



ANALYTICAL REPORT

For:
NW Pipe - Source Control

ASL Report #: L3025
Project ID: 358932.TT.05
Attn: Pat Heins/PDX

cc:
Tina Rice/tina.rice@critigen.com

Authorized and Released By:

Kathy McKinley

Laboratory Project Manager
Kathy McKinley
(541) 758-0235 ext.23144
January 10, 2013

All analyses performed by CH2M HILL are clearly indicated. Any subcontracted analyses are included as appended reports as received from the subcontracted laboratory. 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.

Any unusual difficulties encountered during the analysis of your samples are discussed in the attached case narratives.



Oregon (100022)
Arizona (0771)
Louisiana (05031)

ASL Report #: L3025

Sample Receipt Comments

We certify that the test results meet all NELAP requirements.

Some analyses were performed by an outside laboratory and their report is attached.

Sample Cross-Reference

ASL Sample ID	Client Sample ID	Date/Time Collected	Date Received
L302501	SW03-121112-SCE	12/11/12 12:20	12/12/12
L302502	SW04-121112-SCE	12/11/12 12:55	12/12/12

**CASE NARRATIVE
GC/MS VOLATILES ANALYSIS**

Lab Name: CH2M HILL/LAB/CVO

ASL SDG#: L3025

Project: NW Pipe

Project #: 358932.TT.05

I. Method(s):

Analysis: E624

Preparation: SW5030

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):

ASL does not analyze a second source verification for acrolein/acrylonitrile due to the lack of reliable vendor of second source standard material.

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. BFB Tune Verification(s):

All acceptance criteria were met.

H. Internal Standard(s):

All acceptance criteria were met.

I. Analytical Exception(s):

All analyses were performed in accordance with 40 CFR Part 136.

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: 1/2/13

Reviewed by: _____

Date: 1/9/13

CH2M HILL Applied Sciences Laboratory (ASL)

Client Information				Lab Information			
Client Sample ID: SW03-121112-SCE				Lab Sample ID: L302501			
Project Name: NW Pipe				Date Received: 12/12/12			
Sample Date: 12/11/12				Dilution Factor: 1			
Sample Time: 12:20				Report Revision No.: 0			
Type: Grab							
Matrix: Water							

Analyte	CAS#	DL	RL	Sample Result	Qualifier	Units	Analysis Method	Date Analyzed
GC/MS Volatiles								
Dichlorodifluoromethane	75-71-8	0.20	0.50	0.50	U	ug/L	E624	12/17/12
Chloromethane	74-87-3	0.20	0.50	0.50	U	ug/L	E624	12/17/12
Vinyl Chloride	75-01-4	0.20	0.50	0.50	U	ug/L	E624	12/17/12
Bromomethane	74-83-9	0.20	0.50	0.50	U	ug/L	E624	12/17/12
Chloroethane	75-00-3	0.20	0.50	0.50	U	ug/L	E624	12/17/12
Trichlorofluoromethane	75-69-4	0.20	0.50	0.50	U	ug/L	E624	12/17/12
Acrolein	107-02-8	0.50	2.00	2.00	U	ug/L	E624	12/17/12
1,1-Dichloroethene	75-35-4	0.20	0.50	0.50	U	ug/L	E624	12/17/12
Acrylonitrile	107-13-1	0.50	2.00	2.00	U	ug/L	E624	12/17/12
Methylene chloride	75-09-2	0.20	0.50	0.50	U	ug/L	E624	12/17/12
trans-1,2-Dichloroethene	156-60-5	0.20	0.50	0.50	U	ug/L	E624	12/17/12
1,1-Dichloroethane	75-34-3	0.20	0.50	0.50	U	ug/L	E624	12/17/12
Chloroform	67-66-3	0.15	0.50	0.50	U	ug/L	E624	12/17/12
1,2-Dichloroethane	107-06-2	0.20	0.50	0.50	U	ug/L	E624	12/17/12
1,1,1-Trichloroethane	71-55-6	0.20	0.50	0.50	U	ug/L	E624	12/17/12
Carbon tetrachloride	56-23-5	0.20	0.50	0.50	U	ug/L	E624	12/17/12
Benzene	71-43-2	0.20	0.50	0.50	U	ug/L	E624	12/17/12
1,2-Dichloropropane	78-87-5	0.20	0.50	0.50	U	ug/L	E624	12/17/12
Trichloroethene (TCE)	79-01-6	0.20	0.50	0.50	U	ug/L	E624	12/17/12
Bromodichloromethane	75-27-4	0.20	0.50	0.50	U	ug/L	E624	12/17/12
2-Chloroethylvinyl ether	110-75-8	0.50	1.00	1.00	U	ug/L	E624	12/17/12
cis-1,3-Dichloropropene	10061-01-5	0.20	0.50	0.50	U	ug/L	E624	12/17/12
trans-1,3-Dichloropropene	10061-02-6	0.20	0.50	0.50	U	ug/L	E624	12/17/12
1,1,2-Trichloroethane	79-00-5	0.20	0.50	0.50	U	ug/L	E624	12/17/12
Toluene	108-88-3	0.20	0.50	0.50	U	ug/L	E624	12/17/12
Dibromochloromethane	124-48-1	0.20	0.50	0.50	U	ug/L	E624	12/17/12
Tetrachloroethene (PCE)	127-18-4	0.20	0.50	0.50	U	ug/L	E624	12/17/12
Chlorobenzene	108-90-7	0.20	0.50	0.50	U	ug/L	E624	12/17/12
Ethylbenzene	100-41-4	0.20	0.50	0.50	U	ug/L	E624	12/17/12
Bromoform	75-25-2	0.20	0.50	0.50	U	ug/L	E624	12/17/12
1,1,2,2-Tetrachloroethane	79-34-5	0.20	0.50	0.50	U	ug/L	E624	12/17/12

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

CH2M HILL Applied Sciences Laboratory (ASL)

<u>Client Information</u>		<u>Lab Information</u>	
Client Sample ID: SW03-121112-SCE		Lab Sample ID: L302501	
Project Name: NW Pipe		Date Received: 12/12/12	
Sample Date: 12/11/12		Dilution Factor: 1	
Sample Time: 12:20		Report Revision No.: 0	
Type: Grab			
Matrix: Water			

Analyte	CAS#	DL	RL	Sample Result	Qualifier	Units	Analysis Method	Date Analyzed
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GC/MS Volatiles

<u>Surrogate</u>	<u>% Recovery</u>	<u>Control Limits</u>	<u>Qualifier</u>
Dibromofluoromethane	99	75-125	
1,2-Dichloroethane-d4	96	75-125	
Toluene-d8	94	75-125	
4-Bromofluorobenzene	96	75-125	

