Kennedy/Jenks Consultants
Engineers & Scientists
32001 32nd Avenue South, Suite 100
Federal Way, Washington 98001
253-835-6400
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12 August 2010

Mr. Mark Engdahl
Assistant Manager Environmental Remediation
BNSF Railway Company
2454 Occidental Avenue South, Suite 1A
Seattle, Washington 98134 -1451

Subject: Supplemental Site Remediation – Concrete Vault/Foundation Area
BNSF Railway Company Wishram Railyard
500 Main Street, Wishram, Washington
Ecology Facility Site ID: 1625461
K/J 1096010*00

Dear Mr. Engdahl:

Kennedy/Jenks Consultants has prepared this letter report to summarize results of supplemental site remediation activities conducted at the BNSF Railway Company (BNSF) Railyard located in Wishram, Washington (site). This supplemental site remediation was performed to remove a concrete vault and foundation structure (concrete structure) and associated petroleum-containing soil. The site location is shown on Figure 1, and the remediation area is shown on Figure 2.

BACKGROUND AND PURPOSE

Previous site assessment and remediation work performed in the vicinity of the concrete structure is summarized in the *Site Assessment Report, Wishram Railyard,* dated August 2004 (Kennedy/Jenks Consultants 2004) and *Remediation Documentation Report, Wishram, Washington*, dated March 2007 (Kennedy/Jenks Consultants 2007).

Previous investigation and remediation work has been performed to the south and east of the concrete structure, including soil sampling from borings and excavations, and excavation of petroleum-containing soils. Approximately 2,700 tons of petroleum-containing soil was excavated from several areas located east of the concrete structure in 2005 (Kennedy/Jenks Consultants 2007). Petroleum-containing soil was observed at the western margin of the 2005 excavation area, adjacent to the concrete structure (refer to Figure 2). The concrete structure and associated petroleum-containing soil were not removed at the time because of uncertainty regarding the subsurface configuration and purpose of the concrete structure.

During utility installation work on 20 March 2010, a BNSF signal installation crew encountered heavy oil at approximately 2 feet below ground surface (bgs) in an area located approximately 25 feet north of the concrete structure. The heavy oil was observed seeping out of the southern trench excavation sidewall (facing the concrete structure). No visible oil impacts were noted on the northern sidewall of the trench. Based on these observations, BNSF decided to remove the concrete structure to facilitate removal of the associated petroleum-containing soil. Photographs of the vault and site area are provided in Attachment 1.

WORK PERFORMED

Work performed included:

1. Demolition of the concrete vault and foundation structure and offsite disposal of concrete material.

2. Excavation and offsite disposal of petroleum hydrocarbon-containing soil, and backfilling with imported materials to existing grade.

3. Collection and laboratory analysis of soil samples from the excavation area.

The work was performed at the site between 21 and 24 June 2010 and is summarized below. Demolition, excavation, backfilling, transport, and other construction-related tasks were performed by NRC Environmental Services (NRC) of Spokane, Washington. A Kennedy/Jenks Consultants geologist observed the demolition and excavation activities and performed soil logging, field screening, and soil sample collection.

Concrete Structure Demolition

To facilitate demolition of the concrete structure, soil around the perimeter was excavated to expose the structure. In addition, approximately 182 gallons of standing water were pumped from the vault prior to demolition. The water was transported by NRC to Pacific Power Vac of Portland, Oregon, for disposal (disposal documents are included in Attachment 2).

The concrete structure included an approximately 8-foot by 8-foot vault structure centered above an approximately 20-foot-diameter, octagonal, concrete foundation. Eight approximately 2-foot by 2-foot concrete posts were located around the perimeter of the vault (but separate from the vault), also above the foundation.

Photographs of the concrete structure are provided in Attachment 1, and an illustration is included on Figure 3.

The vault portion of the concrete structure was approximately 6 feet in height, with the upper 3 feet located above grade, and was tapered with the base approximately 1 foot wider than the top. The corners of the vault portion were constructed of thicker concrete than the walls (approximately 1-foot by 1-foot thick at the corners with approximately 6-inch-thick walls) and may have functioned as support posts. One 4-inch-diameter steel pipe was observed extending from the southern side of the vault at approximately 1 foot below grade (approximately 4 feet

below the top of the vault). This pipe was the only evident outlet from the vault. No liquids were present in the pipe. The eight concrete posts were approximately 3 feet in height, with the tops approximately at the existing site grade, and were tapered slightly from top to bottom. The octagonal foundation was solid concrete approximately 3 feet thick. The base of the foundation extended to approximately 6 feet below existing site grade.

The former use and purpose of the vault has not been confirmed, but it may have supported a coal chute structure. A wooden platform located north of the concrete structure (see the following section) may have been used as a loading platform for rail cars.

The concrete structure was demolished using a hydraulic breaker attached to an excavator. The concrete material was broken into fragments less than approximately 3-feet in maximum dimension (most fragments were smaller) and mixed with the excavated soil material for disposal (see the following section). Based on the dimensions of the concrete structure, approximately 45 to 50 cubic yards of concrete were removed.

Petroleum-Containing Soil Excavation

Soil with apparent petroleum hydrocarbon impacts was primarily located to the north of the concrete structure, but was also observed around the perimeter of the concrete structure. To the east, west, and south of the concrete structure, soil with petroleum-like odor and visible staining was observed within 5 to 10 feet of the margin of the octagonal foundation structure. To the north of the concrete structure, heavy oil was observed seeping from the excavation sidewall between approximately 1 and 3 feet below grade. No apparent petroleum hydrocarbon impacts were evident beneath the concrete structure (approximately 6 feet below grade).

The heavy oil material observed to the north of the concrete vault was present within a 2- to 3-foot thick layer of what appeared to be former railroad ballast, possibly mixed with some soil material. Heavy wooden planks were located above the oily ballast material and appeared to be part of a larger wooden platform structure. The material below the oily ballast was a tan, silty, fine sand, which appears to have acted as a barrier to downward migration of the heavy oil out of the ballast material.

Excavation was performed to the north of the concrete vault to remove the oily ballast and wood material. Excavation continued until soil with apparent petroleum hydrocarbon impacts was removed from the excavation floor and sidewalls. The oily ballast and wooden platform were removed from an approximately 15-foot by 90-foot area, oriented approximately east/west, north of the concrete vault location (refer to Figure 3). The excavation depth beneath the oily ballast area was between 3 and 5 feet below grade.

The wooden platform appears to have been part of a rail car loading platform, although the rails were no longer present. Photographs of the excavation area are provided in Attachment 1.

A total of 628.17 tons of soil, concrete, and wood debris material was transported to the Regional Disposal Company (Rabanco) landfill located in Roosevelt, Washington, as non-hazardous waste for use as landfill cover. Copies of Rabanco's weight tickets are provided in Attachment 2.

Saturated soil conditions were not encountered during excavation activities. The maximum excavation depth was approximately 6 feet below grade beneath the concrete structure.

Confirmation Soil Sampling

Following completion of concrete demolition and soil excavation activities, soil samples were collected by Kennedy/Jenks Consultants from the excavation floor and sidewalls to confirm the removal of petroleum-containing soil. Soil sample locations are shown on Figure 3.

A total of eight soil samples were submitted to Pace Analytical Services, Inc. (Pace) of Seattle, Washington, for analysis of gasoline-range petroleum hydrocarbons by Washington State Department of Ecology (Ecology) Method NWTPH-G, diesel- and oil-range petroleum hydrocarbons by Ecology Method NWTPH-Dx (with silica gel cleanup), and for benzene, toluene, ethylbenzene, and xylenes (BTEX) by EPA Method 8021b. Samples were stored on ice in a sealed cooler and submitted to Pace under standard chain-of-custody procedures. A copy of the chain-of-custody document is included with the analytical report in Attachment 3.

Excavation Backfilling

Following completion of demolition, excavation, and confirmation sample collection, the excavation was backfilled to existing site grade with imported pit-run material and ¾-inch minus crushed rock material (uppermost lift to match the existing surface).

Prior to importing the pit-run material to the site, a sample of the material was collected at the pit and submitted to Pace for laboratory analysis of petroleum hydrocarbons, BTEX, polychlorinated biphenyls (PCBs), carcinogenic polycyclic aromatic hydrocarbons (cPAHs), priority pollutant metals, and pesticides to confirm the suitability of the material for use at the site.

Petroleum hydrocarbons, BTEX, PCBs, cPAHs, and pesticides were not detected in the pit-run sample at concentrations above the laboratory reporting limits. Metals, including arsenic, beryllium, chromium, copper, lead, nickel, selenium, thallium, and zinc, were detected at low concentrations in the pit-run sample, but none of the detected concentrations were above Ecology's Model Toxics Control Act (MTCA) Method A or B soil cleanup levels. A copy of the analytical report and chain-of-custody documents for the pit-run material sample is provided in Attachment 4.

The fill material was placed and compacted in approximately 1-foot lifts. Compaction testing was performed by Baer Testing and Consulting, Inc. of Yakima, Washington, on the uppermost lifts to confirm that 90% compaction was achieved. A copy of the compaction testing report is provided in Attachment 5.

CONFIRMATION SOIL SAMPLE ANALYTICAL RESULTS

Gasoline-, diesel-, and oil-range petroleum hydrocarbons were not detected in any of the eight excavation soil samples at concentrations above the laboratory reporting limits. In addition, BTEX analytes were not detected in any of the samples at concentrations above the laboratory reporting limits.

Analytical results are summarized in Table 1, and sample locations are shown on Figure 3. Laboratory report and chain-of-custody documents are provided in Attachment 3.

SUMMARY

The results of this supplemental remediation indicate that petroleum-containing soil associated with the concrete structure has been removed from the site. A total of 628.17 tons of concrete, wood debris, and petroleum-containing soil were removed from the site and transported to the Rabanco landfill in Roosevelt, Washington, as non-hazardous waste for use as landfill cover.

Field observations indicate that oily ballast and soil material with evident petroleum impacts was removed from the area around the concrete structure. Confirmation soil sampling results verified the field observations, with no petroleum hydrocarbon or BTEX analytes detected at concentrations above the laboratory reporting limits.

Based on these findings, additional investigation and/or remediation in the vicinity of the concrete vault structure do not appear warranted.

Please contact us at 253-835-6400 with any questions regarding the content of this letter report.

Very truly yours,

KENNEDY/JENKS CONSULTANTS

Dean Malte
Geologist

Ty C. Schreiner
Project Manager

Attachments: Table 1 – Summary of Soil Analytical Results
Figure 1 – Site Location Map
Figure 2 – Site Area Overview Map
Figure 3 – Excavation and Sample Map
Attachment 1 – Site Photographs
Attachment 2 – Waste Disposal Documents
Attachment 3 – Excavation Area Samples: Laboratory Analytical Report and Chain-of-Custody Documents
Attachment 4 – Backfill Material: Laboratory Analytical Report and Chain-of-Custody Documents
Attachment 5 – Compaction Testing Report

References:

Kennedy/Jenks Consultants. 2004. Site Assessment Report, Wishram Railyard, Wishram, Washington. Prepared by Kennedy/Jenks Consultants for BNSF Railway Company. Dated August 2004.

Kennedy/Jenks Consultants. 2007. Remediation Documentation Report, Wishram, Washington. Prepared by Kennedy/Jenks Consultants for BNSF Railway Company. Dated March 2007.

Kennedy/Jenks Consultants. 2010. Proposal for Consulting Services, Supplemental Site Remediation and Investigation, BNSF Railyard, Wishram, Washington. Dated 9 April 2010.

Washington State Department of Ecology. 2001. Model Toxics Control Act Cleanup Regulation, Chapter 173-340 WAC, Publication No. 94-06. Dated 12 February 2001.

Table

TABLE 1

SUMMARY OF SOIL ANALYTICAL RESULTS
FORMER VAULT AREA EXCAVATION
BNSF Railyard - Wishram, Washington

Analysis / Sample ID	Type / Depth (ft)	WR-B1-5 Bottom / 5	WR-B2-6 Bottom / 6	WR-S1-3 Sidewall / 3	WR-S2-3 Sidewall / 3	WR-S3-3 Sidewall / 3	WR-S4-3 Sidewall / 3	WR-S5-4 Sidewall / 4	WR-S6-4 Sidewall / 4	MTCA Method A[a] Soil Cleanup Level
TPH[b] (mg/kg)[c]										
Gasoline-Range Hydrocarbons		<5.7[d]	<5.5	<5.7	<5.8	<6.1	<6.7	<5.2	<6.0	100 / 30[e]
Diesel-Range Hydrocarbons		<20.2	<20.1	<20.9	<21.2	<20.1	<22.1	<20.2	<20.3	2,000
Oil-Range Hydrocarbons		<81.0	<80.4	<83.4	<84.7	<80.6	<88.4	<80.8	<81.1	2,000
BTEX[f] (µg/kg)[g]										
Benzene		<22.8	<22.0	<23.0	<23.0	<24.5	<26.7	<20.7	<24.1	30
Ethylbenzene		<28.5	<27.5	<28.7	<28.8	<30.6	<33.4	<25.9	<30.2	6,000
Toluene		<28.5	<27.5	<28.7	<28.8	<30.6	<33.4	<25.9	<30.2	7,000
Total Xylenes		<85.5	<82.6	<86.1	<86.3	<91.7	<100	<77.7	<90.5	9,000

Notes:

(a) Model Toxics Control Act (MTCA) Method A Soil Cleanup Level for unrestricted land uses; WAC (Washington Administrative Code) 173-340, dated February 2001.

(b) Analyses:
- Gasoline-range hydrocarbons by the Northwest Total Petroleum Hydrocarbons Gasoline Extended Method (NWTPH-Gx).
- Diesel- and oil-range hydrocarbons by the Northwest Total Petroleum Hydrocarbons Diesel Extended (NWTPH-Dx) Method with silica gel cleanup.

(c) mg/kg = milligrams per kiloggram.

(d) "<" denotes that the analyte was not detected at a concentration greater than the specified reporting limit.

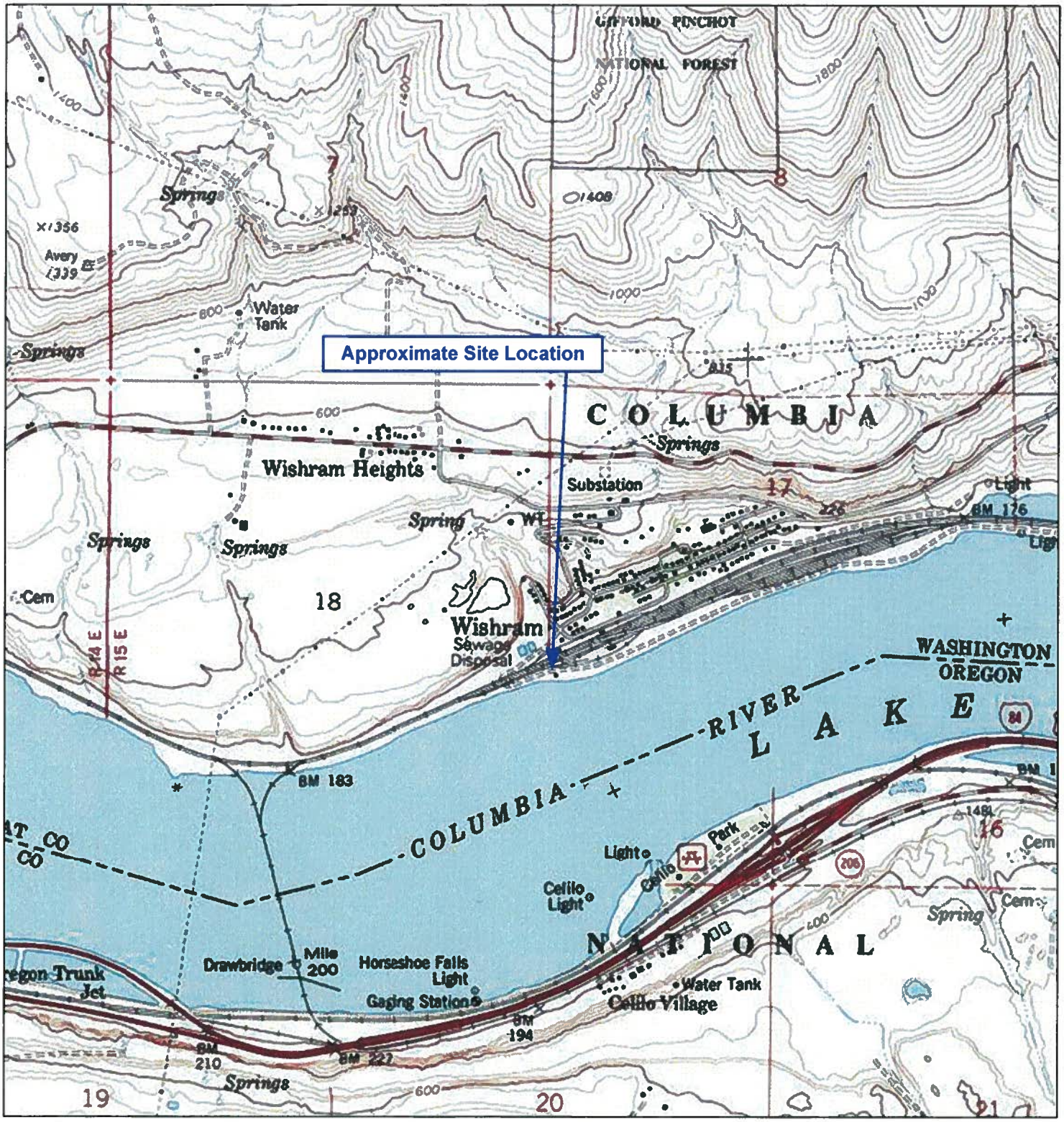
(e) Cleanup level is 100 mg/kg where benzene is not present, and 30 mg/kg for gasoline mixtrures that include benzene.

(f) Benzene, toluene, ethylbenzene, and xylenes (BTEX) analyzed by EPA Method 8021B.

(g) µg/kg = micrograms per kilogram.

Analytes detected at concentrations greater than the laboratory reporting limit are shown in bold.

Figures



Map Source: USGS 7.5 Minute Topographic Quadrangle, Wishram, WA 1994

N
W E
S

0 1/2 1

Approximate Scale in Miles

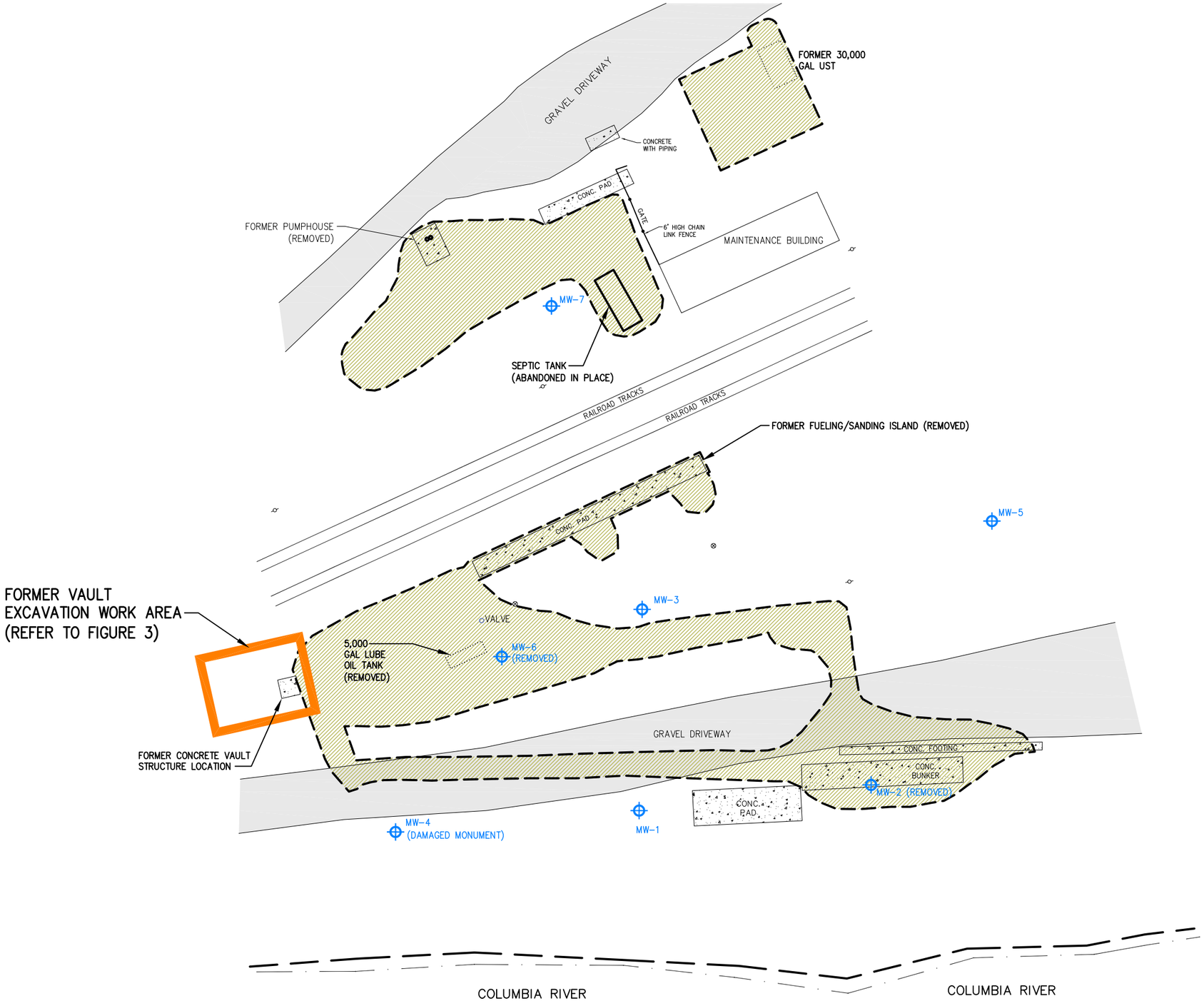
Kennedy/Jenks Consultants

BNSF RAILWAY COMPANY
WISHRAM, WA

FORMER VAULT EXCAVATION
SITE LOCATION MAP

1096010*00\Figure1.vsd

FIGURE 1



LEGEND

- POWER POLE
- MW-4 — MONITORING WELL
- APPROXIMATE PREVIOUS EXCAVATION AREAS

NOTES:

1. ALL LOCATIONS AND DIMENSIONS ARE APPROXIMATE.

N

0 25 50

APPROXIMATE SCALE IN FEET

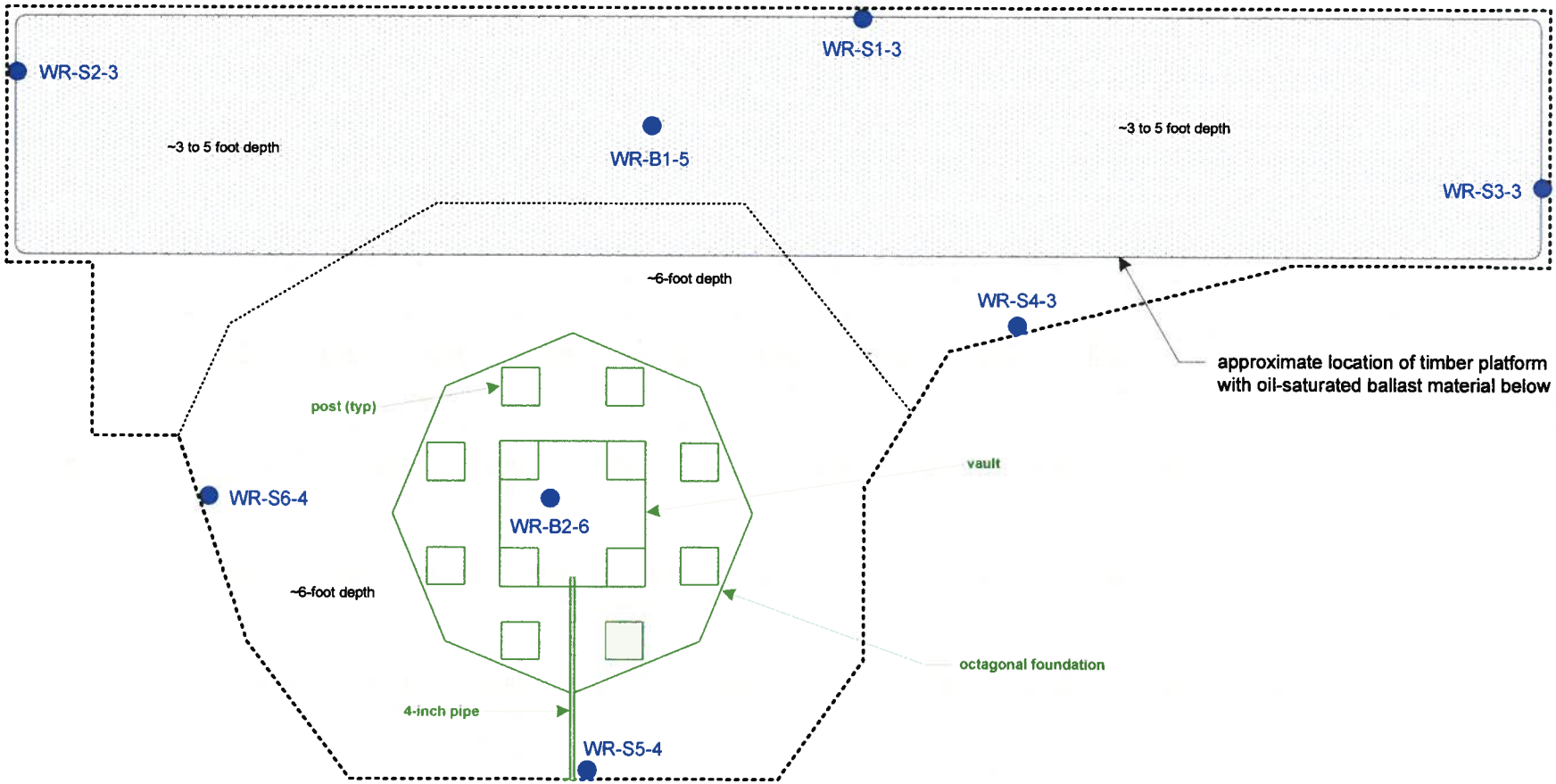
Kennedy/Jenks Consultants

BNSF RAILWAY COMPANY
WISHRAM, WA

FORMER VAULT EXCAVATION SITE AREA OVERVIEW MAP

1096010.00\R1 EXCAVATION\FIG-02

FIGURE 2



Note: All locations and dimensions are approximate

Legend:

- Approximate former concrete vault and foundation structure location
- WR-S6-4 — Approximate excavation soil sample location
- Approximate excavation area (lighter lines indicate different depths)

N W E S

0 10 20

Approximate Scale in Feet

Refer to Figure 2 for Location Map

Kennedy/Jenks Consultants

BNSF RAILWAY COMPANY
WISHRAM, WA

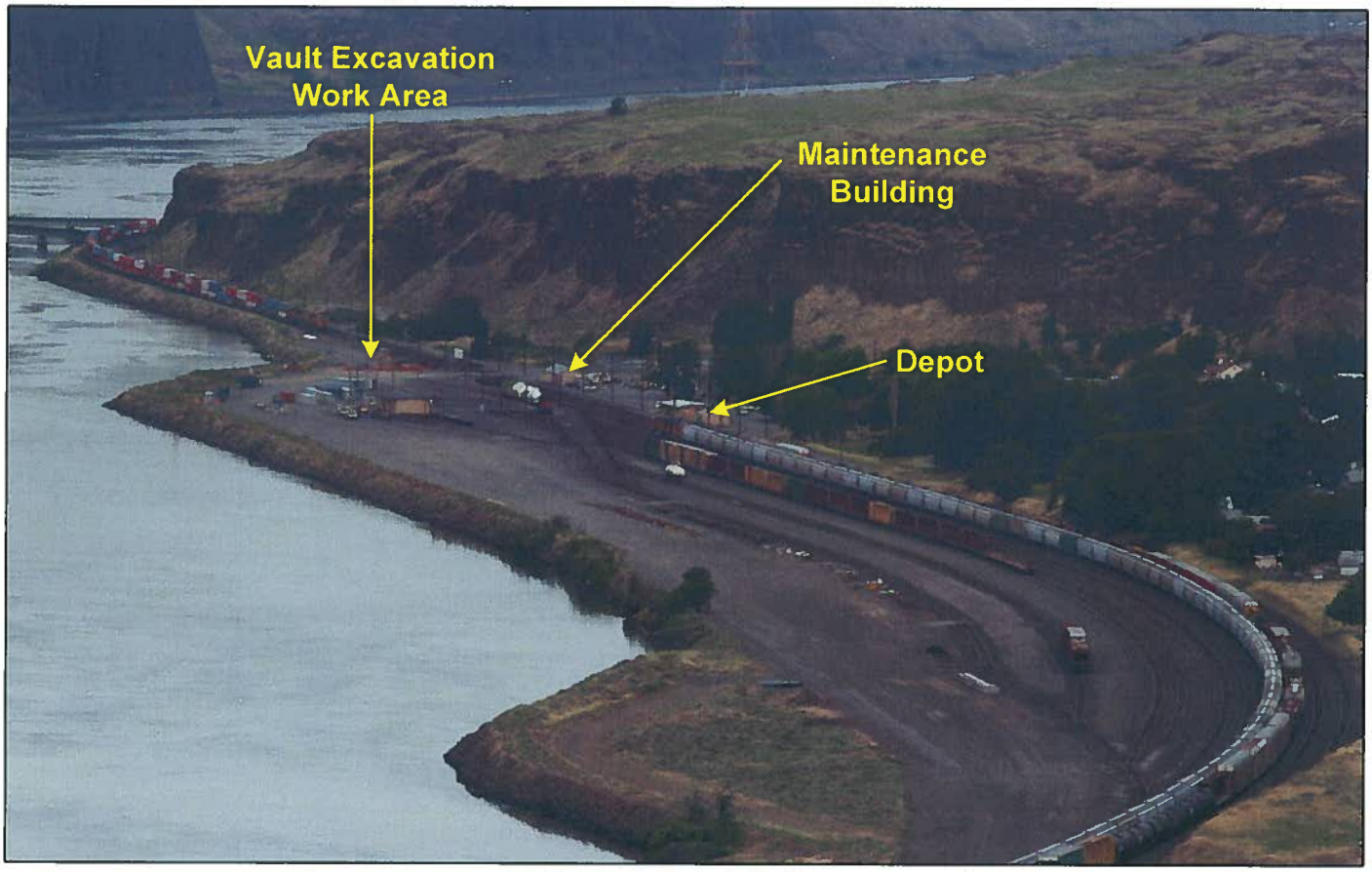
FORMER VAULT EXCAVATION
EXCAVATION AND SAMPLE MAP

1096010*00\Figure3.vsd

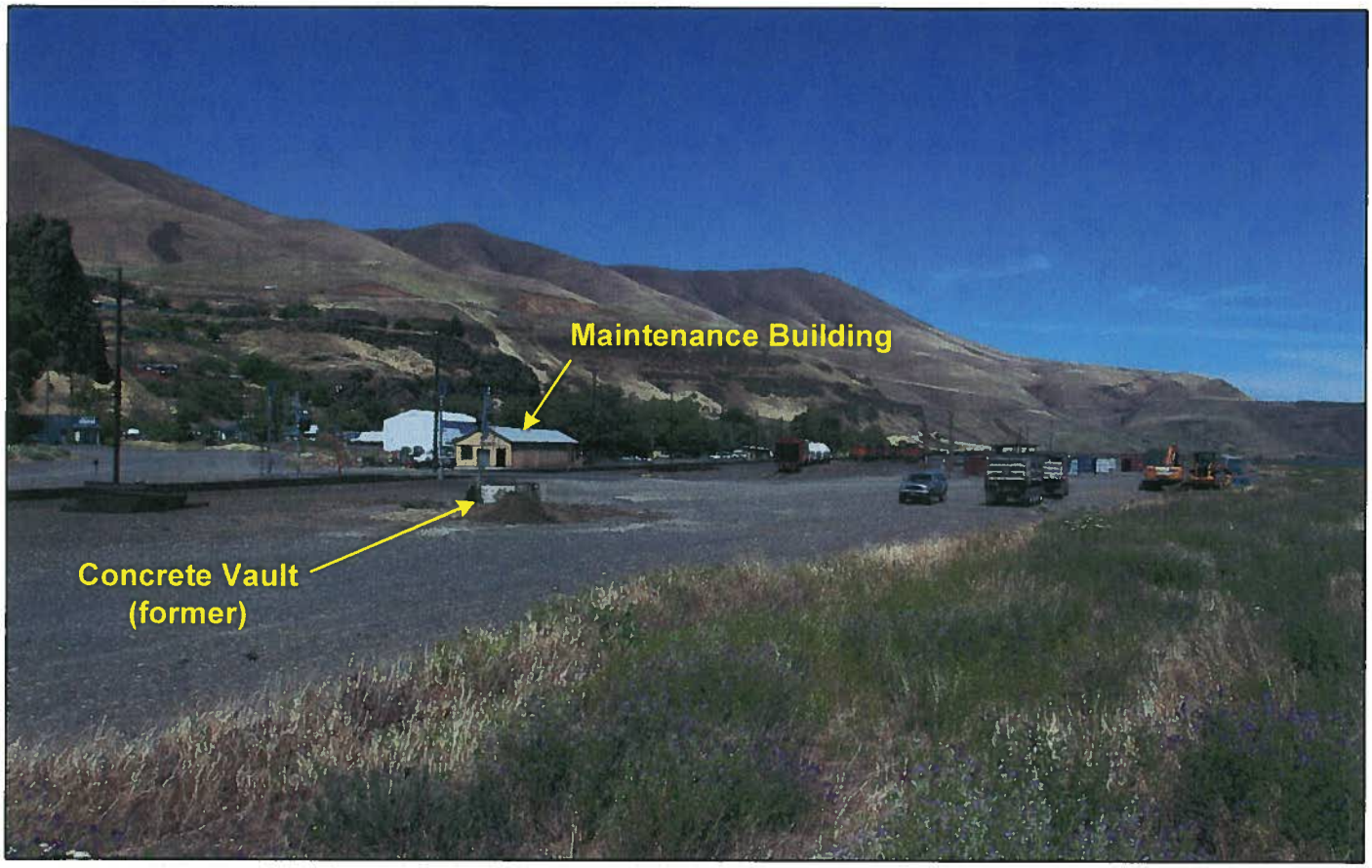
FIGURE 3

Attachment 1

Site Photographs



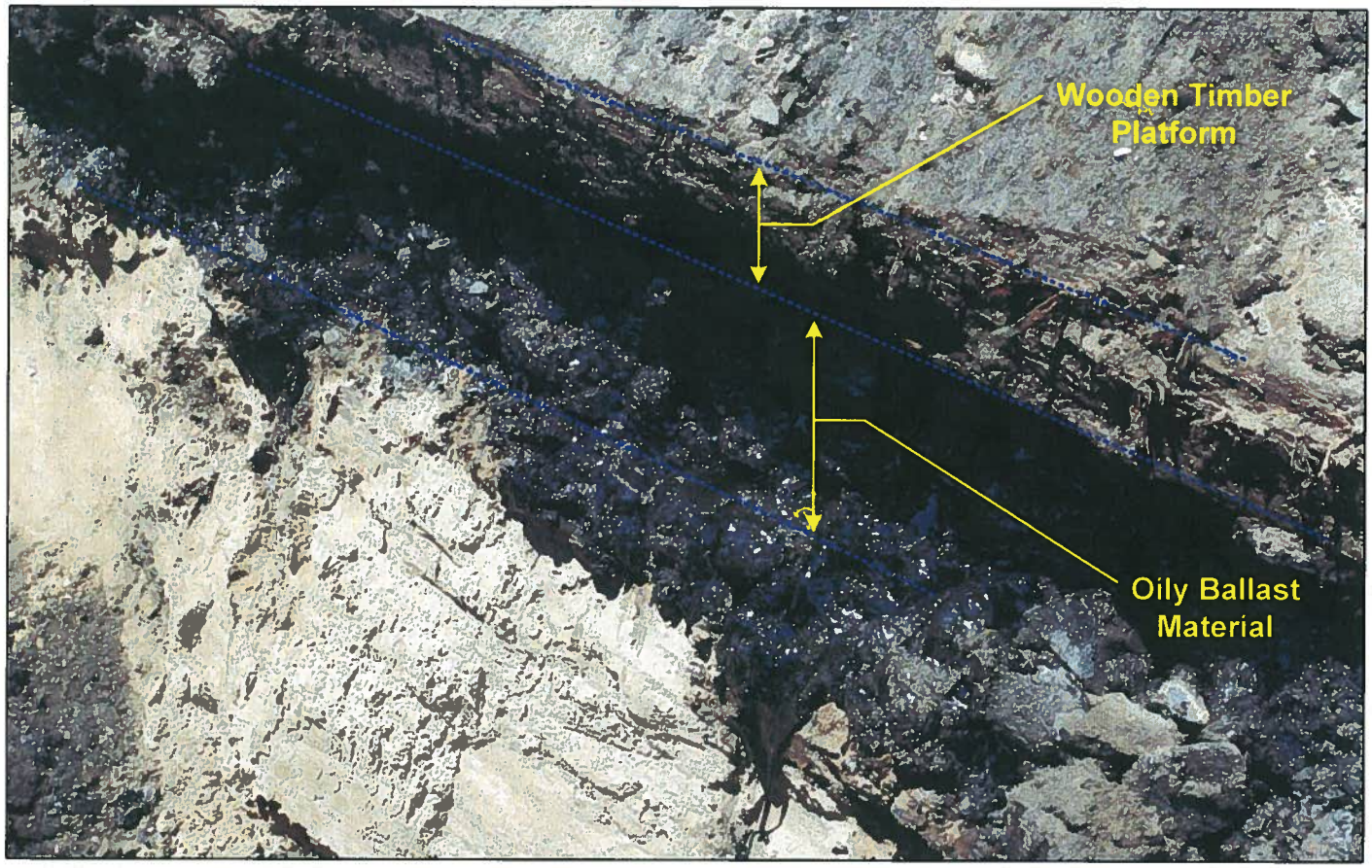
Photograph 1. Wishram railyard overview, view to the west.



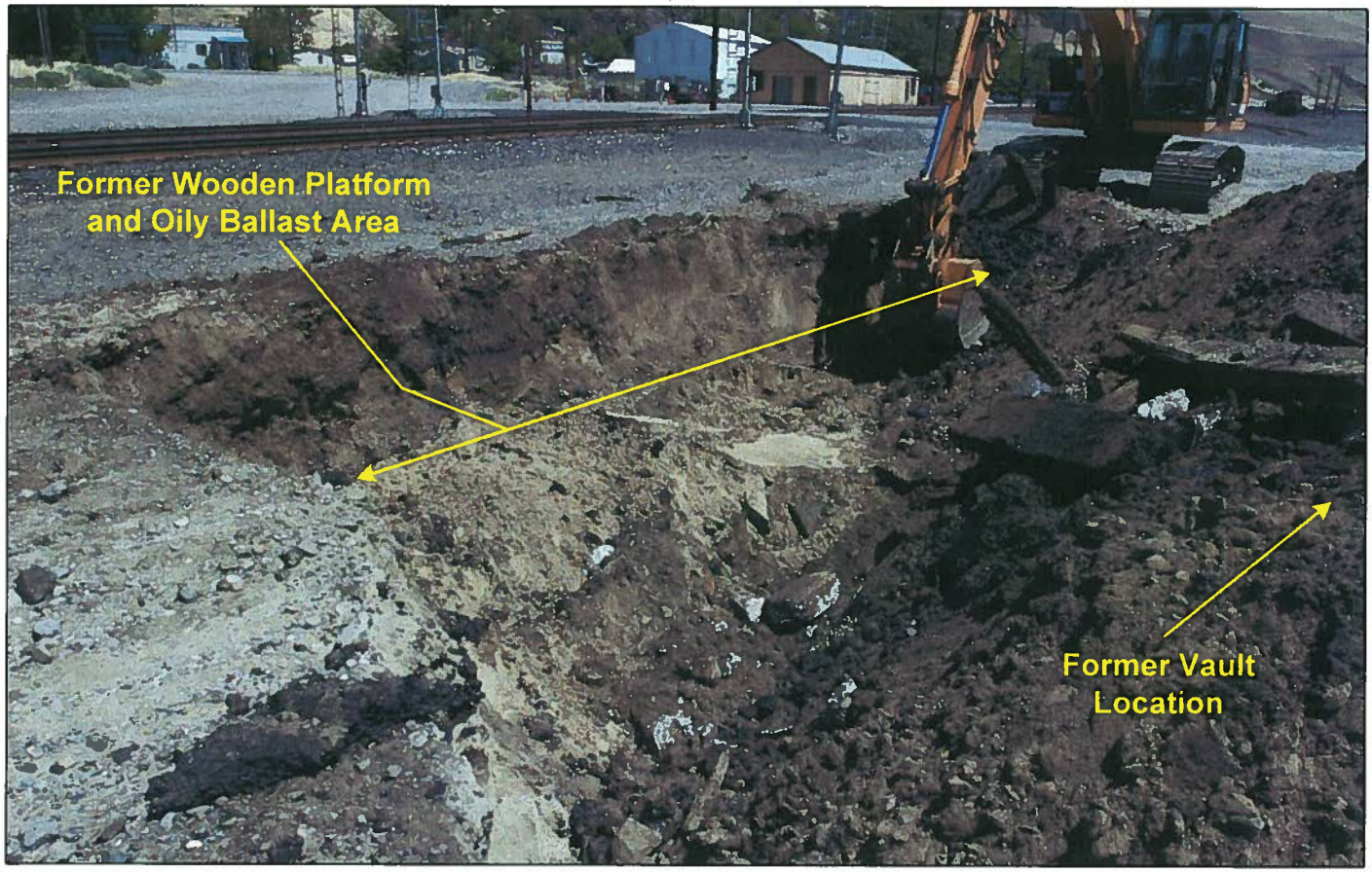
Photograph 2. Vault excavation work area overview, view to the northeast.

Photograph 3. Concrete vault structure and exposed support posts.

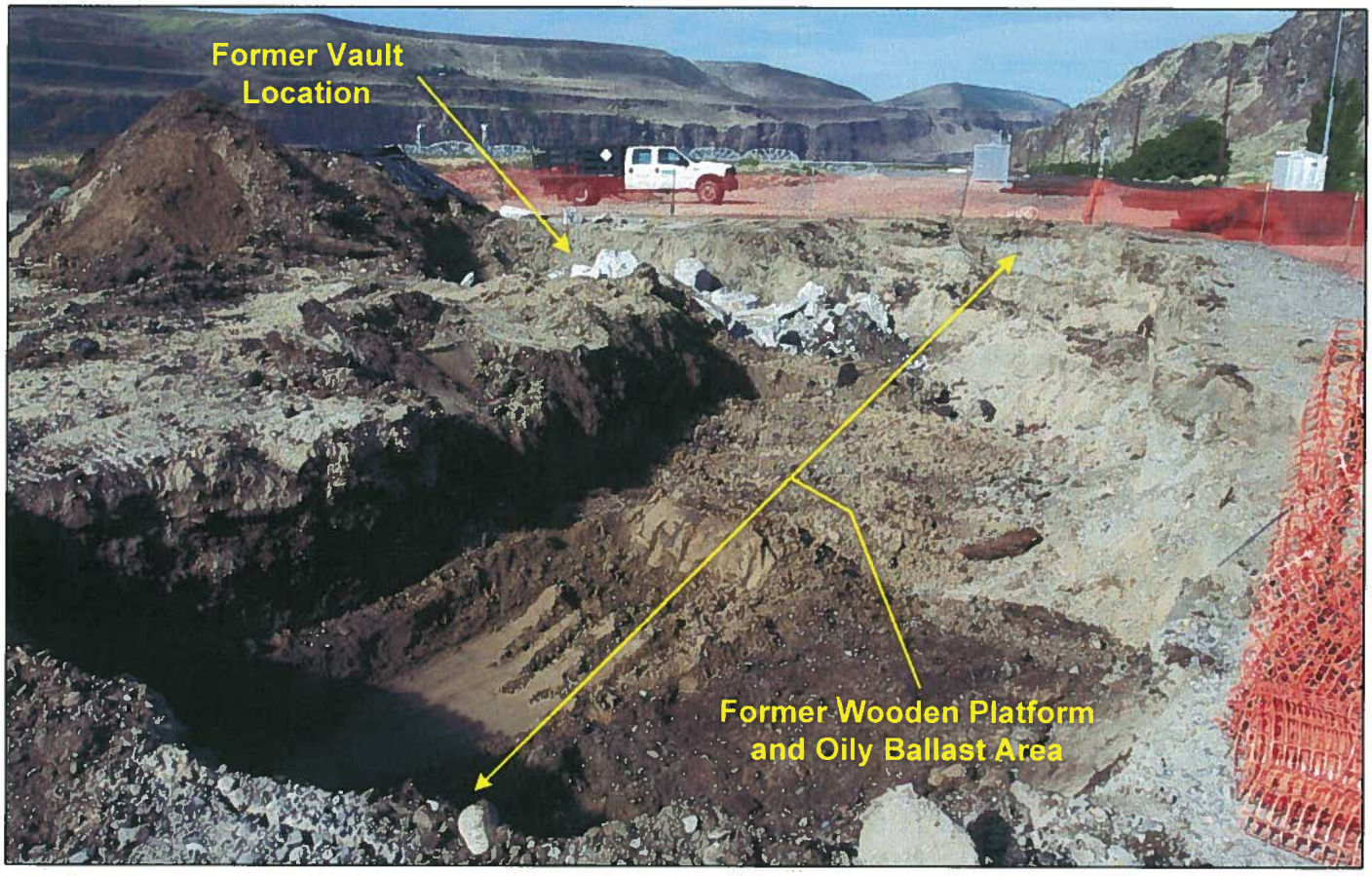
Photograph 4. Partially demolished vault structure and exposed octagonal foundation.



