UST Site Assessment Report

Wishram, Washington

The Burlington Northern and Santa Fe Railway Company

K/J 036026.00

February 2004

Kennedy/Jenks Consultants

UST SITE ASSESSMENT REPORT

BNSF FACILITY
WISHRAM, WASHINGTON

Prepared for

THE BURLINGTON NORTHERN AND SANTA FE RAILWAY COMPANY

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TABLE OF CONTENTS

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

APPENDICES

UST SITE ASSESSMENT REPORT

1.0 INTRODUCTION

This report summarizes the results of an underground storage tank (UST) site assessment conducted by Kennedy/Jenks Consultants at The Burlington Northern and Santa Fe Railway Company (BNSF) facility in Wishram, Washington (facility) (Figure 1). The purpose of the assessment was to evaluate hydrogeologic conditions and the extent of petroleum-containing soil south and potentially downgradient of an UST that was removed from the facility in 2002.

2.0 BACKGROUND

In January 2002, BNSF discovered a 30,000-gallon, steel, single-walled UST adjacent to the western side of a former boiler house (currently a fire department garage) located near the western end of the facility (Figure 2). The UST was reportedly installed in the early 1970s and used to store diesel and oil until approximately 1982 (BNSF 1988). Between January and April 2002, RMCAT Environmental Services, Inc. (RMCAT) of Portland, Oregon, collected subsurface soil samples at the site and removed the UST and associated petroleum-containing soil on behalf of BNSF. The results of RMCAT's work were compiled in a *UST Site Assessment and Removal Report* and summarized on a Site Check/Site Assessment Checklist prepared by Kennedy/Jenks Consultants and submitted to the Washington State Department of Ecology (Ecology) on 30 October 2003. RMCAT's soil sampling locations and the extent of the UST excavation are shown on Figure 3.

Analytical results for samples collected in 2002 (Table 1) indicate diesel and heavy oil-range hydrocarbons remained in subsurface soil, south of the completed UST excavation, at concentrations exceeding Ecology Model Toxics Control Act (MTCA) Method A soil cleanup levels for industrial properties (MTCA Method A soil cleanup levels). However, the extent of

petroleum-containing soil and hydrogeologic conditions south of the former UST were not evaluated.

3.0 SITE LOCATION AND DESCRIPTION

3.1 SITE LOCATION

Wishram is located in Klickitat County, Washington, approximately 10 miles northeast of The Dalles, Oregon, and 0.75 mile south of the town of Wishram Heights on Washington State Route 14 (Figure 1). The UST site assessment study area is located near the western boundary of Wishram, in the southwest quarter of the southwest quarter of section 17, township 2 north, range 15, east of the Willamette Meridian.

3.2 HYDROGEOLOGY

Wishram is located on several coalescing alluvial fan and dune deposits that form an approximately 0.75-mile-wide by 1-mile-long relatively flat piece of land adjacent to the northern shoreline of the Columbia River (Figure 1). The fan and dune deposits are composed of fine to medium sand, range from approximately 15 to at least 40 feet thick, and overlie Columbia Plateau basalt. The basalt bedrock appears to ascend stepwise, away from the Columbia River, beneath the facility and the Wishram townsite. Beneath the facility, the bedrock is approximately 30 to 40 feet below the ground surface (bgs), and beneath the former 30,000-gallon UST location, the bedrock is approximately 15 feet bgs. This rapid change in the bedrock elevation appears to occur below or just south of the maintenance shop (Figure 2). Along the northern boundary of Wishram, the basalt crops out in nearly vertical cliffs that rise approximately 1,000 feet to the Columbia Plateau.

Groundwater was not encountered above bedrock in soil borings or in the excavation around the former 30,000-gallon UST. Groundwater was encountered at approximately 10 feet bgs in soil and monitoring well borings advanced south of the BNSF mainline tracks (Figure 2). These observations suggest groundwater encountered beneath the facility is lost from the Columbia River as a result of the artificially high water level behind the Dalles Dam (approximately 40 feet higher than the native river channel). However, the morphology of the study area and the presence of large springs on the cliffs above Wishram suggest there is potential for localized or seasonal groundwater flow toward the facility from the north. The groundwater flow direction and gradient have not been determined based on limited groundwater elevation measurements recorded to date.

3.3 FACILITY DESCRIPTION AND HISTORY

Current and former site features in the western third of the facility are shown on Figure 2. The eastern two-thirds of the facility (beyond the fill boundary shown on the figure) are mostly vacant and historically included only track spurs and a livestock pen. Currently, site operations center around the Amtrak depot and yard office. The maintenance shop south of the former UST location is used for office space and storage of small tools. The BNSF mainline runs through the facility, and three remaining rail spurs are used for switching and spotting cars as needed.

The engine house, roundtable, former powerhouse, and several smaller outbuildings were constructed in 1907 and were demolished by the early 1980s. Throughout the facility's history, locomotives were repaired in the engine house, and railcar maintenance was conducted on repair-in-place (RIP) tracks south of the engine house.

3.3.1 Underground and Aboveground Storage Tanks

3.3.1.1 Underground Storage Tanks

This site assessment focuses on the 30,000-gallon UST removed from the boiler house/maintenance shop area in 2002 (Figures 2 and 3). In 1988, BNSF removed a 600-gallon fuel oil UST, two 500-gallon gasoline USTs and one 10,000-gallon gasoline/oil UST from this same area and a 5,000-gallon oil UST from the northwestern corner of the depot (BNSF 1988).

In addition to the above USTs, BNSF station maps depict a 1,000-gallon gasoline UST approximately 800 feet east of the depot and a 5,000-gallon lube oil tank approximately 200 feet southwest of the maintenance shop (Station Maps 1960 and 1975). Available records do not indicate whether the lube oil tank was above or below ground or if either of these two tanks have been removed.

3.3.1.2 Aboveground Storage Tanks

In the 1950s, two 125,000-gallon diesel tanks were constructed northwest of the maintenance shop, but records do not indicate how fuel was transferred to and from the tanks or where fueling was conducted during this period. Two fueling track spurs located between the tanks and the maintenance shop are depicted on station maps (BNSF Station Map 1960).

An approximately 1,000,000-gallon AST formerly located north of the maintenance shop (Figure 2) is recorded only on historical site photographs. The tank, resembling a typical water storage structure, appears to have been constructed as part of the original facility in 1907 and was removed between 1955 and 1960. Other ASTs depicted on site photographs and station maps also appear to have been used for water storage and were located between the engine house and the river (Grande 1992).

4.0 Site Assessment

Site assessment activities included collecting samples from seven borings advanced using direct-push drilling techniques and installing and sampling four groundwater monitoring wells.

4.1 SOIL SAMPLING AND ANALYSIS

Soil sampling was conducted on 2 September 2003 by advancing direct-push soil borings WSB-1 through WSB-7 in the locations shown on Figure 2. Borings WSB-1 through WSB-3 were located approximately 20 feet south of the southernmost soil borings advanced in 2002. Borings WSB-4 through WSB-7 were advanced in accessible locations south of the mainline tracks. Continuous soil samples were collected in each location using a 4-foot-long, stainless steel, split-spoon sampler fitted with disposable polyethylene liners. Soil boring logs are included in Appendix A.

At boring locations WSB-1 through WSB-3, samples for laboratory analysis were collected from approximately 10 feet bgs, corresponding to a depth just below the depth of the bottom of the former UST, and from 15 feet bgs, just above bedrock. At boring locations WSB-4 through WSB-7, soil samples were collected from just above groundwater encountered during drilling. One additional soil sample was collected from below the water table at location WSB-6 to evaluate saturated zone conditions and aid in selecting monitoring well locations.

Soil samples were submitted to North Creek Analytical Services (NCA) of Beaverton, Oregon, for analysis of diesel- and heavy oil-range hydrocarbons by Method NWTPH-Diesel-extended (NWTPH-Dx) and benzene, toluene ethylbenzene, and total xylenes (BTEX) by EPA Method 8021. Sample WSB-2-14 was analyzed for semivolatile organic compounds (SVOCs) by EPA Method 8270C, and sample WSB-4-10 was analyzed for carcinogenic polynuclear aromatic hydrocarbons (cPAHs) by EPA Method 8270M-SIM. Analytical results for soil samples are summarized in Table 2, and the laboratory analytical reports prepared by NCA are provided in Appendix B.

4.1.1 Field Observations and Analytical Results

At boring locations WSB-1 through WSB-3, silty fine sand was encountered between the ground surface and bedrock (16 feet bgs). Wet sand was encountered at depths ranging from 12 to 16 feet bgs, but groundwater did not enter the boreholes after allowing the borings to stay open for several hours. Staining and a petroleum-like odor were observed just above bedrock at location WSB-2, while only a faint petroleum-like odor was observed just above bedrock at locations WSB-1 and WSB-3.

At boring location WSB-2, diesel and heavy oils were detected in samples from 8 feet and 14 feet bgs and napthalene was detected at 14 feet bgs at concentrations exceeding MTCA Method A soil cleanup levels. Samples from boring locations WSB-1 and WSB-3 did not contain chemicals of potential concern at concentrations exceeding MTCA Method A soil cleanup levels (Table 2).

At soil boring locations WSB-4, WSB-6, and WSB-7, groundwater was encountered at approximately 10 feet bgs. Bedrock was encountered at soil boring WSB-4 at 32 feet bgs. A petroleum-like odor was observed just above groundwater in all three of these borings, but analytes were not detected in the samples at concentrations exceeding MTCA Method A cleanup levels.

Wood and metal debris coated with a viscous petroleum-like product was encountered between the ground surface and 10 feet bgs at boring location WSB-5. Multiple borings were advanced in the location, but encountered refusal at or above 10 feet bgs. Because of the debris, only a small quantity of the affected soil was retrieved from 10 feet bgs for analysis of diesel- and heavy oil-range hydrocarbons and BTEX. Soil sample WSB-5-10 contained diesel and heavy oils at concentrations of 21,000 and 21,600 milligrams per kilogram (mg/kg), respectively. Toluene, ethylbenzene, and xylenes were also detected, but at concentrations below MTCA Method A soil cleanup levels (Table 2).

4.2 GROUNDWATER SAMPLING AND ANALYSIS

4.2.1 Monitoring Well Installation

On 12 September 2003, Cascade Drilling, Inc. (Cascade) of Woodinville, Washington installed monitoring wells WMW-1 through WMW-4 (Figure 2) using a hollow-stem auger, drilling rig. Each well was constructed with a 2-inch-diameter by 10-foot-long, 0.010-inch factory slotted, schedule 40, polyvinyl chloride (PVC) screen installed between 10 and 20 feet bgs and schedule 40 PVC riser pipe installed to the ground surface. Filter pack material consisting of clean, size 10/20, silica sand was placed from the bottom of each screen to 8 feet bgs. Well seals consisting of hydrated bentonite chips were placed from the tops of the filter packs to 2 feet bgs. The wells were completed at the surface with flush mount monuments surrounded by 4-square-foot concrete pads extending to 2 feet bgs. Monitoring well boring and completion logs are included in Appendix A.

While drilling the soil borings for wells WMW-1 and WMW-3, Cascade collected undisturbed soil samples from 5 feet bgs using thin-walled tube samplers (Shelby tubes). The samples were submitted to Analytical Resources, Inc. (ARI) of Seattle, Washington for analysis of moisture content, particle size distribution, porosity, soil pH, and total Kjeldahl nitrogen. The results of these analyses are shown in Table 3 and may be used at a later date for evaluation of remediation options. Copies of the laboratory reports are included in Appendix B.

On 15 September 2003, monitoring wells WMW-1 through WMW-4 were developed using a peristaltic pump and surge block until water discharged from the wells was free of suspended solids based on visual observations. Development water and soil cuttings from the monitoring well borings were stored onsite in Department of Transportation (DOT)-approved, 55-gallon steel drums.

4.2.2 Sampling and Analysis

On 16 September 2003, each monitoring well was purged and sampled using minimal drawdown techniques (a purge rate of less than 0.3 liters per minute). During purging, water quality parameters including temperature, pH, specific conductance, dissolved oxygen, and Eh were measured using a YSI® water quality meter and flow-through cell (Table 4). Dissolved oxygen measurements recorded during purging were all below 1 milligram per liter (mg/L) indicating ongoing intrinsic biodegradation of dissolved petroleum hydrocarbons by aerobic microbes.

Groundwater samples WMW-1 through WMW-4 (including a field blind duplicate collected at location WMW-1) were submitted to NCA for analysis of diesel- and heavy oil-range hydrocarbons by Method NWTPH-Dx, BTEX by EPA Method 8260B, and cPAHs by EPA Method 8270M-SIM. The analytical results for the analyses are summarized in Table 4, and the analytical reports prepared by NCA are included in Appendix B.

The samples from monitoring wells WMW-1, WMW-3, and WMW-4 did not contain heavy oil-range hydrocarbons, BTEX, or cPAHs at concentrations greater than laboratory practical quantitation limits. Diesel-range hydrocarbons were detected in groundwater samples from wells WMW-3 and WMW-4 at concentrations ranging from 253 micrograms per liter (µg/L) to 409 µg/L, which are below the MTCA Method A groundwater cleanup level of 500 µg/L. The primary and field blind duplicate samples from monitoring well WMW-1 contained diesel-range hydrocarbons at concentrations ranging from 593 µg/L to 605 µg/L, which slightly exceed the MTCA Method A groundwater cleanup level.

Diesel and heavy oil range hydrocarbons were detected in the groundwater sample from WMW-2 at concentrations of 4,170 µg/L and 2,450 µg/L, respectively, which exceed the MTCA Method A groundwater cleanup level of 500 µg/L. Benzene was also detected at a concentration of 5.71 µg/L, which slightly exceeds the MTCA Method A groundwater cleanup level of 5.0 µg/L. Benzo(a)anthracene and chrysene were detected at concentrations of 0.304 µg/L and 0.516 µg/L, respectively. However, when these cPAH concentrations are multiplied by toxicity equivalency factors as per Washington Administrative Code

(WAC) 173-340-708, the total concentration (0.036 µg/L) does not exceed the MTCA Method A groundwater cleanup level of 0.1 µg/L.

5.0 Summary

The site assessment was conducted to evaluate hydrogeologic conditions and the extent of petroleum-containing soil southeast, and potentially downgradient, of the former location of a 30,000-gallon UST removed from the site in 2002. Other USTs and ASTs, some of which were used for locomotive fueling, were removed from the study area in and before 1988. The results of the site characterization study included the following:

- Basalt bedrock was encountered at approximately 15 feet bgs in the former location of the 30,000-gallon UST and at 32 feet bgs at soil boring WSB-4, which is adjacent to the Columbia River. Groundwater was not encountered in the former UST location but was encountered southeast of the BNSF mainline tracks at approximately 10 feet bgs.

- Diesel- and heavy oil-range hydrocarbons were detected at concentrations exceeding MTCA Method A cleanup levels at soil boring WSB-2, approximately 50 feet southwest of the former UST location. No analytes were detected at concentrations exceeding MTCA Method A cleanup levels at soil borings WSB-1 and WSB-3, located east and west of boring WSB-2.

- Subsurface soil samples collected from borings WSB-4, WSB-6, and WSB-7 (Figure 2) did not contain chemicals of potential concern at concentrations exceeding MTCA Method A soil cleanup levels.

- Groundwater samples collected at monitoring wells WMW-3 and WMW-4 did not contain chemicals of potential concern at concentrations above MTCA Method A groundwater cleanup levels.

- Diesel-range hydrocarbons were detected in the groundwater sample collected from well WMW-1 at a concentration slightly exceeding the MTCA Method A groundwater cleanup level.

- In the location of soil boring WSB-5/monitoring well WMW-2, petroleum-like compounds were observed in soil extending from the ground surface to the deepest depth drilled (10 feet bgs). Diesel- and heavy oil-range hydrocarbons were detected in a subsurface soil sample collected from 10 feet bgs at concentrations exceeding MTCA Method A soil cleanup levels. Diesel- and heavy oil-range hydrocarbons and benzene were detected in the groundwater sample at concentrations exceeding MTCA Method A groundwater cleanup levels. cPAHs were detected, but at concentrations below MTCA Method A groundwater cleanup levels.

6.0 Limitations

This report was prepared for BNSF, and the findings presented are based on the agreed-upon scope of services in our work order and proposal dated 15 July 2003. Soil and groundwater sampling were limited to the sampling and testing described herein and did not include a comprehensive investigation of all possible substances subject to environmental regulation or potentially detrimental to human health or the environment. Any observations presented herein apply to the site conditions existing at the time services were performed.

Use or misuse of this report, or reliance upon its findings by parties other than BNSF without Kennedy/Jenks Consultants expressed written consent is at their own risk. Neither BNSF nor Kennedy/Jenks Consultants makes any representation or warranty to other parties as to the accuracy or completeness of this report or the suitability of its use by such parties for any purpose. Neither BNSF nor Kennedy/Jenks Consultants shall have any liability to, or indemnify or hold harmless third parties for any losses incurred by the actual or purported use or misuse of this report.

7.0 References

BNSF. 1960. Station Map Oregon Trunk Railway Wishram. Revised March 25, 1975.

BNSF. 1988. UST database records.

Grande, Walter R. 1992. The Northwest's Own Railway. Volume 1 The Main Line. Grande Press. Portland, Oregon

Kennedy/Jenks Consultants. 2003. UST Site Assessment and Removal Report.

Northwest's Own Railway. 1989. Journal of the Spokane Portland and Seattle Railway Company Historical Society. Spring 1989.

Washington State Department of Ecology. 2001. Model Toxics Control Act Cleanup Regulation Chapter 173-340 WAC. Amended February 12, 2001.

Tables

TABLE 1

2002 Site Assessment and Confirmation Sample Laboratory Analytical Results
BNSF Facility, Wishram, Washington

Sample Location and Identification	Depth (feet)	Petroleum Hydrocarbon Concentration (mg/kg)	
		Diesel	Oil
North of UST Site			
#1	10	nd	nd
#1	14	nd	nd
#1	18	nd	nd
#2	11.5	**5,120**	**7,850**
#12	12	nd	nd
#12	16	187	976
#13	12	nd	nd
#13	16	nd	nd
#14	8	445	**2,480**
East of UST Site			
#3	na	na	na
#4	10	nd	nd
#4	14	nd	nd
South of UST Site			
#5	12	1,190	nd
#6	12	260	nd
#7	10	**3,740**	**2,730**
#7	16	7,750	nd
#8	15	1,560	1,210
#8	18	85	nd
#8	24	**4,520**	**4,680**
#9	10	**31,000**	**36,800**
#9	12	**50,200**	**62,900**
#9	14	**29,900**	**35,200**
#10	12	567	1,700
#10	14	**43,200**	**34,300**
Soil Borings in Excavated Area[a]			
#15	8	**39,400**	**51,200**
#16	13	999	**3,870**
#17	10	**2,460**	**2,440**
#17	12	**118,500**	nd
#17	14	**57,600**	**56,900**
North Excavation Sidewall			
N-1	15.5	nd	nd
N-2	3	nd	nd
N-3	15.5	**28,500**	**48,500**
N-4	3	nd	nd
N-9	14.5	**26,900**	**34,400**
N-10	3	nd	nd
N-11	14.5	**35,400**	**53,500**
N-12	3	351	523
West Excavation Sidewall			
W-5	14.5	**42,800**	**60,000**
W-6	3	nd	nd
W-7	14.5	**7,660**	**17,900**
W-8	3	nd	nd
W-27	15.5	nd	nd
W-28	3	28	nd
W-29	15.5	150	nd
W-30	3	217	nd

TABLE 1

2002 Site Assessment and Confirmation Sample Laboratory Analytical Results
BNSF Facility, Wishram, Washington

Sample Location and Identification	Depth (feet)	Petroleum Hydrocarbon Concentration (mg/kg)	
		Diesel	Oil
South Excavation Sidewall			
S-19	14.5	936	882
S-20	3	nd	nd
S-21	15.5	**29,300**	**44,500**
S-22	3	43	nd
S-23	15.5	**35,500**	**56,800**
S-24	3	nd	nd
S-25	15.5	nd	nd
S-26	3	nd	nd
East Excavation Sidewall			
E-13	14.5	**27,200**	**30,400**
E-14	3	nd	nd
E-15	14.5	**60,600**	**44,400**
E-16	3	nd	nd
E-17	14.5	**52,500**	**47,300**
E-18	3	nd	nd
MTCA Method A Criteria[b]		2,000	2,000

Notes:

a. Samples collected from borings in excavated area represent soil already disposed offsite.
b. Washington State Department of Ecology Model Toxics Control Act Method A Cleanup Levels for Industrial Properties (WAC 173-340-900).

na = Samples were not analyzed. It is assumed samples were not collected based on field observations.
nd = Analyte not detected at a concentration greater than the laboratory practical quantitation limit.
mg/kg = milligrams per kilogram.