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

CH2M HILL Applied Sciences Laboratory (ASL)

<u>Client Information</u>	<u>Lab Information</u>
Client Sample ID: SW04-121112-SCE	Lab Sample ID: L302502
Project Name: NW Pipe	Date Received: 12/12/12
Sample Date: 12/11/12	Dilution Factor: 1
Sample Time: 12:55	Report Revision No.: 0
Type: Grab	
Matrix: Water	

Analyte	CAS#	DL	RL	Sample Result	Qualifier	Units	Analysis Method	Date Analyzed
GC/MS Volatiles								
Dichlorodifluoromethane	75-71-8	0.20	0.50	0.50	U	ug/L	E624	12/17/12
Chloromethane	74-87-3	0.20	0.50	0.50	U	ug/L	E624	12/17/12
Vinyl Chloride	75-01-4	0.20	0.50	0.50	U	ug/L	E624	12/17/12
Bromomethane	74-83-9	0.20	0.50	0.50	U	ug/L	E624	12/17/12
Chloroethane	75-00-3	0.20	0.50	0.50	U	ug/L	E624	12/17/12
Trichlorofluoromethane	75-69-4	0.20	0.50	0.50	U	ug/L	E624	12/17/12
Acrolein	107-02-8	0.50	2.00	2.00	U	ug/L	E624	12/17/12
1,1-Dichloroethene	75-35-4	0.20	0.50	0.50	U	ug/L	E624	12/17/12
Acrylonitrile	107-13-1	0.50	2.00	2.00	U	ug/L	E624	12/17/12
Methylene chloride	75-09-2	0.20	0.50	0.50	U	ug/L	E624	12/17/12
trans-1,2-Dichloroethene	156-60-5	0.20	0.50	0.50	U	ug/L	E624	12/17/12
1,1-Dichloroethane	75-34-3	0.20	0.50	0.50	U	ug/L	E624	12/17/12
Chloroform	67-66-3	0.15	0.50	0.50	U	ug/L	E624	12/17/12
1,2-Dichloroethane	107-06-2	0.20	0.50	0.50	U	ug/L	E624	12/17/12
1,1,1-Trichloroethane	71-55-6	0.20	0.50	0.50	U	ug/L	E624	12/17/12
Carbon tetrachloride	56-23-5	0.20	0.50	0.50	U	ug/L	E624	12/17/12
Benzene	71-43-2	0.20	0.50	0.50	U	ug/L	E624	12/17/12
1,2-Dichloropropane	78-87-5	0.20	0.50	0.50	U	ug/L	E624	12/17/12
Trichloroethene (TCE)	79-01-6	0.20	0.50	0.50	U	ug/L	E624	12/17/12
Bromodichloromethane	75-27-4	0.20	0.50	0.50	U	ug/L	E624	12/17/12
2-Chloroethylvinyl ether	110-75-8	0.50	1.00	1.00	U	ug/L	E624	12/17/12
cis-1,3-Dichloropropene	10061-01-5	0.20	0.50	0.50	U	ug/L	E624	12/17/12
trans-1,3-Dichloropropene	10061-02-6	0.20	0.50	0.50	U	ug/L	E624	12/17/12
1,1,2-Trichloroethane	79-00-5	0.20	0.50	0.50	U	ug/L	E624	12/17/12
Toluene	108-88-3	0.20	0.50	0.50	U	ug/L	E624	12/17/12
Dibromochloromethane	124-48-1	0.20	0.50	0.50	U	ug/L	E624	12/17/12
Tetrachloroethene (PCE)	127-18-4	0.20	0.50	0.50	U	ug/L	E624	12/17/12
Chlorobenzene	108-90-7	0.20	0.50	0.50	U	ug/L	E624	12/17/12
Ethylbenzene	100-41-4	0.20	0.50	0.50	U	ug/L	E624	12/17/12
Bromoform	75-25-2	0.20	0.50	0.50	U	ug/L	E624	12/17/12
1,1,1,2-Tetrachloroethane	79-34-5	0.20	0.50	0.50	U	ug/L	E624	12/17/12

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

CH2M HILL Applied Sciences Laboratory (ASL)

<u>Client Information</u>		<u>Lab Information</u>	
Client Sample ID: SW04-121112-SCE		Lab Sample ID: L302502	
Project Name: NW Pipe		Date Received: 12/12/12	
Sample Date: 12/11/12		Dilution Factor: 1	
Sample Time: 12:55		Report Revision No.: 0	
Type: Grab			
Matrix: Water			

Analyte	CAS#	DL	RL	Sample Result	Qualifier	Units	Analysis Method	Date Analyzed
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GC/MS Volatiles

<u>Surrogate</u>	<u>% Recovery</u>	<u>Control Limits</u>	<u>Qualifier</u>
Dibromofluoromethane	102	75-125	
1,2-Dichloroethane-d4	99	75-125	
Toluene-d8	96	75-125	
4-Bromofluorobenzene	99	75-125	

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

CH2M HILL Applied Sciences Laboratory (ASL)

<u>Client Information</u>	<u>Lab Information</u>
Client Sample ID: WB1-1217	Lab Sample ID: WB1-1217
Project Name: NW Pipe	Date Received: N/A
Sample Date: N/A	Dilution Factor: 1
Sample Time: N/A	Report Revision No.: 0
Type: QC	
Matrix: Water	