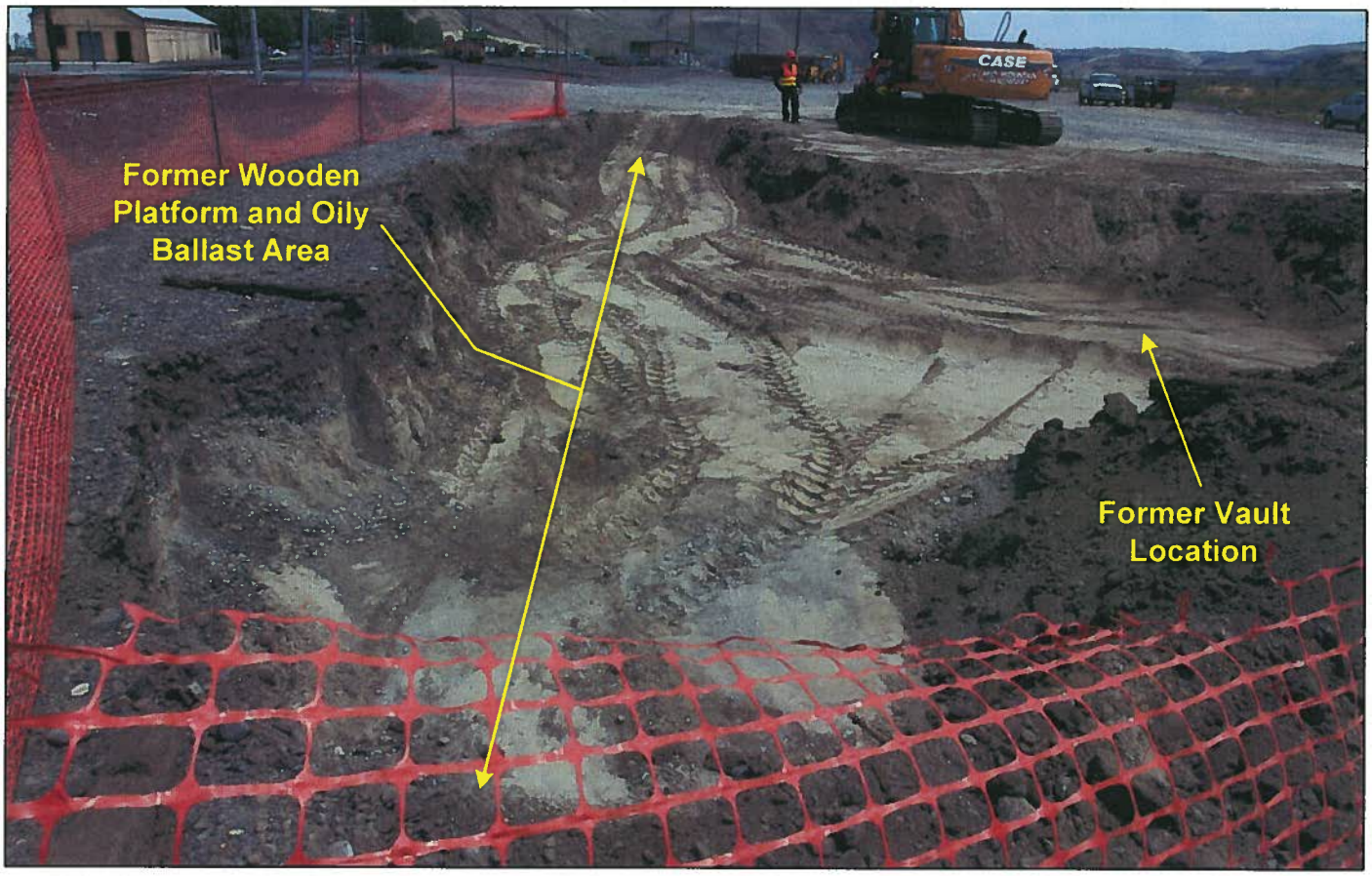
Photograph 5. Wooden platform timbers, oily ballast, and underlying silt/sand material (typical).



Photograph 6. Excavation beneath wooden platform area north of vault, view to the northeast.



Photograph 7. Excavation area, view to the west.



Photograph 8. Partially backfilled excavation area, view to the east.

Attachment 2

Waste Disposal Documents

RABANCO REGIONAL DISPOSAL
P.O. BOX 338
Roosevelt, WA 99356
(509) 384-5641

016193 - 0001
BNSF Railway/Mark Engdahl
BNSF Railway/Mark Engdahl

Contract: LW-10275

SITE	TICKET	GRID
	01 409270	000000
WEIGHTMASTER	GH00036 GAIL H	
DATE IN	22 June 2010	TIME IN 9:00 am
DATE OUT	22 June 2010	TIME OUT 9:17 am
VEHICLE	M569	ROLL OFF
REFERENCE	ORIGIN	Wishram

1 Gross Weight 107,340.00 LB
Tare Weight 40,320.00 LB
Net Weight 67,020.00 LB 33.51 TN

QTY.	UNIT	DESCRIPTION	RATE	EXTENSION	TAX	TOTAL
33.51	TN	34 DE41 FOS 34 Inbound - SELF HAULER Roosevelt Landfill				

0.00 YD

NET AMOUNT
TENDERED
CHANGE
CHECK NO.

ALLIED WASTE

SIGNATURE

AW-F04

RABANCO REGIONAL DISPOSAL
P.O. BOX 338
Roosevelt, WA 99356
(509) 384-5441

016193 - 0001
BNSF Railway/Mark Engdahl
BNSF Railway/Mark Engdahl

Contract: LW-10275

SITE	TICKET	GRID
	01 409272	000000

WEIGHMASTER: GH00036 GAIL H

DATE IN	TIME IN
22 June 2010	9:03 am

DATE OUT	TIME OUT
22 June 2010	9:19 am

VEHICLE	ROLL OFF
R-51	

REFERENCE	ORIGIN
	Wishram

1 Gross Weight 105,360.00 LB
Tare Weight 40,420.00 LB
Net Weight 65,440.00 LB 32.72 TN

QTY.	UNIT	DESCRIPTION	RATE	EXTENSION	TAX	TOTAL
32.72	TN	34 CE43 FOS 34 Inbound - SELF HAULER Roosevelt Landfill				

0.00 YD

NET AMOUNT
TENDERED
CHANGE
CHECK NO.

ALLIED WASTE

SIGNATURE _____

AW-F04

RABANCO REGIONAL DISPOSAL
P.O. BOX 336
Roosevelt, WA 99356
(509) 384-5641

016193 -- 0001
BNSF Railway/Mark Engdahl
BNSF Railway/Mark Engdahl

Contract: LW-10275

SITE	TICKET	GRID
	01 409309	000000

WEIGHMASTER: GH00036 GAIL H

DATE IN	TIME IN
22 June 2010	11:23 am

DATE OUT	TIME OUT
22 June 2010	11:35 am

VEHICLE	ROLL OFF
M569	

REFERENCE	ORIGIN
	Wishram

1 Gross Weight 107,500.00 LB
Tare Weight 40,220.00 LB
Net Weight 67,280.00 LB 33.64 TN

QTY.	UNIT	DESCRIPTION	RATE	EXTENSION	TAX	TOTAL
33.64	TN	34 EE41 PCS 34 Inbound -- SELF HAULER Roosevelt Landfill				

0.00 YD

NET AMOUNT
TENDERED
CHANGE
CHECK NO.

ALLIED WASTE

SIGNATURE

AW-F04

RABANCO REGIONAL DISPOSAL
P.O. BOX 338
Roosevelt, WA 99356
(509) 384-5641

016193 - 0001
BNSF Railway/Mark Engdahl
BNSF Railway/Mark Engdahl

Contract: LW-10275

SITE	TICKET	GRID
	01 409311	000000
WEIGHMASTER	GH00036 GAIL H	
DATE IN	22 June 2010	TIME IN 11:33 am
DATE OUT	22 June 2010	TIME OUT 11:45 am
VEHICLE	R-51	ROLL OFF
REFERENCE	ORIGIN	Wishram

1 Gross Weight 106,860.00 LB
Tare Weight 40,280.00 LB
Net Weight 66,580.00 LB 33.29 TN

QTY.	UNIT	DESCRIPTION	RATE	EXTENSION	TAX	TOTAL
33.29	TN	34 CE43 POS 34 Inbound - SELF HAULER Roosevelt Landfill				

0.00 YD

NET AMOUNT
TENDERED
CHANGE
CHECK NO.

ALLIED WASTE

SIGNATURE R. R

AW-F04

RABANCO REGIONAL DISPOSAL
P.O. BOX 338
Roosevelt, WA 99356
(509) 384-5641

016193 - 0001
BNSF Railway/Mark Engdahl
BNSF Railway/Mark Engdahl

Contract: LW-10275

SITE	TICKET	GRID
01	409357	000000

WEIGHTMASTER: GH00036 GAIL H

DATE IN	TIME IN
22 June 2010	12:56 pm

DATE OUT	TIME OUT
22 June 2010	1:16 pm

VEHICLE	ROLL OFF
2145	

REFERENCE	ORIGIN
	Wishram

1 Gross Weight 99,380.00 LB
Tare Weight 40,320.00 LB
Net Weight 59,060.00 LB 29.53 TN

QTY.	UNIT	DESCRIPTION	RATE	EXTENSION	TAX	TOTAL
29.53	TN	34 CE43 PCS 34				
		Inbound - SELF HAULER				
		Roosevelt Landfill				

0.00 YD

NET AMOUNT
TENDERED
CHANGE
CHECK NO.

ALLIED WASTE

SIGNATURE _____

AW-F04

RABANCO REGIONAL DISPOSAL
P.O. BOX 338
Roosevelt, WA 99356
(509) 384-5641

016193 - 0001
BNSF Railway/Mark Engdahl
BNSF Railway/Mark Engdahl

Contract: LW-10275

SITE	TICKET	GRID
01	409376	000000
WEIGHTMASTER		
0H00036 GAIL H		
DATE IN		TIME IN
22 June 2010		1:47 pm
DATE OUT		TIME OUT
22 June 2010		2:00 pm
VEHICLE		ROLL OFF
M569		
REFERENCE	ORIGIN	
	Wishram	

1 Gross Weight 105,260.00 LB
Tare Weight 39,980.00 LB
Net Weight 65,280.00 LB 32.64 TN

QTY.	UNIT	DESCRIPTION	RATE	EXTENSION	TAX	TOTAL
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		Inbound - SELF HAULER				
		Roosevelt Landfill				

0.00 YD

NET AMOUNT
TENDERED
CHANGE
CHECK NO.

ALLIED WASTE

SIGNATURE

AW-F04

RABANCO REGIONAL DISPOSAL
P.O. BOX 338
Roosevelt, WA 99356
(509) 384-5641

016193 - 0001
BNSF Railway/Mark Engdahl
BNSF Railway/Mark Engdahl

Contract: LW-10275

SITE	TICKET	GRID
	01 409380	000000
WEIGHMASTER	GH00036 GAIL H	
DATE IN	22 June 2010	TIME IN 1:54 pm
DATE OUT	22 June 2010	TIME OUT 2:05 pm
VEHICLE	R-51	ROLL OFF
REFERENCE	ORIGIN	Wishram

1 Gross Weight 105,060.00 LB
Tare Weight 40,280.00 LB
Net Weight 64,780.00 LB 32.39 TN

QTY.	UNIT	DESCRIPTION	RATE	EXTENSION	TAX	TOTAL
32.39	TN	34 LE41 FCS 34				
		Inbound - SELF HAULER				
		Roosevelt Landfill				

0.00 YD

NET AMOUNT
TENDERED
CHANGE
CHECK NO.

ALLIED WASTE

SIGNATURE

AW-F04

RABANCO REGIONAL DISPOSAL
P.O. BOX 338
Roosevelt, WA 99356
(509) 384-5641

016193 - 0001
BNSF Railway/Mark Engdahl
BNSF Railway/Mark Engdahl

Contract: LW-1027S

SITE	TICKET	GRID
	01 409430	000000
WEIGHTMASTER	GH00036 GAIL H	
DATE IN	23 June 2010	TIME IN 5:50 am
DATE OUT	23 June 2010	TIME OUT 6:01 am
VEHICLE	R-51	ROLL OFF
REFERENCE		ORIGIN Wishram

1 Gross Weight 105,620.00 LB
Tare Weight 40,640.00 LB
Net Weight 64,980.00 LB 32.49 TN

QTY.	UNIT	DESCRIPTION	RATE	EXTENSION	TAX	TOTAL
32.49	TN	34 CE42 PCS 34				
		Inbound - SELF HAULER				
		Roosevelt Landfill				

0.00 YD

NET AMOUNT
TENDERED
CHANGE
CHECK NO.

ALLIED WASTE

SIGNATURE

AW-F04

RABANCO REGIONAL DISPOSAL
P.O. BOX 338
Roosevelt, WA 99356
(509) 384-5641

016193 - 0001
BNSF Railway/Mark Engdahl
BNSF Railway/Mark Engdahl

Contract: LW-10275

SITE	TICKET	GRID
01	409431	000000

WEIGHTMASTER: GH00036 GAIL H GH

DATE IN	TIME IN
23 June 2010	8:50 am

DATE OUT	TIME OUT
23 June 2010	8:54 am

VEHICLE	ROLL OFF
M569	

REFERENCE	ORIGIN
	Wishram

1 Gross Weight 109,500.00 LB
Tare Weight 40,400.00 LB
Net Weight 69,100.00 LB 34.55 TN

QTY.	UNIT	DESCRIPTION	RATE	EXTENSION	TAX	TOTAL
34.55	TN	34 LE41 POS 34 Inbound - SELF HAULER Roosevelt Landfill				

0.00 YD

NET AMOUNT
TENDERED
CHANGE
CHECK NO.

ALLIED WASTE

SIGNATURE

AW-F04

RABANCO REGIONAL DISPOSAL
P.O. BOX 338
Roosevelt, WA 99356
(509) 384-5641

016193 - 0001
BNSF Railway/Mark Engdahl
BNSF Railway/Mark Engdahl

Contract: LW-10275

SITE	TICKET	GRID
	01 409488	000000

WEIGHTMASTER: GH00036 GAIL H

DATE IN	TIME IN
23 June 2010	8:21 am

DATE OUT	TIME OUT
23 June 2010	8:38 am

VEHICLE	ROLL OFF
R-51	

REFERENCE	ORIGIN
	Wishram

1 Gross Weight 104,140.00 LB
Tare Weight 40,480.00 LB
Net Weight 63,660.00 LB 31.83 TN

QTY.	UNIT	DESCRIPTION	RATE	EXTENSION	TAX	TOTAL
31.83	TN	34 [E4] PCS 34				
		Inbound - SELF HAULER				
		Roosevelt Landfill				

0.00 YD

NET AMOUNT
TENDERED
CHANGE
CHECK NO.

ALLIED WASTE

SIGNATURE

AW-F04

RABANCO REGIONAL DISPOSAL
P.O. BOX 338
Roosevelt, WA 99356
(509) 384-5641

016192 - 0001
BNSF Railway/Mark Engdahl
BNSF Railway/Mark Engdahl

Contract: LW-10275

SITE	TICKET	GRID
	01 409491	000000

WEIGHTMASTER: GH00036 GAIL H

DATE IN	TIME IN
23 June 2010	8:27 am

DATE OUT	TIME OUT
23 June 2010	8:41 am

VEHICLE	ROLL OFF
M569	

REFERENCE	ORIGIN
	Wishram

1 Gross Weight 108,020.00 LB
Tare Weight 40,160.00 LB
Net Weight 67,860.00 LB 33.93 TN

QTY.	UNIT	DESCRIPTION	RATE	EXTENSION	TAX	TOTAL
33.93	TN	34 CE43 PCS 34				
		Inbound - SELF HAULER				
		Roosevelt Landfill				

0.00 YD

NET AMOUNT

TENDERED

CHANGE

CHECK NO.

ALLIED WASTE

SIGNATURE

AW-F04

RABANCO REGIONAL DISPOSAL
P.O. BOX 338
Roosevelt, WA 99356
(509) 384-5641

016193 - 0001
BNSF Railway/Mark Engdahl
BNSF Railway/Mark Engdahl

Contract: LW-10275

SITE	TICKET	GRID
	01 409586	000000
WEIGHMASTER	GH00036 GAIL H	
DATE IN	23 June 2010	TIME IN 10:41 am
DATE OUT	23 June 2010	TIME OUT 10:51 am
VEHICLE	R-51	ROLL OFF
REFERENCE	ORIGIN	Wishram

1 Gross Weight 109,100.00 LB
Tare Weight 40,400.00 LB
Net Weight 68,700.00 LB 34.35 TN

QTY.	UNIT	DESCRIPTION	RATE	EXTENSION	TAX	TOTAL
34.35	TN	34 DE4J FOS 34				
		Inbound - SELF HAULER				
		Roosevelt Landfill				

0.00 YD

NET AMOUNT
TENDERED
CHANGE
CHECK NO.

ALLIED WASTE

SIGNATURE R. R.

AW-F04

RABANCO REGIONAL DISPOSAL
P.O. BOX 338
Roosevelt, WA 99356
(509) 384-5641

016193 - 0001
BNSF Railway/Mark Engdahl
BNSF Railway/Mark Engdahl

Contract: LW-10275

SITE	TICKET	GRID
	01 409590	000000

WEIGHMASTER: GH00036 GAIL H

DATE IN	TIME IN
23 June 2010	10:54 am

DATE OUT	TIME OUT
23 June 2010	11:05 am

VEHICLE	ROLL OFF
M569	

REFERENCE	ORIGIN
	Wishram

1 Gross Weight 106,420.00 LB
Tare Weight 39,840.00 LB
Net Weight 66,580.00 LB 33.29 TN

QTY.	UNIT	DESCRIPTION	RATE	EXTENSION	TAX	TOTAL
33.29	TN	34 CE40 FCS 34 Inbound - SELF HAULER Roosevelt Landfill				

0.00 YD

NET AMOUNT
TENDERED
CHANGE
CHECK NO.

ALLIED WASTE

SIGNATURE

AW-F04

RABANCO REGIONAL DISPOSAL
P.O. BOX 338
Roosevelt, WA 99356
(509) 384-5641

016193 - 0001
BNSF Railway/Mark Engdahl
BNSF Railway/Mark Engdahl

Contract: LW-10275

SITE	TICKET	GRID
	01 409634	000000
WEIGHTMASTER	GH00036 GAIL H	
DATE IN	23 June 2010	TIME IN 1:03 pm
DATE OUT	23 June 2010	TIME OUT 1:14 pm
VEHICLE	M569	ROLL OFF
REFERENCE	ORIGIN	Wishram

1 Gross Weight 105,000.00 LB
Tare Weight 39,680.00 LB
Net Weight 65,320.00 LB 32.66 TN

QTY.	UNIT	DESCRIPTION	RATE	EXTENSION	TAX	TOTAL
32.66	TN	34 DE41 FCS 34 Inbound - SELF HAULER Roosevelt Landfill				

0.00 YD

NET AMOUNT
TENDERED
CHANGE
CHECK NO.

ALLIED WASTE

SIGNATURE

AW-F04

RABANCO REGIONAL DISPOSAL
P.O. BOX 338
Roosevelt, WA 99356
(509) 384-5641

016193 - 0001
BNSF Railway/Mark Engdahl
BNSF Railway/Mark Engdahl

Contract: LW-10275

SITE	TICKET	GRID
	01 409645	000000
WEIGHTMASTER	GH00036 GAIL H	
DATE IN	23 June 2010	TIME IN 1:16 pm
DATE OUT	23 June 2010	TIME OUT 1:29 pm
VEHICLE	R-51	ROLL OFF
REFERENCE		ORIGIN Wishram

1 Gross Weight 109,500.00 LB
Tare Weight 40,580.00 LB
Net Weight 68,920.00 LB 34.46 TN

QTY.	UNIT	DESCRIPTION	RATE	EXTENSION	TAX	TOTAL
34.46	TN	34 DE43 FCS 34 Inbound - SELF HAULER Roosevelt Landfill				

0.00 YD

NET AMOUNT
TENDERED
CHANGE
CHECK NO.

ALLIED WASTE

SIGNATURE

AW-F04

RABANCO REGIONAL DISPOSAL
P.O. BOX 338
Roosevelt, WA 99356
(509) 384-5641

016193 - 0001
BNSF Railway/Mark Engdahl
BNSF Railway/Mark Engdahl

Contract: LW-10275

SITE	TICKET	GRID
01	409723	000000

WEIGHTMASTER: GH00036 GAIL H

DATE IN	TIME IN
24 June 2010	5:59 am

DATE OUT	TIME OUT
24 June 2010	6:08 am

VEHICLE	ROLL OFF
M569	

REFERENCE	ORIGIN
	Wishram

1 Gross Weight 101,980.00 LB
Tare Weight 40,440.00 LB
Net Weight 61,540.00 LB 30.77 TN

QTY.	UNIT	DESCRIPTION	RATE	EXTENSION	TAX	TOTAL
30.77	TN	34 DE4J FCS 34 Inbound - SELF HAULER Roosevelt Landfill				

0.00 YD

NET AMOUNT
TENDERED
CHANGE
CHECK NO.

ALLIED WASTE

SIGNATURE

AW-F04

RABANCO REGIONAL DISPOSAL
P.O. BOX 338
Roosevelt, WA 99356
(509) 384-5641

016193 - 0001
BNSF Railway/Mark Engdahl
BNSF Railway/Mark Engdahl

Contract: LW-10275

SITE	TICKET	GRID
01	409729	000000

WEIGHTMASTER: GH00036 GAIL H

DATE IN	TIME IN
24 June 2010	6:00 am

DATE OUT	TIME OUT
24 June 2010	6:09 am

VEHICLE	ROLL OFF
R-51	

REFERENCE	ORIGIN
	Wishram

1 Gross Weight 105,300.00 LB
Tare Weight 40,660.00 LB
Net Weight 64,640.00 LB 32.32 TN

QTY.	UNIT	DESCRIPTION	RATE	EXTENSION	TAX	TOTAL
1	32.32	TN 34 LE41 FCS 34 Inbound - SELF HAULER Roosevelt Landfill				

0.00 YD

NET AMOUNT
TENDERED
CHANGE
CHECK NO.

ALLIED WASTE

SIGNATURE R. R

AW-F04

RABANCO REGIONAL DISPOSAL
P.O. BOX 338
Roosevelt, WA 99356
(509) 384-5641

016193 - 0001
BNSF Railway/Mark Englahl
BNSF Railway/Mark Englahl

Contract: LW-10275

SITE	TICKET	GRID
01	409783	000000

WEIGHMASTER: GH00036 GAIL H

DATE IN	TIME IN
24 June 2010	8:08 am

DATE OUT	TIME OUT
24 June 2010	8:19 am

VEHICLE	ROLL OFF
M569	

REFERENCE	ORIGIN
	Wishram

1 Gross Weight 106,480.00 LB
Tare Weight 40,040.00 LB
Net Weight 66,440.00 LB 33.22 TN

QTY.	UNIT	DESCRIPTION	RATE	EXTENSION	TAX	TOTAL
33.22	TN	34 DE41 FOS 34 Inbound - SELF HAULER Roosevelt Landfill				

0.00 YD

NET AMOUNT
TENDERED
CHANGE
CHECK NO.

ALLIED WASTE

SIGNATURE

AW-F04

RABANCO REGIONAL DISPOSAL
P.O. BOX 338
Roosevelt, WA 99356
(509) 384-5641

016193 - 0001
BNSF Railway/Mark Englahl
BNSF Railway/Mark Englahl

Contract: LW-10275

SITE	TICKET	GRID
01	409815	000000

WEIGHMASTER: GH00036 GAIL H

DATE IN	TIME IN
24 June 2010	8:48 am

DATE OUT	TIME OUT
24 June 2010	9:19 am

VEHICLE	ROLL OFF
7001	

REFERENCE	ORIGIN
	Wishram

1 Gross Weight 75,080.00 LB
Tare Weight 37,880.00 LB
Net Weight 37,200.00 LB 18.60 TN

QTY.	UNIT	DESCRIPTION	RATE	EXTENSION	TAX	TOTAL
18.60	TN	34 [E43 FCS 34				
		Inbound - SELF HAULER				
		Roosevelt Landfill				

0.00 YD

NET AMOUNT
TENDERED
CHANGE
CHECK NO.

