CH2MHILL
Applied Sciences Laboratory (ASL)

CH2M HILL
Applied Sciences Laboratory (ASL)
1000 NE Circle Blvd, Building 10
Suite 10350
Corvallis, OR 97330
Tel 541.768.3120
Fax 541.752.0276

Amended Report

Date:	9/29/2011	Client:	NW PIPE
SDG No.:	K2775	Project/Task:	NW PIPE
Revision No.:	1	Completed by:	HPM
Affected Method(s):	PAH-SIM	Approved by:	JBH / KM

Amendment(s) Completed and Reason(s):

Client requested to report full list and change to STD-MDL.

Amendment(s) Justification:

- [x] Reporting error
- [ ] Calculation error
- [ ] Missing information/data
- [ ] Wrong information/data
- [ ] Analytical problem/correction
- [X] Client change/request
- [ ] Subcontracted laboratory error
- [ ] Other (define) _____

Edata Required:

- [x] Yes
- [ ] No

CH2M HILL
Applied Sciences Laboratory (ASL)
1000 NE Circle Blvd, Building 10
Suite 10350
Corvallis, OR 97330
Tel 541.768.3120
Fax 541.752.0276
ASL@CH2M.com

CH2MHILL
Applied Sciences Laboratory (ASL)

September 29, 2011

NW Pipe

358932.RI.13

RE: Laboratory Report for NW Pipe
ASL Report #: K2775

Pat Heins/PDX:

On September 16, 2011, CH2M HILL Applied Sciences Laboratory received six samples with a request for analysis of selected parameters. All analyses were performed by CH2M HILL unless otherwise indicated below. The results included in this report only relate to the samples listed on the following Sample Cross-Reference page. This report shall not be reproduced except in full, without the written approval of the laboratory.

The analytical results and associated quality control data are enclosed. Any unusual difficulties encountered during the analysis of your samples are discussed in the case narrative.

This data package meets standards requested by client and is not intended or implied to meet any other standard.

CH2M HILL Applied Sciences Laboratory appreciates your business and looks forward to serving your analytical needs again. If you should have any questions concerning the data, or if you need additional information, please call Kathy McKinley at (541) 758-0235, extension 23144.

Sincerely,

Kathy McKinley

Kathy McKinley
Analytical Manager

Enclosures

cc:
Tina Rice/tina.rice@critigen.com
Rob Healy/PDX

Samples will be disposed at no additional cost to clients, 30 days (10 days for air) after the final report is issued. Storage of samples and containers beyond this may be available for an additional fee. Samples classed as hazardous based on hazardous waste regulations under Subtitle C of RCRA and 40CFR. will either be returned to client at the client's expense or the client will be charged a $5 per sample disposal fee.

CLIENT SAMPLE CROSS-REFERENCE
For Samples Received September 16, 2011

ASL Report #: K2775

Sample ID	Client Sample ID	Date Collected	Time Collected
K277501	HSCS-5	09/16/2011	09:05
K277502	HSCS-6	09/16/2011	09:10
K277503	HSCS-7	09/16/2011	09:14
K277504	HSCS-8	09/16/2011	09:20
K277505	HSCS-9	09/16/2011	09:24
K277506	HSCS-10	09/16/2011	09:28

CASE NARRATIVE
GC/MS SEMI-VOLATILES ANALYSIS

Lab Name: CH2M HILL/LAB/CVO ASL SDG#: K2775

Project: NW Pipe Project #: 358932.RI.13

I. Method(s):
Analysis: SW8270SIM
Preparation: SW3550

II. Receipt/Holding Times:
All acceptance criteria were met.

III. Analysis:

A. Initial Calibration(s):
All acceptance criteria were met.

B. Calibration Verification(s):
All acceptance criteria were met.

C. Blank(s):
All acceptance criteria were met.

D. Laboratory Control Sample(s):
All acceptance criteria were met.

E. Matrix Spike/Matrix Spike Duplicate Sample(s):
Analyzed in accordance with standard operating procedure.

F. Surrogate Standard(s):
All acceptance criteria were met.

G. DFTPP Tune Verification(s):
All acceptance criteria were met.

H. Internal Standard(s):
All acceptance criteria were met.

I. Analytical Exception(s):
None.

IV. Documentation Exception(s):
None.

V. I certify that this data package is in compliance with the terms and conditions agreed to by the client and CH2M HILL, both technically and for completeness, except for the conditions detailed above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or designee, as verified by the following signatures.