Bold values exceed the MTCA Method A cleanup level for soil at industrial properties.

TABLE 2

Site Assessment Laboratory Analytical Results For Soil
BNSF Facility, Wishram, Washington

Sample Location	WSB-1		WSB-2		WSB-3		WSB-4	WSB-5	WSB-6		WSB-7	MTCA
Depth (feet)	10	15	8	14	10	16	10	10	10	14	10	Method A[a]
Petroleum Hydrocarbons (mg/kg)												
Diesel Range Organics	47.6	<25.0	**6,900**	**15,700**	<25.0	<25.0	<25.0	**21,000**	<25.0	265	240	2,000
Heavy Oils	359	<50.0	**4,710**	**10,500**	<50.0	<50.0	<50.0	**21,600**	<50.0	75.4	72.3	2,000
BTEX (mg/kg)												
Benzene	<0.050	<0.050	<0.100	<0.100	<0.050	<0.050	<0.100	<0.100	<0.050	<0.050	<0.050	0.03
Toluene	<0.050	<0.050	<0.100	<0.100	<0.050	<0.050	<0.100	0.153	<0.050	<0.050	<0.050	7
Ethylbenzene	<0.050	<0.050	0.178	0.687	<0.050	<0.050	0.299	0.221	<0.050	<0.050	<0.050	6
Total Xylenes	<0.100	<0.100	<0.200	0.739	<0.100	<0.100	1.360	1.650	<0.100	<0.100	<0.100	9
SVOCs (mg/kg)												
2-methylnaphthalene	na	na	na	61.9	na	na	na	na	na	na	na	none
Naphthalene	na	na	na	**23.8**	na	na	na	na	na	na	na	5
Phenanthrene	na	na	na	41.0	na	na	na	na	na	na	na	none
Pyrene	na	na	na	18.1	na	na	na	na	na	na	na	none
PAHs (mg/kg)	na	na	na	na	na	na	<0.0134	na	na	na	na	2

Notes:

a. Washington State Department of Ecology Model Toxics Control Act Method A Cleanup Levels for Industrial Properties (WAC 173-340-900) .
na = Not analyzed.
< = Indicates analyte was not detected at a concentration greater than the stated laboaratory practical quantitation limit.
mg/kg = milligrams per kilogram.

Bold values exceed the MTCA Method A cleanup level for soil at industrial properties.

TABLE 3

Physical Soil Testing Results Including pH and Total Kjeldahl Nitrogen
BNSF Facility Wishram, Washington

Sample Location	Depth (feet)	Moisture Content (%)	Total Porosity	pH (standard units)	TKN (mg-N/kg)
WMW-1	5	5.5	0.50	8.60	62
WMW-3	5	7.4	0.49	7.29	72

Grain Size[a]

Screen Size	#20	#40	#60	#100	#200
WMW-1	100.0	99.9	97.7	65.5	6.1
WMW-3	100.0	99.8	95.4	59.8	23.2

Notes:

a. Value indicates percent of material passing through the stated screen size.
mg-N/kg = Milligrams of nitrogen per kilogram.

TABLE 4

Site Assessment Groundwater Analytical Results
BNSF Facility, Wishram, Washington

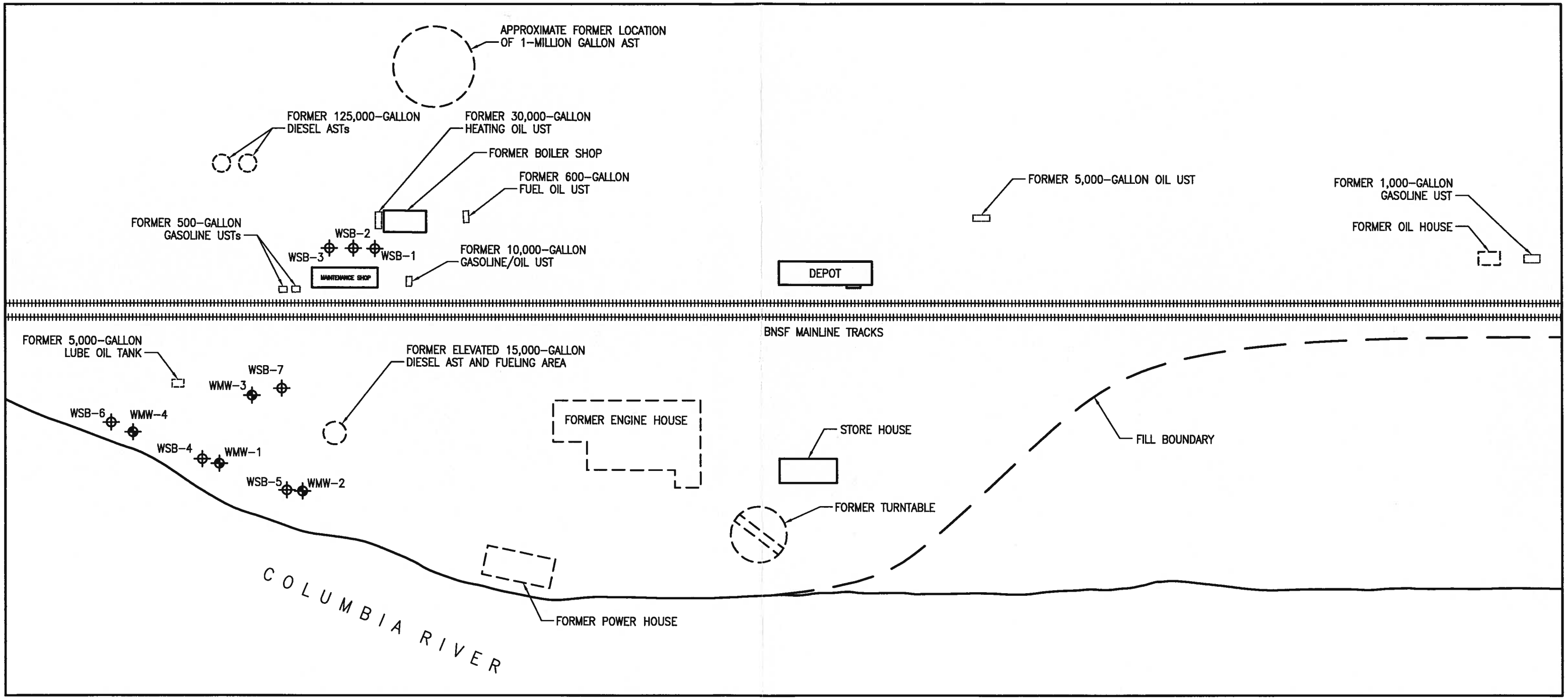
Sample ID	WMW-1	WMW-2	WMW-3	WMW-4	MTCA
Date	9/17/2003	9/18/2003	9/17/2003	9/18/2003	Method A[(a)]
Petroleum Hydrocarbons (µg/L)					
Diesel Range Hydrocarbons	**593 [605]**	**4,170**	253	409	500
Heavy Oil Range Hydrocarbons	<500 [<500]	**2,450**	<500	<500	500
Volatile Organic Compounds (µg/L)					
Benzene	<0.500 [0.500]	**5.71**	<0.500	<0.500	5
Toluene	<0.500 [0.500]	23.5	<0.500	<0.500	1,000
Ethylbenzene	<0.500 [0.500]	5.84	<0.500	<0.500	700
Total Xylenes	<1.00 [1.02]	11.8	<1.00	<1.00	1,000
Polynuclear Aromatic Compounds (µg/L)					
Benzo(a)anthracene	<0.100 [<0.100]	0.304	<0.100	<0.100	
Benzo(a)pyrene	<0.100 [<0.100]	<0.200	<0.100	<0.100	
Benzo(b)fluoranthene	<0.100 [<0.100]	<0.200	<0.100	<0.100	0.1
Benzo(k)fluoranthene	<0.100 [<0.100]	<0.200	<0.100	<0.100	
Chrysene	<0.100 [<0.100]	0.516	<0.100	<0.100	
Dibenz(a,h)anthracene	<0.200 [<0.200]	<0.400	<0.200	<0.200	
Indeno(1,2,3-cd)pyrene	<0.100 [<0.100]	<0.200	<0.100	<0.100	
Physical Water Quality Parameters					
Temperature (°C)	19.8	14.9	20.0	18.3	
pH (standard units)	6.8	7.5	7.4	7.5	
Specific Conductance (microsiemens/centimeter)	1,561	3,018	980	969	
Dissolved Oxygen (mg/L)	0.37	0.78	0.56	0.42	
Eh (millivolts)	330	200	310	320	

Notes:

a. Washington State Department of Ecology Model Toxics Control Act Method A Groundwater Cleanup Levels, Amended 12 February 2001.
[ ] = Field blind duplicate result.
< = Analyte was not detected at a concentration greater than the laboratory practical quantitation limit.
µg/L = micrograms per liter.
mg/L = milligrams per liter.

Bold value exceeds the MTCA Method A groundwater cleanup level.

Figures



LEGEND

- MONITORING WELL LOCATION
- SOIL BORING LOCATION

N

0 60 120

APPROX SCALE IN FEET

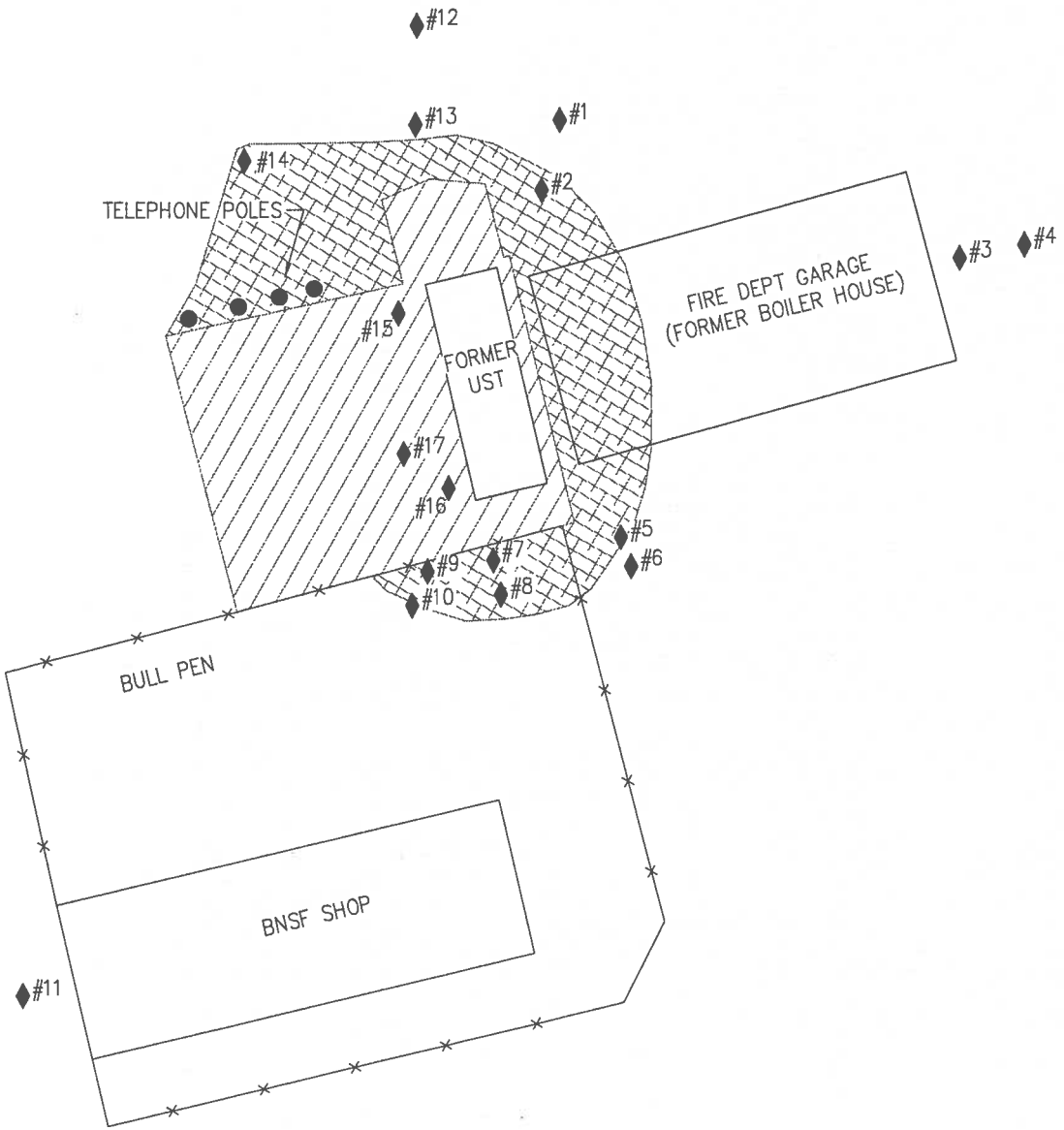
Kennedy/Jenks Consultants

THE BURLINGTON NORTHERN AND SANTA FE RAILWAY CO
WISHRAM, WA

WISHRAM YARD
FORMER & EXISTING SITE FEATURES

036026.00\Fig_2

FIGURE 2



LEGEND

RESIDUAL HYDROCARBONS AT APPROXIMATELY 15' BGS

EXCAVATED AND DISPOSED OFFSITE APRIL 2002

#7 PREVIOUS INVESTIGATION SOIL BORINGS

N

0 15 30

SCALE APPROX. IN FEET

Kennedy/Jenks Consultants

THE BURLINGTON NORTHERN AND AND SANTA FE RAILWAY CO.
WISHRAM, WA

2002 SAMPLING LOCATIONS AND UST EXCAVATION

036026.00/FIG_3

FIGURE 3

Appendix A

Soil Boring and Monitoring Well Completion Logs

Boring & Well Construction Log

Kennedy/Jenks Consultants

BORING LOCATION: Wishram Yard, Wishram, WA		**Well Name**	WMW-1
DRILLING COMPANY: Cascade Drilling	DRILLER: N/A	**Project Name**	BNSF Wishram
DRILLING METHOD(S): HSA	DRILL BIT(S) SIZE: 9 inch	**Project Number**	036026.00
ISOLATION CASING: N/A	FROM N/A TO N/A FT.	ELEVATION AND DATUM: 94.35 (toc)	TOTAL DEPTH: 20.0 ft. bgs
BLANK CASING: 2-inch Sechedule 40 PVC Pipe	FROM 0 TO 10 FT.	DATE STARTED: 9/12/03	DATE COMPLETED: 9/12/03
SLOTTED CASING: 2-inch Schedule 40 PVC Pipe, 0.010-inch slot	FROM 10 TO 20 FT.	INITIAL WATER DEPTH (FT): N/A	STATIC WATER ELEV. (FT): N/A
SIZE AND TYPE OF FILTER PACK: 10/20 Silica Sand	FROM 8 TO 20 FT.	LOGGED BY: GCD	
SEAL: Bentonite Chips	FROM 2 TO 8 FT.	SAMPLING METHODS: Shelby Tube	WELL COMPLETION: ■ SURFACE HOUSING ☐ STAND PIPE ____ FT.
GROUT: Concrete	FROM 0 TO 2 FT.		

SAMPLES TYPE	SAMPLES RECOV. (FEET)	SAMPLES PENETR. RESIST. BLOWS/6"	DEPTH (FEET)	SAMPLE NUMBER	WELL CONSTRUCTION	LITHOLOGY	USCS LOG	SAMPLE DESCRIPTION AND DRILLING REMARKS
			0				SM	**Silty SAND** Brown, silty fine sand, loose, dry.
SH	1.5		5	WMW-1-5		1.5		
			10				SM	**Silty SAND** Gray, silty fine sand, loose, wet.
			15					
			20					

KJ PNW WISHRAM 036026.00.GPJ KJ PNW.GDT 11/10/03

F-40.1
(6-87) (3-88) (8-90)

Boring & Well Construction Log

Kennedy/Jenks Consultants

BORING LOCATION: Wishram Yard, Wishram, WA		**Well Name**	WMW-2
DRILLING COMPANY: Cascade Drilling	DRILLER: N/A	**Project Name**	BNSF Wishram
DRILLING METHOD(S): HSA	DRILL BIT(S) SIZE: 9 inch	**Project Number**	036026.00
ISOLATION CASING: N/A	FROM N/A TO N/A FT.	ELEVATION AND DATUM: 94.65 (toc)	TOTAL DEPTH: 20.0 ft. bgs
BLANK CASING: 2-inch Sechedule 40 PVC Pipe	FROM 0 TO 10 FT.	DATE STARTED: 9/12/03	DATE COMPLETED: 9/12/03
SLOTTED CASING: 2-inch Schedule 40 PVC Pipe, 0.010-inch slot	FROM 10 TO 20 FT.	INITIAL WATER DEPTH (FT): N/A	STATIC WATER ELEV. (FT): N/A
SIZE AND TYPE OF FILTER PACK: 10/20 Silica Sand	FROM 8 TO 20 FT.	LOGGED BY: GCD	
SEAL: Bentonite Chips	FROM 2 TO 8 FT.	SAMPLING METHODS: Shelby Tube	WELL COMPLETION: ■ SURFACE HOUSING ☐ STAND PIPE ____ FT.
GROUT: Concrete	FROM 0 TO 2 FT.		

SAMPLES TYPE	SAMPLES RECOV. (FEET)	SAMPLES PENETR. RESIST. BLOWS/6"	DEPTH (FEET)	SAMPLE NUMBER	WELL CONSTRUCTION	LITHOLOGY	USCS LOG	SAMPLE DESCRIPTION AND DRILLING REMARKS
							GP	**Poorly graded GRAVEL** Road gravel. **Debris** Buried Debris including railroad ties, logs, brick, concrete.
			5					
			10					**Well-graded SAND** Gray, fine to medium sand, medium dense, wet.
			15				SW	
			20					

KJ PNW WISHRAM 036026.00.GPJ KJ PNW.GDT 11/10/03

F-40.1
(6-87) (3-88) (8-90)

Boring & Well Construction Log

Kennedy/Jenks Consultants

BORING LOCATION: Wishram Yard, Wishram, WA		**Well Name**	WMW-3
DRILLING COMPANY: Cascade Drilling	DRILLER: N/A	**Project Name**	BNSF Wishram
DRILLING METHOD(S): HSA	DRILL BIT(S) SIZE: 9 inch	**Project Number**	036026.00
ISOLATION CASING: N/A	FROM N/A TO N/A FT.	ELEVATION AND DATUM: 94.87 (toc)	TOTAL DEPTH: 20.0 ft. bgs
BLANK CASING: 2-inch Sechedule 40 PVC Pipe	FROM 0 TO 10 FT.	DATE STARTED: 9/12/03	DATE COMPLETED: 9/12/03
SLOTTED CASING: 2-inch Schedule 40 PVC Pipe, 0.010-inch slot	FROM 10 TO 20 FT.	INITIAL WATER DEPTH (FT): N/A	STATIC WATER ELEV. (FT): N/A
SIZE AND TYPE OF FILTER PACK: 10/20 Silica Sand	FROM 8 TO 20 FT.	LOGGED BY: GCD	
SEAL: Bentonite Chips	FROM 2 TO 8 FT.	SAMPLING METHODS: Shelby Tube	WELL COMPLETION: ■ SURFACE HOUSING ☐ STAND PIPE_____ FT.
GROUT: Concrete	FROM 0 TO 2 FT.		