ALLIED WASTE

SIGNATURE _____

AW-F04

RABANCO REGIONAL DISPOSAL
P.O. BOX 338
Roosevelt, WA 99356
(509) 384-5641

016193 - 0001
BNSF Railway/Mark Engdahl
BNSF Railway/Mark Engdahl

Contract: LW-10275

SITE	TICKET	GRID
	01 409905	000000
WEIGHMASTER	GH00036 GAIL H	
DATE IN	24 June 2010	TIME IN 12:08 pm
DATE OUT	24 June 2010	TIME OUT 12:32 pm
VEHICLE	7001	ROLL OFF
REFERENCE	ORIGIN	Wishram

1 Gross Weight 74,100.00 LB
Tare Weight 38,140.00 LB
Net Weight 35,960.00 LB 17.98 TN

QTY.	UNIT	DESCRIPTION	RATE	EXTENSION	TAX	TOTAL
17.98	TN	34 DE43 FOS 34 Inbound - SELF HAULER Roosevelt Landfill 0.00 YD				

NET AMOUNT
TENDERED
CHANGE
CHECK NO.

ALLIED WASTE

SIGNATURE _____

AW-F04

RECEIVED, subject to individually determined rates or contracts that have been agreed upon in writing between the carrier and shipper, if applicable, otherwise to the rates, classifications and rules that have been established by the carrier and are available, on request, the property described below, in apparent good order, except as noted (contents and condition of contents of packages unknown), marked, consigned, and destined as indicated below, which said carrier (the word carrier being understood throughout this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery at said destination, if on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed, as to each carrier of all or any of said property over all or any portion of said route to destination, and as to each party at any time interested in all or any of said property, that every service to be performed hereunder shall be subject to all the terms and conditions of the Uniform Domestic Straight Bill of Lading set forth (1) in Official, Southern, Western and Illinois Freight Classifications in effect on the date hereof, if this is a rail or a rail-water shipment, or (2) in the applicable motor carrier classification or tariff if this is a motor carrier shipment.

Shipper hereby certifies that he is familiar with all the terms and conditions of the said bill of lading, including those on the back thereof, set forth in the classification or tariff which governs the transportation of this shipment, and the said terms and conditions are hereby agreed to by the shipper and accepted for himself and his assigns.

BY - TRUCK ☐ FREIGHT ☐

FROM Wishram Rail yard

AT Wishram WA

ON COLLECT ON DELIVERY SHIPMENTS, THE LETTERS "C.O.D." MUST APPEAR BEFORE CONSIGNEE'S NAME – OR AS OTHERWISE PROVIDED IN ITEM 430, SEC. 1.

CONSIGNEE AND DESTINATION: Pacific Power Vac

(Mail or street address of consignee – For purposes of notification only.)

DATE: 6-21-10

SHIPPER'S NO.

CARRIER

CARRIER'S NO.

BY: NRC (SCAC)

ROUTE: I-84

DELIVERING CARRIER: Wayne

CAR OR VEHICLE INITIALS & NO. 2074

No. Units	* H/M	KIND OF PACKAGE, DESCRIPTION OF MATERIALS, SPECIAL MARKS, AND EXCEPTIONS	* WEIGHT (Sub. to Cor.)	Class or Rate	Ck. Col.
1		Material not regulated by DOT Vault rain water	182	gal	

When transporting hazardous materials include the technical or chemical name for n.o.s. (not otherwise specified) or generic description of material with appropriate UN or NA number as defined in US DOT Emergency Response Communication Standard (HM 126C). Provide emergency response phone number in case of incident or accident (in box at right).

EMERGENCY RESPONSE PHONE NO.

Subject to Section 7 of Conditions of applicable bill of lading, if this shipment is to be delivered to the consignee without recourse on the consignor, the consignor shall sign the following statement:

The carrier shall not make delivery of this shipment without payment of freight and all other lawful charges.

(Signature of Consignor)

If charges are to be prepaid write or stamp here, "To be Prepaid."

Received $ _____ to apply in prepayment of the charges on the property described hereon.

(Agent or Cashier)

Per _____ (The signature here acknowledges only the amount prepaid)

Charges advanced: $ _____

REMIT C.O.D. TO:

ADDRESS

C.O.D. AMT. $

C.O.D. CHARGE TO BE PAID BY

SHIPPER ☐

CONSIGNEE ☐

*If the shipment moves between two ports by a carrier by water, the law requires that the bill of lading shall state whether it is carrier's or shipper's weight.

†The fibre boxes used for this shipment conform to the specifications set forth in the box maker's certificate thereon, and all other requirements of Consolidated Freight Classification.

†Shipper's imprint in lieu of stamp, not a part of bill of lading approved by the Interstate Commerce Commission.

Note–Where the rate is dependent on value, shippers are required to state specifically in writing the agreed or declared value of the property.

The agreed or declared value of the property is hereby specifically stated by the shipper to be not exceeding $ _____ per _____

This is to certify that the above-named materials are properly classified, described, packaged, marked and labeled and are in proper condition for transportation according to the applicable regulations of the Department of Transportation.

Signature

Permanent post office address of shipper

Shipper, Per _____ **Agent** _____ **Per** _____

*MARK WITH "X" TO DESIGNATE HAZARDOUS MATERIAL AS DEFINED IN TITLE 49 OF FEDERAL REGULATIONS.

6A-73N

1

OR CCB# 175147
WA CCB#m PACIDPL935JL

Truck ID #: 2074

Receiving Manifest #: 193407

Date: 4/21/10

Customer Name: NRC

Waste Description: Rain Water

Driver Name: Wayne

County Picked Up In: Skamania

GROSS 25800 lb
04:27PM 06/21/2010

GROSS 24420 lb
04:39PM 06/21/2010

T380

Hours of operation: Monday through Friday 6:30am to 7:00pm
Saturday 8:00am to 5:00pm

Attachment 3

Excavation Area Samples:

Laboratory Analytical Report and Chain-of Custody Documents

Pace Analytical®
www.pacelabs.com

Pace Analytical Services, Inc.
940 South Harney
Seattle, WA 98108
(206)767-5060

July 01, 2010

Galen Davis
BNSF - Kennedy Jenks
32001 32nd Avenue South
Suite 100
Auburn, WA 98001

RE: Project: BNSF Wishram
Pace Project No.: 254036

Dear Galen Davis:
Enclosed are the analytical results for sample(s) received by the laboratory on June 24, 2010. The results relate only to the samples included in this report. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Heidi Geri

heidi.geri@pacelabs.com
Project Manager

Enclosures

cc: Dean Malte, BNSF - Kennedy Jenks

Pace Analytical Services, Inc.
940 South Harney
Seattle, WA 98108
(206)767-5060

CERTIFICATIONS

Project: BNSF Wishram
Pace Project No.: 254036

Washington Certification IDs
940 South Harney Street, Seattle, WA 98108
Alaska CS Certification #: UST-025
Alaska Drinking Water VOC Certification #: WA01230
Alaska Drinking Water Micro Certification #: WA01230
California Certification #: 01153CA
Florida/NELAP Certification #: E87617
Oregon Certification #: WA200007
Washington Certification #: C1229

Pace Analytical
www.pacelabs.com

Pace Analytical Services, Inc.
940 South Harney
Seattle, WA 98108
(206)767-5060

SAMPLE ANALYTE COUNT

Project: BNSF Wishram
Pace Project No.: 254036

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
254036001	WR-B1-5	NWTPH-Dx	ERB	4	PASI-S
		NWTPH-Gx	LPM	3	PASI-S
		EPA 8260	LNH	10	PASI-S
		ASTM D2974-87	DMT	1	PASI-S
254036002	WR-S1-3	NWTPH-Dx	ERB	4	PASI-S
		NWTPH-Gx	LPM	3	PASI-S
		EPA 8260	LNH	10	PASI-S
		ASTM D2974-87	DMT	1	PASI-S
254036003	WR-S2-3	NWTPH-Dx	ERB	4	PASI-S
		NWTPH-Gx	LPM	3	PASI-S
		EPA 8260	LNH	10	PASI-S
		ASTM D2974-87	DMT	1	PASI-S
254036004	WR-S3-3	NWTPH-Dx	ERB	4	PASI-S
		NWTPH-Gx	LPM	3	PASI-S
		EPA 8260	LNH	10	PASI-S
		ASTM D2974-87	DMT	1	PASI-S
254036005	WR-S4-3	NWTPH-Dx	ERB	4	PASI-S
		NWTPH-Gx	LPM	3	PASI-S
		EPA 8260	LNH	10	PASI-S
		ASTM D2974-87	DMT	1	PASI-S
254036006	WR-S5-4	NWTPH-Dx	ERB	4	PASI-S
		NWTPH-Gx	LPM	3	PASI-S
		EPA 8260	LNH	10	PASI-S
		ASTM D2974-87	DMT	1	PASI-S
254036007	WR-S6-4	NWTPH-Dx	ERB	4	PASI-S
		NWTPH-Gx	LPM	3	PASI-S
		EPA 8260	LNH	10	PASI-S
		ASTM D2974-87	DMT	1	PASI-S
254036008	WR-B2-6	NWTPH-Dx	ERB	4	PASI-S
		NWTPH-Gx	LPM	3	PASI-S
		EPA 8260	LNH	10	PASI-S
		ASTM D2974-87	DMT	1	PASI-S
254036009	Trip	NWTPH-Gx	LPM	3	PASI-S
		EPA 8260	LNH	10	PASI-S

Pace Analytical Services, Inc.
940 South Harney
Seattle, WA 98108
(206)767-5060

PROJECT NARRATIVE

Project: BNSF Wishram
Pace Project No.: 254036

Method: **NWTPH-Dx**
Description: NWTPH-Dx GCS SG
Client: BNSF - Kennedy Jenks
Date: July 01, 2010

General Information:
8 samples were analyzed for NWTPH-Dx. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:
The samples were prepared in accordance with EPA 3546 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Surrogates:
All surrogates were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

Pace Analytical Services, Inc.
940 South Harney
Seattle, WA 98108
(206)767-5060

PROJECT NARRATIVE

Project: BNSF Wishram
Pace Project No.: 254036

Method: **NWTPH-Gx**
Description: NWTPH-Gx GCV
Client: BNSF - Kennedy Jenks
Date: July 01, 2010

General Information:
9 samples were analyzed for NWTPH-Gx. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:
The samples were prepared in accordance with NWTPH-Gx with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Internal Standards:
All internal standards were within QC limits with any exceptions noted below.

Surrogates:
All surrogates were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

Analyte Comments:

QC Batch: GCV/1619

1n: Sample weight exceeded method recommendation.
- DUP (Lab ID: 31697)
  - Gasoline Range Organics

Pace Analytical Services, Inc.
940 South Harney
Seattle, WA 98108
(206)767-5060

PROJECT NARRATIVE

Project: BNSF Wishram
Pace Project No.: 254036

Method: **EPA 8260**
Description: 8260 MSV Medium LL
Client: BNSF - Kennedy Jenks
Date: July 01, 2010

General Information:
9 samples were analyzed for EPA 8260. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:
The samples were prepared in accordance with EPA 5035A/5030B with any exceptions noted below.

Initial Calibrations (Including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Internal Standards:
All internal standards were within QC limits with any exceptions noted below.

Surrogates:
All surrogates were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

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www.pacelabs.com

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940 South Harney
Seattle, WA 98108
(206)767-5060

ANALYTICAL RESULTS

Project: BNSF Wishram
Pace Project No.: 254036

Sample: WR-B1-5 **Lab ID: 254036001** Collected: 06/22/10 11:50 Received: 06/24/10 09:00 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
NWTPH-Dx GCS SG	Analytical Method: NWTPH-Dx Preparation Method: EPA 3546							
Diesel Range SG	ND	mg/kg	20.2	1	06/26/10 17:35	06/28/10 06:25		
Motor Oil Range SG	ND	mg/kg	81.0	1	06/26/10 17:35	06/28/10 06:25	64742-65-0	
n-Octacosane (S) SG	116	%	50-150	1	06/26/10 17:35	06/28/10 06:25	630-02-4	
o-Terphenyl (S) SG	109	%	50-150	1	06/26/10 17:35	06/28/10 06:25	84-15-1	
NWTPH-Gx GCV	Analytical Method: NWTPH-Gx Preparation Method: NWTPH-Gx							
Gasoline Range Organics	ND	mg/kg	5.7	1	06/27/10 10:00	06/28/10 04:14		
a,a,a-Trifluorotoluene (S)	94	%	50-150	1	06/27/10 10:00	06/28/10 04:14	98-08-8	
4-Bromofluorobenzene (S)	74	%	50-150	1	06/27/10 10:00	06/28/10 04:14	460-00-4	
8260 MSV Medium LL	Analytical Method: EPA 8260 Preparation Method: EPA 5035A/5030B							
Benzene	ND	ug/kg	22.8	1	06/24/10 17:00	06/25/10 06:05	71-43-2	
Ethylbenzene	ND	ug/kg	28.5	1	06/24/10 17:00	06/25/10 06:05	100-41-4	
Toluene	ND	ug/kg	28.5	1	06/24/10 17:00	06/25/10 06:05	108-88-3	
Xylene (Total)	ND	ug/kg	85.5	1	06/24/10 17:00	06/25/10 06:05	1330-20-7	
m&p-Xylene	ND	ug/kg	57.0	1	06/24/10 17:00	06/25/10 06:05	179601-23-1	
o-Xylene	ND	ug/kg	28.5	1	06/24/10 17:00	06/25/10 06:05	95-47-6	
Dibromofluoromethane (S)	87	%	60-140	1	06/24/10 17:00	06/25/10 06:05	1868-53-7	
Toluene-d8 (S)	102	%	60-140	1	06/24/10 17:00	06/25/10 06:05	2037-26-5	
4-Bromofluorobenzene (S)	101	%	60-140	1	06/24/10 17:00	06/25/10 06:05	460-00-4	
1,2-Dichloroethane-d4 (S)	98	%	60-140	1	06/24/10 17:00	06/25/10 06:05	17060-07-0	
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**6.6**	%	0.10	1		06/27/10 19:31		

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ANALYTICAL RESULTS

Project: BNSF Wishram
Pace Project No.: 254036

Sample: WR-S1-3 **Lab ID: 254036002** Collected: 06/22/10 12:45 Received: 06/24/10 09:00 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
NWTPH-Dx GCS SG	Analytical Method: NWTPH-Dx Preparation Method: EPA 3546							
Diesel Range SG	ND	mg/kg	20.9	1	06/26/10 17:35	06/28/10 06:41		
Motor Oil Range SG	ND	mg/kg	83.4	1	06/26/10 17:35	06/28/10 06:41	64742-65-0	
n-Octacosane (S) SG	112	%	50-150	1	06/26/10 17:35	06/28/10 06:41	630-02-4	
o-Terphenyl (S) SG	106	%	50-150	1	06/26/10 17:35	06/28/10 06:41	84-15-1	
NWTPH-Gx GCV	Analytical Method: NWTPH-Gx Preparation Method: NWTPH-Gx							
Gasoline Range Organics	ND	mg/kg	5.7	1	06/27/10 10:00	06/28/10 04:38		
a,a,a-Trifluorotoluene (S)	110	%	50-150	1	06/27/10 10:00	06/28/10 04:38	98-08-8	
4-Bromofluorobenzene (S)	92	%	50-150	1	06/27/10 10:00	06/28/10 04:38	460-00-4	
8260 MSV Medium LL	Analytical Method: EPA 8260 Preparation Method: EPA 5035A/5030B							
Benzene	ND	ug/kg	23.0	1	06/24/10 17:00	06/25/10 06:29	71-43-2	
Ethylbenzene	ND	ug/kg	28.7	1	06/24/10 17:00	06/25/10 06:29	100-41-4	
Toluene	ND	ug/kg	28.7	1	06/24/10 17:00	06/25/10 06:29	108-88-3	
Xylene (Total)	ND	ug/kg	86.1	1	06/24/10 17:00	06/25/10 06:29	1330-20-7	
m&p-Xylene	ND	ug/kg	57.4	1	06/24/10 17:00	06/25/10 06:29	179601-23-1	
o-Xylene	ND	ug/kg	28.7	1	06/24/10 17:00	06/25/10 06:29	95-47-6	
Dibromofluoromethane (S)	86	%	60-140	1	06/24/10 17:00	06/25/10 06:29	1868-53-7	
Toluene-d8 (S)	101	%	60-140	1	06/24/10 17:00	06/25/10 06:29	2037-26-5	
4-Bromofluorobenzene (S)	102	%	60-140	1	06/24/10 17:00	06/25/10 06:29	460-00-4	
1,2-Dichloroethane-d4 (S)	99	%	60-140	1	06/24/10 17:00	06/25/10 06:29	17060-07-0	
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**9.0**	%	0.10	1		06/27/10 19:32		

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ANALYTICAL RESULTS

Project: BNSF Wishram
Pace Project No.: 254036

Sample: WR-S2-3 **Lab ID: 254036003** Collected: 06/22/10 13:50 Received: 06/24/10 09:00 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
NWTPH-Dx GCS SG	Analytical Method: NWTPH-Dx Preparation Method: EPA 3546							
Diesel Range SG	ND	mg/kg	21.2	1	06/26/10 17:35	06/28/10 07:30		
Motor Oil Range SG	ND	mg/kg	84.7	1	06/26/10 17:35	06/28/10 07:30	64742-65-0	
n-Octacosane (S) SG	114	%	50-150	1	06/26/10 17:35	06/28/10 07:30	630-02-4	
o-Terphenyl (S) SG	106	%	50-150	1	06/26/10 17:35	06/28/10 07:30	84-15-1	
NWTPH-Gx GCV	Analytical Method: NWTPH-Gx Preparation Method: NWTPH-Gx							
Gasoline Range Organics	ND	mg/kg	5.8	1	06/27/10 10:00	06/28/10 05:01		
a,a,a-Trifluorotoluene (S)	98	%	50-150	1	06/27/10 10:00	06/28/10 05:01	98-08-8	
4-Bromofluorobenzene (S)	87	%	50-150	1	06/27/10 10:00	06/28/10 05:01	460-00-4	
8260 MSV Medium LL	Analytical Method: EPA 8260 Preparation Method: EPA 5035A/5030B							
Benzene	ND	ug/kg	23.0	1	06/24/10 17:00	06/25/10 06:53	71-43-2	
Ethylbenzene	ND	ug/kg	28.8	1	06/24/10 17:00	06/25/10 06:53	100-41-4	
Toluene	ND	ug/kg	28.8	1	06/24/10 17:00	06/25/10 06:53	108-88-3	
Xylene (Total)	ND	ug/kg	86.3	1	06/24/10 17:00	06/25/10 06:53	1330-20-7	
m&p-Xylene	ND	ug/kg	57.5	1	06/24/10 17:00	06/25/10 06:53	179601-23-1	
o-Xylene	ND	ug/kg	28.8	1	06/24/10 17:00	06/25/10 06:53	95-47-6	
Dibromofluoromethane (S)	87	%	60-140	1	06/24/10 17:00	06/25/10 06:53	1868-53-7	
Toluene-d8 (S)	101	%	60-140	1	06/24/10 17:00	06/25/10 06:53	2037-26-5	
4-Bromofluorobenzene (S)	102	%	60-140	1	06/24/10 17:00	06/25/10 06:53	460-00-4	
1,2-Dichloroethane-d4 (S)	100	%	60-140	1	06/24/10 17:00	06/25/10 06:53	17060-07-0	
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**8.9**	%	0.10	1		06/27/10 19:33		

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ANALYTICAL RESULTS

Project: BNSF Wishram
Pace Project No.: 254036

Sample: WR-S3-3 **Lab ID: 254036004** Collected: 06/23/10 08:40 Received: 06/24/10 09:00 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
NWTPH-Dx GCS SG	Analytical Method: NWTPH-Dx Preparation Method: EPA 3546							
Diesel Range SG	ND	mg/kg	20.1	1	06/26/10 17:35	06/28/10 07:46		
Motor Oil Range SG	ND	mg/kg	80.6	1	06/26/10 17:35	06/28/10 07:46	64742-65-0	
n-Octacosane (S) SG	112	%	50-150	1	06/26/10 17:35	06/28/10 07:46	630-02-4	
o-Terphenyl (S) SG	105	%	50-150	1	06/26/10 17:35	06/28/10 07:46	84-15-1	
NWTPH-Gx GCV	Analytical Method: NWTPH-Gx Preparation Method: NWTPH-Gx							
Gasoline Range Organics	ND	mg/kg	6.1	1	06/27/10 10:00	06/28/10 05:49		
a,a,a-Trifluorotoluene (S)	93	%	50-150	1	06/27/10 10:00	06/28/10 05:49	98-08-8	
4-Bromofluorobenzene (S)	86	%	50-150	1	06/27/10 10:00	06/28/10 05:49	460-00-4	
8260 MSV Medium LL	Analytical Method: EPA 8260 Preparation Method: EPA 5035A/5030B							
Benzene	ND	ug/kg	24.5	1	06/24/10 17:00	06/25/10 07:17	71-43-2	
Ethylbenzene	ND	ug/kg	30.6	1	06/24/10 17:00	06/25/10 07:17	100-41-4	
Toluene	ND	ug/kg	30.6	1	06/24/10 17:00	06/25/10 07:17	108-88-3	
Xylene (Total)	ND	ug/kg	91.7	1	06/24/10 17:00	06/25/10 07:17	1330-20-7	
m&p-Xylene	ND	ug/kg	61.1	1	06/24/10 17:00	06/25/10 07:17	179601-23-1	
o-Xylene	ND	ug/kg	30.6	1	06/24/10 17:00	06/25/10 07:17	95-47-6	
Dibromofluoromethane (S)	86	%	60-140	1	06/24/10 17:00	06/25/10 07:17	1868-53-7	
Toluene-d8 (S)	100	%	60-140	1	06/24/10 17:00	06/25/10 07:17	2037-26-5	
4-Bromofluorobenzene (S)	104	%	60-140	1	06/24/10 17:00	06/25/10 07:17	460-00-4	
1,2-Dichloroethane-d4 (S)	100	%	60-140	1	06/24/10 17:00	06/25/10 07:17	17060-07-0	
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	7.7	%	0.10	1		06/27/10 19:34		

