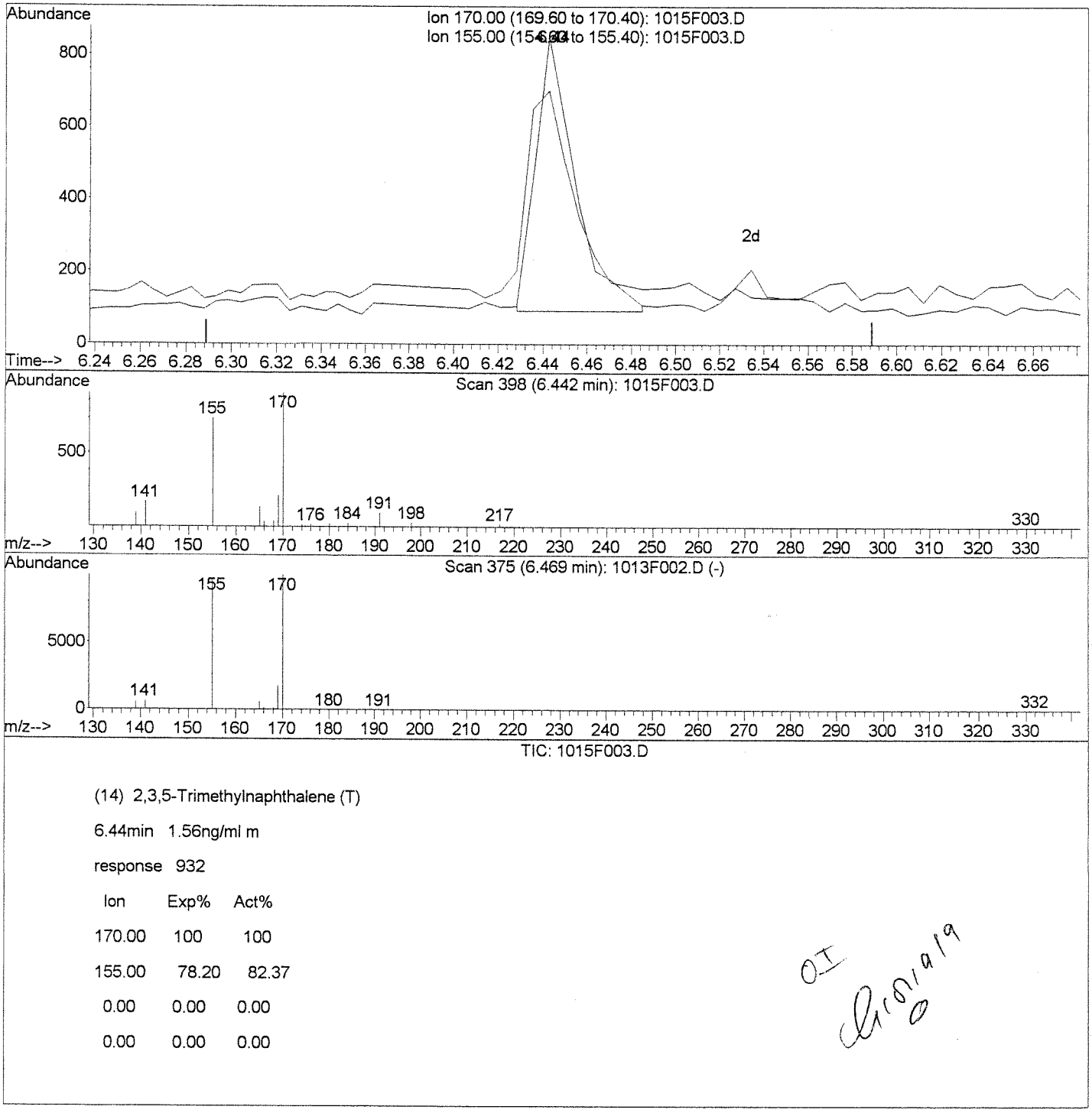
Ion	Exp%	Act%
170.00	100	100
155.00	78.20	72.73
0.00	0.00	0.00
0.00	0.00	0.00

1015F003.D 1015ALK.M Thu Oct 15 10:36:05 2009

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\101509\1015F003.D Vial: 3
Acq On : 15 Oct 2009 7:35 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @.002/.05ug/mL | SVM29-21C Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 15 10:36 2009 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 06:04:30 2009
Response via : Multiple Level Calibration



TIC: 1015F003.D

(14) 2,3,5-Trimethylnaphthalene (T)

6.44min 1.56ng/ml m

response 932

Ion	Exp%	Act%
170.00	100	100
155.00	78.20	82.37
0.00	0.00	0.00
0.00	0.00	0.00

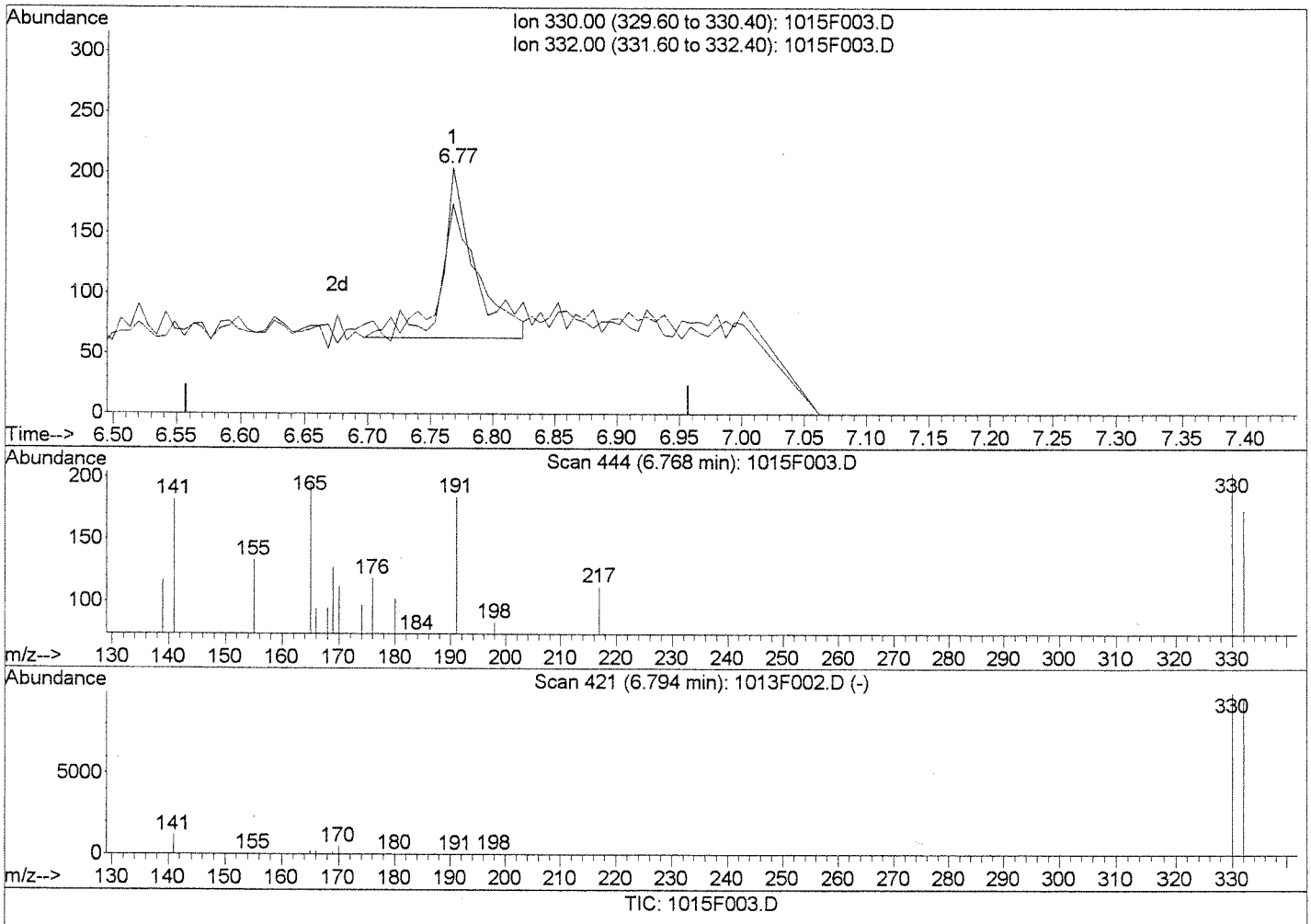
OI 10/19/09

1015F003.D 1015ALK.M Thu Oct 15 10:36:10 2009

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\101509\1015F003.D Vial: 3
Acq On : 15 Oct 2009 7:35 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @.002/.05ug/mL | SVM29-21C Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 15 10:36 2009 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 06:04:30 2009
Response via : Multiple Level Calibration



TIC: 1015F003.D

(20) 2,4,6 Tribromophenol (s)

6.77min 2.52ng/ml

response 268

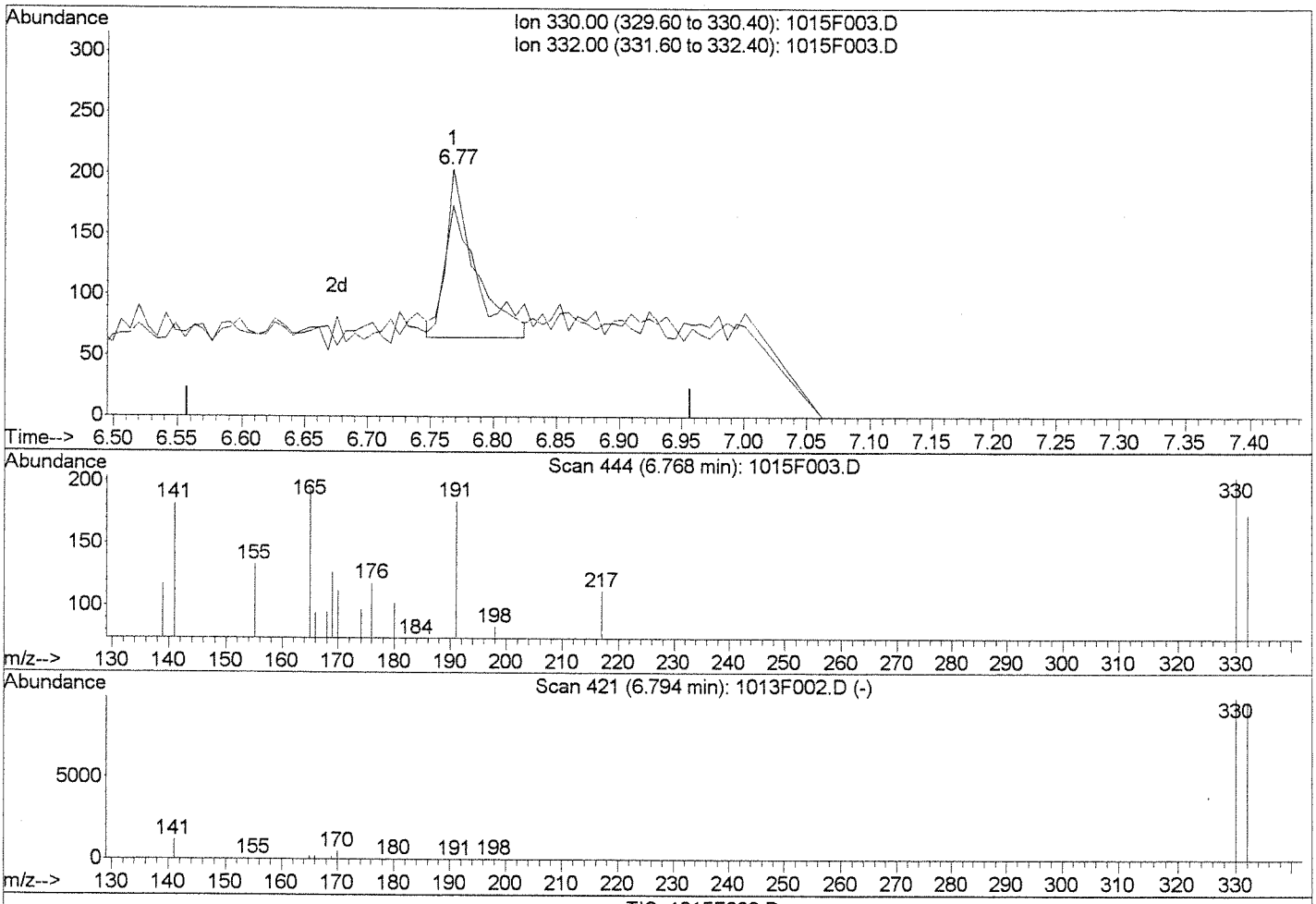
Ion	Exp%	Act%
330.00	100	100
332.00	105.30	70.92#
0.00	0.00	0.00
0.00	0.00	0.00

1015F003.D 1015ALK.M Thu Oct 15 10:36:18 2009

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\101509\1015F003.D Vial: 3
Acq On : 15 Oct 2009 7:35 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @.002/.05ug/mL | SVM29-21C Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 15 10:36 2009 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 06:04:30 2009
Response via : Multiple Level Calibration



TIC: 1015F003.D

(20) 2,4,6 Tribromophenol (s)

6.77min 2.09ng/ml m

response 222

Ion	Exp%	Act%
330.00	100	100
332.00	105.30	85.29#
0.00	0.00	0.00
0.00	0.00	0.00

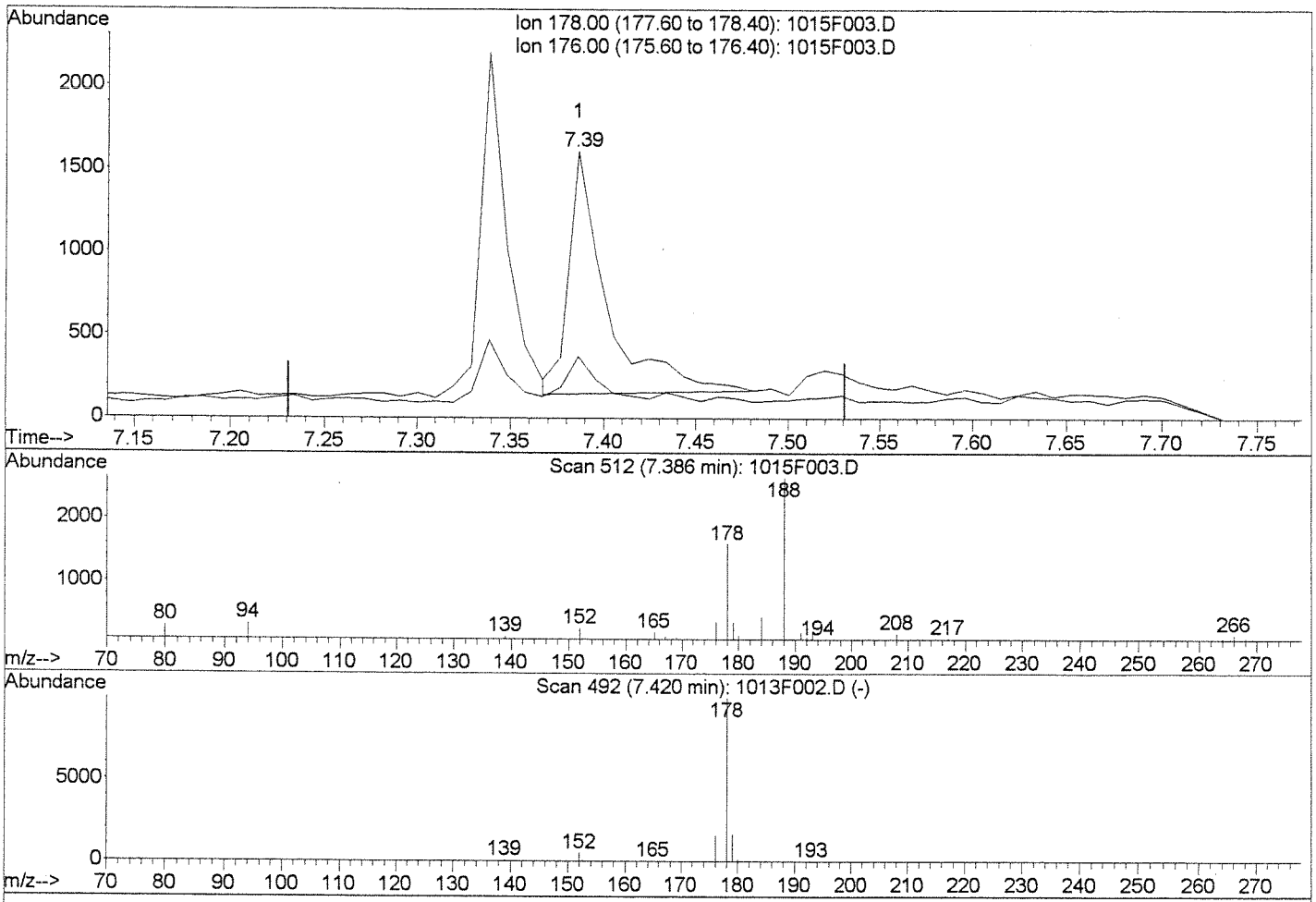
01 10/19

1015F003.D 1015ALK.M Thu Oct 15 10:36:24 2009

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\101509\1015F003.D Vial: 3
Acq On : 15 Oct 2009 7:35 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @.002/.05ug/mL | SVM29-21C Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 15 10:36 2009 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 06:04:30 2009
Response via : Multiple Level Calibration



TIC: 1015F003.D

(28) Anthracene (T)

7.39min 2.41ng/ml

response 2066

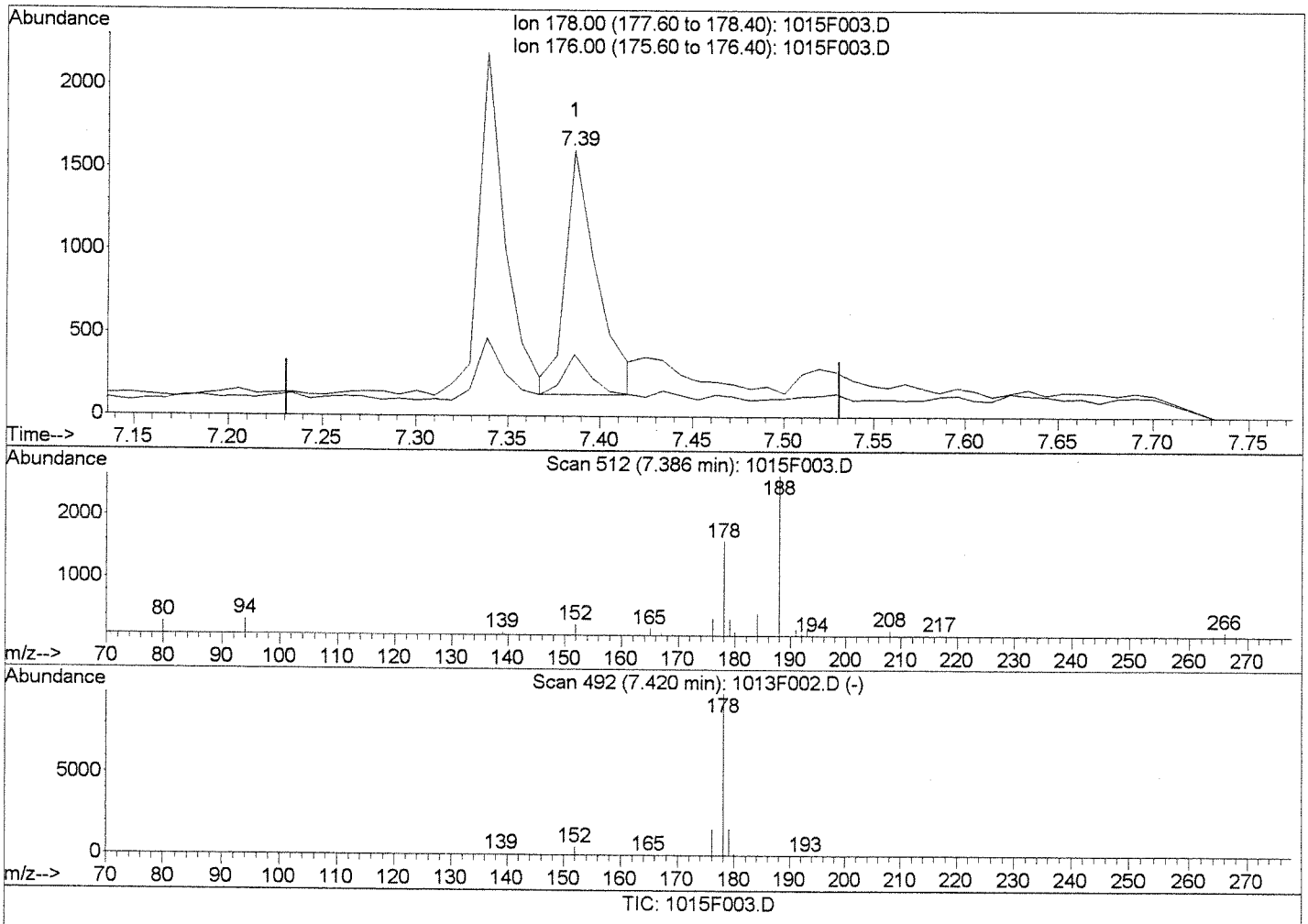
Ion	Exp%	Act%
178.00	100	100
176.00	17.60	18.86
0.00	0.00	0.00
0.00	0.00	0.00

1015F003.D 1015ALK.M Thu Oct 15 10:36:33 2009

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\101509\1015F003.D Vial: 3
Acq On : 15 Oct 2009 7:35 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @.002/.05ug/mL | SVM29-21C Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 15 10:36 2009 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 06:04:30 2009
Response via : Multiple Level Calibration



TIC: 1015F003.D

(28) Anthracene (T)

7.39min 2.06ng/ml m

response 1768

Ion	Exp%	Act%
178.00	100	100
176.00	17.60	23.16
0.00	0.00	0.00
0.00	0.00	0.00

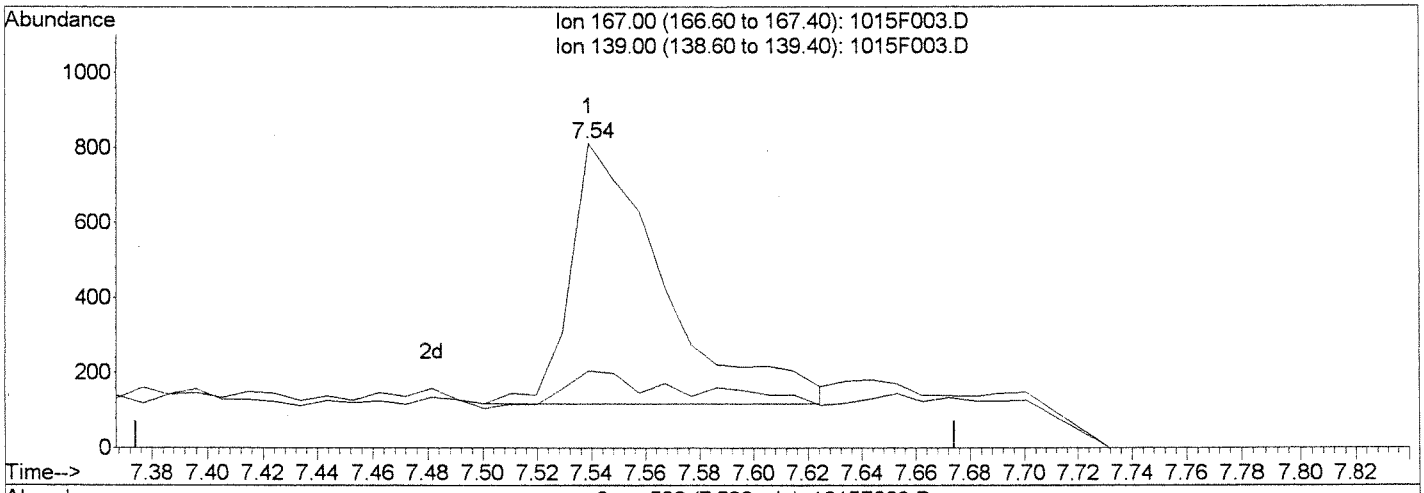
OI 10/19/09

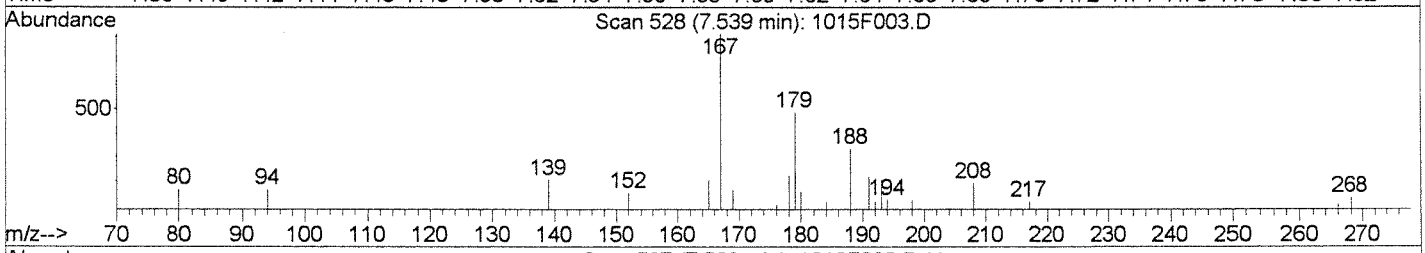
1015F003.D 1015ALK.M Thu Oct 15 10:36:38 2009

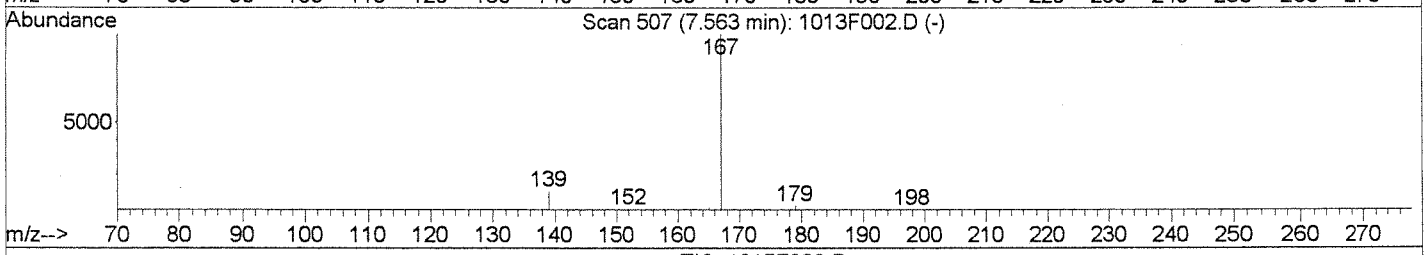
Quantitation Report (Qedit)

Data File : J:\MS11\DATA\101509\1015F003.D Vial: 3
Acq On : 15 Oct 2009 7:35 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @.002/.05ug/mL | SVM29-21C Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 15 10:36 2009 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 06:04:30 2009
Response via : Multiple Level Calibration







TIC: 1015F003.D

(29) Carbazole (T)

7.54min 2.37ng/ml

response 1683

Ion	Exp%	Act%
167.00	100	100
139.00	15.70	14.37
0.00	0.00	0.00
0.00	0.00	0.00

1015F003.D 1015ALK.M Thu Oct 15 10:36:44 2009

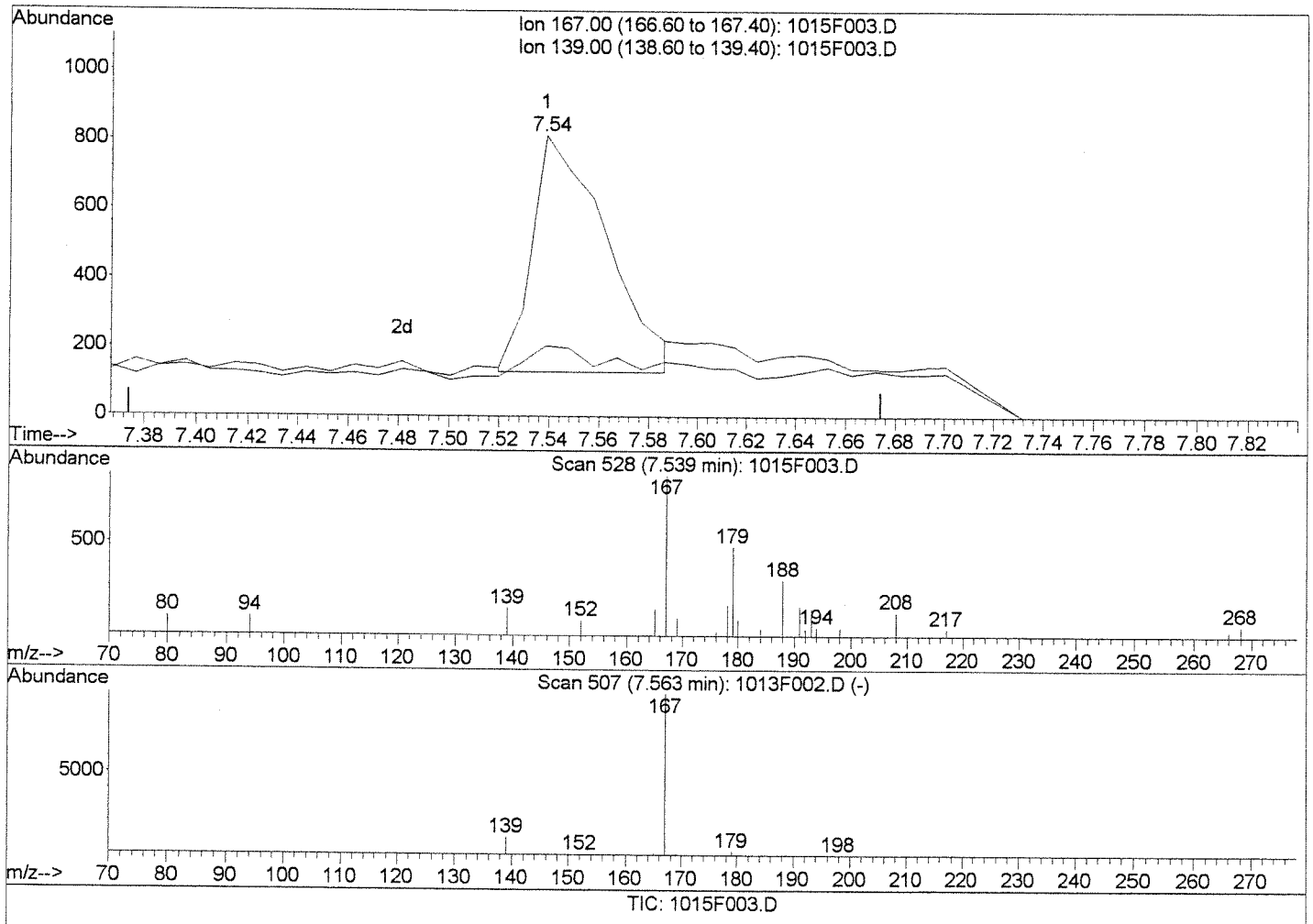
Quantitation Report (Qedit)

Data File : J:\MS11\DATA\101509\1015F003.D
Acq On : 15 Oct 2009 7:35 am
Sample : SIM-PAH ICAL @.002/.05ug/mL | SVM29-21C
Misc :
MS Integration Params: RTEINT.P
Quant Time: Oct 15 10:36 2009

Vial: 3
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 06:04:30 2009
Response via : Multiple Level Calibration



TIC: 1015F003.D

(29) Carbazole (T)

7.54min 1.99ng/ml m

response 1412

Ion	Exp%	Act%
167.00	100	100
139.00	15.70	25.22
0.00	0.00	0.00
0.00	0.00	0.00

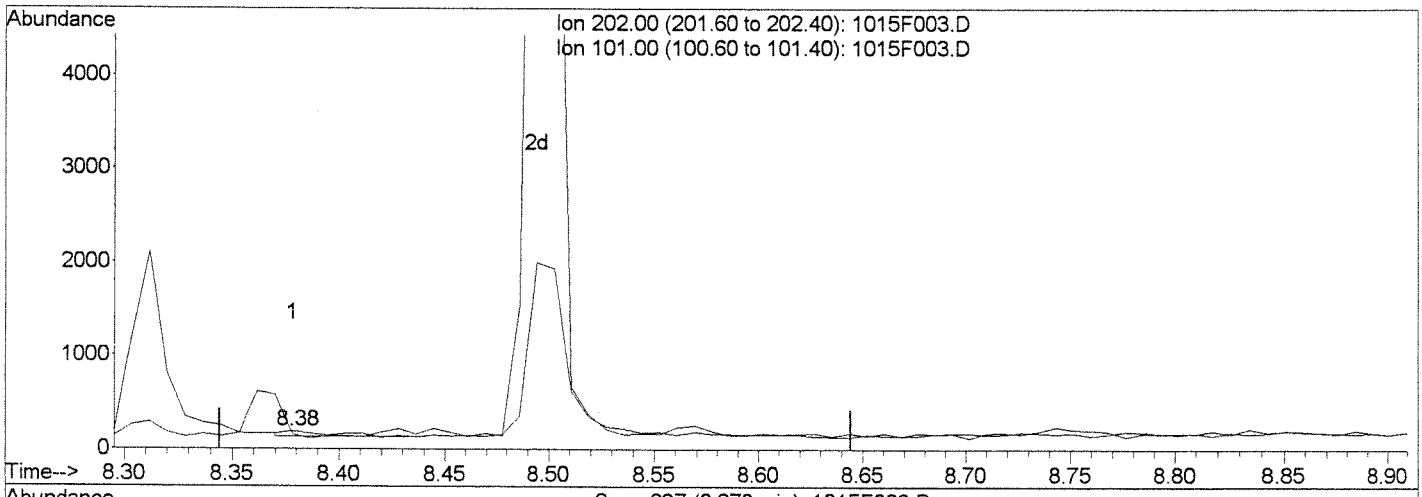
O.I 10/15/09

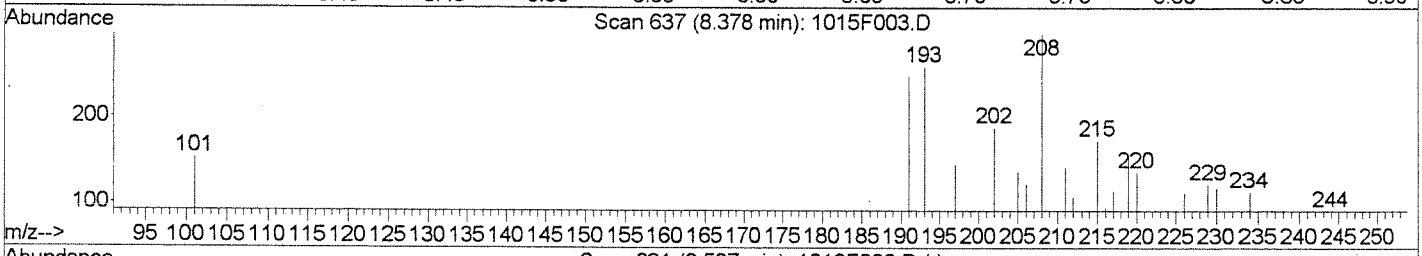
1015F003.D 1015ALK.M Thu Oct 15 10:36:52 2009

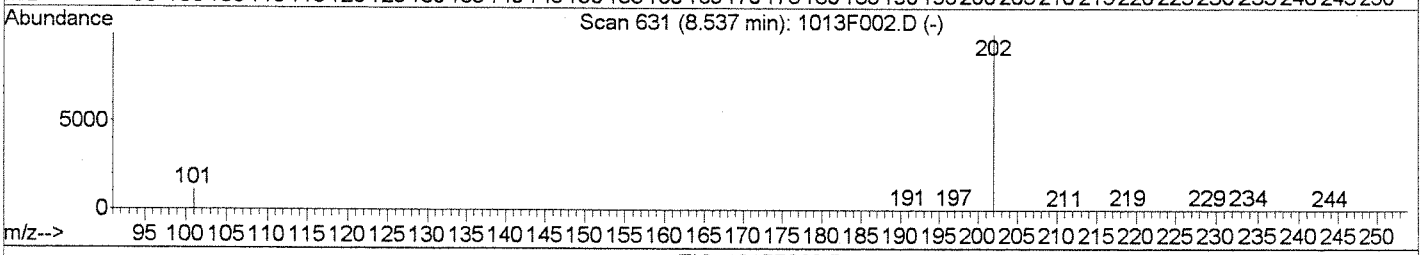
Quantitation Report (Qedit)

Data File : J:\MS11\DATA\101509\1015F003.D Vial: 3
Acq On : 15 Oct 2009 7:35 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @.002/.05ug/mL | SVM29-21C Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 15 10:36 2009 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 06:04:30 2009
Response via : Multiple Level Calibration







TIC: 1015F003.D

(38) Pyrene (T)

8.38min 0.09ng/ml

response 98

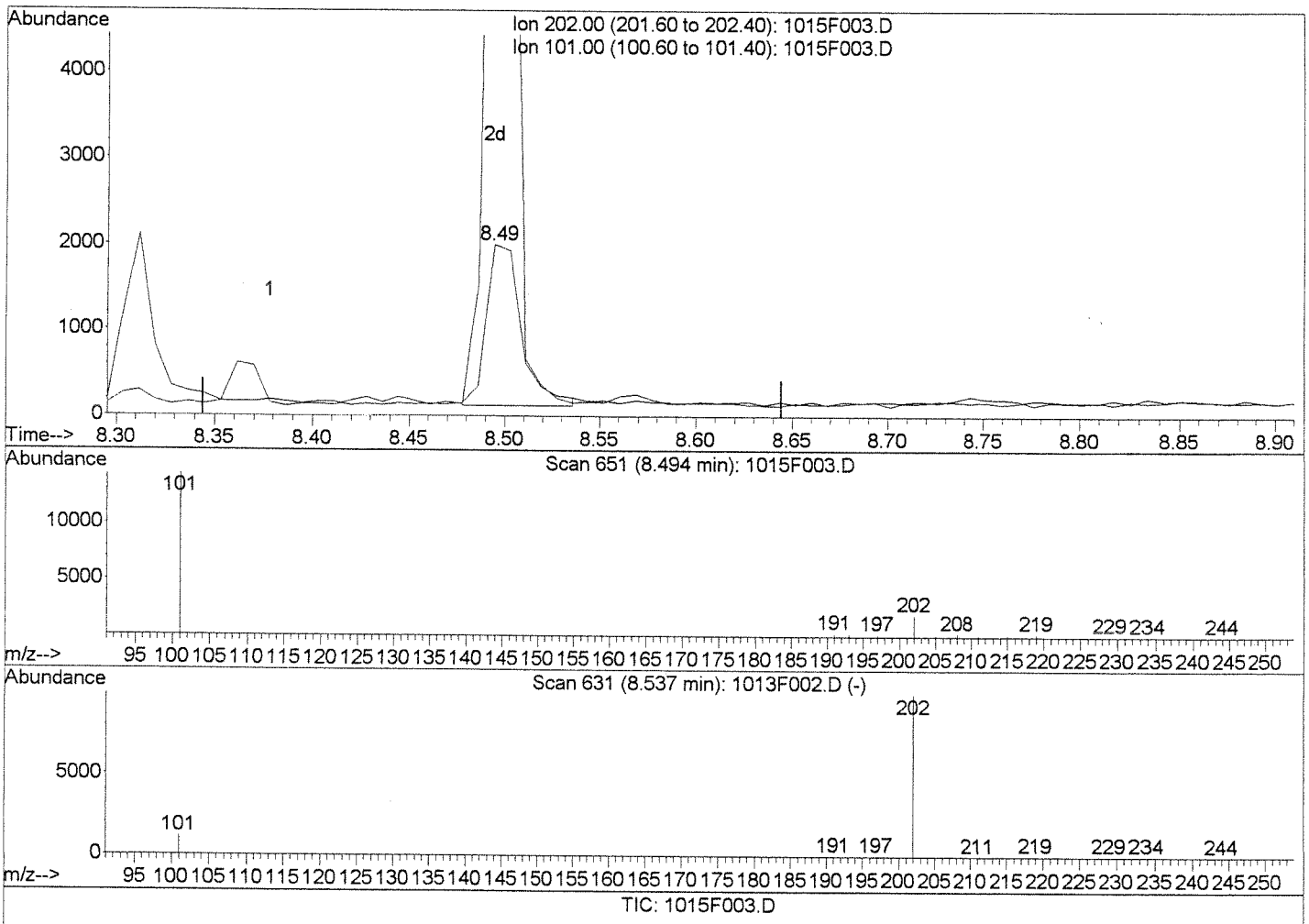
Ion	Exp%	Act%
202.00	100	100
101.00	6.40	0.00
0.00	0.00	0.00
0.00	0.00	0.00

1015F003.D 1015ALK.M Thu Oct 15 10:37:02 2009

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\101509\1015F003.D Vial: 3
Acq On : 15 Oct 2009 7:35 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @.002/.05ug/mL | SVM29-21C Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 15 10:37 2009 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 06:04:30 2009
Response via : Multiple Level Calibration



TIC: 1015F003.D

(38) Pyrene (T)

8.49min 2.18ng/ml m

response 2393

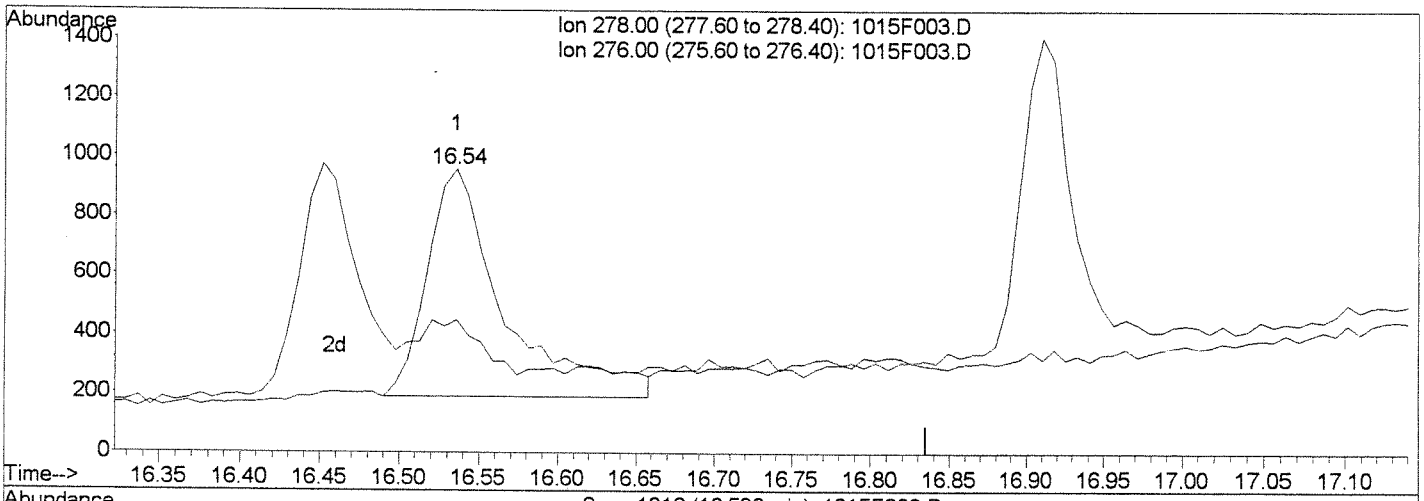
Ion	Exp%	Act%
202.00	100	100
101.00	6.40	718.61#
0.00	0.00	0.00
0.00	0.00	0.00

1015F003.D 1015ALK.M Thu Oct 15 10:37:07 2009

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\101509\1015F003.D Vial: 3
Acq On : 15 Oct 2009 7:35 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @.002/.05ug/mL | SVM29-21C Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 15 10:37 2009 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 06:04:30 2009
Response via : Multiple Level Calibration



TIC: 1015F003.D

(56) Dibenz(a,h)anthracene (T)

16.54min 2.73ng/ml

response 2595

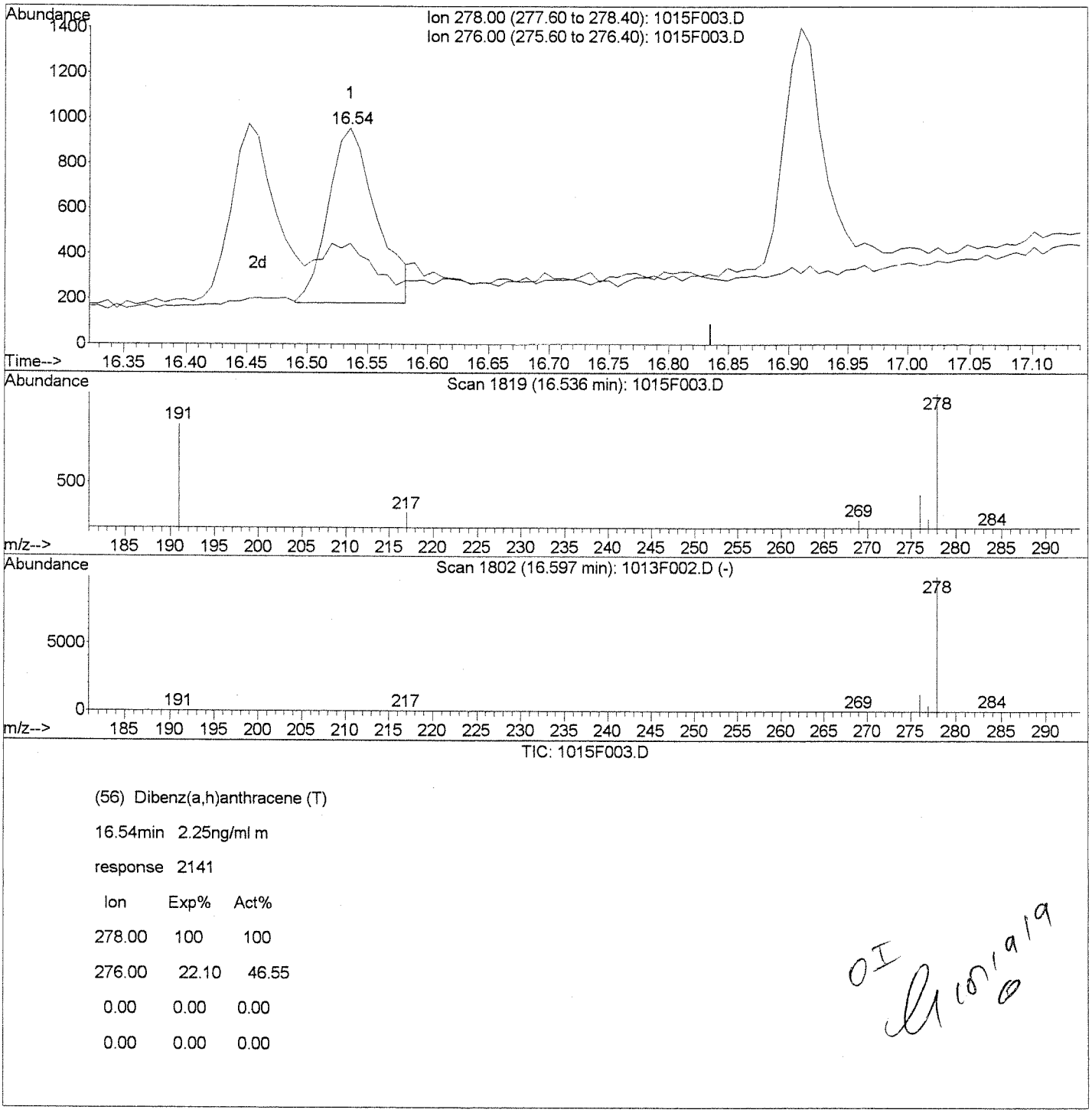
Ion	Exp%	Act%
278.00	100	100
276.00	22.10	20.29
0.00	0.00	0.00
0.00	0.00	0.00

1015F003.D 1015ALK.M Thu Oct 15 10:37:22 2009

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\101509\1015F003.D Vial: 3
Acq On : 15 Oct 2009 7:35 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @.002/.05ug/mL | SVM29-21C Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 15 10:37 2009 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 06:04:30 2009
Response via : Multiple Level Calibration



TIC: 1015F003.D

(56) Dibenz(a,h)anthracene (T)

16.54min 2.25ng/ml m

response 2141

Ion	Exp%	Act%
278.00	100	100
276.00	22.10	46.55
0.00	0.00	0.00
0.00	0.00	0.00

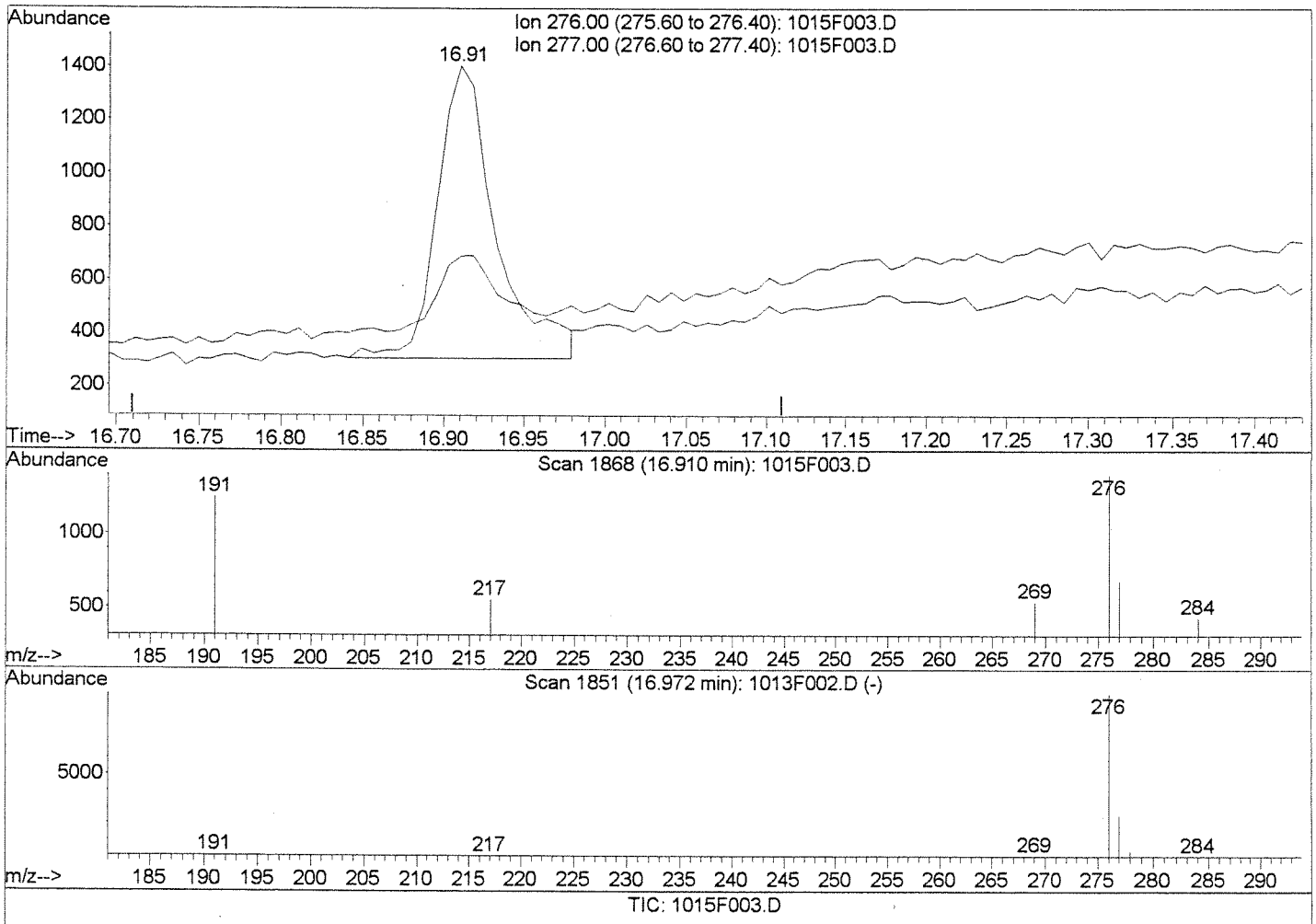
OI 10/19/09

1015F003.D 1015ALK.M Thu Oct 15 10:37:27 2009

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\101509\1015F003.D Vial: 3
Acq On : 15 Oct 2009 7:35 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @.002/.05ug/mL | SVM29-21C Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 15 10:37 2009 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 06:04:30 2009
Response via : Multiple Level Calibration



TIC: 1015F003.D

(57) Benzo(g,h,i)perylene (T)

16.91min 2.62ng/ml

response 2786

Ion	Exp%	Act%
276.00	100	100
277.00	25.70	26.18
0.00	0.00	0.00
0.00	0.00	0.00

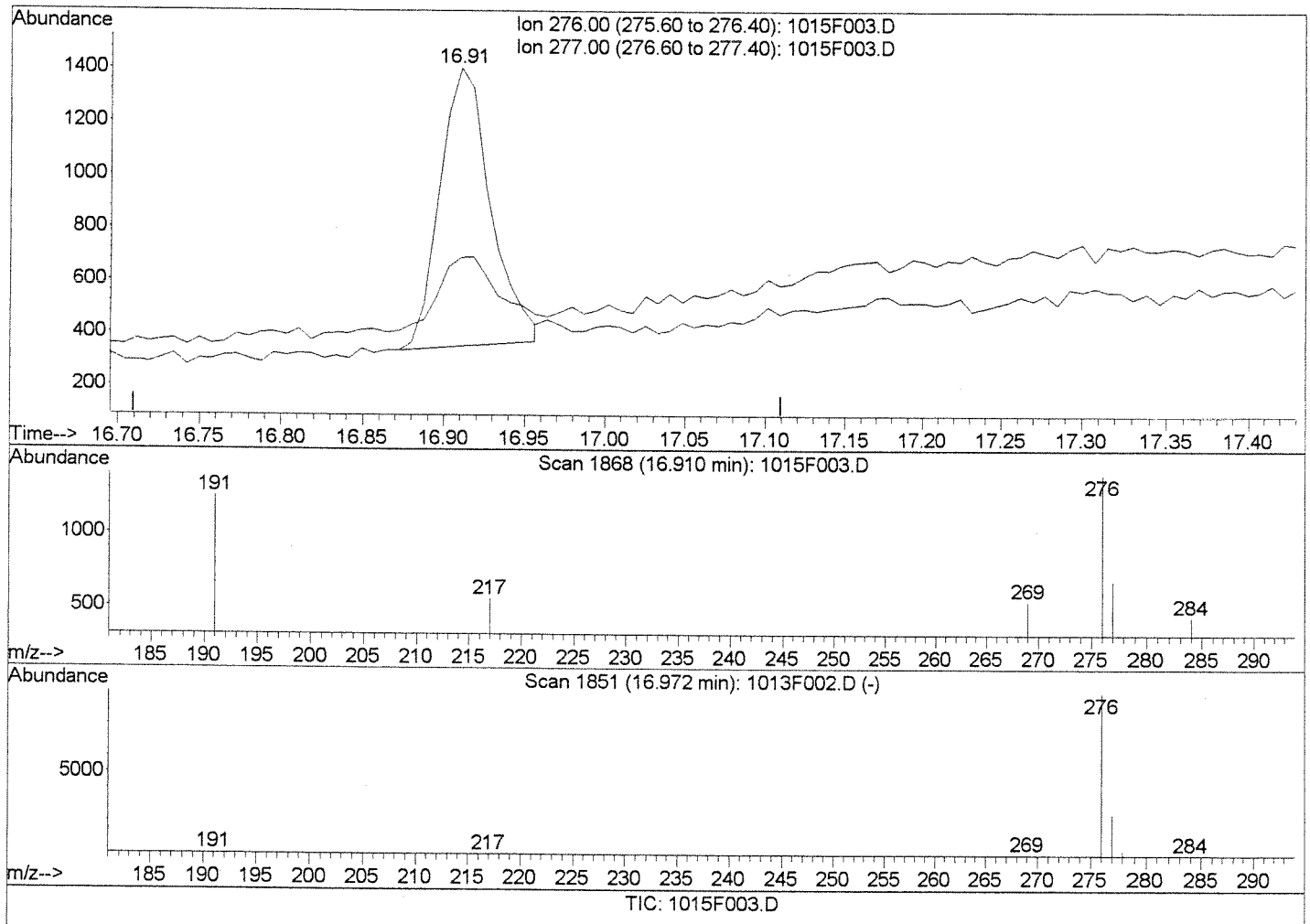
1015F003.D 1015ALK.M Thu Oct 15 10:37:34 2009

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\101509\1015F003.D
Acq On : 15 Oct 2009 7:35 am
Sample : SIM-PAH ICAL @.002/.05ug/mL | SVM29-21C
Misc :
MS Integration Params: RTEINT.P
Quant Time: Oct 15 10:37 2009

Vial: 3
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 06:04:30 2009
Response via : Multiple Level Calibration



(57) Benzo(g,h,i)perylene (T)

16.91min 2.17ng/ml m

response 2312

Ion	Exp%	Act%
276.00	100	100
277.00	25.70	48.97
0.00	0.00	0.00
0.00	0.00	0.00

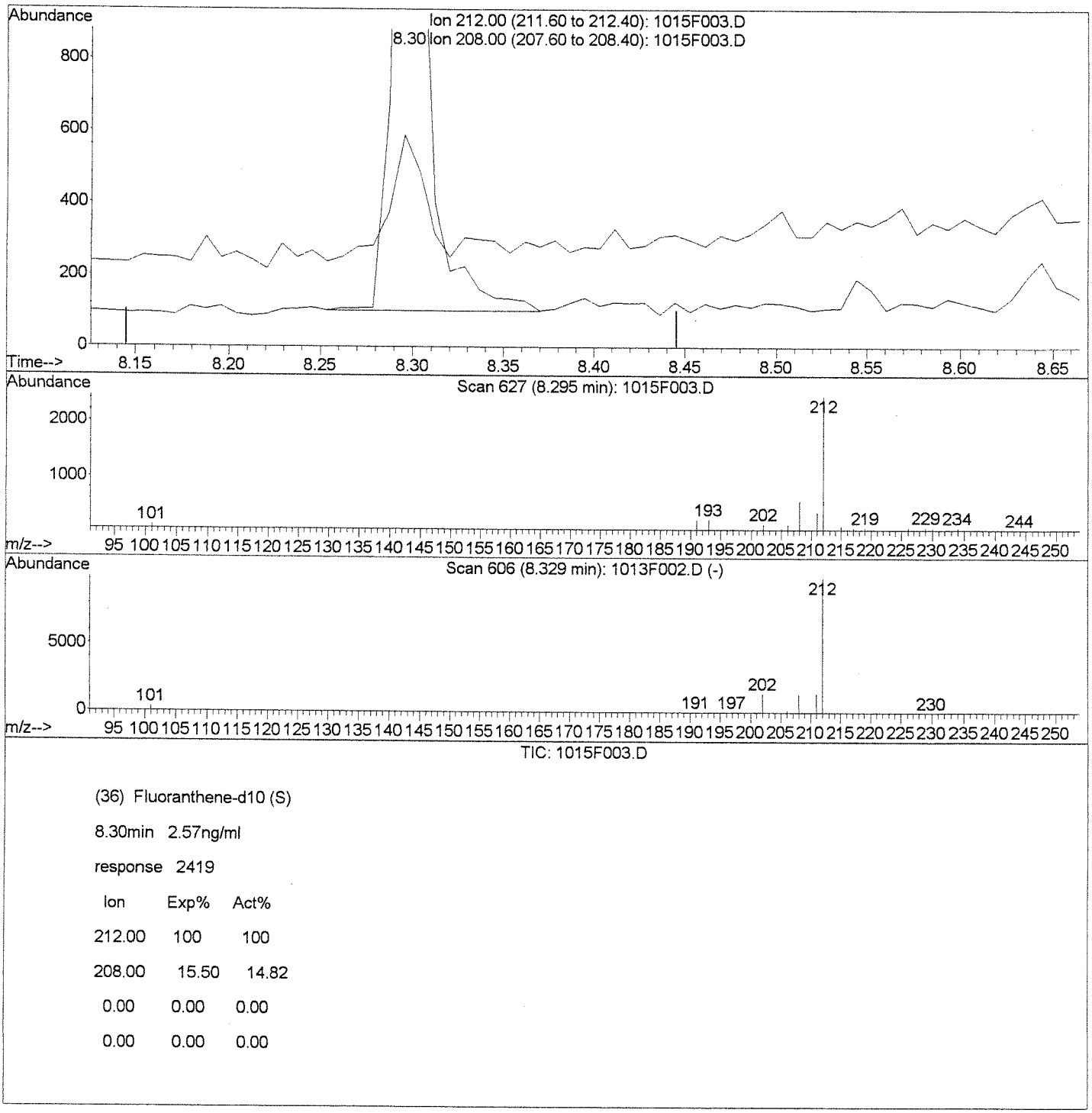
OI 10/19/09

1015F003.D 1015ALK.M Thu Oct 15 10:37:40 2009

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\101509\1015F003.D Vial: 3
Acq On : 15 Oct 2009 7:35 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @.002/.05ug/mL | SVM29-21C Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 15 10:37 2009 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 10:46:38 2009
Response via : Multiple Level Calibration



(36) Fluoranthene-d10 (S)

8.30min 2.57ng/ml

response 2419

Ion	Exp%	Act%
212.00	100	100
208.00	15.50	14.82
0.00	0.00	0.00
0.00	0.00	0.00

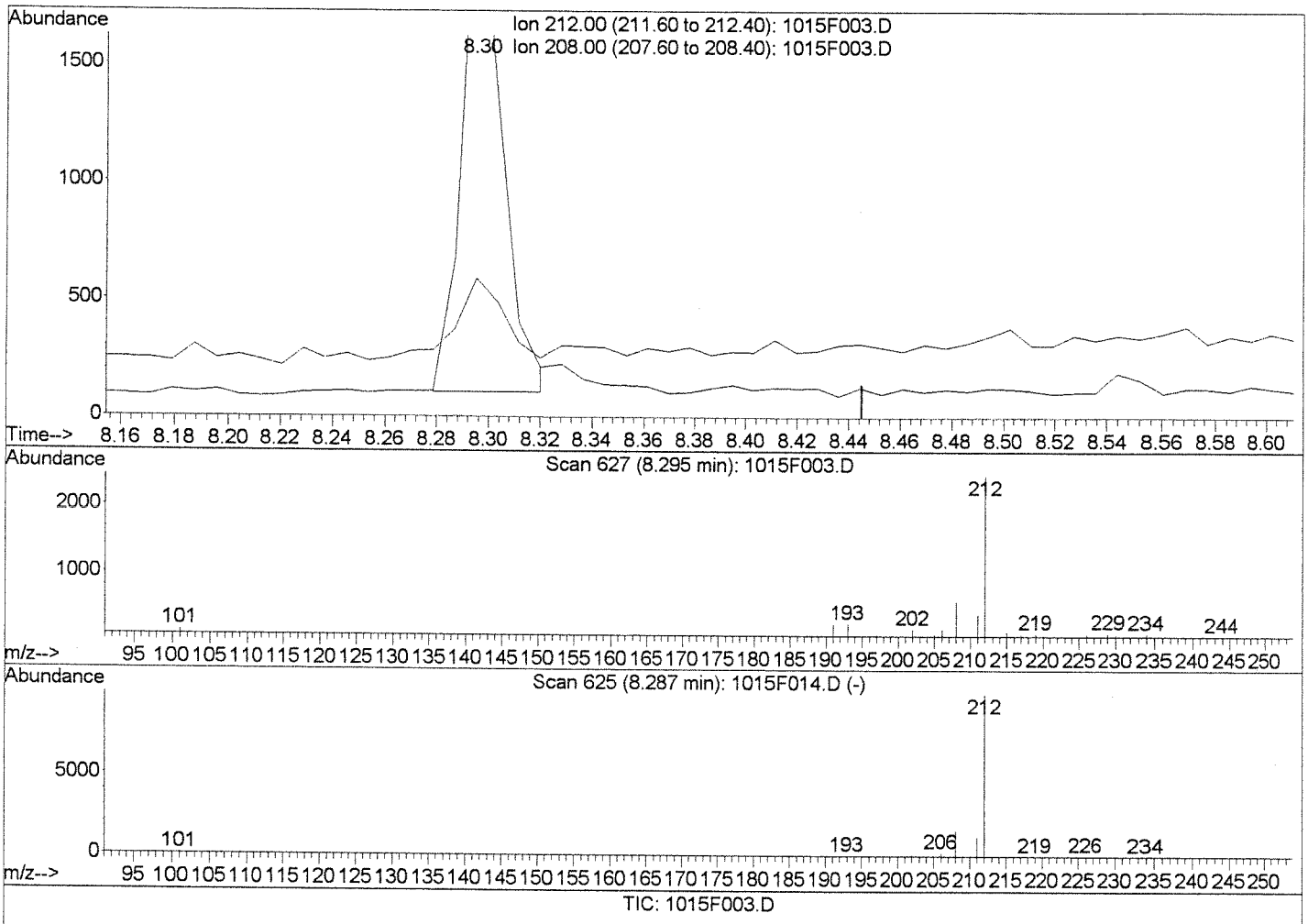
1015F003.D 1015ALK.M Thu Oct 15 10:47:03 2009

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\101509\1015F003.D
Acq On : 15 Oct 2009 7:35 am
Sample : SIM-PAH ICAL @.002/.05ug/mL | SVM29-21C
Misc :
MS Integration Params: RTEINT.P
Quant Time: Oct 15 10:47 2009

Vial: 3
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 12:27:11 2009
Response via : Multiple Level Calibration



(36) Fluoranthene-d10 (S)

8.30min 2.41ng/ml m

response 2261

Ion	Exp%	Act%
212.00	100	100
208.00	15.50	23.84
0.00	0.00	0.00
0.00	0.00	0.00

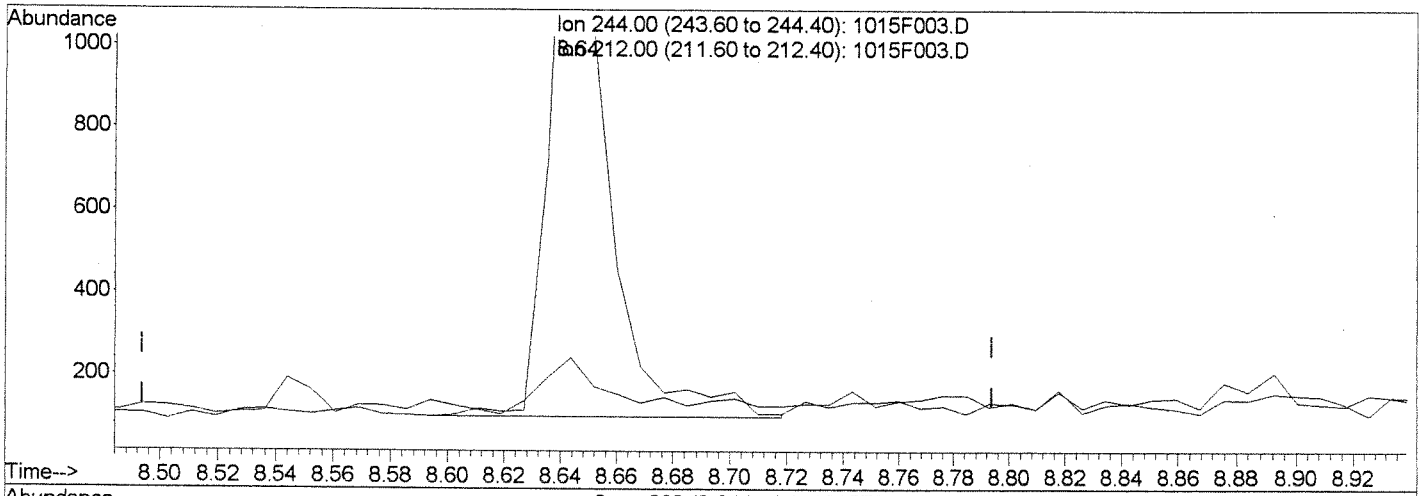
OK 10/19/09

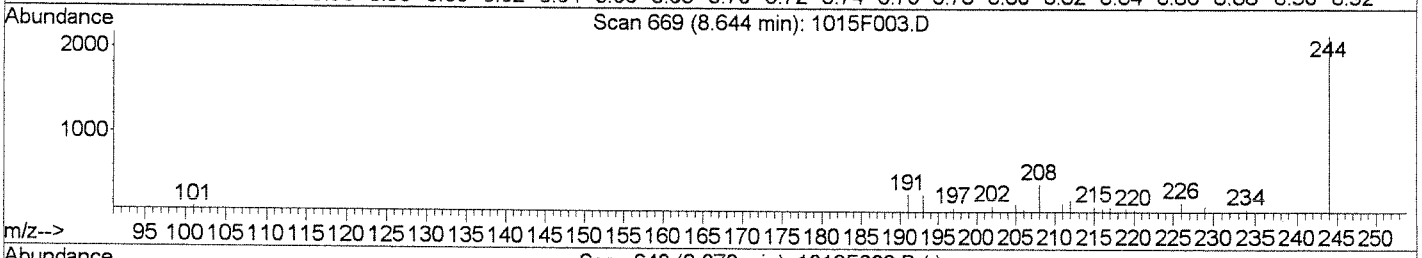
1015F003.D 1015ALK.M Mon Oct 19 08:20:36 2009

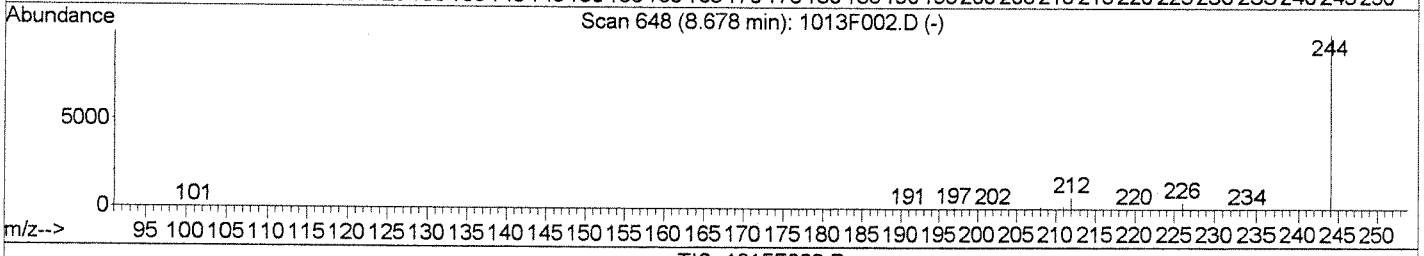
Quantitation Report (Qedit)

Data File : J:\MS11\DATA\101509\1015F003.D Vial: 3
Acq On : 15 Oct 2009 7:35 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @.002/.05ug/mL | SVM29-21C Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 15 10:47 2009 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 10:46:38 2009
Response via : Multiple Level Calibration







TIC: 1015F003.D

(42) Terphenyl-d14 (S)

8.64min 2.65ng/ml

response 2172

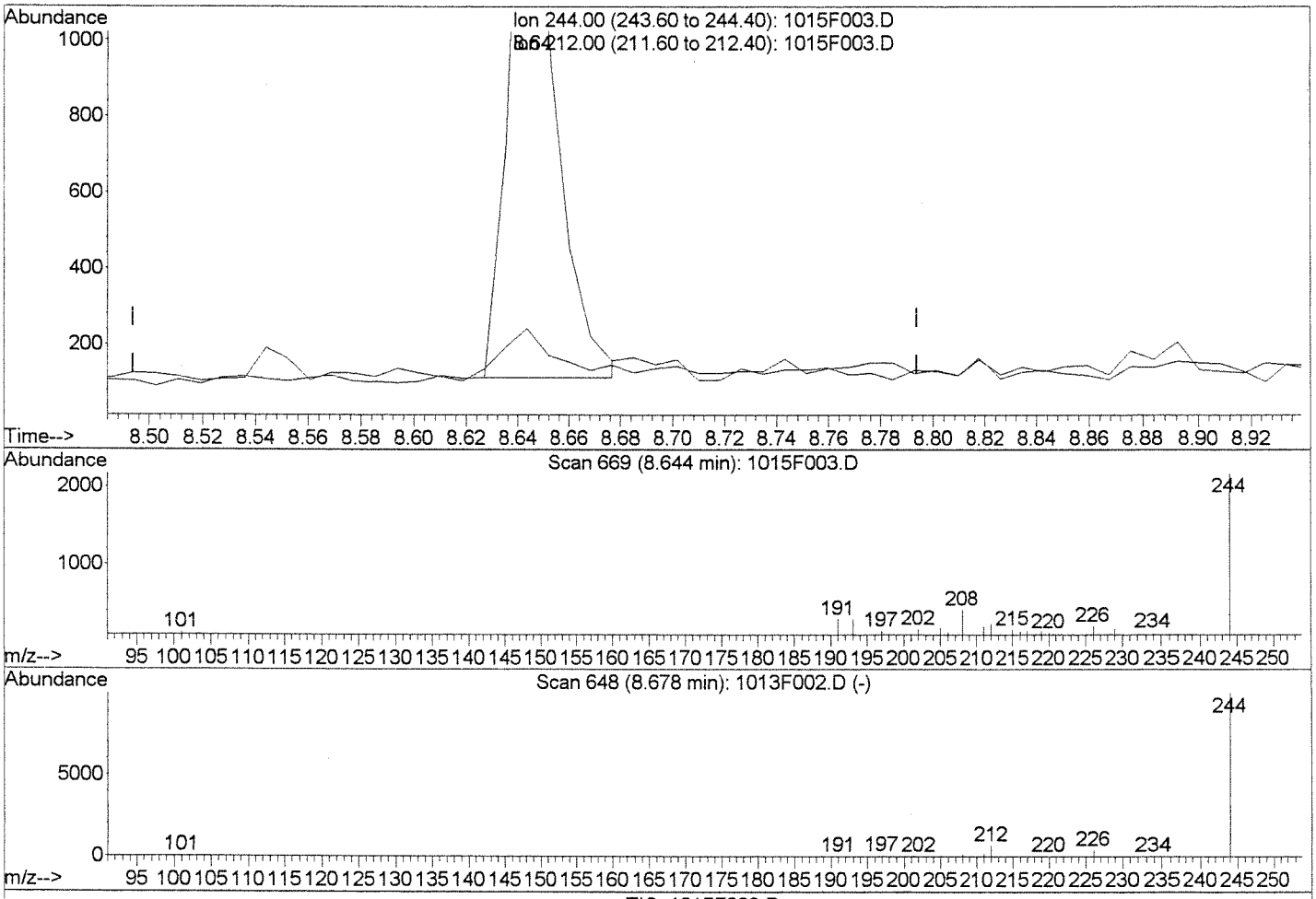
Ion	Exp%	Act%
244.00	100	100
212.00	10.20	5.62
0.00	0.00	0.00
0.00	0.00	0.00

1015F003.D 1015ALK.M Thu Oct 15 10:47:15 2009

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\101509\1015F003.D Vial: 3
Acq On : 15 Oct 2009 7:35 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @.002/.05ug/mL | SVM29-21C Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 15 10:47 2009 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 10:46:38 2009
Response via : Multiple Level Calibration



TIC: 1015F003.D

(42) Terphenyl-d14 (S)

8.64min 2.46ng/ml m

response 2011

Ion	Exp%	Act%
244.00	100	100
212.00	10.20	11.15
0.00	0.00	0.00
0.00	0.00	0.00

OI 10/21/09

1015F003.D 1015ALK.M Thu Oct 15 10:47:22 2009

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\101509\1015F004.D Vial: 4
Acq On : 15 Oct 2009 8:02 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @.004/0.1ug/mL | SVM29-21D Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 15 08:34:37 2009 Quant Results File: 1015ALK.RES

Quant Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 06:04:30 2009
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	4.68	136	193139	200.00	ng/ml	0.00
10) Acenaphthene-d10	6.10	164	105158	200.00	ng/ml	0.00
22) Phenanthrene-d10	7.32	188	158753	200.00	ng/ml	0.00
37) Chrysene-d12	9.84	240	197967	200.00	ng/ml	-0.01
49) Perylene-d12	12.93	264	215163	200.00	ng/ml	-0.02
System Monitoring Compounds						
15) Fluorene-d10	6.53	176	2211	3.32	ng/ml	0.01
Spiked Amount 200.000			Recovery =	1.66%		
20) 2,4,6 Tribromophenol	6.77	330	448	4.07	ng/ml	0.01
Spiked Amount 375.000			Recovery =	1.09%		
36) Fluoranthene-d10	8.30	212	4496m	4.66	ng/ml	0.00
Spiked Amount 200.000			Recovery =	2.33%		
42) Terphenyl-d14	8.64	244	4167m	4.86	ng/ml	0.00
Spiked Amount 200.000			Recovery =	2.43%		
Target Compounds						Qvalue
2) Naphthalene	4.69	128	3901m	4.11	ng/ml	
3) 2-Methylnaphthalene	5.27	142	2576	3.28	ng/ml	89
4) 1-Methylnaphthalene	5.34	142	2871	3.51	ng/ml	97
5) Biphenyl	5.64	154	3014	2.24	ng/ml	93
6) 2,6-Dimethylnaphthalene	5.77	156	1809	1.86	ng/ml	92
11) Acenaphthylene	5.99	152	3763m	4.27	ng/ml	
12) Acenaphthene	6.12	154	2296	4.12	ng/ml	87
13) Dibenzofuran	6.28	168	3021	3.46	ng/ml	69
14) 2,3,5-Trimethylnaphthalene	6.44	170	1977	3.20	ng/ml	99
16) Fluorene	6.56	166	2521	3.16	ng/ml	93
21) Pentachlorophenol	7.20	266	2723	41.46	ng/ml	99
23) Dibenzothiophene	7.24	184	3199	3.86	ng/ml	89
27) Phenanthrene	7.34	178	3852	4.00	ng/ml	95
28) Anthracene	7.39	178	3446m	3.91	ng/ml	
29) Carbazole	7.54	167	2980	4.09	ng/ml	93
30) 1-Methylphenanthrene	7.84	192	2658	3.32	ng/ml	94
35) Fluoranthene	8.31	202	4484	4.07	ng/ml	95
38) Pyrene	8.50	202	4493	3.90	ng/ml#	1
43) Benz(a)anthracene	9.83	228	4772	4.32	ng/ml	97
44) Chrysene	9.89	228	4687	4.34	ng/ml	94
50) Benzo(b)fluoranthene	11.91	252	4439	3.77	ng/ml	96
51) Benzo(k)fluoranthene	11.98	252	4415	3.87	ng/ml	98
52) Benzo(e)pyrene	12.62	252	4481	4.15	ng/ml	98
53) Benzo(a)pyrene	12.76	252	4534	4.28	ng/ml	87
54) Perylene	13.01	252	4318	4.26	ng/ml	91

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\101509\1015F004.D Vial: 4
Acq On : 15 Oct 2009 8:02 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @.004/0.1ug/mL | SVM29-21D Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 15 08:34:37 2009 Quant Results File: 1015ALK.RES

Quant Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 06:04:30 2009
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

10/19/09

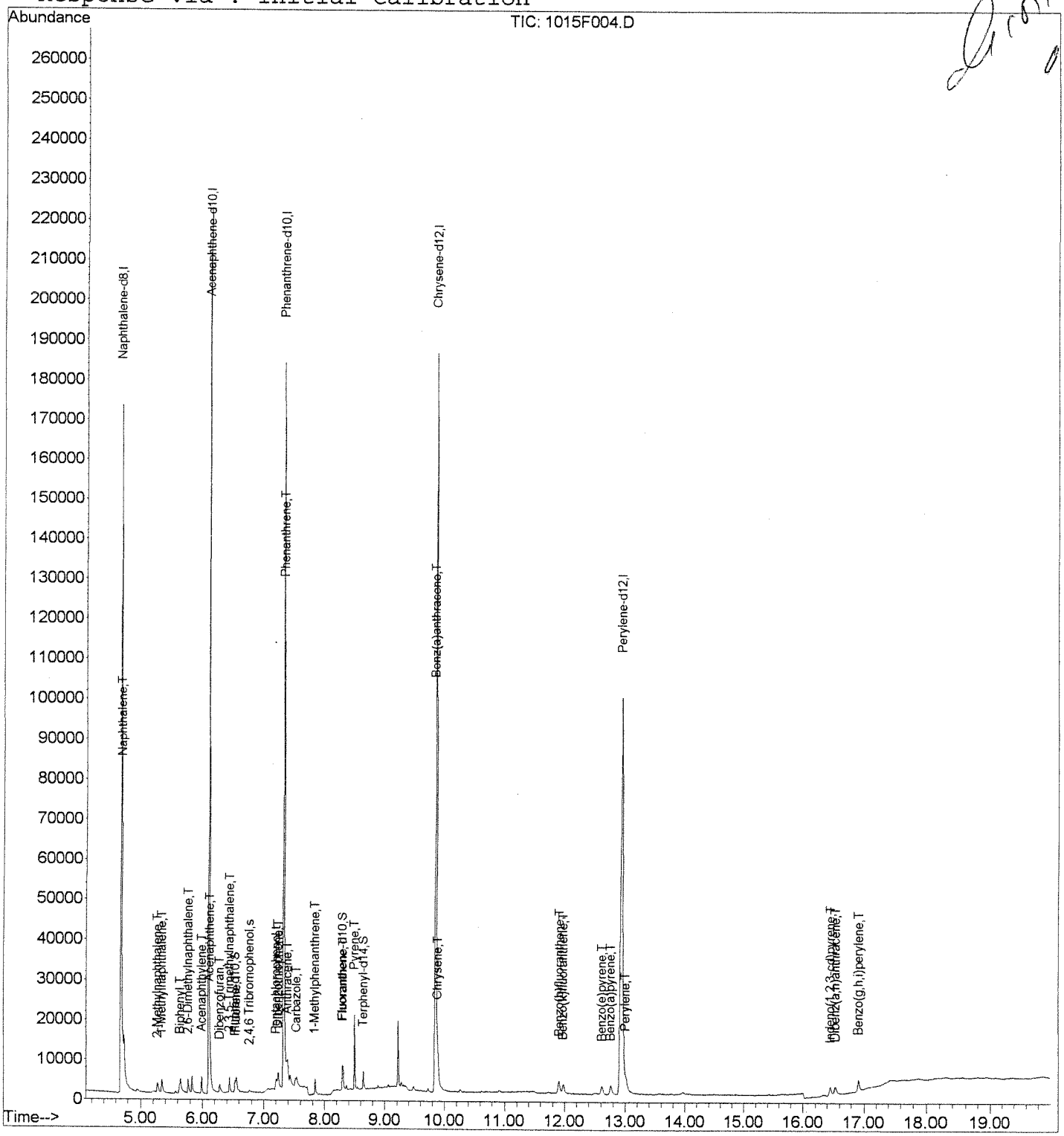
	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
55)	Indeno(1,2,3-cd)pyrene	16.45	276	4076	4.61	ng/ml	99
56)	Dibenz(a,h)anthracene	16.53	278	4364	4.46	ng/ml	97
57)	Benzo(g,h,i)perylene	16.91	276	4693m	4.28	ng/ml	

(#) = qualifier out of range (m) = manual integration
1015F004.D 1015ALK.M Thu Oct 15 10:43:59 2009 Page 2

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\101509\1015F004.D Vial: 4
Acq On : 15 Oct 2009 8:02 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @.004/0.1ug/mL | SVM29-21D Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 15 10:39 2009 Quant Results File: 1015ALK.RES

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 06:04:30 2009
Response via : Initial Calibration

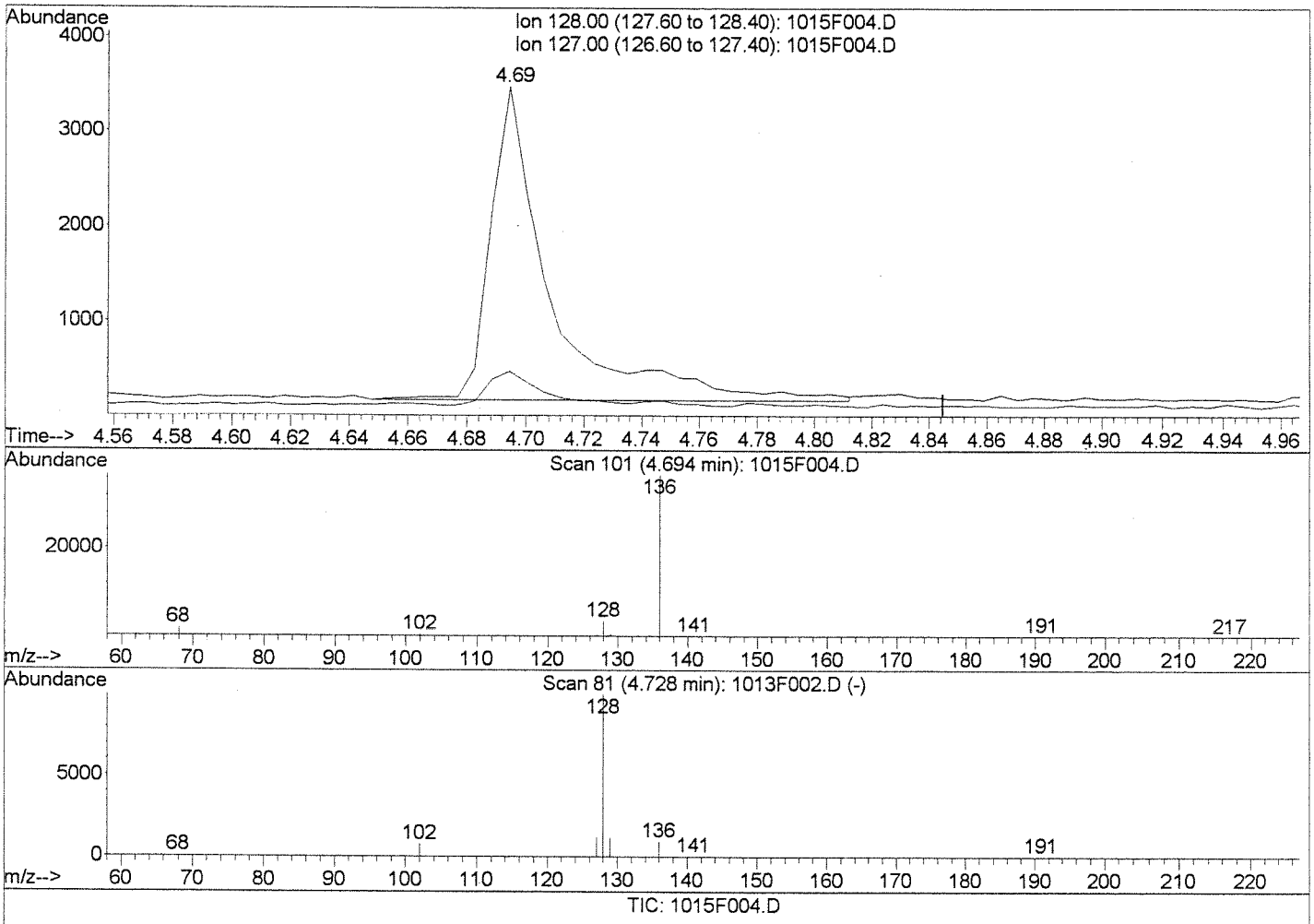


1015F004.D 1015ALK.M Thu Oct 15 10:44:00 2009 Page 3

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\101509\1015F004.D Vial: 4
Acq On : 15 Oct 2009 8:02 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @.004/0.1ug/mL | SVM29-21D Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 15 8:34 2009 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 06:04:30 2009
Response via : Multiple Level Calibration



(2) Naphthalene (T)

4.69min 4.92ng/ml

response 4664

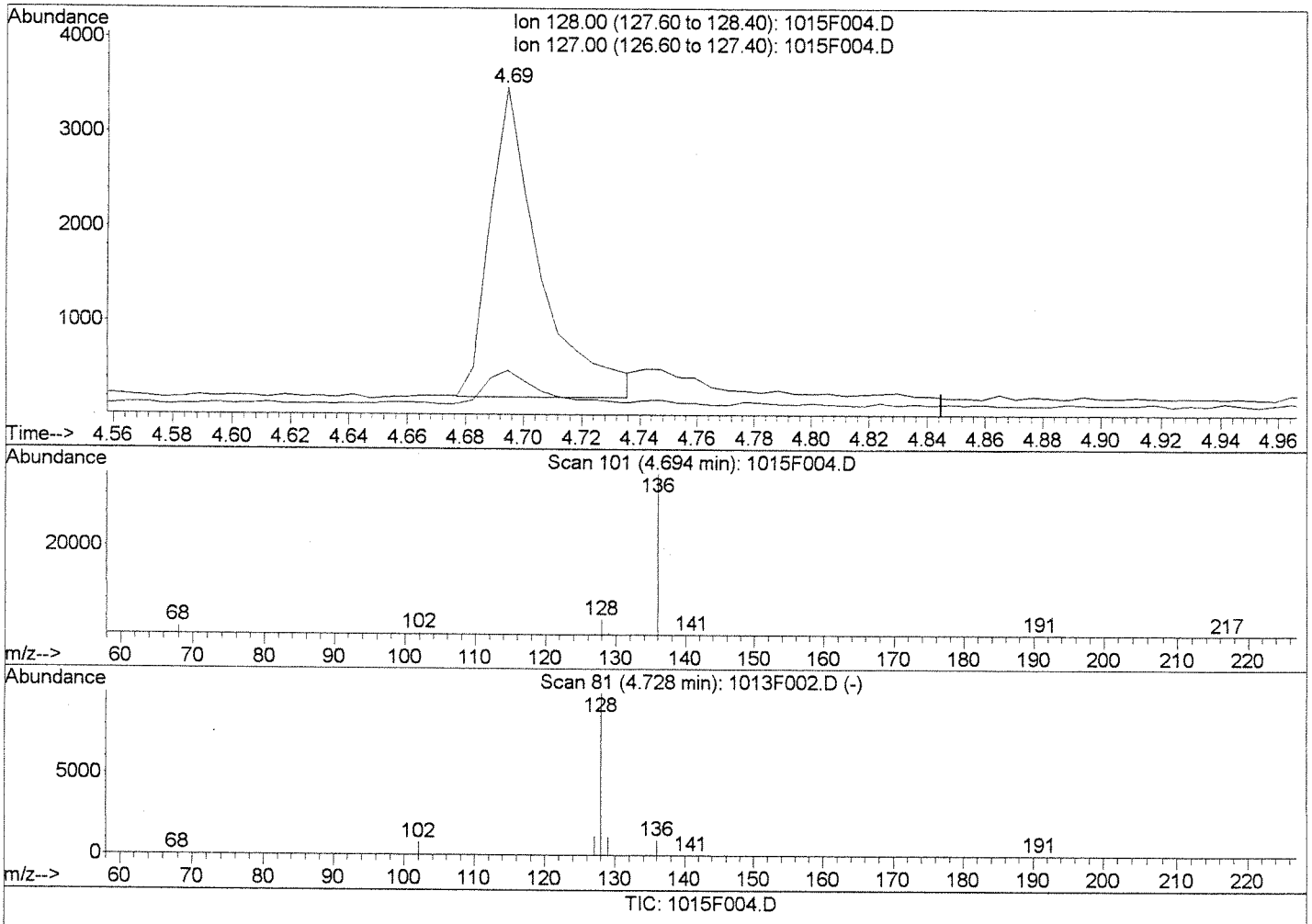
Ion	Exp%	Act%
128.00	100	100
127.00	12.40	10.75
0.00	0.00	0.00
0.00	0.00	0.00

1015F004.D 1015ALK.M Thu Oct 15 10:37:50 2009

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\101509\1015F004.D Vial: 4
Acq On : 15 Oct 2009 8:02 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @.004/0.1ug/mL | SVM29-21D Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 15 10:37 2009 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 06:04:30 2009
Response via : Multiple Level Calibration



(2) Naphthalene (T)

4.69min 4.11ng/ml m

response 3901

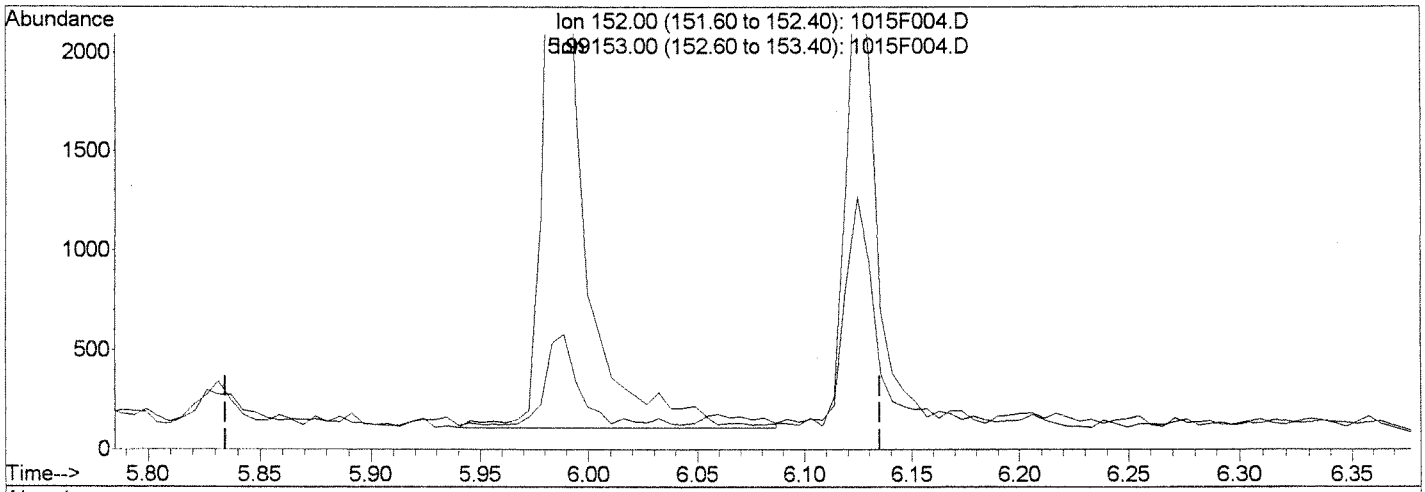
Ion	Exp%	Act%
128.00	100	100
127.00	12.40	13.85
0.00	0.00	0.00
0.00	0.00	0.00

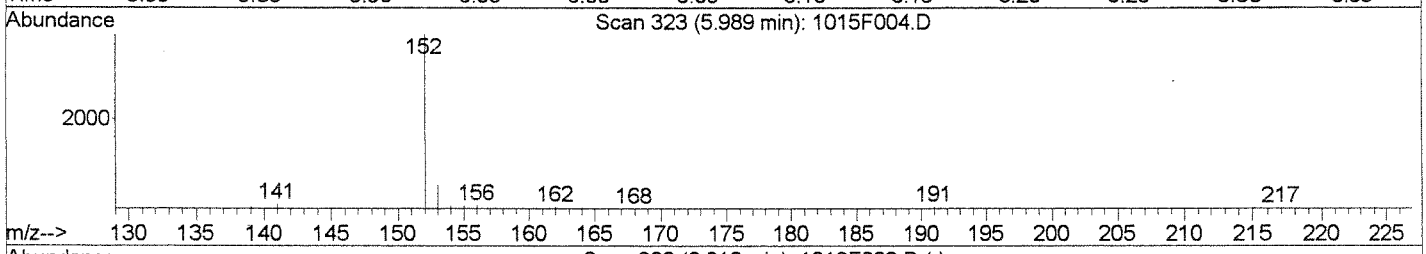
1015F004.D 1015ALK.M Thu Oct 15 10:37:56 2009

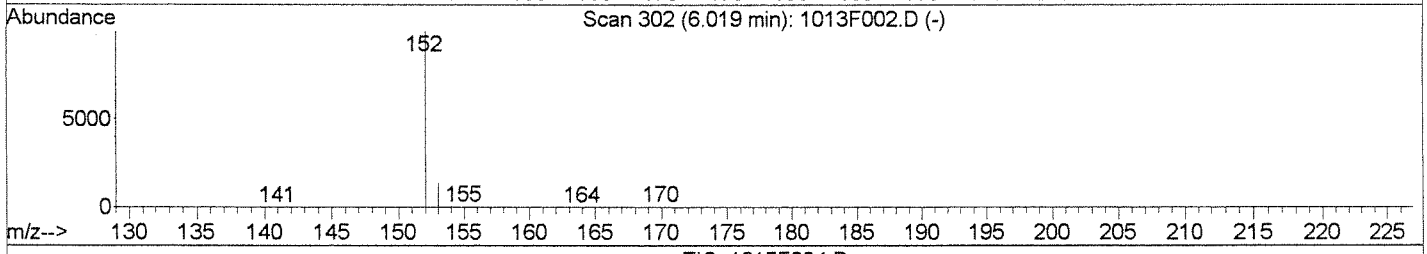
Quantitation Report (Qedit)

Data File : J:\MS11\DATA\101509\1015F004.D Vial: 4
Acq On : 15 Oct 2009 8:02 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @.004/0.1ug/mL | SVM29-21D Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 15 10:37 2009 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 06:04:30 2009
Response via : Multiple Level Calibration







TIC: 1015F004.D

(11) Acenaphthylene (T)

