



February 25, 2014

Ms. Diane Keith  
JELD-WEN, inc.  
3922 Lakeport Boulevard  
Klamath Falls, OR 97601

**Re: DRAFT Upland Data Gap Assessment  
JELD-WEN, inc. Former Nord Door Site,  
300 West Marine View Drive, Everett, Washington**

Dear Ms. Keith,

SLR International Corporation is pleased to present this report summarizing the findings of the upland data gap assessment which was completed to evaluate the approximate depth of creosote/total petroleum hydrocarbon (TPH) impacts at the JELD-WEN inc. former Nord Door Site located at 300 West Marine View Drive in Everett, Washington (Site). The Site location is shown on Figure 1.

## **BACKGROUND**

The initial Remedial Investigation (RI) of the Site was completed between May and October 2009 and was performed in conformance with the Washington Department of Ecology (Ecology) approved 2008 RI Work Plan. The work was conducted under an Agreed Order with Ecology for RI/FS Study and Draft CAP, dated January 2, 2008. The Interim Draft RI/FS (Remedial Investigation/Feasibility Study) was submitted to Ecology on December 31, 2013. During the preparation of the Interim Draft RI/FS report, the evaluation of the vertical extent of the soil and groundwater impacts in the creosote/TPH area (former pole treating and former fuel oil storage area) was identified as a data gap. Additional evaluation of the vertical extent of this impacted area was considered needed to adequately evaluate the remediation technologies, remedy alternatives, and costs analysis under the RI/FS report.

## **SCOPE OF WORK**

To address the identified data gap, three Geoprobe borings were completed in the creosote/TPH area on December 18, 2013 at the locations presented on Figure 2. The boring locations were selected to be at or near areas where the highest creosote/TPH concentrations had been identified in soil and/or groundwater. Borings GP-605 and GP-607 were moved slightly to the south and west of their preferred locations due to the presence of underground utilities (GP-605) and subsurface obstructions (GP-607). Soil and groundwater samples collected from each of the three the borings were submitted for evaluation of TPH by NWTPH methods and for polycyclic aromatic hydrocarbons (PAHs) by EPA Method 8270-SIM.

## FIELD ACTIVITIES

On December 18, 2013, SLR met with ESN-NW (Geoprobe subcontractor) for the completion of the borings. Prior to the initiation of field activities, the Washington public utility notification center was contacted to clear the proposed boring locations for any suspected publically-owned underground utilities. In addition, a private utility locating subcontractor was contacted to clear the proposed boring locations for any suspected privately-owned underground utilities. The methods and procedures described in the upland sampling and analysis plan (SAP) for soil and groundwater sample collection were utilized during the completed sampling. Sampling equipment was decontaminated between each sample location using the procedures described in the SAP. All soil and groundwater samples were collected during a single sampling event. A photoionization detector (PID) was used to screen the soil samples for the presence of volatile compounds. Boring logs showing lithology, PID measurements, and sample collection depths are included as Attachment 1.

Boring GP-605 was completed to a depth of 35 feet below ground surface (bgs) proximate to borings GP-9, GP-10, and GP-202 which had the highest identified concentrations of both TPH and PAHs in soil and groundwater during prior investigations. Groundwater was encountered at approximately 2.5 feet bgs in boring GP-605. Soils in boring GP-605 consisted of a surface layer of organics (sod) from approximately 0 to 0.5 feet bgs, sand from approximately 0.5 to 1.5 feet bgs, a thin layer of clay from approximately 1.5 to 2.5 feet bgs, underlain by sand from approximately 2.5 to 6 feet bgs. A moderate creosote odor was noted on the sand layer beginning at approximately 4.5 feet bgs. Beneath the sand was a gravel layer from approximately 6 to 11 feet bgs. The creosote-like odor became stronger in the gravel layer and, at approximately 9 feet bgs, the odor was strong and creosote was observed to be coating the gravel collected from the boring. A silt layer was encountered between approximately 11 and 13 feet bgs, beneath which the creosote odor was noticeably diminished. Beneath the silt layer was sand extending to a depth of 35 feet bgs. A soil sample (GP-605-13.5) was collected from sand just below the silt layer. At approximately 33 feet the creosote-like odor became strong again, creosote-type product was observed coating the soil, and a sheen was noted on the water from the assessment boring. At approximately 35 feet bgs what appeared to be a confining layer of silt was encountered which showed no field-evidence of impacts. The boring was not extended through the confining layer. One soil sample (GP-605-34.5) was collected just above the silt confining layer. A groundwater sample (GP-605-GW) was collected from a temporary well screen placed between 30 and 35 feet bgs, at the bottom of the boring.

Boring GP-606 was completed to a depth of 15 feet bgs near the loading dock to the north of GP-9, GP-10, and GP-202. Groundwater was encountered at approximately 4 feet bgs in boring GP-605. Soils in boring GP-606 consisted of a surface layer of organics (sod) from approximately 0 to 0.5 feet bgs, silty sand from approximately 0.5 to 1.5 feet bgs, gravelly sand from approximately 1.5 to 2.5 feet bgs, a silt layer from approximately 2.5 to 3 feet bgs, sandy silt from 3 to 4 feet bgs, sand from 4 to 7.5 feet bgs, and silty sand from 7.5 to 15 feet bgs. No odors or staining was observed on soil or groundwater in the boring; therefore this boring was discontinued at 15 feet bgs. One soil sample was collected from 14.5 feet bgs in the boring (GP-606-14.5). A groundwater sample (GP-606-GW) was collected from a temporary well screen placed between 10 and 15 feet bgs, at the bottom of the boring.

Boring GP-607 was completed to a depth of 25 feet bgs to the south of the office building, south of former borings GP-9, GP-10, and GP-202. Groundwater was encountered at approximately 4.5 feet bgs in boring GP-607. The boring consisted of asphalt to 0.4 feet bgs, pea gravel from 0.4 to 1 foot bgs, concrete from 1 to 1.5 feet bgs, gravely sand from 1.5 to 3.5 feet bgs, and silty sand from 3.5 to the terminus of the boring at 25 feet bgs. No staining or odors were observed in soil or groundwater in the boring until a depth of approximately 8.5 feet bgs, at which point a creosote-like odor was encountered and a sheen was evident on soil collected from the assessment boring. At approximately 13 feet bgs the creosote-like odors became less noticeable to field personnel. One soil sample was collected from 24.5 feet bgs in the boring (GP-607-24.5). A groundwater sample (GP-607-GW) was collected from a temporary well screen placed between 20 and 25 feet bgs, at the bottom of the boring.

### **LABORATORY ANALYTICAL RESULTS**

The results of the laboratory analyses are summarized on the attached Tables 1 through Table 4 and copies of the laboratory analytical report are included as Attachment 2.

#### Soil Sampling Results

Soil samples from borings GP-605 at 13.5 feet bgs, GP-606 at 14.5 feet bgs, and boring GP-607 at 24.5 feet bgs identified no TPH in the diesel or heavy oil ranges above laboratory method reporting limits (MRLs). The soil sample from boring GP-605 at 34.5 feet bgs, which had a creosote-like odor, identified a TPH in the diesel range at a concentration of 810 milligrams per kilogram (mg/kg), below the Interim Draft RI/FS Preliminary Cleanup Levels (PCLs) of 2,000 mg/kg (Table 1).

The PAH concentrations in soil samples from borings GP-605 at 34.5 feet bgs, GP-606 at 14.5 feet bgs, and GP-607 at 24.5 feet did not identify concentrations of PAHs (including carcinogenic PAHs [cPAHs]) at concentrations above PCLs. The soil sample from boring GP-605 at 13.5 feet bgs identified cPAHs at a concentration of 3.7 mg/kg, above the PCL of 0.140 mg/kg. With the exception of naphthalene, no non-carcinogenic PAHs were identified above PCLs in sample GP-605-13. Naphthalene was identified at a concentration of 82 mg/kg, below the PCL of 1,600 mg/kg (Table 2).

#### Groundwater Sampling Results

The groundwater sample collected from boring GP-605 contained TPH in the gasoline, diesel, and heavy oil ranges at concentrations of 1,000 micrograms per liter ( $\mu\text{g/L}$ ), 19,000  $\mu\text{g/L}$ , and 810  $\mu\text{g/L}$ , respectively. These concentrations equal or exceed the PCL of 1,000  $\mu\text{g/L}$  for TPH in the gasoline range and 500  $\mu\text{g/L}$  for TPH in the diesel and heavy oil ranges (Table 3). A cPAHs concentration of 49.6  $\mu\text{g/L}$  was reported in sample GP-605, above the PCL of 0.05  $\mu\text{g/L}$ . With the exception of naphthalene, none of the non-carcinogenic PAHs were identified above PCLs. Naphthalene was identified at a concentration of 2,800  $\mu\text{g/L}$  in groundwater sample GP-605-GW, above the PCL of 160  $\mu\text{g/L}$  (Table 4).

The groundwater sample collected from boring GP-606 contained TPH in the gasoline, diesel, and heavy oil ranges at concentrations of 150  $\mu\text{g/L}$ , 770  $\mu\text{g/L}$ , and 150  $\mu\text{g/L}$ , respectively (Table

3). Of these, only TPH in the diesel range exceeded the PCL. A cPAH concentration of 0.22 µg/L was reported in sample GP-606-GW, above the PCL of 0.05 µg/L. None of the non-carcinogenic PAHs were identified above PCLs in groundwater sample GP-606-GW (Table 4).

The groundwater sample collected from boring GP-607 contained TPH in the diesel and heavy oil ranges at concentrations of 240 µg/L and 86 µg/L, neither of which exceeded PCLs. TPH in the gasoline range was not identified at concentrations above laboratory MRLs (Table 3). A cPAHs concentration of 3.11 µg/L was reported in sample GP-607, above the PCL of 0.05 µg/L. None of the non-carcinogenic PAHs were identified above PCLs in groundwater sample GP-607-GW (Table 4).

### CONCLUSIONS

The findings of the data gap assessment supported the soil assumptions presented in the Interim Draft RI/FS report; specifically that soil impacts above PCLs associated with creosote/TPH releases are generally found at depths between 5 and 15 feet bgs. TPH or PAH concentrations in soil at depths greater than 15 feet bgs were below the PCLs, even when field evidence of creosote-like impacts were identified.

The groundwater sampling found that TPH, cPAHs, and naphthalene are present at concentrations above PCLs at deeper depths of 35 feet bgs, above what appears to be a confining layer of silt. The groundwater samples were collected from Geoprobe borings which have the tendency to be biased high. As has been shown in monitoring well MW-5, located near the center of the identified creosote/TPH plume area, the concentrations of these constituents have been found to be much lower (below PCLs) when groundwater samples are collected from constructed wells. Consistent with recommendations provided in the Interim Draft RI/FS, the installation of additional groundwater monitoring wells, including wells screened at deeper depths, may be warranted around the creosote/TPH release plume.

Sincerely,  
**SLR International Corporation**

Megan S. Coracci  
Principal Scientist

R. Scott Miller, P.E.  
Principal Engineer

cc Dwayne Arino – JELD-WEN, inc.