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ANALYTICAL RESULTS

Project: BNSF Wishram
Pace Project No.: 254036

Sample: WR-S4-3 **Lab ID: 254036005** Collected: 06/23/10 09:00 Received: 06/24/10 09:00 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
NWTPH-Dx GCS SG	Analytical Method: NWTPH-Dx Preparation Method: EPA 3546							
Diesel Range SG	ND	mg/kg	22.1	1	06/26/10 17:35	06/28/10 08:02		
Motor Oil Range SG	ND	mg/kg	88.4	1	06/26/10 17:35	06/28/10 08:02	64742-65-0	
n-Octacosane (S) SG	111	%	50-150	1	06/26/10 17:35	06/28/10 08:02	630-02-4	
o-Terphenyl (S) SG	107	%	50-150	1	06/26/10 17:35	06/28/10 08:02	84-15-1	
NWTPH-Gx GCV	Analytical Method: NWTPH-Gx Preparation Method: NWTPH-Gx							
Gasoline Range Organics	ND	mg/kg	6.7	1	06/27/10 10:00	06/28/10 06:13		
a,a,a-Trifluorotoluene (S)	100	%	50-150	1	06/27/10 10:00	06/28/10 06:13	98-08-8	
4-Bromofluorobenzene (S)	88	%	50-150	1	06/27/10 10:00	06/28/10 06:13	460-00-4	
8260 MSV Medium LL	Analytical Method: EPA 8260 Preparation Method: EPA 5035A/5030B							
Benzene	ND	ug/kg	26.7	1	06/24/10 17:00	06/25/10 07:41	71-43-2	
Ethylbenzene	ND	ug/kg	33.4	1	06/24/10 17:00	06/25/10 07:41	100-41-4	
Toluene	ND	ug/kg	33.4	1	06/24/10 17:00	06/25/10 07:41	108-88-3	
Xylene (Total)	ND	ug/kg	100	1	06/24/10 17:00	06/25/10 07:41	1330-20-7	
m&p-Xylene	ND	ug/kg	66.7	1	06/24/10 17:00	06/25/10 07:41	179601-23-1	
o-Xylene	ND	ug/kg	33.4	1	06/24/10 17:00	06/25/10 07:41	95-47-6	
Dibromofluoromethane (S)	87	%	60-140	1	06/24/10 17:00	06/25/10 07:41	1868-53-7	
Toluene-d8 (S)	100	%	60-140	1	06/24/10 17:00	06/25/10 07:41	2037-26-5	
4-Bromofluorobenzene (S)	101	%	60-140	1	06/24/10 17:00	06/25/10 07:41	460-00-4	
1,2-Dichloroethane-d4 (S)	100	%	60-140	1	06/24/10 17:00	06/25/10 07:41	17060-07-0	
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**12.6**	%	0.10	1		06/27/10 19:35		

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ANALYTICAL RESULTS

Project: BNSF Wishram
Pace Project No.: 254036

Sample: WR-S5-4 **Lab ID: 254036006** Collected: 06/23/10 10:10 Received: 06/24/10 09:00 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
NWTPH-Dx GCS SG	Analytical Method: NWTPH-Dx Preparation Method: EPA 3546							
Diesel Range SG	ND	mg/kg	20.2	1	06/26/10 17:35	06/28/10 08:19		
Motor Oil Range SG	ND	mg/kg	80.8	1	06/26/10 17:35	06/28/10 08:19	64742-65-0	
n-Octacosane (S) SG	110	%	50-150	1	06/26/10 17:35	06/28/10 08:19	630-02-4	
o-Terphenyl (S) SG	106	%	50-150	1	06/26/10 17:35	06/28/10 08:19	84-15-1	
NWTPH-Gx GCV	Analytical Method: NWTPH-Gx Preparation Method: NWTPH-Gx							
Gasoline Range Organics	ND	mg/kg	5.2	1	06/27/10 10:00	06/28/10 07:00		
a,a,a-Trifluorotoluene (S)	100	%	50-150	1	06/27/10 10:00	06/28/10 07:00	98-08-8	
4-Bromofluorobenzene (S)	86	%	50-150	1	06/27/10 10:00	06/28/10 07:00	460-00-4	
8260 MSV Medium LL	Analytical Method: EPA 8260 Preparation Method: EPA 5035A/5030B							
Benzene	ND	ug/kg	20.7	1	06/24/10 17:00	06/25/10 08:05	71-43-2	
Ethylbenzene	ND	ug/kg	25.9	1	06/24/10 17:00	06/25/10 08:05	100-41-4	
Toluene	ND	ug/kg	25.9	1	06/24/10 17:00	06/25/10 08:05	108-88-3	
Xylene (Total)	ND	ug/kg	77.7	1	06/24/10 17:00	06/25/10 08:05	1330-20-7	
m&p-Xylene	ND	ug/kg	51.8	1	06/24/10 17:00	06/25/10 08:05	179601-23-1	
o-Xylene	ND	ug/kg	25.9	1	06/24/10 17:00	06/25/10 08:05	95-47-6	
Dibromofluoromethane (S)	87	%	60-140	1	06/24/10 17:00	06/25/10 08:05	1868-53-7	
Toluene-d8 (S)	101	%	60-140	1	06/24/10 17:00	06/25/10 08:05	2037-26-5	
4-Bromofluorobenzene (S)	101	%	60-140	1	06/24/10 17:00	06/25/10 08:05	460-00-4	
1,2-Dichloroethane-d4 (S)	101	%	60-140	1	06/24/10 17:00	06/25/10 08:05	17060-07-0	
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**5.7**	%	0.10	1		06/27/10 19:37		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BNSF Wishram
Pace Project No.: 254036

Sample: WR-S6-4 **Lab ID: 254036007** Collected: 06/23/10 10:30 Received: 06/24/10 09:00 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
NWTPH-Dx GCS SG	Analytical Method: NWTPH-Dx Preparation Method: EPA 3546							
Diesel Range SG	ND	mg/kg	20.3	1	06/26/10 17:35	06/28/10 08:35		
Motor Oil Range SG	ND	mg/kg	81.1	1	06/26/10 17:35	06/28/10 08:35	64742-65-0	
n-Octacosane (S) SG	111	%	50-150	1	06/26/10 17:35	06/28/10 08:35	630-02-4	
o-Terphenyl (S) SG	108	%	50-150	1	06/26/10 17:35	06/28/10 08:35	84-15-1	
NWTPH-Gx GCV	Analytical Method: NWTPH-Gx Preparation Method: NWTPH-Gx							
Gasoline Range Organics	ND	mg/kg	6.0	1	06/27/10 10:00	06/28/10 07:23		
a,a,a-Trifluorotoluene (S)	101	%	50-150	1	06/27/10 10:00	06/28/10 07:23	98-08-8	
4-Bromofluorobenzene (S)	88	%	50-150	1	06/27/10 10:00	06/28/10 07:23	460-00-4	
8260 MSV Medium LL	Analytical Method: EPA 8260 Preparation Method: EPA 5035A/5030B							
Benzene	ND	ug/kg	24.1	1	06/24/10 17:00	06/25/10 08:29	71-43-2	
Ethylbenzene	ND	ug/kg	30.2	1	06/24/10 17:00	06/25/10 08:29	100-41-4	
Toluene	ND	ug/kg	30.2	1	06/24/10 17:00	06/25/10 08:29	108-88-3	
Xylene (Total)	ND	ug/kg	90.5	1	06/24/10 17:00	06/25/10 08:29	1330-20-7	
m&p-Xylene	ND	ug/kg	60.4	1	06/24/10 17:00	06/25/10 08:29	179601-23-1	
o-Xylene	ND	ug/kg	30.2	1	06/24/10 17:00	06/25/10 08:29	95-47-6	
Dibromofluoromethane (S)	84	%	60-140	1	06/24/10 17:00	06/25/10 08:29	1868-53-7	
Toluene-d8 (S)	100	%	60-140	1	06/24/10 17:00	06/25/10 08:29	2037-26-5	
4-Bromofluorobenzene (S)	104	%	60-140	1	06/24/10 17:00	06/25/10 08:29	460-00-4	
1,2-Dichloroethane-d4 (S)	99	%	60-140	1	06/24/10 17:00	06/25/10 08:29	17060-07-0	
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**5.4**	%	0.10	1		06/27/10 19:38		

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ANALYTICAL RESULTS

Project: BNSF Wishram
Pace Project No.: 254036

Sample: WR-B2-6 **Lab ID: 254036008** Collected: 06/23/10 11:00 Received: 06/24/10 09:00 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
NWTPH-Dx GCS SG	Analytical Method: NWTPH-Dx Preparation Method: EPA 3546							
Diesel Range SG	ND	mg/kg	20.1	1	06/26/10 17:35	06/28/10 08:51		
Motor Oil Range SG	ND	mg/kg	80.4	1	06/26/10 17:35	06/28/10 08:51	64742-65-0	
n-Octacosane (S) SG	113	%	50-150	1	06/26/10 17:35	06/28/10 08:51	630-02-4	
o-Terphenyl (S) SG	108	%	50-150	1	06/26/10 17:35	06/28/10 08:51	84-15-1	
NWTPH-Gx GCV	Analytical Method: NWTPH-Gx Preparation Method: NWTPH-Gx							
Gasoline Range Organics	ND	mg/kg	5.5	1	06/27/10 10:00	06/28/10 07:46		
a,a,a-Trifluorotoluene (S)	101	%	50-150	1	06/27/10 10:00	06/28/10 07:46	98-08-8	
4-Bromofluorobenzene (S)	87	%	50-150	1	06/27/10 10:00	06/28/10 07:46	460-00-4	
8260 MSV Medium LL	Analytical Method: EPA 8260 Preparation Method: EPA 5035A/5030B							
Benzene	ND	ug/kg	22.0	1	06/24/10 17:00	06/25/10 08:53	71-43-2	
Ethylbenzene	ND	ug/kg	27.5	1	06/24/10 17:00	06/25/10 08:53	100-41-4	
Toluene	ND	ug/kg	27.5	1	06/24/10 17:00	06/25/10 08:53	108-88-3	
Xylene (Total)	ND	ug/kg	82.6	1	06/24/10 17:00	06/25/10 08:53	1330-20-7	
m&p-Xylene	ND	ug/kg	55.1	1	06/24/10 17:00	06/25/10 08:53	179601-23-1	
o-Xylene	ND	ug/kg	27.5	1	06/24/10 17:00	06/25/10 08:53	95-47-6	
Dibromofluoromethane (S)	86	%	60-140	1	06/24/10 17:00	06/25/10 08:53	1868-53-7	
Toluene-d8 (S)	100	%	60-140	1	06/24/10 17:00	06/25/10 08:53	2037-26-5	
4-Bromofluorobenzene (S)	104	%	60-140	1	06/24/10 17:00	06/25/10 08:53	460-00-4	
1,2-Dichloroethane-d4 (S)	99	%	60-140	1	06/24/10 17:00	06/25/10 08:53	17060-07-0	
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**4.6**	%	0.10	1		06/27/10 19:39		

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ANALYTICAL RESULTS

Project: BNSF Wishram
Pace Project No.: 254036

Sample: Trip **Lab ID: 254036009** Collected: 06/22/10 00:00 Received: 06/24/10 09:00 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
NWTPH-Gx GCV	Analytical Method: NWTPH-Gx Preparation Method: NWTPH-Gx							
Gasoline Range Organics	ND	mg/kg	5.0	1	06/27/10 10:00	06/28/10 00:18		
a,a,a-Trifluorotoluene (S)	107	%	50-150	1	06/27/10 10:00	06/28/10 00:18	98-08-8	
4-Bromofluorobenzene (S)	93	%	50-150	1	06/27/10 10:00	06/28/10 00:18	460-00-4	
8260 MSV Medium LL	Analytical Method: EPA 8260 Preparation Method: EPA 5035A/5030B							
Benzene	ND	ug/kg	20.0	1	06/24/10 17:00	06/25/10 02:04	71-43-2	
Ethylbenzene	ND	ug/kg	25.0	1	06/24/10 17:00	06/25/10 02:04	100-41-4	
Toluene	ND	ug/kg	25.0	1	06/24/10 17:00	06/25/10 02:04	108-88-3	
Xylene (Total)	ND	ug/kg	75.0	1	06/24/10 17:00	06/25/10 02:04	1330-20-7	
m&p-Xylene	ND	ug/kg	50.0	1	06/24/10 17:00	06/25/10 02:04	179601-23-1	
o-Xylene	ND	ug/kg	25.0	1	06/24/10 17:00	06/25/10 02:04	95-47-6	
Dibromofluoromethane (S)	93	%	60-140	1	06/24/10 17:00	06/25/10 02:04	1868-53-7	
Toluene-d8 (S)	100	%	60-140	1	06/24/10 17:00	06/25/10 02:04	2037-26-5	
4-Bromofluorobenzene (S)	99	%	60-140	1	06/24/10 17:00	06/25/10 02:04	460-00-4	
1,2-Dichloroethane-d4 (S)	100	%	60-140	1	06/24/10 17:00	06/25/10 02:04	17060-07-0	

Pace Analytical Services, Inc.
940 South Harney
Seattle, WA 98108
(206)767-5060

QUALITY CONTROL DATA

Project: BNSF Wishram
Pace Project No.: 254036

QC Batch: OEXT/2317 Analysis Method: NWTPH-Dx
QC Batch Method: EPA 3546 Analysis Description: NWTPH-Dx GCS
Associated Lab Samples: 254036001, 254036002, 254036003, 254036004, 254036005, 254036006, 254036007, 254036008

METHOD BLANK: 31489 Matrix: Solid
Associated Lab Samples: 254036001, 254036002, 254036003, 254036004, 254036005, 254036006, 254036007, 254036008

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Diesel Range SG	mg/kg	ND	20.0	06/28/10 04:32	
Motor Oil Range SG	mg/kg	ND	80.0	06/28/10 04:32	
n-Octacosane (S) SG	%	111	50-150	06/28/10 04:32	
o-Terphenyl (S) SG	%	107	50-150	06/28/10 04:32	

LABORATORY CONTROL SAMPLE: 31490

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Diesel Range SG	mg/kg	500	505	101	56-124	
Motor Oil Range SG	mg/kg	500	505	101	50-150	
n-Octacosane (S) SG	%			115	50-150	
o-Terphenyl (S) SG	%			120	50-150	

SAMPLE DUPLICATE: 31491

Parameter	Units	253993038 Result	Dup Result	RPD	Qualifiers
Diesel Range SG	mg/kg	325	328	.8	
Motor Oil Range SG	mg/kg	ND	ND		
n-Octacosane (S) SG	%	111	111	1	
o-Terphenyl (S) SG	%	103	101	2	

SAMPLE DUPLICATE: 31492

Parameter	Units	254036008 Result	Dup Result	RPD	Qualifiers
Diesel Range SG	mg/kg	ND	ND		
Motor Oil Range SG	mg/kg	ND	ND		
n-Octacosane (S) SG	%	113	113	4	
o-Terphenyl (S) SG	%	108	109	3	

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QUALITY CONTROL DATA

Project: BNSF Wishram
Pace Project No.: 254036

QC Batch: GCV/1619 Analysis Method: NWTPH-Gx
QC Batch Method: NWTPH-Gx Analysis Description: NWTPH-Gx Solid GCV
Associated Lab Samples: 254036001, 254036002, 254036003, 254036004, 254036005, 254036006, 254036007, 254036008, 254036009

METHOD BLANK: 31502 Matrix: Solid
Associated Lab Samples: 254036001, 254036002, 254036003, 254036004, 254036005, 254036006, 254036007, 254036008, 254036009

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Gasoline Range Organics	mg/kg	ND	5.0	06/27/10 23:30	
4-Bromofluorobenzene (S)	%	93	50-150	06/27/10 23:30	
a,a,a-Trifluorotoluene (S)	%	104	50-150	06/27/10 23:30	

LABORATORY CONTROL SAMPLE: 31503

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Gasoline Range Organics	mg/kg	12.5	11.9	95	54-156	
4-Bromofluorobenzene (S)	%			86	50-150	
a,a,a-Trifluorotoluene (S)	%			96	50-150	

SAMPLE DUPLICATE: 31697

Parameter	Units	254017012 Result	Dup Result	RPD	Qualifiers
Gasoline Range Organics	mg/kg	ND	.79J		1n
4-Bromofluorobenzene (S)	%	90	84	7	
a,a,a-Trifluorotoluene (S)	%	103	100	3	

SAMPLE DUPLICATE: 31698

Parameter	Units	254036005 Result	Dup Result	RPD	Qualifiers
Gasoline Range Organics	mg/kg	ND	1.7J		
4-Bromofluorobenzene (S)	%	88	92	4	
a,a,a-Trifluorotoluene (S)	%	100	105	5	

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QUALITY CONTROL DATA

Project: BNSF Wishram
Pace Project No.: 254036

QC Batch: MSV/2535 Analysis Method: EPA 8260
QC Batch Method: EPA 5035A/5030B Analysis Description: 8260 MSV Medium LL Soil
Associated Lab Samples: 254036001, 254036002, 254036003, 254036004, 254036005, 254036006, 254036007, 254036008, 254036009

METHOD BLANK: 31158 Matrix: Solid
Associated Lab Samples: 254036001, 254036002, 254036003, 254036004, 254036005, 254036006, 254036007, 254036008, 254036009

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/kg	ND	20.0	06/25/10 01:15	
Ethylbenzene	ug/kg	ND	25.0	06/25/10 01:15	
m&p-Xylene	ug/kg	ND	50.0	06/25/10 01:15	
o-Xylene	ug/kg	ND	25.0	06/25/10 01:15	
Toluene	ug/kg	ND	25.0	06/25/10 01:15	
Xylene (Total)	ug/kg	ND	75.0	06/25/10 01:15	
1,2-Dichloroethane-d4 (S)	%	100	60-140	06/25/10 01:15	
4-Bromofluorobenzene (S)	%	100	60-140	06/25/10 01:15	
Dibromofluoromethane (S)	%	93	60-140	06/25/10 01:15	
Toluene-d8 (S)	%	100	60-140	06/25/10 01:15	

LABORATORY CONTROL SAMPLE & LCSD: 31159 31160

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Benzene	ug/kg	1000	957	986	96	99	79-127	3	30	
Ethylbenzene	ug/kg	1000	984	1010	98	101	77-126	3	30	
m&p-Xylene	ug/kg	2000	1960	2030	98	102	78-120	3	30	
o-Xylene	ug/kg	1000	920	949	92	95	76-123	3	30	
Toluene	ug/kg	1000	1010	1030	101	103	77-124	2	30	
Xylene (Total)	ug/kg	3000	2880	2980	96	99	77-127	3	30	
1,2-Dichloroethane-d4 (S)	%				94	97	60-140			
4-Bromofluorobenzene (S)	%				106	106	60-140			
Dibromofluoromethane (S)	%				90	90	60-140			
Toluene-d8 (S)	%				101	103	60-140			

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(206)767-5060

QUALITY CONTROL DATA

Project: BNSF Wishram
Pace Project No.: 254036

QC Batch: PMST/1246 Analysis Method: ASTM D2974-87
QC Batch Method: ASTM D2974-87 Analysis Description: Dry Weight/Percent Moisture
Associated Lab Samples: 254036001, 254036002, 254036003, 254036004, 254036005, 254036006, 254036007, 254036008

SAMPLE DUPLICATE: 31287

Parameter	Units	253993044 Result	Dup Result	RPD	Qualifiers
Percent Moisture	%	25.6	27.4	7	

SAMPLE DUPLICATE: 31288

Parameter	Units	254036005 Result	Dup Result	RPD	Qualifiers
Percent Moisture	%	12.6	12.4	1	

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940 South Harney
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(206)767-5060

QUALIFIERS

Project: BNSF Wishram
Pace Project No.: 254036

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is NELAP accredited. Contact your Pace PM for the current list of accredited analytes.

LABORATORIES

PASI-S Pace Analytical Services - Seattle

ANALYTE QUALIFIERS

1n Sample weight exceeded method recommendation.

Pace Analytical Services, Inc.
940 South Harney
Seattle, WA 98108
(206)767-5060

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BNSF Wishram
Pace Project No.: 254036

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
254036001	WR-B1-5	EPA 3546	OEXT/2317	NWTPH-Dx	GCSV/1687
254036002	WR-S1-3	EPA 3546	OEXT/2317	NWTPH-Dx	GCSV/1687
254036003	WR-S2-3	EPA 3546	OEXT/2317	NWTPH-Dx	GCSV/1687
254036004	WR-S3-3	EPA 3546	OEXT/2317	NWTPH-Dx	GCSV/1687
254036005	WR-S4-3	EPA 3546	OEXT/2317	NWTPH-Dx	GCSV/1687
254036006	WR-S5-4	EPA 3546	OEXT/2317	NWTPH-Dx	GCSV/1687
254036007	WR-S6-4	EPA 3546	OEXT/2317	NWTPH-Dx	GCSV/1687
254036008	WR-B2-6	EPA 3546	OEXT/2317	NWTPH-Dx	GCSV/1687
254036001	WR-B1-5	NWTPH-Gx	GCV/1619	NWTPH-Gx	GCV/1629
254036002	WR-S1-3	NWTPH-Gx	GCV/1619	NWTPH-Gx	GCV/1629
254036003	WR-S2-3	NWTPH-Gx	GCV/1619	NWTPH-Gx	GCV/1629
254036004	WR-S3-3	NWTPH-Gx	GCV/1619	NWTPH-Gx	GCV/1629
254036005	WR-S4-3	NWTPH-Gx	GCV/1619	NWTPH-Gx	GCV/1629
254036006	WR-S5-4	NWTPH-Gx	GCV/1619	NWTPH-Gx	GCV/1629
254036007	WR-S6-4	NWTPH-Gx	GCV/1619	NWTPH-Gx	GCV/1629
254036008	WR-B2-6	NWTPH-Gx	GCV/1619	NWTPH-Gx	GCV/1629
254036009	Trip	NWTPH-Gx	GCV/1619	NWTPH-Gx	GCV/1629
254036001	WR-B1-5	EPA 5035A/5030B	MSV/2535	EPA 8260	MSV/2550
254036002	WR-S1-3	EPA 5035A/5030B	MSV/2535	EPA 8260	MSV/2550
254036003	WR-S2-3	EPA 5035A/5030B	MSV/2535	EPA 8260	MSV/2550
254036004	WR-S3-3	EPA 5035A/5030B	MSV/2535	EPA 8260	MSV/2550
254036005	WR-S4-3	EPA 5035A/5030B	MSV/2535	EPA 8260	MSV/2550
254036006	WR-S5-4	EPA 5035A/5030B	MSV/2535	EPA 8260	MSV/2550
254036007	WR-S6-4	EPA 5035A/5030B	MSV/2535	EPA 8260	MSV/2550
254036008	WR-B2-6	EPA 5035A/5030B	MSV/2535	EPA 8260	MSV/2550
254036009	Trip	EPA 5035A/5030B	MSV/2535	EPA 8260	MSV/2550
254036001	WR-B1-5	ASTM D2974-87	PMST/1246		
254036002	WR-S1-3	ASTM D2974-87	PMST/1246		
254036003	WR-S2-3	ASTM D2974-87	PMST/1246		
254036004	WR-S3-3	ASTM D2974-87	PMST/1246		
254036005	WR-S4-3	ASTM D2974-87	PMST/1246		
254036006	WR-S5-4	ASTM D2974-87	PMST/1246		
254036007	WR-S6-4	ASTM D2974-87	PMST/1246		
254036008	WR-B2-6	ASTM D2974-87	PMST/1246		

Sample Condition Upon Receipt

Pace Analytical

Client Name: Kennedy/Jenks

Project # 254036

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace Other _____

Optional: Proj. Due Date: Proj. Name:

Tracking #: 8726 5346 7105

Custody Seal on Cooler/Box Present: ☒ yes ☐ no Seals intact: ☒ yes ☐ no

Packing Material: ☐ Bubble Wrap ☒ Bubble Bags ☐ None ☐ Other _____

Thermometer Used: Horiba 132013 Type of Ice: (Wet) Blue None ☐ Samples on ice, cooling process has begun