5.99min 4.69ng/ml

response 4133

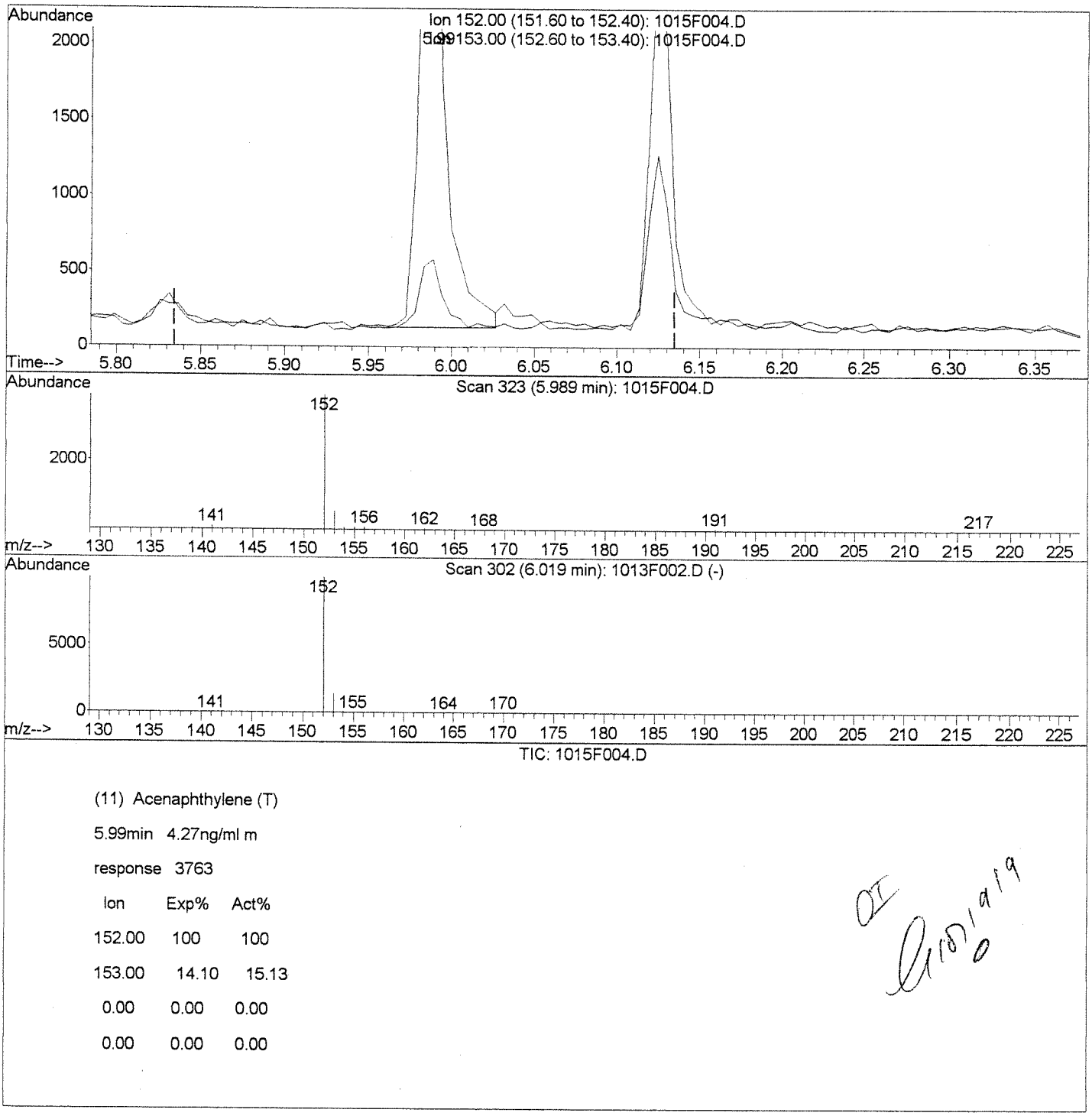
Ion	Exp%	Act%
152.00	100	100
153.00	14.10	12.29
0.00	0.00	0.00
0.00	0.00	0.00

1015F004.D 1015ALK.M Thu Oct 15 10:38:03 2009

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\101509\1015F004.D Vial: 4
Acq On : 15 Oct 2009 8:02 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @.004/0.1ug/mL | SVM29-21D Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 15 10:38 2009 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 06:04:30 2009
Response via : Multiple Level Calibration



TIC: 1015F004.D

(11) Acenaphthylene (T)

5.99min 4.27ng/ml m

response 3763

Ion	Exp%	Act%
152.00	100	100
153.00	14.10	15.13
0.00	0.00	0.00
0.00	0.00	0.00

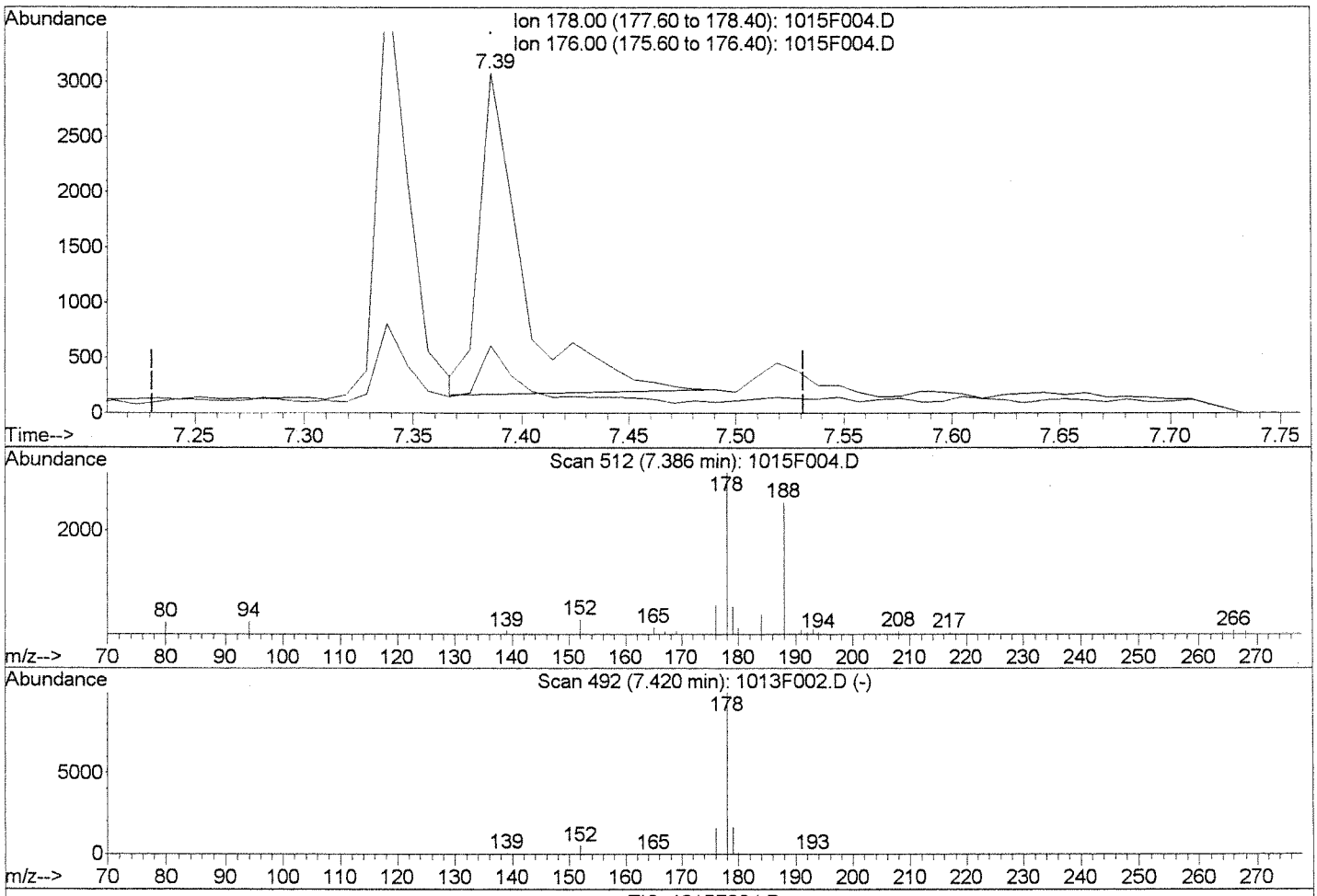
OK 10/15/09

1015F004.D 1015ALK.M Thu Oct 15 10:38:10 2009

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\101509\1015F004.D Vial: 4
Acq On : 15 Oct 2009 8:02 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @.004/0.1ug/mL | SVM29-21D Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 15 10:38 2009 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 06:04:30 2009
Response via : Multiple Level Calibration



TIC: 1015F004.D

(28) Anthracene (T)

7.39min 4.62ng/ml

response 4064

Ion	Exp%	Act%
178.00	100	100
176.00	17.60	17.93
0.00	0.00	0.00
0.00	0.00	0.00

1015F004.D 1015ALK.M Thu Oct 15 10:38:22 2009

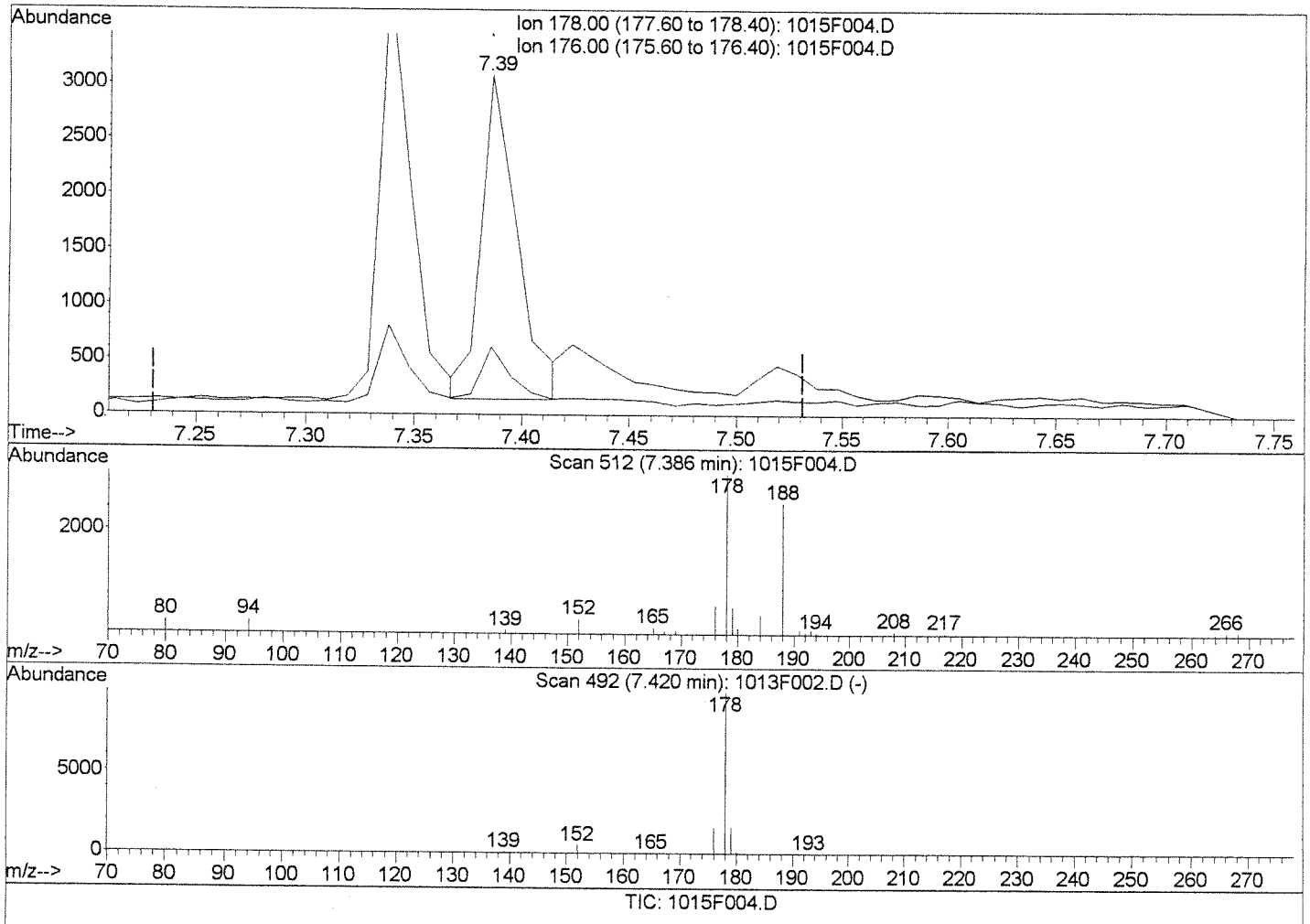
Quantitation Report (Qedit)

Data File : J:\MS11\DATA\101509\1015F004.D
Acq On : 15 Oct 2009 8:02 am
Sample : SIM-PAH ICAL @.004/0.1ug/mL | SVM29-21D
Misc :
MS Integration Params: RTEINT.P
Quant Time: Oct 15 10:38 2009

Vial: 4
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 06:04:30 2009
Response via : Multiple Level Calibration



(28) Anthracene (T)

7.39min 3.91ng/ml m

response 3446

Ion	Exp%	Act%
178.00	100	100
176.00	17.60	19.88
0.00	0.00	0.00
0.00	0.00	0.00

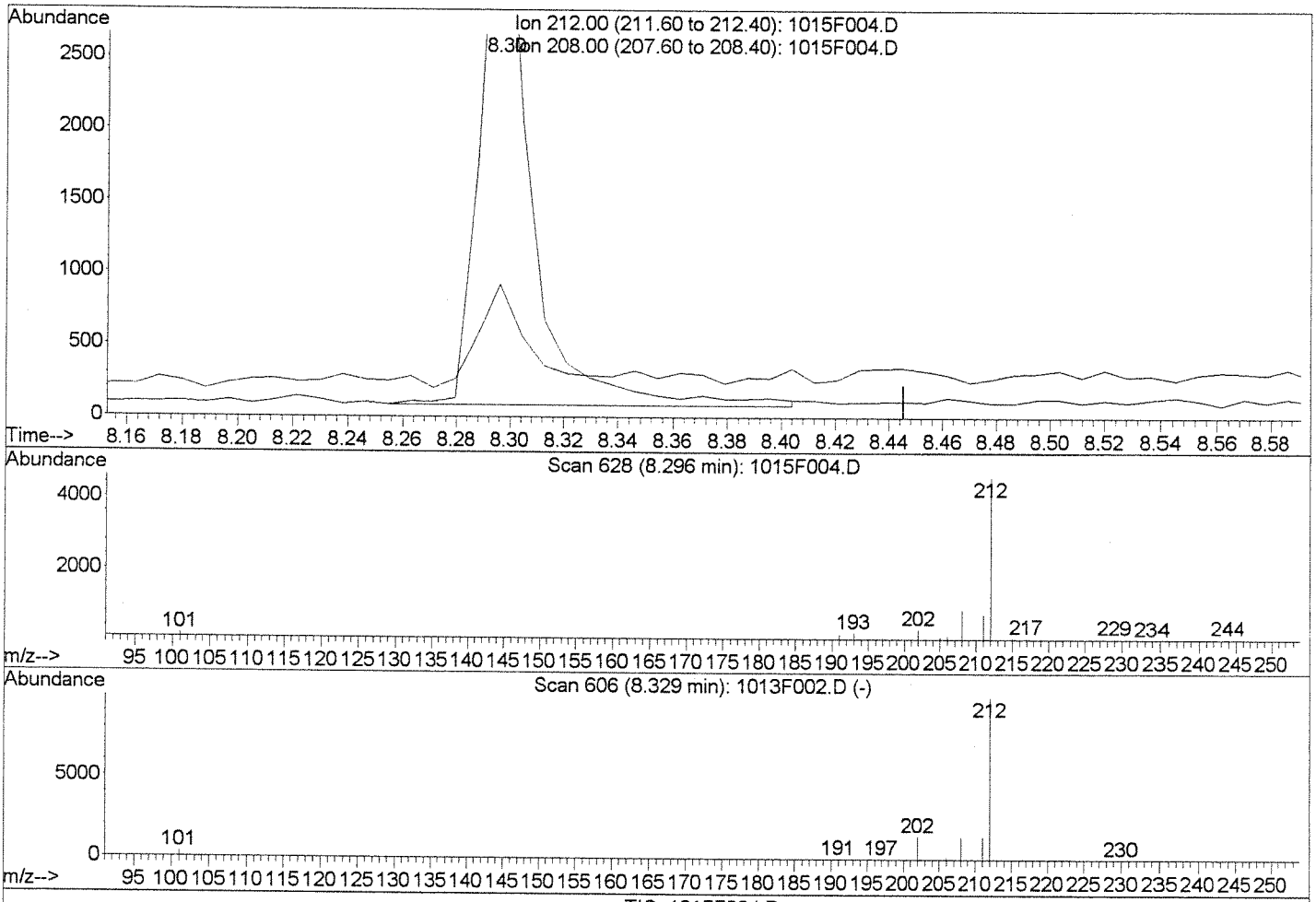
DI 10/19/09

1015F004.D 1015ALK.M Thu Oct 15 10:38:28 2009

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\101509\1015F004.D Vial: 4
Acq On : 15 Oct 2009 8:02 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @.004/0.1ug/mL | SVM29-21D Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 15 10:38 2009 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 06:04:30 2009
Response via : Multiple Level Calibration



TIC: 1015F004.D

(36) Fluoranthene-d10 (S)

8.30min 5.13ng/ml

response 4946

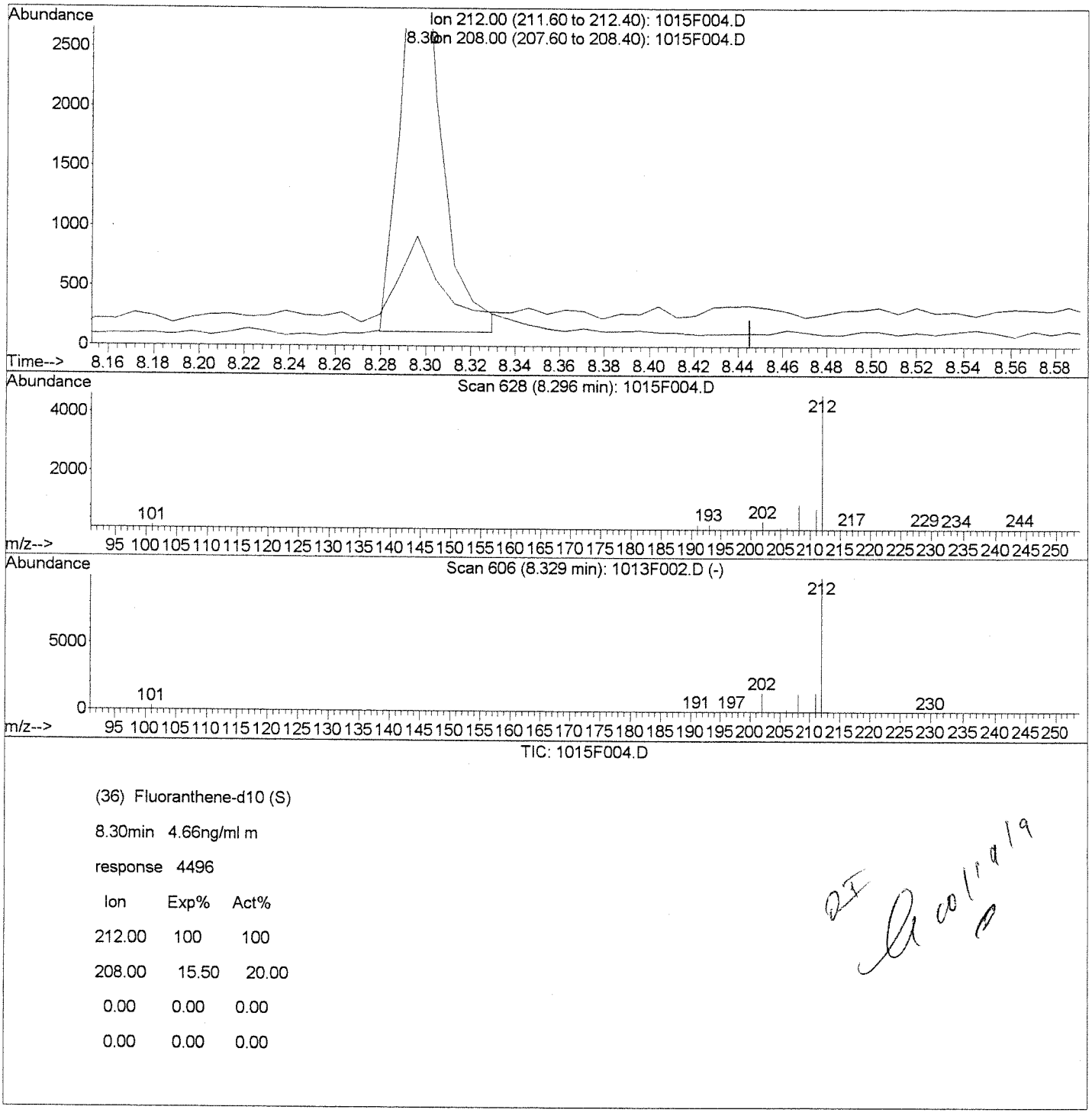
Ion	Exp%	Act%
212.00	100	100
208.00	15.50	14.90
0.00	0.00	0.00
0.00	0.00	0.00

1015F004.D 1015ALK.M Thu Oct 15 10:38:39 2009

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\101509\1015F004.D Vial: 4
Acq On : 15 Oct 2009 8:02 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @.004/0.1ug/mL | SVM29-21D Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 15 10:38 2009 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 06:04:30 2009
Response via : Multiple Level Calibration



TIC: 1015F004.D

(36) Fluoranthene-d10 (S)

8.30min 4.66ng/ml m

response 4496

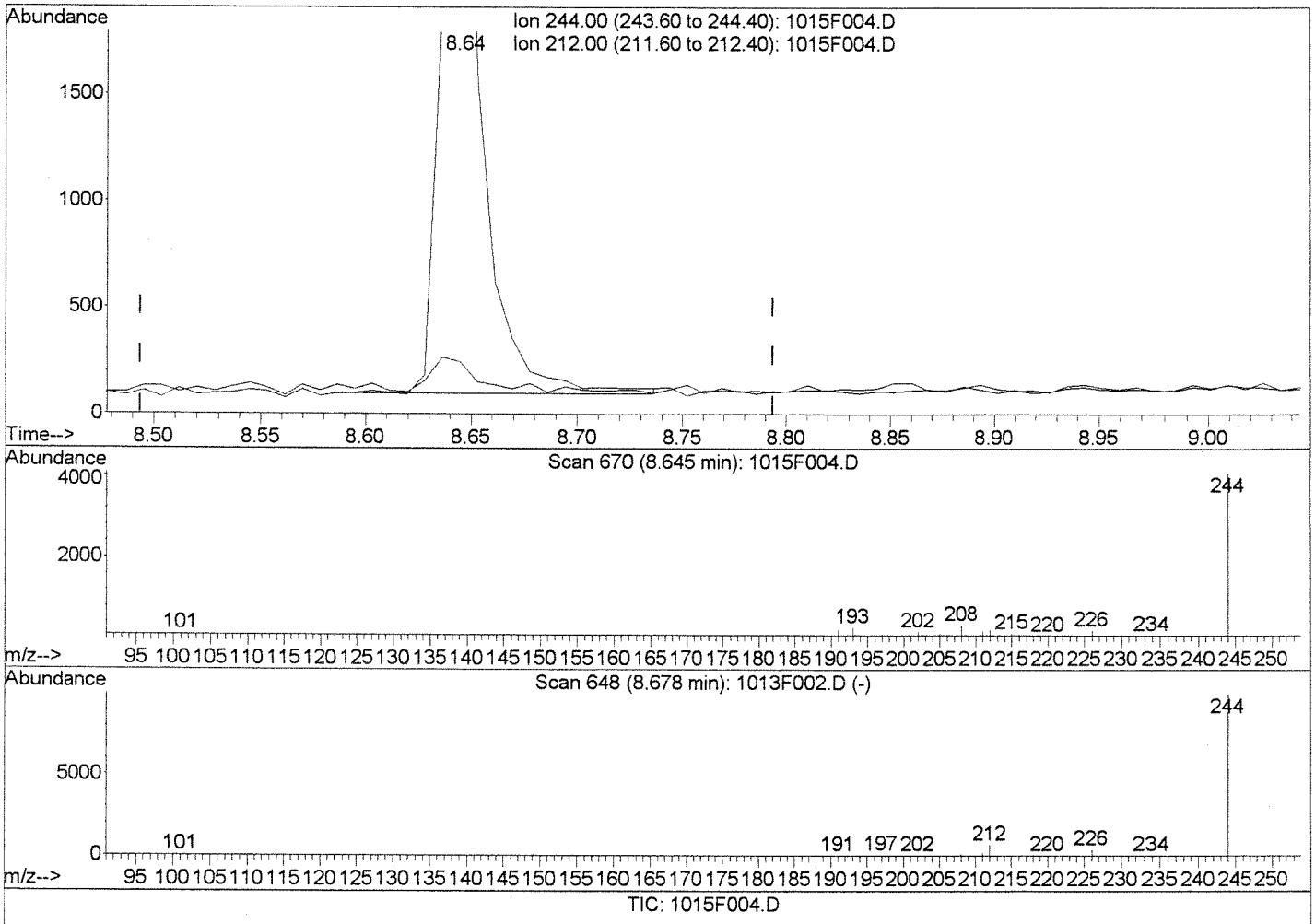
Ion	Exp%	Act%
212.00	100	100
208.00	15.50	20.00
0.00	0.00	0.00
0.00	0.00	0.00

1015F004.D 1015ALK.M Thu Oct 15 10:38:46 2009

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\101509\1015F004.D Vial: 4
Acq On : 15 Oct 2009 8:02 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @.004/0.1ug/mL | SVM29-21D Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 15 10:38 2009 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 06:04:30 2009
Response via : Multiple Level Calibration



TIC: 1015F004.D

(42) Terphenyl-d14 (S)

8.64min 4.96ng/ml

response 4259

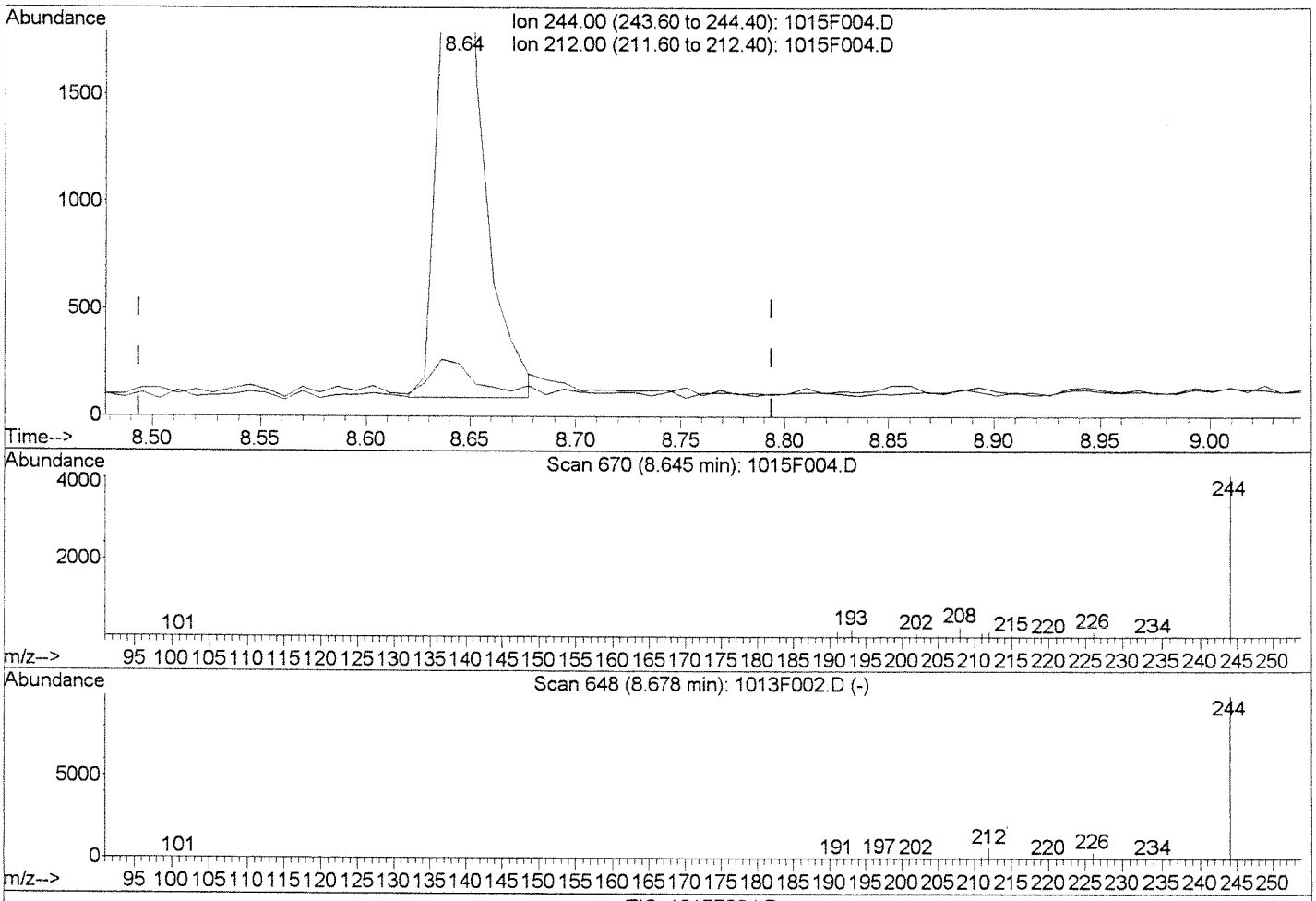
Ion	Exp%	Act%
244.00	100	100
212.00	10.20	3.67
0.00	0.00	0.00
0.00	0.00	0.00

1015F004.D 1015ALK.M Thu Oct 15 10:38:54 2009

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\101509\1015F004.D Vial: 4
Acq On : 15 Oct 2009 8:02 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @.004/0.1ug/mL | SVM29-21D Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 15 10:39 2009 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 06:04:30 2009
Response via : Multiple Level Calibration



(42) Terphenyl-d14 (S)

8.64min 4.86ng/ml m

response 4167

Ion	Exp%	Act%
244.00	100	100
212.00	10.20	6.01
0.00	0.00	0.00
0.00	0.00	0.00

1015F004.D 1015ALK.M Thu Oct 15 10:39:08 2009

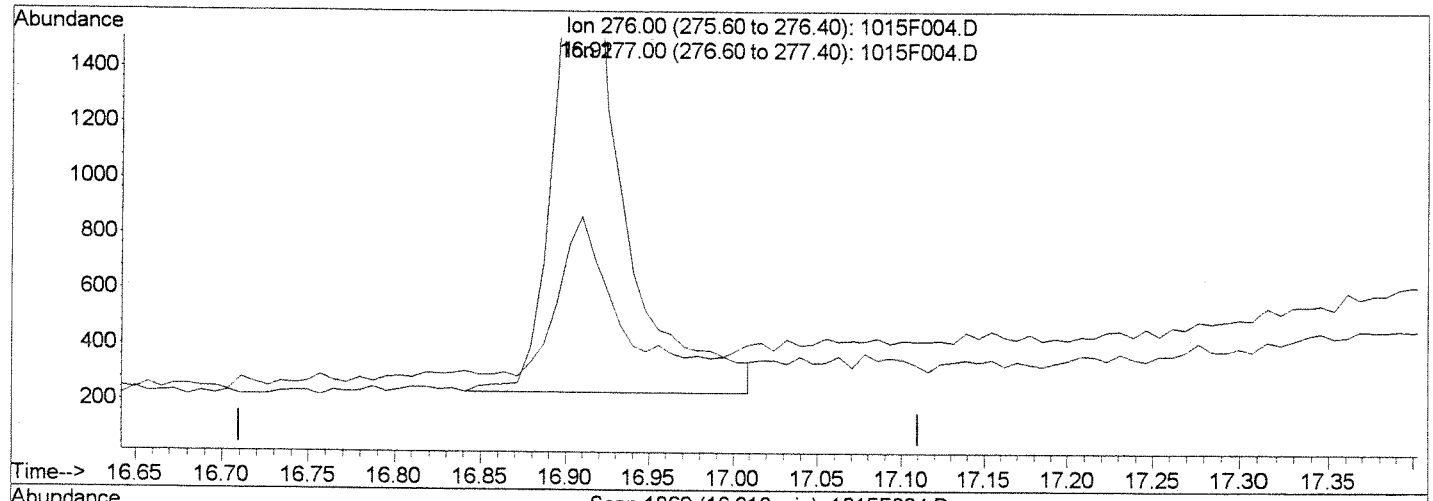
Quantitation Report (Qedit)

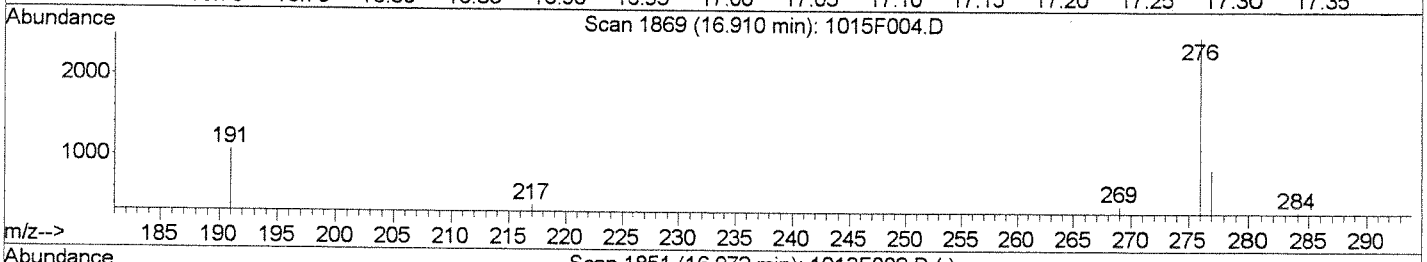
Data File : J:\MS11\DATA\101509\1015F004.D
Acq On : 15 Oct 2009 8:02 am
Sample : SIM-PAH ICAL @.004/0.1ug/mL | SVM29-21D
Misc :
MS Integration Params: RTEINT.P
Quant Time: Oct 15 10:39 2009

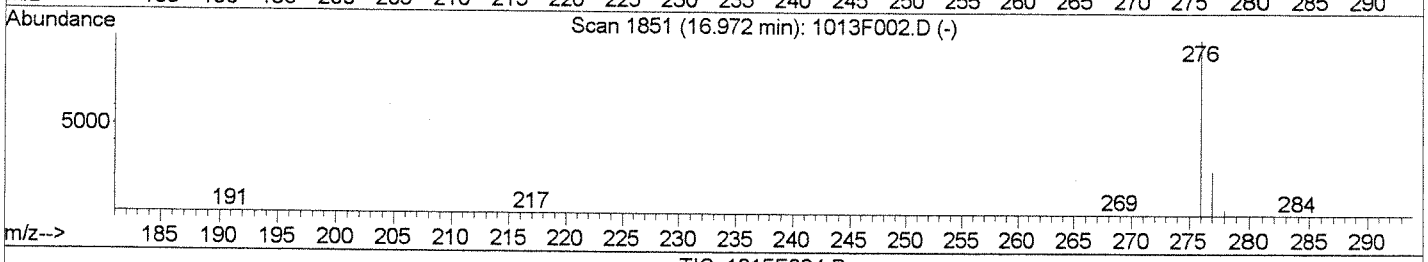
Vial: 4
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 06:04:30 2009
Response via : Multiple Level Calibration







TIC: 1015F004.D

(57) Benzo(g,h,i)perylene (T)

16.91min 4.82ng/ml

response 5283

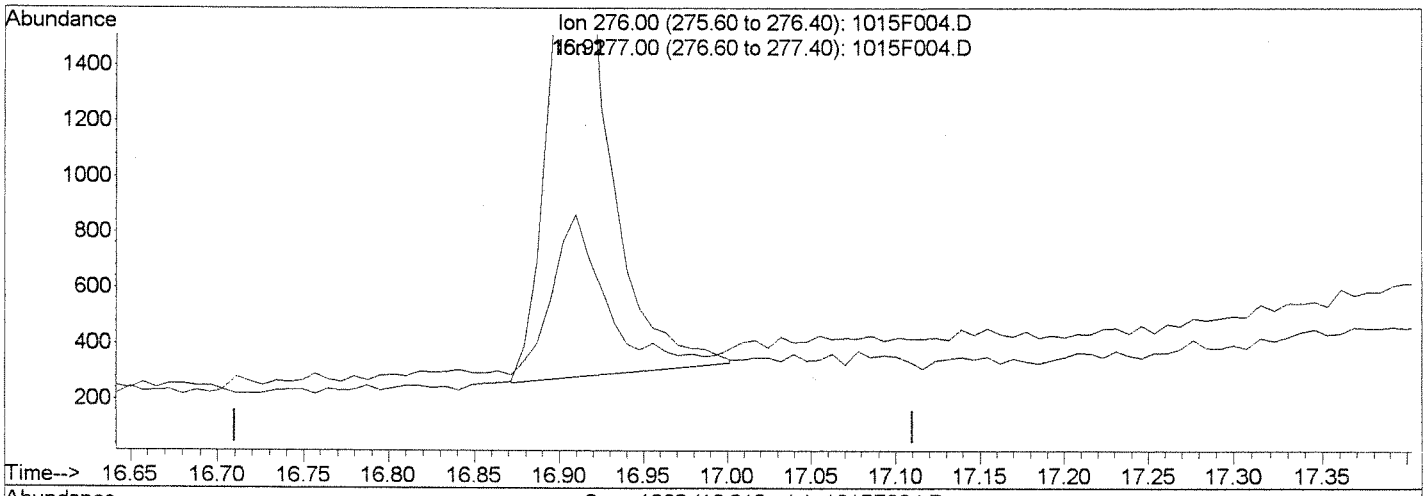
Ion	Exp%	Act%
276.00	100	100
277.00	25.70	24.62
0.00	0.00	0.00
0.00	0.00	0.00

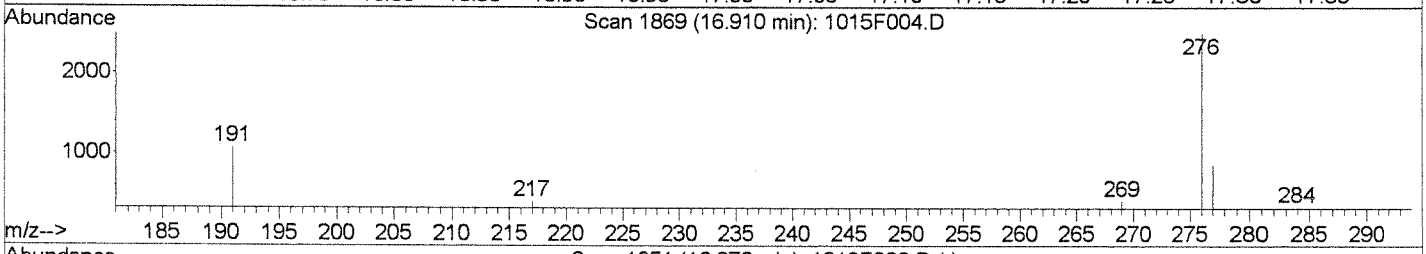
1015F004.D 1015ALK.M Thu Oct 15 10:39:23 2009

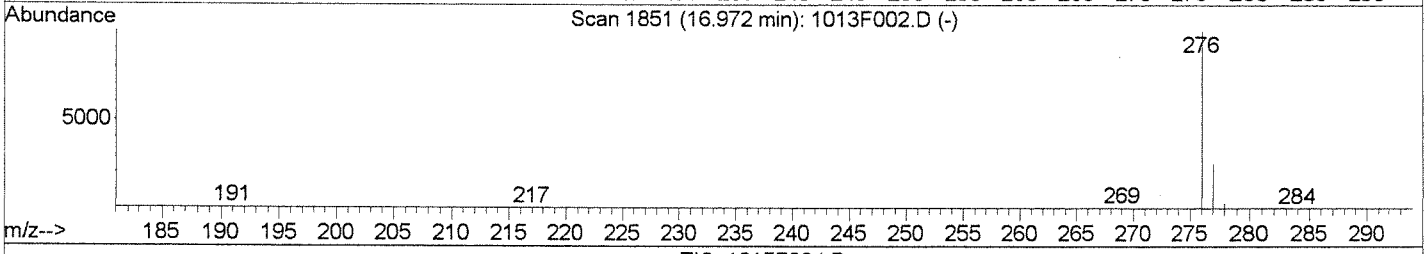
Quantitation Report (Qedit)

Data File : J:\MS11\DATA\101509\1015F004.D Vial: 4
Acq On : 15 Oct 2009 8:02 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @.004/0.1ug/mL | SVM29-21D Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 15 10:39 2009 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 06:04:30 2009
Response via : Multiple Level Calibration







TIC: 1015F004.D

(57) Benzo(g,h,i)perylene (T)

16.91min 4.28ng/ml m

response 4693

Ion	Exp%	Act%
276.00	100	100
277.00	25.70	34.56
0.00	0.00	0.00
0.00	0.00	0.00

0.I 10/15/09

1015F004.D 1015ALK.M Thu Oct 15 10:39:28 2009

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\101509\1015F005.D Vial: 5
Acq On : 15 Oct 2009 8:28 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @.008/0.2ug/mL | SVM29-21E Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 15 08:49:14 2009 Quant Results File: 1015ALK.RES

Quant Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 06:04:30 2009
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

10/19 p

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	4.68	136	189975	200.00	ng/ml	0.00
10) Acenaphthene-d10	6.10	164	103627	200.00	ng/ml	0.00
22) Phenanthrene-d10	7.32	188	156924	200.00	ng/ml	0.00
37) Chrysene-d12	9.84	240	184570	200.00	ng/ml	-0.01
49) Perylene-d12	12.93	264	201106	200.00	ng/ml	-0.02
System Monitoring Compounds						
15) Fluorene-d10	6.53	176	3696	5.63	ng/ml	0.01
Spiked Amount 200.000			Recovery = 2.81%			
20) 2,4,6 Tribromophenol	6.77	330	672	6.19	ng/ml	0.01
Spiked Amount 375.000			Recovery = 1.65%			
36) Fluoranthene-d10	8.30	212	6830	7.16	ng/ml	0.00
Spiked Amount 200.000			Recovery = 3.58%			
42) Terphenyl-d14	8.64	244	5829	7.29	ng/ml	0.00
Spiked Amount 200.000			Recovery = 3.65%			
Target Compounds						Qvalue
2) Naphthalene	4.70	128	7433m	7.97	ng/ml	
3) 2-Methylnaphthalene	5.27	142	4645	6.01	ng/ml	93
4) 1-Methylnaphthalene	5.34	142	5409	6.73	ng/ml	95
5) Biphenyl	5.64	154	5681	4.29	ng/ml	99
6) 2,6-Dimethylnaphthalene	5.77	156	3648	3.82	ng/ml	97
11) Acenaphthylene	5.98	152	6986m	8.04	ng/ml	
12) Acenaphthene	6.12	154	4229m	7.70	ng/ml	
13) Dibenzofuran	6.28	168	5673	6.59	ng/ml	67
14) 2,3,5-Trimethylnaphthalene	6.44	170	3649m	6.00	ng/ml	
16) Fluorene	6.56	166	4704	5.98	ng/ml	91
21) Pentachlorophenol	7.20	266	5928	91.59	ng/ml	99
23) Dibenzothiophene	7.24	184	6050	7.39	ng/ml	89
27) Phenanthrene	7.34	178	6899	7.25	ng/ml	93
28) Anthracene	7.39	178	6648m	7.64	ng/ml	
29) Carbazole	7.54	167	5491	7.62	ng/ml	99
30) 1-Methylphenanthrene	7.84	192	4929	6.23	ng/ml	96
35) Fluoranthene	8.31	202	7801	7.16	ng/ml	89
38) Pyrene	8.50	202	8006	7.46	ng/ml	46
43) Benz(a)anthracene	9.84	228	7505	7.28	ng/ml	97
44) Chrysene	9.88	228	7910	7.85	ng/ml	97
50) Benzo(b)fluoranthene	11.91	252	7955	7.22	ng/ml	91
51) Benzo(k)fluoranthene	11.98	252	8021	7.53	ng/ml	90
52) Benzo(e)pyrene	12.62	252	7414	7.34	ng/ml	97
53) Benzo(a)pyrene	12.76	252	7232	7.31	ng/ml	98
54) Perylene	13.01	252	7359	7.76	ng/ml	96

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\101509\1015F005.D Vial: 5
Acq On : 15 Oct 2009 8:28 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @.008/0.2ug/mL | SVM29-21E Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 15 08:49:14 2009 Quant Results File: 1015ALK.RES

Quant Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 06:04:30 2009
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

10/19/09

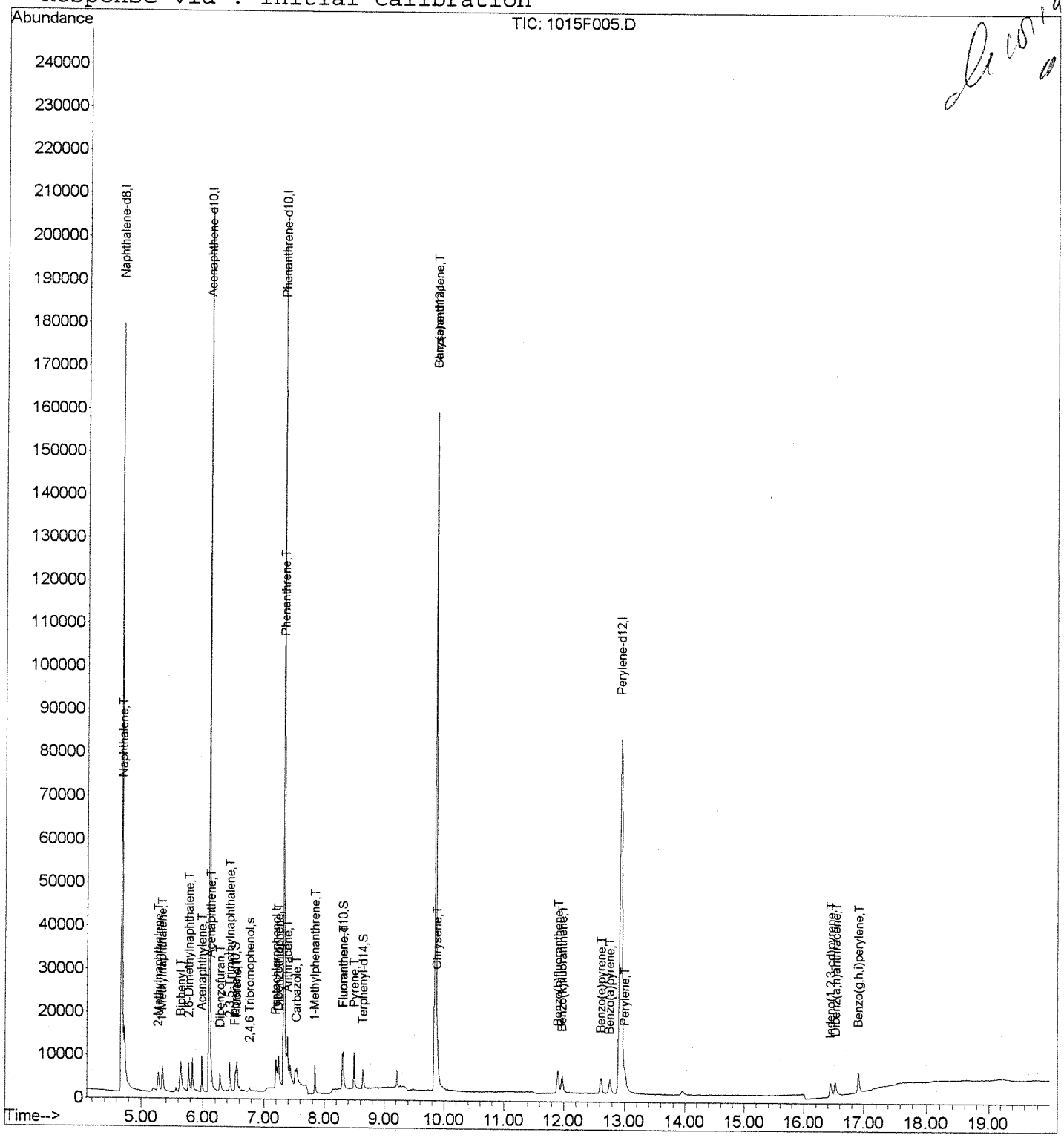
	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
55)	Indeno(1,2,3-cd)pyrene	16.44	276	6486	7.85	ng/ml	98
56)	Dibenz(a,h)anthracene	16.53	278	7047	7.70	ng/ml	95
57)	Benzo(g,h,i)perylene	16.90	276	8511	8.31	ng/ml	95

(#) = qualifier out of range (m) = manual integration
1015F005.D 1015ALK.M Thu Oct 15 10:44:01 2009 Page 2

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\101509\1015F005.D Vial: 5
Acq On : 15 Oct 2009 8:28 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @.008/0.2ug/mL | SVM29-21E Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 15 10:40 2009 Quant Results File: 1015ALK.RES

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 06:04:30 2009
Response via : Initial Calibration



1015F005.D 1015ALK.M Thu Oct 15 10:44:02 2009 Page 3

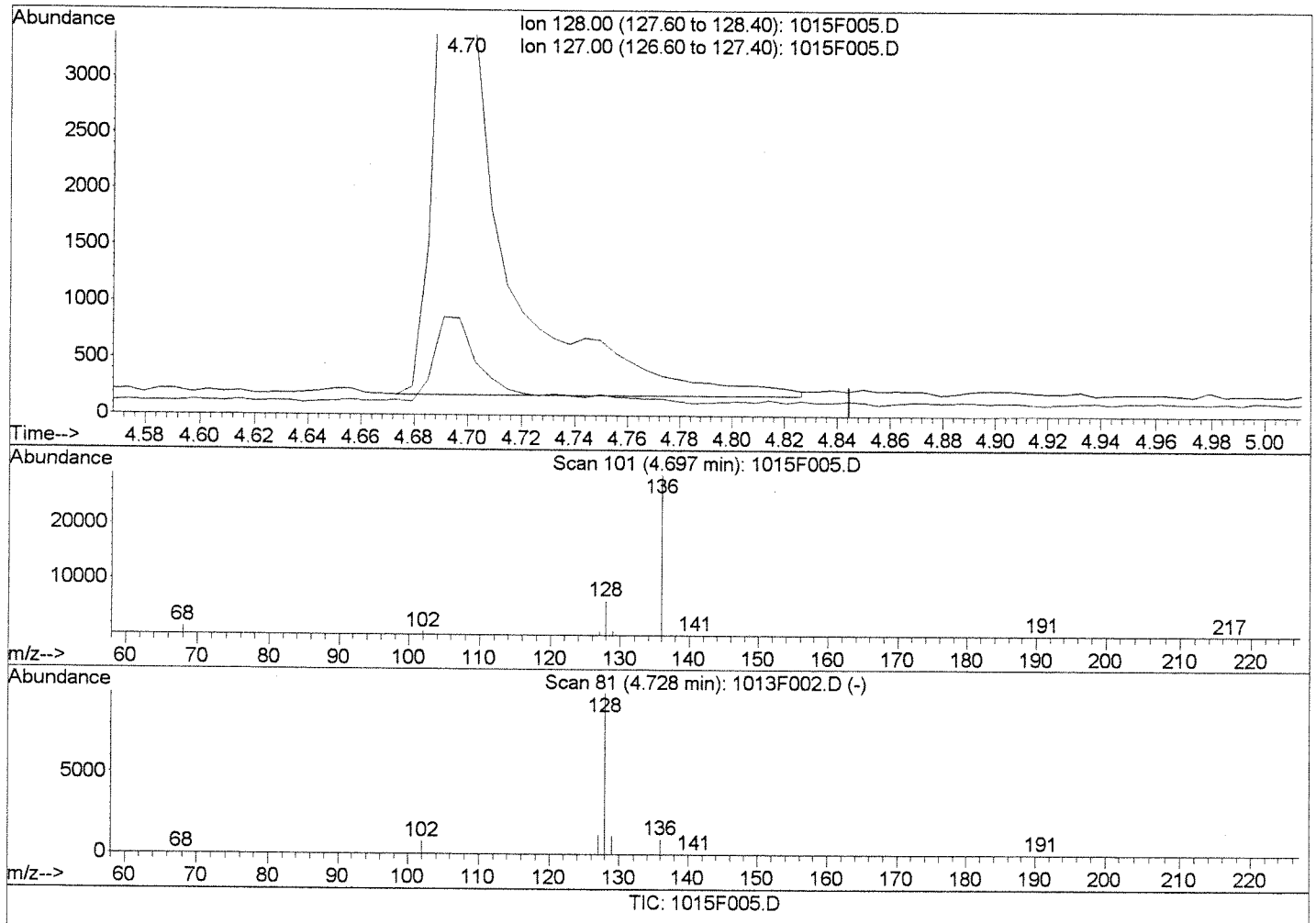
Quantitation Report (Qedit)

Data File : J:\MS11\DATA\101509\1015F005.D
Acq On : 15 Oct 2009 8:28 am
Sample : SIM-PAH ICAL @.008/0.2ug/mL | SVM29-21E
Misc :
MS Integration Params: RTEINT.P
Quant Time: Oct 15 8:49 2009

Vial: 5
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 06:04:30 2009
Response via : Multiple Level Calibration



TIC: 1015F005.D

(2) Naphthalene (T)

4.70min 9.01ng/ml

response 8398

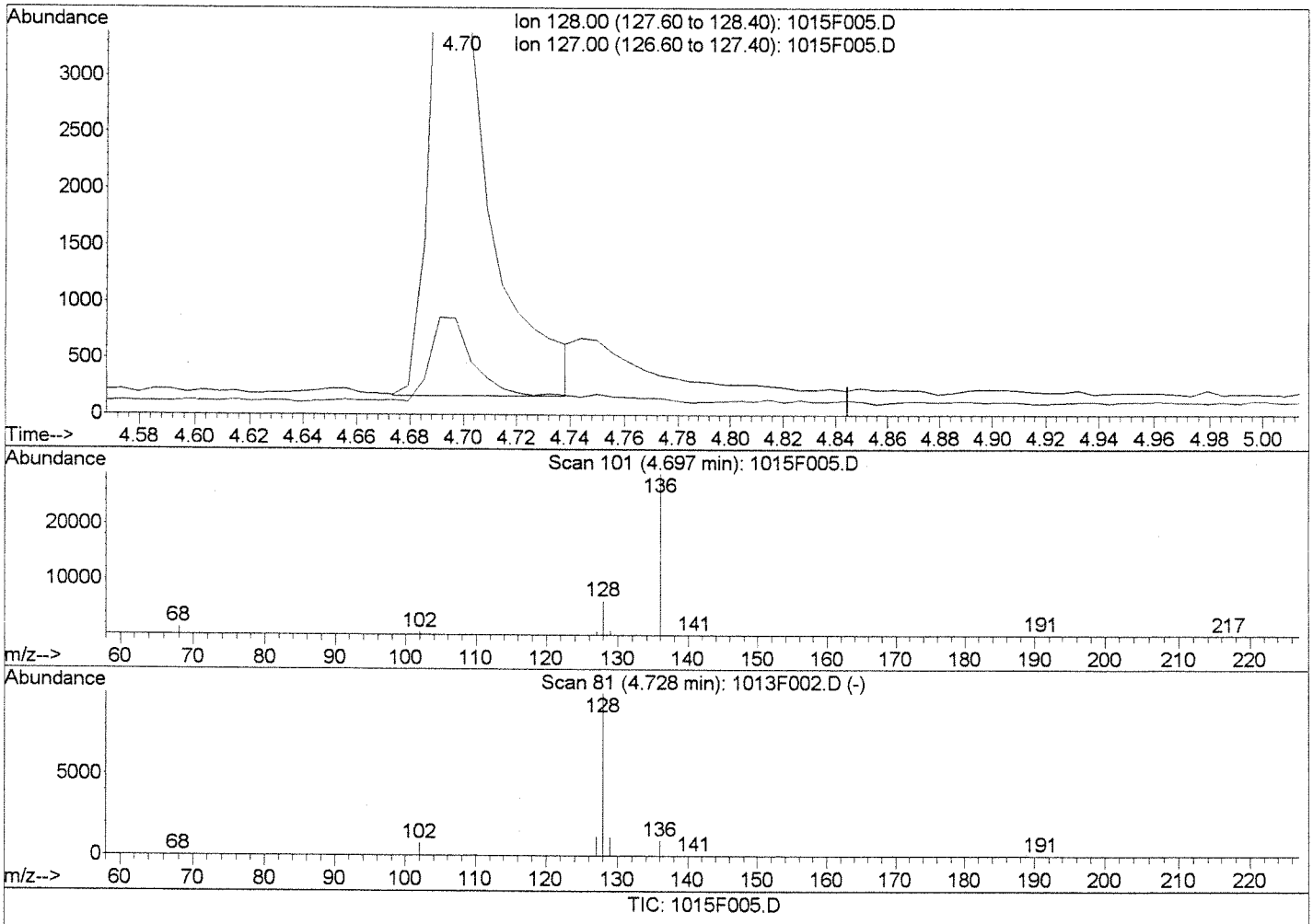
Ion	Exp%	Act%
128.00	100	100
127.00	12.40	11.74
0.00	0.00	0.00
0.00	0.00	0.00

1015F005.D 1015ALK.M Thu Oct 15 10:39:37 2009

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\101509\1015F005.D Vial: 5
Acq On : 15 Oct 2009 8:28 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @.008/0.2ug/mL | SVM29-21E Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 15 10:39 2009 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 06:04:30 2009
Response via : Multiple Level Calibration



TIC: 1015F005.D

(2) Naphthalene (T)

4.70min 7.97ng/ml m

response 7433

Ion	Exp%	Act%
128.00	100	100
127.00	12.40	13.48
0.00	0.00	0.00
0.00	0.00	0.00

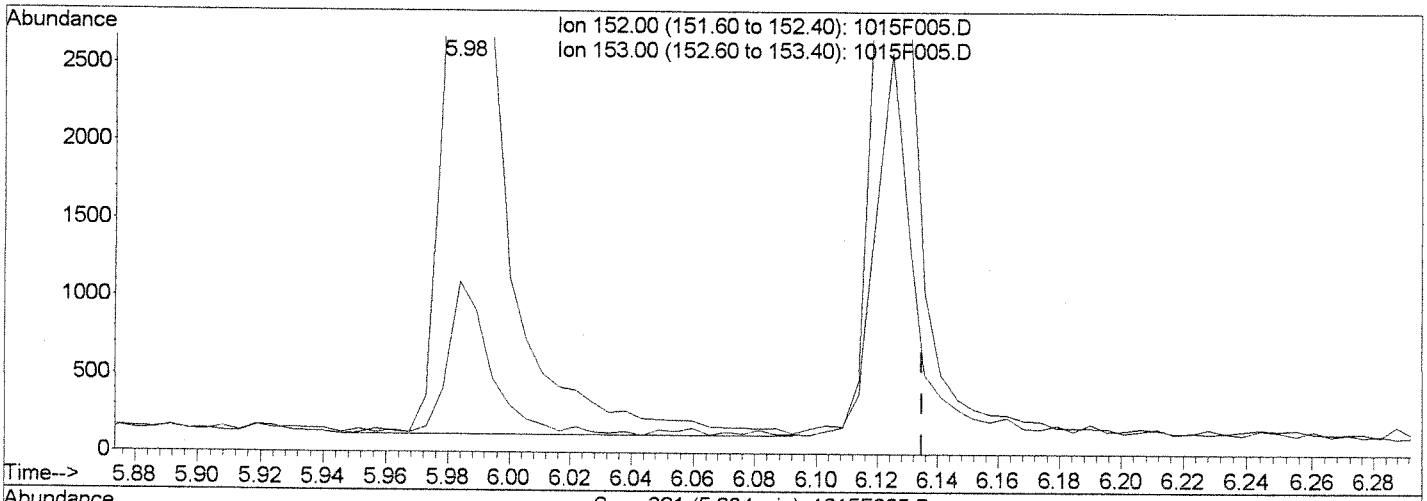
1015F005.D 1015ALK.M Thu Oct 15 10:39:49 2009

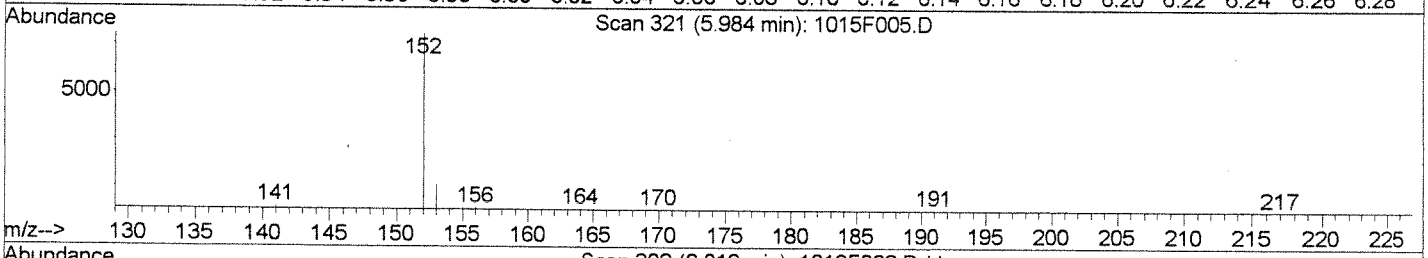
Quantitation Report (Qedit)

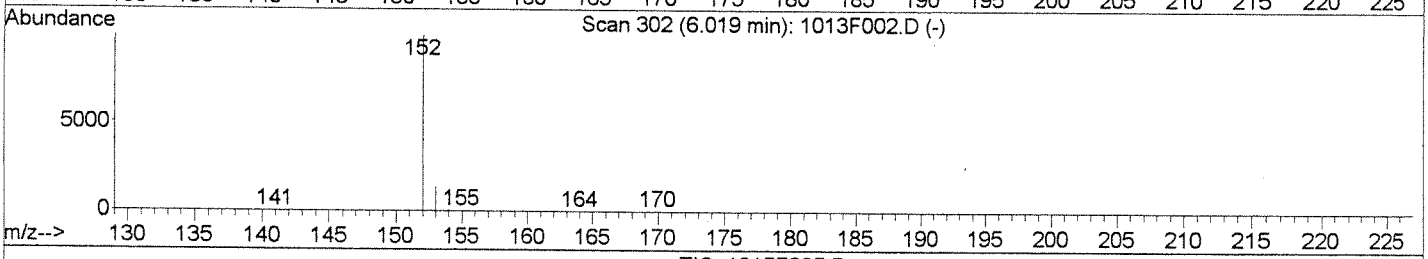
Data File : J:\MS11\DATA\101509\1015F005.D
Acq On : 15 Oct 2009 8:28 am
Sample : SIM-PAH ICAL @.008/0.2ug/mL | SVM29-21E
Misc :
MS Integration Params: RTEINT.P
Quant Time: Oct 15 10:39 2009

Vial: 5
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 06:04:30 2009
Response via : Multiple Level Calibration







TIC: 1015F005.D

(11) Acenaphthylene (T)

5.98min 8.38ng/ml

response 7281

Ion	Exp%	Act%
152.00	100	100
153.00	14.10	13.26
0.00	0.00	0.00
0.00	0.00	0.00

1015F005.D 1015ALK.M Thu Oct 15 10:39:58 2009

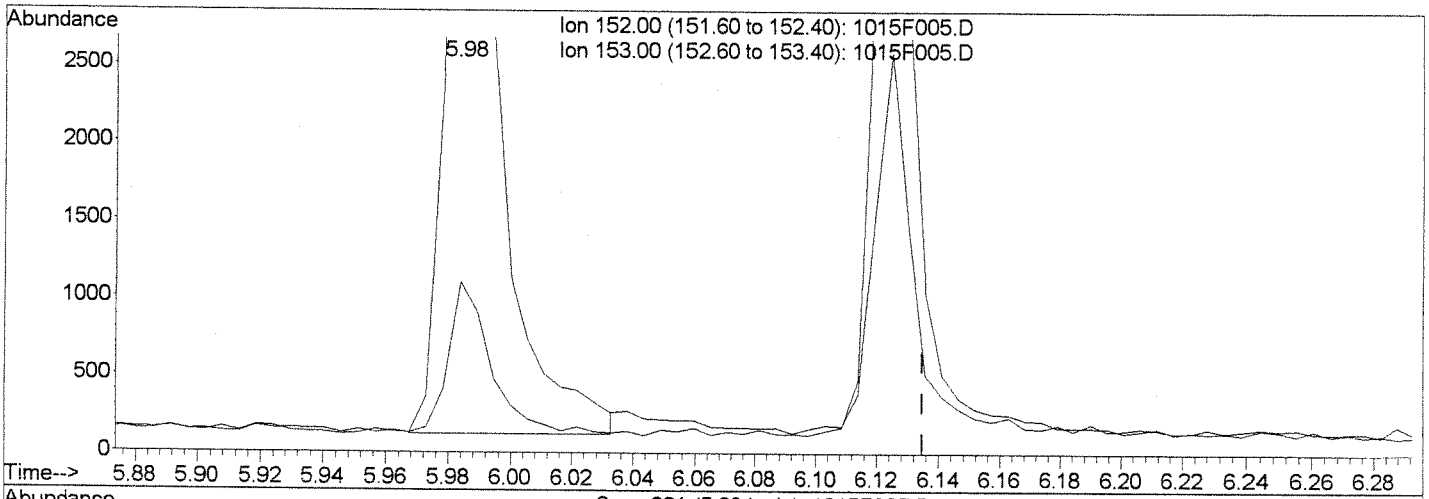
Quantitation Report (Qedit)

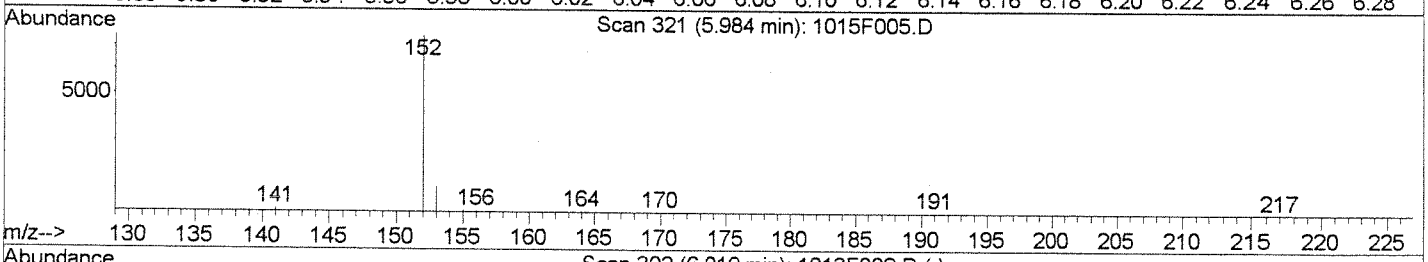
Data File : J:\MS11\DATA\101509\1015F005.D
Acq On : 15 Oct 2009 8:28 am
Sample : SIM-PAH ICAL @.008/0.2ug/mL | SVM29-21E
Misc :
MS Integration Params: RTEINT.P
Quant Time: Oct 15 10:40 2009

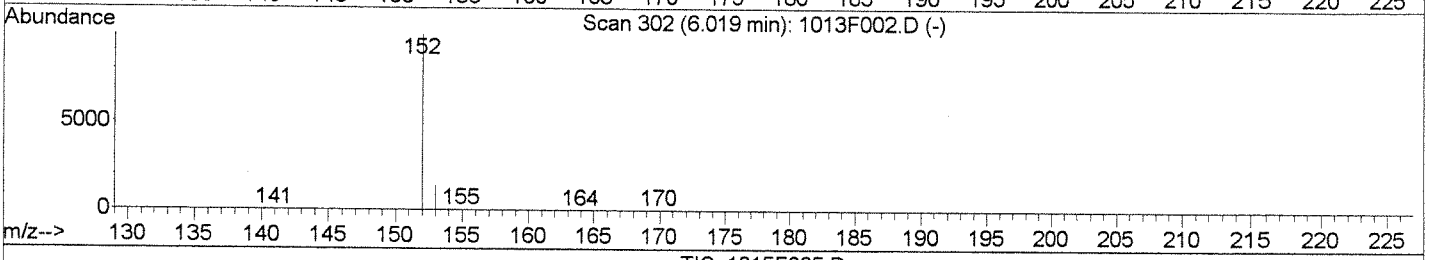
Vial: 5
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 06:04:30 2009
Response via : Multiple Level Calibration







TIC: 1015F005.D

(11) Acenaphthylene (T)

5.98min 8.04ng/ml m

response 6986

Ion	Exp%	Act%
152.00	100	100
153.00	14.10	14.71
0.00	0.00	0.00
0.00	0.00	0.00

QI 10/19/09

1015F005.D 1015ALK.M Thu Oct 15 10:40:03 2009

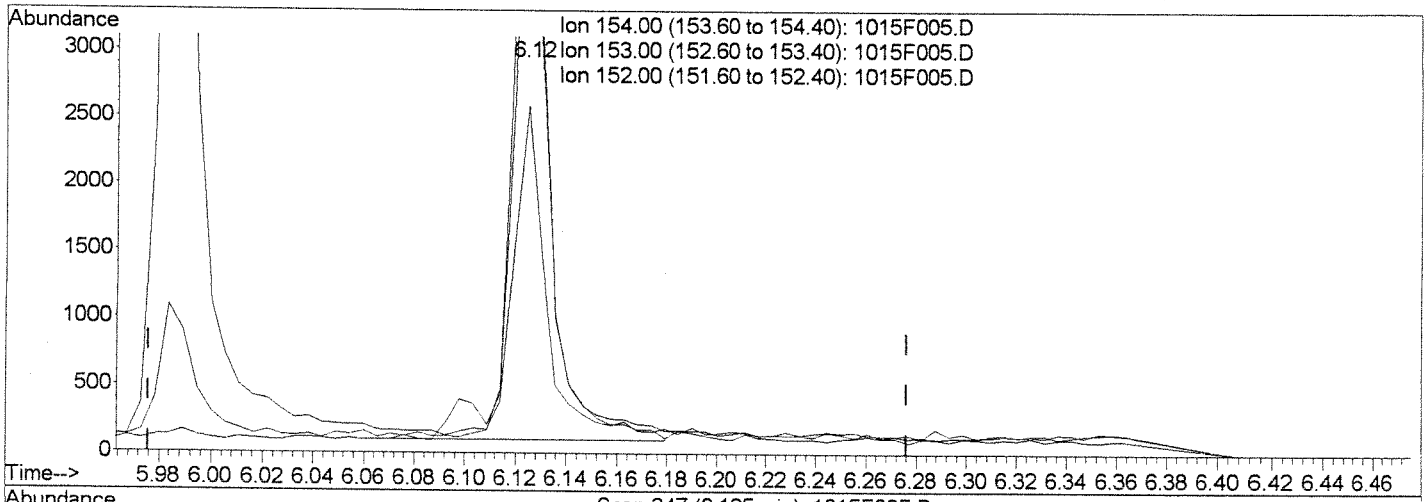
Quantitation Report (Qedit)

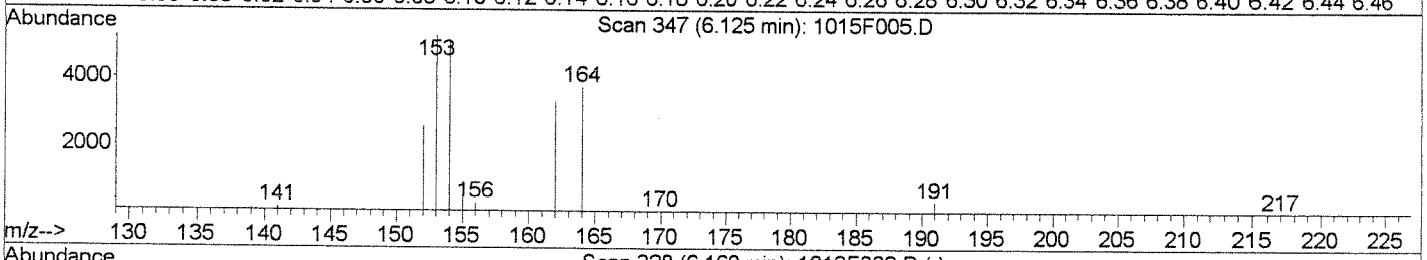
Data File : J:\MS11\DATA\101509\1015F005.D
Acq On : 15 Oct 2009 8:28 am
Sample : SIM-PAH ICAL @.008/0.2ug/mL | SVM29-21E
Misc :
MS Integration Params: RTEINT.P
Quant Time: Oct 15 10:40 2009

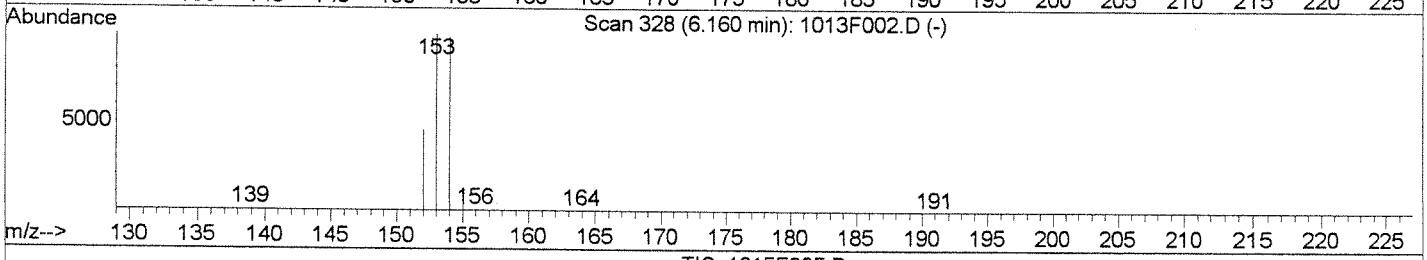
Vial: 5
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 06:04:30 2009
Response via : Multiple Level Calibration







TIC: 1015F005.D

(12) Acenaphthene (T)

6.12min 8.27ng/ml

response 4543

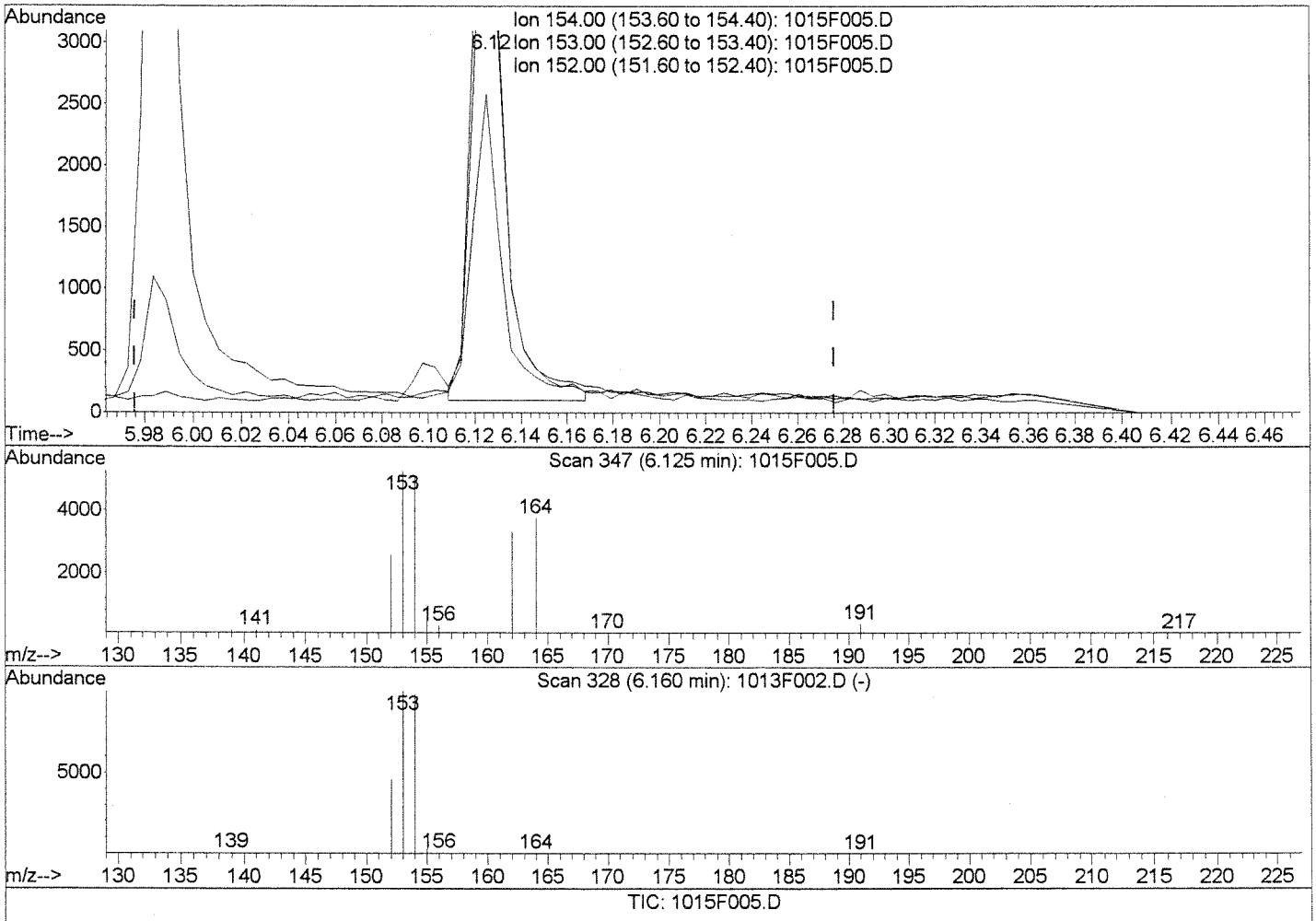
Ion	Exp%	Act%
154.00	100	100
153.00	107.80	101.29
152.00	54.70	47.60
0.00	0.00	0.00

1015F005.D 1015ALK.M Thu Oct 15 10:40:09 2009

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\101509\1015F005.D Vial: 5
Acq On : 15 Oct 2009 8:28 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @.008/0.2ug/mL | SVM29-21E Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 15 10:40 2009 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 06:04:30 2009
Response via : Multiple Level Calibration



TIC: 1015F005.D

(12) Acenaphthene (T)

6.12min 7.70ng/ml m

response 4229

Ion	Exp%	Act%
154.00	100	100
153.00	107.80	102.49
152.00	54.70	50.29
0.00	0.00	0.00

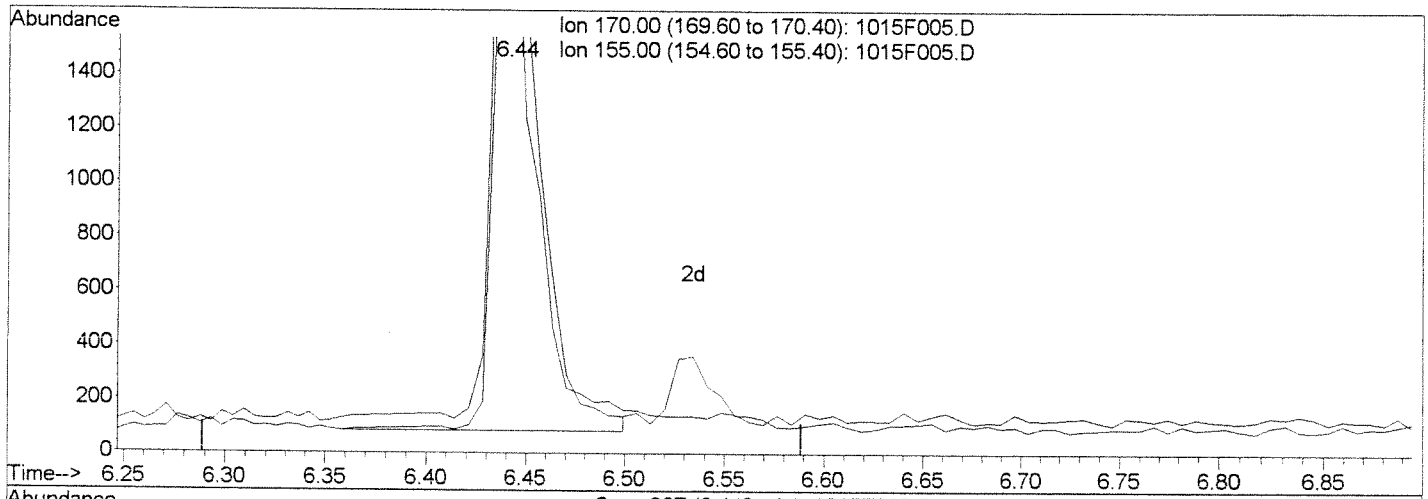
10/15/09

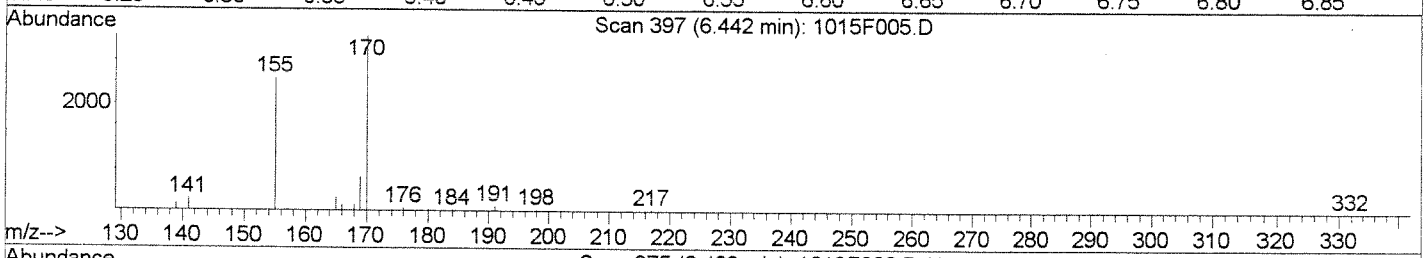
1015F005.D 1015ALK.M Thu Oct 15 10:40:20 2009

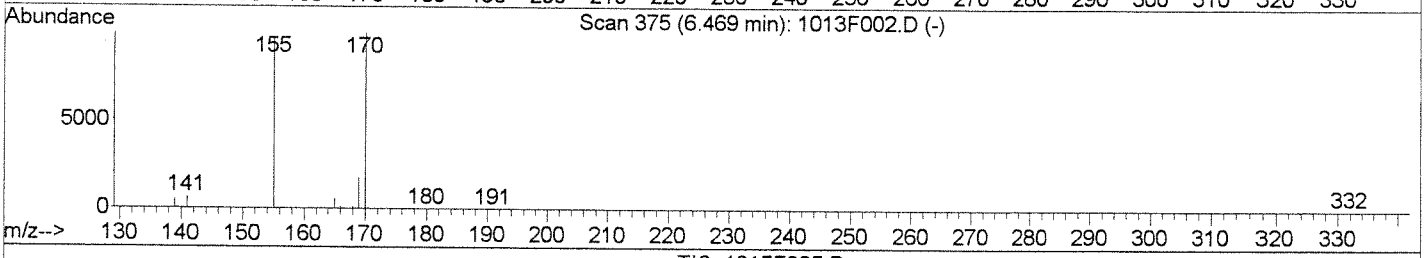
Quantitation Report (Qedit)

Data File : J:\MS11\DATA\101509\1015F005.D Vial: 5
Acq On : 15 Oct 2009 8:28 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @.008/0.2ug/mL | SVM29-21E Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 15 10:40 2009 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 06:04:30 2009
Response via : Multiple Level Calibration







TIC: 1015F005.D

(14) 2,3,5-Trimethylnaphthalene (T)

6.44min 8.02ng/ml

response 4874

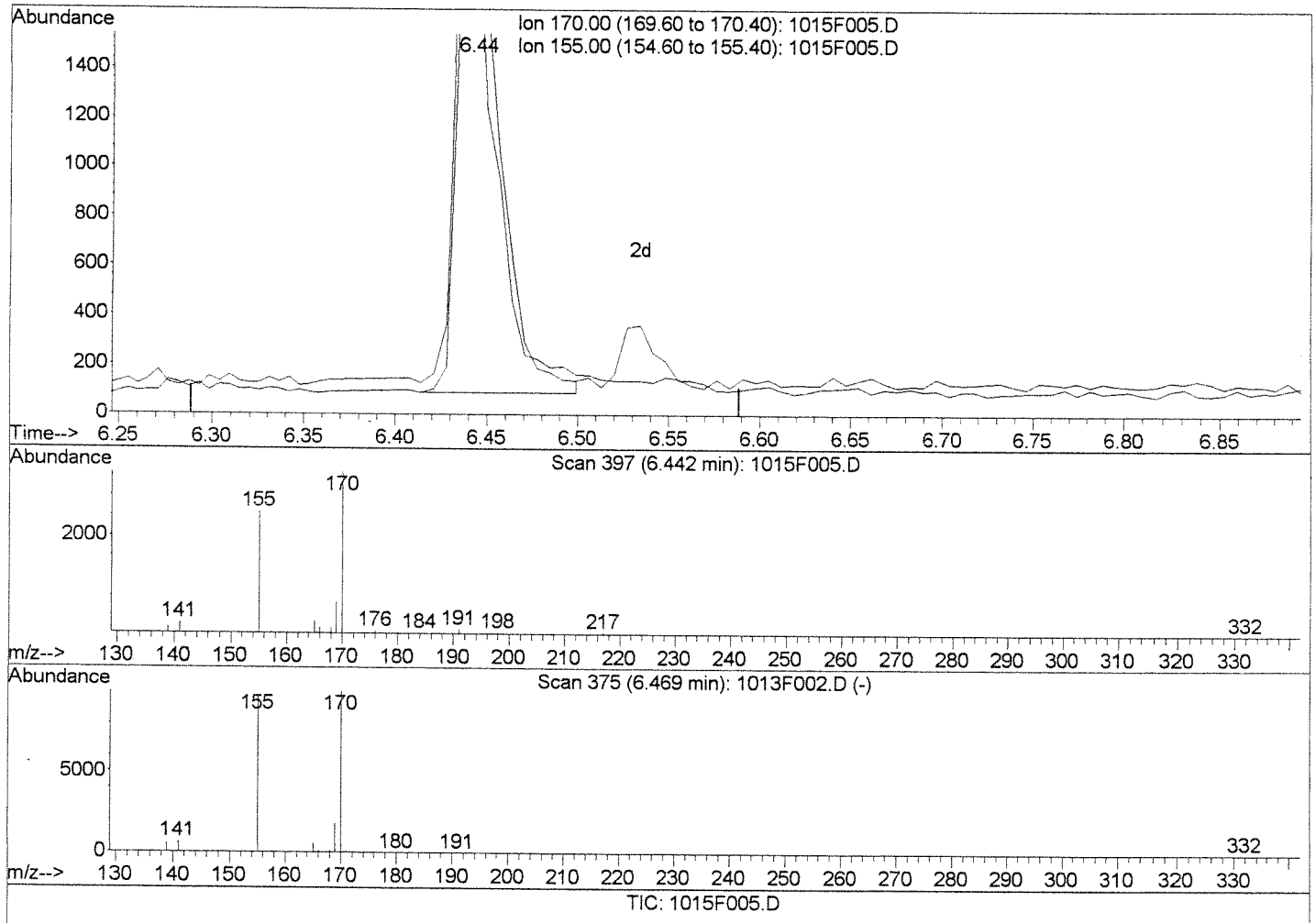
Ion	Exp%	Act%
170.00	100	100
155.00	78.20	73.71
0.00	0.00	0.00
0.00	0.00	0.00

1015F005.D 1015ALK.M Thu Oct 15 10:40:28 2009

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\101509\1015F005.D Vial: 5
Acq On : 15 Oct 2009 8:28 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @.008/0.2ug/mL | SVM29-21E Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 15 10:40 2009 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 06:04:30 2009
Response via : Multiple Level Calibration



(14) 2,3,5-Trimethylnaphthalene (T)

6.44min 6.00ng/ml m

response 3649

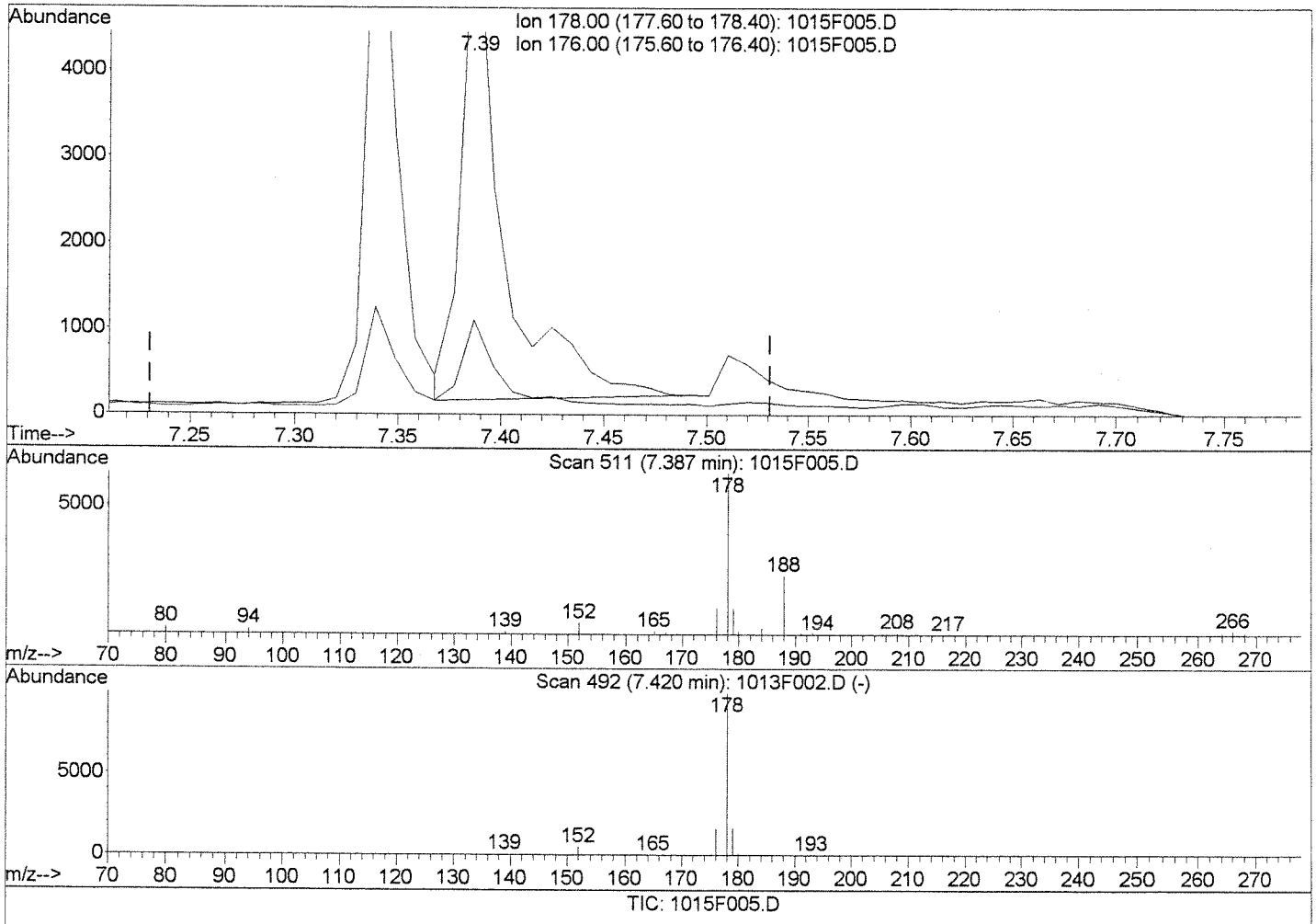
Ion	Exp%	Act%
170.00	100	100
155.00	78.20	75.80
0.00	0.00	0.00
0.00	0.00	0.00

1015F005.D 1015ALK.M Thu Oct 15 10:40:33 2009

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\101509\1015F005.D Vial: 5
Acq On : 15 Oct 2009 8:28 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @.008/0.2ug/mL | SVM29-21E Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 15 10:40 2009 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 06:04:30 2009
Response via : Multiple Level Calibration



TIC: 1015F005.D

(28) Anthracene (T)

7.39min 8.93ng/ml

response 7769

Ion	Exp%	Act%
178.00	100	100
176.00	17.60	16.14
0.00	0.00	0.00
0.00	0.00	0.00

1015F005.D 1015ALK.M Thu Oct 15 10:40:42 2009

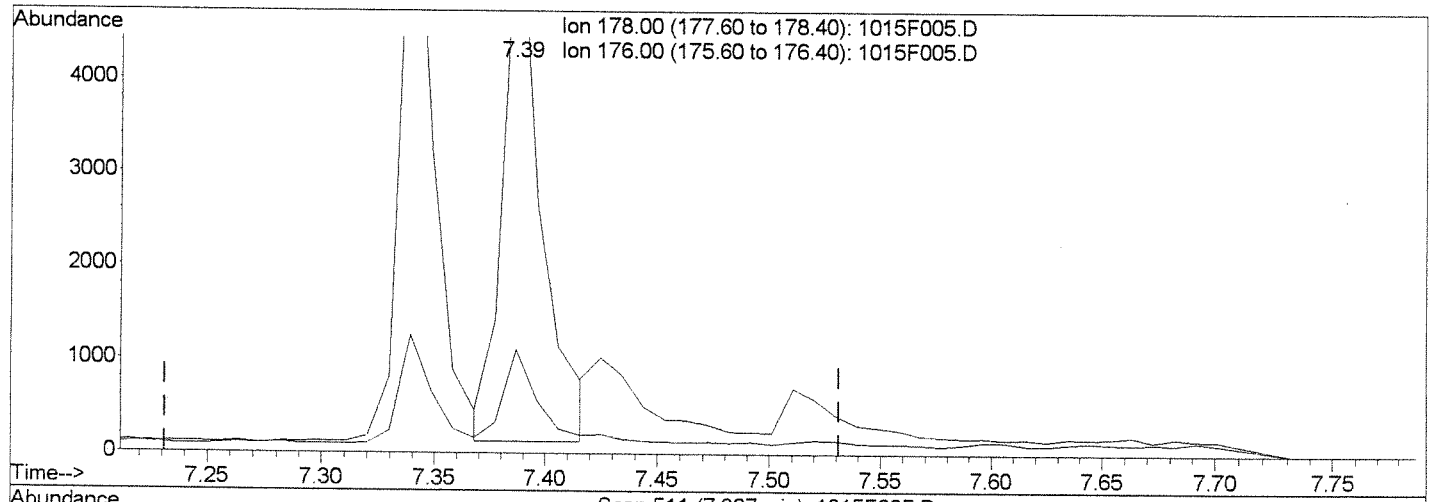
Quantitation Report (Qedit)

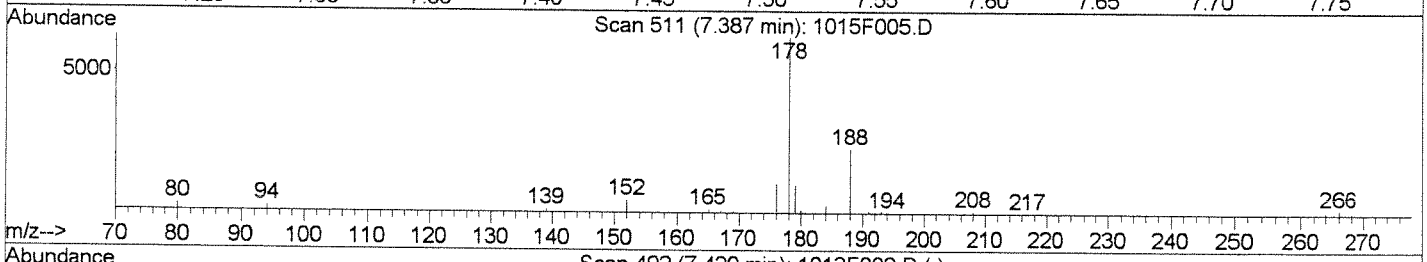
Data File : J:\MS11\DATA\101509\1015F005.D
Acq On : 15 Oct 2009 8:28 am
Sample : SIM-PAH ICAL @.008/0.2ug/mL | SVM29-21E
Misc :
MS Integration Params: RTEINT.P
Quant Time: Oct 15 10:40 2009

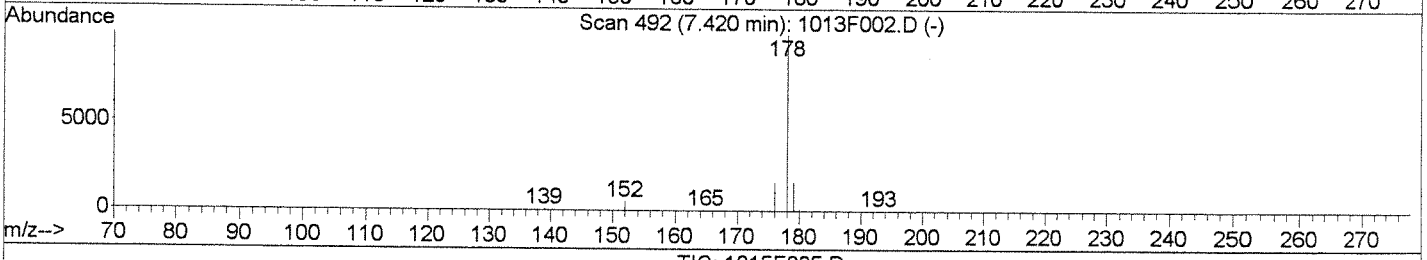
Vial: 5
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 06:04:30 2009
Response via : Multiple Level Calibration