SAMPLES TYPE	SAMPLES RECOV. (FEET)	SAMPLES PENETR. RESIST. BLOWS/6"	DEPTH (FEET)	SAMPLE NUMBER	USCS LOG	SAMPLE DESCRIPTION AND DRILLING REMARKS
					GP	**Poorly graded GRAVEL** Railroad ballast
SH	1.5		5	WMW-3-5	SW/SM	**Well-graded SAND with silt** Brown, fine to medium sand with silt, loose to medium dense, dry.
			10		SW/SM	**Well-graded SAND with silt** Gray, fine to medium sand with silt, loose to medium dense, wet.
			15			
			20			

WELL CONSTRUCTION: ▼

LITHOLOGY

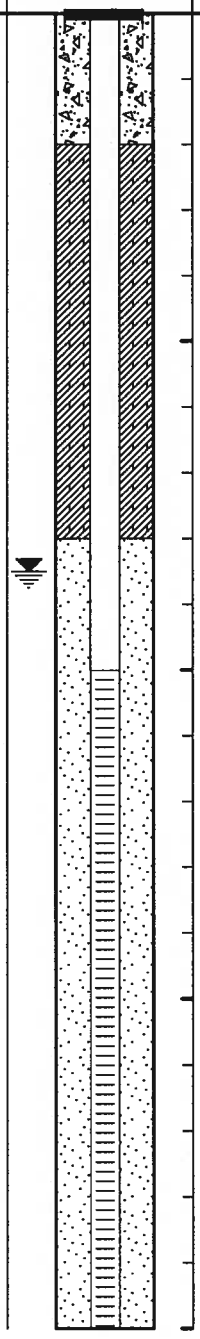
KJ PNW WISHRAM 036026.00.GPJ KJ PNW.GDT 11/10/03

F-40.1
(6-87) (3-88) (8-90)

Boring & Well Construction Log

Kennedy/Jenks Consultants

BORING LOCATION: Wishram Yard, Wishram, WA		**Well Name**	WMW-4
DRILLING COMPANY: Cascade Drilling	DRILLER: N/A	**Project Name**	BNSF Wishram
DRILLING METHOD(S): HSA	DRILL BIT(S) SIZE: 9 inch	**Project Number**	036026.00
ISOLATION CASING: N/A	FROM N/A TO N/A FT.	ELEVATION AND DATUM: 95.02 (toc)	TOTAL DEPTH: 20.0 ft. bgs
BLANK CASING: 2-inch Sechedule 40 PVC Pipe	FROM 0 TO 10 FT.	DATE STARTED: 9/12/03	DATE COMPLETED: 9/12/03
SLOTTED CASING: 2-inch Schedule 40 PVC Pipe, 0.010-inch slot	FROM 10 TO 20 FT.	INITIAL WATER DEPTH (FT): N/A	STATIC WATER ELEV. (FT): N/A
SIZE AND TYPE OF FILTER PACK: 10/20 Silica Sand	FROM 8 TO 20 FT.	LOGGED BY: GCD	
SEAL: Bentonite Chips	FROM 2 TO 8 FT.	SAMPLING METHODS: Shelby Tube	WELL COMPLETION: ■ SURFACE HOUSING ☐ STAND PIPE_____ FT.
GROUT: Concrete	FROM 0 TO 2 FT.		



SAMPLES TYPE	SAMPLES RECOV. (FEET)	SAMPLES PENETR. RESIST. BLOWS/6"	DEPTH (FEET)	SAMPLE NUMBER	WELL CONSTRUCTION	LITHOLOGY	USCS LOG	SAMPLE DESCRIPTION AND DRILLING REMARKS
			0				GW	**Well-graded GRAVEL** Road gravel.
								Well-graded SAND with silt Brown, fine to medium sand with silt, loose, dry.
			5				SW/ SM	
			10					**Poorly graded SAND with silt** Gray, fine to medium sand with silt, loose wet.
			15				SP/ SM	
			20					

KJ PNW WISHRAM 036026.00.GPJ KJ PNW.GDT 11/10/03

F-40.1
(6-87) (3-88) (8-90)

Boring Log

Kennedy/Jenks Consultants

BORING LOCATION: Wishram Yard, Wishram, WA		**Boring Name**	WSB-1
DRILLING COMPANY: Cascade Drilling	DRILLER:	**Project Name**	BNSF Wishram
DRILLING METHOD(S): Direct Push	DRILL BIT(S) SIZE:	**Project Number**	036026.00
ISOLATION CASING: N/A	FROM N/A TO N/A FT.	ELEVATION AND DATUM: N/A	TOTAL DEPTH: 17.0 ft. bgs
BLANK CASING: N/A	FROM N/A TO N/A FT.	DATE STARTED: 9/2/03	DATE COMPLETED: 9/2/03
SLOTTED CASING: N/A	FROM N/A TO N/A FT.	INITIAL WATER DEPTH (FT): N/A	
SIZE AND TYPE OF FILTER PACK: N/A	FROM N/A TO N/A FT.	LOGGED BY: GCD	
SEAL: Bentonite Chips	FROM 0.5 TO 17 FT.	SAMPLING METHODS: 4 foot split spoon with liner	WELL COMPLETION: ☐ SURFACE HOUSING ☐ STAND PIPE ____ FT.
GROUT: N/A	FROM N/A TO N/A FT.		

SAMPLES TYPE	RECOV. (FEET)	PENETR. RESIST. BLOWS/6"	DEPTH (FEET)	SAMPLE NUMBER	BACKFILL DETAILS	LITHOLOGY	USCS LOG	SAMPLE DESCRIPTION AND DRILLING REMARKS
								Asphalt
			1					**Silty SAND (fill)** Brown, silty fine sand with some pea gravel, loose, dry.
			2				SM	
SS	2.5		3					**Silty SAND** Brown, silty fine sand, loose, slighty moist.
			4					
			5					
SS	3		6					
			7					
			8					
			9				SM	
SS	4		10	WSB-1-10				
			11					
			12					
			13					
SS	4		14					
			15	WSB-1-15				
			16				SP/ SM	**Poorly graded SAND with silt** Gray, fine sand with silt, loose, wet.
			17					

NOTES

1. Bedrock encountered at 17 feet bgs, boring terminated due to refusal.

KJ PNW WISHRAM II 03026.00.GPJ KJ PNW.GDT 11/10/03

F-40.1
(6-87) (3-88) (8-90)

Boring Log

Kennedy/Jenks Consultants

BORING LOCATION: Wishram Yard, Wishram, WA		**Boring Name**	WSB-2
DRILLING COMPANY: Cascade Drilling	DRILLER	**Project Name**	BNSF Wishram
DRILLING METHOD(S): Direct Push	DRILL BIT(S) SIZE	**Project Number**	036026.00
ISOLATION CASING: N/A	FROM N/A TO N/A FT.	ELEVATION AND DATUM: N/A	TOTAL DEPTH: 15.0 ft. bgs
BLANK CASING: N/A	FROM N/A TO N/A FT.	DATE STARTED: 9/2/03	DATE COMPLETED: 9/2/03
SLOTTED CASING: N/A	FROM N/A TO N/A FT.	INITIAL WATER DEPTH (FT): N/A	
SIZE AND TYPE OF FILTER PACK: N/A	FROM N/A TO N/A FT.	LOGGED BY: GCD	
SEAL: Bentonite Chips	FROM 0.5 TO 15 FT.	SAMPLING METHODS: 4 foot split spoon with liner	WELL COMPLETION: ☐ SURFACE HOUSING ☐ STAND PIPE ____ FT.
GROUT: N/A	FROM N/A TO N/A FT.		

SAMPLES TYPE	SAMPLES RECOV. (FEET)	SAMPLES PENETR. RESIST. BLOWS/6"	DEPTH (FEET)	SAMPLE NUMBER	BACKFILL DETAILS	LITHOLOGY	USCS LOG	SAMPLE DESCRIPTION AND DRILLING REMARKS
								Asphalt
			1				SM	**Silty SAND with gravel (fill)** Brown, gravelly fine sand with silt and woody debris, medium dense.
			2					
SS	3		3					
			4				SP	**Poorly graded SAND with gravel** Brown, fine sand with little gravel, medium dense, dry.
			5					
			6					
SS	3		7					
			8	WSB-2-8				**Poorly graded SAND** Gray, fine sand, loose, moist.
			9					
			10				SP	
SS	3		11					
			12					**Poorly graded SAND** Gray, fine sand, loose, moist.
			13				SP	
SS	1.5		14	WSB-2-15				
			15					

NOTES

1. Bedrock encountered at 15 feet bgs, boring terminated due to refusal.

KJ PNW WISHRAM II 03026.00.GPJ KJ PNW.GDT 11/10/03

F-40.1
(6-87) (3-88) (8-90)

Boring Log

Kennedy/Jenks Consultants

BORING LOCATION: Wishram Yard, Wishram, WA		**Boring Name**	WSB-3
DRILLING COMPANY: Cascade Drilling	DRILLER:	**Project Name**	BNSF Wishram
DRILLING METHOD(S): Direct Push	DRILL BIT(S) SIZE:	**Project Number**	036026.00
ISOLATION CASING: N/A	FROM N/A TO N/A FT.	ELEVATION AND DATUM: N/A	TOTAL DEPTH: 16.0 ft. bgs
BLANK CASING: N/A	FROM N/A TO N/A FT.	DATE STARTED: 9/2/03	DATE COMPLETED: 9/2/03
SLOTTED CASING: N/A	FROM N/A TO N/A FT.	INITIAL WATER DEPTH (FT): N/A	
SIZE AND TYPE OF FILTER PACK: N/A	FROM N/A TO N/A FT.	LOGGED BY: GCD	
SEAL: Bentonite Chips	FROM 0.5 TO 16 FT.	SAMPLING METHODS: 4 foot split spoon with liner	WELL COMPLETION: ☐ SURFACE HOUSING ☐ STAND PIPE_____ FT.
GROUT: N/A	FROM N/A TO N/A FT.		

SAMPLES TYPE	SAMPLES RECOV. (FEET)	SAMPLES PENETR. RESIST. BLOWS/6"	DEPTH (FEET)	SAMPLE NUMBER	BACKFILL DETAILS	LITHOLOGY	USCS LOG	SAMPLE DESCRIPTION AND DRILLING REMARKS
								Asphalt
			1					**Poorly graded SAND with silt** Brown, fine sand with silt, loose, dry.
SS	3		2					
			3					
			4					
			5					
SS	3		6				SP/ SM	
			7					
			8					
			9					
			10	WSB-3-10				
SS	3		11					
			12					**Poorly graded SAND with silt** Brown, fine sand with silt, loose, moist.
			13					
			14				SP/ SM	
SS	2.5		15					
			16	WSB-3-15.5				Weathered bedrock material,moist.

NOTES

1. Bedrock encountered at 15.5 feel bgs, weathered surface, boring terminated at 16 feet due to refusal.

KJ PNW WISHRAM II 03026.00.GPJ KJ PNW.GDT 11/10/03

F-40.1
(6-87) (3-88) (8-90)

Boring Log

Kennedy/Jenks Consultants

BORING LOCATION: Wishram Yard, Wishram, WA		**Boring Name**	WSB-4
DRILLING COMPANY: Cascade Drilling	DRILLER:	**Project Name**	BNSF Wishram
DRILLING METHOD(S): Direct Push	DRILL BIT(S) SIZE:	**Project Number**	036026.00
ISOLATION CASING: N/A	FROM N/A TO N/A FT.	ELEVATION AND DATUM: N/A	TOTAL DEPTH: 32.0 ft. bgs
BLANK CASING: N/A	FROM N/A TO N/A FT.	DATE STARTED: 9/2/03	DATE COMPLETED: 9/2/03
SLOTTED CASING: N/A	FROM N/A TO N/A FT.	INITIAL WATER DEPTH (FT): N/A	STATIC WATER ELEV. (FT): N/A
SIZE AND TYPE OF FILTER PACK: N/A	FROM N/A TO N/A FT.	LOGGED BY: GCD	
SEAL: Bentonite Chips	FROM 0.5 TO 32 FT.	SAMPLING METHODS: 4 foot split spoon with liner	WELL COMPLETION: ☐ SURFACE HOUSING ☐ STAND PIPE ____ FT.
GROUT: N/A	FROM N/A TO N/A FT.		

SAMPLES TYPE	SAMPLES RECOV. (FEET)	SAMPLES PENETR. RESIST. BLOWS/6"	DEPTH (FEET)	SAMPLE NUMBER	BACKFILL DETAILS	LITHOLOGY	USCS LOG	SAMPLE DESCRIPTION AND DRILLING REMARKS
							GW	**Well-graded GRAVEL** Gravel road material.
SS	3						SM	**Silty SAND with gravel (fill)** Gray/brown, gravely silty sand, dense, dry.
SS	3		5					**Well-graded SAND with silt** Gray, fine sand with silt, loose, dry.
SS	3		10	WSB-4-9				Wet.
SS	3		15					
SS	3		20				SW/ SM	
SS	3		25					
SS	2.5		30					

NOTES

1. Refusal at 32' possibly due to large cobble or bedrock.

KJ PNW WISHRAM II 03026.00.GPJ KJ PNW.GDT 11/10/03

F-40.1
(6-87) (3-88) (8-90)

SHEET 1 OF 1

Boring Log

Kennedy/Jenks Consultants

BORING LOCATION: Wishram Yard, Wishram, WA		**Boring Name**	WSB-5
DRILLING COMPANY: Cascade Drilling	DRILLER	**Project Name**	BNSF Wishram
DRILLING METHOD(S): Direct Push	DRILL BIT(S) SIZE	**Project Number**	036026.00
ISOLATION CASING: N/A	FROM N/A TO N/A FT.	ELEVATION AND DATUM: N/A	TOTAL DEPTH: 10.0 ft. bgs
BLANK CASING: N/A	FROM N/A TO N/A FT.	DATE STARTED: 9/2/03	DATE COMPLETED: 9/2/03
SLOTTED CASING: N/A	FROM N/A TO N/A FT.	INITIAL WATER DEPTH (FT): N/A	STATIC WATER ELEV. (FT): N/A
SIZE AND TYPE OF FILTER PACK: N/A	FROM N/A TO N/A FT.	LOGGED BY: GCD	
SEAL: Bentonite Chips	FROM 0.5 TO 10 FT.	SAMPLING METHODS: 4 foot split spoon with liner	WELL COMPLETION: ☐ SURFACE HOUSING ☐ STAND PIPE ____ FT.
GROUT: N/A	FROM N/A TO N/A FT.		

SAMPLES TYPE	RECOV. (FEET)	PENETR. RESIST. BLOWS/6"	DEPTH (FEET)	SAMPLE NUMBER	BACKFILL DETAILS	LITHOLOGY	USCS LOG	SAMPLE DESCRIPTION AND DRILLING REMARKS
							GW	**Well-graded GRAVEL** Gravel road material.
			1					**Debris (fill)** Gravely sandy debris including railroad ties, metal, and concrete, loose.
			2					
SS	3		3					
			4					
			5					
			6					
SS	3		7					
			8					**Silty SAND** Gray, fine silty sand, medium dense.
			9				SM	
SS	.5		10	WSB-5-9.5				Wet.

NOTES

1. Boring terminated at 10' bgs due to refusal.

KJ PNW WISHRAM II 03026.00.GPJ KJ PNW.GDT 11/10/03

F-40.1
(6-87) (3-88) (8-90)

SHEET 1 OF 1

Boring Log

Kennedy/Jenks Consultants

BORING LOCATION: Wishram Yard, Wishram, WA		**Boring Name**	WSB-6
DRILLING COMPANY: Cascade Drilling	DRILLER	**Project Name**	BNSF Wishram
DRILLING METHOD(S): Direct Push	DRILL BIT(S) SIZE	**Project Number**	036026.00
ISOLATION CASING: N/A	FROM N/A TO N/A FT.	ELEVATION AND DATUM: N/A	TOTAL DEPTH: 17.0 ft. bgs
BLANK CASING: N/A	FROM N/A TO N/A FT.	DATE STARTED: 9/2/03	DATE COMPLETED: 9/2/03
SLOTTED CASING: N/A	FROM N/A TO N/A FT.	INITIAL WATER DEPTH (FT): N/A	STATIC WATER ELEV. (FT): N/A
SIZE AND TYPE OF FILTER PACK: N/A	FROM N/A TO N/A FT.	LOGGED BY: GCD	
SEAL: Bentonite Chips	FROM 0.5 TO 17 FT.	SAMPLING METHODS: 4 foot split spoon with liner	WELL COMPLETION: ☐ SURFACE HOUSING ☐ STAND PIPE ____ FT.
GROUT: N/A	FROM N/A TO N/A FT.		

SAMPLES TYPE	RECOV. (FEET)	PENETR. RESIST. BLOWS/6"	DEPTH (FEET)	SAMPLE NUMBER	BACKFILL DETAILS	LITHOLOGY	USCS LOG	SAMPLE DESCRIPTION AND DRILLING REMARKS
							GW	**Well-graded GRAVEL** Gravel road material.
			1					**Poorly graded SAND with silt** Brown, fine sand with silt, medium dense, dry.
SS	3		2					
			3					
			4					
			5				SP/ SM	
SS	3		6					
			7					
			8					
			9					
			10	WSB-6-10				Moist to wet.
SS	3		11					
			12					**Well-graded SAND** Gray, fine to medium sand, loose, moist.
			13					
			14	WSB-6-14			SW	
SS	3		15					
			16					
			17					

NOTES

1. Boring terminated at 17' due to refusal (apparent cobble).

KJ PNW WISHRAM II 03026.00.GPJ KJ PNW.GDT 11/10/03

F-40.1
(6-87) (3-88) (8-90)

Boring Log

Kennedy/Jenks Consultants

BORING LOCATION: Wishram Yard, Wishram, WA		**Boring Name**	WSB-7
DRILLING COMPANY: Cascade Drilling	DRILLER:	**Project Name**	BNSF Wishram
DRILLING METHOD(S): Direct Push	DRILL BIT(S) SIZE:	**Project Number**	036026.00
ISOLATION CASING: N/A	FROM N/A TO N/A FT.	ELEVATION AND DATUM: N/A	TOTAL DEPTH: 20.0 ft. bgs
BLANK CASING: N/A	FROM N/A TO N/A FT.	DATE STARTED: 9/2/03	DATE COMPLETED: 9/2/03
SLOTTED CASING: N/A	FROM N/A TO N/A FT.	INITIAL WATER DEPTH (FT): N/A	STATIC WATER ELEV. (FT): N/A
SIZE AND TYPE OF FILTER PACK: N/A	FROM N/A TO N/A FT.	LOGGED BY: GCD	
SEAL: Bentonite Chips	FROM 0.5 TO 20 FT.	SAMPLING METHODS: 4 foot split spoon with liner	WELL COMPLETION: ☐ SURFACE HOUSING ☐ STAND PIPE____ FT.
GROUT: N/A	FROM N/A TO N/A FT.		