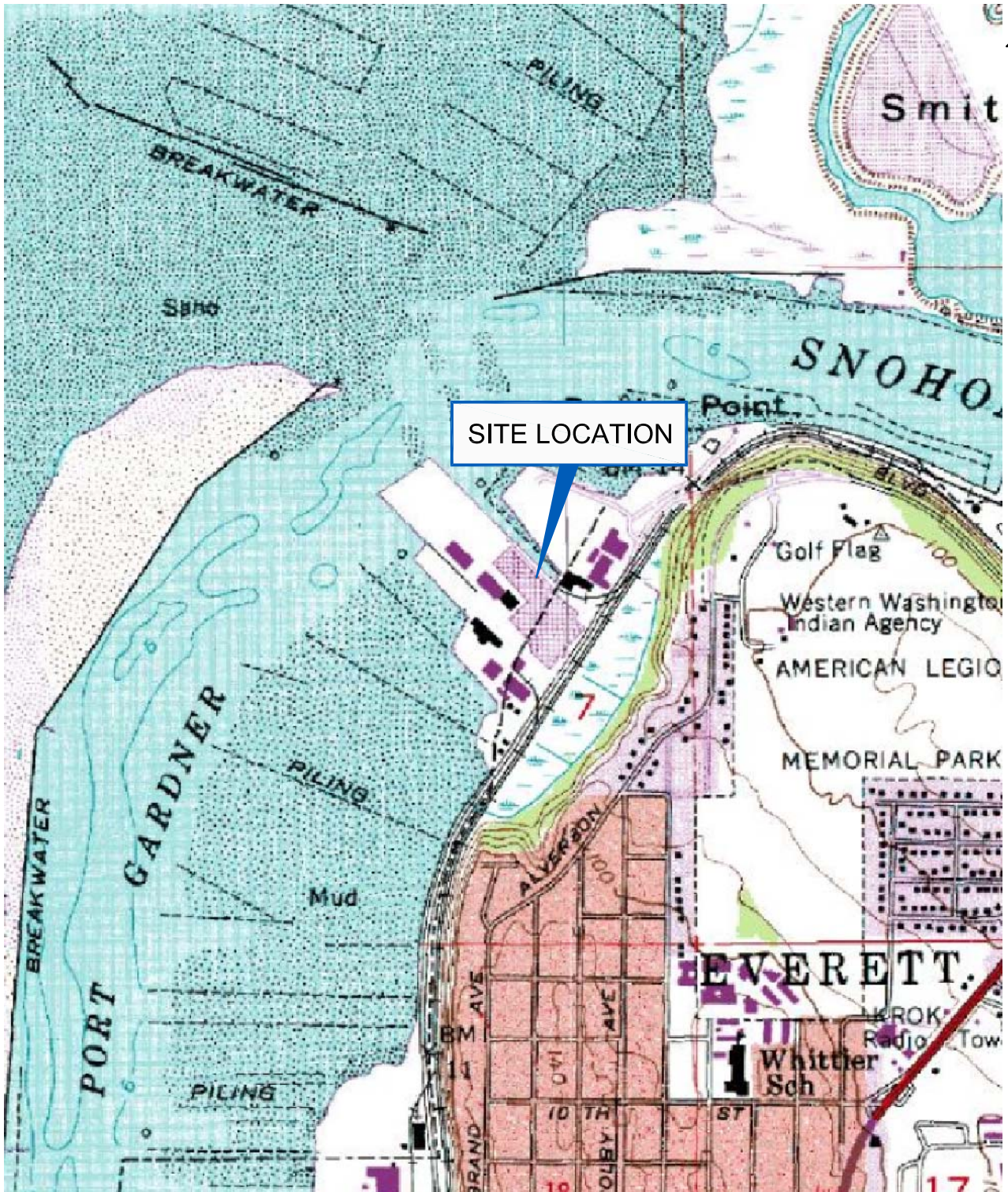
Attachments: Figures 1 and 2  
Tables 1 through 4  
Appendix A – Soil Boring Logs  
Appendix B – Laboratory Analytical Reports

## **FIGURES**

**Figure 1      Site Location Map**

**Figure 2      Sample Locations**





SOURCE: USGS 7.5 MINUTE QUADRANGLE MARYSVILLE, WA; 1991(PHOTOREVISED 1968 AND 1973)



WASHINGTON

SCALE: 1" = .25mi



**JELD-WEN SITE**  
**300 WEST MARINE VIEW DRIVE**  
**EVERETT, WASHINGTON**

Report  
**UPLAND DATA GAP ASSESSMENT**

Drawing  
**SITE LOCATION MAP**



Date FEBRUARY 2014  
 File Name SITE LOCATION MAP-1

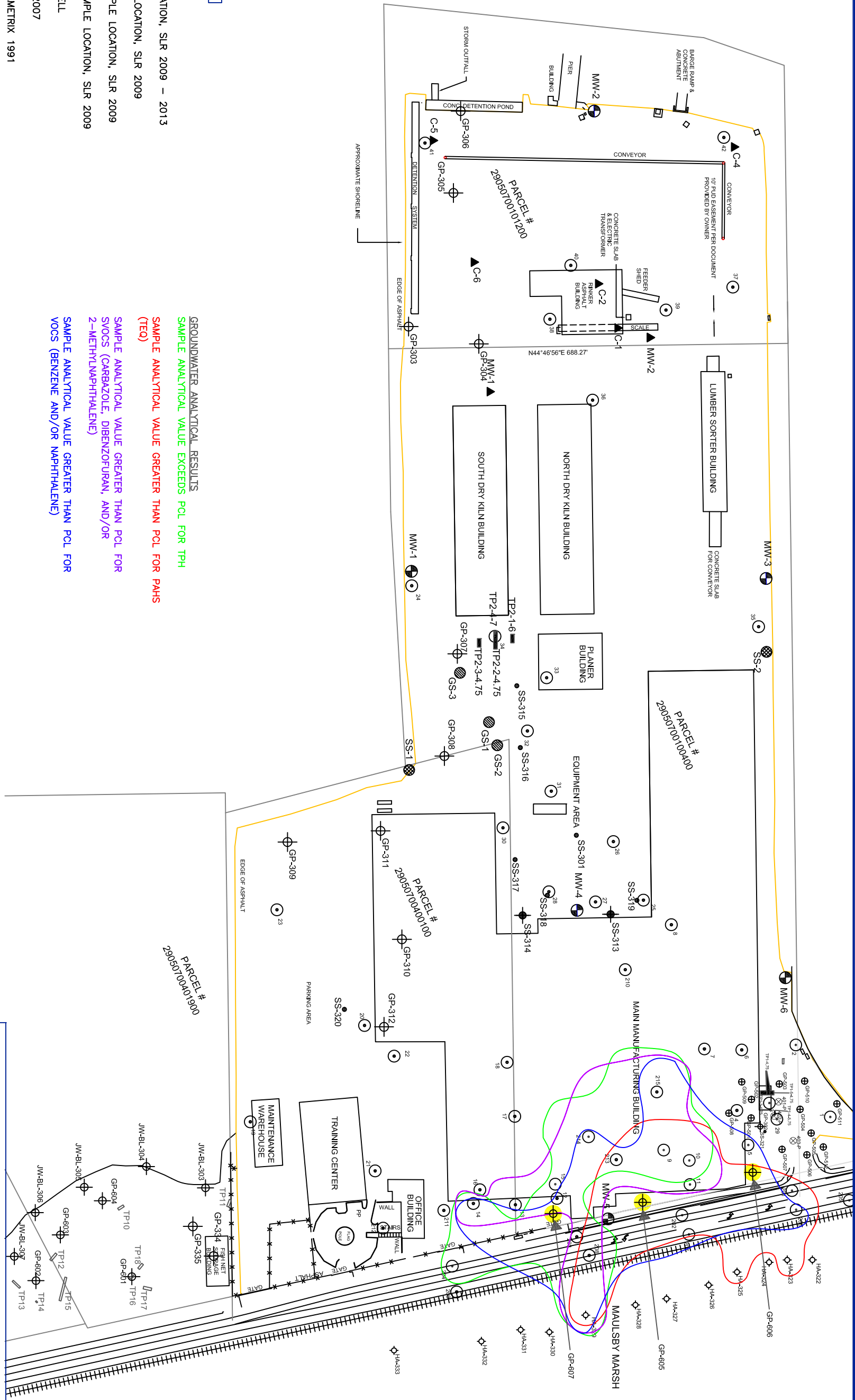
Scale AS SHOWN  
 Project No. 108.00228.00028

Fig. No.  
**1**





- LEGEND**
- ☐ TEST PITS, SLR 2013
  - ⊕ GEOPROBE SAMPLE LOCATION, SLR 2009 - 2013
  - SURFACE SOIL SAMPLE LOCATION, SLR 2009
  - BNSF HAND AUGER SAMPLE LOCATION, SLR 2009
  - ⊖ NEAR SURFACE SOIL SAMPLE LOCATION, SLR 2009
  - ⊙ EXISTING MONITORING WELL
  - ⊕ GEOPROBE, SLR 2006-2007
  - ⊙ SEDIMENT SAMPLE, PARAMETRIX 1991
  - ⊙ SURFACE SOIL SAMPLES, PARAMETRIX 1991
  - ⊖ TEST PITS, SLR 2007
  - ▲ SOIL AND GROUNDWATER SAMPLES, RZA AGRA 1994



GROUNDWATER ANALYTICAL RESULTS  
 SAMPLE ANALYTICAL VALUE EXCEEDS PCL FOR TPH  
 SAMPLE ANALYTICAL VALUE GREATER THAN PCL FOR PAHS (TEO)  
 SAMPLE ANALYTICAL VALUE GREATER THAN PCL FOR SVOCs (CARBAZOLE, DIBENZOFURAN, AND/OR 2-METHYLNAPHTHALENE)  
 SAMPLE ANALYTICAL VALUE GREATER THAN PCL FOR VOCs (BENZENE AND/OR NAPHTHALENE)

**NOTES**

THE BUILDINGS, SURFACE UTILITIES, EDGE OF PAVEMENT, AND APPROXIMATE SHORELINE SHOWN ON THIS MAP ARE BASED ON A 2006 SURVEY PERFORMED BY WH PACIFIC.



<p><b>JELD-WEN SITE</b>                  300 WEST MARINE VIEW DRIVE                  EVERETT, WASHINGTON</p>	
<p>Report                  UPLAND DATA GAP ASSESSMENT</p>	<p>Drawing                  SOIL BORING LOCATIONS</p>
<p>Date: FEBRUARY 2014                  File Name: RHFS FIGURES-3</p>	<p>Scale: AS SHOWN                  Project No.: 108.00228.00028</p>
<p>Fig. No.                  2</p>	



## **TABLES**

<b>Table 1</b>	<b>Soil Analytical Summary Table – TPH</b>
<b>Table 2</b>	<b>Soil Analytical Summary Table – PAHs</b>
<b>Table 3</b>	<b>Groundwater Analytical Summary Table – TPH</b>
<b>Table 4</b>	<b>Groundwater Analytical Summary Table – PAHs</b>



**Table 1**  
**Soil Analytical Results -TPH**

Sample Location	Sample Label	Sample Depth (feet)	Sample Date	Hydrocarbon Identification <sup>A</sup> (mg/Kg)						Total Petroleum Hydrocarbons <sup>E</sup> (mg/Kg)					
				Gasoline <sup>B</sup>		Diesel <sup>C</sup>		Heavy Oil <sup>D</sup>		TPH-Gx Gasoline Range		TPH-Dx Diesel Range		TPH-Dx Heavy Oil Range	
				Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual
<b>SLR Sampling Event - Dec 2013</b>															
GP-605	GP-605-13.5	13.5	12/18/2013	--		--		--		-		<4.9		<12	
GP-605	GP-605-34.5	34.5	12/18/2013	--		--		--		-		810		130	
GP-606	GP-606-14.5	14.5	12/18/2013	--		--		--		-		<5.1		<13	
GP-607	GP-607-24.5	24.5	12/18/2013	--		--		--		-		<4.6		<12	
<b>Screening Levels</b>															
Screening Levels										100 / 30	I	460		460	
Preliminary Cleanup Levels (PCLS)				NA		NA		NA		100 / 30	I	2,000		2,000	

**NOTES:**

A - Hydrocarbon Identification per NWTPH Methodology. TPH-HCID method is a qualitative and semi-quantitative screen to determine the presence and type of petroleum products that may exist. The results of this method determine which fully quantitative method/methods (TPH-Gx or TPH-Dx), if any, will be used.