TIC: 1015F005.D

(28) Anthracene (T)

7.39min 7.64ng/ml m

response 6648

Ion	Exp%	Act%
178.00	100	100
176.00	17.60	17.59
0.00	0.00	0.00
0.00	0.00	0.00

OT 10/15/09

1015F005.D 1015ALK.M Thu Oct 15 10:40:48 2009

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\101509\1015F006.D Vial: 6
Acq On : 15 Oct 2009 8:55 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @0.02/0.4ug/mL | SVM29-21F Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 15 09:18:36 2009 Quant Results File: 1015ALK.RES

Quant Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 06:04:30 2009
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	4.68	136	217756	200.00	ng/ml	0.00
10) Acenaphthene-d10	6.10	164	110985	200.00	ng/ml	0.00
22) Phenanthrene-d10	7.32	188	170430	200.00	ng/ml	0.00
37) Chrysene-d12	9.84	240	191508	200.00	ng/ml	-0.01
49) Perylene-d12	12.93	264	208153	200.00	ng/ml	-0.03
System Monitoring Compounds						
15) Fluorene-d10	6.53	176	11050	15.71	ng/ml	0.00
Spiked Amount 200.000			Recovery =	7.86%		
20) 2,4,6 Tribromophenol	6.77	330	1934	16.64	ng/ml	0.01
Spiked Amount 375.000			Recovery =	4.44%		
36) Fluoranthene-d10	8.30	212	18788	18.15	ng/ml	0.00
Spiked Amount 200.000			Recovery =	9.07%		
42) Terphenyl-d14	8.64	244	16578	19.97	ng/ml	0.00
Spiked Amount 200.000			Recovery =	9.98%		
Target Compounds						Qvalue
2) Naphthalene	4.70	128	21293	19.92	ng/ml	99
3) 2-Methylnaphthalene	5.26	142	13763	15.53	ng/ml	99
4) 1-Methylnaphthalene	5.34	142	15089	16.37	ng/ml	96
5) Biphenyl	5.64	154	15851	10.45	ng/ml	99
6) 2,6-Dimethylnaphthalene	5.76	156	10556	9.64	ng/ml	96
11) Acenaphthylene	5.98	152	20602	22.14	ng/ml	97
12) Acenaphthene	6.13	154	12357	21.00	ng/ml	92
13) Dibenzofuran	6.28	168	16208	17.58	ng/ml#	58
14) 2,3,5-Trimethylnaphthalene	6.44	170	10550	16.20	ng/ml	71
16) Fluorene	6.55	166	13293	15.77	ng/ml	95
21) Pentachlorophenol	7.19	266	22623	326.37	ng/ml	96
23) Dibenzothiophene	7.23	184	17252	19.41	ng/ml	96
27) Phenanthrene	7.34	178	19222	18.61	ng/ml	97
28) Anthracene	7.39	178	18047m	19.09	ng/ml	
29) Carbazole	7.53	167	15611	19.95	ng/ml	91
30) 1-Methylphenanthrene	7.84	192	13816	16.08	ng/ml	96
35) Fluoranthene	8.30	202	21224	17.93	ng/ml	84
38) Pyrene	8.49	202	21879	19.65	ng/ml	46
43) Benz(a)anthracene	9.83	228	19936	18.64	ng/ml	98
44) Chrysene	9.88	228	20928	20.01	ng/ml	99
50) Benzo(b)fluoranthene	11.90	252	21041	18.46	ng/ml	98
51) Benzo(k)fluoranthene	11.97	252	21582	19.57	ng/ml	99
52) Benzo(e)pyrene	12.61	252	19516	18.67	ng/ml	97
53) Benzo(a)pyrene	12.76	252	19584	19.12	ng/ml	99
54) Perylene	13.01	252	19758	20.13	ng/ml	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\101509\1015F006.D Vial: 6
Acq On : 15 Oct 2009 8:55 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @0.02/0.4ug/mL | SVM29-21F Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 15 09:18:36 2009 Quant Results File: 1015ALK.RES

Quant Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 06:04:30 2009
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

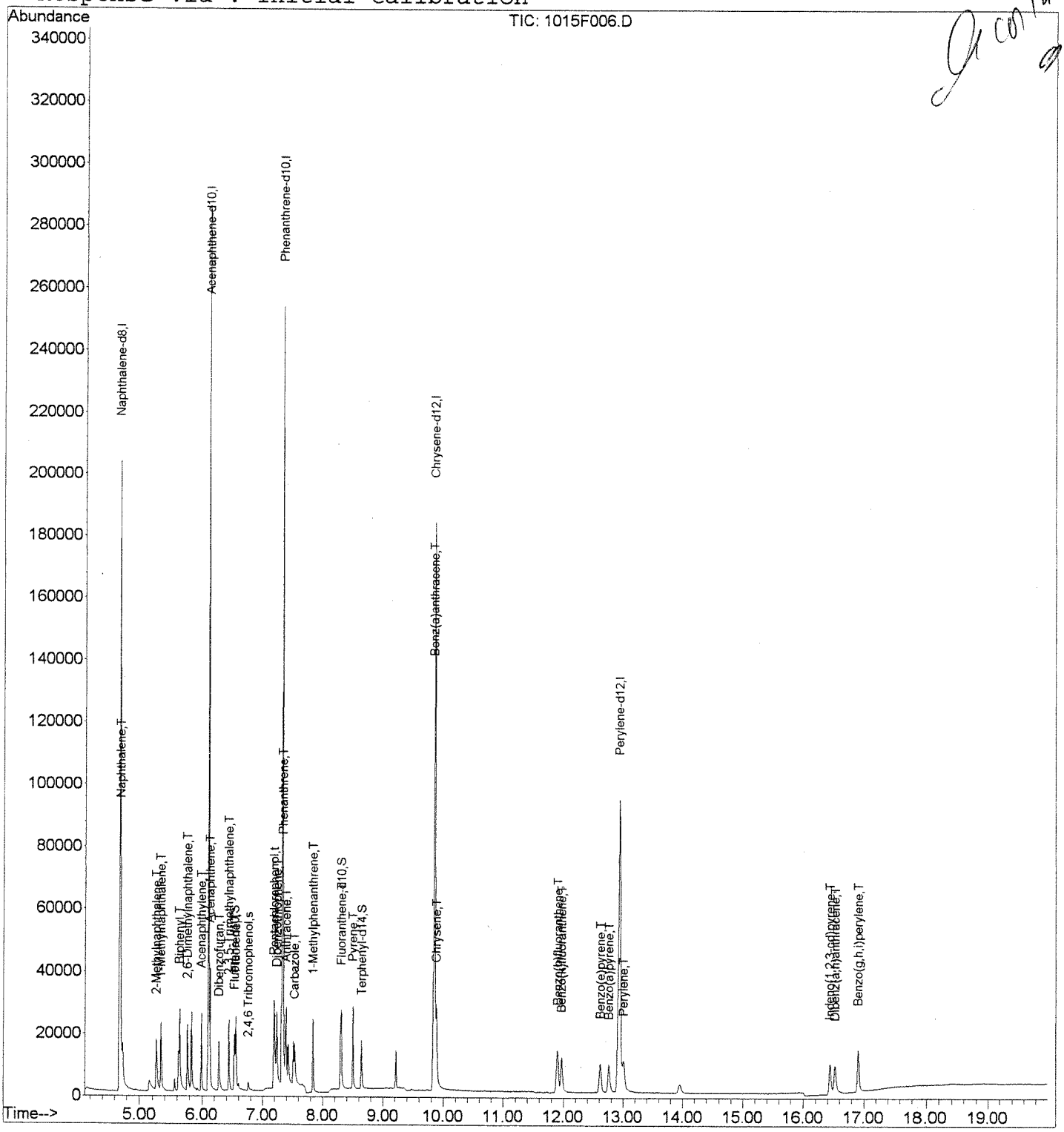
	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
55)	Indeno(1,2,3-cd)pyrene	16.44	276	18481	21.61	ng/ml	97
56)	Dibenz(a,h)anthracene	16.52	278	20184	21.32	ng/ml	93
57)	Benzo(g,h,i)perylene	16.90	276	22783	21.49	ng/ml	97

(#) = qualifier out of range (m) = manual integration
1015F006.D 1015ALK.M Thu Oct 15 10:44:04 2009 Page 2

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\101509\1015F006.D Vial: 6
Acq On : 15 Oct 2009 8:55 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @0.02/0.4ug/mL | SVM29-21F Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 15 10:41 2009 Quant Results File: 1015ALK.RES

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 06:04:30 2009
Response via : Initial Calibration



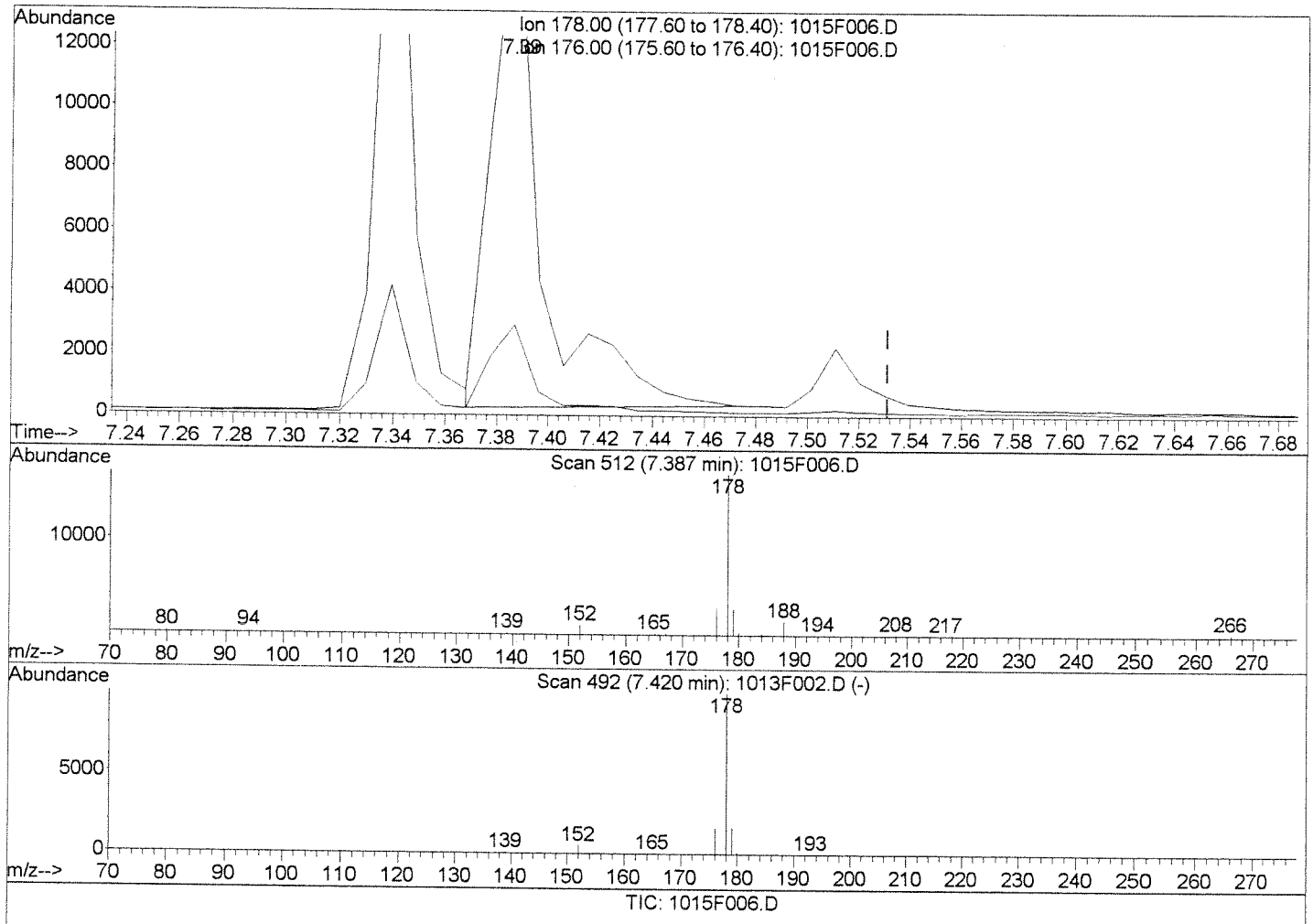
Quantitation Report (Qedit)

Data File : J:\MS11\DATA\101509\1015F006.D
Acq On : 15 Oct 2009 8:55 am
Sample : SIM-PAH ICAL @0.02/0.4ug/mL | SVM29-21F
Misc :
MS Integration Params: RTEINT.P
Quant Time: Oct 15 9:18 2009

Vial: 6
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 06:04:30 2009
Response via : Multiple Level Calibration



TIC: 1015F006.D

(28) Anthracene (T)

7.39min 22.75ng/ml

response 21504

Ion	Exp%	Act%
178.00	100	100
176.00	17.60	16.86
0.00	0.00	0.00
0.00	0.00	0.00

1015F006.D 1015ALK.M Thu Oct 15 10:41:29 2009

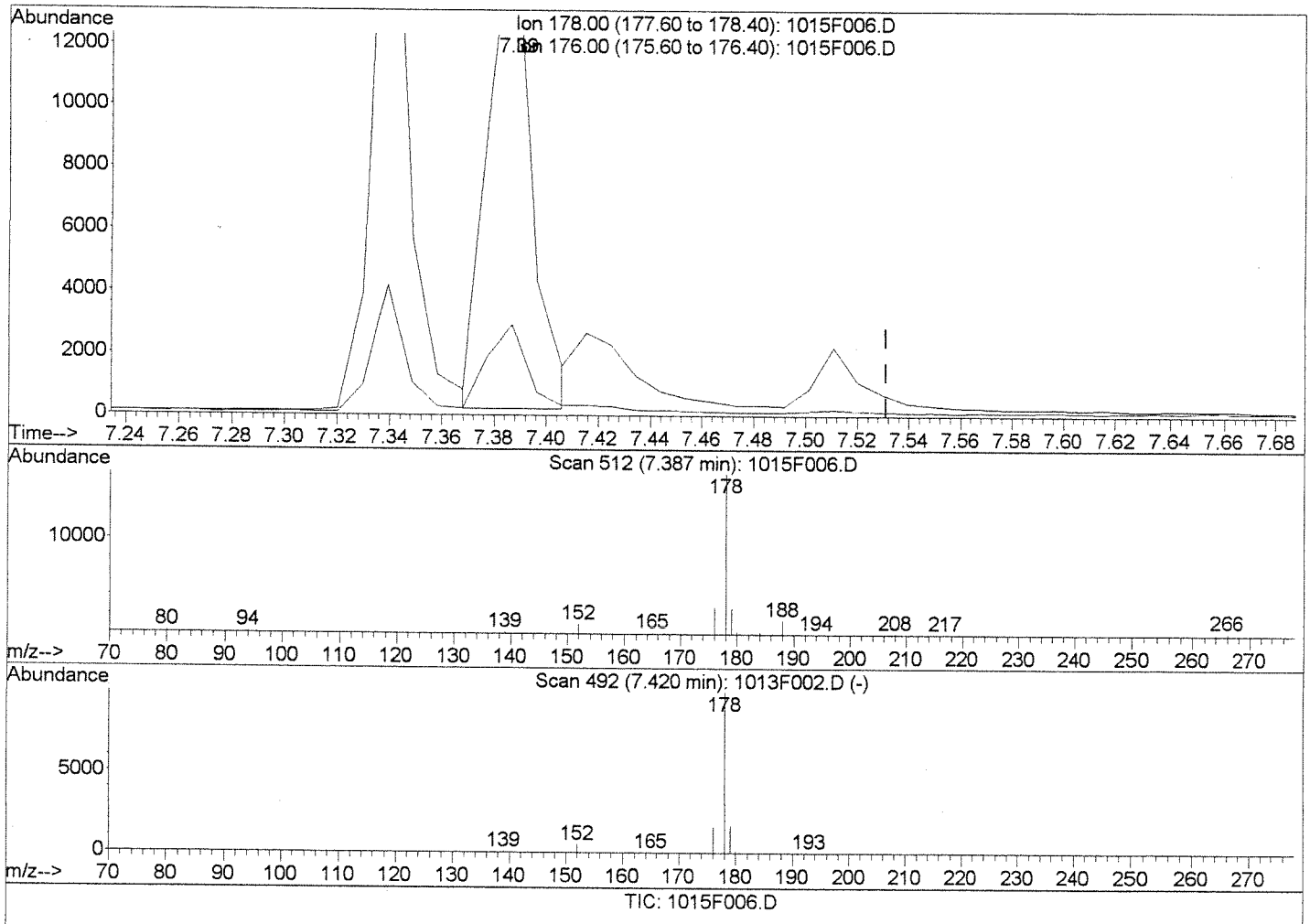
Quantitation Report (Qedit)

Data File : J:\MS11\DATA\101509\1015F006.D
Acq On : 15 Oct 2009 8:55 am
Sample : SIM-PAH ICAL @0.02/0.4ug/mL | SVM29-21F
Misc :
MS Integration Params: RTEINT.P
Quant Time: Oct 15 10:41 2009

Vial: 6
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 06:04:30 2009
Response via : Multiple Level Calibration



TIC: 1015F006.D

(28) Anthracene (T)

7.39min 19.09ng/ml m

response 18047

Ion	Exp%	Act%
178.00	100	100
176.00	17.60	17.19
0.00	0.00	0.00
0.00	0.00	0.00

OI 10/19/09

1015F006.D 1015ALK.M Thu Oct 15 10:41:34 2009

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\101509\1015F007.D
Acq On : 15 Oct 2009 9:21 am
Sample : SIM-PAH ICAL @0.1/0.6ug/mL | SVM29-21G
Misc :
MS Integration Params: RTEINT.P
Quant Time: Oct 15 09:47:31 2009

Vial: 7
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00
Quant Results File: 1015ALK.RES

Quant Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 06:04:30 2009
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	4.68	136	275640	200.00	ng/ml	0.00
10) Acenaphthene-d10	6.10	164	130790	200.00	ng/ml	0.00
22) Phenanthrene-d10	7.32	188	184534	200.00	ng/ml	0.00
37) Chrysene-d12	9.84	240	218674	200.00	ng/ml	-0.01
49) Perylene-d12	12.92	264	234802	200.00	ng/ml	-0.03
System Monitoring Compounds						
15) Fluorene-d10	6.53	176	61797	74.57	ng/ml	0.00
Spiked Amount 200.000			Recovery = 37.28%			
20) 2,4,6 Tribromophenol	6.76	330	11108	81.12	ng/ml	0.00
Spiked Amount 375.000			Recovery = 21.63%			
36) Fluoranthene-d10	8.29	212	101568	90.60	ng/ml	0.00
Spiked Amount 200.000			Recovery = 45.30%			
42) Terphenyl-d14	8.64	244	87521	92.33	ng/ml	0.00
Spiked Amount 200.000			Recovery = 46.16%			
Target Compounds						Qvalue
2) Naphthalene	4.69	128	136437	100.84	ng/ml	97
3) 2-Methylnaphthalene	5.25	142	87662	78.14	ng/ml	99
4) 1-Methylnaphthalene	5.34	142	89106	76.39	ng/ml	99
5) Biphenyl	5.63	154	96879	50.46	ng/ml	99
6) 2,6-Dimethylnaphthalene	5.76	156	67277	48.53	ng/ml	100
11) Acenaphthylene	5.98	152	119132	108.65	ng/ml	98
12) Acenaphthene	6.12	154	69787	100.64	ng/ml	91
13) Dibenzofuran	6.27	168	96415	88.72	ng/ml	61
14) 2,3,5-Trimethylnaphthalene	6.43	170	58744m	76.55	ng/ml	
16) Fluorene	6.55	166	76165	76.68	ng/ml	100
21) Pentachlorophenol	7.19	266	38487	471.15	ng/ml	98
23) Dibenzothiophene	7.23	184	97710	101.55	ng/ml	97
27) Phenanthrene	7.34	178	105476	94.29	ng/ml	95
28) Anthracene	7.38	178	102232m	99.88	ng/ml	
29) Carbazole	7.53	167	86602	102.23	ng/ml	86
30) 1-Methylphenanthrene	7.84	192	76685	82.45	ng/ml	98
35) Fluoranthene	8.31	202	116280	90.75	ng/ml	94
38) Pyrene	8.50	202	117437	92.35	ng/ml	82
43) Benz(a)anthracene	9.83	228	110893	90.83	ng/ml	98
44) Chrysene	9.88	228	113260	94.84	ng/ml	98
50) Benzo(b)fluoranthene	11.89	252	117879	91.68	ng/ml	98
51) Benzo(k)fluoranthene	11.96	252	120862	97.15	ng/ml	99
52) Benzo(e)pyrene	12.61	252	111209	94.29	ng/ml	99
53) Benzo(a)pyrene	12.76	252	109991	95.22	ng/ml	98
54) Perylene	13.00	252	107217	96.83	ng/ml	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\101509\1015F007.D Vial: 7
Acq On : 15 Oct 2009 9:21 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @0.1/0.6ug/mL | SVM29-21G Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 15 09:47:31 2009 Quant Results File: 1015ALK.RES

Quant Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 06:04:30 2009
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

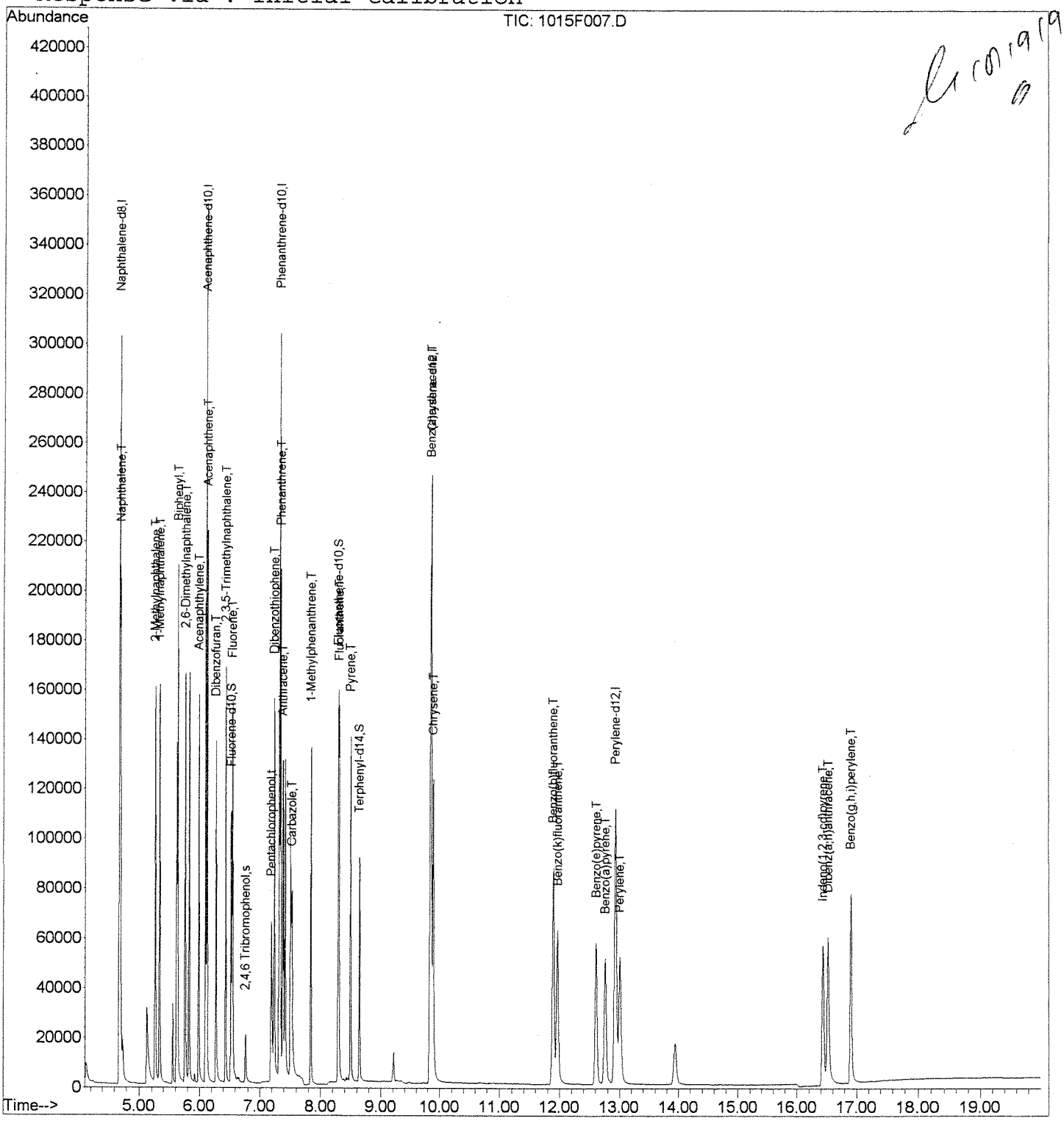
	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
55)	Indeno(1,2,3-cd)pyrene	16.43	276	104843	108.67	ng/ml	97
56)	Dibenz(a,h)anthracene	16.51	278	113422	106.18	ng/ml	94
57)	Benzo(g,h,i)perylene	16.90	276	123073	102.93	ng/ml	95

(#) = qualifier out of range (m) = manual integration
1015F007.D 1015ALK.M Thu Oct 15 10:44:07 2009 Page 2

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\101509\1015F007.D Vial: 7
Acq On : 15 Oct 2009 9:21 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @0.1/0.6ug/mL | SVM29-21G Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 15 10:42 2009 Quant Results File: 1015ALK.RES

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 06:04:30 2009
Response via : Initial Calibration

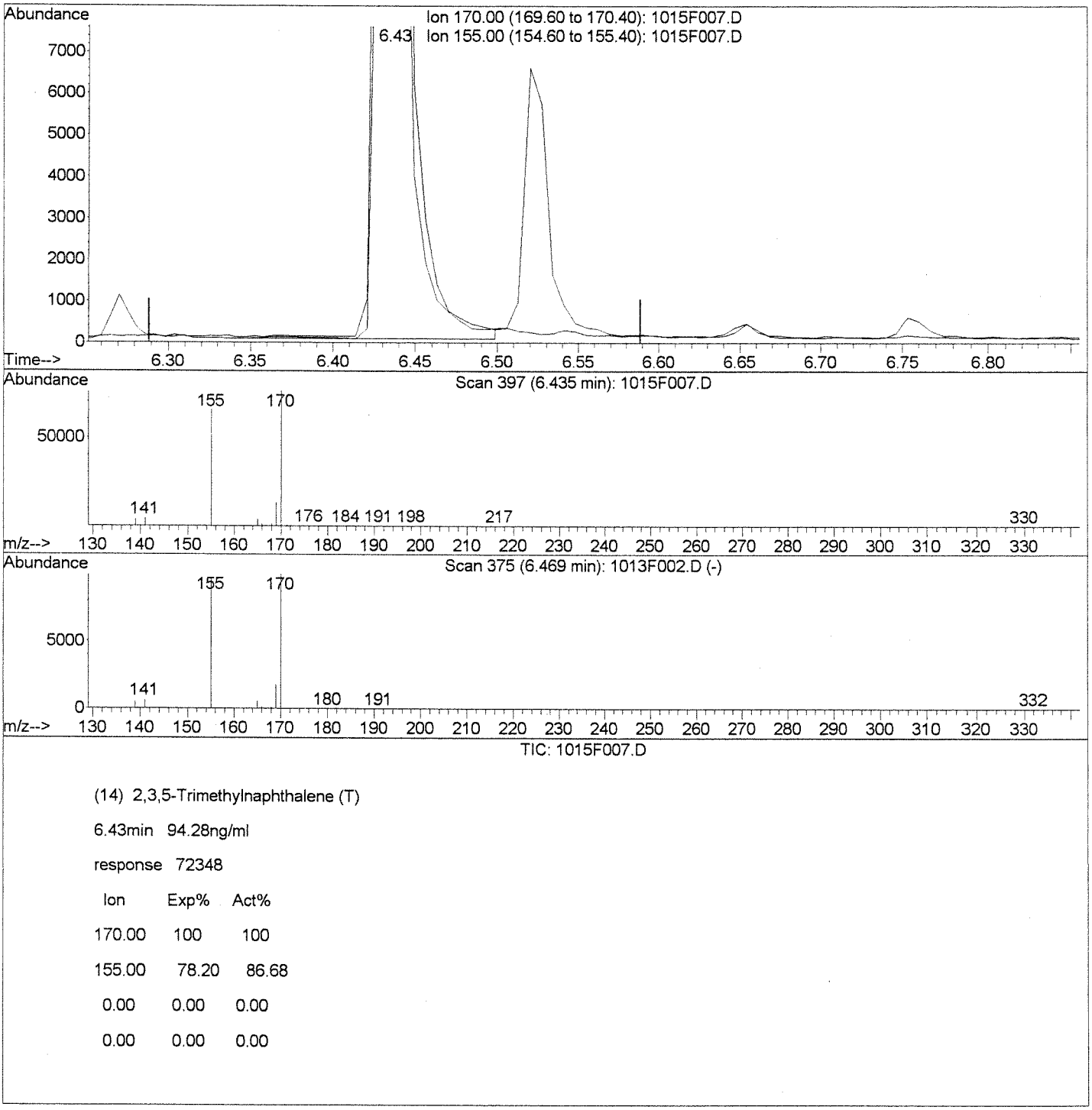


1015F007.D 1015ALK.M Thu Oct 15 10:44:08 2009 Page 3

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\101509\1015F007.D Vial: 7
Acq On : 15 Oct 2009 9:21 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @0.1/0.6ug/mL | SVM29-21G Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 15 9:47 2009 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 06:04:30 2009
Response via : Multiple Level Calibration



(14) 2,3,5-Trimethylnaphthalene (T)

6.43min 94.28ng/ml

response 72348

Ion	Exp%	Act%
170.00	100	100
155.00	78.20	86.68
0.00	0.00	0.00
0.00	0.00	0.00

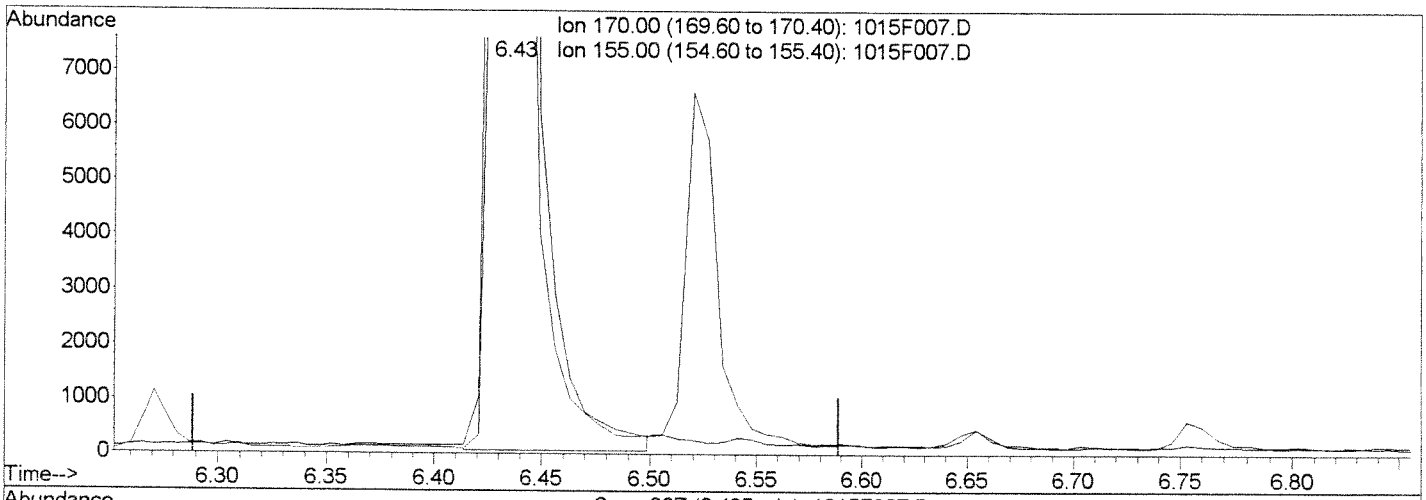
1015F007.D 1015ALK.M Thu Oct 15 10:41:59 2009

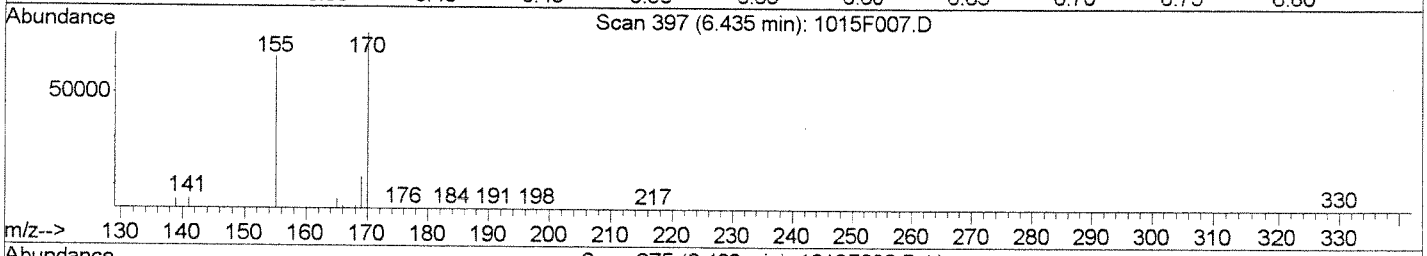
Quantitation Report (Qedit)

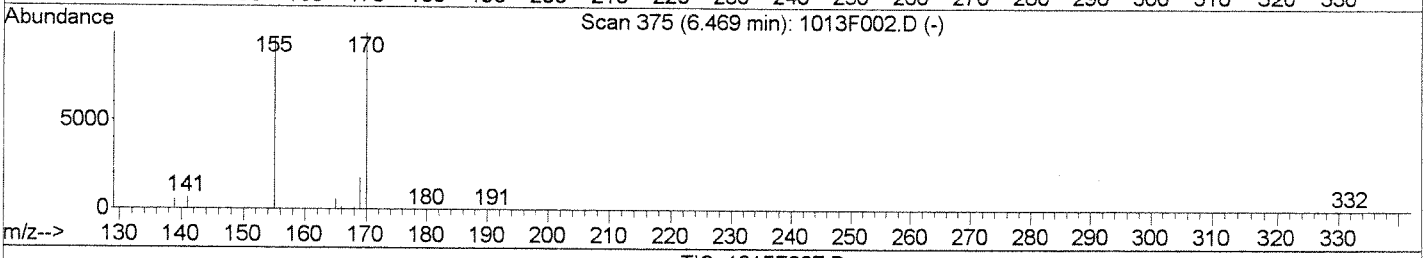
Data File : J:\MS11\DATA\101509\1015F007.D
Acq On : 15 Oct 2009 9:21 am
Sample : SIM-PAH ICAL @0.1/0.6ug/mL | SVM29-21G
Misc :
MS Integration Params: RTEINT.P
Quant Time: Oct 15 10:42 2009

Vial: 7
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 06:04:30 2009
Response via : Multiple Level Calibration







TIC: 1015F007.D

(14) 2,3,5-Trimethylnaphthalene (T)

6.43min 76.55ng/ml m

response 58744

Ion	Exp%	Act%
170.00	100	100
155.00	78.20	86.74
0.00	0.00	0.00
0.00	0.00	0.00

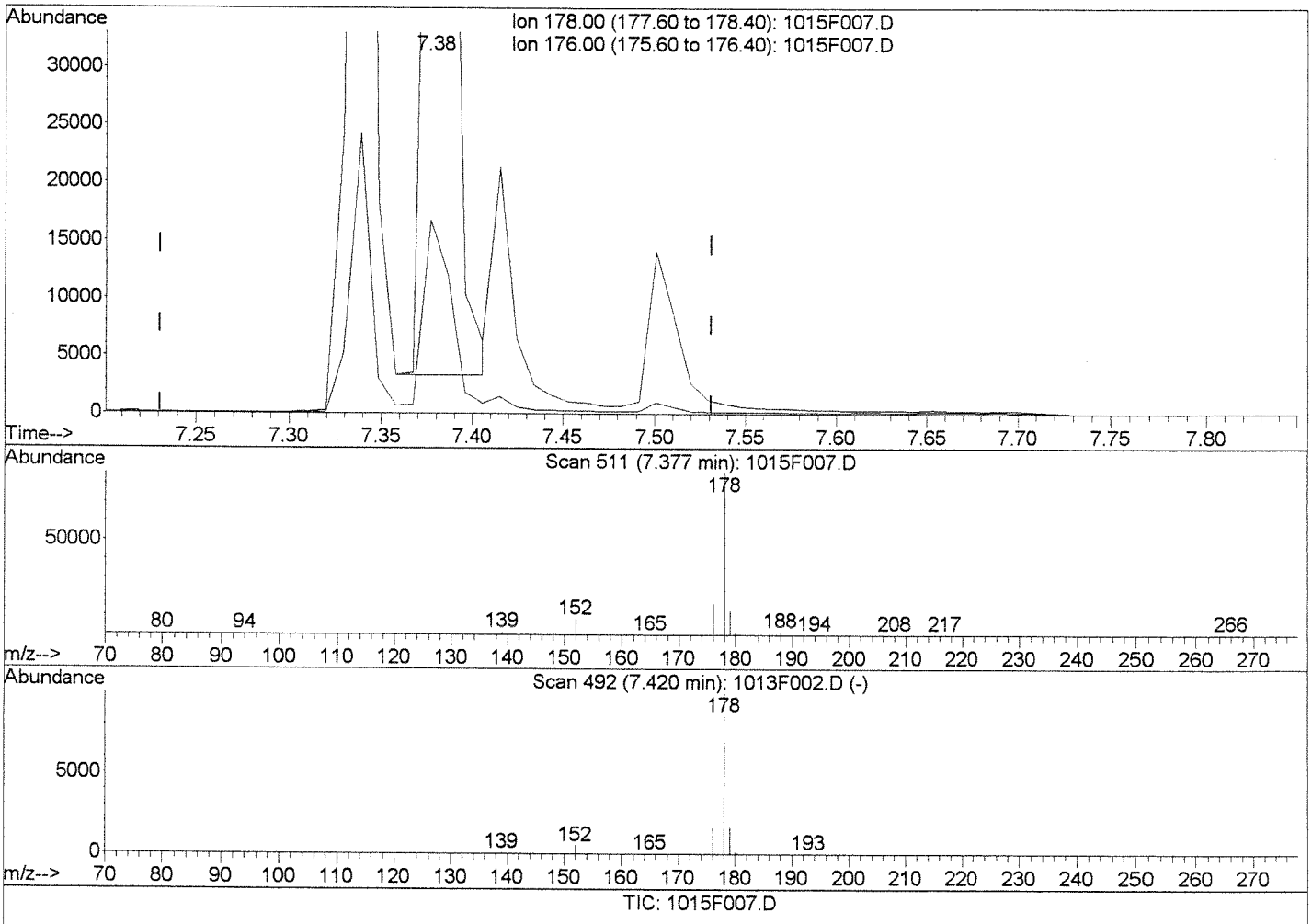
OT 10/19

1015F007.D 1015ALK.M Thu Oct 15 10:42:04 2009

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\101509\1015F007.D Vial: 7
Acq On : 15 Oct 2009 9:21 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @0.1/0.6ug/mL | SVM29-21G Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 15 10:42 2009 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 06:04:30 2009
Response via : Multiple Level Calibration



TIC: 1015F007.D

(28) Anthracene (T)

7.38min 91.34ng/ml

response 93490

Ion	Exp%	Act%
178.00	100	100
176.00	17.60	19.47
0.00	0.00	0.00
0.00	0.00	0.00

1015F007.D 1015ALK.M Thu Oct 15 10:42:13 2009

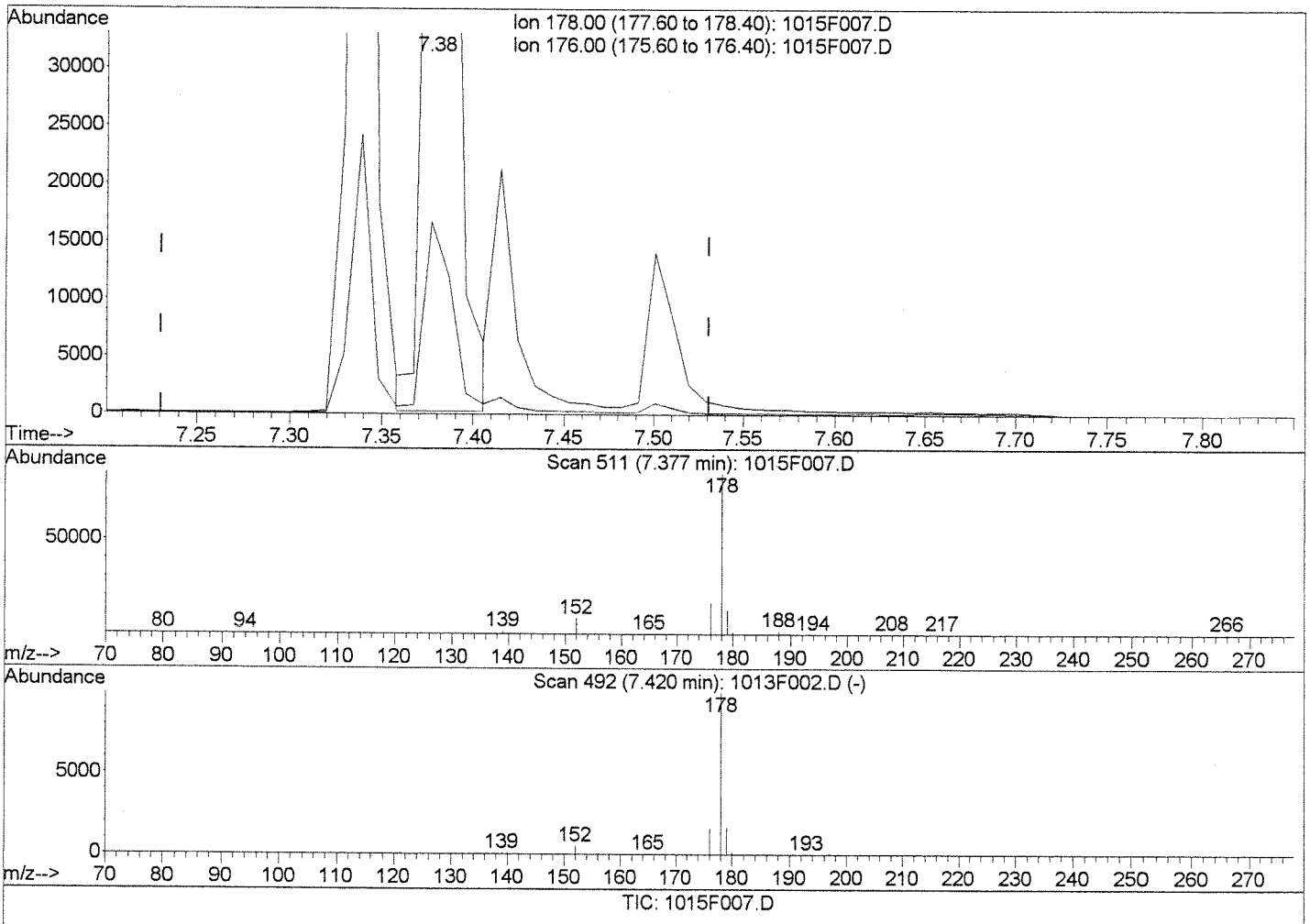
Quantitation Report (Qedit)

Data File : J:\MS11\DATA\101509\1015F007.D
Acq On : 15 Oct 2009 9:21 am
Sample : SIM-PAH ICAL @0.1/0.6ug/mL | SVM29-21G
Misc :
MS Integration Params: RTEINT.P
Quant Time: Oct 15 10:42 2009

Vial: 7
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 06:04:30 2009
Response via : Multiple Level Calibration



TIC: 1015F007.D

(28) Anthracene (T)

7.38min 99.88ng/ml m

response 102232

Ion	Exp%	Act%
178.00	100	100
176.00	17.60	19.47
0.00	0.00	0.00
0.00	0.00	0.00

IC 10/19/19

1015F007.D 1015ALK.M Thu Oct 15 10:42:18 2009

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\101509\1015F008.D Vial: 8
Acq On : 15 Oct 2009 9:47 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @0.2/0.8ug/mL | SVM29-21H Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 15 10:09:10 2009 Quant Results File: 1015ALK.RES

Quant Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 06:04:30 2009
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	4.68	136	288006	200.00	ng/ml	0.00
10) Acenaphthene-d10	6.10	164	141311	200.00	ng/ml	0.00
22) Phenanthrene-d10	7.32	188	188148	200.00	ng/ml	0.00
37) Chrysene-d12	9.84	240	219822	200.00	ng/ml	-0.01
49) Perylene-d12	12.92	264	239067	200.00	ng/ml	-0.04
System Monitoring Compounds						
15) Fluorene-d10	6.52	176	139816	156.16	ng/ml	0.00
Spiked Amount 200.000			Recovery =	78.08%		
20) 2,4,6 Tribromophenol	6.76	330	25049	169.31	ng/ml	0.00
Spiked Amount 375.000			Recovery =	45.15%		
36) Fluoranthene-d10	8.29	212	222944	195.06	ng/ml	0.00
Spiked Amount 200.000			Recovery =	97.53%		
42) Terphenyl-d14	8.64	244	191179	200.62	ng/ml	0.00
Spiked Amount 200.000			Recovery =	100.31%		
Target Compounds						Qvalue
2) Naphthalene	4.69	128	288585	204.14	ng/ml	98
3) 2-Methylnaphthalene	5.25	142	198891	169.68	ng/ml	94
4) 1-Methylnaphthalene	5.33	142	195644	160.52	ng/ml	90
5) Biphenyl	5.63	154	215637	107.48	ng/ml	98
6) 2,6-Dimethylnaphthalene	5.76	156	153539	106.00	ng/ml	99
11) Acenaphthylene	5.98	152	268008	226.24	ng/ml	99
12) Acenaphthene	6.12	154	152358	203.36	ng/ml	91
13) Dibenzofuran	6.27	168	214611	182.77	ng/ml#	58
14) 2,3,5-Trimethylnaphthalene	6.44	170	128443	154.91	ng/ml	85
16) Fluorene	6.54	166	167859	156.41	ng/ml	97
21) Pentachlorophenol	7.19	266	59801	677.56	ng/ml	99
23) Dibenzothiophene	7.23	184	213434	217.56	ng/ml	99
27) Phenanthrene	7.34	178	223291	195.78	ng/ml	97
28) Anthracene	7.39	178	227009m	217.53	ng/ml	
29) Carbazole	7.52	167	188666	218.43	ng/ml	98
30) 1-Methylphenanthrene	7.83	192	164078	173.02	ng/ml	95
35) Fluoranthene	8.30	202	249343	190.85	ng/ml	93
38) Pyrene	8.50	202	256559	200.69	ng/ml	83
43) Benz(a)anthracene	9.83	228	243818	198.66	ng/ml	98
44) Chrysene	9.88	228	239548	199.54	ng/ml	98
50) Benzo(b)fluoranthene	11.89	252	266421	203.52	ng/ml	99
51) Benzo(k)fluoranthene	11.96	252	261370	206.34	ng/ml	98
52) Benzo(e)pyrene	12.60	252	242073	201.59	ng/ml	99
53) Benzo(a)pyrene	12.75	252	242319	206.03	ng/ml	99
54) Perylene	13.00	252	236159	209.48	ng/ml	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\101509\1015F008.D Vial: 8
Acq On : 15 Oct 2009 9:47 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @0.2/0.8ug/mL | SVM29-21H Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 15 10:09:10 2009 Quant Results File: 1015ALK.RES

Quant Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 06:04:30 2009
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
55)	Indeno(1,2,3-cd)pyrene	16.43	276	229908	234.06	ng/ml	97
56)	Dibenz(a,h)anthracene	16.51	278	243268	223.68	ng/ml	98
57)	Benzo(g,h,i)perylene	16.89	276	259652	213.29	ng/ml	95

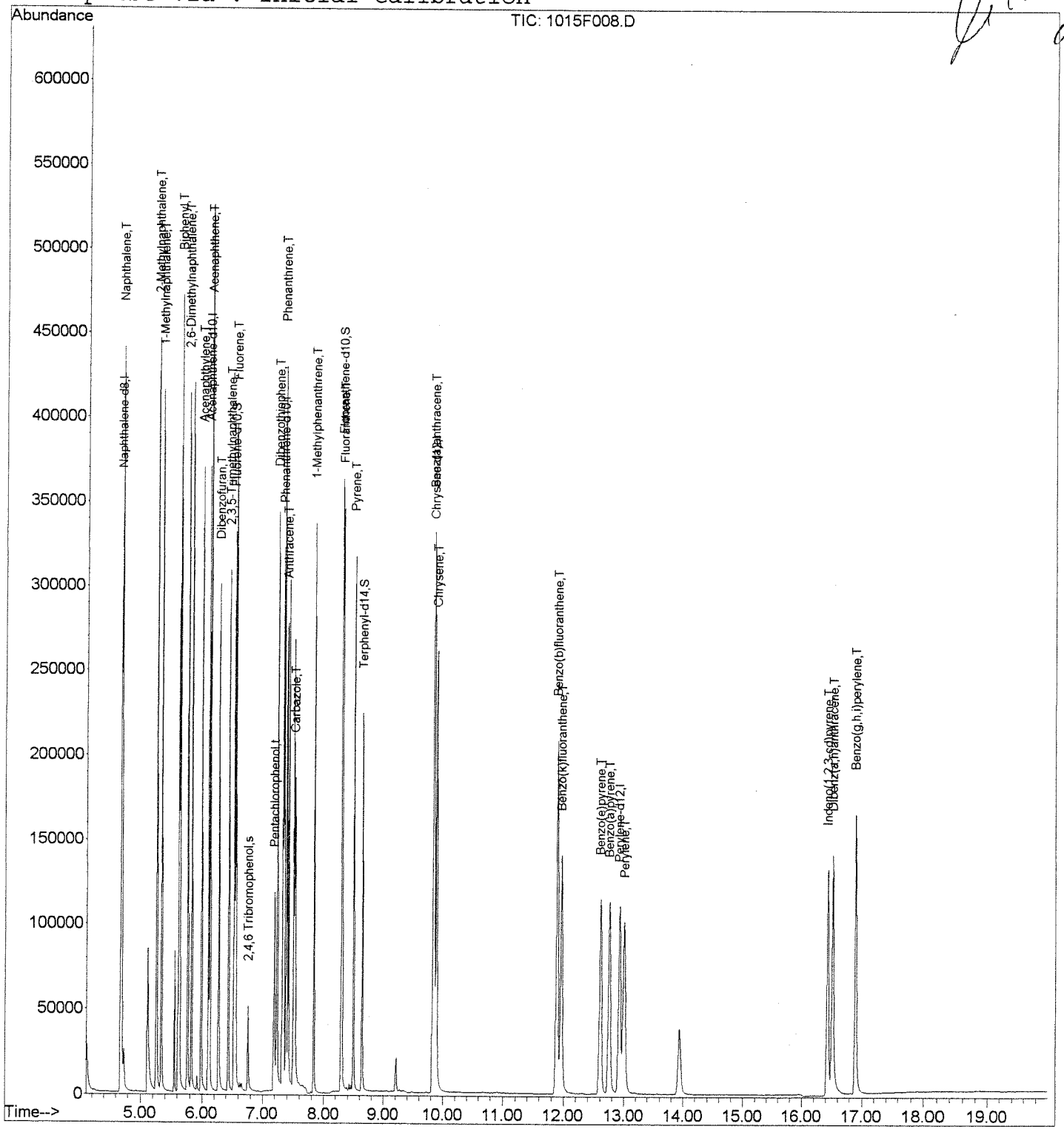
(#) = qualifier out of range (m) = manual integration
1015F008.D 1015ALK.M Thu Oct 15 10:44:09 2009 Page 2

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\101509\1015F008.D Vial: 8
Acq On : 15 Oct 2009 9:47 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @0.2/0.8ug/mL | SVM29-21H Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 15 10:42 2009 Quant Results File: 1015ALK.RES

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 06:04:30 2009
Response via : Initial Calibration

10/19

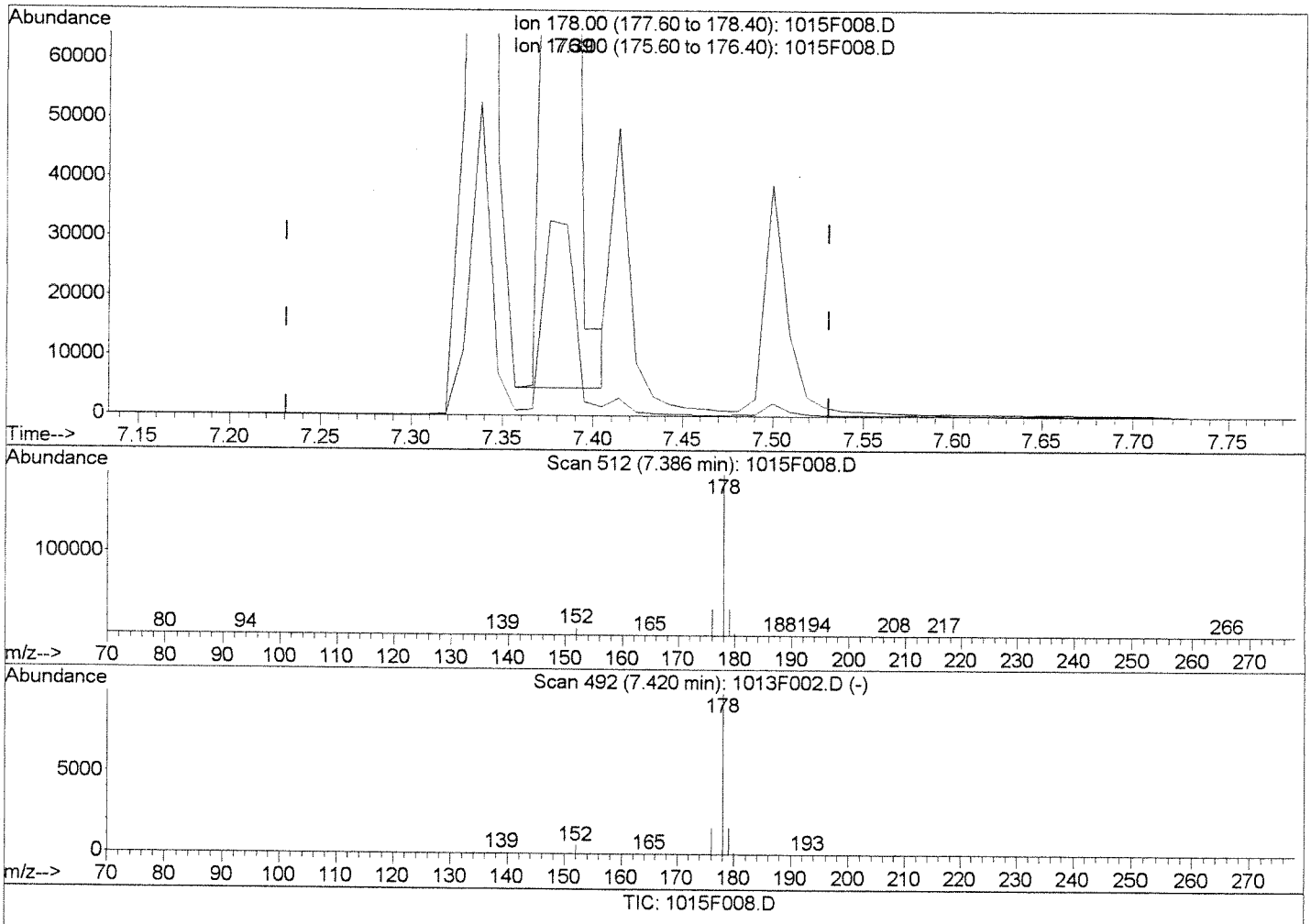


Quantitation Report (Qedit)

Data File : J:\MS11\DATA\101509\1015F008.D
Acq On : 15 Oct 2009 9:47 am
Sample : SIM-PAH ICAL @0.2/0.8ug/mL | SVM29-21H
Misc :
MS Integration Params: RTEINT.P
Quant Time: Oct 15 10:09 2009

Vial: 8
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 06:04:30 2009
Response via : Multiple Level Calibration



TIC: 1015F008.D

(28) Anthracene (T)

7.39min 206.18ng/ml

response 215159

Ion	Exp%	Act%
178.00	100	100
176.00	17.60	16.29
0.00	0.00	0.00
0.00	0.00	0.00

1015F008.D 1015ALK.M Thu Oct 15 10:42:49 2009

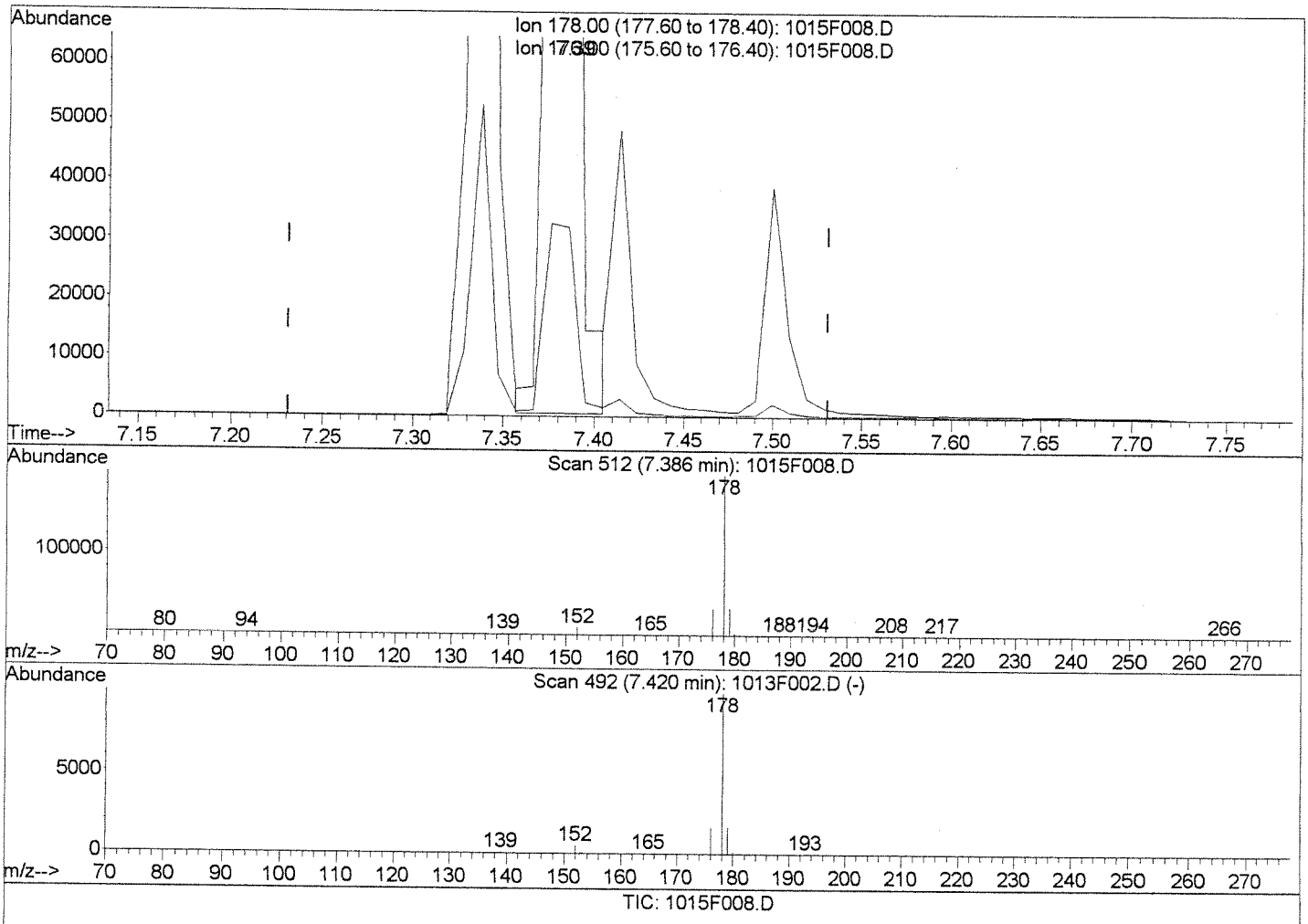
Quantitation Report (Qedit)

Data File : J:\MS11\DATA\101509\1015F008.D
Acq On : 15 Oct 2009 9:47 am
Sample : SIM-PAH ICAL @0.2/0.8ug/mL | SVM29-21H
Misc :
MS Integration Params: RTEINT.P
Quant Time: Oct 15 10:42 2009

Vial: 8
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 06:04:30 2009
Response via : Multiple Level Calibration



TIC: 1015F008.D

(28) Anthracene (T)

7.39min 217.53ng/ml m

response 227009

Ion	Exp%	Act%
178.00	100	100
176.00	17.60	16.36
0.00	0.00	0.00
0.00	0.00	0.00

IC acceptable 9

1015F008.D 1015ALK.M Thu Oct 15 10:42:56 2009

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\101509\1015F009.D Vial: 9
Acq On : 15 Oct 2009 10:14 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @0.4/1.0ug/mL | SVM29-21I Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 15 10:35:09 2009 Quant Results File: 1015ALK.RES

Quant Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 06:04:30 2009
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	4.67	136	287363	200.00	ng/ml	0.00
10) Acenaphthene-d10	6.10	164	143632	200.00	ng/ml	0.00
22) Phenanthrene-d10	7.32	188	187662	200.00	ng/ml	0.00
37) Chrysene-d12	9.84	240	216839	200.00	ng/ml	-0.01
49) Perylene-d12	12.92	264	240902	200.00	ng/ml	-0.04
System Monitoring Compounds						
15) Fluorene-d10	6.52	176	265510	291.75	ng/ml	0.00
Spiked Amount 200.000			Recovery = 145.88%			
20) 2,4,6 Tribromophenol	6.75	330	49873	331.66	ng/ml	0.00
Spiked Amount 375.000			Recovery = 88.44%			
36) Fluoranthene-d10	8.29	212	425034	372.83	ng/ml	0.00
Spiked Amount 200.000			Recovery = 186.41%			
42) Terphenyl-d14	8.64	244	357629	380.45	ng/ml	0.00
Spiked Amount 200.000			Recovery = 190.22%			
Target Compounds						Qvalue
2) Naphthalene	4.69	128	536074	380.05	ng/ml	100
3) 2-Methylnaphthalene	5.25	142	389059	332.66	ng/ml	91
4) 1-Methylnaphthalene	5.33	142	379432	312.01	ng/ml	98
5) Biphenyl	5.63	154	422863	211.24	ng/ml	98
6) 2,6-Dimethylnaphthalene	5.76	156	304760	210.86	ng/ml	95
11) Acenaphthylene	5.98	152	531018	441.01	ng/ml	100
12) Acenaphthene	6.12	154	301750	396.26	ng/ml	89
13) Dibenzofuran	6.27	168	415549	348.18	ng/ml#	52
14) 2,3,5-Trimethylnaphthalene	6.44	170	248204	294.52	ng/ml	81
16) Fluorene	6.54	166	319602	292.99	ng/ml	97
21) Pentachlorophenol	7.18	266	74476	830.20	ng/ml	98
23) Dibenzothiophene	7.23	184	400208	409.01	ng/ml	100
27) Phenanthrene	7.34	178	423586	372.35	ng/ml	97
28) Anthracene	7.38	178	418687m	402.25	ng/ml	
29) Carbazole	7.52	167	366748	425.71	ng/ml	96
30) 1-Methylphenanthrene	7.83	192	306048	323.56	ng/ml	97
35) Fluoranthene	8.30	202	461273	353.98	ng/ml	93
38) Pyrene	8.50	202	480187	380.79	ng/ml	87
43) Benz(a)anthracene	9.83	228	459908	379.87	ng/ml	98
44) Chrysene	9.88	228	462701	390.73	ng/ml	99
50) Benzo(b)fluoranthene	11.89	252	511080	387.45	ng/ml	100
51) Benzo(k)fluoranthene	11.96	252	508670	398.51	ng/ml	99
52) Benzo(e)pyrene	12.60	252	477002	394.20	ng/ml	100
53) Benzo(a)pyrene	12.75	252	479006	404.18	ng/ml	100
54) Perylene	13.00	252	469808	413.55	ng/ml	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\101509\1015F009.D Vial: 9
Acq On : 15 Oct 2009 10:14 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @0.4/1.0ug/mL | SVM29-21I Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 15 10:35:09 2009 Quant Results File: 1015ALK.RES

Quant Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 06:04:30 2009
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

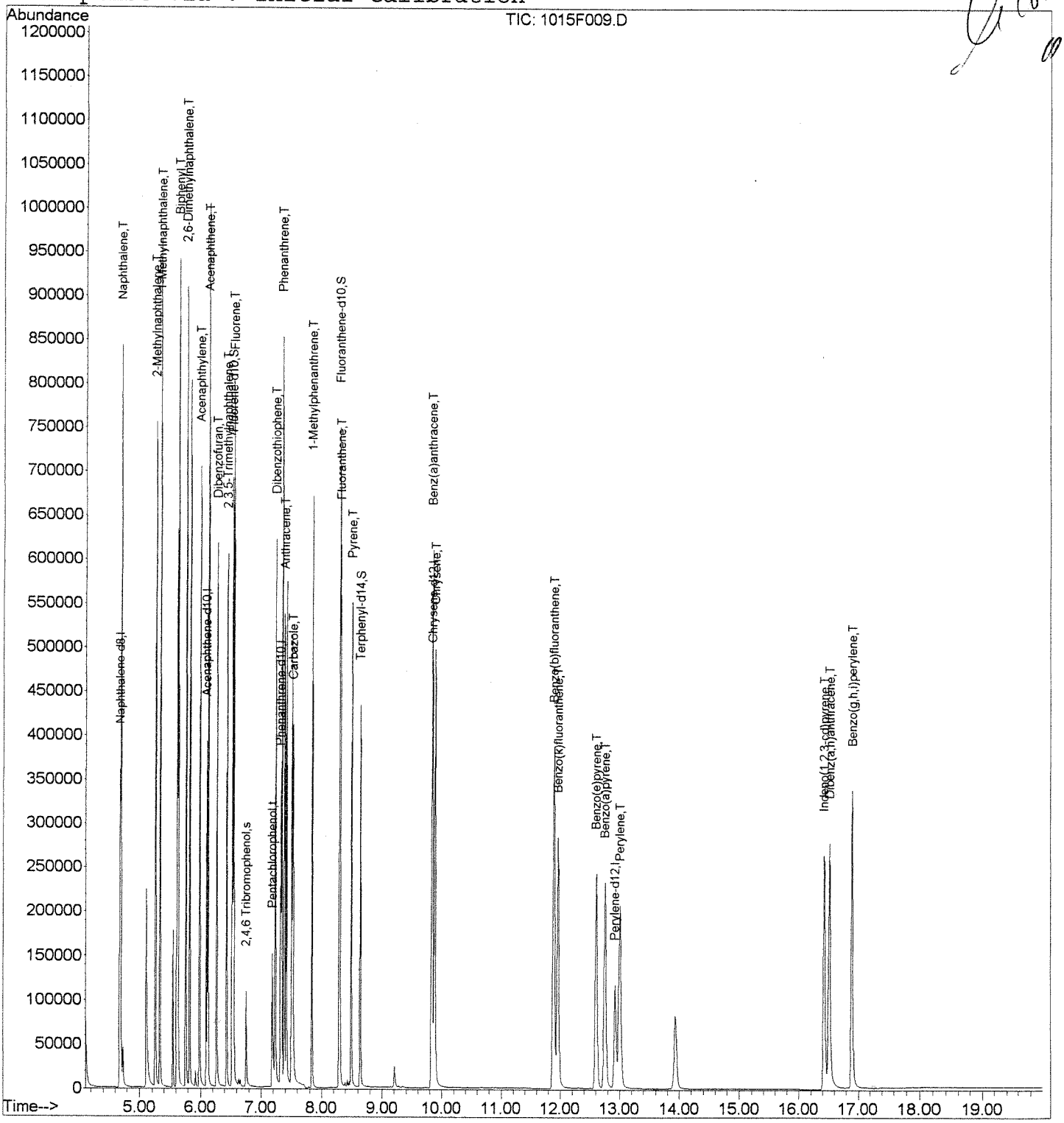
	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
55)	Indeno(1,2,3-cd)pyrene	16.42	276	445826	450.41	ng/ml	98
56)	Dibenz(a,h)anthracene	16.51	278	481832	439.66	ng/ml	99
57)	Benzo(g,h,i)perylene	16.89	276	506439	412.84	ng/ml	99

(#) = qualifier out of range (m) = manual integration
1015F009.D 1015ALK.M Thu Oct 15 10:44:12 2009 Page 2

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\101509\1015F009.D Vial: 9
Acq On : 15 Oct 2009 10:14 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @0.4/1.0ug/mL | SVM29-21I Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 15 10:43 2009 Quant Results File: 1015ALK.RES

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 06:04:30 2009
Response via : Initial Calibration



1015F009.D 1015ALK.M Thu Oct 15 10:44:13 2009 Page 3

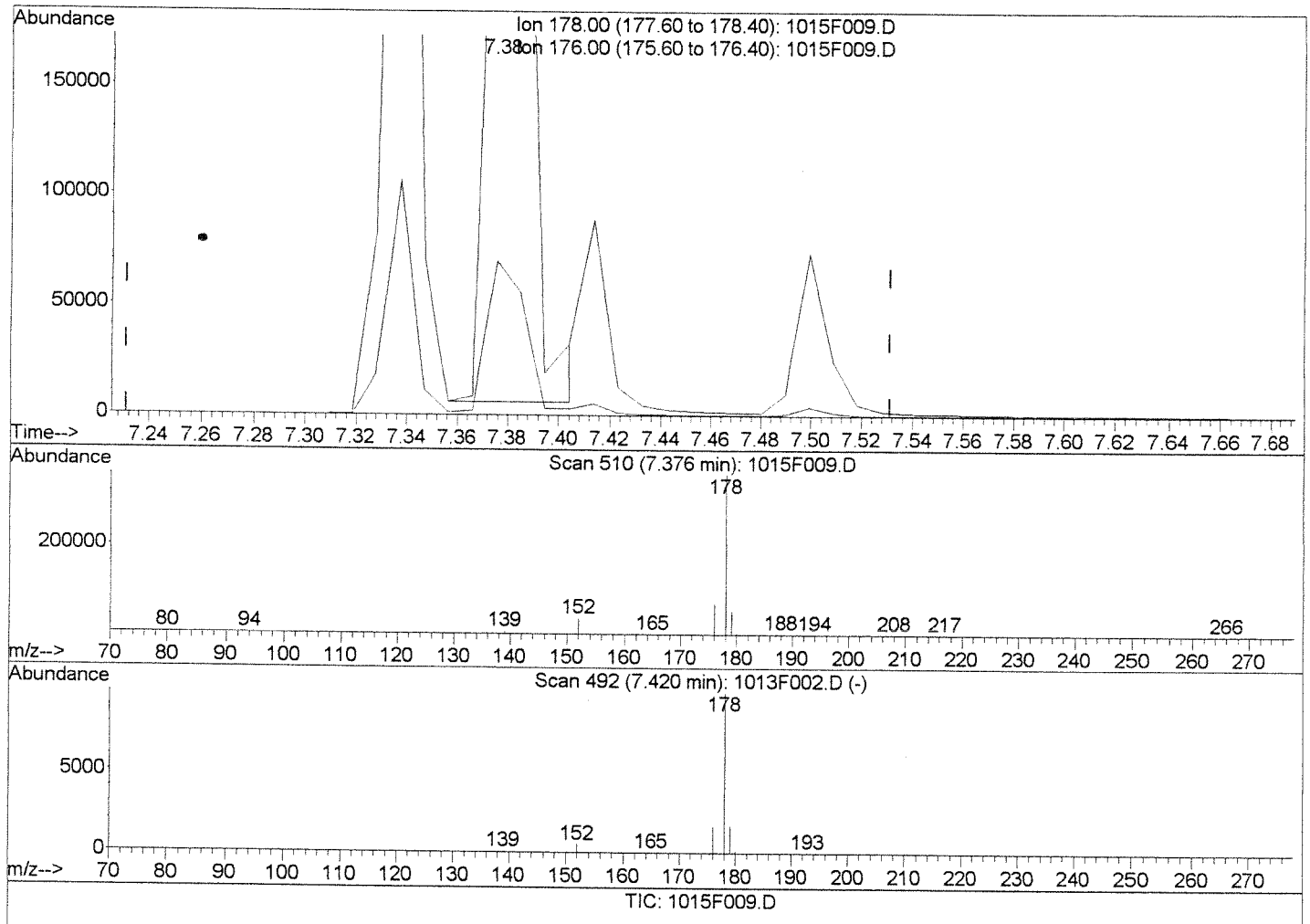
Quantitation Report (Qedit)

Data File : J:\MS11\DATA\101509\1015F009.D
Acq On : 15 Oct 2009 10:14 am
Sample : SIM-PAH ICAL @0.4/1.0ug/mL | SVM29-21I
Misc :
MS Integration Params: RTEINT.P
Quant Time: Oct 15 10:35 2009

Vial: 9
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 06:04:30 2009
Response via : Multiple Level Calibration



TIC: 1015F009.D

(28) Anthracene (T)

7.38min 406.70ng/ml

response 423318

Ion	Exp%	Act%
178.00	100	100
176.00	17.60	19.14
0.00	0.00	0.00
0.00	0.00	0.00

1015F009.D 1015ALK.M Thu Oct 15 10:43:25 2009

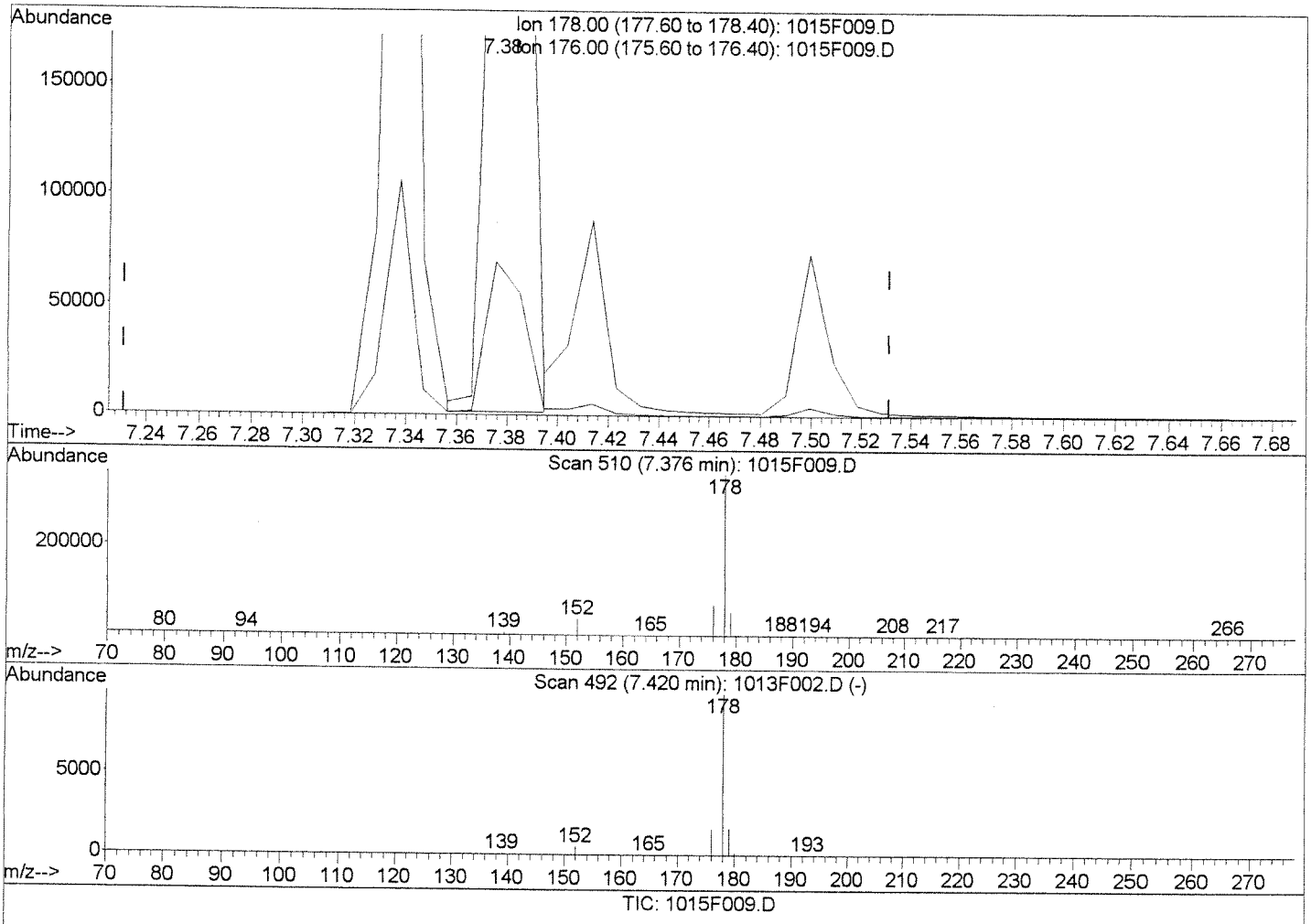
Quantitation Report (Qedit)

Data File : J:\MS11\DATA\101509\1015F009.D
Acq On : 15 Oct 2009 10:14 am
Sample : SIM-PAH ICAL @0.4/1.0ug/mL | SVM29-21I
Misc :
MS Integration Params: RTEINT.P
Quant Time: Oct 15 10:43 2009

Vial: 9
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 06:04:30 2009
Response via : Multiple Level Calibration



(28) Anthracene (T)

7.38min 402.25ng/ml m

response 418687

Ion	Exp%	Act%
178.00	100	100
176.00	17.60	19.13
0.00	0.00	0.00
0.00	0.00	0.00

OT Qualify

1015F009.D 1015ALK.M Thu Oct 15 10:43:30 2009

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\101509\1015F010.D Vial: 10
Acq On : 15 Oct 2009 10:40 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @1.0/2.0ug/mL | SVM29-21J Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 15 11:03:05 2009 Quant Results File: 1015ALK.RES

Quant Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 10:47:53 2009
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	4.67	136	303059	200.00	ng/ml	0.00
10) Acenaphthene-d10	6.10	164	150532	200.00	ng/ml	0.00
22) Phenanthrene-d10	7.32	188	186300	200.00	ng/ml	0.00
37) Chrysene-d12	9.84	240	207069	200.00	ng/ml	-0.01
49) Perylene-d12	12.93	264	225429	200.00	ng/ml	-0.03
System Monitoring Compounds						
15) Fluorene-d10	6.52	176	649306	880.37	ng/ml	0.00
Spiked Amount 200.000			Recovery = 440.18%			
20) 2,4,6 Tribromophenol	6.75	330	128284	925.84	ng/ml	0.00
Spiked Amount 375.000			Recovery = 246.89%			
36) Fluoranthene-d10	8.29	212	995524	881.61	ng/ml	0.00
Spiked Amount 200.000			Recovery = 440.81%			
42) Terphenyl-d14	8.64	244	822430	887.22	ng/ml	0.00
Spiked Amount 200.000			Recovery = 443.61%			
Target Compounds						Qvalue
2) Naphthalene	4.69	128	1312435	892.87	ng/ml	96
3) 2-Methylnaphthalene	5.25	142	986673	1010.98	ng/ml	89
4) 1-Methylnaphthalene	5.33	142	966758	902.15	ng/ml	97
5) Biphenyl	5.63	154	1058892	931.16	ng/ml	99
6) 2,6-Dimethylnaphthalene	5.76	156	780522	1025.94	ng/ml	96
11) Acenaphthylene	5.98	152	1295480	960.15	ng/ml	98
12) Acenaphthene	6.12	154	745546	919.45	ng/ml	88
13) Dibenzofuran	6.27	168	1006262	923.46	ng/ml	79
14) 2,3,5-Trimethylnaphthalene	6.44	170	609302	891.05	ng/ml	78
16) Fluorene	6.54	166	768465	865.43	ng/ml	100
21) Pentachlorophenol	7.19	266	171245	2632.81	ng/ml	99
23) Dibenzothiophene	7.23	184	933649	964.21	ng/ml	97
27) Phenanthrene	7.34	178	985788	898.51	ng/ml	98
28) Anthracene	7.38	178	985179m	952.10	ng/ml	
29) Carbazole	7.52	167	881543	1009.81	ng/ml	96
30) 1-Methylphenanthrene	7.83	192	722218	927.66	ng/ml	98
35) Fluoranthene	8.30	202	1059282	866.79	ng/ml	94
38) Pyrene	8.50	202	1108094	939.15	ng/ml	89
43) Benz(a)anthracene	9.83	228	1091273	938.38	ng/ml	100
44) Chrysene	9.88	228	1066113	936.09	ng/ml	99
50) Benzo(b)fluoranthene	11.89	252	1207756	1015.69	ng/ml	97
51) Benzo(k)fluoranthene	11.96	252	1208203	1035.24	ng/ml	98
52) Benzo(e)pyrene	12.61	252	1134193	1019.82	ng/ml	99
53) Benzo(a)pyrene	12.75	252	1148958	1024.12	ng/ml	100
54) Perylene	13.00	252	1127778	1027.44	ng/ml	98

(#) = qualifier out of range (m) = manual integration
1015F010.D 1015ALK.M Thu Oct 15 13:09:49 2009 Page 1

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\101509\1015F010.D Vial: 10
Acq On : 15 Oct 2009 10:40 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @1.0/2.0ug/mL | SVM29-21J Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 15 11:03:05 2009 Quant Results File: 1015ALK.RES

Quant Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 10:47:53 2009
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

10/19/09

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
55)	Indeno(1,2,3-cd)pyrene	16.42	276	1056961	1026.98	ng/ml	100
56)	Dibenz(a,h)anthracene	16.50	278	1142928	1033.43	ng/ml	95
57)	Benzo(g,h,i)perylene	16.89	276	1149599	947.45	ng/ml	99

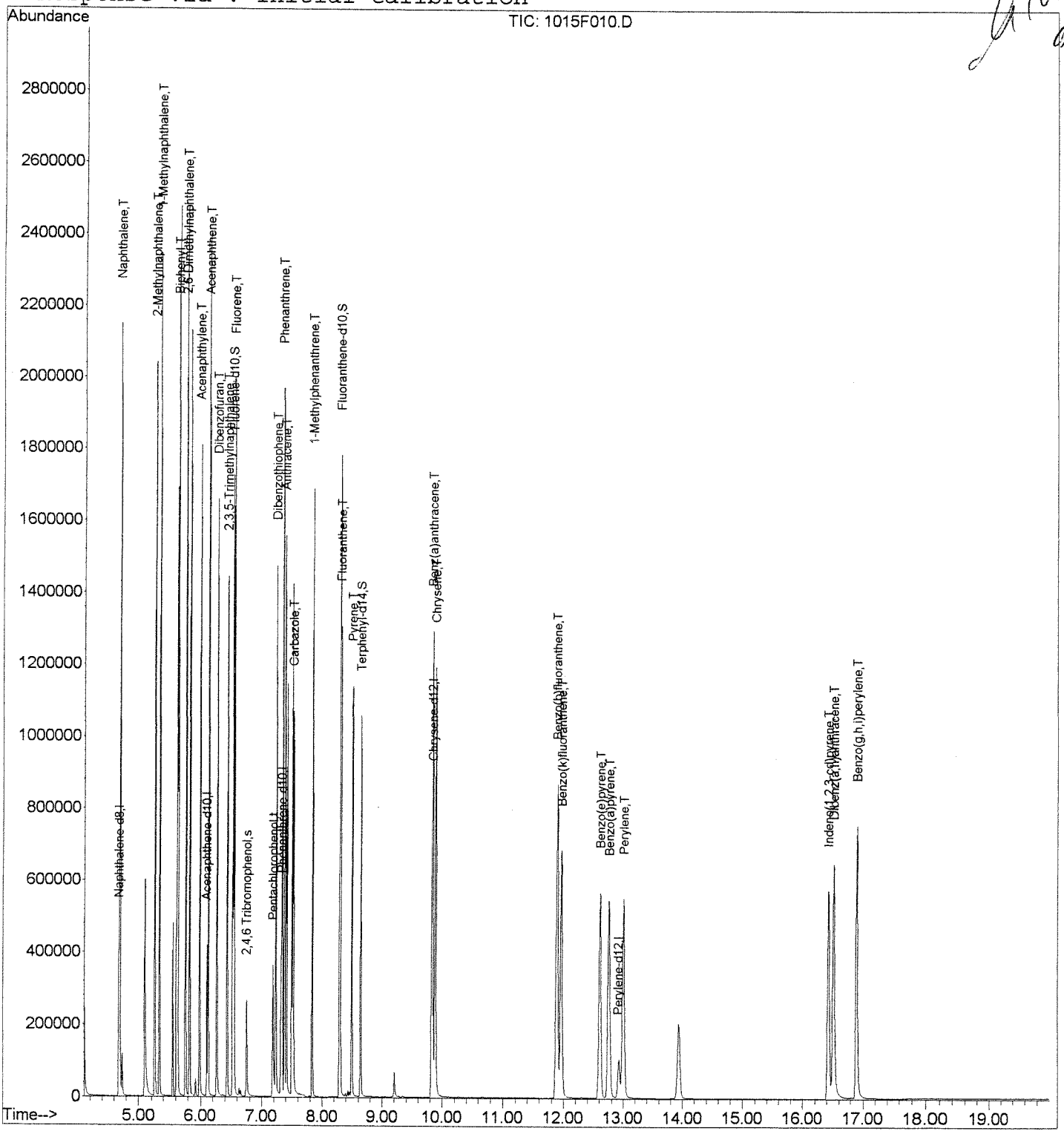
(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\101509\1015F010.D Vial: 10
Acq On : 15 Oct 2009 10:40 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @1.0/2.0ug/mL | SVM29-21J Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 15 11:03 2009 Quant Results File: 1015ALK.RES

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 12:27:11 2009
Response via : Initial Calibration

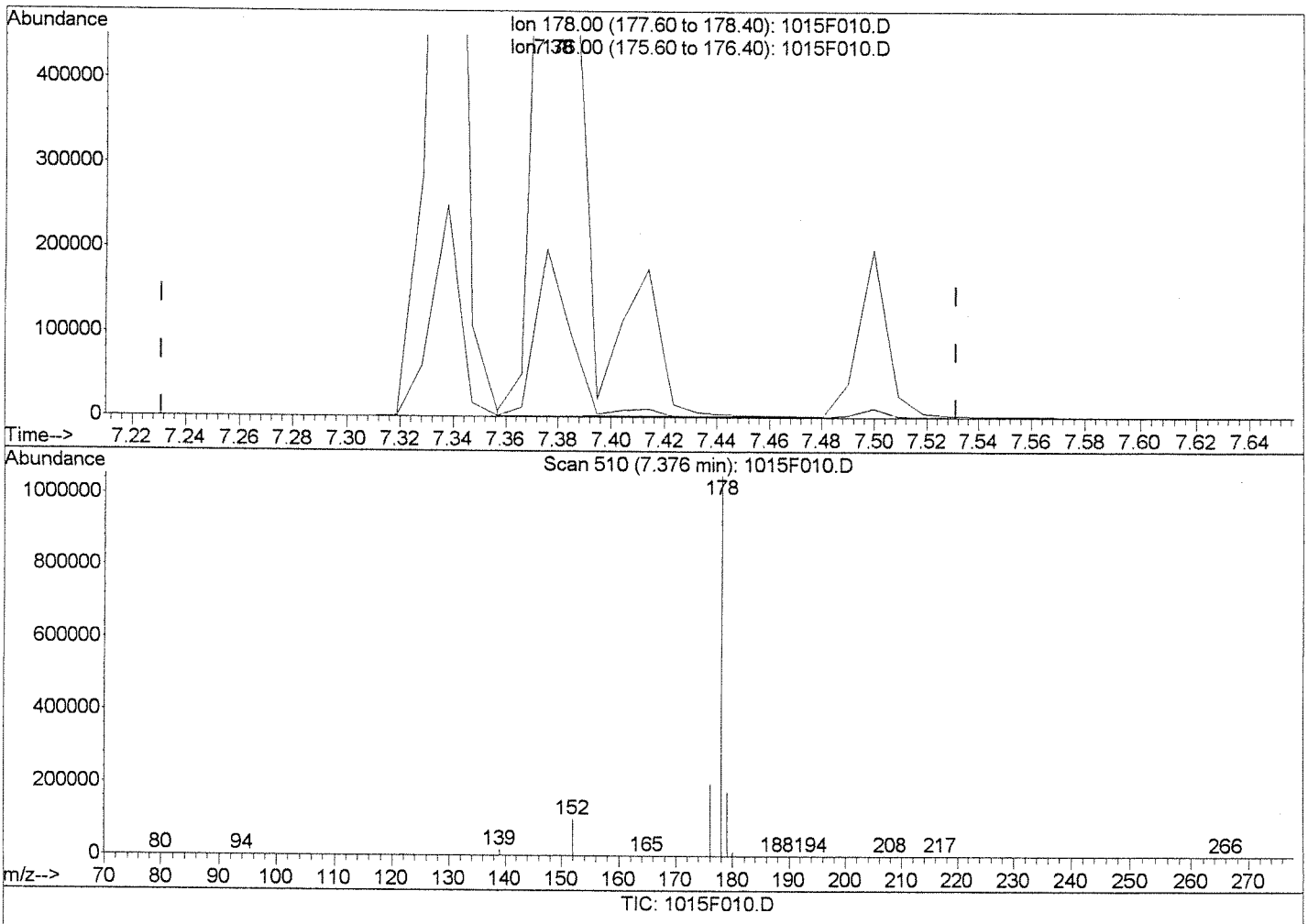
10/19/19



Quantitation Report (Qedit)

Data File : J:\MS11\DATA\101509\1015F010.D Vial: 10
Acq On : 15 Oct 2009 10:40 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @1.0/2.0ug/mL | SVM29-21J Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 15 11:03 2009 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 10:47:53 2009
Response via : Multiple Level Calibration



(28) Anthracene (T)

7.38min 1121.72ng/ml

response 1160695

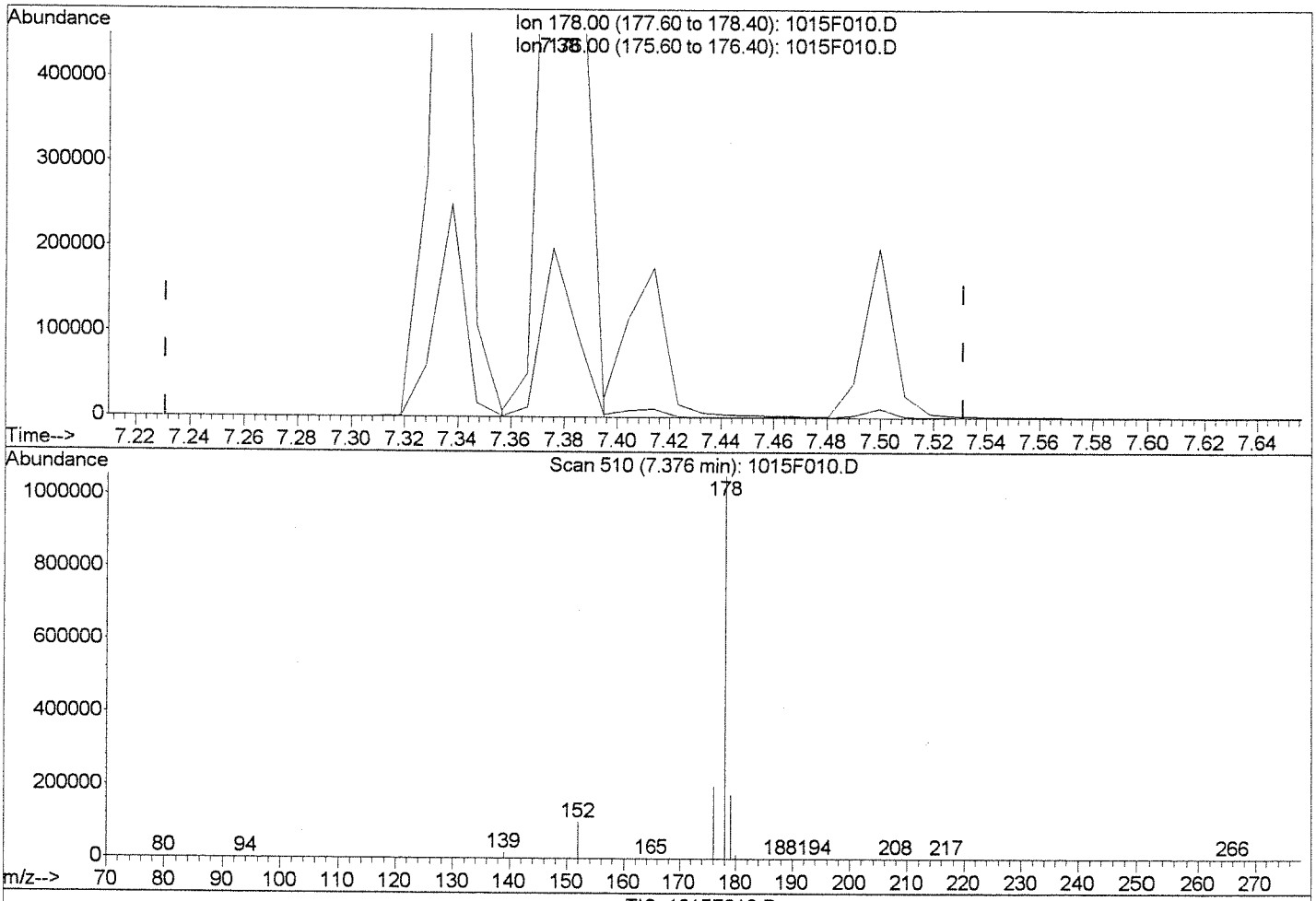
Ion	Exp%	Act%
178.00	100	100
176.00	17.60	18.81
0.00	0.00	0.00
0.00	0.00	0.00

1015F010.D 1015ALK.M Thu Oct 15 11:03:28 2009

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\101509\1015F010.D Vial: 10
Acq On : 15 Oct 2009 10:40 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @1.0/2.0ug/mL | SVM29-21J Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 15 11:03 2009 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 10:47:53 2009
Response via : Multiple Level Calibration



(28) Anthracene (T)

7.38min 952.10ng/ml m

response 985179

Ion	Exp%	Act%
178.00	100	100
176.00	17.60	18.81
0.00	0.00	0.00
0.00	0.00	0.00

QT

12/19

1015F010.D 1015ALK.M Thu Oct 15 11:03:33 2009

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\101509\1015F011.D Vial: 11
Acq On : 15 Oct 2009 11:07 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @1.6/2.4ug/mL | SVM29-21K Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 15 12:25:10 2009 Quant Results File: 1015ALK.RES

Quant Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 11:04:18 2009
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	4.67	136	299901	200.00	ng/ml	0.00
10) Acenaphthene-d10	6.10	164	156734	200.00	ng/ml	0.00
22) Phenanthrene-d10	7.32	188	196963	200.00	ng/ml	0.00
37) Chrysene-d12	9.84	240	217657	200.00	ng/ml	-0.02
49) Perylene-d12	12.92	264	235230	200.00	ng/ml	-0.04
System Monitoring Compounds						
15) Fluorene-d10	6.52	176	1041696	1377.10	ng/ml	0.00
Spiked Amount 200.000			Recovery = 688.55%			
20) 2,4,6 Tribromophenol	6.75	330	214389	1499.95	ng/ml	0.00
Spiked Amount 375.000			Recovery = 399.99%			
36) Fluoranthene-d10	8.29	212	1512629	1286.06	ng/ml	0.00
Spiked Amount 200.000			Recovery = 643.03%			
42) Terphenyl-d14	8.64	244	1282319	1334.86	ng/ml	0.00
Spiked Amount 200.000			Recovery = 667.43%			
Target Compounds						Qvalue
2) Naphthalene	4.69	128	1912241	1332.46	ng/ml	94
3) 2-Methylnaphthalene	5.25	142	1473502	1523.61	ng/ml	92
4) 1-Methylnaphthalene	5.33	142	1443380	1377.96	ng/ml	95
5) Biphenyl	5.63	154	1629907	1460.96	ng/ml	93
6) 2,6-Dimethylnaphthalene	5.76	156	1227141	1624.71	ng/ml	94
11) Acenaphthylene	5.98	152	1974317	1412.41	ng/ml	95
12) Acenaphthene	6.12	154	1165648	1394.70	ng/ml	95
13) Dibenzofuran	6.27	168	1573542	1400.31	ng/ml	64
14) 2,3,5-Trimethylnaphthalene	6.44	170	991171	1411.37	ng/ml	79
16) Fluorene	6.54	166	1214243	1335.82	ng/ml	97
21) Pentachlorophenol	7.19	266	215822	3049.04	ng/ml	98
23) Dibenzothiophene	7.23	184	1502519	1474.29	ng/ml	95
27) Phenanthrene	7.34	178	1555394	1358.17	ng/ml	100
28) Anthracene	7.38	178	1519934m	1397.74	ng/ml	
29) Carbazole	7.52	167	1329533	1438.77	ng/ml	97
30) 1-Methylphenanthrene	7.83	192	1135110	1391.66	ng/ml	96
35) Fluoranthene	8.30	202	1607938	1265.58	ng/ml	92
38) Pyrene	8.50	202	1702515	1383.28	ng/ml	89
43) Benz(a)anthracene	9.83	228	1721423	1419.17	ng/ml	99
44) Chrysene	9.88	228	1645108	1385.27	ng/ml	99
50) Benzo(b)fluoranthene	11.90	252	1920275	1544.58	ng/ml	96
51) Benzo(k)fluoranthene	11.96	252	1914377	1565.08	ng/ml	97
52) Benzo(e)pyrene	12.61	252	1796615	1544.31	ng/ml	96
53) Benzo(a)pyrene	12.75	252	1828167	1556.94	ng/ml	98
54) Perylene	13.00	252	1809248	1574.21	ng/ml	97