SAMPLES TYPE	SAMPLES RECOV. (FEET)	SAMPLES PENETR. RESIST. BLOWS/6"	DEPTH (FEET)	SAMPLE NUMBER	BACKFILL DETAILS	LITHOLOGY	USCS LOG	SAMPLE DESCRIPTION AND DRILLING REMARKS
							GP	**Poorly graded GRAVEL** Ballast.
SS	3							**Poorly graded SAND with silt** Brown, fine sand with silt, dry.
SS	3		5					
SS	3		10	WSB-7-10			SP/ SM	
SS	3		15					Wet.
SS	2.5		20					

NOTES

1. Boring terminated at 20' bgs, NOT due to refusal.

KJ PNW WISHRAM II 03026.00.GPJ KJ PNW.GDT 11/10/03

F-40.1
(6-87) (3-88) (8-90)

SHEET 1 OF 1

Appendix B

Laboratory Analytical Reports

www.ncalabs.com

Seattle 11720 North Creek Pkwy N, Suite 400, Bothell, WA 98011-8244
425.420.9200 fax 425.420.9210
Spokane East 11115 Montgomery, Suite B, Spokane, WA 99206-4776
509.924.9200 fax 509.924.9290
Portland 9405 SW Nimbus Avenue, Beaverton, OR 97008-7132
503.906.9200 fax 503.906.9210
Bend 20332 Empire Avenue, Suite F-1, Bend, OR 97701-5711
541.383.9310 fax 541.382.7588
Anchorage 2000 W. International Airport Road, Suite A10, Anchorage, AK 99502-1119
907.563.9200 fax 907.563.9210

North Creek Analytical
Case Narrative

Client: Kennedy Jenks Consultants
Project Name: UPRR-Wishram
Consultant Project #: 036026.00
Laboratory Work Order: P3I0207
Summary

Eleven soil samples and were received by North Creek Analytical, Portland and logged in on September 5,2003. Samples were received at 9.3 degrees Centigrade. There were no anomalies reported with the receipt of the samples.

Sample Analysis

There was an anomaly encountered during the preparation and analysis of the samples. Where applicable, qualifiers have been added to sample results as footnotes and are detailed in the *Notes and Definitions* section of the *Analytical Report*. The anomaly is as follows: *Sample WSB-5-10 was reanalyzed out of recommended hold time due to a out of calibration for the initial run.*

QC Analysis

If surrogate and quality control parameters are outside established control limits it is noted on the appropriate pages of the *Analytical Report*. There were no anomalies encountered during the preparation and analysis of the QC samples that impacts data integrity.

Lisa Domenighini, Project Manager — 9/19/03 Date

Analytical Resources, Incorporated
Analytical Chemists and Consultants

September 24, 2003

Ms. Lisa Domenighini
North Creek Analytical, Inc.
9405 SW Nimbus Ave.
Beaverton, OR 97008

Subject: Project No.: BNSF Wishram; ARI Project No.: FV53

Dear Ms. Domenighini;

The following pages provide the information requested by Kennedy Jenks on the subject project. The report consists of tables and plots, and a narrative describing the testing methods. Please call me to discuss any questions, or comments you may have on the data or its presentation.

Best Regards,
Analytical Resources Incorporated

Harold Benny

Harold Benny
Geotechnical Division Manager

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Client: North Creek Analytical, Inc.	Project No.: FV53
Client Project: BNSF Wishram	

Case Narrative

1. The samples were received on September 15, 2003. They were for grain size analysis, porosity, pH, and TKN. The samples were received from Kennedy Jenks for billing to the BNSF Wishram project.
2. The data is provided in summary tables and plots.
3. There were no noted anomalies in the samples or methods on this project.

Approved by: Harold Benny Date: 9/24/03
Title: Geotechnical Laboratory Manager

Chain of Custody Record & Laboratory Analysis Request

ARI Assigned Number:	Turn-around Requested: Standard
ARI Client Company: See comments	Phone:
Client Contact: Galen Davis Kennedy Jenks Consultants (253)942-3421	
Client Project Name: BNSF Wishram, WA.	
Client Project #: 036026.00	Samplers: Galen Davis

Date: 9/15/03

Page: 1 of 1

No. of Coolers: 2 Shelbys Cooler Temps: AMB

Analytical Resources, Incorporated
Analytical Chemists and Consultants
4611 South 134th Place, Suite 100
Tukwila WA 98168
206-695-6200 206-695-6201 (fax)

Sample ID	Date	Time	Matrix	No. Containers	Analysis Requested: Percent moisture Karl Fischer	Particle Size ASTM D422	Porosity std. Method	Soil PH	TKN 351.3				Notes/Comments
WMW-1-5	9/12/03		Soil	1 shelby	X	X	X	X	X				Subcontract work from NCA Beaverton contact Lisa Somenghini
WMW-3-5	9/12/03		Soil	1 Shelby	X	X	X	X	X				Bill to NCA reference ~~Kennedy Jenks~~ Job # 036026.00
													Conduct TKN & Soil PH if enough material only

Comments/Special Instructions	Relinquished by: (Signature)	Received by: (Signature)	Relinquished by: (Signature)	Received by: (Signature)
	Printed Name: Galen Davis	Printed Name: Brian Wood	Printed Name:	Printed Name:
	Company:	Company: ARI	Company:	Company:
	Date & Time: 9/15/03 1845	Date & Time: 9/15/03 1245	Date & Time:	Date & Time:

Limits of Liability: *ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the invoiced amount for said services. The acceptance by the client of a proposal for services by ARI release ARI from any liability in excess thereof, not withstanding any provision to the contrary in any contract, purchase order or co-signed agreement between ARI and the Client.*

Sample Retention Policy: All samples submitted to ARI will be appropriately discarded no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer, unless alernate retention schedules have been established by work-order or contract.

ANALYTICAL RESOURCES INCORPORATED

Northcreek Analytical / Kennedy Jenks
Project No.: BNSF Wishram

Table 1. Wet and Dry Density, Moisture Content, and Porosity

Sample Identification	Depth (ft)	Wet Density (lbs/ft^3)	Moisture Content (%)	Dry Density (lbs/ft^3)	Total Porosity
WMW-1-5	NA	89.6	5.5	85.0	0.50
WMW-3-5	NA	92.4	7.4	86.0	0.49

Notes:

1. The moisture content was determined in accordance with ASTM D-2216.
2. The wet density was determined from the average length, diameter and wet weight of the sample.
3. The dry density was determined by dividing the wet density by (1+ moisture content).
4. The specific gravity was determined according to ASTM D-854.
5. The porosity was calculated from the bulk density and specific gravity values.

FV53

ANALYTICAL RESOURCES INCORPORATED

North Creek Analytical / Kennedy Jenks
BNSF Wishram

Percent Finer Than Indicated Size, By ASTM D422

Sample ID	Depth (ft)	Moisture Content (%)	3"	2"	1.5"	1"	3/4"	1/2"	3/8"	#4	#10	#20	#40	#60	#100	#200
WMW-1-5	1-5	5.5	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	99.9	97.7	65.5	6.1
WMW-3-5	3-5	7.4	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	99.8	95.4	59.8	23.2

FV53

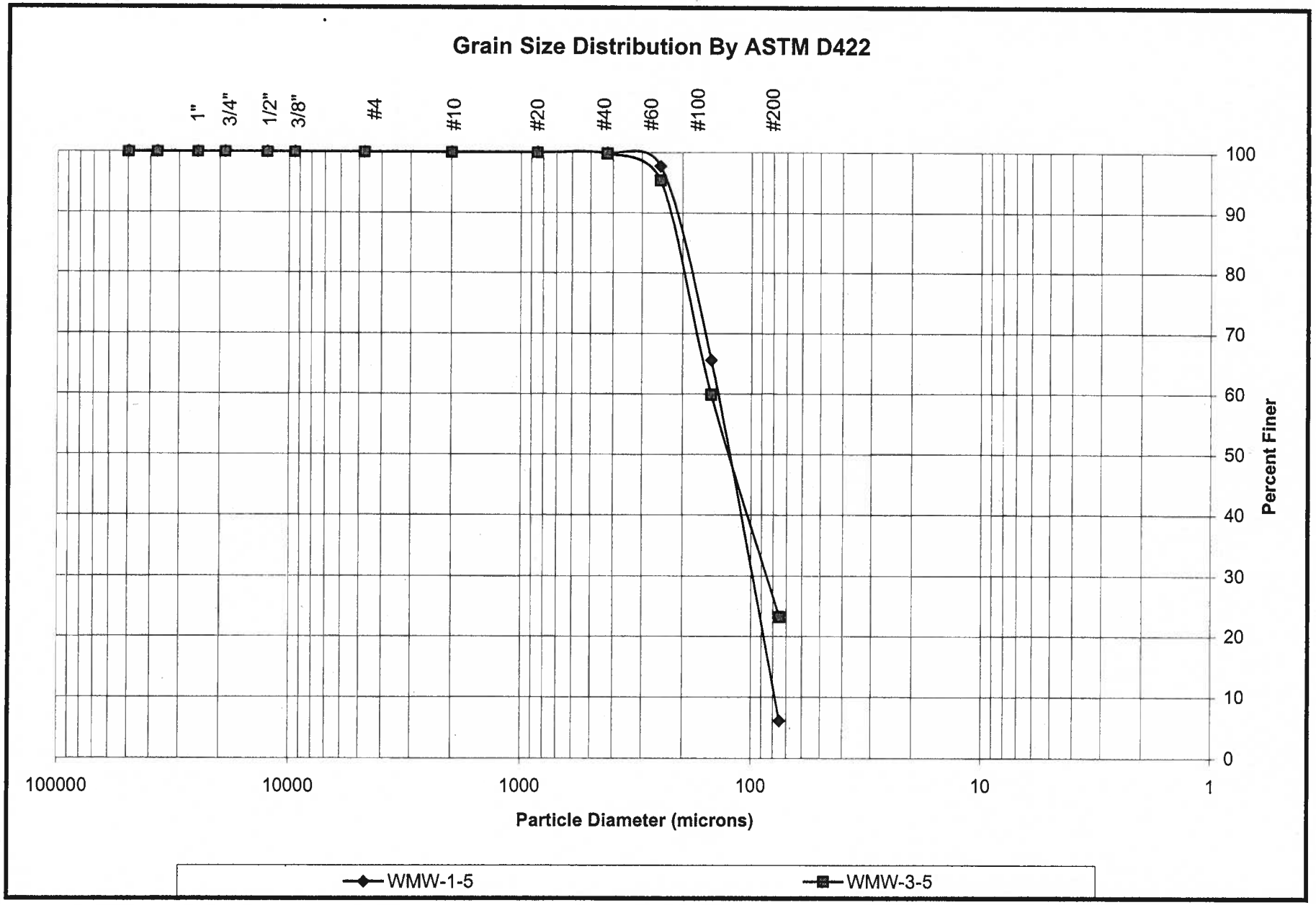
ANALYTICAL RESOURCES INCORPORATED

North Creek Analytical / Kennedy Jenks
BNSF Wishram

Percent Retained in Each Size Fraction, By ASTM D422

Sieve Size (microns)	>4750	4750-2000	2000-850	850-425	425-250	250-125	125-75	<75
WMW-1-5	0.0	0.0	0.0	0.1	2.1	32.2	59.4	6.1
WMW-3-5	0.0	0.0	0.0	0.2	4.4	35.5	36.7	23.2

ANALYTICAL RESOURCES INCORPORATED



ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
LABORATORY ANALYSIS OF CONVENTIONAL PARAMETERS **Sample ID: WMW-1-5**
Page 1 of 1 **SAMPLE**

Lab Sample ID: FV53A
LIMS ID: 03-12547
Matrix: Soil
Data Release Authorized: ajp
Reported: 09/24/03

QC Report No: FV53-North Creek Analytical-Portland
Project: BNSF WISHRAM, WA
036026.00
Date Sampled: 09/12/03
Date Received: 09/15/03

Analyte	Analysis Date & Batch	Method	DF	RL	Units	Result
pH	09/19/03 091903#1	EPA 150.1 SM 4500 H		0.01	std units	8.60
Total Solids	09/22/03 092203#1	EPA 160.3 SM 2540 B		0.01	Percent	95.4
Total Kjeldahl Nitrogen	09/19/03 091903#1	EPA 351.4 SM4500Norg		20	mg-N/kg	62

RL Analytical reporting limit
U Undetected at reported detection limit

pH determined on 1:1 soil:D.I. water extracts.

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
LABORATORY ANALYSIS OF CONVENTIONAL PARAMETERS **Sample ID: WMW-3-5**
Page 1 of 1 **SAMPLE**

Lab Sample ID: FV53B
LIMS ID: 03-12548
Matrix: Soil
Data Release Authorized: AH
Reported: 09/24/03

QC Report No: FV53-North Creek Analytical-Portland
Project: BNSF WISHRAM, WA
036026.00
Date Sampled: 09/12/03
Date Received: 09/15/03

Analyte	Analysis Date & Batch	Method	DF	RL	Units	Result
pH	09/19/03 091903#1	EPA 150.1 SM 4500 H		0.01	std units	7.29
Total Solids	09/22/03 092203#1	EPA 160.3 SM 2540 B		0.01	Percent	94.1
Total Kjeldahl Nitrogen	09/19/03 091903#1	EPA 351.4 SM4500Norg		24	mg-N/kg	72

RL Analytical reporting limit
U Undetected at reported detection limit

pH determined on 1:1 soil:D.I. water extracts.

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
LABORATORY ANALYSIS OF CONVENTIONAL PARAMETERS

Sample ID: MB-FV53
METHOD BLANK

Lab Sample ID: MB-FV53
LIMS ID: 03-12547
Matrix: Soil
Data Release Authorized: ap
Reported: 09/24/03

QC Report No: FV53-North Creek Analytical-Portland
Project: BNSF WISHRAM, WA
036026.00
Date Sampled: NA
Date Received: NA

METHOD BLANK RESULTS
CONVENTIONALS

Analyte	Analysis Date & Batch	Method	RL	Units	Result	
Total Solids	09/22/03 092203#1	EPA 160.3 SM 2540 B	0.01	mg residue	< 0.01	U

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
LABORATORY ANALYSIS OF CONVENTIONAL PARAMETERS **Sample ID: LCS-FV53**
Page 1 of 1 **LAB CONTROL**

Lab Sample ID: LCS-FV53
LIMS ID: 03-12547
Matrix: Soil
Data Release Authorized: asp
Reported: 09/24/03

QC Report No: FV53-North Creek Analytical-Portland
Project: BNSF WISHRAM, WA
036026.00
Date Sampled: NA
Date Received: NA

LABORATORY CONTROL RESULTS
CONVENTIONALS

Analyte	Analysis Date & Batch	Method	Units	LCS	True	REC
pH Calibration Standard						
pH	09/19/03 091903#1	EPA 150.1	std units	7.02	7.00	100%

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
LABORATORY ANALYSIS OF CONVENTIONAL PARAMETERS
Page 1 of 1

Sample ID: DUP-FV53
DUPLICATE

Lab Sample ID: DUP-FV53
LIMS ID: 03-12547
Matrix: Soil
Data Release Authorized: ap
Reported: 09/24/03

QC Report No: FV53-North Creek Analytical-Portland
Project: BNSF WISHRAM, WA
036026.00
Date Received: 09/15/03

DUPLICATE RESULTS
CONVENTIONALS

Analyte	Method	Units	Sample	Replicate	RPD/RSD
ARI ID: 03-12547, FV53A	**Client Sample ID: WMW-1-5**				
pH	EPA 150.1 SM 4500 H	std units	8.60	8.62	0.2%
Total Solids	EPA 160.3 SM 2540 B	Percent	95.4	95.3 95.3	0.1%

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541.383.9310 fax 541.382.7588

3 October, 2003

Galen Davis
Kennedy/Jenks Consultants-FW
32001 32nd Ave South Suite 100
Federal Way, WA 98003

RE: BNSF-Wishram

Enclosed are the results of analyses for samples received by the laboratory on 09/19/03 11:15. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Lisa Domenighini
Project Manager

Work Orders included in this report:

P3I0746

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Kennedy/Jenks Consultants-FW	Project: BNSF-Wishram	
32001 32nd Ave South Suite 100	Project Number: 036026.00	**Reported:**
Federal Way, WA 98003	Project Manager: Galen Davis	10/03/03 11:51

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
WMW-1	P3I0746-01	Water	09/17/03 13:25	09/19/03 11:15
WMW-100	P3I0746-02	Water	09/17/03 13:30	09/19/03 11:15
WMW-3	P3I0746-03	Water	09/17/03 13:30	09/19/03 11:15
WMW-4	P3I0746-04	Water	09/18/03 06:45	09/19/03 11:15
WMW-2	P3I0746-05	Water	09/18/03 07:15	09/19/03 11:15

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Kennedy/Jenks Consultants-FW	Project: BNSF-Wishram	
32001 32nd Ave South Suite 100	Project Number: 036026.00	**Reported:**
Federal Way, WA 98003	Project Manager: Galen Davis	10/03/03 11:51

Diesel and Heavy Range Hydrocarbons per NWTPH-Dx Method with Acid/Silica Gel Cleanup

North Creek Analytical - Portland

Analyte	Result	Reporting Limit	Units	Dilution	Method	Prepared	Analyzed	Batch	Notes
WMW-1 (P3I0746-01) Water					Sampled: 09/17/03 Received: 09/19/03				
Diesel Range Organics	**0.593**	0.250	mg/l	1	NWTPH-Dx	09/23/03	09/25/03	3090952	D-16
Heavy Oil Range Hydrocarbons	ND	0.500	"	"	"	"	"	"	
Surr: 1-Chlorooctadecane	*89.8 %*	*50-150*							
WMW-100 (P3I0746-02) Water					Sampled: 09/17/03 Received: 09/19/03				
Diesel Range Organics	**0.605**	0.250	mg/l	1	NWTPH-Dx	09/23/03	09/25/03	3090952	D-16
Heavy Oil Range Hydrocarbons	ND	0.500	"	"	"	"	"	"	
Surr: 1-Chlorooctadecane	*94.3 %*	*50-150*							
WMW-3 (P3I0746-03) Water					Sampled: 09/17/03 Received: 09/19/03				
Diesel Range Organics	**0.253**	0.250	mg/l	1	NWTPH-Dx	09/23/03	09/25/03	3090952	D-16
Heavy Oil Range Hydrocarbons	ND	0.500	"	"	"	"	"	"	
Surr: 1-Chlorooctadecane	*96.6 %*	*50-150*							
WMW-4 (P3I0746-04) Water					Sampled: 09/18/03 Received: 09/19/03				
Diesel Range Organics	**0.409**	0.250	mg/l	1	NWTPH-Dx	09/23/03	09/25/03	3090952	D-16
Heavy Oil Range Hydrocarbons	ND	0.500	"	"	"	"	"	"	
Surr: 1-Chlorooctadecane	*78.6 %*	*50-150*							
WMW-2 (P3I0746-05) Water					Sampled: 09/18/03 Received: 09/19/03				
Diesel Range Organics	**4.17**	0.500	mg/l	2	NWTPH-Dx	09/23/03	09/25/03	3090952	
Heavy Oil Range Hydrocarbons	**2.45**	1.00	"	"	"	"	"	"	
Surr: 1-Chlorooctadecane	*104 %*	*50-150*							

North Creek Analytical - Portland

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Lisa Domenighini, Project Manager

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Kennedy/Jenks Consultants-FW	Project: BNSF-Wishram	
32001 32nd Ave South Suite 100	Project Number: 036026.00	**Reported:**
Federal Way, WA 98003	Project Manager: Galen Davis	10/03/03 11:51