Cooler Temperature: 4.0 Biological Tissue Is Frozen: Yes No

Temp should be above freezing to 6°C Comments:

Date and Initials of person examining contents: 6/24/10 MP

Chain of Custody Present:	☒Yes ☐No ☐N/A	1.
Chain of Custody Filled Out:	☒Yes ☐No ☐N/A	2.
Chain of Custody Relinquished:	☒Yes ☐No ☐N/A	3.
Sampler Name & Signature on COC:	☒Yes ☐No ☐N/A	4.
Samples Arrived within Hold Time:	☒Yes ☐No ☐N/A	5.
Short Hold Time Analysis (<72hr):	☐Yes ☒No ☐N/A	6.
Rush Turn Around Time Requested:	☐Yes ☒No ☐N/A	7.
Sufficient Volume:	☒Yes ☐No ☐N/A	8.
Correct Containers Used:	☒Yes ☐No ☐N/A	9.
-Pace Containers Used:	☒Yes ☐No ☐N/A	
Containers Intact:	☒Yes ☐No ☐N/A	10.
Filtered volume received for Dissolved tests	☐Yes ☐No ☒N/A	11.
Sample Labels match COC:	☒Yes ☐No ☐N/A	12.
-Includes date/time/ID/Analysis Matrix: SL		
All containers needing preservation have been checked.	☐Yes ☐No ☒N/A	13.
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes ☐No ☒N/A	Initial when completed / Lot # of added preservative
exceptions: (VOA), coliform, TOC, O&G, WI-DRO (water)	☒Yes ☐No	
Samples checked for dechlorination:	☐Yes ☐No ☒N/A	14.
Headspace in VOA Vials (>6mm):	☐Yes ☐No ☒N/A	15.
Trip Blank Present:	☒Yes ☐No ☐N/A	16.
Trip Blank Custody Seals Present	☐Yes ☐No ☒N/A	
Pace Trip Blank Lot # (if purchased):		

Field Data Required? Y / N

Client Notification/ Resolution:

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: 06-24-10 @ 11:26 Date: _____

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)

Pace Analytical
www.pacelabs.com

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

254036

Section A Required Client Information:	Section B Required Project Information:	Section C Invoice Information:	Page: of
Company: Kennedy/Jenks	Report To: GALEN C. DAVIS (K/J)	Attention: MARK ENGDAHL	1338217
Address: 32001 32nd Ave S, Ste 100 Federal Way WA 98001	Copy To:	Company Name: BNSF RAILWAY CO.	REGULATORY AGENCY
		Address:	☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
Email To: galendavis@kennedyjenks.com	Purchase Order No.: TT9156-K03	Pace Quote Reference:	☐ UST ☐ RCRA ☐ OTHER NA
Phone: 253 835 6400 Fax: 253 952 3435	Project Name: BNSF WISHRAM	Pace Project Manager: L. DOMENGHINI	Site Location STATE: WA
Requested Due Date/TAT: Std	Project Number:	Pace Profile #:	

ITEM #	Section D Required Client Information — SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE	Matrix Codes MATRIX / CODE: Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Tissue TS; Other OT	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED: COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Requested Analysis Filtered (Y/N) Y/N	Analysis Test: NW-TPHDx w/Silica Gel	NW-TPH G/BTEX	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	WR-B1-5			G	6/22/10	1150				4	2						2		Y	X	X	
2	WR-S1-3			G		1245				4	2						2			X	X	
3	WR-S2-3			G		1350				4	2						2			X	X	
4	WR-S3-3			G	6/23/10	840				4	2						2			X	X	
5	WR-S4-3			G		900				4	2						2			X	X	
6	WR-S5-4			G		1010				4	2						2			X	X	
7	WR-S6-4			G		1030				4	2						2			X	X	
8	BWR-B2-6			G		1100				4	2						2			X	X	
9	Trip										2										X	
10																						
11																						
12																						

Slipped via FedEX

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS: Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
	KJC	6/23/10	1130	Pace	6/24/10	0900	4.0	Y	Y	Y

ORIGINAL

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Dean Malte (KJC)

SIGNATURE of SAMPLER:

DATE Signed (MM/DD/YY): 6/23/10

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

F-ALL-Q-020rev.07, 15-May-2007

Sample Container Count

Pace Analytical

CLIENT: Kennedy / Jenks 254036

COC PAGE 1 of 1
COC ID# 1338217

Sample Line Item	VG9H	AG1H	AG1U	BG1H	BP1U	BP2U	BP3U	BP2N	BP2S	WGFU	WGKU	DG9M			Comments
1										2		2			
2															
3															
4															
5															
6															
7															
8															Trip Blank
9															
10															
11															Trip Blank? Yes
12															

AG1H	1 liter HCL amber glass	BP2S	500mL H2SO4 plastic	JGFU	4oz unpreserved amber wide
AG1U	1liter unpreserved amber glass	BP2U	500mL unpreserved plastic	R	terra core kit
AG2S	500mL H2SO4 amber glass	BP2Z	500mL NaOH, Zn Ac	U	Summa Can
AG2U	500mL unpreserved amber glass	BP3C	250mL NaOH plastic	VG9H	40mL HCL clear vial
AG3S	250mL H2SO4 amber glass	BP3N	250mL HNO3 plastic	VG9T	40mL Na Thio. clear vial
BG1H	1 liter HCL clear glass	BP3S	250mL H2SO4 plastic	VG9U	40mL unpreserved clear vial
BG1U	1 liter unpreserved glass	BP3U	250mL unpreserved plastic	VG9W	40mL glass vial preweighted (EPA 5035)
BP1N	1 liter HNO3 plastic	DG9B	40mL Na Bisulfate amber vial	VSG	Headspace septa vial & HCL
BP1S	1 liter H2SO4 plastic	DG9H	40mL HCL amber voa vial	WGFU	4oz clear soil jar
BP1U	1 liter unpreserved plastic	DG9M	40mL MeOH clear vial	WGFX	4oz wide jar w/hexane wipe
BP1Z	1 liter NaOH, Zn, Ac	DG9T	40mL Na Thio amber vial	ZPLC	Ziploc Bag
BP2N	500mL HNO3 plastic	DG9U	40mL unpreserved amber vial		
BP2O	500mL NaOH plastic		Wipe/Swab		

Attachment 4

Backfill Material:

Laboratory Analytical Report and Chain-of Custody Documents

Pace Analytical Services, Inc.
940 South Harney
Seattle, WA 98108
(206)767-5060

June 02, 2010

Galen Davis
BNSF - Kennedy Jenks
32001 32nd Avenue South
Suite 100
Auburn, WA 98001

RE: Project: BNSF Wishram
Pace Project No.: 253745

Dear Galen Davis:
Enclosed are the analytical results for sample(s) received by the laboratory on May 20, 2010. The results relate only to the samples included in this report. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Heidi Geri

heidi.geri@pacelabs.com
Project Manager

Enclosures

Pace Analytical Services, Inc.
940 South Harney
Seattle, WA 98108
(206)767-5060

CERTIFICATIONS

Project: BNSF Wishram
Pace Project No.: 253745

Minnesota Certification IDs

North Carolina Certification #: 530
Arizona Certification #: AZ-0014
California Certification #: 01155CA
Florida/NELAP Certification #: E87605
Illinois Certification #: 200011
Iowa Certification #: 368
Kansas Certification #: E-10167
Louisiana Certification #: 03086
1700 Elm Street SE, Suite 200 Minneapolis, MN 55414
Wisconsin Certification #: 999407970
Washington Certification #: C754
Tennessee Certification #: 02818
Pennsylvania Certification #: 68-00563
Oregon Certification #: MN200001
North Dakota Certification #: R-036
Alaska Certification #: UST-078
New York Certification #: 11647
New Jersey Certification #: MN-002
Montana Certification #: MT CERT0092
Minnesota Certification #: 027-053-137
Michigan DEQ Certification #: 9909
Maine Certification #: 2007029
Louisiana Certification #: LA080009

Washington Certification IDs

Alaska CS Certification #: UST-025
Alaska Drinking Water VOC Certification #: WA01-09
Alaska Drinking Water Micro Certification #: WA01230
California Certification #: 01153CA
Florida/NELAP Certification #: E87617
Oregon Certification #: WA200007
Washington Certification #: C1229
940 South Harney Street Seattle, WA 98108

Pace Analytical Services, Inc.
940 South Harney
Seattle, WA 98108
(206)767-5060

SAMPLE ANALYTE COUNT

Project: BNSF Wishram
Pace Project No.: 253745

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
253745001	**Wishram Backfill**	EPA 8082	ERB	9	PASI-S
		NWTPH-Dx	ERB	4	PASI-S
		NWTPH-Gx	LPM	3	PASI-S
		EPA 6020	RJS	12	PASI-M
		EPA 7471	BGA	1	PASI-S
		EPA 8270 by SIM	ERB	18	PASI-S
		EPA 8260	LNH	10	PASI-S
		ASTM D2974-87	CC	1	PASI-S
253745002	**Trip Blank**	NWTPH-Gx	LPM	3	PASI-S
		EPA 8260	LNH	10	PASI-S

Pace Analytical Services, Inc.
940 South Harney
Seattle, WA 98108
(206)767-5060

PROJECT NARRATIVE

Project: BNSF Wishram
Pace Project No.: 253745

Method: **EPA 8082**
Description: 8082 GCS PCB S
Client: BNSF - Kennedy Jenks
Date: June 02, 2010

General Information:
1 sample was analyzed for EPA 8082. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:
The samples were prepared in accordance with EPA 3546 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Surrogates:
All surrogates were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: BNSF Wishram
Pace Project No.: 253745

Method: **NWTPH-Dx**
Description: NWTPH-Dx GCS SG
Client: BNSF - Kennedy Jenks
Date: June 02, 2010

General Information:
1 sample was analyzed for NWTPH-Dx. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:
The samples were prepared in accordance with EPA 3546 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Surrogates:
All surrogates were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: BNSF Wishram
Pace Project No.: 253745

Method: **NWTPH-Gx**
Description: NWTPH-Gx GCV
Client: BNSF - Kennedy Jenks
Date: June 02, 2010

General Information:
2 samples were analyzed for NWTPH-Gx. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:
The samples were prepared in accordance with NWTPH-Gx with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Internal Standards:
All internal standards were within QC limits with any exceptions noted below.

Surrogates:
All surrogates were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: BNSF Wishram
Pace Project No.: 253745

Method: **EPA 6020**
Description: 6020 MET ICPMS
Client: BNSF - Kennedy Jenks
Date: June 02, 2010

General Information:
1 sample was analyzed for EPA 6020. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

QC Batch: ICPM/20608

CH: The continuing calibration for this compound is outside of Pace Analytical acceptance limits. The results may be biased high.

- BLANK (Lab ID: 795216)
  - Silver
- LCS (Lab ID: 795217)
  - Silver

Internal Standards:
All internal standards were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: ICPM/20608

A matrix spike and matrix spike duplicate (MS/MSD) were performed on the following sample(s): 5037647001

M0: Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.

- MSD (Lab ID: 795219)
  - Arsenic
  - Chromium
  - Nickel
  - Zinc

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: BNSF Wishram
Pace Project No.: 253745

Method: **EPA 7471**
Description: 7471 Mercury
Client: BNSF - Kennedy Jenks
Date: June 02, 2010

General Information:
1 sample was analyzed for EPA 7471. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:
The samples were prepared in accordance with EPA 7471 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: BNSF Wishram
Pace Project No.: 253745

Method: **EPA 8270 by SIM**
Description: 8270 MSSV PAH by SIM
Client: BNSF - Kennedy Jenks
Date: June 02, 2010

General Information:
1 sample was analyzed for EPA 8270 by SIM. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:
The samples were prepared in accordance with EPA 3546 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Internal Standards:
All internal standards were within QC limits with any exceptions noted below.

Surrogates:
All surrogates were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

Analyte Comments:

QC Batch: OEXT/2202

1n: Matrix spike recovery was outside laboratory control limits due to high parent sample concentration.

- MS (Lab ID: 28215)
  - Naphthalene
- MSD (Lab ID: 28216)
  - Naphthalene

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PROJECT NARRATIVE

Project: BNSF Wishram
Pace Project No.: 253745

Method: **EPA 8260**
Description: 8260 MSV Medium LL
Client: BNSF - Kennedy Jenks
Date: June 02, 2010

General Information:
2 samples were analyzed for EPA 8260. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:
The samples were prepared in accordance with EPA 5035A/5030B with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Internal Standards:
All internal standards were within QC limits with any exceptions noted below.

Surrogates:
All surrogates were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

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ANALYTICAL RESULTS

Project: BNSF Wishram
Pace Project No.: 253745

Sample: Wishram Backfill **Lab ID: 253745001** Collected: 05/18/10 15:30 Received: 05/20/10 08:35 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB S	Analytical Method: EPA 8082 Preparation Method: EPA 3546							
PCB-1016 (Aroclor 1016)	ND	ug/kg	17.5	1	05/25/10 09:30	05/26/10 13:57	12674-11-2	
PCB-1221 (Aroclor 1221)	ND	ug/kg	17.5	1	05/25/10 09:30	05/26/10 13:57	11104-28-2	
PCB-1232 (Aroclor 1232)	ND	ug/kg	17.5	1	05/25/10 09:30	05/26/10 13:57	11141-16-5	
PCB-1242 (Aroclor 1242)	ND	ug/kg	17.5	1	05/25/10 09:30	05/26/10 13:57	53469-21-9	
PCB-1248 (Aroclor 1248)	ND	ug/kg	17.5	1	05/25/10 09:30	05/26/10 13:57	12672-29-6	
PCB-1254 (Aroclor 1254)	ND	ug/kg	17.5	1	05/25/10 09:30	05/26/10 13:57	11097-69-1	
PCB-1260 (Aroclor 1260)	ND	ug/kg	17.5	1	05/25/10 09:30	05/26/10 13:57	11096-82-5	
Tetrachloro-m-xylene (S)	96	%	53-120	1	05/25/10 09:30	05/26/10 13:57	877-09-8	
Decachlorobiphenyl (S)	101	%	57-120	1	05/25/10 09:30	05/26/10 13:57	2051-24-3	
NWTPH-Dx GCS SG	Analytical Method: NWTPH-Dx Preparation Method: EPA 3546							
Diesel Range SG	ND	mg/kg	20.6	1	05/20/10 00:00	05/22/10 00:44		
Motor Oil Range SG	ND	mg/kg	82.3	1	05/20/10 00:00	05/22/10 00:44	64742-65-0	
n-Octacosane (S) SG	101	%	50-150	1	05/20/10 00:00	05/22/10 00:44	630-02-4	
o-Terphenyl (S) SG	108	%	50-150	1	05/20/10 00:00	05/22/10 00:44	84-15-1	
NWTPH-Gx GCV	Analytical Method: NWTPH-Gx Preparation Method: NWTPH-Gx							
Gasoline Range Organics	ND	mg/kg	6.0	1	05/24/10 08:00	05/24/10 15:36		
a,a,a-Trifluorotoluene (S)	102	%	50-150	1	05/24/10 08:00	05/24/10 15:36	98-08-8	
4-Bromofluorobenzene (S)	96	%	50-150	1	05/24/10 08:00	05/24/10 15:36	460-00-4	
6020 MET ICPMS	Analytical Method: EPA 6020							
Antimony	ND	mg/kg	0.43	20	05/24/10 18:48	06/01/10 18:06	7440-36-0	
Arsenic	**3.0**	mg/kg	0.43	20	05/24/10 18:48	06/01/10 18:06	7440-38-2	
Beryllium	**0.27**	mg/kg	0.17	20	05/24/10 18:48	06/01/10 18:06	7440-41-7	
Cadmium	ND	mg/kg	0.068	20	05/24/10 18:48	06/01/10 18:06	7440-43-9	
Chromium	**9.0**	mg/kg	0.43	20	05/24/10 18:48	06/01/10 18:06	7440-47-3	
Copper	**11.8**	mg/kg	0.43	20	05/24/10 18:48	06/01/10 18:06	7440-50-8	
Lead	**3.2**	mg/kg	0.43	20	05/24/10 18:48	06/01/10 18:06	7439-92-1	
Nickel	**10.5**	mg/kg	0.43	20	05/24/10 18:48	06/01/10 18:06	7440-02-0	
Selenium	**2.1**	mg/kg	0.43	20	05/24/10 18:48	06/01/10 18:06	7782-49-2	
Silver	ND	mg/kg	0.43	20	05/24/10 18:48	06/01/10 18:06	7440-22-4	
Thallium	**0.12**	mg/kg	0.085	20	05/24/10 18:48	06/01/10 18:06	7440-28-0	
Zinc	**41.9**	mg/kg	4.3	20	05/24/10 18:48	06/01/10 18:06	7440-66-6	
7471 Mercury	Analytical Method: EPA 7471 Preparation Method: EPA 7471							
Mercury	ND	mg/kg	0.048	1	05/24/10 15:09	05/25/10 13:15	7439-97-6	
8270 MSSV PAH by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546							
Acenaphthene	ND	ug/kg	6.7	1	05/20/10 16:00	05/24/10 18:50	83-32-9	
Acenaphthylene	ND	ug/kg	6.7	1	05/20/10 16:00	05/24/10 18:50	208-96-8	
Anthracene	ND	ug/kg	6.7	1	05/20/10 16:00	05/24/10 18:50	120-12-7	
Benzo(a)anthracene	ND	ug/kg	6.7	1	05/20/10 16:00	05/24/10 18:50	56-55-3	
Benzo(a)pyrene	ND	ug/kg	6.7	1	05/20/10 16:00	05/24/10 18:50	50-32-8	
Benzo(b)fluoranthene	ND	ug/kg	6.7	1	05/20/10 16:00	05/24/10 18:50	205-99-2	

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ANALYTICAL RESULTS

Project: BNSF Wishram
Pace Project No.: 253745

Sample: Wishram Backfill **Lab ID: 253745001** Collected: 05/18/10 15:30 Received: 05/20/10 08:35 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV PAH by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546							
Benzo(g,h,i)perylene	ND	ug/kg	6.7	1	05/20/10 16:00	05/24/10 18:50	191-24-2	
Benzo(k)fluoranthene	ND	ug/kg	6.7	1	05/20/10 16:00	05/24/10 18:50	207-08-9	
Chrysene	ND	ug/kg	6.7	1	05/20/10 16:00	05/24/10 18:50	218-01-9	
Dibenz(a,h)anthracene	ND	ug/kg	6.7	1	05/20/10 16:00	05/24/10 18:50	53-70-3	
Fluoranthene	ND	ug/kg	6.7	1	05/20/10 16:00	05/24/10 18:50	206-44-0	
Fluorene	ND	ug/kg	6.7	1	05/20/10 16:00	05/24/10 18:50	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	ug/kg	6.7	1	05/20/10 16:00	05/24/10 18:50	193-39-5	
Naphthalene	ND	ug/kg	6.7	1	05/20/10 16:00	05/24/10 18:50	91-20-3	
Phenanthrene	ND	ug/kg	6.7	1	05/20/10 16:00	05/24/10 18:50	85-01-8	
Pyrene	ND	ug/kg	6.7	1	05/20/10 16:00	05/24/10 18:50	129-00-0	
2-Fluorobiphenyl (S)	75	%	55-136	1	05/20/10 16:00	05/24/10 18:50	321-60-8	
Terphenyl-d14 (S)	84	%	60-144	1	05/20/10 16:00	05/24/10 18:50	1718-51-0	
8260 MSV Medium LL	Analytical Method: EPA 8260 Preparation Method: EPA 5035A/5030B							
Benzene	ND	ug/kg	24.0	1	05/20/10 09:00	05/20/10 16:58	71-43-2	
Ethylbenzene	ND	ug/kg	30.0	1	05/20/10 09:00	05/20/10 16:58	100-41-4	
Toluene	ND	ug/kg	30.0	1	05/20/10 09:00	05/20/10 16:58	108-88-3	
Xylene (Total)	ND	ug/kg	90.0	1	05/20/10 09:00	05/20/10 16:58	1330-20-7	
m&p-Xylene	ND	ug/kg	60.0	1	05/20/10 09:00	05/20/10 16:58	179601-23-1	
o-Xylene	ND	ug/kg	30.0	1	05/20/10 09:00	05/20/10 16:58	95-47-6	
Dibromofluoromethane (S)	97	%	60-140	1	05/20/10 09:00	05/20/10 16:58	1868-53-7	
Toluene-d8 (S)	108	%	60-140	1	05/20/10 09:00	05/20/10 16:58	2037-26-5	
4-Bromofluorobenzene (S)	102	%	60-140	1	05/20/10 09:00	05/20/10 16:58	460-00-4	
1,2-Dichloroethane-d4 (S)	101	%	60-140	1	05/20/10 09:00	05/20/10 16:58	17060-07-0	
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**2.9**	%	0.10	1		05/20/10 15:37		

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ANALYTICAL RESULTS

Project: BNSF Wishram
Pace Project No.: 253745

Sample: Trip Blank **Lab ID: 253745002** Collected: 05/18/10 15:30 Received: 05/20/10 08:35 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
NWTPH-Gx GCV	Analytical Method: NWTPH-Gx Preparation Method: NWTPH-Gx							
Gasoline Range Organics	ND	mg/kg	5.0	1	05/24/10 08:00	05/24/10 15:11		
a,a,a-Trifluorotoluene (S)	101	%	50-150	1	05/24/10 08:00	05/24/10 15:11	98-08-8	
4-Bromofluorobenzene (S)	100	%	50-150	1	05/24/10 08:00	05/24/10 15:11	460-00-4	
8260 MSV Medium LL	Analytical Method: EPA 8260 Preparation Method: EPA 5035A/5030B							
Benzene	ND	ug/kg	20.0	1	05/20/10 09:00	05/20/10 16:36	71-43-2	
Ethylbenzene	ND	ug/kg	25.0	1	05/20/10 09:00	05/20/10 16:36	100-41-4	
Toluene	ND	ug/kg	25.0	1	05/20/10 09:00	05/20/10 16:36	108-88-3	
Xylene (Total)	ND	ug/kg	75.0	1	05/20/10 09:00	05/20/10 16:36	1330-20-7	
m&p-Xylene	ND	ug/kg	50.0	1	05/20/10 09:00	05/20/10 16:36	179601-23-1	
o-Xylene	ND	ug/kg	25.0	1	05/20/10 09:00	05/20/10 16:36	95-47-6	
Dibromofluoromethane (S)	97	%	60-140	1	05/20/10 09:00	05/20/10 16:36	1868-53-7	
Toluene-d8 (S)	108	%	60-140	1	05/20/10 09:00	05/20/10 16:36	2037-26-5	
4-Bromofluorobenzene (S)	101	%	60-140	1	05/20/10 09:00	05/20/10 16:36	460-00-4	
1,2-Dichloroethane-d4 (S)	101	%	60-140	1	05/20/10 09:00	05/20/10 16:36	17060-07-0	

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QUALITY CONTROL DATA

Project: BNSF Wishram
Pace Project No.: 253745

QC Batch: OEXT/2206 Analysis Method: EPA 8082
QC Batch Method: EPA 3546 Analysis Description: 8082 GCS PCB
Associated Lab Samples: 253745001