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\101509\1015F011.D Vial: 11
Acq On : 15 Oct 2009 11:07 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @1.6/2.4ug/mL | SVM29-21K Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 15 12:25:10 2009 Quant Results File: 1015ALK.RES

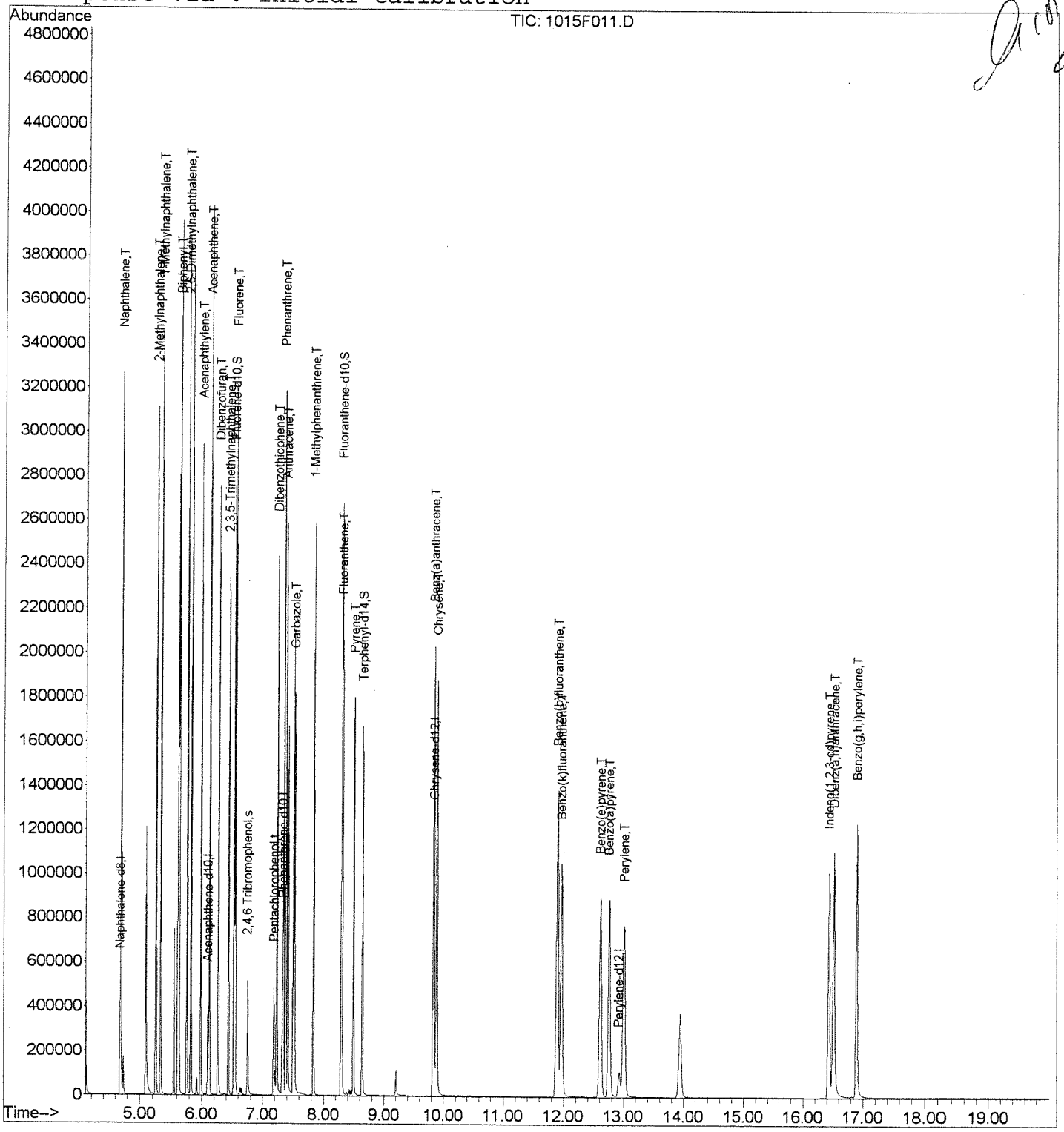
Quant Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 11:04:18 2009
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
55)	Indeno(1,2,3-cd)pyrene	16.43	276	1664446	1544.64	ng/ml	97
56)	Dibenz(a,h)anthracene	16.51	278	1818853	1569.51	ng/ml	97
57)	Benzo(g,h,i)perylene	16.89	276	1820008	1446.99	ng/ml	98

(#) = qualifier out of range (m) = manual integration
1015F011.D 1015ALK.M Thu Oct 15 13:09:51 2009 Page 2

Data File : J:\MS11\DATA\101509\1015F011.D Vial: 11
Acq On : 15 Oct 2009 11:07 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @1.6/2.4ug/mL | SVM29-21K Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 15 12:25 2009 Quant Results File: 1015ALK.RES

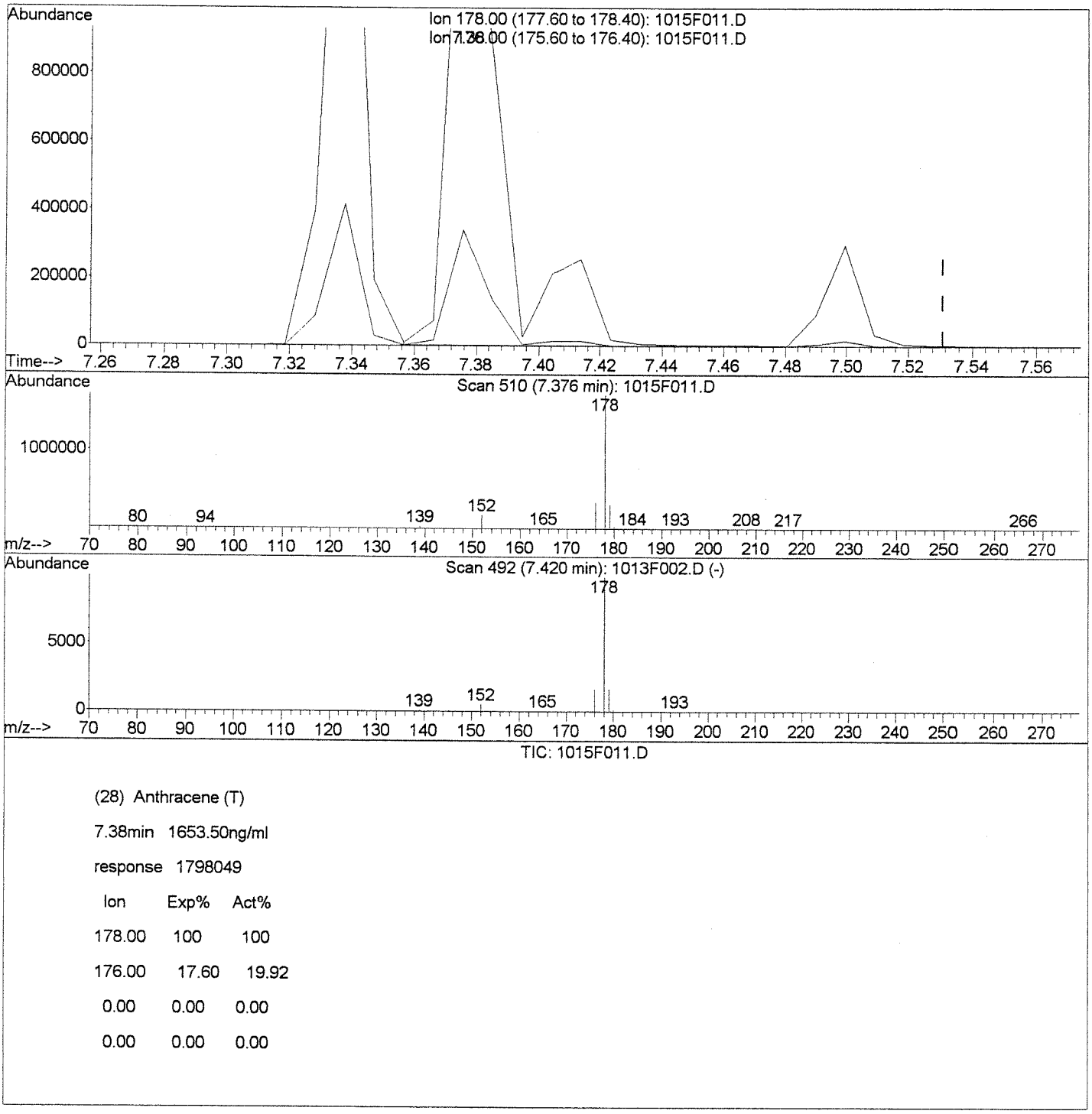
Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 12:27:11 2009
Response via : Initial Calibration



Quantitation Report (Qedit)

Data File : J:\MS11\DATA\101509\1015F011.D Vial: 11
Acq On : 15 Oct 2009 11:07 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @1.6/2.4ug/mL | SVM29-21K Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 15 12:25 2009 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 11:04:18 2009
Response via : Multiple Level Calibration



(28) Anthracene (T)

7.38min 1653.50ng/ml

response 1798049

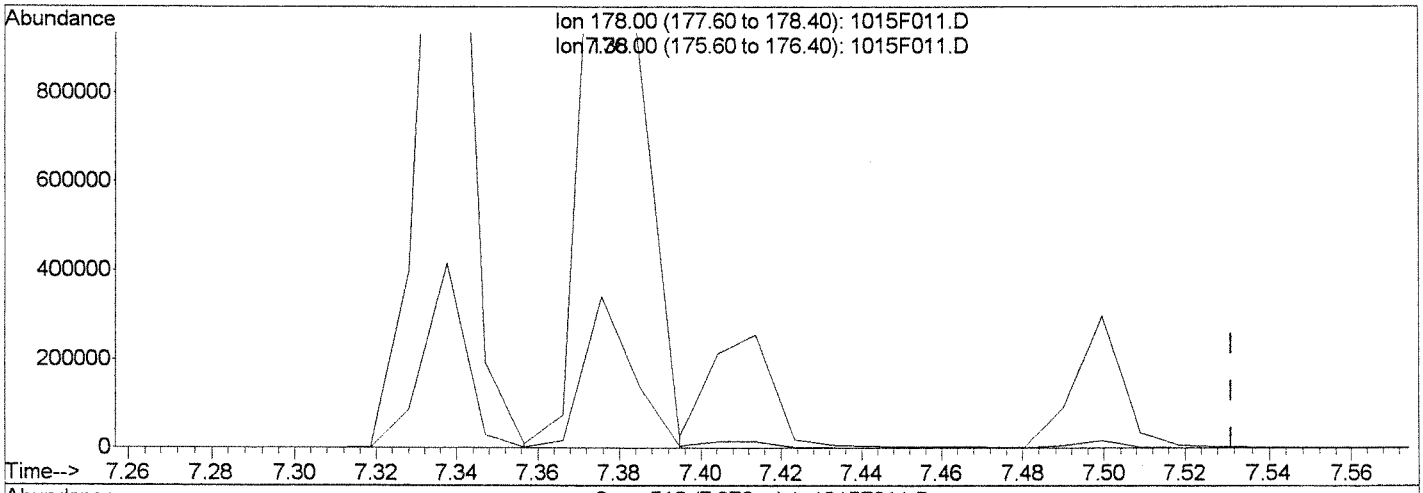
Ion	Exp%	Act%
178.00	100	100
176.00	17.60	19.92
0.00	0.00	0.00
0.00	0.00	0.00

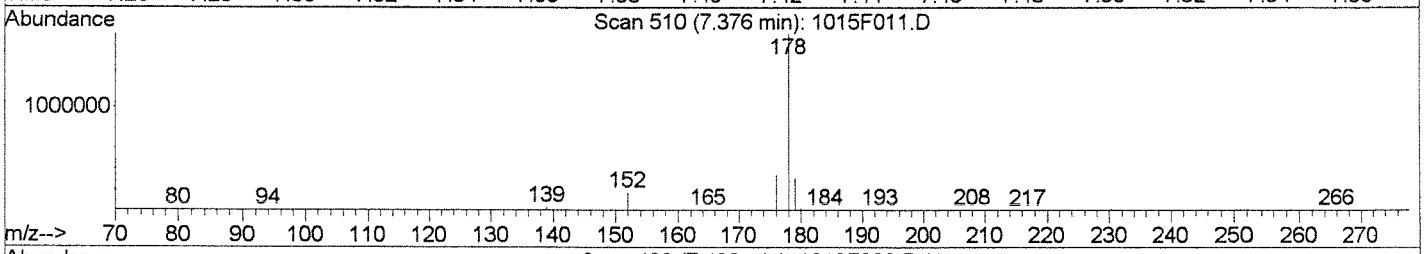
1015F011.D 1015ALK.M Thu Oct 15 12:25:32 2009

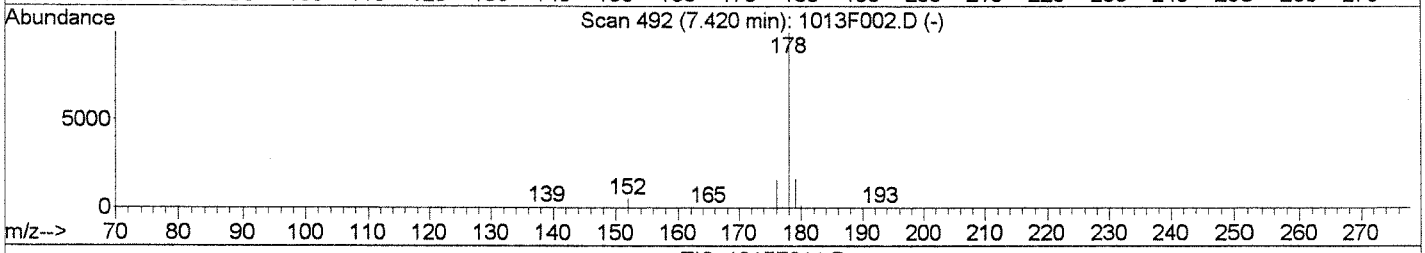
Quantitation Report (Qedit)

Data File : J:\MS11\DATA\101509\1015F011.D Vial: 11
Acq On : 15 Oct 2009 11:07 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @1.6/2.4ug/mL | SVM29-21K Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 15 12:25 2009 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 11:04:18 2009
Response via : Multiple Level Calibration







TIC: 1015F011.D

(28) Anthracene (T)

7.38min 1397.74ng/ml m

response 1519934

Ion	Exp%	Act%
178.00	100	100
176.00	17.60	19.92
0.00	0.00	0.00
0.00	0.00	0.00

OT Qualifier

1015F011.D 1015ALK.M Thu Oct 15 12:25:35 2009

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\101509\1015F012.D Vial: 12
Acq On : 15 Oct 2009 11:33 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @2.0/3.0ug/mL | SVM29-21L Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 15 12:25:11 2009 Quant Results File: 1015ALK.RES

Quant Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 11:04:18 2009
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	4.67	136	356401	200.00	ng/ml	0.00
10) Acenaphthene-d10	6.10	164	166220	200.00	ng/ml	0.00
22) Phenanthrene-d10	7.32	188	205523	200.00	ng/ml	0.00
37) Chrysene-d12	9.84	240	232376	200.00	ng/ml	-0.01
49) Perylene-d12	12.93	264	263447	200.00	ng/ml	-0.03
System Monitoring Compounds						
15) Fluorene-d10	6.52	176	1293992	1613.01	ng/ml	0.00
Spiked Amount 200.000			Recovery = 806.50%			
20) 2,4,6 Tribromophenol	6.75	330	276165	1821.89	ng/ml	0.00
Spiked Amount 375.000			Recovery = 485.84%			
36) Fluoranthene-d10	8.29	212	1893508	1542.84	ng/ml	0.00
Spiked Amount 200.000			Recovery = 771.42%			
42) Terphenyl-d14	8.64	244	1645209	1604.14	ng/ml	0.00
Spiked Amount 200.000			Recovery = 802.07%			
Target Compounds						Qvalue
2) Naphthalene	4.69	128	2672828	1567.19	ng/ml	95
3) 2-Methylnaphthalene	5.25	142	2027891	1764.44	ng/ml	100
4) 1-Methylnaphthalene	5.33	142	1972277	1584.39	ng/ml	97
5) Biphenyl	5.63	154	2142361	1615.87	ng/ml	96
6) 2,6-Dimethylnaphthalene	5.76	156	1589982	1771.38	ng/ml	92
11) Acenaphthylene	5.98	152	2511550	1694.20	ng/ml	94
12) Acenaphthene	6.12	154	1472392	1661.18	ng/ml	98
13) Dibenzofuran	6.27	168	1981150	1662.43	ng/ml	73
14) 2,3,5-Trimethylnaphthalene	6.44	170	1217450	1634.64	ng/ml	75
16) Fluorene	6.54	166	1510172	1566.56	ng/ml	99
21) Pentachlorophenol	7.19	266	291502	3883.19	ng/ml	98
23) Dibenzothiophene	7.23	184	1806371	1698.62	ng/ml	97
27) Phenanthrene	7.34	178	1905138	1594.28	ng/ml	99
28) Anthracene	7.38	178	1905875m	1679.66	ng/ml	
29) Carbazole	7.52	167	1679284	1741.57	ng/ml	97
30) 1-Methylphenanthrene	7.83	192	1408973	1655.47	ng/ml	94
35) Fluoranthene	8.30	202	2015927	1520.62	ng/ml	92
38) Pyrene	8.49	202	2152430	1638.06	ng/ml	70
43) Benz(a)anthracene	9.83	228	2242351	1731.54	ng/ml	98
44) Chrysene	9.88	228	2123053	1674.48	ng/ml	98
50) Benzo(b)fluoranthene	11.90	252	2519783	1809.72	ng/ml	95
51) Benzo(k)fluoranthene	11.96	252	2480773	1810.90	ng/ml	95
52) Benzo(e)pyrene	12.61	252	2377784	1824.95	ng/ml	97
53) Benzo(a)pyrene	12.76	252	2431455	1848.94	ng/ml	98
54) Perylene	13.00	252	2390569	1857.23	ng/ml	96

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\101509\1015F012.D Vial: 12
Acq On : 15 Oct 2009 11:33 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @2.0/3.0ug/mL | SVM29-21L Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 15 12:25:11 2009 Quant Results File: 1015ALK.RES

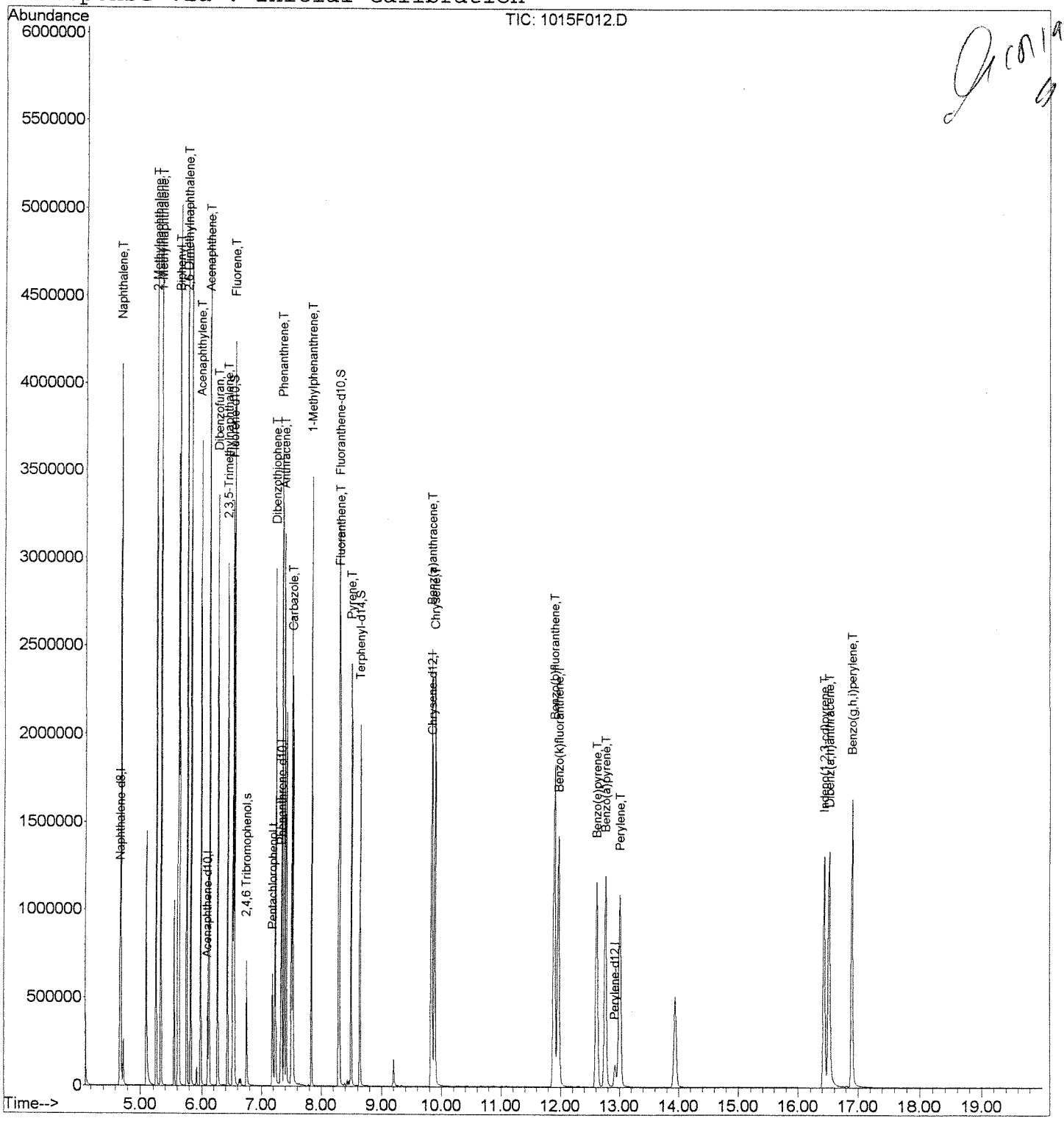
Quant Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 11:04:18 2009
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
55)	Indeno(1,2,3-cd)pyrene	16.43	276	2242317	1858.04	ng/ml	99
56)	Dibenz(a,h)anthracene	16.52	278	2417632	1862.76	ng/ml	97
57)	Benzo(g,h,i)perylene	16.89	276	2419042	1717.25	ng/ml	98

(#) = qualifier out of range (m) = manual integration
1015F012.D 1015ALK.M Thu Oct 15 13:10:36 2009 Page 2

Data File : J:\MS11\DATA\101509\1015F012.D Vial: 12
Acq On : 15 Oct 2009 11:33 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @2.0/3.0ug/mL | SVM29-21L Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 15 12:25 2009 Quant Results File: 1015ALK.RES

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 12:27:11 2009
Response via : Initial Calibration

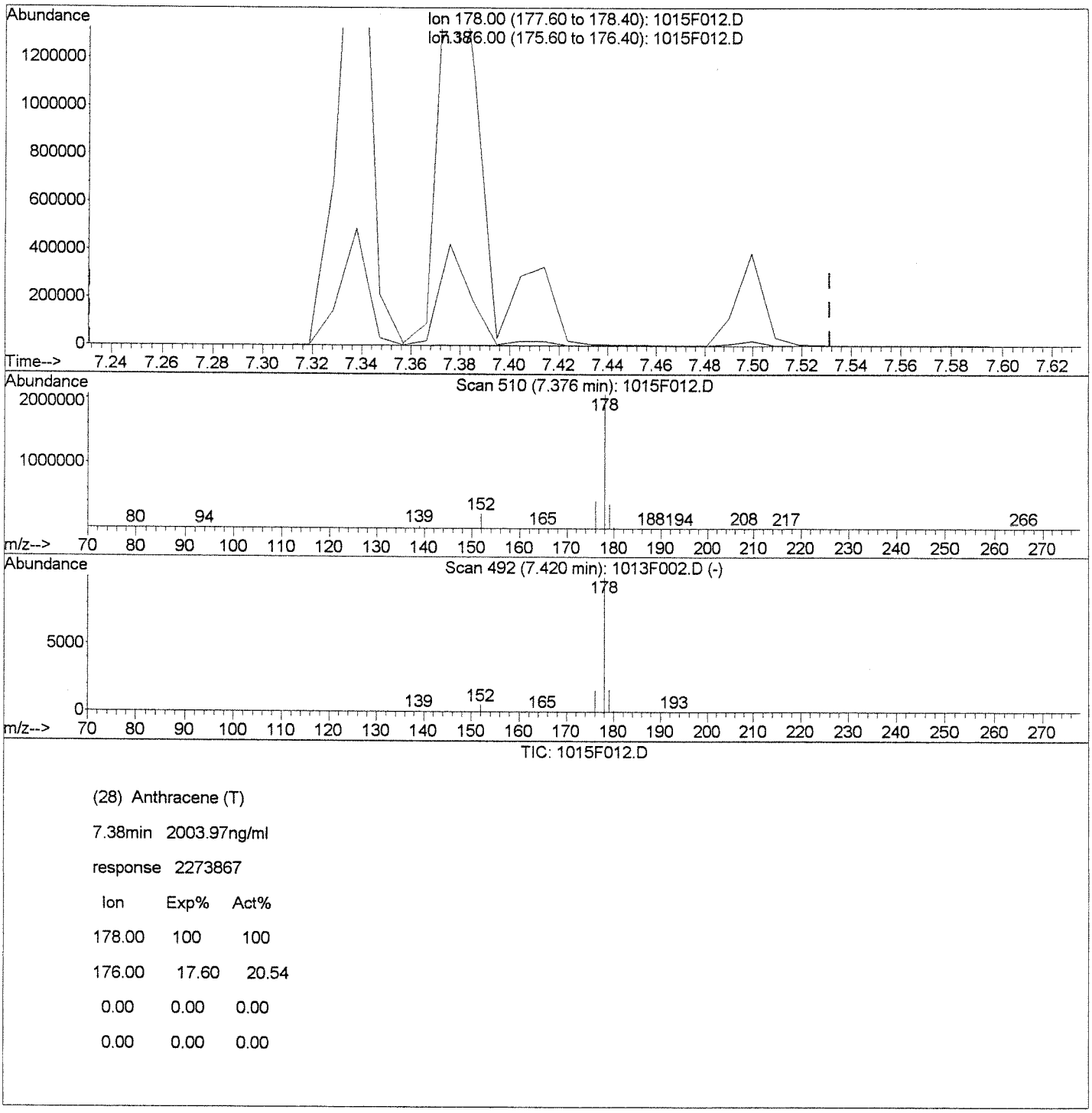


1015F012.D 1015ALK.M Thu Oct 15 13:10:37 2009 Page 3

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\101509\1015F012.D Vial: 12
Acq On : 15 Oct 2009 11:33 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @2.0/3.0ug/mL | SVM29-21L Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 15 12:25 2009 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 11:04:18 2009
Response via : Multiple Level Calibration



TIC: 1015F012.D

(28) Anthracene (T)

7.38min 2003.97ng/ml

response 2273867

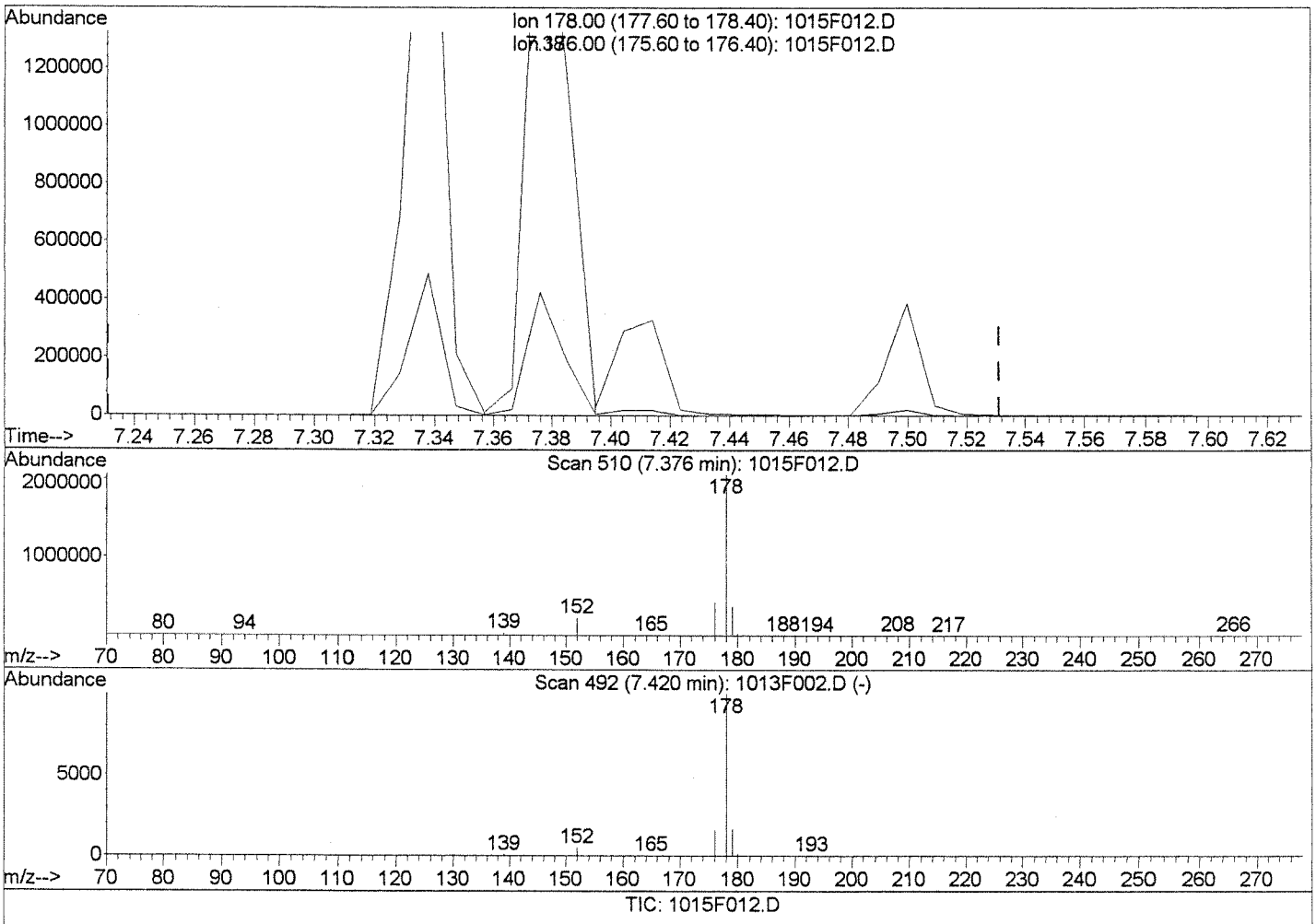
Ion	Exp%	Act%
178.00	100	100
176.00	17.60	20.54
0.00	0.00	0.00
0.00	0.00	0.00

1015F012.D 1015ALK.M Thu Oct 15 12:25:55 2009

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\101509\1015F012.D Vial: 12
Acq On : 15 Oct 2009 11:33 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @2.0/3.0ug/mL | SVM29-21L Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 15 12:25 2009 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 11:04:18 2009
Response via : Multiple Level Calibration



TIC: 1015F012.D

(28) Anthracene (T)

7.38min 1679.66ng/ml m

response 1905875

Ion	Exp%	Act%
178.00	100	100
176.00	17.60	20.54
0.00	0.00	0.00
0.00	0.00	0.00

OJ 12/19/09

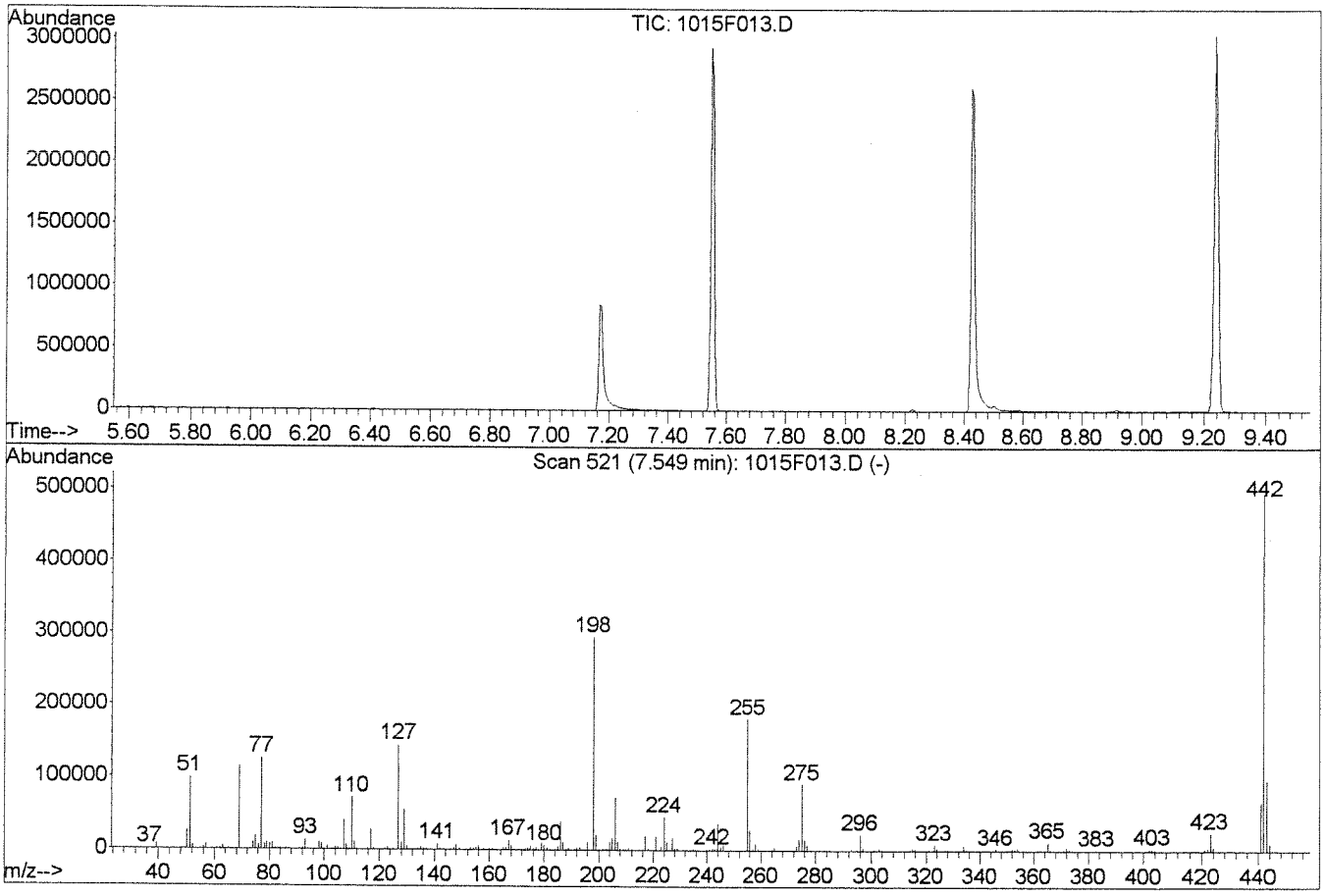
1015F012.D 1015ALK.M Thu Oct 15 12:25:59 2009

DFTPP

Data File : J:\MS11\DATA\101509\1015F013.D
Acq On : 15 Oct 2009 1:35 pm
Sample : DFTPP @ 3.0ug/mL | SVM30-24C
Misc :
MS Integration Params: RTEINT.P
Method : J:\MS11\METHODS\SIM\DFTPPPAH.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS

Vial: 1
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00

10/19/09



Spectrum Information: Scan 521

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	10	80	33.6	98952	PASS
68	69	0.00	2	0.0	0	PASS
70	69	0.00	2	0.5	545	PASS
127	198	10	80	49.0	144448	PASS
197	198	0.00	2	0.0	0	PASS
198	442	30	100	59.3	294848	PASS
199	198	5	9	7.2	21200	PASS
275	198	10	60	30.9	91248	PASS
365	442	1	50	2.3	11490	PASS
441	443	0.01	100	69.6	67288	PASS
442	442	30	100	100.0	496960	PASS
443	442	15	24	19.5	96744	PASS

1015F013.D DFTPPPAH.M Thu Oct 15 14:37:13 2009

Scan 521 (7.549 min): 1015F013.D
DFTPP @ 3.0ug/mL | SVM30-24C
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
37.10	509	63.00	4112	80.00	7310	94.00	1306
38.10	1177	65.00	2349	81.00	8572	96.10	766
39.10	7831	69.00	113968	82.10	1858	98.00	10162
40.00	567	70.00	545	83.10	2242	99.00	7883
50.10	25368	73.00	1185	84.00	993	100.00	719
51.10	98952	74.10	10247	85.10	1145	101.00	5431
52.10	5034	75.00	18048	86.00	1997	103.00	1288
56.00	3302	76.10	6107	87.00	1355	104.10	2762
57.00	6826	77.10	125248	91.00	1772	105.00	2626
61.00	1315	78.10	7403	92.00	1729	105.90	900
62.00	1370	79.00	8963	93.00	13515	107.00	39984

Scan 521 (7.549 min): 1015F013.D
DFTPP @ 3.0ug/mL | SVM30-24C
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
108.00	6072	123.00	3849	136.00	2347	149.00	1714
109.00	1348	124.00	1691	137.00	1845	151.40	960
110.00	72072	125.00	1835	138.10	620	153.00	2434
111.00	10347	127.00	144448	140.00	663	154.10	1507
111.90	1161	128.00	10022	141.00	8393	155.00	4087
115.90	1673	129.00	54576	142.00	1999	156.00	5723
117.00	27680	130.00	4375	143.10	1345	157.10	915
117.90	1832	131.00	987	145.00	638	157.90	1687
119.10	538	132.00	631	146.10	1305	159.00	858
120.10	612	134.00	1560	147.00	3377	160.00	1839
122.00	2321	135.00	3913	148.00	7125	161.00	2753

Scan 521 (7.549 min): 1015F013.D
DFTPP @ 3.0ug/mL | SVM30-24C
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
162.10	811	175.00	5487	187.00	10983	201.50	2215
163.00	612	176.10	1968	188.00	1499	202.90	2185
165.00	3087	177.00	3310	189.00	2573	204.00	10432
166.00	2716	177.90	838	191.00	995	205.00	16002
167.00	13481	179.00	10083	191.90	3854	206.00	72504
168.00	6535	180.00	6573	193.10	3585	207.00	11124
169.00	1338	181.10	3179	194.00	736	208.00	2309
171.00	731	182.10	994	196.00	10570	209.00	853
172.00	1297	183.90	928	197.90	294848	210.10	1000
173.00	1601	185.00	4834	198.90	21200	210.90	2609
174.00	2498	186.00	39264	200.00	1318	212.10	924

Scan 521 (7.549 min): 1015F013.D
DFTPP @ 3.0ug/mL | SVM30-24C
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
214.90	804	229.00	2785	242.90	2495	258.00	8839
216.10	1722	230.00	679	244.00	37128	259.00	2023
216.90	19248	231.10	1214	245.00	4531	259.80	582
218.00	2200	233.90	1331	246.00	6904	264.00	868
220.90	19816	234.90	1580	246.90	1055	264.90	3904
223.00	5066	235.90	947	249.00	1245	265.85	304
224.00	46064	236.90	1230	253.00	738	273.00	6038
225.00	10933	238.90	713	253.90	1500	274.00	15462
226.00	806	239.80	667	255.00	181632	275.00	91248
227.00	16880	240.90	834	256.00	28512	276.00	13926
228.00	2889	242.00	2556	257.00	2374	277.00	6937

Scan 521 (7.549 min): 1015F013.D
DFTPP @ 3.0ug/mL | SVM30-24C
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
278.00	1186	304.00	979	333.00	1233	371.00	1034
283.10	796	314.00	1046	334.00	6634	372.00	4480
285.10	1653	315.00	2864	335.10	1573	373.00	1695
292.00	543	316.00	2142	341.00	697	382.90	1432
292.90	1904	321.00	1104	345.90	2419	390.00	978
293.90	510	322.10	503	352.00	2637	390.90	731
295.00	904	323.00	8026	352.90	2257	402.00	2162
296.00	22200	324.00	2176	354.00	3132	403.00	3062
296.90	3407	326.90	1334	365.00	11490	403.90	1386
300.90	557	327.90	708	366.00	1263	421.00	3256
303.00	2289	332.10	679	370.00	520	422.00	3417

Scan 521 (7.549 min): 1015F013.D
DFTPP @ 3.0ug/mL | SVM30-24C
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
422.90	24832						
424.00	5572						
441.00	67288						
442.00	496960						
443.00	96744						
444.00	9624						
445.00	827						

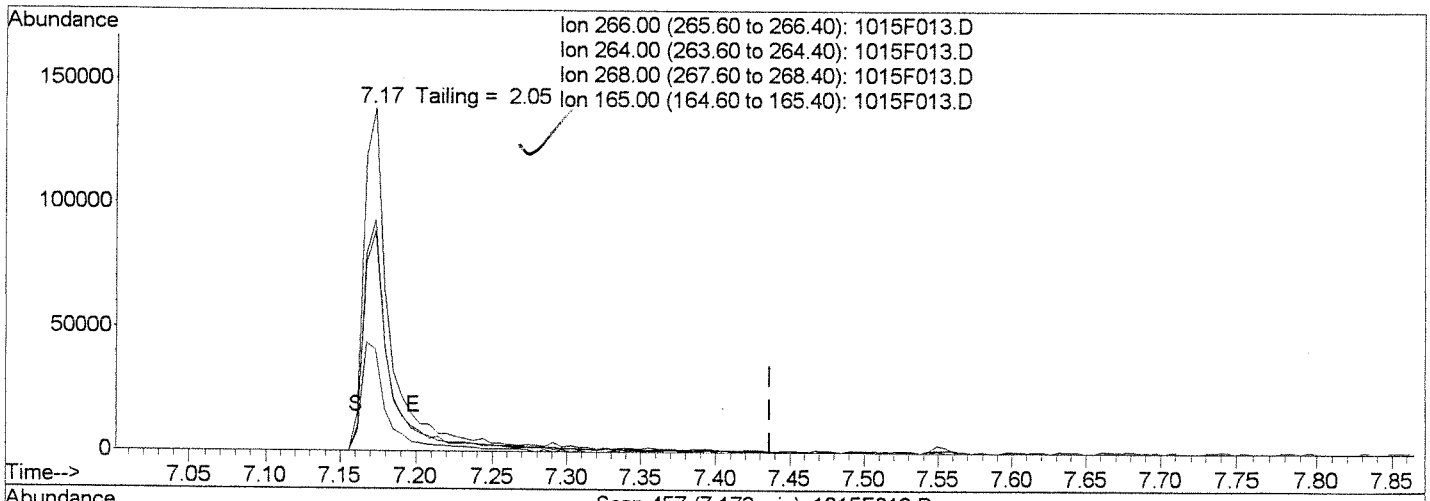
Quantitation Report (Qedit)

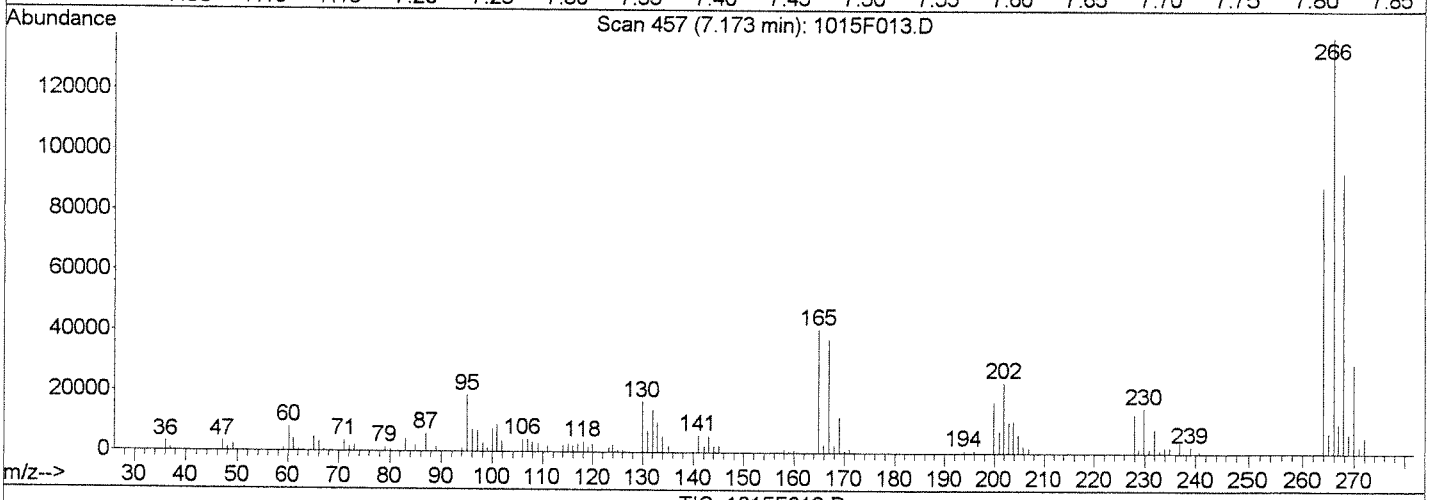
Data File : J:\MS11\DATA\101509\1015F013.D
Acq On : 15 Oct 2009 1:35 pm
Sample : DFTPP @ 3.0ug/mL | SVM30-24C
Misc :
MS Integration Params: RTEINT.P
Quant Time: Oct 15 14:37 2009

Vial: 1
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\DFTPPPAH.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Tue Oct 12 13:33:42 2004
Response via : Single Level Calibration





TIC: 1015F013.D

(1) Pentachlorophenol

6.94min 0.00ng/ml

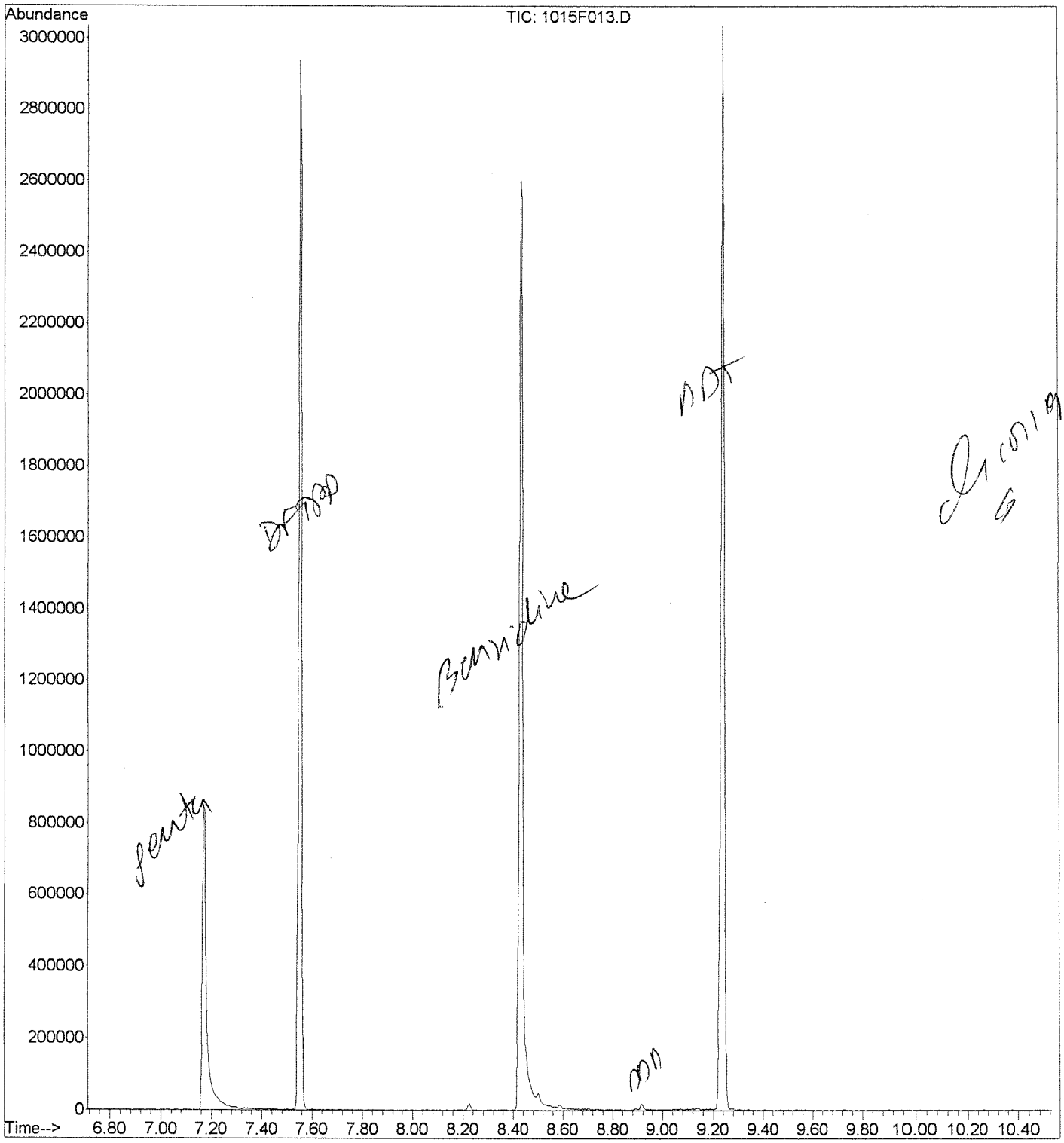
response 0

Ion	Exp%	Act%
266.00	100	0.00
264.00	64.50	0.00#
268.00	63.70	0.00#
165.00	28.70	0.00

10/19

1015F013.D DFTPPPAH.M Thu Oct 15 14:37:28 2009

File : J:\MS11\DATA\101509\1015F013.D
Operator : LWeiskopf
Acquired : 15 Oct 2009 1:35 pm using AcqMethod SIMLOC
Instrument : MS11
Sample Name: DFTPP @ 3.0ug/mL | SVM30-24C
Misc Info :
Vial Number: 1



1	6.409	rBV	0.071		5185	6.386	6.456
2	7.167	rBV	0.135		1055179	7.150	7.285
3	7.332	rVB	0.059		8536	7.320	7.379
4	7.549	rVB	0.071		2417880	7.520	7.590
5	8.225	rBV	0.041		16163	8.201	8.243
6	8.425	rBV	0.106		2687157	8.384	8.489
7	8.589	rVB	0.029		8562	8.577	8.607
8	8.912	rBV	0.088	DOD	23691	8.854	8.942
9	9.141	rBV	0.071		9305	9.083	9.153
10	9.235	rVB	0.094	DOT	2830824	9.200	9.294
11	11.891	rBB	0.076		7907	11.850	11.926
12	13.619	rBV	0.076		5376	13.572	13.648
13	15.651	rVB	0.071		6722	15.610	15.681
14	16.592	rBV	0.047		12034	16.562	16.609
15	17.032	rVB	0.035		5307	17.009	17.044
16	17.062	rBV	0.035		7755	17.044	17.079
17	17.091	rBV	0.029		5206	17.079	17.109
18	17.208	rBV	0.065		13712	17.185	17.250
19	17.367	rBV	0.035		6546	17.350	17.385
20	17.790	rBV	0.053		18270	17.773	17.825
21	18.290	rVB	0.041		9001	18.284	18.325
22	18.337	rBV	0.024		5727	18.325	18.348
23	18.654	rBV	0.035		5578	18.642	18.677
24	18.813	rBV	0.047		10207	18.801	18.848

ODT Breakdown = 0.8 ✓

Q 11/19/19

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\101509\1015G014.D Vial: 2
Acq On : 15 Oct 2009 2:01 pm Operator: LWeiskopf
Sample : SIM-PAH ICV @ 0.4ug/mL | SVM30-24D Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 19 07:43:39 2009 Quant Results File: 1015ALK.RES

Quant Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 12:27:11 2009
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	4.67	136	284923	200.00	ng/ml	0.00
10) Acenaphthene-d10	6.10	164	128857	200.00	ng/ml	0.00
22) Phenanthrene-d10	7.32	188	179667	200.00	ng/ml	0.00
37) Chrysene-d12	9.84	240	232351	200.00	ng/ml	-0.01
49) Perylene-d12	12.93	264	237713	200.00	ng/ml	-0.03
System Monitoring Compounds						
15) Fluorene-d10	6.52	176	243796	405.51	ng/ml	0.00
Spiked Amount 200.000			Recovery =	202.75%		
20) 2,4,6 Tribromophenol	6.75	330	57557	497.35	ng/ml	0.00
Spiked Amount 375.000			Recovery =	132.63%		
36) Fluoranthene-d10	8.29	212	395345	397.08	ng/ml	0.00
Spiked Amount 200.000			Recovery =	198.54%		
42) Terphenyl-d14	8.64	244	411780	428.69	ng/ml	0.00
Spiked Amount 200.000			Recovery =	214.35%		
Target Compounds						Qvalue
2) Naphthalene	4.69	128	515189	392.93	ng/ml	100
3) 2-Methylnaphthalene	5.25	142	370519	410.05	ng/ml	97
4) 1-Methylnaphthalene	5.33	142	362743	377.59	ng/ml	99
5) Biphenyl	5.63	154	403530	391.64	ng/ml	97
6) 2,6-Dimethylnaphthalene	5.76	156	284952	401.07	ng/ml	98
11) Acenaphthylene	5.98	152	493809	441.62	ng/ml	99
12) Acenaphthene	6.12	154	281819	422.73	ng/ml	96
13) Dibenzofuran	6.27	168	392740	437.97	ng/ml	74
14) 2,3,5-Trimethylnaphthalene	6.44	170	235397	420.34	ng/ml	89
16) Fluorene	6.54	166	299278	416.37	ng/ml	97
21) Pentachlorophenol	7.19	266	70295	1136.61	ng/ml	97
23) Dibenzothiophene	7.23	184	384180	422.95	ng/ml	89
27) Phenanthrene	7.34	178	398946	395.91	ng/ml	95
28) Anthracene	7.38	178	408610m	424.09	ng/ml	
29) Carbazole	7.52	167	359898	437.01	ng/ml	92
30) 1-Methylphenanthrene	7.83	192	296053	410.32	ng/ml	97
35) Fluoranthene	8.30	202	437721	395.43	ng/ml	94
38) Pyrene	8.49	202	458850	360.65	ng/ml	87
43) Benz(a)anthracene	9.83	228	448848	355.42	ng/ml	98
44) Chrysene	9.88	228	450481	366.21	ng/ml	98
50) Benzo(b)fluoranthene	11.89	252	501874	404.72	ng/ml	100
51) Benzo(k)fluoranthene	11.96	252	504664	413.08	ng/ml	99
52) Benzo(e)pyrene	12.60	252	465988	401.27	ng/ml	99
53) Benzo(a)pyrene	12.75	252	458701	390.57	ng/ml	99
54) Perylene	13.00	252	459372	399.01	ng/ml	100

(#) = qualifier out of range (m) = manual integration
1015G014.D 1015ALK.M Mon Oct 19 07:44:02 2009 Page 1

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\101509\1015G014.D Vial: 2
Acq On : 15 Oct 2009 2:01 pm Operator: LWeiskopf
Sample : SIM-PAH ICV @ 0.4ug/mL | SVM30-24D Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 19 07:43:39 2009 Quant Results File: 1015ALK.RES

Quant Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 12:27:11 2009
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

10/19/09

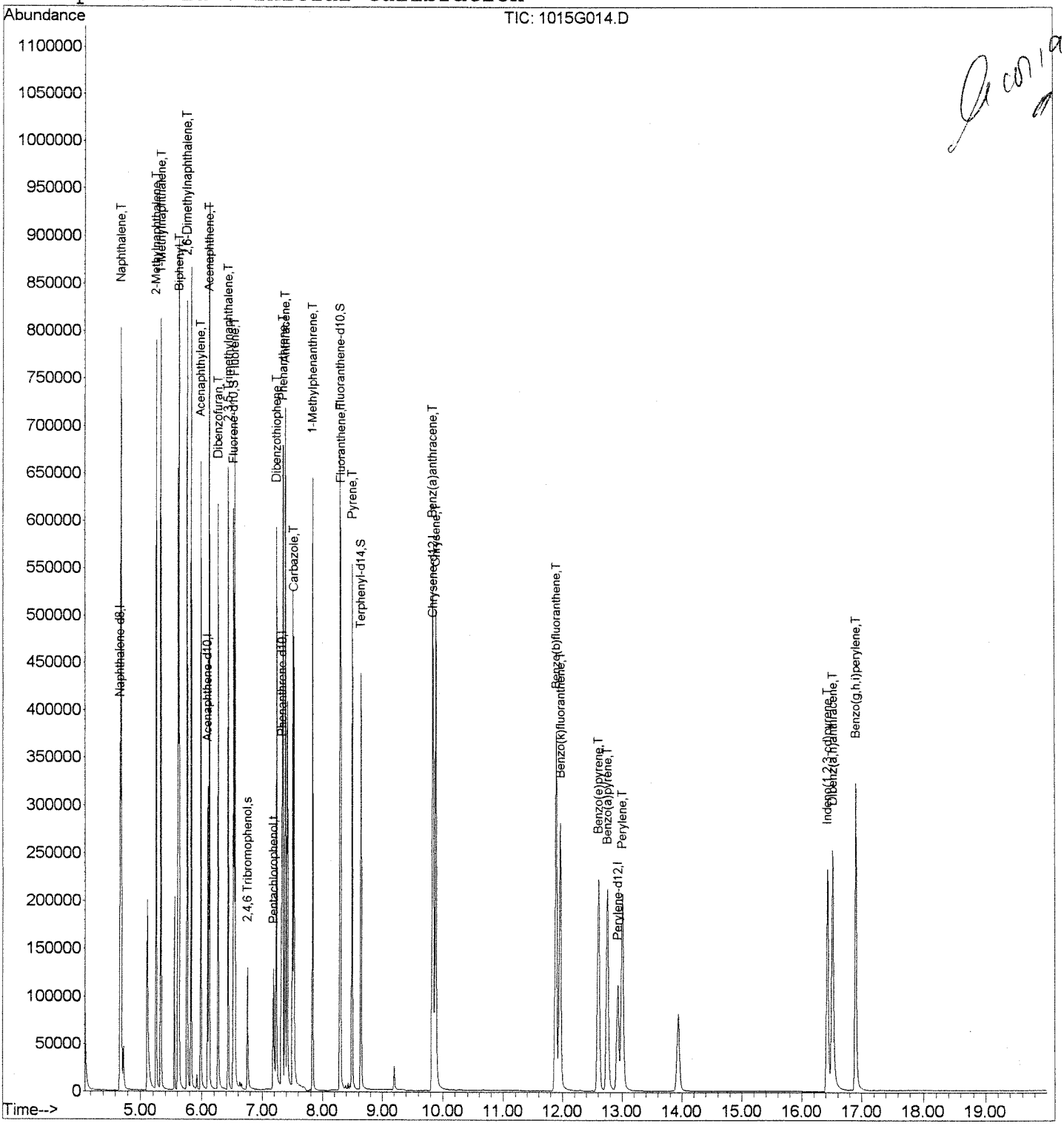
	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
55)	Indeno(1,2,3-cd)pyrene	16.42	276	413688	383.95	ng/ml	99
56)	Dibenz(a,h)anthracene	16.51	278	445222	383.54	ng/ml	93
57)	Benzo(g,h,i)perylene	16.89	276	473486	381.55	ng/ml	98

(#) = qualifier out of range (m) = manual integration
1015G014.D 1015ALK.M Mon Oct 19 07:44:02 2009 Page 2

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\101509\1015G014.D Vial: 2
Acq On : 15 Oct 2009 2:01 pm Operator: LWeiskopf
Sample : SIM-PAH ICV @ 0.4ug/mL | SVM30-24D Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 19 7:43 2009 Quant Results File: 1015ALK.RES

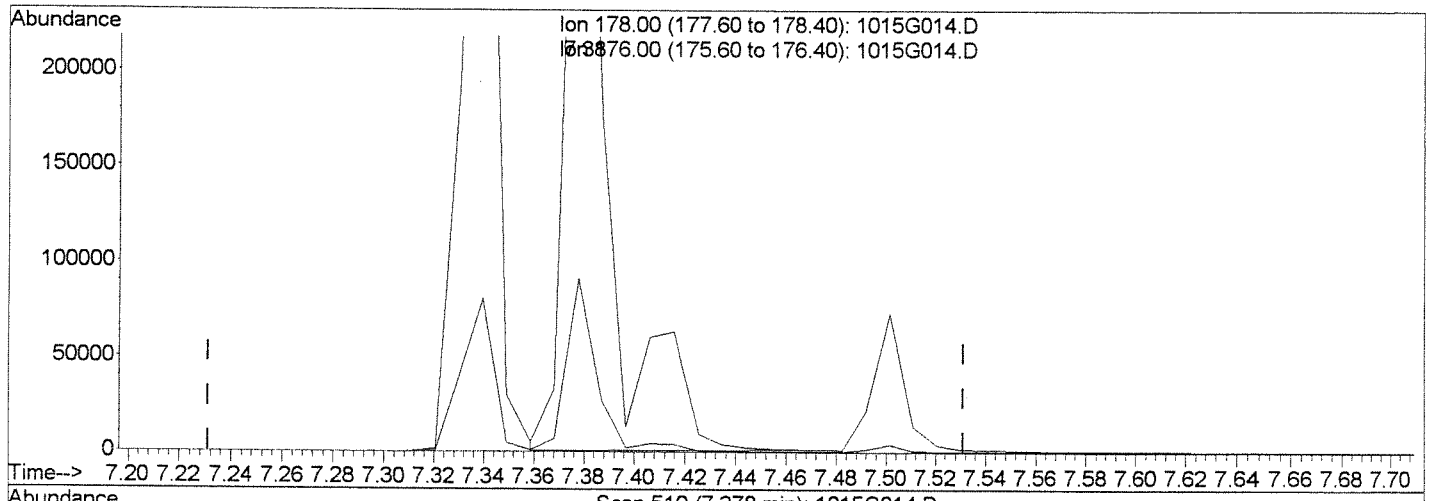
Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 12:27:11 2009
Response via : Initial Calibration

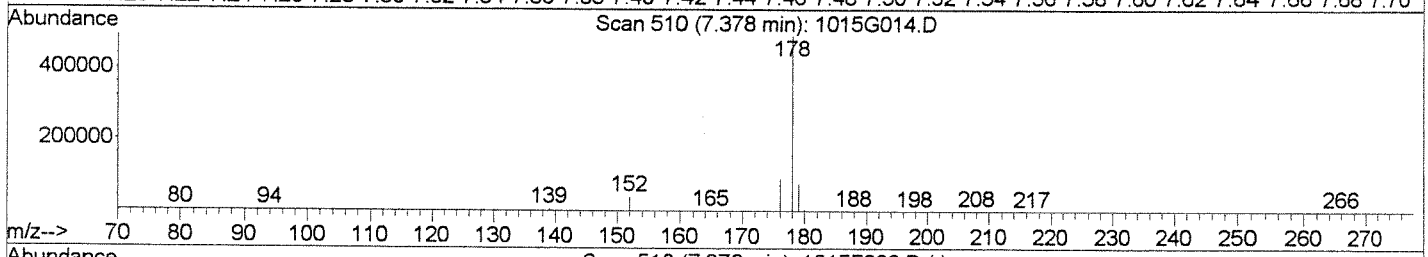


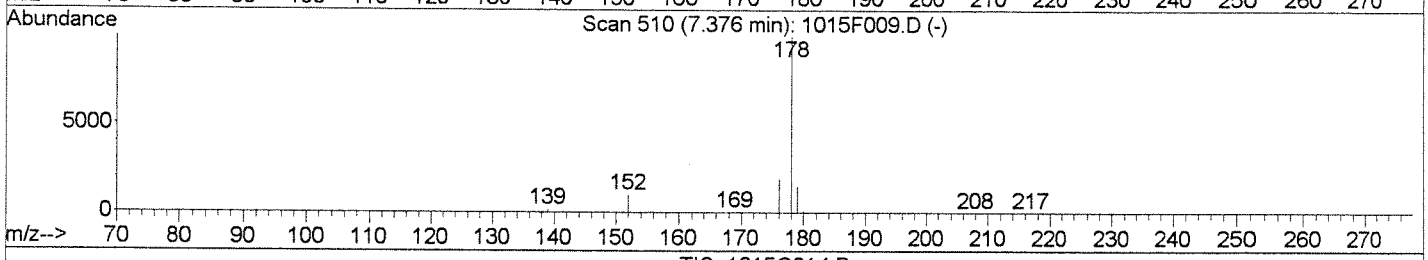
Quantitation Report (Qedit)

Data File : J:\MS11\DATA\101509\1015G014.D Vial: 2
Acq On : 15 Oct 2009 2:01 pm Operator: LWeiskopf
Sample : SIM-PAH ICV @ 0.4ug/mL | SVM30-24D Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 19 7:43 2009 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 12:27:11 2009
Response via : Multiple Level Calibration







TIC: 1015G014.D

(28) Anthracene (T)

7.38min 502.70ng/ml

response 484352

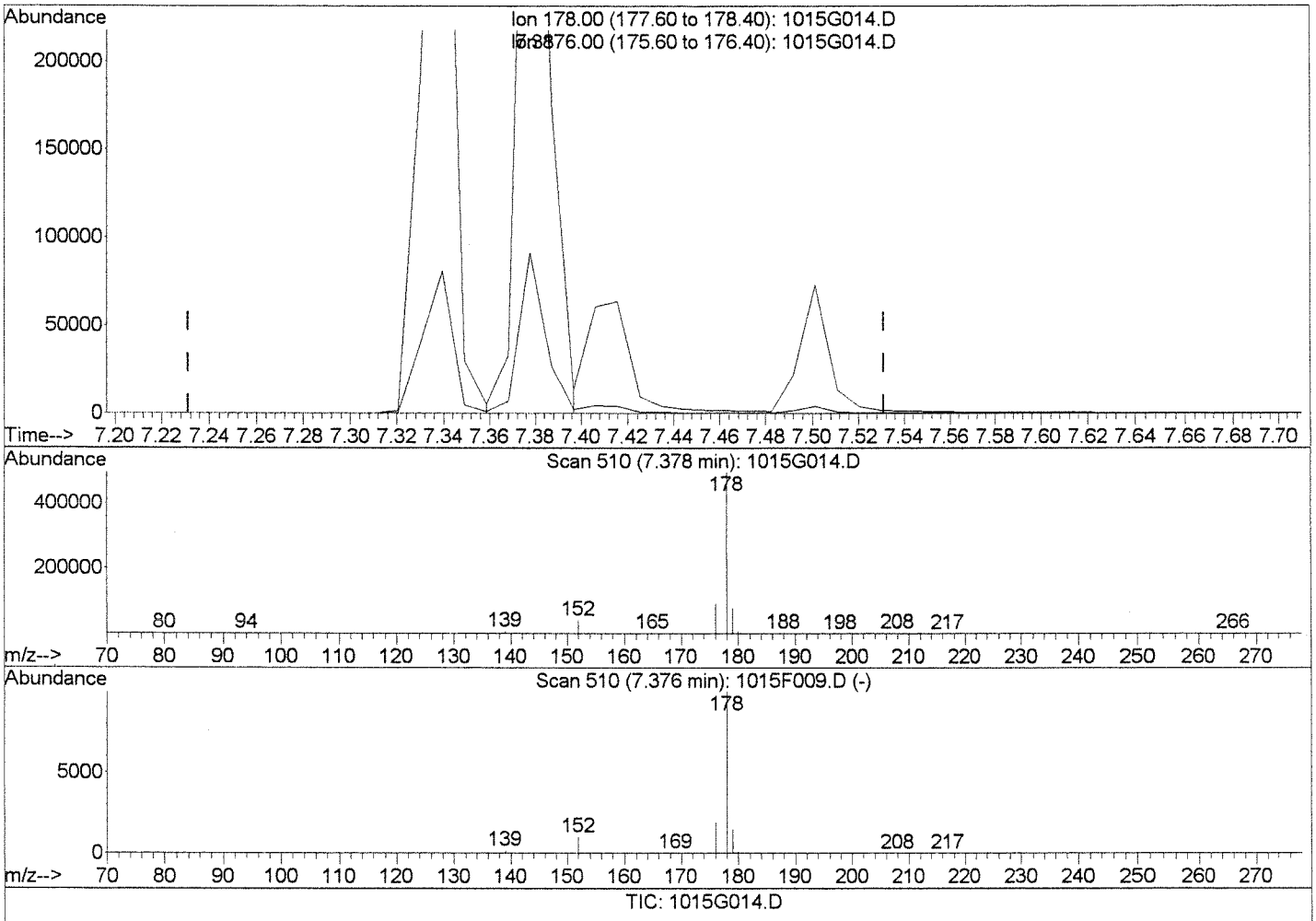
Ion	Exp%	Act%
178.00	100	100
176.00	17.60	18.43
0.00	0.00	0.00
0.00	0.00	0.00

1015G014.D 1015ALK.M Mon Oct 19 07:43:53 2009

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\101509\1015G014.D Vial: 2
Acq On : 15 Oct 2009 2:01 pm Operator: LWeiskopf
Sample : SIM-PAH ICV @ 0.4ug/mL | SVM30-24D Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 19 7:43 2009 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Oct 15 12:27:11 2009
Response via : Multiple Level Calibration



(28) Anthracene (T)

7.38min 424.09ng/ml m

response 408610

Ion	Exp%	Act%
178.00	100	100
176.00	17.60	18.43
0.00	0.00	0.00
0.00	0.00	0.00

OT 10/19/19

1015G014.D 1015ALK.M Mon Oct 19 07:43:56 2009

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Results

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0910296
Date Analyzed: 11/06/2009

Continuing Calibration Verification Summary
Polynuclear Aromatic Hydrocarbons

Calibration Type: Internal Standard
Analysis Method: 8270C SIM

Calibration Date: 10/15/2009
Calibration ID: CAL8928
Analysis Lot: KWG0910516
Units: ng/ml

File ID: J:\MS11\DATA\110609\1106F002.D

Analyte Name	Expected	Result	Min RF	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Naphthalene	400	360	0.01	0.920	0.836	-9	NA	± 20 %	AverageRF
2-Methylnaphthalene	400	390	0.01	0.634	0.615	-3	NA	± 20 %	AverageRF
1-Methylnaphthalene	400	350	0.01	0.674	0.594	-12	NA	± 20 %	AverageRF
2,6-Dimethylnaphthalene	400	460	0.01	0.499	0.571	14	NA	± 20 %	AverageRF
Acenaphthylene	400	380	0.01	1.74	1.65	-5	NA	± 20 %	AverageRF
Acenaphthene	400	380	0.01	1.03	0.995	-4	NA	± 20 %	AverageRF
Dibenzofuran	400	420	0.01	1.39	1.46	5	NA	± 20 %	AverageRF
2,3,5-Trimethylnaphthalene	400	470	0.01	0.869	1.03	19	NA	± 20 %	AverageRF
Fluorene	400	440	0.01	1.12	1.22	10	NA	± 20 %	AverageRF
Phenanthrene	400	350	0.01	1.12	0.969	-14	NA	± 20 %	AverageRF
Anthracene	400	380	0.01	1.07	1.02	-5	NA	± 20 %	AverageRF
1-Methylphenanthrene	400	390	0.01	0.803	0.776	-3	NA	± 20 %	AverageRF
Fluoranthene	400	370	0.01	1.23	1.14	-7	NA	± 20 %	AverageRF
Pyrene	400	370	0.01	1.10	1.01	-8	NA	± 20 %	AverageRF
Benz(a)anthracene	400	340	0.01	1.09	0.926	-15	NA	± 20 %	AverageRF
Chrysene	400	340	0.01	1.06	0.909	-14	NA	± 20 %	AverageRF
Benzo(b)fluoranthene	400	390	0.01	1.04	1.02	-2	NA	± 20 %	AverageRF
Benzo(k)fluoranthene	400	390	0.01	1.03	1.01	-2	NA	± 20 %	AverageRF
Benzo(e)pyrene	400	380	0.01	0.977	0.935	-4	NA	± 20 %	AverageRF
Benzo(a)pyrene	400	370	0.01	0.988	0.915	-7	NA	± 20 %	AverageRF
Indeno(1,2,3-cd)pyrene	400	360	0.01	0.907	0.809	-11	NA	± 20 %	AverageRF
Dibenz(a,h)anthracene	400	350	0.01	0.977	0.862	-12	NA	± 20 %	AverageRF
Benzo(g,h,i)perylene	400	360	0.01	1.04	0.937	-10	NA	± 20 %	AverageRF
Perylene	400	370	0.01	0.969	0.894	-8	NA	± 20 %	AverageRF
Fluorene-d10	400	410	0.01	0.933	0.950	2	NA	± 20 %	AverageRF
Fluoranthene-d10	400	360	0.01	1.11	1.00	-9	NA	± 20 %	AverageRF
Terphenyl-d14	400	410	0.01	0.827	0.840	2	NA	± 20 %	AverageRF

Results flagged with an asterisk (*) indicate values outside control criteria.

† SPCC Compound **‡ CCC Compound**

Exception Report

Data File: J:\MS11\DATA\110609\1106F002.D
Lab ID: KWG0910516-2
RunType: CCV
Matrix: WATER

Date Acquired: 11/06/2009 09:33
Date Quantitated: 11/10/2009 08:35
Batch ID: KWG0910516
Analysis Method: 8270C SIM
MethodJoinID: MJ138

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Tune Window	NA	NA	NA	x	
ICAL Pass/Fail	NA	NA	NA	x	
ICAL Average RSD	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Initial Calibration Minimum RF	NA	NA	NA	x	
Initial Calibration SPCC/CCC	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Internal Standards	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	

Primary Review: 11/10/09

Secondary Review: 11-11-09

Quantitation Report

Bottle ID:		**Tier:**		**Matrix:**	WATER
Prod Code:	8270C SIM	**Collect Date:**		**Receive Date:**	11/10/2009

Analysis Lot:	KWG0910516	**Prep Lot:**		**Report Group:**	
Analysis Method:	8270C SIM	**Prep Method:**			
Prep Ref:		**Prep Date:**			

Quant Method:	J:\MS11\METHODS\SIM\1015ALK.M	**Calibration ID:**	CAL8928
Title:			
Tune Ref:	J:\MS11\DATA\110609\1106F001.D	**Method ID:**	MJ138
MB Ref:		**Quant based on Method**	

Data File:	J:\MS11\DATA\110609\1106F002.D			**Instrument:**	MS11
Acqu Date:	11/06/2009 09:33	**Quant Date:**	11/10/2009 08:35	**Vial:**	2
Run Type:	CCV			**Dilution:**	1.0
Lab ID:	KWG0910516-2			**Soln Conc. Units:**	ng/ml

Internal Standard Compounds

IS Ref	Parameter Name	RT	RT Dev	Quant Mass	Response	Solution Conc	Area Criteria
1	Naphthalene-d8	4.64	-0.03	136	223388	200.00	OK
2	Acenaphthene-d10	6.05	-0.05	164	125197	200.00	OK
3	Phenanthrene-d10	7.27	-0.05	188	217665	200.00	OK
4	Chrysene-d12	9.77	-0.07	240	260249	200.00	OK
5	Perylene-d12	12.78	-0.14	264	255004	200.00	OK

Surrogate Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	%Rec	%Rec Limits		Rpt?
2	Fluorene-d10	6.47			176	237880	407.24		28-98	NA	
2	2,4,6-Tribromophenol	6.70			330	49327	438.69		10-136	NA	
3	Fluoranthene-d10	8.24			212	436719	362.06		31-105	NA	
4	Terphenyl-d14	8.59			244	437107	406.28		27-112	NA	

Target Compounds

Final Conc. Units: ug/L

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	Final Conc	Q	Rpt?
1	Naphthalene	4.65			128	373723	363.55			
1	2-Methylnaphthalene	5.21			142	274623	387.64			
1	1-Methylnaphthalene	5.28			142	265534	352.54			
1	Biphenyl	5.58			154	323551m	400.52			
1	2,6-Dimethylnaphthalene	5.71			156	255117	457.99			
2	Acenaphthylene	5.93			152	412008	379.24			
2	Acenaphthene	6.07			154	249185	384.71			
2	Dibenzofuran	6.22			168	366019	420.11			
2	2,3,5-Trimethylnaphthalene	6.39			170	258081	474.32			
2	Fluorene	6.49			166	305890	438.01			
2	Pentachlorophenol	7.15			266	25010	416.21			
3	Dibenzothiophene	7.19			184	394025	358.06			

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Data File:	J:\MS11\DATA\110609\1106F002.D			**Instrument:**	MS11
Acqu Date:	11/06/2009 09:33	**Quant Date:**	11/10/2009 08:35	**Vial:**	2
Run Type:	CCV			**Dilution:**	1.0
Lab ID:	KWG0910516-2			**Soln Conc. Units:**	ng/ml

Target Compounds **Final Conc. Units:** ug/L

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	Final Conc	Q	Rpt?
3	Phenanthrene	7.29			178	421939	345.63			
3	Anthracene	7.33			178	444669**m**	380.95			
3	Carbazole	7.48			167	362441	363.27			
3	1-Methylphenanthrene	7.78			192	337847	386.50			
3	Fluoranthene	8.25			202	496382	370.14			
4	Pyrene	8.44			202	526178	369.23			
4	Benz(a)anthracene	9.75			228	482048	340.80			
4	Chrysene	9.80			228	473332	343.54			
5	Benzo(b)fluoranthene	11.76			252	519661	390.65			
5	Benzo(k)fluoranthene	11.83			252	513880	392.10			
5	Benzo(e)pyrene	12.46			252	476871	382.80			
5	Benzo(a)pyrene	12.61			252	466734	370.46			
5	Perylene	12.86			252	455774	369.04			
5	Indeno(1,2,3-cd)pyrene	16.33			276	412436	356.84			
5	Dibenz(a,h)anthracene	16.41			278	439673	353.08			
5	Benzo(g,h,i)perylene	16.81			276	477904	359.00			

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\110609\1106F002.D
Acq On : 6 Nov 2009 9:33 am
Sample : SIM-PAH CCV @ 0.4ug/mL | SVM30-40D
Misc :
MS Integration Params: RTEINT.P
Quant Time: Nov 10 08:34:56 2009

Vial: 2
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00
Quant Results File: 1015ALK.RES

Quant Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Nov 09 05:44:31 2009
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	4.64	136	223388	200.00	ng/ml	-0.02
10) Acenaphthene-d10	6.05	164	125197	200.00	ng/ml	-0.02
22) Phenanthrene-d10	7.27	188	217665	200.00	ng/ml	-0.02
37) Chrysene-d12	9.77	240	260249	200.00	ng/ml	-0.03
49) Perylene-d12	12.78	264	255004	200.00	ng/ml	-0.07
System Monitoring Compounds						
15) Fluorene-d10	6.47	176	237880	407.24	ng/ml	-0.02
Spiked Amount 200.000			Recovery =	203.62%		
20) 2,4,6 Tribromophenol	6.70	330	49327	438.69	ng/ml	-0.02
Spiked Amount 375.000			Recovery =	116.98%		
36) Fluoranthene-d10	8.24	212	436719	362.06	ng/ml	-0.03
Spiked Amount 200.000			Recovery =	181.03%		
42) Terphenyl-d14	8.59	244	437107	406.28	ng/ml	-0.02
Spiked Amount 200.000			Recovery =	203.14%		
Target Compounds						Qvalue
2) Naphthalene	4.65	128	373723	363.55	ng/ml	98
3) 2-Methylnaphthalene	5.21	142	274623	387.64	ng/ml	94
4) 1-Methylnaphthalene	5.28	142	265534	352.54	ng/ml	97
5) Biphenyl	5.58	154	323551m	400.52	ng/ml	
6) 2,6-Dimethylnaphthalene	5.71	156	255117	457.99	ng/ml	98
11) Acenaphthylene	5.93	152	412008	379.24	ng/ml	99
12) Acenaphthene	6.07	154	249185	384.71	ng/ml	94
13) Dibenzofuran	6.22	168	366019	420.11	ng/ml	67
14) 2,3,5-Trimethylnaphthalene	6.39	170	258081	474.32	ng/ml	90
16) Fluorene	6.49	166	305890	438.01	ng/ml	96
21) Pentachlorophenol	7.15	266	25010	416.21	ng/ml	96
23) Dibenzothiophene	7.19	184	394025	358.06	ng/ml	88
27) Phenanthrene	7.29	178	421939	345.63	ng/ml	93
28) Anthracene	7.33	178	444669m	380.95	ng/ml	
29) Carbazole	7.48	167	362441	363.27	ng/ml	88
30) 1-Methylphenanthrene	7.78	192	337847	386.50	ng/ml	98
35) Fluoranthene	8.25	202	496382	370.14	ng/ml	98
38) Pyrene	8.44	202	526178	369.23	ng/ml	83
43) Benz(a)anthracene	9.75	228	482048	340.80	ng/ml	98
44) Chrysene	9.80	228	473332	343.54	ng/ml	97
50) Benzo(b)fluoranthene	11.76	252	519661	390.65	ng/ml	100
51) Benzo(k)fluoranthene	11.83	252	513880	392.10	ng/ml	99
52) Benzo(e)pyrene	12.46	252	476871	382.80	ng/ml	100
53) Benzo(a)pyrene	12.61	252	466734	370.46	ng/ml	98
54) Perylene	12.86	252	455774	369.04	ng/ml	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\110609\1106F002.D
Acq On : 6 Nov 2009 9:33 am
Sample : SIM-PAH CCV @ 0.4ug/mL | SVM30-40D
Misc :
MS Integration Params: RTEINT.P
Quant Time: Nov 10 08:34:56 2009

Vial: 2
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00
Quant Results File: 1015ALK.RES

Quant Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Nov 09 05:44:31 2009
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

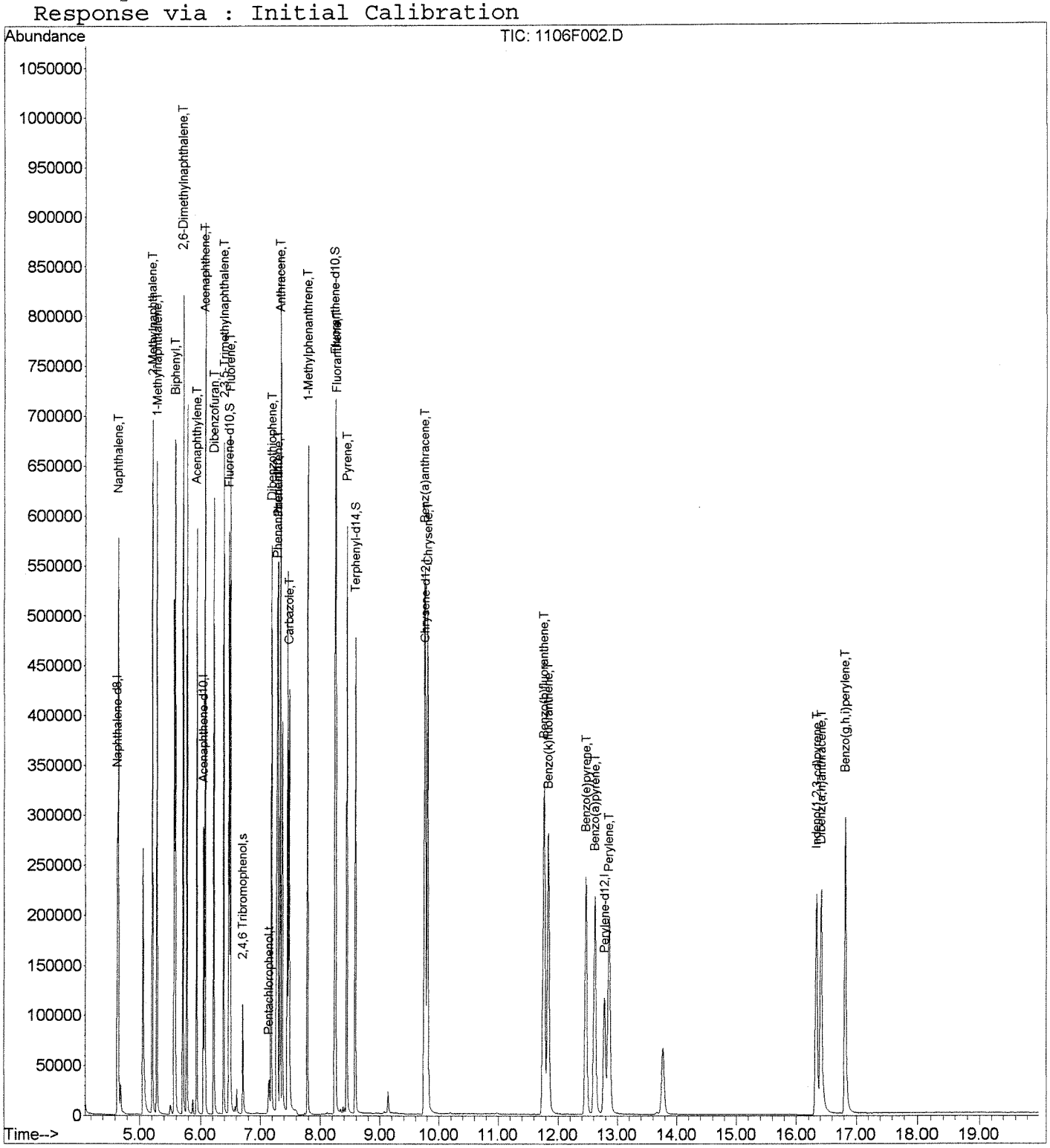
	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
55)	Indeno(1,2,3-cd)pyrene	16.33	276	412436	356.84	ng/ml	100
56)	Dibenz(a,h)anthracene	16.41	278	439673	353.08	ng/ml	100
57)	Benzo(g,h,i)perylene	16.81	276	477904	359.00	ng/ml	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\110609\1106F002.D Vial: 2
Acq On : 6 Nov 2009 9:33 am Operator: LWeiskopf
Sample : SIM-PAH CCV @ 0.4ug/mL | SVM30-40D Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 10 8:35 2009 Quant Results File: 1015ALK.RES

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Tue Nov 10 08:36:05 2009
Response via : Initial Calibration

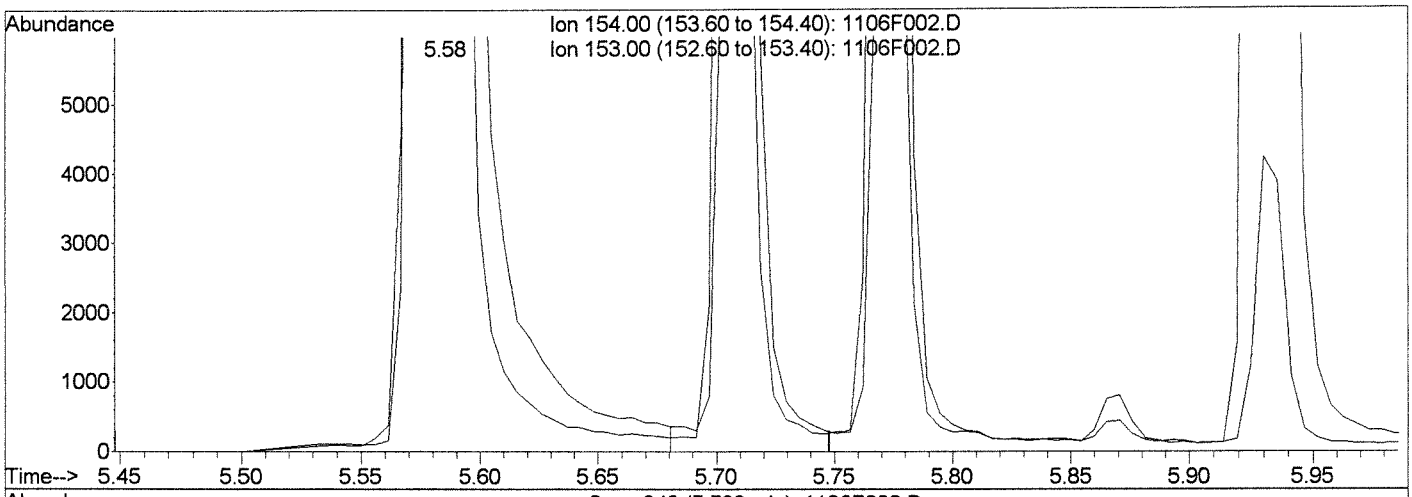


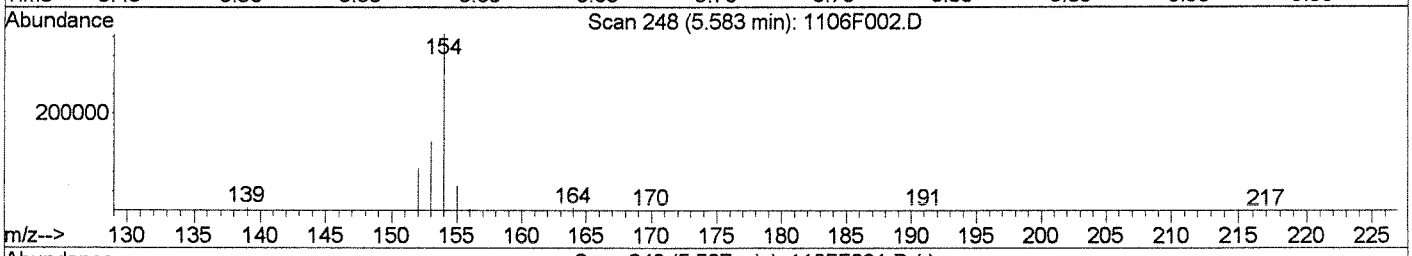
Quantitation Report (Qedit)

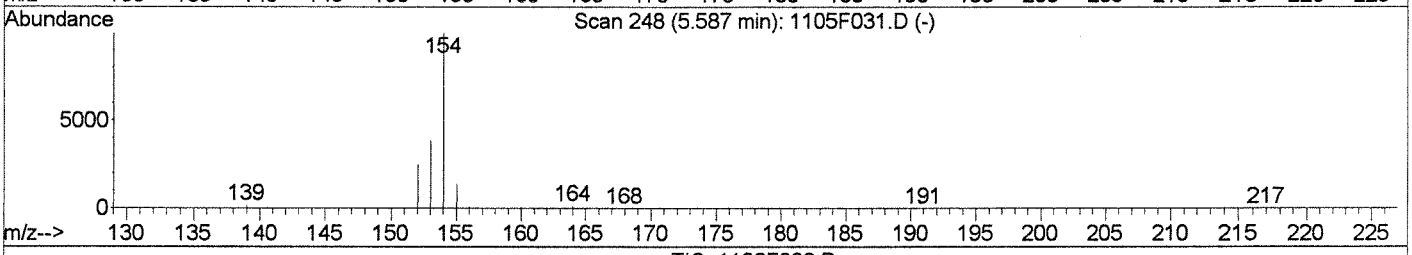
Data File : J:\MS11\DATA\110609\1106F002.D
Acq On : 6 Nov 2009 9:33 am
Sample : SIM-PAH CCV @ 0.4ug/mL | SVM30-40D
Misc :
MS Integration Params: RTEINT.P
Quant Time: Nov 10 8:34 2009

Vial: 2
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Nov 09 05:44:31 2009
Response via : Multiple Level Calibration







TIC: 1106F002.D

(5) Biphenyl (T)

5.58min 474.12ng/ml

response 383008

Ion	Exp%	Act%
154.00	100	100
153.00	38.70	38.39
0.00	0.00	0.00
0.00	0.00	0.00

1106F002.D 1015ALK.M Tue Nov 10 08:35:09 2009

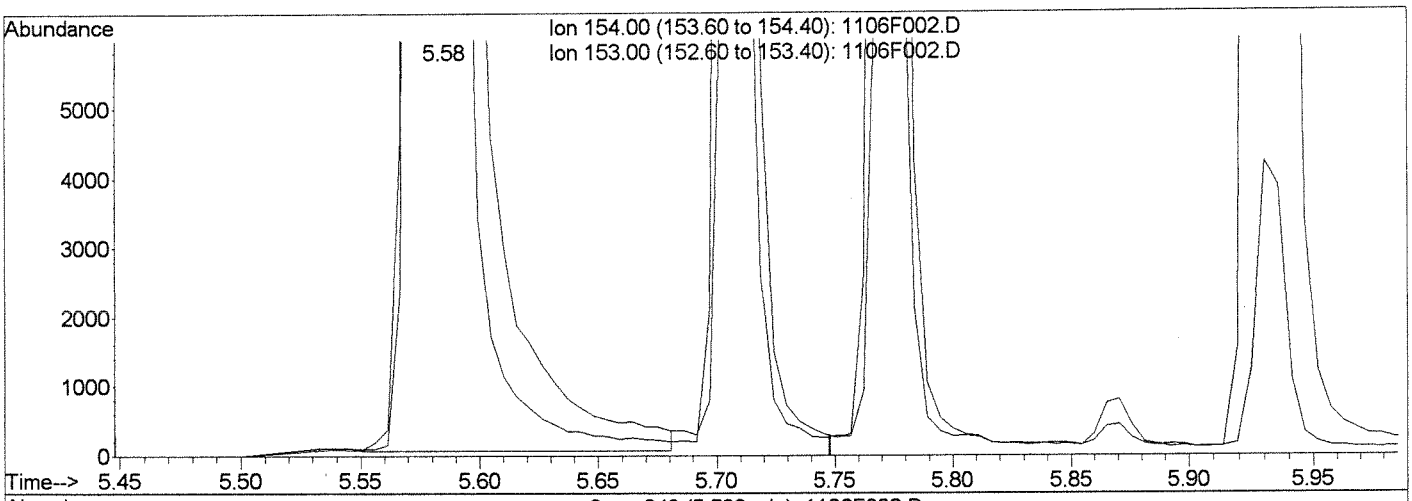
Quantitation Report (Qedit)

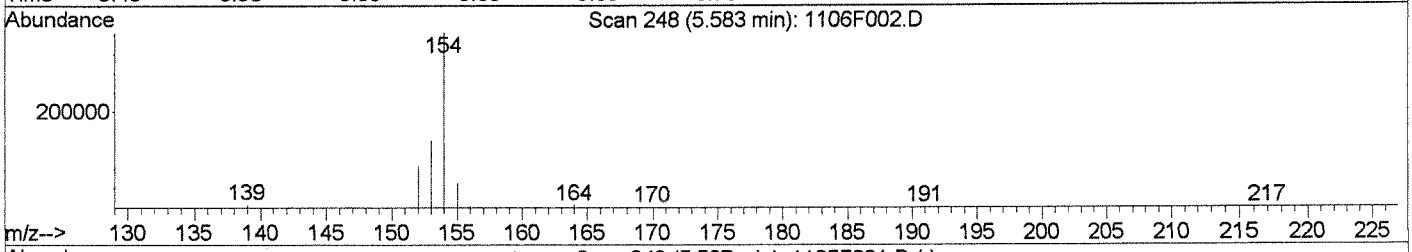
Data File : J:\MS11\DATA\110609\1106F002.D
Acq On : 6 Nov 2009 9:33 am
Sample : SIM-PAH CCV @ 0.4ug/mL | SVM30-40D
Misc :
MS Integration Params: RTEINT.P
Quant Time: Nov 10 8:35 2009

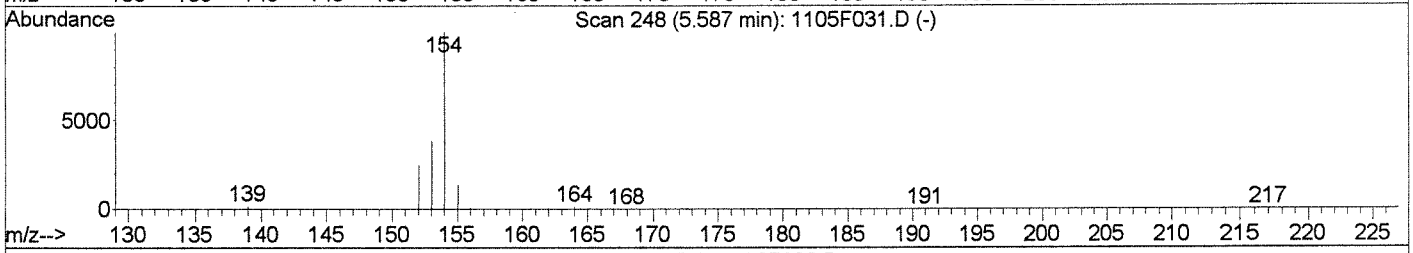
Vial: 2
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Nov 09 05:44:31 2009
Response via : Multiple Level Calibration







TIC: 1106F002.D

(5) Biphenyl (T)

5.58min 400.52ng/ml m

response 323551

Ion	Exp%	Act%
154.00	100	100
153.00	38.70	38.39
0.00	0.00	0.00
0.00	0.00	0.00

DI 11/10/09

11-11-09

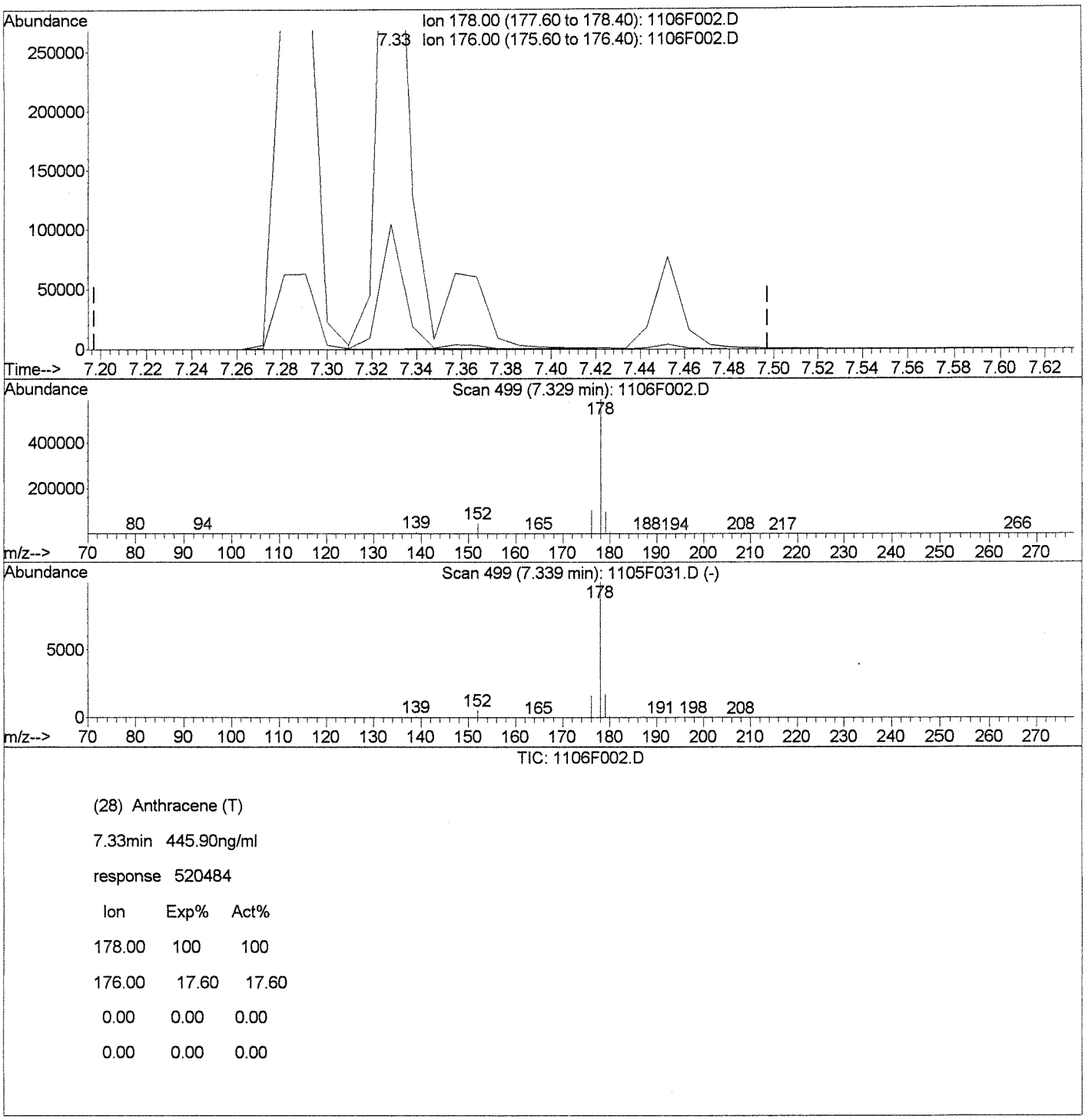
1106F002.D 1015ALK.M Tue Nov 10 08:35:26 2009

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\110609\1106F002.D
Acq On : 6 Nov 2009 9:33 am
Sample : SIM-PAH CCV @ 0.4ug/mL | SVM30-40D
Misc :
MS Integration Params: RTEINT.P
Quant Time: Nov 10 8:35 2009

Vial: 2
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Nov 09 05:44:31 2009
Response via : Multiple Level Calibration



(28) Anthracene (T)

7.33min 445.90ng/ml

response 520484

Ion	Exp%	Act%
178.00	100	100
176.00	17.60	17.60
0.00	0.00	0.00
0.00	0.00	0.00

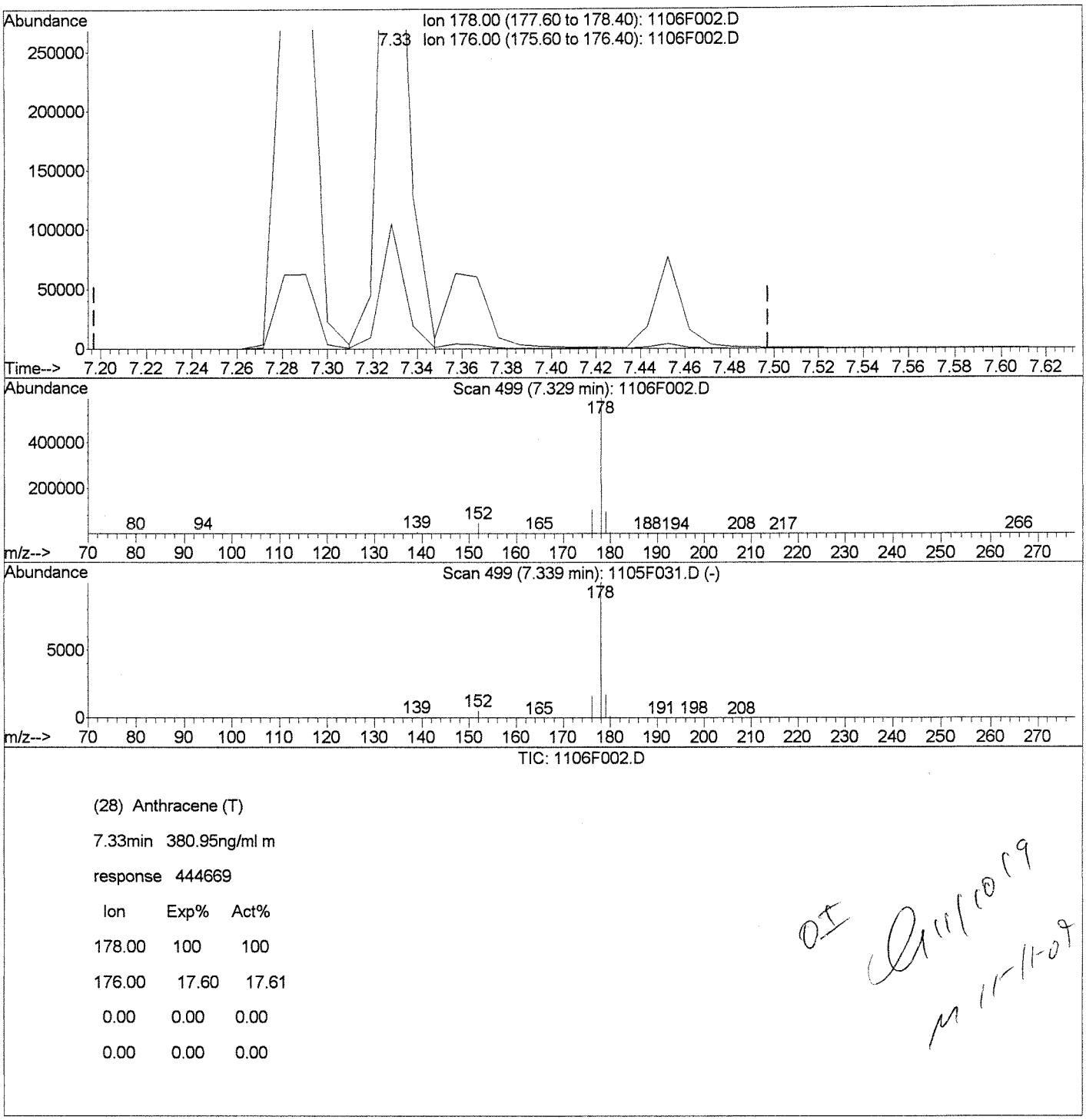
1106F002.D 1015ALK.M Tue Nov 10 08:35:41 2009

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\110609\1106F002.D
Acq On : 6 Nov 2009 9:33 am
Sample : SIM-PAH CCV @ 0.4ug/mL | SVM30-40D
Misc :
MS Integration Params: RTEINT.P
Quant Time: Nov 10 8:35 2009

Vial: 2
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Nov 09 05:44:31 2009
Response via : Multiple Level Calibration



TIC: 1106F002.D

(28) Anthracene (T)

7.33min 380.95ng/ml m

response 444669

Ion	Exp%	Act%
178.00	100	100
176.00	17.60	17.61
0.00	0.00	0.00
0.00	0.00	0.00

DT 11/10/09
M 11-11-09

1106F002.D 1015ALK.M Tue Nov 10 08:35:45 2009

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Results

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0910296
Date Analyzed: 11/09/2009

Continuing Calibration Verification Summary
Polynuclear Aromatic Hydrocarbons

Calibration Type: Internal Standard
Analysis Method: 8270C SIM

Calibration Date: 10/15/2009
Calibration ID: CAL8928
Analysis Lot: KWG0910548
Units: ng/ml

File ID: J:\MS11\DATA\110909\1109F002.D

Analyte Name	Expected	Result	Min RF	Average RF	CCV RF	%D		%Drift	Criteria	Curve Fit
Naphthalene	400	360	0.01	0.920	0.829	-10		NA	± 20 %	AverageRF
2-Methylnaphthalene	400	380	0.01	0.634	0.598	-6		NA	± 20 %	AverageRF
1-Methylnaphthalene	400	340	0.01	0.674	0.577	-14		NA	± 20 %	AverageRF
2,6-Dimethylnaphthalene	400	450	0.01	0.499	0.560	12		NA	± 20 %	AverageRF
Acenaphthylene	400	380	0.01	1.74	1.67	-4		NA	± 20 %	AverageRF
Acenaphthene	400	390	0.01	1.03	1.01	-3		NA	± 20 %	AverageRF
Dibenzofuran	400	440	0.01	1.39	1.54	10		NA	± 20 %	AverageRF
2,3,5-Trimethylnaphthalene	400	500	0.01	0.869	1.08	24	*	NA	± 20 %	AverageRF
Fluorene	400	460	0.01	1.12	1.30	16		NA	± 20 %	AverageRF
Phenanthrene	400	360	0.01	1.12	1.00	-11		NA	± 20 %	AverageRF
Anthracene	400	380	0.01	1.07	1.02	-5		NA	± 20 %	AverageRF
1-Methylphenanthrene	400	410	0.01	0.803	0.821	2		NA	± 20 %	AverageRF
Fluoranthene	400	410	0.01	1.23	1.27	3		NA	± 20 %	AverageRF
Pyrene	400	320	0.01	1.10	0.880	-20		NA	± 20 %	AverageRF
Benz(a)anthracene	400	340	0.01	1.09	0.925	-15		NA	± 20 %	AverageRF
Chrysene	400	350	0.01	1.06	0.914	-14		NA	± 20 %	AverageRF
Benzo(b)fluoranthene	400	400	0.01	1.04	1.05	1		NA	± 20 %	AverageRF
Benzo(k)fluoranthene	400	400	0.01	1.03	1.02	-1		NA	± 20 %	AverageRF
Benzo(e)pyrene	400	390	0.01	0.977	0.940	-4		NA	± 20 %	AverageRF
Benzo(a)pyrene	400	380	0.01	0.988	0.939	-5		NA	± 20 %	AverageRF
Indeno(1,2,3-cd)pyrene	400	350	0.01	0.907	0.804	-11		NA	± 20 %	AverageRF
Dibenz(a,h)anthracene	400	360	0.01	0.977	0.877	-10		NA	± 20 %	AverageRF
Benzo(g,h,i)perylene	400	350	0.01	1.04	0.905	-13		NA	± 20 %	AverageRF
Perylene	400	370	0.01	0.969	0.901	-7		NA	± 20 %	AverageRF
Fluorene-d10	400	440	0.01	0.933	1.02	10		NA	± 20 %	AverageRF
Fluoranthene-d10	400	390	0.01	1.11	1.09	-1		NA	± 20 %	AverageRF
Terphenyl-d14	400	380	0.01	0.827	0.777	-6		NA	± 20 %	AverageRF

Results flagged with an asterisk (*) indicate values outside control criteria.