B - Gasoline Range Hydrocarbons

C - Diesel Range Hydrocarbons

D - Heavy Oil Range Hydrocarbons

E - Hydrocarbon per NWTPH-Gx and NWTPH-Dx methodologies

	= Value exceeds the Interim Draft RI/FS Preliminary Cleanup Levels (PCLS)
	= Value exceeds the 2008 RI/FS Work Plan Screening Level Values (SLVs)
	= Laboratory PQL exceeds the PCL or SLV

**Table 2**  
**Soil Analytical Results - PAHs**

Sample Location	Sample Label	Sample Depth (feet)	Sample Date	Polynuclear Aromatic Hydrocarbons <sup>A</sup> (PAHs) (mg/Kg)																																	
				Carcinogenic PAHs														PAHs																			
				Benzo(a)anthracene		Benzo(a)pyrene		Benzo(b)fluoranthene		Benzo(k)fluoranthene		Chrysene		Dibenzo(a,h)anthracene		Indeno(1,2,3-cd)pyrene		TEQ U = 0	TEQ U = 1/2	Acenaphthylene		Acenaphthene		Anthracene		Benzo(ghi)perylene		Fluoranthene		Fluorene		Naphthalene		Phenanthrene		Pyrene	
				Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual
GP-605	GP-605-13.5	13.5	12/18/2013	5.400		2.600		3.300		0.920		6.400		0.25		0.69		3.720	3.720	0.23		25		9.6		0.84		26		18		82		62		22	
GP-605	GP-605-34.5	34.5	12/18/2013	0.0071	J	0.0032	J	0.0042	J	0.0012	J	0.013		<0.0071		0.00082	J	0.005	0.005	0.00075	J	0.180		0.099		0.001	J	0.045		0.080		0.89		0.190		0.038	
GP-606	GP-606-14.5	14.5	12/18/2013	0.0012	J	<0.0077		<0.0077		<0.0077		0.0014	J	<0.0077		<0.0077		0.0001	0.0055	<0.0077		0.035		0.004	J	<0.0077		0.0074	J	0.015		0.14		0.013		0.0055	J
GP-607	GP-607-24.5	24.5	12/18/2013	0.016		0.023		0.031		0.0083		0.037		0.0038	J	0.0097		0.0303	0.0303	0.00088	J	0.075		0.011		0.031		0.037		0.023		0.032		0.028		0.036	
<b>Screening Levels</b>																																					
Screening Level Values (SLVs)				--		0.140		--		--		--		--		--		0.054	0.054	0.33		65.3		3,851		1,132		88.6		173.8		5.0		65.3		1,132	
Preliminary Cleanup Levels (PCLs)				--		0.140		--		--		--		--		--		0.140	0.140	0.33		4,800		24,000		2,400		3,200		3,200		1,600		24,000		2,400	

**Notes**

- indicates Not Sampled or Not Analyzed for specific constituent

**BOLD** = Analytes detected at or above the practical quantitation limit (PQL)

<0.40 indicates not detected above the laboratory PQL of 0.40 mg/Kg (milligrams per Kilogram)

Of the 17 Polynuclear Aromatic Compounds (PAHs) and Pentachlorophenol per EPA Method 8270M-SIM, only those analytes with one or more detections are listed

A - Polynuclear Aromatic Compounds (PAHs) and Pentachlorophenol per EPA Method 8270M-SIM

B - Pentachlorophenol (PCP) per EPA Method 8270M-SIM

- = Value exceeds the Interim Draft RI/FS Preliminary Cleanup Levels (PCLs)
- = Value exceeds the 2008 RI/FS Work Plan Screening Level Values (SLVs)
- = Laboratory PQL exceeds the PCL or SLV

**Laboratory Qualifiers:**

Q - Sample held beyond the accepted holding time

**Table 3  
Groundwater Analytical Results - TPH**

Sample Location	Sample Label	Sample Date	Hydrocarbon Identification <sup>A</sup> (µg/L)						Total Petroleum Hydrocarbons <sup>E</sup> (µg/L)					
			TPH Gasoline <sup>B</sup>		TPH Diesel <sup>C</sup>		TPH Heavy Oil <sup>D</sup>		TPH-Gx Gasoline Range		TPH-Dx Diesel Range		TPH-Dx Heavy Oil Range	
			Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual
<b>SLR Sampling Event - Dec 2013</b>														
GP-605	GP-605-W	12/18/2013	--		--		--		<b>1,000</b>		<b>19,000</b>		<b>810</b>	
GP-606	GP-606-W	12/18/2013	--		--		--		<b>150</b>		<b>770</b>		<b>150</b>	J
GP-607	GP-607-W	12/18/2013	--		--		--		<100		<b>240</b>		<b>86</b>	J
<b>Screening Levels</b>														
Screening Level Values (SLV)			NA		NA		NA		1,000 / 800 <sup>F</sup>		500		500	
Preliminary Cleanup Values (PCL)			NA		NA		NA		1,000 / 800 <sup>F</sup>		500		500	

**NOTES:**

- indicates Not Sampled or Not Analyzed for specific constituent

**BOLD** = Analytes detected at or above the practical quantitation limit (PQL)

<50 indicates not detected above the laboratory PQL of 50 µg/L (micrograms per Liter)

A - Hydrocarbon Identification (HCID) per NW-TPH Methodology. TPH-HCID method is a qualitative and semi-quantitative screen to determine the presence and type of petroleum products that may exist. The results of this method determine which fully quantitative method/methods (TPH-Gx or TPH-Dx), if any, will be used

B - Gasoline Range Hydrocarbons

C - Diesel Range Hydrocarbons

D - Heavy Oil Range Hydrocarbons

E - Hydrocarbon per NW-TPH-Gx and NW-TPH-Dx methodologies

F - Gasoline Range Organics 1,000 µg/l (1.00 mg/l) with no detectable benzene in groundwater, 800 µg/l (0.80 mg/l) is benzene if present in groundwater.

	= Value exceeds the Interim Draft RI/FS Preliminary Cleanup Levels (PCLs)
	= Value exceeds the 2008 RI/FS Work Plan Screening Level Values (SLVs)
	= Laboratory PQL exceeds the PCL or SLV

**Laboratory Qualifiers**

J - (EPA) - Estimated value below the lowest calibration point. Confidence correlates with concentration.

**Table 4**  
**Groundwater Analytical Results - PAHs and SVOCs**

Sample Location	Sample Label	Sample Date	Semivolatile Organic Compounds (SVOCs) <sup>A</sup> and Polynuclear Aromatic Compounds (PAHs) <sup>B</sup> (µg/L)																																	
			Carcinogenic PAHs														PAHs																			
			Benzo(a)anthracene		Benzo(a)pyrene		Benzo(b)fluoranthene		Benzo(k)fluoranthene		Chrysene		Dibenzo(a,h)anthracene		Indeno(1,2,3-cd)pyrene		U = 0	U = 1/2	Acenaphthene	Anthracene		Acenaphthylene		Benzo(ghi)perylene		Fluoranthene		Fluorene		Naphthalene		Phenanthrene		Pyrene		
			Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual		
<b>SLR Sampling Event - Dec 2013</b>			<b>34</b>		<b>37</b>		<b>41</b>		<b>20</b>		<b>90</b>		<b>6</b>		<b>16</b>		<b>49.6</b>	<b>49.6</b>	<b>190</b>		<b>140</b>		<b>1.8</b>		<b>17</b>		<b>90</b>		<b>110</b>		<b>2,800</b>		<b>210</b>		<b>74</b>	
GP-605	GP-605-W	12/18/2013	0.31		0.15		0.18		0.075	J	0.31		0.012	J	0.041	J	0.215	0.215	34		1.7		0.099	J	0.051	J	2.9		9.7		24		12		2.2	
GP-607	GP-607-W	12/18/2013	2.6		2.3		2.9		1.1		2.2		0.33		0.99		3.11	3.11	12		1.8		0.045	J	1.1		12		13		17		8.9			
<b>Preliminary Cleanup Levels (PCLs)<sup>D</sup></b>																																				
Screening Level Values (SLV)			0.1		0.1		0.1		0.1		0.1		0.1		0.1		0.1	0.1	640		8,300		10		830		90		1,100		4,900		640		830	
Preliminary Cleanup Levels (PCL)			0.05		0.05		0.05		0.05		0.05		0.05		0.05		0.05	0.05	960		4,800		10		480		640		640		160		4,800		830	

**NOTES:**

- indicates Not Sampled or Not Analyzed for specific constituent

**BOLD** = Analytes detected at or above the practical quantitation limit (PQL)

<50 indicates not detected above the laboratory PQL of 50 µg/L (micrograms per Liter)

Of the 66 Semi-Volatile Organic Compounds (SVOCs) analytes quantified by the EPA 8270C analysis, only those analytes with one or more detections are listed

Of the 17 Polynuclear Aromatic Compounds (PAHs) and Pentachlorophenol per EPA Method 8270M-SIM, only those analytes with one or more detections are listed

\*GP-206P was a sample of product encountered in the groundwater monitoring well 206. The units for this sample are µg/kg wet.

A - Semivolatile Organic Compounds (SVOCs) per EPA Method 8270C

B - Polynuclear Aromatic Compounds (PAHs) and Pentachlorophenol per EPA Method 8270M-SIM

C - Pentachlorophenol (PCP) per EPA Method 8270M-SIM

- = Value exceeds the Interim Draft RI/FS Preliminary Cleanup Levels (PCLs)
- = Value exceeds the 2008 RI/FS Work Plan Screening Level Values (SLVs)
- = Laboratory PQL exceeds the PCL or SLV

**Laboratory Qualifiers**

Q - Sample held beyond the accepted holding time

J3 - The associated batch QC was outside the established quality control range for precision

J4 - The associated batch QC was outside the established quality control range for accuracy

T8 - (ESC) - Additional method/sample information: Sample(s) received past/too close to holding time expiration

J - (EPA) - Estimated value below the lowest calibration point. Confidence correlates with concentration.



# **APPENDIX A**

## **Soil Boring Logs**



SLR International Corporation  
405 East 12450 South, Suite K  
Draper, Utah 84020

# BORING NUMBER GP-605

PAGE 1 OF 1

CLIENT JELD-WEN, inc. PROJECT NAME Former Nord Door  
 PROJECT NUMBER 108.00228.00048 PROJECT LOCATION Former Nord Door Facility  
 DATE STARTED 12/18/13 COMPLETED 12/18/13 DRILLING METHOD Direct Push  
 DRILLING CONTRACTOR ESN-NW GROUNDWATER ENCOUNTERED AT (feet): 2.5  
 LOGGED BY C. Lee CHECKED BY M. Coracci  
 NOTES North of office building on front of plant, screened interval 30-35 feet

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	PID (ppm)
0						
			SP	0.5	SOD	
		50	CL	1.5	SAND, dark brown, fine-grained, damp, no odors or staining	
				2.5	CLAY, red, damp, no odors or staining	0
5		50	SP		SAND, brown, fine to medium-grained, few fines, wet, no odors or staining	
					@ 4.5 feet: moderate creosote odor	2.1
		90	GP	6.0	GRAVEL, gray, fine to medium, few fine to medium- grained sand, damp to wet, moderate to strong creosote-like odor	6.3
10		90			@ 9.0 feet: becomes wet	
		95	ML	11.0	SILT, brown, trace organics, wet, moderate creosote-like odor	9.1
				13.0	SAND, gray, fine to medium-grained, fines, wet, moderate creosote like odor, crosote coating on the soil	2.1
15	GB				@15-20 feet: sample liner was stuck in sampler; hammer used to loosen sample liner from sampling rod	2.0
					@20-25 feet: sample liner was stuck again	2.4
20					@30-35 feet: sample liner was stuck again	2.4
			SP			3.1
25						1.1
30						2.1
						2.5
35	GB		ML	34.5	@ 35 feet: SILT, clean grey, no odor or staining	11.0
				35.0		

Bottom of boring at 35.0 feet.

Notes

BASIC GEOPROBE TEMPLATE W/ RECOVERY NORD DOOR FACILITY.GPJ GINT US.GDT 2/10/14



SLR International Corporation  
405 East 12450 South, Suite K  
Draper, Utah 84020

**BORING NUMBER GP-606**

PAGE 1 OF 1

CLIENT JELD-WEN, inc. PROJECT NAME Former Nord Door  
 PROJECT NUMBER 108.00228.00048 PROJECT LOCATION Former Nord Door Facility  
 DATE STARTED 12/18/13 COMPLETED 12/18/13 DRILLING METHOD Direct Push  
 DRILLING CONTRACTOR ESN-NW GROUNDWATER ENCOUNTERED AT (feet): 4  
 LOGGED BY C. Lee CHECKED BY M. Coracci  
 NOTES Near loading dock, screened interval 10-15 feet

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	PID (ppm)
0						
0.5				XXXX	SOD	
1.5			SM	XXXX	silty SAND, brown, fine-grained, little fines, damp, no odors or staining	
2.5		80	SP	XXXX	gravelly SAND, dark brown, fine-grained, little fine gravel, trace fines, no odors or staining	0
3.0			ML	XXXX	SILT, beige, damp, no odors or staining	
4.0			MLS	XXXX	sandy SILT, gray, little fine-grained sand, damp mottling, no odors or staining	
5					SAND, dark gray to gray, fine-grained, wet, no odors or staining	
7.5		100	SP	XXXX		0
10					silty SAND, dark gray, fine-grained, little fines, wet, no odors or staining	
10-15					@10-15 feet: sample liner was stuck in sampler; hammer used to loosen sample liner from sampling rod	
15	GB		SM	XXXX		0
15.0					Bottom of boring at 15.0 feet.	