Prepared by: _____ Date: 9/29/11

Reviewed by: _____ Date: 09/29/11

CH2M HILL Applied Sciences Laboratory (ASL)

Client Information

Client Sample ID: HSCS-5

Project Name: NW Pipe
Sample Date: 09/16/11
Sample Time: 09:05
Type: Grab
Matrix: Soil
Basis: Dry Weight

Lab Information

Lab Sample ID: K277501

Date Received: 09/16/11
Dilution Factor: 10
Report Revision No.: 0

Analyte	CAS#	MDL	MRL	Sample Result	Qualifier	Units	Analysis Method	Date Analyzed
GC/MS Semi-Volatiles								
Naphthalene	91-20-3	2.27	26.5	2.27	U	ug/Kg	SW8270SIM	09/18/11
2-Methylnaphthalene	91-57-6	1.71	26.5	1.71	U	ug/Kg	SW8270SIM	09/18/11
1-Methylnaphthalene	90-12-0	2.40	26.5	2.40	U	ug/Kg	SW8270SIM	09/18/11
Acenaphthylene	208-96-8	2.10	26.5	2.78	J	ug/Kg	SW8270SIM	09/18/11
Acenaphthene	83-32-9	2.27	26.5	4.95	J	ug/Kg	SW8270SIM	09/18/11
Fluorene	86-73-7	2.32	26.5	3.01	J	ug/Kg	SW8270SIM	09/18/11
Phenanthrene	85-01-8	2.36	26.5	28.3		ug/Kg	SW8270SIM	09/18/11
Anthracene	120-12-7	2.45	26.5	11.0	J	ug/Kg	SW8270SIM	09/18/11
Fluoranthene	206-44-0	2.29	26.5	141		ug/Kg	SW8270SIM	09/18/11
Pyrene	129-00-0	2.37	26.5	134		ug/Kg	SW8270SIM	09/18/11
Benzo(a)anthracene	56-55-3	2.16	26.5	71.2		ug/Kg	SW8270SIM	09/18/11
Chrysene	218-01-9	3.53	26.5	76.8		ug/Kg	SW8270SIM	09/18/11
Benzo(b)fluoroanthene	205-99-2	1.79	26.5	73.0		ug/Kg	SW8270SIM	09/18/11
Benzo(k)fluoranthene	207-08-9	3.49	26.5	28.1		ug/Kg	SW8270SIM	09/18/11
Benzo(a)pyrene	50-32-8	1.48	26.5	50.7		ug/Kg	SW8270SIM	09/18/11
Indeno(1,2,3-c,d)pyrene	193-39-5	3.55	26.5	46.1		ug/Kg	SW8270SIM	09/18/11
Dibenzo(a,h)anthracene	53-70-3	3.24	26.5	23.0	J	ug/Kg	SW8270SIM	09/18/11
Benzo(g,h,i)perylene	191-24-2	4.60	26.5	42.5		ug/Kg	SW8270SIM	09/18/11

Surrogate	% Recovery	Control Limits	Qualifier
Terphenyl-d14	66	18-137	

U=Not detected at specified reporting limit
J=Estimated value below reporting limit
E=Estimated value above calibration range
*=See case narrative

1100 NE Circle Blvd., Suite 300
Corvallis, OR 97330
Tel 541-768-3120 Fax 541-752-0276

CH2M HILL Applied Sciences Laboratory (ASL)

Client Information

Client Sample ID: HSCS-6

Project Name: NW Pipe
Sample Date: 09/16/11
Sample Time: 09:10
Type: Grab
Matrix: Soil
Basis: Dry Weight

