



CH2M HILL  
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September 19, 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  
Analytical Manager

Enclosures

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

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

**ASL Report #: K2775**

<b>Sample ID</b>	<b>Client Sample ID</b>	<b>Date Collected</b>	<b>Time Collected</b>
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

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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: \_\_\_\_\_

Reviewed by: \_\_\_\_\_

Date: \_\_\_\_\_

# CH2M HILL Applied Sciences Laboratory (ASL)

<u>Client Information</u>		<u>Lab Information</u>	
Client Sample ID: HSCS-5		Lab Sample ID: K277501	
Project Name: NW Pipe		Date Received: 09/16/11	
Sample Date: 09/16/11		Dilution Factor: 10	
Sample Time: 09:05		Report Revision No.: 0	
Type: Grab			
Matrix: Soil			
Basis: Dry Weight			

Analyte	CAS#	MRL	Sample Result	Qualifier	Units	Analysis Method	Date Analyzed
GC/MS Semi-Volatiles							
Benzo(a)pyrene	50-32-8	26.5	50.7		ug/Kg	SW8270SIM	09/18/11
	<u>Surrogate</u>	<u>% Recovery</u>	<u>Control Limits</u>	<u>Qualifier</u>			
	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

# CH2M HILL Applied Sciences Laboratory (ASL)

<u>Client Information</u>	<u>Lab Information</u>
Client Sample ID: HSCS-6	Lab Sample ID: K277502
Project Name: NW Pipe	Date Received: 09/16/11
Sample Date: 09/16/11	Dilution Factor: 10
Sample Time: 09:10	Report Revision No.: 0
Type: Grab	
Matrix: Soil	
Basis: Dry Weight	

Analyte	CAS#	MRL	Sample Result	Qualifier	Units	Analysis Method	Date Analyzed
GC/MS Semi-Volatiles							
Benzo(a)pyrene	50-32-8	25.1	169		ug/Kg	SW8270SIM	09/18/11
	<u>Surrogate</u>	<u>% Recovery</u>	<u>Control Limits</u>	<u>Qualifier</u>			
	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

# CH2M HILL Applied Sciences Laboratory (ASL)

<u>Client Information</u>		<u>Lab Information</u>	
Client Sample ID: HSCS-7		Lab Sample ID: K277503	
Project Name: NW Pipe		Date Received: 09/16/11	
Sample Date: 09/16/11		Dilution Factor: 10	
Sample Time: 09:14		Report Revision No.: 0	
Type: Grab			
Matrix: Soil			
Basis: Dry Weight			

Analyte	CAS#	MRL	Sample Result	Qualifier	Units	Analysis Method	Date Analyzed
GC/MS Semi-Volatiles							
Benzo(a)pyrene	50-32-8	24.7	143		ug/Kg	SW8270SIM	09/18/11
	<u>Surrogate</u>	<u>% Recovery</u>	<u>Control Limits</u>	<u>Qualifier</u>			
	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

# CH2M HILL Applied Sciences Laboratory (ASL)

<u>Client Information</u>		<u>Lab Information</u>	
Client Sample ID: HSCS-8		Lab Sample ID: K277504	
Project Name: NW Pipe		Date Received: 09/16/11	
Sample Date: 09/16/11		Dilution Factor: 10	
Sample Time: 09:20		Report Revision No.: 0	
Type: Grab			
Matrix: Soil			
Basis: Dry Weight			

Analyte	CAS#	MRL	Sample Result	Qualifier	Units	Analysis Method	Date Analyzed
GC/MS Semi-Volatiles							
Benzo(a)pyrene	50-32-8	25.3	25.3	U	ug/Kg	SW8270SIM	09/18/11
	<u>Surrogate</u>	<u>% Recovery</u>	<u>Control Limits</u>	<u>Qualifier</u>			
	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

# CH2M HILL Applied Sciences Laboratory (ASL)

<u>Client Information</u>	<u>Lab Information</u>
Client Sample ID: HSCS-9	Lab Sample ID: K277505
Project Name: NW Pipe	Date Received: 09/16/11
Sample Date: 09/16/11	Dilution Factor: 10
Sample Time: 09:24	Report Revision No.: 0
Type: Grab	
Matrix: Soil	
Basis: Dry Weight	

Analyte	CAS#	MRL	Sample Result	Qualifier	Units	Analysis Method	Date Analyzed
GC/MS Semi-Volatiles							
Benzo(a)pyrene	50-32-8	25.8	25.8	U	ug/Kg	SW8270SIM	09/18/11
	<u>Surrogate</u>	<u>% Recovery</u>	<u>Control Limits</u>	<u>Qualifier</u>			
	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

# CH2M HILL Applied Sciences Laboratory (ASL)

<u>Client Information</u>			<u>Lab Information</u>		
Client Sample ID: HSCS-10			Lab Sample ID: K277506		
Project Name: NW Pipe			Date Received: 09/16/11		
Sample Date: 09/16/11			Dilution Factor: 10		
Sample Time: 09:28			Report Revision No.: 0		
Type: Grab					
Matrix: Soil					
Basis: Dry Weight					