Notes



SLR International Corporation  
 405 East 12450 South, Suite K  
 Draper, Utah 84020

# BORING NUMBER GP-607

PAGE 1 OF 1

CLIENT JELD-WEN, inc. PROJECT NAME Former Nord Door  
 PROJECT NUMBER 108.00228.00048 PROJECT LOCATION Former Nord Door Facility  
 DATE STARTED 12/18/13 COMPLETED 12/18/13 DRILLING METHOD Direct Push  
 DRILLING CONTRACTOR ESN-NW GROUNDWATER ENCOUNTERED AT (feet): 4.5  
 LOGGED BY C. Lee CHECKED BY M. Coracci  
 NOTES South of office building on front of plant, screened interval 20-25 feet

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	PID (ppm)
0						
0.4					ASPHALT	
1.0					GRAVEL (pea gravel)	
1.5					CONCRETE	
3.5		50	SP		gravelly SAND, dark brown to brown, fine-grained, little fine gravel, damp to moist, no odors or staining	0
5					silty SAND, brown, fine-grained, little fines, moist to wet, no odors or staining	
8.5		90			@8.5 feet: strong creosote-like odor, sheen on soil, free product evident on soil and sample tube	0.3
13		90			@13 feet: creosote-like odors became weak	
15-20		90			@15-20 feet: sample liner was stuck in sampler and sample was beaten out with a hammer	3.5
15			SM			1.1
15						0.9
15						0.1
20						0
25	GB			25.0	Bottom of boring at 25.0 feet.	

BASIC GEOPROBE TEMPLATE W/ RECOVERY NORD DOOR FACILITY.GPJ GINT US.GDT 2/10/14

Notes



# **APPENDIX B**

**Laboratory Analytical Reports**



12065 Lebanon Rd.  
Mt. Juliet, TN 37122  
(615) 758-5858  
1-800-767-5859  
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

Chris Kramer (SLR)  
Jeld-Wen  
1800 Blankenship Road, Suite 440  
West Linn, OR 97068

## Report Summary

Thursday January 02, 2014

Report Number: L675535


Samples Received: 12/23/13

Client Project: 108.00228.00048

Description: Nord Door Project - Everett, WA

The analytical results in this report are based upon information supplied by you, the client, and are for your exclusive use. If you have any questions regarding this data package, please do not hesitate to call.

Entire Report Reviewed By:

  
Jared Willis, ESC Representative

### Laboratory Certification Numbers

A2LA - 1461-01, AIHA - 100789, AL - 40660, CA - 01157CA, CT - PH-0197,  
FL - E87487, GA - 923, IN - C-IN-01, KY - 90010, KYUST - 0016,  
NC - ENV375/DW21704/BIO041, ND - R-140, NJ - TN002, NJ NELAP - TN002,  
SC - 84004, TN - 2006, VA - 460132, WV - 233, AZ - 0612,  
MN - 047-999-395, NY - 11742, WI - 998093910, NV - TN000032011-1,  
TX - T104704245-11-3, OK - 9915, PA - 68-02979, IA Lab #364, EPA - TN002

Accreditation is only applicable to the test methods specified on each scope of accreditation held by ESC Lab Sciences.

Note: The use of the preparatory EPA Method 3511 is not approved or endorsed by the CA ELAP.

This report may not be reproduced, except in full, without written approval from ESC Lab Sciences. Where applicable, sampling conducted by ESC is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.



12065 Lebanon Rd.  
 Mt. Juliet, TN 37122  
 (615) 758-5858  
 1-800-767-5859  
 Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Chris Kramer (SLR)  
 Jeld-Wen  
 1800 Blankenship Road, Suite 440  
 West Linn, OR 97068

January 02, 2014

Date Received : December 23, 2013  
 Description : Nord Door Project - Everett, WA  
 Sample ID : GP-605 13.5FT  
 Collected By : Chris Lee  
 Collection Date : 12/18/13 09:25

ESC Sample # : L675535-01  
 Site ID : EVERETT, WA  
 Project # : 108.00228.00048

Parameter	Dry Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Total Solids	81.2	0.0333	0.100	%		2540 G-2	12/28/13	1
Diesel Range Organics (DRO)	U	1.3	4.9	mg/kg		NWTPHDX	12/26/13	1
Residual Range Organics (RRO)	U	3.3	12.	mg/kg		NWTPHDX	12/26/13	1
Surrogate Recovery o-Terphenyl	59.6			% Rec.		NWTPHDX	12/26/13	1
Polynuclear Aromatic Hydrocarbons								
Anthracene	9.6	0.012	0.15	mg/kg		8270C-SI	12/31/13	20
Acenaphthene	25.	0.012	0.15	mg/kg		8270C-SI	12/31/13	20
Acenaphthylene	0.23	0.012	0.15	mg/kg		8270C-SI	12/31/13	20
Benzo(a)anthracene	5.4	0.012	0.15	mg/kg		8270C-SI	12/31/13	20
Benzo(a)pyrene	2.6	0.012	0.15	mg/kg		8270C-SI	12/31/13	20
Benzo(b)fluoranthene	3.3	0.012	0.15	mg/kg		8270C-SI	12/31/13	20
Benzo(g,h,i)perylene	0.84	0.012	0.15	mg/kg		8270C-SI	12/31/13	20
Benzo(k)fluoranthene	0.92	0.012	0.15	mg/kg		8270C-SI	12/31/13	20
Chrysene	6.4	0.012	0.15	mg/kg		8270C-SI	12/31/13	20
Dibenz(a,h)anthracene	0.25	0.012	0.15	mg/kg		8270C-SI	12/31/13	20
Fluoranthene	26.	0.012	0.15	mg/kg		8270C-SI	12/31/13	20
Fluorene	18.	0.012	0.15	mg/kg		8270C-SI	12/31/13	20
Indeno(1,2,3-cd)pyrene	0.69	0.012	0.15	mg/kg		8270C-SI	12/31/13	20
Naphthalene	82.	0.040	0.49	mg/kg		8270C-SI	12/31/13	20
Phenanthrene	62.	0.012	0.15	mg/kg		8270C-SI	12/31/13	20
Pyrene	22.	0.012	0.15	mg/kg		8270C-SI	12/31/13	20
1-Methylnaphthalene	10.	0.040	0.49	mg/kg		8270C-SI	12/31/13	20
2-Methylnaphthalene	20.	0.040	0.49	mg/kg		8270C-SI	12/31/13	20
2-Chloronaphthalene	U	0.040	0.49	mg/kg		8270C-SI	12/31/13	20
Surrogate Recovery								
Nitrobenzene-d5	45.9			% Rec.	J7	8270C-SI	12/31/13	20
2-Fluorobiphenyl	73.2			% Rec.	J7	8270C-SI	12/31/13	20
p-Terphenyl-d14	94.2			% Rec.	J7	8270C-SI	12/31/13	20

Results listed are dry weight basis.

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD = TRRP SDL

RDL = Reported Detection Limit = LOQ = PQL = EQL = TRRP MQL

Note:

This report shall not be reproduced, except in full, without the written approval from ESC.

The reported analytical results relate only to the sample submitted

Reported: 01/02/14 14:10 Printed: 01/02/14 14:47

L675535-01 (SV8270PAHSIM) - Dilution due to matrix



12065 Lebanon Rd.  
 Mt. Juliet, TN 37122  
 (615) 758-5858  
 1-800-767-5859  
 Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Chris Kramer (SLR)  
 Jeld-Wen  
 1800 Blankenship Road, Suite 440  
 West Linn, OR 97068

January 02, 2014

Date Received : December 23, 2013  
 Description : Nord Door Project - Everett, WA  
 Sample ID : GP-605 34.5FT  
 Collected By : Chris Lee  
 Collection Date : 12/18/13 10:15

ESC Sample # : L675535-02

Site ID : EVERETT, WA

Project # : 108.00228.00048

Parameter	Dry Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Total Solids	84.0	0.0333	0.100	%		2540 G-2	12/28/13	1
Diesel Range Organics (DRO)	810	6.6	24.	mg/kg		NWTPHDX	12/27/13	5
Residual Range Organics (RRO)	130	3.3	12.	mg/kg		NWTPHDX	12/26/13	1
Surrogate Recovery o-Terphenyl	62.2			% Rec.		NWTPHDX	12/26/13	1
Polynuclear Aromatic Hydrocarbons								
Anthracene	0.099	0.00060	0.0071	mg/kg		8270C-SI	12/31/13	1
Acenaphthene	0.18	0.00060	0.0071	mg/kg		8270C-SI	12/31/13	1
Acenaphthylene	0.00075	0.00060	0.0071	mg/kg	J	8270C-SI	12/31/13	1
Benzo(a)anthracene	0.0071	0.00060	0.0071	mg/kg	J	8270C-SI	12/31/13	1
Benzo(a)pyrene	0.0032	0.00060	0.0071	mg/kg	J	8270C-SI	12/31/13	1
Benzo(b)fluoranthene	0.0042	0.00060	0.0071	mg/kg	J	8270C-SI	12/31/13	1
Benzo(g,h,i)perylene	0.0010	0.00060	0.0071	mg/kg	J	8270C-SI	12/31/13	1
Benzo(k)fluoranthene	0.0012	0.00060	0.0071	mg/kg	J	8270C-SI	12/31/13	1
Chrysene	0.013	0.00060	0.0071	mg/kg		8270C-SI	12/31/13	1
Dibenz(a,h)anthracene	U	0.00060	0.0071	mg/kg		8270C-SI	12/31/13	1
Fluoranthene	0.045	0.00060	0.0071	mg/kg		8270C-SI	12/31/13	1
Fluorene	0.080	0.00060	0.0071	mg/kg		8270C-SI	12/31/13	1
Indeno(1,2,3-cd)pyrene	0.00082	0.00060	0.0071	mg/kg	J	8270C-SI	12/31/13	1
Naphthalene	0.89	0.0020	0.024	mg/kg		8270C-SI	12/31/13	1
Phenanthrene	0.19	0.00060	0.0071	mg/kg		8270C-SI	12/31/13	1
Pyrene	0.038	0.00060	0.0071	mg/kg		8270C-SI	12/31/13	1
1-Methylnaphthalene	0.15	0.0020	0.024	mg/kg		8270C-SI	12/31/13	1
2-Methylnaphthalene	0.15	0.0020	0.024	mg/kg		8270C-SI	12/31/13	1
2-Chloronaphthalene	U	0.0020	0.024	mg/kg		8270C-SI	12/31/13	1
Surrogate Recovery								
Nitrobenzene-d5	125.			% Rec.		8270C-SI	12/31/13	1
2-Fluorobiphenyl	72.8			% Rec.		8270C-SI	12/31/13	1
p-Terphenyl-d14	72.1			% Rec.		8270C-SI	12/31/13	1

Results listed are dry weight basis.

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD = TRRP SDL

RDL = Reported Detection Limit = LOQ = PQL = EQL = TRRP MQL

Note:

This report shall not be reproduced, except in full, without the written approval from ESC.

The reported analytical results relate only to the sample submitted

Reported: 01/02/14 14:10 Printed: 01/02/14 14:47





12065 Lebanon Rd.  
 Mt. Juliet, TN 37122  
 (615) 758-5858  
 1-800-767-5859  
 Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Chris Kramer (SLR)  
 Jeld-Wen  
 1800 Blankenship Road, Suite 440  
 West Linn, OR 97068

January 02, 2014

Date Received : December 23, 2013  
 Description : Nord Door Project - Everett, WA  
 Sample ID : GP-606 14.5FT  
 Collected By : Chris Lee  
 Collection Date : 12/18/13 12:50

ESC Sample # : L675535-03

Site ID : EVERETT, WA

Project # : 108.00228.00048

Parameter	Dry Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Total Solids	77.8	0.0333	0.100	%		2540 G-2	12/30/13	1
Diesel Range Organics (DRO)	U	1.3	5.1	mg/kg		NWTPHDX	12/26/13	1
Residual Range Organics (RRO)	U	3.3	13.	mg/kg		NWTPHDX	12/26/13	1
Surrogate Recovery o-Terphenyl	56.1			% Rec.		NWTPHDX	12/26/13	1
Polynuclear Aromatic Hydrocarbons								
Anthracene	0.0038	0.00060	0.0077	mg/kg	J	8270C-SI	12/31/13	1
Acenaphthene	0.035	0.00060	0.0077	mg/kg		8270C-SI	12/31/13	1
Acenaphthylene	U	0.00060	0.0077	mg/kg		8270C-SI	12/31/13	1
Benzo(a)anthracene	0.0012	0.00060	0.0077	mg/kg	J	8270C-SI	12/31/13	1
Benzo(a)pyrene	U	0.00060	0.0077	mg/kg		8270C-SI	12/31/13	1
Benzo(b)fluoranthene	U	0.00060	0.0077	mg/kg		8270C-SI	12/31/13	1
Benzo(g,h,i)perylene	U	0.00060	0.0077	mg/kg		8270C-SI	12/31/13	1
Benzo(k)fluoranthene	U	0.00060	0.0077	mg/kg		8270C-SI	12/31/13	1
Chrysene	0.0014	0.00060	0.0077	mg/kg	J	8270C-SI	12/31/13	1
Dibenz(a,h)anthracene	U	0.00060	0.0077	mg/kg		8270C-SI	12/31/13	1
Fluoranthene	0.0074	0.00060	0.0077	mg/kg	J	8270C-SI	12/31/13	1
Fluorene	0.015	0.00060	0.0077	mg/kg		8270C-SI	12/31/13	1
Indeno(1,2,3-cd)pyrene	U	0.00060	0.0077	mg/kg		8270C-SI	12/31/13	1
Naphthalene	0.14	0.0020	0.026	mg/kg		8270C-SI	12/31/13	1
Phenanthrene	0.013	0.00060	0.0077	mg/kg		8270C-SI	12/31/13	1
Pyrene	0.0055	0.00060	0.0077	mg/kg	J	8270C-SI	12/31/13	1
1-Methylnaphthalene	0.012	0.0020	0.026	mg/kg	J	8270C-SI	12/31/13	1
2-Methylnaphthalene	0.0045	0.0020	0.026	mg/kg	J	8270C-SI	12/31/13	1
2-Chloronaphthalene	U	0.0020	0.026	mg/kg		8270C-SI	12/31/13	1
Surrogate Recovery								
Nitrobenzene-d5	129.			% Rec.		8270C-SI	12/31/13	1
2-Fluorobiphenyl	73.9			% Rec.		8270C-SI	12/31/13	1
p-Terphenyl-d14	71.1			% Rec.		8270C-SI	12/31/13	1

Results listed are dry weight basis.