Lab Information

Lab Sample ID: K277502

Date Received: 09/16/11
Dilution Factor: 10
Report Revision No.: 0

Analyte	CAS#	MDL	MRL	Sample Result	Qualifier	Units	Analysis Method	Date Analyzed
GC/MS Semi-Volatiles								
Naphthalene	91-20-3	2.14	25.1	4.62	J	ug/Kg	SW8270SIM	09/18/11
2-Methylnaphthalene	91-57-6	1.62	25.1	3.23	J	ug/Kg	SW8270SIM	09/18/11
1-Methylnaphthalene	90-12-0	2.27	25.1	2.27	U	ug/Kg	SW8270SIM	09/18/11
Acenaphthylene	208-96-8	1.98	25.1	15.9	J	ug/Kg	SW8270SIM	09/18/11
Acenaphthene	83-32-9	2.15	25.1	6.61	J	ug/Kg	SW8270SIM	09/18/11
Fluorene	86-73-7	2.20	25.1	5.39	J	ug/Kg	SW8270SIM	09/18/11
Phenanthrene	85-01-8	2.23	25.1	57.0		ug/Kg	SW8270SIM	09/18/11
Anthracene	120-12-7	2.32	25.1	54.2		ug/Kg	SW8270SIM	09/18/11
Fluoranthene	206-44-0	2.16	25.1	208		ug/Kg	SW8270SIM	09/18/11
Pyrene	129-00-0	2.24	25.1	265		ug/Kg	SW8270SIM	09/18/11
Benzo(a)anthracene	56-55-3	2.04	25.1	174		ug/Kg	SW8270SIM	09/18/11
Chrysene	218-01-9	3.34	25.1	228		ug/Kg	SW8270SIM	09/18/11
Benzo(b)fluoroanthene	205-99-2	1.69	25.1	266		ug/Kg	SW8270SIM	09/18/11
Benzo(k)fluoranthene	207-08-9	3.30	25.1	94.2		ug/Kg	SW8270SIM	09/18/11
Benzo(a)pyrene	50-32-8	1.40	25.1	169		ug/Kg	SW8270SIM	09/18/11
Indeno(1,2,3-c,d)pyrene	193-39-5	3.36	25.1	176		ug/Kg	SW8270SIM	09/18/11
Dibenzo(a,h)anthracene	53-70-3	3.06	25.1	28.6		ug/Kg	SW8270SIM	09/18/11
Benzo(g,h,i)perylene	191-24-2	4.35	25.1	310		ug/Kg	SW8270SIM	09/18/11

Surrogate	% Recovery	Control Limits	Qualifier
Terphenyl-d14	74	18-137	

U=Not detected at specified reporting limit
J=Estimated value below reporting limit
E=Estimated value above calibration range
*=See case narrative

1100 NE Circle Blvd., Suite 300
Corvallis, OR 97330
Tel 541-768-3120 Fax 541-752-0276

CH2M HILL Applied Sciences Laboratory (ASL)

Client Information

Client Sample ID: HSCS-7

Project Name: NW Pipe
Sample Date: 09/16/11
Sample Time: 09:14
Type: Grab
Matrix: Soil
Basis: Dry Weight

Lab Information

Lab Sample ID: K277503

Date Received: 09/16/11
Dilution Factor: 10
Report Revision No.: 0

Analyte	CAS#	MDL	MRL	Sample Result	Qualifier	Units	Analysis Method	Date Analyzed
GC/MS Semi-Volatiles								
Naphthalene	91-20-3	2.11	24.7	6.18	J	ug/Kg	SW8270SIM	09/18/11
2-Methylnaphthalene	91-57-6	1.59	24.7	4.36	J	ug/Kg	SW8270SIM	09/18/11
1-Methylnaphthalene	90-12-0	2.23	24.7	2.49	J	ug/Kg	SW8270SIM	09/18/11
Acenaphthylene	208-96-8	1.95	24.7	53.2		ug/Kg	SW8270SIM	09/18/11
Acenaphthene	83-32-9	2.11	24.7	2.11	U	ug/Kg	SW8270SIM	09/18/11
Fluorene	86-73-7	2.16	24.7	3.16	J	ug/Kg	SW8270SIM	09/18/11
Phenanthrene	85-01-8	2.20	24.7	14.3	J	ug/Kg	SW8270SIM	09/18/11
Anthracene	120-12-7	2.28	24.7	20.8	J	ug/Kg	SW8270SIM	09/18/11
Fluoranthene	206-44-0	2.13	24.7	47.1		ug/Kg	SW8270SIM	09/18/11
Pyrene	129-00-0	2.20	24.7	71.3		ug/Kg	SW8270SIM	09/18/11
Benzo(a)anthracene	56-55-3	2.01	24.7	62.3		ug/Kg	SW8270SIM	09/18/11
Chrysene	218-01-9	3.29	24.7	97.8		ug/Kg	SW8270SIM	09/18/11
Benzo(b)fluoroanthene	205-99-2	1.66	24.7	159		ug/Kg	SW8270SIM	09/18/11
Benzo(k)fluoranthene	207-08-9	3.25	24.7	58.0		ug/Kg	SW8270SIM	09/18/11
Benzo(a)pyrene	50-32-8	1.38	24.7	143		ug/Kg	SW8270SIM	09/18/11
Indeno(1,2,3-c,d)pyrene	193-39-5	3.30	24.7	161		ug/Kg	SW8270SIM	09/18/11
Dibenzo(a,h)anthracene	53-70-3	3.01	24.7	52.1		ug/Kg	SW8270SIM	09/18/11
Benzo(g,h,i)perylene	191-24-2	4.28	24.7	261		ug/Kg	SW8270SIM	09/18/11