Analyte	CAS#	DL	RL	Sample Result	Qualifier	Units	Analysis Method	Date Analyzed
GC/MS Volatiles								
Dichlorodifluoromethane	75-71-8	0.20	0.50	0.50	U	ug/L	E624	12/17/12
Chloromethane	74-87-3	0.20	0.50	0.50	U	ug/L	E624	12/17/12
Vinyl Chloride	75-01-4	0.20	0.50	0.50	U	ug/L	E624	12/17/12
Bromomethane	74-83-9	0.20	0.50	0.50	U	ug/L	E624	12/17/12
Chloroethane	75-00-3	0.20	0.50	0.50	U	ug/L	E624	12/17/12
Trichlorofluoromethane	75-69-4	0.20	0.50	0.50	U	ug/L	E624	12/17/12
Acrolein	107-02-8	0.50	2.00	2.00	U	ug/L	E624	12/17/12
1,1-Dichloroethene	75-35-4	0.20	0.50	0.50	U	ug/L	E624	12/17/12
Acrylonitrile	107-13-1	0.50	2.00	2.00	U	ug/L	E624	12/17/12
Methylene chloride	75-09-2	0.20	0.50	0.50	U	ug/L	E624	12/17/12
trans-1,2-Dichloroethene	156-60-5	0.20	0.50	0.50	U	ug/L	E624	12/17/12
1,1-Dichloroethane	75-34-3	0.20	0.50	0.50	U	ug/L	E624	12/17/12
Chloroform	67-66-3	0.15	0.50	0.50	U	ug/L	E624	12/17/12
1,2-Dichloroethane	107-06-2	0.20	0.50	0.50	U	ug/L	E624	12/17/12
1,1,1-Trichloroethane	71-55-6	0.20	0.50	0.50	U	ug/L	E624	12/17/12
Carbon tetrachloride	56-23-5	0.20	0.50	0.50	U	ug/L	E624	12/17/12
Benzene	71-43-2	0.20	0.50	0.50	U	ug/L	E624	12/17/12
1,2-Dichloropropane	78-87-5	0.20	0.50	0.50	U	ug/L	E624	12/17/12
Trichloroethene (TCE)	79-01-6	0.20	0.50	0.50	U	ug/L	E624	12/17/12
Bromodichloromethane	75-27-4	0.20	0.50	0.50	U	ug/L	E624	12/17/12
2-Chloroethylvinyl ether	110-75-8	0.50	1.00	1.00	U	ug/L	E624	12/17/12
cis-1,3-Dichloropropene	10061-01-5	0.20	0.50	0.50	U	ug/L	E624	12/17/12
trans-1,3-Dichloropropene	10061-02-6	0.20	0.50	0.50	U	ug/L	E624	12/17/12
1,1,2-Trichloroethane	79-00-5	0.20	0.50	0.50	U	ug/L	E624	12/17/12
Toluene	108-88-3	0.20	0.50	0.50	U	ug/L	E624	12/17/12
Dibromochloromethane	124-48-1	0.20	0.50	0.50	U	ug/L	E624	12/17/12
Tetrachloroethene (PCE)	127-18-4	0.20	0.50	0.50	U	ug/L	E624	12/17/12
Chlorobenzene	108-90-7	0.20	0.50	0.50	U	ug/L	E624	12/17/12
Ethylbenzene	100-41-4	0.20	0.50	0.50	U	ug/L	E624	12/17/12
Bromoform	75-25-2	0.20	0.50	0.50	U	ug/L	E624	12/17/12
1,1,2,2-Tetrachloroethane	79-34-5	0.20	0.50	0.50	U	ug/L	E624	12/17/12

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

CH2M HILL Applied Sciences Laboratory (ASL)

<u>Client Information</u>	<u>Lab Information</u>
Client Sample ID: WB1-1217	Lab Sample ID: WB1-1217
Project Name: NW Pipe	Date Received: N/A
Sample Date: N/A	Dilution Factor: 1
Sample Time: N/A	Report Revision No.: 0
Type: QC	
Matrix: Water	
Basis: As Received	

Analyte	CAS#	DL	RL	Sample Result	Qualifier	Units	Analysis Method	Date Analyzed
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GC/MS Volatiles

<u>Surrogate</u>	<u>% Recovery</u>	<u>Control Limits</u>	<u>Qualifier</u>
Dibromofluoromethane	102	75-125	
1,2-Dichloroethane-d4	100	75-125	
Toluene-d8	98	75-125	
4-Bromofluorobenzene	101	75-125	

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

CH2M HILL Applied Sciences Laboratory (ASL)

<u>Client Information</u>	<u>Lab Information</u>
Project Name: NW Pipe	LCS ID: BS1W1217
Type: QC	Report Revision No.: 0
Matrix: Water	Dilution Factor: 1

Analyte	CAS#	Spike Amount	Sample Result	Units	%Recovery	Analysis Method	Date Analyzed
GC/MS Volatiles							
Dichlorodifluoromethane	75-71-8	20.0	20.4	ug/L	102	E624	12/17/12
Chloromethane	74-87-3	20.0	21.3	ug/L	107	E624	12/17/12
Vinyl Chloride	75-01-4	20.0	18.4	ug/L	92	E624	12/17/12
Bromomethane	74-83-9	20.0	20.2	ug/L	101	E624	12/17/12
Chloroethane	75-00-3	20.0	16.4	ug/L	82	E624	12/17/12
Trichlorofluoromethane	75-69-4	20.0	21.9	ug/L	109	E624	12/17/12
Acrolein	107-02-8	20.0	0.0	ug/L	0 *	E624	12/17/12
1,1-Dichloroethene	75-35-4	20.0	17.1	ug/L	85	E624	12/17/12
Acrylonitrile	107-13-1	20.0	0.0	ug/L	0 *	E624	12/17/12
Methylene chloride	75-09-2	20.0	19.1	ug/L	96	E624	12/17/12
trans-1,2-Dichloroethene	156-60-5	20.0	18.2	ug/L	91	E624	12/17/12
1,1-Dichloroethane	75-34-3	20.0	18.6	ug/L	93	E624	12/17/12
Chloroform	67-66-3	20.0	18.7	ug/L	93	E624	12/17/12
1,2-Dichloroethane	107-06-2	20.0	18.2	ug/L	91	E624	12/17/12
1,1,1-Trichloroethane	71-55-6	20.0	17.4	ug/L	87	E624	12/17/12
Carbon tetrachloride	56-23-5	20.0	16.3	ug/L	82	E624	12/17/12
Benzene	71-43-2	20.0	18.6	ug/L	93	E624	12/17/12
1,2-Dichloropropane	78-87-5	20.0	18.3	ug/L	91	E624	12/17/12
Trichloroethene (TCE)	79-01-6	20.0	18.8	ug/L	94	E624	12/17/12
Bromodichloromethane	75-27-4	20.0	19.3	ug/L	96	E624	12/17/12
2-Chloroethylvinyl ether	110-75-8	20.0	18.8	ug/L	94	E624	12/17/12
cis-1,3-Dichloropropene	10061-01-5	20.0	17.1	ug/L	86	E624	12/17/12
trans-1,3-Dichloropropene	10061-02-6	20.0	15.1	ug/L	75	E624	12/17/12
1,1,2-Trichloroethane	79-00-5	20.0	18.9	ug/L	95	E624	12/17/12
Toluene	108-88-3	20.0	18.4	ug/L	92	E624	12/17/12
Dibromochloromethane	124-48-1	20.0	18.1	ug/L	91	E624	12/17/12
Tetrachloroethene (PCE)	127-18-4	20.0	18.3	ug/L	91	E624	12/17/12
Chlorobenzene	108-90-7	20.0	18.1	ug/L	90	E624	12/17/12
Ethylbenzene	100-41-4	20.0	17.5	ug/L	88	E624	12/17/12
Bromoform	75-25-2	20.0	20.4	ug/L	102	E624	12/17/12
1,1,2,2-Tetrachloroethane	79-34-5	20.0	17.4	ug/L	87	E624	12/17/12