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD = TRRP SDL

RDL = Reported Detection Limit = LOQ = PQL = EQL = TRRP MQL

Note:

This report shall not be reproduced, except in full, without the written approval from ESC.

The reported analytical results relate only to the sample submitted

Reported: 01/02/14 14:10 Printed: 01/02/14 14:47



12065 Lebanon Rd.  
 Mt. Juliet, TN 37122  
 (615) 758-5858  
 1-800-767-5859  
 Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Chris Kramer (SLR)  
 Jeld-Wen  
 1800 Blankenship Road, Suite 440  
 West Linn, OR 97068

January 02, 2014

Date Received : December 23, 2013  
 Description : Nord Door Project - Everett, WA  
 Sample ID : GP-607 24.5FT  
 Collected By : Chris Lee  
 Collection Date : 12/18/13 15:20

ESC Sample # : L675535-04

Site ID : EVERETT, WA

Project # : 108.00228.00048

Parameter	Dry Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Total Solids	86.7	0.0333	0.100	%		2540 G-2	12/30/13	1
Diesel Range Organics (DRO)	U	1.3	4.6	mg/kg		NWTPHDX	12/26/13	1
Residual Range Organics (RRO)	U	3.3	12.	mg/kg		NWTPHDX	12/26/13	1
Surrogate Recovery								
o-Terphenyl	62.2			% Rec.		NWTPHDX	12/26/13	1
Polynuclear Aromatic Hydrocarbons								
Anthracene	0.011	0.00060	0.0069	mg/kg		8270C-SI	12/31/13	1
Acenaphthene	0.075	0.00060	0.0069	mg/kg		8270C-SI	12/31/13	1
Acenaphthylene	0.00088	0.00060	0.0069	mg/kg	J	8270C-SI	12/31/13	1
Benzo(a)anthracene	0.016	0.00060	0.0069	mg/kg		8270C-SI	12/31/13	1
Benzo(a)pyrene	0.023	0.00060	0.0069	mg/kg		8270C-SI	12/31/13	1
Benzo(b)fluoranthene	0.031	0.00060	0.0069	mg/kg		8270C-SI	12/31/13	1
Benzo(g,h,i)perylene	0.012	0.00060	0.0069	mg/kg		8270C-SI	12/31/13	1
Benzo(k)fluoranthene	0.0083	0.00060	0.0069	mg/kg		8270C-SI	12/31/13	1
Chrysene	0.026	0.00060	0.0069	mg/kg		8270C-SI	12/31/13	1
Dibenz(a,h)anthracene	0.0038	0.00060	0.0069	mg/kg	J	8270C-SI	12/31/13	1
Fluoranthene	0.037	0.00060	0.0069	mg/kg		8270C-SI	12/31/13	1
Fluorene	0.023	0.00060	0.0069	mg/kg		8270C-SI	12/31/13	1
Indeno(1,2,3-cd)pyrene	0.0097	0.00060	0.0069	mg/kg		8270C-SI	12/31/13	1
Naphthalene	0.032	0.0020	0.023	mg/kg		8270C-SI	12/31/13	1
Phenanthrene	0.028	0.00060	0.0069	mg/kg		8270C-SI	12/31/13	1
Pyrene	0.036	0.00060	0.0069	mg/kg		8270C-SI	12/31/13	1
1-Methylnaphthalene	0.011	0.0020	0.023	mg/kg	J	8270C-SI	12/31/13	1
2-Methylnaphthalene	0.0077	0.0020	0.023	mg/kg	J	8270C-SI	12/31/13	1
2-Chloronaphthalene	U	0.0020	0.023	mg/kg		8270C-SI	12/31/13	1
Surrogate Recovery								
Nitrobenzene-d5	123.			% Rec.		8270C-SI	12/31/13	1
2-Fluorobiphenyl	79.1			% Rec.		8270C-SI	12/31/13	1
p-Terphenyl-d14	77.5			% Rec.		8270C-SI	12/31/13	1

Results listed are dry weight basis.

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD = TRRP SDL

RDL = Reported Detection Limit = LOQ = PQL = EQL = TRRP MQL

Note:

This report shall not be reproduced, except in full, without the written approval from ESC.

The reported analytical results relate only to the sample submitted

Reported: 01/02/14 14:10 Printed: 01/02/14 14:47



12065 Lebanon Rd.  
 Mt. Juliet, TN 37122  
 (615) 758-5858  
 1-800-767-5859  
 Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Chris Kramer (SLR)  
 Jeld-Wen  
 1800 Blankenship Road, Suite 440  
 West Linn, OR 97068

January 02, 2014

Date Received : December 23, 2013  
 Description : Nord Door Project - Everett, WA  
 Sample ID : GP-605-W  
 Collected By : Chris Lee  
 Collection Date : 12/18/13 10:45

ESC Sample # : L675535-05  
 Site ID : EVERETT, WA  
 Project # : 108.00228.00048

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Gasoline Range Organics-NWTPH	1000	32.	100	ug/l		NWTPHGX	12/27/13	1
Surrogate Recovery								
a,a,a-Trifluorotoluene(FID)	97.2			% Rec.		NWTPHGX	12/27/13	1
Diesel Range Organics (DRO)	19000	660	2000	ug/l		NWTPHDX	12/31/13	20
Residual Range Organics (RRO)	810	82.	250	ug/l		NWTPHDX	12/27/13	1
Surrogate Recovery								
o-Terphenyl	0.00			% Rec.	J7	NWTPHDX	12/31/13	20
Polynuclear Aromatic Hydrocarbons								
Anthracene	140	0.15	1.0	ug/l		8270C-S	12/24/13	20
Acenaphthene	190	0.16	1.0	ug/l		8270C-S	12/24/13	20
Acenaphthylene	1.8	0.14	1.0	ug/l		8270C-S	12/24/13	20
Benzo(a)anthracene	34.	0.24	1.0	ug/l		8270C-S	12/24/13	20
Benzo(a)pyrene	37.	0.23	1.0	ug/l		8270C-S	12/24/13	20
Benzo(b)fluoranthene	41.	0.28	1.0	ug/l		8270C-S	12/24/13	20
Benzo(g,h,i)perylene	17.	0.23	1.0	ug/l		8270C-S	12/24/13	20
Benzo(k)fluoranthene	20.	0.27	1.0	ug/l		8270C-S	12/24/13	20
Chrysene	90.	0.22	1.0	ug/l		8270C-S	12/24/13	20
Dibenz(a,h)anthracene	6.0	0.079	1.0	ug/l		8270C-S	12/24/13	20
Fluoranthene	90.	0.31	1.0	ug/l		8270C-S	12/24/13	20
Fluorene	110	0.17	1.0	ug/l		8270C-S	12/24/13	20
Indeno(1,2,3-cd)pyrene	16.	0.30	1.0	ug/l		8270C-S	12/24/13	20
Naphthalene	2800	9.9	130	ug/l		8270C-S	12/25/13	500
Phenanthrene	210	0.16	1.0	ug/l		8270C-S	12/24/13	20
Pyrene	74.	0.23	1.0	ug/l		8270C-S	12/24/13	20
1-Methylnaphthalene	160	0.16	5.0	ug/l		8270C-S	12/24/13	20
2-Methylnaphthalene	200	0.18	5.0	ug/l		8270C-S	12/24/13	20
2-Chloronaphthalene	U	0.13	5.0	ug/l		8270C-S	12/24/13	20
Surrogate Recovery								
Nitrobenzene-d5	103.			% Rec.	J7	8270C-S	12/24/13	20
2-Fluorobiphenyl	99.2			% Rec.	J7	8270C-S	12/24/13	20
p-Terphenyl-d14	98.8			% Rec.	J7	8270C-S	12/24/13	20

U = ND (Not Detected)  
 RDL = Reported Detection Limit = LOQ = PQL = EQL = TRRP MQL  
 MDL = Minimum Detection Limit = LOD = TRRP SDL

Note:  
 The reported analytical results relate only to the sample submitted.  
 This report shall not be reproduced, except in full, without the written approval from ESC.

Reported: 01/02/14 14:10 Printed: 01/02/14 14:47



12065 Lebanon Rd.  
 Mt. Juliet, TN 37122  
 (615) 758-5858  
 1-800-767-5859  
 Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Chris Kramer (SLR)  
 Jeld-Wen  
 1800 Blankenship Road, Suite 440  
 West Linn, OR 97068

January 02, 2014

Date Received : December 23, 2013  
 Description : Nord Door Project - Everett, WA  
 Sample ID : GP-606-W  
 Collected By : Chris Lee  
 Collection Date : 12/18/13 13:10

ESC Sample # : L675535-06  
 Site ID : EVERETT, WA  
 Project # : 108.00228.00048

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Gasoline Range Organics-NWTPH	150	32.	100	ug/l		NWTPHGX	12/27/13	1
Surrogate Recovery								
a,a,a-Trifluorotoluene(FID)	97.0			% Rec.		NWTPHGX	12/27/13	1
Diesel Range Organics (DRO)	770	33.	100	ug/l		NWTPHDX	12/27/13	1
Residual Range Organics (RRO)	150	82.	250	ug/l	J	NWTPHDX	12/27/13	1
Surrogate Recovery								
o-Terphenyl	105.			% Rec.		NWTPHDX	12/27/13	1
Polynuclear Aromatic Hydrocarbons								
Anthracene	1.7	0.015	0.10	ug/l		8270C-S	12/24/13	2
Acenaphthene	34.	0.016	0.10	ug/l		8270C-S	12/24/13	2
Acenaphthylene	0.099	0.014	0.10	ug/l	J	8270C-S	12/24/13	2
Benzo(a)anthracene	0.31	0.024	0.10	ug/l		8270C-S	12/24/13	2
Benzo(a)pyrene	0.15	0.023	0.10	ug/l		8270C-S	12/24/13	2
Benzo(b)fluoranthene	0.18	0.028	0.10	ug/l		8270C-S	12/24/13	2
Benzo(g,h,i)perylene	0.051	0.023	0.10	ug/l	J	8270C-S	12/24/13	2
Benzo(k)fluoranthene	0.075	0.027	0.10	ug/l	J	8270C-S	12/24/13	2
Chrysene	0.31	0.022	0.10	ug/l		8270C-S	12/24/13	2
Dibenz(a,h)anthracene	0.012	0.0079	0.10	ug/l	J	8270C-S	12/24/13	2
Fluoranthene	2.9	0.031	0.10	ug/l		8270C-S	12/24/13	2
Fluorene	9.7	0.017	0.10	ug/l		8270C-S	12/24/13	2
Indeno(1,2,3-cd)pyrene	0.041	0.030	0.10	ug/l	J	8270C-S	12/24/13	2
Naphthalene	24.	0.040	0.50	ug/l		8270C-S	12/24/13	2
Phenanthrene	12.	0.016	0.10	ug/l		8270C-S	12/24/13	2
Pyrene	2.2	0.023	0.10	ug/l		8270C-S	12/24/13	2
1-Methylnaphthalene	29.	0.016	0.50	ug/l		8270C-S	12/24/13	2
2-Methylnaphthalene	21.	0.018	0.50	ug/l		8270C-S	12/24/13	2
2-Chloronaphthalene	U	0.013	0.50	ug/l		8270C-S	12/24/13	2
Surrogate Recovery								
Nitrobenzene-d5	89.7			% Rec.		8270C-S	12/24/13	2
2-Fluorobiphenyl	85.6			% Rec.		8270C-S	12/24/13	2
p-Terphenyl-d14	81.4			% Rec.		8270C-S	12/24/13	2

U = ND (Not Detected)  
 RDL = Reported Detection Limit = LOQ = PQL = EQL = TRRP MQL  
 MDL = Minimum Detection Limit = LOD = TRRP SDL

Note:  
 The reported analytical results relate only to the sample submitted.  
 This report shall not be reproduced, except in full, without the written approval from ESC.