Selected Volatile Organic Compounds per EPA Method 8260B

North Creek Analytical - Portland

Analyte	Result	Reporting Limit	Units	Dilution	Method	Prepared	Analyzed	Batch	Notes
WMW-1 (P3I0746-01) Water					Sampled: 09/17/03 Received: 09/19/03				
Benzene	ND	0.500	ug/l	1	EPA 8260B	09/25/03	09/26/03	3091108	
Toluene	ND	0.500	"	"	"	"	"	"	
Ethylbenzene	ND	0.500	"	"	"	"	"	"	
Xylenes (total)	ND	1.00	"	"	"	"	"	"	
Surr: 4-BFB	*94.5 %*	*80-120*							
Surr: 1,2-DCA-d4	*102 %*	*77-135*							
Surr: Dibromofluoromethane	*97.5 %*	*80-122*							
Surr: Toluene-d8	*96.0 %*	*80-120*							
WMW-100 (P3I0746-02) Water					Sampled: 09/17/03 Received: 09/19/03				
Benzene	ND	0.500	ug/l	1	EPA 8260B	09/25/03	09/26/03	3091108	
Toluene	ND	0.500	"	"	"	"	"	"	
Ethylbenzene	ND	0.500	"	"	"	"	"	"	
Xylenes (total)	**1.02**	1.00	"	"	"	"	"	"	
Surr: 4-BFB	*97.5 %*	*80-120*							
Surr: 1,2-DCA-d4	*97.0 %*	*77-135*							
Surr: Dibromofluoromethane	*99.0 %*	*80-122*							
Surr: Toluene-d8	*97.5 %*	*80-120*							
WMW-3 (P3I0746-03) Water					Sampled: 09/17/03 Received: 09/19/03				
Benzene	ND	0.500	ug/l	1	EPA 8260B	09/25/03	09/26/03	3091108	
Toluene	ND	0.500	"	"	"	"	"	"	
Ethylbenzene	ND	0.500	"	"	"	"	"	"	
Xylenes (total)	ND	1.00	"	"	"	"	"	"	
Surr: 4-BFB	*95.0 %*	*80-120*							
Surr: 1,2-DCA-d4	*97.5 %*	*77-135*							
Surr: Dibromofluoromethane	*97.5 %*	*80-122*							
Surr: Toluene-d8	*97.0 %*	*80-120*							

Lisa Domenighini, Project Manager

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Kennedy/Jenks Consultants-FW	Project: BNSF-Wishram	
32001 32nd Ave South Suite 100	Project Number: 036026.00	**Reported:**
Federal Way, WA 98003	Project Manager: Galen Davis	10/03/03 11:51

Selected Volatile Organic Compounds per EPA Method 8260B

North Creek Analytical - Portland

Analyte	Result	Reporting Limit	Units	Dilution	Method	Prepared	Analyzed	Batch	Notes
WMW-4 (P3I0746-04) Water						Sampled: 09/18/03	Received: 09/19/03		
Benzene	ND	0.500	ug/l	1	EPA 8260B	09/25/03	09/26/03	3091108	
Toluene	ND	0.500	"	"	"	"	"	"	
Ethylbenzene	ND	0.500	"	"	"	"	"	"	
Xylenes (total)	ND	1.00	"	"	"	"	"	"	
Surr: 4-BFB	*95.5 %*	*80-120*							
Surr: 1,2-DCA-d4	*95.5 %*	*77-135*							
Surr: Dibromofluoromethane	*95.0 %*	*80-122*							
Surr: Toluene-d8	*97.0 %*	*80-120*							
WMW-2 (P3I0746-05) Water						Sampled: 09/18/03	Received: 09/19/03		
Benzene	**5.71**	0.500	ug/l	1	EPA 8260B	09/25/03	09/26/03	3091108	
Toluene	**23.5**	0.500	"	"	"	"	"	"	
Ethylbenzene	**5.84**	0.500	"	"	"	"	"	"	
Xylenes (total)	**11.8**	1.00	"	"	"	"	"	"	
Surr: 4-BFB	*98.0 %*	*80-120*							
Surr: 1,2-DCA-d4	*96.0 %*	*77-135*							
Surr: Dibromofluoromethane	*97.5 %*	*80-122*							
Surr: Toluene-d8	*98.5 %*	*80-120*							

North Creek Analytical - Portland

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Kennedy/Jenks Consultants-FW	Project: BNSF-Wishram	
32001 32nd Ave South Suite 100	Project Number: 036026.00	**Reported:**
Federal Way, WA 98003	Project Manager: Galen Davis	10/03/03 11:51

Polynuclear Aromatic Compounds per EPA 8270M-SIM

North Creek Analytical - Portland

Analyte	Result	Reporting Limit	Units	Dilution	Method	Prepared	Analyzed	Batch	Notes
WMW-1 (P3I0746-01) Water					Sampled: 09/17/03 Received: 09/19/03				
Benzo (a) anthracene	ND	0.100	ug/l	1	EPA 8270m	09/24/03	09/30/03	3091008	
Benzo (a) pyrene	ND	0.100	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.100	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.100	"	"	"	"	"	"	
Chrysene	ND	0.100	"	"	"	"	"	"	
Dibenzo (a,h) anthracene	ND	0.200	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.100	"	"	"	"	"	"	
Surr: Benzo (a) pyrene-d12	*64.8 %*	*10-125*							
WMW-100 (P3I0746-02) Water					Sampled: 09/17/03 Received: 09/19/03				
Benzo (a) anthracene	ND	0.100	ug/l	1	EPA 8270m	09/24/03	09/30/03	3091008	
Benzo (a) pyrene	ND	0.100	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.100	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.100	"	"	"	"	"	"	
Chrysene	ND	0.100	"	"	"	"	"	"	
Dibenzo (a,h) anthracene	ND	0.200	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.100	"	"	"	"	"	"	
Surr: Benzo (a) pyrene-d12	*51.6 %*	*10-125*							
WMW-3 (P3I0746-03) Water					Sampled: 09/17/03 Received: 09/19/03				
Benzo (a) anthracene	ND	0.100	ug/l	1	EPA 8270m	09/24/03	09/30/03	3091008	
Benzo (a) pyrene	ND	0.100	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.100	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.100	"	"	"	"	"	"	
Chrysene	ND	0.100	"	"	"	"	"	"	
Dibenzo (a,h) anthracene	ND	0.200	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.100	"	"	"	"	"	"	
Surr: Benzo (a) pyrene-d12	*64.3 %*	*10-125*							

North Creek Analytical - Portland

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Lisa Domenighini, Project Manager

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541.383.9310 fax 541.382.7588

Kennedy/Jenks Consultants-FW	Project: BNSF-Wishram	
32001 32nd Ave South Suite 100	Project Number: 036026.00	**Reported:**
Federal Way, WA 98003	Project Manager: Galen Davis	10/03/03 11:51

Polynuclear Aromatic Compounds per EPA 8270M-SIM

North Creek Analytical - Portland

Analyte	Result	Reporting Limit	Units	Dilution	Method	Prepared	Analyzed	Batch	Notes
WMW-4 (P3I0746-04) Water					Sampled: 09/18/03 Received: 09/19/03				
Benzo (a) anthracene	ND	0.100	ug/l	1	EPA 8270m	09/24/03	09/30/03	3091008	
Benzo (a) pyrene	ND	0.100	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.100	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.100	"	"	"	"	"	"	
Chrysene	ND	0.100	"	"	"	"	"	"	
Dibenzo (a,h) anthracene	ND	0.200	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.100	"	"	"	"	"	"	
Surr: Benzo (a) pyrene-d12	*63.3 %*	*10-125*							
WMW-2 (P3I0746-05) Water					Sampled: 09/18/03 Received: 09/19/03				**R-05**
Benzo (a) anthracene	**0.304**	0.200	ug/l	2	EPA 8270m	09/24/03	09/26/03	3091008	
Benzo (a) pyrene	ND	0.200	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.200	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.200	"	"	"	"	"	"	
Chrysene	**0.516**	0.200	"	"	"	"	"	"	
Dibenzo (a,h) anthracene	ND	0.400	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.200	"	"	"	"	"	"	
Surr: Benzo (a) pyrene-d12	*45.9 %*	*10-125*							

North Creek Analytical - Portland

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Lisa Domenighini, Project Manager

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Kennedy/Jenks Consultants-FW	Project: BNSF-Wishram	
32001 32nd Ave South Suite 100	Project Number: 036026.00	**Reported:**
Federal Way, WA 98003	Project Manager: Galen Davis	10/03/03 11:51

Diesel and Heavy Range Hydrocarbons per NWTPH-Dx Method with Acid/Silica Gel Cleanup - Quality Control

North Creek Analytical - Portland

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 3090952 - EPA 3510 Fuels										
Blank (3090952-BLK1)				Prepared: 09/23/03 Analyzed: 09/25/03						
Diesel Range Organics	ND	0.250	mg/l							
Heavy Oil Range Hydrocarbons	ND	0.500	"							
Surr: 1-Chlorooctadecane	*0.0887*		"	*0.0960*		*92.4*	*50-150*			
LCS (3090952-BS1)				Prepared: 09/23/03 Analyzed: 09/25/03						
Diesel Range Organics	2.20	0.250	mg/l	2.50		88.0	50-150			
Heavy Oil Range Hydrocarbons	1.68	0.500	"	1.50		112	50-150			
Surr: 1-Chlorooctadecane	*0.0986*		"	*0.0960*		*103*	*50-150*			
LCS Dup (3090952-BSD1)				Prepared: 09/23/03 Analyzed: 09/25/03						
Diesel Range Organics	2.23	0.250	mg/l	2.50		89.2	50-150	1.35	50	
Heavy Oil Range Hydrocarbons	1.67	0.500	"	1.50		111	50-150	0.597	50	
Surr: 1-Chlorooctadecane	*0.102*		"	*0.0960*		*106*	*50-150*			

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Kennedy/Jenks Consultants-FW	Project: BNSF-Wishram	
32001 32nd Ave South Suite 100	Project Number: 036026.00	**Reported:**
Federal Way, WA 98003	Project Manager: Galen Davis	10/03/03 11:51

Selected Volatile Organic Compounds per EPA Method 8260B - Quality Control

North Creek Analytical - Portland

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 3091108 - EPA 5030B										
Blank (3091108-BLK1)				Prepared & Analyzed: 09/25/03						
Benzene	ND	0.500	ug/l							
Toluene	ND	0.500	"							
Ethylbenzene	ND	0.500	"							
Xylenes (total)	ND	1.00	"							
Surr: 4-BFB	*19.0*		"	*20.0*		*95.0*	*80-120*			
Surr: 1,2-DCA-d4	*19.4*		"	*20.0*		*97.0*	*77-135*			
Surr: Dibromofluoromethane	*19.4*		"	*20.0*		*97.0*	*80-122*			
Surr: Toluene-d8	*19.6*		"	*20.0*		*98.0*	*80-120*			
LCS (3091108-BS1)				Prepared & Analyzed: 09/25/03						
Benzene	20.9	0.500	ug/l	20.0		104	80-120			
Toluene	20.6	0.500	"	20.0		103	80-120			
Ethylbenzene	21.7	0.500	"	20.0		108	80-120			
Xylenes (total)	65.1	1.00	"	60.0		108	80-120			
Surr: 4-BFB	*20.6*		"	*20.0*		*103*	*80-120*			
Surr: 1,2-DCA-d4	*19.0*		"	*20.0*		*95.0*	*77-135*			
Surr: Dibromofluoromethane	*19.6*		"	*20.0*		*98.0*	*80-122*			
Surr: Toluene-d8	*19.9*		"	*20.0*		*99.5*	*80-120*			
Matrix Spike (3091108-MS1)	**Source: P3I0805-02**			Prepared & Analyzed: 09/25/03						
Benzene	21.5	0.500	ug/l	20.0	ND	108	80-124			
Toluene	20.8	0.500	"	20.0	ND	104	79.7-131			
Ethylbenzene	22.2	0.500	"	20.0	ND	111	80-124			
Xylenes (total)	66.3	1.00	"	60.0	ND	110	44.6-154			
Surr: 4-BFB	*20.8*		"	*20.0*		*104*	*80-120*			
Surr: 1,2-DCA-d4	*19.4*		"	*20.0*		*97.0*	*77-135*			
Surr: Dibromofluoromethane	*20.1*		"	*20.0*		*100*	*80-122*			
Surr: Toluene-d8	*20.4*		"	*20.0*		*102*	*80-120*			

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Kennedy/Jenks Consultants-FW	Project: BNSF-Wishram	
32001 32nd Ave South Suite 100	Project Number: 036026.00	**Reported:**
Federal Way, WA 98003	Project Manager: Galen Davis	10/03/03 11:51

Selected Volatile Organic Compounds per EPA Method 8260B - Quality Control

North Creek Analytical - Portland

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 3091108 - EPA 5030B										
Matrix Spike Dup (3091108-MSD1)	**Source: P3I0805-02**			Prepared & Analyzed: 09/25/03						
Benzene	21.3	0.500	ug/l	20.0	ND	106	80-124	0.935	25	
Toluene	20.5	0.500	"	20.0	ND	102	79.7-131	1.45	25	
Ethylbenzene	22.2	0.500	"	20.0	ND	111	80-124	0.00	25	
Xylenes (total)	66.4	1.00	"	60.0	ND	111	44.6-154	0.151	25	
Surr: 4-BFB	*20.3*		*"*	*20.0*		*102*	*80-120*			
Surr: 1,2-DCA-d4	*19.0*		*"*	*20.0*		*95.0*	*77-135*			
Surr: Dibromofluoromethane	*19.7*		*"*	*20.0*		*98.5*	*80-122*			
Surr: Toluene-d8	*19.4*		*"*	*20.0*		*97.0*	*80-120*			

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Kennedy/Jenks Consultants-FW	Project: BNSF-Wishram	
32001 32nd Ave South Suite 100	Project Number: 036026.00	**Reported:**
Federal Way, WA 98003	Project Manager: Galen Davis	10/03/03 11:51

Polynuclear Aromatic Compounds per EPA 8270M-SIM - Quality Control

North Creek Analytical - Portland

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 3091008 - EPA 3510/600 Series										
Blank (3091008-BLK1)				Prepared: 09/24/03 Analyzed: 09/30/03						
Acenaphthene	ND	0.100	ug/l							
Acenaphthylene	ND	0.100	"							
Anthracene	ND	0.100	"							
Benzo (a) anthracene	ND	0.100	"							
Benzo (a) pyrene	ND	0.100	"							
Benzo (b) fluoranthene	ND	0.100	"							
Benzo (ghi) perylene	ND	0.100	"							
Benzo (k) fluoranthene	ND	0.100	"							
Chrysene	ND	0.100	"							
Dibenzo (a,h) anthracene	ND	0.200	"							
Fluoranthene	ND	0.100	"							
Fluorene	ND	0.100	"							
Indeno (1,2,3-cd) pyrene	ND	0.100	"							
Naphthalene	ND	0.100	"							
Phenanthrene	ND	0.100	"							
Pyrene	ND	0.100	"							
Surr: Fluorene-d10	*1.70*		"	*2.50*		*68.0*	*25-125*			
Surr: Pyrene-d10	*1.77*		"	*2.50*		*70.8*	*23-150*			
Surr: Benzo (a) pyrene-d12	*1.78*		"	*2.50*		*71.2*	*10-125*			
LCS (3091008-BS1)				Prepared: 09/24/03 Analyzed: 09/30/03						
Acenaphthene	1.64	0.100	ug/l	2.50		65.6	26-135			
Benzo (a) pyrene	1.81	0.100	"	2.50		72.4	38-137			
Pyrene	1.70	0.100	"	2.50		68.0	33-133			
Surr: Fluorene-d10	*1.72*		"	*2.50*		*68.8*	*25-125*			
Surr: Pyrene-d10	*1.75*		"	*2.50*		*70.0*	*23-150*			
Surr: Benzo (a) pyrene-d12	*1.84*		"	*2.50*		*73.6*	*10-125*			

North Creek Analytical - Portland

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Lisa Domenighini, Project Manager

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Kennedy/Jenks Consultants-FW	Project: BNSF-Wishram	
32001 32nd Ave South Suite 100	Project Number: 036026.00	**Reported:**
Federal Way, WA 98003	Project Manager: Galen Davis	10/03/03 11:51

Polynuclear Aromatic Compounds per EPA 8270M-SIM - Quality Control

North Creek Analytical - Portland

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 3091008 - EPA 3510/600 Series										
LCS Dup (3091008-BSD1)				Prepared: 09/24/03 Analyzed: 09/30/03						
Acenaphthene	1.71	0.100	ug/l	2.50		68.4	26-135	4.18	60	
Benzo (a) pyrene	1.79	0.100	"	2.50		71.6	38-137	1.11	60	
Pyrene	1.79	0.100	"	2.50		71.6	33-133	5.16	60	
Surr: Fluorene-d10	*1.71*		"	*2.50*		*68.4*	*25-125*			
Surr: Pyrene-d10	*1.75*		"	*2.50*		*70.0*	*23-150*			
Surr: Benzo (a) pyrene-d12	*1.75*		"	*2.50*		*70.0*	*10-125*			

North Creek Analytical - Portland

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Lisa Domenighini, Project Manager

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Kennedy/Jenks Consultants-FW	Project: BNSF-Wishram	
32001 32nd Ave South Suite 100	Project Number: 036026.00	**Reported:**
Federal Way, WA 98003	Project Manager: Galen Davis	10/03/03 11:51

Notes and Definitions

D-16	Detected hydrocarbons in the diesel range do not have a distinct diesel pattern and may be due to heavily weathered diesel.
R-05	Reporting limits raised due to dilution necessary for analysis. Sample contains high levels of reported analyte, non-target analyte, and/or matrix interference.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis. MRLs are adjusted if %Solids are less than 50%.
wet	Sample results reported on a wet weight basis (as received)
RPD	Relative Percent Difference

North Creek Analytical - Portland

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Lisa Domenighini, Project Manager

nca

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CHAIN OF CUSTODY REPORT

Work Order #: P3I0746

CLIENT: Kennedy/Jenks for BNSF

REPORT TO: Galen Davis; Kennedy/Jenks
ADDRESS: 32001 32nd Ave S, Ste 100
Federal Way, WA 98001
PHONE: 253-874-0555 FAX: 253-952-3435

INVOICE TO: BNSF -- Work Order Pending TT9156-D02

P.O. NUMBER:

PROJECT NAME: BNSF-Wishram

PROJECT NUMBER:

SAMPLED BY: Dean Malte

TURNAROUND REQUEST in Business Days *

Organic & Inorganic Analyses: [X] STD. | 7 | 5 | 4 | 3 | 2 | 1 | <1

Petroleum Hydrocarbon Analyses: [X] STD. | 4 | 3 | 2 | 1 | <1

OTHER Specify:

* Turnaround Requests less than standard may incur Rush Charges.