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

CH2M HILL Applied Sciences Laboratory (ASL)

<u>Client Information</u>	<u>Lab Information</u>
Project Name: NW Pipe	LCS ID: BS1W1217
Type: QC	Report Revision No.: 0
Matrix: Water	Dilution Factor: 1

Analyte	CAS#	Spike Amount	Sample Result	Units	%Recovery	Analysis Method	Date Analyzed
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GC/MS Volatiles

Surrogate	% Recovery	Control Limits	Qualifier
Dibromofluoromethane	97	75-125	
1,2-Dichloroethane-d4	93	75-125	
Toluene-d8	93	75-125	
4-Bromofluorobenzene	96	75-125	

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

CASE NARRATIVE
METALS ANALYSIS

Lab Name: CH2M HILL/LAB/CVO

ASL SDG#: L3025

Project: NW Pipe

Project #: 358932.TT.05

I. Method(s):

Analysis: E200.7, E200.8, E245.1

Preparation: E200.2, METHOD

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. Blanks:

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. Interference Check Sample(s):

All acceptance criteria were met.

G. Serial Dilution(s):

Analyzed in accordance with standard operating procedure.

H. Digestion Exception(s):

Client sample was not a drinking water sample; therefore, the sample was digested without preconcentration.

I. Analytical Exception(s):

All analyses were performed in accordance with 40 CFR Part 136.

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: _____

1-10-13

Reviewed by: _____

Date: _____

1-10-13

CH2M HILL Applied Sciences Laboratory (ASL)

Client Information				Lab Information			
Client Sample ID: SW03-121112-SCE				Lab Sample ID: L302501			
Project Name: NW Pipe				Date Received: 12/12/12			
Sample Date: 12/11/12				Report Revision No.: 0			
Sample Time: 12:20							
Type: Grab							
Matrix: Water							

Analyte	CAS#	Dilution Factor	RL	Sample Result	Qualifier	Units	Analysis Method	Date Analyzed
Metals								
Aluminum	7429-90-5	1	100	175		ug/L	E200.7	01/02/13
Antimony	7440-36-0	1	10.0	10.0	U	ug/L	E200.7	01/02/13
Arsenic	7440-38-2	1	0.50	0.50	U	ug/L	E200.8	12/19/12
Cadmium	7440-43-9	1	0.50	0.50	U	ug/L	E200.8	12/19/12
Chromium	7440-47-3	1	0.50	1.91		ug/L	E200.8	12/19/12
Copper	7440-50-8	1	10.0	10.0	U	ug/L	E200.7	01/02/13
Lead	7439-92-1	1	5.00	5.00	U	ug/L	E200.7	01/02/13
Mercury	7439-97-6	1	0.10	0.10	U	ug/L	E245.1	12/18/12
Nickel	7440-02-0	1	0.50	1.17		ug/L	E200.8	12/19/12
Selenium	7782-49-2	1	0.50	0.50	U	ug/L	E200.8	12/19/12
Silver	7440-22-4	1	1.00	1.00	U	ug/L	E200.8	12/19/12
Zinc	7440-66-6	1	20.0	180		ug/L	E200.7	01/02/13

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

CH2M HILL Applied Sciences Laboratory (ASL)

<u>Client Information</u>				<u>Lab Information</u>			
Client Sample ID: SW04-121112-SCE				Lab Sample ID: L302502			
Project Name: NW Pipe				Date Received: 12/12/12			
Sample Date: 12/11/12				Report Revision No.: 0			
Sample Time: 12:55							
Type: Grab							
Matrix: Water							

Analyte	CAS#	Dilution Factor	RL	Sample Result	Qualifier	Units	Analysis Method	Date Analyzed
Metals								
Aluminum	7429-90-5	1	100	100	U	ug/L	E200.7	01/02/13
Antimony	7440-36-0	1	10.0	10.0	U	ug/L	E200.7	01/02/13
Arsenic	7440-38-2	1	0.50	0.50	U	ug/L	E200.8	12/19/12
Cadmium	7440-43-9	1	0.50	0.50	U	ug/L	E200.8	12/19/12
Chromium	7440-47-3	1	0.50	0.50		ug/L	E200.8	12/19/12
Copper	7440-50-8	1	10.0	10.0	U	ug/L	E200.7	01/02/13
Lead	7439-92-1	1	5.00	5.00	U	ug/L	E200.7	01/02/13
Mercury	7439-97-6	1	0.10	0.10	U	ug/L	E245.1	12/18/12
Nickel	7440-02-0	1	0.50	0.83		ug/L	E200.8	12/19/12
Selenium	7782-49-2	1	0.50	0.50	U	ug/L	E200.8	12/19/12
Silver	7440-22-4	1	1.00	1.00	U	ug/L	E200.8	12/19/12
Zinc	7440-66-6	1	20.0	27.9		ug/L	E200.7	01/02/13

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

CH2M HILL Applied Sciences Laboratory (ASL)

<u>Client Information</u>	<u>Lab Information</u>
Client Sample ID: WB1-1217	Lab Sample ID: WB1-1217
Project Name: NW Pipe	Date Received: N/A
Sample Date: N/A	Report Revision No.: 0
Sample Time: N/A	
Type: QC	
Matrix: Water	

Analyte	CAS#	Dilution Factor	RL	Sample Result	Qualifier	Units	Analysis Method	Date Analyzed
Metals								
Mercury	7439-97-6	1	0.10	0.10	U	ug/L	E245.1	12/18/12

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

CH2M HILL Applied Sciences Laboratory (ASL)

Client Information				Lab Information			
Client Sample ID: WB1-1218				Lab Sample ID: WB1-1218			
Project Name: NW Pipe				Date Received: N/A			
Sample Date: N/A				Report Revision No.: 0			
Sample Time: N/A							
Type: QC							
Matrix: Water							

Analyte	CAS#	Dilution Factor	RL	Sample Result	Qualifier	Units	Analysis Method	Date Analyzed
Metals								
Aluminum	7429-90-5	1	100	100	U	ug/L	E200.7	01/02/13
Antimony	7440-36-0	1	10.0	10.0	U	ug/L	E200.7	01/02/13
Arsenic	7440-38-2	1	0.50	0.50	U	ug/L	E200.8	12/19/12
Cadmium	7440-43-9	1	0.50	0.50	U	ug/L	E200.8	12/19/12
Chromium	7440-47-3	1	0.50	0.50	U	ug/L	E200.8	12/19/12
Copper	7440-50-8	1	10.0	10.0	U	ug/L	E200.7	01/02/13
Lead	7439-92-1	1	5.00	5.00	U	ug/L	E200.7	01/02/13
Nickel	7440-02-0	1	0.50	0.50	U	ug/L	E200.8	12/19/12
Selenium	7782-49-2	1	0.50	0.50	U	ug/L	E200.8	12/19/12
Silver	7440-22-4	1	1.00	1.00	U	ug/L	E200.8	12/19/12
Zinc	7440-66-6	1	20.0	20.0	U	ug/L	E200.7	01/02/13