† SPCC Compound **‡ CCC Compound**

Exception Report

Data File: J:\MS11\DATA\110909\1109F002.D
Lab ID: KWG0910548-2
RunType: CCV
Matrix: WATER

Date Acquired: 11/09/2009 08:10
Date Quantitated: 11/11/2009 07:43
Batch ID: KWG0910548
Analysis Method: 8270C SIM
MethodJoinID: MJ139

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Tune Window	NA	NA	NA	x	
ICAL Pass/Fail	NA	NA	NA	x	
ICAL Average RSD	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Initial Calibration Minimum RF	NA	NA	NA	x	
Initial Calibration SPCC/CCC	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Internal Standards	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	

Primary Review: 11/11/09

Secondary Review: 11-13-09

Quantitation Report

Bottle ID:		**Tier:**		**Matrix:**	WATER
Prod Code:	8270C SIM	**Collect Date:**		**Receive Date:**	11/11/2009

Analysis Lot:	KWG0910548	**Prep Lot:**		**Report Group:**	
Analysis Method:	8270C SIM	**Prep Method:**			
Prep Ref:		**Prep Date:**			

Quant Method:	J:\MS11\METHODS\SIM\1015ALK.M	**Calibration ID:**	CAL8928
Title:			
Tune Ref:	J:\MS11\DATA\110909\1109F001.D	**Method ID:**	MJ139
MB Ref:		**Quant based on Method**	

Data File:	J:\MS11\DATA\110909\1109F002.D			**Instrument:**	MS11
Acqu Date:	11/09/2009 08:10	**Quant Date:**	11/11/2009 07:43	**Vial:**	2
Run Type:	CCV			**Dilution:**	1.0
Lab ID:	KWG0910548-2			**Soln Conc. Units:**	ng/ml

Internal Standard Compounds

IS Ref	Parameter Name	RT	RT Dev	Quant Mass	Response	Solution Conc	Area Criteria
1	Naphthalene-d8	4.63	-0.04	136	192128	200.00	OK
2	Acenaphthene-d10	6.05	-0.05	164	104633	200.00	OK
3	Phenanthrene-d10	7.27	-0.05	188	206819	200.00	OK
4	Chrysene-d12	9.77	-0.07	240	312820	200.00	OK
5	Perylene-d12	12.78	-0.14	264	304691	200.00	OK

Surrogate Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	%Rec	%Rec Limits	Rpt?
2	Fluorene-d10	6.47			176	214496	439.38		17-104	NA
2	2,4,6-Tribromophenol	6.71			330	52632	560.08		35-109	NA
3	Fluoranthene-d10	8.24			212	452490	394.81		27-106	NA
4	Terphenyl-d14	8.59			244	486134	375.91		35-109	NA

Target Compounds

Final Conc. Units:

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	Final Conc	Q	Rpt?
1	Naphthalene	4.65			128	318528	360.28			
1	2-Methylnaphthalene	5.21			142	229887	377.29			
1	1-Methylnaphthalene	5.28			142	221905	342.55			
1	Biphenyl	5.58			154	274684**m**	395.35			
1	2,6-Dimethylnaphthalene	5.71			156	215208	449.20			
2	Acenaphthylene	5.94			152	348536	383.87			
2	Acenaphthene	6.07			154	210323	388.53			
2	Dibenzofuran	6.22			168	321385	441.37			
2	2,3,5-Trimethylnaphthalene	6.39			170	225752	496.45			
2	Fluorene	6.50			166	271231	464.71			
2	Pentachlorophenol	7.15			266	29754	592.48			
3	Dibenzothiophene	7.19			184	371347	355.15			

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Data File:	J:\MS11\DATA\110909\1109F002.D			**Instrument:**	MS11
Acqu Date:	11/09/2009 08:10	**Quant Date:**	11/11/2009 07:43	**Vial:**	2
Run Type:	CCV			**Dilution:**	1.0
Lab ID:	KWG0910548-2			**Soln Conc. Units:**	ng/ml

Target Compounds **Final Conc. Units:**

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	Final Conc	Q	Rpt?
3	Phenanthrene	7.29			178	413826	356.76			
3	Anthracene	7.33			178	422321**m**	380.77			
3	Carbazole	7.48			167	393486	415.07			
3	1-Methylphenanthrene	7.78			192	339638	408.93			
3	Fluoranthene	8.25			202	524855	411.90			
4	Pyrene	8.44			202	550519	321.39			
4	Benz(a)anthracene	9.75			228	578609	340.32			
4	Chrysene	9.81			228	571833	345.29			
5	Benzo(b)fluoranthene	11.77			252	639134	402.11			
5	Benzo(k)fluoranthene	11.84			252	621805	397.08			
5	Benzo(e)pyrene	12.46			252	573073	385.01			
5	Benzo(a)pyrene	12.61			252	572307	380.18			
5	Perylene	12.86			252	549267	372.22			
5	Indeno(1,2,3-cd)pyrene	16.34			276	489811	354.67			
5	Dibenz(a,h)anthracene	16.41			278	534192	359.02			
5	Benzo(g,h,i)perylene	16.82			276	551574	346.77			

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\110909\1109F002.D Vial: 2
Acq On : 9 Nov 2009 8:10 am Operator: LWeiskopf
Sample : SIM-PAH CCV @ 0.4ug/mL | SVM30-49C Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 09 08:35:57 2009 Quant Results File: 1015ALK.RES

Quant Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Nov 09 05:44:31 2009
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	4.63	136	192128	200.00	ng/ml	-0.02
10) Acenaphthene-d10	6.05	164	104633	200.00	ng/ml	-0.02
22) Phenanthrene-d10	7.27	188	206819	200.00	ng/ml	-0.02
37) Chrysene-d12	9.77	240	312820	200.00	ng/ml	-0.03
49) Perylene-d12	12.78	264	304691	200.00	ng/ml	-0.07
System Monitoring Compounds						
15) Fluorene-d10	6.47	176	214496	439.38	ng/ml	-0.02
Spiked Amount 200.000			Recovery = 219.69%			
20) 2,4,6 Tribromophenol	6.71	330	52632	560.08	ng/ml	-0.02
Spiked Amount 375.000			Recovery = 149.35%			
36) Fluoranthene-d10	8.24	212	452490	394.81	ng/ml	-0.03
Spiked Amount 200.000			Recovery = 197.41%			
42) Terphenyl-d14	8.59	244	486134	375.91	ng/ml	-0.02
Spiked Amount 200.000			Recovery = 187.96%			
Target Compounds						Qvalue
2) Naphthalene	4.65	128	318528	360.28	ng/ml	98
3) 2-Methylnaphthalene	5.21	142	229887	377.29	ng/ml	95
4) 1-Methylnaphthalene	5.28	142	221905	342.55	ng/ml	93
5) Biphenyl	5.58	154	274684m	395.35	ng/ml	
6) 2,6-Dimethylnaphthalene	5.71	156	215208	449.20	ng/ml	99
11) Acenaphthylene	5.94	152	348536	383.87	ng/ml	100
12) Acenaphthene	6.07	154	210323	388.53	ng/ml	98
13) Dibenzofuran	6.22	168	321385	441.37	ng/ml	78
14) 2,3,5-Trimethylnaphthalene	6.39	170	225752	496.45	ng/ml	95
16) Fluorene	6.50	166	271231	464.71	ng/ml	96
21) Pentachlorophenol	7.15	266	29754	592.48	ng/ml	99
23) Dibenzothiophene	7.19	184	371347	355.15	ng/ml	93
27) Phenanthrene	7.29	178	413826	356.76	ng/ml	93
28) Anthracene	7.33	178	422321m	380.77	ng/ml	
29) Carbazole	7.48	167	393486	415.07	ng/ml	88
30) 1-Methylphenanthrene	7.78	192	339638	408.93	ng/ml	100
35) Fluoranthene	8.25	202	524855	411.90	ng/ml	95
38) Pyrene	8.44	202	550519	321.39	ng/ml	93
43) Benz(a)anthracene	9.75	228	578609	340.32	ng/ml	99
44) Chrysene	9.81	228	571833	345.29	ng/ml	96
50) Benzo(b)fluoranthene	11.77	252	639134	402.11	ng/ml	100
51) Benzo(k)fluoranthene	11.84	252	621805	397.08	ng/ml	100
52) Benzo(e)pyrene	12.46	252	573073	385.01	ng/ml	99
53) Benzo(a)pyrene	12.61	252	572307	380.18	ng/ml	99
54) Perylene	12.86	252	549267	372.22	ng/ml	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\110909\1109F002.D Vial: 2
Acq On : 9 Nov 2009 8:10 am Operator: LWeiskopf
Sample : SIM-PAH CCV @ 0.4ug/mL | SVM30-49C Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 09 08:35:57 2009 Quant Results File: 1015ALK.RES

Quant Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Nov 09 05:44:31 2009
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

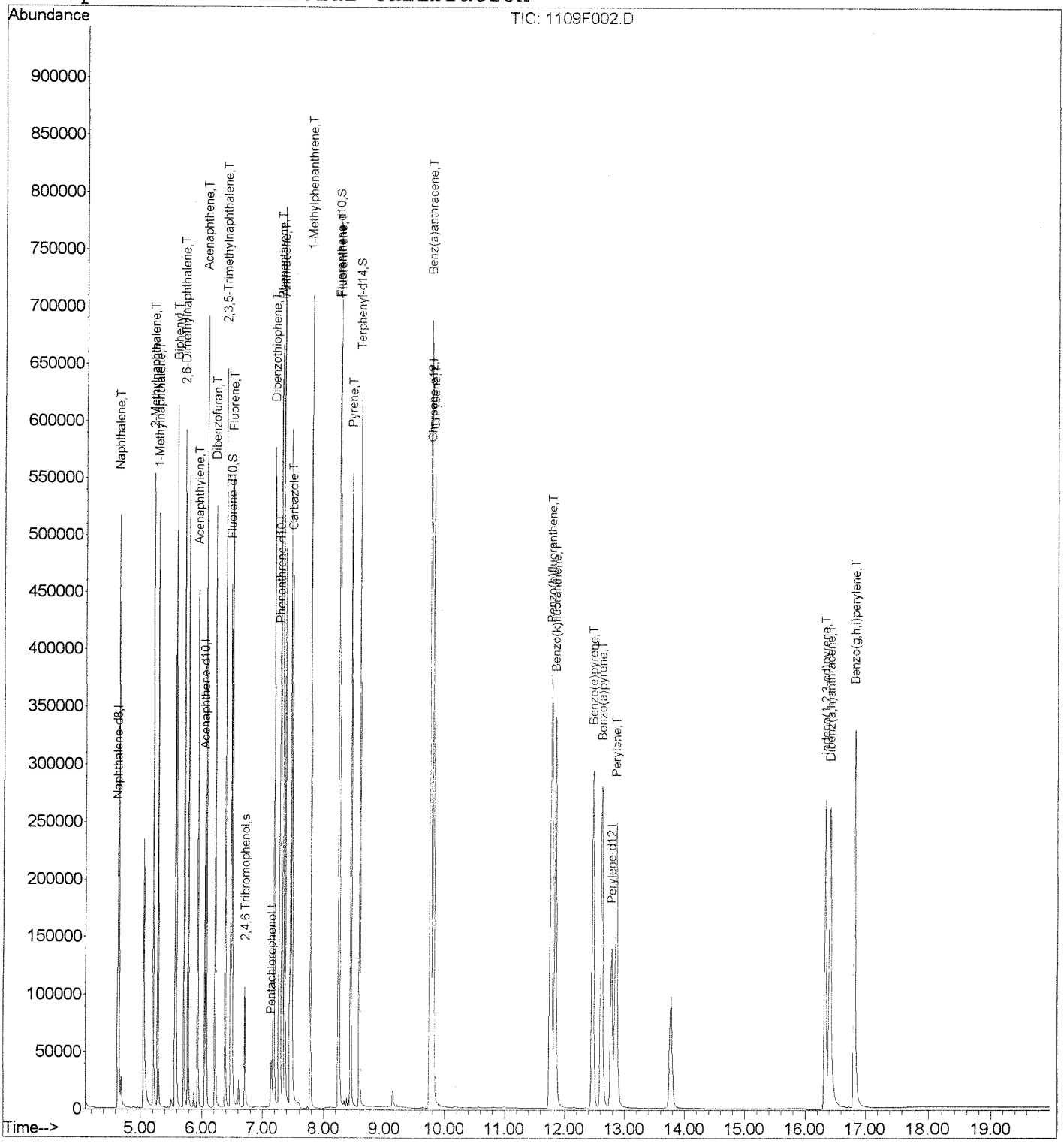
	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
55)	Indeno(1,2,3-cd)pyrene	16.34	276	489811	354.67 ng/ml	99
56)	Dibenz(a,h)anthracene	16.41	278	534192	359.02 ng/ml	95
57)	Benzo(g,h,i)perylene	16.82	276	551574	346.77 ng/ml	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\110909\1109F002.D Vial: 2
Acq On : 9 Nov 2009 8:10 am Operator: LWeiskopf
Sample : SIM-PAH CCV @ 0.4ug/mL | SVM30-49C Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 11 7:43 2009 Quant Results File: 1015ALK.RES

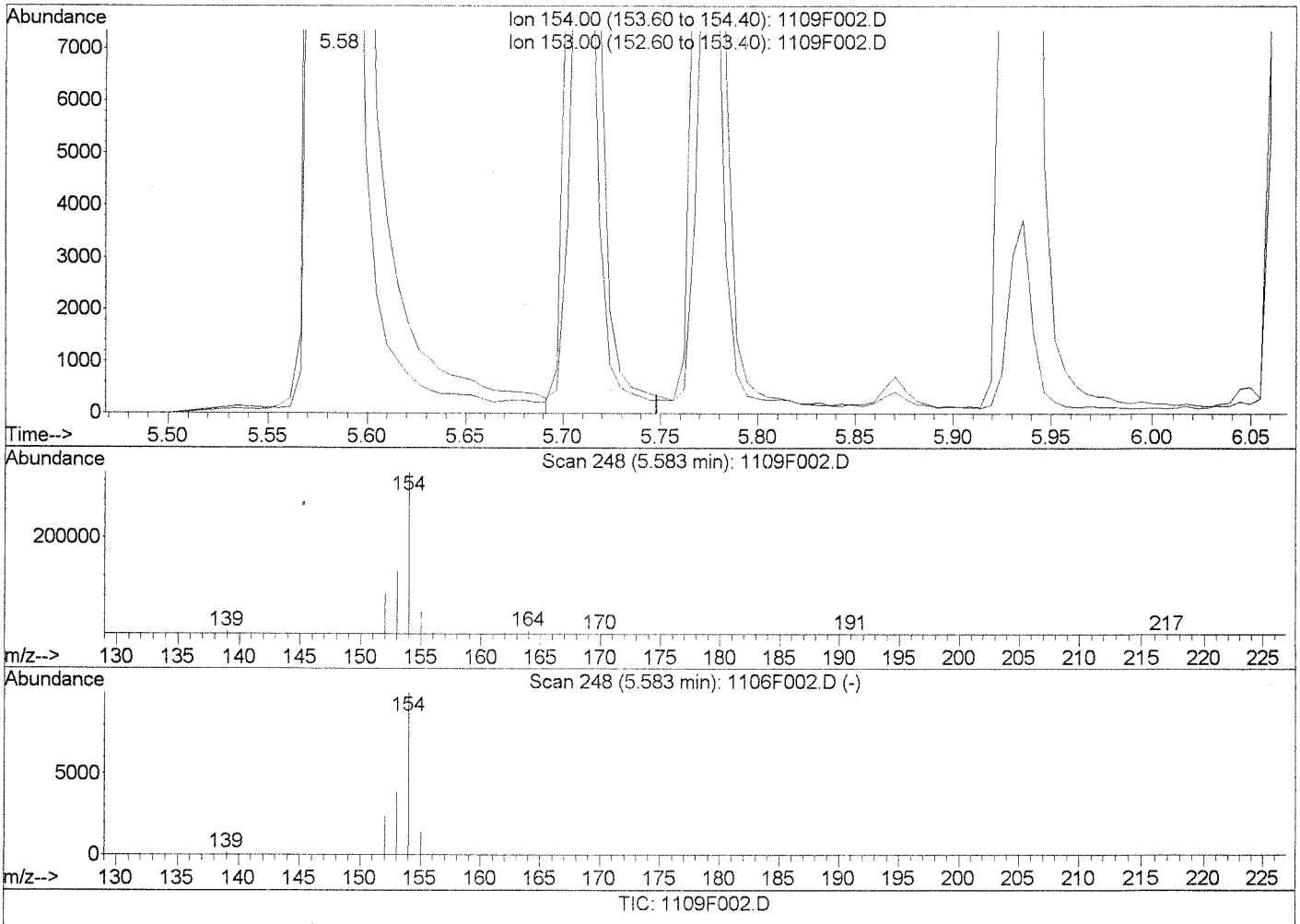
Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Wed Nov 11 07:43:31 2009
Response via : Initial Calibration



Quantitation Report (Qedit)

Data File : J:\MS11\DATA\110909\1109F002.D Vial: 2
Acq On : 9 Nov 2009 8:10 am Operator: LWeiskopf
Sample : SIM-PAH CCV @ 0.4ug/mL | SVM30-49C Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 9 8:35 2009 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Tue Nov 10 08:36:05 2009
Response via : Multiple Level Calibration



TIC: 1109F002.D

(5) Biphenyl (T)

5.58min 463.28ng/ml

response 321877

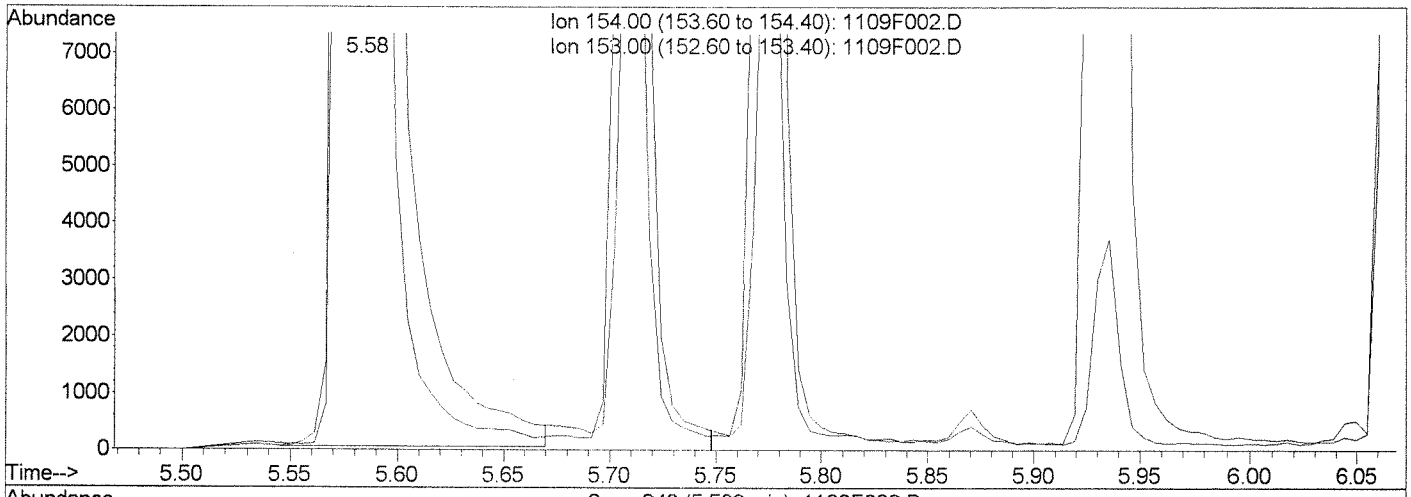
Ion	Exp%	Act%
154.00	100	100
153.00	38.70	38.52
0.00	0.00	0.00
0.00	0.00	0.00

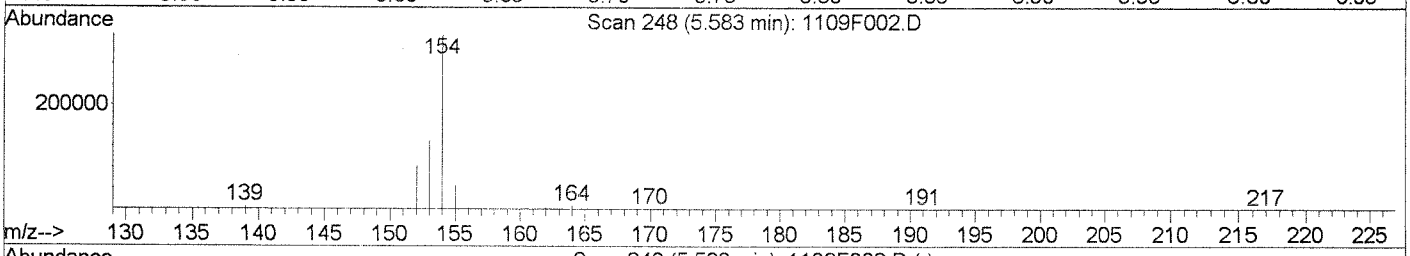
1109F002.D 1015ALK.M Wed Nov 11 07:42:54 2009

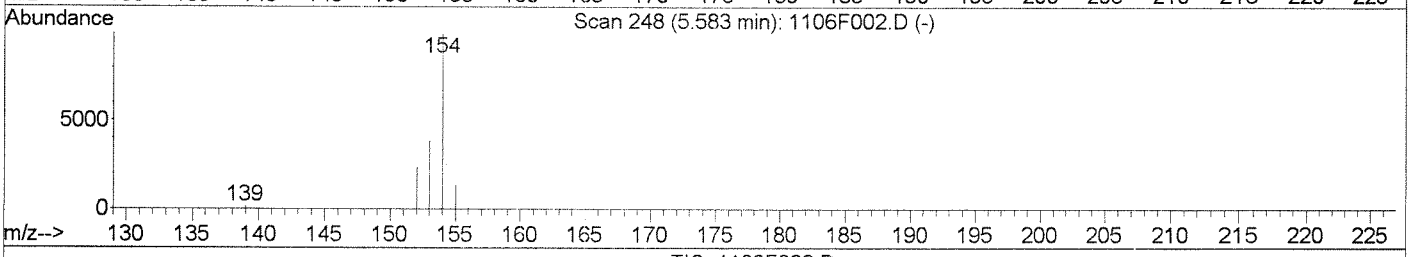
Quantitation Report (Qedit)

Data File : J:\MS11\DATA\110909\1109F002.D Vial: 2
Acq On : 9 Nov 2009 8:10 am Operator: LWeiskopf
Sample : SIM-PAH CCV @ 0.4ug/mL | SVM30-49C Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 11 7:43 2009 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Tue Nov 10 08:36:05 2009
Response via : Multiple Level Calibration







TIC: 1109F002.D

(5) Biphenyl (T)

5.58min 395.35ng/ml m

response 274684

Ion	Exp%	Act%
154.00	100	100
153.00	38.70	38.52
0.00	0.00	0.00
0.00	0.00	0.00

OT 11/11/09 11-13-09

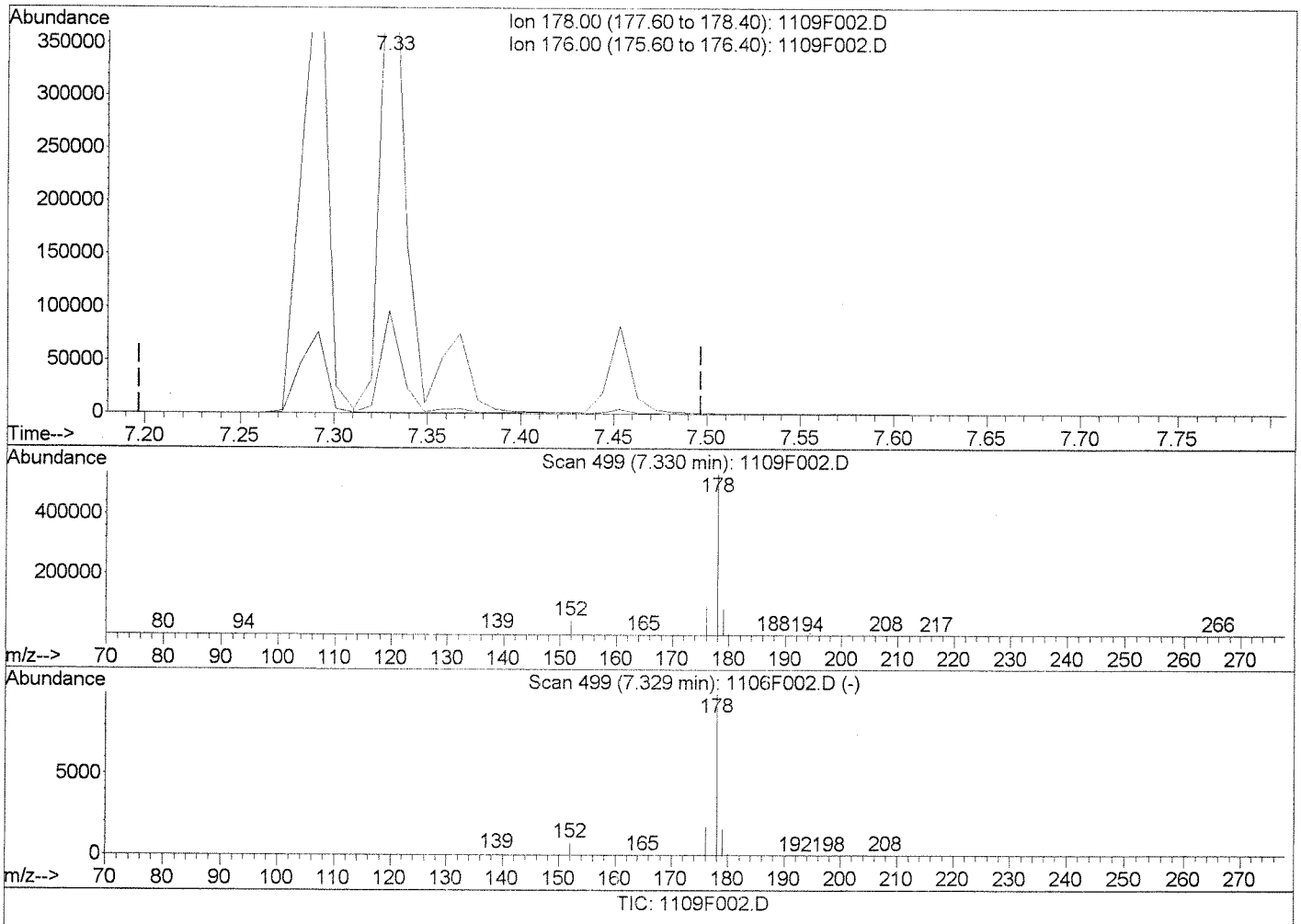
1109F002.D 1015ALK.M Wed Nov 11 07:43:03 2009

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\110909\1109F002.D
Acq On : 9 Nov 2009 8:10 am
Sample : SIM-PAH CCV @ 0.4ug/mL | SVM30-49C
Misc :
MS Integration Params: RTEINT.P
Quant Time: Nov 11 7:43 2009

Vial: 2
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Tue Nov 10 08:36:05 2009
Response via : Multiple Level Calibration



TIC: 1109F002.D

(28) Anthracene (T)

7.33min 454.19ng/ml

response 503747

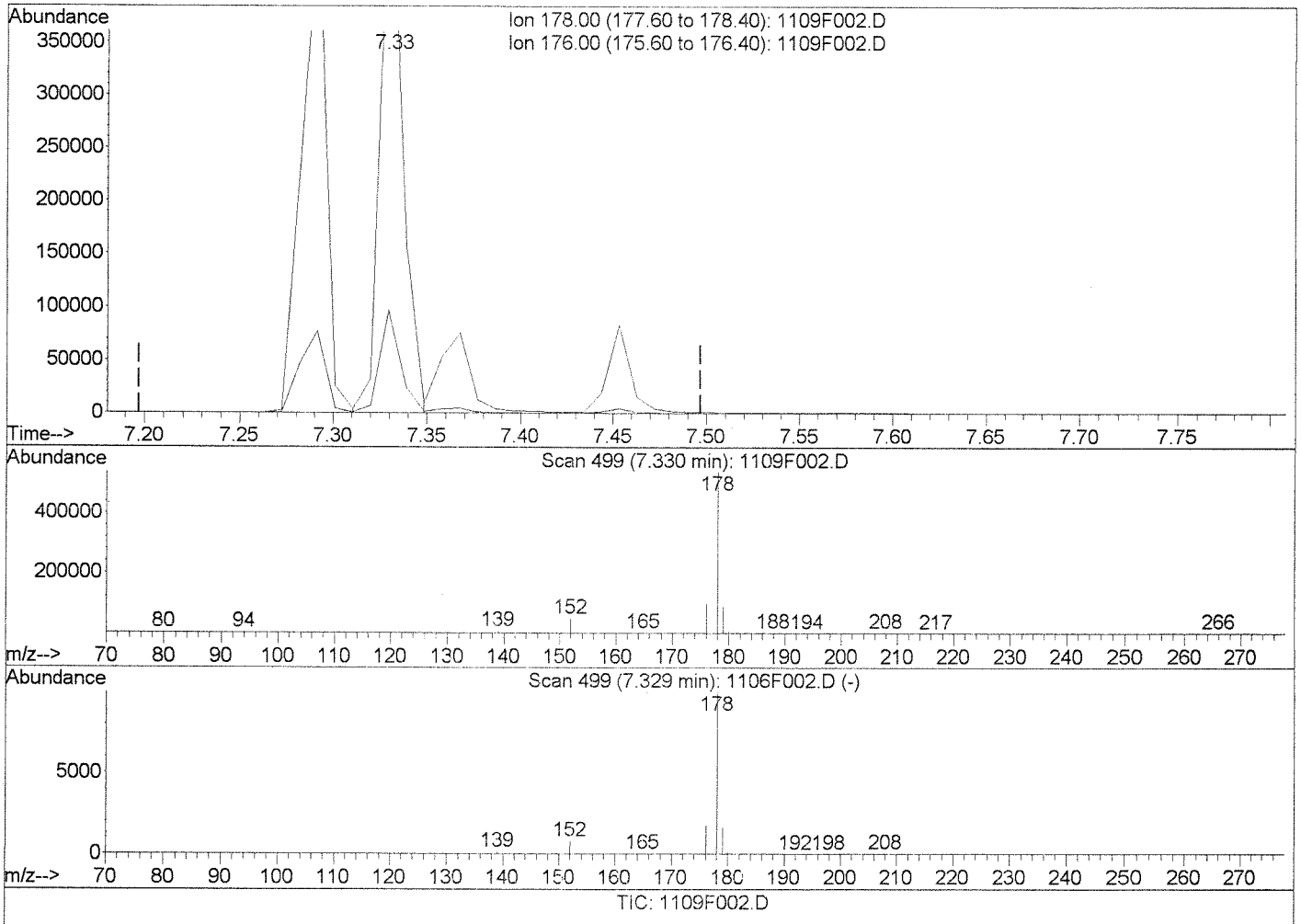
Ion	Exp%	Act%
178.00	100	100
176.00	17.60	17.92
0.00	0.00	0.00
0.00	0.00	0.00

1109F002.D 1015ALK.M Wed Nov 11 07:43:13 2009

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\110909\1109F002.D Vial: 2
Acq On : 9 Nov 2009 8:10 am Operator: LWeiskopf
Sample : SIM-PAH CCV @ 0.4ug/mL | SVM30-49C Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 11 7:43 2009 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\1015ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Tue Nov 10 08:36:05 2009
Response via : Multiple Level Calibration



TIC: 1109F002.D

(28) Anthracene (T)

7.33min 380.77ng/ml m

response 422321

Ion	Exp%	Act%
178.00	100	100
176.00	17.60	17.93
0.00	0.00	0.00
0.00	0.00	0.00

DI 11/11/09 11-13-09

1109F002.D 1015ALK.M Wed Nov 11 07:43:17 2009

Organic Analysis:
Polynuclear Aromatic Hydrocarbons

Validation Package

Sample Prep and Screen Data

Preparation Information

Group ID:	KWG0909945	**Prep Method:**	EPA 3520C	**Prep Date:**	10/28/09 00:00
Department:	Semivoa GCMS				

Lab Code	Client ID	Product	Matrix	Amt. Ext.	Final Vol.
K0910296-001	RB-1	8270C SIM SVO_	WATER	950ml	5ml
K0910308-004	HL-MW-6A	8270C SIM PAH_	WATER	1060ml	5ml
K0910308-010	HL-MW-25S	8270C SIM PAH_	WATER	1060ml	5ml
K0910308-011	HL-MW-28DD	8270C SIM PAH_	WATER	1060ml	5ml
K0910308-012	WW-MW-12	8270C SIM PAH_	WATER	1055ml	5ml
K0910308-014	HL-MW-2	8270C SIM PAH_	WATER	1045ml	5ml
K0910308-015	HL-MW-19S	8270C SIM PAH_	WATER	1055ml	5ml
K0910308-016	HL-MW-32S	8270C SIM PAH_	WATER	1055ml	5ml
K0910308-017	HL-MW-31S	8270C SIM PAH_	WATER	1060ml	5ml
K0910308-019	HL-MW-22S	8270C SIM PAH_	WATER	1060ml	5ml
K0910308-020	HL-MW-2200S	8270C SIM PAH_	WATER	1060ml	5ml
K0910308-022	HL-MW-31S-RB	8270C SIM PAH_	WATER	1050ml	5ml
K0910308-023	HL-MW-32S-RB	8270C SIM PAH_	WATER	1055ml	5ml
KWG0909945-1	Matrix Spike	8270C SIM PAH_	WATER	1050ml	5ml
KWG0909945-2	Duplicate Matrix Spike	8270C SIM PAH_	WATER	1050ml	5ml
KWG0909945-3	Lab Control Sample	8270C SIM PAH_	WATER	1000ml	5ml
KWG0909945-4	Method Blank	8270C SIM PAH_	WATER	1060ml	5ml

Lab Code	Parent Lab Code	Comments
KWG0909945-1	K0910308-019	
KWG0909945-2	K0910308-019	

Lab Code	Prep Event ID	Surrogate Solution ID	Amount Added	Spike Solution ID	Amount Added	Witness
K0910296-001	861278	SVM29-59I	20uL			RHolden
K0910308-004	861267	SVM29-59I	20uL			RHolden
K0910308-010	861268	SVM29-59I	20uL			RHolden
K0910308-011	861269	SVM29-59I	20uL			RHolden
K0910308-012	861270	SVM29-59I	20uL			RHolden
K0910308-014	861271	SVM29-59I	20uL			RHolden
K0910308-015	861272	SVM29-59I	20uL			RHolden
K0910308-016	861273	SVM29-59I	20uL			RHolden
K0910308-017	861274	SVM29-59I	20uL			RHolden
K0910308-019	861275	SVM29-59I	20uL			RHolden
K0910308-020	861276	SVM29-59I	20uL			RHolden
K0910308-022	861277	SVM29-59I	20uL			RHolden

Comments: IS = SVM 29- 67A

Started By: CWood Assisted By: _____ Training: Yes / No

Completed By: SJones Assisted By: _____ Yes / No

Reviewed By: [signature] Date: 11/2/09 Storage: AM11

Chain of Custody

Relinquished By: SJones Date: 10/30/09

Received By: [signature] Date: 11/5/09 Extracts Examined: Yes / No

Group ID:	KWG0909945	**Prep Method:**	EPA 3520C	**Prep Date:**	10/28/09 00:00
Department:	Semivoa GCMS				

Lab Code	Prep Event ID	Surrogate Solution ID	Amount Added	Spike Solution ID	Amount Added	Witness
K0910308-023	861266	SVM29-59I	20uL			RHolden
KWG0909945-1	861279	SVM29-59I	20uL	SVM29-92B	100uL	RHolden
KWG0909945-2	861280	SVM29-59I	20uL	SVM29-92B	100uL	RHolden
KWG0909945-3	861281	SVM29-59I	20uL	SVM29-92B	100uL	RHolden
KWG0909945-4	861282	SVM29-59I	20uL			RHolden

Comments:

Started By: CWood Assisted By: Training Yes No

Completed By: SJones Assisted By: Yes No

Reviewed By: Date: Storage:

Chain of Custody

Relinquished By: S.Jones Date: 10/30/09

Received By: Date: 11/5/09 Extracts Examined Yes No

Preparation Information Due: 10·31·09

Group ID:	KWG0909945	**Prep Method:**	EPA 3520C	**Prep Date:**	10·28·09
Department:	Semivoa GCMS				

#	Lab Code	Client ID	B#	√	Product	Matrix	Amt. Ext. mL	pH	Int. Vol.	Final Vol.	Surr. Added	Spike Added
1	K0910296-001	RB-1	.08	✓	8270C SIM ~~SVO~~ SIM PAH cw 10/26/09	WATER	950	5	N/A	5mL	30µL	N/A
2	K0910308-004	HL-MW-6A	.09	✓	8270C SIM PAH_SIM	WATER	1060	7				
3	K0910308-010	HL-MW-25S	.04	✓	8270C SIM PAH_SIM	WATER	1060					
4	K0910308-011	HL-MW-28DD	.05	✓	8270C SIM PAH_SIM	WATER	1060					
5	K0910308-012	WW-MW-12	.00	✓	8270C SIM PAH_SIM	WATER	1055					
6	K0910308-014	HL-MW-2	.05	✓	8270C SIM PAH_SIM	WATER	1045					
7	K0910308-015	HL-MW-19S	.05	✓	8270C SIM PAH_SIM	WATER	1055					
8	K0910308-016	HL-MW-32S	.00	✓	8270C SIM PAH_SIM	WATER	1055					
9	K0910308-017	HL-MW-31S	.09	✓	8270C SIM PAH_SIM	WATER	1060					
10	K0910308-019	HL-MW-22S	.10	✓	8270C SIM PAH_SIM	WATER	1060					
11	K0910308-020	HL-MW-2200S	.05	✓	8270C SIM PAH_SIM	WATER	1060					
12	K0910308-022	HL-MW-31S-RB	.04	✓	8270C SIM PAH_SIM	WATER	1050	6				
13	K0910308-023	HL-MW-32S-RB	.01	✓	8270C SIM PAH_SIM	WATER	1055	5				
14	KWG0909945-1	Matrix Spike 10308-19	.05	✓	8270C SIM PAH_SIM	WATER	1050	7				100µL
15	KWG0909945-2	Duplicate Matrix Spike 10308-19	.00	✓	8270C SIM PAH_SIM	WATER	1050					
16	KWG0909945-3	Lab Control Sample			8270C SIM PAH_SIM	WATER	1000	5				
17	KWG0909945-4	Method Blank			8270C SIM PAH_SIM	WATER	1060					—

Comments: #99323

Surrogate ID: SVM29-59E, 30µL @ 100/150 ppm, ex. 11·30·09

Spike ID: SVM29-92B, 100µL @ 25 ppm, ex. 03·09·10

Witness: 10/28/09

Started By: CWood Assisted By:

Completed By: S. Jones Assisted By:

Additional Prep Information For EPA 3520

:rvice Request K0910296, K0910308 Workgroup KWG0909945

:M Lot # C7828 Acid Lot # — Base Lot # —

tered Samples: —

)ntinuous Start$_1$ (Time/Date/Initial): 1453 | 10.28.09 | CW

)ntinuous Stop$_1$ (Time/Date/Initial): 0853 / 10-29-09 / RRH

)ntinuous Start$_2$ (Time/Date/Initial):

)ntinuous Stop$_2$ (Time/Date/Initial):

ılfate Lot # 48273846

-Evap Temp 75° N-Evap Temp 28° Hexane Lot #

lean-up #1: Initial/Date:

lean-up #2: Initial/Date:

ate Completed: 10/30/09

omments/Observations:

Bench Sheet Review Check List

- ☑ Hold Times Met (if no, Reason:)
- ☑ Prep date, dept, method, product code correct in stealth
- ☑ Spike Information correct
- ☑ Weights/Volumes and units correct on raw and final bench sheets
- ☑ Sample IDs have been checked—Bottle numbers appended if required
- ☑ Names present for: Started by, Completed by, relinquished by, and witnessed by.
- ☑ Training has been circled
- ☑ Extract Storage recorded
- ☑ Additional Prep Sheet completely filled out (NA or line out Blanks)
- ☑ All clean-ups have been noted on additional prep sheet
- ☑ Signed service request with Form V, if applicable, has been attached

Injection Log

Directory: J:\ms11\data\110609

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	1	1106F001.D	1.	DFTPP @ 3.0ug/mL | SVM30-40C		6 Nov 2009 09:0
2	2	1106F002.D	1.	SIM-PAH CCV @ 0.4ug/mL | SVM30-40D		6 Nov 2009 09:3
3	1	1106F003.D	1.	KWG0909836-5 MB		6 Nov 2009 10:0
4	2	1106F004.D	1.	KWG0909836-3 LCS		6 Nov 2009 10:2
5	3	1106F005.D	1.	KWG0909836-4 DLCS		6 Nov 2009 10:5
6	4	1106F006.D	1.	K0909219-006DIL 5X		6 Nov 2009 11:2
7	5	1106F007.D	1.	K0909372-007DIL 5X		6 Nov 2009 11:4
8	6	1106F008.D	1.	K0909805-008DIL 5X		6 Nov 2009 12:1
9	7	1106F009.D	1.	KWG0909836-8 LOQ		6 Nov 2009 12:4
10	8	1106F010.D	1.	KWG0909836-6 LOD		6 Nov 2009 13:0
11	9	1106F011.D	1.	KWG0909836-7 LOD		6 Nov 2009 13:3
12	10	1106F012.D	1.	KWG0909945-3 LCS		6 Nov 2009 14:0
13	11	1106F013.D	1.	KWG0909945-1 K0910308-019MS		6 Nov 2009 14:3
14	12	1106F014.D	1.	KWG0909945-2 K0910308-019DMS		6 Nov 2009 14:5
15	13	1106F015.D	1.	K0910308-019		6 Nov 2009 15:2
16	14	1106F016.D	1.	K0910296-001		6 Nov 2009 15:5
17	15	1106F017.D	1.	K0910308-004		6 Nov 2009 16:1
18	16	1106F018.D	1.	K0910308-010		6 Nov 2009 16:4
19	17	1106F019.D	1.	K0910308-011		6 Nov 2009 17:1
20	18	1106F020.D	1.	K0910308-012		6 Nov 2009 17:3
21	19	1106F021.D	1.	K0910308-014		6 Nov 2009 18:0
22	20	1106F022.D	1.	K0910308-015		6 Nov 2009 18:3
23	21	1106F023.D	1.	K0910308-016		6 Nov 2009 19:0
24	22	1106F024.D	1.	K0910308-017		6 Nov 2009 19:2
25	23	1106F025.D	1.	K0910308-020		6 Nov 2009 19:5
26	24	1106F026.D	1.	K0910308-022		6 Nov 2009 20:2
27	25	1106F027.D	1.	K0910308-023		6 Nov 2009 20:4
28	26	1106F028.D	1.	KWG0909945-4 MB (NR)		6 Nov 2009 21:1

CAL 8928
* Lims # 178770
CW 11/10/09

11-11-09

Injection Log

Directory: J:\ms11\data\110909

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	1	1109F001.D	1.	DFTPP @ 3.0ug/mL | SVM30-40C		9 Nov 2009 07:4(
2	2	1109F002.D	1.	SIM-PAH CCV @ 0.4ug/mL | SVM30-49C		9 Nov 2009 08:1(
3	1	1109F003.D	1.	KWG0909945-4 MB NR		9 Nov 2009 08:4'
4	2	1109F004.D	1.	KWG0910128-5 MB		9 Nov 2009 09:1(
5	3	1109F005.D	1.	KWG0910128-3 LCS		9 Nov 2009 09:3{
6	4	1109F006.D	1.	KWG0910128-4 DLCS		9 Nov 2009 10:0'
7	5	1109F007.D	1.	KWG0910128-6 SRM 5X		9 Nov 2009 10:3!
8	6	1109F008.D	1.	KWG0910128-1 K0910385-012MS		9 Nov 2009 11:0:
9	7	1109F009.D	1.	KWG0910128-2 K0910385-012DMS		9 Nov 2009 11:3'
10	8	1109F010.D	1.	K0910385-012		9 Nov 2009 11:5{
11	9	1109F011.D	1.	K0910385-001		9 Nov 2009 12:2(
12	10	1109F012.D	1.	K0910385-002		9 Nov 2009 12:5:
13	11	1109F013.D	1.	K0910385-003		9 Nov 2009 13:2'
14	12	1109F014.D	1.	K0910385-004		9 Nov 2009 13:4{
15	13	1109F015.D	1.	K0910385-005		9 Nov 2009 14:1!
16	14	1109F016.D	1.	K0910385-006		9 Nov 2009 14:4'
17	15	1109F017.D	1.	K0910385-007		9 Nov 2009 15:0!
18	16	1109F018.D	1.	K0910385-008		9 Nov 2009 15:3!
19	17	1109F019.D	1.	K0910385-009		9 Nov 2009 16:0:
20	18	1109F020.D	1.	K0910385-010		9 Nov 2009 16:2{
21	19	1109F021.D	1.	K0910385-011		9 Nov 2009 16:5!
22	20	1109F022.D	1.	K0910385-013		9 Nov 2009 17:2'
23	21	1109F023.D	1.	K0910385-014		9 Nov 2009 17:4{
24	22	1109F024.D	1.	KWG0909945-4 MB		9 Nov 2009 18:1'
25	23	1109F025.D	1.	KWG0909499-1 LCS NR		9 Nov 2009 18:4'
26	24	1109F026.D	1.	KWG0909499-2 DLCS		9 Nov 2009 19:0'

CAL 5928
*LIMS # 178889
11/11/09

11-13-09

Columbia Analytical Services™ 1317 S. 13th Avenue, Kelso, WA 98626 360.577.7222 360.636.1068 (fax) www.caslab.com

February 17, 2010 Analytical Report for Service Request No: K0910296

Jennifer Ray
URS Corporation
111 SW Columbia, Suite 1500
Portland, OR 97201

RE: Boise St. Helens Pulp and Paper Mill-2009

Dear Jennifer:

Enclosed are the revised pages for the sample submitted to our laboratory on October 23, 2009. For your reference, these analyses have been assigned our service request number K0910296.

The reported target analyte list for the semi-volatiles has been revised to reflect the project specific requirements.

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. The test results meet requirements of the current NELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP-accredited analytes, refer to the certifications section at www.caslab.com. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please call if you have any questions. My extension is 3358. You may also contact me via Email at LHuckestein@caslab.com.

Respectfully submitted,

Columbia Analytical Services, Inc.

Lynda Huckestein
Client Services Manager

LH/cb

COLUMBIA ANALYTICAL SERVICES, INC.

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0910296

Cover Page - Organic Analysis Data Package
Polynuclear Aromatic Hydrocarbons

Sample Name	Lab Code	Date Collected	Date Received
RB-1	K0910296-001	10/22/2009	10/23/2009

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed in the case narrative. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on floppy diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Signature: _____ Name: Carl Dayer

Date: 2/10/10 Title: Sup Supervisor

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	URS Corporation	**Service Request:**	K0910296
Project:	Boise St. Helens Pulp and Paper Mill-2009	**Date Collected:**	10/22/2009
Sample Matrix:	Water	**Date Received:**	10/23/2009

Polynuclear Aromatic Hydrocarbons

Sample Name:	RB-1	**Units:**	ug/L
Lab Code:	K0910296-001	**Basis:**	NA
Extraction Method:	EPA 3520C	**Level:**	Low
Analysis Method:	8270C SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Naphthalene	**0.017**	J	0.022	0.0032	1	10/28/09	11/06/09	KWG0909945	
2-Methylnaphthalene	**0.0037**	J	0.022	0.0025	1	10/28/09	11/06/09	KWG0909945	
1-Methylnaphthalene	ND	U	0.022	0.0037	1	10/28/09	11/06/09	KWG0909945	
2,6-Dimethylnaphthalene	ND	U	0.022	0.0024	1	10/28/09	11/06/09	KWG0909945	
Acenaphthylene	ND	U	0.022	0.0036	1	10/28/09	11/06/09	KWG0909945	
Acenaphthene	ND	U	0.022	0.0047	1	10/28/09	11/06/09	KWG0909945	
Dibenzofuran	ND	U	0.022	0.0049	1	10/28/09	11/06/09	KWG0909945	
2,3,5-Trimethylnaphthalene	ND	U	0.022	0.0053	1	10/28/09	11/06/09	KWG0909945	
Fluorene	ND	U	0.022	0.0040	1	10/28/09	11/06/09	KWG0909945	
Dibenzothiophene	ND	U	0.022	0.0040	1	10/28/09	11/06/09	KWG0909945	
Phenanthrene	ND	U	0.022	0.0053	1	10/28/09	11/06/09	KWG0909945	
Anthracene	ND	U	0.022	0.0038	1	10/28/09	11/06/09	KWG0909945	
1-Methylphenanthrene	ND	U	0.022	0.0044	1	10/28/09	11/06/09	KWG0909945	
Fluoranthene	ND	U	0.022	0.0047	1	10/28/09	11/06/09	KWG0909945	
Pyrene	ND	U	0.022	0.0037	1	10/28/09	11/06/09	KWG0909945	
Benz(a)anthracene	**0.0040**	J	0.022	0.0028	1	10/28/09	11/06/09	KWG0909945	
Chrysene	ND	U	0.022	0.0036	1	10/28/09	11/06/09	KWG0909945	
Benzo(b)fluoranthene	**0.0060**	J	0.022	0.0025	1	10/28/09	11/06/09	KWG0909945	
Benzo(k)fluoranthene	**0.0037**	J	0.022	0.0027	1	10/28/09	11/06/09	KWG0909945	
Benzo(e)pyrene	**0.0091**	J	0.022	0.0043	1	10/28/09	11/06/09	KWG0909945	
Benzo(a)pyrene	ND	U	0.022	0.0046	1	10/28/09	11/06/09	KWG0909945	
Indeno(1,2,3-cd)pyrene	**0.0037**	J	0.022	0.0028	1	10/28/09	11/06/09	KWG0909945	
Dibenz(a,h)anthracene	**0.0038**	J	0.022	0.0027	1	10/28/09	11/06/09	KWG0909945	
Benzo(g,h,i)perylene	**0.0077**	J	0.022	0.0031	1	10/28/09	11/06/09	KWG0909945	
Perylene	ND	U	0.022	0.0053	1	10/28/09	11/06/09	KWG0909945	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	114	28-98	11/06/09	Outside Control Limits
Fluoranthene-d10	106	31-105	11/06/09	Outside Control Limits
Terphenyl-d14	106	27-112	11/06/09	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	URS Corporation	**Service Request:**	K0910296
Project:	Boise St. Helens Pulp and Paper Mill-2009	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA

Polynuclear Aromatic Hydrocarbons

Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	KWG0909945-4	**Basis:**	NA
Extraction Method:	EPA 3520C	**Level:**	Low
Analysis Method:	8270C SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Naphthalene	ND	U	0.019	0.0030	1	10/28/09	11/09/09	KWG0909945	
2-Methylnaphthalene	ND	U	0.019	0.0023	1	10/28/09	11/09/09	KWG0909945	
1-Methylnaphthalene	ND	U	0.019	0.0035	1	10/28/09	11/09/09	KWG0909945	
2,6-Dimethylnaphthalene	ND	U	0.019	0.0022	1	10/28/09	11/09/09	KWG0909945	
Acenaphthylene	ND	U	0.019	0.0034	1	10/28/09	11/09/09	KWG0909945	
Acenaphthene	ND	U	0.019	0.0044	1	10/28/09	11/09/09	KWG0909945	
Dibenzofuran	ND	U	0.019	0.0046	1	10/28/09	11/09/09	KWG0909945	
2,3,5-Trimethylnaphthalene	ND	U	0.019	0.0050	1	10/28/09	11/09/09	KWG0909945	
Fluorene	ND	U	0.019	0.0038	1	10/28/09	11/09/09	KWG0909945	
Dibenzothiophene	ND	U	0.019	0.0038	1	10/28/09	11/09/09	KWG0909945	
Phenanthrene	ND	U	0.019	0.0050	1	10/28/09	11/09/09	KWG0909945	
Anthracene	ND	U	0.019	0.0036	1	10/28/09	11/09/09	KWG0909945	
1-Methylphenanthrene	ND	U	0.019	0.0041	1	10/28/09	11/09/09	KWG0909945	
Fluoranthene	ND	U	0.019	0.0044	1	10/28/09	11/09/09	KWG0909945	
Pyrene	ND	U	0.019	0.0035	1	10/28/09	11/09/09	KWG0909945	
Benz(a)anthracene	**0.0029**	J	0.019	0.0026	1	10/28/09	11/09/09	KWG0909945	
Chrysene	ND	U	0.019	0.0034	1	10/28/09	11/09/09	KWG0909945	
Benzo(b)fluoranthene	**0.0035**	J	0.019	0.0023	1	10/28/09	11/09/09	KWG0909945	
Benzo(k)fluoranthene	ND	U	0.019	0.0025	1	10/28/09	11/09/09	KWG0909945	
Benzo(e)pyrene	ND	U	0.019	0.0040	1	10/28/09	11/09/09	KWG0909945	
Benzo(a)pyrene	ND	U	0.019	0.0043	1	10/28/09	11/09/09	KWG0909945	
Indeno(1,2,3-cd)pyrene	ND	U	0.019	0.0026	1	10/28/09	11/09/09	KWG0909945	
Dibenz(a,h)anthracene	ND	U	0.019	0.0025	1	10/28/09	11/09/09	KWG0909945	
Benzo(g,h,i)perylene	ND	U	0.019	0.0029	1	10/28/09	11/09/09	KWG0909945	
Perylene	ND	U	0.019	0.0050	1	10/28/09	11/09/09	KWG0909945	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	71	28-98	11/09/09	Acceptable
Fluoranthene-d10	59	31-105	11/09/09	Acceptable
Terphenyl-d14	62	27-112	11/09/09	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009
Sample Matrix: Water

Service Request: K0910296

Surrogate Recovery Summary
Polynuclear Aromatic Hydrocarbons

Extraction Method: EPA 3520C
Analysis Method: 8270C SIM

Units: PERCENT
Level: Low

Sample Name	Lab Code	Sur1		Sur2		Sur3
RB-1	K0910296-001	114	*	106	*	106
Method Blank	KWG0909945-4	71		59		62
Batch QC	K0910308-019	84		81		69
Batch QCMS	KWG0909945-1	73		67		57
Batch QCDMS	KWG0909945-2	71		68		56
Lab Control Sample	KWG0909945-3	64		62		57

Surrogate Recovery Control Limits (%)

Sur1	= Fluorene-d10	28-98
Sur2	= Fluoranthene-d10	31-105
Sur3	= Terphenyl-d14	27-112

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0910296
Date Analyzed: 11/06/2009
Time Analyzed: 09:33

Internal Standard Area and RT Summary
Polynuclear Aromatic Hydrocarbons

File ID: J:\MS11\DATA\110609\1106F002.D
Instrument ID: MS11
Analysis Method: 8270C SIM

Lab Code: KWG0910516-2
Analysis Lot: KWG0910516

		Naphthalene-d8		Acenaphthene-d10		Phenanthrene-d10	
		Area	**RT**	**Area**	**RT**	**Area**	**RT**
	Results ==>	223,388	4.64	125,197	6.05	217,665	7.27
	Upper Limit ==>	446,776	5.14	250,394	6.55	435,330	7.77
	Lower Limit ==>	111,694	4.14	62,599	5.55	108,833	6.77
	ICAL Result ==>	287,363	4.67	143,632	6.10	187,662	7.32
Associated Analyses							
Lab Control Sample	KWG0909945-3	233,458	4.63	126,989	6.05	202,098	7.27
Batch QCMS	KWG0909945-1	219,669	4.63	126,244	6.05	213,077	7.27
Batch QCDMS	KWG0909945-2	209,296	4.63	117,931	6.05	199,333	7.27
Batch QC	K0910308-019	217,866	4.64	125,117	6.05	201,333	7.27
RB-1	K0910296-001	213,899	4.64	116,467	6.05	184,864	7.27

Results flagged with an asterisk (*) indicate values outside control criteria.

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0910296
Date Analyzed: 11/06/2009
Time Analyzed: 09:33

Internal Standard Area and RT Summary
Polynuclear Aromatic Hydrocarbons

File ID: J:\MS11\DATA\110609\1106F002.D
Instrument ID: MS11
Analysis Method: 8270C SIM

Lab Code: KWG0910516-2
Analysis Lot: KWG0910516

		Chrysene-d12		Perylene-d12			
		Area	**RT**	**Area**	**RT**	**Area**	**RT**
	Results ==>	260,249	9.77	255,004	12.78		
	Upper Limit ==>	520,498	10.27	510,008	13.28		
	Lower Limit ==>	130,125	9.27	127,502	12.28		
	ICAL Result ==>	216,839	9.84	240,902	12.92		
Associated Analyses							
Lab Control Sample	KWG0909945-3	247,318	9.77	254,259	12.78		
Batch QCMS	KWG0909945-1	291,202	9.76	280,224	12.78		
Batch QCDMS	KWG0909945-2	270,701	9.76	255,048	12.78		
Batch QC	K0910308-019	276,339	9.76	256,838	12.78		
RB-1	K0910296-001	214,636	9.77	206,022	12.78		

Results flagged with an asterisk (*) indicate values outside control criteria.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0910296
Date Analyzed: 11/09/2009
Time Analyzed: 08:10

Internal Standard Area and RT Summary
Polynuclear Aromatic Hydrocarbons

File ID: J:\MS11\DATA\110909\1109F002.D
Instrument ID: MS11
Analysis Method: 8270C SIM

Lab Code: KWG0910548-2
Analysis Lot: KWG0910548

		Naphthalene-d8		Acenaphthene-d10		Phenanthrene-d10	
		Area	**RT**	**Area**	**RT**	**Area**	**RT**
	Results ==>	192,128	4.63	104,633	6.05	206,819	7.27
	Upper Limit ==>	384,256	5.13	209,266	6.55	413,638	7.77
	Lower Limit ==>	96,064	4.13	52,317	5.55	103,410	6.77
	ICAL Result ==>	287,363	4.67	143,632	6.10	187,662	7.32
Associated Analyses							
Method Blank	KWG0909945-4	173,792	4.63	114,407	6.05	220,505	7.27

Results flagged with an asterisk (*) indicate values outside control criteria.

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0910296
Date Analyzed: 11/09/2009
Time Analyzed: 08:10

Internal Standard Area and RT Summary
Polynuclear Aromatic Hydrocarbons

File ID: J:\MS11\DATA\110909\1109F002.D
Instrument ID: MS11
Analysis Method: 8270C SIM

Lab Code: KWG0910548-2
Analysis Lot: KWG0910548

		Chrysene-d12		Perylene-d12			
		Area	**RT**	**Area**	**RT**	**Area**	**RT**
	Results ==>	312,820	9.77	304,691	12.78		
	Upper Limit ==>	625,640	10.27	609,382	13.28		
	Lower Limit ==>	156,410	9.27	152,346	12.28		
	ICAL Result ==>	216,839	9.84	240,902	12.92		
Associated Analyses							
Method Blank	KWG0909945-4	267,332	9.76	237,771	12.78		

Results flagged with an asterisk (*) indicate values outside control criteria.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	URS Corporation	**Service Request:**	K0910296
Project:	Boise St. Helens Pulp and Paper Mill-2009	**Date Extracted:**	10/28/2009
Sample Matrix:	Water	**Date Analyzed:**	11/06/2009

Matrix Spike/Duplicate Matrix Spike Summary
Polynuclear Aromatic Hydrocarbons

Sample Name:	Batch QC	**Units:**	ug/L
Lab Code:	K0910308-019	**Basis:**	NA
Extraction Method:	EPA 3520C	**Level:**	Low
Analysis Method:	8270C SIM	**Extraction Lot:**	KWG0909945

Analyte Name	Sample Result	Batch QCMS KWG0909945-1 Matrix Spike			Batch QCDMS KWG0909945-2 Duplicate Matrix Spike			%Rec Limits	RPD	RPD Limit
		Result	Expected	%Rec	Result	Expected	%Rec			
Naphthalene	0.036	2.06	2.38	85	1.99	2.38	82	37-118	4	30
2-Methylnaphthalene	0.011	1.88	2.38	79	1.78	2.38	74	37-117	6	30
1-Methylnaphthalene	ND	1.99	2.38	83	1.86	2.38	78	34-125	6	30
2,6-Dimethylnaphthalene	ND	2.60	2.38	109	2.40	2.38	101	38-120	8	30
Acenaphthylene	ND	2.15	2.38	90	2.02	2.38	85	43-114	6	30
Acenaphthene	ND	2.17	2.38	91	2.05	2.38	86	45-114	6	30
Dibenzofuran	ND	2.34	2.38	98	2.21	2.38	93	44-122	6	30
2,3,5-Trimethylnaphthalene	ND	2.79	2.38	117	2.57	2.38	108	43-129	8	30
Fluorene	0.020	2.52	2.38	105	2.31	2.38	96	45-123	9	30
Dibenzothiophene	ND	2.18	2.38	92	1.99	2.38	84	45-130	9	30
Phenanthrene	0.054	2.02	2.38	83	1.92	2.38	78	42-127	5	30
Anthracene	0.0053	2.03	2.38	85	1.94	2.38	81	32-125	4	30
1-Methylphenanthrene	ND	2.33	2.38	98	2.20	2.38	93	48-134	6	30
Fluoranthene	0.0096	2.18	2.38	91	2.07	2.38	87	48-134	5	30
Pyrene	0.0078	1.92	2.38	80	1.87	2.38	78	44-130	3	30
Benz(a)anthracene	0.0086	1.99	2.38	83	1.87	2.38	78	41-128	6	30
Chrysene	0.019	2.01	2.38	84	1.90	2.38	79	48-128	5	30
Benzo(b)fluoranthene	0.015	2.20	2.38	92	2.10	2.38	88	40-139	4	30
Benzo(k)fluoranthene	0.012	2.21	2.38	92	2.14	2.38	90	48-134	3	30
Benzo(e)pyrene	0.019	2.30	2.38	96	2.21	2.38	92	46-135	4	30
Benzo(a)pyrene	0.0094	2.08	2.38	87	1.99	2.38	83	35-132	5	30
Indeno(1,2,3-cd)pyrene	0.011	2.04	2.38	85	1.92	2.38	80	40-135	6	30
Dibenz(a,h)anthracene	0.011	1.96	2.38	82	1.83	2.38	77	43-135	7	30
Benzo(g,h,i)perylene	0.018	2.05	2.38	85	1.94	2.38	81	44-128	5	30
Perylene	0.011	2.09	2.38	87	2.00	2.38	84	49-132	4	30

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	URS Corporation	**Service Request:**	K0910296
Project:	Boise St. Helens Pulp and Paper Mill-2009	**Date Extracted:**	10/28/2009
Sample Matrix:	Water	**Date Analyzed:**	11/06/2009

Lab Control Spike Summary
Polynuclear Aromatic Hydrocarbons

Extraction Method:	EPA 3520C	**Units:**	ug/L
Analysis Method:	8270C SIM	**Basis:**	NA
		Level:	Low
		Extraction Lot:	KWG0909945

	Lab Control Sample KWG0909945-3 Lab Control Spike			
Analyte Name	**Result**	**Expected**	**%Rec**	**%Rec Limits**
Naphthalene	1.84	2.50	74	39-110
2-Methylnaphthalene	1.65	2.50	66	39-115
1-Methylnaphthalene	1.76	2.50	70	40-122
2,6-Dimethylnaphthalene	2.15	2.50	86	38-120
Acenaphthylene	2.00	2.50	80	44-115
Acenaphthene	1.98	2.50	79	44-113
Dibenzofuran	2.14	2.50	85	46-116
2,3,5-Trimethylnaphthalene	2.42	2.50	97	43-129
Fluorene	2.29	2.50	92	48-118
Dibenzothiophene	2.10	2.50	84	45-130
Phenanthrene	1.96	2.50	79	47-120
Anthracene	2.03	2.50	81	44-117
1-Methylphenanthrene	2.28	2.50	91	48-134
Fluoranthene	2.13	2.50	85	48-128
Pyrene	2.09	2.50	84	42-133
Benz(a)anthracene	1.89	2.50	76	48-125
Chrysene	1.93	2.50	77	50-128
Benzo(b)fluoranthene	2.11	2.50	84	49-131
Benzo(k)fluoranthene	2.16	2.50	87	54-131
Benzo(e)pyrene	2.21	2.50	88	46-135
Benzo(a)pyrene	2.00	2.50	80	43-134
Indeno(1,2,3-cd)pyrene	2.02	2.50	81	45-133
Dibenz(a,h)anthracene	1.93	2.50	77	49-133
Benzo(g,h,i)perylene	2.06	2.50	83	51-124
Perylene	2.01	2.50	81	49-132

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	URS Corporation	**Service Request:**	K0910296
Project:	Boise St. Helens Pulp and Paper Mill-2009	**Date Extracted:**	10/28/2009
Sample Matrix:	Water	**Date Analyzed:**	11/09/2009
		Time Analyzed:	18:14

Method Blank Summary
Polynuclear Aromatic Hydrocarbons

Sample Name:	Method Blank	**File ID:**	J:\MS11\DATA\110909\1109F024.D
Lab Code:	KWG0909945-4	**Instrument ID:**	MS11
Extraction Method:	EPA 3520C	**Level:**	Low
Analysis Method:	8270C SIM	**Extraction Lot:**	KWG0909945

This Method Blank applies to the following analyses:

Sample Name	Lab Code	File ID	Date Analyzed	Time Analyzed
Lab Control Sample	KWG0909945-3	J:\MS11\DATA\110609\1106F012.D	11/06/09	14:03
Batch QCMS	KWG0909945-1	J:\MS11\DATA\110609\1106F013.D	11/06/09	14:30
Batch QCDMS	KWG0909945-2	J:\MS11\DATA\110609\1106F014.D	11/06/09	14:57
Batch QC	K0910308-019	J:\MS11\DATA\110609\1106F015.D	11/06/09	15:25
RB-1	K0910296-001	J:\MS11\DATA\110609\1106F016.D	11/06/09	15:51

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	URS Corporation	**Service Request:**	K0910296
Project:	Boise St. Helens Pulp and Paper Mill-2009	**Date Extracted:**	10/28/2009
Sample Matrix:	Water	**Date Analyzed:**	11/06/2009
		Time Analyzed:	14:03

Lab Control Sample Summary
Polynuclear Aromatic Hydrocarbons

Sample Name:	Lab Control Sample	**File ID:**	J:\MS11\DATA\110609\1106F012.D
Lab Code:	KWG0909945-3	**Instrument ID:**	MS11
Extraction Method:	EPA 3520C	**Level:**	Low
Analysis Method:	8270C SIM	**Extraction Lot:**	KWG0909945

This Lab Control Sample applies to the following analyses:

Sample Name	Lab Code	File ID	Date Analyzed	Time Analyzed
Batch QCMS	KWG0909945-1	J:\MS11\DATA\110609\1106F013.D	11/06/09	14:30
Batch QCDMS	KWG0909945-2	J:\MS11\DATA\110609\1106F014.D	11/06/09	14:57
Batch QC	K0910308-019	J:\MS11\DATA\110609\1106F015.D	11/06/09	15:25
RB-1	K0910296-001	J:\MS11\DATA\110609\1106F016.D	11/06/09	15:51
Method Blank	KWG0909945-4	J:\MS11\DATA\110909\1109F024.D	11/09/09	18:14

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Results

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0910296
Date Analyzed: 11/06/2009
Time Analyzed: 09:07

Tune Summary
Polynuclear Aromatic Hydrocarbons

File ID: J:\MS11\DATA\110609\1106F001.D
Instrument ID: MS11
Column:

Analysis Method: 8270C SIM
Analysis Lot: KWG0910516

Target Mass	Relative to Mass	Lower Limit%	Upper Limit%	Relative Abundance %	Raw Abundance	Result Pass/Fail
51	198	10	80	29.7	122152	PASS
68	69	0	2	0.0	0	PASS
69	198	0	100	32.7	134400	PASS
70	69	0	2	0.8	1101	PASS
127	198	10	80	43.2	177472	PASS
197	198	0	2	0.0	0	PASS
198	442	30	100	34.5	410752	PASS
199	198	5	9	6.8	27808	PASS
275	198	10	60	40.1	164864	PASS
365	442	1	50	2.3	27264	PASS
441	443	0	100	72.9	169088	PASS
442	442	100	100	100.0	1189376	PASS
443	442	15	24	19.5	232064	PASS

Sample Name	Lab Code	File ID	Date Analyzed	Time Analyzed	Q
Continuing Calibration Verification	KWG0910516-2	J:\MS11\DATA\110609\1106F002.D	11/06/2009	09:33	
Lab Control Sample	KWG0909945-3	J:\MS11\DATA\110609\1106F012.D	11/06/2009	14:03	
Batch QCMS	KWG0909945-1	J:\MS11\DATA\110609\1106F013.D	11/06/2009	14:30	
Batch QCDMS	KWG0909945-2	J:\MS11\DATA\110609\1106F014.D	11/06/2009	14:57	
Batch QC	K0910308-019	J:\MS11\DATA\110609\1106F015.D	11/06/2009	15:25	
RB-1	K0910296-001	J:\MS11\DATA\110609\1106F016.D	11/06/2009	15:51	

Results flagged with an asterisk (*) indicate the analysis performed outside specified tune window

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Results

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0910296
Date Analyzed: 11/09/2009
Time Analyzed: 07:40

Tune Summary
Polynuclear Aromatic Hydrocarbons

File ID: J:\MS11\DATA\110909\1109F001.D
Instrument ID: MS11
Column:

Analysis Method: 8270C SIM
Analysis Lot: KWG0910548

Target Mass	Relative to Mass	Lower Limit%	Upper Limit%	Relative Abundance %	Raw Abundance	Result Pass/Fail
51	198	10	80	31.6	138560	PASS
68	69	0	2	0.0	0	PASS
69	198	0	100	34.7	152192	PASS
70	69	0	2	0.7	1070	PASS
127	198	10	80	45.5	199488	PASS
197	198	0	2	0.0	0	PASS
198	442	30	100	43.8	438592	PASS
199	198	5	9	6.7	29256	PASS
275	198	10	60	36.1	158400	PASS
365	442	1	50	2.5	25272	PASS
441	443	0	100	70.8	142656	PASS
442	442	100	100	100.0	1002176	PASS
443	442	15	24	20.1	201408	PASS

Sample Name	Lab Code	File ID	Date Analyzed	Time Analyzed	Q
Continuing Calibration Verification	KWG0910548-2	J:\MS11\DATA\110909\1109F002.D	11/09/2009	08:10	
Method Blank	KWG0909945-4	J:\MS11\DATA\110909\1109F024.D	11/09/2009	18:14	

Results flagged with an asterisk (*) indicate the analysis performed outside specified tune window

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Results

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0910296
Calibration Date: 10/15/2009

Initial Calibration Summary
Polynuclear Aromatic Hydrocarbons

Calibration ID: CAL8928
Instrument ID: MS11

Column: MS

Level ID	File ID
A	J:\MS11\DATA\101509\1015F003.D
B	J:\MS11\DATA\101509\1015F004.D
C	J:\MS11\DATA\101509\1015F005.D
D	J:\MS11\DATA\101509\1015F006.D
E	J:\MS11\DATA\101509\1015F007.D
F	J:\MS11\DATA\101509\1015F008.D
G	J:\MS11\DATA\101509\1015F009.D
H	J:\MS11\DATA\101509\1015F010.D
I	J:\MS11\DATA\101509\1015F011.D
J	J:\MS11\DATA\101509\1015F012.D

Analyte Name	Level ID	Amt	RRF	Level ID	Amt	RRF	Level ID	Amt	RRF	Level ID	Amt	RRF	Level ID	Amt	RRF
Naphthalene	A	2.0	0.900	B	4.0	1.01	C	8.0	0.978	D	20	0.978	E	100	0.990
	F	200	1.00	G	400	0.933	H	1000	0.866	I	1600	0.797	J	2000	0.750
2-Methylnaphthalene	A	2.0	0.595	B	4.0	0.667	C	8.0	0.611	D	20	0.632	E	100	0.636
	F	200	0.691	G	400	0.677	H	1000	0.651	I	1600	0.614	J	2000	0.569
1-Methylnaphthalene	A	2.0	0.816	B	4.0	0.743	C	8.0	0.712	D	20	0.693	E	100	0.647
	F	200	0.679	G	400	0.660	H	1000	0.638	I	1600	0.602	J	2000	0.553
2,6-Dimethylnaphthalene	A	2.0	0.530	B	4.0	0.468	C	8.0	0.480	D	20	0.485	E	100	0.488
	F	200	0.533	G	400	0.530	H	1000	0.515	I	1600	0.511	J	2000	0.446
Acenaphthylene	A	2.0	1.65	B	4.0	1.79	C	8.0	1.69	D	20	1.86	E	100	1.82
	F	200	1.90	G	400	1.85	H	1000	1.72	I	1600	1.57	J	2000	1.51
Acenaphthene	A	2.0	1.12	B	4.0	1.09	C	8.0	1.02	D	20	1.11	E	100	1.07
	F	200	1.08	G	400	1.05	H	1000	0.991	I	1600	0.930	J	2000	0.886
Dibenzofuran	A	2.0	1.43	B	4.0	1.44	C	8.0	1.37	D	20	1.46	E	100	1.47
	F	200	1.52	G	400	1.45	H	1000	1.34	I	1600	1.25	J	2000	1.19
2,3,5-Trimethylnaphthalene	A	2.0	0.917	B	4.0	0.940	C	8.0	0.880	D	20	0.951	E	100	0.898
	F	200	0.909	G	400	0.864	H	1000	0.810	I	1600	0.790	J	2000	0.732
Fluorene	A	2.0	1.26	B	4.0	1.20	C	8.0	1.13	D	20	1.20	E	100	1.16
	F	200	1.19	G	400	1.11	H	1000	1.02	I	1600	0.968	J	2000	0.909
Dibenzothiophene	A	2.0	1.03	B	4.0	1.01	C	8.0	0.964	D	20	1.01	E	100	1.06
	F	200	1.13	G	400	1.07	H	1000	1.00	I	1600	0.954	J	2000	0.879
Phenanthrene	A	2.0	1.35	B	4.0	1.21	C	8.0	1.10	D	20	1.13	E	100	1.14
	F	200	1.19	G	400	1.13	H	1000	1.06	I	1600	0.987	J	2000	0.927
Anthracene	A	2.0	1.14	B	4.0	1.09	C	8.0	1.06	D	20	1.06	E	100	1.11
	F	200	1.21	G	400	1.12	H	1000	1.06	I	1600	0.965	J	2000	0.927
1-Methylphenanthrene	A	2.0	0.899	B	4.0	0.837	C	8.0	0.785	D	20	0.811	E	100	0.831
	F	200	0.872	G	400	0.815	H	1000	0.775	I	1600	0.720	J	2000	0.686
Fluoranthene	A	2.0	1.47	B	4.0	1.41	C	8.0	1.24	D	20	1.25	E	100	1.26
	F	200	1.33	G	400	1.23	H	1000	1.14	I	1600	1.02	J	2000	0.981

Results flagged with an asterisk (*) indicate values outside control criteria.

† **SPCC Compound** ‡ **CCC Compound**

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0910296
Calibration Date: 10/15/2009

Initial Calibration Summary
Polynuclear Aromatic Hydrocarbons

Calibration ID: CAL8928
Instrument ID: MS11

Column: MS

Analyte Name	Level ID	Amt	RRF	Level ID	Amt	RRF	Level ID	Amt	RRF	Level ID	Amt	RRF	Level ID	Amt	RRF
Pyrene	A	2.0	1.27	B	4.0	1.13	C	8.0	1.08	D	20	1.14	E	100	1.07
	F	200	1.17	G	400	1.11	H	1000	1.07	I	1600	0.978	J	2000	0.926
Benz(a)anthracene	A	2.0	1.42	B	4.0	1.21	C	8.0	1.02	D	20	1.04	E	100	1.01
	F	200	1.11	G	400	1.06	H	1000	1.05	I	1600	0.989	J	2000	0.965
Chrysene	A	2.0	1.16	B	4.0	1.18	C	8.0	1.07	D	20	1.09	E	100	1.04
	F	200	1.09	G	400	1.07	H	1000	1.03	I	1600	0.945	J	2000	0.914
Benzo(b)fluoranthene	A	2.0	1.17	B	4.0	1.03	C	8.0	0.989	D	20	1.01	E	100	1.00
	F	200	1.11	G	400	1.06	H	1000	1.07	I	1600	1.02	J	2000	0.956
Benzo(k)fluoranthene	A	2.0	1.01	B	4.0	1.03	C	8.0	0.997	D	20	1.04	E	100	1.03
	F	200	1.09	G	400	1.06	H	1000	1.07	I	1600	1.02	J	2000	0.942
Benzo(e)pyrene	A	2.0	1.06	B	4.0	1.04	C	8.0	0.922	D	20	0.938	E	100	0.947
	F	200	1.01	G	400	0.990	H	1000	1.01	I	1600	0.955	J	2000	0.903
Benzo(a)pyrene	A	2.0	1.13	B	4.0	1.05	C	8.0	0.899	D	20	0.941	E	100	0.937
	F	200	1.01	G	400	0.994	H	1000	1.02	I	1600	0.971	J	2000	0.923
Indeno(1,2,3-cd)pyrene	A	2.0	0.970	B	4.0	0.947	C	8.0	0.806	D	20	0.888	E	100	0.893
	F	200	0.962	G	400	0.925	H	1000	0.938	I	1600	0.884	J	2000	0.851
Dibenz(a,h)anthracene	A	2.0	1.02	B	4.0	1.01	C	8.0	0.876	D	20	0.970	E	100	0.966
	F	200	1.02	G	400	1.00	H	1000	1.01	I	1600	0.967	J	2000	0.918
Benzo(g,h,i)perylene	A	2.0	1.11	B	4.0	1.09	C	8.0	1.06	D	20	1.09	E	100	1.05
	F	200	1.09	G	400	1.05	H	1000	1.02	I	1600	0.967	J	2000	0.918
Perylene	A	2.0	1.07	B	4.0	1.00	C	8.0	0.915	D	20	0.949	E	100	0.913
	F	200	0.988	G	400	0.975	H	1000	1.00	I	1600	0.961	J	2000	0.907
Fluorene-d10	A	2.0	1.06	B	4.0	1.05	C	8.0	0.892	D	20	0.996	E	100	0.945
	F	200	0.989	G	400	0.924	H	1000	0.863	I	1600	0.831	J	2000	0.778
Fluoranthene-d10				B	4.0	1.42	C	8.0	1.09	D	20	1.10	E	100	1.10
	F	200	1.18	G	400	1.13	H	1000	1.07	I	1600	0.960	J	2000	0.921
Terphenyl-d14				B	4.0	1.05	C	8.0	0.790	D	20	0.866	E	100	0.800
	F	200	0.870	G	400	0.825	H	1000	0.794	I	1600	0.736	J	2000	0.708

Results flagged with an asterisk (*) indicate values outside control criteria.

† **SPCC Compound** ‡ **CCC Compound**

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0910296
Calibration Date: 10/15/2009

Initial Calibration Summary
Polynuclear Aromatic Hydrocarbons

Calibration ID: CAL8928
Instrument ID: MS11

Column: MS

Analyte Name	Compound Type	Calibration Evaluation					RRF Evaluation		
		Fit Type	Eval.	Eval. Result	Q	Control Criteria	Average RRF	Q	Minimum RRF
Naphthalene	MS	AverageRF	% RSD	9.8		≤ 15	0.920		0.01
2-Methylnaphthalene	MS	AverageRF	% RSD	6.0		≤ 15	0.634		0.01
1-Methylnaphthalene	MS	AverageRF	% RSD	10.9		≤ 15	0.674		0.01
2,6-Dimethylnaphthalene	MS	AverageRF	% RSD	5.9		≤ 15	0.499		0.01
Acenaphthylene	MS	AverageRF	% RSD	7.4		≤ 15	1.74		0.01
Acenaphthene	MS	AverageRF	% RSD	7.6		≤ 15	1.03		0.01
Dibenzofuran	MS	AverageRF	% RSD	7.4		≤ 15	1.39		0.01
2,3,5-Trimethylnaphthalene	MS	AverageRF	% RSD	8.1		≤ 15	0.869		0.01
Fluorene	MS	AverageRF	% RSD	10.2		≤ 15	1.12		0.01
Dibenzothiophene	MS	AverageRF	% RSD	6.9		≤ 15	1.01		0.01
Phenanthrene	MS	AverageRF	% RSD	10.5		≤ 15	1.12		0.01
Anthracene	MS	AverageRF	% RSD	7.6		≤ 15	1.07		0.01
1-Methylphenanthrene	MS	AverageRF	% RSD	8.1		≤ 15	0.803		0.01
Fluoranthene	MS	AverageRF	% RSD	12.5		≤ 15	1.23		0.01
Pyrene	MS	AverageRF	% RSD	8.7		≤ 15	1.10		0.01
Benz(a)anthracene	MS	AverageRF	% RSD	12.3		≤ 15	1.09		0.01
Chrysene	MS	AverageRF	% RSD	7.9		≤ 15	1.06		0.01
Benzo(b)fluoranthene	MS	AverageRF	% RSD	6.1		≤ 15	1.04		0.01
Benzo(k)fluoranthene	MS	AverageRF	% RSD	4.1		≤ 15	1.03		0.01
Benzo(e)pyrene	MS	AverageRF	% RSD	5.3		≤ 15	0.977		0.01
Benzo(a)pyrene	MS	AverageRF	% RSD	7.0		≤ 15	0.988		0.01
Indeno(1,2,3-cd)pyrene	MS	AverageRF	% RSD	5.7		≤ 15	0.907		0.01
Dibenz(a,h)anthracene	MS	AverageRF	% RSD	5.0		≤ 15	0.977		0.01
Benzo(g,h,i)perylene	MS	AverageRF	% RSD	5.8		≤ 15	1.04		0.01
Perylene	MS	AverageRF	% RSD	5.3		≤ 15	0.969		0.01
Fluorene-d10	SURR	AverageRF	% RSD	10.0		≤ 15	0.933		0.01
Fluoranthene-d10	SURR	AverageRF	% RSD	12.8		≤ 15	1.11		0.01
Terphenyl-d14	SURR	AverageRF	% RSD	12.1		≤ 15	0.827		0.01

Results flagged with an asterisk (*) indicate values outside control criteria.

† **SPCC Compound** ‡ **CCC Compound**

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Results

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0910296
Calibration Date: 10/15/2009
Date Analyzed: 10/15/2009

Second Source Calibration Verification
Polynuclear Aromatic Hydrocarbons

Calibration Type: Internal Standard
Analysis Method: 8270C SIM

Calibration ID: CAL8928
Units: ng/ml

File ID: J:\MS11\DATA\101509\1015G014.D

Analyte Name	Expected	Result	Average RF	SSV RF	%D	%Drift	Criteria	Curve Fit
Naphthalene	400	390	0.920	0.904	-2	NA	± 20 %	AverageRF
2-Methylnaphthalene	400	410	0.634	0.650	3	NA	± 20 %	AverageRF
1-Methylnaphthalene	400	380	0.674	0.637	-6	NA	± 20 %	AverageRF
2,6-Dimethylnaphthalene	400	400	0.499	0.500	0	NA	± 20 %	AverageRF
Acenaphthylene	400	440	1.74	1.92	10	NA	± 20 %	AverageRF
Acenaphthene	400	420	1.03	1.09	6	NA	± 20 %	AverageRF
Dibenzofuran	400	440	1.39	1.52	9	NA	± 20 %	AverageRF
2,3,5-Trimethylnaphthalene	400	420	0.869	0.913	5	NA	± 20 %	AverageRF
Fluorene	400	420	1.12	1.16	4	NA	± 20 %	AverageRF
Dibenzothiophene	400	420	1.01	1.07	6	NA	± 20 %	AverageRF
Phenanthrene	400	400	1.12	1.11	-1	NA	± 20 %	AverageRF
Anthracene	400	420	1.07	1.14	6	NA	± 20 %	AverageRF
1-Methylphenanthrene	400	410	0.803	0.824	3	NA	± 20 %	AverageRF
Fluoranthene	400	400	1.23	1.22	-1	NA	± 20 %	AverageRF
Pyrene	400	360	1.10	0.987	-10	NA	± 20 %	AverageRF
Benz(a)anthracene	400	360	1.09	0.966	-11	NA	± 20 %	AverageRF
Chrysene	400	370	1.06	0.969	-8	NA	± 20 %	AverageRF
Benzo(b)fluoranthene	400	400	1.04	1.06	1	NA	± 20 %	AverageRF
Benzo(k)fluoranthene	400	410	1.03	1.06	3	NA	± 20 %	AverageRF
Benzo(e)pyrene	400	400	0.977	0.980	0	NA	± 20 %	AverageRF
Benzo(a)pyrene	400	390	0.988	0.965	-2	NA	± 20 %	AverageRF
Indeno(1,2,3-cd)pyrene	400	380	0.907	0.870	-4	NA	± 20 %	AverageRF
Dibenz(a,h)anthracene	400	380	0.977	0.936	-4	NA	± 20 %	AverageRF
Benzo(g,h,i)perylene	400	380	1.04	0.996	-5	NA	± 20 %	AverageRF
Perylene	400	400	0.969	0.966	0	NA	± 20 %	AverageRF

Results flagged with an asterisk (*) indicate values outside control criteria.