Surrogate	% Recovery	Control Limits	Qualifier
Terphenyl-d14	68	18-137	

U=Not detected at specified reporting limit
J=Estimated value below reporting limit
E=Estimated value above calibration range
*=See case narrative

2300 NE Circle Blvd., Suite 300
Corvallis, OR 97330
Tel 541-768-3120 Fax 541-752-0276

CH2M HILL Applied Sciences Laboratory (ASL)

Client Information

Client Sample ID: HSCS-8

Project Name: NW Pipe
Sample Date: 09/16/11
Sample Time: 09:20
Type: Grab
Matrix: Soil
Basis: Dry Weight

Lab Information

Lab Sample ID: K277504

Date Received: 09/16/11
Dilution Factor: 10
Report Revision No.: 0

Analyte	CAS#	MDL	MRL	Sample Result	Qualifier	Units	Analysis Method	Date Analyzed
GC/MS Semi-Volatiles								
Naphthalene	91-20-3	2.16	25.3	2.16	U	ug/Kg	SW8270SIM	09/18/11
2-Methylnaphthalene	91-57-6	1.63	25.3	1.63	U	ug/Kg	SW8270SIM	09/18/11
1-Methylnaphthalene	90-12-0	2.29	25.3	2.29	U	ug/Kg	SW8270SIM	09/18/11
Acenaphthylene	208-96-8	2.00	25.3	2.00	U	ug/Kg	SW8270SIM	09/18/11
Acenaphthene	83-32-9	2.16	25.3	2.16	U	ug/Kg	SW8270SIM	09/18/11
Fluorene	86-73-7	2.21	25.3	2.21	U	ug/Kg	SW8270SIM	09/18/11
Phenanthrene	85-01-8	2.25	25.3	3.19	J	ug/Kg	SW8270SIM	09/18/11
Anthracene	120-12-7	2.34	25.3	2.34	U	ug/Kg	SW8270SIM	09/18/11
Fluoranthene	206-44-0	2.18	25.3	3.18	J	ug/Kg	SW8270SIM	09/18/11
Pyrene	129-00-0	2.25	25.3	3.46	J	ug/Kg	SW8270SIM	09/18/11
Benzo(a)anthracene	56-55-3	2.06	25.3	2.06	U	ug/Kg	SW8270SIM	09/18/11
Chrysene	218-01-9	3.37	25.3	3.37	U	ug/Kg	SW8270SIM	09/18/11
Benzo(b)fluoroanthene	205-99-2	1.70	25.3	2.75	J	ug/Kg	SW8270SIM	09/18/11
Benzo(k)fluoranthene	207-08-9	3.33	25.3	3.33	U	ug/Kg	SW8270SIM	09/18/11
Benzo(a)pyrene	50-32-8	1.41	25.3	2.03	J	ug/Kg	SW8270SIM	09/18/11
Indeno(1,2,3-c,d)pyrene	193-39-5	3.38	25.3	16.3	J	ug/Kg	SW8270SIM	09/18/11
Dibenzo(a,h)anthracene	53-70-3	3.09	25.3	3.09	U	ug/Kg	SW8270SIM	09/18/11
Benzo(g,h,i)perylene	191-24-2	4.38	25.3	4.38	U	ug/Kg	SW8270SIM	09/18/11

Surrogate	% Recovery	Control Limits	Qualifier
Terphenyl-d14	68	18-137	

U=Not detected at specified reporting limit
J=Estimated value below reporting limit
E=Estimated value above calibration range
*=See case narrative