U=Not detected at specified reporting limit

J=Estimated value below reporting limit

E=Estimated value above calibration range

*=See case narrative

CH2M HILL Applied Sciences Laboratory (ASL)

Client Information

Project Name: NW Pipe
Type: QC
Matrix: Water

Lab Information

LCS ID: BS1W1217
Report Revision No.: 0
Dilution Factor: 1

Analyte	CAS#	Spike Amount	Sample Result	Units	%Recovery	Analysis Method	Date Analyzed
Metals							
Mercury	7439-97-6	1.00	0.97	ug/L	97	E245.1	12/18/12

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

CH2M HILL Applied Sciences Laboratory (ASL)

<u>Client Information</u>	<u>Lab Information</u>
Project Name: NW Pipe	LCS ID: BS1W1218
Type: QC	Report Revision No.: 0
Matrix: Water	Dilution Factor: 1

Analyte	CAS#	Spike Amount	Sample Result	Units	%Recovery	Analysis Method	Date Analyzed
Metals							
Aluminum	7429-90-5	500	486	ug/L	97	E200.7	01/02/13
Antimony	7440-36-0	500	498	ug/L	100	E200.7	01/02/13
Arsenic	7440-38-2	50.0	50.2	ug/L	100	E200.8	12/19/12
Cadmium	7440-43-9	50.0	49.8	ug/L	100	E200.8	12/19/12
Chromium	7440-47-3	50.0	51.4	ug/L	103	E200.8	12/19/12
Copper	7440-50-8	500	471	ug/L	94	E200.7	01/02/13
Lead	7439-92-1	500	475	ug/L	95	E200.7	01/02/13
Nickel	7440-02-0	50.0	51.7	ug/L	103	E200.8	12/19/12
Selenium	7782-49-2	50.0	50.1	ug/L	100	E200.8	12/19/12
Silver	7440-22-4	25.0	24.9	ug/L	99	E200.8	12/19/12
Zinc	7440-66-6	500	499	ug/L	100	E200.7	01/02/13

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

**CASE NARRATIVE
GC/MS SEMI-VOLATILES ANALYSIS**

Lab Name: CH2M HILL/LAB/CVO

ASL SDG#: L3025

Project: NW Pipe

Project #: 358932.TT.05

I. Method(s):

Analysis: SW8270SIM

Preparation: SW3510

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: _____

24 Dec 2012

Reviewed by: _____

Date: _____

12/26/12

CH2M HILL Applied Sciences Laboratory (ASL)

<u>Client Information</u>	<u>Lab Information</u>
Client Sample ID: SW03-121112-SCE	Lab Sample ID: L302501
Project Name: NW Pipe	Date Received: 12/12/12
Sample Date: 12/11/12	Dilution Factor: 1
Sample Time: 12:20	Report Revision No.: 0
Type: Grab	
Matrix: Water	

Analyte	CAS#	RL	Sample Result	Qualifier	Units	Analysis Method	Date Analyzed
GC/MS Semi-Volatiles							
Naphthalene	91-20-3	0.010	0.010	U	ug/L	SW8270SIM	12/20/12
2-Methylnaphthalene	91-57-6	0.010	0.010	U	ug/L	SW8270SIM	12/20/12
1-Methylnaphthalene	90-12-0	0.010	0.010	U	ug/L	SW8270SIM	12/20/12
Acenaphthylene	208-96-8	0.010	0.010	U	ug/L	SW8270SIM	12/20/12
Acenaphthene	83-32-9	0.010	0.010	U	ug/L	SW8270SIM	12/20/12
Fluorene	86-73-7	0.010	0.010	U	ug/L	SW8270SIM	12/20/12
Phenanthrene	85-01-8	0.010	0.010	U	ug/L	SW8270SIM	12/20/12
Anthracene	120-12-7	0.010	0.010	U	ug/L	SW8270SIM	12/20/12
Fluoranthene	206-44-0	0.010	0.023		ug/L	SW8270SIM	12/20/12
Pyrene	129-00-0	0.010	0.023		ug/L	SW8270SIM	12/20/12
Benzo(a)anthracene	56-55-3	0.010	0.011		ug/L	SW8270SIM	12/20/12
Chrysene	218-01-9	0.010	0.015		ug/L	SW8270SIM	12/20/12
Benzo(b)fluoranthene	205-99-2	0.010	0.019		ug/L	SW8270SIM	12/20/12
Benzo(k)fluoranthene	207-08-9	0.010	0.010	U	ug/L	SW8270SIM	12/20/12
Benzo(a)pyrene	50-32-8	0.010	0.038		ug/L	SW8270SIM	12/20/12
Indeno(1,2,3-c,d)pyrene	193-39-5	0.010	0.036		ug/L	SW8270SIM	12/20/12
Dibenzo(a,h)anthracene	53-70-3	0.010	0.010	U	ug/L	SW8270SIM	12/20/12
Benzo(g,h,i)perylene	191-24-2	0.010	0.011		ug/L	SW8270SIM	12/20/12

<u>Surrogate</u>	<u>% Recovery</u>	<u>Control Limits</u>	<u>Qualifier</u>
Terphenyl-d14	83	33-141	

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

CH2M HILL Applied Sciences Laboratory (ASL)

<u>Client Information</u>		<u>Lab Information</u>	
Client Sample ID: SW04-121112-SCE		Lab Sample ID: L302502	
Project Name: NW Pipe		Date Received: 12/12/12	
Sample Date: 12/11/12		Dilution Factor: 1	
Sample Time: 12:55		Report Revision No.: 0	
Type: Grab			
Matrix: Water			