	CLIENT SAMPLE IDENTIFICATION	SAMPLING DATE/TIME	PRESERVATIVE: HCl	No HCl	HCl	REQUESTED ANALYSES: NW-TPH Dx(ext)	cPAH 8270D SIM	BTEX 8021B	MATRIX (W, S, O)	# OF CONT.	LOCATION / COMMENTS	NCA WO ID
1	WMW-1	9/17/03 1:25	X	X	X	X	X	X	W	5	* Silica Gel Cleanup for TPH-Dx Analyses	
2	WMW-100	1:30	X	X	X	X	X	X				
3	WMW-3		X	X	X	X	X	X				
4	WMW-4	9/18/03 6:45	X	X	X	X	X	X				
5	WMW-2	7:15	X	X	X	X	X	X				
6												
7												
8												
9												
10												

RELEASED BY: Dean Malte DATE: 9/18/03
PRINT NAME: Dean Malte FIRM: Kennedy/Jenks TIME: 3:00 PM

RECEIVED BY: [signature] DATE: 9/19/03
PRINT NAME: [illegible] FIRM: NCA TIME: 11:15

RELEASED BY: DATE:
PRINT NAME: FIRM: TIME:

RECEIVED BY: DATE:
PRINT NAME: FIRM: TIME:

ADDITIONAL REMARKS:

TEMP: 4.8/5.0

COC REV 1/03

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19 September, 2003

Galen Davis
Kennedy/Jenks Consultants-FW
32001 32nd Ave South Suite 100
Federal Way, WA 98003

RE: BNSF-Wishram

Enclosed are the results of analyses for samples received by the laboratory on 09/04/03 10:00. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Lisa Domenighini
Project Manager

Work Orders included in this report:

P3I0207

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Kennedy/Jenks Consultants-FW	Project: BNSF-Wishram	
32001 32nd Ave South Suite 100	Project Number: 036026.00	**Reported:**
Federal Way, WA 98003	Project Manager: Galen Davis	09/19/03 14:31

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
WSB-1-10	P3I0207-01	Soil	09/02/03 11:30	09/04/03 10:00
WSB-1-15	P3I0207-02	Soil	09/02/03 11:45	09/04/03 10:00
WSB-2-14	P3I0207-03	Soil	09/02/03 12:50	09/04/03 10:00
WSB-2-8	P3I0207-04	Soil	09/02/03 12:30	09/04/03 10:00
WSB-3-10	P3I0207-05	Soil	09/02/03 13:10	09/04/03 10:00
WSB-3-16	P3I0207-06	Soil	09/02/03 13:30	09/04/03 10:00
WSB-4-10	P3I0207-07	Soil	09/02/03 14:00	09/04/03 10:00
WSB-5-10	P3I0207-08	Soil	09/02/03 14:45	09/04/03 10:00
WSB-6-10	P3I0207-09	Soil	09/02/03 15:20	09/04/03 10:00
WSB-7-10	P3I0207-10	Soil	09/02/03 16:00	09/04/03 10:00
WSB-6-14	P3I0207-11	Soil	09/02/03 15:30	09/04/03 10:00

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Lisa Domenighini, Project Manager

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Kennedy/Jenks Consultants-FW	Project: BNSF-Wishram	
32001 32nd Ave South Suite 100	Project Number: 036026.00	**Reported:**
Federal Way, WA 98003	Project Manager: Galen Davis	09/19/03 14:31

Diesel and Heavy Range Hydrocarbons per NWTPH-Dx Method with Acid/Silica Gel Cleanup

North Creek Analytical - Portland

Analyte	Result	Reporting Limit	Units	Dilution	Method	Prepared	Analyzed	Batch	Notes
WSB-1-10 (P3I0207-01) Soil					Sampled: 09/02/03 Received: 09/04/03				
Diesel Range Organics	**47.6**	25.0	mg/kg dry	1	NWTPH-Dx	09/09/03	09/10/03	3090351	
Heavy Oil Range Hydrocarbons	**359**	50.0	"	"	"	"	"	"	
Surr: 1-Chlorooctadecane	*98.4 %*	*50-150*							
WSB-1-15 (P3I0207-02) Soil					Sampled: 09/02/03 Received: 09/04/03				
Diesel Range Organics	ND	25.0	mg/kg dry	1	NWTPH-Dx	09/09/03	09/09/03	3090351	
Heavy Oil Range Hydrocarbons	ND	50.0	"	"	"	"	"	"	
Surr: 1-Chlorooctadecane	*81.3 %*	*50-150*							
WSB-2-14 (P3I0207-03) Soil					Sampled: 09/02/03 Received: 09/04/03				
Diesel Range Organics	**15700**	2500	mg/kg dry	100	NWTPH-Dx	09/09/03	09/09/03	3090351	
Heavy Oil Range Hydrocarbons	**10500**	5000	"	"	"	"	"	"	
Surr: 1-Chlorooctadecane	*NR*	*50-150*							*S-01*
WSB-2-8 (P3I0207-04) Soil					Sampled: 09/02/03 Received: 09/04/03				
Diesel Range Organics	**6900**	250	mg/kg dry	10	NWTPH-Dx	09/10/03	09/11/03	3090412	
Heavy Oil Range Hydrocarbons	**4710**	500	"	"	"	"	"	"	
Surr: 1-Chlorooctadecane	*244 %*	*50-150*							*S-01*
WSB-3-10 (P3I0207-05) Soil					Sampled: 09/02/03 Received: 09/04/03				
Diesel Range Organics	ND	25.0	mg/kg dry	1	NWTPH-Dx	09/10/03	09/11/03	3090412	
Heavy Oil Range Hydrocarbons	ND	50.0	"	"	"	"	"	"	
Surr: 1-Chlorooctadecane	*90.8 %*	*50-150*							
WSB-3-16 (P3I0207-06) Soil					Sampled: 09/02/03 Received: 09/04/03				
Diesel Range Organics	ND	25.0	mg/kg dry	1	NWTPH-Dx	09/10/03	09/11/03	3090412	
Heavy Oil Range Hydrocarbons	ND	50.0	"	"	"	"	"	"	
Surr: 1-Chlorooctadecane	*85.6 %*	*50-150*							

North Creek Analytical - Portland

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Kennedy/Jenks Consultants-FW	Project: BNSF-Wishram	
32001 32nd Ave South Suite 100	Project Number: 036026.00	**Reported:**
Federal Way, WA 98003	Project Manager: Galen Davis	09/19/03 14:31

Diesel and Heavy Range Hydrocarbons per NWTPH-Dx Method with Acid/Silica Gel Cleanup

North Creek Analytical - Portland

Analyte	Result	Reporting Limit	Units	Dilution	Method	Prepared	Analyzed	Batch	Notes
WSB-4-10 (P3I0207-07) Soil					Sampled: 09/02/03 Received: 09/04/03				
Diesel Range Organics	ND	25.0	mg/kg dry	1	NWTPH-Dx	09/10/03	09/11/03	3090412	
Heavy Oil Range Hydrocarbons	ND	50.0	"	"	"	"	"	"	
Surr: 1-Chlorooctadecane	*82.9 %*	*50-150*							
WSB-5-10 (P3I0207-08) Soil					Sampled: 09/02/03 Received: 09/04/03				
Diesel Range Organics	**21000**	1000	mg/kg dry	20	NWTPH-Dx	09/10/03	09/11/03	3090412	
Heavy Oil Range Hydrocarbons	**21600**	2000	"	"	"	"	"	"	
Surr: 1-Chlorooctadecane	*NR*	*50-150*							*S-01*
WSB-6-10 (P3I0207-09) Soil					Sampled: 09/02/03 Received: 09/04/03				
Diesel Range Organics	ND	25.0	mg/kg dry	1	NWTPH-Dx	09/10/03	09/11/03	3090412	
Heavy Oil Range Hydrocarbons	ND	50.0	"	"	"	"	"	"	
Surr: 1-Chlorooctadecane	*88.4 %*	*50-150*							
WSB-7-10 (P3I0207-10) Soil					Sampled: 09/02/03 Received: 09/04/03				
Diesel Range Organics	**240**	25.0	mg/kg dry	1	NWTPH-Dx	09/10/03	09/11/03	3090412	
Heavy Oil Range Hydrocarbons	**72.3**	50.0	"	"	"	"	"	"	
Surr: 1-Chlorooctadecane	*89.8 %*	*50-150*							
WSB-6-14 (P3I0207-11) Soil					Sampled: 09/02/03 Received: 09/04/03				
Diesel Range Organics	**265**	25.0	mg/kg dry	1	NWTPH-Dx	09/10/03	09/11/03	3090412	
Heavy Oil Range Hydrocarbons	**75.4**	50.0	"	"	"	"	"	"	
Surr: 1-Chlorooctadecane	*99.1 %*	*50-150*							

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Kennedy/Jenks Consultants-FW	Project: BNSF-Wishram	
32001 32nd Ave South Suite 100	Project Number: 036026.00	**Reported:**
Federal Way, WA 98003	Project Manager: Galen Davis	09/19/03 14:31

Selected Volatile Organic Compounds per EPA Method 8260B

North Creek Analytical - Portland

Analyte	Result	Reporting Limit	Units	Dilution	Method	Prepared	Analyzed	Batch	Notes
WSB-1-10 (P3I0207-01) Soil					Sampled: 09/02/03 Received: 09/04/03				
Benzene	ND	50.0	ug/kg dry	1	EPA 8260B	09/10/03	09/12/03	3090383	
Toluene	ND	50.0	"	"	"	"	"	"	
Ethylbenzene	ND	50.0	"	"	"	"	"	"	
Xylenes (total)	ND	100	"	"	"	"	"	"	
Surr: 4-BFB	*93.3 %*	*42.6-130*							
Surr: 1,2-DCA-d4	*109 %*	*57.3-144*							
Surr: Dibromofluoromethane	*101 %*	*45.5-130*							
Surr: Toluene-d8	*112 %*	*42.1-144*							
WSB-1-15 (P3I0207-02) Soil					Sampled: 09/02/03 Received: 09/04/03				
Benzene	ND	50.0	ug/kg dry	1	EPA 8260B	09/10/03	09/12/03	3090383	
Toluene	ND	50.0	"	"	"	"	"	"	
Ethylbenzene	ND	50.0	"	"	"	"	"	"	
Xylenes (total)	ND	100	"	"	"	"	"	"	
Surr: 4-BFB	*83.1 %*	*42.6-130*							
Surr: 1,2-DCA-d4	*96.1 %*	*57.3-144*							
Surr: Dibromofluoromethane	*87.8 %*	*45.5-130*							
Surr: Toluene-d8	*99.2 %*	*42.1-144*							
WSB-2-14 (P3I0207-03) Soil					Sampled: 09/02/03 Received: 09/04/03				
Benzene	ND	100	ug/kg dry	2	EPA 8260B	09/10/03	09/16/03	3090383	
Toluene	ND	100	"	"	"	"	"	"	
Ethylbenzene	**687**	100	"	"	"	"	"	"	
Xylenes (total)	**739**	200	"	"	"	"	"	"	
Surr: 4-BFB	*73.2 %*	*42.6-130*							
Surr: 1,2-DCA-d4	*80.9 %*	*57.3-144*							
Surr: Dibromofluoromethane	*74.8 %*	*45.5-130*							
Surr: Toluene-d8	*74.4 %*	*42.1-144*							

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Kennedy/Jenks Consultants-FW	Project: BNSF-Wishram	
32001 32nd Ave South Suite 100	Project Number: 036026.00	**Reported:**
Federal Way, WA 98003	Project Manager: Galen Davis	09/19/03 14:31

Selected Volatile Organic Compounds per EPA Method 8260B

North Creek Analytical - Portland

Analyte	Result	Reporting Limit	Units	Dilution	Method	Prepared	Analyzed	Batch	Notes
WSB-2-8 (P3I0207-04) Soil					Sampled: 09/02/03 Received: 09/04/03				**R-05**
Benzene	ND	100	ug/kg dry	2	EPA 8260B	09/10/03	09/16/03	3090383	
Toluene	ND	100	"	"	"	"	"	"	
Ethylbenzene	**178**	100	"	"	"	"	"	"	
Xylenes (total)	ND	200	"	"	"	"	"	"	
Surr: 4-BFB	*80.5 %*	*42.6-130*							
Surr: 1,2-DCA-d4	*82.8 %*	*57.3-144*							
Surr: Dibromofluoromethane	*73.5 %*	*45.5-130*							
Surr: Toluene-d8	*82.3 %*	*42.1-144*							
WSB-3-10 (P3I0207-05) Soil					Sampled: 09/02/03 Received: 09/04/03				
Benzene	ND	50.0	ug/kg dry	1	EPA 8260B	09/10/03	09/12/03	3090383	
Toluene	ND	50.0	"	"	"	"	"	"	
Ethylbenzene	ND	50.0	"	"	"	"	"	"	
Xylenes (total)	ND	100	"	"	"	"	"	"	
Surr: 4-BFB	*91.4 %*	*42.6-130*							
Surr: 1,2-DCA-d4	*102 %*	*57.3-144*							
Surr: Dibromofluoromethane	*93.2 %*	*45.5-130*							
Surr: Toluene-d8	*106 %*	*42.1-144*							
WSB-3-16 (P3I0207-06) Soil					Sampled: 09/02/03 Received: 09/04/03				
Benzene	ND	50.0	ug/kg dry	1	EPA 8260B	09/10/03	09/12/03	3090383	
Toluene	ND	50.0	"	"	"	"	"	"	
Ethylbenzene	ND	50.0	"	"	"	"	"	"	
Xylenes (total)	ND	100	"	"	"	"	"	"	
Surr: 4-BFB	*80.3 %*	*42.6-130*							
Surr: 1,2-DCA-d4	*90.2 %*	*57.3-144*							
Surr: Dibromofluoromethane	*82.6 %*	*45.5-130*							
Surr: Toluene-d8	*95.1 %*	*42.1-144*							

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Kennedy/Jenks Consultants-FW	Project: BNSF-Wishram	
32001 32nd Ave South Suite 100	Project Number: 036026.00	**Reported:**
Federal Way, WA 98003	Project Manager: Galen Davis	09/19/03 14:31

Selected Volatile Organic Compounds per EPA Method 8260B

North Creek Analytical - Portland

Analyte	Result	Reporting Limit	Units	Dilution	Method	Prepared	Analyzed	Batch	Notes
WSB-4-10 (P3I0207-07) Soil					Sampled: 09/02/03 Received: 09/04/03				
Benzene	ND	100	ug/kg dry	2	EPA 8260B	09/10/03	09/16/03	3090383	
Toluene	ND	100	"	"	"	"	"	"	
Ethylbenzene	**299**	100	"	"	"	"	"	"	
Xylenes (total)	**1360**	200	"	"	"	"	"	"	
Surr: 4-BFB	*76.2 %*	*42.6-130*							
Surr: 1,2-DCA-d4	*83.2 %*	*57.3-144*							
Surr: Dibromofluoromethane	*82.0 %*	*45.5-130*							
Surr: Toluene-d8	*77.0 %*	*42.1-144*							
WSB-5-10 (P3I0207-08) Soil					Sampled: 09/02/03 Received: 09/04/03				**I-02**
Benzene	ND	100	ug/kg dry	2	EPA 8260B	09/10/03	09/17/03	3090383	
Toluene	**153**	100	"	"	"	"	"	"	
Ethylbenzene	**221**	100	"	"	"	"	"	"	
Xylenes (total)	**1650**	200	"	"	"	"	"	"	
Surr: 4-BFB	*77.2 %*	*42.6-130*							
Surr: 1,2-DCA-d4	*85.8 %*	*57.3-144*							
Surr: Dibromofluoromethane	*82.3 %*	*45.5-130*							
Surr: Toluene-d8	*77.6 %*	*42.1-144*							
WSB-6-10 (P3I0207-09) Soil					Sampled: 09/02/03 Received: 09/04/03				
Benzene	ND	50.0	ug/kg dry	1	EPA 8260B	09/10/03	09/12/03	3090383	
Toluene	ND	50.0	"	"	"	"	"	"	
Ethylbenzene	ND	50.0	"	"	"	"	"	"	
Xylenes (total)	ND	100	"	"	"	"	"	"	
Surr: 4-BFB	*94.8 %*	*42.6-130*							
Surr: 1,2-DCA-d4	*101 %*	*57.3-144*							
Surr: Dibromofluoromethane	*98.3 %*	*45.5-130*							
Surr: Toluene-d8	*109 %*	*42.1-144*							

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Kennedy/Jenks Consultants-FW	Project: BNSF-Wishram	
32001 32nd Ave South Suite 100	Project Number: 036026.00	**Reported:**
Federal Way, WA 98003	Project Manager: Galen Davis	09/19/03 14:31

Selected Volatile Organic Compounds per EPA Method 8260B

North Creek Analytical - Portland

Analyte	Result	Reporting Limit	Units	Dilution	Method	Prepared	Analyzed	Batch	Notes
WSB-7-10 (P3I0207-10) Soil					Sampled: 09/02/03 Received: 09/04/03				
Benzene	ND	50.0	ug/kg dry	1	EPA 8260B	09/10/03	09/12/03	3090383	
Toluene	ND	50.0	"	"	"	"	"	"	
Ethylbenzene	ND	50.0	"	"	"	"	"	"	
Xylenes (total)	ND	100	"	"	"	"	"	"	
Surr: 4-BFB	*96.4 %*	*42.6-130*							
Surr: 1,2-DCA-d4	*105 %*	*57.3-144*							
Surr: Dibromofluoromethane	*96.4 %*	*45.5-130*							
Surr: Toluene-d8	*109 %*	*42.1-144*							
WSB-6-14 (P3I0207-11) Soil					Sampled: 09/02/03 Received: 09/04/03				
Benzene	ND	50.0	ug/kg dry	1	EPA 8260B	09/10/03	09/12/03	3090383	
Toluene	ND	50.0	"	"	"	"	"	"	
Ethylbenzene	ND	50.0	"	"	"	"	"	"	
Xylenes (total)	ND	100	"	"	"	"	"	"	
Surr: 4-BFB	*86.6 %*	*42.6-130*							
Surr: 1,2-DCA-d4	*92.9 %*	*57.3-144*							
Surr: Dibromofluoromethane	*87.9 %*	*45.5-130*							
Surr: Toluene-d8	*97.3 %*	*42.1-144*							

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Kennedy/Jenks Consultants-FW	Project: BNSF-Wishram	
32001 32nd Ave South Suite 100	Project Number: 036026.00	**Reported:**
Federal Way, WA 98003	Project Manager: Galen Davis	09/19/03 14:31

Semivolatile Organic Compounds per EPA Method 8270C

North Creek Analytical - Portland

Analyte	Result	Reporting Limit	Units	Dilution	Method	Prepared	Analyzed	Batch	Notes
WSB-2-14 (P3I0207-03) Soil					Sampled: 09/02/03	Received: 09/04/03			**R-05**
Acenaphthene	ND	16.5	mg/kg dry	5	EPA 8270C	09/08/03	09/17/03	3090304	
Acenaphthylene	ND	16.5	"	"	"	"	"	"	
Anthracene	ND	16.5	"	"	"	"	"	"	
Benzo (a) anthracene	ND	16.5	"	"	"	"	"	"	
Benzo (a) pyrene	ND	16.5	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	16.5	"	"	"	"	"	"	
Benzo (ghi) perylene	ND	16.5	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	16.5	"	"	"	"	"	"	
Benzoic Acid	ND	50.0	"	"	"	"	"	"	
Benzyl alcohol	ND	16.5	"	"	"	"	"	"	
4-Bromophenyl phenyl ether	ND	16.5	"	"	"	"	"	"	
Butyl benzyl phthalate	ND	16.5	"	"	"	"	"	"	
4-Chloro-3-methylphenol	ND	16.5	"	"	"	"	"	"	
4-Chloroaniline	ND	100	"	"	"	"	"	"	
Bis(2-chloroethoxy)methane	ND	16.5	"	"	"	"	"	"	
Bis(2-chloroethyl)ether	ND	16.5	"	"	"	"	"	"	
Bis(2-chloroisopropyl)ether	ND	16.5	"	"	"	"	"	"	
2-Chloronaphthalene	ND	16.5	"	"	"	"	"	"	
2-Chlorophenol	ND	16.5	"	"	"	"	"	"	
4-Chlorophenyl phenyl ether	ND	16.5	"	"	"	"	"	"	
Chrysene	ND	16.5	"	"	"	"	"	"	
Di-n-butyl phthalate	ND	50.0	"	"	"	"	"	"	
Di-n-octyl phthalate	ND	16.5	"	"	"	"	"	"	
Dibenzo (a,h) anthracene	ND	16.5	"	"	"	"	"	"	
Dibenzofuran	ND	16.5	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	50.0	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	50.0	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	50.0	"	"	"	"	"	"	
3,3'-Dichlorobenzidine	ND	50.0	"	"	"	"	"	"	
2,4-Dichlorophenol	ND	16.5	"	"	"	"	"	"	
Diethyl phthalate	ND	16.5	"	"	"	"	"	"	
2,4-Dimethylphenol	ND	50.0	"	"	"	"	"	"	
Dimethyl phthalate	ND	16.5	"	"	"	"	"	"	
4,6-Dinitro-2-methylphenol	ND	50.0	"	"	"	"	"	"	
2,4-Dinitrophenol	ND	100	"	"	"	"	"	"	
2,4-Dinitrotoluene	ND	25.0	"	"	"	"	"	"	
2,6-Dinitrotoluene	ND	25.0	"	"	"	"	"	"	
Bis(2-ethylhexyl)phthalate	ND	100	"	"	"	"	"	"	
Fluoranthene	ND	16.5	"	"	"	"	"	"	