1100 NE Circle Blvd., Suite 300
Corvallis, OR 97330
Tel 541-768-3120 Fax 541-752-0276

CH2M HILL Applied Sciences Laboratory (ASL)

Client Information

Client Sample ID: HSCS-9

Project Name: NW Pipe
Sample Date: 09/16/11
Sample Time: 09:24
Type: Grab
Matrix: Soil
Basis: Dry Weight

Lab Information

Lab Sample ID: K277505

Date Received: 09/16/11
Dilution Factor: 10
Report Revision No.: 0

Analyte	CAS#	MDL	MRL	Sample Result	Qualifier	Units	Analysis Method	Date Analyzed
GC/MS Semi-Volatiles								
Naphthalene	91-20-3	2.21	25.8	2.21	U	ug/Kg	SW8270SIM	09/18/11
2-Methylnaphthalene	91-57-6	1.66	25.8	1.66	U	ug/Kg	SW8270SIM	09/18/11
1-Methylnaphthalene	90-12-0	2.34	25.8	2.34	U	ug/Kg	SW8270SIM	09/18/11
Acenaphthylene	208-96-8	2.04	25.8	2.04	U	ug/Kg	SW8270SIM	09/18/11
Acenaphthene	83-32-9	2.21	25.8	2.21	U	ug/Kg	SW8270SIM	09/18/11
Fluorene	86-73-7	2.26	25.8	2.26	U	ug/Kg	SW8270SIM	09/18/11
Phenanthrene	85-01-8	2.30	25.8	2.30	U	ug/Kg	SW8270SIM	09/18/11
Anthracene	120-12-7	2.39	25.8	2.39	U	ug/Kg	SW8270SIM	09/18/11
Fluoranthene	206-44-0	2.23	25.8	2.23	U	ug/Kg	SW8270SIM	09/18/11
Pyrene	129-00-0	2.31	25.8	2.31	U	ug/Kg	SW8270SIM	09/18/11
Benzo(a)anthracene	56-55-3	2.11	25.8	2.11	U	ug/Kg	SW8270SIM	09/18/11
Chrysene	218-01-9	3.44	25.8	3.44	U	ug/Kg	SW8270SIM	09/18/11
Benzo(b)fluoroanthene	205-99-2	1.74	25.8	1.74	U	ug/Kg	SW8270SIM	09/18/11
Benzo(k)fluoranthene	207-08-9	3.40	25.8	3.40	U	ug/Kg	SW8270SIM	09/18/11
Benzo(a)pyrene	50-32-8	1.44	25.8	1.44	U	ug/Kg	SW8270SIM	09/18/11
Indeno(1,2,3-c,d)pyrene	193-39-5	3.46	25.8	16.6	J	ug/Kg	SW8270SIM	09/18/11
Dibenzo(a,h)anthracene	53-70-3	3.16	25.8	3.16	U	ug/Kg	SW8270SIM	09/18/11
Benzo(g,h,i)perylene	191-24-2	4.48	25.8	4.48	U	ug/Kg	SW8270SIM	09/18/11

Surrogate	% Recovery	Control Limits	Qualifier
Terphenyl-d14	65	18-137	

U=Not detected at specified reporting limit
J=Estimated value below reporting limit
E=Estimated value above calibration range
*=See case narrative

1100 NE Circle Blvd., Suite 300
Corvallis, OR 97330
Tel 541-768-3120 Fax 541-752-0276

CH2M HILL Applied Sciences Laboratory (ASL)

Client Information

Client Sample ID: HSCS-10

Project Name: NW Pipe
Sample Date: 09/16/11
Sample Time: 09:28
Type: Grab
Matrix: Soil
Basis: Dry Weight