Analyte	CAS#	RL	Sample Result	Qualifier	Units	Analysis Method	Date Analyzed
GC/MS Semi-Volatiles							
Naphthalene	91-20-3	0.010	0.010	U	ug/L	SW8270SIM	12/20/12
2-Methylnaphthalene	91-57-6	0.010	0.010	U	ug/L	SW8270SIM	12/20/12
1-Methylnaphthalene	90-12-0	0.010	0.010	U	ug/L	SW8270SIM	12/20/12
Acenaphthylene	208-96-8	0.010	0.010	U	ug/L	SW8270SIM	12/20/12
Acenaphthene	83-32-9	0.010	0.010	U	ug/L	SW8270SIM	12/20/12
Fluorene	86-73-7	0.010	0.010	U	ug/L	SW8270SIM	12/20/12
Phenanthrene	85-01-8	0.010	0.010	U	ug/L	SW8270SIM	12/20/12
Anthracene	120-12-7	0.010	0.010	U	ug/L	SW8270SIM	12/20/12
Fluoranthene	206-44-0	0.010	0.010	U	ug/L	SW8270SIM	12/20/12
Pyrene	129-00-0	0.010	0.011		ug/L	SW8270SIM	12/20/12
Benzo(a)anthracene	56-55-3	0.010	0.010	U	ug/L	SW8270SIM	12/20/12
Chrysene	218-01-9	0.010	0.010	U	ug/L	SW8270SIM	12/20/12
Benzo(b)fluoranthene	205-99-2	0.010	0.010	U	ug/L	SW8270SIM	12/20/12
Benzo(k)fluoranthene	207-08-9	0.010	0.010	U	ug/L	SW8270SIM	12/20/12
Benzo(a)pyrene	50-32-8	0.010	0.010	U	ug/L	SW8270SIM	12/20/12
Indeno(1,2,3-c,d)pyrene	193-39-5	0.010	0.010	U	ug/L	SW8270SIM	12/20/12
Dibenzo(a,h)anthracene	53-70-3	0.010	0.010	U	ug/L	SW8270SIM	12/20/12
Benzo(g,h,i)perylene	191-24-2	0.010	0.010	U	ug/L	SW8270SIM	12/20/12

<u>Surrogate</u>	<u>% Recovery</u>	<u>Control Limits</u>	<u>Qualifier</u>
Terphenyl-d14	98	33-141	

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

CH2M HILL Applied Sciences Laboratory (ASL)

<u>Client Information</u>	<u>Lab Information</u>
Client Sample ID: WB2-1218	Lab Sample ID: WB2-1218
Project Name: NW Pipe	Date Received: N/A
Sample Date: N/A	Dilution Factor: 1
Sample Time: N/A	Report Revision No.: 0
Type: QC	
Matrix: Water	

Analyte	CAS#	RL	Sample Result	Qualifier	Units	Analysis Method	Date Analyzed
GC/MS Semi-Volatiles							
Naphthalene	91-20-3	0.010	0.010	U	ug/L	SW8270SIM	12/20/12
2-Methylnaphthalene	91-57-6	0.010	0.010	U	ug/L	SW8270SIM	12/20/12
1-Methylnaphthalene	90-12-0	0.010	0.010	U	ug/L	SW8270SIM	12/20/12
Acenaphthylene	208-96-8	0.010	0.010	U	ug/L	SW8270SIM	12/20/12
Acenaphthene	83-32-9	0.010	0.010	U	ug/L	SW8270SIM	12/20/12
Fluorene	86-73-7	0.010	0.010	U	ug/L	SW8270SIM	12/20/12
Phenanthrene	85-01-8	0.010	0.010	U	ug/L	SW8270SIM	12/20/12
Anthracene	120-12-7	0.010	0.010	U	ug/L	SW8270SIM	12/20/12
Fluoranthene	206-44-0	0.010	0.010	U	ug/L	SW8270SIM	12/20/12
Pyrene	129-00-0	0.010	0.010	U	ug/L	SW8270SIM	12/20/12
Benzo(a)anthracene	56-55-3	0.010	0.010	U	ug/L	SW8270SIM	12/20/12
Chrysene	218-01-9	0.010	0.010	U	ug/L	SW8270SIM	12/20/12
Benzo(b)fluoranthene	205-99-2	0.010	0.010	U	ug/L	SW8270SIM	12/20/12
Benzo(k)fluoranthene	207-08-9	0.010	0.010	U	ug/L	SW8270SIM	12/20/12
Benzo(a)pyrene	50-32-8	0.010	0.010	U	ug/L	SW8270SIM	12/20/12
Indeno(1,2,3-c,d)pyrene	193-39-5	0.010	0.010	U	ug/L	SW8270SIM	12/20/12
Dibenzo(a,h)anthracene	53-70-3	0.010	0.010	U	ug/L	SW8270SIM	12/20/12
Benzo(g,h,i)perylene	191-24-2	0.010	0.010	U	ug/L	SW8270SIM	12/20/12

<u>Surrogate</u>	<u>% Recovery</u>	<u>Control Limits</u>	<u>Qualifier</u>
Terphenyl-d14	83	33-141	

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

CH2M HILL Applied Sciences Laboratory (ASL)

Client Information

Project Name: NW Pipe
 Type: QC
 Matrix: Water

Lab Information

LCS ID: BS2W1218
 Report Revision No.: 0
 Dilution Factor: 1

Analyte	CAS#	Spike Amount	Sample Result	Units	%Recovery	Analysis Method	Date Analyzed
GC/MS Semi-Volatiles							
Naphthalene	91-20-3	0.50	0.34	ug/L	69	SW8270SIM	12/20/12
2-Methylnaphthalene	91-57-6	0.50	0.29	ug/L	58	SW8270SIM	12/20/12
1-Methylnaphthalene	90-12-0	0.50	0.29	ug/L	58	SW8270SIM	12/20/12
Acenaphthylene	208-96-8	0.50	0.35	ug/L	70	SW8270SIM	12/20/12
Acenaphthene	83-32-9	0.50	0.31	ug/L	63	SW8270SIM	12/20/12
Fluorene	86-73-7	0.50	0.36	ug/L	71	SW8270SIM	12/20/12
Phenanthrene	85-01-8	0.50	0.35	ug/L	69	SW8270SIM	12/20/12
Anthracene	120-12-7	0.50	0.37	ug/L	74	SW8270SIM	12/20/12
Fluoranthene	206-44-0	0.50	0.39	ug/L	78	SW8270SIM	12/20/12
Pyrene	129-00-0	0.50	0.39	ug/L	78	SW8270SIM	12/20/12
Benzo(a)anthracene	56-55-3	0.50	0.42	ug/L	84	SW8270SIM	12/20/12
Chrysene	218-01-9	0.50	0.41	ug/L	81	SW8270SIM	12/20/12
Benzo(b)fluoranthene	205-99-2	0.50	0.39	ug/L	77	SW8270SIM	12/20/12
Benzo(k)fluoranthene	207-08-9	0.50	0.41	ug/L	83	SW8270SIM	12/20/12
Benzo(a)pyrene	50-32-8	0.50	0.32	ug/L	65	SW8270SIM	12/20/12
Indeno(1,2,3-c,d)pyrene	193-39-5	0.50	0.35	ug/L	70	SW8270SIM	12/20/12
Dibenzo(a,h)anthracene	53-70-3	0.50	0.37	ug/L	74	SW8270SIM	12/20/12
Benzo(g,h,i)perylene	191-24-2	0.50	0.40	ug/L	79	SW8270SIM	12/20/12

Surrogate	% Recovery	Control Limits	Qualifier
Terphenyl-d14	91	33-141	

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

**CASE NARRATIVE
GC/MS SEMI-VOLATILES ANALYSIS**

Lab Name: CH2M HILL/LAB/CVO

ASL SDG#: L3025

Project: NW Pipe

Project #: 358932.TT.05

I. Method(s):

Analysis: E625
Preparation: SW3510

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):

All analyses were performed in accordance with 40 CFR Part 503.