Reported: 01/02/14 14:10 Printed: 01/02/14 14:47





12065 Lebanon Rd.  
 Mt. Juliet, TN 37122  
 (615) 758-5858  
 1-800-767-5859  
 Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Chris Kramer (SLR)  
 Jeld-Wen  
 1800 Blankenship Road, Suite 440  
 West Linn, OR 97068

January 02, 2014

Date Received : December 23, 2013  
 Description : Nord Door Project - Everett, WA  
 Sample ID : GP-607-W  
 Collected By : Chris Lee  
 Collection Date : 12/18/13 15:45

ESC Sample # : L675535-07  
 Site ID : EVERETT, WA  
 Project # : 108.00228.00048

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Gasoline Range Organics-NWTPH	U	32.	100	ug/l		NWTPHGX	12/28/13	1
Surrogate Recovery								
a,a,a-Trifluorotoluene(FID)	97.4			% Rec.		NWTPHGX	12/28/13	1
Diesel Range Organics (DRO)	240	33.	100	ug/l		NWTPHDX	12/27/13	1
Residual Range Organics (RRO)	86.	82.	250	ug/l	J	NWTPHDX	12/27/13	1
Surrogate Recovery								
o-Terphenyl	105.			% Rec.		NWTPHDX	12/27/13	1
Polynuclear Aromatic Hydrocarbons								
Anthracene	1.8	0.0076	0.050	ug/l		8270C-S	12/24/13	1
Acenaphthene	12.	0.0082	0.050	ug/l		8270C-S	12/24/13	1
Acenaphthylene	0.045	0.0068	0.050	ug/l	J	8270C-S	12/24/13	1
Benzo(a)anthracene	2.6	0.012	0.050	ug/l		8270C-S	12/24/13	1
Benzo(a)pyrene	2.3	0.012	0.050	ug/l		8270C-S	12/24/13	1
Benzo(b)fluoranthene	2.9	0.014	0.050	ug/l		8270C-S	12/24/13	1
Benzo(g,h,i)perylene	1.1	0.011	0.050	ug/l		8270C-S	12/24/13	1
Benzo(k)fluoranthene	1.1	0.014	0.050	ug/l		8270C-S	12/24/13	1
Chrysene	2.2	0.011	0.050	ug/l		8270C-S	12/24/13	1
Dibenz(a,h)anthracene	0.33	0.0040	0.050	ug/l		8270C-S	12/24/13	1
Fluoranthene	12.	0.016	0.050	ug/l		8270C-S	12/24/13	1
Fluorene	13.	0.0085	0.050	ug/l		8270C-S	12/24/13	1
Indeno(1,2,3-cd)pyrene	0.99	0.015	0.050	ug/l		8270C-S	12/24/13	1
Naphthalene	1.2	0.020	0.25	ug/l		8270C-S	12/24/13	1
Phenanthrene	17.	0.0082	0.050	ug/l		8270C-S	12/24/13	1
Pyrene	8.9	0.012	0.050	ug/l		8270C-S	12/24/13	1
1-Methylnaphthalene	1.7	0.0082	0.25	ug/l		8270C-S	12/24/13	1
2-Methylnaphthalene	0.48	0.0090	0.25	ug/l		8270C-S	12/24/13	1
2-Chloronaphthalene	U	0.0065	0.25	ug/l		8270C-S	12/24/13	1
Surrogate Recovery								
Nitrobenzene-d5	107.			% Rec.		8270C-S	12/24/13	1
2-Fluorobiphenyl	109.			% Rec.		8270C-S	12/24/13	1
p-Terphenyl-d14	111.			% Rec.		8270C-S	12/24/13	1

U = ND (Not Detected)  
 RDL = Reported Detection Limit = LOQ = PQL = EQL = TRRP MQL  
 MDL = Minimum Detection Limit = LOD = TRRP SDL

Note:  
 The reported analytical results relate only to the sample submitted.  
 This report shall not be reproduced, except in full, without the written approval from ESC.

Reported: 01/02/14 14:10 Printed: 01/02/14 14:47

Attachment A  
List of Analytes with QC Qualifiers

Sample Number	Work Group	Sample Type	Analyte	Run ID	Qualifier
L675535-01	WG699672	SAMP	Nitrobenzene-d5	R2872729	J7
	WG699672	SAMP	2-Fluorobiphenyl	R2872729	J7
	WG699672	SAMP	p-Terphenyl-d14	R2872729	J7
L675535-02	WG699672	SAMP	Acenaphthylene	R2872729	J
	WG699672	SAMP	Benzo(a)anthracene	R2872729	J
	WG699672	SAMP	Benzo(a)pyrene	R2872729	J
	WG699672	SAMP	Benzo(b)fluoranthene	R2872729	J
	WG699672	SAMP	Benzo(g,h,i)perylene	R2872729	J
	WG699672	SAMP	Benzo(k)fluoranthene	R2872729	J
	WG699672	SAMP	Indeno(1,2,3-cd)pyrene	R2872729	J
L675535-03	WG699672	SAMP	Anthracene	R2872729	J
	WG699672	SAMP	Benzo(a)anthracene	R2872729	J
	WG699672	SAMP	Chrysene	R2872729	J
	WG699672	SAMP	Fluoranthene	R2872729	J
	WG699672	SAMP	Pyrene	R2872729	J
	WG699672	SAMP	1-Methylnaphthalene	R2872729	J
	WG699672	SAMP	2-Methylnaphthalene	R2872729	J
L675535-04	WG699672	SAMP	Acenaphthylene	R2872729	J
	WG699672	SAMP	Dibenz(a,h)anthracene	R2872729	J
	WG699672	SAMP	1-Methylnaphthalene	R2872729	J
	WG699672	SAMP	2-Methylnaphthalene	R2872729	J
	WG699672	SAMP	o-Terphenyl	R2873217	J7
L675535-05	WG698890	SAMP	Nitrobenzene-d5	R2871656	J7
	WG698837	SAMP	2-Fluorobiphenyl	R2871656	J7
	WG698837	SAMP	p-Terphenyl-d14	R2871656	J7
	WG698890	SAMP	Residual Range Organics (RRO)	R2872621	J
L675535-06	WG698837	SAMP	Acenaphthylene	R2871656	J
	WG698837	SAMP	Benzo(g,h,i)perylene	R2871656	J
	WG698837	SAMP	Benzo(k)fluoranthene	R2871656	J
	WG698837	SAMP	Dibenz(a,h)anthracene	R2871656	J
	WG698837	SAMP	Indeno(1,2,3-cd)pyrene	R2871656	J
	WG698890	SAMP	Residual Range Organics (RRO)	R2872621	J
	WG698837	SAMP	Acenaphthylene	R2871656	J

Attachment B  
Explanation of QC Qualifier Codes

Qualifier	Meaning
J	(EPA) - Estimated value below the lowest calibration point. Confidence correlates with concentration.
J7	Surrogate recovery cannot be used for control limit evaluation due to dilution.

Qualifier Report Information

ESC utilizes sample and result qualifiers as set forth by the EPA Contract Laboratory Program and as required by most certifying bodies including NELAC. In addition to the EPA qualifiers adopted by ESC, we have implemented ESC qualifiers to provide more information pertaining to our analytical results. Each qualifier is designated in the qualifier explanation as either EPA or ESC. Data qualifiers are intended to provide the ESC client with more detailed information concerning the potential bias of reported data. Because of the wide range of constituents and variety of matrices incorporated by most EPA methods, it is common for some compounds to fall outside of established ranges. These exceptions are evaluated and all reported data is valid and useable "unless qualified as 'R' (Rejected)."

Definitions

- Accuracy - The relationship of the observed value of a known sample to the true value of a known sample. Represented by percent recovery and relevant to samples such as: control samples, matrix spike recoveries, surrogate recoveries, etc.
- Precision - The agreement between a set of samples or between duplicate samples. Relates to how close together the results are and is represented by Relative Percent Difference.
- Surrogate - Organic compounds that are similar in chemical composition, extraction, and chromatography to analytes of interest. The surrogates are used to determine the probable response of the group of analytes that are chemically related to the surrogate compound. Surrogates are added to the sample and carried through all stages of preparation and analyses.
- TIC - Tentatively Identified Compound: Compounds detected in samples that are not target compounds, internal standards, system monitoring compounds, or surrogates.



**YOUR LAB OF CHOICE**

Jeld-Wen  
Chris Kramer (SLR)  
1800 Blankenship Road, Suite 440

West Linn, OR 97068

Quality Assurance Report  
Level II

L675535

12065 Lebanon Rd.  
Mt. Juliet, TN 37122  
(615) 758-5858  
1-800-767-5859  
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

January 02, 2014

Analyte	Result	Laboratory Blank		Limit	Batch	Date Analyzed
		Units	% Rec			
1-Methylnaphthalene	< .00025	mg/l			WG698837	12/24/13 02:01
2-Chloronaphthalene	< .00005	mg/l			WG698837	12/24/13 02:01
2-Methylnaphthalene	< .00025	mg/l			WG698837	12/24/13 02:01
Acenaphthene	< .00005	mg/l			WG698837	12/24/13 02:01
Acenaphthylene	< .00005	mg/l			WG698837	12/24/13 02:01
Anthracene	< .00005	mg/l			WG698837	12/24/13 02:01
Benzo(a)anthracene	< .00005	mg/l			WG698837	12/24/13 02:01
Benzo(a)pyrene	< .00005	mg/l			WG698837	12/24/13 02:01
Benzo(b)fluoranthene	< .00005	mg/l			WG698837	12/24/13 02:01
Benzo(g,h,i)perylene	< .00005	mg/l			WG698837	12/24/13 02:01
Benzo(k)fluoranthene	< .00005	mg/l			WG698837	12/24/13 02:01
Chrysene	< .00005	mg/l			WG698837	12/24/13 02:01
Dibenz(a,h)anthracene	< .00005	mg/l			WG698837	12/24/13 02:01
Fluoranthene	< .00005	mg/l			WG698837	12/24/13 02:01
Fluorene	< .00005	mg/l			WG698837	12/24/13 02:01
Indeno(1,2,3-cd)pyrene	< .00005	mg/l			WG698837	12/24/13 02:01
Naphthalene	< .00025	mg/l			WG698837	12/24/13 02:01
Phenanthrene	< .00005	mg/l			WG698837	12/24/13 02:01
Pyrene	< .00005	mg/l			WG698837	12/24/13 02:01
2-Fluorobiphenyl		% Rec.	117.0	64.4-143	WG698837	12/24/13 02:01
Nitrobenzene-d5		% Rec.	94.20	61.3-162	WG698837	12/24/13 02:01
p-Terphenyl-d14		% Rec.	120.0	55.3-145	WG698837	12/24/13 02:01
Gasoline Range Organics-NWTPH	< .1	mg/l			WG699074	12/27/13 00:25
a,a,a-Trifluorotoluene(FID)		% Rec.	97.40	62-128	WG699074	12/27/13 00:25
Diesel Range Organics (DRO)	< 4	mg/kg			WG698974	12/26/13 12:26
Residual Range Organics (RRO)	< 10	mg/kg			WG698974	12/26/13 12:26
o-Terphenyl		% Rec.	56.60	50-150	WG698974	12/26/13 12:26
Total Solids	< .1	%			WG699374	12/28/13 11:07
Gasoline Range Organics-NWTPH	< .1	mg/l			WG699390	12/27/13 19:46
a,a,a-Trifluorotoluene(FID)		% Rec.	97.40	62-128	WG699390	12/27/13 19:46
Total Solids	< .1	%			WG699477	12/30/13 10:55
Diesel Range Organics (DRO)	< .1	mg/l			WG698890	12/27/13 16:07
Residual Range Organics (RRO)	< .25	mg/l			WG698890	12/27/13 16:07
o-Terphenyl		% Rec.	103.0	50-150	WG698890	12/27/13 16:07
1-Methylnaphthalene	< .02	mg/kg			WG699672	12/31/13 00:44
2-Chloronaphthalene	< .02	mg/kg			WG699672	12/31/13 00:44
2-Methylnaphthalene	< .02	mg/kg			WG699672	12/31/13 00:44
Acenaphthene	< .006	mg/kg			WG699672	12/31/13 00:44
Acenaphthylene	< .006	mg/kg			WG699672	12/31/13 00:44
Anthracene	< .006	mg/kg			WG699672	12/31/13 00:44
Benzo(a)anthracene	< .006	mg/kg			WG699672	12/31/13 00:44
Benzo(a)pyrene	< .006	mg/kg			WG699672	12/31/13 00:44
Benzo(b)fluoranthene	< .006	mg/kg			WG699672	12/31/13 00:44
Benzo(g,h,i)perylene	< .006	mg/kg			WG699672	12/31/13 00:44
Benzo(k)fluoranthene	< .006	mg/kg			WG699672	12/31/13 00:44

\* Performance of this Analyte is outside of established criteria.