Lab Information

Lab Sample ID: K277506

Date Received: 09/16/11
Dilution Factor: 10
Report Revision No.: 0

Analyte	CAS#	MDL	MRL	Sample Result	Qualifier	Units	Analysis Method	Date Analyzed
GC/MS Semi-Volatiles								
Naphthalene	91-20-3	2.15	25.1	2.15	U	ug/Kg	SW8270SIM	09/18/11
2-Methylnaphthalene	91-57-6	1.62	25.1	1.62	U	ug/Kg	SW8270SIM	09/18/11
1-Methylnaphthalene	90-12-0	2.27	25.1	2.27	U	ug/Kg	SW8270SIM	09/18/11
Acenaphthylene	208-96-8	1.99	25.1	1.99	U	ug/Kg	SW8270SIM	09/18/11
Acenaphthene	83-32-9	2.15	25.1	2.15	U	ug/Kg	SW8270SIM	09/18/11
Fluorene	86-73-7	2.20	25.1	2.20	U	ug/Kg	SW8270SIM	09/18/11
Phenanthrene	85-01-8	2.24	25.1	4.91	J	ug/Kg	SW8270SIM	09/18/11
Anthracene	120-12-7	2.33	25.1	7.20	J	ug/Kg	SW8270SIM	09/18/11
Fluoranthene	206-44-0	2.17	25.1	11.9	J	ug/Kg	SW8270SIM	09/18/11
Pyrene	129-00-0	2.24	25.1	13.4	J	ug/Kg	SW8270SIM	09/18/11
Benzo(a)anthracene	56-55-3	2.05	25.1	9.31	J	ug/Kg	SW8270SIM	09/18/11
Chrysene	218-01-9	3.35	25.1	7.99	J	ug/Kg	SW8270SIM	09/18/11
Benzo(b)fluoroanthene	205-99-2	1.70	25.1	15.5	J	ug/Kg	SW8270SIM	09/18/11
Benzo(k)fluoranthene	207-08-9	3.31	25.1	7.79	J	ug/Kg	SW8270SIM	09/18/11
Benzo(a)pyrene	50-32-8	1.40	25.1	10.8	J	ug/Kg	SW8270SIM	09/18/11
Indeno(1,2,3-c,d)pyrene	193-39-5	3.37	25.1	25.6		ug/Kg	SW8270SIM	09/18/11
Dibenzo(a,h)anthracene	53-70-3	3.07	25.1	3.07	U	ug/Kg	SW8270SIM	09/18/11
Benzo(g,h,i)perylene	191-24-2	4.36	25.1	18.8	J	ug/Kg	SW8270SIM	09/18/11

Surrogate	% Recovery	Control Limits	Qualifier
Terphenyl-d14	65	18-137	

U=Not detected at specified reporting limit
J=Estimated value below reporting limit
E=Estimated value above calibration range
*=See case narrative

1150 NE Circle Blvd., Suite 300
Corvallis, OR 97330
Tel 541-768-3120 Fax 541-752-0276

CH2M HILL Applied Sciences Laboratory (ASL)

Client Information

Client Sample ID: SB4-0916

Project Name: NW Pipe
Sample Date: N/A
Sample Time: N/A
Type: QC
Matrix: Soil
Basis: Dry Weight

Lab Information

Lab Sample ID: SB4-0916

Date Received: N/A
Dilution Factor: 1
Report Revision No.: 0

Analyte	CAS#	MDL	MRL	Sample Result	Qualifier	Units	Analysis Method	Date Analyzed
GC/MS Semi-Volatiles								
Naphthalene	91-20-3	0.21	2.50	0.21	U	ug/Kg	SW8270SIM	09/17/11
2-Methylnaphthalene	91-57-6	0.16	2.50	0.16	U	ug/Kg	SW8270SIM	09/17/11
1-Methylnaphthalene	90-12-0	0.23	2.50	0.23	U	ug/Kg	SW8270SIM	09/17/11
Acenaphthylene	208-96-8	0.20	2.50	0.20	U	ug/Kg	SW8270SIM	09/17/11
Acenaphthene	83-32-9	0.21	2.50	0.25	J	ug/Kg	SW8270SIM	09/17/11
Fluorene	86-73-7	0.22	2.50	0.22	U	ug/Kg	SW8270SIM	09/17/11
Phenanthrene	85-01-8	0.22	2.50	1.22	J	ug/Kg	SW8270SIM	09/17/11
Anthracene	120-12-7	0.23	2.50	0.23	U	ug/Kg	SW8270SIM	09/17/11
Fluoranthene	206-44-0	0.22	2.50	0.99	J	ug/Kg	SW8270SIM	09/17/11
Pyrene	129-00-0	0.22	2.50	0.52	J	ug/Kg	SW8270SIM	09/17/11
Benzo(a)anthracene	56-55-3	0.20	2.50	0.20	U	ug/Kg	SW8270SIM	09/17/11
Chrysene	218-01-9	0.33	2.50	0.33	U	ug/Kg	SW8270SIM	09/17/11
Benzo(b)fluoroanthene	205-99-2	0.17	2.50	0.33	J	ug/Kg	SW8270SIM	09/17/11
Benzo(k)fluoranthene	207-08-9	0.33	2.50	0.33	U	ug/Kg	SW8270SIM	09/17/11
Benzo(a)pyrene	50-32-8	0.14	2.50	0.14	U	ug/Kg	SW8270SIM	09/17/11
Indeno(1,2,3-c,d)pyrene	193-39-5	0.33	2.50	0.33	U	ug/Kg	SW8270SIM	09/17/11
Dibenzo(a,h)anthracene	53-70-3	0.31	2.50	0.31	U	ug/Kg	SW8270SIM	09/17/11
Benzo(g,h,i)perylene	191-24-2	0.43	2.50	0.43	U	ug/Kg	SW8270SIM	09/17/11