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: _____

Reviewed by: _____

Date: _____

CH2M HILL Applied Sciences Laboratory (ASL)

Client Information

Client Sample ID: SW03-121112-SCE

Project Name: NW Pipe

Sample Date: 12/11/12

Sample Time: 12:20

Type: Grab

Matrix: Water

Lab Information

Lab Sample ID: L302501

Date Received: 12/12/12

Dilution Factor: 1

Report Revision No.: 0

Analyte	CAS#	RL	Sample Result	Qualifier	Units	Analysis Method	Date Analyzed
GC/MS Semi-Volatiles							
Dimethylphthalate	131-11-3	0.15	0.15	U	ug/L	E625	12/20/12
Diethylphthalate	84-66-2	0.15	0.15	U	ug/L	E625	12/20/12
Di-n-butylphthalate	84-74-2	0.15	0.15	U	ug/L	E625	12/20/12
Butylbenzylphthalate	85-68-7	0.15	0.15	U	ug/L	E625	12/20/12
bis(2-Ethylhexyl)phthalate	117-81-7	0.15	1.90		ug/L	E625	12/20/12
Di-n-octylphthalate	117-84-0	0.15	0.15	U	ug/L	E625	12/20/12

Surrogate	% Recovery	Control Limits	Qualifier
2-Fluorophenol	46	21-115	
Phenol-d5	33	5-115	
Nitrobenzene-d5	67	35-114	
2-Fluorobiphenyl	54	43-116	
2,4,6-Tribromophenol	78	5-123	
Terphenyl-d14	96	33-141	

U=Not detected at specified reporting limit

J=Estimated value below reporting limit

E=Estimated value above calibration range

*=See case narrative

CH2M HILL Applied Sciences Laboratory (ASL)

Client Information

Client Sample ID: SW04-121112-SCE

Project Name: NW Pipe

Sample Date: 12/11/12

Sample Time: 12:55

Type: Grab

Matrix: Water

Lab Information

Lab Sample ID: L302502

Date Received: 12/12/12

Dilution Factor: 1

Report Revision No.: 0

Analyte	CAS#	RL	Sample Result	Qualifier	Units	Analysis Method	Date Analyzed
GC/MS Semi-Volatiles							
Dimethylphthalate	131-11-3	0.15	0.15	U	ug/L	E625	12/20/12
Diethylphthalate	84-66-2	0.15	0.15	U	ug/L	E625	12/20/12
Di-n-butylphthalate	84-74-2	0.15	0.15	U	ug/L	E625	12/20/12
Butylbenzylphthalate	85-68-7	0.15	0.15	U	ug/L	E625	12/20/12
bis(2-Ethylhexyl)phthalate	117-81-7	0.15	1.85		ug/L	E625	12/20/12
Di-n-octylphthalate	117-84-0	0.15	5.67		ug/L	E625	12/20/12

Surrogate	% Recovery	Control Limits	Qualifier
2-Fluorophenol	52	21-115	
Phenol-d5	37	5-115	
Nitrobenzene-d5	76	35-114	
2-Fluorobiphenyl	64	43-116	
2,4,6-Tribromophenol	84	5-123	
Terphenyl-d14	103	33-141	

U=Not detected at specified reporting limit

J=Estimated value below reporting limit

E=Estimated value above calibration range

*=See case narrative

CH2M HILL Applied Sciences Laboratory (ASL)

<u>Client Information</u>	<u>Lab Information</u>
Client Sample ID: WB1-1218	Lab Sample ID: WB1-1218
Project Name: NW Pipe	Date Received: N/A
Sample Date: N/A	Dilution Factor: 1
Sample Time: N/A	Report Revision No.: 0
Type: QC	
Matrix: Water	

Analyte	CAS#	RL	Sample Result	Qualifier	Units	Analysis Method	Date Analyzed
GC/MS Semi-Volatiles							
Dimethylphthalate	131-11-3	0.15	0.15	U	ug/L	E625	12/20/12
Diethylphthalate	84-66-2	0.15	0.15	U	ug/L	E625	12/20/12
Di-n-butylphthalate	84-74-2	0.15	0.15	U	ug/L	E625	12/20/12
Butylbenzylphthalate	85-68-7	0.15	0.15	U	ug/L	E625	12/20/12
bis(2-Ethylhexyl)phthalate	117-81-7	0.15	0.15	U	ug/L	E625	12/20/12
Di-n-octylphthalate	117-84-0	0.15	0.15	U	ug/L	E625	12/20/12

<u>Surrogate</u>	<u>% Recovery</u>	<u>Control Limits</u>	<u>Qualifier</u>
2-Fluorophenol	56	21-115	
Phenol-d5	41	5-115	
Nitrobenzene-d5	72	35-114	
2-Fluorobiphenyl	48	43-116	
2,4,6-Tribromophenol	78	5-123	
Terphenyl-d14	83	33-141	

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

CH2M HILL Applied Sciences Laboratory (ASL)

Client Information

Project Name: NW Pipe
 Type: QC
 Matrix: Water

Lab Information

LCS ID: BS1W1218
 Report Revision No.: 0
 Dilution Factor: 1

Analyte	CAS#	Spike Amount	Sample Result	Units	%Recovery	Analysis Method	Date Analyzed
GC/MS Semi-Volatiles							
Dimethylphthalate	131-11-3	80.0	95.5	ug/L	119	E625	12/20/12
Diethylphthalate	84-66-2	80.0	97.4	ug/L	122	E625	12/20/12
Di-n-butylphthalate	84-74-2	80.0	103	ug/L	129	E625	12/20/12
Butylbenzylphthalate	85-68-7	80.0	92.5	ug/L	116	E625	12/20/12
bis(2-Ethylhexyl)phthalate	117-81-7	80.0	95.8	ug/L	120	E625	12/20/12
Di-n-octylphthalate	117-84-0	80.0	92.8	ug/L	116	E625	12/20/12

Surrogate	% Recovery	Control Limits	Qualifier
2-Fluorophenol	49	21-115	
Phenol-d5	37	5-115	
Nitrobenzene-d5	78	35-114	
2-Fluorobiphenyl	57	43-116	
2,4,6-Tribromophenol	89	5-123	
Terphenyl-d14	90	33-141	

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

CASE NARRATIVE
WET CHEMISTRY ANALYSIS

Lab Name: CH2M HILL/LAB/CVO

ASL SDG#: L3025

Project: NW Pipe

Project #: 358932.TT.05

I. Method(s):

Analysis: SM5310B

II. Receipt/Holding Times:

All acceptance criteria were met.