† **SPCC Compound** ‡ **CCC Compound**

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0910296
Date Analyzed: 11/06/2009

Continuing Calibration Verification Summary
Polynuclear Aromatic Hydrocarbons

Calibration Type: Internal Standard
Analysis Method: 8270C SIM

Calibration Date: 10/15/2009
Calibration ID: CAL8928
Analysis Lot: KWG0910516
Units: ng/ml

File ID: J:\MS11\DATA\110609\1106F002.D

Analyte Name	Expected	Result	Min RF	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Naphthalene	400	360	0.01	0.920	0.836	-9	NA	± 20 %	AverageRF
2-Methylnaphthalene	400	390	0.01	0.634	0.615	-3	NA	± 20 %	AverageRF
1-Methylnaphthalene	400	350	0.01	0.674	0.594	-12	NA	± 20 %	AverageRF
2,6-Dimethylnaphthalene	400	460	0.01	0.499	0.571	14	NA	± 20 %	AverageRF
Acenaphthylene	400	380	0.01	1.74	1.65	-5	NA	± 20 %	AverageRF
Acenaphthene	400	380	0.01	1.03	0.995	-4	NA	± 20 %	AverageRF
Dibenzofuran	400	420	0.01	1.39	1.46	5	NA	± 20 %	AverageRF
2,3,5-Trimethylnaphthalene	400	470	0.01	0.869	1.03	19	NA	± 20 %	AverageRF
Fluorene	400	440	0.01	1.12	1.22	10	NA	± 20 %	AverageRF
Dibenzothiophene	400	360	0.01	1.01	0.905	-10	NA	± 20 %	AverageRF
Phenanthrene	400	350	0.01	1.12	0.969	-14	NA	± 20 %	AverageRF
Anthracene	400	380	0.01	1.07	1.02	-5	NA	± 20 %	AverageRF
1-Methylphenanthrene	400	390	0.01	0.803	0.776	-3	NA	± 20 %	AverageRF
Fluoranthene	400	370	0.01	1.23	1.14	-7	NA	± 20 %	AverageRF
Pyrene	400	370	0.01	1.10	1.01	-8	NA	± 20 %	AverageRF
Benz(a)anthracene	400	340	0.01	1.09	0.926	-15	NA	± 20 %	AverageRF
Chrysene	400	340	0.01	1.06	0.909	-14	NA	± 20 %	AverageRF
Benzo(b)fluoranthene	400	390	0.01	1.04	1.02	-2	NA	± 20 %	AverageRF
Benzo(k)fluoranthene	400	390	0.01	1.03	1.01	-2	NA	± 20 %	AverageRF
Benzo(e)pyrene	400	380	0.01	0.977	0.935	-4	NA	± 20 %	AverageRF
Benzo(a)pyrene	400	370	0.01	0.988	0.915	-7	NA	± 20 %	AverageRF
Indeno(1,2,3-cd)pyrene	400	360	0.01	0.907	0.809	-11	NA	± 20 %	AverageRF
Dibenz(a,h)anthracene	400	350	0.01	0.977	0.862	-12	NA	± 20 %	AverageRF
Benzo(g,h,i)perylene	400	360	0.01	1.04	0.937	-10	NA	± 20 %	AverageRF
Perylene	400	370	0.01	0.969	0.894	-8	NA	± 20 %	AverageRF
Fluorene-d10	400	410	0.01	0.933	0.950	2	NA	± 20 %	AverageRF
Fluoranthene-d10	400	360	0.01	1.11	1.00	-9	NA	± 20 %	AverageRF
Terphenyl-d14	400	410	0.01	0.827	0.840	2	NA	± 20 %	AverageRF

Results flagged with an asterisk (*) indicate values outside control criteria.

† SPCC Compound **‡ CCC Compound**

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Results

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0910296
Date Analyzed: 11/09/2009

Continuing Calibration Verification Summary
Polynuclear Aromatic Hydrocarbons

Calibration Type: Internal Standard
Analysis Method: 8270C SIM

Calibration Date: 10/15/2009
Calibration ID: CAL8928
Analysis Lot: KWG0910548
Units: ng/ml

File ID: J:\MS11\DATA\110909\1109F002.D

Analyte Name	Expected	Result	Min RF	Average RF	CCV RF	%D		%Drift	Criteria	Curve Fit
Naphthalene	400	360	0.01	0.920	0.829	-10		NA	± 20 %	AverageRF
2-Methylnaphthalene	400	380	0.01	0.634	0.598	-6		NA	± 20 %	AverageRF
1-Methylnaphthalene	400	340	0.01	0.674	0.577	-14		NA	± 20 %	AverageRF
2,6-Dimethylnaphthalene	400	450	0.01	0.499	0.560	12		NA	± 20 %	AverageRF
Acenaphthylene	400	380	0.01	1.74	1.67	-4		NA	± 20 %	AverageRF
Acenaphthene	400	390	0.01	1.03	1.01	-3		NA	± 20 %	AverageRF
Dibenzofuran	400	440	0.01	1.39	1.54	10		NA	± 20 %	AverageRF
2,3,5-Trimethylnaphthalene	400	500	0.01	0.869	1.08	24	*	NA	± 20 %	AverageRF
Fluorene	400	460	0.01	1.12	1.30	16		NA	± 20 %	AverageRF
Dibenzothiophene	400	360	0.01	1.01	0.898	-11		NA	± 20 %	AverageRF
Phenanthrene	400	360	0.01	1.12	1.00	-11		NA	± 20 %	AverageRF
Anthracene	400	380	0.01	1.07	1.02	-5		NA	± 20 %	AverageRF
1-Methylphenanthrene	400	410	0.01	0.803	0.821	2		NA	± 20 %	AverageRF
Fluoranthene	400	410	0.01	1.23	1.27	3		NA	± 20 %	AverageRF
Pyrene	400	320	0.01	1.10	0.880	-20		NA	± 20 %	AverageRF
Benz(a)anthracene	400	340	0.01	1.09	0.925	-15		NA	± 20 %	AverageRF
Chrysene	400	350	0.01	1.06	0.914	-14		NA	± 20 %	AverageRF
Benzo(b)fluoranthene	400	400	0.01	1.04	1.05	1		NA	± 20 %	AverageRF
Benzo(k)fluoranthene	400	400	0.01	1.03	1.02	-1		NA	± 20 %	AverageRF
Benzo(e)pyrene	400	390	0.01	0.977	0.940	-4		NA	± 20 %	AverageRF
Benzo(a)pyrene	400	380	0.01	0.988	0.939	-5		NA	± 20 %	AverageRF
Indeno(1,2,3-cd)pyrene	400	350	0.01	0.907	0.804	-11		NA	± 20 %	AverageRF
Dibenz(a,h)anthracene	400	360	0.01	0.977	0.877	-10		NA	± 20 %	AverageRF
Benzo(g,h,i)perylene	400	350	0.01	1.04	0.905	-13		NA	± 20 %	AverageRF
Perylene	400	370	0.01	0.969	0.901	-7		NA	± 20 %	AverageRF
Fluorene-d10	400	440	0.01	0.933	1.02	10		NA	± 20 %	AverageRF
Fluoranthene-d10	400	390	0.01	1.11	1.09	-1		NA	± 20 %	AverageRF
Terphenyl-d14	400	380	0.01	0.827	0.777	-6		NA	± 20 %	AverageRF

Results flagged with an asterisk (*) indicate values outside control criteria.

† SPCC Compound **‡ CCC Compound**

Client: URS Corporation **Service Request:** K0910296
Project: Boise St. Helens Pulp and Paper Mill-2009

Analysis Run Log
Polynuclear Aromatic Hydrocarbons

Analysis Method: 8270C SIM **Analysis Lot:** KWG0910516
Instrument ID: MS11

File ID	Sample Name	Lab Code	Date Analysis Started	Start Time	Q	Date Analysis Finished	Finish Time
1106F001.D	GC/MS Tuning - Decafluorotripheny	KWG0910516-1	11/6/2009	09:07		11/6/2009	09:26
1106F002.D	Continuing Calibration Verification	KWG0910516-2	11/6/2009	09:33		11/6/2009	09:52
1106F003.D	ZZZZZZ	ZZZZZZ	11/6/2009	10:01		11/6/2009	10:20
1106F004.D	ZZZZZZ	ZZZZZZ	11/6/2009	10:28		11/6/2009	10:47
1106F005.D	ZZZZZZ	ZZZZZZ	11/6/2009	10:55		11/6/2009	11:14
1106F006.D	ZZZZZZ	ZZZZZZ	11/6/2009	11:21		11/6/2009	11:40
1106F007.D	ZZZZZZ	ZZZZZZ	11/6/2009	11:49		11/6/2009	12:08
1106F008.D	ZZZZZZ	ZZZZZZ	11/6/2009	12:15		11/6/2009	12:34
1106F009.D	ZZZZZZ	ZZZZZZ	11/6/2009	12:42		11/6/2009	13:01
1106F010.D	ZZZZZZ	ZZZZZZ	11/6/2009	13:08		11/6/2009	13:27
1106F011.D	ZZZZZZ	ZZZZZZ	11/6/2009	13:36		11/6/2009	13:55
1106F012.D	Lab Control Sample	KWG0909945-3	11/6/2009	14:03		11/6/2009	14:22
1106F013.D	Batch QCMS	KWG0909945-1	11/6/2009	14:30		11/6/2009	14:49
1106F014.D	Batch QCDMS	KWG0909945-2	11/6/2009	14:57		11/6/2009	15:16
1106F015.D	Batch QC	K0910308-019	11/6/2009	15:25		11/6/2009	15:44
1106F016.D	RB-1	K0910296-001	11/6/2009	15:51		11/6/2009	16:10
1106F017.D	ZZZZZZ	ZZZZZZ	11/6/2009	16:19		11/6/2009	16:38
1106F018.D	ZZZZZZ	ZZZZZZ	11/6/2009	16:45		11/6/2009	17:04
1106F019.D	ZZZZZZ	ZZZZZZ	11/6/2009	17:12		11/6/2009	17:31
1106F020.D	ZZZZZZ	ZZZZZZ	11/6/2009	17:38		11/6/2009	17:57
1106F021.D	ZZZZZZ	ZZZZZZ	11/6/2009	18:05		11/6/2009	18:24
1106F022.D	ZZZZZZ	ZZZZZZ	11/6/2009	18:33		11/6/2009	18:52
1106F023.D	ZZZZZZ	ZZZZZZ	11/6/2009	19:00		11/6/2009	19:19
1106F024.D	ZZZZZZ	ZZZZZZ	11/6/2009	19:27		11/6/2009	19:46
1106F025.D	ZZZZZZ	ZZZZZZ	11/6/2009	19:54		11/6/2009	20:13
1106F026.D	ZZZZZZ	ZZZZZZ	11/6/2009	20:21		11/6/2009	20:40
1106F027.D	ZZZZZZ	ZZZZZZ	11/6/2009	20:48		11/6/2009	21:07

Results flagged with an asterisk (*) indicate the holding time was exceeded for the analysis

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Results

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0910296

Analysis Run Log
Polynuclear Aromatic Hydrocarbons

Analysis Method: 8270C SIM

Analysis Lot: KWG0910548
Instrument ID: MS11

File ID	Sample Name	Lab Code	Date Analysis Started	Start Time	Q	Date Analysis Finished	Finish Time
1109F001.D	GC/MS Tuning - Decafluorotripheny	KWG0910548-1	11/9/2009	07:40		11/9/2009	07:59
1109F002.D	Continuing Calibration Verification	KWG0910548-2	11/9/2009	08:10		11/9/2009	08:29
1109F004.D	ZZZZZZ	ZZZZZZ	11/9/2009	09:10		11/9/2009	09:29
1109F005.D	ZZZZZZ	ZZZZZZ	11/9/2009	09:38		11/9/2009	09:57
1109F006.D	ZZZZZZ	ZZZZZZ	11/9/2009	10:07		11/9/2009	10:26
1109F007.D	ZZZZZZ	ZZZZZZ	11/9/2009	10:35		11/9/2009	10:54
1109F008.D	ZZZZZZ	ZZZZZZ	11/9/2009	11:03		11/9/2009	11:22
1109F009.D	ZZZZZZ	ZZZZZZ	11/9/2009	11:31		11/9/2009	11:50
1109F010.D	ZZZZZZ	ZZZZZZ	11/9/2009	11:58		11/9/2009	12:17
1109F011.D	ZZZZZZ	ZZZZZZ	11/9/2009	12:26		11/9/2009	12:45
1109F012.D	ZZZZZZ	ZZZZZZ	11/9/2009	12:53		11/9/2009	13:12
1109F013.D	ZZZZZZ	ZZZZZZ	11/9/2009	13:21		11/9/2009	13:40
1109F014.D	ZZZZZZ	ZZZZZZ	11/9/2009	13:48		11/9/2009	14:07
1109F015.D	ZZZZZZ	ZZZZZZ	11/9/2009	14:15		11/9/2009	14:34
1109F016.D	ZZZZZZ	ZZZZZZ	11/9/2009	14:41		11/9/2009	15:00
1109F017.D	ZZZZZZ	ZZZZZZ	11/9/2009	15:09		11/9/2009	15:28
1109F018.D	ZZZZZZ	ZZZZZZ	11/9/2009	15:35		11/9/2009	15:54
1109F019.D	ZZZZZZ	ZZZZZZ	11/9/2009	16:02		11/9/2009	16:21
1109F020.D	ZZZZZZ	ZZZZZZ	11/9/2009	16:28		11/9/2009	16:47
1109F021.D	ZZZZZZ	ZZZZZZ	11/9/2009	16:55		11/9/2009	17:14
1109F022.D	ZZZZZZ	ZZZZZZ	11/9/2009	17:21		11/9/2009	17:40
1109F023.D	ZZZZZZ	ZZZZZZ	11/9/2009	17:48		11/9/2009	18:07
1109F024.D	Method Blank	KWG0909945-4	11/9/2009	18:14		11/9/2009	18:33
1109F026.D	ZZZZZZ	ZZZZZZ	11/9/2009	19:07		11/9/2009	19:26

Results flagged with an asterisk (*) indicate the holding time was exceeded for the analysis

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009
Sample Matrix: Water

Service Request: K0910296
Date Extracted: 10/28/2009

Extraction Prep Log
Polynuclear Aromatic Hydrocarbons

Extraction Method: EPA 3520C
Analysis Method: 8270C SIM

Extraction Lot: KWG0909945
Level: Low

Sample Name	Lab Code	Date Collected	Date Received	Sample Amount	Final Volume	% Solids	Note
RB-1	K0910296-001	10/22/09	10/23/09	950ml	5ml	NA	
Method Blank	KWG0909945-4	NA	NA	1060ml	5ml	NA	
Batch QC	K0910308-019	NA	NA	1060ml	5ml	NA	
Batch QCMS	KWG0909945-1	NA	NA	1050ml	5ml	NA	
Batch QCDMS	KWG0909945-2	NA	NA	1050ml	5ml	NA	
Lab Control Sample	KWG0909945-3	NA	NA	1000ml	5ml	NA	

Results flagged with an asterisk (*) indicate the holding time was exceeded for the analysis

Quantitation Report

Bottle ID:		**Tier:**	V	**Matrix:**	WATER
Prod Code:	8270C SIM SVO_S	**Collect Date:**	10/22/2009	**Receive Date:**	10/23/2009

Analysis Lot:	KWG0910516	**Prep Lot:**	KWG0909945	**Report Group:**	K0910296
Analysis Method:	8270C SIM	**Prep Method:**	EPA 3520C		
Prep Ref:	861278	**Prep Date:**	10/28/2009		

Quant Method:	J:\MS11\METHODS\SIM\1015ALK.M	**Calibration ID:**	CAL8928
Title:	Polynuclear Aromatic Hydrocarbons	**Report List ID:**	LJ11247
Tune Ref:	J:\MS11\DATA\110609\1106F001.D	**Method ID:**	MJ138
MB Ref:	J:\MS11\DATA\110909\1109F024.D	**Quant based on Report List**	

Data File:	J:\MS11\DATA\110609\1106F016.D			**Instrument:**	MS11
Acqu Date:	11/06/2009 15:51	**Quant Date:**	11/10/2009 13:16	**Vial:**	14
Run Type:	SMPL			**Dilution:**	1.0
Lab ID:	K0910296-001			**Soln Conc. Units:**	ng/ml

Internal Standard Compounds

IS Ref	Parameter Name	RT	RT Dev	Quant Mass	Response	Solution Conc	Area Criteria
1	Naphthalene-d8	4.64	0.00	136	213899	200.00	OK
2	Acenaphthene-d10	6.05	0.00	164	116467	200.00	OK
3	Phenanthrene-d10	7.27	0.00	188	184864	200.00	OK
4	Chrysene-d12	9.77	0.00	240	214636	200.00	OK
5	Perylene-d12	12.78	0.00	264	206022	200.00	OK

Surrogate Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	%Rec	%Rec Limits		Rpt?
2	Fluorene-d10	6.47	0.00	0.00	176	247392	455.27	114	28-98	*	
3	Fluoranthene-d10	8.24	0.00	0.00	212	435335	424.95	106	31-105	*	
4	Terphenyl-d14	8.58	-0.01	0.00	244	375047	422.68	106	27-112	OK	

Target Compounds

Final Conc. Units: ug/L

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	Final Conc	Q	Rpt?
1	Naphthalene	4.65		0.00	128	3195	3.25	0.017	J	
1	2-Methylnaphthalene	5.21		0.00	142	480	0.7100	0.0037	J	
1	1-Methylnaphthalene	5.29	0.01	0.00	142	290	0.4000	0.0037	U	
1	2,6-Dimethylnaphthalene				156	0**d**		0.0024	U	
2	Acenaphthylene				152	0**d**		0.0036	U	
2	Acenaphthene				154	0**d**		0.0047	U	
2	Dibenzofuran				168	0**d**		0.0049	U	
2	2,3,5-Trimethylnaphthalene				170	0**d**		0.0053	U	
2	Fluorene				166	0**d**		0.0040	U	
3	Dibenzothiophene				184	0**d**		0.0040	U	
3	Phenanthrene				178	0**d**		0.0053	U	
3	Anthracene				178	0**d**		0.0038	U	
3	1-Methylphenanthrene				192	0**d**		0.0044	U	
3	Fluoranthene	8.25		0.00	202	415**m**	0.3600	0.0047	U	

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Data File:	J:\MS11\DATA\110609\1106F016.D			**Instrument:**	MS11
Acqu Date:	11/06/2009 15:51	**Quant Date:**	11/10/2009 13:16	**Vial:**	14
Run Type:	SMPL			**Dilution:**	1.0
Lab ID:	K0910296-001			**Soln Conc. Units:**	ng/ml

Target Compounds

Final Conc. Units: ug/L

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	Final Conc	Q	Rpt?
4	Pyrene	8.45	0.01	0.00	202	730	0.6200	0.0037	U	
4	Benz(a)anthracene	9.76	0.01	0.00	228	885	0.7600	0.0040	J	
4	Chrysene	9.80		0.00	228	645	0.5700	0.0036	U	
5	Benzo(b)fluoranthene	11.78	0.02	0.00	252	1224	1.14	0.0060	J	
5	Benzo(k)fluoranthene	11.84	0.01	0.00	252	741	0.7000	0.0037	J	
5	Benzo(e)pyrene	12.48	0.02	0.00	252	1741	1.73	0.0091	J	
5	Benzo(a)pyrene	12.63	0.02	0.00	252	583	0.5700	0.0046	U	
5	Perylene	12.86		0.00	252	772	0.7700	0.0053	U	
5	Indeno(1,2,3-cd)pyrene	16.38	0.05	0.00	276	665	0.7100	0.0037	J	
5	Dibenz(a,h)anthracene	16.46	0.05	0.00	278	721**m**	0.7200	0.0038	J	
5	Benzo(g,h,i)perylene	16.84	0.03	0.00	276	1567	1.46	0.0077	J	

Prep Amount:	950 ml	**Dilution:**	1.0
Prep Final Vol:	5 ml	**Unit Factor:**	1

Final Concentration = ((Soln Conc x Prep Final Vol x Dilution) / Prep Amount) x Unit Factor

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Quantitation Report

Bottle ID:		**Tier:**	V	**Matrix:**	WATER
Prod Code:	8270C SIM PAH_S	**Collect Date:**	10/22/2009	**Receive Date:**	10/24/2009

Analysis Lot:	KWG0910516	**Prep Lot:**	KWG0909945	**Report Group:**	K0910308
Analysis Method:	8270C SIM	**Prep Method:**	EPA 3520C		
Prep Ref:	861275	**Prep Date:**	10/28/2009		

Quant Method:	J:\MS11\METHODS\SIM\1015ALK.M	**Calibration ID:**	CAL8928
Title:	Polynuclear Aromatic Hydrocarbons	**Report List ID:**	LJ11247
Tune Ref:	J:\MS11\DATA\110609\1106F001.D	**Method ID:**	MJ138
MB Ref:	J:\MS11\DATA\110909\1109F024.D	**Quant based on Report List**	

Data File:	J:\MS11\DATA\110609\1106F015.D			**Instrument:**	MS11
Acqu Date:	11/06/2009 15:25	**Quant Date:**	11/10/2009 13:15	**Vial:**	13
Run Type:	SMPL			**Dilution:**	1.0
Lab ID:	K0910308-019			**Soln Conc. Units:**	ng/ml

Internal Standard Compounds

IS Ref	Parameter Name	RT	RT Dev	Quant Mass	Response	Solution Conc	Area Criteria
1	Naphthalene-d8	4.64	0.00	136	217866	200.00	OK
2	Acenaphthene-d10	6.05	0.00	164	125117	200.00	OK
3	Phenanthrene-d10	7.27	0.00	188	201333	200.00	OK
4	Chrysene-d12	9.76	-0.01	240	276339	200.00	OK
5	Perylene-d12	12.78	0.00	264	256838	200.00	OK

Surrogate Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	%Rec	%Rec Limits		Rpt?
2	Fluorene-d10	6.47	0.00	0.00	176	196414	336.47	84	28-98	OK	
3	Fluoranthene-d10	8.24	0.00	0.00	212	359657	322.36	81	31-105	OK	
4	Terphenyl-d14	8.58	-0.01	0.00	244	315638	276.30	69	27-112	OK	

Target Compounds

Final Conc. Units: ug/L

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	Final Conc	Q	Rpt?
1	Naphthalene	4.66	0.01	0.00	128	7573**m**	7.55	0.036		
1	2-Methylnaphthalene	5.21		0.00	142	1660**m**	2.40	0.011	J	
1	1-Methylnaphthalene	5.30	0.02	0.00	142	457**m**	0.6200	0.0035	U	
1	2,6-Dimethylnaphthalene				156	0**d**		0.0022	U	
2	Acenaphthylene	5.94	0.01	0.00	152	787**m**	0.7200	0.0034	U	
2	Acenaphthene	6.04	-0.03	0.00	154	429	0.6600	0.0044	U	
2	Dibenzofuran	6.22		0.00	168	253	0.2900	0.0046	U	
2	2,3,5-Trimethylnaphthalene				170	0**d**		0.0050	U	
2	Fluorene	6.50	0.01	0.00	166	2977**m**	4.27	0.020		
3	Dibenzothiophene				184	0**d**		0.0038	U	
3	Phenanthrene	7.29		0.00	178	12889**m**	11.41	0.054		
3	Anthracene	7.34	0.01	0.00	178	1210**m**	1.12	0.0053	J	
3	1-Methylphenanthrene				192	0**d**		0.0041	U	
3	Fluoranthene	8.26	0.01	0.00	202	2525	2.04	0.0096	J	

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Data File:	J:\MS11\DATA\110609\1106F015.D			**Instrument:**	MS11
Acqu Date:	11/06/2009 15:25	**Quant Date:**	11/10/2009 13:15	**Vial:**	13
Run Type:	SMPL			**Dilution:**	1.0
Lab ID:	K0910308-019			**Soln Conc. Units:**	ng/ml

Target Compounds

Final Conc. Units: ug/L

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	Final Conc	Q	Rpt?
4	Pyrene	8.45	0.01	0.00	202	2515**m**	1.66	0.0078	J	
4	Benz(a)anthracene	9.76	0.01	0.00	228	2735	1.82	0.0086	J	
4	Chrysene	9.80		0.00	228	5983	4.09	0.019		
5	Benzo(b)fluoranthene	11.78	0.02	0.00	252	4161	3.11	0.015	J	
5	Benzo(k)fluoranthene	11.85	0.02	0.00	252	3247	2.46	0.012	J	
5	Benzo(e)pyrene	12.48	0.02	0.00	252	5065	4.04	0.019		
5	Benzo(a)pyrene	12.63	0.02	0.00	252	2528	1.99	0.0094	J	
5	Perylene	12.87	0.01	0.00	252	2818	2.27	0.011	J	
5	Indeno(1,2,3-cd)pyrene	16.36	0.03	0.00	276	2666	2.29	0.011	J	
5	Dibenz(a,h)anthracene	16.44	0.03	0.00	278	2946	2.35	0.011	J	
5	Benzo(g,h,i)perylene	16.83	0.02	0.00	276	5032	3.75	0.018	J	

Prep Amount:	1060 ml	**Dilution:**	1.0
Prep Final Vol:	5 ml	**Unit Factor:**	1

Final Concentration = ((Soln Conc x Prep Final Vol x Dilution) / Prep Amount) x Unit Factor

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Columbia Analytical Services™ 1317 S. 13th Avenue, Kelso, WA 98626 360.577.7222 360.636.1068 (fax) www.caslab.com

February 17, 2010 Analytical Report for Service Request No: K0909140

David Weatherby
URS Corporation
111 SW Columbia, Suite 1500
Portland, OR 97201

RE: Boise St. Helens Pulp and Paper Mill-2009

Dear David:

Enclosed are the revised pages for the samples submitted to our laboratory on September 29, 2009. For your reference, these analyses have been assigned our service request number K0909140.

The reported target analyte list for the semi-volatiles has been revised to reflect the project specific requirements.

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. The test results meet requirements of the current NELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP-accredited analytes, refer to the certifications section at www.caslab.com. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please call if you have any questions. My extension is 3358. You may also contact me via Email at LHuckestein@caslab.com.

Respectfully submitted,

Columbia Analytical Services, Inc.

for Lynda Huckestein
Client Services Manager

LH/cw

COLUMBIA ANALYTICAL SERVICES, INC.

Client:	URS Corporation	**Service Request No.:**	K0909140
Project:	Boise St. Helens Pulp and Paper Mill-2009	**Date Received:**	9/29-10/9/2009
Sample Matrix:	Sediment		

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of Columbia Analytical Services, Inc. (CAS). This report contains analytical results for samples designated for Tier III.

Sample Receipt

Nineteen sediment samples were received for analysis at Columbia Analytical Services on 9/29-10/9/2009. The samples were received in good condition and consistent with the accompanying chain of custody form. The samples were stored in a refrigerator at 4°C and an aliquot was frozen at –20°C following preparation at the laboratory.

This Case Narrative pertains only to the revised data for PAH – SIM. Narrative for the other fractions can be found in the original data package.

Polynuclear Aromatic Hydrocarbons by EPA Method 8270C

Calibration Verification (CCV) Exceptions:
The lower control criterion was exceeded for Pyrene in CCV MS11\1116F002.D. The field samples analyzed in this sequence were dilutions for analytes other than the analyte in question. The data quality was not affected. No further corrective action was required.

The upper control criterion was exceeded for 2,3,5-Trimethylnaphthalene in CCV MS11\1116F002.D. The analyte in question was not originally known to be reported for this service request. Since the problem indicated a potential high bias, the results reported for the analyte in question were potentially biased high. No further corrective action was taken.

The upper control criterion was exceeded for 2,3,5-Trimethylnaphthalene in Continuing Calibration Verification (CCV) MS11\1116F033.D. The analyte in question was not originally known to be reported for this service request. Since the problem indicated a potential high bias, the results reported for the analyte in question were potentially biased high. No further corrective action was taken.

Surrogate Exceptions:
The control criteria were exceeded for Terphenyl-d14 in sample M-2-C due to matrix interference. The presence of non-target background components prevented adequate resolution of the surrogate. Accurate quantitation was not possible. No further corrective action was appropriate.

Matrix Spike Recovery Exceptions:
The control criteria for matrix spike recoveries of 2,6-Dimethylnaphthalene, 2,3,5-Trimethylnaphthalene, and Phenanthrene for sample M-2-A were not applicable. The analyte concentration in the sample was significantly higher than the added spike concentration, preventing accurate evaluation of the spike recovery.

Approved by_____ **Date** 02/17/10

The matrix spike recovery of Fluoranthene, Benzo(k)fluoranthene, Indeno(1,2,3-cd)pyrene, Dibenz(a,h)anthracene, and Benzo(g,h,i)perylene for sample M-2-A was outside control criteria because of suspected matrix interference. A matrix spike duplicate was also analyzed, but produced similar results. The results of the original analysis were reported. No further corrective action was appropriate.

Calibration Range Exceedance:
The following analytes exceeded the calibration range for sample M-2-A. The analytes were not originally reported for this SR and were not reanalyzed.

No other anomalies associated with the analysis of these samples were observed.

02/17/10

Approved by_____ **Date**_____

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009
Service Request: K0909140

Cover Page - Organic Analysis Data Package
Polynuclear Aromatic Hydrocarbons

Sample Name	Lab Code	Date Collected	Date Received
M-4-A	K0909140-001	09/28/2009	09/29/2009
M-4-B	K0909140-002	09/28/2009	09/29/2009
M-4-C	K0909140-003	09/28/2009	09/29/2009
M-1-B	K0909140-004	10/07/2009	10/08/2009
M-2-C	K0909140-005	10/06/2009	10/07/2009
M-2-A	K0909140-006	10/06/2009	10/07/2009
M-3-B	K0909140-007	10/05/2009	10/06/2009
M-2-B	K0909140-008	10/06/2009	10/07/2009
M-1-C	K0909140-009	10/07/2009	10/08/2009
M-3-C	K0909140-010	10/05/2009	10/06/2009
B-1-A	K0909140-011	10/09/2009	10/09/2009
B-1-B	K0909140-012	10/09/2009	10/09/2009
M-3-A	K0909140-013	10/05/2009	10/06/2009
M-1-A	K0909140-014	10/07/2009	10/08/2009
M-5-B	K0909140-015	09/28/2009	09/29/2009
M-5-A	K0909140-016	09/28/2009	09/29/2009
M-5-C	K0909140-017	09/28/2009	09/29/2009
M-5-B2	K0909140-018	09/28/2009	09/29/2009
B-1-C	K0909140-019	10/09/2009	10/09/2009
M-2-AMS	KWG0910535-1	10/06/2009	10/07/2009
M-2-ADMS	KWG0910535-2	10/06/2009	10/07/2009

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed in the case narrative. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on floppy diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Signature: _____ Name: Carl Degen

Date: 2/12/10 Title: Senior Chemist

Client:	URS Corporation	**Service Request:**	K0909140
Project:	Boise St. Helens Pulp and Paper Mill-2009	**Date Collected:**	09/28/2009
Sample Matrix:	Sediment	**Date Received:**	09/29/2009

Polynuclear Aromatic Hydrocarbons

Sample Name:	M-4-A	**Units:**	ug/Kg
Lab Code:	K0909140-001	**Basis:**	Dry
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270C SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Naphthalene	**180**		2.6	0.60	1	11/10/09	11/20/09	KWG0910535	
2-Methylnaphthalene	**35**		2.6	0.46	1	11/10/09	11/20/09	KWG0910535	
1-Methylnaphthalene	**18**		2.6	0.51	1	11/10/09	11/20/09	KWG0910535	
2,6-Dimethylnaphthalene	**22**		2.6	0.53	1	11/10/09	11/20/09	KWG0910535	
Acenaphthylene	**52**		2.6	0.56	1	11/10/09	11/20/09	KWG0910535	
Acenaphthene	**25**		2.6	0.50	1	11/10/09	11/20/09	KWG0910535	
Dibenzofuran	**27**		2.6	0.63	1	11/10/09	11/20/09	KWG0910535	
2,3,5-Trimethylnaphthalene	**13**		2.6	0.55	1	11/10/09	11/20/09	KWG0910535	
Fluorene	**29**		2.6	0.61	1	11/10/09	11/20/09	KWG0910535	
Dibenzothiophene	**15**		2.6	0.30	1	11/10/09	11/20/09	KWG0910535	
Phenanthrene	**230**		2.6	1.4	1	11/10/09	11/20/09	KWG0910535	
Anthracene	**45**		2.6	0.55	1	11/10/09	11/20/09	KWG0910535	
1-Methylphenanthrene	**27**		2.6	0.51	1	11/10/09	11/20/09	KWG0910535	
Fluoranthene	**350**		2.6	0.98	1	11/10/09	11/20/09	KWG0910535	
Pyrene	**300**		2.6	0.76	1	11/10/09	11/20/09	KWG0910535	
Benz(a)anthracene	**120**		2.6	0.72	1	11/10/09	11/20/09	KWG0910535	
Chrysene	**170**		2.6	0.80	1	11/10/09	11/20/09	KWG0910535	
Benzo(b)fluoranthene	**200**		2.6	0.92	1	11/10/09	11/20/09	KWG0910535	
Benzo(k)fluoranthene	**62**		2.6	0.87	1	11/10/09	11/20/09	KWG0910535	
Benzo(e)pyrene	**140**		2.6	0.61	1	11/10/09	11/20/09	KWG0910535	
Benzo(a)pyrene	**180**		2.6	0.76	1	11/10/09	11/20/09	KWG0910535	
Perylene	**95**		2.6	0.72	1	11/10/09	11/20/09	KWG0910535	
Indeno(1,2,3-cd)pyrene	**160**		2.6	0.87	1	11/10/09	11/20/09	KWG0910535	
Dibenz(a,h)anthracene	**21**		2.6	0.80	1	11/10/09	11/20/09	KWG0910535	
Benzo(g,h,i)perylene	**200**		2.6	0.85	1	11/10/09	11/20/09	KWG0910535	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	59	17-104	11/20/09	Acceptable
Fluoranthene-d10	61	27-106	11/20/09	Acceptable
Terphenyl-d14	55	35-109	11/20/09	Acceptable

Comments:

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009
Sample Matrix: Sediment

Service Request: K0909140
Date Collected: 09/28/2009
Date Received: 09/29/2009

Polynuclear Aromatic Hydrocarbons

Sample Name: M-4-B
Lab Code: K0909140-002

Extraction Method: EPA 3541
Analysis Method: 8270C SIM

Units: ug/Kg
Basis: Dry

Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Naphthalene	**180**		2.6	0.60	1	11/10/09	11/20/09	KWG0910535	
2-Methylnaphthalene	**38**		2.6	0.46	1	11/10/09	11/20/09	KWG0910535	
1-Methylnaphthalene	**21**		2.6	0.51	1	11/10/09	11/20/09	KWG0910535	
2,6-Dimethylnaphthalene	**26**		2.6	0.53	1	11/10/09	11/20/09	KWG0910535	
Acenaphthylene	**61**		2.6	0.56	1	11/10/09	11/20/09	KWG0910535	
Acenaphthene	**32**		2.6	0.50	1	11/10/09	11/20/09	KWG0910535	
Dibenzofuran	**28**		2.6	0.63	1	11/10/09	11/20/09	KWG0910535	
2,3,5-Trimethylnaphthalene	**16**		2.6	0.55	1	11/10/09	11/20/09	KWG0910535	
Fluorene	**36**		2.6	0.61	1	11/10/09	11/20/09	KWG0910535	
Dibenzothiophene	**16**		2.6	0.30	1	11/10/09	11/20/09	KWG0910535	
Phenanthrene	**250**		2.6	1.4	1	11/10/09	11/20/09	KWG0910535	
Anthracene	**52**		2.6	0.55	1	11/10/09	11/20/09	KWG0910535	
1-Methylphenanthrene	**29**		2.6	0.51	1	11/10/09	11/20/09	KWG0910535	
Fluoranthene	**350**		2.6	0.98	1	11/10/09	11/20/09	KWG0910535	
Pyrene	**330**		2.6	0.76	1	11/10/09	11/20/09	KWG0910535	
Benz(a)anthracene	**130**		2.6	0.72	1	11/10/09	11/20/09	KWG0910535	
Chrysene	**170**		2.6	0.80	1	11/10/09	11/20/09	KWG0910535	
Benzo(b)fluoranthene	**200**		2.6	0.92	1	11/10/09	11/20/09	KWG0910535	
Benzo(k)fluoranthene	**63**		2.6	0.87	1	11/10/09	11/20/09	KWG0910535	
Benzo(e)pyrene	**140**		2.6	0.61	1	11/10/09	11/20/09	KWG0910535	
Benzo(a)pyrene	**190**		2.6	0.76	1	11/10/09	11/20/09	KWG0910535	
Perylene	**110**		2.6	0.72	1	11/10/09	11/20/09	KWG0910535	
Indeno(1,2,3-cd)pyrene	**180**		2.6	0.87	1	11/10/09	11/20/09	KWG0910535	
Dibenz(a,h)anthracene	**25**		2.6	0.80	1	11/10/09	11/20/09	KWG0910535	
Benzo(g,h,i)perylene	**230**		2.6	0.85	1	11/10/09	11/20/09	KWG0910535	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	70	17-104	11/20/09	Acceptable
Fluoranthene-d10	69	27-106	11/20/09	Acceptable
Terphenyl-d14	65	35-109	11/20/09	Acceptable

Comments:

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009
Sample Matrix: Sediment

Service Request: K0909140
Date Collected: 09/28/2009
Date Received: 09/29/2009

Polynuclear Aromatic Hydrocarbons

Sample Name: M-4-C
Lab Code: K0909140-003

Extraction Method: EPA 3541
Analysis Method: 8270C SIM

Units: ug/Kg
Basis: Dry

Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Naphthalene	**150**		2.6	0.60	1	11/10/09	11/20/09	KWG0910535	
2-Methylnaphthalene	**41**		2.6	0.46	1	11/10/09	11/20/09	KWG0910535	
1-Methylnaphthalene	**24**		2.6	0.51	1	11/10/09	11/20/09	KWG0910535	
2,6-Dimethylnaphthalene	**26**		2.6	0.53	1	11/10/09	11/20/09	KWG0910535	
Acenaphthylene	**42**		2.6	0.56	1	11/10/09	11/20/09	KWG0910535	
Acenaphthene	**35**		2.6	0.50	1	11/10/09	11/20/09	KWG0910535	
Dibenzofuran	**26**		2.6	0.63	1	11/10/09	11/20/09	KWG0910535	
2,3,5-Trimethylnaphthalene	**15**		2.6	0.55	1	11/10/09	11/20/09	KWG0910535	
Fluorene	**36**		2.6	0.61	1	11/10/09	11/20/09	KWG0910535	
Dibenzothiophene	**18**		2.6	0.30	1	11/10/09	11/20/09	KWG0910535	
Phenanthrene	**240**		2.6	1.4	1	11/10/09	11/20/09	KWG0910535	
Anthracene	**44**		2.6	0.55	1	11/10/09	11/20/09	KWG0910535	
1-Methylphenanthrene	**35**		2.6	0.51	1	11/10/09	11/20/09	KWG0910535	
Fluoranthene	**340**		2.6	0.98	1	11/10/09	11/20/09	KWG0910535	
Pyrene	**330**		2.6	0.76	1	11/10/09	11/20/09	KWG0910535	
Benz(a)anthracene	**120**		2.6	0.72	1	11/10/09	11/20/09	KWG0910535	
Chrysene	**180**		2.6	0.80	1	11/10/09	11/20/09	KWG0910535	
Benzo(b)fluoranthene	**200**		2.6	0.92	1	11/10/09	11/20/09	KWG0910535	
Benzo(k)fluoranthene	**61**		2.6	0.87	1	11/10/09	11/20/09	KWG0910535	
Benzo(e)pyrene	**140**		2.6	0.61	1	11/10/09	11/20/09	KWG0910535	
Benzo(a)pyrene	**190**		2.6	0.76	1	11/10/09	11/20/09	KWG0910535	
Perylene	**85**		2.6	0.72	1	11/10/09	11/20/09	KWG0910535	
Indeno(1,2,3-cd)pyrene	**170**		2.6	0.87	1	11/10/09	11/20/09	KWG0910535	
Dibenz(a,h)anthracene	**25**		2.6	0.80	1	11/10/09	11/20/09	KWG0910535	
Benzo(g,h,i)perylene	**210**		2.6	0.85	1	11/10/09	11/20/09	KWG0910535	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	57	17-104	11/20/09	Acceptable
Fluoranthene-d10	56	27-106	11/20/09	Acceptable
Terphenyl-d14	52	35-109	11/20/09	Acceptable

Comments:

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009
Sample Matrix: Sediment

Service Request: K0909140
Date Collected: 10/07/2009
Date Received: 10/08/2009

Polynuclear Aromatic Hydrocarbons

Sample Name: M-1-B
Lab Code: K0909140-004

Extraction Method: EPA 3541
Analysis Method: 8270C SIM

Units: ug/Kg
Basis: Dry

Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Naphthalene	**490**		2.6	0.60	1	11/10/09	11/20/09	KWG0910535	
2-Methylnaphthalene	**160**		2.6	0.46	1	11/10/09	11/20/09	KWG0910535	
1-Methylnaphthalene	**68**		2.6	0.51	1	11/10/09	11/20/09	KWG0910535	
2,6-Dimethylnaphthalene	**80**		2.6	0.53	1	11/10/09	11/20/09	KWG0910535	
Acenaphthylene	**52**		2.6	0.56	1	11/10/09	11/20/09	KWG0910535	
Acenaphthene	**110**		2.6	0.50	1	11/10/09	11/20/09	KWG0910535	
Dibenzofuran	**160**		2.6	0.63	1	11/10/09	11/20/09	KWG0910535	
2,3,5-Trimethylnaphthalene	**38**		2.6	0.55	1	11/10/09	11/20/09	KWG0910535	
Fluorene	**130**		2.6	0.61	1	11/10/09	11/20/09	KWG0910535	
Dibenzothiophene	**49**		2.6	0.30	1	11/10/09	11/20/09	KWG0910535	
Phenanthrene	**620**		2.6	1.4	1	11/10/09	11/20/09	KWG0910535	
Anthracene	**120**		2.6	0.55	1	11/10/09	11/20/09	KWG0910535	
1-Methylphenanthrene	**65**		2.6	0.51	1	11/10/09	11/20/09	KWG0910535	
Fluoranthene	**730**		2.6	0.98	1	11/10/09	11/20/09	KWG0910535	
Pyrene	**480**		2.6	0.76	1	11/10/09	11/20/09	KWG0910535	
Benz(a)anthracene	**190**		2.6	0.72	1	11/10/09	11/20/09	KWG0910535	
Chrysene	**280**		2.6	0.80	1	11/10/09	11/20/09	KWG0910535	
Benzo(b)fluoranthene	**290**		2.6	0.92	1	11/10/09	11/20/09	KWG0910535	
Benzo(k)fluoranthene	**96**		2.6	0.87	1	11/10/09	11/20/09	KWG0910535	
Benzo(e)pyrene	**180**		2.6	0.61	1	11/10/09	11/20/09	KWG0910535	
Benzo(a)pyrene	**220**		2.6	0.76	1	11/10/09	11/20/09	KWG0910535	
Perylene	**110**		2.6	0.72	1	11/10/09	11/20/09	KWG0910535	
Indeno(1,2,3-cd)pyrene	**180**		2.6	0.87	1	11/10/09	11/20/09	KWG0910535	
Dibenz(a,h)anthracene	**31**		2.6	0.80	1	11/10/09	11/20/09	KWG0910535	
Benzo(g,h,i)perylene	**200**		2.6	0.85	1	11/10/09	11/20/09	KWG0910535	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	66	17-104	11/20/09	Acceptable
Fluoranthene-d10	69	27-106	11/20/09	Acceptable
Terphenyl-d14	56	35-109	11/20/09	Acceptable

Comments:

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009
Sample Matrix: Sediment

Service Request: K0909140
Date Collected: 10/06/2009
Date Received: 10/07/2009

Polynuclear Aromatic Hydrocarbons

Sample Name: M-2-C
Lab Code: K0909140-005

Extraction Method: EPA 3541
Analysis Method: 8270C SIM

Units: ug/Kg
Basis: Dry

Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Naphthalene	**440**		2.7	0.60	1	11/10/09	11/21/09	KWG0910535	
2-Methylnaphthalene	**270**		2.7	0.46	1	11/10/09	11/21/09	KWG0910535	
1-Methylnaphthalene	**220**		2.7	0.51	1	11/10/09	11/21/09	KWG0910535	
2,6-Dimethylnaphthalene	**520**		2.7	0.53	1	11/10/09	11/21/09	KWG0910535	
Acenaphthylene	**130**		2.7	0.56	1	11/10/09	11/21/09	KWG0910535	
Acenaphthene	**130**		2.7	0.50	1	11/10/09	11/21/09	KWG0910535	
Dibenzofuran	**84**		2.7	0.63	1	11/10/09	11/21/09	KWG0910535	
2,3,5-Trimethylnaphthalene	**630**		2.7	0.55	1	11/10/09	11/21/09	KWG0910535	
Fluorene	**170**		2.7	0.61	1	11/10/09	11/21/09	KWG0910535	
Dibenzothiophene	**120**		2.7	0.30	1	11/10/09	11/21/09	KWG0910535	
Phenanthrene	**720**		2.7	1.4	1	11/10/09	11/21/09	KWG0910535	
Anthracene	**96**		2.7	0.55	1	11/10/09	11/21/09	KWG0910535	
1-Methylphenanthrene	**280**		2.7	0.51	1	11/10/09	11/21/09	KWG0910535	
Fluoranthene	**520**		2.7	0.98	1	11/10/09	11/21/09	KWG0910535	
Pyrene	**530**		2.7	0.76	1	11/10/09	11/21/09	KWG0910535	
Benz(a)anthracene	**120**		2.7	0.72	1	11/10/09	11/21/09	KWG0910535	
Chrysene	**140**		2.7	0.80	1	11/10/09	11/21/09	KWG0910535	
Benzo(b)fluoranthene	**130**		2.7	0.92	1	11/10/09	11/21/09	KWG0910535	
Benzo(k)fluoranthene	**35**		2.7	0.87	1	11/10/09	11/21/09	KWG0910535	
Benzo(e)pyrene	**110**		2.7	0.61	1	11/10/09	11/21/09	KWG0910535	
Benzo(a)pyrene	**100**		2.7	0.76	1	11/10/09	11/21/09	KWG0910535	
Perylene	**48**		2.7	0.72	1	11/10/09	11/21/09	KWG0910535	
Indeno(1,2,3-cd)pyrene	**65**		2.7	0.87	1	11/10/09	11/21/09	KWG0910535	
Dibenz(a,h)anthracene	**14**		2.7	0.80	1	11/10/09	11/21/09	KWG0910535	
Benzo(g,h,i)perylene	**97**		2.7	0.85	1	11/10/09	11/21/09	KWG0910535	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	37	17-104	11/21/09	Acceptable
Fluoranthene-d10	28	27-106	11/21/09	Acceptable
Terphenyl-d14	28	35-109	11/21/09	Outside Control Limits

Comments:

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009
Sample Matrix: Sediment

Service Request: K0909140
Date Collected: 10/06/2009
Date Received: 10/07/2009

Polynuclear Aromatic Hydrocarbons

Sample Name: M-2-A
Lab Code: K0909140-006

Units: ug/Kg
Basis: Dry

Extraction Method: EPA 3541
Analysis Method: 8270C SIM

Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Naphthalene	**790**		2.6	0.60	1	11/10/09	11/16/09	KWG0910535	
2-Methylnaphthalene	**590**		2.6	0.46	1	11/10/09	11/16/09	KWG0910535	
1-Methylnaphthalene	**250**		2.6	0.51	1	11/10/09	11/16/09	KWG0910535	
2,6-Dimethylnaphthalene	**1800**	D	26	5.3	10	11/10/09	11/17/09	KWG0910535	
Acenaphthylene	**220**		2.6	0.56	1	11/10/09	11/16/09	KWG0910535	
Acenaphthene	**170**		2.6	0.50	1	11/10/09	11/16/09	KWG0910535	
Dibenzofuran	**140**		2.6	0.63	1	11/10/09	11/16/09	KWG0910535	
2,3,5-Trimethylnaphthalene	**1400**	D	26	5.5	10	11/10/09	11/17/09	KWG0910535	*
Fluorene	**250**		2.6	0.61	1	11/10/09	11/16/09	KWG0910535	
Dibenzothiophene	**180**		2.6	0.30	1	11/10/09	11/16/09	KWG0910535	
Phenanthrene	**1400**	D	26	14	10	11/10/09	11/17/09	KWG0910535	
Anthracene	**200**		2.6	0.55	1	11/10/09	11/16/09	KWG0910535	
1-Methylphenanthrene	**550**		2.6	0.51	1	11/10/09	11/16/09	KWG0910535	
Fluoranthene	**750**		2.6	0.98	1	11/10/09	11/16/09	KWG0910535	
Pyrene	**990**	D	26	7.6	10	11/10/09	11/17/09	KWG0910535	
Benz(a)anthracene	**220**		2.6	0.72	1	11/10/09	11/16/09	KWG0910535	
Chrysene	**320**		2.6	0.80	1	11/10/09	11/16/09	KWG0910535	
Benzo(b)fluoranthene	**220**		2.6	0.92	1	11/10/09	11/16/09	KWG0910535	
Benzo(k)fluoranthene	**71**		2.6	0.87	1	11/10/09	11/16/09	KWG0910535	
Benzo(e)pyrene	**210**		2.6	0.61	1	11/10/09	11/16/09	KWG0910535	
Benzo(a)pyrene	**190**		2.6	0.76	1	11/10/09	11/16/09	KWG0910535	
Perylene	**100**		2.6	0.72	1	11/10/09	11/16/09	KWG0910535	
Indeno(1,2,3-cd)pyrene	**110**		2.6	0.87	1	11/10/09	11/16/09	KWG0910535	
Dibenz(a,h)anthracene	**22**		2.6	0.80	1	11/10/09	11/16/09	KWG0910535	
Benzo(g,h,i)perylene	**170**		2.6	0.85	1	11/10/09	11/16/09	KWG0910535	

* See Case Narrative

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	64	17-104	11/16/09	Acceptable
Fluoranthene-d10	70	27-106	11/16/09	Acceptable
Terphenyl-d14	44	35-109	11/16/09	Acceptable

Comments:

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009
Sample Matrix: Sediment

Service Request: K0909140
Date Collected: 10/05/2009
Date Received: 10/06/2009

Polynuclear Aromatic Hydrocarbons

Sample Name: M-3-B
Lab Code: K0909140-007

Extraction Method: EPA 3541
Analysis Method: 8270C SIM

Units: ug/Kg
Basis: Dry

Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Naphthalene	**320**		2.5	0.60	1	11/10/09	11/21/09	KWG0910535	
2-Methylnaphthalene	**69**		2.5	0.46	1	11/10/09	11/21/09	KWG0910535	
1-Methylnaphthalene	**37**		2.5	0.51	1	11/10/09	11/21/09	KWG0910535	
2,6-Dimethylnaphthalene	**46**		2.5	0.53	1	11/10/09	11/21/09	KWG0910535	
Acenaphthylene	**77**		2.5	0.56	1	11/10/09	11/21/09	KWG0910535	
Acenaphthene	**54**		2.5	0.50	1	11/10/09	11/21/09	KWG0910535	
Dibenzofuran	**44**		2.5	0.63	1	11/10/09	11/21/09	KWG0910535	
2,3,5-Trimethylnaphthalene	**30**		2.5	0.55	1	11/10/09	11/21/09	KWG0910535	
Fluorene	**58**		2.5	0.61	1	11/10/09	11/21/09	KWG0910535	
Dibenzothiophene	**35**		2.5	0.30	1	11/10/09	11/21/09	KWG0910535	
Phenanthrene	**410**		2.5	1.4	1	11/10/09	11/21/09	KWG0910535	
Anthracene	**77**		2.5	0.55	1	11/10/09	11/21/09	KWG0910535	
1-Methylphenanthrene	**45**		2.5	0.51	1	11/10/09	11/21/09	KWG0910535	
Fluoranthene	**560**		2.5	0.98	1	11/10/09	11/21/09	KWG0910535	
Pyrene	**480**		2.5	0.76	1	11/10/09	11/21/09	KWG0910535	
Benz(a)anthracene	**160**		2.5	0.72	1	11/10/09	11/21/09	KWG0910535	
Chrysene	**220**		2.5	0.80	1	11/10/09	11/21/09	KWG0910535	
Benzo(b)fluoranthene	**250**		2.5	0.92	1	11/10/09	11/21/09	KWG0910535	
Benzo(k)fluoranthene	**83**		2.5	0.87	1	11/10/09	11/21/09	KWG0910535	
Benzo(e)pyrene	**180**		2.5	0.61	1	11/10/09	11/21/09	KWG0910535	
Benzo(a)pyrene	**240**		2.5	0.76	1	11/10/09	11/21/09	KWG0910535	
Perylene	**120**		2.5	0.72	1	11/10/09	11/21/09	KWG0910535	
Indeno(1,2,3-cd)pyrene	**200**		2.5	0.87	1	11/10/09	11/21/09	KWG0910535	
Dibenz(a,h)anthracene	**29**		2.5	0.80	1	11/10/09	11/21/09	KWG0910535	
Benzo(g,h,i)perylene	**240**		2.5	0.85	1	11/10/09	11/21/09	KWG0910535	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	72	17-104	11/21/09	Acceptable
Fluoranthene-d10	75	27-106	11/21/09	Acceptable
Terphenyl-d14	65	35-109	11/21/09	Acceptable

Comments:

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009
Sample Matrix: Sediment

Service Request: K0909140
Date Collected: 10/06/2009
Date Received: 10/07/2009

Polynuclear Aromatic Hydrocarbons

Sample Name: M-2-B
Lab Code: K0909140-008

Units: ug/Kg
Basis: Dry

Extraction Method: EPA 3541
Analysis Method: 8270C SIM

Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Naphthalene	**770**		2.8	0.60	1	11/10/09	11/21/09	KWG0910535	
2-Methylnaphthalene	**240**		2.8	0.46	1	11/10/09	11/21/09	KWG0910535	
1-Methylnaphthalene	**130**		2.8	0.51	1	11/10/09	11/21/09	KWG0910535	
2,6-Dimethylnaphthalene	**200**		2.8	0.53	1	11/10/09	11/21/09	KWG0910535	
Acenaphthylene	**250**		2.8	0.56	1	11/10/09	11/21/09	KWG0910535	
Acenaphthene	**110**		2.8	0.50	1	11/10/09	11/21/09	KWG0910535	
Dibenzofuran	**110**		2.8	0.63	1	11/10/09	11/21/09	KWG0910535	
2,3,5-Trimethylnaphthalene	**120**		2.8	0.55	1	11/10/09	11/21/09	KWG0910535	
Fluorene	**130**		2.8	0.61	1	11/10/09	11/21/09	KWG0910535	
Dibenzothiophene	**57**		2.8	0.30	1	11/10/09	11/21/09	KWG0910535	
Phenanthrene	**640**		2.8	1.4	1	11/10/09	11/21/09	KWG0910535	
Anthracene	**120**		2.8	0.55	1	11/10/09	11/21/09	KWG0910535	
1-Methylphenanthrene	**90**		2.8	0.51	1	11/10/09	11/21/09	KWG0910535	
Fluoranthene	**760**		2.8	0.98	1	11/10/09	11/21/09	KWG0910535	
Pyrene	**570**		2.8	0.76	1	11/10/09	11/21/09	KWG0910535	
Benz(a)anthracene	**140**		2.8	0.72	1	11/10/09	11/21/09	KWG0910535	
Chrysene	**250**		2.8	0.80	1	11/10/09	11/21/09	KWG0910535	
Benzo(b)fluoranthene	**220**		2.8	0.92	1	11/10/09	11/21/09	KWG0910535	
Benzo(k)fluoranthene	**70**		2.8	0.87	1	11/10/09	11/21/09	KWG0910535	
Benzo(e)pyrene	**150**		2.8	0.61	1	11/10/09	11/21/09	KWG0910535	
Benzo(a)pyrene	**150**		2.8	0.76	1	11/10/09	11/21/09	KWG0910535	
Perylene	**91**		2.8	0.72	1	11/10/09	11/21/09	KWG0910535	
Indeno(1,2,3-cd)pyrene	**120**		2.8	0.87	1	11/10/09	11/21/09	KWG0910535	
Dibenz(a,h)anthracene	**25**		2.8	0.80	1	11/10/09	11/21/09	KWG0910535	
Benzo(g,h,i)perylene	**160**		2.8	0.85	1	11/10/09	11/21/09	KWG0910535	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	58	17-104	11/21/09	Acceptable
Fluoranthene-d10	63	27-106	11/21/09	Acceptable
Terphenyl-d14	58	35-109	11/21/09	Acceptable

Comments:

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009
Sample Matrix: Sediment

Service Request: K0909140
Date Collected: 10/07/2009
Date Received: 10/08/2009

Polynuclear Aromatic Hydrocarbons

Sample Name: M-1-C
Lab Code: K0909140-009

Units: ug/Kg
Basis: Dry

Extraction Method: EPA 3541
Analysis Method: 8270C SIM

Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Naphthalene	**550**		2.8	0.60	1	11/10/09	11/21/09	KWG0910535	
2-Methylnaphthalene	**140**		2.8	0.46	1	11/10/09	11/21/09	KWG0910535	
1-Methylnaphthalene	**65**		2.8	0.51	1	11/10/09	11/21/09	KWG0910535	
2,6-Dimethylnaphthalene	**77**		2.8	0.53	1	11/10/09	11/21/09	KWG0910535	
Acenaphthylene	**54**		2.8	0.56	1	11/10/09	11/21/09	KWG0910535	
Acenaphthene	**120**		2.8	0.50	1	11/10/09	11/21/09	KWG0910535	
Dibenzofuran	**150**		2.8	0.63	1	11/10/09	11/21/09	KWG0910535	
2,3,5-Trimethylnaphthalene	**38**		2.8	0.55	1	11/10/09	11/21/09	KWG0910535	
Fluorene	**140**		2.8	0.61	1	11/10/09	11/21/09	KWG0910535	
Dibenzothiophene	**51**		2.8	0.30	1	11/10/09	11/21/09	KWG0910535	
Phenanthrene	**600**		2.8	1.4	1	11/10/09	11/21/09	KWG0910535	
Anthracene	**130**		2.8	0.55	1	11/10/09	11/21/09	KWG0910535	
1-Methylphenanthrene	**64**		2.8	0.51	1	11/10/09	11/21/09	KWG0910535	
Fluoranthene	**680**		2.8	0.98	1	11/10/09	11/21/09	KWG0910535	
Pyrene	**420**		2.8	0.76	1	11/10/09	11/21/09	KWG0910535	
Benz(a)anthracene	**140**		2.8	0.72	1	11/10/09	11/21/09	KWG0910535	
Chrysene	**210**		2.8	0.80	1	11/10/09	11/21/09	KWG0910535	
Benzo(b)fluoranthene	**190**		2.8	0.92	1	11/10/09	11/21/09	KWG0910535	
Benzo(k)fluoranthene	**62**		2.8	0.87	1	11/10/09	11/21/09	KWG0910535	
Benzo(e)pyrene	**120**		2.8	0.61	1	11/10/09	11/21/09	KWG0910535	
Benzo(a)pyrene	**140**		2.8	0.76	1	11/10/09	11/21/09	KWG0910535	
Perylene	**96**		2.8	0.72	1	11/10/09	11/21/09	KWG0910535	
Indeno(1,2,3-cd)pyrene	**120**		2.8	0.87	1	11/10/09	11/21/09	KWG0910535	
Dibenz(a,h)anthracene	**22**		2.8	0.80	1	11/10/09	11/21/09	KWG0910535	
Benzo(g,h,i)perylene	**140**		2.8	0.85	1	11/10/09	11/21/09	KWG0910535	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	62	17-104	11/21/09	Acceptable
Fluoranthene-d10	68	27-106	11/21/09	Acceptable
Terphenyl-d14	54	35-109	11/21/09	Acceptable

Comments:

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009
Sample Matrix: Sediment

Service Request: K0909140
Date Collected: 10/05/2009
Date Received: 10/06/2009

Polynuclear Aromatic Hydrocarbons

Sample Name: M-3-C
Lab Code: K0909140-010

Extraction Method: EPA 3541
Analysis Method: 8270C SIM

Units: ug/Kg
Basis: Dry

Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Naphthalene	**490**		2.6	0.60	1	11/10/09	11/21/09	KWG0910535	
2-Methylnaphthalene	**100**		2.6	0.46	1	11/10/09	11/21/09	KWG0910535	
1-Methylnaphthalene	**53**		2.6	0.51	1	11/10/09	11/21/09	KWG0910535	
2,6-Dimethylnaphthalene	**62**		2.6	0.53	1	11/10/09	11/21/09	KWG0910535	
Acenaphthylene	**160**		2.6	0.56	1	11/10/09	11/21/09	KWG0910535	
Acenaphthene	**81**		2.6	0.50	1	11/10/09	11/21/09	KWG0910535	
Dibenzofuran	**74**		2.6	0.63	1	11/10/09	11/21/09	KWG0910535	
2,3,5-Trimethylnaphthalene	**40**		2.6	0.55	1	11/10/09	11/21/09	KWG0910535	
Fluorene	**90**		2.6	0.61	1	11/10/09	11/21/09	KWG0910535	
Dibenzothiophene	**40**		2.6	0.30	1	11/10/09	11/21/09	KWG0910535	
Phenanthrene	**570**		2.6	1.4	1	11/10/09	11/21/09	KWG0910535	
Anthracene	**120**		2.6	0.55	1	11/10/09	11/21/09	KWG0910535	
1-Methylphenanthrene	**56**		2.6	0.51	1	11/10/09	11/21/09	KWG0910535	
Fluoranthene	**830**		2.6	0.98	1	11/10/09	11/21/09	KWG0910535	
Pyrene	**680**		2.6	0.76	1	11/10/09	11/21/09	KWG0910535	
Benz(a)anthracene	**240**		2.6	0.72	1	11/10/09	11/21/09	KWG0910535	
Chrysene	**310**		2.6	0.80	1	11/10/09	11/21/09	KWG0910535	
Benzo(b)fluoranthene	**360**		2.6	0.92	1	11/10/09	11/21/09	KWG0910535	
Benzo(k)fluoranthene	**110**		2.6	0.87	1	11/10/09	11/21/09	KWG0910535	
Benzo(e)pyrene	**250**		2.6	0.61	1	11/10/09	11/21/09	KWG0910535	
Benzo(a)pyrene	**350**		2.6	0.76	1	11/10/09	11/21/09	KWG0910535	
Perylene	**150**		2.6	0.72	1	11/10/09	11/21/09	KWG0910535	
Indeno(1,2,3-cd)pyrene	**270**		2.6	0.87	1	11/10/09	11/21/09	KWG0910535	
Dibenz(a,h)anthracene	**38**		2.6	0.80	1	11/10/09	11/21/09	KWG0910535	
Benzo(g,h,i)perylene	**340**		2.6	0.85	1	11/10/09	11/21/09	KWG0910535	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	68	17-104	11/21/09	Acceptable
Fluoranthene-d10	70	27-106	11/21/09	Acceptable
Terphenyl-d14	58	35-109	11/21/09	Acceptable

Comments:

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009
Sample Matrix: Sediment

Service Request: K0909140
Date Collected: 10/09/2009
Date Received: 10/09/2009

Polynuclear Aromatic Hydrocarbons

Sample Name: B-1-A
Lab Code: K0909140-011

Units: ug/Kg
Basis: Dry

Extraction Method: EPA 3541
Analysis Method: 8270C SIM

Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Naphthalene	**12**		2.7	0.60	1	11/10/09	11/21/09	KWG0910535	
2-Methylnaphthalene	**4.8**		2.7	0.46	1	11/10/09	11/21/09	KWG0910535	
1-Methylnaphthalene	**2.4**	J	2.7	0.51	1	11/10/09	11/21/09	KWG0910535	
2,6-Dimethylnaphthalene	**2.7**	J	2.7	0.53	1	11/10/09	11/21/09	KWG0910535	
Acenaphthylene	**4.9**		2.7	0.56	1	11/10/09	11/21/09	KWG0910535	
Acenaphthene	**3.0**		2.7	0.50	1	11/10/09	11/21/09	KWG0910535	
Dibenzofuran	**1.8**	J	2.7	0.63	1	11/10/09	11/21/09	KWG0910535	
2,3,5-Trimethylnaphthalene	ND	U	2.7	0.55	1	11/10/09	11/21/09	KWG0910535	
Fluorene	**3.6**		2.7	0.61	1	11/10/09	11/21/09	KWG0910535	
Dibenzothiophene	**2.1**	J	2.7	0.30	1	11/10/09	11/21/09	KWG0910535	
Phenanthrene	**33**		2.7	1.4	1	11/10/09	11/21/09	KWG0910535	
Anthracene	**8.8**		2.7	0.55	1	11/10/09	11/21/09	KWG0910535	
1-Methylphenanthrene	**4.1**		2.7	0.51	1	11/10/09	11/21/09	KWG0910535	
Fluoranthene	**69**		2.7	0.98	1	11/10/09	11/21/09	KWG0910535	
Pyrene	**64**		2.7	0.76	1	11/10/09	11/21/09	KWG0910535	
Benz(a)anthracene	**34**		2.7	0.72	1	11/10/09	11/21/09	KWG0910535	
Chrysene	**45**		2.7	0.80	1	11/10/09	11/21/09	KWG0910535	
Benzo(b)fluoranthene	**59**		2.7	0.92	1	11/10/09	11/21/09	KWG0910535	
Benzo(k)fluoranthene	**20**		2.7	0.87	1	11/10/09	11/21/09	KWG0910535	
Benzo(e)pyrene	**38**		2.7	0.61	1	11/10/09	11/21/09	KWG0910535	
Benzo(a)pyrene	**55**		2.7	0.76	1	11/10/09	11/21/09	KWG0910535	
Perylene	**50**		2.7	0.72	1	11/10/09	11/21/09	KWG0910535	
Indeno(1,2,3-cd)pyrene	**56**		2.7	0.87	1	11/10/09	11/21/09	KWG0910535	
Dibenz(a,h)anthracene	**7.9**		2.7	0.80	1	11/10/09	11/21/09	KWG0910535	
Benzo(g,h,i)perylene	**66**		2.7	0.85	1	11/10/09	11/21/09	KWG0910535	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	62	17-104	11/21/09	Acceptable
Fluoranthene-d10	64	27-106	11/21/09	Acceptable
Terphenyl-d14	55	35-109	11/21/09	Acceptable

Comments:

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009
Sample Matrix: Sediment

Service Request: K0909140
Date Collected: 10/09/2009
Date Received: 10/09/2009

Polynuclear Aromatic Hydrocarbons

Sample Name: B-1-B
Lab Code: K0909140-012

Units: ug/Kg
Basis: Dry

Extraction Method: EPA 3541
Analysis Method: 8270C SIM

Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Naphthalene	**8.7**		2.5	0.60	1	11/10/09	11/21/09	KWG0910535	
2-Methylnaphthalene	**4.9**		2.5	0.46	1	11/10/09	11/21/09	KWG0910535	
1-Methylnaphthalene	**2.8**		2.5	0.51	1	11/10/09	11/21/09	KWG0910535	
2,6-Dimethylnaphthalene	**7.6**		2.5	0.53	1	11/10/09	11/21/09	KWG0910535	
Acenaphthylene	**7.8**		2.5	0.56	1	11/10/09	11/21/09	KWG0910535	
Acenaphthene	**4.6**		2.5	0.50	1	11/10/09	11/21/09	KWG0910535	
Dibenzofuran	**3.2**		2.5	0.63	1	11/10/09	11/21/09	KWG0910535	
2,3,5-Trimethylnaphthalene	**2.7**		2.5	0.55	1	11/10/09	11/21/09	KWG0910535	
Fluorene	**2.5**	J	2.5	0.61	1	11/10/09	11/21/09	KWG0910535	
Dibenzothiophene	**4.9**		2.5	0.30	1	11/10/09	11/21/09	KWG0910535	
Phenanthrene	**58**		2.5	1.4	1	11/10/09	11/21/09	KWG0910535	
Anthracene	**6.8**		2.5	0.55	1	11/10/09	11/21/09	KWG0910535	
1-Methylphenanthrene	**4.8**		2.5	0.51	1	11/10/09	11/21/09	KWG0910535	
Fluoranthene	**73**		2.5	0.98	1	11/10/09	11/21/09	KWG0910535	
Pyrene	**76**		2.5	0.76	1	11/10/09	11/21/09	KWG0910535	
Benz(a)anthracene	**48**		2.5	0.72	1	11/10/09	11/21/09	KWG0910535	
Chrysene	**61**		2.5	0.80	1	11/10/09	11/21/09	KWG0910535	
Benzo(b)fluoranthene	**87**		2.5	0.92	1	11/10/09	11/21/09	KWG0910535	
Benzo(k)fluoranthene	**31**		2.5	0.87	1	11/10/09	11/21/09	KWG0910535	
Benzo(e)pyrene	**60**		2.5	0.61	1	11/10/09	11/21/09	KWG0910535	
Benzo(a)pyrene	**89**		2.5	0.76	1	11/10/09	11/21/09	KWG0910535	
Perylene	**50**		2.5	0.72	1	11/10/09	11/21/09	KWG0910535	
Indeno(1,2,3-cd)pyrene	**89**		2.5	0.87	1	11/10/09	11/21/09	KWG0910535	
Dibenz(a,h)anthracene	**12**		2.5	0.80	1	11/10/09	11/21/09	KWG0910535	
Benzo(g,h,i)perylene	**110**		2.5	0.85	1	11/10/09	11/21/09	KWG0910535	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	65	17-104	11/21/09	Acceptable
Fluoranthene-d10	68	27-106	11/21/09	Acceptable
Terphenyl-d14	62	35-109	11/21/09	Acceptable

Comments:

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009
Sample Matrix: Sediment

Service Request: K0909140
Date Collected: 10/05/2009
Date Received: 10/06/2009

Polynuclear Aromatic Hydrocarbons

Sample Name: M-3-A
Lab Code: K0909140-013

Extraction Method: EPA 3541
Analysis Method: 8270C SIM

Units: ug/Kg
Basis: Dry

Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Naphthalene	**410**		2.7	0.60	1	11/10/09	11/21/09	KWG0910535	
2-Methylnaphthalene	**110**		2.7	0.46	1	11/10/09	11/21/09	KWG0910535	
1-Methylnaphthalene	**56**		2.7	0.51	1	11/10/09	11/21/09	KWG0910535	
2,6-Dimethylnaphthalene	**73**		2.7	0.53	1	11/10/09	11/21/09	KWG0910535	
Acenaphthylene	**110**		2.7	0.56	1	11/10/09	11/21/09	KWG0910535	
Acenaphthene	**90**		2.7	0.50	1	11/10/09	11/21/09	KWG0910535	
Dibenzofuran	**67**		2.7	0.63	1	11/10/09	11/21/09	KWG0910535	
2,3,5-Trimethylnaphthalene	**52**		2.7	0.55	1	11/10/09	11/21/09	KWG0910535	
Fluorene	**96**		2.7	0.61	1	11/10/09	11/21/09	KWG0910535	
Dibenzothiophene	**61**		2.7	0.30	1	11/10/09	11/21/09	KWG0910535	
Phenanthrene	**670**		2.7	1.4	1	11/10/09	11/21/09	KWG0910535	
Anthracene	**140**		2.7	0.55	1	11/10/09	11/21/09	KWG0910535	
1-Methylphenanthrene	**73**		2.7	0.51	1	11/10/09	11/21/09	KWG0910535	
Fluoranthene	**950**		2.7	0.98	1	11/10/09	11/21/09	KWG0910535	
Pyrene	**780**		2.7	0.76	1	11/10/09	11/21/09	KWG0910535	
Benz(a)anthracene	**310**		2.7	0.72	1	11/10/09	11/21/09	KWG0910535	
Chrysene	**430**		2.7	0.80	1	11/10/09	11/21/09	KWG0910535	
Benzo(b)fluoranthene	**480**		2.7	0.92	1	11/10/09	11/21/09	KWG0910535	
Benzo(k)fluoranthene	**160**		2.7	0.87	1	11/10/09	11/21/09	KWG0910535	
Benzo(e)pyrene	**350**		2.7	0.61	1	11/10/09	11/21/09	KWG0910535	
Benzo(a)pyrene	**480**		2.7	0.76	1	11/10/09	11/21/09	KWG0910535	
Perylene	**230**		2.7	0.72	1	11/10/09	11/21/09	KWG0910535	
Indeno(1,2,3-cd)pyrene	**390**		2.7	0.87	1	11/10/09	11/21/09	KWG0910535	
Dibenz(a,h)anthracene	**55**		2.7	0.80	1	11/10/09	11/21/09	KWG0910535	
Benzo(g,h,i)perylene	**460**		2.7	0.85	1	11/10/09	11/21/09	KWG0910535	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	78	17-104	11/21/09	Acceptable
Fluoranthene-d10	82	27-106	11/21/09	Acceptable
Terphenyl-d14	68	35-109	11/21/09	Acceptable

Comments:

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009
Sample Matrix: Sediment

Service Request: K0909140
Date Collected: 10/07/2009
Date Received: 10/08/2009

Polynuclear Aromatic Hydrocarbons

Sample Name: M-1-A
Lab Code: K0909140-014

Units: ug/Kg
Basis: Dry

Extraction Method: EPA 3541
Analysis Method: 8270C SIM

Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Naphthalene	**380**		2.9	0.60	1	11/10/09	11/21/09	KWG0910535	
2-Methylnaphthalene	**150**		2.9	0.46	1	11/10/09	11/21/09	KWG0910535	
1-Methylnaphthalene	**72**		2.9	0.51	1	11/10/09	11/21/09	KWG0910535	
2,6-Dimethylnaphthalene	**83**		2.9	0.53	1	11/10/09	11/21/09	KWG0910535	
Acenaphthylene	**44**		2.9	0.56	1	11/10/09	11/21/09	KWG0910535	
Acenaphthene	**120**		2.9	0.50	1	11/10/09	11/21/09	KWG0910535	
Dibenzofuran	**160**		2.9	0.63	1	11/10/09	11/21/09	KWG0910535	
2,3,5-Trimethylnaphthalene	**37**		2.9	0.55	1	11/10/09	11/21/09	KWG0910535	
Fluorene	**150**		2.9	0.61	1	11/10/09	11/21/09	KWG0910535	
Dibenzothiophene	**62**		2.9	0.30	1	11/10/09	11/21/09	KWG0910535	
Phenanthrene	**640**		2.9	1.4	1	11/10/09	11/21/09	KWG0910535	
Anthracene	**150**		2.9	0.55	1	11/10/09	11/21/09	KWG0910535	
1-Methylphenanthrene	**69**		2.9	0.51	1	11/10/09	11/21/09	KWG0910535	
Fluoranthene	**750**		2.9	0.98	1	11/10/09	11/21/09	KWG0910535	
Pyrene	**490**		2.9	0.76	1	11/10/09	11/21/09	KWG0910535	
Benz(a)anthracene	**180**		2.9	0.72	1	11/10/09	11/21/09	KWG0910535	
Chrysene	**270**		2.9	0.80	1	11/10/09	11/21/09	KWG0910535	
Benzo(b)fluoranthene	**240**		2.9	0.92	1	11/10/09	11/21/09	KWG0910535	
Benzo(k)fluoranthene	**82**		2.9	0.87	1	11/10/09	11/21/09	KWG0910535	
Benzo(e)pyrene	**150**		2.9	0.61	1	11/10/09	11/21/09	KWG0910535	
Benzo(a)pyrene	**170**		2.9	0.76	1	11/10/09	11/21/09	KWG0910535	
Perylene	**99**		2.9	0.72	1	11/10/09	11/21/09	KWG0910535	
Indeno(1,2,3-cd)pyrene	**150**		2.9	0.87	1	11/10/09	11/21/09	KWG0910535	
Dibenz(a,h)anthracene	**26**		2.9	0.80	1	11/10/09	11/21/09	KWG0910535	
Benzo(g,h,i)perylene	**170**		2.9	0.85	1	11/10/09	11/21/09	KWG0910535	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	58	17-104	11/21/09	Acceptable
Fluoranthene-d10	62	27-106	11/21/09	Acceptable
Terphenyl-d14	53	35-109	11/21/09	Acceptable

Comments:

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009
Sample Matrix: Sediment

Service Request: K0909140
Date Collected: 09/28/2009
Date Received: 09/29/2009

Polynuclear Aromatic Hydrocarbons

Sample Name: M-5-B
Lab Code: K0909140-015

Extraction Method: EPA 3541
Analysis Method: 8270C SIM

Units: ug/Kg
Basis: Dry

Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Naphthalene	**92**		2.5	0.60	1	11/10/09	11/16/09	KWG0910535	
2-Methylnaphthalene	**25**		2.5	0.46	1	11/10/09	11/16/09	KWG0910535	
1-Methylnaphthalene	**13**		2.5	0.51	1	11/10/09	11/16/09	KWG0910535	
2,6-Dimethylnaphthalene	**19**		2.5	0.53	1	11/10/09	11/16/09	KWG0910535	
Acenaphthylene	**27**		2.5	0.56	1	11/10/09	11/16/09	KWG0910535	
Acenaphthene	**25**		2.5	0.50	1	11/10/09	11/16/09	KWG0910535	
Dibenzofuran	**19**		2.5	0.63	1	11/10/09	11/16/09	KWG0910535	
2,3,5-Trimethylnaphthalene	**13**		2.5	0.55	1	11/10/09	11/16/09	KWG0910535	*
Fluorene	**28**		2.5	0.61	1	11/10/09	11/16/09	KWG0910535	
Dibenzothiophene	**8.6**		2.5	0.30	1	11/10/09	11/16/09	KWG0910535	
Phenanthrene	**120**		2.5	1.4	1	11/10/09	11/16/09	KWG0910535	
Anthracene	**23**		2.5	0.55	1	11/10/09	11/16/09	KWG0910535	
1-Methylphenanthrene	**23**		2.5	0.51	1	11/10/09	11/16/09	KWG0910535	
Fluoranthene	**190**		2.5	0.98	1	11/10/09	11/16/09	KWG0910535	
Pyrene	**170**		2.5	0.76	1	11/10/09	11/16/09	KWG0910535	
Benz(a)anthracene	**74**		2.5	0.72	1	11/10/09	11/16/09	KWG0910535	
Chrysene	**95**		2.5	0.80	1	11/10/09	11/16/09	KWG0910535	
Benzo(b)fluoranthene	**130**		2.5	0.92	1	11/10/09	11/16/09	KWG0910535	
Benzo(k)fluoranthene	**42**		2.5	0.87	1	11/10/09	11/16/09	KWG0910535	
Benzo(e)pyrene	**89**		2.5	0.61	1	11/10/09	11/16/09	KWG0910535	
Benzo(a)pyrene	**120**		2.5	0.76	1	11/10/09	11/16/09	KWG0910535	
Perylene	**78**		2.5	0.72	1	11/10/09	11/16/09	KWG0910535	
Indeno(1,2,3-cd)pyrene	**110**		2.5	0.87	1	11/10/09	11/16/09	KWG0910535	
Dibenz(a,h)anthracene	**13**		2.5	0.80	1	11/10/09	11/16/09	KWG0910535	
Benzo(g,h,i)perylene	**120**		2.5	0.85	1	11/10/09	11/16/09	KWG0910535	

* See Case Narrative

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	76	17-104	11/16/09	Acceptable
Fluoranthene-d10	73	27-106	11/16/09	Acceptable
Terphenyl-d14	61	35-109	11/16/09	Acceptable

Comments:

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009
Sample Matrix: Sediment

Service Request: K0909140
Date Collected: 09/28/2009
Date Received: 09/29/2009

Polynuclear Aromatic Hydrocarbons

Sample Name: M-5-A
Lab Code: K0909140-016

Extraction Method: EPA 3541
Analysis Method: 8270C SIM

Units: ug/Kg
Basis: Dry

Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Naphthalene	**100**		2.5	0.60	1	11/10/09	11/16/09	KWG0910535	
2-Methylnaphthalene	**28**		2.5	0.46	1	11/10/09	11/16/09	KWG0910535	
1-Methylnaphthalene	**18**		2.5	0.51	1	11/10/09	11/16/09	KWG0910535	
2,6-Dimethylnaphthalene	**35**		2.5	0.53	1	11/10/09	11/16/09	KWG0910535	
Acenaphthylene	**29**		2.5	0.56	1	11/10/09	11/16/09	KWG0910535	
Acenaphthene	**22**		2.5	0.50	1	11/10/09	11/16/09	KWG0910535	
Dibenzofuran	**20**		2.5	0.63	1	11/10/09	11/16/09	KWG0910535	
2,3,5-Trimethylnaphthalene	**18**		2.5	0.55	1	11/10/09	11/16/09	KWG0910535	*
Fluorene	**30**		2.5	0.61	1	11/10/09	11/16/09	KWG0910535	
Dibenzothiophene	**14**		2.5	0.30	1	11/10/09	11/16/09	KWG0910535	
Phenanthrene	**170**		2.5	1.4	1	11/10/09	11/16/09	KWG0910535	
Anthracene	**38**		2.5	0.55	1	11/10/09	11/16/09	KWG0910535	
1-Methylphenanthrene	**26**		2.5	0.51	1	11/10/09	11/16/09	KWG0910535	
Fluoranthene	**260**		2.5	0.98	1	11/10/09	11/16/09	KWG0910535	
Pyrene	**220**		2.5	0.76	1	11/10/09	11/16/09	KWG0910535	
Benz(a)anthracene	**96**		2.5	0.72	1	11/10/09	11/16/09	KWG0910535	
Chrysene	**120**		2.5	0.80	1	11/10/09	11/16/09	KWG0910535	
Benzo(b)fluoranthene	**170**		2.5	0.92	1	11/10/09	11/16/09	KWG0910535	
Benzo(k)fluoranthene	**51**		2.5	0.87	1	11/10/09	11/16/09	KWG0910535	
Benzo(e)pyrene	**110**		2.5	0.61	1	11/10/09	11/16/09	KWG0910535	
Benzo(a)pyrene	**150**		2.5	0.76	1	11/10/09	11/16/09	KWG0910535	
Perylene	**71**		2.5	0.72	1	11/10/09	11/16/09	KWG0910535	
Indeno(1,2,3-cd)pyrene	**140**		2.5	0.87	1	11/10/09	11/16/09	KWG0910535	
Dibenz(a,h)anthracene	**17**		2.5	0.80	1	11/10/09	11/16/09	KWG0910535	
Benzo(g,h,i)perylene	**160**		2.5	0.85	1	11/10/09	11/16/09	KWG0910535	

* See Case Narrative

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	81	17-104	11/16/09	Acceptable
Fluoranthene-d10	81	27-106	11/16/09	Acceptable
Terphenyl-d14	66	35-109	11/16/09	Acceptable

Comments:

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009
Sample Matrix: Sediment

Service Request: K0909140
Date Collected: 09/28/2009
Date Received: 09/29/2009

Polynuclear Aromatic Hydrocarbons

Sample Name: M-5-C
Lab Code: K0909140-017

Units: ug/Kg
Basis: Dry

Extraction Method: EPA 3541
Analysis Method: 8270C SIM

Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Naphthalene	**110**		2.5	0.60	1	11/10/09	11/17/09	KWG0910535	
2-Methylnaphthalene	**35**		2.5	0.46	1	11/10/09	11/17/09	KWG0910535	
1-Methylnaphthalene	**17**		2.5	0.51	1	11/10/09	11/17/09	KWG0910535	
2,6-Dimethylnaphthalene	**23**		2.5	0.53	1	11/10/09	11/17/09	KWG0910535	
Acenaphthylene	**32**		2.5	0.56	1	11/10/09	11/17/09	KWG0910535	
Acenaphthene	**23**		2.5	0.50	1	11/10/09	11/17/09	KWG0910535	
Dibenzofuran	**20**		2.5	0.63	1	11/10/09	11/17/09	KWG0910535	
2,3,5-Trimethylnaphthalene	**15**		2.5	0.55	1	11/10/09	11/17/09	KWG0910535	*
Fluorene	**30**		2.5	0.61	1	11/10/09	11/17/09	KWG0910535	
Dibenzothiophene	**12**		2.5	0.30	1	11/10/09	11/17/09	KWG0910535	
Phenanthrene	**170**		2.5	1.4	1	11/10/09	11/17/09	KWG0910535	
Anthracene	**35**		2.5	0.55	1	11/10/09	11/17/09	KWG0910535	
1-Methylphenanthrene	**32**		2.5	0.51	1	11/10/09	11/17/09	KWG0910535	
Fluoranthene	**270**		2.5	0.98	1	11/10/09	11/17/09	KWG0910535	
Pyrene	**220**		2.5	0.76	1	11/10/09	11/17/09	KWG0910535	
Benz(a)anthracene	**110**		2.5	0.72	1	11/10/09	11/17/09	KWG0910535	
Chrysene	**130**		2.5	0.80	1	11/10/09	11/17/09	KWG0910535	
Benzo(b)fluoranthene	**180**		2.5	0.92	1	11/10/09	11/17/09	KWG0910535	
Benzo(k)fluoranthene	**61**		2.5	0.87	1	11/10/09	11/17/09	KWG0910535	
Benzo(e)pyrene	**120**		2.5	0.61	1	11/10/09	11/17/09	KWG0910535	
Benzo(a)pyrene	**170**		2.5	0.76	1	11/10/09	11/17/09	KWG0910535	
Perylene	**85**		2.5	0.72	1	11/10/09	11/17/09	KWG0910535	
Indeno(1,2,3-cd)pyrene	**140**		2.5	0.87	1	11/10/09	11/17/09	KWG0910535	
Dibenz(a,h)anthracene	**18**		2.5	0.80	1	11/10/09	11/17/09	KWG0910535	
Benzo(g,h,i)perylene	**160**		2.5	0.85	1	11/10/09	11/17/09	KWG0910535	

* See Case Narrative

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	82	17-104	11/17/09	Acceptable
Fluoranthene-d10	84	27-106	11/17/09	Acceptable
Terphenyl-d14	68	35-109	11/17/09	Acceptable

Comments:

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009
Sample Matrix: Sediment

Service Request: K0909140
Date Collected: 09/28/2009
Date Received: 09/29/2009

Polynuclear Aromatic Hydrocarbons

Sample Name: M-5-B2
Lab Code: K0909140-018

Units: ug/Kg
Basis: Dry

Extraction Method: EPA 3541
Analysis Method: 8270C SIM

Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Naphthalene	**110**		2.6	0.60	1	11/10/09	11/17/09	KWG0910535	
2-Methylnaphthalene	**26**		2.6	0.46	1	11/10/09	11/17/09	KWG0910535	
1-Methylnaphthalene	**13**		2.6	0.51	1	11/10/09	11/17/09	KWG0910535	
2,6-Dimethylnaphthalene	**17**		2.6	0.53	1	11/10/09	11/17/09	KWG0910535	
Acenaphthylene	**26**		2.6	0.56	1	11/10/09	11/17/09	KWG0910535	
Acenaphthene	**28**		2.6	0.50	1	11/10/09	11/17/09	KWG0910535	
Dibenzofuran	**18**		2.6	0.63	1	11/10/09	11/17/09	KWG0910535	
2,3,5-Trimethylnaphthalene	**11**		2.6	0.55	1	11/10/09	11/17/09	KWG0910535	*
Fluorene	**28**		2.6	0.61	1	11/10/09	11/17/09	KWG0910535	
Dibenzothiophene	**12**		2.6	0.30	1	11/10/09	11/17/09	KWG0910535	
Phenanthrene	**160**		2.6	1.4	1	11/10/09	11/17/09	KWG0910535	
Anthracene	**31**		2.6	0.55	1	11/10/09	11/17/09	KWG0910535	
1-Methylphenanthrene	**26**		2.6	0.51	1	11/10/09	11/17/09	KWG0910535	
Fluoranthene	**250**		2.6	0.98	1	11/10/09	11/17/09	KWG0910535	
Pyrene	**210**		2.6	0.76	1	11/10/09	11/17/09	KWG0910535	
Benz(a)anthracene	**87**		2.6	0.72	1	11/10/09	11/17/09	KWG0910535	
Chrysene	**110**		2.6	0.80	1	11/10/09	11/17/09	KWG0910535	
Benzo(b)fluoranthene	**150**		2.6	0.92	1	11/10/09	11/17/09	KWG0910535	
Benzo(k)fluoranthene	**47**		2.6	0.87	1	11/10/09	11/17/09	KWG0910535	
Benzo(e)pyrene	**99**		2.6	0.61	1	11/10/09	11/17/09	KWG0910535	
Benzo(a)pyrene	**140**		2.6	0.76	1	11/10/09	11/17/09	KWG0910535	
Perylene	**78**		2.6	0.72	1	11/10/09	11/17/09	KWG0910535	
Indeno(1,2,3-cd)pyrene	**120**		2.6	0.87	1	11/10/09	11/17/09	KWG0910535	
Dibenz(a,h)anthracene	**14**		2.6	0.80	1	11/10/09	11/17/09	KWG0910535	
Benzo(g,h,i)perylene	**140**		2.6	0.85	1	11/10/09	11/17/09	KWG0910535	

* See Case Narrative

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	72	17-104	11/17/09	Acceptable
Fluoranthene-d10	69	27-106	11/17/09	Acceptable
Terphenyl-d14	58	35-109	11/17/09	Acceptable

Comments:

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009
Sample Matrix: Sediment

Service Request: K0909140
Date Collected: 10/09/2009
Date Received: 10/09/2009

Polynuclear Aromatic Hydrocarbons

Sample Name: B-1-C
Lab Code: K0909140-019

Extraction Method: EPA 3541
Analysis Method: 8270C SIM

Units: ug/Kg
Basis: Dry

Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Naphthalene	**8.1**		2.9	0.60	1	11/10/09	11/17/09	KWG0910535	
2-Methylnaphthalene	**2.9**	J	2.9	0.46	1	11/10/09	11/17/09	KWG0910535	
1-Methylnaphthalene	**1.5**	J	2.9	0.51	1	11/10/09	11/17/09	KWG0910535	
2,6-Dimethylnaphthalene	**1.5**	J	2.9	0.53	1	11/10/09	11/17/09	KWG0910535	
Acenaphthylene	**4.6**		2.9	0.56	1	11/10/09	11/17/09	KWG0910535	
Acenaphthene	**2.2**	J	2.9	0.50	1	11/10/09	11/17/09	KWG0910535	
Dibenzofuran	**1.2**	J	2.9	0.63	1	11/10/09	11/17/09	KWG0910535	
2,3,5-Trimethylnaphthalene	**1.4**	J	2.9	0.55	1	11/10/09	11/17/09	KWG0910535	*
Fluorene	**2.1**	J	2.9	0.61	1	11/10/09	11/17/09	KWG0910535	
Dibenzothiophene	**1.6**	J	2.9	0.30	1	11/10/09	11/17/09	KWG0910535	
Phenanthrene	**25**		2.9	1.4	1	11/10/09	11/17/09	KWG0910535	
Anthracene	**5.6**		2.9	0.55	1	11/10/09	11/17/09	KWG0910535	
1-Methylphenanthrene	**3.4**		2.9	0.51	1	11/10/09	11/17/09	KWG0910535	
Fluoranthene	**73**		2.9	0.98	1	11/10/09	11/17/09	KWG0910535	
Pyrene	**78**		2.9	0.76	1	11/10/09	11/17/09	KWG0910535	
Benz(a)anthracene	**36**		2.9	0.72	1	11/10/09	11/17/09	KWG0910535	
Chrysene	**46**		2.9	0.80	1	11/10/09	11/17/09	KWG0910535	
Benzo(b)fluoranthene	**69**		2.9	0.92	1	11/10/09	11/17/09	KWG0910535	
Benzo(k)fluoranthene	**20**		2.9	0.87	1	11/10/09	11/17/09	KWG0910535	
Benzo(e)pyrene	**45**		2.9	0.61	1	11/10/09	11/17/09	KWG0910535	
Benzo(a)pyrene	**64**		2.9	0.76	1	11/10/09	11/17/09	KWG0910535	
Perylene	**44**		2.9	0.72	1	11/10/09	11/17/09	KWG0910535	
Indeno(1,2,3-cd)pyrene	**57**		2.9	0.87	1	11/10/09	11/17/09	KWG0910535	
Dibenz(a,h)anthracene	**6.4**		2.9	0.80	1	11/10/09	11/17/09	KWG0910535	
Benzo(g,h,i)perylene	**69**		2.9	0.85	1	11/10/09	11/17/09	KWG0910535	

* See Case Narrative

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	79	17-104	11/17/09	Acceptable
Fluoranthene-d10	75	27-106	11/17/09	Acceptable
Terphenyl-d14	66	35-109	11/17/09	Acceptable

Comments:

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009
Sample Matrix: Sediment

Service Request: K0909140
Date Collected: NA
Date Received: NA

Polynuclear Aromatic Hydrocarbons

Sample Name: Method Blank
Lab Code: KWG0910535-7

Units: ug/Kg
Basis: Dry

Extraction Method: EPA 3541
Analysis Method: 8270C SIM

Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Naphthalene	**0.65**	J	2.5	0.60	1	11/10/09	11/16/09	KWG0910535	
2-Methylnaphthalene	ND	U	2.5	0.46	1	11/10/09	11/16/09	KWG0910535	
1-Methylnaphthalene	ND	U	2.5	0.51	1	11/10/09	11/16/09	KWG0910535	
2,6-Dimethylnaphthalene	ND	U	2.5	0.53	1	11/10/09	11/16/09	KWG0910535	
Acenaphthylene	ND	U	2.5	0.56	1	11/10/09	11/16/09	KWG0910535	
Acenaphthene	ND	U	2.5	0.50	1	11/10/09	11/16/09	KWG0910535	
Dibenzofuran	ND	U	2.5	0.63	1	11/10/09	11/16/09	KWG0910535	
2,3,5-Trimethylnaphthalene	ND	U	2.5	0.55	1	11/10/09	11/16/09	KWG0910535	
Fluorene	ND	U	2.5	0.61	1	11/10/09	11/16/09	KWG0910535	
Dibenzothiophene	ND	U	2.5	0.30	1	11/10/09	11/16/09	KWG0910535	
Phenanthrene	ND	U	2.5	1.4	1	11/10/09	11/16/09	KWG0910535	
Anthracene	ND	U	2.5	0.55	1	11/10/09	11/16/09	KWG0910535	
1-Methylphenanthrene	ND	U	2.5	0.51	1	11/10/09	11/16/09	KWG0910535	
Fluoranthene	**1.7**	J	2.5	0.98	1	11/10/09	11/16/09	KWG0910535	
Pyrene	**1.7**	J	2.5	0.76	1	11/10/09	11/19/09	KWG0910535	
Benz(a)anthracene	ND	U	2.5	0.72	1	11/10/09	11/16/09	KWG0910535	
Chrysene	**0.94**	J	2.5	0.80	1	11/10/09	11/16/09	KWG0910535	
Benzo(b)fluoranthene	**0.92**	J	2.5	0.92	1	11/10/09	11/16/09	KWG0910535	
Benzo(k)fluoranthene	ND	U	2.5	0.87	1	11/10/09	11/16/09	KWG0910535	
Benzo(e)pyrene	**0.62**	J	2.5	0.61	1	11/10/09	11/16/09	KWG0910535	
Benzo(a)pyrene	ND	U	2.5	0.76	1	11/10/09	11/16/09	KWG0910535	
Perylene	ND	U	2.5	0.72	1	11/10/09	11/16/09	KWG0910535	
Indeno(1,2,3-cd)pyrene	ND	U	2.5	0.87	1	11/10/09	11/16/09	KWG0910535	
Dibenz(a,h)anthracene	ND	U	2.5	0.80	1	11/10/09	11/16/09	KWG0910535	
Benzo(g,h,i)perylene	ND	U	2.5	0.85	1	11/10/09	11/16/09	KWG0910535	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	66	17-104	11/16/09	Acceptable
Fluoranthene-d10	62	27-106	11/16/09	Acceptable
Terphenyl-d14	57	35-109	11/16/09	Acceptable

Comments:

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009
Sample Matrix: Sediment

Service Request: K0909140

Surrogate Recovery Summary
Polynuclear Aromatic Hydrocarbons

Extraction Method: EPA 3541
Analysis Method: 8270C SIM

Units: PERCENT
Level: Low

Sample Name	Lab Code	Sur1	Sur2	Sur3	
M-4-A	K0909140-001	59	61	55	
M-4-B	K0909140-002	70	69	65	
M-4-C	K0909140-003	57	56	52	
M-1-B	K0909140-004	66	69	56	
M-2-C	K0909140-005	37	28	28	*
M-2-A	K0909140-006	64	70	44	
M-3-B	K0909140-007	72	75	65	
M-2-B	K0909140-008	58	63	58	
M-1-C	K0909140-009	62	68	54	
M-3-C	K0909140-010	68	70	58	
B-1-A	K0909140-011	62	64	55	
B-1-B	K0909140-012	65	68	62	
M-3-A	K0909140-013	78	82	68	
M-1-A	K0909140-014	58	62	53	
M-5-B	K0909140-015	76	73	61	
M-5-A	K0909140-016	81	81	66	
M-5-C	K0909140-017	82	84	68	
M-5-B2	K0909140-018	72	69	58	
B-1-C	K0909140-019	79	75	66	
Method Blank	KWG0910535-7	66	62	57	
M-2-AMS	KWG0910535-1	84	96	55	
M-2-ADMS	KWG0910535-2	84	99	53	
Lab Control Sample	KWG0910535-5	59	57	55	
Duplicate Lab Control Sample	KWG0910535-6	68	70	66	

Surrogate Recovery Control Limits (%)

Sur1 =	Fluorene-d10	17-104
Sur2 =	Fluoranthene-d10	27-106
Sur3 =	Terphenyl-d14	35-109

Results flagged with an asterisk (*) indicate values outside control criteria.
Results flagged with a pound (#) indicate the control criteria is not applicable.