Surrogate	% Recovery	Control Limits	Qualifier
Terphenyl-d14	62	18-137	

U=Not detected at specified reporting limit
J=Estimated value below reporting limit
E=Estimated value above calibration range
*=See case narrative

1100 NE Circle Blvd., Suite 300
Corvallis, OR 97330
Tel 541-768-3120 Fax 541-752-0276

CH2M HILL Applied Sciences Laboratory (ASL)

Client Information

Client Sample ID: BS4S0916

Project Name: NW Pipe
Type: QC
Matrix: Soil

Lab Information

Lab Sample ID: BS4S0916

Dilution Factor: 1
Report Revision No.: 0

Analyte	CAS#	Spike Amount	Sample Result	Units	%Recovery	Analysis Method	Date Analyzed
GC/MS Semi-Volatiles							
Fluoranthene	206-44-0	50.0	42.8	ug/Kg	86	SW8270SIM	09/17/11
Pyrene	129-00-0	50.0	39.2	ug/Kg	78	SW8270SIM	09/17/11
Benzo(a)anthracene	56-55-3	50.0	44.2	ug/Kg	88	SW8270SIM	09/17/11
Chrysene	218-01-9	50.0	39.7	ug/Kg	79	SW8270SIM	09/17/11
Benzo(b)fluoroanthene	205-99-2	50.0	48.1	ug/Kg	96	SW8270SIM	09/17/11
Benzo(k)fluoranthene	207-08-9	50.0	46.8	ug/Kg	94	SW8270SIM	09/17/11
Benzo(a)pyrene	50-32-8	50.0	43.6	ug/Kg	87	SW8270SIM	09/17/11
Indeno(1,2,3-c,d)pyrene	193-39-5	50.0	38.8	ug/Kg	78	SW8270SIM	09/17/11
Naphthalene	91-20-3	50.0	33.2	ug/Kg	66	SW8270SIM	09/17/11
2-Methylnaphthalene	91-57-6	50.0	33.0	ug/Kg	66	SW8270SIM	09/17/11
1-Methylnaphthalene	90-12-0	50.0	33.7	ug/Kg	67	SW8270SIM	09/17/11
Acenaphthylene	208-96-8	50.0	36.1	ug/Kg	72	SW8270SIM	09/17/11
Acenaphthene	83-32-9	50.0	34.7	ug/Kg	69	SW8270SIM	09/17/11
Fluorene	86-73-7	50.0	37.7	ug/Kg	75	SW8270SIM	09/17/11
Phenanthrene	85-01-8	50.0	39.8	ug/Kg	80	SW8270SIM	09/17/11
Anthracene	120-12-7	50.0	38.2	ug/Kg	76	SW8270SIM	09/17/11
Dibenzo(a,h)anthracene	53-70-3	50.0	39.6	ug/Kg	79	SW8270SIM	09/17/11
Benzo(g,h,i)perylene	191-24-2	50.0	42.2	ug/Kg	84	SW8270SIM	09/17/11

Surrogate	% Recovery	Control Limits	Qualifier
Terphenyl-d14	68	18-137	

U=Not detected at specified reporting limit
J=Estimated value below reporting limit
E=Estimated value above calibration range
*=See case narrative