For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'



**YOUR LAB OF CHOICE**

Jeld-Wen  
Chris Kramer (SLR)  
1800 Blankenship Road, Suite 440

West Linn, OR 97068

Quality Assurance Report  
Level II

L675535

12065 Lebanon Rd.  
Mt. Juliet, TN 37122  
(615) 758-5858  
1-800-767-5859  
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

January 02, 2014

Analyte	Result	Laboratory Blank		Limit	Batch	Date Analyzed
		Units	% Rec			
Chrysene	< .006	mg/kg			WG699672	12/31/13 00:44
Dibenz(a,h)anthracene	< .006	mg/kg			WG699672	12/31/13 00:44
Fluoranthene	< .006	mg/kg			WG699672	12/31/13 00:44
Fluorene	< .006	mg/kg			WG699672	12/31/13 00:44
Indeno(1,2,3-cd)pyrene	< .006	mg/kg			WG699672	12/31/13 00:44
Naphthalene	< .02	mg/kg			WG699672	12/31/13 00:44
Phenanthrene	< .006	mg/kg			WG699672	12/31/13 00:44
Pyrene	< .006	mg/kg			WG699672	12/31/13 00:44
2-Fluorobiphenyl		% Rec.	77.30	51.1-131	WG699672	12/31/13 00:44
Nitrobenzene-d5		% Rec.	121.0	40.9-147	WG699672	12/31/13 00:44
p-Terphenyl-d14		% Rec.	82.50	45.3-138	WG699672	12/31/13 00:44

Analyte	Units	Result	Duplicate		Limit	Ref Samp	Batch
			Duplicate	RPD			
Total Solids	%	87.6	88.0	0.416	5	L675775-08	WG699374
Total Solids	%	90.1	89.7	0.505	5	L675945-06	WG699477

Analyte	Units	Laboratory Control Sample		% Rec	Limit	Batch
		Known Val	Result			
1-Methylnaphthalene	mg/l	.002	0.00232	116.	71.2-137	WG698837
2-Chloronaphthalene	mg/l	.002	0.00232	116.	81.1-129	WG698837
2-Methylnaphthalene	mg/l	.002	0.00232	116.	69.8-134	WG698837
Acenaphthene	mg/l	.002	0.00224	112.	80.8-128	WG698837
Acenaphthylene	mg/l	.002	0.00231	115.	77.2-132	WG698837
Anthracene	mg/l	.002	0.00230	115.	78.4-136	WG698837
Benzo(a)anthracene	mg/l	.002	0.00214	107.	69.2-141	WG698837
Benzo(a)pyrene	mg/l	.002	0.00230	115.	71.1-135	WG698837
Benzo(b)fluoranthene	mg/l	.002	0.00224	112.	69.5-140	WG698837
Benzo(g,h,i)perylene	mg/l	.002	0.00221	110.	64.6-138	WG698837
Benzo(k)fluoranthene	mg/l	.002	0.00222	111.	69.3-144	WG698837
Chrysene	mg/l	.002	0.00227	114.	75.6-138	WG698837
Dibenz(a,h)anthracene	mg/l	.002	0.00233	116.	64.1-139	WG698837
Fluoranthene	mg/l	.002	0.00227	113.	78.6-135	WG698837
Fluorene	mg/l	.002	0.00229	115.	78.3-131	WG698837
Indeno(1,2,3-cd)pyrene	mg/l	.002	0.00236	118.	64.8-140	WG698837
Naphthalene	mg/l	.002	0.00218	109.	80.2-126	WG698837
Phenanthrene	mg/l	.002	0.00211	106.	79.6-130	WG698837
Pyrene	mg/l	.002	0.00229	115.	76.6-134	WG698837
2-Fluorobiphenyl				116.0	64.4-143	WG698837
Nitrobenzene-d5				103.0	61.3-162	WG698837
p-Terphenyl-d14				117.0	55.3-145	WG698837
Gasoline Range Organics-NWTPH	mg/l	5.5	5.10	92.7	66-123	WG699074
a,a,a-Trifluorotoluene(FID)				105.0	62-128	WG699074
Diesel Range Organics (DRO)	mg/kg	30	21.2	70.6	50-150	WG698974
Residual Range Organics (RRO)	mg/kg	30	25.5	85.0	50-150	WG698974
o-Terphenyl				58.20	50-150	WG698974
Total Solids	%	50	50.0	100.	85-115	WG699374

\* Performance of this Analyte is outside of established criteria.  
For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'



**YOUR LAB OF CHOICE**

Jeld-Wen  
Chris Kramer (SLR)  
1800 Blankenship Road, Suite 440  
West Linn, OR 97068

Quality Assurance Report  
Level II

L675535

12065 Lebanon Rd.  
Mt. Juliet, TN 37122  
(615) 758-5858  
1-800-767-5859  
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

January 02, 2014

Analyte	Units	Laboratory Control Sample		% Rec	Limit	Batch
		Known Val	Result			
Gasoline Range Organics-NWTPH a,a,a-Trifluorotoluene(FID)	mg/l	5.5	4.40	79.9 104.0	66-123 62-128	WG699390 WG699390
Total Solids	%	50	50.0	99.9	85-115	WG699477
Diesel Range Organics (DRO)	mg/l	.75	0.855	114.	50-150	WG698890
Residual Range Organics (RRO)	mg/l	.75	0.772	103.	50-150	WG698890
o-Terphenyl				102.0	50-150	WG698890
1-Methylnaphthalene	mg/kg	.08	0.0685	85.6	62.5-121	WG699672
2-Chloronaphthalene	mg/kg	.08	0.0770	96.3	62.1-120	WG699672
2-Methylnaphthalene	mg/kg	.08	0.0667	83.4	62.5-121	WG699672
Acenaphthene	mg/kg	.08	0.0792	99.1	62.4-121	WG699672
Acenaphthylene	mg/kg	.08	0.0711	88.8	62.9-123	WG699672
Anthracene	mg/kg	.08	0.0753	94.1	64.9-129	WG699672
Benzo(a)anthracene	mg/kg	.08	0.0737	92.1	61.8-125	WG699672
Benzo(a)pyrene	mg/kg	.08	0.0623	77.9	63.4-119	WG699672
Benzo(b)fluoranthene	mg/kg	.08	0.0675	84.3	62.7-119	WG699672
Benzo(g,h,i)perylene	mg/kg	.08	0.0611	76.4	68.2-129	WG699672
Benzo(k)fluoranthene	mg/kg	.08	0.0717	89.6	64.5-128	WG699672
Chrysene	mg/kg	.08	0.0738	92.2	64.4-128	WG699672
Dibenz(a,h)anthracene	mg/kg	.08	0.0621	77.6	65.3-128	WG699672
Fluoranthene	mg/kg	.08	0.0765	95.7	61.8-129	WG699672
Fluorene	mg/kg	.08	0.0700	87.4	60.8-121	WG699672
Indeno(1,2,3-cd)pyrene	mg/kg	.08	0.0625	78.1	67.6-129	WG699672
Naphthalene	mg/kg	.08	0.0691	86.4	59.5-116	WG699672
Phenanthrene	mg/kg	.08	0.0756	94.5	59.4-121	WG699672
Pyrene	mg/kg	.08	0.0808	101.	61.2-130	WG699672
2-Fluorobiphenyl				81.10	51.1-131	WG699672
Nitrobenzene-d5				128.0	40.9-147	WG699672
p-Terphenyl-d14				82.50	45.3-138	WG699672

Analyte	Units	Laboratory Control Sample Duplicate			Limit	RPD	Limit	Batch
		Result	Ref	%Rec				
1-Methylnaphthalene	mg/l	0.00243	0.00232	122.	71.2-137	4.51	20	WG698837
2-Chloronaphthalene	mg/l	0.00241	0.00232	120.	81.1-129	3.95	20	WG698837
2-Methylnaphthalene	mg/l	0.00243	0.00232	121.	69.8-134	4.79	20	WG698837
Acenaphthene	mg/l	0.00234	0.00224	117.	80.8-128	4.45	20	WG698837
Acenaphthylene	mg/l	0.00241	0.00231	121.	77.2-132	4.46	20	WG698837
Anthracene	mg/l	0.00240	0.00230	120.	78.4-136	3.98	20	WG698837
Benzo(a)anthracene	mg/l	0.00225	0.00214	112.	69.2-141	4.87	20	WG698837
Benzo(a)pyrene	mg/l	0.00237	0.00230	119.	71.1-135	3.35	20	WG698837
Benzo(b)fluoranthene	mg/l	0.00221	0.00224	110.	69.5-140	1.53	20	WG698837
Benzo(g,h,i)perylene	mg/l	0.00227	0.00221	114.	64.6-138	2.78	20	WG698837
Benzo(k)fluoranthene	mg/l	0.00242	0.00222	121.	69.3-144	8.49	20	WG698837
Chrysene	mg/l	0.00236	0.00227	118.	75.6-138	3.87	20	WG698837
Dibenz(a,h)anthracene	mg/l	0.00243	0.00233	121.	64.1-139	4.08	20	WG698837
Fluoranthene	mg/l	0.00239	0.00227	119.	78.6-135	5.26	20	WG698837
Fluorene	mg/l	0.00240	0.00229	120.	78.3-131	4.64	20	WG698837
Indeno(1,2,3-cd)pyrene	mg/l	0.00244	0.00236	122.	64.8-140	3.32	20	WG698837
Naphthalene	mg/l	0.00227	0.00218	114.	80.2-126	4.13	20	WG698837
Phenanthrene	mg/l	0.00221	0.00211	110.	79.6-130	4.47	20	WG698837
Pyrene	mg/l	0.00239	0.00229	119.	76.6-134	4.10	20	WG698837
2-Fluorobiphenyl				119.0	64.4-143			WG698837
Nitrobenzene-d5				107.0	61.3-162			WG698837

\* Performance of this Analyte is outside of established criteria.