METHOD BLANK: 28227 Matrix: Solid
Associated Lab Samples: 253745001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
PCB-1016 (Aroclor 1016)	ug/kg	ND	17.0	05/26/10 12:57	
PCB-1221 (Aroclor 1221)	ug/kg	ND	17.0	05/26/10 12:57	
PCB-1232 (Aroclor 1232)	ug/kg	ND	17.0	05/26/10 12:57	
PCB-1242 (Aroclor 1242)	ug/kg	ND	17.0	05/26/10 12:57	
PCB-1248 (Aroclor 1248)	ug/kg	ND	17.0	05/26/10 12:57	
PCB-1254 (Aroclor 1254)	ug/kg	ND	17.0	05/26/10 12:57	
PCB-1260 (Aroclor 1260)	ug/kg	ND	17.0	05/26/10 12:57	
Decachlorobiphenyl (S)	%	96	57-120	05/26/10 12:57	
Tetrachloro-m-xylene (S)	%	90	53-120	05/26/10 12:57	

LABORATORY CONTROL SAMPLE: 28228

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
PCB-1016 (Aroclor 1016)	ug/kg	167	172	103	49-120	
PCB-1260 (Aroclor 1260)	ug/kg	167	165	99	48-120	
Decachlorobiphenyl (S)	%			102	57-120	
Tetrachloro-m-xylene (S)	%			98	53-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 28229 28230

Parameter	Units	253745001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Qual
PCB-1016 (Aroclor 1016)	ug/kg	ND	170	168	169	168	100	100	49-120	.4	
PCB-1260 (Aroclor 1260)	ug/kg	ND	170	168	167	163	98	97	48-120	2	
Decachlorobiphenyl (S)	%						99	99	57-120		
Tetrachloro-m-xylene (S)	%						92	91	53-120		

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QUALITY CONTROL DATA

Project: BNSF Wishram
Pace Project No.: 253745

QC Batch: OEXT/2203 Analysis Method: NWTPH-Dx
QC Batch Method: EPA 3546 Analysis Description: NWTPH-Dx GCS
Associated Lab Samples: 253745001

METHOD BLANK: 28219 Matrix: Solid
Associated Lab Samples: 253745001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Diesel Range SG	mg/kg	ND	20.0	05/21/10 20:27	
Motor Oil Range SG	mg/kg	ND	80.0	05/21/10 20:27	
n-Octacosane (S) SG	%	105	50-150	05/21/10 20:27	
o-Terphenyl (S) SG	%	106	50-150	05/21/10 20:27	

LABORATORY CONTROL SAMPLE: 28220

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Diesel Range SG	mg/kg	500	475	95	56-124	
Motor Oil Range SG	mg/kg	500	518	104	50-150	
n-Octacosane (S) SG	%			103	50-150	
o-Terphenyl (S) SG	%			95	50-150	

SAMPLE DUPLICATE: 28221

Parameter	Units	253730003 Result	Dup Result	RPD	Qualifiers
Diesel Range SG	mg/kg	ND	ND		
Motor Oil Range SG	mg/kg	ND	ND		
n-Octacosane (S) SG	%	106	108	5	
o-Terphenyl (S) SG	%	108	107	3	

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QUALITY CONTROL DATA

Project: BNSF Wishram
Pace Project No.: 253745

QC Batch: GCV/1546 Analysis Method: NWTPH-Gx
QC Batch Method: NWTPH-Gx Analysis Description: NWTPH-Gx Solid GCV
Associated Lab Samples: 253745001, 253745002

METHOD BLANK: 28246 Matrix: Solid
Associated Lab Samples: 253745001, 253745002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Gasoline Range Organics	mg/kg	ND	5.0	05/24/10 14:46	
4-Bromofluorobenzene (S)	%	93	50-150	05/24/10 14:46	
a,a,a-Trifluorotoluene (S)	%	101	50-150	05/24/10 14:46	

LABORATORY CONTROL SAMPLE: 28247

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Gasoline Range Organics	mg/kg	12.5	12.7	101	54-156	
4-Bromofluorobenzene (S)	%			102	50-150	
a,a,a-Trifluorotoluene (S)	%			105	50-150	

SAMPLE DUPLICATE: 28282

Parameter	Units	253745001 Result	Dup Result	RPD	Qualifiers
Gasoline Range Organics	mg/kg	ND	1.2J		
4-Bromofluorobenzene (S)	%	96	97	1	
a,a,a-Trifluorotoluene (S)	%	102	103	.3	

SAMPLE DUPLICATE: 28439

Parameter	Units	253766002 Result	Dup Result	RPD	Qualifiers
Gasoline Range Organics	mg/kg	62.7	71.0	12	
4-Bromofluorobenzene (S)	%	108	113	4	
a,a,a-Trifluorotoluene (S)	%	100	102	2	

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QUALITY CONTROL DATA

Project: BNSF Wishram
Pace Project No.: 253745

QC Batch: ICPM/20608 Analysis Method: EPA 6020
QC Batch Method: EPA 6020 Analysis Description: 6020 MET
Associated Lab Samples: 253745001

METHOD BLANK: 795216 Matrix: Solid
Associated Lab Samples: 253745001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Antimony	mg/kg	ND	0.39	06/02/10 11:22	
Arsenic	mg/kg	ND	0.39	06/02/10 11:22	
Beryllium	mg/kg	ND	0.16	06/02/10 11:22	
Cadmium	mg/kg	ND	0.062	06/02/10 11:22	
Chromium	mg/kg	ND	0.39	06/02/10 11:22	
Copper	mg/kg	ND	0.39	06/02/10 11:22	
Lead	mg/kg	ND	0.39	06/02/10 11:22	
Nickel	mg/kg	ND	0.39	06/02/10 11:22	
Selenium	mg/kg	ND	0.39	06/02/10 11:22	
Silver	mg/kg	ND	0.39	06/02/10 11:22	CH
Thallium	mg/kg	ND	0.078	06/02/10 11:22	
Zinc	mg/kg	ND	3.9	06/02/10 11:22	

LABORATORY CONTROL SAMPLE: 795217

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	mg/kg	16.1	15.4	96	80-120	
Arsenic	mg/kg	16.1	15.2	94	80-120	
Beryllium	mg/kg	16.1	16.1	100	80-120	
Cadmium	mg/kg	16.1	15.1	94	80-120	
Chromium	mg/kg	16.1	15.3	95	80-120	
Copper	mg/kg	16.1	15.5	96	80-120	
Lead	mg/kg	16.1	14.1	87	80-120	
Nickel	mg/kg	16.1	15.2	94	80-120	
Selenium	mg/kg	16.1	14.9	92	80-120	
Silver	mg/kg	16.1	17.0	105	80-120	CH
Thallium	mg/kg	16.1	14.0	87	80-120	
Zinc	mg/kg	16.1	15.4	96	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 795218 795219

Parameter	Units	5037647001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Qual
Antimony	mg/kg	ND	16.4	15.7	17.1	18.8	104	119	75-125	9	
Arsenic	mg/kg	1.2	16.4	15.7	20.3	22.8	117	137	75-125	11	M0
Beryllium	mg/kg	ND	16.4	15.7	16.1	17.0	98	107	75-125	5	
Cadmium	mg/kg	0.14	16.4	15.7	17.6	19.4	107	122	75-125	9	
Chromium	mg/kg	3.3	16.4	15.7	20.9	23.9	107	131	75-125	14	M0
Copper	mg/kg	2.2	16.4	15.7	19.2	21.3	104	121	75-125	10	
Lead	mg/kg	0.98	16.4	15.7	18.0	20.0	104	121	75-125	11	

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QUALITY CONTROL DATA

Project: BNSF Wishram
Pace Project No.: 253745

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 795218 795219

Parameter	Units	5037647001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Qual
Nickel	mg/kg	1.2	16.4	15.7	18.6	21.1	106	126	75-125	12	M0
Selenium	mg/kg	2.0	16.4	15.7	21.7	21.4	120	123	75-125	2	
Silver	mg/kg	ND	16.4	15.7	17.7	19.5	108	123	75-125	10	
Thallium	mg/kg	ND	16.4	15.7	16.4	18.4	100	116	75-125	11	
Zinc	mg/kg	6.7	16.4	15.7	24.1	27.4	106	131	75-125	13	M0

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QUALITY CONTROL DATA

Project: BNSF Wishram
Pace Project No.: 253745

QC Batch: MERP/1169
QC Batch Method: EPA 7471
Analysis Method: EPA 7471
Analysis Description: 7471 Mercury
Associated Lab Samples: 253745001

METHOD BLANK: 28416 Matrix: Solid
Associated Lab Samples: 253745001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	mg/kg	ND	0.050	05/25/10 13:01	

LABORATORY CONTROL SAMPLE: 28417

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	mg/kg	.5	0.54	108	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 28418 28419

Parameter	Units	253730003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Qual
Mercury	mg/kg	ND	.42	.42	0.46	0.47	109	109	80-120	.5	

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QUALITY CONTROL DATA

Project: BNSF Wishram
Pace Project No.: 253745

QC Batch: OEXT/2202
QC Batch Method: EPA 3546
Analysis Method: EPA 8270 by SIM
Analysis Description: 8270/3546 MSSV PAH by SIM
Associated Lab Samples: 253745001

METHOD BLANK: 28213 Matrix: Solid
Associated Lab Samples: 253745001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Acenaphthene	ug/kg	ND	6.7	05/24/10 15:32	
Acenaphthylene	ug/kg	ND	6.7	05/24/10 15:32	
Anthracene	ug/kg	ND	6.7	05/24/10 15:32	
Benzo(a)anthracene	ug/kg	ND	6.7	05/24/10 15:32	
Benzo(a)pyrene	ug/kg	ND	6.7	05/24/10 15:32	
Benzo(b)fluoranthene	ug/kg	ND	6.7	05/24/10 15:32	
Benzo(g,h,i)perylene	ug/kg	ND	6.7	05/24/10 15:32	
Benzo(k)fluoranthene	ug/kg	ND	6.7	05/24/10 15:32	
Chrysene	ug/kg	ND	6.7	05/24/10 15:32	
Dibenz(a,h)anthracene	ug/kg	ND	6.7	05/24/10 15:32	
Fluoranthene	ug/kg	ND	6.7	05/24/10 15:32	
Fluorene	ug/kg	ND	6.7	05/24/10 15:32	
Indeno(1,2,3-cd)pyrene	ug/kg	ND	6.7	05/24/10 15:32	
Naphthalene	ug/kg	ND	6.7	05/24/10 15:32	
Phenanthrene	ug/kg	ND	6.7	05/24/10 15:32	
Pyrene	ug/kg	ND	6.7	05/24/10 15:32	
2-Fluorobiphenyl (S)	%	83	55-136	05/24/10 15:32	
Terphenyl-d14 (S)	%	88	60-144	05/24/10 15:32	

LABORATORY CONTROL SAMPLE: 28214

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Acenaphthene	ug/kg	133	99.0	74	49-141	
Acenaphthylene	ug/kg	133	98.5	74	53-139	
Anthracene	ug/kg	133	122	92	53-148	
Benzo(a)anthracene	ug/kg	133	115	87	42-146	
Benzo(a)pyrene	ug/kg	133	113	84	34-147	
Benzo(b)fluoranthene	ug/kg	133	135	101	33-154	
Benzo(g,h,i)perylene	ug/kg	133	116	87	47-148	
Benzo(k)fluoranthene	ug/kg	133	107	80	61-152	
Chrysene	ug/kg	133	108	81	57-145	
Dibenz(a,h)anthracene	ug/kg	133	124	93	55-154	
Fluoranthene	ug/kg	133	125	94	32-150	
Fluorene	ug/kg	133	106	79	45-152	
Indeno(1,2,3-cd)pyrene	ug/kg	133	112	84	35-151	
Naphthalene	ug/kg	133	111	84	44-140	
Phenanthrene	ug/kg	133	103	77	38-155	
Pyrene	ug/kg	133	122	91	51-153	
2-Fluorobiphenyl (S)	%			79	55-136	
Terphenyl-d14 (S)	%			85	60-144	

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QUALITY CONTROL DATA

Project: BNSF Wishram
Pace Project No.: 253745

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 28215 28216

Parameter	Units	253730001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Qual
Acenaphthene	ug/kg	26.7	147	147	160	146	90	81	49-141	9	
Acenaphthylene	ug/kg	26.0	147	147	198	190	117	112	53-139	4	
Anthracene	ug/kg	7.8	147	147	156	149	100	96	53-148	4	
Benzo(a)anthracene	ug/kg	ND	147	147	138	124	94	85	42-146	11	
Benzo(a)pyrene	ug/kg	ND	147	147	137	125	93	85	34-147	9	
Benzo(b)fluoranthene	ug/kg	ND	147	147	181	171	119	112	33-154	6	
Benzo(g,h,i)perylene	ug/kg	ND	147	147	138	128	92	86	47-148	8	
Benzo(k)fluoranthene	ug/kg	ND	147	147	112	96.0	75	65	61-152	15	
Chrysene	ug/kg	ND	147	147	118	105	79	70	57-145	12	
Dibenz(a,h)anthracene	ug/kg	ND	147	147	143	133	97	91	55-154	7	
Fluoranthene	ug/kg	ND	147	147	152	145	98	94	32-150	4	
Fluorene	ug/kg	26.0	147	147	160	151	91	85	45-152	6	
Indeno(1,2,3-cd)pyrene	ug/kg	ND	147	147	129	120	88	81	35-151	8	
Naphthalene	ug/kg	14100	147	147	9790	13000	-2940	-736	44-140	28	1n
Phenanthrene	ug/kg	32.1	147	147	147	147	78	78	38-155	.02	
Pyrene	ug/kg	11.7	147	147	145	130	90	81	51-153	11	
2-Fluorobiphenyl (S)	%						94	94	55-136		
Terphenyl-d14 (S)	%						86	83	60-144		

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QUALITY CONTROL DATA

Project: BNSF Wishram
Pace Project No.: 253745

QC Batch: MSV/2414 Analysis Method: EPA 8260
QC Batch Method: EPA 5035A/5030B Analysis Description: 8260 MSV Medium LL Soil
Associated Lab Samples: 253745001, 253745002

METHOD BLANK: 28235 Matrix: Solid
Associated Lab Samples: 253745001, 253745002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/kg	ND	20.0	05/20/10 11:40	
Ethylbenzene	ug/kg	ND	25.0	05/20/10 11:40	
m&p-Xylene	ug/kg	ND	50.0	05/20/10 11:40	
o-Xylene	ug/kg	ND	25.0	05/20/10 11:40	
Toluene	ug/kg	ND	25.0	05/20/10 11:40	
Xylene (Total)	ug/kg	ND	75.0	05/20/10 11:40	
1,2-Dichloroethane-d4 (S)	%	105	60-140	05/20/10 11:40	
4-Bromofluorobenzene (S)	%	97	60-140	05/20/10 11:40	
Dibromofluoromethane (S)	%	102	60-140	05/20/10 11:40	
Toluene-d8 (S)	%	105	60-140	05/20/10 11:40	

LABORATORY CONTROL SAMPLE & LCSD: 28236 28237

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Benzene	ug/kg	1000	1000	964	100	96	79-127	4	30	
Ethylbenzene	ug/kg	1000	978	960	98	96	77-126	2	30	
m&p-Xylene	ug/kg	2000	2000	1960	100	98	78-120	2	30	
o-Xylene	ug/kg	1000	1010	993	101	99	76-123	2	30	
Toluene	ug/kg	1000	962	937	96	94	77-124	3	30	
Xylene (Total)	ug/kg	3000	3010	2960	100	99	77-127	2	30	
1,2-Dichloroethane-d4 (S)	%				104	104	60-140			
4-Bromofluorobenzene (S)	%				102	102	60-140			
Dibromofluoromethane (S)	%				107	103	60-140			
Toluene-d8 (S)	%				104	105	60-140			

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QUALITY CONTROL DATA

Project: BNSF Wishram
Pace Project No.: 253745

QC Batch: PMST/1216
QC Batch Method: ASTM D2974-87
Analysis Method: ASTM D2974-87
Analysis Description: Dry Weight/Percent Moisture
Associated Lab Samples: 253745001

SAMPLE DUPLICATE: 28217

Parameter	Units	253730002 Result	Dup Result	RPD	Qualifiers
Percent Moisture	%	11.7	11.4	3	

SAMPLE DUPLICATE: 28218

Parameter	Units	253730010 Result	Dup Result	RPD	Qualifiers
Percent Moisture	%	14.0	12.1	14	

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QUALIFIERS

Project: BNSF Wishram
Pace Project No.: 253745

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is NELAP accredited. Contact your Pace PM for the current list of accredited analytes.

LABORATORIES

PASI-M	Pace Analytical Services - Minneapolis
PASI-S	Pace Analytical Services - Seattle

ANALYTE QUALIFIERS

1n	Matrix spike recovery was outside laboratory control limits due to high parent sample concentration.
CH	The continuing calibration for this compound is outside of Pace Analytical acceptance limits. The results may be biased high.
M0	Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BNSF Wishram
Pace Project No.: 253745

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
253745001	**Wishram Backfill**	EPA 3546	OEXT/2206	EPA 8082	GCSV/1624
253745001	**Wishram Backfill**	EPA 3546	OEXT/2203	NWTPH-Dx	GCSV/1625
253745001	**Wishram Backfill**	NWTPH-Gx	GCV/1546	NWTPH-Gx	GCV/1551
253745002	**Trip Blank**	NWTPH-Gx	GCV/1546	NWTPH-Gx	GCV/1551
253745001	**Wishram Backfill**	EPA 6020	ICPM/20608	EPA 6020	ICPM/8448
253745001	**Wishram Backfill**	EPA 7471	MERP/1169	EPA 7471	MERC/1184
253745001	**Wishram Backfill**	EPA 3546	OEXT/2202	EPA 8270 by SIM	MSSV/1302
253745001	**Wishram Backfill**	EPA 5035A/5030B	MSV/2414	EPA 8260	MSV/2426
253745002	**Trip Blank**	EPA 5035A/5030B	MSV/2414	EPA 8260	MSV/2426
253745001	**Wishram Backfill**	ASTM D2974-87	PMST/1216		

Pace Analytical Services, Inc.
1000 Riverbend Blvd. Suite F
St. Rose, LA 70087
(504) 469-0333

May 26, 2010

Client Services
PASI Seattle
940 S. Harney
Seattle, WA 98108

RE: Project 20109077
Project ID: 253745

Dear Client Services:

Enclosed are the analytical results for sample(s) received by the laboratory on May 21, 2010. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Karen Brown
karen.brown@pacelabs.com

Laboratory Certifications

Pace Analytical Services, Inc.
1000 Riverbend Blvd. Suite F
St. Rose, LA 70087
(504) 469-0333

Project: 20109077

Client: PASI Seattle

Project ID: 253745

Washington Department of Ecology C2078

Oregon Environmental Laboratory Accreditation - LA200001

U.S. Dept. of Agriculture Foreign Soil Import P330-10-00119

Pennsylvania Dept. of Env Protection (NELAC) 68-04202

Texas Commission on Env. Quality (NELAC) T104704405-09-TX

Kansas Department of Health and Environment (NELAC) E-10266

Florida Department of Health (NELAC) E87595

Louisiana Dept. of Health and Hospitals (NELAC) LA100024

Louisiana Dept. of Environmental Quality (NELAC/LELAP) 02006

Sample Cross Reference

Pace Analytical Services, Inc.
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(504) 469-0333

Project: 20109077

Client: PASI Seattle

Project ID: 253745

Client Sample ID	Lab ID	Matrix	Collection Date/Time	Received Date/Time
WISHRAM BACKFILL	20787730	Soil	18-May-10 15:30	21-May-10 10:30

Pace Analytical Services, Inc.
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St. Rose, LA 70087
(504) 469-0333

Project: 20109077

Sample Receipt Condition:

All samples were received in accordance with EPA protocol.

Holding Times:

All holding times were met.

Blanks:

All blank results were below reporting limits.

Laboratory Control Samples:

All LCS recoveries were within QC limits.

Matrix Spikes and Duplicates:

MS or MSD recoveries outside of QC limits are qualified in the Report of Quality Control section.

Surrogates:

All surrogate recoveries were within QC limits.

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Project: 20109077

Analytical Method	Batch	Sample used for QC
EPA 8081	139674	Project sample WISHRAM BACKFILL
Dry Weight Moisture	139689	Project sample WISHRAM BACKFILL

For the sample used as the original for the DUP or MS/MSD for the batch:

Project sample means a sample from this project was used.
Client sample means a sample from the same client but in a different project was used.
Batch sample means a sample from a different client was used.