Analyte	CAS#	MRL	Sample Result	Qualifier	Units	Analysis Method	Date Analyzed
<b>GC/MS Semi-Volatiles</b>							
Benzo(a)pyrene	50-32-8	24.9	24.9	U	ug/Kg	SW8270SIM	09/18/11
	<u>Surrogate</u>	<u>% Recovery</u>	<u>Control Limits</u>	<u>Qualifier</u>			
	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

# CH2M HILL Applied Sciences Laboratory (ASL)

<u>Client Information</u>	<u>Lab Information</u>
Client Sample ID: SB4-0916	Lab Sample ID: SB4-0916
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: Soil	
Basis: Dry Weight	

Analyte	CAS#	MRL	Sample Result	Qualifier	Units	Analysis Method	Date Analyzed
GC/MS Semi-Volatiles							
Benzo(a)pyrene	50-32-8	2.50	2.50	U	ug/Kg	SW8270SIM	09/17/11
	<u>Surrogate</u>	<u>% Recovery</u>	<u>Control Limits</u>	<u>Qualifier</u>			
	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

# CH2M HILL Applied Sciences Laboratory (ASL)

<u>Client Information</u>				<u>Lab Information</u>			
Client Sample ID: BS4S0916				Lab Sample ID: BS4S0916			
Project Name: NW Pipe				Dilution Factor: 1			
Type: QC				Report Revision No.: 0			
Matrix: Soil							

Analyte	CAS#	Spike Amount	Sample Result	Units	%Recovery	Analysis Method	Date Analyzed
GC/MS Semi-Volatiles							
Benzo(a)pyrene	50-32-8	50.0	43.6	ug/Kg	87	SW8270SIM	09/17/11
	<b>Surrogate</b>		<b>% Recovery</b>	<b>Control Limits</b>	<b>Qualifier</b>		
	Terphenyl-d14		68	18-137			

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 E=Estimated value above calibration range  
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 3000 NE Circle Blvd., Suite 4000 300  
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**CH2MHILL Applied Sciences Lab**  
**CHAIN OF CUSTODY RECORD**  
**AND AGREEMENT TO PERFORM SERVICES**

COC #

Project # or Purchase Order # <b>358932. RI.13</b>		Requested Analytical Method #		THIS AREA FOR LAB USE ONLY	
Project Name <b>NW Pipe</b>		Preservative		Lab # <b>K2775</b>	Page <b>1</b> of <b>1</b>
Company Name or Home Address/Phone Number		H <sub>2</sub> SO <sub>4</sub>		EPA Tier QC Level	
Email Address for Reporting <b>phc.ry@CH2MHILL</b>		HCl		1 (Screening) 2 3 4	
Report Copy to: <b>Rob Healy PDX</b>		HNO <sub>3</sub>		Canister ID	
Drinking Water? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		NaOH		Lab ID	
Sample Disposal: Dispose <input checked="" type="checkbox"/> Return <input type="checkbox"/>		ZnAcetate			
Turnaround Time: 24 hours <input type="checkbox"/> 48 hours <input type="checkbox"/> 72 hours <input type="checkbox"/> 14 days <input type="checkbox"/> 21 days (STD) <input type="checkbox"/>		H <sub>2</sub> O <sub>2</sub>			
TOTAL # OF CONTAINERS <b>PHH 8270 SIM</b>		UNPRES			
CLIENT SAMPLE ID		H <sub>2</sub> SO <sub>4</sub>			
Sampling		HCl			
Date	Time	Type	Matrix		
9/14/11	9:05	X	SOIL	-1	
9/16/11	9:10	X	WATER	-2	
9/16/11	9:14	X	GRAB	-3	
9/16/11	9:20	X	COMP	-4	
9/16/11	9:24	X	AIR	-5	
9/16/11	9:28	X		-6	
Possible Hazard Identification:		Volatile Contaminants/Odororous		Biohazard <input type="checkbox"/> Other <input type="checkbox"/>	
Relinquished By <b>K. Baker</b>		Unknown <input type="checkbox"/> Poison B <input type="checkbox"/>		Date/Time	
Relinquished By and Title <b>Pat Healy</b>		Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/>		Date/Time	
Relinquished By <b>Kathy Mcken</b>		Non-Hazard <input checked="" type="checkbox"/> Skin Irritant <input type="checkbox"/>		Date/Time	
Relinquished By <b>Kathy Mcken</b>		Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/>		Date/Time	
Relinquished By <b>Kathy Mcken</b>		Non-Hazard <input checked="" type="checkbox"/> Skin Irritant <input type="checkbox"/>		Date/Time	
Special Instructions <b>RUSH !! need data by Monday 9/19/11</b>		Shipped Via UPS Fed-Ex Other		Tracking #	