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0909140
Date Analyzed: 11/16/2009
Time Analyzed: 07:37

Internal Standard Area and RT Summary
Polynuclear Aromatic Hydrocarbons

File ID: J:\MS11\DATA\111609\1116F002.D
Instrument ID: MS11
Analysis Method: 8270C SIM

Lab Code: KWG0910827-2
Analysis Lot: KWG0910827

		Naphthalene-d8		Acenaphthene-d10		Phenanthrene-d10	
		Area	**RT**	**Area**	**RT**	**Area**	**RT**
	Results ==>	214,680	4.62	109,189	6.04	210,353	7.26
	Upper Limit ==>	429,360	5.12	218,378	6.54	420,706	7.76
	Lower Limit ==>	107,340	4.12	54,595	5.54	105,177	6.76
	ICAL Result ==>	287,363	4.67	143,632	6.10	187,662	7.32
Associated Analyses							
Method Blank	KWG0910535-7	175,332	4.63	91,543	6.04	173,595	7.26
M-2-A	K0909140-006	182,034	4.63	104,004	6.04	181,539	7.26

Results flagged with an asterisk (*) indicate values outside control criteria.

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0909140
Date Analyzed: 11/16/2009
Time Analyzed: 07:37

Internal Standard Area and RT Summary
Polynuclear Aromatic Hydrocarbons

File ID: J:\MS11\DATA\111609\1116F002.D
Instrument ID: MS11
Analysis Method: 8270C SIM

Lab Code: KWG0910827-2
Analysis Lot: KWG0910827

		Chrysene-d12		Perylene-d12			
		Area	**RT**	**Area**	**RT**	**Area**	**RT**
	Results ==>	323,783	9.75	332,002	12.75		
	Upper Limit ==>	647,566	10.25	664,004	13.25		
	Lower Limit ==>	161,892	9.25	166,001	12.25		
	ICAL Result ==>	216,839	9.84	240,902	12.92		
Associated Analyses							
Method Blank	KWG0910535-7	252,761	9.75	230,868	12.76		
M-2-A	K0909140-006	273,722	9.76	302,982	12.78		

Results flagged with an asterisk (*) indicate values outside control criteria.

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0909140
Date Analyzed: 11/16/2009
Time Analyzed: 21:21

Internal Standard Area and RT Summary
Polynuclear Aromatic Hydrocarbons

File ID: J:\MS11\DATA\111609\1116F033.D
Instrument ID: MS11
Analysis Method: 8270C SIM

Lab Code: KWG0910855-2
Analysis Lot: KWG0910855

		Naphthalene-d8		Acenaphthene-d10		Phenanthrene-d10	
		Area	**RT**	**Area**	**RT**	**Area**	**RT**
	Results ==>	212,089	4.63	110,867	6.05	212,845	7.27
	Upper Limit ==>	424,178	5.13	221,734	6.55	425,690	7.77
	Lower Limit ==>	106,045	4.13	55,434	5.55	106,423	6.77
	ICAL Result ==>	287,363	4.67	143,632	6.10	187,662	7.32
Associated Analyses							
M-5-B	K0909140-015	174,457	4.63	97,076	6.05	171,838	7.27
M-5-A	K0909140-016	184,738	4.63	99,421	6.05	172,884	7.27
M-5-C	K0909140-017	178,552	4.63	99,436	6.05	163,724	7.27
M-5-B2	K0909140-018	180,839	4.63	99,837	6.05	173,965	7.26
B-1-C	K0909140-019	164,204	4.63	91,027	6.05	167,589	7.27
M-2-AMS	KWG0910535-1	138,732	4.62	70,766	6.04	132,263	7.26
M-2-ADMS	KWG0910535-2	155,307	4.62	77,297	6.04	143,742	7.26
M-2-ADL	K0909140-006	156,946	4.62	80,795	6.04	158,590	7.26

Results flagged with an asterisk (*) indicate values outside control criteria.

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0909140
Date Analyzed: 11/16/2009
Time Analyzed: 21:21

Internal Standard Area and RT Summary
Polynuclear Aromatic Hydrocarbons

File ID: J:\MS11\DATA\111609\1116F033.D
Instrument ID: MS11
Analysis Method: 8270C SIM

Lab Code: KWG0910855-2
Analysis Lot: KWG0910855

		Chrysene-d12		Perylene-d12			
		Area	RT	Area	RT	Area	RT
	Results ==>	312,581	9.76	318,519	12.78		
	Upper Limit ==>	625,162	10.26	637,038	13.28		
	Lower Limit ==>	156,291	9.26	159,260	12.28		
	ICAL Result ==>	216,839	9.84	240,902	12.92		
Associated Analyses							
M-5-B	K0909140-015	276,696	9.76	317,266	12.78		
M-5-A	K0909140-016	279,376	9.76	316,616	12.78		
M-5-C	K0909140-017	283,303	9.76	324,903	12.77		
M-5-B2	K0909140-018	295,465	9.76	339,252	12.76		
B-1-C	K0909140-019	247,415	9.76	275,418	12.77		
M-2-AMS	KWG0910535-1	239,950	9.77	248,946	12.79		
M-2-ADMS	KWG0910535-2	263,231	9.77	270,780	12.79		
M-2-ADL	K0909140-006	255,111	9.75	254,558	12.76		

Results flagged with an asterisk (*) indicate values outside control criteria.

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0909140
Date Analyzed: 11/19/2009
Time Analyzed: 22:34

Internal Standard Area and RT Summary
Polynuclear Aromatic Hydrocarbons

File ID: J:\MS11\DATA\111909\1119F039.D
Instrument ID: MS11
Analysis Method: 8270C SIM

Lab Code: KWG0910976-2
Analysis Lot: KWG0910976

		Naphthalene-d8		Acenaphthene-d10		Phenanthrene-d10	
		Area	**RT**	**Area**	**RT**	**Area**	**RT**
	Results ==>	141,988	4.88	76,868	6.30	146,729	7.54
	Upper Limit ==>	283,976	5.38	153,736	6.80	293,458	8.04
	Lower Limit ==>	70,994	4.38	38,434	5.80	73,365	7.04
	ICAL Result ==>	167,130	4.88	93,826	6.30	169,262	7.53
Associated Analyses							
Method Blank	KWG0910535-7	144,862	4.88	81,589	6.30	158,799	7.54
Lab Control Sample	KWG0910535-5	134,262	4.88	74,336	6.30	149,193	7.54
Duplicate Lab Control Sample	KWG0910535-6	141,912	4.88	78,201	6.30	152,157	7.54
M-4-A	K0909140-001	141,347	4.87	80,727	6.30	157,868	7.53
M-4-B	K0909140-002	140,670	4.88	80,459	6.30	160,383	7.53
M-4-C	K0909140-003	142,265	4.88	79,570	6.30	155,659	7.53
M-1-B	K0909140-004	146,349	4.88	83,463	6.30	160,777	7.54

Results flagged with an asterisk (*) indicate values outside control criteria.

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0909140
Date Analyzed: 11/19/2009
Time Analyzed: 22:34

Internal Standard Area and RT Summary
Polynuclear Aromatic Hydrocarbons

File ID: J:\MS11\DATA\111909\1119F039.D
Instrument ID: MS11
Analysis Method: 8270C SIM

Lab Code: KWG0910976-2
Analysis Lot: KWG0910976

		Chrysene-d12		Perylene-d12			
		Area	RT	Area	RT	Area	RT
	Results ==>	209,498	10.27	199,973	13.86		
	Upper Limit ==>	418,996	10.77	399,946	14.36		
	Lower Limit ==>	104,749	9.77	99,987	13.36		
	ICAL Result ==>	225,410	10.26	242,714	13.85		
Associated Analyses							
Method Blank	KWG0910535-7	198,433	10.26	191,436	13.86		
Lab Control Sample	KWG0910535-5	216,776	10.27	212,846	13.87		
Duplicate Lab Control Sample	KWG0910535-6	231,625	10.27	231,102	13.86		
M-4-A	K0909140-001	257,095	10.27	289,217	13.86		
M-4-B	K0909140-002	238,044	10.27	279,876	13.86		
M-4-C	K0909140-003	235,776	10.27	271,932	13.86		
M-1-B	K0909140-004	269,522	10.27	315,722	13.87		

Results flagged with an asterisk (*) indicate values outside control criteria.

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0909140
Date Analyzed: 11/20/2009
Time Analyzed: 23:26

Internal Standard Area and RT Summary
Polynuclear Aromatic Hydrocarbons

File ID: J:\MS11\DATA\112009\1120F031.D
Instrument ID: MS11
Analysis Method: 8270C SIM

Lab Code: KWG0911040-2
Analysis Lot: KWG0911040

		Naphthalene-d8		Acenaphthene-d10		Phenanthrene-d10	
		Area	**RT**	**Area**	**RT**	**Area**	**RT**
	Results ==>	181,996	4.87	94,961	6.29	169,321	7.52
	Upper Limit ==>	363,992	5.37	189,922	6.79	338,642	8.02
	Lower Limit ==>	90,998	4.37	47,481	5.79	84,661	7.02
	ICAL Result ==>	167,130	4.88	93,826	6.30	169,262	7.53
Associated Analyses							
M-2-C	K0909140-005	172,578	4.87	99,155	6.29	194,970	7.53
M-3-B	K0909140-007	157,091	4.86	88,205	6.29	178,607	7.52
M-2-B	K0909140-008	158,935	4.87	90,951	6.29	184,759	7.52
M-1-C	K0909140-009	145,202	4.87	81,042	6.29	164,786	7.52
M-3-C	K0909140-010	154,311	4.87	85,972	6.29	180,412	7.52
B-1-A	K0909140-011	162,367	4.86	89,585	6.29	177,508	7.52
B-1-B	K0909140-012	151,107	4.86	82,900	6.29	169,900	7.52
M-3-A	K0909140-013	152,013	4.87	84,935	6.29	171,613	7.52
M-1-A	K0909140-014	159,982	4.86	88,560	6.29	180,346	7.52

Results flagged with an asterisk (*) indicate values outside control criteria.

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0909140
Date Analyzed: 11/20/2009
Time Analyzed: 23:26

Internal Standard Area and RT Summary
Polynuclear Aromatic Hydrocarbons

File ID: J:\MS11\DATA\112009\1120F031.D
Instrument ID: MS11
Analysis Method: 8270C SIM

Lab Code: KWG0911040-2
Analysis Lot: KWG0911040

		Chrysene-d12		Perylene-d12			
		Area	**RT**	**Area**	**RT**	**Area**	**RT**
	Results ==>	235,199	10.25	251,477	13.82		
	Upper Limit ==>	470,398	10.75	502,954	14.32		
	Lower Limit ==>	117,600	9.75	125,739	13.32		
	ICAL Result ==>	225,410	10.26	242,714	13.85		
Associated Analyses							
M-2-C	K0909140-005	287,442	10.26	319,971	13.84		
M-3-B	K0909140-007	293,029	10.25	344,117	13.83		
M-2-B	K0909140-008	323,764	10.26	365,986	13.83		
M-1-C	K0909140-009	292,465	10.25	352,887	13.83		
M-3-C	K0909140-010	329,359	10.26	373,649	13.84		
B-1-A	K0909140-011	302,123	10.25	355,752	13.82		
B-1-B	K0909140-012	258,052	10.25	294,113	13.81		
M-3-A	K0909140-013	302,020	10.26	349,424	13.84		
M-1-A	K0909140-014	296,874	10.25	345,790	13.83		

Results flagged with an asterisk (*) indicate values outside control criteria.

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009
Sample Matrix: Sediment

Service Request: K0909140
Date Extracted: 11/10/2009
Date Analyzed: 11/17/2009

Matrix Spike/Duplicate Matrix Spike Summary
Polynuclear Aromatic Hydrocarbons

Sample Name: M-2-A
Lab Code: K0909140-006

Extraction Method: EPA 3541
Analysis Method: 8270C SIM

Units: ug/Kg
Basis: Dry

Level: Low
Extraction Lot: KWG0910535

Analyte Name	Sample Result	M-2-AMS KWG0910535-1 Matrix Spike			M-2-ADMS KWG0910535-2 Duplicate Matrix Spike			%Rec Limits	RPD	RPD Limit
		Result	Expected	%Rec	Result	Expected	%Rec			
Naphthalene	790	1050E	253	103	1080E	253	116	11-119	3	40
2-Methylnaphthalene	590	818	253	92	816	253	91	17-123	0	40
1-Methylnaphthalene	250	433	253	73	436	253	74	24-116	1	40
2,6-Dimethylnaphthalene	1800	1870E	253	26 #	1850E	253	18 #	36-122	1	40
Acenaphthylene	220	436	253	86	434	253	85	32-106	0	40
Acenaphthene	170	386	253	85	386	253	85	29-110	0	40
Dibenzofuran	140	357	253	86	356	253	85	31-110	0	40
2,3,5-Trimethylnaphthalene	1400	1770E	253	133 #	1800E	253	147 #	38-108	2	40
Fluorene	250	526	253	111	541	253	117	29-117	3	40
Dibenzothiophene	180	372	253	77	359	253	71	15-109	4	40
Phenanthrene	1400	1520E	253	59 #	1480E	253	44 #	19-128	3	40
Anthracene	200	363	253	64	351	253	60	31-115	3	40
1-Methylphenanthrene	550	789	253	94	792	253	95	26-136	0	40
Fluoranthene	750	1350E	253	235 *	1200E	253	178 *	22-138	11	40
Pyrene	990	1120E	253	53	1040E	253	21	11-148	7	40
Benz(a)anthracene	220	346	253	50	329	253	44	25-128	5	40
Chrysene	320	484	253	67	487	253	68	25-132	1	40
Benzo(b)fluoranthene	220	364	253	55	353	253	51	15-136	3	40
Benzo(k)fluoranthene	71	142	253	28 *	140	253	27 *	29-126	2	40
Benzo(e)pyrene	210	355	253	56	340	253	50	33-115	4	40
Benzo(a)pyrene	190	282	253	37	264	253	30	24-131	7	40
Perylene	100	185	253	33	176	253	29 *	30-115	5	40
Indeno(1,2,3-cd)pyrene	110	155	253	18 *	150	253	16 *	20-136	3	40
Dibenz(a,h)anthracene	22	61.5	253	15 *	64.1	253	16 *	29-124	4	40
Benzo(g,h,i)perylene	170	226	253	23 *	210	253	17 *	24-127	7	40

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009
Sample Matrix: Sediment

Service Request: K0909140
Date Extracted: 11/10/2009
Date Analyzed: 11/20/2009

Lab Control Spike/Duplicate Lab Control Spike Summary
Polynuclear Aromatic Hydrocarbons

Extraction Method: EPA 3541
Analysis Method: 8270C SIM

Units: ug/Kg
Basis: Dry
Level: Low
Extraction Lot: KWG0910535

	Lab Control Sample KWG0910535-5 Lab Control Spike			Duplicate Lab Control Sample KWG0910535-6 Duplicate Lab Control Spike					
Analyte Name	**Result**	**Expected**	**%Rec**	**Result**	**Expected**	**%Rec**	**%Rec Limits**	**RPD**	**RPD Limit**
Naphthalene	302	500	60	365	500	73	43-99	19	40
2-Methylnaphthalene	273	500	55	334	500	67	44-111	20	40
1-Methylnaphthalene	314	500	63	379	500	76	38-120	19	40
2,6-Dimethylnaphthalene	316	500	63	387	500	77	36-122	20	40
Acenaphthylene	321	500	64	398	500	80	41-110	21	40
Acenaphthene	326	500	65	404	500	81	44-104	21	40
Dibenzofuran	331	500	66	408	500	82	43-113	21	40
2,3,5-Trimethylnaphthalene	330	500	66	404	500	81	35-128	20	40
Fluorene	334	500	67	413	500	83	49-105	21	40
Dibenzothiophene	177	500	35	241	500	48	10-117	31	40
Phenanthrene	299	500	60	372	500	74	47-104	22	40
Anthracene	313	500	63	408	500	82	47-112	26	40
1-Methylphenanthrene	320	500	64	412	500	82	49-119	25	40
Fluoranthene	329	500	66	425	500	85	51-111	25	40
Pyrene	273	500	55	341	500	68	48-113	22	40
Benz(a)anthracene	293	500	59	373	500	75	51-111	24	40
Chrysene	302	500	60	384	500	77	54-111	24	40
Benzo(b)fluoranthene	322	500	64	406	500	81	51-113	23	40
Benzo(k)fluoranthene	341	500	68	422	500	84	56-114	21	40
Benzo(e)pyrene	339	500	68	424	500	85	58-118	22	40
Benzo(a)pyrene	322	500	64	403	500	81	52-118	22	40
Perylene	296	500	59	376	500	75	46-115	24	40
Indeno(1,2,3-cd)pyrene	320	500	64	389	500	78	42-123	19	40
Dibenz(a,h)anthracene	316	500	63	382	500	76	44-119	19	40
Benzo(g,h,i)perylene	333	500	67	400	500	80	46-114	18	40

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009
Sample Matrix: Sediment

Service Request: K0909140
Date Extracted: 11/10/2009
Date Analyzed: 11/16/2009
Time Analyzed: 08:33

Method Blank Summary
Polynuclear Aromatic Hydrocarbons

Sample Name: Method Blank
Lab Code: KWG0910535-7

Extraction Method: EPA 3541
Analysis Method: 8270C SIM

File ID: J:\MS11\DATA\111609\1116F004.D
Instrument ID: MS11

Level: Low
Extraction Lot: KWG0910535

This Method Blank applies to the following analyses:

Sample Name	Lab Code	File ID	Date Analyzed	Time Analyzed
M-2-A	K0909140-006	J:\MS11\DATA\111609\1116F014.D	11/16/09	12:57
M-5-B	K0909140-015	J:\MS11\DATA\111609\1116F037.D	11/16/09	23:07
M-5-A	K0909140-016	J:\MS11\DATA\111609\1116F038.D	11/16/09	23:33
M-5-C	K0909140-017	J:\MS11\DATA\111609\1116F039.D	11/17/09	00:00
M-5-B2	K0909140-018	J:\MS11\DATA\111609\1116F040.D	11/17/09	00:26
B-1-C	K0909140-019	J:\MS11\DATA\111609\1116F041.D	11/17/09	00:53
M-2-AMS	KWG0910535-1	J:\MS11\DATA\111609\1116F053.D	11/17/09	06:11
M-2-ADMS	KWG0910535-2	J:\MS11\DATA\111609\1116F054.D	11/17/09	06:37
M-2-A	K0909140-006	J:\MS11\DATA\111609\1116F055.D	11/17/09	07:04
Lab Control Sample	KWG0910535-5	J:\MS11\DATA\111909\1119F045.D	11/20/09	01:13
Duplicate Lab Control Sample	KWG0910535-6	J:\MS11\DATA\111909\1119F046.D	11/20/09	01:40
M-4-A	K0909140-001	J:\MS11\DATA\111909\1119F052.D	11/20/09	04:19
M-4-B	K0909140-002	J:\MS11\DATA\111909\1119F053.D	11/20/09	04:46
M-4-C	K0909140-003	J:\MS11\DATA\111909\1119F054.D	11/20/09	05:12
M-1-B	K0909140-004	J:\MS11\DATA\111909\1119F055.D	11/20/09	05:39
M-2-C	K0909140-005	J:\MS11\DATA\112009\1120F033.D	11/21/09	00:19
M-3-B	K0909140-007	J:\MS11\DATA\112009\1120F034.D	11/21/09	00:46
M-2-B	K0909140-008	J:\MS11\DATA\112009\1120F035.D	11/21/09	01:13
M-1-C	K0909140-009	J:\MS11\DATA\112009\1120F036.D	11/21/09	01:39
M-3-C	K0909140-010	J:\MS11\DATA\112009\1120F037.D	11/21/09	02:06
B-1-A	K0909140-011	J:\MS11\DATA\112009\1120F038.D	11/21/09	02:32
B-1-B	K0909140-012	J:\MS11\DATA\112009\1120F039.D	11/21/09	02:59
M-3-A	K0909140-013	J:\MS11\DATA\112009\1120F040.D	11/21/09	03:25
M-1-A	K0909140-014	J:\MS11\DATA\112009\1120F041.D	11/21/09	03:52

Client:	URS Corporation	**Service Request:**	K0909140
Project:	Boise St. Helens Pulp and Paper Mill-2009	**Date Extracted:**	11/10/2009
Sample Matrix:	Sediment	**Date Analyzed:**	11/19/2009
		Time Analyzed:	23:27

Method Blank Summary
Polynuclear Aromatic Hydrocarbons

Sample Name:	Method Blank	**File ID:**	J:\MS11\DATA\111909\1119F041.D
Lab Code:	KWG0910535-7	**Instrument ID:**	MS11
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270C SIM	**Extraction Lot:**	KWG0910535

This Method Blank applies to the following analyses:

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009
Sample Matrix: Sediment

Service Request: K0909140
Date Extracted: 11/10/2009
Date Analyzed: 11/20/2009
Time Analyzed: 01:13

Lab Control Sample Summary
Polynuclear Aromatic Hydrocarbons

Sample Name: Lab Control Sample
Lab Code: KWG0910535-5

File ID: J:\MS11\DATA\111909\1119F045.D
Instrument ID: MS11

Extraction Method: EPA 3541
Analysis Method: 8270C SIM

Level: Low
Extraction Lot: KWG0910535

This Lab Control Sample applies to the following analyses:

Sample Name	Lab Code	File ID	Date Analyzed	Time Analyzed
Method Blank	KWG0910535-7	J:\MS11\DATA\111609\1116F004.D	11/16/09	08:33
M-2-A	K0909140-006	J:\MS11\DATA\111609\1116F014.D	11/16/09	12:57
M-5-B	K0909140-015	J:\MS11\DATA\111609\1116F037.D	11/16/09	23:07
M-5-A	K0909140-016	J:\MS11\DATA\111609\1116F038.D	11/16/09	23:33
M-5-C	K0909140-017	J:\MS11\DATA\111609\1116F039.D	11/17/09	00:00
M-5-B2	K0909140-018	J:\MS11\DATA\111609\1116F040.D	11/17/09	00:26
B-1-C	K0909140-019	J:\MS11\DATA\111609\1116F041.D	11/17/09	00:53
M-2-AMS	KWG0910535-1	J:\MS11\DATA\111609\1116F053.D	11/17/09	06:11
M-2-ADMS	KWG0910535-2	J:\MS11\DATA\111609\1116F054.D	11/17/09	06:37
M-2-A	K0909140-006	J:\MS11\DATA\111609\1116F055.D	11/17/09	07:04
Method Blank	KWG0910535-7	J:\MS11\DATA\111909\1119F041.D	11/19/09	23:27
M-4-A	K0909140-001	J:\MS11\DATA\111909\1119F052.D	11/20/09	04:19
M-4-B	K0909140-002	J:\MS11\DATA\111909\1119F053.D	11/20/09	04:46
M-4-C	K0909140-003	J:\MS11\DATA\111909\1119F054.D	11/20/09	05:12
M-1-B	K0909140-004	J:\MS11\DATA\111909\1119F055.D	11/20/09	05:39
M-2-C	K0909140-005	J:\MS11\DATA\112009\1120F033.D	11/21/09	00:19
M-3-B	K0909140-007	J:\MS11\DATA\112009\1120F034.D	11/21/09	00:46
M-2-B	K0909140-008	J:\MS11\DATA\112009\1120F035.D	11/21/09	01:13
M-1-C	K0909140-009	J:\MS11\DATA\112009\1120F036.D	11/21/09	01:39
M-3-C	K0909140-010	J:\MS11\DATA\112009\1120F037.D	11/21/09	02:06
B-1-A	K0909140-011	J:\MS11\DATA\112009\1120F038.D	11/21/09	02:32
B-1-B	K0909140-012	J:\MS11\DATA\112009\1120F039.D	11/21/09	02:59
M-3-A	K0909140-013	J:\MS11\DATA\112009\1120F040.D	11/21/09	03:25
M-1-A	K0909140-014	J:\MS11\DATA\112009\1120F041.D	11/21/09	03:52

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0909140
Date Analyzed: 11/16/2009
Time Analyzed: 07:10

Tune Summary
Polynuclear Aromatic Hydrocarbons

File ID: J:\MS11\DATA\111609\1116F001.D
Instrument ID: MS11
Column:

Analysis Method: 8270C SIM
Analysis Lot: KWG0910827

Target Mass	Relative to Mass	Lower Limit%	Upper Limit%	Relative Abundance %	Raw Abundance	Result Pass/Fail
51	198	10	80	37.6	181120	PASS
68	69	0	2	0.0	0	PASS
69	198	0	100	39.1	188096	PASS
70	69	0	2	0.8	1437	PASS
127	198	10	80	48.0	231296	PASS
197	198	0	2	0.0	0	PASS
198	442	30	100	50.2	481408	PASS
199	198	5	9	6.6	31616	PASS
275	198	10	60	35.4	170624	PASS
365	442	1	50	2.6	24560	PASS
441	443	0	100	71.6	139840	PASS
442	442	100	100	100.0	959296	PASS
443	442	15	24	20.4	195328	PASS

Sample Name	Lab Code	File ID	Date Analyzed	Time Analyzed	Q
Continuing Calibration Verification	KWG0910827-2	J:\MS11\DATA\111609\1116F002.D	11/16/2009	07:37	
Method Blank	KWG0910535-7	J:\MS11\DATA\111609\1116F004.D	11/16/2009	08:33	
M-2-A	K0909140-006	J:\MS11\DATA\111609\1116F014.D	11/16/2009	12:57	

Results flagged with an asterisk (*) indicate the analysis performed outside specified tune window

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0909140
Date Analyzed: 11/16/2009
Time Analyzed: 20:54

Tune Summary
Polynuclear Aromatic Hydrocarbons

File ID: J:\MS11\DATA\111609\1116F032.D
Instrument ID: MS11
Column:

Analysis Method: 8270C SIM
Analysis Lot: KWG0910855

Target Mass	Relative to Mass	Lower Limit%	Upper Limit%	Relative Abundance %	Raw Abundance	Result Pass/Fail
275	198	10	60	32.5	144512	PASS
365	442	1	50	2.8	19936	PASS
441	443	0	100	69.8	103368	PASS
442	442	100	100	100.0	703616	PASS
443	442	15	24	21.0	148032	PASS
51	198	10	80	43.5	193344	PASS
68	69	0	2	0.0	0	PASS
69	198	0	100	45.2	200832	PASS
70	69	0	2	0.4	863	PASS
127	198	10	80	50.3	223488	PASS
197	198	0	2	0.0	0	PASS
198	442	30	100	63.1	444224	PASS
199	198	5	9	7.4	32816	PASS

Sample Name	Lab Code	File ID	Date Analyzed	Time Analyzed	Q
Continuing Calibration Verification	KWG0910855-2	J:\MS11\DATA\111609\1116F033.D	11/16/2009	21:21	
M-5-B	K0909140-015	J:\MS11\DATA\111609\1116F037.D	11/16/2009	23:07	
M-5-A	K0909140-016	J:\MS11\DATA\111609\1116F038.D	11/16/2009	23:33	
M-5-C	K0909140-017	J:\MS11\DATA\111609\1116F039.D	11/17/2009	00:00	
M-5-B2	K0909140-018	J:\MS11\DATA\111609\1116F040.D	11/17/2009	00:26	
B-1-C	K0909140-019	J:\MS11\DATA\111609\1116F041.D	11/17/2009	00:53	
M-2-AMS	KWG0910535-1	J:\MS11\DATA\111609\1116F053.D	11/17/2009	06:11	
M-2-ADMS	KWG0910535-2	J:\MS11\DATA\111609\1116F054.D	11/17/2009	06:37	
M-2-A	K0909140-006	J:\MS11\DATA\111609\1116F055.D	11/17/2009	07:04	

Results flagged with an asterisk (*) indicate the analysis performed outside specified tune window

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0909140
Date Analyzed: 11/19/2009
Time Analyzed: 22:07

Tune Summary
Polynuclear Aromatic Hydrocarbons

File ID: J:\MS11\DATA\111909\1119F038.D
Instrument ID: MS11
Column:

Analysis Method: 8270C SIM
Analysis Lot: KWG0910976

Target Mass	Relative to Mass	Lower Limit%	Upper Limit%	Relative Abundance %	Raw Abundance	Result Pass/Fail
51	198	10	80	29.5	112312	PASS
68	69	0	2	0.0	0	PASS
69	198	0	100	30.9	117664	PASS
70	69	0	2	0.8	939	PASS
127	198	10	80	41.5	158144	PASS
197	198	0	2	0.0	0	PASS
198	442	30	100	36.0	381120	PASS
199	198	5	9	6.8	25808	PASS
275	198	10	60	39.9	151936	PASS
365	442	1	50	2.6	27392	PASS
441	443	0	100	70.8	151616	PASS
442	442	100	100	100.0	1058304	PASS
443	442	15	24	20.2	214208	PASS

Sample Name	Lab Code	File ID	Date Analyzed	Time Analyzed	Q
Continuing Calibration Verification	KWG0910976-2	J:\MS11\DATA\111909\1119F039.D	11/19/2009	22:34	
Method Blank	KWG0910535-7	J:\MS11\DATA\111909\1119F041.D	11/19/2009	23:27	
Lab Control Sample	KWG0910535-5	J:\MS11\DATA\111909\1119F045.D	11/20/2009	01:13	
Duplicate Lab Control Sample	KWG0910535-6	J:\MS11\DATA\111909\1119F046.D	11/20/2009	01:40	
M-4-A	K0909140-001	J:\MS11\DATA\111909\1119F052.D	11/20/2009	04:19	
M-4-B	K0909140-002	J:\MS11\DATA\111909\1119F053.D	11/20/2009	04:46	
M-4-C	K0909140-003	J:\MS11\DATA\111909\1119F054.D	11/20/2009	05:12	
M-1-B	K0909140-004	J:\MS11\DATA\111909\1119F055.D	11/20/2009	05:39	

Results flagged with an asterisk (*) indicate the analysis performed outside specified tune window

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0909140
Date Analyzed: 11/20/2009
Time Analyzed: 23:00

Tune Summary
Polynuclear Aromatic Hydrocarbons

File ID: J:\MS11\DATA\112009\1120F030.D
Instrument ID: MS11
Column:

Analysis Method: 8270C SIM
Analysis Lot: KWG0911040

Target Mass	Relative to Mass	Lower Limit%	Upper Limit%	Relative Abundance %	Raw Abundance	Result Pass/Fail
51	198	10	80	37.9	175552	PASS
68	69	0	2	0.0	0	PASS
69	198	0	100	40.2	186176	PASS
70	69	0	2	0.0	0	PASS
127	198	10	80	47.3	219072	PASS
197	198	0	2	0.0	0	PASS
198	442	30	100	49.8	462912	PASS
199	198	5	9	7.7	35648	PASS
275	198	10	60	35.5	164288	PASS
365	442	1	50	2.6	23984	PASS
441	443	0	100	71.4	132160	PASS
442	442	100	100	100.0	930240	PASS
443	442	15	24	19.9	185216	PASS

Sample Name	Lab Code	File ID	Date Analyzed	Time Analyzed	Q
Continuing Calibration Verification	KWG0911040-2	J:\MS11\DATA\112009\1120F031.D	11/20/2009	23:26	
M-2-C	K0909140-005	J:\MS11\DATA\112009\1120F033.D	11/21/2009	00:19	
M-3-B	K0909140-007	J:\MS11\DATA\112009\1120F034.D	11/21/2009	00:46	
M-2-B	K0909140-008	J:\MS11\DATA\112009\1120F035.D	11/21/2009	01:13	
M-1-C	K0909140-009	J:\MS11\DATA\112009\1120F036.D	11/21/2009	01:39	
M-3-C	K0909140-010	J:\MS11\DATA\112009\1120F037.D	11/21/2009	02:06	
B-1-A	K0909140-011	J:\MS11\DATA\112009\1120F038.D	11/21/2009	02:32	
B-1-B	K0909140-012	J:\MS11\DATA\112009\1120F039.D	11/21/2009	02:59	
M-3-A	K0909140-013	J:\MS11\DATA\112009\1120F040.D	11/21/2009	03:25	
M-1-A	K0909140-014	J:\MS11\DATA\112009\1120F041.D	11/21/2009	03:52	

Results flagged with an asterisk (*) indicate the analysis performed outside specified tune window

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0909140
Calibration Date: 10/15/2009

Initial Calibration Summary
Polynuclear Aromatic Hydrocarbons

Calibration ID: CAL8928
Instrument ID: MS11

Column: MS

Level ID	File ID
A	J:\MS11\DATA\101509\1015F003.D
B	J:\MS11\DATA\101509\1015F004.D
C	J:\MS11\DATA\101509\1015F005.D
D	J:\MS11\DATA\101509\1015F006.D
E	J:\MS11\DATA\101509\1015F007.D
F	J:\MS11\DATA\101509\1015F008.D
G	J:\MS11\DATA\101509\1015F009.D
H	J:\MS11\DATA\101509\1015F010.D
I	J:\MS11\DATA\101509\1015F011.D
J	J:\MS11\DATA\101509\1015F012.D

Analyte Name	Level ID	Amt	RRF	Level ID	Amt	RRF	Level ID	Amt	RRF	Level ID	Amt	RRF	Level ID	Amt	RRF
Naphthalene	A	2.0	0.900	B	4.0	1.01	C	8.0	0.978	D	20	0.978	E	100	0.990
	F	200	1.00	G	400	0.933	H	1000	0.866	I	1600	0.797	J	2000	0.750
2-Methylnaphthalene	A	2.0	0.595	B	4.0	0.667	C	8.0	0.611	D	20	0.632	E	100	0.636
	F	200	0.691	G	400	0.677	H	1000	0.651	I	1600	0.614	J	2000	0.569
1-Methylnaphthalene	A	2.0	0.816	B	4.0	0.743	C	8.0	0.712	D	20	0.693	E	100	0.647
	F	200	0.679	G	400	0.660	H	1000	0.638	I	1600	0.602	J	2000	0.553
2,6-Dimethylnaphthalene	A	2.0	0.530	B	4.0	0.468	C	8.0	0.480	D	20	0.485	E	100	0.488
	F	200	0.533	G	400	0.530	H	1000	0.515	I	1600	0.511	J	2000	0.446
Acenaphthylene	A	2.0	1.65	B	4.0	1.79	C	8.0	1.69	D	20	1.86	E	100	1.82
	F	200	1.90	G	400	1.85	H	1000	1.72	I	1600	1.57	J	2000	1.51
Acenaphthene	A	2.0	1.12	B	4.0	1.09	C	8.0	1.02	D	20	1.11	E	100	1.07
	F	200	1.08	G	400	1.05	H	1000	0.991	I	1600	0.930	J	2000	0.886
Dibenzofuran	A	2.0	1.43	B	4.0	1.44	C	8.0	1.37	D	20	1.46	E	100	1.47
	F	200	1.52	G	400	1.45	H	1000	1.34	I	1600	1.25	J	2000	1.19
2,3,5-Trimethylnaphthalene	A	2.0	0.917	B	4.0	0.940	C	8.0	0.880	D	20	0.951	E	100	0.898
	F	200	0.909	G	400	0.864	H	1000	0.810	I	1600	0.790	J	2000	0.732
Fluorene	A	2.0	1.26	B	4.0	1.20	C	8.0	1.13	D	20	1.20	E	100	1.16
	F	200	1.19	G	400	1.11	H	1000	1.02	I	1600	0.968	J	2000	0.909
Dibenzothiophene	A	2.0	1.03	B	4.0	1.01	C	8.0	0.964	D	20	1.01	E	100	1.06
	F	200	1.13	G	400	1.07	H	1000	1.00	I	1600	0.954	J	2000	0.879
Phenanthrene	A	2.0	1.35	B	4.0	1.21	C	8.0	1.10	D	20	1.13	E	100	1.14
	F	200	1.19	G	400	1.13	H	1000	1.06	I	1600	0.987	J	2000	0.927
Anthracene	A	2.0	1.14	B	4.0	1.09	C	8.0	1.06	D	20	1.06	E	100	1.11
	F	200	1.21	G	400	1.12	H	1000	1.06	I	1600	0.965	J	2000	0.927
1-Methylphenanthrene	A	2.0	0.899	B	4.0	0.837	C	8.0	0.785	D	20	0.811	E	100	0.831
	F	200	0.872	G	400	0.815	H	1000	0.775	I	1600	0.720	J	2000	0.686
Fluoranthene	A	2.0	1.47	B	4.0	1.41	C	8.0	1.24	D	20	1.25	E	100	1.26
	F	200	1.33	G	400	1.23	H	1000	1.14	I	1600	1.02	J	2000	0.981

Results flagged with an asterisk (*) indicate values outside control criteria.

† **SPCC Compound** ‡ **CCC Compound**

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0909140
Calibration Date: 10/15/2009

Initial Calibration Summary
Polynuclear Aromatic Hydrocarbons

Calibration ID: CAL8928
Instrument ID: MS11

Column: MS

Analyte Name	Level ID	Amt	RRF	Level ID	Amt	RRF	Level ID	Amt	RRF	Level ID	Amt	RRF	Level ID	Amt	RRF
Pyrene	A	2.0	1.27	B	4.0	1.13	C	8.0	1.08	D	20	1.14	E	100	1.07
	F	200	1.17	G	400	1.11	H	1000	1.07	I	1600	0.978	J	2000	0.926
Benz(a)anthracene	A	2.0	1.42	B	4.0	1.21	C	8.0	1.02	D	20	1.04	E	100	1.01
	F	200	1.11	G	400	1.06	H	1000	1.05	I	1600	0.989	J	2000	0.965
Chrysene	A	2.0	1.16	B	4.0	1.18	C	8.0	1.07	D	20	1.09	E	100	1.04
	F	200	1.09	G	400	1.07	H	1000	1.03	I	1600	0.945	J	2000	0.914
Benzo(b)fluoranthene	A	2.0	1.17	B	4.0	1.03	C	8.0	0.989	D	20	1.01	E	100	1.00
	F	200	1.11	G	400	1.06	H	1000	1.07	I	1600	1.02	J	2000	0.956
Benzo(k)fluoranthene	A	2.0	1.01	B	4.0	1.03	C	8.0	0.997	D	20	1.04	E	100	1.03
	F	200	1.09	G	400	1.06	H	1000	1.07	I	1600	1.02	J	2000	0.942
Benzo(e)pyrene	A	2.0	1.06	B	4.0	1.04	C	8.0	0.922	D	20	0.938	E	100	0.947
	F	200	1.01	G	400	0.990	H	1000	1.01	I	1600	0.955	J	2000	0.903
Benzo(a)pyrene	A	2.0	1.13	B	4.0	1.05	C	8.0	0.899	D	20	0.941	E	100	0.937
	F	200	1.01	G	400	0.994	H	1000	1.02	I	1600	0.971	J	2000	0.923
Perylene	A	2.0	1.07	B	4.0	1.00	C	8.0	0.915	D	20	0.949	E	100	0.913
	F	200	0.988	G	400	0.975	H	1000	1.00	I	1600	0.961	J	2000	0.907
Indeno(1,2,3-cd)pyrene	A	2.0	0.970	B	4.0	0.947	C	8.0	0.806	D	20	0.888	E	100	0.893
	F	200	0.962	G	400	0.925	H	1000	0.938	I	1600	0.884	J	2000	0.851
Dibenz(a,h)anthracene	A	2.0	1.02	B	4.0	1.01	C	8.0	0.876	D	20	0.970	E	100	0.966
	F	200	1.02	G	400	1.00	H	1000	1.01	I	1600	0.967	J	2000	0.918
Benzo(g,h,i)perylene	A	2.0	1.11	B	4.0	1.09	C	8.0	1.06	D	20	1.09	E	100	1.05
	F	200	1.09	G	400	1.05	H	1000	1.02	I	1600	0.967	J	2000	0.918
Fluorene-d10	A	2.0	1.06	B	4.0	1.05	C	8.0	0.892	D	20	0.996	E	100	0.945
	F	200	0.989	G	400	0.924	H	1000	0.863	I	1600	0.831	J	2000	0.778
Fluoranthene-d10				B	4.0	1.42	C	8.0	1.09	D	20	1.10	E	100	1.10
	F	200	1.18	G	400	1.13	H	1000	1.07	I	1600	0.960	J	2000	0.921
Terphenyl-d14				B	4.0	1.05	C	8.0	0.790	D	20	0.866	E	100	0.800
	F	200	0.870	G	400	0.825	H	1000	0.794	I	1600	0.736	J	2000	0.708

Results flagged with an asterisk (*) indicate values outside control criteria.

† **SPCC Compound** ‡ **CCC Compound**

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0909140
Calibration Date: 10/15/2009

Initial Calibration Summary
Polynuclear Aromatic Hydrocarbons

Calibration ID: CAL8928
Instrument ID: MS11

Column: MS

Analyte Name	Compound Type	Calibration Evaluation					RRF Evaluation		
		Fit Type	Eval.	Eval. Result	Q	Control Criteria	Average RRF	Q	Minimum RRF
Naphthalene	MS	AverageRF	% RSD	9.8		≤ 15	0.920		0.01
2-Methylnaphthalene	MS	AverageRF	% RSD	6.0		≤ 15	0.634		0.01
1-Methylnaphthalene	MS	AverageRF	% RSD	10.9		≤ 15	0.674		0.01
2,6-Dimethylnaphthalene	MS	AverageRF	% RSD	5.9		≤ 15	0.499		0.01
Acenaphthylene	MS	AverageRF	% RSD	7.4		≤ 15	1.74		0.01
Acenaphthene	MS	AverageRF	% RSD	7.6		≤ 15	1.03		0.01
Dibenzofuran	MS	AverageRF	% RSD	7.4		≤ 15	1.39		0.01
2,3,5-Trimethylnaphthalene	MS	AverageRF	% RSD	8.1		≤ 15	0.869		0.01
Fluorene	MS	AverageRF	% RSD	10.2		≤ 15	1.12		0.01
Dibenzothiophene	MS	AverageRF	% RSD	6.9		≤ 15	1.01		0.01
Phenanthrene	MS	AverageRF	% RSD	10.5		≤ 15	1.12		0.01
Anthracene	MS	AverageRF	% RSD	7.6		≤ 15	1.07		0.01
1-Methylphenanthrene	MS	AverageRF	% RSD	8.1		≤ 15	0.803		0.01
Fluoranthene	MS	AverageRF	% RSD	12.5		≤ 15	1.23		0.01
Pyrene	MS	AverageRF	% RSD	8.7		≤ 15	1.10		0.01
Benz(a)anthracene	MS	AverageRF	% RSD	12.3		≤ 15	1.09		0.01
Chrysene	MS	AverageRF	% RSD	7.9		≤ 15	1.06		0.01
Benzo(b)fluoranthene	MS	AverageRF	% RSD	6.1		≤ 15	1.04		0.01
Benzo(k)fluoranthene	MS	AverageRF	% RSD	4.1		≤ 15	1.03		0.01
Benzo(e)pyrene	MS	AverageRF	% RSD	5.3		≤ 15	0.977		0.01
Benzo(a)pyrene	MS	AverageRF	% RSD	7.0		≤ 15	0.988		0.01
Perylene	MS	AverageRF	% RSD	5.3		≤ 15	0.969		0.01
Indeno(1,2,3-cd)pyrene	MS	AverageRF	% RSD	5.7		≤ 15	0.907		0.01
Dibenz(a,h)anthracene	MS	AverageRF	% RSD	5.0		≤ 15	0.977		0.01
Benzo(g,h,i)perylene	MS	AverageRF	% RSD	5.8		≤ 15	1.04		0.01
Fluorene-d10	SURR	AverageRF	% RSD	10.0		≤ 15	0.933		0.01
Fluoranthene-d10	SURR	AverageRF	% RSD	12.8		≤ 15	1.11		0.01
Terphenyl-d14	SURR	AverageRF	% RSD	12.1		≤ 15	0.827		0.01

Results flagged with an asterisk (*) indicate values outside control criteria.

† **SPCC Compound** ‡ **CCC Compound**

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0909140
Calibration Date: 10/15/2009
Date Analyzed: 10/15/2009

Second Source Calibration Verification
Polynuclear Aromatic Hydrocarbons

Calibration Type: Internal Standard
Analysis Method: 8270C SIM

Calibration ID: CAL8928
Units: ng/ml

File ID: J:\MS11\DATA\101509\1015G014.D

Analyte Name	Expected	Result	Average RF	SSV RF	%D	%Drift	Criteria	Curve Fit
Naphthalene	400	390	0.920	0.904	-2	NA	± 20 %	AverageRF
2-Methylnaphthalene	400	410	0.634	0.650	3	NA	± 20 %	AverageRF
1-Methylnaphthalene	400	380	0.674	0.637	-6	NA	± 20 %	AverageRF
2,6-Dimethylnaphthalene	400	400	0.499	0.500	0	NA	± 20 %	AverageRF
Acenaphthylene	400	440	1.74	1.92	10	NA	± 20 %	AverageRF
Acenaphthene	400	420	1.03	1.09	6	NA	± 20 %	AverageRF
Dibenzofuran	400	440	1.39	1.52	9	NA	± 20 %	AverageRF
2,3,5-Trimethylnaphthalene	400	420	0.869	0.913	5	NA	± 20 %	AverageRF
Fluorene	400	420	1.12	1.16	4	NA	± 20 %	AverageRF
Dibenzothiophene	400	420	1.01	1.07	6	NA	± 20 %	AverageRF
Phenanthrene	400	400	1.12	1.11	-1	NA	± 20 %	AverageRF
Anthracene	400	420	1.07	1.14	6	NA	± 20 %	AverageRF
1-Methylphenanthrene	400	410	0.803	0.824	3	NA	± 20 %	AverageRF
Fluoranthene	400	400	1.23	1.22	-1	NA	± 20 %	AverageRF
Pyrene	400	360	1.10	0.987	-10	NA	± 20 %	AverageRF
Benz(a)anthracene	400	360	1.09	0.966	-11	NA	± 20 %	AverageRF
Chrysene	400	370	1.06	0.969	-8	NA	± 20 %	AverageRF
Benzo(b)fluoranthene	400	400	1.04	1.06	1	NA	± 20 %	AverageRF
Benzo(k)fluoranthene	400	410	1.03	1.06	3	NA	± 20 %	AverageRF
Benzo(e)pyrene	400	400	0.977	0.980	0	NA	± 20 %	AverageRF
Benzo(a)pyrene	400	390	0.988	0.965	-2	NA	± 20 %	AverageRF
Perylene	400	400	0.969	0.966	0	NA	± 20 %	AverageRF
Indeno(1,2,3-cd)pyrene	400	380	0.907	0.870	-4	NA	± 20 %	AverageRF
Dibenz(a,h)anthracene	400	380	0.977	0.936	-4	NA	± 20 %	AverageRF
Benzo(g,h,i)perylene	400	380	1.04	0.996	-5	NA	± 20 %	AverageRF

Results flagged with an asterisk (*) indicate values outside control criteria.

† **SPCC Compound** ‡ **CCC Compound**

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0909140
Calibration Date: 11/19/2009

Initial Calibration Summary
Polynuclear Aromatic Hydrocarbons

Calibration ID: CAL9029
Instrument ID: MS11

Column: MS

Level ID	File ID
A	J:\MS11\DATA\111909\1119F003.D
B	J:\MS11\DATA\111909\1119F004.D
C	J:\MS11\DATA\111909\1119F005.D
D	J:\MS11\DATA\111909\1119F006.D
E	J:\MS11\DATA\111909\1119F007.D
F	J:\MS11\DATA\111909\1119F008.D
G	J:\MS11\DATA\111909\1119F009.D

Analyte Name	Level ID	Amt	RRF	Level ID	Amt	RRF	Level ID	Amt	RRF	Level ID	Amt	RRF	Level ID	Amt	RRF
Naphthalene	A	4.0	0.974	B	20	0.912	C	100	0.882	D	200	0.914	E	400	0.873
	F	1000	0.842	G	2000	0.761									
2-Methylnaphthalene	A	4.0	0.673	B	20	0.647	C	100	0.635	D	200	0.662	E	400	0.628
	F	1000	0.615	G	2000	0.576									
1-Methylnaphthalene	A	4.0	0.644	B	20	0.622	C	100	0.607	D	200	0.634	E	400	0.603
	F	1000	0.591	G	2000	0.553									
2,6-Dimethylnaphthalene	A	4.0	0.610	B	20	0.596	C	100	0.575	D	200	0.605	E	400	0.575
	F	1000	0.571	G	2000	0.546									
Acenaphthylene	A	4.0	1.76	B	20	1.65	C	100	1.66	D	200	1.73	E	400	1.65
	F	1000	1.62	G	2000	1.44									
Acenaphthene	A	4.0	1.00	B	20	0.994	C	100	0.976	D	200	1.03	E	400	0.978
	F	1000	0.969	G	2000	0.886									
Dibenzofuran	A	4.0	1.58	B	20	1.50	C	100	1.51	D	200	1.56	E	400	1.48
	F	1000	1.44	G	2000	1.29									
2,3,5-Trimethylnaphthalene	A	4.0	1.12	B	20	1.04	C	100	1.04	D	200	1.07	E	400	1.04
	F	1000	1.04	G	2000	0.957									
Fluorene	A	4.0	1.30	B	20	1.26	C	100	1.26	D	200	1.30	E	400	1.24
	F	1000	1.20	G	2000	1.11									
Dibenzothiophene	A	4.0	0.934	B	20	0.910	C	100	0.863	D	200	0.926	E	400	0.899
	F	1000	0.893	G	2000	0.810									
Phenanthrene	A	4.0	1.21	B	20	1.12	C	100	1.06	D	200	1.10	E	400	1.03
	F	1000	1.03	G	2000	0.910									
Anthracene	A	4.0	1.03	B	20	1.00	C	100	1.05	D	200	1.09	E	400	1.04
	F	1000	1.04	G	2000	0.926									
1-Methylphenanthrene	A	4.0	0.893	B	20	0.850	C	100	0.826	D	200	0.886	E	400	0.831
	F	1000	0.808	G	2000	0.716									
Fluoranthene	A	4.0	1.33	B	20	1.30	C	100	1.27	D	200	1.38	E	400	1.26
	F	1000	1.15	G	2000	0.996									
Pyrene	A	4.0	1.23	B	20	1.20	C	100	1.07	D	200	1.06	E	400	0.984
	F	1000	0.965	G	2000	0.920									

Results flagged with an asterisk (*) indicate values outside control criteria.

† **SPCC Compound** ‡ **CCC Compound**

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0909140
Calibration Date: 11/19/2009

Initial Calibration Summary
Polynuclear Aromatic Hydrocarbons

Calibration ID: CAL9029
Instrument ID: MS11

Column: MS

Analyte Name	Level ID	Amt	RRF	Level ID	Amt	RRF	Level ID	Amt	RRF	Level ID	Amt	RRF	Level ID	Amt	RRF
Benz(a)anthracene	A	4.0	1.13	B	20	0.988	C	100	0.976	D	200	1.05	E	400	1.04
	F	1000	1.03	G	2000	0.937									
Chrysene	A	4.0	1.03	B	20	0.982	C	100	0.953	D	200	1.02	E	400	0.989
	F	1000	0.971	G	2000	0.883									
Benzo(b)fluoranthene	A	4.0	1.07	B	20	0.988	C	100	1.01	D	200	1.10	E	400	1.06
	F	1000	1.07	G	2000	0.985									
Benzo(k)fluoranthene	A	4.0	0.956	B	20	0.928	C	100	0.958	D	200	1.05	E	400	1.03
	F	1000	1.04	G	2000	0.952									
Benzo(e)pyrene	A	4.0	0.967	B	20	0.922	C	100	0.922	D	200	1.00	E	400	0.979
	F	1000	0.986	G	2000	0.905									
Benzo(a)pyrene	A	4.0	0.930	B	20	0.850	C	100	0.851	D	200	0.949	E	400	0.946
	F	1000	0.985	G	2000	0.915									
Perylene	A	4.0	0.877	B	20	0.851	C	100	0.869	D	200	0.952	E	400	0.941
	F	1000	0.966	G	2000	0.891									
Indeno(1,2,3-cd)pyrene	A	4.0	0.924	B	20	0.833	C	100	0.809	D	200	0.861	E	400	0.831
	F	1000	0.869	G	2000	0.797									
Dibenz(a,h)anthracene	A	4.0	0.926	B	20	0.869	C	100	0.855	D	200	0.895	E	400	0.859
	F	1000	0.917	G	2000	0.852									
Benzo(g,h,i)perylene	A	4.0	1.08	B	20	0.996	C	100	0.928	D	200	0.978	E	400	0.924
	F	1000	0.939	G	2000	0.852									
Fluorene-d10	A	4.0	1.20	B	20	1.14	C	100	1.12	D	200	1.17	E	400	1.11
	F	1000	1.09	G	2000	1.02									
Fluoranthene-d10				B	20	1.26	C	100	1.24	D	200	1.32	E	400	1.25
	F	1000	1.16	G	2000	1.03									
Terphenyl-d14				B	20	0.919	C	100	0.826	D	200	0.868	E	400	0.816
	F	1000	0.794	G	2000	0.744									

Results flagged with an asterisk (*) indicate values outside control criteria.

† **SPCC Compound** ‡ **CCC Compound**

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0909140
Calibration Date: 11/19/2009

Initial Calibration Summary
Polynuclear Aromatic Hydrocarbons

Calibration ID: CAL9029
Instrument ID: MS11

Column: MS

Analyte Name	Compound Type	Calibration Evaluation					RRF Evaluation		
		Fit Type	Eval.	Eval. Result	Q	Control Criteria	Average RRF	Q	Minimum RRF
Naphthalene	MS	AverageRF	% RSD	7.6		≤ 15	0.880		0.01
2-Methylnaphthalene	MS	AverageRF	% RSD	5.1		≤ 15	0.634		0.01
1-Methylnaphthalene	MS	AverageRF	% RSD	5.0		≤ 15	0.608		0.01
2,6-Dimethylnaphthalene	MS	AverageRF	% RSD	3.8		≤ 15	0.582		0.01
Acenaphthylene	MS	AverageRF	% RSD	6.3		≤ 15	1.64		0.01
Acenaphthene	MS	AverageRF	% RSD	4.5		≤ 15	0.976		0.01
Dibenzofuran	MS	AverageRF	% RSD	6.6		≤ 15	1.48		0.01
2,3,5-Trimethylnaphthalene	MS	AverageRF	% RSD	4.7		≤ 15	1.04		0.01
Fluorene	MS	AverageRF	% RSD	5.2		≤ 15	1.24		0.01
Dibenzothiophene	MS	AverageRF	% RSD	4.8		≤ 15	0.891		0.01
Phenanthrene	MS	AverageRF	% RSD	8.7		≤ 15	1.07		0.01
Anthracene	MS	AverageRF	% RSD	5.1		≤ 15	1.02		0.01
1-Methylphenanthrene	MS	AverageRF	% RSD	7.1		≤ 15	0.830		0.01
Fluoranthene	MS	AverageRF	% RSD	10.3		≤ 15	1.24		0.01
Pyrene	MS	AverageRF	% RSD	11.0		≤ 15	1.06		0.01
Benz(a)anthracene	MS	AverageRF	% RSD	6.1		≤ 15	1.02		0.01
Chrysene	MS	AverageRF	% RSD	5.1		≤ 15	0.976		0.01
Benzo(b)fluoranthene	MS	AverageRF	% RSD	4.5		≤ 15	1.04		0.01
Benzo(k)fluoranthene	MS	AverageRF	% RSD	5.0		≤ 15	0.988		0.01
Benzo(e)pyrene	MS	AverageRF	% RSD	4.0		≤ 15	0.955		0.01
Benzo(a)pyrene	MS	AverageRF	% RSD	5.5		≤ 15	0.918		0.01
Perylene	MS	AverageRF	% RSD	5.0		≤ 15	0.907		0.01
Indeno(1,2,3-cd)pyrene	MS	AverageRF	% RSD	5.1		≤ 15	0.846		0.01
Dibenz(a,h)anthracene	MS	AverageRF	% RSD	3.5		≤ 15	0.882		0.01
Benzo(g,h,i)perylene	MS	AverageRF	% RSD	7.4		≤ 15	0.956		0.01
Fluorene-d10	SURR	AverageRF	% RSD	5.2		≤ 15	1.12		0.01
Fluoranthene-d10	SURR	AverageRF	% RSD	8.5		≤ 15	1.21		0.01
Terphenyl-d14	SURR	AverageRF	% RSD	7.3		≤ 15	0.828		0.01

Results flagged with an asterisk (*) indicate values outside control criteria.

† **SPCC Compound** ‡ **CCC Compound**

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0909140
Calibration Date: 11/19/2009
Date Analyzed: 11/19/2009

Second Source Calibration Verification
Polynuclear Aromatic Hydrocarbons

Calibration Type: Internal Standard
Analysis Method: 8270C SIM

Calibration ID: CAL9029
Units: ng/ml

File ID: J:\MS11\DATA\111909\1119F011.D

Analyte Name	Expected	Result	Average RF	SSV RF	%D	%Drift	Criteria	Curve Fit
Naphthalene	400	380	0.880	0.840	-4	NA	± 20 %	AverageRF
2-Methylnaphthalene	400	380	0.634	0.609	-4	NA	± 20 %	AverageRF
1-Methylnaphthalene	400	350	0.608	0.539	-11	NA	± 20 %	AverageRF
2,6-Dimethylnaphthalene	400	380	0.582	0.547	-6	NA	± 20 %	AverageRF
Acenaphthylene	400	410	1.64	1.68	2	NA	± 20 %	AverageRF
Acenaphthene	400	400	0.976	0.984	1	NA	± 20 %	AverageRF
Dibenzofuran	400	390	1.48	1.42	-4	NA	± 20 %	AverageRF
2,3,5-Trimethylnaphthalene	400	390	1.04	1.01	-3	NA	± 20 %	AverageRF
Fluorene	400	400	1.24	1.22	-1	NA	± 20 %	AverageRF
Dibenzothiophene	400	370	0.891	0.829	-7	NA	± 20 %	AverageRF
Phenanthrene	400	360	1.07	0.956	-10	NA	± 20 %	AverageRF
Anthracene	400	370	1.02	0.949	-7	NA	± 20 %	AverageRF
1-Methylphenanthrene	400	360	0.830	0.747	-10	NA	± 20 %	AverageRF
Fluoranthene	400	350	1.24	1.08	-13	NA	± 20 %	AverageRF
Pyrene	400	350	1.06	0.934	-12	NA	± 20 %	AverageRF
Benz(a)anthracene	400	350	1.02	0.884	-13	NA	± 20 %	AverageRF
Chrysene	400	360	0.976	0.878	-10	NA	± 20 %	AverageRF
Benzo(b)fluoranthene	400	390	1.04	1.01	-4	NA	± 20 %	AverageRF
Benzo(k)fluoranthene	400	390	0.988	0.967	-2	NA	± 20 %	AverageRF
Benzo(e)pyrene	400	370	0.955	0.886	-7	NA	± 20 %	AverageRF
Benzo(a)pyrene	400	380	0.918	0.864	-6	NA	± 20 %	AverageRF
Perylene	400	380	0.907	0.868	-4	NA	± 20 %	AverageRF
Indeno(1,2,3-cd)pyrene	400	370	0.846	0.792	-6	NA	± 20 %	AverageRF
Dibenz(a,h)anthracene	400	370	0.882	0.820	-7	NA	± 20 %	AverageRF
Benzo(g,h,i)perylene	400	370	0.956	0.892	-7	NA	± 20 %	AverageRF

Results flagged with an asterisk (*) indicate values outside control criteria.

† **SPCC Compound** ‡ **CCC Compound**

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0909140
Date Analyzed: 11/16/2009

Continuing Calibration Verification Summary
Polynuclear Aromatic Hydrocarbons

Calibration Type: Internal Standard
Analysis Method: 8270C SIM

Calibration Date: 10/15/2009
Calibration ID: CAL8928
Analysis Lot: KWG0910827
Units: ng/ml

File ID: J:\MS11\DATA\111609\1116F002.D

Analyte Name	Expected	Result	Min RF	Average RF	CCV RF	%D		%Drift	Criteria	Curve Fit
Naphthalene	400	370	0.01	0.920	0.853	-7		NA	± 20 %	AverageRF
2-Methylnaphthalene	400	380	0.01	0.634	0.602	-5		NA	± 20 %	AverageRF
1-Methylnaphthalene	400	350	0.01	0.674	0.587	-13		NA	± 20 %	AverageRF
2,6-Dimethylnaphthalene	400	380	0.01	0.499	0.473	-5		NA	± 20 %	AverageRF
Acenaphthylene	400	400	0.01	1.74	1.72	-1		NA	± 20 %	AverageRF
Acenaphthene	400	400	0.01	1.03	1.02	-1		NA	± 20 %	AverageRF
Dibenzofuran	400	430	0.01	1.39	1.50	8		NA	± 20 %	AverageRF
2,3,5-Trimethylnaphthalene	400	490	0.01	0.869	1.07	24	*	NA	± 20 %	AverageRF
Fluorene	400	450	0.01	1.12	1.27	14		NA	± 20 %	AverageRF
Dibenzothiophene	400	360	0.01	1.01	0.921	-9		NA	± 20 %	AverageRF
Phenanthrene	400	370	0.01	1.12	1.03	-8		NA	± 20 %	AverageRF
Anthracene	400	390	0.01	1.07	1.04	-3		NA	± 20 %	AverageRF
1-Methylphenanthrene	400	420	0.01	0.803	0.845	5		NA	± 20 %	AverageRF
Fluoranthene	400	410	0.01	1.23	1.28	4		NA	± 20 %	AverageRF
Pyrene	400	320	0.01	1.10	0.873	-20	*	NA	± 20 %	AverageRF
Benz(a)anthracene	400	350	0.01	1.09	0.945	-13		NA	± 20 %	AverageRF
Chrysene	400	350	0.01	1.06	0.938	-11		NA	± 20 %	AverageRF
Benzo(b)fluoranthene	400	390	0.01	1.04	1.02	-2		NA	± 20 %	AverageRF
Benzo(k)fluoranthene	400	410	0.01	1.03	1.04	1		NA	± 20 %	AverageRF
Benzo(e)pyrene	400	400	0.01	0.977	0.966	-1		NA	± 20 %	AverageRF
Benzo(a)pyrene	400	380	0.01	0.988	0.942	-5		NA	± 20 %	AverageRF
Perylene	400	380	0.01	0.969	0.921	-5		NA	± 20 %	AverageRF
Indeno(1,2,3-cd)pyrene	400	350	0.01	0.907	0.784	-14		NA	± 20 %	AverageRF
Dibenz(a,h)anthracene	400	350	0.01	0.977	0.865	-11		NA	± 20 %	AverageRF
Benzo(g,h,i)perylene	400	350	0.01	1.04	0.912	-13		NA	± 20 %	AverageRF
Fluorene-d10	400	450	0.01	0.933	1.06	13		NA	± 20 %	AverageRF
Fluoranthene-d10	400	430	0.01	1.11	1.20	8		NA	± 20 %	AverageRF
Terphenyl-d14	400	410	0.01	0.827	0.846	2		NA	± 20 %	AverageRF

Results flagged with an asterisk (*) indicate values outside control criteria.

† **SPCC Compound** ‡ **CCC Compound**

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0909140
Date Analyzed: 11/16/2009

Continuing Calibration Verification Summary
Polynuclear Aromatic Hydrocarbons

Calibration Type: Internal Standard
Analysis Method: 8270C SIM

Calibration Date: 10/15/2009
Calibration ID: CAL8928
Analysis Lot: KWG0910855
Units: ng/ml

File ID: J:\MS11\DATA\111609\1116F033.D

Analyte Name	Expected	Result	Min RF	Average RF	CCV RF	%D		%Drift	Criteria	Curve Fit
Naphthalene	400	370	0.01	0.920	0.861	-6		NA	± 20 %	AverageRF
2-Methylnaphthalene	400	380	0.01	0.634	0.607	-4		NA	± 20 %	AverageRF
1-Methylnaphthalene	400	350	0.01	0.674	0.587	-13		NA	± 20 %	AverageRF
2,6-Dimethylnaphthalene	400	390	0.01	0.499	0.482	-3		NA	± 20 %	AverageRF
Acenaphthylene	400	400	0.01	1.74	1.72	-1		NA	± 20 %	AverageRF
Acenaphthene	400	390	0.01	1.03	1.01	-2		NA	± 20 %	AverageRF
Dibenzofuran	400	430	0.01	1.39	1.50	8		NA	± 20 %	AverageRF
2,3,5-Trimethylnaphthalene	400	490	0.01	0.869	1.07	23	*	NA	± 20 %	AverageRF
Fluorene	400	450	0.01	1.12	1.26	13		NA	± 20 %	AverageRF
Dibenzothiophene	400	360	0.01	1.01	0.917	-9		NA	± 20 %	AverageRF
Phenanthrene	400	360	0.01	1.12	1.01	-10		NA	± 20 %	AverageRF
Anthracene	400	400	0.01	1.07	1.07	0		NA	± 20 %	AverageRF
1-Methylphenanthrene	400	420	0.01	0.803	0.848	6		NA	± 20 %	AverageRF
Fluoranthene	400	420	0.01	1.23	1.30	6		NA	± 20 %	AverageRF
Pyrene	400	330	0.01	1.10	0.916	-16		NA	± 20 %	AverageRF
Benz(a)anthracene	400	350	0.01	1.09	0.960	-12		NA	± 20 %	AverageRF
Chrysene	400	350	0.01	1.06	0.919	-13		NA	± 20 %	AverageRF
Benzo(b)fluoranthene	400	390	0.01	1.04	1.01	-3		NA	± 20 %	AverageRF
Benzo(k)fluoranthene	400	390	0.01	1.03	1.01	-1		NA	± 20 %	AverageRF
Benzo(e)pyrene	400	390	0.01	0.977	0.945	-3		NA	± 20 %	AverageRF
Benzo(a)pyrene	400	380	0.01	0.988	0.933	-6		NA	± 20 %	AverageRF
Perylene	400	380	0.01	0.969	0.913	-6		NA	± 20 %	AverageRF
Indeno(1,2,3-cd)pyrene	400	360	0.01	0.907	0.816	-10		NA	± 20 %	AverageRF
Dibenz(a,h)anthracene	400	370	0.01	0.977	0.891	-9		NA	± 20 %	AverageRF
Benzo(g,h,i)perylene	400	350	0.01	1.04	0.911	-13		NA	± 20 %	AverageRF
Fluorene-d10	400	460	0.01	0.933	1.07	14		NA	± 20 %	AverageRF
Fluoranthene-d10	400	430	0.01	1.11	1.19	8		NA	± 20 %	AverageRF
Terphenyl-d14	400	420	0.01	0.827	0.860	4		NA	± 20 %	AverageRF

Results flagged with an asterisk (*) indicate values outside control criteria.

† **SPCC Compound** ‡ **CCC Compound**

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0909140
Date Analyzed: 11/19/2009

Continuing Calibration Verification Summary
Polynuclear Aromatic Hydrocarbons

Calibration Type: Internal Standard
Analysis Method: 8270C SIM

Calibration Date: 11/19/2009
Calibration ID: CAL9029
Analysis Lot: KWG0910976
Units: ng/ml

File ID: J:\MS11\DATA\111909\1119F039.D

Analyte Name	Expected	Result	Min RF	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Naphthalene	400	380	0.01	0.880	0.843	-4	NA	± 20 %	AverageRF
2-Methylnaphthalene	400	380	0.01	0.634	0.610	-4	NA	± 20 %	AverageRF
1-Methylnaphthalene	400	380	0.01	0.608	0.584	-4	NA	± 20 %	AverageRF
2,6-Dimethylnaphthalene	400	390	0.01	0.582	0.564	-3	NA	± 20 %	AverageRF
Acenaphthylene	400	410	0.01	1.64	1.68	2	NA	± 20 %	AverageRF
Acenaphthene	400	410	0.01	0.976	0.997	2	NA	± 20 %	AverageRF
Dibenzofuran	400	410	0.01	1.48	1.52	3	NA	± 20 %	AverageRF
2,3,5-Trimethylnaphthalene	400	410	0.01	1.04	1.06	2	NA	± 20 %	AverageRF
Fluorene	400	410	0.01	1.24	1.28	4	NA	± 20 %	AverageRF
Dibenzothiophene	400	410	0.01	0.891	0.902	1	NA	± 20 %	AverageRF
Phenanthrene	400	380	0.01	1.07	1.02	-4	NA	± 20 %	AverageRF
Anthracene	400	420	0.01	1.02	1.08	6	NA	± 20 %	AverageRF
1-Methylphenanthrene	400	400	0.01	0.830	0.839	1	NA	± 20 %	AverageRF
Fluoranthene	400	420	0.01	1.24	1.31	5	NA	± 20 %	AverageRF
Pyrene	400	360	0.01	1.06	0.950	-10	NA	± 20 %	AverageRF
Benz(a)anthracene	400	360	0.01	1.02	0.914	-11	NA	± 20 %	AverageRF
Chrysene	400	370	0.01	0.976	0.900	-8	NA	± 20 %	AverageRF
Benzo(b)fluoranthene	400	400	0.01	1.04	1.04	0	NA	± 20 %	AverageRF
Benzo(k)fluoranthene	400	410	0.01	0.988	1.01	2	NA	± 20 %	AverageRF
Benzo(e)pyrene	400	400	0.01	0.955	0.951	0	NA	± 20 %	AverageRF
Benzo(a)pyrene	400	390	0.01	0.918	0.900	-2	NA	± 20 %	AverageRF
Perylene	400	400	0.01	0.907	0.911	0	NA	± 20 %	AverageRF
Indeno(1,2,3-cd)pyrene	400	370	0.01	0.846	0.782	-8	NA	± 20 %	AverageRF
Dibenz(a,h)anthracene	400	370	0.01	0.882	0.822	-7	NA	± 20 %	AverageRF
Benzo(g,h,i)perylene	400	380	0.01	0.956	0.905	-5	NA	± 20 %	AverageRF
Fluorene-d10	400	410	0.01	1.12	1.16	4	NA	± 20 %	AverageRF
Fluoranthene-d10	400	430	0.01	1.21	1.29	7	NA	± 20 %	AverageRF
Terphenyl-d14	400	450	0.01	0.828	0.936	13	NA	± 20 %	AverageRF

Results flagged with an asterisk (*) indicate values outside control criteria.

† **SPCC Compound** ‡ **CCC Compound**

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0909140
Date Analyzed: 11/20/2009

Continuing Calibration Verification Summary
Polynuclear Aromatic Hydrocarbons

Calibration Type: Internal Standard
Analysis Method: 8270C SIM

Calibration Date: 11/19/2009
Calibration ID: CAL9029
Analysis Lot: KWG0911040
Units: ng/ml

File ID: J:\MS11\DATA\112009\1120F031.D

Analyte Name	Expected	Result	Min RF	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Naphthalene	400	380	0.01	0.880	0.827	-6	NA	± 20 %	AverageRF
2-Methylnaphthalene	400	380	0.01	0.634	0.598	-6	NA	± 20 %	AverageRF
1-Methylnaphthalene	400	380	0.01	0.608	0.570	-6	NA	± 20 %	AverageRF
2,6-Dimethylnaphthalene	400	380	0.01	0.582	0.548	-6	NA	± 20 %	AverageRF
Acenaphthylene	400	410	0.01	1.64	1.68	2	NA	± 20 %	AverageRF
Acenaphthene	400	410	0.01	0.976	0.999	2	NA	± 20 %	AverageRF
Dibenzofuran	400	400	0.01	1.48	1.48	0	NA	± 20 %	AverageRF
2,3,5-Trimethylnaphthalene	400	410	0.01	1.04	1.06	1	NA	± 20 %	AverageRF
Fluorene	400	400	0.01	1.24	1.25	1	NA	± 20 %	AverageRF
Dibenzothiophene	400	400	0.01	0.891	0.884	-1	NA	± 20 %	AverageRF
Phenanthrene	400	380	0.01	1.07	1.01	-6	NA	± 20 %	AverageRF
Anthracene	400	420	0.01	1.02	1.06	4	NA	± 20 %	AverageRF
1-Methylphenanthrene	400	400	0.01	0.830	0.824	-1	NA	± 20 %	AverageRF
Fluoranthene	400	390	0.01	1.24	1.21	-2	NA	± 20 %	AverageRF
Pyrene	400	340	0.01	1.06	0.905	-15	NA	± 20 %	AverageRF
Benz(a)anthracene	400	370	0.01	1.02	0.938	-8	NA	± 20 %	AverageRF
Chrysene	400	360	0.01	0.976	0.885	-9	NA	± 20 %	AverageRF
Benzo(b)fluoranthene	400	380	0.01	1.04	0.989	-5	NA	± 20 %	AverageRF
Benzo(k)fluoranthene	400	390	0.01	0.988	0.961	-3	NA	± 20 %	AverageRF
Benzo(e)pyrene	400	380	0.01	0.955	0.916	-4	NA	± 20 %	AverageRF
Benzo(a)pyrene	400	390	0.01	0.918	0.903	-2	NA	± 20 %	AverageRF
Perylene	400	390	0.01	0.907	0.895	-1	NA	± 20 %	AverageRF
Indeno(1,2,3-cd)pyrene	400	410	0.01	0.846	0.873	3	NA	± 20 %	AverageRF
Dibenz(a,h)anthracene	400	420	0.01	0.882	0.920	4	NA	± 20 %	AverageRF
Benzo(g,h,i)perylene	400	420	0.01	0.956	1.01	5	NA	± 20 %	AverageRF
Fluorene-d10	400	410	0.01	1.12	1.14	2	NA	± 20 %	AverageRF
Fluoranthene-d10	400	410	0.01	1.21	1.24	3	NA	± 20 %	AverageRF
Terphenyl-d14	400	450	0.01	0.828	0.927	12	NA	± 20 %	AverageRF

Results flagged with an asterisk (*) indicate values outside control criteria.

† **SPCC Compound** ‡ **CCC Compound**

Client: URS Corporation **Service Request:** K0909140
Project: Boise St. Helens Pulp and Paper Mill-2009

Analysis Run Log
Polynuclear Aromatic Hydrocarbons

Analysis Method: 8270C SIM **Analysis Lot:** KWG0910827
Instrument ID: MS11

File ID	Sample Name	Lab Code	Date Analysis Started	Start Time	Q	Date Analysis Finished	Finish Time
1116F001.D	GC/MS Tuning - Decafluorotripheny	KWG0910827-1	11/16/2009	07:10		11/16/2009	07:30
1116F002.D	Continuing Calibration Verification	KWG0910827-2	11/16/2009	07:37		11/16/2009	07:56
1116F003.D	ZZZZZZ	ZZZZZZ	11/16/2009	08:06		11/16/2009	08:25
1116F004.D	Method Blank	KWG0910535-7	11/16/2009	08:33		11/16/2009	08:52
1116F005.D	ZZZZZZ	ZZZZZZ	11/16/2009	08:59		11/16/2009	09:18
1116F006.D	ZZZZZZ	ZZZZZZ	11/16/2009	09:25		11/16/2009	09:44
1116F007.D	ZZZZZZ	ZZZZZZ	11/16/2009	09:52		11/16/2009	10:11
1116F008.D	ZZZZZZ	ZZZZZZ	11/16/2009	10:18		11/16/2009	10:37
1116F009.D	ZZZZZZ	ZZZZZZ	11/16/2009	10:45		11/16/2009	11:04
1116F010.D	ZZZZZZ	ZZZZZZ	11/16/2009	11:11		11/16/2009	11:30
1116F011.D	ZZZZZZ	ZZZZZZ	11/16/2009	11:38		11/16/2009	11:57
1116F012.D	ZZZZZZ	ZZZZZZ	11/16/2009	12:04		11/16/2009	12:23
1116F013.D	ZZZZZZ	ZZZZZZ	11/16/2009	12:31		11/16/2009	12:50
1116F014.D	M-2-A	K0909140-006	11/16/2009	12:57		11/16/2009	13:16
1116F015.D	ZZZZZZ	ZZZZZZ	11/16/2009	13:24		11/16/2009	13:43
1116F016.D	ZZZZZZ	ZZZZZZ	11/16/2009	13:50		11/16/2009	14:09
1116F017.D	ZZZZZZ	ZZZZZZ	11/16/2009	14:17		11/16/2009	14:36
1116F018.D	ZZZZZZ	ZZZZZZ	11/16/2009	14:43		11/16/2009	15:02
1116F019.D	ZZZZZZ	ZZZZZZ	11/16/2009	15:10		11/16/2009	15:29
1116F020.D	ZZZZZZ	ZZZZZZ	11/16/2009	15:36		11/16/2009	15:55
1116F021.D	ZZZZZZ	ZZZZZZ	11/16/2009	16:03		11/16/2009	16:22
1116F022.D	ZZZZZZ	ZZZZZZ	11/16/2009	16:29		11/16/2009	16:48
1116F023.D	ZZZZZZ	ZZZZZZ	11/16/2009	16:56		11/16/2009	17:15
1116F024.D	ZZZZZZ	ZZZZZZ	11/16/2009	17:22		11/16/2009	17:41
1116F025.D	ZZZZZZ	ZZZZZZ	11/16/2009	17:49		11/16/2009	18:08
1116F026.D	ZZZZZZ	ZZZZZZ	11/16/2009	18:15		11/16/2009	18:34
1116F027.D	ZZZZZZ	ZZZZZZ	11/16/2009	18:42		11/16/2009	19:01
1116F028.D	ZZZZZZ	ZZZZZZ	11/16/2009	19:08		11/16/2009	19:27

Results flagged with an asterisk (*) indicate the holding time was exceeded for the analysis

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0909140

Analysis Run Log
Polynuclear Aromatic Hydrocarbons

Analysis Method: 8270C SIM

Analysis Lot: KWG0910855
Instrument ID: MS11

File ID	Sample Name	Lab Code	Date Analysis Started	Start Time	Q	Date Analysis Finished	Finish Time
1116F032.D	GC/MS Tuning - Decafluorotripheny	KWG0910855-1	11/16/2009	20:54		11/16/2009	21:14
1116F033.D	Continuing Calibration Verification	KWG0910855-2	11/16/2009	21:21		11/16/2009	21:40
1116F036.D	ZZZZZZ	ZZZZZZ	11/16/2009	22:40		11/16/2009	22:59
1116F037.D	M-5-B	K0909140-015	11/16/2009	23:07		11/16/2009	23:26
1116F038.D	M-5-A	K0909140-016	11/16/2009	23:33		11/16/2009	23:52
1116F039.D	M-5-C	K0909140-017	11/17/2009	00:00		11/17/2009	00:19
1116F040.D	M-5-B2	K0909140-018	11/17/2009	00:26		11/17/2009	00:45
1116F041.D	B-1-C	K0909140-019	11/17/2009	00:53		11/17/2009	01:12
1116F042.D	ZZZZZZ	ZZZZZZ	11/17/2009	01:19		11/17/2009	01:38
1116F043.D	ZZZZZZ	ZZZZZZ	11/17/2009	01:46		11/17/2009	02:05
1116F044.D	ZZZZZZ	ZZZZZZ	11/17/2009	02:12		11/17/2009	02:31
1116F045.D	ZZZZZZ	ZZZZZZ	11/17/2009	02:39		11/17/2009	02:58
1116F046.D	ZZZZZZ	ZZZZZZ	11/17/2009	03:05		11/17/2009	03:24
1116F047.D	ZZZZZZ	ZZZZZZ	11/17/2009	03:32		11/17/2009	03:51
1116F048.D	ZZZZZZ	ZZZZZZ	11/17/2009	03:58		11/17/2009	04:17
1116F049.D	ZZZZZZ	ZZZZZZ	11/17/2009	04:25		11/17/2009	04:44
1116F050.D	ZZZZZZ	ZZZZZZ	11/17/2009	04:51		11/17/2009	05:10
1116F051.D	ZZZZZZ	ZZZZZZ	11/17/2009	05:18		11/17/2009	05:37
1116F052.D	ZZZZZZ	ZZZZZZ	11/17/2009	05:44		11/17/2009	06:03
1116F053.D	M-2-AMS	KWG0910535-1	11/17/2009	06:11		11/17/2009	06:30
1116F054.D	M-2-ADMS	KWG0910535-2	11/17/2009	06:37		11/17/2009	06:56
1116F055.D	M-2-A	K0909140-006	11/17/2009	07:04		11/17/2009	07:23
1116F056.D	ZZZZZZ	ZZZZZZ	11/17/2009	07:30		11/17/2009	07:49
1116F057.D	ZZZZZZ	ZZZZZZ	11/17/2009	07:57		11/17/2009	08:16
1116F058.D	ZZZZZZ	ZZZZZZ	11/17/2009	08:23		11/17/2009	08:42

Results flagged with an asterisk (*) indicate the holding time was exceeded for the analysis

Client: URS Corporation **Service Request:** K0909140
Project: Boise St. Helens Pulp and Paper Mill-2009

Analysis Run Log
Polynuclear Aromatic Hydrocarbons

Analysis Method: 8270C SIM **Analysis Lot:** KWG0910976
Instrument ID: MS11

File ID	Sample Name	Lab Code	Date Analysis Started	Start Time	Q	Date Analysis Finished	Finish Time
1119F038.D	GC/MS Tuning - Decafluorotripheny	KWG0910976-1	11/19/2009	22:07		11/19/2009	22:26
1119F039.D	Continuing Calibration Verification	KWG0910976-2	11/19/2009	22:34		11/19/2009	22:53
1119F040.D	ZZZZZZ	ZZZZZZ	11/19/2009	23:00		11/19/2009	23:19
1119F041.D	Method Blank	KWG0910535-7	11/19/2009	23:27		11/19/2009	23:46
1119F042.D	ZZZZZZ	ZZZZZZ	11/19/2009	23:53		11/20/2009	00:12
1119F043.D	ZZZZZZ	ZZZZZZ	11/20/2009	00:20		11/20/2009	00:39
1119F044.D	ZZZZZZ	ZZZZZZ	11/20/2009	00:47		11/20/2009	01:06
1119F045.D	Lab Control Sample	KWG0910535-5	11/20/2009	01:13		11/20/2009	01:32
1119F046.D	Duplicate Lab Control Sample	KWG0910535-6	11/20/2009	01:40		11/20/2009	01:59
1119F047.D	ZZZZZZ	ZZZZZZ	11/20/2009	02:06		11/20/2009	02:25
1119F048.D	ZZZZZZ	ZZZZZZ	11/20/2009	02:33		11/20/2009	02:52
1119F049.D	ZZZZZZ	ZZZZZZ	11/20/2009	02:59		11/20/2009	03:18
1119F050.D	ZZZZZZ	ZZZZZZ	11/20/2009	03:26		11/20/2009	03:45
1119F051.D	ZZZZZZ	ZZZZZZ	11/20/2009	03:53		11/20/2009	04:12
1119F052.D	M-4-A	K0909140-001	11/20/2009	04:19		11/20/2009	04:38
1119F053.D	M-4-B	K0909140-002	11/20/2009	04:46		11/20/2009	05:05
1119F054.D	M-4-C	K0909140-003	11/20/2009	05:12		11/20/2009	05:31
1119F055.D	M-1-B	K0909140-004	11/20/2009	05:39		11/20/2009	05:58
1119F056.D	ZZZZZZ	ZZZZZZ	11/20/2009	06:06		11/20/2009	06:25
1119F057.D	ZZZZZZ	ZZZZZZ	11/20/2009	06:32		11/20/2009	06:52
1119F058.D	ZZZZZZ	ZZZZZZ	11/20/2009	06:59		11/20/2009	07:18
1119F059.D	ZZZZZZ	ZZZZZZ	11/20/2009	07:26		11/20/2009	07:45
1119F060.D	ZZZZZZ	ZZZZZZ	11/20/2009	07:52		11/20/2009	08:11
1119F061.D	ZZZZZZ	ZZZZZZ	11/20/2009	08:19		11/20/2009	08:38
1119F062.D	ZZZZZZ	ZZZZZZ	11/20/2009	08:45		11/20/2009	09:04
1119F063.D	ZZZZZZ	ZZZZZZ	11/20/2009	09:12		11/20/2009	09:31
1119F064.D	ZZZZZZ	ZZZZZZ	11/20/2009	09:39		11/20/2009	09:58

Results flagged with an asterisk (*) indicate the holding time was exceeded for the analysis

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009

Service Request: K0909140

Analysis Run Log
Polynuclear Aromatic Hydrocarbons

Analysis Method: 8270C SIM

Analysis Lot: KWG0911040
Instrument ID: MS11

File ID	Sample Name	Lab Code	Date Analysis Started	Start Time	Q	Date Analysis Finished	Finish Time
1120F030.D	GC/MS Tuning - Decafluorotripheny	KWG0911040-1	11/20/2009	23:00		11/20/2009	23:19
1120F031.D	Continuing Calibration Verification	KWG0911040-2	11/20/2009	23:26		11/20/2009	23:45
1120F033.D	M-2-C	K0909140-005	11/21/2009	00:19		11/21/2009	00:38
1120F034.D	M-3-B	K0909140-007	11/21/2009	00:46		11/21/2009	01:05
1120F035.D	M-2-B	K0909140-008	11/21/2009	01:13		11/21/2009	01:32
1120F036.D	M-1-C	K0909140-009	11/21/2009	01:39		11/21/2009	01:58
1120F037.D	M-3-C	K0909140-010	11/21/2009	02:06		11/21/2009	02:25
1120F038.D	B-1-A	K0909140-011	11/21/2009	02:32		11/21/2009	02:51
1120F039.D	B-1-B	K0909140-012	11/21/2009	02:59		11/21/2009	03:18
1120F040.D	M-3-A	K0909140-013	11/21/2009	03:25		11/21/2009	03:44
1120F041.D	M-1-A	K0909140-014	11/21/2009	03:52		11/21/2009	04:11
1120F042.D	ZZZZZZ	ZZZZZZ	11/21/2009	04:19		11/21/2009	04:38
1120F043.D	ZZZZZZ	ZZZZZZ	11/21/2009	04:46		11/21/2009	05:05
1120F044.D	ZZZZZZ	ZZZZZZ	11/21/2009	05:12		11/21/2009	05:31
1120F045.D	ZZZZZZ	ZZZZZZ	11/21/2009	05:39		11/21/2009	05:58
1120F046.D	ZZZZZZ	ZZZZZZ	11/21/2009	06:05		11/21/2009	06:24
1120F047.D	ZZZZZZ	ZZZZZZ	11/21/2009	06:32		11/21/2009	06:51
1120F048.D	ZZZZZZ	ZZZZZZ	11/21/2009	06:58		11/21/2009	07:17
1120F049.D	ZZZZZZ	ZZZZZZ	11/21/2009	07:25		11/21/2009	07:44
1120F050.D	ZZZZZZ	ZZZZZZ	11/21/2009	07:52		11/21/2009	08:11
1120F051.D	ZZZZZZ	ZZZZZZ	11/21/2009	08:18		11/21/2009	08:37
1120F052.D	ZZZZZZ	ZZZZZZ	11/21/2009	08:45		11/21/2009	09:04
1120F053.D	ZZZZZZ	ZZZZZZ	11/21/2009	09:11		11/21/2009	09:30
1120F054.D	ZZZZZZ	ZZZZZZ	11/21/2009	09:38		11/21/2009	09:57
1120F055.D	ZZZZZZ	ZZZZZZ	11/21/2009	10:04		11/21/2009	10:23
1120F056.D	ZZZZZZ	ZZZZZZ	11/21/2009	10:31		11/21/2009	10:50

Results flagged with an asterisk (*) indicate the holding time was exceeded for the analysis

Client: URS Corporation
Project: Boise St. Helens Pulp and Paper Mill-2009
Sample Matrix: Sediment

Service Request: K0909140
Date Extracted: 11/10/2009

Extraction Prep Log
Polynuclear Aromatic Hydrocarbons

Extraction Method: EPA 3541
Analysis Method: 8270C SIM

Extraction Lot: KWG0910535
Level: Low

Sample Name	Lab Code	Date Collected	Date Received	Sample Amount	Final Volume	% Solids	Note
M-4-A	K0909140-001	09/28/09	09/29/09	20.31g	10ml	97.5	
M-4-B	K0909140-002	09/28/09	09/29/09	20.23g	10ml	97.5	
M-4-C	K0909140-003	09/28/09	09/29/09	20.03g	10ml	97.7	
M-1-B	K0909140-004	10/07/09	10/08/09	20.21g	10ml	95.7	
M-2-C	K0909140-005	10/06/09	10/07/09	20.42g	10ml	92.7	
M-2-ADL	K0909140-006	10/06/09	10/07/09	20.21g	10ml	97.8	
M-2-A	K0909140-006	10/06/09	10/07/09	20.21g	10ml	97.8	
M-3-B	K0909140-007	10/05/09	10/06/09	20.51g	10ml	98.2	
M-2-B	K0909140-008	10/06/09	10/07/09	20.35g	10ml	89.5	
M-1-C	K0909140-009	10/07/09	10/08/09	19.99g	10ml	90.5	
M-3-C	K0909140-010	10/05/09	10/06/09	20.44g	10ml	95.3	
B-1-A	K0909140-011	10/09/09	10/09/09	20.01g	10ml	94.8	
B-1-B	K0909140-012	10/09/09	10/09/09	20.41g	10ml	98.2	
M-3-A	K0909140-013	10/05/09	10/06/09	20.25g	10ml	93.9	
M-1-A	K0909140-014	10/07/09	10/08/09	18.19g	10ml	97.2	
M-5-B	K0909140-015	09/28/09	09/29/09	20.79g	10ml	97.2	
M-5-A	K0909140-016	09/28/09	09/29/09	20.19g	10ml	99.1	
M-5-C	K0909140-017	09/28/09	09/29/09	20.19g	10ml	99.6	
M-5-B2	K0909140-018	09/28/09	09/29/09	20.27g	10ml	97.5	
B-1-C	K0909140-019	10/09/09	10/09/09	18.10g	10ml	98.3	
Method Blank	KWG0910535-7	NA	NA	20.79g	10ml	NA	
M-2-AMS	KWG0910535-1	10/06/09	10/07/09	20.17g	10ml	97.8	
M-2-ADMS	KWG0910535-2	10/06/09	10/07/09	20.17g	10ml	97.8	
Lab Control Sample	KWG0910535-5	NA	NA	10.00g	10ml	NA	
Duplicate Lab Control Sample	KWG0910535-6	NA	NA	10.00g	10ml	NA	

Results flagged with an asterisk (*) indicate the holding time was exceeded for the analysis

Quantitation Report

Bottle ID:		**Tier:**	V	**Matrix:**	SEDIMENT
Prod Code:	8270C SIM PAH_S	**Collect Date:**	09/28/2009	**Receive Date:**	09/29/2009

Analysis Lot:	KWG0910976	**Prep Lot:**	KWG0910535	**Report Group:**	K0909140
Analysis Method:	8270C SIM	**Prep Method:**	EPA 3541		
Prep Ref:	865754	**Prep Date:**	11/10/2009		

Quant Method:	J:\MS11\METHODS\SIM\1119ALK.M	**Calibration ID:**	CAL9029
Title:	Polynuclear Aromatic Hydrocarbons	**Report List ID:**	LJ11248
Tune Ref:	J:\MS11\DATA\111909\1119F038.D	**Method ID:**	MJ253
MB Ref:	J:\MS11\DATA\111909\1119F041.D	**Quant based on Report List**	

Data File:	J:\MS11\DATA\111909\1119F052.D			**Instrument:**	MS11
Acqu Date:	11/20/2009 04:19	**Quant Date:**	11/20/2009 12:26	**Vial:**	40
Run Type:	SMPL			**Dilution:**	1.0
Lab ID:	K0909140-001			**Soln Conc. Units:**	ng/ml

Internal Standard Compounds

IS Ref	Parameter Name	RT	RT Dev	Quant Mass	Response	Solution Conc	Area Criteria
1	Naphthalene-d8	4.87	-0.01	136	141347	200.00	OK
2	Acenaphthene-d10	6.30	0.00	164	80727	200.00	OK
3	Phenanthrene-d10	7.53	-0.01	188	157868	200.00	OK
4	Chrysene-d12	10.27	0.00	240	257095	200.00	OK
5	Perylene-d12	13.86	0.00	264	289217	200.00	OK

Surrogate Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	%Rec	%Rec Limits		Rpt?
2	Fluorene-d10	6.73	0.01	0.00	176	53031	117.00	59	17-104	OK	
3	Fluoranthene-d10	8.52	0.00	0.00	212	115727	121.25	61	27-106	OK	
4	Terphenyl-d14	8.90	0.00	0.00	244	117413	110.32	55	35-109	OK	

Target Compounds

Final Conc. Units: ug/Kg Dry Weight

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	Final Conc	Q	Rpt?
1	Naphthalene	4.89	-0.01	0.00	128	226835	364.84	180		
1	2-Methylnaphthalene	5.44	-0.01	0.00	142	31230	69.73	35		
1	1-Methylnaphthalene	5.53		0.00	142	15504	36.09	18		
1	2,6-Dimethylnaphthalene	5.96	0.01	0.00	156	17645	42.87	22		
2	Acenaphthylene	6.18		0.00	152	68587	103.39	52		
2	Acenaphthene	6.32	-0.01	0.00	154	19713**m**	50.03	25		
2	Dibenzofuran	6.47		0.00	168	31433	52.67	27		
2	2,3,5-Trimethylnaphthalene	6.63	-0.01	0.00	170	10559	25.09	13		
2	Fluorene	6.75		0.00	166	29076**m**	58.25	29		
3	Dibenzothiophene	7.44	-0.01	0.00	184	20572**m**	29.26	15		
3	Phenanthrene	7.55		0.00	178	379434	450.81	230		
3	Anthracene	7.60		0.00	178	72175	89.24	45		
3	1-Methylphenanthrene	8.05		0.00	192	35362	53.97	27		
3	Fluoranthene	8.54	0.01	0.00	202	674388	689.25	350		

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Data File:	J:\MS11\DATA\111909\1119F052.D			**Instrument:**	MS11
Acqu Date:	11/20/2009 04:19	**Quant Date:**	11/20/2009 12:26	**Vial:**	40
Run Type:	SMPL			**Dilution:**	1.0
Lab ID:	K0909140-001			**Soln Conc. Units:**	ng/ml

Target Compounds

Final Conc. Units: ug/Kg Dry Weight

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	Final Conc	Q	Rpt?
4	Pyrene	8.74		0.00	202	811647	595.31	300		
4	Benz(a)anthracene	10.25		0.00	228	302140	230.04	120		
4	Chrysene	10.32	0.01	0.00	228	421644	336.16	170		
5	Benzo(b)fluoranthene	12.65	0.01	0.00	252	586336	389.08	200		
5	Benzo(k)fluoranthene	12.73		0.00	252	174172	121.97	62		
5	Benzo(e)pyrene	13.49		0.00	252	376448	272.58	140		
5	Benzo(a)pyrene	13.66		0.00	252	476202	358.69	180		
5	Perylene	13.95		0.00	252	246533	188.03	95		
5	Indeno(1,2,3-cd)pyrene	17.00	0.01	0.00	276	381381	311.65	160		
5	Dibenz(a,h)anthracene	17.06	-0.01	0.00	278	52401	41.09	21		
5	Benzo(g,h,i)perylene	17.41		0.00	276	559953	404.88	200		

Prep Amount:	20.31 g	**Dilution:**	1.0
Prep Final Vol:	10 ml	**Unit Factor:**	1
Solids:	97.5 %		

Final Concentration = ((Soln Conc x Prep Final Vol x Dilution) / (Prep Amount x Solids)) x Unit Factor