Sample Results

Pace Analytical Services, Inc.
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St. Rose, LA 70087
(504) 469-0333

Client: PASI Seattle

Client ID: WISHRAM BACKFILL
Project: 20109077
Project ID: 253745
Site: None
Lab ID: 20787730
Matrix: Soil
% Moisture: 4.6 Corrected
Description: None
Prep Level: Soil
Batch: 139674
Method: EPA 8081
8081 Pests Low Soil
Collected: 18-May-10
Received: 21-May-10
Prepared: 24-May-10

Units: ug/kg

CAS No.	Analyte	Dilution	Result	Qu	Reporting Limit	MDL	Reg Limit	Analysis	
309-00-2	Aldrin	1	ND		1.77	0.413		25-May-10 16:48	SLF
319-84-6	alpha-BHC	1	ND		1.77	0.449		25-May-10 16:48	SLF
319-85-7	beta-BHC	1	ND		1.77	0.525		25-May-10 16:48	SLF
319-86-8	delta-BHC	1	ND		1.77	0.367		25-May-10 16:48	SLF
58-89-9	gamma-BHC (Lindane)	1	ND		1.77	0.619		25-May-10 16:48	SLF
5103-71-9	alpha-Chlordane	1	ND		1.77	0.588		25-May-10 16:48	SLF
5103-74-2	gamma-Chlordane	1	ND		1.77	0.629		25-May-10 16:48	SLF
72-54-8	4,4'-DDD	1	ND		3.47	0.962		25-May-10 16:48	SLF
72-55-9	4,4'-DDE	1	ND		3.47	0.278		25-May-10 16:48	SLF
50-29-3	4,4'-DDT	1	ND		3.47	2.06		25-May-10 16:48	SLF
60-57-1	Dieldrin	1	ND		3.47	0.368		25-May-10 16:48	SLF
959-98-8	Endosulfan I	1	ND		1.77	0.524		25-May-10 16:48	SLF
33213-65-9	Endosulfan II	1	ND		3.47	0.455		25-May-10 16:48	SLF
1031-07-8	Endosulfan sulfate	1	ND		3.47	0.591		25-May-10 16:48	SLF
72-20-8	Endrin	1	ND		3.47	0.495		25-May-10 16:48	SLF
7421-93-4	Endrin aldehyde	1	ND		3.47	0.511		25-May-10 16:48	SLF
53494-70-5	Endrin ketone	1	ND		3.47	1.22		25-May-10 16:48	SLF
76-44-8	Heptachlor	1	ND		1.77	0.452		25-May-10 16:48	SLF
1024-57-3	Heptachlor epoxide	1	ND		1.77	0.445		25-May-10 16:48	SLF
72-43-5	Methoxychlor	1	ND		17.4	1.15		25-May-10 16:48	SLF
8001-35-2	Toxaphene	1	ND		69.6	29.3		25-May-10 16:48	SLF

21 compound(s) reported

Protocol 5/26/2010 15:11:20

ND denotes the analyte was analyzed for but not detected at the reporting limit or method detection limit indicated.
MDL denotes method detection limit

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

Pace Analytical Services, Inc.
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St. Rose, LA 70087
(504) 469-0333

Batch: 139674 **Project:** 20109077 **LCS:** 20787817 25-May-10 16:31

Method: GC Pesticides/PCBs **LCSD:**

MS: 20787818 25-May-10 17:05

Units: ug/kg **MSD:** 20787819 25-May-10 17:22

Original for MS: Client Sample 20787730

Parameter Name	LCS Spike	LCS Found	LCSD Found	LCS %Rec	LCSD %Rec	RPD	MS Spike	Sample Found	MS Found	MSD Found	MS %Rec	MSD %Rec	RPD	QC Limits LCS	QC Limits MS/MSD	Max RPD	Qu
Aldrin	16.7	12.1		72			17.3		14.8	20.2	86	117	31 *	28-135	10-167	22	
alpha-BHC	16.7	12.3		74			17.3		15.0	20.4	86	118	31 *	27-135	10-175	20	
beta-BHC	16.7	12.7		76			17.3		15.2	20.8	87	120	31 *	30-136	10-188	24	
delta-BHC	16.7	11.3		68			17.3		14.0	19.3	81	112	32 *	20-147	10-182	22	
gamma-BHC (Lindane)	16.7	12.3		74			17.3		14.9	20.4	86	118	31 *	29-136	10-181	21	
alpha-Chlordane	16.7	12.2		73			17.3		14.9	20.3	86	118	31 *	31-139	10-180	20	
gamma-Chlordane	16.7	12.3		74			17.3		15.0	20.5	87	119	31 *	32-138	10-176	20	
4,4'-DDD	16.7	11.6		70			17.3		14.4	20.0	83	116	33 *	31-145	10-188	20	
4,4'-DDE	16.7	12.1		73			17.3		14.9	20.6	86	120	33 *	32-142	10-182	20	
4,4'-DDT	16.7	12.2		73			17.3		15.3	21.4	88	124	33 *	29-136	10-181	20	
Dieldrin	16.7	11.9		71			17.3		14.6	20.2	84	117	32 *	32-137	10-170	20	
Endosulfan I	16.7	8.74		52			17.3		10.8	14.9	62	86	32 *	10-121	10-160	24	
Endosulfan II	16.7	8.71		52			17.3		10.8	14.8	62	86	31 *	10-123	10-175	20	
Endosulfan sulfate	16.7	11.8		71			17.3		14.8	20.4	86	118	31 *	28-146	10-171	20	
Endrin	16.7	11.6		69			17.3		16.0	21.3	92	123	29 *	31-168	10-204	20	
Endrin aldehyde	16.7	11.3		68			17.3		13.7	19.1	79	111	33 *	20-143	10-176	22	
Endrin ketone	16.7	12.3		74			17.3		14.5	20.6	83	120	35 *	25-145	10-184	21	
Heptachlor	16.7	12.1		73			17.3		15.0	20.2	87	117	29 *	31-135	10-161	25	
Heptachlor epoxide	16.7	11.0		66			17.3		13.5	18.2	78	105	30 *	26-133	10-177	23	
Methoxychlor	16.7	12.7		76			17.3		23.0	29.4	133	171	25 *	27-155	10-207	23	

20 compound(s) reported

*** denotes recovery outside of QC limits.**
MS/MSD RPD is calculated via SW-846 rules on the basis of spiked sample concentrations rather than spike recoveries.

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Surrogate Recovery

Batch: 139674 **Project:** 20109077

Method: Soil GC Pesticides/PCBs

Lab ID	Sample ID	Qu	Sur 1 %Rec	Sur 2 %Rec	Sur 3 %Rec	Sur 4 %Rec	Sur 5 %Rec	Sur 6 %Rec	Sur 7 %Rec	Sur 8 %Rec
20787816	139674 BLANK 1		77	73	72	69				
20787817	139674 LCS 1		89	85	81	77				
20787730	WISHRAM BACKFILL		79	74	74	70				
20787818	WISHRAM BACKFILL MS 1		83	79	78	72				
20787819	WISHRAM BACKFILL MSD 1		109	105	101	95				
	QC limits:		15-179	15-177	10-144	10-178				

Sur 1: Decachlorobiphenyl (Conf)(S)
Sur 2: Decachlorobiphenyl (S)
Sur 3: Tetrachloro-m-xylene (Conf)(S)
Sur 4: Tetrachloro-m-xylene (S)

*** denotes surrogate recovery outside of QC limits.**
D denotes surrogate recovery is outside of QC limits due to sample dilution, and is not considered an excursion.

Organics Method Blank

Pace Analytical Services, Inc.
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St. Rose, LA 70087
(504) 469-0333

Blank ID: 139674 BLANK 1 **Project:** 20109077

Lab ID: 20787816

Prep Level: Soil **Batch:** 139674

Method: Soil GC Pesticides/PCBs

Prepared: 24-May-10

Units: ug/kg

CAS Numb	Analyte	Dilution	Result	Qu	Reporting Limit	MDL	Analysis
309-00-2	Aldrin	1	ND		1.70	0.396	25-May-10 16:14 SLF
319-84-6	alpha-BHC	1	ND		1.70	0.430	25-May-10 16:14 SLF
319-85-7	beta-BHC	1	ND		1.70	0.504	25-May-10 16:14 SLF
319-86-8	delta-BHC	1	ND		1.70	0.351	25-May-10 16:14 SLF
58-89-9	gamma-BHC (Lindane)	1	ND		1.70	0.593	25-May-10 16:14 SLF
5103-71-9	alpha-Chlordane	1	ND		1.70	0.563	25-May-10 16:14 SLF
5103-74-2	gamma-Chlordane	1	ND		1.70	0.603	25-May-10 16:14 SLF
72-54-8	4,4'-DDD	1	ND		3.33	0.922	25-May-10 16:14 SLF
72-55-9	4,4'-DDE	1	ND		3.33	0.266	25-May-10 16:14 SLF
50-29-3	4,4'-DDT	1	ND		3.33	1.98	25-May-10 16:14 SLF
60-57-1	Dieldrin	1	ND		3.33	0.352	25-May-10 16:14 SLF
959-98-8	Endosulfan I	1	ND		1.70	0.502	25-May-10 16:14 SLF
33213-65-9	Endosulfan II	1	ND		3.33	0.436	25-May-10 16:14 SLF
1031-07-8	Endosulfan sulfate	1	ND		3.33	0.567	25-May-10 16:14 SLF
72-20-8	Endrin	1	ND		3.33	0.475	25-May-10 16:14 SLF
7421-93-4	Endrin aldehyde	1	ND		3.33	0.490	25-May-10 16:14 SLF
53494-70-5	Endrin ketone	1	ND		3.33	1.17	25-May-10 16:14 SLF
76-44-8	Heptachlor	1	ND		1.70	0.433	25-May-10 16:14 SLF
1024-57-3	Heptachlor epoxide	1	ND		1.70	0.426	25-May-10 16:14 SLF
72-43-5	Methoxychlor	1	ND		16.7	1.10	25-May-10 16:14 SLF
8001-35-2	Toxaphene	1	ND		66.7	28.0	25-May-10 16:14 SLF

21 compound(s) reported

Protocol Blank 5/26/2010 15:11:24

ND denotes the analyte was analyzed for but not detected at the reporting limit or method detection limit indicated.
MDL denotes method detection limit

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

Pace Analytical Services, Inc.
1000 Riverbend Blvd. Suite F
St. Rose, LA 70087
(504) 469-0333

Project: 20109077

Value	Description
J	This estimated value for the analyte is below the adjusted reporting limit but above the instrument reporting limit.
U	The analyte was analyzed for but not detected at the reporting limit or method detection limit indicated.
B	This analyte was detected in the method blank.
E	The sample concentration is above the linear calibrated range of the analysis.
ND	The analyte was analyzed for but not detected at the reporting limit or method detection limit indicated.
MDL	The adjusted method detection limit.
LCS(D)	Laboratory Control Sample (Duplicate).
MS(D)	Matrix Spike (Duplicate).
DUP	Sample Duplicate.
RPD	Relative Percent Difference.

20109077 PASI-SEAT

Chain of Cust

20109077

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Workorder: 253745 **Workorder Name:** BNSF Wishram **Results Requested** 5/27/2010

Report / Invoice To	Subcontract To
Heidi Geri Pace Analytical Seattle 940 South Harney Seattle, WA 98108 Phone (206)767-5060 Email: heidi.geri@pacelabs.com ATTN: Karen	Pace New Orleans P.O._____

Item	Sample ID	Collect Date/Time	Lab ID	Matrix	Preserved Containers: Unpreserved	Requested Analysis: 8081 Pesticides	LAB USE ONLY
1	Wishram Backfill	5/18/2010 15:30	253745001	Solid		X	20787730
2							
3							
4							
5							

Transfers	Released By	Date/Time	Received By	Date/Time
1	[illegible]	5/20/10 1455		
2	FedEx	5-21-10 1830	[signature]	5-21-10 1830
3				
4				
5				

Comments

Organochlorine Pesticides

RUSH 5-day TAT

Due Thursday the 27th

2.9

RD

20109077 PASI-SEAT

Pace Analytical

1000 Riverbend. Blvd., Suite F
St. Rose, LA 70087

Sample Conditi

Project #: 20

Courier: ☐ Pace Courier ☐ Hackbarth ☑ Fed X ☐ UPS ☐ DHL ☐ USPS ☐ Customer ☐ Other

Custody Seal on Cooler/Box Present: [see COC] **Custody Seals Intact:** ☑Yes ☐No

Therometer Used: ☑ Therm Fisher IR 1 ☐ Therm Fisher IR 2 ☐ Therm Fisher IR 3

Type of Ice: (Wet) Blue None **Samples on ice:** [see COC]

Cooler Temperature: [see COC] Temp should be above freezing to 6°C

Date and Initials of person examining contents: 6-21-10 JL

Temp must be measured from Temperature blank when present

		Comments:
Temperature Blank Present"?	☑Yes ☐No ☐N/A	1
Chain of Custody Present:	☑Yes ☐No ☐N/A	2
Chain of Custody Complete:	☑Yes ☐No ☐N/A	3
Chain of Custody Relinquished:	☑Yes ☐No ☐N/A	4
Sampler Name & Signature on COC:	☑Yes ☐No ☐N/A	5
Samples Arrived within Hold Time:	☑Yes ☐No ☐N/A	6
Sufficient Volume:	☑Yes ☐No ☐N/A	7
Correct Containers Used:	☑Yes ☐No ☐N/A	8
Filtered vol. Rec. for Diss. tests	☐Yes ☐No ☑N/A	9
Sample Labels match COC:	☑Yes ☐No ☐N/A	10
All containers received within manafacture's precautionary and/or expiration dates.	☑Yes ☐No ☐N/A	11
All containers needing preservation have been checked (except VOA, coliform, & O&G).	☐Yes ☐No ☑N/A	12
All containers preservation checked found to be in compliance with EPA recommendation.	☐Yes ☐No ☑N/A	13 If No, was preserative added? ☐Yes ☐No If added record lot no.: HNO3 _____ H2SO4 _____
Samples checked for dechlorination:	☐Yes ☐No ☑N/A	14
Headspace in VOA Vials (>6mm):	☐Yes ☐No ☑N/A	14
Trip Blank Present:	☐Yes ☐No ☑N/A	16
Trip Blank Custody Seals Present	☐Yes ☐No ☑N/A	17
Pace Trip Blank Lot # (if purchased): N/A		18

Client Notification/ Resolution:

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

ALLC003rev.05, 12Jun2009 - mdd

Sample Condition Upon Receipt

Pace Analytical

Client Name: Kennedy / Jenks

Project # 253745

Courier: ☑ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace Other _____

Optional: Proj. Due Date: Proj. Name:

Tracking #: 872653461090

Custody Seal on Cooler/Box Present: ☑ yes ☐ no Seals intact: ☑ yes ☐ no

Packing Material: ☐ Bubble Wrap ☑ Bubble Bags ☐ None ☐ Other _____

Thermometer Used: Horiba 132013 Type of Ice: (Wet) Blue None ☐ Samples on ice, cooling process has begun

Cooler Temperature: 1.8 Biological Tissue is Frozen: Yes No

Temp should be above freezing to 6°C

Date and Initials of person examining contents: 5/20/10 AR

Comments:

Chain of Custody Present:	☑Yes	☐No	☐N/A	1.
Chain of Custody Filled Out:	☑Yes	☐No	☐N/A	2.
Chain of Custody Relinquished:	☑Yes	☐No	☐N/A	3.
Sampler Name & Signature on COC:	☐Yes	☑No	☐N/A	4.
Samples Arrived within Hold Time:	☑Yes	☐No	☐N/A	5.
Short Hold Time Analysis (<72hr):	☐Yes	☑No	☐N/A	6.
Rush Turn Around Time Requested:	☑Yes	☐No	☐N/A	7. 5 day
Sufficient Volume:	☑Yes	☐No	☐N/A	8.
Correct Containers Used:	☑Yes	☐No	☐N/A	9.
-Pace Containers Used:	☑Yes	☐No	☐N/A	
Containers Intact:	☑Yes	☐No	☐N/A	10.
Filtered volume received for Dissolved tests	☐Yes	☐No	☑N/A	11.
Sample Labels match COC:	☑Yes	☐No	☐N/A	12. 1 of 3 sets of 2 mecH Vials received with label information, including tare wt. Washed from label.
-Includes date/time/ID/Analysis Matrix: SL				
All containers needing preservation have been checked.	☐Yes	☐No	☑N/A	13.
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes	☐No	☑N/A	
exceptions: (VOA) coliform, TOC, O&G, WI-DRO (water)	☑Yes	☐No		Initial when completed / Lot # of added preservative
Samples checked for dechlorination:	☐Yes	☐No	☑N/A	14.
Headspace in VOA Vials (>6mm):	☐Yes	☐No	☑N/A	15.
Trip Blank Present:	☑Yes	☐No	☐N/A	16.
Trip Blank Custody Seals Present	☐Yes	☐No	☑N/A	
Pace Trip Blank Lot # (if purchased): _____				

Field Data Required? Y / N

Client Notification/ Resolution:

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: CKR 5-20-10 Date: _____

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)

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CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

253745

Page: 1 of 1

1313577

Section A Required Client Information:

Company: Kennedy/Jenks
Address: 32001 32nd Ave. S, Ste 100 Federal Way, WA 98001
Email To: galendavis@kennedyjenks.com
Phone: 253-835-6400 Fax:
Requested Due Date/TAT: 5-day

Section B Required Project Information:

Report To: Galen Davis
Copy To:
Purchase Order No.: TT9156-K04
Project Name: BNSF Wishram
Project Number: 1096010.00

Section C Invoice Information:

Attention:
Company Name:
Address:
Pace Quote Reference:
Pace Project Manager: Lisa Domenighini
Pace Profile #:

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☐ OTHER _____

Site Location STATE: WA

Section D Required Client Information

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Matrix Codes (MATRIX / CODE): Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Tissue TS; Other OT

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test ↓ Y/N	NWTPHGx + BTEX	NWTPHDx w/SG	PCB - 8082	cPAH - 8270C	PP Metals	Pesticides - 8081	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	Trip Blank	WT		—	—	—	—		4							4			X								
2	Wishram Backfill	SL	G	→	—	5/18/10	1530		17	11						6			X	X	X	X	X	X			
3																											
4																											
5																											
6																											
7																											
8																											
9																											
10																											
11																											
12																											

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
	Matt Padberg / Kennedy Jenks	5/19/10	1300	Amber Ruly / Pace	5/20/10	0835	1.8	Y	Y	Y

ORIGINAL

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER:
SIGNATURE of SAMPLER: DATE Signed (MM/DD/YY):

Temp in °C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N)

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

Sample Container Count

253745

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CLIENT: Kennedy/Jenks

COC PAGE 1 of 1

COC ID# 1313577

Sample Line Item	VG9H	AG1H	AG1U	BG1H	BP1U	BP2U	BP3U	BP2N	BP2S	WGFU	WGKU	DG9M			Comments
1										3	8	6			
2												4			Trip Blank
3															
4															
5															
6															
7															
8															
9															
10															
11															Trip Blank? Yes
12															

AG1H	1 liter HCL amber glass	BP2S	500mL H2SO4 plastic	JGFU	4oz unpreserved amber wide
AG1U	1liter unpreserved amber glass	BP2U	500mL unpreserved plastic	R	terra core kit
AG2S	500mL H2SO4 amber glass	BP2Z	500mL NaOH, Zn Ac	U	Summa Can
AG2U	500mL unpreserved amber glass	BP3C	250mL NaOH plastic	VG9H	40mL HCL clear vial
AG3S	250mL H2SO4 amber glass	BP3N	250mL HNO3 plastic	VG9T	40mL Na Thio. clear vial
BG1H	1 liter HCL clear glass	BP3S	250mL H2SO4 plastic	VG9U	40mL unpreserved clear vial
BG1U	1 liter unpreserved glass	BP3U	250mL unpreserved plastic	VG9W	40mL glass vial preweighted (EPA 5035)
BP1N	1 liter HNO3 plastic	DG9B	40mL Na Bisulfate amber vial	VSG	Headspace septa vial & HCL
BP1S	1 liter H2SO4 plastic	DG9H	40mL HCL amber voa vial	WGFU	4oz clear soil jar
BP1U	1 liter unpreserved plastic	DG9M	40mL MeOH clear vial	WGFX	4oz wide jar w/hexane wipe
BP1Z	1 liter NaOH, Zn, Ac	DG9T	40mL Na Thio amber vial	ZPLC	Ziploc Bag
BP2N	500mL HNO3 plastic	DG9U	40mL unpreserved amber vial		
BP2O	500mL NaOH plastic	I	Wipe/Swab		

Attachment 5

Compaction Testing Report

BAER Testing and Consulting, Inc.

CLIENT:	NRC Environmental	**PROJECT NUMBER:**	10-172
PROJECT:	Wishram Project	**WORK ORDER #:**	4784
SAMPLE SOURCE:	Stockpile - Avery Pit	**SAMPLE NUMBER:**	4784-1
DATE SAMPLED:	6/21/2010	**DATE TESTED:**	6/23/2010
MATERIAL TYPE:	Pit Run	**TESTED BY:**	SB

SIEVE ANALYSIS

Sieve Size:	Percent Passing:	Sieve Size:	Percent Passing:
4"	100%	#4	72%
3"	99%	#8	
2 1/2"		#10	68%
2"		#16	
1 1/2"	98%	#20	64%
1 1/4"		#30	
1"	95%	#40	55%
3/4"	91%	#50	
5/8"		#60	
1/2"	86%	#80	26%
3/8"	81%	#100	
1/4"		#200	9.6%

USCS CLASSIFICATION - ASTM D 2487

SAND EQUIVALENT - ASTM D 2419

MOISTURE DENSITY RELATIONSHIP ASTM D1557

Percent Moisture:	Dry Density:		
2.0%	116.5	Moist Preparation Method	
4.2%	118.7	Manual Rammer	
6.4%	121.0	Procedure:	B
8.7%	118.4	S.G. (est):	2.65
11.1%	116.1		

OVERSIZE CORRECTION - ASTM D 4718

Dry Density: **127.3** % Moisture: **5.6%**

ASTM D 4318 | **ASTM D 2216** | **AGG. S.G. - ASTM C 127/ C 128**

Liquid Limit	Plastic Limit	Plast. Index
	#DIV/0!	#DIV/0!

Moisture Content:

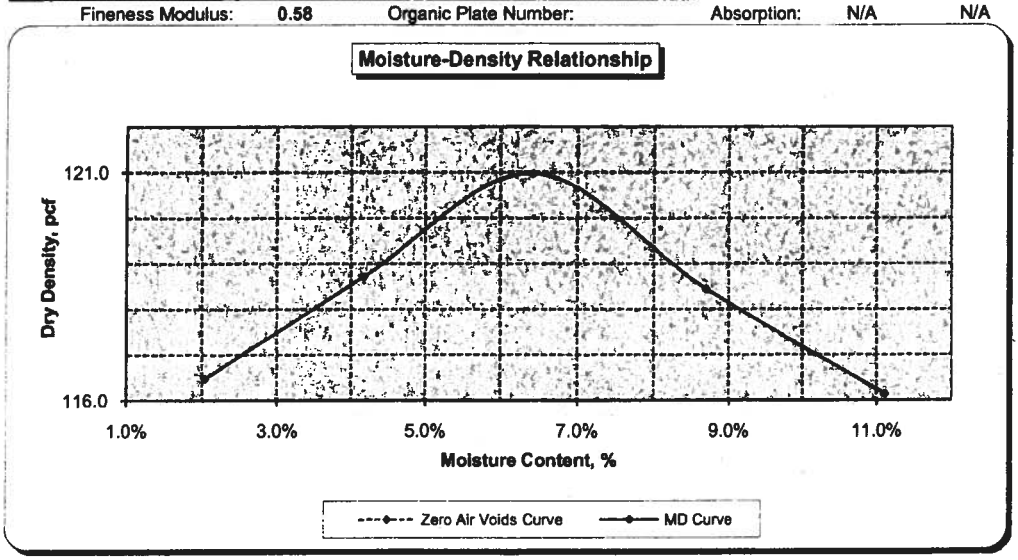
SOIL S.G. - ASTM D 854

Specific Gravity @ 20°C: **2.65**

FINE MODULUS - ASTM C 136 | **ORGANIC IMPURITIES - ASTM C 40**

Fineness Modulus: **0.58** Organic Plate Number:

Spec. Grav.	Coarse	Fine
Bulk S.G.:	N/A	N/A
SSD S.G.:	N/A	N/A
App. S.G.:	N/A	N/A
Absorption:	N/A	N/A



REVIEWED BY:

X

Steven R. Baer
President

PO Box 213 Yakima, WA 98907
Phone: 509-469-3068 Fax: 509-469-3070
www.baertesting.com

BAER Testing and Consulting, Inc.

Density of Soil and Soil – Aggregate in Place
By Nuclear Methods ASTM D 6938

PROJECT: **Wishram Project**

DATE TESTED: 6/24/10

CLIENT: **NRC Environmental Services**

JOB NUMBER: **10-172**

MATERIAL TYPE: **Pit Run**

WORK ORDER NUMBER: **4795**

FEATURE: **Vault Backfill**

INSPECTOR: **JV**

REQUIRED DENSITY: **90%**

MD CURVE NO: **4785-1= 127.3pcf @ 5.6%**

Lab No.	Moisture Content %	Dry Density pcf	Lab Dry Density pcf	Compaction Percentage	Wet Density pcf	Moisture Content pcf	Test Mode	Test Depth
4795-1	6.4	115.6	127.3	**90.8**	123.0	7.4	D	6"
Location: Wishram Vault, 3rd Lift on SE End								
4795-2	5.6	117.5	127.3	**92.3**	124.1	6.6	D	6:
Location: Wishram Vault, 4th Lift, Center of Area								
4795-3	5.5	119.7	127.3	**94.0**	126.2	6.6	D	6"
Location: Wishram Vault, 6th Lift, 3' S of Center								
4795-4	4.6	118.8	127.3	**93.3**	124.3	5.5	D	6"
Location: Wishram Vault, Final Lift - Center								
4795-5	4.6	122.5	127.3	**96.2**	128.2	5.7	D	6"
Location: Wishram Vault, Final Lift, 5' S of Center								

REVIEWED BY:

X

Steven R. Baer
President

AN EQUAL OPPORTUNITY EMPLOYER

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