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Kennedy/Jenks Consultants-FW	Project: BNSF-Wishram	
32001 32nd Ave South Suite 100	Project Number: 036026.00	**Reported:**
Federal Way, WA 98003	Project Manager: Galen Davis	09/19/03 14:31

Semivolatile Organic Compounds per EPA Method 8270C

North Creek Analytical - Portland

Analyte	Result	Reporting Limit	Units	Dilution	Method	Prepared	Analyzed	Batch	Notes
WSB-2-14 (P3I0207-03) Soil					Sampled: 09/02/03 Received: 09/04/03				**R-05**
Fluorene	ND	16.5	mg/kg dry	5	EPA 8270C	09/08/03	09/17/03	3090304	
Hexachlorobenzene	ND	16.5	"	"	"	"	"	"	
Hexachlorobutadiene	ND	50.0	"	"	"	"	"	"	
Hexachlorocyclopentadiene	ND	50.0	"	"	"	"	"	"	
Hexachloroethane	ND	50.0	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	16.5	"	"	"	"	"	"	
Isophorone	ND	16.5	"	"	"	"	"	"	
2-Methylnaphthalene	**61.9**	16.5	"	"	"	"	"	"	
2-Methylphenol	ND	16.5	"	"	"	"	"	"	
3-,4-Methylphenol	ND	16.5	"	"	"	"	"	"	
Naphthalene	**23.8**	16.5	"	"	"	"	"	"	
2-Nitroaniline	ND	16.5	"	"	"	"	"	"	
3-Nitroaniline	ND	50.0	"	"	"	"	"	"	
4-Nitroaniline	ND	16.5	"	"	"	"	"	"	
Nitrobenzene	ND	16.5	"	"	"	"	"	"	
2-Nitrophenol	ND	16.5	"	"	"	"	"	"	
4-Nitrophenol	ND	50.0	"	"	"	"	"	"	
N-Nitrosodi-n-propylamine	ND	16.5	"	"	"	"	"	"	
N-Nitrosodiphenylamine	ND	16.5	"	"	"	"	"	"	
Pentachlorophenol	ND	50.0	"	"	"	"	"	"	
Phenanthrene	**41.0**	16.5	"	"	"	"	"	"	
Phenol	ND	16.5	"	"	"	"	"	"	
Pyrene	**18.1**	16.5	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	16.5	"	"	"	"	"	"	
2,4,5-Trichlorophenol	ND	16.5	"	"	"	"	"	"	
2,4,6-Trichlorophenol	ND	16.5	"	"	"	"	"	"	
Surr: 2-Fluorobiphenyl	*125 %*	*44-146*							*J*
Surr: 2-Fluorophenol	*95.6 %*	*42-126*							*J*
Surr: Nitrobenzene-d5	*112 %*	*42-126*							*J*
Surr: Phenol-d6	*87.6 %*	*42-131*							*J*
Surr: p-Terphenyl-d14	*106 %*	*49-150*							*J*
Surr: 2,4,6-Tribromophenol	*71.3 %*	*48-119*							*J*

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Kennedy/Jenks Consultants-FW	Project: BNSF-Wishram	
32001 32nd Ave South Suite 100	Project Number: 036026.00	**Reported:**
Federal Way, WA 98003	Project Manager: Galen Davis	09/19/03 14:31

Polynuclear Aromatic Compounds per EPA 8270M-SIM

North Creek Analytical - Portland

Analyte	Result	Reporting Limit	Units	Dilution	Method	Prepared	Analyzed	Batch	Notes
WSB-4-10 (P3I0207-07) Soil					Sampled: 09/02/03 Received: 09/04/03				
Benzo (a) anthracene	ND	13.4	ug/kg dry	1	EPA 8270m	09/09/03	09/15/03	3090359	
Benzo (a) pyrene	ND	13.4	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	13.4	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	13.4	"	"	"	"	"	"	
Chrysene	ND	13.4	"	"	"	"	"	"	
Dibenzo (a,h) anthracene	ND	13.4	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	13.4	"	"	"	"	"	"	
Surr: Benzo (a) pyrene-d12	*88.1 %*	*40-150*							

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Kennedy/Jenks Consultants-FW	Project: BNSF-Wishram	
32001 32nd Ave South Suite 100	Project Number: 036026.00	**Reported:**
Federal Way, WA 98003	Project Manager: Galen Davis	09/19/03 14:31

Percent Dry Weight (Solids) per Standard Methods

North Creek Analytical - Portland

Analyte	Result	Reporting Limit	Units	Dilution	Method	Prepared	Analyzed	Batch	Notes
WSB-1-10 (P3I0207-01) Soil					Sampled: 09/02/03 Received: 09/04/03				
% Solids	**95.5**	1.00	% by Weight	1	NCA SOP	09/09/03	09/10/03	3090385	
WSB-1-15 (P3I0207-02) Soil					Sampled: 09/02/03 Received: 09/04/03				
% Solids	**78.7**	1.00	% by Weight	1	NCA SOP	09/09/03	09/10/03	3090385	
WSB-2-14 (P3I0207-03) Soil					Sampled: 09/02/03 Received: 09/04/03				
% Solids	**81.5**	1.00	% by Weight	1	NCA SOP	09/09/03	09/10/03	3090385	
WSB-2-8 (P3I0207-04) Soil					Sampled: 09/02/03 Received: 09/04/03				
% Solids	**93.0**	1.00	% by Weight	1	NCA SOP	09/09/03	09/10/03	3090385	
WSB-3-10 (P3I0207-05) Soil					Sampled: 09/02/03 Received: 09/04/03				
% Solids	**90.6**	1.00	% by Weight	1	NCA SOP	09/09/03	09/10/03	3090385	
WSB-3-16 (P3I0207-06) Soil					Sampled: 09/02/03 Received: 09/04/03				
% Solids	**75.8**	1.00	% by Weight	1	NCA SOP	09/09/03	09/10/03	3090385	
WSB-4-10 (P3I0207-07) Soil					Sampled: 09/02/03 Received: 09/04/03				
% Solids	**78.2**	1.00	% by Weight	1	NCA SOP	09/09/03	09/10/03	3090385	
WSB-5-10 (P3I0207-08) Soil					Sampled: 09/02/03 Received: 09/04/03				
% Solids	**86.1**	1.00	% by Weight	1	NCA SOP	09/09/03	09/10/03	3090385	
WSB-6-10 (P3I0207-09) Soil					Sampled: 09/02/03 Received: 09/04/03				
% Solids	**86.8**	1.00	% by Weight	1	NCA SOP	09/09/03	09/10/03	3090385	

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Kennedy/Jenks Consultants-FW	Project: BNSF-Wishram	
32001 32nd Ave South Suite 100	Project Number: 036026.00	**Reported:**
Federal Way, WA 98003	Project Manager: Galen Davis	09/19/03 14:31

Percent Dry Weight (Solids) per Standard Methods

North Creek Analytical - Portland

Analyte	Result	Reporting Limit	Units	Dilution	Method	Prepared	Analyzed	Batch	Notes
WSB-7-10 (P3I0207-10) Soil					Sampled: 09/02/03 Received: 09/04/03				
% Solids	**79.2**	1.00	% by Weight	1	NCA SOP	09/09/03	09/10/03	3090385	
WSB-6-14 (P3I0207-11) Soil					Sampled: 09/02/03 Received: 09/04/03				
% Solids	**89.4**	1.00	% by Weight	1	NCA SOP	09/09/03	09/10/03	3090385	

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Kennedy/Jenks Consultants-FW	Project: BNSF-Wishram	
32001 32nd Ave South Suite 100	Project Number: 036026.00	**Reported:**
Federal Way, WA 98003	Project Manager: Galen Davis	09/19/03 14:31

Diesel and Heavy Range Hydrocarbons per NWTPH-Dx Method with Acid/Silica Gel Cleanup - Quality Control

North Creek Analytical - Portland

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 3090351 - EPA 3550 Fuels										
Blank (3090351-BLK1)				Prepared & Analyzed: 09/09/03						
Diesel Range Organics	ND	25.0	mg/kg							
Heavy Oil Range Hydrocarbons	ND	50.0	"							
Surr: 1-Chlorooctadecane	*4.30*		"	*4.80*		*89.6*	*50-150*			
LCS (3090351-BS1)				Prepared: 09/09/03 Analyzed: 09/12/03						
Diesel Range Organics	80.5	25.0	mg/kg	125		64.4	50-150			
Heavy Oil Range Hydrocarbons	54.5	50.0	"	75.0		72.7	50-150			
Surr: 1-Chlorooctadecane	*3.59*		"	*4.80*		*74.8*	*50-150*			
Duplicate (3090351-DUP1)	**Source: P3I0189-01**			Prepared & Analyzed: 09/09/03						
Diesel Range Organics	ND	25.0	mg/kg dry		ND				50	
Heavy Oil Range Hydrocarbons	ND	50.0	"		ND				50	
Surr: 1-Chlorooctadecane	*4.59*		"	*5.29*		*86.8*	*50-150*			
Duplicate (3090351-DUP2)	**Source: P3I0189-02**			Prepared & Analyzed: 09/09/03						
Diesel Range Organics	ND	25.0	mg/kg dry		ND				50	
Heavy Oil Range Hydrocarbons	ND	50.0	"		ND				50	
Surr: 1-Chlorooctadecane	*4.24*		"	*5.18*		*81.9*	*50-150*			
Batch 3090412 - EPA 3550 Fuels										
Blank (3090412-BLK1)				Prepared: 09/10/03 Analyzed: 09/11/03						
Diesel Range Organics	ND	25.0	mg/kg							
Heavy Oil Range Hydrocarbons	ND	50.0	"							
Surr: 1-Chlorooctadecane	*4.39*		"	*4.80*		*91.5*	*50-150*			
LCS (3090412-BS1)				Prepared: 09/10/03 Analyzed: 09/11/03						
Diesel Range Organics	84.9	25.0	mg/kg	125		67.9	50-150			
Heavy Oil Range Hydrocarbons	74.4	50.0	"	75.0		99.2	50-150			
Surr: 1-Chlorooctadecane	*4.48*		"	*4.80*		*93.3*	*50-150*			

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Kennedy/Jenks Consultants-FW	Project: BNSF-Wishram	
32001 32nd Ave South Suite 100	Project Number: 036026.00	**Reported:**
Federal Way, WA 98003	Project Manager: Galen Davis	09/19/03 14:31

Diesel and Heavy Range Hydrocarbons per NWTPH-Dx Method with Acid/Silica Gel Cleanup - Quality Control

North Creek Analytical - Portland

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 3090412 - EPA 3550 Fuels										
Duplicate (3090412-DUP1)	**Source: P3I0103-03**			Prepared: 09/10/03 Analyzed: 09/11/03						
Diesel Range Organics	50.4	25.0	mg/kg dry		53.2			5.41	50	
Heavy Oil Range Hydrocarbons	489	50.0	"		485			0.821	50	
Surr: 1-Chlorooctadecane	*4.25*		"	*5.48*		*77.6*	*50-150*			
Duplicate (3090412-DUP2)	**Source: P3I0103-04**			Prepared: 09/10/03 Analyzed: 09/11/03						
Diesel Range Organics	44.2	25.0	mg/kg dry		86.8			65.0	50	Q-14
Heavy Oil Range Hydrocarbons	ND	50.0	"		ND				50	
Surr: 1-Chlorooctadecane	*6.40*		"	*6.90*		*92.8*	*50-150*			

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Kennedy/Jenks Consultants-FW	Project: BNSF-Wishram	
32001 32nd Ave South Suite 100	Project Number: 036026.00	**Reported:**
Federal Way, WA 98003	Project Manager: Galen Davis	09/19/03 14:31

Selected Volatile Organic Compounds per EPA Method 8260B - Quality Control

North Creek Analytical - Portland

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 3090383 - EPA 5035										
Blank (3090383-BLK1)				Prepared: 09/10/03 Analyzed: 09/12/03						
1,2-Dibromoethane	ND	50.0	ug/kg							
1,2-Dichloroethane	ND	50.0	"							
Benzene	ND	50.0	"							
Toluene	ND	50.0	"							
Ethylbenzene	ND	50.0	"							
Xylenes (total)	ND	100	"							
Methyl tert-butyl ether	ND	200	"							
Naphthalene	ND	200	"							
1,2,4-Trimethylbenzene	ND	100	"							
1,3,5-Trimethylbenzene	ND	50.0	"							
Isopropylbenzene	ND	200	"							
n-Propylbenzene	ND	50.0	"							
Surr: 4-BFB	*1770*		"	*2000*		*88.5*	*42.6-130*			
Surr: 1,2-DCA-d4	*2190*		"	*2000*		*110*	*57.3-144*			
Surr: Dibromofluoromethane	*1950*		"	*2000*		*97.5*	*45.5-130*			
Surr: Toluene-d8	*2200*		"	*2000*		*110*	*42.1-144*			
LCS (3090383-BS1)				Prepared: 09/10/03 Analyzed: 09/12/03						
Benzene	2760	50.0	ug/kg	2500		110	81.9-125			
Toluene	2660	50.0	"	2500		106	80-125			
Surr: 4-BFB	*1920*		"	*2000*		*96.0*	*42.6-130*			
Surr: 1,2-DCA-d4	*2320*		"	*2000*		*116*	*57.3-144*			
Surr: Dibromofluoromethane	*2170*		"	*2000*		*108*	*45.5-130*			
Surr: Toluene-d8	*2340*		"	*2000*		*117*	*42.1-144*			
Matrix Spike (3090383-MS1)	**Source: P3I0207-01**			Prepared: 09/10/03 Analyzed: 09/12/03						
Benzene	2670	50.0	ug/kg dry	2620	ND	102	68.5-125			
Toluene	2640	50.0	"	2620	14.7	100	70.3-125			
Surr: 4-BFB	*1910*		"	*2090*		*91.4*	*42.6-130*			
Surr: 1,2-DCA-d4	*2260*		"	*2090*		*108*	*57.3-144*			
Surr: Dibromofluoromethane	*2070*		"	*2090*		*99.0*	*45.5-130*			
Surr: Toluene-d8	*2250*		"	*2090*		*108*	*42.1-144*			

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Kennedy/Jenks Consultants-FW	Project: BNSF-Wishram	
32001 32nd Ave South Suite 100	Project Number: 036026.00	**Reported:**
Federal Way, WA 98003	Project Manager: Galen Davis	09/19/03 14:31

Selected Volatile Organic Compounds per EPA Method 8260B - Quality Control

North Creek Analytical - Portland

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 3090383 - EPA 5035										
Matrix Spike Dup (3090383-MSD1)	**Source: P3I0207-01**			Prepared: 09/10/03		Analyzed: 09/12/03				
Benzene	2690	50.0	ug/kg dry	2620	ND	103	68.5-125	0.746	25	
Toluene	2600	50.0	"	2620	14.7	98.7	70.3-125	1.53	25	
Surr: 4-BFB	*2000*		"	*2090*		*95.7*	*42.6-130*			
Surr: 1,2-DCA-d4	*2310*		"	*2090*		*111*	*57.3-144*			
Surr: Dibromofluoromethane	*2150*		"	*2090*		*103*	*45.5-130*			
Surr: Toluene-d8	*2340*		"	*2090*		*112*	*42.1-144*			

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32001 32nd Ave South Suite 100	Project Number: 036026.00	**Reported:**
Federal Way, WA 98003	Project Manager: Galen Davis	09/19/03 14:31

Semivolatile Organic Compounds per EPA Method 8270C - Quality Control

North Creek Analytical - Portland

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 3090304 - EPA 3550										
Blank (3090304-BLK1)				Prepared: 09/08/03 Analyzed: 09/15/03						
Acenaphthene	ND	0.330	mg/kg							
Acenaphthylene	ND	0.330	"							
Anthracene	ND	0.330	"							
Benzo (a) anthracene	ND	0.330	"							
Benzo (a) pyrene	ND	0.330	"							
Benzo (b) fluoranthene	ND	0.330	"							
Benzo (ghi) perylene	ND	0.330	"							
Benzo (k) fluoranthene	ND	0.330	"							
Benzoic Acid	ND	1.00	"							
Benzyl alcohol	ND	0.330	"							
4-Bromophenyl phenyl ether	ND	0.330	"							
Butyl benzyl phthalate	ND	0.330	"							
4-Chloro-3-methylphenol	ND	0.330	"							
4-Chloroaniline	ND	2.00	"							
Bis(2-chloroethoxy)methane	ND	0.330	"							
Bis(2-chloroethyl)ether	ND	0.330	"							
Bis(2-chloroisopropyl)ether	ND	0.330	"							
2-Chloronaphthalene	ND	0.330	"							
2-Chlorophenol	ND	0.330	"							
4-Chlorophenyl phenyl ether	ND	0.330	"							
Chrysene	ND	0.330	"							
Di-n-butyl phthalate	ND	1.00	"							
Di-n-octyl phthalate	ND	0.330	"							
Dibenzo (a,h) anthracene	ND	0.330	"							
Dibenzofuran	ND	0.330	"							
1,2-Dichlorobenzene	ND	1.00	"							
1,3-Dichlorobenzene	ND	1.00	"							
1,4-Dichlorobenzene	ND	1.00	"							
3,3'-Dichlorobenzidine	ND	1.00	"							
2,4-Dichlorophenol	ND	0.330	"							
Diethyl phthalate	ND	0.330	"							
2,4-Dimethylphenol	ND	1.00	"							
Dimethyl phthalate	ND	0.330	"							
4,6-Dinitro-2-methylphenol	ND	1.00	"							
2,4-Dinitrophenol	ND	2.00	"							
2,4-Dinitrotoluene	ND	0.500	"							

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Kennedy/Jenks Consultants-FW	Project: BNSF-Wishram	
32001 32nd Ave South Suite 100	Project Number: 036026.00	**Reported:**
Federal Way, WA 98003	Project Manager: Galen Davis	09/19/03 14:31