1100 NE Circle Blvd., Suite 300
Corvallis, OR 97330
Tel 541-768-3120 Fax 541-752-0276

CH2MHILL Applied Sciences Lab
CHAIN OF CUSTODY RECORD
AND AGREEMENT TO PERFORM SERVICES

1100
~~4000~~ NE Circle Blvd., Suite ~~40350~~ 300
Corvallis, OR 97330
(541) 768-3120 FAX (541) 752-0276

COC #

Project # or Purchase Order # 358932. RI. 13	
Project Name NW Pipe	
Company Name or Home Address/Phone Number	
Email Address for Reporting pheins@CH2M.com	**Report Copy to:** Rob Healy/PDX
Turnaround Time ☒ 24 hours ☐ 48 hours ☐ 72 hours ☐ 7 days ☐ 14 days ☐ 21 days (STD)	**Drinking Water?** Yes ☐ No ☒ **Sample Disposal:** Dispose ☒ Return ☐

THIS AREA FOR LAB USE ONLY

Lab # K2775 | Page 1 | of 1

2.4°C

EPA Tier QC Level 1 (Screening) 2 3 4

Sampling Date	Sampling Time	Type COMP	Type GRAB	Matrix WATER	Matrix SOIL	Matrix AIR	CLIENT SAMPLE ID	TOTAL # OF CONTAINERS	Requested Analytical Method # PAH 8270 SIM	Preservative UNPRES	Preservative H_2SO_4	Preservative HNO_3	Preservative HCl	Preservative NaOH	Preservative ZnAcNaOH	Canister ID	Lab ID
9/16/11	9:05		X		X		HSCS-5	1		X							-1
9/16/11	9:16		X		X		HSCS-6	1		X							-2
9/16/11	9:14		X		X		HSCS-7	1		X							-3
9/16/11	9:20		X		X		HSCS-8	1		X							-4
9/16/11	9:24		X		X		HSCS-9	1		X							-5
9/16/11	9:28		X		X		HSCS-10	1		X							-6

Possible Hazard Identification: ☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Volatile Contaminants/Odorous ☐ Biohazard ☐ Other _____

Relinquished By	Pat Heins	**Date/Time** 9/16/11 10:45	**Received By:** **Date/Time**
Sampled By and Title	(Please sign and print name)	**Date/Time**	**Relinquished By** (Please sign and print name) **Date/Time**
Received By Kathy McKenzie	(Please sign and print name)	**Date/Time** 9/16/11 1330	**Relinquished By** (Please sign and print name) **Date/Time**
Received By	(Please sign and print name)	**Date/Time**	**Shipped Via** UPS Fed-Ex Other _____ **Tracking #**

Special Instructions Rush!! need data by Monday 9/19/11

Instructions and Agreement Provisions on Reverse Side

DISTRIBUTION: Original – LAB, Yellow – LAB, Pink – Client
Rev 09/2010 LAB FORM 340

CH2MHILL
Applied Sciences Laboratory (ASL)

Sample Receipt Record

Batch Number: K2775

Client/Project: NW PIPE

Date received: 9/16/11

Checked by: ICH

Checked by: RM

VERIFICATION OF SAMPLE CONDITIONS (verify all items) * HD = Client Hand delivered Samples

Observation	NA	YES	NO
Radiological Screening for DoD	X		
Were custody seals intact and on the outside of the cooler?	HD		
Type of packing material: (Ice) Blue Ice Bubble wrap			
Was a Chain of Custody provided?		X	
Was the Chain of Custody properly filled out? If not document in SRER		X	
Were the sample containers in good condition (broken or leaking)?		X	
Containers supplied by ASL?		X	
Any sample with < 1/2 holding time remaining? If so contact LPM			X
Samples have multi-phase? If yes, document on SRER			X
Was there ice in the cooler? Enter temp. If >6°C contact client/SRER 2.4 °C		X	
All VOCs free of air bubbles? No, document on SRER	X		
pH of all samples checked and met requirements? No, then document in SRER	X		
Enough sample volume provided for analysis? No, document in SRER		X	
Did sample labels agree with COC? No, document in SRER		X	
Dissolved/Soluble metals filtered in the field?	X		
Dissolved/Soluble metals have sediment in bottom of container? Document in SRER	—		

Sample ID	Reagent	Reagent Lot Number	Volume Added	Initials