For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'





**YOUR LAB OF CHOICE**

Jeld-Wen  
Chris Kramer (SLR)  
1800 Blankenship Road, Suite 440

West Linn, OR 97068

Quality Assurance Report  
Level II

L675535

12065 Lebanon Rd.  
Mt. Juliet, TN 37122  
(615) 758-5858  
1-800-767-5859  
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

January 02, 2014

Analyte	Units	Laboratory Control Sample Duplicate			Limit	RPD	Limit	Batch
		Result	Ref	%Rec				
p-Terphenyl-d14				120.0	55.3-145			
Gasoline Range Organics-NWTPH	mg/l	4.87	5.10	89.0	66-123	4.47	20	WG699074
a,a,a-Trifluorotoluene(FID)				105.0	62-128			WG699074
Diesel Range Organics (DRO)	mg/kg	22.8	21.2	76.0	50-150	7.50	20	WG698974
Residual Range Organics (RRO)	mg/kg	27.0	25.5	90.0	50-150	5.81	20	WG698974
o-Terphenyl				60.90	50-150			WG698974
Gasoline Range Organics-NWTPH	mg/l	4.34	4.40	79.0	66-123	1.32	20	WG699390
a,a,a-Trifluorotoluene(FID)				104.0	62-128			WG699390
Diesel Range Organics (DRO)	mg/l	0.877	0.855	117.	50-150	2.60	20	WG698890
Residual Range Organics (RRO)	mg/l	0.810	0.772	108.	50-150	4.86	20	WG698890
o-Terphenyl				107.0	50-150			WG698890
1-Methylnaphthalene	mg/kg	0.0687	0.0685	86.0	62.5-121	0.380	20	WG699672
2-Chloronaphthalene	mg/kg	0.0771	0.0770	96.0	62.1-120	0.130	20	WG699672
2-Methylnaphthalene	mg/kg	0.0674	0.0667	84.0	62.5-121	1.03	20	WG699672
Acenaphthene	mg/kg	0.0793	0.0792	99.0	62.4-121	0.0100	20	WG699672
Acenaphthylene	mg/kg	0.0721	0.0711	90.0	62.9-123	1.40	20	WG699672
Anthracene	mg/kg	0.0793	0.0753	99.0	64.9-129	5.21	20	WG699672
Benzo(a)anthracene	mg/kg	0.0738	0.0737	92.0	61.8-125	0.0900	20	WG699672
Benzo(a)pyrene	mg/kg	0.0649	0.0623	81.0	63.4-119	4.09	20	WG699672
Benzo(b)fluoranthene	mg/kg	0.0709	0.0675	89.0	62.7-119	4.98	20	WG699672
Benzo(g,h,i)perylene	mg/kg	0.0617	0.0611	77.0	68.2-129	0.960	20	WG699672
Benzo(k)fluoranthene	mg/kg	0.0692	0.0717	86.0	64.5-128	3.53	20	WG699672
Chrysene	mg/kg	0.0748	0.0738	93.0	64.4-128	1.35	20	WG699672
Dibenz(a,h)anthracene	mg/kg	0.0626	0.0621	78.0	65.3-128	0.900	20	WG699672
Fluoranthene	mg/kg	0.0776	0.0765	97.0	61.8-129	1.34	20	WG699672
Fluorene	mg/kg	0.0702	0.0700	88.0	60.8-121	0.290	20	WG699672
Indeno(1,2,3-cd)pyrene	mg/kg	0.0628	0.0625	78.0	67.6-129	0.570	20	WG699672
Naphthalene	mg/kg	0.0731	0.0691	91.0	59.5-116	5.59	20	WG699672
Phenanthrene	mg/kg	0.0773	0.0756	97.0	59.4-121	2.25	20	WG699672
Pyrene	mg/kg	0.0809	0.0808	101.	61.2-130	0.0900	20	WG699672
2-Fluorobiphenyl				79.10	51.1-131			WG699672
Nitrobenzene-d5				125.0	40.9-147			WG699672
p-Terphenyl-d14				79.90	45.3-138			WG699672

Analyte	Units	MS Res	Matrix Spike		% Rec	Limit	Ref Samp	Batch
			Ref Res	TV				
Gasoline Range Organics-NWTPH	mg/l	5.12	0.0335	5.5	92.0	47.5-136	L675694-04	WG699074
a,a,a-Trifluorotoluene(FID)					105.0	62-128		WG699074
Diesel Range Organics (DRO)	mg/kg	22.3	0.0	30	74.0	50-150	L675535-03	WG698974
Residual Range Organics (RRO)	mg/kg	24.6	0.0	30	82.0	50-150	L675535-03	WG698974
o-Terphenyl					57.40	50-150		WG698974
Gasoline Range Organics-NWTPH	mg/l	4.56	0.0361	5.5	82.0	47.5-136	L675516-12	WG699390
a,a,a-Trifluorotoluene(FID)					105.0	62-128		WG699390
1-Methylnaphthalene	mg/kg	0.0653	0.	.08	81.6	58.9-123	L675649-04	WG699672

\* Performance of this Analyte is outside of established criteria.

For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'



YOUR LAB OF CHOICE

Jeld-Wen  
Chris Kramer (SLR)  
1800 Blankenship Road, Suite 440  
West Linn, OR 97068

Quality Assurance Report  
Level II  
L675535

12065 Lebanon Rd.  
Mt. Juliet, TN 37122  
(615) 758-5858  
1-800-767-5859  
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

January 02, 2014

Analyte	Units	MS Res	Matrix Spike		% Rec	Limit	Ref Samp	Batch
			Ref Res	TV				
2-Chloronaphthalene	mg/kg	0.0744	0.	.08	93.0	61.6-120	L675649-04	WG699672
2-Methylnaphthalene	mg/kg	0.0641	0.	.08	80.1	50.7-129	L675649-04	WG699672
Acenaphthene	mg/kg	0.0760	0.	.08	95.0	51.6-124	L675649-04	WG699672
Acenaphthylene	mg/kg	0.0718	0.	.08	89.7	58.3-126	L675649-04	WG699672
Anthracene	mg/kg	0.0757	0.	.08	94.6	47.9-137	L675649-04	WG699672
Benzo(a)anthracene	mg/kg	0.0694	0.	.08	86.7	34.2-138	L675649-04	WG699672
Benzo(a)pyrene	mg/kg	0.0645	0.	.08	80.6	34.6-133	L675649-04	WG699672
Benzo(b)fluoranthene	mg/kg	0.0620	0.	.08	77.5	19.8-142	L675649-04	WG699672
Benzo(g,h,i)perylene	mg/kg	0.0559	0.	.08	69.8	20-149	L675649-04	WG699672
Benzo(k)fluoranthene	mg/kg	0.0673	0.	.08	84.1	32.1-137	L675649-04	WG699672
Chrysene	mg/kg	0.0702	0.	.08	87.7	36.6-137	L675649-04	WG699672
Dibenz(a,h)anthracene	mg/kg	0.0572	0.	.08	71.5	27.1-145	L675649-04	WG699672
Fluoranthene	mg/kg	0.0722	0.	.08	90.3	39.8-141	L675649-04	WG699672
Fluorene	mg/kg	0.0672	0.	.08	83.9	42.5-130	L675649-04	WG699672
Indeno(1,2,3-cd)pyrene	mg/kg	0.0573	0.	.08	71.7	19-151	L675649-04	WG699672
Naphthalene	mg/kg	0.0701	0.	.08	87.6	40.6-135	L675649-04	WG699672
Phenanthrene	mg/kg	0.0730	0.	.08	91.3	39.7-129	L675649-04	WG699672
Pyrene	mg/kg	0.0783	0.	.08	97.9	31.5-141	L675649-04	WG699672
2-Fluorobiphenyl					77.60	51.1-131		WG699672
Nitrobenzene-d5					128.0	40.9-147		WG699672
p-Terphenyl-d14					80.10	45.3-138		WG699672

Analyte	Units	MSD	Matrix Spike Duplicate		Limit	RPD	Limit	Ref Samp	Batch
			Ref	%Rec					
Gasoline Range Organics-NWTPH	mg/l	5.07	5.12	91.5	47.5-136	0.950	20	L675694-04	WG699074
a,a,a-Trifluorotoluene(FID)				106.0	62-128				WG699074
Diesel Range Organics (DRO)	mg/kg	26.1	22.3	86.8	50-150	15.6	20	L675535-03	WG698974
Residual Range Organics (RRO)	mg/kg	26.9	24.6	89.8	50-150	9.06	20	L675535-03	WG698974
o-Terphenyl				65.40	50-150				WG698974
Gasoline Range Organics-NWTPH	mg/l	4.52	4.56	81.6	47.5-136	0.880	20	L675516-12	WG699390
a,a,a-Trifluorotoluene(FID)				104.0	62-128				WG699390
1-Methylnaphthalene	mg/kg	0.0608	0.0653	76.0	58.9-123	7.10	20	L675649-04	WG699672
2-Chloronaphthalene	mg/kg	0.0698	0.0744	87.3	61.6-120	6.33	20	L675649-04	WG699672
2-Methylnaphthalene	mg/kg	0.0599	0.0641	74.8	50.7-129	6.83	20	L675649-04	WG699672
Acenaphthene	mg/kg	0.0722	0.0760	90.2	51.6-124	5.19	20	L675649-04	WG699672
Acenaphthylene	mg/kg	0.0675	0.0718	84.4	58.3-126	6.16	20	L675649-04	WG699672
Anthracene	mg/kg	0.0733	0.0757	91.7	47.9-137	3.12	20	L675649-04	WG699672
Benzo(a)anthracene	mg/kg	0.0670	0.0694	83.8	34.2-138	3.46	22.8	L675649-04	WG699672
Benzo(a)pyrene	mg/kg	0.0622	0.0645	77.7	34.6-133	3.64	26.3	L675649-04	WG699672
Benzo(b)fluoranthene	mg/kg	0.0587	0.0620	73.4	19.8-142	5.48	30.3	L675649-04	WG699672
Benzo(g,h,i)perylene	mg/kg	0.0543	0.0559	67.9	20-149	2.79	27.1	L675649-04	WG699672
Benzo(k)fluoranthene	mg/kg	0.0660	0.0673	82.5	32.1-137	1.91	24.6	L675649-04	WG699672
Chrysene	mg/kg	0.0663	0.0702	82.8	36.6-137	5.71	22.7	L675649-04	WG699672
Dibenz(a,h)anthracene	mg/kg	0.0552	0.0572	69.0	27.1-145	3.51	21.9	L675649-04	WG699672
Fluoranthene	mg/kg	0.0701	0.0722	87.6	39.8-141	3.00	22.2	L675649-04	WG699672
Fluorene	mg/kg	0.0638	0.0672	79.7	42.5-130	5.16	20	L675649-04	WG699672
Indeno(1,2,3-cd)pyrene	mg/kg	0.0556	0.0573	69.4	19-151	3.15	25	L675649-04	WG699672
Naphthalene	mg/kg	0.0642	0.0701	80.3	40.6-135	8.71	20	L675649-04	WG699672
Phenanthrene	mg/kg	0.0696	0.0730	87.0	39.7-129	4.78	20	L675649-04	WG699672
Pyrene	mg/kg	0.0751	0.0783	93.9	31.5-141	4.13	23.5	L675649-04	WG699672
2-Fluorobiphenyl				73.40	51.1-131				WG699672
Nitrobenzene-d5				120.0	40.9-147				WG699672

\* Performance of this Analyte is outside of established criteria.  
For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'



YOUR LAB OF CHOICE

Jeld-Wen
Chris Kramer (SLR)
1800 Blankenship Road, Suite 440
West Linn, OR 97068

Quality Assurance Report
Level II
L675535

12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859
Tax I.D. 62-0814289
Est. 1970

January 02, 2014

Table with columns: Analyte, Units, MSD, Matrix Spike Duplicate (Ref, %Rec), Limit, RPD, Limit Ref Samp, Batch. Row for p-Terphenyl-d14 with values 75.70 and 45.3-138.

Batch number /Run number / Sample number cross reference

WG698837: R2871656 R2871724: L675535-05 06 07
WG699074: R2872133: L675535-05 06
WG698974: R2872211: L675535-01 02 03 04
WG699374: R2872304: L675535-01 02
WG699390: R2872395: L675535-07
WG699477: R2872488: L675535-03 04
WG698890: R2872621 R2873217: L675535-05 06 07
WG699672: R2872729: L675535-01 02 03 04

\* \* Calculations are performed prior to rounding of reported values.
\* Performance of this Analyte is outside of established criteria.
For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'



**YOUR LAB OF CHOICE**

Jeld-Wen  
Chris Kramer (SLR)  
1800 Blankenship Road, Suite 440

West Linn, OR 97068

Quality Assurance Report  
Level II

L675535

12065 Lebanon Rd.  
Mt. Juliet, TN 37122  
(615) 758-5858  
1-800-767-5859  
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

January 02, 2014

The data package includes a summary of the analytic results of the quality control samples required by the SW-846 or CWA methods. The quality control samples include a method blank, a laboratory control sample, and the matrix spike/matrix spike duplicate analysis. If a target parameter is outside the method limits, every sample that is effected is flagged with the appropriate qualifier in Appendix B of the analytic report.

Method Blank - an aliquot of reagent water carried through the entire analytic process. The method blank results indicate if any possible contamination exposure during the sample handling, digestion or extraction process, and analysis. Concentrations of target analytes above the reporting limit in the method blank are qualified with the "B" qualifier.

Laboratory Control Sample - is a sample of known concentration that is carried through the digestion/extraction and analysis process. The percent recovery, expressed as a percentage of the theoretical concentration, has statistical control limits indicating that the analytic process is "in control". If a target analyte is outside the control limits for the laboratory control sample or any other control sample, the parameter is flagged with a "J4" qualifier for all effected samples.

Matrix Spike and Matrix Spike Duplicate - is two aliquots of an environmental sample that is spiked with known concentrations of target analytes. The percent recovery of the target analytes also has statistical control limits. If any recoveries that are outside the method control limits, the sample that was selected for matrix spike/matrix spike duplicate analysis is flagged with either a "J5" or a "J6". The relative percent difference (%RPD) between the matrix spike and the matrix spike duplicate recoveries is all calculated. If the RPD is above the method limit, the effected samples are flagged with a "J3" qualifier.