Semivolatile Organic Compounds per EPA Method 8270C - Quality Control

North Creek Analytical - Portland

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 3090304 - EPA 3550										
Blank (3090304-BLK1)				Prepared: 09/08/03 Analyzed: 09/15/03						
2,6-Dinitrotoluene	ND	0.500	mg/kg							
Bis(2-ethylhexyl)phthalate	ND	2.00	"							
Fluoranthene	ND	0.330	"							
Fluorene	ND	0.330	"							
Hexachlorobenzene	ND	0.330	"							
Hexachlorobutadiene	ND	1.00	"							
Hexachlorocyclopentadiene	ND	1.00	"							
Hexachloroethane	ND	1.00	"							
Indeno (1,2,3-cd) pyrene	ND	0.330	"							
Isophorone	ND	0.330	"							
2-Methylnaphthalene	ND	0.330	"							
2-Methylphenol	ND	0.330	"							
3-,4-Methylphenol	ND	0.330	"							
Naphthalene	ND	0.330	"							
2-Nitroaniline	ND	0.330	"							
3-Nitroaniline	ND	1.00	"							
4-Nitroaniline	ND	0.330	"							
Nitrobenzene	ND	0.330	"							
2-Nitrophenol	ND	0.330	"							
4-Nitrophenol	ND	1.00	"							
N-Nitrosodi-n-propylamine	ND	0.330	"							
N-Nitrosodiphenylamine	ND	0.330	"							
Pentachlorophenol	ND	1.00	"							
Phenanthrene	ND	0.330	"							
Phenol	ND	0.330	"							
Pyrene	ND	0.330	"							
1,2,4-Trichlorobenzene	ND	0.330	"							
2,4,5-Trichlorophenol	ND	0.330	"							
2,4,6-Trichlorophenol	ND	0.330	"							
Surr: 2-Fluorobiphenyl	*2.15*		"	*2.50*		*86.0*	*44-146*			
Surr: 2-Fluorophenol	*4.27*		"	*5.00*		*85.4*	*42-126*			
Surr: Nitrobenzene-d5	*2.09*		"	*2.50*		*83.6*	*42-126*			
Surr: Phenol-d6	*4.07*		"	*5.00*		*81.4*	*42-131*			
Surr: p-Terphenyl-d14	*2.10*		"	*2.50*		*84.0*	*49-150*			
Surr: 2,4,6-Tribromophenol	*3.70*		"	*5.00*		*74.0*	*48-119*			

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541.383.9310 fax 541.382.7588

Kennedy/Jenks Consultants-FW	Project: BNSF-Wishram	
32001 32nd Ave South Suite 100	Project Number: 036026.00	**Reported:**
Federal Way, WA 98003	Project Manager: Galen Davis	09/19/03 14:31

Semivolatile Organic Compounds per EPA Method 8270C - Quality Control

North Creek Analytical - Portland

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 3090304 - EPA 3550										
LCS (3090304-BS1)				Prepared: 09/08/03 Analyzed: 09/15/03						
Acenaphthene	2.05	0.330	mg/kg	2.50		82.0	30-115			
4-Chloro-3-methylphenol	4.07	0.330	"	5.00		81.4	40-110			
2-Chlorophenol	4.53	0.330	"	5.00		90.6	40-100			
1,4-Dichlorobenzene	1.72	1.00	"	2.50		68.8	10-100			
2,4-Dinitrotoluene	2.16	0.500	"	2.50		86.4	30-110			
4-Nitrophenol	3.95	1.00	"	5.00		79.0	30-130			
N-Nitrosodi-n-propylamine	2.37	0.330	"	2.50		94.8	30-110			
Pentachlorophenol	3.22	1.00	"	5.00		64.4	14-120			
Phenol	4.59	0.330	"	5.00		91.8	35-100			
Pyrene	2.03	0.330	"	2.50		81.2	30-115			
1,2,4-Trichlorobenzene	1.75	0.330	"	2.50		70.0	18-100			
Surr: 2-Fluorobiphenyl	*2.15*		"	*2.50*		*86.0*	*44-146*			
Surr: 2-Fluorophenol	*4.50*		"	*5.00*		*90.0*	*42-126*			
Surr: Nitrobenzene-d5	*2.19*		"	*2.50*		*87.6*	*42-126*			
Surr: Phenol-d6	*4.62*		"	*5.00*		*92.4*	*42-131*			
Surr: p-Terphenyl-d14	*2.06*		"	*2.50*		*82.4*	*49-150*			
Surr: 2,4,6-Tribromophenol	*4.14*		"	*5.00*		*82.8*	*48-119*			
Matrix Spike (3090304-MS1)	**Source: P3I0004-18**			Prepared: 09/08/03 Analyzed: 09/15/03						
Acenaphthene	2.25	0.330	mg/kg dry	2.87	ND	78.4	40-110			
4-Chloro-3-methylphenol	4.41	0.330	"	5.74	ND	76.8	40-110			
2-Chlorophenol	4.70	0.330	"	5.74	ND	81.9	40-100			
1,4-Dichlorobenzene	1.45	1.00	"	2.87	ND	50.5	10-100			
2,4-Dinitrotoluene	2.40	0.500	"	2.87	ND	83.6	40-110			
4-Nitrophenol	4.18	1.00	"	5.74	ND	72.8	40-125			
N-Nitrosodi-n-propylamine	2.54	0.330	"	2.87	ND	88.5	30-110			
Pentachlorophenol	2.89	1.00	"	5.74	ND	50.3	25-110			
Phenol	7.26	1.32	"	5.74	ND	126	35-100			Q-14
Pyrene	2.25	0.330	"	2.87	ND	78.4	40-110			
1,2,4-Trichlorobenzene	1.69	0.330	"	2.87	ND	58.9	30-101			
Surr: 2-Fluorobiphenyl	*2.33*		"	*2.87*		*81.2*	*44-146*			
Surr: 2-Fluorophenol	*4.70*		"	*5.74*		*81.9*	*42-126*			
Surr: Nitrobenzene-d5	*2.26*		"	*2.87*		*78.7*	*42-126*			
Surr: Phenol-d6	*4.75*		"	*5.74*		*82.8*	*42-131*			
Surr: p-Terphenyl-d14	*2.23*		"	*2.87*		*77.7*	*49-150*			
Surr: 2,4,6-Tribromophenol	*4.60*		"	*5.74*		*80.1*	*48-119*			

North Creek Analytical - Portland

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Lisa Domenighini, Project Manager

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Kennedy/Jenks Consultants-FW	Project: BNSF-Wishram	
32001 32nd Ave South Suite 100	Project Number: 036026.00	**Reported:**
Federal Way, WA 98003	Project Manager: Galen Davis	09/19/03 14:31

Semivolatile Organic Compounds per EPA Method 8270C - Quality Control

North Creek Analytical - Portland

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 3090304 - EPA 3550										
Matrix Spike Dup (3090304-MSD1)	**Source: P3I0004-18**			Prepared: 09/08/03		Analyzed: 09/15/03				
Acenaphthene	2.37	0.330	mg/kg dry	2.87	ND	82.6	40-110	5.19	40	
4-Chloro-3-methylphenol	4.73	0.330	"	5.74	ND	82.4	40-110	7.00	40	
2-Chlorophenol	5.14	0.330	"	5.74	ND	89.5	40-100	8.94	40	
1,4-Dichlorobenzene	1.73	1.00	"	2.87	ND	60.3	10-100	17.6	60	
2,4-Dinitrotoluene	2.39	0.500	"	2.87	ND	83.3	40-110	0.418	40	
4-Nitrophenol	4.01	1.00	"	5.74	ND	69.9	40-125	4.15	40	
N-Nitrosodi-n-propylamine	2.75	0.330	"	2.87	ND	95.8	30-110	7.94	40	
Pentachlorophenol	3.63	1.00	"	5.74	ND	63.2	25-110	22.7	60	
Phenol	6.21	0.330	"	5.74	ND	108	35-100	15.6	40	Q-14
Pyrene	2.32	0.330	"	2.87	ND	80.8	40-110	3.06	40	
1,2,4-Trichlorobenzene	1.96	0.330	"	2.87	ND	68.3	30-101	14.8	60	
Surr: 2-Fluorobiphenyl	*2.39*		"	*2.87*		*83.3*	*44-146*			
Surr: 2-Fluorophenol	*5.19*		"	*5.74*		*90.4*	*42-126*			
Surr: Nitrobenzene-d5	*2.45*		"	*2.87*		*85.4*	*42-126*			
Surr: Phenol-d6	*5.27*		"	*5.74*		*91.8*	*42-131*			
Surr: p-Terphenyl-d14	*2.31*		"	*2.87*		*80.5*	*49-150*			
Surr: 2,4,6-Tribromophenol	*4.61*		"	*5.74*		*80.3*	*48-119*			

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Kennedy/Jenks Consultants-FW	Project: BNSF-Wishram	
32001 32nd Ave South Suite 100	Project Number: 036026.00	**Reported:**
Federal Way, WA 98003	Project Manager: Galen Davis	09/19/03 14:31

Polynuclear Aromatic Compounds per EPA 8270M-SIM - Quality Control

North Creek Analytical - Portland

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 3090359 - EPA 3550										
Blank (3090359-BLK1)				Prepared: 09/09/03 Analyzed: 09/16/03						
Acenaphthene	ND	13.4	ug/kg							
Acenaphthylene	ND	13.4	"							
Anthracene	ND	13.4	"							
Benzo (a) anthracene	ND	13.4	"							
Benzo (a) pyrene	ND	13.4	"							
Benzo (b) fluoranthene	ND	13.4	"							
Benzo (ghi) perylene	ND	13.4	"							
Benzo (k) fluoranthene	ND	13.4	"							
Chrysene	ND	13.4	"							
Dibenzo (a,h) anthracene	ND	13.4	"							
Fluoranthene	ND	13.4	"							
Fluorene	ND	13.4	"							
Indeno (1,2,3-cd) pyrene	ND	13.4	"							
Naphthalene	ND	13.4	"							
Phenanthrene	ND	13.4	"							
Pyrene	ND	13.4	"							
Surr: Fluorene-d10	*66.1*		"	*83.3*		*79.4*	*40-150*			
Surr: Pyrene-d10	*91.1*		"	*83.3*		*109*	*40-150*			
Surr: Benzo (a) pyrene-d12	*78.8*		"	*83.3*		*94.6*	*40-150*			
LCS (3090359-BS1)				Prepared: 09/09/03 Analyzed: 09/16/03						
Acenaphthene	140	13.4	ug/kg	167		83.8	33-139			
Benzo (a) pyrene	161	13.4	"	167		96.4	45-149			
Pyrene	151	13.4	"	167		90.4	39-138			
Surr: Fluorene-d10	*63.2*		"	*83.3*		*75.9*	*40-150*			
Surr: Pyrene-d10	*78.8*		"	*83.3*		*94.6*	*40-150*			
Surr: Benzo (a) pyrene-d12	*73.4*		"	*83.3*		*88.1*	*40-150*			

North Creek Analytical - Portland

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Lisa Domenighini, Project Manager

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Kennedy/Jenks Consultants-FW	Project: BNSF-Wishram	
32001 32nd Ave South Suite 100	Project Number: 036026.00	**Reported:**
Federal Way, WA 98003	Project Manager: Galen Davis	09/19/03 14:31

Polynuclear Aromatic Compounds per EPA 8270M-SIM - Quality Control

North Creek Analytical - Portland

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 3090359 - EPA 3550										
LCS Dup (3090359-BSD1)				Prepared: 09/09/03 Analyzed: 09/16/03						
Acenaphthene	145	13.4	ug/kg	167		86.8	33-139	3.51	60	
Benzo (a) pyrene	163	13.4	"	167		97.6	45-149	1.23	60	
Pyrene	153	13.4	"	167		91.6	39-138	1.32	60	
Surr: Fluorene-d10	*65.3*		"	*83.3*		*78.4*	*40-150*			
Surr: Pyrene-d10	*79.7*		"	*83.3*		*95.7*	*40-150*			
Surr: Benzo (a) pyrene-d12	*73.9*		"	*83.3*		*88.7*	*40-150*			
Matrix Spike (3090359-MS1)	**Source: P3I0140-04**			Prepared: 09/09/03 Analyzed: 09/16/03						**R-05**
Acenaphthene	200	26.8	ug/kg dry	192	ND	104	33-139			
Benzo (a) pyrene	196	26.8	"	192	ND	102	45-149			
Pyrene	219	26.8	"	192	35.8	95.4	39-138			
Surr: Fluorene-d10	*89.1*		"	*96.0*		*92.8*	*40-150*			
Surr: Pyrene-d10	*98.4*		"	*96.0*		*102*	*40-150*			
Surr: Benzo (a) pyrene-d12	*84.6*		"	*96.0*		*88.1*	*40-150*			
Matrix Spike Dup (3090359-MSD1)	**Source: P3I0140-04**			Prepared: 09/09/03 Analyzed: 09/16/03						**R-05**
Acenaphthene	207	26.8	ug/kg dry	192	ND	108	33-139	3.44	60	
Benzo (a) pyrene	199	26.8	"	192	ND	104	45-149	1.52	60	
Pyrene	219	26.8	"	192	35.8	95.4	39-138	0.00	60	
Surr: Fluorene-d10	*78.6*		"	*96.0*		*81.9*	*40-150*			
Surr: Pyrene-d10	*100*		"	*96.0*		*104*	*40-150*			
Surr: Benzo (a) pyrene-d12	*88.2*		"	*96.0*		*91.9*	*40-150*			

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Kennedy/Jenks Consultants-FW	Project: BNSF-Wishram	
32001 32nd Ave South Suite 100	Project Number: 036026.00	**Reported:**
Federal Way, WA 98003	Project Manager: Galen Davis	09/19/03 14:31

Percent Dry Weight (Solids) per Standard Methods - Quality Control

North Creek Analytical - Portland

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 3090385 - Dry Weight										
Duplicate (3090385-DUP1)		**Source: P3I0189-01**		Prepared: 09/09/03 Analyzed: 09/10/03						
% Solids	90.7	1.00	% by Weight		90.7			0.00	20	
Duplicate (3090385-DUP2)		**Source: P3I0189-04**		Prepared: 09/09/03 Analyzed: 09/10/03						
% Solids	92.7	1.00	% by Weight		92.8			0.108	20	
Duplicate (3090385-DUP3)		**Source: P3I0189-07**		Prepared: 09/09/03 Analyzed: 09/10/03						
% Solids	95.0	1.00	% by Weight		94.9			0.105	20	
Duplicate (3090385-DUP4)		**Source: P3I0189-08**		Prepared: 09/09/03 Analyzed: 09/10/03						
% Solids	93.0	1.00	% by Weight		92.9			0.108	20	

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Kennedy/Jenks Consultants-FW	Project: BNSF-Wishram	
32001 32nd Ave South Suite 100	Project Number: 036026.00	**Reported:**
Federal Way, WA 98003	Project Manager: Galen Davis	09/19/03 14:31

Notes and Definitions

I-02	This sample was analyzed outside of the EPA recommended holding time.
J	Estimated value.
Q-14	The Spike Recovery and/or RPD is outside of control limits due to a non-homogeneous sample matrix.
R-05	Reporting limits raised due to dilution necessary for analysis. Sample contains high levels of reported analyte, non-target analyte, and/or matrix interference.
S-01	The surrogate recovery for this sample is not available due to sample dilution required from high analyte concentration and/or matrix interferences.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis. MRLs are adjusted if %Solids are less than 50%.
wet	Sample results reported on a wet weight basis (as received)
RPD	Relative Percent Difference

North Creek Analytical - Portland

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Lisa Domenighini, Project Manager

1 of 2

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CHAIN OF CUSTODY REPORT

Work Order #: PBT0207

CLIENT: Kennedy Jenks / BNSF

REPORT TO: Galen Davis Kennedy Jenks Consultants
ADDRESS: 32001 32nd Ave South Suite 100
Federal Way, WA 98001

PHONE: (253) 874-0555 FAX: (253)

INVOICE TO: Bruce Sheppard
BNSF
2454 occidental Ave South
Seattle, WA 98134

P.O. NUMBER: See Work Auth.

PROJECT NAME: Wishram

PROJECT NUMBER: 036026.00

SAMPLED BY: Galen Davis

TURNAROUND REQUEST in Business Days *

Organic & Inorganic Analyses: [X] STD. | 7 | 5 | 4 | 3 | 2 | 1 | <1

Petroleum Hydrocarbon Analyses: 5 STD. | 4 | 3 | 2 | 1 | <1

OTHER Specify:

* Turnaround Requests less than standard may incur Rush Charges.

CLIENT SAMPLE IDENTIFICATION	SAMPLING DATE/TIME	PRESERVATIVE	REQUESTED ANALYSES: NWTPH-D w/Silgel Cleanup	BTEX 8021	SVOC 8270	CPAHs by 8270	MATRIX (W, S, O)	# OF CONT.	LOCATION / COMMENTS	NCA WO ID
1 WSB-1-10	9/2/03 1130		X	X			S	2		
2 WSB-1-15	9/2/03 1145		X	X			S	2		
3 WSB-2-14	9/2/03 1250		X	X	X		S	3		
4 WSB-2-8	9/2/03 1230		X	X			S	2		
5 WSB-3-10	9/2/03 1310		X	X			S	2		
6 WSB-3-16	9/2/03 1330		X	X			S	2		
7 WSB-4-10	9/2/03 1400		X	X		X	S	3		
~~8 WSB-4-10~~	~~9/2/03 1~~		X	X			S		e & D	
9 WSB-5-10	9/2/03 1445		X	[redacted]	GCD		S	1		
10 WSB-6-10	9/2/03 1520		X	X			S	2		

RELEASED BY: Galen C. Davis DATE: 9/3/03
PRINT NAME: Galen Davis FIRM: Kennedy Jenks TIME: 1100

RECEIVED BY: [signature] DATE: 9.4.3
PRINT NAME: [signature] FIRM: NCA TIME: 10:00

RELEASED BY: DATE:
PRINT NAME: FIRM: TIME:

RECEIVED BY: DATE:
PRINT NAME: FIRM: TIME:

ADDITIONAL REMARKS:

COC REV 1/03

TEMP: 9.3 PAGE OF

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3209 Denali St, Anchorage, AK 99503-4030 907-334-9200 FAX 334-9210

CHAIN OF CUSTODY REPORT

Work Order #: P3I0207

CLIENT: Kennedy Jenks / BNSF

REPORT TO: Galen Davis Kennedy Jenks
ADDRESS: 32001 32ND Ave S. Suite 100
Federal Way, WA 98001
PHONE: (253) 874-0555 FAX:

INVOICE TO: Bruce Sheppard
BNSF
2454 Occidental Ave S.
Seattle, WA 98134

P.O. NUMBER: See work auth

PROJECT NAME: Wishram

PROJECT NUMBER: 036026.00

SAMPLED BY: Galen Davis

TURNAROUND REQUEST in Business Days *

Organic & Inorganic Analyses: [X] STD. | 7 | 5 | 4 | 3 | 2 | 1 | <1

Petroleum Hydrocarbon Analyses: 5 STD. | 4 | 3 | 2 | 1 | <1

OTHER Specify:

* Turnaround Requests less than standard may incur Rush Charges.

	CLIENT SAMPLE IDENTIFICATION	SAMPLING DATE/TIME	PRESERVATIVE	NWTPH-D w/ Si. Gel Clnup	BTEX 8021	MATRIX (W, S, O)	# OF CONT.	LOCATION / COMMENTS	NCA WO ID
1	~~WSB-6~~	9/ /03		X	X			GCD	
2	~~WSB-6~~	9/ /03		X	X				
3	WSB-7-10	9/2/03 1600		X	X	S	2		
4	~~WSB-7~~	9/ /03		X	X				
5	~~WSB-8~~	9/ /03		X	X			GCD	
6	~~WSB-8~~	9/ /03		X	X			GCD	
7	WSB-6-14	9/2/03 1530		X	X	S	2		
8									
9									
10									

RELEASED BY: Galen Davis
PRINT NAME: Galen Davis FIRM: Kennedy Jenks DATE: 9/3/03 TIME: 1100

RECEIVED BY:
PRINT NAME: FIRM: NCA DATE: 9.4.3 TIME: 10:00

RELEASED BY:
PRINT NAME: FIRM: DATE: TIME:

RECEIVED BY:
PRINT NAME: FIRM: DATE: TIME:

ADDITIONAL REMARKS:

COC REV 1/03

TEMP: 4.3

PAGE OF