III. Analysis:

A. Initial Calibration(s):

All acceptance criteria were met.

B. Calibration Verification(s):

Not applicable.

C. Blanks:

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. Analytical Exception(s):

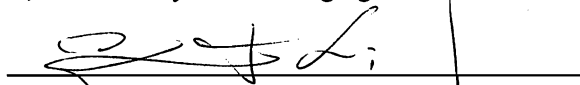
All analyses were performed in accordance with 40 CFR Part 136.

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.

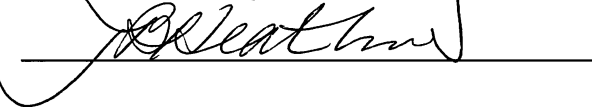
Prepared by: _____



Date: _____

11/10/2013

Reviewed by: _____



Date: _____

11/10/13

CH2M HILL Applied Sciences Laboratory (ASL)

<u>Client Information</u>			<u>Lab Information</u>		
Project Name:	NW Pipe		Lab Batch ID:	L3025	
Date Received:	12/12/12		Analysis Method:	SM5310B	
Type:	See C.O.C.		Units:	mg/L	
Matrix:	Water		Report Revision No.:	0	

Client Sample ID	Lab Sample ID	Dilution Factor	Total Organic Carbon RL	Result	Qualifier	Date Analyzed
General Chemistry						
SW03-121112-SCE	L302501	1	0.50	1.67		12/14/12
SW04-121112-SCE	L302502	1	0.50	0.97		12/14/12
WB1-1214	WB1-1214	1	0.50	0.50	U	12/14/12

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

CH2M HILL Applied Sciences Laboratory (ASL)

<u>Client Information</u>	<u>Lab Information</u>
Project Name: NW Pipe Type: QC Matrix: Water	Lab Batch ID: L3025 Report Revision No.: 0

LCS ID	Analyte	Spike Amount	Sample Result	Units	% Recovery	Analysis Method	Date Analyzed
General Chemistry							
BS1W1214	Total Organic Carbon	2.50	2.28	mg/L	91	SM5310B	12/14/12

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

**CASE NARRATIVE
WET CHEMISTRY ANALYSIS**

Lab Name: CH2M HILL/LAB/CVO

ASL SDG#: L3025

Project: NW Pipe

Project #: 358932.TT.05

I. Method(s):

Analysis: SM2540D

II. Receipt/Holding Times:

All acceptance criteria were met.

III. Analysis:

A. Initial Calibration(s):

Not applicable.

B. Calibration Verification(s):

Not applicable.

C. Blanks:

All acceptance criteria were met.

D. Laboratory Control Sample(s):

All acceptance criteria were met.

E. Matrix Spike/Matrix Spike Duplicate Sample(s):

Not applicable.

F. Analytical Exception(s):

All analyses were performed in accordance with 40 CFR Part 136.

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: James McGeary

Date: 12/19/12

Reviewed by: Kathy McKee

Date: 12/20/12

CH2M HILL Applied Sciences Laboratory (ASL)

Client Information

Project Name: NW Pipe
 Date Received: 12/12/12
 Type: See C.O.C.
 Matrix: Water

Lab Information

Lab Batch ID: L3025
 Analysis Method: SM2540D
 Units: mg/L
 Report Revision No.: 0

Client Sample ID	Lab Sample ID	Dilution Factor	Total Suspended Solids (TSS)			Date Analyzed
			RL	Result	Qualifier	
General Chemistry						
SW03-121112-SCE	L302501	1	5.0	5.6		12/17/12
SW04-121112-SCE	L302502	1	5.0	5.0	U	12/17/12
WB1-1217	WB1-1217	1	5.0	5.0	U	12/17/12

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

CH2M HILL Applied Sciences Laboratory (ASL)

Client Information

Project Name: NW Pipe
Type: QC
Matrix: Water

Lab Information

Lab Batch ID: L3025
Report Revision No.: 0

LCS ID	Analyte	Spike Amount	Sample Result	Units	% Recovery	Analysis Method	Date Analyzed
General Chemistry							
BS1W1217	Total Suspended Solids (TSS)	100	90.0	mg/L	90	SM2540D	12/17/12

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

CH2M HILL Applied Sciences Lab
CHAIN OF CUSTODY RECORD
AND AGREEMENT TO PERFORM SERVICES

1100 NE Circle Blvd., Suite 300
 Corvallis, OR 97330
 (541) 768-3120 FAX (541) 752-2276

Project # or Purchase Order # **359932.TT.05**
 Project Name **NW Pipe Source Control**
 Company Name or Home Address/Phone Number

Email Address for Reporting **Pat Heins/POX**
 Turnaround Time 24 hours 48 hours 72 hours 14 days 7 days (STD)
 Report Copy to: **Tina Rice**
 Drinking Water? Yes No
 Sample Disposal: Dispose Return

Date	Time	Type	Matrix	CLIENT SAMPLE ID		UNPRES	H ₂ SO ₄	HNO ₃	HCl	NO ₃ ⁻	ZINC/NO ₃ ⁻	PCB Aroclors SW8082	Chloro Pesticides SW 8081	Field pH	THIS AREA FOR LAB USE ONLY	
				SW 03-12112-5CE	SW 04-12112-5CE										Lab #	Page of
12/11/12	12:20	X	WATER	X		X	X	X	X	X	X	X	X		23025	1
12/11/12	12:55	X	WATER	X		X	X	X	X	X	X	X	X			1
			SOIL													
			AIR													

TOTAL # OF CONTAINERS 12

Requested Analytical Method # 1

Preservative

EPA Tier QC Level 1 (Screening) 2 3 4

Canister ID Lab ID

Received By: *[Signature]* **Date/Time** 12/12/12 1430

Relinquished By: *[Signature]* **Date/Time** 12/12/12 1430

Relinquished By (Please sign and print name) *[Signature]* **Date/Time**

Relinquished By (Please sign and print name) *[Signature]* **Date/Time**

Relinquished By (Please sign and print name) *[Signature]* **Date/Time**

Shipped Via UPS Fed-Ex Other

Tracking #

Special Instructions * *[Handwritten notes]*

Instructions and Agreement Provisions on Reverse Side