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Quantitation Report

Bottle ID:		**Tier:**	V	**Matrix:**	SEDIMENT
Prod Code:	8270C SIM PAH_S	**Collect Date:**	09/28/2009	**Receive Date:**	09/29/2009

Analysis Lot:	KWG0910976	**Prep Lot:**	KWG0910535	**Report Group:**	K0909140
Analysis Method:	8270C SIM	**Prep Method:**	EPA 3541		
Prep Ref:	865755	**Prep Date:**	11/10/2009		

Quant Method:	J:\MS11\METHODS\SIM\1119ALK.M	**Calibration ID:**	CAL9029
Title:	Polynuclear Aromatic Hydrocarbons	**Report List ID:**	LJ11248
Tune Ref:	J:\MS11\DATA\111909\1119F038.D	**Method ID:**	MJ253
MB Ref:	J:\MS11\DATA\111909\1119F041.D	**Quant based on Report List**	

Data File:	J:\MS11\DATA\111909\1119F053.D			**Instrument:**	MS11
Acqu Date:	11/20/2009 04:46	**Quant Date:**	11/20/2009 12:28	**Vial:**	41
Run Type:	SMPL			**Dilution:**	1.0
Lab ID:	K0909140-002			**Soln Conc. Units:**	ng/ml

Internal Standard Compounds

IS Ref	Parameter Name	RT	RT Dev	Quant Mass	Response	Solution Conc	Area Criteria
1	Naphthalene-d8	4.88	0.00	136	140670	200.00	OK
2	Acenaphthene-d10	6.30	0.00	164	80459	200.00	OK
3	Phenanthrene-d10	7.53	-0.01	188	160383	200.00	OK
4	Chrysene-d12	10.27	0.00	240	238044	200.00	OK
5	Perylene-d12	13.86	0.00	264	279876	200.00	OK

Surrogate Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	%Rec	%Rec Limits		Rpt?
2	Fluorene-d10	6.72	0.00	0.00	176	62815	139.04	70	17-104	OK	
3	Fluoranthene-d10	8.52	0.00	0.00	212	133198	137.37	69	27-106	OK	
4	Terphenyl-d14	8.90	0.00	0.00	244	128090	129.98	65	35-109	OK	

Target Compounds

Final Conc. Units: ug/Kg Dry Weight

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	Final Conc	Q	Rpt?
1	Naphthalene	4.90		0.00	128	224139	362.23	180		
1	2-Methylnaphthalene	5.45		0.00	142	33367	74.86	38		
1	1-Methylnaphthalene	5.53		0.00	142	17838	41.72	21		
1	2,6-Dimethylnaphthalene	5.96	0.01	0.00	156	21159	51.65	26		
2	Acenaphthylene	6.18		0.00	152	79277	119.90	61		
2	Acenaphthene	6.33		0.00	154	24537**m**	62.48	32		
2	Dibenzofuran	6.47		0.00	168	32744	55.05	28		
2	2,3,5-Trimethylnaphthalene	6.63	-0.01	0.00	170	13071	31.17	16		
2	Fluorene	6.75		0.00	166	34876**m**	70.10	36		
3	Dibenzothiophene	7.44	-0.01	0.00	184	22924	32.09	16		
3	Phenanthrene	7.55		0.00	178	421806	493.29	250		
3	Anthracene	7.60		0.00	178	83882	102.08	52		
3	1-Methylphenanthrene	8.05		0.00	192	38394	57.68	29		
3	Fluoranthene	8.53		0.00	202	690897	695.05	350		

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Data File:	J:\MS11\DATA\111909\1119F053.D			**Instrument:**	MS11
Acqu Date:	11/20/2009 04:46	**Quant Date:**	11/20/2009 12:28	**Vial:**	41
Run Type:	SMPL			**Dilution:**	1.0
Lab ID:	K0909140-002			**Soln Conc. Units:**	ng/ml

Target Compounds **Final Conc. Units:** ug/Kg Dry Weight

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	Final Conc	Q	Rpt?
4	Pyrene	8.75	0.01	0.00	202	823408	652.27	330		
4	Benz(a)anthracene	10.26	0.01	0.00	228	303538	249.60	130		
4	Chrysene	10.32	0.01	0.00	228	393640	338.95	170		
5	Benzo(b)fluoranthene	12.65	0.01	0.00	252	570856	391.45	200		
5	Benzo(k)fluoranthene	12.73		0.00	252	172393	124.75	63		
5	Benzo(e)pyrene	13.49		0.00	252	377323	282.33	140		
5	Benzo(a)pyrene	13.66		0.00	252	493378	384.03	190		
5	Perylene	13.95		0.00	252	268664	211.75	110		
5	Indeno(1,2,3-cd)pyrene	16.99		0.00	276	422149	356.47	180		
5	Dibenz(a,h)anthracene	17.06	-0.01	0.00	278	61021	49.45	25		
5	Benzo(g,h,i)perylene	17.42	0.01	0.00	276	605340	452.31	230		

Prep Amount:	20.23 g	**Dilution:**	1.0
Prep Final Vol:	10 ml	**Unit Factor:**	1
Solids:	97.5 %		

Final Concentration = ((Soln Conc x Prep Final Vol x Dilution) / (Prep Amount x Solids)) x Unit Factor

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Quantitation Report

Bottle ID:		**Tier:**	V	**Matrix:**	SEDIMENT
Prod Code:	8270C SIM PAH_S	**Collect Date:**	09/28/2009	**Receive Date:**	09/29/2009

Analysis Lot:	KWG0910976	**Prep Lot:**	KWG0910535	**Report Group:**	K0909140
Analysis Method:	8270C SIM	**Prep Method:**	EPA 3541		
Prep Ref:	865756	**Prep Date:**	11/10/2009		

Quant Method:	J:\MS11\METHODS\SIM\1119ALK.M	**Calibration ID:**	CAL9029
Title:	Polynuclear Aromatic Hydrocarbons	**Report List ID:**	LJ11248
Tune Ref:	J:\MS11\DATA\111909\1119F038.D	**Method ID:**	MJ253
MB Ref:	J:\MS11\DATA\111909\1119F041.D	**Quant based on Report List**	

Data File:	J:\MS11\DATA\111909\1119F054.D			**Instrument:**	MS11
Acqu Date:	11/20/2009 05:12	**Quant Date:**	11/20/2009 12:30	**Vial:**	42
Run Type:	SMPL			**Dilution:**	1.0
Lab ID:	K0909140-003			**Soln Conc. Units:**	ng/ml

Internal Standard Compounds

IS Ref	Parameter Name	RT	RT Dev	Quant Mass	Response	Solution Conc	Area Criteria
1	Naphthalene-d8	4.88	0.00	136	142265	200.00	OK
2	Acenaphthene-d10	6.30	0.00	164	79570	200.00	OK
3	Phenanthrene-d10	7.53	-0.01	188	155659	200.00	OK
4	Chrysene-d12	10.27	0.00	240	235776	200.00	OK
5	Perylene-d12	13.86	0.00	264	271932	200.00	OK

Surrogate Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	%Rec	%Rec Limits		Rpt?
2	Fluorene-d10	6.72	0.00	0.00	176	50970	114.08	57	17-104	OK	
3	Fluoranthene-d10	8.51	-0.01	0.00	212	104587	111.13	56	27-106	OK	
4	Terphenyl-d14	8.90	0.00	0.00	244	100997	103.48	52	35-109	OK	

Target Compounds

Final Conc. Units: ug/Kg Dry Weight

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	Final Conc	Q	Rpt?
1	Naphthalene	4.90		0.00	128	186044	297.30	150		
1	2-Methylnaphthalene	5.45		0.00	142	36596	81.18	41		
1	1-Methylnaphthalene	5.53		0.00	142	20519	47.45	24		
1	2,6-Dimethylnaphthalene	5.96	0.01	0.00	156	21073	50.86	26		
2	Acenaphthylene	6.18		0.00	152	54112	82.76	42		
2	Acenaphthene	6.32	-0.01	0.00	154	26667**m**	68.66	35		
2	Dibenzofuran	6.47		0.00	168	29992	50.98	26		
2	2,3,5-Trimethylnaphthalene	6.63	-0.01	0.00	170	12486	30.10	15		
2	Fluorene	6.75		0.00	166	34488**m**	70.09	36		
3	Dibenzothiophene	7.45		0.00	184	24906	35.92	18		
3	Phenanthrene	7.55		0.00	178	391783	472.09	240		
3	Anthracene	7.60		0.00	178	68118	85.41	44		
3	1-Methylphenanthrene	8.05		0.00	192	43669	67.59	35		
3	Fluoranthene	8.53		0.00	202	647266	670.92	340		

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Data File:	J:\MS11\DATA\111909\1119F054.D			**Instrument:**	MS11
Acqu Date:	11/20/2009 05:12	**Quant Date:**	11/20/2009 12:30	**Vial:**	42
Run Type:	SMPL			**Dilution:**	1.0
Lab ID:	K0909140-003			**Soln Conc. Units:**	ng/ml

Target Compounds

Final Conc. Units: ug/Kg Dry Weight

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	Final Conc	Q	Rpt?
4	Pyrene	8.75	0.01	0.00	202	802202	641.59	330		
4	Benz(a)anthracene	10.25		0.00	228	293655	243.80	120		
4	Chrysene	10.31		0.00	228	398821	346.72	180		
5	Benzo(b)fluoranthene	12.64		0.00	252	544128	384.02	200		
5	Benzo(k)fluoranthene	12.73		0.00	252	160478	119.52	61		
5	Benzo(e)pyrene	13.49		0.00	252	360169	277.37	140		
5	Benzo(a)pyrene	13.66		0.00	252	470455	376.89	190		
5	Perylene	13.94	-0.01	0.00	252	203864	165.37	85		
5	Indeno(1,2,3-cd)pyrene	16.99		0.00	276	386159	335.61	170		
5	Dibenz(a,h)anthracene	17.06	-0.01	0.00	278	57832	48.23	25		
5	Benzo(g,h,i)perylene	17.42	0.01	0.00	276	541991	416.81	210		

Prep Amount:	20.03 g	**Dilution:**	1.0
Prep Final Vol:	10 ml	**Unit Factor:**	1
Solids:	97.7 %		

Final Concentration = ((Soln Conc x Prep Final Vol x Dilution) / (Prep Amount x Solids)) x Unit Factor

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Quantitation Report

Bottle ID:		**Tier:**	V	**Matrix:**	SEDIMENT
Prod Code:	8270C SIM PAH_S	**Collect Date:**	10/07/2009	**Receive Date:**	10/08/2009

Analysis Lot:	KWG0910976	**Prep Lot:**	KWG0910535	**Report Group:**	K0909140
Analysis Method:	8270C SIM	**Prep Method:**	EPA 3541		
Prep Ref:	865757	**Prep Date:**	11/10/2009		

Quant Method:	J:\MS11\METHODS\SIM\1119ALK.M	**Calibration ID:**	CAL9029
Title:	Polynuclear Aromatic Hydrocarbons	**Report List ID:**	LJ11248
Tune Ref:	J:\MS11\DATA\111909\1119F038.D	**Method ID:**	MJ253
MB Ref:	J:\MS11\DATA\111909\1119F041.D	**Quant based on Report List**	

Data File:	J:\MS11\DATA\111909\1119F055.D			**Instrument:**	MS11
Acqu Date:	11/20/2009 05:39	**Quant Date:**	11/20/2009 12:31	**Vial:**	43
Run Type:	SMPL			**Dilution:**	1.0
Lab ID:	K0909140-004			**Soln Conc. Units:**	ng/ml

Internal Standard Compounds

IS Ref	Parameter Name	RT	RT Dev	Quant Mass	Response	Solution Conc	Area Criteria
1	Naphthalene-d8	4.88	0.00	136	146349	200.00	OK
2	Acenaphthene-d10	6.30	0.00	164	83463	200.00	OK
3	Phenanthrene-d10	7.54	0.00	188	160777	200.00	OK
4	Chrysene-d12	10.27	0.00	240	269522	200.00	OK
5	Perylene-d12	13.87	0.01	264	315722	200.00	OK

Surrogate Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	%Rec	%Rec Limits		Rpt?
2	Fluorene-d10	6.73	0.01	0.00	176	61645	131.54	66	17-104	OK	
3	Fluoranthene-d10	8.52	0.00	0.00	212	134702	138.58	69	27-106	OK	
4	Terphenyl-d14	8.90	0.00	0.00	244	125455	112.44	56	35-109	OK	

Target Compounds

Final Conc. Units: ug/Kg Dry Weight

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	Final Conc	Q	Rpt?
1	Naphthalene	4.89	-0.01	0.00	128	615528	956.16	490		
1	2-Methylnaphthalene	5.45		0.00	142	142756	307.85	160		
1	1-Methylnaphthalene	5.53		0.00	142	58077	130.56	68		
1	2,6-Dimethylnaphthalene	5.96	0.01	0.00	156	65956	154.76	80		
2	Acenaphthylene	6.18		0.00	152	69213	100.91	52		
2	Acenaphthene	6.32	-0.01	0.00	154	90211	221.44	110		
2	Dibenzofuran	6.47		0.00	168	188236	305.07	160		
2	2,3,5-Trimethylnaphthalene	6.63	-0.01	0.00	170	31960	73.46	38		
2	Fluorene	6.75		0.00	166	134162**m**	259.95	130		
3	Dibenzothiophene	7.45		0.00	184	67226	93.88	49		
3	Phenanthrene	7.56	0.01	0.00	178	1027059	1,198	620		
3	Anthracene	7.59	-0.01	0.00	178	198483	240.96	120		
3	1-Methylphenanthrene	8.05		0.00	192	84408	126.49	65		
3	Fluoranthene	8.54	0.01	0.00	202	1400042	1,405	730		

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Data File:	J:\MS11\DATA\111909\1119F055.D			**Instrument:**	MS11
Acqu Date:	11/20/2009 05:39	**Quant Date:**	11/20/2009 12:31	**Vial:**	43
Run Type:	SMPL			**Dilution:**	1.0
Lab ID:	K0909140-004			**Soln Conc. Units:**	ng/ml

Target Compounds

Final Conc. Units: ug/Kg Dry Weight

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	Final Conc	Q	Rpt?
4	Pyrene	8.74		0.00	202	1333714	933.12	480		
4	Benz(a)anthracene	10.25		0.00	228	501628	364.32	190		
4	Chrysene	10.32	0.01	0.00	228	720983	548.31	280		
5	Benzo(b)fluoranthene	12.66	0.02	0.00	252	913081	555.04	290		
5	Benzo(k)fluoranthene	12.74	0.01	0.00	252	290873	186.59	96		
5	Benzo(e)pyrene	13.50	0.01	0.00	252	530329	351.77	180		
5	Benzo(a)pyrene	13.67	0.01	0.00	252	610702	421.38	220		
5	Perylene	13.96	0.01	0.00	252	304174	212.52	110		
5	Indeno(1,2,3-cd)pyrene	17.00	0.01	0.00	276	463134	346.68	180		
5	Dibenz(a,h)anthracene	17.07		0.00	278	83507	59.99	31		
5	Benzo(g,h,i)perylene	17.42	0.01	0.00	276	594984	394.10	200		

Prep Amount: 20.21 g
Prep Final Vol: 10 ml
Solids: 95.7 %
Dilution: 1.0
Unit Factor: 1

Final Concentration = ((Soln Conc x Prep Final Vol x Dilution) / (Prep Amount x Solids)) x Unit Factor

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Quantitation Report

Bottle ID:		**Tier:**	V	**Matrix:**	SEDIMENT
Prod Code:	8270C SIM PAH_S	**Collect Date:**	10/06/2009	**Receive Date:**	10/07/2009

Analysis Lot:	KWG0911040	**Prep Lot:**	KWG0910535	**Report Group:**	K0909140
Analysis Method:	8270C SIM	**Prep Method:**	EPA 3541		
Prep Ref:	865758	**Prep Date:**	11/10/2009		

Quant Method:	J:\MS11\METHODS\SIM\1119ALK.M	**Calibration ID:**	CAL9029
Title:	Polynuclear Aromatic Hydrocarbons	**Report List ID:**	LJ11248
Tune Ref:	J:\MS11\DATA\112009\1120F030.D	**Method ID:**	MJ253
MB Ref:	J:\MS11\DATA\111909\1119F041.D	**Quant based on Report List**	

Data File:	J:\MS11\DATA\112009\1120F033.D			**Instrument:**	MS11
Acqu Date:	11/21/2009 00:19	**Quant Date:**	11/23/2009 08:39	**Vial:**	30
Run Type:	SMPL			**Dilution:**	1.0
Lab ID:	K0909140-005			**Soln Conc. Units:**	ng/ml

Internal Standard Compounds

IS Ref	Parameter Name	RT	RT Dev	Quant Mass	Response	Solution Conc	Area Criteria
1	Naphthalene-d8	4.87	0.00	136	172578	200.00	OK
2	Acenaphthene-d10	6.29	0.00	164	99155	200.00	OK
3	Phenanthrene-d10	7.53	0.01	188	194970	200.00	OK
4	Chrysene-d12	10.26	0.01	240	287442	200.00	OK
5	Perylene-d12	13.84	0.02	264	319971	200.00	OK

Surrogate Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	%Rec	%Rec Limits		Rpt?
2	Fluorene-d10	6.72	0.00	0.00	176	41440**m**	74.43	37	17-104	OK	
3	Fluoranthene-d10	8.51	0.01	0.00	212	66867**m**	56.73	28	27-106	OK	
4	Terphenyl-d14	8.89	0.00	0.00	244	65594	55.12	28	35-109	*	

Target Compounds

Final Conc. Units: ug/Kg Dry Weight

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	Final Conc	Q	Rpt?
1	Naphthalene	4.88	-0.01	0.00	128	638109	840.59	440		
1	2-Methylnaphthalene	5.44		0.00	142	277602	507.66	270		
1	1-Methylnaphthalene	5.52		0.00	142	217824	415.26	220		
1	2,6-Dimethylnaphthalene	5.94		0.00	156	492315	979.60	520		
2	Acenaphthylene	6.17	-0.01	0.00	152	202321	248.30	130		
2	Acenaphthene	6.32		0.00	154	118658	245.17	130		
2	Dibenzofuran	6.46		0.00	168	115874	158.07	84		
2	2,3,5-Trimethylnaphthalene	6.63		0.00	170	613791	1,188	630		
2	Fluorene	6.74		0.00	166	194792	317.69	170		
3	Dibenzothiophene	7.44		0.00	184	191129	220.10	120		
3	Phenanthrene	7.55	0.01	0.00	178	1420199	1,366	720		
3	Anthracene	7.59		0.00	178	180650	180.85	96		
3	1-Methylphenanthrene	8.04		0.00	192	433772**m**	536.05	280		
3	Fluoranthene	8.53	0.01	0.00	202	1185617	981.15	520		

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Data File:	J:\MS11\DATA\112009\1120F033.D			**Instrument:**	MS11
Acqu Date:	11/21/2009 00:19	**Quant Date:**	11/23/2009 08:39	**Vial:**	30
Run Type:	SMPL			**Dilution:**	1.0
Lab ID:	K0909140-005			**Soln Conc. Units:**	ng/ml

Target Compounds

Final Conc. Units: ug/Kg Dry Weight

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	Final Conc	Q	Rpt?
4	Pyrene	8.74	0.01	0.00	202	1517601	995.58	530		
4	Benz(a)anthracene	10.24	0.01	0.00	228	342082	232.96	120		
4	Chrysene	10.30	0.01	0.00	228	367899**m**	262.35	140		
5	Benzo(b)fluoranthene	12.63	0.01	0.00	252	401042	240.55	130		
5	Benzo(k)fluoranthene	12.71	0.01	0.00	252	103583	65.56	35		
5	Benzo(e)pyrene	13.46	0.02	0.00	252	327894	214.60	110		
5	Benzo(a)pyrene	13.64	0.03	0.00	252	278063	189.31	100		
5	Perylene	13.93	0.02	0.00	252	131941	90.96	48		
5	Indeno(1,2,3-cd)pyrene	16.99	0.01	0.00	276	166166	122.73	65		
5	Dibenz(a,h)anthracene	17.05		0.00	278	37135	26.32	14		
5	Benzo(g,h,i)perylene	17.41	0.02	0.00	276	280170**m**	183.11	97		

Prep Amount:	20.42 g	**Dilution:**	1.0
Prep Final Vol:	10 ml	**Unit Factor:**	1
Solids:	92.7 %		

Final Concentration = ((Soln Conc x Prep Final Vol x Dilution) / (Prep Amount x Solids)) x Unit Factor

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Quantitation Report

Bottle ID:		**Tier:**	V	**Matrix:**	SEDIMENT
Prod Code:	8270C SIM PAH_S	**Collect Date:**	10/06/2009	**Receive Date:**	10/07/2009

Analysis Lot:	KWG0910827	**Prep Lot:**	KWG0910535	**Report Group:**	K0909140
Analysis Method:	8270C SIM	**Prep Method:**	EPA 3541		
Prep Ref:	865759	**Prep Date:**	11/10/2009		

Quant Method:	J:\MS11\METHODS\SIM\1015ALK.M	**Calibration ID:**	CAL8928
Title:	Polynuclear Aromatic Hydrocarbons	**Report List ID:**	LJ11248
Tune Ref:	J:\MS11\DATA\111609\1116F001.D	**Method ID:**	MJ253
MB Ref:	J:\MS11\DATA\111609\1116F004.D	**Quant based on Report List**	

Data File:	J:\MS11\DATA\111609\1116F014.D			**Instrument:**	MS11
Acqu Date:	11/16/2009 12:57	**Quant Date:**	11/18/2009 08:06	**Vial:**	12
Run Type:	SMPL			**Dilution:**	1.0
Lab ID:	K0909140-006			**Soln Conc. Units:**	ng/ml

Internal Standard Compounds

IS Ref	Parameter Name	RT	RT Dev	Quant Mass	Response	Solution Conc	Area Criteria
1	Naphthalene-d8	4.63	0.01	136	182034	200.00	OK
2	Acenaphthene-d10	6.04	0.00	164	104004	200.00	OK
3	Phenanthrene-d10	7.26	0.00	188	181539	200.00	OK
4	Chrysene-d12	9.76	0.01	240	273722	200.00	OK
5	Perylene-d12	12.78	0.03	264	302982	200.00	OK

Surrogate Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	%Rec	%Rec Limits		Rpt?
2	Fluorene-d10	6.47	0.01	0.00	176	62474**m**	128.75	64	17-104	OK	
3	Fluoranthene-d10	8.24	0.01	0.00	212	140691**m**	139.85	70	27-106	OK	
4	Terphenyl-d14	8.59	0.02	0.00	244	99180	87.65	44	35-109	OK	

Target Compounds

Final Conc. Units: ug/Kg Dry Weight

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	Final Conc	Q	Rpt?
1	Naphthalene	4.64		0.00	128	1304559	1,557	790		
1	2-Methylnaphthalene	5.20		0.00	142	667590	1,156	590		
1	1-Methylnaphthalene	5.28		0.00	142	302545	492.93	250		
1	2,6-Dimethylnaphthalene	5.77		0.00	156	1498377	3,301	1700	E	
2	Acenaphthylene	5.93		0.00	152	390570	432.76	220		
2	Acenaphthene	6.07	0.01	0.00	154	180513	335.48	170		
2	Dibenzofuran	6.22	0.01	0.00	168	200131	276.51	140		
2	2,3,5-Trimethylnaphthalene	6.38		0.00	170	1136961	2,515	1300	E	
2	Fluorene	6.49		0.00	166	281583**m**	485.37	250		
3	Dibenzothiophene	7.18		0.00	184	322325**m**	351.19	180		
3	Phenanthrene	7.28		0.00	178	2161098	2,123	1100	E	NR
3	Anthracene	7.33	0.01	0.00	178	385145**m**	395.61	200		
3	1-Methylphenanthrene	7.78	0.01	0.00	192	795532**m**	1,091	550		
3	Fluoranthene	8.25		0.00	202	1663747	1,488	750		

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Data File:	J:\MS11\DATA\111609\1116F014.D			**Instrument:**	MS11
Acqu Date:	11/16/2009 12:57	**Quant Date:**	11/18/2009 08:06	**Vial:**	12
Run Type:	SMPL			**Dilution:**	1.0
Lab ID:	K0909140-006			**Soln Conc. Units:**	ng/ml

Target Compounds

Final Conc. Units: ug/Kg Dry Weight

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	Final Conc	Q	Rpt?
4	Pyrene	8.44	0.01	0.00	202	2232720**m**	1,490	750		NR
4	Benz(a)anthracene	9.75	0.02	0.00	228	640762	430.70	220		
4	Chrysene	9.80	0.02	0.00	228	904270	624.01	320		
5	Benzo(b)fluoranthene	11.78	0.03	0.00	252	699561	442.61	220		
5	Benzo(k)fluoranthene	11.83	0.02	0.00	252	219428**m**	140.92	71		
5	Benzo(e)pyrene	12.47	0.04	0.00	252	625343	422.49	210		
5	Benzo(a)pyrene	12.61	0.02	0.00	252	560170	374.22	190		
5	Perylene	12.86	0.03	0.00	252	292942	199.64	100		
5	Indeno(1,2,3-cd)pyrene	16.34	0.03	0.00	276	294798**m**	214.67	110		
5	Dibenz(a,h)anthracene	16.40	0.01	0.00	278	65576	44.32	22		
5	Benzo(g,h,i)perylene	16.82	0.02	0.00	276	525027	331.94	170		

Prep Amount:	20.21 g	**Dilution:**	1.0
Prep Final Vol:	10 ml	**Unit Factor:**	1
Solids:	97.8 %		

Final Concentration = ((Soln Conc x Prep Final Vol x Dilution) / (Prep Amount x Solids)) x Unit Factor

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Quantitation Report

Bottle ID:		**Tier:**	V	**Matrix:**	SEDIMENT
Prod Code:	8270C SIM PAH_S	**Collect Date:**	10/06/2009	**Receive Date:**	10/07/2009

Analysis Lot:	KWG0910855	**Prep Lot:**	KWG0910535	**Report Group:**	K0909140
Analysis Method:	8270C SIM	**Prep Method:**	EPA 3541		
Prep Ref:	865759	**Prep Date:**	11/10/2009		

Quant Method:	J:\MS11\METHODS\SIM\1015ALK.M	**Calibration ID:**	CAL8928
Title:	Polynuclear Aromatic Hydrocarbons	**Report List ID:**	LJ11248
Tune Ref:	J:\MS11\DATA\111609\1116F032.D	**Method ID:**	MJ253
MB Ref:	J:\MS11\DATA\111609\1116F004.D	**Quant based on Report List**	

Data File:	J:\MS11\DATA\111609\1116F055.D			**Instrument:**	MS11
Acqu Date:	11/17/2009 07:04	**Quant Date:**	11/18/2009 12:49	**Vial:**	3
Run Type:	DL			**Dilution:**	10.0
Lab ID:	K0909140-006			**Soln Conc. Units:**	ng/ml

Internal Standard Compounds

IS Ref	Parameter Name	RT	RT Dev	Quant Mass	Response	Solution Conc	Area Criteria
1	Naphthalene-d8	4.62	-0.01	136	156946	200.00	OK
2	Acenaphthene-d10	6.04	-0.01	164	80795	200.00	OK
3	Phenanthrene-d10	7.26	-0.01	188	158590	200.00	OK
4	Chrysene-d12	9.75	-0.01	240	255111	200.00	OK
5	Perylene-d12	12.76	-0.02	264	254558	200.00	OK

Surrogate Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	%Rec	%Rec Limits		Rpt?
2	Fluorene-d10	6.47	0.00	0.00	176	5017**m**	13.31	67	17-104	OK	NR
3	Fluoranthene-d10	8.24	0.00	0.00	212	13995**m**	15.92	80	27-106	OK	NR
4	Terphenyl-d14	8.58	0.00	0.00	244	14914	14.14	71	35-109	OK	NR

Target Compounds

Final Conc. Units: ug/Kg Dry Weight

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	Final Conc	Q	Rpt?
1	Naphthalene	4.64	-0.01	0.00	128	135310	187.35	950	D	NR
1	2-Methylnaphthalene	5.20	-0.01	0.00	142	59452	119.44	600	D	NR
1	1-Methylnaphthalene	5.28	-0.01	0.00	142	25617	48.41	240	D	NR
1	2,6-Dimethylnaphthalene	5.77	-0.01	0.00	156	139863	357.38	1800	D	NR
2	Acenaphthylene	5.93		0.00	152	34329	48.96	250	D	NR
2	Acenaphthene	6.07		0.00	154	15289	36.58	190	D	NR
2	Dibenzofuran	6.22		0.00	168	18374	32.68	170	D	NR
2	2,3,5-Trimethylnaphthalene	6.38	-0.01	0.00	170	99134	282.32	1400	D	NR
2	Fluorene	6.49	-0.01	0.00	166	25474**m**	56.52	290	D	NR
3	Dibenzothiophene	7.18	-0.01	0.00	184	29164**m**	36.37	180	D	NR
3	Phenanthrene	7.28	-0.01	0.00	178	240345	270.22	1400	D	
3	Anthracene	7.33		0.00	178	37089	43.61	220	D	NR
3	1-Methylphenanthrene	7.78	-0.01	0.00	192	76956	120.83	610	D	NR
3	Fluoranthene	8.25		0.00	202	190235	194.70	990	D	NR

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Data File:	J:\MS11\DATA\111609\1116F055.D			**Instrument:**	MS11
Acqu Date:	11/17/2009 07:04	**Quant Date:**	11/18/2009 12:49	**Vial:**	3
Run Type:	DL			**Dilution:**	10.0
Lab ID:	K0909140-006			**Soln Conc. Units:**	ng/ml

Target Compounds

Final Conc. Units: ug/Kg Dry Weight

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	Final Conc	Q	Rpt?
4	Pyrene	8.44		0.00	202	272856**m**	195.33	990	D	
4	Benz(a)anthracene	9.74	-0.01	0.00	228	70616	50.93	260	D	NR
4	Chrysene	9.79	-0.01	0.00	228	94476	69.95	350	D	NR
5	Benzo(b)fluoranthene	11.76	-0.01	0.00	252	68941	51.92	260	D	NR
5	Benzo(k)fluoranthene	11.83	-0.01	0.00	252	19370	14.81	75	D	NR
5	Benzo(e)pyrene	12.45	-0.01	0.00	252	55477	44.61	230	D	NR
5	Benzo(a)pyrene	12.60	-0.01	0.00	252	49972	39.73	200	D	NR
5	Perylene	12.84	-0.01	0.00	252	24267	19.68	100	D	NR
5	Indeno(1,2,3-cd)pyrene	16.33		0.00	276	27699	24.01	120	D	NR
5	Dibenz(a,h)anthracene	16.41		0.00	278	9122	7.34	37	D	NR
5	Benzo(g,h,i)perylene	16.81	-0.01	0.00	276	50240	37.81	190	D	NR

Prep Amount:	20.21 g	**Dilution:**	10.0
Prep Final Vol:	10 ml	**Unit Factor:**	1
Solids:	97.8 %		

Final Concentration = ((Soln Conc x Prep Final Vol x Dilution) / (Prep Amount x Solids)) x Unit Factor

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Quantitation Report

Bottle ID:		**Tier:**	V	**Matrix:**	SEDIMENT
Prod Code:	8270C SIM PAH_S	**Collect Date:**	10/05/2009	**Receive Date:**	10/06/2009

Analysis Lot:	KWG0911040	**Prep Lot:**	KWG0910535	**Report Group:**	K0909140
Analysis Method:	8270C SIM	**Prep Method:**	EPA 3541		
Prep Ref:	865760	**Prep Date:**	11/10/2009		

Quant Method:	J:\MS11\METHODS\SIM\1119ALK.M	**Calibration ID:**	CAL9029
Title:	Polynuclear Aromatic Hydrocarbons	**Report List ID:**	LJ11248
Tune Ref:	J:\MS11\DATA\112009\1120F030.D	**Method ID:**	MJ253
MB Ref:	J:\MS11\DATA\111909\1119F041.D	**Quant based on Report List**	

Data File:	J:\MS11\DATA\112009\1120F034.D			**Instrument:**	MS11
Acqu Date:	11/21/2009 00:46	**Quant Date:**	11/23/2009 08:40	**Vial:**	31
Run Type:	SMPL			**Dilution:**	1.0
Lab ID:	K0909140-007			**Soln Conc. Units:**	ng/ml

Internal Standard Compounds

IS Ref	Parameter Name	RT	RT Dev	Quant Mass	Response	Solution Conc	Area Criteria
1	Naphthalene-d8	4.86	-0.01	136	157091	200.00	OK
2	Acenaphthene-d10	6.29	0.00	164	88205	200.00	OK
3	Phenanthrene-d10	7.52	0.00	188	178607	200.00	OK
4	Chrysene-d12	10.25	0.00	240	293029	200.00	OK
5	Perylene-d12	13.83	0.01	264	344117	200.00	OK

Surrogate Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	%Rec	%Rec Limits		Rpt?
2	Fluorene-d10	6.72	0.00	0.00	176	71757	144.89	72	17-104	OK	
3	Fluoranthene-d10	8.50	0.00	0.00	212	160921	149.02	75	27-106	OK	
4	Terphenyl-d14	8.89	0.00	0.00	244	158296	130.49	65	35-109	OK	

Target Compounds

Final Conc. Units: ug/Kg Dry Weight

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	Final Conc	Q	Rpt?
1	Naphthalene	4.88	-0.01	0.00	128	443356	641.62	320		
1	2-Methylnaphthalene	5.43	-0.01	0.00	142	68696	138.01	69		
1	1-Methylnaphthalene	5.52		0.00	142	35304	73.94	37		
1	2,6-Dimethylnaphthalene	5.95	0.01	0.00	156	42704	93.35	46		
2	Acenaphthylene	6.17	-0.01	0.00	152	112930	155.80	77		
2	Acenaphthene	6.31	-0.01	0.00	154	46465	107.92	54		
2	Dibenzofuran	6.46		0.00	168	57775	88.60	44		
2	2,3,5-Trimethylnaphthalene	6.63		0.00	170	28195	61.32	30		
2	Fluorene	6.74		0.00	166	63689**m**	116.77	58		
3	Dibenzothiophene	7.43	-0.01	0.00	184	56619	71.17	35		
3	Phenanthrene	7.54		0.00	178	779729	818.83	410		
3	Anthracene	7.59		0.00	178	141068	154.16	77		
3	1-Methylphenanthrene	8.04		0.00	192	67712	91.34	45		
3	Fluoranthene	8.52		0.00	202	1238295	1,119	560		

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Data File:	J:\MS11\DATA\112009\1120F034.D			**Instrument:**	MS11
Acqu Date:	11/21/2009 00:46	**Quant Date:**	11/23/2009 08:40	**Vial:**	31
Run Type:	SMPL			**Dilution:**	1.0
Lab ID:	K0909140-007			**Soln Conc. Units:**	ng/ml

Target Compounds

Final Conc. Units: ug/Kg Dry Weight

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	Final Conc	Q	Rpt?
4	Pyrene	8.74	0.01	0.00	202	1494291	961.60	480		
4	Benz(a)anthracene	10.23		0.00	228	495655	331.10	160		
4	Chrysene	10.29		0.00	228	647307	452.79	220		
5	Benzo(b)fluoranthene	12.63	0.01	0.00	252	902475	503.32	250		
5	Benzo(k)fluoranthene	12.70		0.00	252	282972	166.54	83		
5	Benzo(e)pyrene	13.46	0.02	0.00	252	598628	364.31	180		
5	Benzo(a)pyrene	13.63	0.02	0.00	252	749843	474.70	240		
5	Perylene	13.92	0.01	0.00	252	374546	240.10	120		
5	Indeno(1,2,3-cd)pyrene	16.99	0.01	0.00	276	581998	399.71	200		
5	Dibenz(a,h)anthracene	17.05		0.00	278	89263	58.83	29		
5	Benzo(g,h,i)perylene	17.40	0.01	0.00	276	809205	491.76	240		

Prep Amount:	20.51 g	**Dilution:**	1.0
Prep Final Vol:	10 ml	**Unit Factor:**	1
Solids:	98.2 %		

Final Concentration = ((Soln Conc x Prep Final Vol x Dilution) / (Prep Amount x Solids)) x Unit Factor

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Quantitation Report

Bottle ID:		**Tier:**	V	**Matrix:**	SEDIMENT
Prod Code:	8270C SIM PAH_S	**Collect Date:**	10/06/2009	**Receive Date:**	10/07/2009

Analysis Lot:	KWG0911040	**Prep Lot:**	KWG0910535	**Report Group:**	K0909140
Analysis Method:	8270C SIM	**Prep Method:**	EPA 3541		
Prep Ref:	865761	**Prep Date:**	11/10/2009		

Quant Method:	J:\MS11\METHODS\SIM\1119ALK.M	**Calibration ID:**	CAL9029
Title:	Polynuclear Aromatic Hydrocarbons	**Report List ID:**	LJ11248
Tune Ref:	J:\MS11\DATA\112009\1120F030.D	**Method ID:**	MJ253
MB Ref:	J:\MS11\DATA\111909\1119F041.D	**Quant based on Report List**	

Data File:	J:\MS11\DATA\112009\1120F035.D			**Instrument:**	MS11
Acqu Date:	11/21/2009 01:13	**Quant Date:**	11/23/2009 08:41	**Vial:**	32
Run Type:	SMPL			**Dilution:**	1.0
Lab ID:	K0909140-008			**Soln Conc. Units:**	ng/ml

Internal Standard Compounds

IS Ref	Parameter Name	RT	RT Dev	Quant Mass	Response	Solution Conc	Area Criteria
1	Naphthalene-d8	4.87	0.00	136	158935	200.00	OK
2	Acenaphthene-d10	6.29	0.00	164	90951	200.00	OK
3	Phenanthrene-d10	7.52	0.00	188	184759	200.00	OK
4	Chrysene-d12	10.26	0.01	240	323764	200.00	OK
5	Perylene-d12	13.83	0.01	264	365986	200.00	OK

Surrogate Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	%Rec	%Rec Limits		Rpt?
2	Fluorene-d10	6.72	0.00	0.00	176	59161	115.85	58	17-104	OK	
3	Fluoranthene-d10	8.51	0.01	0.00	212	141724	126.88	63	27-106	OK	
4	Terphenyl-d14	8.89	0.00	0.00	244	156035	116.42	58	35-109	OK	

Target Compounds

Final Conc. Units: ug/Kg Dry Weight

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	Final Conc	Q	Rpt?
1	Naphthalene	4.88	-0.01	0.00	128	977716	1,399	770		
1	2-Methylnaphthalene	5.44		0.00	142	220097	437.05	240		
1	1-Methylnaphthalene	5.52		0.00	142	118161	244.60	130		
1	2,6-Dimethylnaphthalene	5.95	0.01	0.00	156	171408	370.34	200		
2	Acenaphthylene	6.18		0.00	152	335313	448.64	250		
2	Acenaphthene	6.32		0.00	154	90652	204.20	110		
2	Dibenzofuran	6.46		0.00	168	137399	204.34	110		
2	2,3,5-Trimethylnaphthalene	6.62	-0.01	0.00	170	102912	217.08	120		
2	Fluorene	6.74		0.00	166	134321**m**	238.83	130		
3	Dibenzothiophene	7.43	-0.01	0.00	184	85505	103.91	57		
3	Phenanthrene	7.54		0.00	178	1156603	1,174	640		
3	Anthracene	7.59		0.00	178	206085	217.71	120		
3	1-Methylphenanthrene	8.04		0.00	192	125210	163.28	90		
3	Fluoranthene	8.52		0.00	202	1580847	1,381	760		

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Data File:	J:\MS11\DATA\112009\1120F035.D			**Instrument:**	MS11
Acqu Date:	11/21/2009 01:13	**Quant Date:**	11/23/2009 08:41	**Vial:**	32
Run Type:	SMPL			**Dilution:**	1.0
Lab ID:	K0909140-008			**Soln Conc. Units:**	ng/ml

Target Compounds

Final Conc. Units: ug/Kg Dry Weight

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	Final Conc	Q	Rpt?
4	Pyrene	8.74	0.01	0.00	202	1774561	1,034	570		
4	Benz(a)anthracene	10.24	0.01	0.00	228	431254	260.74	140		
4	Chrysene	10.30	0.01	0.00	228	714972	452.64	250		
5	Benzo(b)fluoranthene	12.63	0.01	0.00	252	762786	400.00	220		
5	Benzo(k)fluoranthene	12.71	0.01	0.00	252	231220	127.95	70		
5	Benzo(e)pyrene	13.46	0.02	0.00	252	491420	281.19	150		
5	Benzo(a)pyrene	13.63	0.02	0.00	252	472590	281.30	150		
5	Perylene	13.93	0.02	0.00	252	273742	164.99	91		
5	Indeno(1,2,3-cd)pyrene	16.98		0.00	276	333876	215.60	120		
5	Dibenz(a,h)anthracene	17.06	0.01	0.00	278	72679	45.04	25		
5	Benzo(g,h,i)perylene	17.40	0.01	0.00	276	525160	300.08	160		

Prep Amount:	20.35 g	**Dilution:**	1.0
Prep Final Vol:	10 ml	**Unit Factor:**	1
Solids:	89.5 %		

Final Concentration = ((Soln Conc x Prep Final Vol x Dilution) / (Prep Amount x Solids)) x Unit Factor

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Quantitation Report

Bottle ID:		**Tier:**	V	**Matrix:**	SEDIMENT
Prod Code:	8270C SIM PAH_S	**Collect Date:**	10/07/2009	**Receive Date:**	10/08/2009

Analysis Lot:	KWG0911040	**Prep Lot:**	KWG0910535	**Report Group:**	K0909140
Analysis Method:	8270C SIM	**Prep Method:**	EPA 3541		
Prep Ref:	865762	**Prep Date:**	11/10/2009		

Quant Method:	J:\MS11\METHODS\SIM\1119ALK.M	**Calibration ID:**	CAL9029
Title:	Polynuclear Aromatic Hydrocarbons	**Report List ID:**	LJ11248
Tune Ref:	J:\MS11\DATA\112009\1120F030.D	**Method ID:**	MJ253
MB Ref:	J:\MS11\DATA\111909\1119F041.D	**Quant based on Report List**	

Data File:	J:\MS11\DATA\112009\1120F036.D			**Instrument:**	MS11
Acqu Date:	11/21/2009 01:39	**Quant Date:**	11/23/2009 08:47	**Vial:**	33
Run Type:	SMPL			**Dilution:**	1.0
Lab ID:	K0909140-009			**Soln Conc. Units:**	ng/ml

Internal Standard Compounds

IS Ref	Parameter Name	RT	RT Dev	Quant Mass	Response	Solution Conc	Area Criteria
1	Naphthalene-d8	4.87	0.00	136	145202	200.00	OK
2	Acenaphthene-d10	6.29	0.00	164	81042	200.00	OK
3	Phenanthrene-d10	7.52	0.00	188	164786	200.00	OK
4	Chrysene-d12	10.25	0.00	240	292465	200.00	OK
5	Perylene-d12	13.83	0.01	264	352887	200.00	OK

Surrogate Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	%Rec	%Rec Limits		Rpt?
2	Fluorene-d10	6.72	0.00	0.00	176	56494	124.15	62	17-104	OK	
3	Fluoranthene-d10	8.50	0.00	0.00	212	134766	135.27	68	27-106	OK	
4	Terphenyl-d14	8.89	0.00	0.00	244	131947	108.98	54	35-109	OK	

Target Compounds

Final Conc. Units: ug/Kg Dry Weight

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	Final Conc	Q	Rpt?
1	Naphthalene	4.88	-0.01	0.00	128	641189	1,004	550		
1	2-Methylnaphthalene	5.43	-0.01	0.00	142	117704	255.83	140		
1	1-Methylnaphthalene	5.52		0.00	142	51945	117.70	65		
1	2,6-Dimethylnaphthalene	5.95	0.01	0.00	156	58637	138.67	77		
2	Acenaphthylene	6.17	-0.01	0.00	152	64588	96.98	54		
2	Acenaphthene	6.31	-0.01	0.00	154	87778	221.90	120		
2	Dibenzofuran	6.46		0.00	168	161369	269.34	150		
2	2,3,5-Trimethylnaphthalene	6.63		0.00	170	29002	68.66	38		
2	Fluorene	6.74		0.00	166	129480**m**	258.37	140		
3	Dibenzothiophene	7.43	-0.01	0.00	184	68316	93.08	51		
3	Phenanthrene	7.54		0.00	178	955006	1,087	600		
3	Anthracene	7.59		0.00	178	195713	231.82	130		
3	1-Methylphenanthrene	8.04		0.00	192	78832	115.26	64		
3	Fluoranthene	8.52		0.00	202	1260162	1,234	680		

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Data File:	J:\MS11\DATA\112009\1120F036.D			**Instrument:**	MS11
Acqu Date:	11/21/2009 01:39	**Quant Date:**	11/23/2009 08:47	**Vial:**	33
Run Type:	SMPL			**Dilution:**	1.0
Lab ID:	K0909140-009			**Soln Conc. Units:**	ng/ml

Target Compounds

Final Conc. Units: ug/Kg Dry Weight

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	Final Conc	Q	Rpt?
4	Pyrene	8.74	0.01	0.00	202	1169079	753.77	420		
4	Benz(a)anthracene	10.23		0.00	228	375164	251.10	140		
4	Chrysene	10.29		0.00	228	532211	373.00	210		
5	Benzo(b)fluoranthene	12.63	0.01	0.00	252	643501	349.97	190		
5	Benzo(k)fluoranthene	12.70		0.00	252	196300	112.66	62		
5	Benzo(e)pyrene	13.46	0.02	0.00	252	370419	219.82	120		
5	Benzo(a)pyrene	13.63	0.02	0.00	252	417143	257.51	140		
5	Perylene	13.91		0.00	252	277493	173.46	96		
5	Indeno(1,2,3-cd)pyrene	16.98		0.00	276	326109	218.40	120		
5	Dibenz(a,h)anthracene	17.05		0.00	278	60781	39.06	22		
5	Benzo(g,h,i)perylene	17.40	0.01	0.00	276	425333	252.06	140		

Prep Amount:	19.99 g	**Dilution:**	1.0
Prep Final Vol:	10 ml	**Unit Factor:**	1
Solids:	90.5 %		

Final Concentration = ((Soln Conc x Prep Final Vol x Dilution) / (Prep Amount x Solids)) x Unit Factor

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Quantitation Report

Bottle ID:		**Tier:**	V	**Matrix:**	SEDIMENT
Prod Code:	8270C SIM PAH_S	**Collect Date:**	10/05/2009	**Receive Date:**	10/06/2009

Analysis Lot:	KWG0911040	**Prep Lot:**	KWG0910535	**Report Group:**	K0909140
Analysis Method:	8270C SIM	**Prep Method:**	EPA 3541		
Prep Ref:	865763	**Prep Date:**	11/10/2009		

Quant Method:	J:\MS11\METHODS\SIM\1119ALK.M	**Calibration ID:**	CAL9029
Title:	Polynuclear Aromatic Hydrocarbons	**Report List ID:**	LJ11248
Tune Ref:	J:\MS11\DATA\112009\1120F030.D	**Method ID:**	MJ253
MB Ref:	J:\MS11\DATA\111909\1119F041.D	**Quant based on Report List**	

Data File:	J:\MS11\DATA\112009\1120F037.D			**Instrument:**	MS11
Acqu Date:	11/21/2009 02:06	**Quant Date:**	11/23/2009 08:54	**Vial:**	34
Run Type:	SMPL			**Dilution:**	1.0
Lab ID:	K0909140-010			**Soln Conc. Units:**	ng/ml

Internal Standard Compounds

IS Ref	Parameter Name	RT	RT Dev	Quant Mass	Response	Solution Conc	Area Criteria
1	Naphthalene-d8	4.87	0.00	136	154311	200.00	OK
2	Acenaphthene-d10	6.29	0.00	164	85972	200.00	OK
3	Phenanthrene-d10	7.52	0.00	188	180412	200.00	OK
4	Chrysene-d12	10.26	0.01	240	329359	200.00	OK
5	Perylene-d12	13.84	0.02	264	373649	200.00	OK

Surrogate Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	%Rec	%Rec Limits		Rpt?
2	Fluorene-d10	6.72	0.00	0.00	176	65208	135.08	68	17-104	OK	
3	Fluoranthene-d10	8.51	0.01	0.00	212	153572	140.79	70	27-106	OK	
4	Terphenyl-d14	8.89	0.00	0.00	244	158264	116.08	58	35-109	OK	

Target Compounds

Final Conc. Units: ug/Kg Dry Weight

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	Final Conc	Q	Rpt?
1	Naphthalene	4.88	-0.01	0.00	128	652951	961.96	490		
1	2-Methylnaphthalene	5.44		0.00	142	97190	198.77	100		
1	1-Methylnaphthalene	5.52		0.00	142	48816	104.08	53		
1	2,6-Dimethylnaphthalene	5.95	0.01	0.00	156	54335	120.91	62		
2	Acenaphthylene	6.17	-0.01	0.00	152	219735	311.03	160		
2	Acenaphthene	6.32		0.00	154	66296**m**	157.99	81		
2	Dibenzofuran	6.46		0.00	168	91093	143.32	74		
2	2,3,5-Trimethylnaphthalene	6.63		0.00	170	35331	78.84	40		
2	Fluorene	6.74		0.00	166	93090**m**	175.11	90		
3	Dibenzothiophene	7.43	-0.01	0.00	184	63095	78.52	40		
3	Phenanthrene	7.54		0.00	178	1075668	1,118	570		
3	Anthracene	7.59		0.00	178	221964	240.14	120		
3	1-Methylphenanthrene	8.04		0.00	192	81143	108.37	56		
3	Fluoranthene	8.52		0.00	202	1813701	1,622	830		

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Data File:	J:\MS11\DATA\112009\1120F037.D			**Instrument:**	MS11
Acqu Date:	11/21/2009 02:06	**Quant Date:**	11/23/2009 08:54	**Vial:**	34
Run Type:	SMPL			**Dilution:**	1.0
Lab ID:	K0909140-010			**Soln Conc. Units:**	ng/ml

Target Compounds **Final Conc. Units:** ug/Kg Dry Weight

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	Final Conc	Q	Rpt?
4	Pyrene	8.74	0.01	0.00	202	2327886	1,333	680		
4	Benz(a)anthracene	10.24	0.01	0.00	228	790903	470.06	240		
4	Chrysene	10.30	0.01	0.00	228	959224	596.96	310		
5	Benzo(b)fluoranthene	12.63	0.01	0.00	252	1351121	693.98	360		
5	Benzo(k)fluoranthene	12.71	0.01	0.00	252	406420	220.29	110		
5	Benzo(e)pyrene	13.46	0.02	0.00	252	876809	491.42	250		
5	Benzo(a)pyrene	13.63	0.02	0.00	252	1168004	680.98	350		
5	Perylene	13.92	0.01	0.00	252	508967	300.48	150		
5	Indeno(1,2,3-cd)pyrene	16.99	0.01	0.00	276	843933	533.79	270		
5	Dibenz(a,h)anthracene	17.05		0.00	278	120756	73.30	38		
5	Benzo(g,h,i)perylene	17.41	0.02	0.00	276	1180376	660.63	340		

Prep Amount:	20.44 g	**Dilution:**	1.0
Prep Final Vol:	10 ml	**Unit Factor:**	1
Solids:	95.3 %		

Final Concentration = ((Soln Conc x Prep Final Vol x Dilution) / (Prep Amount x Solids)) x Unit Factor

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Quantitation Report

Bottle ID:		**Tier:**	V	**Matrix:**	SEDIMENT
Prod Code:	8270C SIM PAH_S	**Collect Date:**	10/09/2009	**Receive Date:**	10/09/2009

Analysis Lot:	KWG0911040	**Prep Lot:**	KWG0910535	**Report Group:**	K0909140
Analysis Method:	8270C SIM	**Prep Method:**	EPA 3541		
Prep Ref:	865764	**Prep Date:**	11/10/2009		

Quant Method:	J:\MS11\METHODS\SIM\1119ALK.M	**Calibration ID:**	CAL9029
Title:	Polynuclear Aromatic Hydrocarbons	**Report List ID:**	LJ11248
Tune Ref:	J:\MS11\DATA\112009\1120F030.D	**Method ID:**	MJ253
MB Ref:	J:\MS11\DATA\111909\1119F041.D	**Quant based on Report List**	

Data File:	J:\MS11\DATA\112009\1120F038.D			**Instrument:**	MS11
Acqu Date:	11/21/2009 02:32	**Quant Date:**	11/23/2009 08:54	**Vial:**	35
Run Type:	SMPL			**Dilution:**	1.0
Lab ID:	K0909140-011			**Soln Conc. Units:**	ng/ml

Internal Standard Compounds

IS Ref	Parameter Name	RT	RT Dev	Quant Mass	Response	Solution Conc	Area Criteria
1	Naphthalene-d8	4.86	-0.01	136	162367	200.00	OK
2	Acenaphthene-d10	6.29	0.00	164	89585	200.00	OK
3	Phenanthrene-d10	7.52	0.00	188	177508	200.00	OK
4	Chrysene-d12	10.25	0.00	240	302123	200.00	OK
5	Perylene-d12	13.82	0.00	264	355752	200.00	OK

Surrogate Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	%Rec	%Rec Limits		Rpt?
2	Fluorene-d10	6.72	0.00	0.00	176	61929	123.12	62	17-104	OK	
3	Fluoranthene-d10	8.50	0.00	0.00	212	138244	128.82	64	27-106	OK	
4	Terphenyl-d14	8.89	0.00	0.00	244	138490	110.73	55	35-109	OK	

Target Compounds

Final Conc. Units: ug/Kg Dry Weight

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	Final Conc	Q	Rpt?
1	Naphthalene	4.88	-0.01	0.00	128	15734	22.03	12		
1	2-Methylnaphthalene	5.43	-0.01	0.00	142	4647	9.03	4.8		
1	1-Methylnaphthalene	5.52		0.00	142	2261	4.58	2.4	J	
1	2,6-Dimethylnaphthalene	5.95	0.01	0.00	156	2398	5.07	2.7	J	
2	Acenaphthylene	6.17	-0.01	0.00	152	6832	9.28	4.9		
2	Acenaphthene	6.31	-0.01	0.00	154	2488	5.69	3.0		
2	Dibenzofuran	6.46		0.00	168	2320	3.50	1.8	J	
2	2,3,5-Trimethylnaphthalene				170	0**d**		0.55	U	
2	Fluorene	6.74		0.00	166	3747**m**	6.76	3.6		
3	Dibenzothiophene	7.43	-0.01	0.00	184	3151	3.99	2.1	J	
3	Phenanthrene	7.54		0.00	178	59258	62.62	33		
3	Anthracene	7.58	-0.01	0.00	178	15212	16.73	8.8		
3	1-Methylphenanthrene	8.04		0.00	192	5800	7.87	4.1		
3	Fluoranthene	8.52		0.00	202	144920	131.73	69		

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Data File:	J:\MS11\DATA\112009\1120F038.D			**Instrument:**	MS11
Acqu Date:	11/21/2009 02:32	**Quant Date:**	11/23/2009 08:54	**Vial:**	35
Run Type:	SMPL			**Dilution:**	1.0
Lab ID:	K0909140-011			**Soln Conc. Units:**	ng/ml

Target Compounds **Final Conc. Units:** ug/Kg Dry Weight

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	Final Conc	Q	Rpt?
4	Pyrene	8.73		0.00	202	193467	120.75	64		
4	Benz(a)anthracene	10.23		0.00	228	100817	65.32	34		
4	Chrysene	10.29		0.00	228	126930	86.11	45		
5	Benzo(b)fluoranthene	12.62		0.00	252	206226	111.25	59		
5	Benzo(k)fluoranthene	12.69	-0.01	0.00	252	65876	37.50	20		
5	Benzo(e)pyrene	13.45	0.01	0.00	252	121435	71.48	38		
5	Benzo(a)pyrene	13.61		0.00	252	171501	105.02	55		
5	Perylene	13.91		0.00	252	154260	95.65	50		
5	Indeno(1,2,3-cd)pyrene	16.97	-0.01	0.00	276	161137	107.05	56		
5	Dibenz(a,h)anthracene	17.04	-0.01	0.00	278	23533	15.00	7.9		
5	Benzo(g,h,i)perylene	17.39		0.00	276	211870	124.54	66		

Prep Amount:	20.01 g	**Dilution:**	1.0
Prep Final Vol:	10 ml	**Unit Factor:**	1
Solids:	94.8 %		

Final Concentration = ((Soln Conc x Prep Final Vol x Dilution) / (Prep Amount x Solids)) x Unit Factor

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Quantitation Report

Bottle ID:		**Tier:**	V	**Matrix:**	SEDIMENT
Prod Code:	8270C SIM PAH_S	**Collect Date:**	10/09/2009	**Receive Date:**	10/09/2009

Analysis Lot:	KWG0911040	**Prep Lot:**	KWG0910535	**Report Group:**	K0909140
Analysis Method:	8270C SIM	**Prep Method:**	EPA 3541		
Prep Ref:	865765	**Prep Date:**	11/10/2009		

Quant Method:	J:\MS11\METHODS\SIM\1119ALK.M	**Calibration ID:**	CAL9029
Title:	Polynuclear Aromatic Hydrocarbons	**Report List ID:**	LJ11248
Tune Ref:	J:\MS11\DATA\112009\1120F030.D	**Method ID:**	MJ253
MB Ref:	J:\MS11\DATA\111909\1119F041.D	**Quant based on Report List**	

Data File:	J:\MS11\DATA\112009\1120F039.D			**Instrument:**	MS11
Acqu Date:	11/21/2009 02:59	**Quant Date:**	11/23/2009 08:55	**Vial:**	36
Run Type:	SMPL			**Dilution:**	1.0
Lab ID:	K0909140-012			**Soln Conc. Units:**	ng/ml

Internal Standard Compounds

IS Ref	Parameter Name	RT	RT Dev	Quant Mass	Response	Solution Conc	Area Criteria
1	Naphthalene-d8	4.86	-0.01	136	151107	200.00	OK
2	Acenaphthene-d10	6.29	0.00	164	82900	200.00	OK
3	Phenanthrene-d10	7.52	0.00	188	169900	200.00	OK
4	Chrysene-d12	10.25	0.00	240	258052	200.00	OK
5	Perylene-d12	13.81	-0.01	264	294113	200.00	OK

Surrogate Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	%Rec	%Rec Limits		Rpt?
2	Fluorene-d10	6.72	0.00	0.00	176	60455	129.88	65	17-104	OK	
3	Fluoranthene-d10	8.51	0.01	0.00	212	140037	136.33	68	27-106	OK	
4	Terphenyl-d14	8.89	0.00	0.00	244	132611	124.14	62	35-109	OK	

Target Compounds

Final Conc. Units: ug/Kg Dry Weight

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	Final Conc	Q	Rpt?
1	Naphthalene	4.88	-0.01	0.00	128	11611	17.47	8.7		
1	2-Methylnaphthalene	5.44		0.00	142	4717	9.85	4.9		
1	1-Methylnaphthalene	5.51	-0.01	0.00	142	2624	5.71	2.8		
1	2,6-Dimethylnaphthalene	5.95	0.01	0.00	156	6667	15.15	7.6		
2	Acenaphthylene	6.17	-0.01	0.00	152	10616	15.58	7.8		
2	Acenaphthene	6.31	-0.01	0.00	154	3740	9.24	4.6		
2	Dibenzofuran	6.46		0.00	168	3878	6.33	3.2		
2	2,3,5-Trimethylnaphthalene	6.63		0.00	170	2370	5.48	2.7		
2	Fluorene	6.74		0.00	166	2565**m**	5.00	2.5	J	
3	Dibenzothiophene	7.43	-0.01	0.00	184	7375	9.75	4.9		
3	Phenanthrene	7.54		0.00	178	105148	116.08	58		
3	Anthracene	7.59		0.00	178	11873**m**	13.64	6.8		
3	1-Methylphenanthrene	8.04		0.00	192	6789	9.63	4.8		
3	Fluoranthene	8.52		0.00	202	153830	146.09	73		

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Data File:	J:\MS11\DATA\112009\1120F039.D			**Instrument:**	MS11
Acqu Date:	11/21/2009 02:59	**Quant Date:**	11/23/2009 08:55	**Vial:**	36
Run Type:	SMPL			**Dilution:**	1.0
Lab ID:	K0909140-012			**Soln Conc. Units:**	ng/ml

Target Compounds

Final Conc. Units: ug/Kg Dry Weight

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	Final Conc	Q	Rpt?
4	Pyrene	8.73		0.00	202	208629	152.45	76		
4	Benz(a)anthracene	10.23		0.00	228	127543	96.75	48		
4	Chrysene	10.29		0.00	228	154969	123.09	61		
5	Benzo(b)fluoranthene	12.61	-0.01	0.00	252	265994	173.57	87		
5	Benzo(k)fluoranthene	12.69	-0.01	0.00	252	89397	61.56	31		
5	Benzo(e)pyrene	13.44		0.00	252	170277	121.24	60		
5	Benzo(a)pyrene	13.61		0.00	252	240289	177.98	89		
5	Perylene	13.91		0.00	252	132671	99.51	50		
5	Indeno(1,2,3-cd)pyrene	16.97	-0.01	0.00	276	223038	179.22	89		
5	Dibenz(a,h)anthracene	17.04	-0.01	0.00	278	32043	24.71	12		
5	Benzo(g,h,i)perylene	17.39		0.00	276	306551	217.97	110		

Prep Amount:	20.41 g	**Dilution:**	1.0
Prep Final Vol:	10 ml	**Unit Factor:**	1
Solids:	98.2 %		

Final Concentration = ((Soln Conc x Prep Final Vol x Dilution) / (Prep Amount x Solids)) x Unit Factor

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Quantitation Report

Bottle ID:		**Tier:**	V	**Matrix:**	SEDIMENT
Prod Code:	8270C SIM PAH_S	**Collect Date:**	10/05/2009	**Receive Date:**	10/06/2009

Analysis Lot:	KWG0911040	**Prep Lot:**	KWG0910535	**Report Group:**	K0909140
Analysis Method:	8270C SIM	**Prep Method:**	EPA 3541		
Prep Ref:	865766	**Prep Date:**	11/10/2009		

Quant Method:	J:\MS11\METHODS\SIM\1119ALK.M	**Calibration ID:**	CAL9029
Title:	Polynuclear Aromatic Hydrocarbons	**Report List ID:**	LJ11248
Tune Ref:	J:\MS11\DATA\112009\1120F030.D	**Method ID:**	MJ253
MB Ref:	J:\MS11\DATA\111909\1119F041.D	**Quant based on Report List**	

Data File:	J:\MS11\DATA\112009\1120F040.D			**Instrument:**	MS11
Acqu Date:	11/21/2009 03:25	**Quant Date:**	11/23/2009 08:57	**Vial:**	37
Run Type:	SMPL			**Dilution:**	1.0
Lab ID:	K0909140-013			**Soln Conc. Units:**	ng/ml

Internal Standard Compounds

IS Ref	Parameter Name	RT	RT Dev	Quant Mass	Response	Solution Conc	Area Criteria
1	Naphthalene-d8	4.87	0.00	136	152013	200.00	OK
2	Acenaphthene-d10	6.29	0.00	164	84935	200.00	OK
3	Phenanthrene-d10	7.52	0.00	188	171613	200.00	OK
4	Chrysene-d12	10.26	0.01	240	302020	200.00	OK
5	Perylene-d12	13.84	0.02	264	349424	200.00	OK

Surrogate Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	%Rec	%Rec Limits		Rpt?
2	Fluorene-d10	6.72	0.00	0.00	176	74660	156.55	78	17-104	OK	
3	Fluoranthene-d10	8.51	0.01	0.00	212	169689	163.55	82	27-106	OK	
4	Terphenyl-d14	8.89	0.00	0.00	244	170935	136.72	68	35-109	OK	

Target Compounds

Final Conc. Units: ug/Kg Dry Weight

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	Final Conc	Q	Rpt?
1	Naphthalene	4.88	-0.01	0.00	128	525187	785.43	410		
1	2-Methylnaphthalene	5.44		0.00	142	99533	206.64	110		
1	1-Methylnaphthalene	5.51	-0.01	0.00	142	49075	106.21	56		
1	2,6-Dimethylnaphthalene	5.95	0.01	0.00	156	61696	139.37	73		
2	Acenaphthylene	6.17	-0.01	0.00	152	141860	203.25	110		
2	Acenaphthene	6.32		0.00	154	70742	170.64	90		
2	Dibenzofuran	6.46		0.00	168	80299	127.88	67		
2	2,3,5-Trimethylnaphthalene	6.63		0.00	170	43758	98.84	52		
2	Fluorene	6.74		0.00	166	95403**m**	181.65	96		
3	Dibenzothiophene	7.43	-0.01	0.00	184	89270	116.79	61		
3	Phenanthrene	7.54		0.00	178	1159679	1,267	670		
3	Anthracene	7.59		0.00	178	231184	262.94	140		
3	1-Methylphenanthrene	8.04		0.00	192	98344	138.07	73		
3	Fluoranthene	8.52		0.00	202	1913744	1,799	950		

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Data File:	J:\MS11\DATA\112009\1120F040.D			**Instrument:**	MS11
Acqu Date:	11/21/2009 03:25	**Quant Date:**	11/23/2009 08:57	**Vial:**	37
Run Type:	SMPL			**Dilution:**	1.0
Lab ID:	K0909140-013			**Soln Conc. Units:**	ng/ml

Target Compounds

Final Conc. Units: ug/Kg Dry Weight

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	Final Conc	Q	Rpt?
4	Pyrene	8.74	0.01	0.00	202	2380665	1,486	780		
4	Benz(a)anthracene	10.23		0.00	228	914244	592.55	310		
4	Chrysene	10.29		0.00	228	1195518	811.36	430		
5	Benzo(b)fluoranthene	12.63	0.01	0.00	252	1668628	916.48	480		
5	Benzo(k)fluoranthene	12.71	0.01	0.00	252	524611	304.07	160		
5	Benzo(e)pyrene	13.46	0.02	0.00	252	1098616	658.43	350		
5	Benzo(a)pyrene	13.64	0.03	0.00	252	1473513	918.66	480		
5	Perylene	13.93	0.02	0.00	252	685787	432.94	230		
5	Indeno(1,2,3-cd)pyrene	16.99	0.01	0.00	276	1085534	734.20	390		
5	Dibenz(a,h)anthracene	17.06	0.01	0.00	278	162512	105.48	55		
5	Benzo(g,h,i)perylene	17.41	0.02	0.00	276	1470593	880.12	460		

Prep Amount:	20.25 g	**Dilution:**	1.0
Prep Final Vol:	10 ml	**Unit Factor:**	1
Solids:	93.9 %		

Final Concentration = ((Soln Conc x Prep Final Vol x Dilution) / (Prep Amount x Solids)) x Unit Factor

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Quantitation Report

Bottle ID:		**Tier:**	V	**Matrix:**	SEDIMENT
Prod Code:	8270C SIM PAH_S	**Collect Date:**	10/07/2009	**Receive Date:**	10/08/2009

Analysis Lot:	KWG0911040	**Prep Lot:**	KWG0910535	**Report Group:**	K0909140
Analysis Method:	8270C SIM	**Prep Method:**	EPA 3541		
Prep Ref:	865767	**Prep Date:**	11/10/2009		

Quant Method:	J:\MS11\METHODS\SIM\1119ALK.M	**Calibration ID:**	CAL9029
Title:	Polynuclear Aromatic Hydrocarbons	**Report List ID:**	LJ11248
Tune Ref:	J:\MS11\DATA\112009\1120F030.D	**Method ID:**	MJ253
MB Ref:	J:\MS11\DATA\111909\1119F041.D	**Quant based on Report List**	

Data File:	J:\MS11\DATA\112009\1120F041.D			**Instrument:**	MS11
Acqu Date:	11/21/2009 03:52	**Quant Date:**	11/23/2009 08:58	**Vial:**	38
Run Type:	SMPL			**Dilution:**	1.0
Lab ID:	K0909140-014			**Soln Conc. Units:**	ng/ml

Internal Standard Compounds

IS Ref	Parameter Name	RT	RT Dev	Quant Mass	Response	Solution Conc	Area Criteria
1	Naphthalene-d8	4.86	-0.01	136	159982	200.00	OK
2	Acenaphthene-d10	6.29	0.00	164	88560	200.00	OK
3	Phenanthrene-d10	7.52	0.00	188	180346	200.00	OK
4	Chrysene-d12	10.25	0.00	240	296874	200.00	OK
5	Perylene-d12	13.83	0.01	264	345790	200.00	OK

Surrogate Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	%Rec	%Rec Limits		Rpt?
2	Fluorene-d10	6.72	0.00	0.00	176	58026	116.69	58	17-104	OK	
3	Fluoranthene-d10	8.50	0.00	0.00	212	134676	123.52	62	27-106	OK	
4	Terphenyl-d14	8.89	0.00	0.00	244	129491	105.36	53	35-109	OK	

Target Compounds

Final Conc. Units: ug/Kg Dry Weight

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	Final Conc	Q	Rpt?
1	Naphthalene	4.88	-0.01	0.00	128	466877	663.45	380		
1	2-Methylnaphthalene	5.43	-0.01	0.00	142	135313	266.93	150		
1	1-Methylnaphthalene	5.51	-0.01	0.00	142	61977	127.46	72		
1	2,6-Dimethylnaphthalene	5.94		0.00	156	68710	147.48	83		
2	Acenaphthylene	6.17	-0.01	0.00	152	56541	77.69	44		
2	Acenaphthene	6.31	-0.01	0.00	154	92615	214.26	120		
2	Dibenzofuran	6.46		0.00	168	184696	282.10	160		
2	2,3,5-Trimethylnaphthalene	6.63		0.00	170	30327	65.70	37		
2	Fluorene	6.74		0.00	166	146987**m**	268.41	150		
3	Dibenzothiophene	7.43	-0.01	0.00	184	88129	109.72	62		
3	Phenanthrene	7.54		0.00	178	1090865	1,135	640		
3	Anthracene	7.59		0.00	178	246582	266.87	150		
3	1-Methylphenanthrene	8.04		0.00	192	90844	121.37	69		
3	Fluoranthene	8.52		0.00	202	1486044	1,329	750		

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Data File:	J:\MS11\DATA\112009\1120F041.D			**Instrument:**	MS11
Acqu Date:	11/21/2009 03:52	**Quant Date:**	11/23/2009 08:58	**Vial:**	38
Run Type:	SMPL			**Dilution:**	1.0
Lab ID:	K0909140-014			**Soln Conc. Units:**	ng/ml

Target Compounds

Final Conc. Units: ug/Kg Dry Weight

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	Final Conc	Q	Rpt?
4	Pyrene	8.74	0.01	0.00	202	1368147	869.02	490		
4	Benz(a)anthracene	10.23		0.00	228	478053	315.21	180		
4	Chrysene	10.29		0.00	228	697680	481.70	270		
5	Benzo(b)fluoranthene	12.63	0.01	0.00	252	761475	422.63	240		
5	Benzo(k)fluoranthene	12.70		0.00	252	248248	145.40	82		
5	Benzo(e)pyrene	13.46	0.02	0.00	252	425031	257.41	150		
5	Benzo(a)pyrene	13.63	0.02	0.00	252	485901	306.12	170		
5	Perylene	13.92	0.01	0.00	252	275641	175.84	99		
5	Indeno(1,2,3-cd)pyrene	16.98		0.00	276	386077	263.87	150		
5	Dibenz(a,h)anthracene	17.05		0.00	278	71036	46.59	26		
5	Benzo(g,h,i)perylene	17.40	0.01	0.00	276	488928	295.69	170		

Prep Amount:	18.19 g	**Dilution:**	1.0
Prep Final Vol:	10 ml	**Unit Factor:**	1
Solids:	97.2 %		

Final Concentration = ((Soln Conc x Prep Final Vol x Dilution) / (Prep Amount x Solids)) x Unit Factor

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Quantitation Report

Bottle ID:		**Tier:**	V	**Matrix:**	SEDIMENT
Prod Code:	8270C SIM PAH_S	**Collect Date:**	09/28/2009	**Receive Date:**	09/29/2009

Analysis Lot:	KWG0910855	**Prep Lot:**	KWG0910535	**Report Group:**	K0909140
Analysis Method:	8270C SIM	**Prep Method:**	EPA 3541		
Prep Ref:	865768	**Prep Date:**	11/10/2009		

Quant Method:	J:\MS11\METHODS\SIM\1015ALK.M	**Calibration ID:**	CAL8928
Title:	Polynuclear Aromatic Hydrocarbons	**Report List ID:**	LJ11248
Tune Ref:	J:\MS11\DATA\111609\1116F032.D	**Method ID:**	MJ253
MB Ref:	J:\MS11\DATA\111609\1116F004.D	**Quant based on Report List**	

Data File:	J:\MS11\DATA\111609\1116F037.D			**Instrument:**	MS11
Acqu Date:	11/16/2009 23:07	**Quant Date:**	11/18/2009 12:20	**Vial:**	33
Run Type:	SMPL			**Dilution:**	1.0
Lab ID:	K0909140-015			**Soln Conc. Units:**	ng/ml

Internal Standard Compounds

IS Ref	Parameter Name	RT	RT Dev	Quant Mass	Response	Solution Conc	Area Criteria
1	Naphthalene-d8	4.63	0.00	136	174457	200.00	OK
2	Acenaphthene-d10	6.05	0.00	164	97076	200.00	OK
3	Phenanthrene-d10	7.27	0.00	188	171838	200.00	OK
4	Chrysene-d12	9.76	0.00	240	276696	200.00	OK
5	Perylene-d12	12.78	0.00	264	317266	200.00	OK

Surrogate Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	%Rec	%Rec Limits		Rpt?
2	Fluorene-d10	6.48	0.01	0.00	176	68621	151.51	76	17-104	OK	
3	Fluoranthene-d10	8.24	0.00	0.00	212	138664	145.62	73	27-106	OK	
4	Terphenyl-d14	8.59	0.01	0.00	244	139747	122.17	61	35-109	OK	

Target Compounds

Final Conc. Units: ug/Kg Dry Weight

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	Final Conc	Q	Rpt?
1	Naphthalene	4.65		0.00	128	149871	186.68	92		
1	2-Methylnaphthalene	5.21		0.00	142	27862	50.36	25		
1	1-Methylnaphthalene	5.29		0.00	142	15284	25.98	13		
1	2,6-Dimethylnaphthalene	5.78		0.00	156	17014	39.11	19		
2	Acenaphthylene	5.93		0.00	152	45384	53.88	27		
2	Acenaphthene	6.07		0.00	154	25072**m**	49.92	25		
2	Dibenzofuran	6.22		0.00	168	25901	38.34	19		
2	2,3,5-Trimethylnaphthalene	6.38	-0.01	0.00	170	10964	25.99	13		
2	Fluorene	6.50		0.00	166	31075**m**	57.39	28		
3	Dibenzothiophene	7.18	-0.01	0.00	184	15126	17.41	8.6		
3	Phenanthrene	7.29		0.00	178	233302	242.08	120		
3	Anthracene	7.33		0.00	178	43331	47.02	23		
3	1-Methylphenanthrene	7.78	-0.01	0.00	192	32398**m**	46.95	23		
3	Fluoranthene	8.25		0.00	202	408414	385.77	190		

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Data File:	J:\MS11\DATA\111609\1116F037.D			**Instrument:**	MS11
Acqu Date:	11/16/2009 23:07	**Quant Date:**	11/18/2009 12:20	**Vial:**	33
Run Type:	SMPL			**Dilution:**	1.0
Lab ID:	K0909140-015			**Soln Conc. Units:**	ng/ml

Target Compounds

Final Conc. Units: ug/Kg Dry Weight

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	Final Conc	Q	Rpt?
4	Pyrene	8.44		0.00	202	507254	334.79	170		
4	Benz(a)anthracene	9.75		0.00	228	225599	150.01	74		
4	Chrysene	9.80		0.00	228	281326	192.05	95		
5	Benzo(b)fluoranthene	11.77		0.00	252	442538	267.39	130		
5	Benzo(k)fluoranthene	11.83	-0.01	0.00	252	137662	84.43	42		
5	Benzo(e)pyrene	12.46		0.00	252	280022	180.67	89		
5	Benzo(a)pyrene	12.61		0.00	252	386976	246.88	120		
5	Perylene	12.84	-0.01	0.00	252	242739	157.98	78		
5	Indeno(1,2,3-cd)pyrene	16.34	0.01	0.00	276	315520	219.41	110		
5	Dibenz(a,h)anthracene	16.41		0.00	278	40452	26.11	13		
5	Benzo(g,h,i)perylene	16.82		0.00	276	415664	250.97	120		

Prep Amount:	20.79 g	**Dilution:**	1.0
Prep Final Vol:	10 ml	**Unit Factor:**	1
Solids:	97.2 %		

Final Concentration = ((Soln Conc x Prep Final Vol x Dilution) / (Prep Amount x Solids)) x Unit Factor

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Quantitation Report

Bottle ID:		**Tier:**	V	**Matrix:**	SEDIMENT
Prod Code:	8270C SIM PAH_S	**Collect Date:**	09/28/2009	**Receive Date:**	09/29/2009

Analysis Lot:	KWG0910855	**Prep Lot:**	KWG0910535	**Report Group:**	K0909140
Analysis Method:	8270C SIM	**Prep Method:**	EPA 3541		
Prep Ref:	865769	**Prep Date:**	11/10/2009		

Quant Method:	J:\MS11\METHODS\SIM\1015ALK.M	**Calibration ID:**	CAL8928
Title:	Polynuclear Aromatic Hydrocarbons	**Report List ID:**	LJ11248
Tune Ref:	J:\MS11\DATA\111609\1116F032.D	**Method ID:**	MJ253
MB Ref:	J:\MS11\DATA\111609\1116F004.D	**Quant based on Report List**	

Data File:	J:\MS11\DATA\111609\1116F038.D			**Instrument:**	MS11
Acqu Date:	11/16/2009 23:33	**Quant Date:**	11/18/2009 12:22	**Vial:**	34
Run Type:	SMPL			**Dilution:**	1.0
Lab ID:	K0909140-016			**Soln Conc. Units:**	ng/ml

Internal Standard Compounds

IS Ref	Parameter Name	RT	RT Dev	Quant Mass	Response	Solution Conc	Area Criteria
1	Naphthalene-d8	4.63	0.00	136	184738	200.00	OK
2	Acenaphthene-d10	6.05	0.00	164	99421	200.00	OK
3	Phenanthrene-d10	7.27	0.00	188	172884	200.00	OK
4	Chrysene-d12	9.76	0.00	240	279376	200.00	OK
5	Perylene-d12	12.78	0.00	264	316616	200.00	OK

Surrogate Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	%Rec	%Rec Limits		Rpt?
2	Fluorene-d10	6.47	0.00	0.00	176	75093	161.89	81	17-104	OK	
3	Fluoranthene-d10	8.24	0.00	0.00	212	154264	161.02	81	27-106	OK	
4	Terphenyl-d14	8.59	0.01	0.00	244	152727	132.24	66	35-109	OK	

Target Compounds

Final Conc. Units: ug/Kg Dry Weight

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	Final Conc	Q	Rpt?
1	Naphthalene	4.65		0.00	128	172332	202.72	100		
1	2-Methylnaphthalene	5.21		0.00	142	33275	56.80	28		
1	1-Methylnaphthalene	5.29		0.00	142	22307	35.81	18		
1	2,6-Dimethylnaphthalene	5.78		0.00	156	32497	70.54	35		
2	Acenaphthylene	5.93		0.00	152	50201	58.19	29		
2	Acenaphthene	6.07		0.00	154	22680**m**	44.09	22		
2	Dibenzofuran	6.22		0.00	168	28354	40.98	20		
2	2,3,5-Trimethylnaphthalene	6.38	-0.01	0.00	170	15651	36.22	18		
2	Fluorene	6.50		0.00	166	32804**m**	59.15	30		
3	Dibenzothiophene	7.18	-0.01	0.00	184	23705	27.12	14		
3	Phenanthrene	7.29		0.00	178	328068	338.35	170		
3	Anthracene	7.33		0.00	178	70494**m**	76.03	38		
3	1-Methylphenanthrene	7.78	-0.01	0.00	192	36442	52.49	26		
3	Fluoranthene	8.25		0.00	202	564594	530.06	260		

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Data File:	J:\MS11\DATA\111609\1116F038.D			**Instrument:**	MS11
Acqu Date:	11/16/2009 23:33	**Quant Date:**	11/18/2009 12:22	**Vial:**	34
Run Type:	SMPL			**Dilution:**	1.0
Lab ID:	K0909140-016			**Soln Conc. Units:**	ng/ml

Target Compounds **Final Conc. Units:** ug/Kg Dry Weight

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	Final Conc	Q	Rpt?
4	Pyrene	8.44		0.00	202	674948	441.20	220		
4	Benz(a)anthracene	9.75		0.00	228	291998	192.30	96		
4	Chrysene	9.80		0.00	228	365714	247.26	120		
5	Benzo(b)fluoranthene	11.77		0.00	252	552496	334.51	170		
5	Benzo(k)fluoranthene	11.83	-0.01	0.00	252	164550	101.12	51		
5	Benzo(e)pyrene	12.46		0.00	252	351150	227.03	110		
5	Benzo(a)pyrene	12.61		0.00	252	469220	299.96	150		
5	Perylene	12.85		0.00	252	218224	142.31	71		
5	Indeno(1,2,3-cd)pyrene	16.34	0.01	0.00	276	396488	276.29	140		
5	Dibenz(a,h)anthracene	16.41		0.00	278	52550	33.99	17		
5	Benzo(g,h,i)perylene	16.81	-0.01	0.00	276	525795	318.12	160		

Prep Amount:	20.19 g	**Dilution:**	1.0
Prep Final Vol:	10 ml	**Unit Factor:**	1
Solids:	99.1 %		

Final Concentration = ((Soln Conc x Prep Final Vol x Dilution) / (Prep Amount x Solids)) x Unit Factor

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Quantitation Report

Bottle ID:		**Tier:**	V	**Matrix:**	SEDIMENT
Prod Code:	8270C SIM PAH_S	**Collect Date:**	09/28/2009	**Receive Date:**	09/29/2009

Analysis Lot:	KWG0910855	**Prep Lot:**	KWG0910535	**Report Group:**	K0909140
Analysis Method:	8270C SIM	**Prep Method:**	EPA 3541		
Prep Ref:	865770	**Prep Date:**	11/10/2009		

Quant Method:	J:\MS11\METHODS\SIM\1015ALK.M	**Calibration ID:**	CAL8928
Title:	Polynuclear Aromatic Hydrocarbons	**Report List ID:**	LJ11248
Tune Ref:	J:\MS11\DATA\111609\1116F032.D	**Method ID:**	MJ253
MB Ref:	J:\MS11\DATA\111609\1116F004.D	**Quant based on Report List**	

Data File:	J:\MS11\DATA\111609\1116F039.D			**Instrument:**	MS11
Acqu Date:	11/17/2009 00:00	**Quant Date:**	11/18/2009 12:24	**Vial:**	35
Run Type:	SMPL			**Dilution:**	1.0
Lab ID:	K0909140-017			**Soln Conc. Units:**	ng/ml

Internal Standard Compounds

IS Ref	Parameter Name	RT	RT Dev	Quant Mass	Response	Solution Conc	Area Criteria
1	Naphthalene-d8	4.63	0.00	136	178552	200.00	OK
2	Acenaphthene-d10	6.05	0.00	164	99436	200.00	OK
3	Phenanthrene-d10	7.27	0.00	188	163724	200.00	OK
4	Chrysene-d12	9.76	0.00	240	283303	200.00	OK
5	Perylene-d12	12.77	-0.01	264	324903	200.00	OK

Surrogate Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	%Rec	%Rec Limits		Rpt?
2	Fluorene-d10	6.47	0.00	0.00	176	76538	164.98	82	17-104	OK	
3	Fluoranthene-d10	8.24	0.00	0.00	212	153182	168.84	84	27-106	OK	
4	Terphenyl-d14	8.59	0.01	0.00	244	158477	135.31	68	35-109	OK	

Target Compounds

Final Conc. Units: ug/Kg Dry Weight

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	Final Conc	Q	Rpt?
1	Naphthalene	4.64	-0.01	0.00	128	177078	215.52	110		
1	2-Methylnaphthalene	5.21		0.00	142	39559	69.86	35		
1	1-Methylnaphthalene	5.28	-0.01	0.00	142	20209	33.57	17		
1	2,6-Dimethylnaphthalene	5.77	-0.01	0.00	156	20684	46.46	23		
2	Acenaphthylene	5.93		0.00	152	54923	63.65	32		
2	Acenaphthene	6.07		0.00	154	24052**m**	46.75	23		
2	Dibenzofuran	6.22		0.00	168	28245	40.82	20		
2	2,3,5-Trimethylnaphthalene	6.38	-0.01	0.00	170	13090	30.29	15		
2	Fluorene	6.50		0.00	166	32937**m**	59.38	30		
3	Dibenzothiophene	7.19		0.00	184	20205	24.41	12		
3	Phenanthrene	7.28	-0.01	0.00	178	313261	341.15	170		
3	Anthracene	7.33		0.00	178	61351	69.88	35		
3	1-Methylphenanthrene	7.78	-0.01	0.00	192	42922	65.28	32		
3	Fluoranthene	8.25		0.00	202	547696	542.96	270		

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Data File:	J:\MS11\DATA\111609\1116F039.D			**Instrument:**	MS11
Acqu Date:	11/17/2009 00:00	**Quant Date:**	11/18/2009 12:24	**Vial:**	35
Run Type:	SMPL			**Dilution:**	1.0
Lab ID:	K0909140-017			**Soln Conc. Units:**	ng/ml

Target Compounds

Final Conc. Units: ug/Kg Dry Weight

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	Final Conc	Q	Rpt?
4	Pyrene	8.44		0.00	202	699692	451.04	220		
4	Benz(a)anthracene	9.75		0.00	228	341865	222.02	110		
4	Chrysene	9.80		0.00	228	406456	271.00	130		
5	Benzo(b)fluoranthene	11.77		0.00	252	610092	359.96	180		
5	Benzo(k)fluoranthene	11.83	-0.01	0.00	252	205514	123.08	61		
5	Benzo(e)pyrene	12.46		0.00	252	391349	246.56	120		
5	Benzo(a)pyrene	12.61		0.00	252	540054	336.44	170		
5	Perylene	12.85		0.00	252	267772	170.17	85		
5	Indeno(1,2,3-cd)pyrene	16.33		0.00	276	406557**m**	276.08	140		
5	Dibenz(a,h)anthracene	16.40	-0.01	0.00	278	57815	36.44	18		
5	Benzo(g,h,i)perylene	16.81	-0.01	0.00	276	562046	331.37	160		

Prep Amount:	20.19 g	**Dilution:**	1.0
Prep Final Vol:	10 ml	**Unit Factor:**	1
Solids:	99.6 %		

Final Concentration = ((Soln Conc x Prep Final Vol x Dilution) / (Prep Amount x Solids)) x Unit Factor

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Quantitation Report

Bottle ID:		**Tier:**	V	**Matrix:**	SEDIMENT
Prod Code:	8270C SIM PAH_S	**Collect Date:**	09/28/2009	**Receive Date:**	09/29/2009

Analysis Lot:	KWG0910855	**Prep Lot:**	KWG0910535	**Report Group:**	K0909140
Analysis Method:	8270C SIM	**Prep Method:**	EPA 3541		
Prep Ref:	865771	**Prep Date:**	11/10/2009		

Quant Method:	J:\MS11\METHODS\SIM\1015ALK.M	**Calibration ID:**	CAL8928
Title:	Polynuclear Aromatic Hydrocarbons	**Report List ID:**	LJ11248
Tune Ref:	J:\MS11\DATA\111609\1116F032.D	**Method ID:**	MJ253
MB Ref:	J:\MS11\DATA\111609\1116F004.D	**Quant based on Report List**	

Data File:	J:\MS11\DATA\111609\1116F040.D			**Instrument:**	MS11
Acqu Date:	11/17/2009 00:26	**Quant Date:**	11/18/2009 12:25	**Vial:**	36
Run Type:	SMPL			**Dilution:**	1.0
Lab ID:	K0909140-018			**Soln Conc. Units:**	ng/ml

Internal Standard Compounds

IS Ref	Parameter Name	RT	RT Dev	Quant Mass	Response	Solution Conc	Area Criteria
1	Naphthalene-d8	4.63	0.00	136	180839	200.00	OK
2	Acenaphthene-d10	6.05	0.00	164	99837	200.00	OK
3	Phenanthrene-d10	7.26	-0.01	188	173965	200.00	OK
4	Chrysene-d12	9.76	0.00	240	295465	200.00	OK
5	Perylene-d12	12.76	-0.02	264	339252	200.00	OK

Surrogate Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	%Rec	%Rec Limits		Rpt?
2	Fluorene-d10	6.47	0.00	0.00	176	66728	143.25	72	17-104	OK	
3	Fluoranthene-d10	8.24	0.00	0.00	212	133699	138.69	69	27-106	OK	
4	Terphenyl-d14	8.59	0.01	0.00	244	141263	115.65	58	35-109	OK	

Target Compounds

Final Conc. Units: ug/Kg Dry Weight

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	Final Conc	Q	Rpt?
1	Naphthalene	4.64	-0.01	0.00	128	174294	209.44	110		
1	2-Methylnaphthalene	5.21		0.00	142	29842	52.03	26		
1	1-Methylnaphthalene	5.28	-0.01	0.00	142	15923	26.11	13		
1	2,6-Dimethylnaphthalene	5.77	-0.01	0.00	156	15188	33.68	17		
2	Acenaphthylene	5.93		0.00	152	43710	50.45	26		
2	Acenaphthene	6.07		0.00	154	28693**m**	55.55	28		
2	Dibenzofuran	6.22		0.00	168	24766	35.65	18		
2	2,3,5-Trimethylnaphthalene	6.38	-0.01	0.00	170	9655	22.25	11		
2	Fluorene	6.49	-0.01	0.00	166	30457**m**	54.69	28		
3	Dibenzothiophene	7.19		0.00	184	20440	23.24	12		
3	Phenanthrene	7.28	-0.01	0.00	178	306825	314.47	160		
3	Anthracene	7.33		0.00	178	57942	62.11	31		
3	1-Methylphenanthrene	7.78	-0.01	0.00	192	35850	51.32	26		
3	Fluoranthene	8.25		0.00	202	526921	491.62	250		

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Data File:	J:\MS11\DATA\111609\1116F040.D			**Instrument:**	MS11
Acqu Date:	11/17/2009 00:26	**Quant Date:**	11/18/2009 12:25	**Vial:**	36
Run Type:	SMPL			**Dilution:**	1.0
Lab ID:	K0909140-018			**Soln Conc. Units:**	ng/ml

Target Compounds **Final Conc. Units:** ug/Kg Dry Weight

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	Final Conc	Q	Rpt?
4	Pyrene	8.44		0.00	202	656141	405.55	210		
4	Benz(a)anthracene	9.75		0.00	228	276276	172.04	87		
4	Chrysene	9.80		0.00	228	352110	225.10	110		
5	Benzo(b)fluoranthene	11.76	-0.01	0.00	252	529730	299.33	150		
5	Benzo(k)fluoranthene	11.83	-0.01	0.00	252	161353	92.54	47		
5	Benzo(e)pyrene	12.46		0.00	252	324442	195.76	99		
5	Benzo(a)pyrene	12.61		0.00	252	459928	274.40	140		
5	Perylene	12.85		0.00	252	254717	155.03	78		
5	Indeno(1,2,3-cd)pyrene	16.33		0.00	276	356233**m**	231.67	120		
5	Dibenz(a,h)anthracene	16.40	-0.01	0.00	278	45380	27.39	14		
5	Benzo(g,h,i)perylene	16.81	-0.01	0.00	276	493743	278.79	140		

Prep Amount:	20.27 g	**Dilution:**	1.0
Prep Final Vol:	10 ml	**Unit Factor:**	1
Solids:	97.5 %		

Final Concentration = ((Soln Conc x Prep Final Vol x Dilution) / (Prep Amount x Solids)) x Unit Factor

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Quantitation Report

Bottle ID:		**Tier:**	V	**Matrix:**	SEDIMENT
Prod Code:	8270C SIM PAH_S	**Collect Date:**	10/09/2009	**Receive Date:**	10/09/2009

Analysis Lot:	KWG0910855	**Prep Lot:**	KWG0910535	**Report Group:**	K0909140
Analysis Method:	8270C SIM	**Prep Method:**	EPA 3541		
Prep Ref:	865753	**Prep Date:**	11/10/2009		

Quant Method:	J:\MS11\METHODS\SIM\1015ALK.M	**Calibration ID:**	CAL8928
Title:	Polynuclear Aromatic Hydrocarbons	**Report List ID:**	LJ11248
Tune Ref:	J:\MS11\DATA\111609\1116F032.D	**Method ID:**	MJ253
MB Ref:	J:\MS11\DATA\111609\1116F004.D	**Quant based on Report List**	

Data File:	J:\MS11\DATA\111609\1116F041.D			**Instrument:**	MS11
Acqu Date:	11/17/2009 00:53	**Quant Date:**	11/18/2009 12:26	**Vial:**	37
Run Type:	SMPL			**Dilution:**	1.0
Lab ID:	K0909140-019			**Soln Conc. Units:**	ng/ml

Internal Standard Compounds

IS Ref	Parameter Name	RT	RT Dev	Quant Mass	Response	Solution Conc	Area Criteria
1	Naphthalene-d8	4.63	0.00	136	164204	200.00	OK
2	Acenaphthene-d10	6.05	0.00	164	91027	200.00	OK
3	Phenanthrene-d10	7.27	0.00	188	167589	200.00	OK
4	Chrysene-d12	9.76	0.00	240	247415	200.00	OK
5	Perylene-d12	12.77	-0.01	264	275418	200.00	OK

Surrogate Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	%Rec	%Rec Limits		Rpt?
2	Fluorene-d10	6.47	0.00	0.00	176	66947	157.63	79	17-104	OK	
3	Fluoranthene-d10	8.24	0.00	0.00	212	139673	150.40	75	27-106	OK	
4	Terphenyl-d14	8.58	0.00	0.00	244	134310	131.31	66	35-109	OK	

Target Compounds

Final Conc. Units: ug/Kg Dry Weight

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	Final Conc	Q	Rpt?
1	Naphthalene	4.64	-0.01	0.00	128	10858**m**	14.37	8.1		
1	2-Methylnaphthalene	5.21		0.00	142	2676	5.14	2.9	J	
1	1-Methylnaphthalene	5.28	-0.01	0.00	142	1488	2.69	1.5	J	
1	2,6-Dimethylnaphthalene	5.78		0.00	156	1103	2.69	1.5	J	
2	Acenaphthylene	5.93		0.00	152	6507	8.24	4.6		
2	Acenaphthene	6.08	0.01	0.00	154	1853	3.93	2.2	J	
2	Dibenzofuran	6.23	0.01	0.00	168	1323	2.09	1.2	J	
2	2,3,5-Trimethylnaphthalene	6.38	-0.01	0.00	170	1015	2.57	1.4	J	
2	Fluorene	6.50		0.00	166	1856**m**	3.66	2.1	J	
3	Dibenzothiophene	7.19		0.00	184	2337	2.76	1.6	J	
3	Phenanthrene	7.29		0.00	178	41450	44.10	25		
3	Anthracene	7.33		0.00	178	8953**m**	9.96	5.6		
3	1-Methylphenanthrene	7.78	-0.01	0.00	192	4043	6.01	3.4		
3	Fluoranthene	8.25		0.00	202	134116	129.89	73		

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N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Data File:	J:\MS11\DATA\111609\1116F041.D			**Instrument:**	MS11
Acqu Date:	11/17/2009 00:53	**Quant Date:**	11/18/2009 12:26	**Vial:**	37
Run Type:	SMPL			**Dilution:**	1.0
Lab ID:	K0909140-019			**Soln Conc. Units:**	ng/ml

Target Compounds

Final Conc. Units: ug/Kg Dry Weight

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	Final Conc	Q	Rpt?
4	Pyrene	8.44		0.00	202	187398	138.32	78		
4	Benz(a)anthracene	9.75		0.00	228	85202	63.36	36		
4	Chrysene	9.79	-0.01	0.00	228	107002**m**	81.69	46		
5	Benzo(b)fluoranthene	11.76	-0.01	0.00	252	177577	123.60	69		
5	Benzo(k)fluoranthene	11.83	-0.01	0.00	252	50277	35.52	20		
5	Benzo(e)pyrene	12.46		0.00	252	108020	80.28	45		
5	Benzo(a)pyrene	12.61		0.00	252	153912	113.11	64		
5	Perylene	12.84	-0.01	0.00	252	104169	78.09	44		
5	Indeno(1,2,3-cd)pyrene	16.33		0.00	276	126384**m**	101.24	57		
5	Dibenz(a,h)anthracene	16.41		0.00	278	15427	11.47	6.4		
5	Benzo(g,h,i)perylene	16.81	-0.01	0.00	276	177114	123.19	69		

Prep Amount:	18.10 g	**Dilution:**	1.0
Prep Final Vol:	10 ml	**Unit Factor:**	1
Solids:	98.3 %		

Final Concentration = ((Soln Conc x Prep Final Vol x Dilution) / (Prep Amount x Solids)) x Unit Factor

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution