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December 31, 2013

Mr. Norm Hepner
Toxics Cleanup Program - CRO
State of Washington – Department of Ecology
15 W. Yakima Avenue, Suite 200
Yakima, Washington 98902-3152

RE: **Revised Cleanup Action Work Plan
John Michael Lease Site**

Adjacent to 5640 Sunset Highway, Cashmere, Washington
BNSF File No: WACAS-05-001
Facility/Site No.: 3154383
Cleanup Site No.: 2149
VCP Project No.: CE0278

Dear Mr. Hepner:

On behalf of the BNSF Railway Company (BNSF), TRC is pleased to provide this **Revised Cleanup Action Work Plan** (Revised Work Plan) for the John Michael Lease Site located in Cashmere, Chelan County, Washington.

This Revised Work Plan prepared by Farallon Consulting, LLC (Farallon) replaces the August 19, 2010 **Cleanup Action Work Plan** submitted by Farallon. The scopes presented in this Revised Work Plan are modified from those presented in the 2010 work plan and take into account discussions with Ecology during a March 2013 site meeting.

Please give me a call if you have any questions regarding this submittal.

Sincerely,

Keith Woodburne, LG
Senior Project Manager

cc: Scott MacDonald, BNSF
Violet Barnard, BNSF
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REVISED CLEANUP ACTION WORK PLAN
JOHN MICHAEL LEASE SITE
5640 SUNSET HIGHWAY
CASHMERE, WASHINGTON
FACILITY/SITE NO. 3154383
VCP NO. CE 0278

Submitted by:

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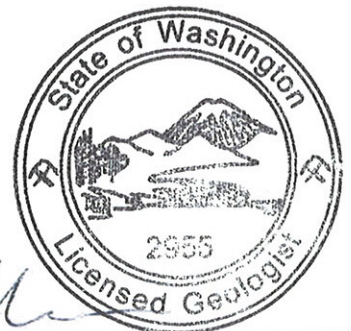
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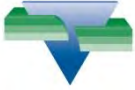


Keith L. Woodburne



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- Appendix D Permits
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ABBREVIATIONS AND ACRONYMS

bgs	below ground surface
BNSF	BNSF Railway Company
BTEX	benzene, toluene, ethylbenzene, and xylenes
CCNRD	Chelan County Natural Resource Department
COCs	constituents of concern
cPAHs	carcinogenic polycyclic aromatic hydrocarbons
DRO	total petroleum hydrocarbons as diesel-range organics
Ecology	Washington State Department of Ecology
EMR	EMR, Inc.
EPA	U.S. Environmental Protection Agency
Farallon	Farallon Consulting, L.L.C.
GRO	total petroleum hydrocarbons as gasoline-range organics
mg/kg	milligrams per kilogram
µg/l	micrograms per liter
MNA	monitored natural attenuation
MTCA	Washington State Model Toxics Control Act Cleanup Regulation
ORO	total petroleum hydrocarbons as oil-range organics
PID	photoionization detector
QA/QC	quality assurance/quality control
RCW	Revised Code of Washington
rail line	the active railroad line proximate to the real property at 5640 Sunset Highway in Cashmere, Washington
Revised Work Plan	<i>Revised Cleanup Action Work Plan, John Michael Lease Site, 5640 Sunset Highway, Cashmere, Washington</i> prepared by Farallon Consulting, L.L.C. (this document)
RPD	relative percent difference
Site	the area adjacent to the real property at 5640 Sunset Highway in Cashmere, Washington
TEE	Terrestrial Ecological Evaluation
TEF	toxicity equivalency factor
TPH	total petroleum hydrocarbons



VCP

Voluntary Cleanup Program

WAC

Washington Administrative Code

Work Plan

Cleanup Action Work Plan, John Michal Lease Site, 5640 Sunset Highway, Cashmere, Washington dated August 19, 2010, prepared by Farallon Consulting, L.L.C.



1.0 INTRODUCTION

This Revised Cleanup Action Work Plan (Revised Work Plan) has been prepared on behalf of BNSF Railway Company (BNSF) for the limited cleanup of soil with concentrations of total petroleum hydrocarbons (TPH) exceeding Washington State Model Toxics Control Act Cleanup Regulation (MTCA) Method A cleanup levels, as established in Chapter 173-340 of the Washington Administrative Code (WAC 173-340) at the area adjacent to the real property at 5640 Sunset Highway in Cashmere, Washington (herein referred to as the Site) (Figure 1). The Site consists of portions of the BNSF right-of-way on either side of an active railroad line (rail line) proximate to the real property at 5640 Sunset Highway, at the northeast corner of the intersection of Hagman Road and Sunset Highway in Cashmere, Washington (Figure 2).

This Revised Work Plan has been prepared to address soil excavation to a depth of approximately 8 feet below ground surface (bgs) adjacent to the commercial (southwest) side of the rail line to eliminate potential risk to human health via direct contact. Approximately 1,150 cubic yards of soil with concentrations of TPH as diesel-range organics (DRO), oil-range organics (ORO), and gasoline-range organics (GRO), and/or associated compounds, including carcinogenic polycyclic aromatic hydrocarbons (cPAHs), benzene, and naphthalene, herein referred to collectively as constituents of concern (COCs), in soil exceeding applicable MTCA cleanup levels will be excavated from the Site (Figure 3). Soil with COCs at concentrations exceeding MTCA cleanup levels will be excavated from the ground surface to first-encountered groundwater and disposed of off the Site. Groundwater monitoring and sampling conducted at the Site to date confirm that COCs in soil have not mobilized in groundwater; therefore, the excavation will be limited to the vadose zone to ensure that remediation activities do not mobilize TPH or associated compounds into groundwater. The revised cleanup action is being performed as an independent remedial action under the Washington State Department of Ecology (Ecology) Voluntary Cleanup Program (VCP). The Site has been assigned VCP No. CE 0278. The Revised Work Plan has been prepared in accordance with Section 380 of WAC 173-340 to present the scope of work and to define the cleanup standards for the revised cleanup action.

1.1 BACKGROUND

The source of the COCs was potentially the result of a release of petroleum hydrocarbons that reportedly occurred sometime in the 1930s that may have been a result of a tanker derailment; however, no record of the derailment or suspected release has been located. COCs were detected at concentrations exceeding applicable MTCA cleanup levels in soil and/or groundwater at the Site during previous investigations conducted by EMR, Inc. (EMR) (2005) and Farallon Consulting, L.L.C. (Farallon) (2009).

Farallon (2010) submitted a Cleanup Action Work Plan to excavate soil containing COCs at the Site dated August 19, 2010 (Work Plan) to Ecology in 2010. A cultural resources survey was performed by TRC (2012) in 2012, and additional groundwater monitoring and sampling was performed by TRC (2013a, 2013b) in 2012 and 2013. The cultural resources survey was a condition of approval by the Chelan County Department of Community Development for the Shoreline Substantial Development, Shoreline Conditional Use, and Riparian Variance permits



issued in anticipation of the remedial activities outlined in the Work Plan. The results of groundwater monitoring and sampling performed in 2012 and 2013 (TRC 2013a and 2013b) indicate that the low to non-detectable concentrations of COCs in Site groundwater do not pose a threat to surface waters of the Wenatchee River. Additionally, the 2012 and 2013 groundwater monitoring data established that residual impacts in Site soil are not leaching to groundwater or becoming mobilized during seasonal groundwater fluctuations.

In March 2013, BNSF and Ecology held a meeting to discuss the work performed at the Site subsequent to submittal of the Work Plan and to discuss potential future cleanup actions at the Site. Based on the remedial investigations conducted at the Site, Ecology agreed that there likely is no risk to human health or the environment from residual soil impacts between the rail line and the Wenatchee River, and that removal of soil as described in the Work Plan may not be appropriate due to the potential for mobilization of COCs or undermining of Wenatchee River shoreline bank stability resulting from excavation activities. Ecology (2013) and BNSF agreed that excavation of soil containing concentrations of COCs exceeding MTCA Method A cleanup levels adjacent to the commercial (southwest) side of the rail line would address risks to human health via the direct exposure pathway, but was not required due to Terrestrial Ecological Evaluation (TEE) concerns.

1.2 PURPOSE

The revised cleanup action will meet the threshold requirements of WAC 173-340-360 to protect human health and the environment, comply with cleanup standards, comply with applicable state and federal laws, and provide for compliance monitoring for soil. The revised cleanup action includes:

- Excavation to encountered groundwater on the commercial (southwest) side of the rail line and off-Site disposal of soil with concentrations of one or more of the COCs that exceed MTCA cleanup levels, to the extent technically possible; and
- Monitoring of groundwater conditions after excavation of soil containing COCs exceeding MTCA Method A cleanup levels.

1.3 CLEANUP ACTION WORK PLAN ORGANIZATION

The Work Plan has been organized into the following sections:

- **Section 1—Introduction:** This section presents the purpose of the Revised Work Plan.
- **Section 2—Background:** This section provides a description of the Site, a summary of the Site history, including previous investigations conducted at the Site, the environmental setting, results from the Chelan County Shoreline Master Plan review, and a discussion of data gaps for the Site.
- **Section 3—Technical Elements:** This section describes the technical elements of the proposed revised cleanup action, including applicable state, local, and federal laws and regulations, COCs, medium of concern, and cleanup standards. The TEE also is discussed.



- **Section 4—Revised Cleanup Action Design and Implementation:** This section provides a description of the revised cleanup action activities proposed for the Site. An evaluation of monitored natural attenuation (MNA) as a cleanup alternative for groundwater also is described in this section.
- **Section 5—Sampling and Analysis Plan:** This section provides a description of soil and groundwater monitoring requirements.
- **Section 6—Quality Assurance Project Plan:** This section defines the data quality objectives for the revised cleanup action and outlines the procedures for sampling, laboratory analysis, data management, and quality control.
- **Section 7—Deliverables and Schedule.** This section discusses documentation management and the documents to be provided, and the schedule for the revised cleanup action.
- **Section 8—References:** This section lists the documents used in preparation of the Revised Work Plan.



2.0 BACKGROUND

This section presents a description of the Site; a summary of the Site history and previous investigations conducted at the Site; a description of the environmental setting, including Site topography, geology, and hydrogeology; the results of the Chelan County Shoreline Master Plan review; and a discussion of data gaps for the Site.

2.1 SITE DESCRIPTION AND HISTORY

The Site consists of portions of the BNSF right-of-way on both sides of the rail line proximate to the real property at 5640 Sunset Highway, at the northeast corner of the intersection of Hagman Road and Sunset Highway in Cashmere, Washington (Figure 2).

A portion of the BNSF right-of-way is leased by the adjacent Michael's Tires, a commercial business at 5640 Sunset Highway in Cashmere, Washington. A portion of the Michael's Tires building, the Michael's Tires parking lot, and a storage area extend onto the leased portion of the BNSF right-of-way (Figure 2). The storage area is used to store used tires, drilling supplies owned by a local drilling company, and irrigation equipment.

According to the Chelan County Assessor's Office (2010) website, the 0.34-acre leased property is identified as Parcel No. 231905120070 (Figure 2). The BNSF right-of-way included in the Site is not identified as real property. The Wenatchee River is adjacent to the Site to the east and flows parallel to the BNSF rail line to the southeast (Figure 2).

Limited information pertaining to the history of the Site was located. A tanker derailment and subsequent spill of crude oil that occurred sometime in the 1930s (EMR 2005) was verbally confirmed by local residents during field activities (Farallon 2008). However, no formal record of the derailment or spill has been located.

2.2 PREVIOUS INVESTIGATIONS

More detailed discussions of previous investigations at the Site are provided in the documents cited herein and listed in Section 8, References. Tables 1 through 10 present a summary of soil and groundwater analytical data and water level information collected during previous investigations. Appendix A presents laboratory analytical data for the soil and groundwater samples collected by Farallon during previous investigations. Boring, test pit, and test trench logs associated with previous investigations conducted by Farallon are provided in Appendix B.

2.2.1 Limited Phase II Assessment (2004)

A Limited Phase II Assessment was conducted by EMR (2005) on behalf of BNSF in response to a report of "crude oil" discovered in soil during installation of utility poles at the Site by an unidentified power company in December 2004. The Site was undeveloped and used for the parking and storage of a dismantled vehicle and EMR observed an engine block, drums containing unknown materials, and other miscellaneous debris. The Limited Phase II Assessment included installation of eight borings and collection of soil samples from depths



ranging from 3 to 8 feet bgs. The soils samples were submitted for laboratory analysis for GRO; DRO; ORO; and benzene, toluene, ethylbenzene, and xylenes (BTEX). Groundwater was encountered between 7 and 9 feet bgs, and reconnaissance groundwater samples were collected for analysis for GRO, DRO, ORO, and BTEX. Concentrations of GRO and DRO exceeding MTCA Method A cleanup levels were detected in soil. Concentrations of benzene and DRO exceeding MTCA Method A cleanup levels were detected in reconnaissance groundwater samples. Concentrations of kerosene were detected in soil, and concentrations of motor oil were detected in soil and groundwater samples collected at the Site. The locations of the soil samples collected during the Limited Phase II Assessment (EMR 2005) are shown on Figure 2.

2.2.2 Subsurface Investigation (2007 and 2008)

Farallon (2009) conducted a subsurface investigation at the Site between September 2007 and July 2008 to evaluate the nature and extent of concentrations of COCs exceeding MTCA Method A cleanup levels in soil and/or groundwater identified during the Limited Phase II Assessment (EMR 2005). The subsurface investigation included collection of soil samples from test pits TP1 through TP19 and test trenches T1 through T8, and collection of groundwater samples from monitoring wells MW-1 through MW-4 for laboratory analysis (Figure 2). Soil samples were analyzed for DRO; GRO; ORO; BTEX; cPAHs; naphthalenes; metals, including arsenic, barium, cadmium, chromium, lead, selenium, silver, and mercury; and/or polychlorinated biphenyls. Concentrations of TPH, benzene, cPAHs, and/or naphthalenes exceeding MTCA Method A cleanup levels were detected in soil on the commercial (southwest) side of the rail line from depths of approximately 4 to 10 feet bgs (Figure 3).

Groundwater samples were analyzed for DRO, GRO, ORO, BTEX, cPAHs, and non-carcinogenic polycyclic aromatic hydrocarbons. Concentrations of COCs exceeding MTCA cleanup levels were not detected in groundwater samples collected from monitoring wells MW-2, MW-3, or MW-4, located on the commercial (southwest) side of the rail line. Concentrations of TPH exceeding MTCA Method A cleanup levels were detected in soil and groundwater samples collected from monitoring well MW-1, located on the northeast side of the rail line; however, the extent of COCs in soil and groundwater in the vicinity of monitoring well MW-1 was identified as a data gap (Farallon 2009).

2.2.3 Supplemental Subsurface Investigation (2009)

Farallon (2010) conducted a supplemental subsurface investigation in April 2009 to further assess the lateral extent of TPH in soil exceeding MTCA Method A cleanup levels in the vicinity of monitoring well MW-1 and in the area proximate to the southwest side of the rail line (Figure 3). The supplemental subsurface investigation included collection of soil samples from test pits TP20 through TP29 for laboratory analysis (Figure 2). Soil samples collected from each test pit were submitted for analysis for DRO and ORO, with the exception of test pit TP20. Groundwater was observed in the test pits at depths ranging from 10 to 16 feet bgs. Concentrations of DRO and ORO exceeding MTCA Method A cleanup levels were detected in soil collected during the supplemental subsurface investigation at test pits TP25 through TP27 at depths ranging from 12 to 16 feet bgs (Table 1). Concentrations of DRO or ORO exceeding MTCA Method A cleanup levels were not detected in soil samples collected from test pits TP25 through TP27 at depths ranging from 8 to 10 feet bgs. The vertical extent of TPH in soil



exceeding MTCA Method A cleanup levels in test pits TP25 through TP27 was not evaluated; however, given the nature of TPH, it was assumed that TPH is generally restricted to the vadose zone overlying groundwater. Concentrations of DRO or ORO exceeding MTCA Method A cleanup levels were not detected in soil samples collected from test pits TP21 through TP24 or from test pits TP28 or TP29.

2.2.4 Cultural Resources Survey and Supplemental Subsurface Investigation (2012)

Farallon and TRC conducted a cultural resources survey concurrent with a supplemental subsurface investigation (TRC 2012). The cultural resources survey was a condition of approval by the Chelan County Department of Community Development for the Shoreline Substantial Development, Shoreline Conditional Use, and Riparian Variance permits issued in anticipation of the remedial activities outlined in the Work Plan (Farallon 2010). A total of eight test pits were installed as part of the cultural resources survey. The survey report concluded that no further archaeological investigation is recommended if remedial excavations remain within the areas proposed in the Work Plan for cleanup or along the river bank south of northernmost test pit TP30. Groundwater was encountered from 7.5 to 8 feet bgs in the six test pits installed on the southwest side of the rail line. Groundwater was encountered between 14 and 16 feet bgs in test pits installed on the northeast side of the rail line.

Soil samples were collected from six test pits (TP30 through TP34 and TP38) installed to further assess the extent of TPH in soil exceeding MTCA Method A cleanup levels in the area between the rail line and the Wenatchee River. Soil samples collected from each test pit were analyzed for DRO, ORO, GRO, BTEX, and cPAHs. Concentrations of ORO and GRO exceeding the MTCA Method A cleanup levels were detected in a soil sample collected from test pit TP34, located in an area of known petroleum contamination, at a depth of 14 feet bgs (Figure 2). Concentrations of ORO exceeding the MTCA Method A cleanup level were detected in a soil sample collected from test pit TP30, located along the river bank, at a depth of 14 feet bgs (Figure 2). Groundwater was encountered in these two test pits at approximately 14 feet bgs.

2.2.5 Groundwater Monitoring and Sampling (2012 and 2013)

Groundwater monitoring events were conducted on September 25 and, December 11, 2012; and March 20 and June 19, 2013 (TRC 2013a and 2013b). Groundwater samples were collected from on-Site monitoring wells MW-1 through MW-3 and off-Site monitoring well MW-4. The groundwater samples were analyzed for DRO, ORO, GRO, BTEX, and cPAHs. Concentrations of COCs detected in Site groundwater were less than MTCA Method A cleanup levels for each of the four monitoring events. Based on the 2012 and 2013 groundwater data, the initial 2008 groundwater results do not appear to be representative of groundwater conditions at the Site. Groundwater samples collected a relatively short time following well installation and development often are not representative of actual groundwater conditions.

2.3 ENVIRONMENTAL SETTING

This section presents a summary of the environmental setting of the Site, including topography, geology, and hydrogeology. Additional details of the soil and groundwater conditions at the Site can be referenced in the Subsurface Investigation Report (Farallon 2009), the Work Plan, the



Cleanup Status Report (TRC 2012), the Second Semi-Annual 2012 Groundwater Monitoring Report (TRC 2013a), and the First Semi-Annual 2013 Groundwater Monitoring Report (TRC 2013b).

2.3.1 Topography

The Site is level, with a northwest-southeast rail line that is raised approximately 4 to 6 feet above grade. Storage materials owned by the tenant, and debris were observed along the southern portion of the Site. The remainder of the Site is predominantly vegetated (Figure 2).

2.3.2 Geology

The geology in the vicinity of the Site consists of quaternary sedimentary deposits and poorly developed soils developed during the Wisconsin age (Galster and Laprade 1991). Highly variable conditions in the subsurface were encountered during the investigations conducted at the Site. Soils at the Site consisted of sand and gravel with some silt, cobbles, trash, debris, and organic material. The conditions encountered were not stratified in discernible zones within the depths investigated. Boring, test pit, and test trench logs associated with previous investigations conducted by Farallon and TRC are provided in Appendix B.

2.3.3 Hydrogeology

Water levels were measured in monitoring wells at the Site on August 6, 2008; April 7, 2009; September 25 and December 11, 2012; and March 20 and June 19, 2013 (Table 6). Groundwater elevations were consistent from August 2008 to June 2013, with little variation in depth to water between events. The calculated groundwater elevations indicate that groundwater flow at the Site is generally to the east, toward the Wenatchee River, at an average hydraulic gradient of approximately 0.01. The groundwater flow direction and hydraulic gradient are provided in the TRC (2013a and 2013b) semi-annual groundwater monitoring reports.

2.4 RIVER BANK

The eastern portion of the Site abuts the Wenatchee River bank (Figure 2). Ecology (2013) expressed concerns about river bank stability during the on-Site meeting on March 12, 2013. Ecology noted that some bank stabilization measures might be necessary to prevent or limit long-term erosion of the bank. Following the meeting, BNSF reviewed the Chelan County Shoreline Master Plan to identify whether there are any proposed, ongoing, or completed river bank plans and/or improvements in the vicinity of the Site.

The Chelan County Natural Resource Department (CCNRD) (2009) restored 1,700 linear feet of riparian habitat immediately adjacent to and upstream of the Site. The goal of the project was to plant native riparian shrub and trees to establish deep-rooted stream bank vegetation, increase bank stability, and increase biological and structural diversity in the riparian community. The project was started on September 27, 2008 and was reported completed on September 26, 2009 (CCNRD 2012). Approximately 0.70 acre of the riparian bank community was planted with native shrubs and willow cuttings, and approximately 0.67 acre of the upland forest community was planted with native trees and shrubs. A total of 1,250 shrubs and trees were planted. A temporary drip-line irrigation system was installed to provide watering for the plants during the



summer months and assist with plant establishment. Predator protection materials and erosion control fabric were installed. Most riparian planting projects take at least 5 to 10 years to realize the full benefits of the planting, including bank stabilization. The CCNRD design report is provided in Appendix C.

Farallon contacted a representative of CCNRD on December 2, 2013 to ascertain the status of the project. According to Ms. Mary Sanborn, Water Resource Manager with CCNRD (2013), the project is complete, and no additional plantings are planned near the Site.

Based on the status of the river bank improvement, no additional bank stabilization measures adjacent to the Site are necessary. The 2009 riparian project undertaken by CCNRD is sufficient to maintain bank stability. Bank stability will continue to improve as the plants mature.

2.5 DATA GAPS

The nature and extent of COCs in soil exceeding MTCA cleanup levels adjacent to the rail line has been evaluated to the maximum extent practicable. The presence of the active rail line precludes additional investigation in this area; however, sufficient information on the nature and extent of COCs in soil exceeding MTCA cleanup levels has been collected for selection of a cleanup alternative.

The nature and extent of concentrations of COCs in groundwater has not been fully characterized. After the soil removal has been completed, monitoring wells will be installed for evaluation of groundwater conditions.



3.0 TECHNICAL ELEMENTS

This section presents the technical elements used to develop the cleanup standards for the revised cleanup action. Described below are the applicable laws and regulations, COCs, medium of concern, and cleanup standards for the revised cleanup action, including the established cleanup levels and points of compliance. A discussion of the TEE conducted by Farallon also is provided.

3.1 APPLICABLE OR RELEVANT AND APPROPRIATE REQUIREMENTS

The applicable or relevant and appropriate requirements provide the framework for the revised cleanup action. WAC 173-340-360(2) and 173-340-710(1)(a) require that cleanup actions conducted under MTCA comply with applicable state and federal laws. Applicable laws are defined as those requirements that are legally applicable, and those that Ecology determines to be both relevant and appropriate. The applicable laws and regulations for the cleanup action likely will include the following:

- MTCA (Chapter 70.105D of the Revised Code of Washington [RCW 70.105D]);
- MTCA Cleanup Regulations (WAC 173-340);
- The State Environmental Policy Act (RCW 43.21); and
- Substantive requirements of Chelan County for excavation, grading, and/or erosion control, as applicable.

3.2 CONSTITUENTS OF CONCERN

The COCs for the Site are the constituents that were detected in soil and/or groundwater at concentrations exceeding applicable MTCA Method A cleanup levels. The following have been identified as the COCs for the Site:

- DRO;
- ORO;
- GRO;
- Benzene;
- cPAHs; and
- Naphthalenes.

3.3 MEDIUM OF CONCERN

Soil is the medium of concern for the cleanup action, based on detected concentrations of one or more of the COCs that exceed MTCA Method A cleanup levels. Based on the results from the groundwater monitoring and sampling performed to date, groundwater is not a medium of



concern at the Site. However, four quarters of groundwater sampling will be performed at the Site at the conclusion of the cleanup action.

3.4 CLEANUP STANDARDS

As defined in WAC 173-340-700, cleanup standards include establishing the cleanup levels, and the points of compliance at which the cleanup levels are to be attained. The cleanup standards for the Site have been established in accordance with WAC 173-340-700 through 173-340-760.

3.4.1 Cleanup Levels

Cleanup levels are the concentrations of the COCs that will be met for the medium of concern at the points of compliance defined for the Site to meet MTCA requirements. The soil cleanup levels for the COCs are presented in the following sections. Screening levels for groundwater are defined for evaluation of the nature and extent of concentrations of COCs in groundwater after the soil removal has been completed.

3.4.1.1 Soil

The cleanup levels for soil are the MTCA Method A Soil Cleanup Levels for Unrestricted Land Uses as defined in Table 740-1 of WAC 173-340-900. The MTCA Method A cleanup level for soil for each COC is identified below:

- DRO = 2,000 milligrams per kilogram (mg/kg);
- ORO = 2,000 mg/kg;
- GRO = 30 mg/kg;
- Benzene = 0.03 mg/kg;
- cPAHs = 0.1 mg/kg; and
- Naphthalenes = 5 mg/kg.

The total for cPAHs is calculated by multiplying the concentration of each cPAH compound by the toxicity equivalency factor (TEF) and summing them for a total cPAH concentration for comparison to the MTCA Method A cleanup level for benzo(a)pyrene.

3.4.1.2 Groundwater

The screening levels for groundwater are the MTCA Method A Cleanup Levels for Ground Water as defined in Table 720-1 of WAC 173-340-900. After the soil removal has been completed, an evaluation of the concentrations of COCs in groundwater will be conducted to determine the applicable cleanup levels.

The MTCA Method A cleanup level for groundwater for each COC is identified below:

- DRO = 500 micrograms per liter ($\mu\text{g/l}$);
- ORO = 500 $\mu\text{g/l}$;
- GRO = 800 $\mu\text{g/l}$;



- Benzene = 5 µg/l;
- cPAHs = 0.1 µg/l; and
- Naphthalenes = 160 µg/l.

The total cleanup level for cPAHs is calculated by multiplying the concentration of each cPAH compound by the TEF and summing them for a total cPAH concentration for comparison to the MTCA Method A cleanup level for benzo(a)pyrene.

3.4.2 Points of Compliance

The points of compliance are the locations at which the cleanup levels for the COCs must be attained in each medium of concern to meet the requirements for obtaining a No Further Action determination from Ecology. The points of compliance for the Site were established in accordance with WAC 173-340-740(6) for soil.

3.4.2.1 Soil

Based on the remedial investigation work conducted at the Site, Ecology agreed during the March 12, 2013 on-Site meeting that there likely is no risk to human health or the environment from residual soil impacts between the rail line and the Wenatchee River, and that removal of that soil may not be appropriate due to the potential for mobilization of contaminants or for worsening bank stability resulting from excavation activities. Impacted soil adjacent to the commercial (southwest) side of the rail line is being excavated to address risks to human health via direct exposure, but not as a result of TEE concerns. Soil excavation will be limited to the vadose zone, and will not extend below the water table, to avoid mobilizing COCs into groundwater. Soil excavation adjacent to the BNSF rail line may be limited by practicable considerations and not be technically feasible.

The points of compliance for soil are defined as soil from the ground surface to encountered groundwater on the commercial (southwest) side of the rail line where analytical results for in-situ soil samples indicate that concentrations of one or more of the COCs attain MTCA Method A cleanup levels, and that residual concentrations of COCs in soil are protective of the direct contact pathway.

3.5 TERRESTRIAL ECOLOGICAL EVALUATION

A simplified TEE was conducted by Farallon and presented in the Work Plan. Additional information regarding the TEE was provided to Ecology in the Cleanup Status Report (TRC 2012). Following discussion during the March 2013 meeting, Ecology agreed with the findings of the simplified TEE and that no further consideration of ecological impacts is required under MTCA.



4.0 REVISED CLEANUP ACTION DESIGN AND IMPLEMENTATION

This section presents the revised cleanup action components and a detailed discussion of the selected cleanup action. A description of the evaluation of MNA as a cleanup alternative for groundwater to be conducted at the Site also is provided.

The revised cleanup action assumes that the permits issued by the Chelan County Department of Community Development, the Shoreline Substantial Development Permit, the Shoreline Conditional Use Permit, and the Riparian Variance, will remain in effect for the activities discussed in this Revised Work Plan. The issued permits are provided in Appendix D. Updates to these permits or additional permits may be necessary prior to initiation of remediation activities.

4.1 CLEANUP ACTION DESCRIPTION

The proposed revised cleanup action is designed to remediate soil with concentrations of one or more of the COCs exceeding MTCA cleanup levels on the commercial (southwest) side of the rail line from the ground surface to encountered groundwater. Based on groundwater monitoring that occurred in 2008, 2012, and 2013, groundwater is expected to be encountered between 8 and 9 feet bgs during the proposed excavation schedule, August/September 2014, the seasonal low. The cleanup action will meet the MTCA Threshold Requirements defined in WAC 173-340-360(2)(a)(b). The proposed cleanup action will include the following elements:

- Excavation and off-Site disposal of approximately 1,150 cubic yards of soil with concentrations of one or more of the COCs exceeding MTCA cleanup levels to the maximum extent practicable; and
- Groundwater monitoring after soil removal has been completed.

4.2 CLEANUP ACTION COMPONENTS

A summary of the cleanup action components is provided below, including a description of the pre-construction activities, excavation, soil sampling, and Site restoration. Detailed excavation drawings are included in Appendix E.

4.2.1 Pre-Construction Activities

The following pre-construction activities will be performed prior to excavation of soil with concentrations of COCs exceeding MTCA Method A cleanup levels on the commercial (southwest) side of the rail line from the ground surface to encountered groundwater:

- Preparation of a Site-specific Health and Safety Plan in accordance with MTCA and Part 1910.120 of Title 29 of the Code of Federal Regulations. The Health and Safety Plan will address the complications associated with conducting work proximate to an active rail line.
- Conducting of a private utility location and marking of utilities on the Site, on the adjacent John Michael property, and in the adjacent county and/or state rights-of-way.



- Obtaining of a Chelan County Grading and Fill Permit, a building permit, and a Construction Stormwater General Permit prior to mobilization.
- Establishment of site control using temporary fencing of the Site and establishment of one construction entrance.
- Installation of erosion-control measures.
- Construction of a truck access and/or turnaround area.
- Construction of decontamination facilities.
- Conducting of a Site-control survey.
- Establishment of a sampling grid to track the progress of the excavation and soil sample locations.

4.2.2 Erosion Control

The excavation areas will be surrounded by a wire-mesh backing silt fence that will extend approximately 3 feet above and 2 feet below grade to contain silt and sediment on the Site. The silt fence will be cut to the length of the barrier to avoid use of joints where possible. Where joints are necessary, the ends of the filter fabric will be spliced together with a minimum of 6 inches of overlap. A trench will be excavated on the upslope side of the filter fabric and filled with washed gravel. The silt fence will be inspected daily to ensure that there have been no failures and to reinforce or repair a weak point or potential failure noted.

4.2.3 Excavation

The known limits of the proposed excavation areas for soil with concentrations of one or more of the COCs exceeding MTCA Method A cleanup levels on the commercial (southwest) side of the rail line from the ground surface to encountered groundwater will be staked before excavation activities are initiated. Approximately 1,150 cubic yards of soil containing one or more of the COCs exceeding MTCA Method A cleanup levels is estimated to be removed from the Site and disposed of as nonhazardous soil at a Subtitle D landfill. Soil containing concentrations of COCs exceeding MTCA Method A cleanup levels will be loaded directly into trucks and trailers for transport off the Site. The limits for each excavation area and removal of petroleum-contaminated soil have been determined based on the results of the subsurface investigation activities conducted by Farallon and others at the Site, and are depicted on Figure 3.

Overburden material overlying the soil with concentrations of COCs less than MTCA Method A cleanup levels will be removed and stockpiled on the Site for re-use as backfill. Overburden material is estimated to be from 0 to 4 feet bgs across the majority of the three areas to be excavated, with the exception of the vicinity of test pit TP15A, where it is estimated to be from 0 to 2 feet bgs. A Farallon Field Scientist will examine the overburden for evidence of petroleum contamination such as visual staining or sheen, petroleum-like odors, or concentrations of measurable organic vapors exceeding measured background levels. Soil containing evidence of petroleum will be segregated from observed clean soil and stockpiled on the Site as described in Section 4.2.5, Segregation and Stockpiling. Stockpiles will be covered to mitigate erosion.



4.2.4 Excavation Dewatering

The limits of the excavation areas are not anticipated to extend into the water table. Excavation of saturated soil will not occur, and excavation dewatering will not be required.

4.2.5 Segregation and Stockpiling

This section describes soil segregation methods and procedures for temporary storage of soil in stockpiles during the excavation activities. Three types of soil may be encountered during the cleanup action:

- Soil that contains concentrations of one or more of the COCs exceeding MTCA Method A cleanup levels based on the results of the subsurface investigations conducted at the Site by Farallon and others;
- Soil that contains detectable concentrations of one or more of the COCs less than MTCA Method A cleanup levels, OR that does not contain detectable concentrations of the COCs but shows other evidence of petroleum-contamination such as visual staining, petroleum-like odors, or measurable volatile organic vapors; and
- Soil that is clean, with no detectable concentrations of COCs and no other evidence of petroleum contamination.

Soil with concentrations of one or more of the COCs exceeding MTCA Method A cleanup levels will be excavated and loaded directly into trucks and trailers for transport off the Site for disposal. The other two types of soil may be stockpiled on the Site for temporary storage as described in the following paragraphs. It is assumed that the soil that does not contain detectable concentrations of COCs is suitable for use as backfill and will be temporarily stockpiled on the Site for use as backfill.

During the excavation activities, areas will be designated for two separate stockpiles: one that will contain clean overburden that will be used for backfill, and one that will contain soil with detectable concentrations of COCs less than MTCA Method A cleanup levels, and soil that is clean based on analytical results but contains visual staining, petroleum-like odors, or measurable volatile organic vapors.

Soil generated during the cleanup action with detectable concentrations of COCs less than MTCA Method A cleanup levels, or with no detectable concentrations of COCs but with visual staining or petroleum-like odors will be stockpiled and sampled. Stockpile composite soil samples will be submitted for laboratory analysis for the COCs. Based on the laboratory analytical results, the soil will be either loaded into a truck(s) and trailer(s) and transported to a disposal facility or used as backfill.

The stockpiles will be placed on 6-mil plastic and surrounded by silt fencing. The stockpiles will be covered by 6-mil plastic and held in place with sandbags or comparable weights. The stockpiles will be inspected daily during the cleanup action to ensure that the plastic, silt fencing, and weights are containing the stockpiled soil.



4.2.6 Soil Sampling

A 25- by 25-foot sampling grid will be established at the Site to guide collection of performance and confirmation monitoring soil samples during the removal of petroleum-contaminated soil to encountered groundwater on the commercial (southwest) side of the rail line (Figure 4). The petroleum-contaminated soil will be excavated to encountered groundwater, and performance soil samples will be collected from the sidewalls of the excavation. One grab sample will be collected from each of the grids. The grab samples will be collected 1 foot above the toe of the excavation slope at the approximate horizontal center of the grid. No bottom samples will be collected. If concentrations of petroleum hydrocarbons in the sidewall soil sample exceed MTCA Method A cleanup levels, the sample will be considered a performance monitoring sample, and lateral excavation will continue in that area and to the extent technically feasible when adjacent to the rail line. If petroleum hydrocarbons in the soil sample are less than cleanup levels, the sample will be considered a confirmation monitoring sample, and the excavation will be considered complete in that area. Soil sampling procedures are further discussed in Section 5, Sampling and Analysis Plan. Additional grab samples will be collected from visually impacted TPH excavation areas.

4.2.7 Backfill and Site Restoration

Following completion of the excavation activities and confirmation sampling, the excavation will be backfilled with stockpiled clean overburden, imported quarry spalls, and pit run. The backfill will be placed in 2-foot loose lifts and compacted with a vibratory drum roller to a non-yielding state. The backfill will be graded to approximately match existing topography.

4.2.8 Monitoring Well Installation and Groundwater Monitoring

Two groundwater monitoring wells will be installed at the Site following completion of the excavation activities. The preliminary locations of the proposed monitoring wells are depicted on Figure 5. The monitoring wells will be installed to determine the effectiveness of the cleanup and installed in accordance with the recommendations of the MNA Guidance Document to provide sufficient sampling locations to evaluate the feasibility of MNA as a cleanup action alternative for groundwater (Ecology 2005). Prior to the MNA evaluation, groundwater monitoring and sampling will be conducted for four consecutive quarters to assess the effectiveness of the soil cleanup action on groundwater quality at the Site.

4.2.9 Institutional Controls

Implementation of institutional controls at the Site will be necessary after completion of soil excavation. Institutional controls may include implementing an environmental covenant or other legal restrictions, or establishing physical barriers that prevent exposure to soil with residual concentrations of COCs.

4.3 MONITORED NATURAL ATTENUATION EVALUATION

The feasibility of implementing MNA as the groundwater cleanup alternative will be evaluated in accordance with the MNA Guidance Document (Ecology 2005) if groundwater cleanup is



deemed necessary based on the results of continued groundwater monitoring at the Site. The MNA evaluation will be conducted to assess the following:

- Status of any groundwater plume(s);
- Mechanism(s) of natural attenuation and whether destructive mechanisms (chemical or biological degradation) or non-destructive mechanisms (dispersion, dilution or chemical sorption) are prevalent;
- Estimated restoration time frame and its reasonableness;
- Protectiveness regarding human health and the environment during the restoration time frame; and
- Effectiveness of the completed source removal (soil excavation).

The evaluation of these criteria is necessary to demonstrate that Site conditions meet the minimum requirements set forth by Ecology in WAC 173-340-360(2) and 173-340-370(7) for selection of MNA as a feasible remedial alternative.

The potential for biological degradations was investigated during the September 2012 groundwater monitoring event (TRC 2013a). Two Bio-Trap samplers were deployed in monitoring wells MW-1 and MW-2 to evaluate the potential for biodegradation and to quantify the microbial populations present at the Site. Proteobacteria were identified as the most prominent structural group in each well. A variety of both aerobic and anaerobic microorganisms are classified by the Proteobacteria grouping, including the majority of microbial species capable of degrading hydrocarbons. Proteobacteria typically are characterized as fast-growing, quickly adaptable to a variety of environments, and able to use a range of carbon sources.

Groundwater plume stability will be evaluated using graphical analysis, regression analysis, statistic analysis, spatial mass flux calculations, and/or visual assessment using plume iso-concentrations or graphs. The mechanisms of degradation of contaminants in groundwater will be evaluated by establishing a correlation between contaminant reductions and geochemical indicators in monitoring wells located within the groundwater plume. The restoration time frame evaluation will include an estimation of the residual source mass and its associated dissolution rate, the bulk attenuation rate of the COCs, and consideration of the groundwater cleanup levels and points of compliance established for the Site cleanup. An evaluation of the protectiveness of MNA will include an assessment of the source(s), transport mechanisms, exposure pathway, and current and likely future potential receptors.

The MNA evaluation will include groundwater monitoring and sampling at monitoring wells located up-gradient, within, and down-gradient of any dissolved-phase plume of COCs in groundwater. Monitoring well data will be collected quarterly for 1 year for a total of four quarters to collect sufficient data to evaluate the bulleted items above. Data collected will include water level measurements, groundwater analytical data for the COCs, and groundwater analytical data for geochemical indicators. The results of the MNA evaluation will be presented as described in Section 7.3, Groundwater Monitoring Summary Report.



5.0 SAMPLING AND ANALYSIS PLAN

This section provides specific details pertaining to soil and groundwater sampling and analysis for the cleanup action at the Site and meets the requirements for a Sampling and Analysis Plan as defined in WAC-173-340-820. This section summarizes the procedures to be followed for soil sample collection and analysis, and for compliance monitoring of groundwater following the excavation activities associated with the cleanup action at the Site.

5.1 SOIL PERFORMANCE MONITORING

This section includes a description of the field-screening methods to be used for performance monitoring of soil during the cleanup action. The objectives of the performance monitoring of soil are to guide the excavation, and to confirm that soil with concentrations of one or more of the COCs exceeding applicable MTCA cleanup levels has been removed. The performance monitoring procedures are described in the following sections.

5.1.1 Performance Soil Sample Collection and Analysis

Performance soil sampling will consist of collecting soil samples from the sidewalls of the excavation during the soil excavation activities for the purpose of observing and recording physical characteristics of the soil that may indicate either the absence or presence of contamination. The soil will be examined for evidence of staining, odors, and sheen. In addition to the examining and recording of physical characteristics of the soil, a photoionization detector (PID) will be used to field-analyze the soil samples for volatile organic vapors. A PID measurement will be obtained by placing each soil sample into a clean resealable bag, which will be gently shaken to agitate the soil. After the sample has been allowed to rest for approximately 1 minute, the probe tip on the PID will be used to puncture the bag. The highest measured concentration of volatile organic vapors within a 1-minute monitoring period will be recorded in the field notes.

Additional field observations (such as the presence of buried waste or water-bearing zones) that may assist in the evaluation of the distribution of contaminated soil and corresponding excavation requirements also will be recorded in the field notes. Soil samples to be analyzed for the COCs will be collected in accordance with U.S. Environmental Protection Agency (EPA) Method 5035A for low-level volatile organic compound analyses.

5.1.2 Soil Sampling Frequency and Locations

Performance soil sampling will depend on field-screening for potential contamination such as staining, odor, and elevated PID readings observed during the excavation. Performance soil sampling frequency likely will be higher near the limits of the excavation to determine whether additional lateral excavation is needed in that area. Field personnel will establish 25- by 25-foot grids within the excavation area (Figure 4). For grids at the excavation limits, grab samples will be collected 1 foot above the toe of the excavation slope at the approximate horizontal center of the grid. No bottom samples will be collected. Specific locations for soil performance sampling will depend on the progress of the excavation each day and the configuration of the final



excavation limits. Excavation soil samples will be collected at the discretion of field personnel based on field-screening results.

5.1.3 Soil Sample Designation and Labeling

Each excavation soil sample collected will be assigned a unique sample identifier and number based on its location within the excavation. The sample number will include the numeric designation of the grid from which the sample was collected, a consecutive number, and the date. For example, the third sample collected from grid C12 on August 15, 2014 would be labeled C12-3-081514.

5.1.4 Soil Sample Collection and Handling Procedures

This section describes soil sample collection and handling procedures. The sample collection procedures for field-screening and the fixed-base laboratory are discussed below.

- Soil samples will be collected from the center of the track hoe bucket or directly from the excavation sidewalls using either a stainless steel or plastic sampling tool. With the exception of the track hoe bucket, non-dedicated sampling equipment will be decontaminated between uses, as appropriate.
- Each soil sample will be transferred immediately into laboratory-supplied sample containers. Care will be taken not to handle the seal or the inside cap of the container when the sample is placed into the container. The containers will be filled to eliminate headspace, and the seals and caps will be secured.
- Sample collection information will be documented during soil sampling, including at a minimum: sample depth; Unified Soil Classification System description; color, moisture, and occurrence of groundwater; physical indications of COCs (e.g., odor, staining); and field-screening results using a PID.
- Each sample container will be labeled with the medium, date, time sampled, sample identification and number, project name, project number, and sampler's initials.
- The sample will be documented on a Chain of Custody form and placed into a cooler at approximately 4 degrees Celsius for transport to the laboratory under chain-of-custody protocols.
- Quality assurance/quality control (QA/QC) samples will be collected as described in Section 6, Quality Assurance Project Plan.

The sample location within the sample grid will be documented using a global positioning system device. The depth of the collected sample will be documented using a measuring tape or other measuring device. The soil sample location will be plotted on a scaled map.

Non-reusable sampling supplies and health and safety supplies and equipment will be discarded in a waste dumpster at the Site.



5.1.5 Quality Assurance/Quality Control

QA/QC samples will be collected and analyzed with the other samples to provide for data validation during the course of the cleanup action. The QA/QC samples will include field duplicates. The exact number of QA/QC samples will depend on the number of samples collected during the source removal action. The anticipated frequency will be 1 QA/QC sample per 10 samples submitted for laboratory analysis (i.e., 10 percent).

The QA/QC samples will be assigned a unique sample identifier and number similar to that for the soil performance samples described in Section 5.1.3, Soil Sample Designation and Labeling. The sample number will include a “-θ” for field duplicate or “-FB” for trip blank. For example, a field duplicate of the third sample collected from grid C12 on August 15, 2014 would be labeled “-C12-0-3-081514.”

5.2 SOIL CONFIRMATION MONITORING

Confirmation monitoring will be used to confirm that the cleanup objectives described in this Revised Work Plan have been achieved for soil at the Site. If concentrations of one or more COCs exceeding the MTCA Method A cleanup level are not detected in a soil sample collected from the excavation sidewalls as a performance soil sample, the sample will be considered a confirmation soil sample. Confirmation monitoring will include analysis of a minimum of one grab soil sample collected and analyzed from 1 foot above the toe of the excavation slope at the approximate horizontal center of the grid. One grab sample will be collected from each of the sidewall grids. No bottom samples will be collected. Analytical results will be used to confirm that the cleanup objectives have been met.

5.3 COMPLIANCE MONITORING

Following completion of soil excavation at the Site, groundwater monitoring and sampling will be conducted to assess cleanup levels at the defined points of compliance and to document natural attenuation of petroleum hydrocarbons in groundwater at the Site. Groundwater compliance monitoring will consist of four consecutive groundwater monitoring and sampling events following completion of the soil cleanup action to assess whether groundwater quality is impacted.

5.3.1 Monitoring Well Locations

Following limited excavation of petroleum-contaminated soil, additional monitoring wells will be installed at the Site to assess concentrations of COCs at the Site. MNA may be evaluated as a groundwater cleanup alternative if persistent impacts are found during post-remedial-action groundwater monitoring. The monitoring wells will be installed to meet the recommendations presented in the Ecology (2005) *Guidance on Remediation of Petroleum-Contaminated Ground Water by Natural Attenuation*. The proposed locations of the monitoring wells are depicted on Figure 5.



5.3.2 Monitoring Well Installation

The monitoring wells will be installed by a well driller licensed in Washington State using a hollow-stem auger drill rig. The borings will be sampled in 2.5-foot intervals from the ground surface to the total depth of the borings unless the boring is installed in an excavation area, in which case sampling will be conducted only in native soil encountered during drilling activities. Borings are anticipated to be advanced to approximately 20 feet bgs. Actual well depths will depend on the observed depth interval of first-encountered groundwater. Soil samples will be collected from each sample interval and described in accordance with the Unified Soil Classification System.

Notation of visual or olfactory signs of contamination will be made during drilling activities, and volatile organic vapors in each soil sample will be measured using a PID. Soil descriptions and field observations for each location will be recorded on a Farallon Log of Boring. A minimum of one soil sample from each boring will be submitted for laboratory analysis for the COCs.

The monitoring wells will be constructed using 2-inch-diameter Schedule 40 polyvinyl chloride well casing, with the screened interval extending at least 5 feet into the water-bearing zone. Shallow monitoring wells will be constructed with a 10-foot screen interval of 0.010-inch slotted Schedule 40 polyvinyl chloride pipe, and a No. 2/12 sand filter pack will be placed from the bottom of the screened interval to approximately 2 feet above the top of the screened interval.

5.3.3 Monitoring Well Development

Well development will occur immediately after well construction has been completed. The purpose of well development is to ensure the removal of fine-grained sediment from the vicinity of the well screen. This procedure allows groundwater to flow freely into the monitoring well and reduces groundwater turbidity during sampling. Each well will be surged using a stainless steel surge rod to flush water into the soil surrounding the well screen to loosen fine-grained sediment and pull it into the well. The surge rod will be removed from the monitoring well, and a submersible pump will be used to evacuate water from the monitoring well. This process will be repeated until 10 well-volumes of water have been removed from the monitoring well or until visual observation indicates that sediment is no longer present in the groundwater.

5.3.4 Well-head Survey

Following installation of the monitoring wells, a surveyor licensed in Washington State will survey the top of each monitoring well casing to an accuracy of 0.01 foot relative to a common vertical datum. The surveyor also will measure the latitude and longitude of newly installed monitoring wells relative to Site features and previously installed monitoring wells.

5.3.5 Groundwater Level Measurements

The locking well cap will be removed from the monitoring well, and the groundwater level in the well will be allowed to equilibrate to atmospheric pressure for a minimum of 15 minutes. The depth to groundwater in the monitoring well will be measured to the nearest 0.01 foot using an electronic water-level meter. The depth to the monitoring well bottom will be measured to



evaluate siltation of the monitoring well and to calculate the estimated purge water volume. Non-disposable equipment will be decontaminated between uses.

5.3.6 Groundwater Sampling Collection and Frequency

Following the cleanup action, groundwater samples for compliance monitoring will be collected quarterly for 1 year. The subsequent sampling frequency will be determined based on an evaluation of the initial year of quarterly groundwater monitoring and sampling. In accordance with previous sampling methodology employed at the Site, groundwater samples will be collected in accordance with the EPA (1996) guidance document *Low-Flow (Minimal Drawdown) Groundwater Sampling Procedures*. The monitoring wells will be purged at a low-flow rate (i.e., 100 to 300 milliliters per minute) using a peristaltic or bladder pump and dedicated polyethylene tubing. The pump intake will be placed at the approximate center of the screened interval. Temperature, pH, conductivity, and dissolved oxygen will be monitored during purging using a YSI 600XL water-quality meter or equivalent meter equipped with a flow-through cell to determine when stabilization of these parameters occurs. Oxidation-reduction potential also will be measured using a YSI 600XL water-quality meter or equivalent as a component of the MNA evaluation.

Groundwater samples will be collected directly from the pump outlet following stabilization of temperature, pH, conductivity, and dissolved oxygen. If the monitoring well is completely dewatered during purging, samples will be collected when groundwater in the well has recovered at least 80 percent of the pre-purge casing volume. If low-flow sampling methods are not practical, the monitoring well will be allowed to recharge for no longer than 2 hours following cessation of purging, and will be sampled using a dedicated disposable polyethylene double-check valve bailer and sampling cord. The sample containers will be filled directly if collected from a pump, or the water samples will be transferred immediately from the bailer into laboratory-supplied sample containers, with care taken to minimize turbulence. Care will be taken not to handle the seal or lid of the container when the sample is decanted into the container. The containers will be filled completely to eliminate headspace, and the seal/lid will be secured.

Each sample container will be labeled with the date and time sampled, well identification and number, project number, and preservative(s), if any. Sample collection information will be documented on a Chain of Custody form. The samples will be placed into a cooler at approximately 4 degrees Celsius and transported to the laboratory under standard chain-of-custody protocols.

Purge water will be stored temporarily in a labeled container on the Site pending receipt of waste profiling results. An estimated volume of 20 to 30 gallons of purge and decontamination water is anticipated to be generated during each sampling event. Non-reusable sampling and health and safety supplies and equipment will be disposed of in a waste dumpster at the Site.

The well cap and monument will be secured following sampling. Damage to or defect in a well cap or monument will be noted, and the well cap or monument will be scheduled for replacement, if necessary.



5.3.7 Groundwater Sample Designation and Labeling

The groundwater samples collected for confirmation monitoring will be assigned a unique sample identifier and number. The number will include a prefix of the well identification and the date. For example, a groundwater sample collected from monitoring well MW-4 on August 15, 2014 would be numbered MW4-081514. The sample identification will be placed on the sample label, the purge form, and the Chain of Custody form.

5.3.8 Monitored Natural Attenuation Evaluation and Analytical Testing

Following the soil cleanup action, an evaluation of MNA in existing and additional monitoring wells down-gradient of excavation areas where concentrations of COCs in soil exceeding MTCA Method A cleanup levels were left in-place will be conducted following four quarters of groundwater monitoring indicating that groundwater quality is impacted. The natural attenuation parameters will be selected as recommended in the MNA guidance document (EPA 2005). The assessment will include measurement and analysis of parameters that provide data indicating whether biodegradation is occurring and, if so, by what processes. After 1 year of groundwater monitoring and sampling, the sample data will be evaluated to establish whether natural attenuation is occurring and, if so, the sampling frequency for the following year. Groundwater monitoring will continue until the data indicate that the cleanup levels have been met at the points of compliance at the Site.

5.3.9 Groundwater Quality Assurance/Quality Control Sampling

QA/QC groundwater samples will be collected during the course of the compliance groundwater monitoring to provide for data validation, as detailed in Section 6, Quality Assurance Project Plan. The QA/QC samples will include field duplicates. QA/QC samples will be collected and transported to the laboratory along with the primary field samples. Based on the sampling frequency and the number of compliance groundwater samples anticipated, it is estimated that one quality control sample will be submitted per sampling event. The type of QA/QC sample submitted will be at the discretion of the Field Scientist. The QA/QC samples will be assigned a unique sample identifier and number. The number will include the prefix “FD” for field duplicate. For example, a field duplicate collected on August 15, 2014 would be labeled “FD-081514.” Farallon will note the locations of field duplicates in the field notes and in prepared analytical result tables.



6.0 QUALITY ASSURANCE PROJECT PLAN

The Quality Assurance Project Plan presented in this section identifies the QA/QC protocols to be implemented in association with the Sampling and Analysis Plan for the Site. Specified in this section are the data quality objectives and the criteria for the sample collection and analysis to be conducted during the cleanup action to ensure that the data quality objectives are achieved. These criteria include sampling and analytical procedures, data management, QA/QC procedures, performance audits, data assessment, and corrective action procedures. Both quantitative and qualitative measures of data quality are included to ensure that the data quality objectives for the cleanup action are achieved.

6.1 DATA QUALITY OBJECTIVES

The data quality objectives for this project are to develop and implement procedures to ensure that the data are of sufficient quality to accurately document the remediation of COCs in soil at the Site. Observations and measurements will be made and recorded in a manner to yield results representative of the media and conditions observed and/or measured. Representativeness expresses the degree to which data accurately and precisely represent a characteristic of a population, natural variation at a sampling point, or an environmental condition. Representativeness will be achieved for the cleanup action through strict adherence to this Revised Work Plan. Goals for representativeness will be met by ensuring that sampling locations are selected properly, a sufficient number of samples are collected, and samples are handled and analyzed in a consistent manner.

The quality of the laboratory data will be assessed by the “PARCC” parameters: precision, accuracy, representativeness, comparability, and completeness. The definitions of these parameters and applicable quality control procedures are presented below. Quantitative data quality objectives for applicable parameters (i.e., precision, accuracy, completeness) are provided following each definition. Laboratory data quality objectives have been established by the analytical laboratory and are specified in the analytical laboratory Quality Assurance Plan, which is kept on file at the Farallon office.

6.1.1 Precision

Precision measures the reproducibility of measurements under a given set of conditions. Specifically, precision is a quantitative measure of the variability of two or more measurements compared to their average values. Precision is calculated from the results of duplicate sample analyses and is quantitatively expressed as the relative percent difference (RPD), calculated as follows:

$$RPD = \frac{(C_1 - C_2)}{(C_1 + C_2)/2} \times 100$$

Where:

RPD = relative percent difference

C₁ = the larger of the two duplicate results (i.e., the highest detected concentration)



C_2 = the smaller of the two duplicate results (i.e., the lowest detected concentration)

Quantitative RPD criteria for laboratory duplicate results have been developed by EPA for inorganic chemical analysis. The criteria are ± 20 percent for water samples and ± 35 percent for soil. There are no specific RPD criteria for organic chemical analyses. Laboratory analytical data collected for the cleanup action at the Site will consist primarily of analyses for organic chemicals.

6.1.2 Accuracy

Accuracy is a measure of the closeness (bias) of the measured value to the true value. The accuracy of chemical analytical results is assessed by “spiking” samples in the laboratory with known standards (surrogates or matrix spikes of known concentration) and determining the percent recovery. Accuracy is measured as the percent recovery, calculated as follows:

$$\%R = \frac{(M_{sa} - M_{ua})}{C_{sa}} \times 100$$

Where:

$\%R$ = percent recovery

M_{sa} = measured concentration in spiked aliquot

M_{ua} = measured concentration in unspiked aliquot

C_{sa} = actual concentration of spike added

Laboratory matrix spikes and surrogates will be carried out at the analytical laboratory in accordance with EPA SW-846 requirements for organic and inorganic chemical analyses. Quantitative percent recovery criteria have been developed by EPA for laboratory matrix spikes for inorganic analysis. The criteria are 75 to 125 percent when the sample concentration exceeds the spike concentration by a factor of four or more. There are no specific accuracy criteria for organic analyses. Where EPA and Ecology have not provided data validation guidelines, laboratory-derived control limits will be used to assess surrogate recovery and matrix spike results.

The accuracy of sample results can be affected by sample contamination, which can occur because of improperly cleaned sampling equipment, exposure of samples to chemical concentrations in the field or during transport to the laboratory, or chemical concentrations present in the laboratory. To confirm that the samples collected are not contaminated during handling, transport, or analysis, multiple types of blank samples will be analyzed.

6.1.2.1 Laboratory Method Blanks

The laboratory will run method blanks at a minimum frequency of 5 percent (or one per batch) to assess sample contamination in the laboratory.



6.1.3 Representativeness

Representativeness is a qualitative measure of how closely the measured results reflect the actual concentration or distribution of the constituent concentrations in the matrix sampled. The sampling plan design, sampling collection techniques, sample-handling protocols, sample analysis methods, and data review procedures have been developed to ensure that the results obtained are representative of Site conditions.

6.1.4 Comparability

Comparability is a qualitative parameter expressing the confidence with which one data set can be compared with another. The use of standard EPA and Ecology methods and procedures for both sample collection and laboratory analysis will make data collected during the cleanup action comparable to data collected during previous investigations conducted by Farallon.

6.1.5 Completeness

Completeness is defined as the percentage of measurements judged to be valid. Results will be considered valid if they are not rejected during data validation. Completeness (C) is calculated as follows:

$$C = \frac{(Number\ of\ Valid\ Measurements)}{(Total\ Number\ of\ Measurements)} \times 100$$

The target completeness goal for this work will be 90 percent for a given analysis.

6.2 SAMPLING PROCEDURES

Procedures that will be used to collect, preserve, transport, and store samples are described in Sections 4 and 5. Sampling protocols will be performed in accordance with generally accepted environmental practices and will meet or exceed current regulatory standards and guidelines. Sampling procedures may be modified if necessary to satisfy amendments to current regulations, methods, or guidelines.

6.3 ANALYTICAL PROCEDURES

Chemical and physical analyses to be conducted during this project are discussed in Sections 4 and 5. The container types, holding times, analytical methods, practical quantitation limits, and method detection limits will be in accordance with current regulatory guidelines and will be modified if necessary to satisfy amendments to current regulations, methods, or guidelines.

6.4 DATA MANAGEMENT, REDUCTION, REVIEW, AND REPORTING

This section presents the procedures to be followed for the inventory, control, storage, and retrieval of data collected during the cleanup action. The procedures are designed to ensure that the integrity of the collected data is maintained for subsequent use. In addition, project-tracking



data (e.g., schedules, progress reports) will be maintained to monitor, manage, and document the progress of the cleanup action.

Project files and raw data files will be maintained at the Farallon office. Data generated during field activities and by laboratory analysis will be submitted directly to Farallon. Laboratory documentation from the analytical laboratory will be maintained in Farallon's project file for the purpose of validating the analytical data collected during the cleanup action.

6.4.1 Data Types

A variety of data will be generated by the cleanup action, including sampling and analytical data, progress reports, and calculation results based on mathematical expressions. These data will be scrutinized and maintained in a manner consistent with the procedures described below, and current and applicable regulatory requirements.

6.4.2 Data Transfer

Procedures controlling the receipt and distribution of incoming data packages to Farallon and outgoing data and reports from Farallon are outlined below.

6.4.2.1 Receipt and Filing of Data and Reports

Incoming documents will be date-stamped. Correspondence and transmittal letters for reports, maps, and data will be filed chronologically. Data packages such as those from field personnel, laboratories, and surveyors (e.g., soil analytical data, survey data, geologic observations) will be filed by project number, subject heading, and date.

Laboratory analytical data will be transmitted to Farallon as both an electronic file and a hard copy. This protocol will facilitate subsequent validation and analysis of these data while avoiding transcription errors that may occur with computer data entry.

6.4.2.2 Outgoing Data and Reports

A transmittal sheet will be attached to project data and reports sent out. A copy of each transmittal sheet will be kept in the project file. The Project Manager and Project Principal will review outgoing correspondence, reports, maps, data, and other documentation. If distribution to multiple parties is required, the needed number of copies will be made and distributed to the appropriate persons or agencies. Original documents will not be distributed to project personnel.

6.4.3 Data Inventory

Procedures for the filing, storage, and retrieval of project data and reports are discussed below.

6.4.3.1 Document Filing and Storage

Project files and raw data files will be maintained at the Farallon office. The files will be organized chronologically by subject heading and maintained by the Document Control Clerk at the Farallon office.



6.4.3.2 Access to Project Files

Access to project files will be controlled by the Document Control Clerk and limited to the Site owner, authorized representatives of the Site owner, Ecology, and Farallon personnel. When a file is removed for use, sign-out procedures will be followed by the Document Control Clerk to track custody.

If a document is to be used for an extended period, a copy of the document will be made, and the original will be returned to the project file.

6.4.4 Data Reduction and Analysis

The Project Manager and Project Principal are responsible for data review and validation. The type of analysis and the presentation method selected for any given data set will depend on the type, quantity, quality, and prospective use of the data. Analysis of project data likely will require data reduction for preparation of tables, charts, and maps. To ensure that data are accurately transferred during the reduction process, Farallon's EQuIS database will be used, and the Project Principal or designee (someone other than the person who prepared the map, table, or chart) will check the reduced data. An incorrect transfer of data will be highlighted and corrected.

6.4.4.1 Data Reporting Formats

The physical and chemical characterization information developed during implementation of the cleanup action will be presented in the Cleanup Action Summary Report, as described below:

- **Summary Tables**—Laboratory analytical reports will be sorted according to various parameters to summarize the information to facilitate assimilation and presentation. Sampling and analysis data for each medium will be sorted several ways, including by sample point number, constituent, and date of sample collection. The parameters chosen for sorting will depend on determination of the most-appropriate format and the utility of that format in demonstrating the physical and chemical characteristics of interest.
- **Maps**—Plan maps needed to illustrate results of the cleanup action will be assembled or prepared. These may include but are not limited to plan maps of the Site showing chemical concentrations for individual chemicals and groups of chemicals, groundwater level maps, and maps depicting the extent of excavated areas.
- **Cross-Sections**—Vertical profiles (or cross-sections) may be generated from field data to display Site stratigraphy or other aspects of the cleanup action.
- **Environmental Information Management**—Environmental sampling data for the cleanup site will be submitted in both print and electronic format capable of being transferred into the Ecology data management system, consistent with the procedures specified in Ecology Toxic Cleanup Program Policy 840.



6.4.5 Telephone Logs, Meeting Notes, and Field Notes

The Project Manager will maintain notes from project meetings and telephone conversations in the project file. Project field personnel will submit field notes to the Project Manager throughout the field program for review and filing in the project file.

6.5 QUALITY ASSURANCE/QUALITY CONTROL PROCEDURES

The QA/QC procedures for the cleanup action include the field, laboratory, and data quality control procedures described below.

6.5.1 Field Quality Control

Field quality control samples (e.g., field duplicate samples or trip blanks) to be collected for the cleanup action are described in Sections 5 and 6.1.2.1.

6.5.2 Laboratory Quality Control

Analytical laboratory QA/QC procedures are presented in the laboratory Quality Assurance Plan on file at the Farallon office.

6.5.3 Data Quality Control

The data will undergo two levels of QA/QC evaluation: one by the laboratory for the analytical data, and one by Farallon for both analytical and field data. As specified in the laboratory Quality Assurance Plan, the laboratory will perform initial data reduction, evaluation, and reporting. The analytical data will then be validated by Farallon under the supervision of the Project Principal. The following types of quality control information will be reviewed, as appropriate:

- Method deviations;
- Sample extraction and holding times;
- Method reporting limits;
- Blank samples;
- Duplicate samples;
- Matrix spike/matrix spike duplicate samples (accuracy);
- Surrogate recoveries;
- Percent completeness; and
- RPD (precision).

Farallon will review field records and results of field observations and measurements to ensure that procedures were properly performed and documented. Review of field procedures will apply to:

- The completeness and legibility of field logs and sampling forms;



- The preparation and frequency of field quality control samples;
- Equipment calibration and maintenance; and
- Chain of Custody forms.

6.6 PERFORMANCE AND SYSTEM AUDITS

Performance audits will be completed for both sampling and analysis work. Field performance will be monitored through regular review of Chain of Custody forms, field notebooks, sampling forms, and field duplicate sampling and analysis. The Project Manager and/or Project Principal also may perform periodic on-Site review of work in progress.

Accreditations from Ecology received by the analytical laboratory for each analysis performed demonstrate the laboratory's ability to properly perform the requested methods. Therefore, a system audit of the analytical laboratory will not be conducted during the course of this project.

The Project Manager and/or Project Principal will oversee communication with the analytical laboratory on a frequent basis while samples are being processed and analyzed at the laboratory. This process will allow Farallon to assess progress toward obtaining the data quality objectives, and to take corrective measures if a problem is identified.

The analytical laboratory will be responsible for identifying and correcting (as appropriate) deviations from performance standards, as discussed in the laboratory Quality Assurance Plan. The laboratory will communicate to the Project Manager or Project Principal a deviation from performance standards, and appropriate corrective measures taken during sample analysis.

6.7 DATA ASSESSMENT PROCEDURES

The Project Manager and Project Principal are responsible for data review and validation. Upon receipt of each data package from the laboratory, calculations using the equations presented for precision, accuracy, and completeness will be performed. Results will be compared to the qualitative data quality objectives.

6.8 CORRECTIVE ACTION

Corrective action will be the joint responsibility of the Project Manager and Project Principal. Corrective procedures may include:

- Identifying the source of the violation;
- Re-analyzing samples if holding time criteria permit;
- Re-sampling and analyzing;
- Evaluating and amending sampling and analytical procedures; and/or
- Qualifying data to indicate the level of uncertainty.



During field sampling activities, the Project Manager and field team members will be responsible for identifying and correcting protocols that may compromise data quality. The Project Manager and/or Project Principal will be notified verbally of a situation potentially requiring corrective action to obtain approval to proceed prior to implementing a corrective action. Corrective action taken will be documented in the Field Report form.



7.0 DELIVERABLES AND SCHEDULE

This section presents a summary of the document management that will be conducted during the cleanup action, and the documentation that will be prepared during and after the cleanup action in accordance with MTCA requirements. Applicable and relevant documentation associated with the cleanup action will be reviewed and approval by the client and submitted to Ecology. Copies of the documents will be retained in Farallon's files indefinitely.

7.1 DOCUMENTATION MANAGEMENT

The document control system to be implemented during the cleanup action includes the following elements, as appropriate: field documentation, boring and well logs, well purging and sampling documentation, sampling event data documentation, Chain of Custody forms, waste inventory documentation, waste management labels, and sample labels. A sample of each of these documents is provided in Appendix F. Disposal manifests for wastes generated at and disposed of from the Site will be maintained and submitted with project documentation.

7.2 CLEANUP ACTION SUMMARY REPORT

A Cleanup Action Summary Report will be prepared following completion of the excavation, restoration, and cleanup activities. At a minimum, the report will include the following:

- A description of the Site preparation activities, including obtaining a Chelan County Grading and Fill Permit, a building permit, and a Construction Stormwater General Permit;
- A description of soil excavation;
- Documentation of waste disposal tracking for excavated petroleum-contaminated soil and extracted groundwater;
- A summary of the compliance sampling analytical results for soil and groundwater collected during the cleanup action, including summary tables;
- A written opinion of a Professional Engineer to confirm that the revised cleanup action was completed in substantial compliance with the Revised Work Plan;
- A figure depicting the limits of the excavation and the soil sample locations; and
- Monitoring well locations and monitoring schedule.



7.3 GROUNDWATER MONITORING SUMMARY REPORT

A Groundwater Monitoring Summary Report will be prepared following completion of four consecutive quarters of groundwater monitoring and sampling. The groundwater monitoring results will document whether groundwater quality meets the remedial objectives, and will provide the outcome of any MNA evaluation of groundwater at the Site. The Groundwater Monitoring Summary Report will include the following:

- A summary of the analytical results for groundwater samples collected during quarterly groundwater monitoring, including summary tables;
- A figure depicting Site features and monitoring well locations;
- A groundwater contour map;
- The results of any MNA evaluation and whether MNA may be established as the final groundwater cleanup alternative; and
- A contingency plan that presents additional remedial actions to be implemented if surface water of the Wenatchee River is determined to be impacted.

7.4 SCHEDULE

An estimated schedule summary is provided below.

7.4.1 Construction

- Contractor bidding and selection process: May 2014
- Excavation preparation activities: June 2014
- Soil excavation: July 2014
- Backfill excavation and Site restoration: August 2014

7.4.2 Groundwater Monitoring

- First event: September 2014
- Subsequent events: December 2014, March and June 2015

7.4.3 Cleanup Action Summary Report

- Prepare report: September and October 2014
- Submit draft report to Ecology: November 2014
- Submit final report to Ecology: 45 days after receipt of Ecology's comments on draft report

7.4.4 Groundwater Monitoring Summary Report

- Prepare report: July 2015



- Submit draft report to Ecology: August 2015
- Submit final report to Ecology: 45 days after receipt of Ecology's comments on draft report



8.0 REFERENCES

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FIGURES

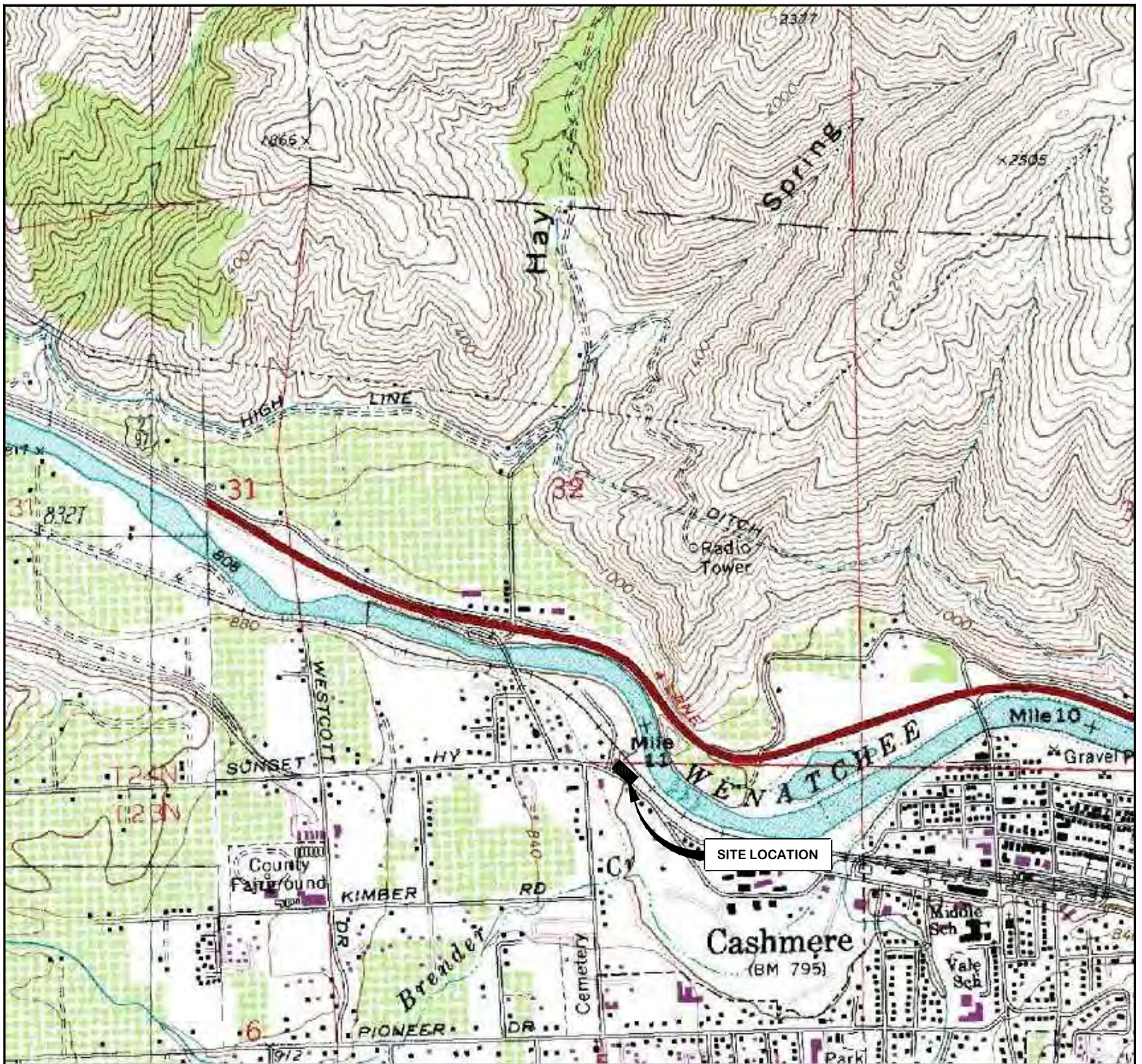
REVISED CLEANUP ACTION WORK PLAN

John Michael Lease Site

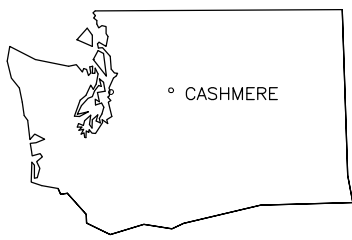
5640 Sunset Highway

Cashmere, Washington

Farallon PN: 283-006



REFERENCE: 7.5 MINUTE USGS QUADRANGLE CASHMERE, WASHINGTON. DATED 1987



WASHINGTON



FARALLON CONSULTING
 975 5th Avenue Northwest
 Issaquah, WA 98027

FIGURE 1
 SITE VICINITY MAP
 JOHN MICHAEL LEASE SITE
 5640 SUNSET HIGHWAY
 CASHMERE, WASHINGTON

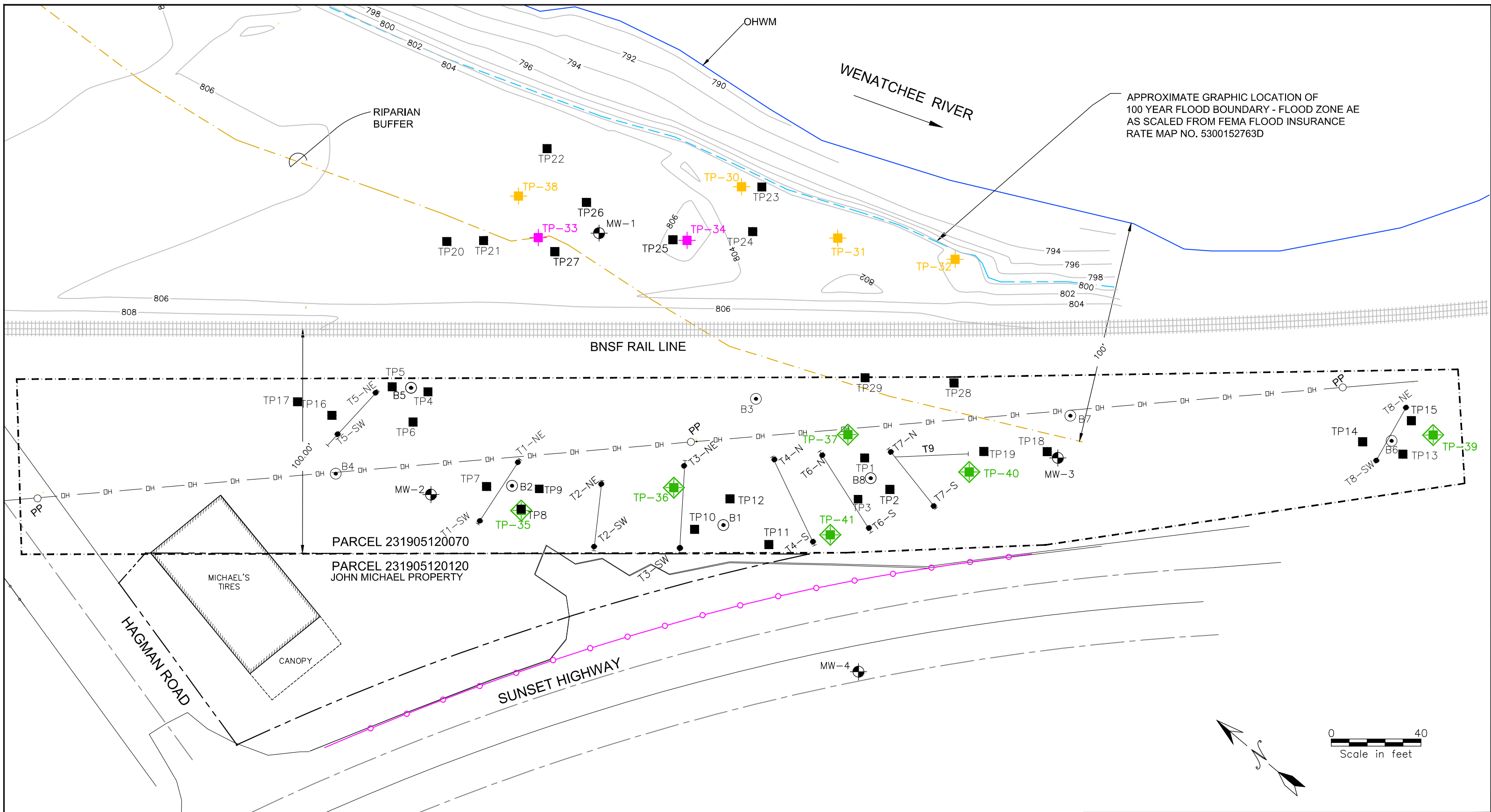
FARALLON PN: 283-006

Drawn By: DEW

Checked By: KD

Date: 12/9/13

Disk Reference: 283006



APPROXIMATE GRAPHIC LOCATION OF 100 YEAR FLOOD BOUNDARY - FLOOD ZONE AE AS SCALED FROM FEMA FLOOD INSURANCE RATE MAP NO. 5300152763D

- TRENCH LOCATION (FARALLON 2009)
- MW-4 ● MONITORING WELL (FARALLON 2009)
- T5-NE ● TRENCH SOIL SAMPLE LOCATION (FARALLON 2009)
- TP15 ■ TEST PIT (FARALLON 2009, FARALLON 2010)
- B8 ● BORING LOCATION (EMR 2005)

- SUPPLEMENTAL INVESTIGATION SOIL SAMPLE TEST PIT (TRC 2012)
- SUPPLEMENTAL INVESTIGATION CULTURAL SURVEY AND SOIL SAMPLE TEST PIT (TRC 2012)
- ◆ SUPPLEMENTAL INVESTIGATION CULTURAL SURVEY TEST PIT (TRC 2012)

- LEGEND**
- ▤ RAILROAD
 - BNSF PROPERTY LEASED FOR STORAGE OF IRRIGATION MATERIALS AND PARKING
 - JOHN MICHAEL PROPERTY

- OH — OH — OVERHEAD POWER LINE
 - ○ — UTILITY
 - PP ○ POWER POLE
 - 804 — CONTOUR LINE
- FARALLON = FARALLON CONSULTING, L.L.C.

TOPOGRAPHIC SURVEY DONE BY PLS, DATED FEBRUARY 4th, 2011



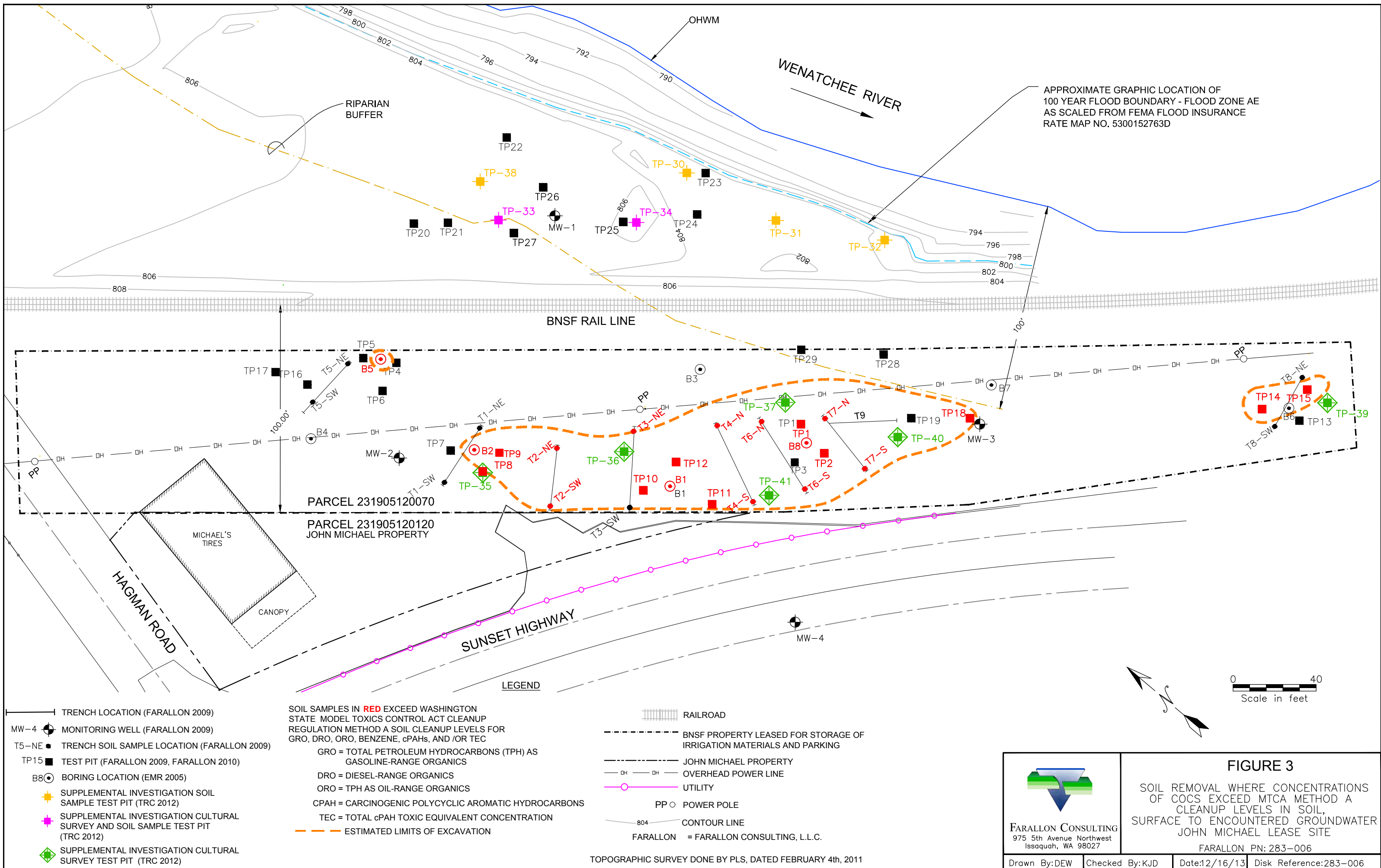
FARALLON CONSULTING
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Issaquah, WA 98027

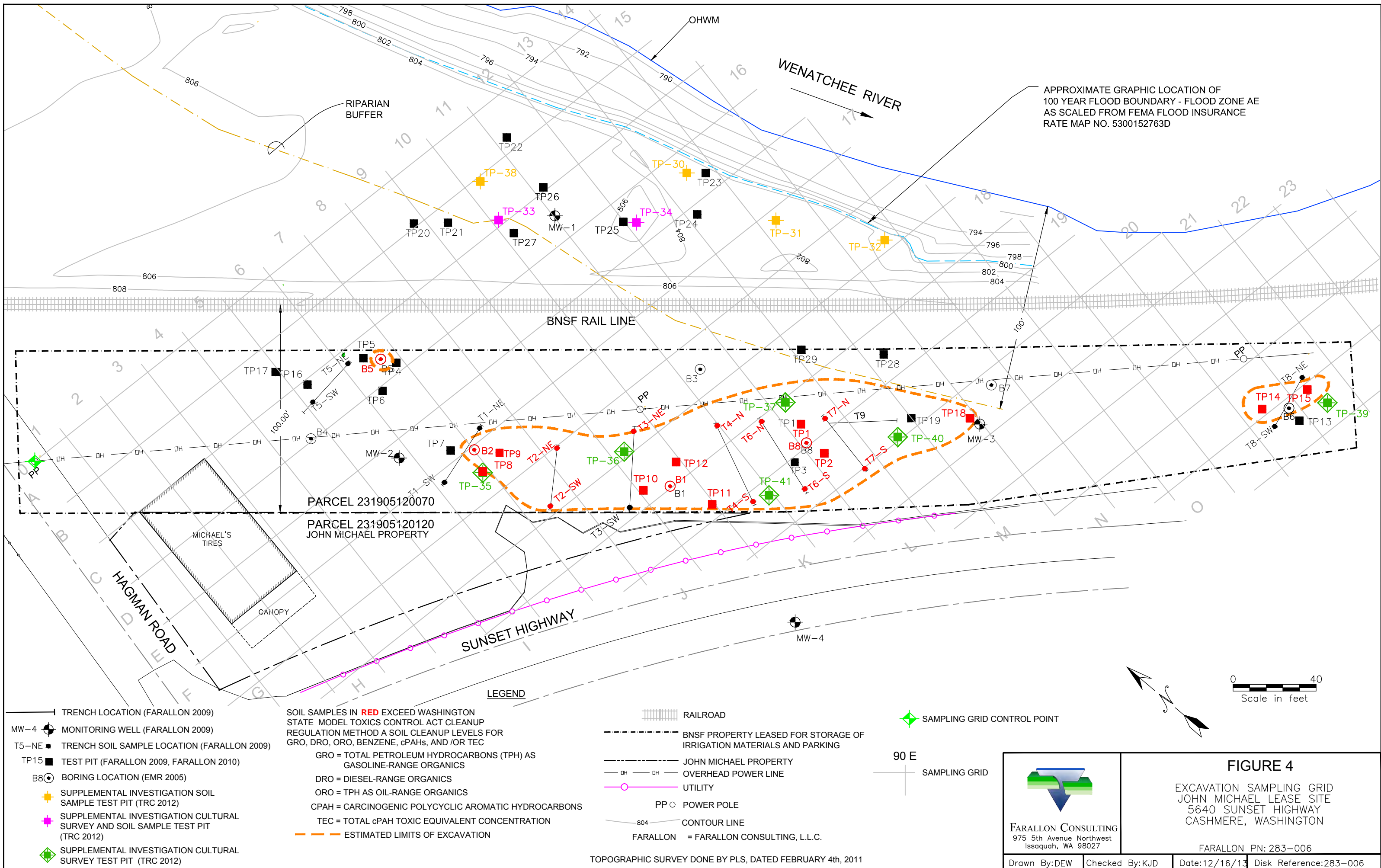
FIGURE 2

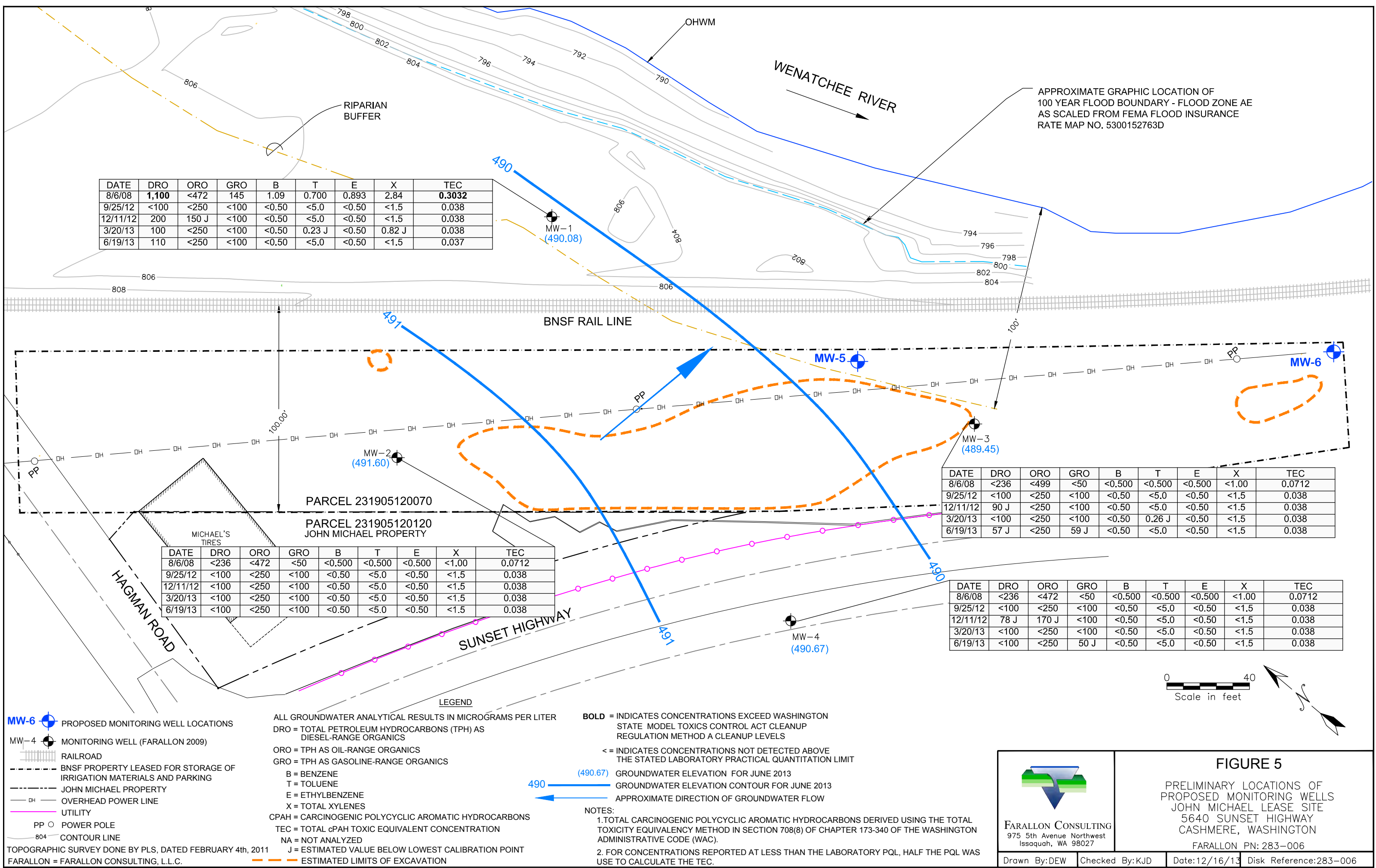
SITE PLAN
JOHN MICHAEL LEASE SITE
5640 SUNSET HIGHWAY
CASHMERE, WASHINGTON

FARALLON PN: 283-006

Drawn By: DEW	Checked By: KJD	Date: 12/9/13	Disk Reference: 283-006
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APPROXIMATE GRAPHIC LOCATION OF 100 YEAR FLOOD BOUNDARY - FLOOD ZONE AE AS SCALED FROM FEMA FLOOD INSURANCE RATE MAP NO. 5300152763D

DATE	DRO	ORO	GRO	B	T	E	X	TEC
8/6/08	1,100	<472	145	1.09	0.700	0.893	2.84	0.3032
9/25/12	<100	<250	<100	<0.50	<5.0	<0.50	<1.5	0.038
12/11/12	200	150 J	<100	<0.50	<5.0	<0.50	<1.5	0.038
3/20/13	100	<250	<100	<0.50	0.23 J	<0.50	0.82 J	0.038
6/19/13	110	<250	<100	<0.50	<5.0	<0.50	<1.5	0.037

DATE	DRO	ORO	GRO	B	T	E	X	TEC
8/6/08	<236	<499	<50	<0.500	<0.500	<0.500	<1.00	0.0712
9/25/12	<100	<250	<100	<0.50	<5.0	<0.50	<1.5	0.038
12/11/12	90 J	<250	<100	<0.50	<5.0	<0.50	<1.5	0.038
3/20/13	<100	<250	<100	<0.50	0.26 J	<0.50	<1.5	0.038
6/19/13	57 J	<250	59 J	<0.50	<5.0	<0.50	<1.5	0.038

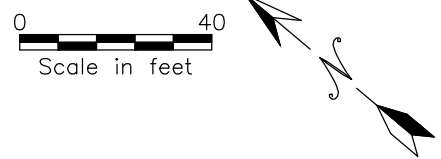
DATE	DRO	ORO	GRO	B	T	E	X	TEC
8/6/08	<236	<472	<50	<0.500	<0.500	<0.500	<1.00	0.0712
9/25/12	<100	<250	<100	<0.50	<5.0	<0.50	<1.5	0.038
12/11/12	<100	<250	<100	<0.50	<5.0	<0.50	<1.5	0.038
3/20/13	<100	<250	<100	<0.50	<5.0	<0.50	<1.5	0.038
6/19/13	<100	<250	<100	<0.50	<5.0	<0.50	<1.5	0.038

DATE	DRO	ORO	GRO	B	T	E	X	TEC
8/6/08	<236	<472	<50	<0.500	<0.500	<0.500	<1.00	0.0712
9/25/12	<100	<250	<100	<0.50	<5.0	<0.50	<1.5	0.038
12/11/12	78 J	170 J	<100	<0.50	<5.0	<0.50	<1.5	0.038
3/20/13	<100	<250	<100	<0.50	<5.0	<0.50	<1.5	0.038
6/19/13	<100	<250	50 J	<0.50	<5.0	<0.50	<1.5	0.038

- MW-6** PROPOSED MONITORING WELL LOCATIONS
 - MW-4** MONITORING WELL (FARALLON 2009)
 - RAILROAD
 - BNSF PROPERTY LEASED FOR STORAGE OF IRRIGATION MATERIALS AND PARKING
 - JOHN MICHAEL PROPERTY
 - OVERHEAD POWER LINE
 - UTILITY
 - POWER POLE
 - CONTOUR LINE
- TOPOGRAPHIC SURVEY DONE BY PLS, DATED FEBRUARY 4th, 2011
 FARALLON = FARALLON CONSULTING, L.L.C.

- ALL GROUNDWATER ANALYTICAL RESULTS IN MICROGRAMS PER LITER
- DRO = TOTAL PETROLEUM HYDROCARBONS (TPH) AS DIESEL-RANGE ORGANICS
 - ORO = TPH AS OIL-RANGE ORGANICS
 - GRO = TPH AS GASOLINE-RANGE ORGANICS
 - B = BENZENE
 - T = TOLUENE
 - E = ETHYLBENZENE
 - X = TOTAL XYLENES
 - CPAH = CARCINOGENIC POLYCYCLIC AROMATIC HYDROCARBONS
 - TEC = TOTAL cPAH TOXIC EQUIVALENT CONCENTRATION
 - NA = NOT ANALYZED
 - J = ESTIMATED VALUE BELOW LOWEST CALIBRATION POINT

- BOLD** = INDICATES CONCENTRATIONS EXCEED WASHINGTON STATE MODEL TOXICS CONTROL ACT CLEANUP REGULATION METHOD A CLEANUP LEVELS
 - <** = INDICATES CONCENTRATIONS NOT DETECTED ABOVE THE STATED LABORATORY PRACTICAL QUANTITATION LIMIT
- (490.67)** GROUNDWATER ELEVATION FOR JUNE 2013
- 490** GROUNDWATER ELEVATION CONTOUR FOR JUNE 2013
- APPROXIMATE DIRECTION OF GROUNDWATER FLOW
- NOTES:
 1. TOTAL CARCINOGENIC POLYCYCLIC AROMATIC HYDROCARBONS DERIVED USING THE TOTAL TOXICITY EQUIVALENCY METHOD IN SECTION 708(8) OF CHAPTER 173-340 OF THE WASHINGTON ADMINISTRATIVE CODE (WAC).
 2. FOR CONCENTRATIONS REPORTED AT LESS THAN THE LABORATORY PQL, HALF THE PQL WAS USE TO CALCULATE THE TEC.



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 Issaquah, WA 98027

FIGURE 5

PRELIMINARY LOCATIONS OF PROPOSED MONITORING WELLS
 JOHN MICHAEL LEASE SITE
 5640 SUNSET HIGHWAY
 CASHMERE, WASHINGTON

FARALLON PN: 283-006

Drawn By: DEW	Checked By: KJD	Date: 12/16/13	Disk Reference: 283-006
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TABLES

REVISED CLEANUP ACTION WORK PLAN

John Michael Lease Site

5640 Sunset Highway

Cashmere, Washington

Farallon PN: 283-006

Table 1
Summary of Soil Analytical Results - Total Petroleum Hydrocarbons and BTEX
John Michael Lease Site
Cashmere, Washington

Test Pit/ Test Trench/ Well Location	Sample Identification	Sampled By	Sample Date	Sample Depth (feet) ¹	Analytical Results (milligrams per kilogram)						
					DRO ²	ORO ²	GRO ³	Benzene ⁴	Toluene ⁴	Ethyl- benzene ⁴	Xylenes ⁴
Reconnaissance Borings											
B-1	B-1-4	EMR	12/01/04	4	446	7,610	<4.13	<0.0206	<0.0413	<0.0413	<0.0825
B-2	B-2-8	EMR	12/01/04	8	3,620	7,380	795	<2.11	<4.21	<4.21	<8.42
B-3	B-3-6	EMR	12/01/04	6	<24.8	<49.5	<4.26	<0.0213	<0.0426	<0.0426	<0.0853
B-4	B-4-6	EMR	12/01/04	6	46.5	286	<4.21	<0.0237	<0.0475	<0.0475	<0.0949
B-5	B-5-8	EMR	12/01/04	8	397	989	38.7	0.0294	<0.0421	<0.0421	<0.0841
B-6	B-6-5	EMR	12/01/04	5	35.9	320	<4.85	<0.0243	<0.0485	<0.0485	<0.097
B-7	B-7-3	EMR	12/01/04	3	<24.5	<48.9	<4.24	<0.0212	<0.0424	<0.0424	<0.0848
B-8	B-8-5	EMR	12/01/04	5	433	6,320	<4.42	<0.0221	<0.0442	<0.0442	<0.0883
Test Pits											
TP1	TP1-092007-0-2	Farallon	09/20/07	0-2	<19.5	314	<5.12	<0.0256	<0.205	<0.205	<0.614
TP1	TP1-092007-6-8	Farallon	09/20/07	6-8	10,500	20,900	17.3	<0.0240	<0.912	<0.192	<0.576
TP2	TP2-092007-2-4	Farallon	09/20/07	2-4	21.1	169	<4.41	<0.0221	<0.177	<0.177	<0.530
TP2	TP2-092007-6-8	Farallon	09/20/07	6-8	2,210	11,900	16.3	<0.0275	<0.220	<0.220	<0.660
TP3	TP3-092007-2-4	Farallon	09/20/07	2-4	5.63	82.8	<4.39	<0.0219	<0.175	<0.175	<0.526
TP3	TP3-092007-4-6	Farallon	09/20/07	4-6	8.80	79.1	<5.19	<0.0259	<0.207	<0.207	<0.622
TP4	TP4-092007-4-6	Farallon	09/20/07	4-6	<3.88	85.3	<4.32	<0.0216	<0.173	<0.173	<0.518
TP4	TP4-092007-6-8	Farallon	09/20/07	6-8	7.33	92.9	<4.19	<0.0210	<0.168	<0.168	<0.503
TP5	TP5-092007-2-4	Farallon	09/20/07	2-4	<3.96	16.9	<4.81	<0.0241	<0.192	<0.192	<0.577
TP5	TP5-092007-6-8	Farallon	09/20/07	6-8	5.29	24.0	<4.37	<0.0218	<0.175	<0.175	<0.524
TP6	TP6-092007-4-6	Farallon	09/20/07	4-6	<19.9	387	<4.42	<0.0221	<0.177	<0.177	<0.530
TP6	TP6-092007-6-8	Farallon	09/20/07	6-8	24.5	170	<4.74	<0.0237	<0.190	<0.190	<0.569
TP7	TP7-092007-2-4	Farallon	09/20/07	2-4	22.1	125	<5.47	<0.0274	<0.219	<0.219	<0.656
TP7	TP7-092007-4-6	Farallon	09/20/07	4-6	19.1	140	<4.59	<0.0229	<0.184	<0.184	<0.551
TP8	TP8-092007-2-4	Farallon	09/20/07	2-4	17.4	248	<5.45	<0.0273	<0.218	<0.218	<0.654
TP8	TP8-092007-6-8	Farallon	09/20/07	6-8	78.9	701	<5.97	<0.0299	<0.239	<0.239	<0.717
TP9	TP9-092007-2-4	Farallon	09/20/07	2-4	<3.94	10.4	<4.39	<0.0220	<0.176	<0.176	<0.527
TP9	TP9-092007-6-8	Farallon	09/20/07	6-8	<399	9,260	<5.79	<0.0289	<0.232	<0.232	<0.695
TP10	TP10-092007-2-4	Farallon	09/20/07	2-4	24.4	174	<5.54	<0.0277	<0.221	<0.221	<0.664
TP10	TP10-092007-6-8	Farallon	09/20/07	6-8	149	1,080	16.8	1.73	0.265	<0.242	1.26
TP11	TP11-092007-2-4	Farallon	09/20/07	2-4	<3.99	29.2	<4.92	<0.0246	<0.197	<0.197	<0.590
TP11	TP11-092007-4-6	Farallon	09/20/07	4-6	949	6,710	<5.43	<0.0271	<0.217	<0.217	<0.651
MTCA Method A Cleanup Levels for Soil⁵					2,000	2,000	30	0.03	7	6	9

Table 1
Summary of Soil Analytical Results - Total Petroleum Hydrocarbons and BTEX
John Michael Lease Site
Cashmere, Washington

Test Pit/ Test Trench/ Well Location	Sample Identification	Sampled By	Sample Date	Sample Depth (feet) ¹	Analytical Results (milligrams per kilogram)						
					DRO ²	ORO ²	GRO ³	Benzene ⁴	Toluene ⁴	Ethyl- benzene ⁴	Xylenes ⁴
TP12	TP12-092107-4-6	Farallon	09/21/07	4-6	<3.92	16.5	<4.80	0.202	<0.192	<0.192	<0.575
TP12	TP12-092107-6-8	Farallon	09/21/07	6-8	23.2	183	23.4	1.17	<0.232	<0.232	<0.695
TP13	TP13-092107-0-2	Farallon	09/21/07	0-2	<38.9	412	<5.84	<0.0292	<0.234	<0.234	<0.701
TP13	TP13-092107-6-8	Farallon	09/21/07	6-8	<3.88	38.2	<5.42	<0.0271	<0.217	<0.217	<0.650
TP14	TP14-092107-4-6	Farallon	09/21/07	4-6	<7.90	222	<4.46	<0.0223	<0.178	<0.178	<0.535
TP14	TP14-092107-6-8	Farallon	09/21/07	6-8	<19.7	454	<5.49	<0.0275	<0.220	<0.220	<0.659
TP15	TP15-092107-0-2	Farallon	09/21/07	0-2	58.7	812	<5.44	<0.0272	<0.218	<0.218	<0.653
TP15	TP15-092107-4-6	Farallon	09/21/07	4-6	14.5	194	<5.73	<0.0286	<0.229	<0.229	<0.687
TP17	TP-17-050608-8	Farallon	05/06/08	8	<211	829	<10.6	<0.0634	<0.106	<0.106	<0.211
TP18	TP-18-050808-8	Farallon	05/08/08	8	193	1,470	<13.7	<0.0823	<0.137	<0.137	<0.274
TP21	TP-21-8	Farallon	04/06/09	8	15.5	129	--	--	--	--	--
TP22	TP-22-15	Farallon	04/06/09	15	<11.7	52.9	--	--	--	--	--
TP23	TP-23-14	Farallon	04/06/09	14	20.4	119	--	--	--	--	--
TP24	TP-24-14	Farallon	04/06/09	14	<10.6	<26.4	--	--	--	--	--
TP25	TP-25-8	Farallon	04/06/09	8	318	1,880	--	--	--	--	--
TP25	TP-25-14	Farallon	04/06/09	14	44,500	61,000	--	--	--	--	--
TP26	TP-26-10	Farallon	04/07/09	10	<15.5	105	--	--	--	--	--
TP26	TP-26-16	Farallon	04/07/09	16	8,080	12,900	--	--	--	--	--
TP27	TP-27-8	Farallon	04/07/09	8	<11.8	49.3	--	--	--	--	--
TP27	TP-27-12	Farallon	04/07/09	12	37,400	51,500	--	--	--	--	--
TP28	TP-28-10	Farallon	04/07/09	10	47.5	301	--	--	--	--	--
TP29	TP-29-8	Farallon	04/07/09	8	40.1	397	--	--	--	--	--
TP30	TP30-062512-14.0	Farallon	6/25/2012	14	110	19,000	<0.25	<0.00037	<0.00067	<0.00037	<0.0015
TP30	TP30-062512-16.0	Farallon	6/25/2012	16	2.4 J	7.8 J	<0.25	<0.00037	<0.00067	<0.00037	<0.0015
TP31	TP31-062512-12.0	Farallon	6/25/2012	12	<2.0	<5.0	0.28 J	<0.00037	<0.00067	<0.00037	<0.0015
TP31	TP31-062512-16.0	Farallon	6/25/2012	16	<2.0	<5.0	<0.25	<0.00037	<0.00067	<0.00037	<0.0015
TP32	TP32-062612-12.0	Farallon	6/26/2012	12	<2.0	<5.0 J3	<0.25	<0.00037	<0.00067	<0.00037	<0.0015
TP32	TP32-062612-16.0	Farallon	6/26/2012	16	<2.0	<5.0	<0.25	<0.00037	<0.00067	<0.00037	<0.0015
TP33	TP33-062512-14.0	Farallon	6/25/2012	14	1,000	1,500	8.4	<0.00037	<0.00067	0.016	0.049
TP34	TP34-062512-14.0	Farallon	6/25/2012	14	120	19,000	72	0.0079	0.032	0.20	0.47
TP38	TP38-062612-4.0	Farallon	6/26/2012	4	<20	98 J	<0.25	<0.00037	<0.00067	<0.00037	<0.0015
TP38	TP38-062612-10.0	Farallon	6/26/2012	10	60	70	<0.25	0.0046	<0.00067	<0.00037	<0.0015
TP38	TP38-062612-12.0	Farallon	6/26/2012	12	6.0	31	<0.25	<0.00037	<0.00067	<0.00037	<0.0015
TP38	TP38-062612-16.0	Farallon	6/26/2012	16	<2.0	<5.0	<0.25	<0.00037	<0.00067	<0.00037	<0.0015
MTCA Method A Cleanup Levels for Soil⁵					2,000	2,000	30	0.03	7	6	9

Table 1
Summary of Soil Analytical Results - Total Petroleum Hydrocarbons and BTEX
John Michael Lease Site
Cashmere, Washington

Test Pit/ Test Trench/ Well Location	Sample Identification	Sampled By	Sample Date	Sample Depth (feet) ¹	Analytical Results (milligrams per kilogram)						
					DRO ²	ORO ²	GRO ³	Benzene ⁴	Toluene ⁴	Ethyl- benzene ⁴	Xylenes ⁴
Test Trenches											
T1-NE	T1-050608-8-NE	Farallon	05/06/08	8	<58.5	201	<11.3	<0.0679	0.117	<0.113	<0.226
T1-SW	T1-050608-8-SW	Farallon	05/06/08	8	205	942	<12.6	<0.0755	<0.126	<0.126	<0.252
T2-SW	T2-050608-8-SW	Farallon	05/06/08	8	854	3,840	<15.1	<0.0905	<0.151	<0.151	<0.302
T2-NE	T2-050608-8-NE	Farallon	05/06/08	8	<1,410	3,960	<12.0	<0.0718	<0.120	<0.120	<0.239
T3-SW	T3-050708-8-SW	Farallon	05/07/08	8	<223	973	<9.35	<0.0561	<0.0935	<0.0935	<0.187
T3-NE	T3-050708-8-NE	Farallon	05/07/08	8	<53.3	137	17.6	<0.0656	<0.109	<0.109	<0.219
T4-S	T4-050708-8-S	Farallon	05/07/08	8	2,020	3,580	303	<0.672	<1.12	<1.12	<2.24
T4-N	T4-050708-8-N	Farallon	05/07/08	8	6,890	13,000	297	<0.494	<0.823	<0.823	<1.65
T5-NE	T5-050608-8-NE	Farallon	05/06/08	8	71.9	175.0	10.1	<0.0586	<0.0977	<0.0977	<0.195
T5-W	T5-050608-8-W	Farallon	05/06/08	8	82.9	341	<15.4	<0.0923	<0.154	<0.154	<0.308
T6-S	T6-050708-8-S	Farallon	05/07/08	8	12,100	16,300	719	<0.523	<0.872	1.44	2.92
T6-N	T6-050708-10-N	Farallon	05/07/08	10	18,100	24,300	271	<0.0593	<0.0988	0.135	0.862
T7-S	T7-050808-8-S	Farallon	05/08/08	8	37,600	51,600	1,020	<0.569	<0.949	<0.949	3.09
T7-N	T7-050808-8-N	Farallon	05/08/08	8	6,860	11,300	156	<0.0500	<0.0833	<0.0833	0.359
T8-SW	T8-050808-6-SW	Farallon	05/08/08	6	<12.0	<30.0	<10.4	<0.0627	<0.104	<0.104	<0.209
T8-NE	T8-050808-6-NE	Farallon	05/08/08	6	<11.6	<29.1	<10.5	<0.0629	<0.105	<0.105	<0.210
Monitoring Well Borings											
MW-1	MW1-10-072908	Farallon	07/29/08	10	38,700	58,100	1,250	<0.449	<0.748	3.08	8.14
MW-4	MW4-5-072908	Farallon	07/29/08	5	11.0	80.4	<5.07	<0.0304	<0.0507	<0.0507	<0.101
MTCA Method A Cleanup Levels for Soil⁵					2,000	2,000	30	0.03	7	6	9

NOTES:

Results in **bold** denote concentrations above applicable cleanup levels.

< denotes analyte not detected at or above the reporting limit listed.

-- denotes sample was not analyzed.

¹Depth in feet below ground surface.

²Analyzed by Northwest Method NWTPH-Dx.

³Analyzed by Northwest Method NWTPH-Gx.

⁴Analyzed by U.S. Environmental Protection Agency Method 8021B.

⁵Washington State Model Toxics Control Act Cleanup Regulation (MTCA) Method A Soil Cleanup Levels for Unrestricted Land Uses, Table 740-1 of Section 900 of Chapter 173-340 of the Washington Administrative Code, as amended November 2007.

DRO = total petroleum hydrocarbons (TPH) as diesel-range organics

EMR = EMR, Inc.

Farallon = Farallon Consulting, L.L.C.

GRO = TPH as gasoline-range organics

J = Estimated value below the lowest calibration point.

Confidence correlates with concentration.

J3 = The associated batch quality control was outside the established quality control range for precision.

ORO = TPH as oil-range organics

Table 2
Summary of Soil Analytical Results - Carcinogenic Polycyclic Aromatic Hydrocarbons
John Michael Lease Site
Cashmere, Washington

Test Pit/Trench Location	Sample Identification	Sampled By	Sample Date	Sample Depth (feet) ¹	Analytical Results (milligrams per kilogram) ²							
					Benzo (a) anthracene	Chrysene	Benzo (b) fluoranthene	Benzo (k) fluoranthene	Benzo (a) pyrene	Indeno (1,2,3-cd) pyrene	Dibenz(a,h) anthracene	Total cPAH TEC ^{4,5}
Test Pits												
TP1	TP1-092007-0-2	Farallon	09/20/07	0-2	<0.00330	0.0076	<0.00330	<0.00330	<0.00330	<0.00330	<0.00330	0.0026
TP1	TP1-092007-6-8	Farallon	09/20/07	6-8	<8.28	<8.28	<8.28	<8.28	<8.28	<8.28	<8.28	< 6.2514
TP2	TP2-092007-2-4	Farallon	09/20/07	2-4	0.0313	0.0360	0.0642	0.0282	0.0282	0.0188	<0.0156	0.0436
TP2	TP2-092007-6-8	Farallon	09/20/07	6-8	<8.22	<8.22	<8.22	<8.22	<8.22	<8.22	<8.22	< 6.2061
TP3	TP3-092007-2-4	Farallon	09/20/07	2-4	<0.00326	0.00522	0.00424	0.00456	<0.00326	0.00326	<0.00326	0.0032
TP3	TP3-092007-4-6	Farallon	09/20/07	4-6	<0.00327	<0.00327	<0.00327	<0.00327	<0.00327	<0.00327	<0.00327	< 0.0025
TP4	TP4-092007-4-6	Farallon	09/20/07	4-6	<0.00316	0.00411	0.00411	0.00348	<0.00316	<0.00316	<0.00316	0.0029
TP4	TP4-092007-6-8	Farallon	09/20/07	6-8	<0.00327	0.00327	0.00392	<0.00327	<0.00327	<0.00327	<0.00327	0.0027
TP5	TP5-092007-2-4	Farallon	09/20/07	2-4	<0.00320	<0.00320	<0.00320	<0.00320	<0.00320	<0.00320	<0.00320	< 0.0024
TP5	TP5-092007-6-8	Farallon	09/20/07	6-8	<0.00332	<0.00332	<0.00332	<0.00332	<0.00332	<0.00332	<0.00332	< 0.0025
TP6	TP6-092007-4-6	Farallon	09/20/07	4-6	0.00426	0.00623	<0.00328	<0.00328	<0.00328	<0.00328	<0.00328	0.0028
TP6	TP6-092007-6-8	Farallon	09/20/07	6-8	<0.00323	0.00355	<0.00323	<0.00323	<0.00323	<0.00323	<0.00323	0.0025
TP7	TP7-092007-2-4	Farallon	09/20/07	2-4	<0.00333	<0.00333	0.00366	<0.00333	<0.00333	<0.00333	<0.00333	0.0027
TP7	TP7-092007-4-6	Farallon	09/20/07	4-6	<0.0323	<0.0323	<0.0323	<0.0323	<0.0323	<0.0323	<0.0323	< 0.0024
TP8	TP8-092007-2-4	Farallon	09/20/07	2-4	0.0155	0.0152	0.0107	0.00939	0.00615	0.00324	<0.00324	0.0103
TP8	TP8-092007-6-8	Farallon	09/20/07	6-8	0.163	0.202	0.264	0.117	0.1300	0.0358	0.0391	0.1939
TP9	TP9-092007-2-4	Farallon	09/20/07	2-4	<0.00332	<0.00332	<0.00332	<0.00332	<0.00332	<0.00332	<0.00332	< 0.0025
TP9	TP9-092007-6-8	Farallon	09/20/07	6-8	<16.6	<16.6	<16.6	<16.6	<16.6	<16.6	<16.6	< 12.5330
TP10	TP10-092007-2-4	Farallon	09/20/07	2-4	<0.0330	<0.0330	<0.0330	<0.0330	<0.0330	<0.0330	<0.0330	< 0.0249
TP10	TP10-092007-6-8	Farallon	09/20/07	6-8	<0.0162	0.0276	<0.0162	<0.0162	<0.0162	<0.0162	<0.0162	< 0.0124
TP11	TP11-092007-2-4	Farallon	09/20/07	2-4	0.00364	0.00430	0.00530	0.00331	<0.00331	0.00331	<0.00331	0.0034
TP11	TP11-092007-4-6	Farallon	09/20/07	4-6	<0.163	<0.163	<0.163	<0.163	<0.163	<0.163	<0.163	< 0.1231
TP12	TP12-092107-4-6	Farallon	09/21/07	4-6	<0.00325	<0.00325	<0.00325	<0.00325	<0.00325	<0.00325	<0.00325	< 0.0025
TP12	TP12-092107-6-8	Farallon	09/21/07	6-8	0.00657	0.0151	<0.00328	<0.00328	0.0102	0.00722	<0.00328	0.0122
TP13	TP13-092107-6-8	Farallon	09/21/07	6-8	<0.00329	<0.00329	<0.00329	<0.00329	<0.00329	<0.00329	<0.00329	< 0.0025
TP14	TP14-092107-4-6	Farallon	09/21/07	4-6	0.147	0.163	0.153	0.171	0.166	0.0570	0.0374	0.2242
TP14	TP14-092107-6-8	Farallon	09/21/07	6-8	<0.164	<0.164	<0.164	<0.164	<0.164	<0.164	<0.164	< 0.1238
TP15	TP15-092107-0-2	Farallon	09/21/07	0-2	<0.162	<0.162	<0.162	<0.162	<0.162	<0.162	<0.162	< 0.1223
TP15	TP15-092107-4-6	Farallon	09/21/07	4-6	0.168	0.183	0.208	0.159	0.165	0.0586	0.0322	0.2294
TP17	TP-17-050608-8	Farallon	05/06/08	8	<0.107	<0.107	<0.107	<0.107	<0.107	<0.107	<0.107	< 0.0808
TP18	TP-18-050808-8	Farallon	05/08/08	8	<0.133	<0.133	<0.133	<0.133	<0.133	<0.133	<0.133	< 0.1004
TP30	TP30-062512-14.0	Farallon	6/25/2012	14	0.0055 J	0.012	0.0083	<0.0013	0.0064 J	0.0057 J	0.0018 J	0.0087
TP30	TP30-062512-16.0	Farallon	6/25/2012	16	0.0012 J	<0.0011	0.0011 J	<0.0013	<0.00062	<0.0012	<0.0011	0.0007
TP31	TP31-062512-12.0	Farallon	6/25/2012	12	0.0018 J	<0.0011	0.0015 J	<0.0013	0.0012 J	<0.0012	<0.0011	0.0017
TP31	TP31-062512-16.0	Farallon	6/25/2012	16	<0.00092	<0.0011	<0.00082	<0.0013	<0.00062	<0.0012	<0.0011	0.0006
TP32	TP32-062612-12.0	Farallon	6/26/2012	12	0.0032 J	0.0026 J	0.0046 J	<0.0013	0.0031 J	0.0021 J	<0.0011	0.0042
TP32	TP32-062612-16.0	Farallon	6/26/2012	16	<0.00092	<0.0011	<0.00082	<0.0013	<0.00062	<0.0012	<0.0011	0.0006
TP33	TP33-062512-14.0	Farallon	6/25/2012	14	0.22 J	0.63	0.14 J	<0.067	0.14 J	<0.058	<0.056	0.19
TP34	TP34-062512-14.0	Farallon	6/25/2012	14	1.0	<0.055	0.24 J	<0.067	0.27 J	<0.058	<0.056	0.40
TP38	TP38-062612-4.0	Farallon	6/26/2012	4	0.045 J	0.026 J	0.059 J	<0.027	0.039 J	0.035 J	<0.022	0.056
TP38	TP38-062612-10.0	Farallon	6/26/2012	10	0.097	0.11	0.082 J	<0.013	0.034 J	<0.012	<0.011	0.055
TP38	TP38-062612-12.0	Farallon	6/26/2012	12	<0.00092	0.0029 J	0.0022 J	<0.0013	0.0031 J	0.0024 J	0.0029 J	0.0040
TP38	TP38-062612-16.0	Farallon	6/26/2012	16	<0.00092	<0.0011	<0.00082	<0.0013	<0.00062	<0.0012	<0.0011	0.0006
MTCA Method A Cleanup Levels for Soil³												0.10

Table 2
Summary of Soil Analytical Results - Carcinogenic Polycyclic Aromatic Hydrocarbons
John Michael Lease Site
Cashmere, Washington

Test Pit/Trench Location	Sample Identification	Sampled By	Sample Date	Sample Depth (feet) ¹	Analytical Results (milligrams per kilogram) ²							
					Benzo (a) anthracene	Chrysene	Benzo (b) fluoranthene	Benzo (k) fluoranthene	Benzo (a) pyrene	Indeno (1,2,3-cd) pyrene	Dibenz(a,h) anthracene	Total cPAH TEC ^{4,5}
Test Trenches												
T1-NE	T1-050608-8-NE	Farallon	05/06/08	8	<0.0117	0.0155	<0.0117	<0.0117	<0.0117	<0.0117	<0.0117	< 0.0089
T1-SW	T1-050608-8-SW	Farallon	05/06/08	8	0.0255	0.0502	0.0366	0.0204	0.0230	0.0153	<0.0128	0.0339
T2-SW	T2-050608-8-SW	Farallon	05/06/08	8	<0.327	<0.327	<0.327	<0.327	0.4150	<0.327	<0.327	0.4984
T2-NE	T2-050608-8-NE	Farallon	05/06/08	8	<0.282	<0.282	<0.282	<0.282	<0.282	<0.282	<0.282	< 0.2129
T3-SW	T3-050708-8-SW	Farallon	05/07/08	8	<0.109	<0.109	<0.109	<0.109	<0.109	<0.109	<0.109	< 0.0823
T3-NE	T3-050708-8-NE	Farallon	05/07/08	8	<0.530	0.635	<0.530	<0.530	<0.530	<0.530	<0.530	0.4039
T4-S	T4-050708-8-S	Farallon	05/07/08	8	0.680	1.56	<0.600	<0.600	<0.600	<0.600	<0.600	0.5036
T4-N	T4-050708-8-N	Farallon	05/07/08	8	<1.59	3.39	<1.59	<1.59	<1.59	<1.59	<1.59	1.2264
T5-NE	T5-050608-8-NE	Farallon	05/06/08	8	<0.0118	<0.0118	<0.0118	<0.0118	<0.0118	<0.0118	<0.0118	< 0.0089
T5-W	T5-050608-8-W	Farallon	05/06/08	8	0.0177	0.0237	<0.0127	<0.0127	<0.0127	<0.0127	<0.0127	0.0109
T6-S	T6-050708-8-S	Farallon	05/07/08	8	1.86	4.55	<1.55	<1.55	<1.55	<1.55	<1.55	1.3165
T6-N	T6-050708-10-N	Farallon	05/07/08	10	2.68	7.17	<1.61	<1.61	<1.61	<1.61	<1.61	1.4667
T7-S	T7-050808-8-S	Farallon	05/08/08	8	5.54	13.8	<4.15	<4.15	<4.15	<4.15	<4.15	3.5970
T7-N	T7-050808-8-N	Farallon	05/08/08	8	<1.52	3.04	<1.52	<1.52	<1.52	<1.52	<1.52	1.1704
T8-SW	T8-050808-6-SW	Farallon	05/08/08	6	<0.0120	<0.0120	<0.0120	<0.0120	<0.0120	<0.0120	<0.0120	< 0.0091
T8-NE	T8-050808-6-NE	Farallon	05/08/08	6	0.0212	0.0236	0.0228	0.0188	0.0204	0.0141	<0.0118	0.0289
MTCA Method A Cleanup Levels for Soil³												0.10

NOTES:

Results in **bold** denote concentrations above applicable cleanup levels.

< denotes analyte not detected at or above the reporting limits listed.

-- = not calculated due to elevated detection limits.

¹Depth in feet below ground surface.

²Analyzed by U.S. Environmental Protection Agency Method 8270C SIMS.

³Washington State Model Toxics Control Act Cleanup Regulation (MTCA) Method A Soil Cleanup Levels for Unrestricted Land Uses, Table 740-1 of Section 900 of Chapter 173-340 of the Washington Administrative Code, as amended November 2007.

⁴Total carcinogenic polycyclic aromatic hydrocarbons (cPAHs) derived using the total toxicity equivalency (TEQ) method in Section 708(8) of Chapter 173-340 of the Washington Administrative Code.

⁵For concentrations reported at less than the laboratory reporting limit, half the reporting limit was used to calculate the TEQ.

Farallon = Farallon Consulting, L.L.C.

J = Estimated value below the lowest calibration point. Confidence correlates with concentration.

TEC = Total Toxic Equivalent Concentration

Table 3
Summary of Soil Analytical Results - Non-Carcinogenic Polycyclic Aromatic Hydrocarbons
John Michael Lease Site
Cashmere, Washington

Test Pit/Trench Location	Sample Identification	Sampled By	Sample Date	Sample Depth (feet) ¹	Analytical Results (mg/kg) ^{2,3}
					Naphthalenes
Test Pits					
TP1	TP1-092007-0-2	Farallon	09/20/07	0-2	<0.00330
TP1	TP1-092007-6-8	Farallon	09/20/07	6-8	<8.28
TP2	TP2-092007-2-4	Farallon	09/20/07	2-4	<0.0156
TP2	TP2-092007-6-8	Farallon	09/20/07	6-8	<8.22
TP3	TP3-092007-2-4	Farallon	09/20/07	2-4	<0.00326
TP3	TP3-092007-4-6	Farallon	09/20/07	4-6	<0.00327
TP4	TP4-092007-4-6	Farallon	09/20/07	4-6	<0.00316
TP4	TP4-092007-6-8	Farallon	09/20/07	6-8	<0.00327
TP5	TP5-092007-2-4	Farallon	09/20/07	2-4	<0.00320
TP5	TP5-092007-6-8	Farallon	09/20/07	6-8	<0.00332
TP6	TP6-092007-4-6	Farallon	09/20/07	4-6	<0.00328
TP6	TP6-092007-6-8	Farallon	09/20/07	6-8	<0.00323
TP7	TP7-092007-2-4	Farallon	09/20/07	2-4	<0.00333
TP7	TP7-092007-4-6	Farallon	09/20/07	4-6	<0.0323
TP8	TP8-092007-2-4	Farallon	09/20/07	2-4	0.01199
TP8	TP8-092007-6-8	Farallon	09/20/07	6-8	0.0944
TP9	TP9-092007-2-4	Farallon	09/20/07	2-4	<0.00332
TP9	TP9-092007-6-8	Farallon	09/20/07	6-8	<16.6
TP10	TP10-092007-2-4	Farallon	09/20/07	2-4	<0.0330
TP10	TP10-092007-6-8	Farallon	09/20/07	6-8	0.0000
TP11	TP11-092007-2-4	Farallon	09/20/07	2-4	<0.00331
TP11	TP11-092007-4-6	Farallon	09/20/07	4-6	<0.163
TP12	TP12-092107-4-6	Farallon	09/21/07	4-6	<0.00325
TP12	TP12-092107-6-8	Farallon	09/21/07	6-8	<0.00328
TP13	TP13-092107-6-8	Farallon	09/21/07	6-8	<0.00329
TP14	TP14-092107-4-6	Farallon	09/21/07	4-6	<0.0163
TP14	TP14-092107-6-8	Farallon	09/21/07	6-8	<0.164
TP15	TP15-092107-0-2	Farallon	09/21/07	0-2	<0.162
TP17	TP-17-050608-8	Farallon	05/06/08	8	<0.107
TP18	TP-18-050808-8	Farallon	05/08/08	8	<0.133
Test Trenches					
T1-NE	T1-050608-8-NE	Farallon	05/06/08	8	<0.0117
T1-SW	T1-050608-8-SW	Farallon	05/06/08	8	0.0153
T2-SW	T2-050608-8-SW	Farallon	05/06/08	8	<0.327
T2-NE	T2-050608-8-NE	Farallon	05/06/08	8	<0.282
T3-SW	T3-050708-8-SW	Farallon	05/07/08	8	<0.109
T3-NE	T3-050708-8-NE	Farallon	05/07/08	8	<0.530
T4-S	T4-050708-8-S	Farallon	05/07/08	8	<0.600
T4-N	T4-050708-8-N	Farallon	05/07/08	8	<1.59
T5-NE	T5-050608-8-NE	Farallon	05/06/08	8	<0.0118
T5-W	T5-050608-8-W	Farallon	05/06/08	8	0.04820
T6-S	T6-050708-8-S	Farallon	05/07/08	8	33.10
T6-N	T6-050708-10-N	Farallon	05/07/08	10	87.3
T7-S	T7-050808-8-S	Farallon	05/08/08	8	189.8
T7-N	T7-050808-8-N	Farallon	05/08/08	8	6.98
T8-SW	T8-050808-6-SW	Farallon	05/08/08	6	<0.0120
T8-NE	T8-050808-6-NE	Farallon	05/08/08	6	<0.0118
MTCA Method B Cleanup Level for Soil ⁴					5.0

NOTES:

Results in **bold** indicate concentrations above applicable cleanup levels.

< denotes analyte not detected at or above the reporting limit listed.

¹Depth in feet below ground surface.

²Analyzed by U.S. Environmental Protection Agency Method GC/MS-SIM.

³Non-carcinogenic polycyclic aromatic hydrocarbons not presented here do not exceed the applicable MTCA cleanup level.

⁴Washington State Cleanup Levels and Risk Calculations under the Washington State Model Toxics Control Act Cleanup Regulation (MTCA) Version 3.1, Standard Method B, Formula Values for Soil (Unrestricted Land Use) - Direct Contact (Ingestion Only) and Leaching Pathway, <http://fortress.wa.gov/ecy/clarc/Reporting/ChemicalQuery.aspx>

Farallon = Farallon Consulting, L.L.C.
mg/kg = milligrams per kilogram

Table 4
Summary of Soil Analytical Results - RCRA 8 Metals
John Michael Lease Site
Cashmere, Washington

Trench Location	Sample Identification	Sampled By	Sample Date	Sample Depth (feet) ¹	Analytical Results (milligrams per kilogram) ²							
					Arsenic	Barium	Cadmium	Chromium	Lead	Selenium	Silver	Mercury
Test Trenches												
T1-SW	T1-050608-8-SW	Farallon	05/06/08	8	5.49	117	<0.577	61.0	23.2	<1.15	<0.577	0.0745
T2-NE	T2-050608-8-NE	Farallon	05/06/08	8	2.63	102	<0.493	77.5	17.4	<0.986	<0.493	<0.0500
T3-SW	T3-050708-8-SW	Farallon	05/07/08	8	4.77	45.7	<0.562	85.6	25.8	<1.12	<0.562	0.0874
T4-N	T4-050708-8-N	Farallon	05/07/08	8	1.83	24.4	<0.557	154	1.00	<1.11	<0.557	<0.0500
T5-SW	T5-050608-8-SW	Farallon	05/06/08	8	12.4	94.3	<0.519	38.8	55.0	<1.04	<0.519	0.0672
T6-N	T6-050708-10-N	Farallon	05/07/08	10	2.83	35.4	<0.562	82.3	6.24	<1.12	<0.562	<0.0500
T7-S	T7-050808-8-S	Farallon	05/08/08	8	4.35	63.2	<0.570	59.6	2.27	<1.14	<0.570	<0.0500
T8-NE	T8-050808-6-NE	Farallon	05/08/08	6	3.89	49.6	<0.502	49.6	16.1	<1.00	<0.502	<0.0500
MTCA Cleanup Levels for Soil					20³	16,000⁴	2³	2,000³	250³	400⁴	400⁴	2³

NOTES:

Results in **bold** denote concentrations above applicable cleanup levels.

< denotes analyte not detected at or above the laboratory practical quantitation limit listed.

¹Depth in feet below ground surface.

²Analyzed by U.S. Environmental Protection Agency Methods 6000/6010/7000 Series.

³Washington State Model Toxics Control Act Cleanup Regulation (MTCA) Method A Soil Cleanup Levels for Unrestricted Land Uses, Table 740-1 of Section 900 of Chapter 173-340 of the Washington Administrative Code, as amended November 2007.

⁴Washington State Department of Ecology Cleanup Levels and Risk Calculations, under the Washington State Model Toxics Control Act Cleanup Regulation (MTCA) Version 3.1, Standard Method B Formula Values for Soil (Unrestricted Land Use) - Direct Contact (Ingestion Only) and Leaching Pathway, <https://fortress.wa.gov/ecy/clarc/Reporting/ChemicalQuery.aspx>

RCRA = Resource Conservation and Recovery Act

Farallon = Farallon Consulting, L.L.C.

Table 5
Summary of Soil Analytical Results - Polychlorinated Biphenyls
John Michael Lease Site
Cashmere, Washington

Trench Location	Sample Identification	Sampled By	Sample Date	Sample Depth (feet) ¹	Analytical Results (micrograms per kilogram) ²									
					Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Aroclor 1262	Aroclor 1268	Total PCBs
Test Trenches														
T1-SW	T1-050608-8-SW	Farallon	05/06/08	8	<321	<642	<321	<321	<321	<321	<321	<321	<321	<642
T2-NE	T2-050608-8-NE	Farallon	05/06/08	8	<281	<561	<281	<281	<281	<281	<281	<281	<281	<561
T3-SW	T3-050708-8-SW	Farallon	05/07/08	8	<277	<554	<277	<277	<277	<277	<277	<277	<277	<554
T4-N	T4-050708-8-N	Farallon	05/07/08	8	<540	<1080	<540	<540	<540	<540	<540	<540	<540	<1080
T5-SW	T5-050608-8-SW	Farallon	05/06/08	8	<290	<581	<290	<290	<290	<290	<290	<290	<290	<581
T6-N	T6-050708-10-N	Farallon	05/07/08	10	<843	<1690	<843	<843	<843	<843	<843	<843	<843	<1690
T7-S	T7-050808-8-S	Farallon	05/08/08	8	<2790	<5570	<2790	<2790	<2790	<2790	<2790	<2790	<2790	<5570
T8-NE	T8-050808-6-NE	Farallon	05/08/08	6	<295	<591	<295	<295	<295	<295	<295	<295	<295	<591
MTCA Method A Cleanup Levels for Soil³														1,000

NOTES:

Results in **bold** denote concentrations above applicable cleanup levels.

< denotes analyte not detected at or above the reporting limit listed.

¹Depth in feet below ground surface.

²Analyzed by U.S. Environmental Protection Agency Method 8082.

³Washington State Model Toxics Control Act Cleanup Regulation (MTCA) Method A Soil Cleanup Levels for Unrestricted Land Uses, Table 740-1 of Section 900 of Chapter 173-340 of the Washington Administrative Code, as amended November 2007.

Farallon = Farallon Consulting, L.L.C.

PCBs = polychlorinated biphenyls

Table 6
Summary of Groundwater Elevation Data
John Michael Lease Site
Cashmere, Washington

Monitoring Well	Date Measured	Sampled By	Well Head Elevation (feet)¹	Depth to Water (feet)²	Groundwater Elevation (feet)¹
MW-1	08/06/08	Farallon	501.94	13.94	488.00
	04/07/09			13.96	487.98
	09/25/12			13.98	487.96
	12/11/12			13.66	488.28
	03/20/13			13.40	488.54
	06/19/13			11.86	490.08
MW-2	08/06/08	Farallon	499.14	9.00	490.14
	04/07/09			9.12	490.02
	09/25/12			9.30	489.84
	12/11/12			8.88	490.26
	03/20/13			8.70	490.44
	06/19/13			7.54	491.60
MW-3	08/06/08	Farallon	496.09	7.83	488.26
	04/07/09			7.79	488.30
	09/25/12			7.70	488.39
	12/11/12			7.62	488.47
	03/20/13			7.54	488.55
	06/19/13			6.64	489.45
MW-4	08/06/08	Farallon	495.85	6.39	489.46
	04/07/09			6.45	489.40
	09/25/12			6.33	489.52
	12/11/12			6.30	489.55
	03/20/13			6.22	489.63
	06/19/13			5.18	490.67

NOTES:

¹ Elevations based on an arbitrary 100-foot datum established at the Site.

Farallon = Farallon Consulting, L.L.C.

² In feet below top of well casing.

Table 7
Summary of Reconnaissance Groundwater and Groundwater Analytical Results - Total Petroleum Hydrocarbons and BTEX
John Michael Lease Site
Cashmere, Washington

Boring/ Monitoring Well	Sample Identification	Sampled By	Sample Date	Analytical Results (micrograms per liter)						
				DRO ¹	ORO/RRO ¹	GRO ²	Benzene ²	Toluene ²	Ethyl- benzene ²	Xylenes ²
Reconnaissance Groundwater Samples										
B-5	B-5	EMR	12/01/04	1,290	2,160	<100	26.1	<1.0	<1.0	<2.0
B-6	B-6	EMR	12/01/04	<254	<507	<100	<0.5	<1.0	<1.0	<2.0
B-8	B-8	EMR	12/01/04	<252	<505	<100	<0.5	<1.0	<1.0	<2.0
Groundwater Samples										
MW-1	MW1-080608	Farallon	08/06/08	1,110	<472	145	1.09	0.700	0.893	2.84
	MW1-092512		09/25/12	<100	<250	<100	<0.50	<5.0	<0.50	<1.5
	MW1-121112		12/11/12	200	150 J	<100	<0.50	<5.0	<0.50	<1.5
	MW1-032013		03/20/13	100	<250	<100	<0.50	0.23 J	<0.50	0.82 J
	MW1-061913		06/19/13	110	<250	<100	<0.50	<5.0	<0.50	<1.5
MW-2	MW2-080608	Farallon	08/06/08	<236	<472	<50	<0.500	<0.500	<0.500	<1.00
	MW2-092512		09/25/12	<100	<250	<100	<0.50	<5.0	<0.50	<1.5
	MW2-121112		12/11/12	<100	<250	<100	<0.50	<5.0	<0.50	<1.5
	MW2-032013		03/20/13	<100	<250	<100	<0.50	<5.0	<0.50	<1.5
	MW2-061913		06/19/13	<100	<250	<100	<0.50	<5.0	<0.50	<1.5
MW-3	MW3-080608	Farallon	08/06/08	<236	499	<50	<0.500	<0.500	<0.500	<1.00
	MW3-092512		09/25/12	<100	<250	<100	<0.50	<5.0	<0.50	<1.5
	MW3-121112		12/11/12	90 J	<250	<100	<0.50	<5.0	<0.50	<1.5
	MW3-032013		03/20/13	<100	<250	<100	<0.50	0.26 J	<0.50	<1.5
	MW3-061913		06/19/13	57. J	<250	59. J	<0.50	<5.0	<0.50	<1.5
MW-4	MW4-080608	Farallon	08/06/08	<236	<472	<50	<0.500	<0.500	<0.500	<1.00
	MW4-092512		09/25/12	<100	<250	<100	<0.50	<5.0	<0.50	<1.5
	MW4-121112		12/11/12	78 J	170 J	<100	<0.50	<5.0	<0.50	<1.5
	MW4-032013		03/20/13	<100	<250	<100	<0.50	<5.0	<0.50	<1.5
	MW4-061913		06/19/13	<100	<250	50. J	<0.50	<5.0	<0.50	<1.5
MTCA Method A Cleanup Levels for Groundwater³				500	500/500	800⁴/1,000⁵	5	1,000	700	1,000

NOTES:

Results in **bold** denote concentrations above applicable cleanup levels.

< denotes analyte not detected at or above the reporting limit listed.

¹ Analyzed by Northwest Method NWTPH-Dx.

² Analyzed by Northwest Method NWTPH-Gx, NWTPH-G, or EPA Method 5030/8021B.

³ Washington State Model Toxics Control Act Cleanup Regulation Method A Cleanup Levels for Groundwater, Table 720-1 of Section 900 of Chapter 173-340 of the Washington Administrative Code, revised November 2007.

⁴ Benzene present in groundwater

⁵ No detectable benzene in groundwater

BTEX = benzene, toluene, ethylbenzene, and xylenes

DRO = total petroleum hydrocarbons (TPH) as diesel-range organics

EMR = EMR, Inc.

EPA = U.S. Environmental Protection Agency

Farallon = Farallon Consulting, L.L.C.

GRO = TPH as gasoline-range organics

J = estimated value below lowest calibration point

ORO = TPH as oil-range organics

RRO = TPH as residual-range organics

Table 8
Summary of Groundwater Analytical Results - Carcinogenic Polycyclic Aromatic Hydrocarbons
John Michael Lease Site
Cashmere, Washington

Monitoring Well	Sample Identification	Sampled By	Sample Date	Analytical Results (micrograms per liter) ¹							
				Benzo (a) anthracene	Chrysene	Benzo (b) fluoranthene	Benzo (k) fluoranthene	Benzo (a) pyrene	Indeno (1,2,3-cd) pyrene	Dibenz(a,h) anthracene	Total cPAHs TEC ^{2,3}
MW-1	MW1-080608	Farallon	08/06/08	<0.0943	<0.0943	0.2890	<0.0943	0.2550	<0.0943	<0.0943	0.3032
	MW1-092512		09/25/12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.038
	MW1-121112		12/11/12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.038
	MW1-032013		03/20/13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.038
	MW1-061913		06/19/13	0.015 J	0.012 J	<0.050	<0.050	<0.050	<0.050	<0.050	0.037
MW-2	MW2-080608	Farallon	08/06/08	<0.0943	<0.0943	<0.0943	<0.0943	<0.0943	<0.0943	<0.0943	0.0712
	MW2-092512		09/25/12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.038
	MW2-121112		12/11/12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.038
	MW2-032013		03/20/13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.038
	MW2-061913		06/19/13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.038
MW-3	MW3-080608	Farallon	08/06/08	<0.0943	<0.0943	<0.0943	<0.0943	<0.0943	<0.0943	<0.0943	0.0712
	MW3-092512		09/25/12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.038
	MW3-121112		12/11/12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.038
	MW3-032013		03/20/13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.038
	MW3-061913		06/19/13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.038
MW-4	MW4-080608	Farallon	08/06/08	<0.0943	<0.0943	<0.0943	<0.0943	<0.0943	<0.0943	<0.0943	0.0712
	MW4-092512		09/25/12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.038
	MW4-121112		12/11/12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.038
	MW4-032013		03/20/13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.038
	MW4-061913		06/19/13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.038
MTCA Method A Cleanup Levels for Groundwater⁴											0.1

NOTES:

< denotes analyte not detected at or above the reporting limit listed.

¹Analyzed by U.S. Environmental Protection Agency Method 8270C-S.

²Total carcinogenic polycyclic aromatic hydrocarbons derived using the total toxicity equivalency method in Section 708(8) of Chapter 173-340 of the Washington Administrative Code.

³For concentrations reported at less than the laboratory reporting limit, half the reporting limit was used to calculate the TEC.

⁴Washington State Model Toxics Control Act Cleanup Regulation Method A Cleanup Levels for Groundwater, Table 720-1 of Section 900 of Chapter 173-340 of the Washington Administrative Code, as revised November 2007.

cPAHs = carcinogenic polycyclic aromatic hydrocarbons

Farallon = Farallon Consulting, L.L.C.

TEC = toxic equivalent concentration

Table 9
Summary of Reconnaissance Groundwater and Groundwater Analytical Results - Non-Carcinogenic Polycyclic Aromatic Hydrocarbons
John Michael Lease Site
Cashmere, Washington

Boring/ Monitoring Well	Sample Identification	Sampled By	Sample Date	Analytical Results (micrograms per liter) ¹								
				Acenaphthene	Anthracene	Fluorene	Naphthalene	1-Methyl naphthalene	2-Methyl naphthalene	2-Chloro naphthalene	Phenanthrene	Pyrene
Reconnaissance Groundwater Samples												
B-5	B-5	EMR	12/01/04	—	—	—	2.64 ²	—	—	—	—	—
B-6	B-6	EMR	12/01/04	—	—	—	1.28 ²	—	—	—	—	—
B-8	B-8	EMR	12/01/04	—	—	—	1.12 ²	—	—	—	—	—
Groundwater Samples												
MW-1	MW1-080608	Farallon	08/06/08	0.866	<0.0943	1.08	0.975	4.17	0.608	NR	<0.0943	0.266
	MW1-092512		09/25/12	0.022 J	0.027 J	0.011 J	0.079 J	0.15 J	0.024J	<0.25	0.0091 J	0.040 J
	MW1-121112		12/11/12	0.026 J	0.016 J	0.014 J	0.11 J	0.31	0.031 J	<0.25	<0.050	0.028 J
	MW1-032013		03/20/13	0.025 J	0.025 J	0.013 J	0.11 J	0.21 J	0.027 J	<0.25	<0.050	0.031 J
	MW1-061913		06/19/13	0.016 J	<0.050	0.013 J	0.11 J	0.14 J	0.018 J	<0.25	0.019 J	0.056
MW-2	MW2-080608	Farallon	08/06/08	<0.0943	<0.0943	<0.0943	<0.0943	<0.0943	<0.0943	NR	<0.0943	<0.0943
	MW2-092512		09/25/12	<0.050	<0.050	<0.050	<0.25	0.0085 J	0.012 J	<0.25	<0.050	<0.050
	MW2-121112		12/11/12	<0.050	<0.050	<0.050	<0.25	<0.25	<0.25	<0.25	<0.050	<0.050
	MW2-032013		03/20/13	<0.050	<0.050	<0.050	0.033 J	0.0086 J	0.012 J	<0.25	<0.050	<0.050
	MW2-061913		06/19/13	<0.050	<0.050	<0.050	0.041 J	<0.25	0.010 J	<0.25	<0.050	<0.050
MW-3	MW3-080608	Farallon	08/06/08	<0.0943	<0.0943	<0.0943	<0.0943	<0.0943	<0.0943	NR	<0.0943	<0.0943
	MW3-092512		09/25/12	<0.050	<0.050	<0.050	<0.25	0.0086 J	0.011 J	<0.25	<0.050	<0.050
	MW3-121112		12/11/12	<0.050	<0.050	<0.050	<0.25	<0.25	<0.25	<0.25	<0.050	<0.050
	MW3-032013		03/20/13	<0.050	<0.050	<0.050	0.028 J	<0.25	<0.25	<0.25	<0.050	<0.050
	MW3-061913		06/19/13	<0.050	<0.050	<0.050	0.038 J	0.012 J	0.0092 J	<0.25	<0.050	<0.050
MW-4	MW4-080608	Farallon	08/06/08	<0.0943	<0.0943	<0.0943	<0.0943	<0.0943	<0.0943	NR	<0.0943	<0.0943
	MW4-092512		09/25/12	<0.050	<0.050	<0.050	0.028 J	<0.25	0.011 J	<0.25	<0.050	<0.050
	MW4-121112		12/11/12	<0.050	<0.050	<0.050	0.028 J	<0.25	<0.25	<0.25	<0.050	<0.050
	MW4-032013		03/20/13	<0.050	<0.050	<0.050	0.031 J	<0.25	<0.25	<0.25	<0.050	<0.050
	MW4-061913		06/19/13	<0.050	<0.050	<0.050	0.040 J	<0.25	<0.25	<0.25	<0.050	<0.050
MTCA Method B Cleanup Level for Groundwater³				960	4800	640	160	1.5	32	640	NE	480

NOTES:

— denotes sample not analyzed.

< denotes analyte not detected at or above the reporting limit listed.

¹ Analyzed by U.S. Environmental Protection Agency (EPA) Method 8270C-S.

² Analyzed by EPA Method 5030/8021B.

³ Washington State Model Toxics Control Act Cleanup Regulation (MTCA) Cleanup Levels and Risk Calculations, Standard Method B Values for Groundwater, <https://fortress.wa.gov/ecy/clarc/Reporting/ChemicalQuery.aspx>

EMR = EMR, Inc.

Farallon = Farallon Consulting, L.L.C.

J = estimated value below lowest calibration point

NE = Not Established

NR = Not Reported

APPENDIX A
LABORATORY ANALYTICAL REPORTS

REVISED CLEANUP ACTION WORK PLAN

John Michael Lease Site
5640 Sunset Highway
Cashmere, Washington

Farallon PN: 283-006

October 15, 2007

Tom Cammaratta
Farallon Consulting LLC
975 5th Ave NW Ste 100
Issaquah, WA/USA 98027

RE: BNSF - John Michael Lease Site

Enclosed are the results of analyses for samples received by the laboratory on 09/25/07 09:30.
The following list is a summary of the Work Orders contained in this report, generated on 10/15/07
16:22.

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

<u>Work Order</u>	<u>Project</u>	<u>ProjectNumber</u>
BQI0581	BNSF - John Michael Lease Si	683-018

TestAmerica - Seattle, WA



Kate Haney, Project Manager

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report shall not be reproduced except in full, without the written approval of the laboratory.



Farallon Consulting LLC 975 5th Ave NW Ste 100 Issaquah, WA/USA 98027	Project Name:	BNSF - John Michael Lease Site	Report Created: 10/15/07 16:22
	Project Number:	683-018	
	Project Manager:	Tom Cammaratta	

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
TP1-092007-0-2	BQI0581-01	Soil	09/20/07 09:20	09/25/07 09:30
TP1-092007-6-8	BQI0581-04	Soil	09/20/07 09:55	09/25/07 09:30
TP2-092007-2-4	BQI0581-06	Soil	09/20/07 11:10	09/25/07 09:30
TP2-092007-6-8	BQI0581-08	Soil	09/20/07 12:00	09/25/07 09:30
TP3-092007-2-4	BQI0581-10	Soil	09/20/07 12:45	09/25/07 09:30
TP3-092007-4-6	BQI0581-11	Soil	09/20/07 12:50	09/25/07 09:30
TP4-092007-4-6	BQI0581-15	Soil	09/20/07 13:25	09/25/07 09:30
TP4-092007-6-8	BQI0581-16	Soil	09/20/07 13:30	09/25/07 09:30
TP5-092007-2-4	BQI0581-18	Soil	09/20/07 14:20	09/25/07 09:30
TP5-092007-6-8	BQI0581-20	Soil	09/20/07 14:35	09/25/07 09:30
TP6-092007-4-6	BQI0581-23	Soil	09/20/07 15:00	09/25/07 09:30
TP6-092007-6-8	BQI0581-24	Soil	09/20/07 15:05	09/25/07 09:30
TP7-092007-2-4	BQI0581-26	Soil	09/20/07 15:35	09/25/07 09:30
TP7-092007-4-6	BQI0581-27	Soil	09/20/07 15:45	09/25/07 09:30
TP8-092007-2-4	BQI0581-30	Soil	09/20/07 16:30	09/25/07 09:30
TP8-092007-6-8	BQI0581-32	Soil	09/20/07 16:45	09/25/07 09:30
TP9-092007-2-4	BQI0581-34	Soil	09/20/07 17:15	09/25/07 09:30
TP9-092007-6-8	BQI0581-36	Soil	09/20/07 17:25	09/25/07 09:30
TP10-092007-2-4	BQI0581-38	Soil	09/20/07 17:45	09/25/07 09:30
TP10-092007-6-8	BQI0581-40	Soil	09/20/07 17:55	09/25/07 09:30
TP11-092007-2-4	BQI0581-42	Soil	09/20/07 18:15	09/25/07 09:30
TP11-092007-4-6	BQI0581-43	Soil	09/20/07 18:20	09/25/07 09:30
TP12-092107-4-6	BQI0581-47	Soil	09/21/07 06:50	09/25/07 09:30
TP12-092107-6-8	BQI0581-48	Soil	09/21/07 06:55	09/25/07 09:30
TP13-092107-0-2	BQI0581-49	Soil	09/21/07 07:40	09/25/07 09:30
TP13-092107-6-8	BQI0581-52	Soil	09/21/07 07:55	09/25/07 09:30
TP14-092107-4-6	BQI0581-55	Soil	09/21/07 08:35	09/25/07 09:30
TP14-092107-6-8	BQI0581-56	Soil	09/21/07 08:40	09/25/07 09:30
TP15-092107-0-2	BQI0581-57	Soil	09/21/07 09:10	09/25/07 09:30
TP15-092107-4-6	BQI0581-59	Soil	09/21/07 09:20	09/25/07 09:30

TestAmerica - Seattle, WA



Kate Haney, Project Manager

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Farallon Consulting LLC

975 5th Ave NW Ste 100
Issaquah, WA/USA 98027

Project Name: **BNSF - John Michael Lease Site**

Project Number: 683-018

Project Manager: Tom Cammaratta

Report Created:

10/15/07 16:22

Analytical Case Narrative

TestAmerica - Seattle, WA

BQI0581

SAMPLE RECEIPT

The samples were received September 25th, 2007 by TestAmerica - Seattle. The temperature of the samples at the time of receipt was 10.0 degrees Celsius.

PREPARATIONS AND ANALYSIS

Polyaromatic Hydrocarbons by EPA 8270 SIM: No additional anomalies, discrepancies, or issues were associated with sample preparation, analysis and quality control other than those already qualified in the data and described in the Notes and Definitions page at the end of the report.

Extractable Petroleum Hydrocarbons: No additional anomalies, discrepancies, or issues were associated with sample preparation, analysis and quality control other than those already qualified in the data and described in the Notes and Definitions page at the end of the report.

Gasoline Hydrocarbons by NWTPH-Gx and BTEX by EPA Method 8021B: No additional anomalies, discrepancies, or issues were associated with sample preparation, analysis and quality control other than those already qualified in the data and described in the Notes and Definitions page at the end of the report.

TestAmerica - Seattle, WA



Kate Haney, Project Manager

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Farallon Consulting LLC 975 5th Ave NW Ste 100 Issaquah, WA/USA 98027	Project Name: BNSF - John Michael Lease Site Project Number: 683-018 Project Manager: Tom Cammaratta	Report Created: 10/15/07 16:22
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Polyaromatic Hydrocarbons by EPA 8270C SIM
 TestAmerica - Nashville, TN

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BQ10581-01 (TP1-092007-0-2)		Soil			Sampled: 09/20/07 09:20					
Acenaphthene	SW846 8270CSIM	ND	----	0.00330	mg/kg	1x	7095602	10/01/07 12:15	10/02/07 11:04	
Acenaphthylene	"	ND	----	0.00330	"	"	"	"	"	
Anthracene	"	ND	----	0.00330	"	"	"	"	"	
Benzo (a) anthracene	"	ND	----	0.00330	"	"	"	"	"	
Benzo (a) pyrene	"	ND	----	0.00330	"	"	"	"	"	
Benzo (b) fluoranthene	"	ND	----	0.00330	"	"	"	"	"	
Benzo (g,h,i) perylene	"	ND	----	0.00330	"	"	"	"	"	
Benzo (k) fluoranthene	"	ND	----	0.00330	"	"	"	"	"	
Chrysene	"	0.00761	----	0.00330	"	"	"	"	"	
Dibenz (a,h) anthracene	"	ND	----	0.00330	"	"	"	"	"	
Fluoranthene	"	0.00728	----	0.00330	"	"	"	"	"	
Fluorene	"	ND	----	0.00330	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	"	ND	----	0.00330	"	"	"	"	"	
1-Methylnaphthalene	"	ND	----	0.00330	"	"	"	"	"	
2-Methylnaphthalene	"	ND	----	0.00330	"	"	"	"	"	
Naphthalene	"	ND	----	0.00330	"	"	"	"	"	
Phenanthrene	"	0.00628	----	0.00330	"	"	"	"	"	
Pyrene	"	0.00728	----	0.00330	"	"	"	"	"	

<i>Surrogate(s):</i>	<i>Nitrobenzene-d5</i>	62%	16 - 113 %	"	"
	<i>2-Fluorobiphenyl</i>	72%	19 - 106 %	"	"
	<i>Terphenyl-d14</i>	79%	24 - 129 %	"	"

BQ10581-04RE2 (TP1-092007-6-8)		Soil			Sampled: 09/20/07 09:55					
Accnaphthene	SW846 8270CSIM	ND	----	8.28	mg/kg	500x	7095602	10/01/07 12:15	10/03/07 13:30	RL1
Acenaphthylene	"	ND	----	8.28	"	"	"	"	"	RL1
Anthracene	"	ND	----	8.28	"	"	"	"	"	RL1
Benzo (a) anthracene	"	ND	----	8.28	"	"	"	"	"	RL1
Benzo (a) pyrene	"	ND	----	8.28	"	"	"	"	"	RL1
Benzo (b) fluoranthene	"	ND	----	8.28	"	"	"	"	"	RL1
Benzo (g,h,i) perylene	"	ND	----	8.28	"	"	"	"	"	RL1
Benzo (k) fluoranthene	"	ND	----	8.28	"	"	"	"	"	RL1
Chrysene	"	ND	----	8.28	"	"	"	"	"	RL1
Dibenz (a,h) anthracene	"	ND	----	8.28	"	"	"	"	"	RL1
Fluoranthene	"	ND	----	8.28	"	"	"	"	"	RL1
Fluorene	"	ND	----	8.28	"	"	"	"	"	RL1
Indeno (1,2,3-cd) pyrene	"	ND	----	8.28	"	"	"	"	"	RL1
1-Methylnaphthalene	"	ND	----	8.28	"	"	"	"	"	RL1
2-Methylnaphthalene	"	ND	----	8.28	"	"	"	"	"	RL1
Naphthalene	"	ND	----	8.28	"	"	"	"	"	RL1
Phenanthrene	"	ND	----	8.28	"	"	"	"	"	RL1

TestAmerica - Seattle, WA

Kate Haney

Kate Haney, Project Manager

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Farallon Consulting LLC 975 5th Ave NW Ste 100 Issaquah, WA/USA 98027	Project Name: BNSF - John Michael Lease Site Project Number: 683-018 Project Manager: Tom Cammaratta	Report Created: 10/15/07 16:22
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Polyaromatic Hydrocarbons by EPA 8270C SIM
 TestAmerica - Nashville, TN

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BQI0581-04RE2 (TP1-092007-6-8)		Soil		Sampled: 09/20/07 09:55						
Pyrene	SW846 8270CSIM	ND	----	8.28	mg/kg	500x	7095602	10/01/07 12:15	10/03/07 13:30	RL1
<i>Surrogate(s): Nitrobenzene-d5</i>			NR	16 - 113 %	"	"	"	"	"	Z3
<i>2-Fluorobiphenyl</i>			NR	19 - 106 %	"	"	"	"	"	Z3
<i>Terphenyl-d14</i>			NR	24 - 129 %	"	"	"	"	"	Z3
BQI0581-06RE1 (TP2-092007-2-4)		Soil		Sampled: 09/20/07 11:10						
Acenaphthene	SW846 8270CSIM	ND	----	0.0156	mg/kg	5x	7095602	10/01/07 12:15	10/03/07 10:49	
Acenaphthylene	"	ND	----	0.0156	"	"	"	"	"	
Anthracene	"	ND	----	0.0156	"	"	"	"	"	
Benzo (a) anthracene	"	0.0313	----	0.0156	"	"	"	"	"	
Benzo (a) pyrene	"	0.0282	----	0.0156	"	"	"	"	"	
Benzo (b) fluoranthene	"	0.0642	----	0.0156	"	"	"	"	"	
Benzo (g,h,i) perylene	"	0.0188	----	0.0156	"	"	"	"	"	
Benzo (k) fluoranthene	"	0.0282	----	0.0156	"	"	"	"	"	
Chrysene	"	0.0360	----	0.0156	"	"	"	"	"	
Dibenz (a,h) anthracene	"	ND	----	0.0156	"	"	"	"	"	
Fluoranthene	"	0.0407	----	0.0156	"	"	"	"	"	
Fluorene	"	ND	----	0.0156	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	"	0.0188	----	0.0156	"	"	"	"	"	
1-Methylnaphthalene	"	ND	----	0.0156	"	"	"	"	"	
2-Methylnaphthalene	"	ND	----	0.0156	"	"	"	"	"	
Naphthalene	"	ND	----	0.0156	"	"	"	"	"	
Phenanthrene	"	ND	----	0.0156	"	"	"	"	"	
Pyrene	"	0.0391	----	0.0156	"	"	"	"	"	
<i>Surrogate(s): Nitrobenzene-d5</i>			40%	16 - 113 %	"	"	"	"	"	
<i>2-Fluorobiphenyl</i>			70%	19 - 106 %	"	"	"	"	"	
<i>Terphenyl-d14</i>			100%	24 - 129 %	"	"	"	"	"	

BQI0581-08RE2 (TP2-092007-6-8)		Soil		Sampled: 09/20/07 12:00						
Acenaphthene	SW846 8270CSIM	ND	----	8.22	mg/kg	500x	7095602	10/01/07 12:15	10/03/07 13:51	RL1
Acenaphthylene	"	ND	----	8.22	"	"	"	"	"	RL1
Anthracene	"	ND	----	8.22	"	"	"	"	"	RL1
Benzo (a) anthracene	"	ND	----	8.22	"	"	"	"	"	RL1
Benzo (a) pyrene	"	ND	----	8.22	"	"	"	"	"	RL1
Benzo (b) fluoranthene	"	ND	----	8.22	"	"	"	"	"	RL1
Benzo (g,h,i) perylene	"	ND	----	8.22	"	"	"	"	"	RL1
Benzo (k) fluoranthene	"	ND	----	8.22	"	"	"	"	"	RL1
Chrysene	"	ND	----	8.22	"	"	"	"	"	RL1

TestAmerica - Seattle, WA

Kate Haney

Kate Haney, Project Manager

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Farallon Consulting LLC 975 5th Ave NW Ste 100 Issaquah, WA/USA 98027	Project Name: BNSF - John Michael Lease Site Project Number: 683-018 Project Manager: Tom Cammaratta	Report Created: 10/15/07 16:22
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Polyaromatic Hydrocarbons by EPA 8270C SIM

TestAmerica - Nashville, TN

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BQI0581-08RE2 (TP2-092007-6-8)		Soil		Sampled: 09/20/07 12:00						
Dibenz (a,h) anthracene	SW846 8270CSIM	ND	----	8.22	mg/kg	500x	7095602	10/01/07 12:15	10/03/07 13:51	RL1
Fluoranthene	"	ND	----	8.22	"	"	"	"	"	RL1
Fluorene	"	ND	----	8.22	"	"	"	"	"	RL1
Indeno (1,2,3-cd) pyrene	"	ND	----	8.22	"	"	"	"	"	RL1
1-Methylnaphthalene	"	ND	----	8.22	"	"	"	"	"	RL1
2-Methylnaphthalene	"	ND	----	8.22	"	"	"	"	"	RL1
Naphthalene	"	ND	----	8.22	"	"	"	"	"	RL1
Phenanthrene	"	ND	----	8.22	"	"	"	"	"	RL1
Pyrene	"	ND	----	8.22	"	"	"	"	"	RL1
<i>Surrogate(s): Nitrobenzene-d5</i>			<i>NR</i>		<i>16 - 113 %</i>	<i>"</i>			<i>"</i>	<i>Z3</i>
<i>2-Fluorobiphenyl</i>			<i>NR</i>		<i>19 - 106 %</i>	<i>"</i>			<i>"</i>	<i>Z3</i>
<i>Terphenyl-d14</i>			<i>NR</i>		<i>24 - 129 %</i>	<i>"</i>			<i>"</i>	<i>Z3</i>

BQI0581-10 (TP3-092007-2-4)		Soil		Sampled: 09/20/07 12:45						
Acenaphthene	SW846 8270CSIM	ND	----	0.00326	mg/kg	1x	7095602	10/01/07 12:15	10/03/07 09:25	
Acenaphthylene	"	ND	----	0.00326	"	"	"	"	"	
Anthracene	"	ND	----	0.00326	"	"	"	"	"	
Benzo (a) anthracene	"	ND	----	0.00326	"	"	"	"	"	
Benzo (a) pyrene	"	ND	----	0.00326	"	"	"	"	"	
Benzo (b) fluoranthene	"	0.00424	----	0.00326	"	"	"	"	"	
Benzo (g,h,i) perylene	"	0.00456	----	0.00326	"	"	"	"	"	
Benzo (k) fluoranthene	"	0.00456	----	0.00326	"	"	"	"	"	
Chrysene	"	0.00522	----	0.00326	"	"	"	"	"	
Dibenz (a,h) anthracene	"	ND	----	0.00326	"	"	"	"	"	
Fluoranthene	"	0.00684	----	0.00326	"	"	"	"	"	
Fluorene	"	ND	----	0.00326	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	"	0.00326	----	0.00326	"	"	"	"	"	
1-Methylnaphthalene	"	ND	----	0.00326	"	"	"	"	"	
2-Methylnaphthalene	"	ND	----	0.00326	"	"	"	"	"	
Naphthalene	"	ND	----	0.00326	"	"	"	"	"	
Phenanthrene	"	0.00522	----	0.00326	"	"	"	"	"	
Pyrene	"	0.00619	----	0.00326	"	"	"	"	"	
<i>Surrogate(s): Nitrobenzene-d5</i>			<i>43%</i>		<i>16 - 113 %</i>	<i>"</i>			<i>"</i>	
<i>2-Fluorobiphenyl</i>			<i>55%</i>		<i>19 - 106 %</i>	<i>"</i>			<i>"</i>	
<i>Terphenyl-d14</i>			<i>65%</i>		<i>24 - 129 %</i>	<i>"</i>			<i>"</i>	

TestAmerica - Seattle, WA

Kate Haney

Kate Haney, Project Manager

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Farallon Consulting LLC

975 5th Ave NW Ste 100
 Issaquah, WA/USA 98027

Project Name: **BNSF - John Michael Lease Site**

Project Number: 683-018

Project Manager: Tom Cammaratta

Report Created:

10/15/07 16:22

Polyaromatic Hydrocarbons by EPA 8270C SIM

TestAmerica - Nashville, TN

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BQ10581-11 (TP3-092007-4-6)		Soil		Sampled: 09/20/07 12:50						
Acenaphthene	SW846 8270CSIM	ND	----	0.00327	mg/kg	1x	7095602	10/01/07 12:15	10/02/07 19:50	
Acenaphthylene	"	ND	----	0.00327	"	"	"	"	"	
Anthracene	"	ND	----	0.00327	"	"	"	"	"	
Benzo (a) anthracene	"	ND	----	0.00327	"	"	"	"	"	
Benzo (a) pyrene	"	ND	----	0.00327	"	"	"	"	"	
Benzo (b) fluoranthene	"	ND	----	0.00327	"	"	"	"	"	
Benzo (g,h,i) perylene	"	ND	----	0.00327	"	"	"	"	"	
Benzo (k) fluoranthene	"	ND	----	0.00327	"	"	"	"	"	
Chrysene	"	ND	----	0.00327	"	"	"	"	"	
Dibenz (a,h) anthracene	"	ND	----	0.00327	"	"	"	"	"	
Fluoranthene	"	ND	----	0.00327	"	"	"	"	"	
Fluorene	"	ND	----	0.00327	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	"	ND	----	0.00327	"	"	"	"	"	
1-Methylnaphthalene	"	ND	----	0.00327	"	"	"	"	"	
2-Methylnaphthalene	"	ND	----	0.00327	"	"	"	"	"	
Naphthalene	"	ND	----	0.00327	"	"	"	"	"	
Phenanthrene	"	ND	----	0.00327	"	"	"	"	"	
Pyrene	"	ND	----	0.00327	"	"	"	"	"	
<i>Surrogate(s): Nitrobenzene-d5</i>				56%		16 - 113 %	"			"
<i>2-Fluorobiphenyl</i>				61%		19 - 106 %	"			"
<i>Terphenyl-d14</i>				87%		24 - 129 %	"			"

BQ10581-15 (TP4-092007-4-6)

Soil

Sampled: 09/20/07 13:25

Acenaphthene	SW846 8270CSIM	ND	----	0.00316	mg/kg	1x	7095602	10/01/07 12:15	10/03/07 09:46	
Acenaphthylene	"	ND	----	0.00316	"	"	"	"	"	
Anthracene	"	ND	----	0.00316	"	"	"	"	"	
Benzo (a) anthracene	"	ND	----	0.00316	"	"	"	"	"	
Benzo (a) pyrene	"	ND	----	0.00316	"	"	"	"	"	
Benzo (b) fluoranthene	"	0.00411	----	0.00316	"	"	"	"	"	
Benzo (g,h,i) perylene	"	0.00316	----	0.00316	"	"	"	"	"	
Benzo (k) fluoranthene	"	0.00348	----	0.00316	"	"	"	"	"	
Chrysene	"	0.00411	----	0.00316	"	"	"	"	"	
Dibenz (a,h) anthracene	"	ND	----	0.00316	"	"	"	"	"	
Fluoranthene	"	0.00506	----	0.00316	"	"	"	"	"	
Fluorene	"	ND	----	0.00316	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	"	ND	----	0.00316	"	"	"	"	"	
1-Methylnaphthalene	"	ND	----	0.00316	"	"	"	"	"	
2-Methylnaphthalene	"	ND	----	0.00316	"	"	"	"	"	
Naphthalene	"	ND	----	0.00316	"	"	"	"	"	
Phenanthrene	"	0.00411	----	0.00316	"	"	"	"	"	

TestAmerica - Seattle, WA

Kate Haney

Kate Haney, Project Manager

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Farallon Consulting LLC 975 5th Ave NW Ste 100 Issaquah, WA/USA 98027	Project Name: BNSF - John Michael Lease Site Project Number: 683-018 Project Manager: Tom Cammaratta	Report Created: 10/15/07 16:22
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Polyaromatic Hydrocarbons by EPA 8270C SIM
 TestAmerica - Nashville, TN

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
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BQI0581-15 (TP4-092007-4-6)	Soil			Sampled: 09/20/07 13:25						
Pyrene	SW846 8270CSIM	0.00537	----	0.00316	mg/kg	1x	7095602	10/01/07 12:15	10/03/07 09:46	
<i>Surrogate(s): Nitrobenzene-d5</i>			59%		16 - 113 %	"				"
<i>2-Fluorobiphenyl</i>			70%		19 - 106 %	"				"
<i>Terphenyl-d14</i>			72%		24 - 129 %	"				"

BQI0581-16 (TP4-092007-6-8)	Soil			Sampled: 09/20/07 13:30						
Acenaphthene	SW846 8270CSIM	ND	----	0.00327	mg/kg	1x	7095602	10/01/07 12:15	10/03/07 10:07	
Acenaphthylene	"	ND	----	0.00327	"	"	"	"	"	"
Anthracene	"	ND	----	0.00327	"	"	"	"	"	"
Benzo (a) anthracene	"	ND	----	0.00327	"	"	"	"	"	"
Benzo (a) pyrene	"	ND	----	0.00327	"	"	"	"	"	"
Benzo (b) fluoranthene	"	0.00392	----	0.00327	"	"	"	"	"	"
Benzo (g,h,i) perylene	"	ND	----	0.00327	"	"	"	"	"	"
Benzo (k) fluoranthene	"	ND	----	0.00327	"	"	"	"	"	"
Chrysene	"	0.00327	----	0.00327	"	"	"	"	"	"
Dihenz (a,h) anthracene	"	ND	----	0.00327	"	"	"	"	"	"
Fluoranthene	"	0.00360	----	0.00327	"	"	"	"	"	"
Fluorene	"	ND	----	0.00327	"	"	"	"	"	"
Indeno (1,2,3-cd) pyrene	"	ND	----	0.00327	"	"	"	"	"	"
1-Methylnaphthalene	"	ND	----	0.00327	"	"	"	"	"	"
2-Methylnaphthalene	"	ND	----	0.00327	"	"	"	"	"	"
Naphthalene	"	ND	----	0.00327	"	"	"	"	"	"
Phenanthrene	"	0.00360	----	0.00327	"	"	"	"	"	"
Pyrene	"	0.00392	----	0.00327	"	"	"	"	"	"
<i>Surrogate(s): Nitrobenzene-d5</i>			63%		16 - 113 %	"				"
<i>2-Fluorobiphenyl</i>			69%		19 - 106 %	"				"
<i>Terphenyl-d14</i>			72%		24 - 129 %	"				"

BQI0581-18 (TP5-092007-2-4)	Soil			Sampled: 09/20/07 14:20						
Acenaphthene	SW846 8270CSIM	ND	----	0.00320	mg/kg	1x	7095602	10/01/07 12:15	10/02/07 20:53	
Acenaphthylene	"	ND	----	0.00320	"	"	"	"	"	"
Anthracene	"	ND	----	0.00320	"	"	"	"	"	"
Benzo (a) anthracene	"	ND	----	0.00320	"	"	"	"	"	"
Benzo (a) pyrene	"	ND	----	0.00320	"	"	"	"	"	"
Benzo (b) fluoranthene	"	ND	----	0.00320	"	"	"	"	"	"
Benzo (g,h,i) perylene	"	ND	----	0.00320	"	"	"	"	"	"
Benzo (k) fluoranthene	"	ND	----	0.00320	"	"	"	"	"	"
Chrysene	"	ND	----	0.00320	"	"	"	"	"	"

TestAmerica - Seattle, WA

Kate Haney

Kate Haney, Project Manager

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Farallon Consulting LLC 975 5th Ave NW Ste 100 Issaquah, WA/USA 98027	Project Name: BNSF - John Michael Lease Site Project Number: 683-018 Project Manager: Tom Cammaratta	Report Created: 10/15/07 16:22
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Polyaromatic Hydrocarbons by EPA 8270C SIM
TestAmerica - Nashville, TN

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BQI0581-18 (TP5-092007-2-4)		Soil			Sampled: 09/20/07 14:20					
Dibenz (a,h) anthracene	SW846 8270CSIM	ND	----	0.00320	mg/kg	1x	7095602	10/01/07 12:15	10/02/07 20:53	
Fluoranthene	"	0.00352	----	0.00320	"	"	"	"	"	
Fluorene	"	ND	----	0.00320	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	"	ND	----	0.00320	"	"	"	"	"	
1-Methylnaphthalene	"	ND	----	0.00320	"	"	"	"	"	
2-Methylnaphthalene	"	ND	----	0.00320	"	"	"	"	"	
Naphthalene	"	ND	----	0.00320	"	"	"	"	"	
Phenanthrene	"	0.00320	----	0.00320	"	"	"	"	"	
Pyrene	"	0.00352	----	0.00320	"	"	"	"	"	
<i>Surrogate(s): Nitrobenzene-d5</i>				56%	16 - 113 %	"				"
<i>2-Fluorobiphenyl</i>				62%	19 - 106 %	"				"
<i>Terphenyl-d14</i>				86%	24 - 129 %	"				"

BQI0581-20 (TP5-092007-6-8)		Soil			Sampled: 09/20/07 14:35					
Acenaphthene	SW846 8270CSIM	ND	----	0.00332	mg/kg	1x	7095602	10/01/07 12:15	10/03/07 10:28	
Acenaphthylene	"	ND	----	0.00332	"	"	"	"	"	
Anthracene	"	ND	----	0.00332	"	"	"	"	"	
Benzo (a) anthracene	"	ND	----	0.00332	"	"	"	"	"	
Benzo (a) pyrene	"	ND	----	0.00332	"	"	"	"	"	
Benzo (b) fluoranthene	"	ND	----	0.00332	"	"	"	"	"	
Benzo (g,h,i) perylene	"	ND	----	0.00332	"	"	"	"	"	
Benzo (k) fluoranthene	"	ND	----	0.00332	"	"	"	"	"	
Chrysene	"	ND	----	0.00332	"	"	"	"	"	
Dibenz (a,h) anthracene	"	ND	----	0.00332	"	"	"	"	"	
Fluoranthene	"	ND	----	0.00332	"	"	"	"	"	
Fluorene	"	ND	----	0.00332	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	"	ND	----	0.00332	"	"	"	"	"	
1-Methylnaphthalene	"	ND	----	0.00332	"	"	"	"	"	
2-Methylnaphthalene	"	ND	----	0.00332	"	"	"	"	"	
Naphthalene	"	ND	----	0.00332	"	"	"	"	"	
Phenanthrene	"	ND	----	0.00332	"	"	"	"	"	
Pyrene	"	ND	----	0.00332	"	"	"	"	"	
<i>Surrogate(s): Nitrobenzene-d5</i>				57%	16 - 113 %	"				"
<i>2-Fluorobiphenyl</i>				62%	19 - 106 %	"				"
<i>Terphenyl-d14</i>				68%	24 - 129 %	"				"

TestAmerica - Seattle, WA

Kate Haney

Kate Haney, Project Manager

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Farallon Consulting LLC 975 5th Ave NW Ste 100 Issaquah, WA/USA 98027	Project Name: BNSF - John Michael Lease Site Project Number: 683-018 Project Manager: Tom Cammaratta	Report Created: 10/15/07 16:22
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Polyaromatic Hydrocarbons by EPA 8270C SIM

TestAmerica - Nashville, TN

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BQI0581-23 (TP6-092007-4-6)		Soil					Sampled: 09/20/07 15:00			
Acenaphthene	SW846 8270CSIM	ND	----	0.00328	mg/kg	1x	7095602	10/01/07 12:15	10/02/07 14:35	
Acenaphthylene	"	ND	----	0.00328	"	"	"	"	"	
Anthracene	"	ND	----	0.00328	"	"	"	"	"	
Benzo (a) anthracene	"	0.00426	----	0.00328	"	"	"	"	"	
Benzo (a) pyrene	"	ND	----	0.00328	"	"	"	"	"	
Benzo (b) fluoranthene	"	ND	----	0.00328	"	"	"	"	"	
Benzo (g,h,i) perylene	"	ND	----	0.00328	"	"	"	"	"	
Benzo (k) fluoranthene	"	ND	----	0.00328	"	"	"	"	"	
Chrysene	"	0.00623	----	0.00328	"	"	"	"	"	
Dibenz (a,h) anthracene	"	ND	----	0.00328	"	"	"	"	"	
Fluoranthene	"	0.00459	----	0.00328	"	"	"	"	"	
Fluorene	"	ND	----	0.00328	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	"	ND	----	0.00328	"	"	"	"	"	
1-Methylnaphthalene	"	ND	----	0.00328	"	"	"	"	"	
2-Methylnaphthalene	"	ND	----	0.00328	"	"	"	"	"	
Naphthalene	"	ND	----	0.00328	"	"	"	"	"	
Phenanthrene	"	0.00328	----	0.00328	"	"	"	"	"	
Pyrene	"	0.00951	----	0.00328	"	"	"	"	"	

<i>Surrogate(s): Nitrobenzene-d5</i>	55%	16 - 113 %	"	"
<i>2-Fluorobiphenyl</i>	61%	19 - 106 %	"	"
<i>Terphenyl-d14</i>	85%	24 - 129 %	"	"

BQI0581-24 (TP6-092007-6-8)		Soil					Sampled: 09/20/07 15:05			
Acenaphthene	SW846 8270CSIM	ND	----	0.00323	mg/kg	1x	7095602	10/01/07 12:15	10/02/07 17:00	
Acenaphthylene	"	ND	----	0.00323	"	"	"	"	"	
Anthracene	"	ND	----	0.00323	"	"	"	"	"	
Benzo (a) anthracene	"	ND	----	0.00323	"	"	"	"	"	
Benzo (a) pyrene	"	ND	----	0.00323	"	"	"	"	"	
Benzo (b) fluoranthene	"	ND	----	0.00323	"	"	"	"	"	
Benzo (g,h,i) perylene	"	ND	----	0.00323	"	"	"	"	"	
Benzo (k) fluoranthene	"	ND	----	0.00323	"	"	"	"	"	
Chrysene	"	0.00355	----	0.00323	"	"	"	"	"	
Dibenz (a,h) anthracene	"	ND	----	0.00323	"	"	"	"	"	
Fluoranthene	"	ND	----	0.00323	"	"	"	"	"	
Fluorene	"	ND	----	0.00323	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	"	ND	----	0.00323	"	"	"	"	"	
1-Methylnaphthalene	"	ND	----	0.00323	"	"	"	"	"	
2-Methylnaphthalene	"	ND	----	0.00323	"	"	"	"	"	
Naphthalene	"	ND	----	0.00323	"	"	"	"	"	
Phenanthrene	"	0.00355	----	0.00323	"	"	"	"	"	

TestAmerica - Seattle, WA

Kate Haney

Kate Haney, Project Manager

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Farallon Consulting LLC	Project Name: BNSF - John Michael Lease Site
975 5th Ave NW Ste 100	Project Number: 683-018
Issaquah, WA/USA 98027	Project Manager: Tom Cammaratta
	Report Created: 10/15/07 16:22

Polyaromatic Hydrocarbons by EPA 8270C SIM
 TestAmerica - Nashville, TN

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
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BQI0581-24 (TP6-092007-6-8) **Soil** **Sampled: 09/20/07 15:05**

Pyrene	SW846 8270CSIM	0.00355	----	0.00323	mg/kg	1x	7095602	10/01/07 12:15	10/02/07 17:00	
<i>Surrogate(s): Nitrobenzene-d5</i>				60%	16 - 113 %	"				"
<i>2-Fluorobiphenyl</i>				62%	19 - 106 %	"				"
<i>Terphenyl-d14</i>				66%	24 - 129 %	"				"

BQI0581-26 (TP7-092007-2-4) **Soil** **Sampled: 09/20/07 15:35**

Acenaphthene	SW846 8270CSIM	ND	----	0.00333	mg/kg	1x	7095602	10/01/07 12:15	10/02/07 17:22	
Acenaphthylene	"	ND	----	0.00333	"	"	"	"	"	"
Anthracene	"	ND	----	0.00333	"	"	"	"	"	"
Benzo (a) anthracene	"	ND	----	0.00333	"	"	"	"	"	"
Benzo (a) pyrene	"	ND	----	0.00333	"	"	"	"	"	"
Benzo (b) fluoranthene	"	0.00366	----	0.00333	"	"	"	"	"	"
Benzo (g,h,i) perylene	"	0.00566	----	0.00333	"	"	"	"	"	"
Benzo (k) fluoranthene	"	ND	----	0.00333	"	"	"	"	"	"
Chrysene	"	ND	----	0.00333	"	"	"	"	"	"
Dibenz (a,h) anthracene	"	ND	----	0.00333	"	"	"	"	"	"
Fluoranthene	"	0.00366	----	0.00333	"	"	"	"	"	"
Fluorene	"	ND	----	0.00333	"	"	"	"	"	"
Indeno (1,2,3-cd) pyrene	"	ND	----	0.00333	"	"	"	"	"	"
1-Methylnaphthalene	"	ND	----	0.00333	"	"	"	"	"	"
2-Methylnaphthalene	"	ND	----	0.00333	"	"	"	"	"	"
Naphthalene	"	ND	----	0.00333	"	"	"	"	"	"
Phenanthrene	"	ND	----	0.00333	"	"	"	"	"	"
Pyrene	"	0.00399	----	0.00333	"	"	"	"	"	"
<i>Surrogate(s): Nitrobenzene-d5</i>				59%	16 - 113 %	"				"
<i>2-Fluorobiphenyl</i>				66%	19 - 106 %	"				"
<i>Terphenyl-d14</i>				71%	24 - 129 %	"				"

BQI0581-27RE1 (TP7-092007-4-6) **Soil** **Sampled: 09/20/07 15:45**

Acenaphthene	SW846 8270CSIM	ND	----	0.0323	mg/kg	10x	7095602	10/01/07 12:15	10/03/07 14:55	
Acenaphthylene	"	ND	----	0.0323	"	"	"	"	"	"
Anthracene	"	ND	----	0.0323	"	"	"	"	"	"
Benzo (a) anthracene	"	ND	----	0.0323	"	"	"	"	"	"
Benzo (a) pyrene	"	ND	----	0.0323	"	"	"	"	"	"
Benzo (b) fluoranthene	"	ND	----	0.0323	"	"	"	"	"	"
Benzo (g,h,i) perylene	"	ND	----	0.0323	"	"	"	"	"	"
Benzo (k) fluoranthene	"	ND	----	0.0323	"	"	"	"	"	"
Chrysene	"	ND	----	0.0323	"	"	"	"	"	"
Dibenz (a,h) anthracene	"	ND	----	0.0323	"	"	"	"	"	"

TestAmerica - Seattle, WA

Kate Haney

Kate Haney, Project Manager

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Farallon Consulting LLC 975 5th Ave NW Ste 100 Issaquah, WA/USA 98027	Project Name: BNSF - John Michael Lease Site Project Number: 683-018 Project Manager: Tom Cammaratta	Report Created: 10/15/07 16:22
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Polyaromatic Hydrocarbons by EPA 8270C SIM
TestAmerica - Nashville, TN

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BQI0581-27RE1 (TP7-092007-4-6)		Soil			Sampled: 09/20/07 15:45					
Fluoranthene	SW846 8270CSIM	0.0420	----	0.0323	mg/kg	10x	7095602	10/01/07 12:15	10/03/07 14:55	
Fluorene	"	ND	----	0.0323	"	"	"	"	"	"
Indeno (1,2,3-cd) pyrene	"	ND	----	0.0323	"	"	"	"	"	"
1-Methylnaphthalene	"	ND	----	0.0323	"	"	"	"	"	"
2-Methylnaphthalene	"	ND	----	0.0323	"	"	"	"	"	"
Naphthalene	"	ND	----	0.0323	"	"	"	"	"	"
Phenanthrene	"	ND	----	0.0323	"	"	"	"	"	"
Pyrene	"	0.0420	----	0.0323	"	"	"	"	"	"
<i>Surrogate(s): Nitrobenzene-d5</i>			60%		16 - 113 %	"				"
<i>2-Fluorobiphenyl</i>			60%		19 - 106 %	"				"
<i>Terphenyl-d14</i>			70%		24 - 129 %	"				"

BQI0581-30 (TP8-092007-2-4)		Soil			Sampled: 09/20/07 16:30					
Acenaphthene	SW846 8270CSIM	0.0408	----	0.00324	mg/kg	1x	7095602	10/01/07 12:15	10/02/07 18:04	
Acenaphthylene	"	ND	----	0.00324	"	"	"	"	"	"
Anthracene	"	0.0479	----	0.00324	"	"	"	"	"	"
Benzo (a) anthracene	"	0.0155	----	0.00324	"	"	"	"	"	"
Benzo (a) pyrene	"	0.00615	----	0.00324	"	"	"	"	"	"
Benzo (b) fluoranthene	"	0.0107	----	0.00324	"	"	"	"	"	"
Benzo (g,h,i) perylene	"	0.00324	----	0.00324	"	"	"	"	"	"
Benzo (k) fluoranthene	"	0.00939	----	0.00324	"	"	"	"	"	"
Chrysene	"	0.0152	----	0.00324	"	"	"	"	"	"
Dibenz (a,h) anthracene	"	ND	----	0.00324	"	"	"	"	"	"
Fluoranthene	"	0.105	----	0.00324	"	"	"	"	"	"
Fluorene	"	0.0576	----	0.00324	"	"	"	"	"	"
Indeno (1,2,3-cd) pyrene	"	0.00324	----	0.00324	"	"	"	"	"	"
1-Methylnaphthalene	"	0.00551	----	0.00324	"	"	"	"	"	"
2-Methylnaphthalene	"	0.00648	----	0.00324	"	"	"	"	"	"
Naphthalene	"	ND	----	0.00324	"	"	"	"	"	"
Phenanthrene	"	0.166	----	0.00324	"	"	"	"	"	"
Pyrene	"	0.0703	----	0.00324	"	"	"	"	"	"
<i>Surrogate(s): Nitrobenzene-d5</i>			56%		16 - 113 %	"				"
<i>2-Fluorobiphenyl</i>			61%		19 - 106 %	"				"
<i>Terphenyl-d14</i>			67%		24 - 129 %	"				"

TestAmerica - Seattle, WA

Kate Haney

Kate Haney, Project Manager

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Farallon Consulting LLC 975 5th Ave NW Ste 100 Issaquah, WA/USA 98027	Project Name: BNSF - John Michael Lease Site Project Number: 683-018 Project Manager: Tom Cammaratta	Report Created: 10/15/07 16:22
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Polyaromatic Hydrocarbons by EPA 8270C SIM
 TestAmerica - Nashville, TN

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BQI0581-32RE1 (TP8-092007-6-8)		Soil			Sampled: 09/20/07 16:45					
Acenaphthene	SW846 8270CSIM	ND	----	0.0325	mg/kg	10x	7095602	10/01/07 12:15	10/03/07 15:16	
Acenaphthylene	"	ND	----	0.0325	"	"	"	"	"	"
Anthracene	"	ND	----	0.0325	"	"	"	"	"	"
Benzo (a) anthracene	"	0.163	----	0.0325	"	"	"	"	"	"
Benzo (a) pyrene	"	0.130	----	0.0325	"	"	"	"	"	"
Benzo (b) fluoranthene	"	0.264	----	0.0325	"	"	"	"	"	"
Benzo (g,h,i) perylene	"	0.0391	----	0.0325	"	"	"	"	"	"
Benzo (k) fluoranthene	"	0.117	----	0.0325	"	"	"	"	"	"
Chrysene	"	0.202	----	0.0325	"	"	"	"	"	"
Dibenz (a,h) anthracene	"	0.0391	----	0.0325	"	"	"	"	"	"
Fluoranthene	"	0.208	----	0.0325	"	"	"	"	"	"
Fluorene	"	ND	----	0.0325	"	"	"	"	"	"
Indeno (1,2,3-cd) pyrene	"	0.0358	----	0.0325	"	"	"	"	"	"
1-Methylnaphthalene	"	0.0456	----	0.0325	"	"	"	"	"	"
2-Methylnaphthalene	"	0.0488	----	0.0325	"	"	"	"	"	"
Naphthalene	"	ND	----	0.0325	"	"	"	"	"	"
Phenanthrene	"	0.107	----	0.0325	"	"	"	"	"	"
Pyrene	"	0.221	----	0.0325	"	"	"	"	"	"
<i>Surrogate(s): Nitrobenzene-d5</i>				70%	16 - 113 %	"				"
<i>2-Fluorobiphenyl</i>				70%	19 - 106 %	"				"
<i>Terphenyl-d14</i>				60%	24 - 129 %	"				"

BQI0581-34 (TP9-092007-2-4)		Soil			Sampled: 09/20/07 17:15					
Acenaphthene	SW846 8270CSIM	ND	----	0.00332	mg/kg	1x	7095602	10/01/07 12:15	10/02/07 18:47	
Acenaphthylene	"	ND	----	0.00332	"	"	"	"	"	"
Anthracene	"	ND	----	0.00332	"	"	"	"	"	"
Benzo (a) anthracene	"	ND	----	0.00332	"	"	"	"	"	"
Benzo (a) pyrene	"	ND	----	0.00332	"	"	"	"	"	"
Benzo (b) fluoranthene	"	ND	----	0.00332	"	"	"	"	"	"
Benzo (g,h,i) perylene	"	ND	----	0.00332	"	"	"	"	"	"
Benzo (k) fluoranthene	"	ND	----	0.00332	"	"	"	"	"	"
Chrysene	"	ND	----	0.00332	"	"	"	"	"	"
Dibenz (a,h) anthracene	"	ND	----	0.00332	"	"	"	"	"	"
Fluoranthene	"	ND	----	0.00332	"	"	"	"	"	"
Fluorene	"	ND	----	0.00332	"	"	"	"	"	"
Indeno (1,2,3-cd) pyrene	"	ND	----	0.00332	"	"	"	"	"	"
1-Methylnaphthalene	"	ND	----	0.00332	"	"	"	"	"	"
2-Methylnaphthalene	"	ND	----	0.00332	"	"	"	"	"	"
Naphthalene	"	ND	----	0.00332	"	"	"	"	"	"
Phenanthrene	"	ND	----	0.00332	"	"	"	"	"	"

TestAmerica - Seattle, WA

Kate Haney

Kate Haney, Project Manager

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Farallon Consulting LLC 975 5th Ave NW Ste 100 Issaquah, WA/USA 98027	Project Name: BNSF - John Michael Lease Site Project Number: 683-018 Project Manager: Tom Cammaratta	Report Created: 10/15/07 16:22
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Polyaromatic Hydrocarbons by EPA 8270C SIM
 TestAmerica - Nashville, TN

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
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BQI0581-34 (TP9-092007-2-4)		Soil		Sampled: 09/20/07 17:15						
Pyrene	SW846 8270CSIM	ND	----	0.00332	mg/kg	1x	7095602	10/01/07 12:15	10/02/07 18:47	
<i>Surrogate(s): Nitrobenzene-d5</i>				54%		16 - 113 %	"			"
<i>2-Fluorobiphenyl</i>				61%		19 - 106 %	"			"
<i>Terphenyl-d14</i>				79%		24 - 129 %	"			"

BQI0581-36RE2 (TP9-092007-6-8)		Soil		Sampled: 09/20/07 17:25						
Acenaphthene	SW846 8270CSIM	ND	----	16.6	mg/kg	250x	7095602	10/01/07 12:15	10/03/07 14:12	RL1
Acenaphthylene	"	ND	----	16.6	"	"	"	"	"	RL1
Anthracene	"	ND	----	16.6	"	"	"	"	"	RL1
Benzo (a) anthracene	"	ND	----	16.6	"	"	"	"	"	RL1
Benzo (a) pyrene	"	ND	----	16.6	"	"	"	"	"	RL1
Benzo (b) fluoranthene	"	ND	----	16.6	"	"	"	"	"	RL1
Benzo (g,h,i) perylene	"	ND	----	16.6	"	"	"	"	"	RL1
Benzo (k) fluoranthene	"	ND	----	16.6	"	"	"	"	"	RL1
Chrysene	"	ND	----	16.6	"	"	"	"	"	RL1
Dibenz (a,h) anthracene	"	ND	----	16.6	"	"	"	"	"	RL1
Fluoranthene	"	ND	----	16.6	"	"	"	"	"	RL1
Fluorene	"	ND	----	16.6	"	"	"	"	"	RL1
Indeno (1,2,3-cd) pyrene	"	ND	----	16.6	"	"	"	"	"	RL1
1-Methylnaphthalene	"	ND	----	16.6	"	"	"	"	"	RL1
2-Methylnaphthalene	"	ND	----	16.6	"	"	"	"	"	RL1
Naphthalene	"	ND	----	16.6	"	"	"	"	"	RL1
Phenanthrene	"	ND	----	16.6	"	"	"	"	"	RL1
Pyrene	"	ND	----	16.6	"	"	"	"	"	RL1
<i>Surrogate(s): Nitrobenzene-d5</i>				NR		16 - 113 %	"			Z3
<i>2-Fluorobiphenyl</i>				NR		19 - 106 %	"			Z3
<i>Terphenyl-d14</i>				NR		24 - 129 %	"			Z3

BQI0581-38RE1 (TP10-092007-2-4)		Soil		Sampled: 09/20/07 17:45						
Acenaphthene	SW846 8270CSIM	ND	----	0.0330	mg/kg	10x	7095602	10/01/07 12:15	10/03/07 13:09	
Acenaphthylene	"	ND	----	0.0330	"	"	"	"	"	
Anthracene	"	ND	----	0.0330	"	"	"	"	"	
Benzo (a) anthracene	"	ND	----	0.0330	"	"	"	"	"	
Benzo (a) pyrene	"	ND	----	0.0330	"	"	"	"	"	
Benzo (b) fluoranthene	"	ND	----	0.0330	"	"	"	"	"	
Benzo (g,h,i) perylene	"	ND	----	0.0330	"	"	"	"	"	
Benzo (k) fluoranthene	"	ND	----	0.0330	"	"	"	"	"	
Chrysene	"	ND	----	0.0330	"	"	"	"	"	
Dibenz (a,h) anthracene	"	ND	----	0.0330	"	"	"	"	"	

TestAmerica - Seattle, WA

Kate Haney

Kate Haney, Project Manager

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Farallon Consulting LLC 975 5th Ave NW Ste 100 Issaquah, WA/USA 98027	Project Name: BNSF - John Michael Lease Site Project Number: 683-018 Project Manager: Tom Cammaratta	Report Created: 10/15/07 16:22
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Polyaromatic Hydrocarbons by EPA 8270C SIM

TestAmerica - Nashville, TN

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BQI0581-38RE1 (TP10-092007-2-4)		Soil		Sampled: 09/20/07 17:45						
Fluoranthene	SW846 8270CSIM	ND	----	0.0330	mg/kg	10x	7095602	10/01/07 12:15	10/03/07 13:09	
Fluorene	"	ND	----	0.0330	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	"	ND	----	0.0330	"	"	"	"	"	
1-Methylnaphthalene	"	ND	----	0.0330	"	"	"	"	"	
2-Methylnaphthalene	"	ND	----	0.0330	"	"	"	"	"	
Naphthalene	"	ND	----	0.0330	"	"	"	"	"	
Phenanthrene	"	ND	----	0.0330	"	"	"	"	"	
Pyrene	"	ND	----	0.0330	"	"	"	"	"	
<i>Surrogate(s): Nitrobenzene-d5</i>				70%	16 - 113 %	"				"
<i>2-Fluorobiphenyl</i>				70%	19 - 106 %	"				"
<i>Terphenyl-d14</i>				70%	24 - 129 %	"				"
BQI0581-40 (TP10-092007-6-8)		Soil		Sampled: 09/20/07 17:55						
Acenaphthene	SW846 8270CSIM	ND	----	0.0162	mg/kg	5x	7100198	10/02/07 09:56	10/04/07 17:17	
Acenaphthylene	"	ND	----	0.0162	"	"	"	"	"	
Anthracene	"	ND	----	0.0162	"	"	"	"	"	
Benzo (a) anthracene	"	ND	----	0.0162	"	"	"	"	"	
Benzo (a) pyrene	"	ND	----	0.0162	"	"	"	"	"	
Benzo (b) fluoranthene	"	ND	----	0.0162	"	"	"	"	"	
Benzo (g,h,i) perylene	"	ND	----	0.0162	"	"	"	"	"	
Benzo (k) fluoranthene	"	ND	----	0.0162	"	"	"	"	"	
Chrysene	"	0.0276	----	0.0162	"	"	"	"	"	
Dibenz (a,h) anthracene	"	ND	----	0.0162	"	"	"	"	"	
Fluoranthene	"	0.0211	----	0.0162	"	"	"	"	"	
Fluorene	"	ND	----	0.0162	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	"	ND	----	0.0162	"	"	"	"	"	
1-Methylnaphthalene	"	ND	----	0.0162	"	"	"	"	"	
2-Methylnaphthalene	"	0.0227	----	0.0162	"	"	"	"	"	
Naphthalene	"	ND	----	0.0162	"	"	"	"	"	
Phenanthrene	"	0.0178	----	0.0162	"	"	"	"	"	
Pyrene	"	0.0292	----	0.0162	"	"	"	"	"	
<i>Surrogate(s): Nitrobenzene-d5</i>				70%	16 - 113 %	"				"
<i>2-Fluorobiphenyl</i>				60%	19 - 106 %	"				"
<i>Terphenyl-d14</i>				70%	24 - 129 %	"				"

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Kate Haney

Kate Haney, Project Manager

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Farallon Consulting LLC 975 5th Ave NW Ste 100 Issaquah, WA/USA 98027	Project Name: BNSF - John Michael Lease Site Project Number: 683-018 Project Manager: Tom Cammaratta	Report Created: 10/15/07 16:22
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Polyaromatic Hydrocarbons by EPA 8270C SIM
 TestAmerica - Nashville, TN

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BQI0581-42 (TP11-092007-2-4)		Soil			Sampled: 09/20/07 18:15					
Acenaphthene	SW846 8270CSIM	ND	----	0.00331	mg/kg	1x	7100198	10/02/07 09:56	10/04/07 07:20	
Acenaphthylene	"	ND	----	0.00331	"	"	"	"	"	
Anthracene	"	ND	----	0.00331	"	"	"	"	"	
Benzo (a) anthracene	"	0.00364	----	0.00331	"	"	"	"	"	
Benzo (a) pyrene	"	ND	----	0.00331	"	"	"	"	"	
Benzo (b) fluoranthene	"	0.00530	----	0.00331	"	"	"	"	"	
Benzo (g,h,i) perylene	"	0.00464	----	0.00331	"	"	"	"	"	
Benzo (k) fluoranthene	"	0.00331	----	0.00331	"	"	"	"	"	
Chrysene	"	0.00430	----	0.00331	"	"	"	"	"	
Dibenz (a,h) anthracene	"	ND	----	0.00331	"	"	"	"	"	
Fluoranthene	"	0.00464	----	0.00331	"	"	"	"	"	
Fluorene	"	ND	----	0.00331	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	"	0.00331	----	0.00331	"	"	"	"	"	
1-Methylnaphthalene	"	ND	----	0.00331	"	"	"	"	"	
2-Methylnaphthalene	"	ND	----	0.00331	"	"	"	"	"	
Naphthalene	"	0.00662	----	0.00331	"	"	"	"	"	
Phenanthrene	"	0.00397	----	0.00331	"	"	"	"	"	
Pyrene	"	0.00497	----	0.00331	"	"	"	"	"	
<i>Surrogate(s): Nitrobenzene-d5</i>				<i>51%</i>	<i>16 - 113 %</i>	<i>"</i>				<i>"</i>
<i>2-Fluorobiphenyl</i>				<i>59%</i>	<i>19 - 106 %</i>	<i>"</i>				<i>"</i>
<i>Terphenyl-d14</i>				<i>72%</i>	<i>24 - 129 %</i>	<i>"</i>				<i>"</i>

BQI0581-43RE1 (TP11-092007-4-6)		Soil			Sampled: 09/20/07 18:20					
Acenaphthene	SW846 8270CSIM	ND	----	0.163	mg/kg	50x	7100198	10/02/07 09:56	10/04/07 15:08	RL1
Acenaphthylene	"	ND	----	0.163	"	"	"	"	"	RL1
Anthracene	"	ND	----	0.163	"	"	"	"	"	RL1
Benzo (a) anthracene	"	ND	----	0.163	"	"	"	"	"	RL1
Benzo (a) pyrene	"	ND	----	0.163	"	"	"	"	"	RL1
Benzo (b) fluoranthene	"	ND	----	0.163	"	"	"	"	"	RL1
Benzo (g,h,i) perylene	"	ND	----	0.163	"	"	"	"	"	RL1
Benzo (k) fluoranthene	"	ND	----	0.163	"	"	"	"	"	RL1
Chrysene	"	ND	----	0.163	"	"	"	"	"	RL1
Dibenz (a,h) anthracene	"	ND	----	0.163	"	"	"	"	"	RL1
Fluoranthene	"	ND	----	0.163	"	"	"	"	"	RL1
Fluorene	"	ND	----	0.163	"	"	"	"	"	RL1
Indeno (1,2,3-cd) pyrene	"	ND	----	0.163	"	"	"	"	"	RL1
1-Methylnaphthalene	"	ND	----	0.163	"	"	"	"	"	RL1
2-Methylnaphthalene	"	ND	----	0.163	"	"	"	"	"	RL1
Naphthalene	"	ND	----	0.163	"	"	"	"	"	RL1
Phenanthrene	"	ND	----	0.163	"	"	"	"	"	RL1

TestAmerica - Seattle, WA

Kate Haney

Kate Haney, Project Manager

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Farallon Consulting LLC 975 5th Ave NW Ste 100 Issaquah, WA/USA 98027	Project Name: BNSF - John Michael Lease Site Project Number: 683-018 Project Manager: Tom Cammaratta	Report Created: 10/15/07 16:22
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Polyaromatic Hydrocarbons by EPA 8270C SIM
 TestAmerica - Nashville, TN

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
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BQ10581-43RE1 (TP11-092007-4-6)		Soil		Sampled: 09/20/07 18:20						
Pyrene	SW846 8270CSIM	ND	----	0.163	mg/kg	50x	7100198	10/02/07 09:56	10/04/07 15:08	RL1
<i>Surrogate(s): Nitrobenzene-d5</i>				NR	16 - 113 %	"			"	Z3
<i>2-Fluorobiphenyl</i>				NR	19 - 106 %	"			"	Z3
<i>Terphenyl-d14</i>				NR	24 - 129 %	"			"	Z3

BQ10581-47 (TP12-092107-4-6)		Soil		Sampled: 09/21/07 06:50						
Acenaphthene	SW846 8270CSIM	ND	----	0.00325	mg/kg	1x	7100198	10/02/07 09:56	10/04/07 07:41	
Acenaphthylene	"	ND	----	0.00325	"	"	"	"	"	
Anthracene	"	ND	----	0.00325	"	"	"	"	"	
Benzo (a) anthracene	"	ND	----	0.00325	"	"	"	"	"	
Benzo (a) pyrene	"	ND	----	0.00325	"	"	"	"	"	
Benzo (b) fluoranthene	"	ND	----	0.00325	"	"	"	"	"	
Benzo (g,h,i) perylene	"	ND	----	0.00325	"	"	"	"	"	
Benzo (k) fluoranthene	"	ND	----	0.00325	"	"	"	"	"	
Chrysene	"	ND	----	0.00325	"	"	"	"	"	
Dibenz (a,h) anthracene	"	ND	----	0.00325	"	"	"	"	"	
Fluoranthene	"	ND	----	0.00325	"	"	"	"	"	
Fluorene	"	ND	----	0.00325	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	"	ND	----	0.00325	"	"	"	"	"	
1-Methylnaphthalene	"	ND	----	0.00325	"	"	"	"	"	
2-Methylnaphthalene	"	ND	----	0.00325	"	"	"	"	"	
Naphthalene	"	ND	----	0.00325	"	"	"	"	"	
Phenanthrene	"	ND	----	0.00325	"	"	"	"	"	
Pyrene	"	ND	----	0.00325	"	"	"	"	"	
<i>Surrogate(s): Nitrobenzene-d5</i>				38%	16 - 113 %	"			"	
<i>2-Fluorobiphenyl</i>				49%	19 - 106 %	"			"	
<i>Terphenyl-d14</i>				66%	24 - 129 %	"			"	

BQ10581-48 (TP12-092107-6-8)		Soil		Sampled: 09/21/07 06:55						
Acenaphthene	SW846 8270CSIM	ND	----	0.00328	mg/kg	1x	7100198	10/02/07 09:56	10/04/07 08:02	
Acenaphthylene	"	ND	----	0.00328	"	"	"	"	"	
Anthracene	"	ND	----	0.00328	"	"	"	"	"	
Benzo (a) anthracene	"	0.00657	----	0.00328	"	"	"	"	"	
Benzo (a) pyrene	"	0.0102	----	0.00328	"	"	"	"	"	
Benzo (b) fluoranthene	"	ND	----	0.00328	"	"	"	"	"	
Benzo (g,h,i) perylene	"	0.00755	----	0.00328	"	"	"	"	"	
Benzo (k) fluoranthene	"	ND	----	0.00328	"	"	"	"	"	
Chrysene	"	0.0151	----	0.00328	"	"	"	"	"	
Dibenz (a,h) anthracene	"	ND	----	0.00328	"	"	"	"	"	

TestAmerica - Seattle, WA

Kate Haney

Kate Haney, Project Manager

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Farallon Consulting LLC 975 5th Ave NW Ste 100 Issaquah, WA/USA 98027	Project Name: BNSF - John Michael Lease Site Project Number: 683-018 Project Manager: Tom Cammaratta	Report Created: 10/15/07 16:22
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Polyaromatic Hydrocarbons by EPA 8270C SIM
 TestAmerica - Nashville, TN

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BQI0581-48 (TP12-092107-6-8)		Soil			Sampled: 09/21/07 06:55					
Fluoranthene	SW846 8270CSIM	0.00854	----	0.00328	mg/kg	1x	7100198	10/02/07 09:56	10/04/07 08:02	
Fluorene	"	ND	----	0.00328	"	"	"	"	"	"
Indeno (1,2,3-cd) pyrene	"	0.00722	----	0.00328	"	"	"	"	"	"
1-Methylnaphthalene	"	ND	----	0.00328	"	"	"	"	"	"
2-Methylnaphthalene	"	ND	----	0.00328	"	"	"	"	"	"
Naphthalene	"	ND	----	0.00328	"	"	"	"	"	"
Phenanthrene	"	0.00788	----	0.00328	"	"	"	"	"	"
Pyrene	"	0.0135	----	0.00328	"	"	"	"	"	"
<i>Surrogate(s): Nitrobenzene-d5</i>				59%	16 - 113 %	"				"
<i>2-Fluorobiphenyl</i>				69%	19 - 106 %	"				"
<i>Terphenyl-d14</i>				65%	24 - 129 %	"				"
BQI0581-52 (TP13-092107-6-8)		Soil			Sampled: 09/21/07 07:55					
Acenaphthene	SW846 8270CSIM	ND	----	0.00329	mg/kg	1x	7100198	10/02/07 09:56	10/04/07 08:23	
Acenaphthylene	"	ND	----	0.00329	"	"	"	"	"	"
Anthracene	"	ND	----	0.00329	"	"	"	"	"	"
Benzo (a) anthracene	"	ND	----	0.00329	"	"	"	"	"	"
Benzo (a) pyrene	"	ND	----	0.00329	"	"	"	"	"	"
Benzo (b) fluoranthene	"	ND	----	0.00329	"	"	"	"	"	"
Benzo (g,h,i) perylene	"	ND	----	0.00329	"	"	"	"	"	"
Benzo (k) fluoranthene	"	ND	----	0.00329	"	"	"	"	"	"
Chrysene	"	ND	----	0.00329	"	"	"	"	"	"
Dihenz (a,h) anthracene	"	ND	----	0.00329	"	"	"	"	"	"
Fluoranthene	"	0.00362	----	0.00329	"	"	"	"	"	"
Fluorene	"	ND	----	0.00329	"	"	"	"	"	"
Indeno (1,2,3-cd) pyrene	"	ND	----	0.00329	"	"	"	"	"	"
1-Methylnaphthalene	"	ND	----	0.00329	"	"	"	"	"	"
2-Methylnaphthalene	"	ND	----	0.00329	"	"	"	"	"	"
Naphthalene	"	ND	----	0.00329	"	"	"	"	"	"
Phenanthrene	"	0.00395	----	0.00329	"	"	"	"	"	"
Pyrene	"	0.00395	----	0.00329	"	"	"	"	"	"
<i>Surrogate(s): Nitrobenzene-d5</i>				52%	16 - 113 %	"				"
<i>2-Fluorobiphenyl</i>				62%	19 - 106 %	"				"
<i>Terphenyl-d14</i>				69%	24 - 129 %	"				"

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Kate Haney

Kate Haney, Project Manager

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Farallon Consulting LLC 975 5th Ave NW Ste 100 Issaquah, WA/USA 98027	Project Name: BNSF - John Michael Lease Site Project Number: 683-018 Project Manager: Tom Cammaratta	Report Created: 10/15/07 16:22
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Polyaromatic Hydrocarbons by EPA 8270C SIM
 TestAmerica - Nashville, TN

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BQ10581-55 (TP14-092107-4-6)		Soil			Sampled: 09/21/07 08:35					
Acenaphthene	SW846 8270CSIM	ND	----	0.0163	mg/kg	5x	7100198	10/02/07 09:56	10/04/07 19:44	
Acenaphthylene	"	ND	----	0.0163	"	"	"	"	"	"
Anthracene	"	0.0374	----	0.0163	"	"	"	"	"	"
Benzo (a) anthracene	"	0.147	----	0.0163	"	"	"	"	"	"
Benzo (a) pyrene	"	0.166	----	0.0163	"	"	"	"	"	"
Benzo (b) fluoranthene	"	0.153	----	0.0163	"	"	"	"	"	"
Benzo (g,h,i) perylene	"	0.0505	----	0.0163	"	"	"	"	"	"
Benzo (k) fluoranthene	"	0.171	----	0.0163	"	"	"	"	"	"
Chrysene	"	0.163	----	0.0163	"	"	"	"	"	"
Dibenz (a,h) anthracene	"	0.0374	----	0.0163	"	"	"	"	"	"
Fluoranthene	"	0.352	----	0.0163	"	"	"	"	"	"
Fluorene	"	ND	----	0.0163	"	"	"	"	"	"
Indeno (1,2,3-cd) pyrene	"	0.0570	----	0.0163	"	"	"	"	"	"
1-Methylnaphthalene	"	ND	----	0.0163	"	"	"	"	"	"
2-Methylnaphthalene	"	ND	----	0.0163	"	"	"	"	"	"
Naphthalene	"	ND	----	0.0163	"	"	"	"	"	"
Phenanthrene	"	0.169	----	0.0163	"	"	"	"	"	"
Pyrene	"	0.257	----	0.0163	"	"	"	"	"	"
<i>Surrogate(s): Nitrobenzene-d5</i>				65%	16 - 113 %	"				"
<i>2-Fluorobiphenyl</i>				75%	19 - 106 %	"				"
<i>Terphenyl-d14</i>				70%	24 - 129 %	"				"

BQ10581-56RE1 (TP14-092107-6-8)		Soil			Sampled: 09/21/07 08:40					
Acenaphthene	SW846 8270CSIM	ND	----	0.164	mg/kg	50x	7100198	10/02/07 09:56	10/04/07 16:12	RL1
Acenaphthylene	"	ND	----	0.164	"	"	"	"	"	RL1
Anthracene	"	ND	----	0.164	"	"	"	"	"	RL1
Benzo (a) anthracene	"	ND	----	0.164	"	"	"	"	"	RL1
Benzo (a) pyrene	"	ND	----	0.164	"	"	"	"	"	RL1
Benzo (b) fluoranthene	"	ND	----	0.164	"	"	"	"	"	RL1
Benzo (g,h,i) perylene	"	ND	----	0.164	"	"	"	"	"	RL1
Benzo (k) fluoranthene	"	ND	----	0.164	"	"	"	"	"	RL1
Chrysene	"	ND	----	0.164	"	"	"	"	"	RL1
Dibenz (a,h) anthracene	"	ND	----	0.164	"	"	"	"	"	RL1
Fluoranthene	"	ND	----	0.164	"	"	"	"	"	RL1
Fluorene	"	ND	----	0.164	"	"	"	"	"	RL1
Indeno (1,2,3-cd) pyrene	"	ND	----	0.164	"	"	"	"	"	RL1
1-Methylnaphthalene	"	ND	----	0.164	"	"	"	"	"	RL1
2-Methylnaphthalene	"	ND	----	0.164	"	"	"	"	"	RL1
Naphthalene	"	ND	----	0.164	"	"	"	"	"	RL1
Phenanthrene	"	ND	----	0.164	"	"	"	"	"	RL1

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Kate Haney

Kate Haney, Project Manager

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Farallon Consulting LLC 975 5th Ave NW Ste 100 Issaquah, WA/USA 98027	Project Name: BNSF - John Michael Lease Site Project Number: 683-018 Project Manager: Tom Cammaratta	Report Created: 10/15/07 16:22
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Polyaromatic Hydrocarbons by EPA 8270C SIM
TestAmerica - Nashville, TN

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
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BQI0581-56RE1 (TP14-092107-6-8) **Soil** **Sampled: 09/21/07 08:40**

Pyrene	SW846 8270CSIM	ND	----	0.164	mg/kg	50x	7100198	10/02/07 09:56	10/04/07 16:12	RL1
<i>Surrogate(s): Nitrobenzene-d5</i>				NR	16 - 113 %	"				Z3
<i>2-Fluorobiphenyl</i>				NR	19 - 106 %	"				Z3
<i>Terphenyl-d14</i>				NR	24 - 129 %	"				Z3

BQI0581-57RE1 (TP15-092107-0-2) **Soil** **Sampled: 09/21/07 09:10**

Acenaphthene	SW846 8270CSIM	ND	----	0.162	mg/kg	50x	7100198	10/02/07 09:56	10/04/07 16:33	RL1
Acenaphthylene	"	ND	----	0.162	"	"	"	"	"	RL1
Anthracene	"	ND	----	0.162	"	"	"	"	"	RL1
Benzo (a) anthracene	"	ND	----	0.162	"	"	"	"	"	RL1
Benzo (a) pyrene	"	ND	----	0.162	"	"	"	"	"	RL1
Benzo (b) fluoranthene	"	ND	----	0.162	"	"	"	"	"	RL1
Benzo (g,h,i) perylene	"	ND	----	0.162	"	"	"	"	"	RL1
Benzo (k) fluoranthene	"	ND	----	0.162	"	"	"	"	"	RL1
Chrysene	"	ND	----	0.162	"	"	"	"	"	RL1
Dibenz (a,h) anthracene	"	ND	----	0.162	"	"	"	"	"	RL1
Fluoranthene	"	ND	----	0.162	"	"	"	"	"	RL1
Fluorene	"	ND	----	0.162	"	"	"	"	"	RL1
Indeno (1,2,3-cd) pyrene	"	ND	----	0.162	"	"	"	"	"	RL1
1-Methylnaphthalene	"	ND	----	0.162	"	"	"	"	"	RL1
2-Methylnaphthalene	"	ND	----	0.162	"	"	"	"	"	RL1
Naphthalene	"	ND	----	0.162	"	"	"	"	"	RL1
Phenanthrene	"	ND	----	0.162	"	"	"	"	"	RL1
Pyrene	"	ND	----	0.162	"	"	"	"	"	RL1
<i>Surrogate(s): Nitrobenzene-d5</i>				NR	16 - 113 %	"				Z3
<i>2-Fluorobiphenyl</i>				NR	19 - 106 %	"				Z3
<i>Terphenyl-d14</i>				NR	24 - 129 %	"				Z3

BQI0581-59 (TP15-092107-4-6) **Soil** **Sampled: 09/21/07 09:20**

Acenaphthene	SW846 8270CSIM	0.00520	----	0.00325	mg/kg	1x	7100198	10/02/07 09:56	10/04/07 08:44	
Acenaphthylene	"	0.0120	----	0.00325	"	"	"	"	"	
Anthracene	"	0.0478	----	0.00325	"	"	"	"	"	
Benzo (a) anthracene	"	0.168	----	0.00325	"	"	"	"	"	
Benzo (a) pyrene	"	0.165	----	0.00325	"	"	"	"	"	
Benzo (b) fluoranthene	"	0.208	----	0.00325	"	"	"	"	"	
Benzo (g,h,i) perylene	"	0.0540	----	0.00325	"	"	"	"	"	
Benzo (k) fluoranthene	"	0.159	----	0.00325	"	"	"	"	"	
Chrysene	"	0.183	----	0.00325	"	"	"	"	"	

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Kate Haney

Kate Haney, Project Manager

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Farallon Consulting LLC 975 5th Ave NW Ste 100 Issaquah, WA/USA 98027	Project Name: BNSF - John Michael Lease Site Project Number: 683-018 Project Manager: Tom Cammaratta	Report Created: 10/15/07 16:22
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Polyaromatic Hydrocarbons by EPA 8270C SIM
 TestAmerica - Nashville, TN

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BQI0581-59 (TP15-092107-4-6)		Soil			Sampled: 09/21/07 09:20					
Dibenz (a,h) anthracene	SW846 8270CSIM	0.0322	----	0.00325	mg/kg	1x	7100198	10/02/07 09:56	10/04/07 08:44	
Fluorene	"	0.0130	----	0.00325	"	"	"	"	"	"
Indeno (1,2,3-cd) pyrene	"	0.0586	----	0.00325	"	"	"	"	"	"
1-Methylnaphthalene	"	0.00358	----	0.00325	"	"	"	"	"	"
2-Methylnaphthalene	"	0.00618	----	0.00325	"	"	"	"	"	"
Naphthalene	"	0.00716	----	0.00325	"	"	"	"	"	"
Phenanthrene	"	0.250	----	0.00325	"	"	"	"	"	"
Pyrene	"	0.325	----	0.00325	"	"	"	"	"	"
<i>Surrogate(s): Nitrobenzene-d5</i>				60%		16 - 113 %	"			"
<i>2-Fluorobiphenyl</i>				66%		19 - 106 %	"			"
<i>Terphenyl-d14</i>				72%		24 - 129 %	"			"
BQI0581-59RE1 (TP15-092107-4-6)		Soil			Sampled: 09/21/07 09:20					
Fluoranthene	SW846 8270CSIM	0.574	----	0.00650	mg/kg	2x	7100198	10/02/07 09:56	10/04/07 12:21	

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Kate Haney

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Farallon Consulting LLC 975 5th Ave NW Ste 100 Issaquah, WA/USA 98027	Project Name: BNSF - John Michael Lease Site Project Number: 683-018 Project Manager: Tom Cammaratta	Report Created: 10/15/07 16:22
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Extractable Petroleum Hydrocarbons
TestAmerica - Nashville, TN

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BQI0581-01RE1 (TP1-092007-0-2)		Soil		Sampled: 09/20/07 09:20						
Diesel	NWTPH-Dx	ND	----	19.5	mg/kg	5x	7100195	10/02/07 08:26	10/04/07 10:46	
Motor Oil	"	314	----	19.5	"	"	"	"	"	
Surrogate(s): o-Terphenyl			61%		50 - 150 %	"				
BQI0581-04 (TP1-092007-6-8)		Soil		Sampled: 09/20/07 09:55						
Diesel	NWTPH-Dx	10500	----	1940	mg/kg	100x	7100195	10/02/07 08:26	10/04/07 02:00	
Motor Oil	"	20900	----	1940	"	"	"	"	"	
Surrogate(s): o-Terphenyl			NR		50 - 150 %	"				Z3
BQI0581-06RE1 (TP2-092007-2-4)		Soil		Sampled: 09/20/07 11:10						
Diesel	NWTPH-Dx	21.1	----	7.80	mg/kg	2x	7100195	10/02/07 08:26	10/04/07 11:02	
Motor Oil	"	169	----	7.80	"	"	"	"	"	
Surrogate(s): o-Terphenyl			67%		50 - 150 %	"				
BQI0581-08RE1 (TP2-092007-6-8)		Soil		Sampled: 09/20/07 12:00						
Diesel	NWTPH-Dx	2210	----	387	mg/kg	20x	7100195	10/02/07 08:26	10/04/07 11:33	
Motor Oil	"	11900	----	387	"	"	"	"	"	
Surrogate(s): o-Terphenyl			NR		50 - 150 %	"				Z3
BQI0581-10 (TP3-092007-2-4)		Soil		Sampled: 09/20/07 12:45						
Diesel	NWTPH-Dx	5.63	----	3.93	mg/kg	1x	7100195	10/02/07 08:26	10/04/07 00:26	
Motor Oil	"	82.8	----	3.93	"	"	"	"	"	
Surrogate(s): o-Terphenyl			64%		50 - 150 %	"				
BQI0581-11 (TP3-092007-4-6)		Soil		Sampled: 09/20/07 12:50						
Diesel	NWTPH-Dx	8.80	----	3.99	mg/kg	1x	7100195	10/02/07 08:26	10/04/07 00:41	
Motor Oil	"	79.1	----	3.99	"	"	"	"	"	
Surrogate(s): o-Terphenyl			83%		50 - 150 %	"				
BQI0581-15 (TP4-092007-4-6)		Soil		Sampled: 09/20/07 13:25						
Diesel	NWTPH-Dx	ND	----	3.88	mg/kg	1x	7100195	10/02/07 08:26	10/04/07 00:57	
Motor Oil	"	85.3	----	3.88	"	"	"	"	"	
Surrogate(s): o-Terphenyl			72%		50 - 150 %	"				

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Kate Haney

Kate Haney, Project Manager

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Farallon Consulting LLC 975 5th Ave NW Ste 100 Issaquah, WA/USA 98027	Project Name: BNSF - John Michael Lease Site Project Number: 683-018 Project Manager: Tom Cammaratta	Report Created: 10/15/07 16:22
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Extractable Petroleum Hydrocarbons
TestAmerica - Nashville, TN

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BQI0581-16 (TP4-092007-6-8)		Soil			Sampled: 09/20/07 13:30					
Diesel	NWTPH-Dx	7.33	----	3.93	mg/kg	1x	7100195	10/02/07 08:26	10/04/07 01:13	
Motor Oil	"	92.9	----	3.93	"	"	"	"	"	
Surrogate(s): o-Terphenyl			73%		50 - 150 %	"				
BQI0581-18 (TP5-092007-2-4)		Soil			Sampled: 09/20/07 14:20					
Diesel	NWTPH-Dx	ND	----	3.96	mg/kg	1x	7100195	10/02/07 08:26	10/04/07 01:29	
Motor Oil	"	16.9	----	3.96	"	"	"	"	"	
Surrogate(s): o-Terphenyl			75%		50 - 150 %	"				
BQI0581-20 (TP5-092007-6-8)		Soil			Sampled: 09/20/07 14:35					
Diesel	NWTPH-Dx	5.29	----	3.91	mg/kg	1x	7100195	10/02/07 08:26	10/04/07 01:44	
Motor Oil	"	24.0	----	3.91	"	"	"	"	"	
Surrogate(s): o-Terphenyl			86%		50 - 150 %	"				
BQI0581-23RE2 (TP6-092007-4-6)		Soil			Sampled: 09/20/07 15:00					
Diesel	NWTPH-Dx	ND	----	19.9	mg/kg	5x	7100196	10/02/07 09:00	10/04/07 15:21	
Motor Oil	"	387	----	19.9	"	"	"	"	"	QP1, QP7
Surrogate(s): o-Terphenyl			203%		50 - 150 %	"				Z3
BQI0581-24RE1 (TP6-092007-6-8)		Soil			Sampled: 09/20/07 15:05					
Diesel	NWTPH-Dx	24.5	----	7.95	mg/kg	2x	7100196	10/02/07 09:00	10/04/07 10:01	
Motor Oil	"	170	----	7.95	"	"	"	"	"	QP1, QP6
Surrogate(s): o-Terphenyl			65%		50 - 150 %	"				
BQI0581-26 (TP7-092007-2-4)		Soil			Sampled: 09/20/07 15:35					
Diesel	NWTPH-Dx	22.1	----	3.99	mg/kg	1x	7100196	10/02/07 09:00	10/03/07 17:36	
Motor Oil	"	125	----	3.99	"	"	"	"	"	QP1, QP6
Surrogate(s): o-Terphenyl			75%		50 - 150 %	"				
BQI0581-27RE1 (TP7-092007-4-6)		Soil			Sampled: 09/20/07 15:45					
Diesel	NWTPH-Dx	19.1	----	4.00	mg/kg	1x	7100196	10/02/07 09:00	10/04/07 10:17	
Motor Oil	"	140	----	4.00	"	"	"	"	"	QP1, QP6
Surrogate(s): o-Terphenyl			74%		50 - 150 %	"				

TestAmerica - Seattle, WA

Kate Haney

Kate Haney, Project Manager

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Farallon Consulting LLC 975 5th Ave NW Ste 100 Issaquah, WA/USA 98027	Project Name: BNSF - John Michael Lease Site Project Number: 683-018 Project Manager: Tom Cammaratta	Report Created: 10/15/07 16:22
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Extractable Petroleum Hydrocarbons

TestAmerica - Nashville, TN

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BQI0581-30RE1 (TP8-092007-2-4)		Soil		Sampled: 09/20/07 16:30						
Diesel	NWTPH-Dx	17.4	----	7.71	mg/kg	2x	7100196	10/02/07 09:00	10/04/07 10:34	
Motor Oil	"	248	----	7.71	"	"	"	"	"	QP1, QP6
Surrogate(s): o-Terphenyl			53%		50 - 150 %	"			"	
BQI0581-32 (TP8-092007-6-8)		Soil		Sampled: 09/20/07 16:45						
Diesel	NWTPH-Dx	78.9	----	39.5	mg/kg	10x	7100196	10/02/07 09:00	10/03/07 19:07	
Motor Oil	"	701	----	39.5	"	"	"	"	"	QP1, QP7
Surrogate(s): o-Terphenyl			NR		50 - 150 %	"			"	Z3
BQI0581-34 (TP9-092007-2-4)		Soil		Sampled: 09/20/07 17:15						
Diesel	NWTPH-Dx	ND	----	3.94	mg/kg	1x	7100196	10/02/07 09:00	10/03/07 19:58	
Motor Oil	"	10.4	----	3.94	"	"	"	"	"	QP1, QP6
Surrogate(s): o-Terphenyl			61%		50 - 150 %	"			"	
BQI0581-36RE1 (TP9-092007-6-8)		Soil		Sampled: 09/20/07 17:25						
Diesel	NWTPH-Dx	ND	----	399	mg/kg	20x	7100196	10/02/07 09:00	10/04/07 11:08	
Motor Oil	"	9260	----	399	"	"	"	"	"	QP1, QP6
Surrogate(s): o-Terphenyl			NR		50 - 150 %	"			"	Z3
BQI0581-38RE1 (TP10-092007-2-4)		Soil		Sampled: 09/20/07 17:45						
Diesel	NWTPH-Dx	24.4	----	7.98	mg/kg	2x	7100196	10/02/07 09:00	10/04/07 10:51	
Motor Oil	"	174	----	7.98	"	"	"	"	"	QP1, QP6
Surrogate(s): o-Terphenyl			49%		50 - 150 %	"			"	ZX
BQI0581-40 (TP10-092007-6-8)		Soil		Sampled: 09/20/07 17:55						
Diesel	NWTPH-Dx	149	----	39.5	mg/kg	10x	7100196	10/02/07 09:00	10/03/07 20:32	
Motor Oil	"	1080	----	39.5	"	"	"	"	"	QP1, QP7
Surrogate(s): o-Terphenyl			NR		50 - 150 %	"			"	Z3
BQI0581-42 (TP11-092007-2-4)		Soil		Sampled: 09/20/07 18:15						
Diesel	NWTPH-Dx	ND	----	3.99	mg/kg	1x	7100194	10/02/07 15:55	10/04/07 00:30	
Motor Oil	"	29.2	----	3.99	"	"	"	"	"	QP1, QP6
Surrogate(s): o-Terphenyl			92%		50 - 150 %	"			"	

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Kate Haney

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Extractable Petroleum Hydrocarbons
TestAmerica - Nashville, TN

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BQI0581-43RE1 (TP11-092007-4-6)		Soil			Sampled: 09/20/07 18:20					
Diesel	NWTPH-Dx	949	----	393	mg/kg	20x	7100194	10/02/07 15:55	10/04/07 09:10	
Motor Oil	"	6710	----	393	"	"	"	"	"	QP1, QP6
Surrogate(s): o-Terphenyl			NR		50 - 150 %	"				Z3
BQI0581-47 (TP12-092107-4-6)		Soil			Sampled: 09/21/07 06:50					
Diesel	NWTPH-Dx	ND	----	3.92	mg/kg	1x	7100194	10/02/07 15:55	10/04/07 00:47	
Motor Oil	"	16.5	----	3.92	"	"	"	"	"	QP1, QP6
Surrogate(s): o-Terphenyl			83%		50 - 150 %	"				
BQI0581-48RE1 (TP12-092107-6-8)		Soil			Sampled: 09/21/07 06:55					
Diesel	NWTPH-Dx	23.2	----	7.91	mg/kg	2x	7100194	10/02/07 15:55	10/04/07 08:53	
Motor Oil	"	183	----	7.91	"	"	"	"	"	QP1, QP6
Surrogate(s): o-Terphenyl			71%		50 - 150 %	"				
BQI0581-49 (TP13-092107-0-2)		Soil			Sampled: 09/21/07 07:40					
Diesel	NWTPH-Dx	ND	----	38.9	mg/kg	10x	7100194	10/02/07 15:55	10/04/07 01:22	
Motor Oil	"	412	----	38.9	"	"	"	"	"	QP1, QP6
Surrogate(s): o-Terphenyl			NR		50 - 150 %	"				Z3
BQI0581-52RE1 (TP13-092107-6-8)		Soil			Sampled: 09/21/07 07:55					
Diesel	NWTPH-Dx	ND	----	3.88	mg/kg	1x	7100194	10/02/07 15:55	10/04/07 08:37	
Motor Oil	"	38.2	----	3.88	"	"	"	"	"	QP1, QP6
Surrogate(s): o-Terphenyl			75%		50 - 150 %	"				
BQI0581-55RE1 (TP14-092107-4-6)		Soil			Sampled: 09/21/07 08:35					
Diesel	NWTPH-Dx	ND	----	7.90	mg/kg	2x	7095604	10/01/07 09:50	10/03/07 09:19	
Motor Oil	"	222	----	7.90	"	"	"	"	"	QP1, QP6
Surrogate(s): o-Terphenyl			74%		50 - 150 %	"				
BQI0581-56RE1 (TP14-092107-6-8)		Soil			Sampled: 09/21/07 08:40					
Diesel	NWTPH-Dx	ND	----	19.7	mg/kg	5x	7095604	10/01/07 09:50	10/03/07 09:36	
Motor Oil	"	454	----	19.7	"	"	"	"	"	QP1, QP6
Surrogate(s): o-Terphenyl			57%		50 - 150 %	"				

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Extractable Petroleum Hydrocarbons
TestAmerica - Nashville, TN

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BQI0581-57 (TP15-092107-0-2)		Soil			Sampled: 09/21/07 09:10					
Diesel	NWTPH-Dx	58.7	----	39.4	mg/kg	10x	7095604	10/01/07 09:50	10/02/07 22:16	
Motor Oil	"	812	----	39.4	"	"	"	"	"	QP1, QP7
Surrogate(s): <i>o-Terphenyl</i>			NR		50 - 150 %	"				Z3
BQI0581-59RE1 (TP15-092107-4-6)		Soil			Sampled: 09/21/07 09:20					
Diesel	NWTPH-Dx	14.5	----	7.85	mg/kg	2x	7095604	10/01/07 09:50	10/03/07 09:53	
Motor Oil	"	194	----	7.85	"	"	"	"	"	QP1, QP6
Surrogate(s): <i>o-Terphenyl</i>			77%		50 - 150 %	"				

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Gasoline Hydrocarbons by NWTPH-Gx and BTEX by EPA Method 8021B
 TestAmerica - Spokane, WA

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BQI0581-01 (TP1-092007-0-2)		Soil			Sampled: 09/20/07 09:20					
Gasoline Range Hydrocarbons	NWTPH-Gx/802 1B	ND	----	5.12	mg/kg dry	1x	7100020	10/01/07 14:59	10/01/07 18:18	
Benzene	"	ND	----	0.0256	"	"	"	"	"	
Toluene	"	ND	----	0.205	"	"	"	"	"	
Ethylbenzene	"	ND	----	0.205	"	"	"	"	"	
Xylenes (total)	"	ND	----	0.614	"	"	"	"	"	
<i>Surrogate(s): 4-BFB (FID)</i>			101%		50 - 150 %	"				
<i>4-BFB (PID)</i>			139%		50 - 150 %	"				

BQI0581-04 (TP1-092007-6-8)		Soil			Sampled: 09/20/07 09:55					
Gasoline Range Hydrocarbons	NWTPH-Gx/802 1B	17.3	----	4.80	mg/kg dry	1x	7100020	10/01/07 14:59	10/01/07 18:43	
Benzene	"	ND	----	0.0240	"	"	"	"	"	
Toluene	"	ND	----	0.192	"	"	"	"	"	
Ethylbenzene	"	ND	----	0.192	"	"	"	"	"	
Xylenes (total)	"	ND	----	0.576	"	"	"	"	"	
<i>Surrogate(s): 4-BFB (FID)</i>			232%		50 - 150 %	"				ZX
<i>4-BFB (PID)</i>			300%		50 - 150 %	"				ZX

BQI0581-06 (TP2-092007-2-4)		Soil			Sampled: 09/20/07 11:10					
Gasoline Range Hydrocarbons	NWTPH-Gx/802 1B	ND	----	4.41	mg/kg dry	1x	7100020	10/01/07 14:59	10/01/07 19:07	
Benzene	"	ND	----	0.0221	"	"	"	"	"	
Toluene	"	ND	----	0.177	"	"	"	"	"	
Ethylbenzene	"	ND	----	0.177	"	"	"	"	"	
Xylenes (total)	"	ND	----	0.530	"	"	"	"	"	
<i>Surrogate(s): 4-BFB (FID)</i>			93.6%		50 - 150 %	"				
<i>4-BFB (PID)</i>			128%		50 - 150 %	"				

BQI0581-08 (TP2-092007-6-8)		Soil			Sampled: 09/20/07 12:00					
Gasoline Range Hydrocarbons	NWTPH-Gx/802 1B	16.3	----	5.50	mg/kg dry	1x	7100020	10/01/07 14:59	10/02/07 05:56	
Benzene	"	ND	----	0.0275	"	"	"	"	"	
Toluene	"	ND	----	0.220	"	"	"	"	"	
Ethylbenzene	"	ND	----	0.220	"	"	"	"	"	
Xylenes (total)	"	ND	----	0.660	"	"	"	"	"	
<i>Surrogate(s): 4-BFB (FID)</i>			82.6%		50 - 150 %	"				
<i>4-BFB (PID)</i>			108%		50 - 150 %	"				

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Gasoline Hydrocarbons by NWTPH-Gx and BTEX by EPA Method 8021B
 TestAmerica - Spokane, WA

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
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BQI0581-10 (TP3-092007-2-4)		Soil		Sampled: 09/20/07 12:45						
Gasoline Range Hydrocarbons	NWTPH-Gx/802 1B	ND	----	4.39	mg/kg dry	1x	7100020	10/01/07 14:59	10/01/07 20:22	
Benzene	"	ND	----	0.0219	"	"	"	"	"	
Toluene	"	ND	----	0.175	"	"	"	"	"	
Ethylbenzene	"	ND	----	0.175	"	"	"	"	"	
Xylenes (total)	"	ND	----	0.526	"	"	"	"	"	
<i>Surrogate(s): 4-BFB (FID)</i>			82.9%		50 - 150 %	"				"
<i>4-BFB (PID)</i>			114%		50 - 150 %	"				"

BQI0581-11 (TP3-092007-4-6)		Soil		Sampled: 09/20/07 12:50						
Gasoline Range Hydrocarbons	NWTPH-Gx/802 1B	ND	----	5.19	mg/kg dry	1x	7100020	10/01/07 14:59	10/01/07 20:46	
Benzene	"	ND	----	0.0259	"	"	"	"	"	
Toluene	"	ND	----	0.207	"	"	"	"	"	
Ethylbenzene	"	ND	----	0.207	"	"	"	"	"	
Xylenes (total)	"	ND	----	0.622	"	"	"	"	"	
<i>Surrogate(s): 4-BFB (FID)</i>			84.3%		50 - 150 %	"				"
<i>4-BFB (PID)</i>			118%		50 - 150 %	"				"

BQI0581-15 (TP4-092007-4-6)		Soil		Sampled: 09/20/07 13:25						
Gasoline Range Hydrocarbons	NWTPH-Gx/802 1B	ND	----	4.32	mg/kg dry	1x	7100020	10/01/07 14:59	10/01/07 21:11	
Benzene	"	ND	----	0.0216	"	"	"	"	"	
Toluene	"	ND	----	0.173	"	"	"	"	"	
Ethylbenzene	"	ND	----	0.173	"	"	"	"	"	
Xylenes (total)	"	ND	----	0.518	"	"	"	"	"	
<i>Surrogate(s): 4-BFB (FID)</i>			97.1%		50 - 150 %	"				"
<i>4-BFB (PID)</i>			138%		50 - 150 %	"				"

BQI0581-16 (TP4-092007-6-8)		Soil		Sampled: 09/20/07 13:30						
Gasoline Range Hydrocarbons	NWTPH-Gx/802 1B	ND	----	4.19	mg/kg dry	1x	7100020	10/01/07 14:59	10/01/07 21:36	
Benzene	"	ND	----	0.0210	"	"	"	"	"	
Toluene	"	ND	----	0.168	"	"	"	"	"	
Ethylbenzene	"	ND	----	0.168	"	"	"	"	"	
Xylenes (total)	"	ND	----	0.503	"	"	"	"	"	
<i>Surrogate(s): 4-BFB (FID)</i>			88.0%		50 - 150 %	"				"
<i>4-BFB (PID)</i>			129%		50 - 150 %	"				"

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Gasoline Hydrocarbons by NWTPH-Gx and BTEX by EPA Method 8021B
 TestAmerica - Spokane, WA

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BQI0581-18 (TP5-092007-2-4)	Soil									
Sampled: 09/20/07 14:20										
Gasoline Range Hydrocarbons	NWTPH-Gx/802 1B	ND	----	4.81	mg/kg dry	1x	7100020	10/01/07 14:59	10/01/07 22:50	
Benzene	"	ND	----	0.0241	"	"	"	"	"	"
Toluene	"	ND	----	0.192	"	"	"	"	"	"
Ethylbenzene	"	ND	----	0.192	"	"	"	"	"	"
Xylenes (total)	"	ND	----	0.577	"	"	"	"	"	"
Surrogate(s): 4-BFB (FID)			95.5%		50 - 150 %	"				"
4-BFB (PID)			137%		50 - 150 %	"				"
BQI0581-20 (TP5-092007-6-8)	Soil									
Sampled: 09/20/07 14:35										
Gasoline Range Hydrocarbons	NWTPH-Gx/802 1B	ND	----	4.37	mg/kg dry	1x	7100020	10/01/07 14:59	10/01/07 23:16	
Benzene	"	ND	----	0.0218	"	"	"	"	"	"
Toluene	"	ND	----	0.175	"	"	"	"	"	"
Ethylbenzene	"	ND	----	0.175	"	"	"	"	"	"
Xylenes (total)	"	ND	----	0.524	"	"	"	"	"	"
Surrogate(s): 4-BFB (FID)			90.9%		50 - 150 %	"				"
4-BFB (PID)			131%		50 - 150 %	"				"
BQI0581-23 (TP6-092007-4-6)	Soil									
Sampled: 09/20/07 15:00										
Gasoline Range Hydrocarbons	NWTPH-Gx/802 1B	ND	----	4.42	mg/kg dry	1x	7100020	10/01/07 14:59	10/01/07 23:44	
Benzene	"	ND	----	0.0221	"	"	"	"	"	"
Toluene	"	ND	----	0.177	"	"	"	"	"	"
Ethylbenzene	"	ND	----	0.177	"	"	"	"	"	"
Xylenes (total)	"	ND	----	0.530	"	"	"	"	"	"
Surrogate(s): 4-BFB (FID)			90.6%		50 - 150 %	"				"
4-BFB (PID)			125%		50 - 150 %	"				"
BQI0581-24 (TP6-092007-6-8)	Soil									
Sampled: 09/20/07 15:05										
Gasoline Range Hydrocarbons	NWTPH-Gx/802 1B	ND	----	4.74	mg/kg dry	1x	7100020	10/01/07 14:59	10/02/07 00:09	
Benzene	"	ND	----	0.0237	"	"	"	"	"	"
Toluene	"	ND	----	0.190	"	"	"	"	"	"
Ethylbenzene	"	ND	----	0.190	"	"	"	"	"	"
Xylenes (total)	"	ND	----	0.569	"	"	"	"	"	"
Surrogate(s): 4-BFB (FID)			88.0%		50 - 150 %	"				"
4-BFB (PID)			123%		50 - 150 %	"				"

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Gasoline Hydrocarbons by NWTPH-Gx and BTEX by EPA Method 8021B
 TestAmerica - Spokane, WA

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
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BQ10581-26 (TP7-092007-2-4)		Soil		Sampled: 09/20/07 15:35							
Gasoline Range Hydrocarbons	NWTPH-Gx/802 1B	ND	----	5.47	mg/kg dry	1x	7100020	10/01/07 14:59	10/02/07 00:33		
Benzene	"	ND	----	0.0274	"	"	"	"	"		
Toluene	"	ND	----	0.219	"	"	"	"	"		
Ethylbenzene	"	ND	----	0.219	"	"	"	"	"		
Xylenes (total)	"	ND	----	0.656	"	"	"	"	"		
Surrogate(s): 4-BFB (FID)		90.3%		50 - 150 %		"		"			
4-BFB (PID)		125%		50 - 150 %		"		"			

BQ10581-27 (TP7-092007-4-6)		Soil		Sampled: 09/20/07 15:45							
Gasoline Range Hydrocarbons	NWTPH-Gx/802 1B	ND	----	4.59	mg/kg dry	1x	7100020	10/01/07 14:59	10/02/07 00:58		
Benzene	"	ND	----	0.0229	"	"	"	"	"		
Toluene	"	ND	----	0.184	"	"	"	"	"		
Ethylbenzene	"	ND	----	0.184	"	"	"	"	"		
Xylenes (total)	"	ND	----	0.551	"	"	"	"	"		
Surrogate(s): 4-BFB (FID)		93.1%		50 - 150 %		"		"			
4-BFB (PID)		124%		50 - 150 %		"		"			

BQ10581-30 (TP8-092007-2-4)		Soil		Sampled: 09/20/07 16:30							
Gasoline Range Hydrocarbons	NWTPH-Gx/802 1B	ND	----	5.45	mg/kg dry	1x	7100020	10/01/07 14:59	10/02/07 01:23		
Benzene	"	ND	----	0.0273	"	"	"	"	"		
Toluene	"	ND	----	0.218	"	"	"	"	"		
Ethylbenzene	"	ND	----	0.218	"	"	"	"	"		
Xylenes (total)	"	ND	----	0.654	"	"	"	"	"		
Surrogate(s): 4-BFB (FID)		89.1%		50 - 150 %		"		"			
4-BFB (PID)		127%		50 - 150 %		"		"			

BQ10581-32 (TP8-092007-6-8)		Soil		Sampled: 09/20/07 16:45							
Gasoline Range Hydrocarbons	NWTPH-Gx/802 1B	ND	----	5.97	mg/kg dry	1x	7100024	10/02/07 10:57	10/02/07 13:41		
Benzene	"	ND	----	0.0299	"	"	"	"	"		
Toluene	"	ND	----	0.239	"	"	"	"	"		
Ethylbenzene	"	ND	----	0.239	"	"	"	"	"		
Xylenes (total)	"	ND	----	0.717	"	"	"	"	"		
Surrogate(s): 4-BFB (FID)		113%		50 - 150 %		"		"			
4-BFB (PID)		135%		50 - 150 %		"		"			

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Kate Haney

Kate Haney, Project Manager

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Farallon Consulting LLC 975 5th Ave NW Ste 100 Issaquah, WA/USA 98027	Project Name: BNSF - John Michael Lease Site Project Number: 683-018 Project Manager: Tom Cammaratta	Report Created: 10/15/07 16:22
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Gasoline Hydrocarbons by NWTPH-Gx and BTEX by EPA Method 8021B
 TestAmerica - Spokane, WA

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
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BQI0581-34 (TP9-092007-2-4)		Soil		Sampled: 09/20/07 17:15						
Gasoline Range Hydrocarbons	NWTPH-Gx/802 1B	ND	----	4.39	mg/kg dry	1x	7100024	10/02/07 10:57	10/02/07 14:05	
Benzene	"	ND	----	0.0220	"	"	"	"	"	
Toluene	"	ND	----	0.176	"	"	"	"	"	
Ethylbenzene	"	ND	----	0.176	"	"	"	"	"	
Xylenes (total)	"	ND	----	0.527	"	"	"	"	"	
<i>Surrogate(s): 4-BFB (FID)</i>			78.7%		50 - 150 %	"				"
<i>4-BFB (PID)</i>			99.8%		50 - 150 %	"				"

BQI0581-36 (TP9-092007-6-8)		Soil		Sampled: 09/20/07 17:25						
Gasoline Range Hydrocarbons	NWTPH-Gx/802 1B	ND	----	5.79	mg/kg dry	1x	7100024	10/02/07 10:57	10/02/07 14:30	
Benzene	"	ND	----	0.0289	"	"	"	"	"	
Toluene	"	ND	----	0.232	"	"	"	"	"	
Ethylbenzene,	"	ND	----	0.232	"	"	"	"	"	
Xylenes (total)	"	ND	----	0.695	"	"	"	"	"	
<i>Surrogate(s): 4-BFB (FID)</i>			86.3%		50 - 150 %	"				"
<i>4-BFB (PID)</i>			112%		50 - 150 %	"				"

BQI0581-38 (TP10-092007-2-4)		Soil		Sampled: 09/20/07 17:45						
Gasoline Range Hydrocarbons	NWTPH-Gx/802 1B	ND	----	5.54	mg/kg dry	1x	7100024	10/02/07 10:57	10/02/07 14:54	
Benzene	"	ND	----	0.0277	"	"	"	"	"	
Toluene	"	ND	----	0.221	"	"	"	"	"	
Ethylbenzene	"	ND	----	0.221	"	"	"	"	"	
Xylenes (total)	"	ND	----	0.664	"	"	"	"	"	
<i>Surrogate(s): 4-BFB (FID)</i>			82.4%		50 - 150 %	"				"
<i>4-BFB (PID)</i>			105%		50 - 150 %	"				"

BQI0581-40 (TP10-092007-6-8)		Soil		Sampled: 09/20/07 17:55						
Gasoline Range Hydrocarbons	NWTPH-Gx/802 1B	16.8	----	6.05	mg/kg dry	1x	7100024	10/02/07 10:57	10/02/07 15:19	
Benzene	"	1.73	----	0.0302	"	"	"	"	"	
Toluene	"	0.265	----	0.242	"	"	"	"	"	
Ethylbenzene	"	ND	----	0.242	"	"	"	"	"	
Xylenes (total)	"	1.26	----	0.726	"	"	"	"	"	
<i>Surrogate(s): 4-BFB (FID)</i>			83.9%		50 - 150 %	"				"
<i>4-BFB (PID)</i>			88.2%		50 - 150 %	"				"

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Kate Haney

Kate Haney, Project Manager

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Farallon Consulting LLC 975 5th Ave NW Ste 100 Issaquah, WA/USA 98027	Project Name: BNSF - John Michael Lease Site Project Number: 683-018 Project Manager: Tom Cammaratta	Report Created: 10/15/07 16:22
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Gasoline Hydrocarbons by NWTPH-Gx and BTEX by EPA Method 8021B
 TestAmerica - Spokane, WA

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BQI0581-42 (TP11-092007-2-4)		Soil		Sampled: 09/20/07 18:15						
Gasoline Range Hydrocarbons	NWTPH-Gx/802 1B	ND	----	4.92	mg/kg dry	1x	7100024	10/02/07 10:57	10/02/07 15:43	
Benzene	"	ND	----	0.0246	"	"	"	"	"	
Toluene	"	ND	----	0.197	"	"	"	"	"	
Ethylbenzene	"	ND	----	0.197	"	"	"	"	"	
Xylenes (total)	"	ND	----	0.590	"	"	"	"	"	
<i>Surrogate(s): 4-BFB (FID)</i>			80.8%		50 - 150 %	"				"
<i>4-BFB (PID)</i>			112%		50 - 150 %	"				"
BQI0581-43 (TP11-092007-4-6)		Soil		Sampled: 09/20/07 18:20						
Gasoline Range Hydrocarbons	NWTPH-Gx/802 1B	ND	----	5.43	mg/kg dry	1x	7100024	10/02/07 10:57	10/02/07 16:08	
Benzene	"	ND	----	0.0271	"	"	"	"	"	
Toluene	"	ND	----	0.217	"	"	"	"	"	
Ethylbenzene	"	ND	----	0.217	"	"	"	"	"	
Xylenes (total)	"	ND	----	0.651	"	"	"	"	"	
<i>Surrogate(s): 4-BFB (FID)</i>			72.7%		50 - 150 %	"				"
<i>4-BFB (PID)</i>			99.0%		50 - 150 %	"				"
BQI0581-47 (TP12-092107-4-6)		Soil		Sampled: 09/21/07 06:50						
Gasoline Range Hydrocarbons	NWTPH-Gx/802 1B	ND	----	4.80	mg/kg dry	1x	7100024	10/02/07 10:57	10/02/07 17:21	
Benzene	"	0.202	----	0.0240	"	"	"	"	"	
Toluene	"	ND	----	0.192	"	"	"	"	"	
Ethylbenzene	"	ND	----	0.192	"	"	"	"	"	
Xylenes (total)	"	ND	----	0.575	"	"	"	"	"	
<i>Surrogate(s): 4-BFB (FID)</i>			86.1%		50 - 150 %	"				"
<i>4-BFB (PID)</i>			115%		50 - 150 %	"				"
BQI0581-48 (TP12-092107-6-8)		Soil		Sampled: 09/21/07 06:55						
Gasoline Range Hydrocarbons	NWTPH-Gx/802 1B	23.4	----	5.79	mg/kg dry	1x	7100024	10/02/07 10:57	10/02/07 17:46	
Benzene	"	1.17	----	0.0290	"	"	"	"	"	
Toluene	"	ND	----	0.232	"	"	"	"	"	
Ethylbenzene	"	ND	----	0.232	"	"	"	"	"	
Xylenes (total)	"	ND	----	0.695	"	"	"	"	"	
<i>Surrogate(s): 4-BFB (FID)</i>			92.7%		50 - 150 %	"				"
<i>4-BFB (PID)</i>			84.0%		50 - 150 %	"				"

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Kate Haney

Kate Haney, Project Manager

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Farallon Consulting LLC 975 5th Ave NW Ste 100 Issaquah, WA/USA 98027	Project Name: BNSF - John Michael Lease Site Project Number: 683-018 Project Manager: Tom Cammaratta	Report Created: 10/15/07 16:22
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Gasoline Hydrocarbons by NWTPH-Gx and BTEX by EPA Method 8021B
 TestAmerica - Spokane, WA

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BQI0581-49 (TP13-092107-0-2)		Soil			Sampled: 09/21/07 07:40					
Gasoline Range Hydrocarbons	NWTPH-Gx/802 1B	ND	----	5.84	mg/kg dry	1x	7100024	10/02/07 10:57	10/02/07 18:10	
Benzene	"	ND	----	0.0292	"	"	"	"	"	
Toluene	"	ND	----	0.234	"	"	"	"	"	
Ethylbenzene	"	ND	----	0.234	"	"	"	"	"	
Xylenes (total)	"	ND	----	0.701	"	"	"	"	"	
<i>Surrogate(s):</i>	<i>4-BFB (FID)</i>		90.3%		50 - 150 %	"				"
	<i>4-BFB (PID)</i>		125%		50 - 150 %	"				"
BQI0581-52 (TP13-092107-6-8)		Soil			Sampled: 09/21/07 07:55					
Gasoline Range Hydrocarbons	NWTPH-Gx/802 1B	ND	----	5.42	mg/kg dry	1x	7100024	10/02/07 10:57	10/02/07 18:35	
Benzene	"	ND	----	0.0271	"	"	"	"	"	
Toluene	"	ND	----	0.217	"	"	"	"	"	
Ethylbenzene	"	ND	----	0.217	"	"	"	"	"	
Xylenes (total)	"	ND	----	0.650	"	"	"	"	"	
<i>Surrogate(s):</i>	<i>4-BFB (FID)</i>		79.4%		50 - 150 %	"				"
	<i>4-BFB (PID)</i>		109%		50 - 150 %	"				"
BQI0581-55 (TP14-092107-4-6)		Soil			Sampled: 09/21/07 08:35					
Gasoline Range Hydrocarbons	NWTPH-Gx/802 1B	ND	----	4.46	mg/kg dry	1x	7100024	10/02/07 10:57	10/02/07 18:59	
Benzene	"	ND	----	0.0223	"	"	"	"	"	
Toluene	"	ND	----	0.178	"	"	"	"	"	
Ethylbenzene	"	ND	----	0.178	"	"	"	"	"	
Xylenes (total)	"	ND	----	0.535	"	"	"	"	"	
<i>Surrogate(s):</i>	<i>4-BFB (FID)</i>		89.0%		50 - 150 %	"				"
	<i>4-BFB (PID)</i>		121%		50 - 150 %	"				"
BQI0581-56 (TP14-092107-6-8)		Soil			Sampled: 09/21/07 08:40					
Gasoline Range Hydrocarbons	NWTPH-Gx/802 1B	ND	----	5.49	mg/kg dry	1x	7100024	10/02/07 10:57	10/02/07 19:48	
Benzene	"	ND	----	0.0275	"	"	"	"	"	
Toluene	"	ND	----	0.220	"	"	"	"	"	
Ethylbenzene	"	ND	----	0.220	"	"	"	"	"	
Xylenes (total)	"	ND	----	0.659	"	"	"	"	"	
<i>Surrogate(s):</i>	<i>4-BFB (FID)</i>		87.8%		50 - 150 %	"				"
	<i>4-BFB (PID)</i>		121%		50 - 150 %	"				"

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Kate Haney

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Gasoline Hydrocarbons by NWTPH-Gx and BTEX by EPA Method 8021B
 TestAmerica - Spokane, WA

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BQI0581-57 (TP15-092107-0-2)		Soil			Sampled: 09/21/07 09:10					
Gasoline Range Hydrocarbons	NWTPH-Gx/802 1B	ND	----	5.44	mg/kg dry	1x	7100024	10/02/07 10:57	10/02/07 20:12	
Benzene	"	ND	----	0.0272	"	"	"	"	"	
Toluene	"	ND	----	0.218	"	"	"	"	"	
Ethylbenzene	"	ND	----	0.218	"	"	"	"	"	
Xylenes (total)	"	ND	----	0.653	"	"	"	"	"	
<i>Surrogate(s):</i> 4-BFB (FID)			96.8%		50 - 150 %	"				"
4-BFB (PID)			133%		50 - 150 %	"				"
BQI0581-59 (TP15-092107-4-6)		Soil			Sampled: 09/21/07 09:20					
Gasoline Range Hydrocarbons	NWTPH-Gx/802 1B	ND	----	5.73	mg/kg dry	1x	7100024	10/02/07 10:57	10/02/07 20:37	
Benzene	"	ND	----	0.0286	"	"	"	"	"	
Toluene	"	ND	----	0.229	"	"	"	"	"	
Ethylbenzene	"	ND	----	0.229	"	"	"	"	"	
Xylenes (total)	"	ND	----	0.687	"	"	"	"	"	
<i>Surrogate(s):</i> 4-BFB (FID)			76.9%		50 - 150 %	"				"
4-BFB (PID)			105%		50 - 150 %	"				"

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Kate Haney

Kate Haney, Project Manager

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Farallon Consulting LLC 975 5th Ave NW Ste 100 Issaquah, WA/USA 98027	Project Name: BNSF - John Michael Lease Site Project Number: 683-018 Project Manager: Tom Cammaratta	Report Created: 10/15/07 16:22
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Conventional Chemistry Parameters by APHA/EPA Methods
 TestAmerica - Spokane, WA

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BQ10581-01 (TP1-092007-0-2)		Soil			Sampled: 09/20/07 09:20					
% Solids	TA SOP	97.7	----	0.0100	% by Weight	1x	7100034	10/02/07 14:45	10/03/07 10:01	
BQ10581-04 (TP1-092007-6-8)		Soil			Sampled: 09/20/07 09:55					
% Solids	TA SOP	90.9	----	0.0100	% by Weight	1x	7100034	10/02/07 14:45	10/03/07 10:01	
BQ10581-06 (TP2-092007-2-4)		Soil			Sampled: 09/20/07 11:10					
% Solids	TA SOP	94.9	----	0.0100	% by Weight	1x	7100034	10/02/07 14:45	10/03/07 10:01	
BQ10581-08 (TP2-092007-6-8)		Soil			Sampled: 09/20/07 12:00					
% Solids	TA SOP	90.9	----	0.0100	% by Weight	1x	7100034	10/02/07 14:45	10/03/07 10:01	
BQ10581-10 (TP3-092007-2-4)		Soil			Sampled: 09/20/07 12:45					
% Solids	TA SOP	100	----	0.0100	% by Weight	1x	7100034	10/02/07 14:45	10/03/07 10:01	
BQ10581-11 (TP3-092007-4-6)		Soil			Sampled: 09/20/07 12:50					
% Solids	TA SOP	84.7	----	0.0100	% by Weight	1x	7100034	10/02/07 14:45	10/03/07 10:01	
BQ10581-15 (TP4-092007-4-6)		Soil			Sampled: 09/20/07 13:25					
% Solids	TA SOP	90.3	----	0.0100	% by Weight	1x	7100034	10/02/07 14:45	10/03/07 10:01	
BQ10581-16 (TP4-092007-6-8)		Soil			Sampled: 09/20/07 13:30					
% Solids	TA SOP	89.9	----	0.0100	% by Weight	1x	7100034	10/02/07 14:45	10/03/07 10:01	
BQ10581-18 (TP5-092007-2-4)		Soil			Sampled: 09/20/07 14:20					
% Solids	TA SOP	89.9	----	0.0100	% by Weight	1x	7100034	10/02/07 14:45	10/03/07 10:01	
BQ10581-20 (TP5-092007-6-8)		Soil			Sampled: 09/20/07 14:35					
% Solids	TA SOP	85.8	----	0.0100	% by Weight	1x	7100034	10/02/07 14:45	10/03/07 10:01	
BQ10581-23 (TP6-092007-4-6)		Soil			Sampled: 09/20/07 15:00					

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Conventional Chemistry Parameters by APHA/EPA Methods
TestAmerica - Spokane, WA

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BQI0581-23 (TP6-092007-4-6)		Soil			Sampled: 09/20/07 15:00					
% Solids	TA SOP	84.2	----	0.0100	% by Weight	1x	7100034	10/02/07 14:45	10/03/07 10:01	
BQI0581-24 (TP6-092007-6-8)		Soil			Sampled: 09/20/07 15:05					
% Solids	TA SOP	82.8	----	0.0100	% by Weight	1x	7100034	10/02/07 14:45	10/03/07 10:01	
BQI0581-26 (TP7-092007-2-4)		Soil			Sampled: 09/20/07 15:35					
% Solids	TA SOP	91.4	----	0.0100	% by Weight	1x	7100034	10/02/07 14:45	10/03/07 10:01	
BQI0581-27 (TP7-092007-4-6)		Soil			Sampled: 09/20/07 15:45					
% Solids	TA SOP	92.4	----	0.0100	% by Weight	1x	7100034	10/02/07 14:45	10/03/07 10:01	
BQI0581-30 (TP8-092007-2-4)		Soil			Sampled: 09/20/07 16:30					
% Solids	TA SOP	91.7	----	0.0100	% by Weight	1x	7100034	10/02/07 14:45	10/03/07 10:01	
BQI0581-32 (TP8-092007-6-8)		Soil			Sampled: 09/20/07 16:45					
% Solids	TA SOP	83.7	----	0.0100	% by Weight	1x	7100034	10/02/07 14:45	10/03/07 10:01	
BQI0581-34 (TP9-092007-2-4)		Soil			Sampled: 09/20/07 17:15					
% Solids	TA SOP	93.2	----	0.0100	% by Weight	1x	7100034	10/02/07 14:45	10/03/07 10:01	
BQI0581-36 (TP9-092007-6-8)		Soil			Sampled: 09/20/07 17:25					
% Solids	TA SOP	76.5	----	0.0100	% by Weight	1x	7100034	10/02/07 14:45	10/03/07 10:01	
BQI0581-38 (TP10-092007-2-4)		Soil			Sampled: 09/20/07 17:45					
% Solids	TA SOP	90.3	----	0.0100	% by Weight	1x	7100034	10/02/07 14:45	10/03/07 10:01	
BQI0581-40 (TP10-092007-6-8)		Soil			Sampled: 09/20/07 17:55					
% Solids	TA SOP	82.7	----	0.0100	% by Weight	1x	7100034	10/02/07 14:45	10/03/07 10:01	
BQI0581-42 (TP11-092007-2-4)		Soil			Sampled: 09/20/07 18:15					

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Kate Haney

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Conventional Chemistry Parameters by APHA/EPA Methods
 TestAmerica - Spokane, WA

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BQI0581-42 (TP11-092007-2-4)		Soil			Sampled: 09/20/07 18:15					
% Solids	TA SOP	88.0	----	0.0100	% by Weight	1x	7100034	10/02/07 14:45	10/03/07 10:01	
BQI0581-43 (TP11-092007-4-6)		Soil			Sampled: 09/20/07 18:20					
% Solids	TA SOP	92.1	----	0.0100	% by Weight	1x	7100034	10/02/07 14:45	10/03/07 10:01	
BQI0581-47 (TP12-092107-4-6)		Soil			Sampled: 09/21/07 06:50					
% Solids	TA SOP	87.1	----	0.0100	% by Weight	1x	7100034	10/02/07 14:45	10/03/07 10:01	
BQI0581-48 (TP12-092107-6-8)		Soil			Sampled: 09/21/07 06:55					
% Solids	TA SOP	86.3	----	0.0100	% by Weight	1x	7100034	10/02/07 14:45	10/03/07 10:01	
BQI0581-49 (TP13-092107-0-2)		Soil			Sampled: 09/21/07 07:40					
% Solids	TA SOP	95.7	----	0.0100	% by Weight	1x	7100034	10/02/07 14:45	10/03/07 10:01	
BQI0581-52 (TP13-092107-6-8)		Soil			Sampled: 09/21/07 07:55					
% Solids	TA SOP	92.3	----	0.0100	% by Weight	1x	7100034	10/02/07 14:45	10/03/07 10:01	
BQI0581-55 (TP14-092107-4-6)		Soil			Sampled: 09/21/07 08:35					
% Solids	TA SOP	91.8	----	0.0100	% by Weight	1x	7100034	10/02/07 14:45	10/03/07 10:01	
BQI0581-56 (TP14-092107-6-8)		Soil			Sampled: 09/21/07 08:40					
% Solids	TA SOP	91.0	----	0.0100	% by Weight	1x	7100034	10/02/07 14:45	10/03/07 10:01	
BQI0581-57 (TP15-092107-0-2)		Soil			Sampled: 09/21/07 09:10					
% Solids	TA SOP	91.9	----	0.0100	% by Weight	1x	7100034	10/02/07 14:45	10/03/07 10:01	
BQI0581-59 (TP15-092107-4-6)		Soil			Sampled: 09/21/07 09:20					
% Solids	TA SOP	87.3	----	0.0100	% by Weight	1x	7100034	10/02/07 14:45	10/03/07 10:01	

TestAmerica - Seattle, WA

Kate Haney

Kate Haney, Project Manager

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Farallon Consulting LLC 975 5th Ave NW Ste 100 Issaquah, WA/USA 98027	Project Name: BNSF - John Michael Lease Site Project Number: 683-018 Project Manager: Tom Cammaratta	Report Created: 10/15/07 16:22
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Polyaromatic Hydrocarbons by EPA 8270C SIM - Laboratory Quality Control Results

TestAmerica - Nashville, TN

QC Batch: 7095602	Soil Preparation Method: EPA 3550B
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Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
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Blank (7095602-BLK1)

Extracted: 10/01/07 12:15

Acenaphthene	SW846 8270CSIM	ND	---	0.00333	mg/kg	1x	--	--	--	--	--	--	10/03/07 14:34	
Acenaphthylene	"	ND	---	0.00333	"	"	--	--	--	--	--	--	"	
Anthracene	"	ND	---	0.00333	"	"	--	--	--	--	--	--	"	
Benzo (a) anthracene	"	ND	---	0.00333	"	"	--	--	--	--	--	--	"	
Benzo (a) pyrene	"	ND	---	0.00333	"	"	--	--	--	--	--	--	"	
Benzo (b) fluoranthene	"	ND	---	0.00333	"	"	--	--	--	--	--	--	"	
Benzo (g,h,i) perylene	"	ND	---	0.00333	"	"	--	--	--	--	--	--	"	
Benzo (k) fluoranthene	"	ND	---	0.00333	"	"	--	--	--	--	--	--	"	
Chrysene	"	ND	---	0.00333	"	"	--	--	--	--	--	--	"	
Dibenz (a,h) anthracene	"	ND	---	0.00333	"	"	--	--	--	--	--	--	"	
Fluoranthene	"	ND	---	0.00333	"	"	--	--	--	--	--	--	"	
Fluorene	"	ND	---	0.00333	"	"	--	--	--	--	--	--	"	
Indeno (1,2,3-cd) pyrene	"	ND	---	0.00333	"	"	--	--	--	--	--	--	"	
1-Methylnaphthalene	"	ND	---	0.00333	"	"	--	--	--	--	--	--	"	
2-Methylnaphthalene	"	ND	---	0.00333	"	"	--	--	--	--	--	--	"	
Naphthalene	"	ND	---	0.00333	"	"	--	--	--	--	--	--	"	
Phenanthrene	"	ND	---	0.00333	"	"	--	--	--	--	--	--	"	
Pyrene	"	ND	---	0.00333	"	"	--	--	--	--	--	--	"	

Surrogate(s): Nitrobenzene-d5	Recovery: 68%	Limits: 16-113%	"	10/03/07 14:34
2-Fluorobiphenyl	66%	19-106%	"	"
Terphenyl-d14	74%	24-129%	"	"

LCS (7095602-BS1)

Extracted: 10/01/07 12:15

Acenaphthene	SW846 8270CSIM	0.0267	---	0.00333	mg/kg	1x	--	0.0333	80%	(43-120)	--	--	10/02/07 10:01	MNR
Acenaphthylene	"	0.0273	---	0.00333	"	"	--	"	82%	(41-130)	--	--	"	MNR
Anthracene	"	0.0297	---	0.00333	"	"	--	"	89%	(37-150)	--	--	"	MNR
Benzo (a) anthracene	"	0.0287	---	0.00333	"	"	--	"	86%	(48-133)	--	--	"	MNR
Benzo (a) pyrene	"	0.0260	---	0.00333	"	"	--	"	78%	(49-127)	--	--	"	MNR
Benzo (b) fluoranthene	"	0.0260	---	0.00333	"	"	--	"	78%	(48-130)	--	--	"	MNR
Benzo (g,h,i) perylene	"	0.0287	---	0.00333	"	"	--	"	86%	(34-140)	--	--	"	MNR
Benzo (k) fluoranthene	"	0.0287	---	0.00333	"	"	--	"	86%	(53-130)	--	--	"	MNR
Chrysene	"	0.0287	---	0.00333	"	"	--	"	86%	(50-131)	--	--	"	MNR
Dibenz (a,h) anthracene	"	0.0283	---	0.00333	"	"	--	"	85%	(40-136)	--	--	"	MNR
Fluoranthene	"	0.0287	---	0.00333	"	"	--	"	86%	(46-140)	--	--	"	MNR
Fluorene	"	0.0273	---	0.00333	"	"	--	"	82%	(44-127)	--	--	"	MNR
Indeno (1,2,3-cd) pyrene	"	0.0267	---	0.00333	"	"	--	"	80%	(38-132)	--	--	"	MNR
1-Methylnaphthalene	"	0.0250	---	0.00333	"	"	--	0.0337	74%	(33-123)	--	--	"	MNR
2-Methylnaphthalene	"	0.0280	---	0.00333	"	"	--	0.0333	84%	(37-129)	--	--	"	MNR

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Kate Haney

Kate Haney, Project Manager

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Farallon Consulting LLC 975 5th Ave NW Ste 100 Issaquah, WA/USA 98027	Project Name: BNSF - John Michael Lease Site Project Number: 683-018 Project Manager: Tom Cammaratta	Report Created: 10/15/07 16:22
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Polyaromatic Hydrocarbons by EPA 8270C SIM - Laboratory Quality Control Results
 TestAmerica - Nashville, TN

QC Batch: 7095602	Soil Preparation Method: EPA 3550B
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Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
LCS (7095602-BS1)										Extracted: 10/01/07 12:15				
Naphthalene	SW846 8270CSIM	0.0260	---	0.00333	mg/kg	1x	--	0.0333	78%	(38-120)	--	--	10/02/07 10:01	MNR
Phenanthrene	"	0.0270	---	0.00333	"	"	--	"	81%	(41-134)	--	--	"	MNR
Pyrene	"	0.0290	---	0.00333	"	"	--	"	87%	(48-132)	--	--	"	MNR
<i>Surrogate(s): Nitrobenzene-d5</i>		<i>Recovery:</i>	<i>83%</i>	<i>Limits:</i>	<i>16-113%</i>	<i>"</i>							<i>10/02/07 10:01</i>	
<i>2-Fluorobiphenyl</i>			<i>82%</i>		<i>19-106%</i>	<i>"</i>							<i>"</i>	
<i>Terphenyl-d14</i>			<i>80%</i>		<i>24-129%</i>	<i>"</i>							<i>"</i>	

QC Batch: 7100198	Soil Preparation Method: EPA 3550B
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Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (7100198-BLK1)										Extracted: 10/02/07 09:56				
Acenaphthene	SW846 8270CSIM	ND	---	0.00333	mg/kg	1x	--	--	--	--	--	--	10/04/07 06:01	
Acenaphthylene	"	ND	---	0.00333	"	"	--	--	--	--	--	--	"	
Anthracene	"	ND	---	0.00333	"	"	--	--	--	--	--	--	"	
Benzo (a) anthracene	"	ND	---	0.00333	"	"	--	--	--	--	--	--	"	
Benzo (a) pyrene	"	ND	---	0.00333	"	"	--	--	--	--	--	--	"	
Benzo (b) fluoranthene	"	ND	---	0.00333	"	"	--	--	--	--	--	--	"	
Benzo (g,h,i) perylene	"	ND	---	0.00333	"	"	--	--	--	--	--	--	"	
Benzo (k) fluoranthene	"	ND	---	0.00333	"	"	--	--	--	--	--	--	"	
Chrysene	"	ND	---	0.00333	"	"	--	--	--	--	--	--	"	
Dibenz (a,h) anthracene	"	ND	---	0.00333	"	"	--	--	--	--	--	--	"	
Fluoranthene	"	ND	---	0.00333	"	"	--	--	--	--	--	--	"	
Fluorene	"	ND	---	0.00333	"	"	--	--	--	--	--	--	"	
Indeno (1,2,3-cd) pyrene	"	ND	---	0.00333	"	"	--	--	--	--	--	--	"	
1-Methylnaphthalene	"	ND	---	0.00333	"	"	--	--	--	--	--	--	"	
2-Methylnaphthalene	"	ND	---	0.00333	"	"	--	--	--	--	--	--	"	
Naphthalene	"	ND	---	0.00333	"	"	--	--	--	--	--	--	"	
Phenanthrene	"	ND	---	0.00333	"	"	--	--	--	--	--	--	"	
Pyrene	"	ND	---	0.00333	"	"	--	--	--	--	--	--	"	
<i>Surrogate(s): Nitrobenzene-d5</i>		<i>Recovery:</i>	<i>50%</i>	<i>Limits:</i>	<i>16-113%</i>	<i>"</i>							<i>10/04/07 06:01</i>	
<i>2-Fluorobiphenyl</i>			<i>66%</i>		<i>19-106%</i>	<i>"</i>							<i>"</i>	
<i>Terphenyl-d14</i>			<i>80%</i>		<i>24-129%</i>	<i>"</i>							<i>"</i>	

TestAmerica - Seattle, WA

Kate Haney

Kate Haney, Project Manager

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Farallon Consulting LLC 975 5th Ave NW Ste 100 Issaquah, WA/USA 98027	Project Name: BNSF - John Michael Lease Site Project Number: 683-018 Project Manager: Tom Cammaratta	Report Created: 10/15/07 16:22
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Polyaromatic Hydrocarbons by EPA 8270C SIM - Laboratory Quality Control Results
 TestAmerica - Nashville, TN

QC Batch: 7100198 Soil Preparation Method: EPA 3550B

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
LCS (7100198-BS1)														
Extracted: 10/02/07 09:56														
Acenaphthene	SW846 8270CSIM	0.0193	---	0.00333	mg/kg	1x	--	0.0333	58%	(43-120)	--	--	10/04/07 06:58	MNR
Acenaphthylene	"	0.0200	---	0.00333	"	"	--	"	60%	(41-130)	--	--	"	MNR
Anthracene	"	0.0237	---	0.00333	"	"	--	"	71%	(37-150)	--	--	"	MNR
Benzo (a) anthracene	"	0.0247	---	0.00333	"	"	--	"	74%	(48-133)	--	--	"	MNR
Benzo (a) pyrene	"	0.0220	---	0.00333	"	"	--	"	66%	(49-127)	--	--	"	MNR
Benzo (b) fluoranthene	"	0.0247	---	0.00333	"	"	--	"	74%	(48-130)	--	--	"	MNR
Benzo (g,h,i) perylene	"	0.0257	---	0.00333	"	"	--	"	77%	(34-140)	--	--	"	MNR
Benzo (k) fluoranthene	"	0.0237	---	0.00333	"	"	--	"	71%	(53-130)	--	--	"	MNR
Chrysene	"	0.0237	---	0.00333	"	"	--	"	71%	(50-131)	--	--	"	MNR
Dibenz (a,h) anthracene	"	0.0263	---	0.00333	"	"	--	"	79%	(40-136)	--	--	"	MNR
Fluoranthene	"	0.0247	---	0.00333	"	"	--	"	74%	(46-140)	--	--	"	MNR
Fluorene	"	0.0210	---	0.00333	"	"	--	"	63%	(44-127)	--	--	"	MNR
Indeno (1,2,3-cd) pyrene	"	0.0247	---	0.00333	"	"	--	"	74%	(38-132)	--	--	"	MNR
1-Methylnaphthalene	"	0.0167	---	0.00333	"	"	--	0.0337	50%	(33-123)	--	--	"	MNR
2-Methylnaphthalene	"	0.0187	---	0.00333	"	"	--	0.0333	56%	(37-129)	--	--	"	MNR
Naphthalene	"	0.0163	---	0.00333	"	"	--	"	49%	(38-120)	--	--	"	MNR
Phenanthrene	"	0.0217	---	0.00333	"	"	--	"	65%	(41-134)	--	--	"	MNR
Pyrene	"	0.0250	---	0.00333	"	"	--	"	75%	(48-132)	--	--	"	MNR

<i>Surrogate(s):</i> Nitrobenzene-d5	<i>Recovery:</i> 61%	<i>Limits:</i> 16-113%	"	10/04/07 06:58
2-Fluorobiphenyl	66%	19-106%	"	"
Terphenyl-d14	77%	24-129%	"	"

TestAmerica - Seattle, WA

Kate Haney

Kate Haney, Project Manager

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Farallon Consulting LLC 975 5th Ave NW Ste 100 Issaquah, WA/USA 98027	Project Name: BNSF - John Michael Lease Site Project Number: 683-018 Project Manager: Tom Cammaratta	Report Created: 10/15/07 16:22
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Extractable Petroleum Hydrocarbons - Laboratory Quality Control Results
 TestAmerica - Nashville, TN

QC Batch: 7095604 **Soil Preparation Method: EPA 3550B**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (7095604-BLK1)													Extracted: 10/01/07 09:50	
Diesel	NWTPH-Dx	ND	---	4.00	mg/kg	1x	--	--	--	--	--	--	10/02/07 17:40	
Motor Oil	"	ND	---	4.00	"	"	--	--	--	--	--	--	"	
<i>Surrogate(s): o-Terphenyl</i>		<i>Recovery: 95%</i>		<i>Limits: 50-150%</i>		"						10/02/07 17:40		
LCS (7095604-BS1)													Extracted: 10/01/07 09:50	
Diesel	NWTPH-Dx	41.4	---	4.00	mg/kg	1x	--	40.0	104%	(55-126)	--	--	10/02/07 17:59	
<i>Surrogate(s): o-Terphenyl</i>		<i>Recovery: 86%</i>		<i>Limits: 50-150%</i>		"						10/02/07 17:59		
Matrix Spike (7095604-MS1)													QC Source: NQ13480-01 Extracted: 10/01/07 09:50	
Diesel	NWTPH-Dx	31.8	---	3.89	mg/kg	1x	ND	38.9	82%	(30-138)	--	--	10/02/07 19:26	
<i>Surrogate(s): o-Terphenyl</i>		<i>Recovery: 54%</i>		<i>Limits: 50-150%</i>		"						10/02/07 19:26		
Matrix Spike Dup (7095604-MSD1)													QC Source: NQ13480-01 Extracted: 10/01/07 09:50	
Diesel	NWTPH-Dx	45.0	---	3.88	mg/kg	1x	ND	38.8	116%	(30-138)	34%	(42)	10/02/07 19:43	
<i>Surrogate(s): o-Terphenyl</i>		<i>Recovery: 73%</i>		<i>Limits: 50-150%</i>		"						10/02/07 19:43		

QC Batch: 7100194 **Soil Preparation Method: EPA 3550B**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (7100194-BLK1)													Extracted: 10/02/07 15:55	
Diesel	NWTPH-Dx	ND	---	4.00	mg/kg	1x	--	--	--	--	--	--	10/03/07 21:40	
Motor Oil	"	ND	---	4.00	"	"	--	--	--	--	--	--	"	
<i>Surrogate(s): o-Terphenyl</i>		<i>Recovery: 84%</i>		<i>Limits: 50-150%</i>		"						10/03/07 21:40		
LCS (7100194-BS1)													Extracted: 10/02/07 15:55	
Diesel	NWTPH-Dx	44.1	---	4.00	mg/kg	1x	--	40.0	110%	(55-126)	--	--	10/03/07 21:57	
<i>Surrogate(s): o-Terphenyl</i>		<i>Recovery: 100%</i>		<i>Limits: 50-150%</i>		"						10/03/07 21:57		
Matrix Spike (7100194-MS1)													QC Source: NQ13487-11 Extracted: 10/02/07 15:55	
Diesel	NWTPH-Dx	35.0	---	3.93	mg/kg	1x	ND	39.3	89%	(30-138)	--	--	10/03/07 22:14	
<i>Surrogate(s): o-Terphenyl</i>		<i>Recovery: 77%</i>		<i>Limits: 50-150%</i>		"						10/03/07 22:14		
Matrix Spike Dup (7100194-MSD1)													QC Source: NQ13487-11 Extracted: 10/02/07 15:55	
Diesel	NWTPH-Dx	32.9	---	3.87	mg/kg	1x	ND	38.7	85%	(30-138)	6%	(42)	10/03/07 22:31	
<i>Surrogate(s): o-Terphenyl</i>		<i>Recovery: 67%</i>		<i>Limits: 50-150%</i>		"						10/03/07 22:31		

TestAmerica - Seattle, WA

Kate Haney

Kate Haney, Project Manager

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Farallon Consulting LLC 975 5th Ave NW Ste 100 Issaquah, WA/USA 98027	Project Name: BNSF - John Michael Lease Site Project Number: 683-018 Project Manager: Tom Cammaratta	Report Created: 10/15/07 16:22
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Extractable Petroleum Hydrocarbons - Laboratory Quality Control Results
 TestAmerica - Nashville, TN

QC Batch: 7100195 Soil Preparation Method: EPA 3550B

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
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Blank (7100195-BLK1) Extracted: 10/02/07 08:26

Diesel	NWTPH-Dx	ND	---	4.00	mg/kg	1x	--	--	--	--	--	--	10/03/07 23:23	
Motor Oil	"	ND	---	4.00	"	"	--	--	--	--	--	--	"	
<i>Surrogate(s): o-Terphenyl</i>		<i>Recovery: 85%</i>		<i>Limits: 50-150%</i>										<i>10/03/07 23:23</i>

LCS (7100195-BS1) Extracted: 10/02/07 08:26

Diesel	NWTPH-Dx	36.7	---	4.00	mg/kg	1x	--	40.0	92%	(55-126)	--	--	10/03/07 23:39	
<i>Surrogate(s): o-Terphenyl</i>		<i>Recovery: 85%</i>		<i>Limits: 50-150%</i>										<i>10/03/07 23:39</i>

QC Batch: 7100196 Soil Preparation Method: EPA 3550B

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
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Blank (7100196-BLK1) Extracted: 10/02/07 09:00

Diesel	NWTPH-Dx	ND	---	4.00	mg/kg	1x	--	--	--	--	--	--	10/03/07 15:51	
Motor Oil	"	ND	---	4.00	"	"	--	--	--	--	--	--	"	
<i>Surrogate(s): o-Terphenyl</i>		<i>Recovery: 86%</i>		<i>Limits: 50-150%</i>										<i>10/03/07 15:51</i>

LCS (7100196-BS1) Extracted: 10/02/07 09:00

Diesel	NWTPH-Dx	41.2	---	4.00	mg/kg	1x	--	40.0	103%	(55-126)	--	--	10/03/07 16:10	
<i>Surrogate(s): o-Terphenyl</i>		<i>Recovery: 92%</i>		<i>Limits: 50-150%</i>										<i>10/03/07 16:10</i>

Matrix Spike (7100196-MS1) QC Source: BQ10581-23 Extracted: 10/02/07 09:00

Diesel	NWTPH-Dx	36.0	---	3.97	mg/kg	1x	ND	39.7	91%	(30-138)	--	--	10/03/07 16:27	
<i>Surrogate(s): o-Terphenyl</i>		<i>Recovery: 70%</i>		<i>Limits: 50-150%</i>										<i>10/03/07 16:27</i>

Matrix Spike Dup (7100196-MSD1) QC Source: BQ10581-23 Extracted: 10/02/07 09:00

Diesel	NWTPH-Dx	52.9	---	3.86	mg/kg	1x	ND	38.6	137%	(30-138)	38%	(42)	10/03/07 16:44	
<i>Surrogate(s): o-Terphenyl</i>		<i>Recovery: 73%</i>		<i>Limits: 50-150%</i>										<i>10/03/07 16:44</i>

TestAmerica - Seattle, WA

Kate Haney

Kate Haney, Project Manager

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Farallon Consulting LLC 975 5th Ave NW Ste 100 Issaquah, WA/USA 98027	Project Name: BNSF - John Michael Lease Site Project Number: 683-018 Project Manager: Tom Cammaratta	Report Created: 10/15/07 16:22
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Gasoline Hydrocarbons by NWTPH-Gx and BTEX by EPA Method 8021B - Laboratory Quality Control Results
 TestAmerica - Spokane, WA

QC Batch: 7100020 **Soil Preparation Method:** GC Volatiles

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes		
Blank (7100020-BLK1)													Extracted: 10/01/07 14:59			
Gasoline Range Hydrocarbons	NWTPH-Gx/ 8021B	ND	---	5.00	mg/kg wet	1x	--	--	--	--	--	--	10/02/07 03:02			
Benzene	"	ND	---	0.0250	"	"	--	--	--	--	--	--	"			
Toluene	"	ND	---	0.200	"	"	--	--	--	--	--	--	"			
Ethylbenzene	"	ND	---	0.200	"	"	--	--	--	--	--	--	"			
Xylenes (total)	"	ND	---	0.600	"	"	--	--	--	--	--	--	"			
<i>Surrogate(s): 4-BFB (FID)</i>		<i>Recovery:</i>	<i>84.1%</i>	<i>Limits: 50-150%</i>								<i>10/02/07 03:02</i>				
<i>4-BFB (PID)</i>			<i>115%</i>	<i>50-150%</i>								<i>"</i>				
LCS (7100020-BS1)													Extracted: 10/01/07 14:59			
Gasoline Range Hydrocarbons	NWTPH-Gx/ 8021B	46.5	---	5.00	mg/kg wet	1x	--	50.0	93.0%	(80-120)	--	--	10/02/07 04:17			
<i>Surrogate(s): 4-BFB (FID)</i>		<i>Recovery:</i>	<i>119%</i>	<i>Limits: 50-150%</i>								<i>10/02/07 04:17</i>				
LCS (7100020-BS2)													Extracted: 10/01/07 14:59			
Benzene	NWTPH-Gx/ 8021B	0.406	---	0.0250	mg/kg wet	1x	--	0.500	81.3%	(80-120)	--	--	10/03/07 13:15			
Toluene	"	0.517	---	0.200	"	"	--	"	103%	"	--	--	"			
Ethylbenzene	"	0.560	---	0.200	"	"	--	"	112%	"	--	--	"			
Xylenes (total)	"	1.67	---	0.600	"	"	--	1.50	111%	"	--	--	"			
<i>Surrogate(s): 4-BFB (PID)</i>		<i>Recovery:</i>	<i>105%</i>	<i>Limits: 50-150%</i>								<i>10/03/07 13:15</i>				
LCS Dup (7100020-BSD1)													Extracted: 10/01/07 14:59			
Gasoline Range Hydrocarbons	NWTPH-Gx/ 8021B	55.1	---	5.00	mg/kg wet	1x	--	50.0	110%	(80-120)	16.9%	(20)	10/02/07 04:42			
<i>Surrogate(s): 4-BFB (FID)</i>		<i>Recovery:</i>	<i>139%</i>	<i>Limits: 50-150%</i>								<i>10/02/07 04:42</i>				
LCS Dup (7100020-BSD2)													Extracted: 10/01/07 14:59			
Benzene	NWTPH-Gx/ 8021B	0.487	---	0.0250	mg/kg wet	1x	--	0.500	97.4%	(80-120)	18.0%	(20)	10/04/07 01:37			
Toluene	"	0.558	---	0.200	"	"	--	"	112%	"	7.74%	"	"			
Ethylbenzene	"	0.579	---	0.200	"	"	--	"	116%	"	3.37%	"	"			
Xylenes (total)	"	1.80	---	0.600	"	"	--	1.50	120%	"	7.29%	"	"			
<i>Surrogate(s): 4-BFB (PID)</i>		<i>Recovery:</i>	<i>111%</i>	<i>Limits: 50-150%</i>								<i>10/04/07 01:37</i>				
Duplicate (7100020-DUP1)													QC Source: BQ10581-06		Extracted: 10/01/07 14:59	
Gasoline Range Hydrocarbons	NWTPH-Gx/ 8021B	ND	---	4.41	mg/kg dry	1x	ND	--	--	--	18.1%	(20)	10/02/07 01:48			
Benzene	"	ND	---	0.0221	"	"	ND	--	--	--	NR	"	"			
Toluene	"	ND	---	0.177	"	"	ND	--	--	--	6.09%	"	"			
Ethylbenzene	"	ND	---	0.177	"	"	ND	--	--	--	NR	"	"			
Xylenes (total)	"	ND	---	0.530	"	"	ND	--	--	--	NR	"	"			
<i>Surrogate(s): 4-BFB (FID)</i>		<i>Recovery:</i>	<i>88.8%</i>	<i>Limits: 50-150%</i>								<i>10/02/07 01:48</i>				

TestAmerica - Seattle, WA

Kate Haney

Kate Haney, Project Manager

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Farallon Consulting LLC 975 5th Ave NW Ste 100 Issaquah, WA/USA 98027	Project Name: BNSF - John Michael Lease Site Project Number: 683-018 Project Manager: Tom Cammaratta	Report Created: 10/15/07 16:22
--	---	--

Gasoline Hydrocarbons by NWTPH-Gx and BTEX by EPA Method 8021B - Laboratory Quality Control Results
 TestAmerica - Spokane, WA

QC Batch: 7100020 Soil Preparation Method: GC Volatiles

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
---------	--------	--------	------	-----	-------	-----	---------------	-----------	-------	----------	-------	----------	----------	-------

Duplicate (7100020-DUP1) **QC Source: BQI0581-06** **Extracted: 10/01/07 14:59**
Surrogate(s): 4-BFB (PID) Recovery: 125% Limits: 50-150% 1x 10/02/07 01:48

Duplicate (7100020-DUP2) **QC Source: BQI0581-23** **Extracted: 10/01/07 14:59**

Gasoline Range Hydrocarbons	NWTPH-Gx/8021B	ND	---	4.42	mg/kg dry	1x	ND	--	--	--	2.95% (20)	--	10/02/07 02:38	
Benzene	"	ND	---	0.0221	"	"	ND	--	--	--	NR	"	"	
Toluene	"	ND	---	0.177	"	"	ND	--	--	--	5.43%	"	"	
Ethylbenzene	"	ND	---	0.177	"	"	ND	--	--	--	NR	"	"	
Xylenes (total)	"	ND	---	0.530	"	"	ND	--	--	--	NR	"	"	
<i>Surrogate(s): 4-BFB (FID)</i>		<i>Recovery: 85.9%</i>		<i>Limits: 50-150%</i>		<i>"</i>						<i>10/02/07 02:38</i>		
<i>4-BFB (PID)</i>		<i>123%</i>		<i>50-150%</i>		<i>"</i>						<i>"</i>		

QC Batch: 7100024 Soil Preparation Method: GC Volatiles

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
---------	--------	--------	------	-----	-------	-----	---------------	-----------	-------	----------	-------	----------	----------	-------

Blank (7100024-BLK1) **Extracted: 10/02/07 10:57**

Gasoline Range Hydrocarbons	NWTPH-Gx/8021B	ND	---	5.00	mg/kg wet	1x	--	--	--	--	--	--	10/02/07 22:39	
Benzene	"	ND	---	0.0250	"	"	--	--	--	--	--	--	"	
Toluene	"	ND	---	0.200	"	"	--	--	--	--	--	--	"	
Ethylbenzene	"	ND	---	0.200	"	"	--	--	--	--	--	--	"	
Xylenes (total)	"	ND	---	0.600	"	"	--	--	--	--	--	--	"	
<i>Surrogate(s): 4-BFB (FID)</i>		<i>Recovery: 80.2%</i>		<i>Limits: 50-150%</i>		<i>"</i>						<i>10/02/07 22:39</i>		
<i>4-BFB (PID)</i>		<i>103%</i>		<i>50-150%</i>		<i>"</i>						<i>"</i>		

LCS (7100024-BS1) **Extracted: 10/02/07 10:57**

Gasoline Range Hydrocarbons	NWTPH-Gx/8021B	41.8	---	5.00	mg/kg wet	1x	--	50.0	83.6%	(80-120)	--	--	10/02/07 23:04	
<i>Surrogate(s): 4-BFB (FID)</i>		<i>Recovery: 107%</i>		<i>Limits: 50-150%</i>		<i>"</i>						<i>10/02/07 23:04</i>		

LCS (7100024-BS2) **Extracted: 10/02/07 10:57**

Benzene	NWTPH-Gx/8021B	0.407	---	0.0250	mg/kg wet	1x	--	0.500	81.5%	(80-120)	--	--	10/03/07 12:20	
Toluene	"	0.503	---	0.200	"	"	--	"	101%	"	--	--	"	
Ethylbenzene	"	0.550	---	0.200	"	"	--	"	110%	"	--	--	"	
Xylenes (total)	"	1.66	---	0.600	"	"	--	1.50	110%	"	--	--	"	
<i>Surrogate(s): 4-BFB (PID)</i>		<i>Recovery: 103%</i>		<i>Limits: 50-150%</i>		<i>"</i>						<i>10/03/07 12:20</i>		

TestAmerica - Seattle, WA

Kate Haney

Kate Haney, Project Manager

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Farallon Consulting LLC 975 5th Ave NW Ste 100 Issaquah, WA/USA 98027	Project Name: BNSF - John Michael Lease Site Project Number: 683-018 Project Manager: Tom Cammaratta	Report Created: 10/15/07 16:22
--	---	--

Gasoline Hydrocarbons by NWTPH-Gx and BTEX by EPA Method 8021B - Laboratory Quality Control Results
 TestAmerica - Spokane, WA

QC Batch: 7100024 **Soil Preparation Method:** GC Volatiles

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
---------	--------	--------	------	-----	-------	-----	---------------	-----------	-------	----------	-------	----------	----------	-------

LCS Dup (7100024-BSD1) Extracted: 10/02/07 10:57

Gasoline Range Hydrocarbons	NWTPH-Gx/8021B	44.4	---	5.00	mg/kg wet	1x	--	50.0	88.8%	(80-120)	6.07%	(20)	10/02/07 23:28	
<i>Surrogate(s): 4-BFB (FID)</i>		<i>Recovery: 131%</i>		<i>Limits: 50-150%</i>		<i>"</i>						<i>10/02/07 23:28</i>		

LCS Dup (7100024-BSD2) Extracted: 10/02/07 10:57

Benzene	NWTPH-Gx/8021B	0.400	---	0.0250	mg/kg wet	1x	--	0.500	80.0%	(80-120)	1.77%	(20)	10/03/07 12:45	
Toluene	"	0.509	---	0.200	"	"	--	"	102%	"	1.21%	"	"	
Ethylbenzene	"	0.557	---	0.200	"	"	--	"	111%	"	1.33%	"	"	
Xylenes (total)	"	1.68	---	0.600	"	"	--	1.50	112%	"	1.42%	"	"	
<i>Surrogate(s): 4-BFB (PID)</i>		<i>Recovery: 107%</i>		<i>Limits: 50-150%</i>		<i>"</i>						<i>10/03/07 12:45</i>		

Duplicate (7100024-DUP1) QC Source: BQ10581-40 Extracted: 10/02/07 10:57

Gasoline Range Hydrocarbons	NWTPH-Gx/8021B	16.8	---	6.05	mg/kg dry	1x	16.8	--	--	--	0.0774%	(20)	10/02/07 21:01	
Benzene	"	1.72	---	0.0302	"	"	1.73	--	--	--	0.650%	"	"	
Toluene	"	0.263	---	0.242	"	"	0.265	--	--	--	0.939%	"	"	
Ethylbenzene	"	ND	---	0.242	"	"	ND	--	--	--	1.57%	"	"	
Xylenes (total)	"	1.22	---	0.726	"	"	1.26	--	--	--	3.41%	"	"	
<i>Surrogate(s): 4-BFB (FID)</i>		<i>Recovery: 85.7%</i>		<i>Limits: 50-150%</i>		<i>"</i>						<i>10/02/07 21:01</i>		
<i>4-BFB (PID)</i>		<i>91.6%</i>		<i>50-150%</i>		<i>"</i>						<i>"</i>		

Duplicate (7100024-DUP2) QC Source: BQ10581-55 Extracted: 10/02/07 10:57

Gasoline Range Hydrocarbons	NWTPH-Gx/8021B	ND	---	4.46	mg/kg dry	1x	ND	--	--	--	8.58%	(20)	10/02/07 21:26	
Benzene	"	ND	---	0.0223	"	"	ND	--	--	--	NR	"	"	
Toluene	"	ND	---	0.178	"	"	ND	--	--	--	NR	"	"	
Ethylbenzene	"	ND	---	0.178	"	"	ND	--	--	--	NR	"	"	
Xylenes (total)	"	ND	---	0.535	"	"	ND	--	--	--	NR	"	"	
<i>Surrogate(s): 4-BFB (FID)</i>		<i>Recovery: 86.2%</i>		<i>Limits: 50-150%</i>		<i>"</i>						<i>10/02/07 21:26</i>		
<i>4-BFB (PID)</i>		<i>115%</i>		<i>50-150%</i>		<i>"</i>						<i>"</i>		

TestAmerica - Seattle, WA

Kate Haney

Kate Haney, Project Manager

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Farallon Consulting LLC

975 5th Ave NW Ste 100
Issaquah, WA/USA 98027

Project Name: **BNSF - John Michael Lease Site**
Project Number: 683-018
Project Manager: Tom Cammaratta

Report Created:
10/15/07 16:22

Notes and Definitions

Report Specific Notes:

- MNR - No results were reported for the MS/MSD. The sample used for the MS/MSD required dilution due to the sample matrix. Because of this, the spike compounds were diluted below the detection limit.
- QP1 - The primary contamination elutes between C-18 to beyond C-40, which is in the motor oil range.
- QP6 - The contamination did not match any standards in our library.
- QP7 - The contamination is similar to our motor oil standard.
- RL1 - Reporting limit raised due to sample matrix effects.
- Z3 - The sample required a dilution due to the nature of the sample matrix. Because of this dilution, the surrogate spike concentration in the sample was reduced to a level where the recovery calculation does not provide useful information.
- ZX - Due to sample matrix effects, the surrogate recovery was outside the acceptance limits.

Laboratory Reporting Conventions:

- DET - Analyte DETECTED at or above the Reporting Limit. Qualitative Analyses only.
- ND - Analyte NOT DETECTED at or above the reporting limit (MDL or MRL, as appropriate).
- NR/NA - Not Reported / Not Available
- dry - Sample results reported on a Dry Weight Basis. Results and Reporting Limits have been corrected for Percent Dry Weight.
- wet - Sample results and reporting limits reported on a Wet Weight Basis (as received). Results with neither 'wet' nor 'dry' are reported on a Wet Weight Basis.
- RPD - RELATIVE PERCENT DIFFERENCE (RPDs calculated using Results, not Percent Recoveries).
- MRL - METHOD REPORTING LIMIT. Reporting Level at, or above, the lowest level standard of the Calibration Table.
- MDL* - METHOD DETECTION LIMIT. Reporting Level at, or above, the statistically derived limit based on 40CFR, Part 136, Appendix B. *MDLs are listed on the report only if the data has been evaluated below the MRL. Results between the MDL and MRL are reported as Estimated Results.
- Dil - Dilutions are calculated based on deviations from the standard dilution performed for an analysis, and may not represent the dilution found on the analytical raw data.
- Reporting Limits - Reporting limits (MDLs and MRLs) are adjusted based on variations in sample preparation amounts, analytical dilutions and percent solids, where applicable.
- Electronic Signature - Electronic Signature added in accordance with TestAmerica's *Electronic Reporting and Electronic Signatures Policy*. Application of electronic signature indicates that the report has been reviewed and approved for release by the laboratory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

TestAmerica - Seattle, WA



Kate Haney, Project Manager

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 503-906-9200 FAX 906-9210
 2000 W International Airport Rd Ste A10, Anchorage, AK 99502-1119
 907-563-9200 FAX 563-9210

CHAIN OF CUSTODY REPORT

Work Order #: **BQ10581**

CLIENT: Ferris Consulting		INVOICE TO: Tom Cammarata		TURNAROUND REQUEST		
REPORT TO: Tom Cammarata		P.O. NUMBER:		In Business Days *		
ADDRESS: 755 W. Cassman Rd 99027		PRESERVATIVE		<input checked="" type="checkbox"/> 16 <input type="checkbox"/> 7 <input type="checkbox"/> 5 <input type="checkbox"/> 4 <input type="checkbox"/> 3 <input type="checkbox"/> 2 <input type="checkbox"/> 1 <input type="checkbox"/> <1		
PHONE: 253-245-0500 FAX:		REQUESTED ANALYSES		<input checked="" type="checkbox"/> 4 <input type="checkbox"/> 3 <input type="checkbox"/> 2 <input type="checkbox"/> 1 <input type="checkbox"/> <1		
PROJECT NAME: John M. Beach Lease Site		OTHER Specify:		Organic & Inorganic Analyzes Petroleum Hydrocarbon Analyzes STD. Field Collection for Client		
PROJECT NUMBER: 683-018		MATRIX (W, S, O)		# OF CONT.		
SAMPLED BY: Jon Peterson		DATE		LOCATION / COMMENTS		
CLIENT SAMPLE IDENTIFICATION		SAMPLING DATE/TIME		TA WO ID		
1	TP1-092007-02	9-20-07	0920	S	3	-01
2	TP1-092007-2-4		0929		7	-02
3	TP1-092007-4-6		0940		7	-03
4	TP1-092007-6-8		0955		7	-04
5	TP2-092007-0-2		1100		3	-05
6	TP2-092007-2-4		1110		3	-06
7	TP2-092007-4-6		1145		3	-07
8	TP2-092007-6-8		1200		3	-08
9	TP3-092007-0-2		1240		3	-09
10	TP3-092007-2-4		1245		3	-10

RECEIVED BY: **Jon Peterson** DATE: **9-21-07** TIME: **1500** FIRM: **Ferris**

RECEIVED BY: **Sublime Sap** DATE: **9/21/07** TIME: **1600** FIRM: **Sublime Sap**

PRINT NAME: **Jon Peterson** FIRM: **Ferris**

PRINT NAME: **Sublime Sap** FIRM: **Sublime Sap**

DATE: **9-21-07** TIME: **1500**

DATE: **9/21/07** TIME: **1600**

TEMP: _____

PAGE 1 OF 1

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 2000 W International Airport Rd Ste A10, Anchorage, AK 99502-1119 907-563-9200 FAX 563-9210

CHAIN OF CUSTODY REPORT

Work Order #: **BAI058**

INVOICE TO: **Tom Cammarata**

P.O. NUMBER:

CLIENT: **Facallon**

REPORT TO: **Tom Cammarata**

ADDRESS: **Facallon Consulting**

PHONE: **253-215-0840** FAX:

PROJECT NAME: **Tom Michael Lease Site**

PROJECT NUMBER: **683-018**

SAMPLED BY: **Jon P**

CLIENT SAMPLE IDENTIFICATION	SAMPLING DATE/TIME	MT#	Dx	NuTH#	Gx/Bx#	PA#	ST#
TP3-092007-46	092007 1250	X	X	X	X	X	3
TP3-092007-68	1300						1
TP4-092007-08	1315						2
TP4-092007-24	1320						3
TP4-092007-46	1325	X	X	X	X	X	4
TP4-092007-68	1330	X	X	X	X	X	5
TP5-092007-02	1415						6
TP5-092007-24	1420	X	X	X	X	X	7
TP5-092007-46	1430	X	X	X	X	X	8
TP5-092007-68	1435	X	X	X	X	X	9

RECEIVED BY: **Jon P** DATE: **9/20/07** TIME: **12:50**

PRINT NAME: **Jon P** FIRM: **Facallon**

RECEIVED BY: **Shane B...** DATE: **9/20/07** TIME: **14:00**

PRINT NAME: **Shane B...** FIRM: **Facallon**

ADDITIONAL REMARKS:

CCS REV 04/2004

TURNAROUND REQUEST

in Business Days *

Organic & Inorganic Analyses

Pesticide Hydrocarbon Analyses

STD: 7 5 4 3 2 1 <1

STD: 4 3 2 1 <1

OTHER Specify: **12.5**

* Turnaround Requests less than standard may incur Rush Charges.

MATRIX (W, S, O)	# OF CONT.	LOCATION / COMMENTS	TA W/O ID
S	3		-11
S	1		-12
S	1		-13
S	1		-14
S	1		-15
S	1		-16
S	1		-17
S	1		-18
S	1		-19
S	1		-20

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 509-924-9200 FAX 924-9290
 9405 SW Nimbus Ave, Beaverton, OR 97008-7145
 503-906-9200 FAX 906-9210
 2000 W International Airport Rd Ste A10, Anchorage, AK 99502-1119
 907-563-9200 FAX 563-9210

CHAIN OF CUSTODY REPORT

Work Order #: **BAIOS81**

CLIENT: <i>Fossil</i>		INVOICE TO: Tom Cammarata		PRESERVATIVE		TURNAROUND REQUEST	
REPORT TO: Tom Cammarata		P.O. NUMBER:		REQUESTED ANALYSES		In Business Days * <input checked="" type="checkbox"/> Organic & Inorganic Analyses <input type="checkbox"/> Petroleum Hydrocarbon Analyses STD. <input type="checkbox"/> 7 <input type="checkbox"/> 5 <input type="checkbox"/> 4 <input type="checkbox"/> 3 <input type="checkbox"/> 2 <input type="checkbox"/> 1 <input type="checkbox"/> <1 <input checked="" type="checkbox"/> STD. <input type="checkbox"/> 4 <input type="checkbox"/> 3 <input type="checkbox"/> 2 <input type="checkbox"/> 1 <input type="checkbox"/> <1 OTHER Specify: <i>MSD</i>	
ADDRESS: Fossil Consulting		PROJECT NAME:		MATRIX (W, S, O)		# OF CONT.	
PHONE: 405-205-0840 FAX:		PROJECT NUMBER: 683-018		MATERIAL (W, S, O)		LOCATION / COMMENTS	
PROJECT NUMBER: 683-018		SAMPLED BY: Jan P		MATERIAL (W, S, O)		LOCATION / COMMENTS	
CLIENT SAMPLE IDENTIFICATION		SAMPLING DATE/TIME		MATERIAL (W, S, O)		LOCATION / COMMENTS	
1. TP6 092007-02-04-06-7		1450		S		-21	
2. TP6 092007-2-4		1455				-22	
3. TP6 092007-0-6		1500				-23	
4. TP6 092007-6-8		1505				-24	
5. TP7 092007-0-2		1530				-25	
6. TP7 092007-2-4		1535				-26	
7. TP7 092007-4-6		1545				-27	
8. TP7 092007-6-8		1550				-28	
9. TP8 092007-0-2		1625				-29	
10. TP8 092007-2-4		1630				-30	

RECEIVED BY: *[Signature]* DATE: **12/10/07**
 PRINT NAME: **Janice Bay** FIRM: **FAI**
 RECEIVED BY: DATE: TIME:
 PRINT NAME: FIRM: TEMP: PAGE: **3** OF **6**

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ANALYTICAL TESTING CORPORATION

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 2000 W International Airport Rd Ste A10, Anchorage, AK 99502-1119

425-420-9200 FAX 420-9210
 509-924-9200 FAX 924-9290
 503-906-9200 FAX 906-9210
 907-563-9200 FAX 563-9210

CHAIN OF CUSTODY REPORT

Work Order #: **6010581**

CLIENT: *Furallon*
 REPORT TO: **Tom Cammaratta**
 ADDRESS: **Furallon Consulting**
 PHONE: **205-0840** FAX:
 PROJECT NAME:
 PROJECT NUMBER: **683-018**
 SAMPLED BY: **Jon P**

INVOICE TO: **Tom Cammaratta**
 P.O. NUMBER:
 PRESERVATIVE:
 REQUESTED ANALYSES:
 TURNAROUND REQUEST
 In Business Days*
 Organic & Inorganic Analyses
 Petroleum Hydrocarbon Analyses
 OTHER Specify: **NO**
 * Turnaround Requested less than standard may incur Rush Charges.

CLIENT SAMPLE IDENTIFICATION	SAMPLING DATE/TIME	NUPTD	EX	NUPTD	EX/BTEX	PHH	PHH	MATRIX (W, S, O)	# OF CONT.	LOCATION / COMMENTS	TA WO ID
TP8-002007-4-6	04/20/07	1640	X	X	X	X	X	S	3		-31
TP8-002007-6-8		1645	X	X	X	X	X				-32
TP9-002007-0-2		1710	X	X	X	X	X				-33
TP9-002007-2-4		1715	X	X	X	X	X				-34
TP-002007-4-6		1720	X	X	X	X	X				-35
TP9-002007-6-8		1725	X	X	X	X	X				-36
TP10-002007-0-2		1740	X	X	X	X	X				-37
TP10-002007-2-4		1745	X	X	X	X	X				-38
TP10-002007-4-6		1750	X	X	X	X	X				-39
TP10-002007-6-8		1755	X	X	X	X	X				-40

RELEASED BY: *[Signature]* DATE: **04/21/07**
 PRINT NAME: **Jon P** FIRM: **Furallon**
 RECEIVED BY: *[Signature]* DATE: **04/21/07**
 PRINT NAME: **Tom Cammaratta** FIRM: **Furallon**

TestAmerica

ANALYTICAL TESTING CORPORATION

11720 North Creek Pkwy N Suite 400, Bothell, WA 98011-8244
 11922 E. First Ave, Spokane, WA 99206-5302
 9405 SW Nimbus Ave, Beaverton, OR 97008-7145
 2000 W International Airport Rd Ste A10, Anchorage, AK 99502-1119

425-420-9200 FAX 420-9210
 509-924-9200 FAX 924-9290
 503-906-9200 FAX 906-9210
 907-563-9200 FAX 563-9210

CHAIN OF CUSTODY REPORT

Work Order #: **68310581**

CLIENT: Avallen
 REPORT TO: Tom Camm Arata
 ADDRESS: Favallen Consulting
605-295-0190 FAX:
 PROJECT NUMBER: 683-018
 SAMPLED BY: Jon P

INVOICE TO: Tom Camm Arata
 P.O. NUMBER:
 PRESERVATIVE
 REQUESTED ANALYSES

CLIENT SAMPLE IDENTIFICATION	SAMPLING DATE/TIME	DPH	DPH/BTEX	DPH/PAHs	OTHER	MATRIX (W, S, O)	# OF CONT.	LOCATION / COMMENTS	TA W/O ID
TP11-002107-0-2	9-20-07 1810	X	X	X		S	3		-41
TP11-002107-2-4	9-20-07 1915	X	X	X		S	1		-42
TP11-002107-4-6	9-20-07 1820	X	X	X		S	1		-43
TP11-002107-6-8	9-20-07 1825					S	1		-44
TP12-002107-0-2	9-21-07 0640					S	1		-45
TP12-002107-2-4	9-21-07 0645					S	1		-46
TP12-002107-4-6	9-21-07 0650	X	X	X		S	1		-47
TP12-002107-6-8	9-21-07 0655	X	X	X		S	1		-48
TP13-002107-0-2	9-21-07 0740	X	X	X		S	1		-49
TP13-002107-2-4	9-21-07 0745					S	1		-50

TURNAROUND REQUEST
 in Business Days *
 Organic & Inorganic Analyses
 Petroleum Hydrocarbon Analysis
 OTHER Specify: Hold
 * Turnaround Requester test their standard msp incur Rush Charges.

RECEIVED BY: [Signature] DATE: 9/21/07
 PRINT NAME: Sanhae Boef FIRM: ITAC
 RECEIVED BY: DATE: TIME:
 PRINT NAME: FIRM: TEMP: PAGE 5 OF 10

TestAmerica

ANALYTICAL TESTING CORPORATION

11720 North Creek Pkwy N Suite 400, Bothell, WA 98011-8244
 11922 E. First Ave, Spokane, WA 99206-5302
 9405 SW Nimbus Ave, Beaverton, OR 97008-7145
 2000 W International Airport Rd Ste A10, Anchorage, AK 99502-1119

425-420-9200 FAX 420-9210
 509-924-9200 FAX 924-9290
 503-906-9200 FAX 906-9210
 907-563-9200 FAX 563-9210

CHAIN OF CUSTODY REPORT

Work Order #: **3010581**

CLIENT: *Facility*
 REPORT TO: **TOM GAMMA DATA**
 ADDRESS: **Fayall Consulting**
4025-295-0840 FAX:
 PROJECT NAME:
 PROJECT NUMBER: **683-018**
 SAMPLED BY: **See R.**

TURNAROUND REQUEST
 in Business Days*
 7 5 4 3 2 1 <1
 Organic & Inorganic Analyses
 4 3 2 1 <1
 Petroleum Hydrocarbon Analyses
 STD.
 OTHER Specify: **Hold**
 * Turnaround Requests less than standard may incur Rush Charges.

CLIENT SAMPLE IDENTIFICATION	SAMPLING DATE/TIME	PRESERVATIVE	REQUESTED ANALYSES	MATRIX (W, S, O)	# OF CONT.	LOCATION / COMMENTS	TA WO ID	RECEIVED BY:	
								DATE	TIME
7213-002107-4-6	9-21-07 0750			S	3		-51		
7213-002107-6-8	0755						-52		
7214 002107-0-1	0815						-53		
7214 002107-2-4	0820						-54		
7215-002107-4-6	0835						-55		
7215-002107-6-8	0840						-56		
7215-002107-0-2	0840						-57		
7215-002107-2-4	0915						-58		
7215-002107-4-6	0920						-59		
7215-002107-6-8	0925						-60		

RECEIVED BY: *[Signature]* DATE: **9/21/07** TIME: **1600**
 PRINT NAME: **Jay Johnson**
 RECEIVED BY: *[Signature]* DATE: **9/21/07** TIME: **1600**
 PRINT NAME: **Jay Johnson**
 FIRM: **Jay Johnson Corp**
 ADDITIONAL REMARKS: **Trap blank 092107 1600**
 PAGE 6 OF 6

1092602

June 09, 2008

Dan Caputo
Farallon Consulting LLC
975 5th Ave NW Ste 100
Issaquah, WA/USA 98027

RE: BNSF - John Michael Lease Site

Enclosed are the results of analyses for samples received by the laboratory on 05/09/08 17:00.
The following list is a summary of the Work Orders contained in this report, generated on 06/09/08
14:10.

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

<u>Work Order</u>	<u>Project</u>	<u>ProjectNumber</u>
BRE0134	BNSF - John Michael Lease Si	683-018

TestAmerica Seattle

Sandra Yakamavich

Sandra Yakamavich, Project Manager

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report shall not be reproduced except in full, without the written approval of the laboratory.



Farallon Consulting LLC 975 5th Ave NW Ste 100 Issaquah, WA/USA 98027	Project Name:	BNSF - John Michael Lease Site	Report Created:
	Project Number:	683-018	06/09/08 14:10
	Project Manager:	Dan Caputo	

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
T1-050608-8-NE	BRE0134-02	Soil	05/06/08 13:52	05/09/08 17:00
T1-050608-8-SW	BRE0134-03	Soil	05/06/08 14:07	05/09/08 17:00
T2-050608-8-SW	BRE0134-07	Soil	05/06/08 15:13	05/09/08 17:00
T2-050608-8-NE	BRE0134-08	Soil	05/06/08 16:03	05/09/08 17:00
T3-050708-2-C	BRE0134-09	Soil	05/07/08 08:29	05/09/08 17:00
T3-050708-4-NE	BRE0134-10	Soil	05/07/08 08:36	05/09/08 17:00
TP-18-050808-8	BRE0134-11	Soil	05/08/08 12:29	05/09/08 17:00
T8-050808-2-SW	BRE0134-12	Soil	05/08/08 11:08	05/09/08 17:00
T8-050808-4-NE	BRE0134-13	Soil	05/08/08 11:57	05/09/08 17:00
T8-050808-6-SW	BRE0134-14	Soil	05/08/08 11:20	05/09/08 17:00
T8-050808-6-NE	BRE0134-15	Soil	05/08/08 12:04	05/09/08 17:00
T7-050808-2-S	BRE0134-16	Soil	05/08/08 09:20	05/09/08 17:00
T7-050808-4-N	BRE0134-17	Soil	05/08/08 10:37	05/09/08 17:00
T7-050808-6-S	BRE0134-18	Soil	05/08/08 09:38	05/09/08 17:00
T7-050808-8-S	BRE0134-19	Soil	05/08/08 10:01	05/09/08 17:00
T7-050808-8-N	BRE0134-20	Soil	05/08/08 10:39	05/09/08 17:00
T5-050608-8-NE	BRE0134-24	Soil	05/06/08 11:17	05/09/08 17:00
T5-050608-8-SW	BRE0134-25	Soil	05/06/08 11:25	05/09/08 17:00
T5-050608-8-W	BRE0134-26	Soil	05/06/08 11:47	05/09/08 17:00
TP-17-050608-8	BRE0134-28	Soil	05/06/08 12:39	05/09/08 17:00
T6-050708-2-N	BRE0134-31	Soil	05/07/08 12:53	05/09/08 17:00
T6-050708-4-S	BRE0134-32	Soil	05/07/08 13:03	05/09/08 17:00
T6-050708-6-N	BRE0134-33	Soil	05/07/08 13:45	05/09/08 17:00
T6-050708-8-S	BRE0134-34	Soil	05/07/08 13:17	05/09/08 17:00
T6-050708-10-N	BRE0134-35	Soil	05/07/08 14:03	05/09/08 17:00
T3-050708-6-SW	BRE0134-36	Soil	05/07/08 08:52	05/09/08 17:00
T3-050708-8-SW	BRE0134-37	Soil	05/07/08 09:16	05/09/08 17:00
T3-050708-8-NE	BRE0134-38	Soil	05/07/08 10:03	05/09/08 17:00
T4-050708-2-S	BRE0134-39	Soil	05/07/08 10:22	05/09/08 17:00
T4-050708-4-N	BRE0134-40	Soil	05/07/08 10:31	05/09/08 17:00
T4-050708-6-N	BRE0134-41	Soil	05/07/08 11:14	05/09/08 17:00
T4-050708-8-S	BRE0134-42	Soil	05/07/08 10:52	05/09/08 17:00
T4-050708-8-N	BRE0134-43	Soil	05/07/08 11:40	05/09/08 17:00
T9-050808-8-SE	BRE0134-44	Soil	05/08/08 13:42	05/09/08 17:00
TP-19-050808-8	BRE0134-45	Soil	05/08/08 12:39	05/09/08 17:00

TestAmerica Seattle

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Sandra Yakimovich

Sandra Yakimovich, Project Manager



Farallon Consulting LLC

975 5th Ave NW Ste 100
Issaquah, WA/USA 98027

Project Name: **BNSF - John Michael Lease Site**

Project Number: 683-018

Project Manager: Dan Caputo

Report Created:

06/09/08 14:10

Analytical Case Narrative

TestAmerica - Seattle, WA

BRE0134

COMMENTS ON SAMPLE RECEIPT

The samples were received 05/09/08 by TestAmerica - Seattle. The temperature of the samples at the time of receipt was 8.9 degrees Celsius.

PREPARATIONS AND ANALYSIS

Volatile Petroleum Products by NWTPH-Gx

No additional anomalies, discrepancies, or issues were associated with sample preparation, analysis and quality control other than those already qualified in the data and described in the Notes and Definitions page at the end of the report.

Semivolatile Petroleum Products by NWTPH-Dx (w/o Acid/Silica Gel Cleanup)

No additional anomalies, discrepancies, or issues were associated with sample preparation, analysis and quality control other than those already qualified in the data and described in the Notes and Definitions page at the end of the report.

BTEX by EPA Method 8021B

No additional anomalies, discrepancies, or issues were associated with sample preparation, analysis and quality control other than those already qualified in the data and described in the Notes and Definitions page at the end of the report.

Polynuclear Aromatic Hydrocarbons by GCMS SIM

No additional anomalies, discrepancies, or issues were associated with sample preparation, analysis and quality control other than those already qualified in the data and described in the Notes and Definitions page at the end of the report.

Total Metals by EPA 6000/7000 Series Methods

No additional anomalies, discrepancies, or issues were associated with sample preparation, analysis and quality control other than those already qualified in the data and described in the Notes and Definitions page at the end of the report.

Polychlorinated Biphenyls by EPA Method 8082

No additional anomalies, discrepancies, or issues were associated with sample preparation, analysis and quality control other than those already qualified in the data and described in the Notes and Definitions page at the end of the report.

TestAmerica Seattle



Sandra Yakamovich, Project Manager

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Farallon Consulting LLC 975 5th Ave NW Ste 100 Issaquah, WA/USA 98027	Project Name: BNSF - John Michael Lease Site Project Number: 683-018 Project Manager: Dan Caputo	Report Created: 06/09/08 14:10
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Volatile Petroleum Products by NWTPH-Gx
TestAmerica Seattle

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BRE0134-02 (T1-050608-8-NE)		Soil			Sampled: 05/06/08 13:52					
Gasoline Range Hydrocarbons	NWTPH-Gx	ND	----	11.3	mg/kg dry	1x	8E11006	05/11/08 09:54	05/13/08 19:57	
<i>Surrogate(s): 4-BFB (FID)</i>			95.8%		50 - 150 %	"				"
BRE0134-03 (T1-050608-8-SW)		Soil			Sampled: 05/06/08 14:07					
Gasoline Range Hydrocarbons	NWTPH-Gx	ND	----	12.6	mg/kg dry	1x	8E11006	05/11/08 09:54	05/13/08 21:03	
<i>Surrogate(s): 4-BFB (FID)</i>			101%		50 - 150 %	"				"
BRE0134-07 (T2-050608-8-SW)		Soil			Sampled: 05/06/08 15:13					
Gasoline Range Hydrocarbons	NWTPH-Gx	ND	----	15.1	mg/kg dry	1x	8E11006	05/11/08 09:54	05/13/08 22:09	
<i>Surrogate(s): 4-BFB (FID)</i>			101%		50 - 150 %	"				"
BRE0134-08 (T2-050608-8-NE)		Soil			Sampled: 05/06/08 16:03					
Gasoline Range Hydrocarbons	NWTPH-Gx	ND	----	12.0	mg/kg dry	1x	8E11006	05/11/08 09:54	05/14/08 04:46	
<i>Surrogate(s): 4-BFB (FID)</i>			96.1%		50 - 150 %	"				"
BRE0134-11 (TP-18-050808-8)		Soil			Sampled: 05/08/08 12:29					
Gasoline Range Hydrocarbons	NWTPH-Gx	ND	----	13.7	mg/kg dry	1x	8E11006	05/11/08 09:54	05/14/08 01:28	
<i>Surrogate(s): 4-BFB (FID)</i>			101%		50 - 150 %	"				"
BRE0134-14 (T8-050808-6-SW)		Soil			Sampled: 05/08/08 11:20					
Gasoline Range Hydrocarbons	NWTPH-Gx	ND	----	10.4	mg/kg dry	1x	8E11006	05/11/08 09:54	05/14/08 02:01	
<i>Surrogate(s): 4-BFB (FID)</i>			98.0%		50 - 150 %	"				"
BRE0134-15 (T8-050808-6-NE)		Soil			Sampled: 05/08/08 12:04					
Gasoline Range Hydrocarbons	NWTPH-Gx	ND	----	10.5	mg/kg dry	1x	8E11006	05/11/08 09:54	05/14/08 02:34	
<i>Surrogate(s): 4-BFB (FID)</i>			97.2%		50 - 150 %	"				"
BRE0134-19 (T7-050808-8-S)		Soil			Sampled: 05/08/08 10:01					
Gasoline Range Hydrocarbons	NWTPH-Gx	1020	----	94.9	mg/kg dry	10x	8E11006	05/11/08 09:54	05/14/08 09:11	Q8
<i>Surrogate(s): 4-BFB (FID)</i>			113%		50 - 150 %	1x				"

TestAmerica Seattle

Sandra Yakamovich

Sandra Yakamovich, Project Manager

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Farallon Consulting LLC 975 5th Ave NW Ste 100 Issaquah, WA/USA 98027	Project Name: BNSF - John Michael Lease Site Project Number: 683-018 Project Manager: Dan Caputo	Report Created: 06/09/08 14:10
--	---	---------------------------------------

Volatile Petroleum Products by NWTPH-Gx
TestAmerica Seattle

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BRE0134-20 (T7-050808-8-N)		Soil			Sampled: 05/08/08 10:39					
Gasoline Range Hydrocarbons	NWTPH-Gx	156	----	8.33	mg/kg dry	1x	8E11006	05/11/08 09:54	05/14/08 05:19	Q8
Surrogate(s): 4-BFB (FID)			115%		50 - 150 %	"				"
BRE0134-24 (T5-050608-8-NE)		Soil			Sampled: 05/06/08 11:17					
Gasoline Range Hydrocarbons	NWTPH-Gx	10.1	----	9.77	mg/kg dry	1x	8E11006	05/11/08 09:54	05/14/08 03:07	
Surrogate(s): 4-BFB (FID)			98.8%		50 - 150 %	"				"
BRE0134-26 (T5-050608-8-W)		Soil			Sampled: 05/06/08 11:47					
Gasoline Range Hydrocarbons	NWTPH-Gx	ND	----	15.4	mg/kg dry	1x	8E11006	05/11/08 09:54	05/14/08 03:40	
Surrogate(s): 4-BFB (FID)			99.1%		50 - 150 %	"				"
BRE0134-28 (TP-17-050608-8)		Soil			Sampled: 05/06/08 12:39					
Gasoline Range Hydrocarbons	NWTPH-Gx	ND	----	10.6	mg/kg dry	1x	8E11006	05/11/08 09:54	05/14/08 04:13	
Surrogate(s): 4-BFB (FID)			92.1%		50 - 150 %	"				"
BRE0134-34 (T6-050708-8-S)		Soil			Sampled: 05/07/08 13:17					
Gasoline Range Hydrocarbons	NWTPH-Gx	719	----	87.2	mg/kg dry	10x	8E11006	05/11/08 09:54	05/14/08 09:44	Q8
Surrogate(s): 4-BFB (FID)			103%		50 - 150 %	1x				"
BRE0134-35 (T6-050708-10-N)		Soil			Sampled: 05/07/08 14:03					
Gasoline Range Hydrocarbons	NWTPH-Gx	271	----	9.88	mg/kg dry	1x	8E11006	05/11/08 09:54	05/14/08 08:38	Q8
Surrogate(s): 4-BFB (FID)			129%		50 - 150 %	"				"
BRE0134-37 (T3-050708-8-SW)		Soil			Sampled: 05/07/08 09:16					
Gasoline Range Hydrocarbons	NWTPH-Gx	ND	----	9.35	mg/kg dry	1x	8E11006	05/11/08 09:54	05/14/08 05:52	
Surrogate(s): 4-BFB (FID)			97.4%		50 - 150 %	"				"
BRE0134-38 (T3-050708-8-NE)		Soil			Sampled: 05/07/08 10:03					
Gasoline Range Hydrocarbons	NWTPH-Gx	17.6	----	10.9	mg/kg dry	1x	8E11006	05/11/08 09:54	05/14/08 06:25	
Surrogate(s): 4-BFB (FID)			94.4%		50 - 150 %	"				"

TestAmerica Seattle

Sandra Yakamovich

Sandra Yakamovich, Project Manager

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Farallon Consulting LLC 975 5th Ave NW Ste 100 Issaquah, WA/USA 98027	Project Name: BNSF - John Michael Lease Site Project Number: 683-018 Project Manager: Dan Caputo	Report Created: 06/09/08 14:10
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Volatile Petroleum Products by NWTPH-Gx
 TestAmerica Seattle

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BRE0134-42 (T4-050708-8-S)		Soil			Sampled: 05/07/08 10:52					
Gasoline Range Hydrocarbons	NWTPH-Gx	303	----	112	mg/kg dry	10x	8E11006	05/11/08 09:54	05/14/08 10:17	Q8
<i>Surrogate(s): 4-BFB (FID)</i>			103%		50 - 150 %	1x			"	
BRE0134-43 (T4-050708-8-N)		Soil			Sampled: 05/07/08 11:40					
Gasoline Range Hydrocarbons	NWTPH-Gx	297	----	82.3	mg/kg dry	10x	8E11006	05/11/08 09:54	05/14/08 10:50	Q8
<i>Surrogate(s): 4-BFB (FID)</i>			92.6%		50 - 150 %	1x			"	

TestAmerica Seattle

Sandra Yakunavich

Sandra Yakunavich, Project Manager

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Farallon Consulting LLC 975 5th Ave NW Ste 100 Issaquah, WA/USA 98027	Project Name: BNSF - John Michael Lease Site Project Number: 683-018 Project Manager: Dan Caputo	Report Created: 06/09/08 14:10
--	---	--

Semivolatile Petroleum Products by NWTPH-Dx (w/o Acid/Silica Gel Clean-up)
TestAmerica Seattle

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
---------	--------	--------	------	-----	-------	-----	-------	----------	----------	-------

BRE0134-02 (T1-050608-8-NE)	Soil		Sampled: 05/06/08 13:52							
Diesel Range Hydrocarbons	NWTPH-Dx	ND	----	58.5	mg/kg dry	5x	8E12040	05/12/08 13:33	05/13/08 23:49	RL1
Lube Oil Range Hydrocarbons	"	201	----	146	"	"	"	"	"	
Surrogate(s): 2-FBP		138%		54 - 148 %	"	"			"	
Octacosane		127%		62 - 142 %	"	"			"	

BRE0134-03 (T1-050608-8-SW)	Soil		Sampled: 05/06/08 14:07							
Diesel Range Hydrocarbons	NWTPH-Dx	205	----	64.2	mg/kg dry	5x	8E12040	05/12/08 13:33	05/14/08 00:15	Q6
Lube Oil Range Hydrocarbons	"	942	----	161	"	"	"	"	"	
Surrogate(s): 2-FBP		140%		54 - 148 %	"	"			"	
Octacosane		139%		62 - 142 %	"	"			"	

BRE0134-07RE1 (T2-050608-8-SW)	Soil		Sampled: 05/06/08 15:13							
Diesel Range Hydrocarbons	NWTPH-Dx	854	----	655	mg/kg dry	20x	8E12040	05/12/08 13:33	05/15/08 17:50	Q6
Lube Oil Range Hydrocarbons	"	3840	----	1640	"	"	"	"	"	
Surrogate(s): 2-FBP		736%		54 - 148 %	"	"			"	Z3
Octacosane		419%		62 - 142 %	"	"			"	Z3

BRE0134-08 (T2-050608-8-NE)	Soil		Sampled: 05/06/08 16:03							
Diesel Range Hydrocarbons	NWTPH-Dx	ND	----	1410	mg/kg dry	50x	8E12040	05/12/08 13:33	05/14/08 01:08	RL1
Lube Oil Range Hydrocarbons	"	3960	----	3520	"	"	"	"	"	
Surrogate(s): 2-FBP		NR		54 - 148 %	"	"			"	Z3
Octacosane		840%		62 - 142 %	"	"			"	Z3

BRE0134-11RE1 (TP-18-050808-8)	Soil		Sampled: 05/08/08 12:29							
Diesel Range Hydrocarbons	NWTPH-Dx	193	----	134	mg/kg dry	10x	8E12040	05/12/08 13:33	05/15/08 10:54	Q6
Lube Oil Range Hydrocarbons	"	1470	----	335	"	"	"	"	"	
Surrogate(s): 2-FBP		204%		54 - 148 %	"	"			"	ZX
Octacosane		166%		62 - 142 %	"	"			"	Z3

BRE0134-14 (T8-050808-6-SW)	Soil		Sampled: 05/08/08 11:20							
Diesel Range Hydrocarbons	NWTPH-Dx	ND	----	12.0	mg/kg dry	1x	8E12040	05/12/08 13:33	05/14/08 03:19	
Lube Oil Range Hydrocarbons	"	ND	----	30.0	"	"	"	"	"	
Surrogate(s): 2-FBP		92.3%		54 - 148 %	"	"			"	
Octacosane		103%		62 - 142 %	"	"			"	

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Sandra Yakamavich

Sandra Yakamavich, Project Manager

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Farallon Consulting LLC

975 5th Ave NW Ste 100
 Issaquah, WA/USA 98027

Project Name: **BNSF - John Michael Lease Site**

Project Number: 683-018

Project Manager: Dan Caputo

Report Created:

06/09/08 14:10

Semivolatile Petroleum Products by NWTPH-Dx (w/o Acid/Silica Gel Clean-up)

TestAmerica Seattle

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BRE0134-15 (T8-050808-6-NE)		Soil		Sampled: 05/08/08 12:04						
Diesel Range Hydrocarbons	NWTPH-Dx	ND	----	11.6	mg/kg dry	1x	8E12040	05/12/08 13:33	05/14/08 03:45	
Surrogate(s): 2-FBP		94.5%		54 - 148 %		"				"
BRE0134-15RE1 (T8-050808-6-NE)		Soil		Sampled: 05/08/08 12:04						
Lube Oil Range Hydrocarbons	NWTPH-Dx	ND	----	29.1	mg/kg dry	1x	8E12040	05/12/08 13:33	05/15/08 11:20	
Surrogate(s): Octacosane		110%		62 - 142 %		"				"
BRE0134-19RE1 (T7-050808-8-S)		Soil		Sampled: 05/08/08 10:01						
Diesel Range Hydrocarbons	NWTPH-Dx	37600	----	1730	mg/kg dry	20x	8E12040	05/12/08 13:33	05/15/08 11:46	Q4
Lube Oil Range Hydrocarbons	"	51600	----	4320	"	"	"	"	"	Q4
Surrogate(s): 2-FBP		906%		54 - 148 %		"				Z3
Octacosane		594%		62 - 142 %		"				Z3
BRE0134-20RE1 (T7-050808-8-N)		Soil		Sampled: 05/08/08 10:39						
Diesel Range Hydrocarbons	NWTPH-Dx	6860	----	631	mg/kg dry	20x	8E12040	05/12/08 13:33	05/15/08 12:12	Q4
Lube Oil Range Hydrocarbons	"	11300	----	1580	"	"	"	"	"	Q4
Surrogate(s): 2-FBP		321%		54 - 148 %		"				Z3
Octacosane		257%		62 - 142 %		"				Z3
BRE0134-24RE1 (T5-050608-8-NE)		Soil		Sampled: 05/06/08 11:17						
Diesel Range Hydrocarbons	NWTPH-Dx	71.9	----	11.8	mg/kg dry	1x	8E12040	05/12/08 13:33	05/15/08 12:38	
Lube Oil Range Hydrocarbons	"	175	----	29.6	"	"	"	"	"	
Surrogate(s): 2-FBP		95.6%		54 - 148 %		"				"
Octacosane		109%		62 - 142 %		"				"
BRE0134-26RE1 (T5-050608-8-W)		Soil		Sampled: 05/06/08 11:47						
Diesel Range Hydrocarbons	NWTPH-Dx	82.9	----	12.5	mg/kg dry	1x	8E12040	05/12/08 13:33	05/15/08 13:04	Q6
Lube Oil Range Hydrocarbons	"	341	----	31.2	"	"	"	"	"	
Surrogate(s): 2-FBP		94.7%		54 - 148 %		"				"
Octacosane		109%		62 - 142 %		"				"

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Sandra Yakamovich

Sandra Yakamovich, Project Manager

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Farallon Consulting LLC 975 5th Ave NW Ste 100 Issaquah, WA/USA 98027	Project Name: BNSF - John Michael Lease Site Project Number: 683-018 Project Manager: Dan Caputo	Report Created: 06/09/08 14:10
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Semivolatile Petroleum Products by NWTPH-Dx (w/o Acid/Silica Gel Clean-up)
TestAmerica Seattle

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BRE0134-28 (TP-17-050608-8)		Soil			Sampled: 05/06/08 12:39					
Diesel Range Hydrocarbons	NWTPH-Dx	ND	----	211	mg/kg dry	20x	8E12040	05/12/08 13:33	05/14/08 05:55	RL1, C
Surrogate(s): 2-FBP			336%		54 - 148 %	"			"	Z3
BRE0134-28RE1 (TP-17-050608-8)		Soil			Sampled: 05/06/08 12:39					
Lube Oil Range Hydrocarbons	NWTPH-Dx	829	----	528	mg/kg dry	20x	8E12040	05/12/08 13:33	05/15/08 13:30	
Surrogate(s): Octacosane			223%		62 - 142 %	"			"	Z3
BRE0134-34RE1 (T6-050708-8-S)		Soil			Sampled: 05/07/08 13:17					
Diesel Range Hydrocarbons	NWTPH-Dx	12100	----	626	mg/kg dry	20x	8E12040	05/12/08 13:33	05/15/08 15:14	Q4
Lube Oil Range Hydrocarbons	"	16300	----	1570	"	"	"	"	"	Q4
Surrogate(s): 2-FBP			355%		54 - 148 %	"			"	Z3
Octacosane			257%		62 - 142 %	"			"	Z3
BRE0134-35RE1 (T6-050708-10-N)		Soil			Sampled: 05/07/08 14:03					
Diesel Range Hydrocarbons	NWTPH-Dx	18100	----	1610	mg/kg dry	50x	8E12040	05/12/08 13:33	05/15/08 15:39	Q4
Lube Oil Range Hydrocarbons	"	24300	----	4010	"	"	"	"	"	Q4
Surrogate(s): 2-FBP			803%		54 - 148 %	"			"	Z3
Octacosane			475%		62 - 142 %	"			"	Z3
BRE0134-37 (T3-050708-8-SW)		Soil			Sampled: 05/07/08 09:16					
Diesel Range Hydrocarbons	NWTPH-Dx	ND	----	223	mg/kg dry	20x	8E12040	05/12/08 13:33	05/14/08 07:14	RL1, C8
Surrogate(s): 2-FBP			339%		54 - 148 %	"			"	Z3
BRE0134-37RE1 (T3-050708-8-SW)		Soil			Sampled: 05/07/08 09:16					
Lube Oil Range Hydrocarbons	NWTPH-Dx	973	----	558	mg/kg dry	20x	8E12040	05/12/08 13:33	05/15/08 16:06	
Surrogate(s): Octacosane			219%		62 - 142 %	"			"	Z3
BRE0134-38 (T3-050708-8-NE)		Soil			Sampled: 05/07/08 10:03					
Diesel Range Hydrocarbons	NWTPH-Dx	ND	----	53.3	mg/kg dry	5x	8E12040	05/12/08 13:33	05/14/08 08:59	RL1, C
Surrogate(s): 2-FBP			137%		54 - 148 %	"			"	

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Sandra Yakamovich, Project Manager



Farallon Consulting LLC 975 5th Ave NW Ste 100 Issaquah, WA/USA 98027	Project Name: BNSF - John Michael Lease Site Project Number: 683-018 Project Manager: Dan Caputo	Report Created: 06/09/08 14:10
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Semivolatile Petroleum Products by NWTPH-Dx (w/o Acid/Silica Gel Clean-up)
 TestAmerica Seattle

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BRE0134-38RE1 (T3-050708-8-NE)		Soil		Sampled: 05/07/08 10:03						
Lube Oil Range Hydrocarbons	NWTPH-Dx	137	----	133	mg/kg dry	5x	8E12040	05/12/08 13:33	05/15/08 16:31	
Surrogate(s): 2-FBP		138%		54 - 148 %		"				
BRE0134-42RE1 (T4-050708-8-S)		Soil		Sampled: 05/07/08 10:52						
Diesel Range Hydrocarbons	NWTPH-Dx	2020	----	121	mg/kg dry	10x	8E12040	05/12/08 13:33	05/15/08 16:58	Q4
Lube Oil Range Hydrocarbons	"	3580	----	302	"	"	"	"	"	Q4
Surrogate(s): 2-FBP		191%		54 - 148 %		"				ZX
Octacosane		178%		62 - 142 %		"				ZX
BRE0134-43RE1 (T4-050708-8-N)		Soil		Sampled: 05/07/08 11:40						
Diesel Range Hydrocarbons	NWTPH-Dx	6890	----	617	mg/kg dry	20x	8E12040	05/12/08 13:33	05/15/08 17:24	Q4
Lube Oil Range Hydrocarbons	"	13000	----	1540	"	"	"	"	"	Q4
Surrogate(s): 2-FBP		315%		54 - 148 %		"				Z3
Octacosane		271%		62 - 142 %		"				Z3

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BTEX by EPA Method 8021B
TestAmerica Seattle

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BRE0134-02 (T1-050608-8-NE)	Soil		Sampled: 05/06/08 13:52							
Benzene	EPA 8021B	ND	----	0.0679	mg/kg dry	1x	8E11006	05/11/08 09:54	05/13/08 19:57	
Toluene	"	0.117	----	0.113	"	"	"	"	"	
Ethylbenzene	"	ND	----	0.113	"	"	"	"	"	
Xylenes (total)	"	ND	----	0.226	"	"	"	"	"	
<i>Surrogate(s): 4-BFB (PID)</i>			113%		63 - 150 %	"				"
BRE0134-03 (T1-050608-8-SW)	Soil		Sampled: 05/06/08 14:07							
Benzene	EPA 8021B	ND	----	0.0755	mg/kg dry	1x	8E11006	05/11/08 09:54	05/13/08 21:03	
Toluene	"	ND	----	0.126	"	"	"	"	"	
Ethylbenzene	"	ND	----	0.126	"	"	"	"	"	
Xylenes (total)	"	ND	----	0.252	"	"	"	"	"	
<i>Surrogate(s): 4-BFB (PID)</i>			117%		63 - 150 %	"				"
BRE0134-07 (T2-050608-8-SW)	Soil		Sampled: 05/06/08 15:13							
Benzene	EPA 8021B	ND	----	0.0905	mg/kg dry	1x	8E11006	05/11/08 09:54	05/13/08 22:09	
Toluene	"	ND	----	0.151	"	"	"	"	"	
Ethylbenzene	"	ND	----	0.151	"	"	"	"	"	
Xylenes (total)	"	ND	----	0.302	"	"	"	"	"	
<i>Surrogate(s): 4-BFB (PID)</i>			116%		63 - 150 %	"				"
BRE0134-08 (T2-050608-8-NE)	Soil		Sampled: 05/06/08 16:03							
Benzene	EPA 8021B	ND	----	0.0718	mg/kg dry	1x	8E11006	05/11/08 09:54	05/14/08 04:46	
Toluene	"	ND	----	0.120	"	"	"	"	"	
Ethylbenzene	"	ND	----	0.120	"	"	"	"	"	
Xylenes (total)	"	ND	----	0.239	"	"	"	"	"	
<i>Surrogate(s): 4-BFB (PID)</i>			112%		63 - 150 %	"				"
BRE0134-11 (TP-18-050808-8)	Soil		Sampled: 05/08/08 12:29							
Benzene	EPA 8021B	ND	----	0.0823	mg/kg dry	1x	8E11006	05/11/08 09:54	05/14/08 01:28	
Toluene	"	ND	----	0.137	"	"	"	"	"	
Ethylbenzene	"	ND	----	0.137	"	"	"	"	"	
Xylenes (total)	"	ND	----	0.274	"	"	"	"	"	
<i>Surrogate(s): 4-BFB (PID)</i>			118%		63 - 150 %	"				"

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Sandra Yakamovich, Project Manager



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BTEX by EPA Method 8021B
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Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BRE0134-14 (T8-050808-6-SW)	Soil		Sampled: 05/08/08 11:20							
Benzene	EPA 8021B	ND	----	0.0627	mg/kg dry	1x	8E11006	05/11/08 09:54	05/14/08 02:01	
Toluene	"	ND	----	0.104	"	"	"	"	"	
Ethylbenzene	"	ND	----	0.104	"	"	"	"	"	
Xylenes (total)	"	ND	----	0.209	"	"	"	"	"	
<i>Surrogate(s): 4-BFB (PID)</i>			114%		63 - 150 %	"				"
BRE0134-15 (T8-050808-6-NE)	Soil		Sampled: 05/08/08 12:04							
Benzene	EPA 8021B	ND	----	0.0629	mg/kg dry	1x	8E11006	05/11/08 09:54	05/14/08 02:34	
Toluene	"	ND	----	0.105	"	"	"	"	"	
Ethylbenzene	"	ND	----	0.105	"	"	"	"	"	
Xylenes (total)	"	ND	----	0.210	"	"	"	"	"	
<i>Surrogate(s): 4-BFB (PID)</i>			115%		63 - 150 %	"				"
BRE0134-19 (T7-050808-8-S)	Soil		Sampled: 05/08/08 10:01							
Benzene	EPA 8021B	ND	----	0.569	mg/kg dry	10x	8E11006	05/11/08 09:54	05/14/08 09:11	
Toluene	"	ND	----	0.949	"	"	"	"	"	
Ethylbenzene	"	ND	----	0.949	"	"	"	"	"	
Xylenes (total)	"	3.09	----	1.90	"	"	"	"	"	
<i>Surrogate(s): 4-BFB (PID)</i>			120%		63 - 150 %	1x				"
BRE0134-20 (T7-050808-8-N)	Soil		Sampled: 05/08/08 10:39							
Benzene	EPA 8021B	ND	----	0.0500	mg/kg dry	1x	8E11006	05/11/08 09:54	05/14/08 05:19	
Toluene	"	ND	----	0.0833	"	"	"	"	"	
Ethylbenzene	"	ND	----	0.0833	"	"	"	"	"	
Xylenes (total)	"	0.359	----	0.167	"	"	"	"	"	
<i>Surrogate(s): 4-BFB (PID)</i>			115%		63 - 150 %	"				"
BRE0134-24 (T5-050608-8-NE)	Soil		Sampled: 05/06/08 11:17							
Benzene	EPA 8021B	ND	----	0.0586	mg/kg dry	1x	8E11006	05/11/08 09:54	05/14/08 03:07	
Toluene	"	ND	----	0.0977	"	"	"	"	"	
Ethylbenzene	"	ND	----	0.0977	"	"	"	"	"	
Xylenes (total)	"	ND	----	0.195	"	"	"	"	"	
<i>Surrogate(s): 4-BFB (PID)</i>			117%		63 - 150 %	"				"

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Farallon Consulting LLC 975 5th Ave NW Ste 100 Issaquah, WA/USA 98027	Project Name: BNSF - John Michael Lease Site Project Number: 683-018 Project Manager: Dan Caputo	Report Created: 06/09/08 14:10
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BTEX by EPA Method 8021B
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Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes	
BRE0134-26	(T5-050608-8-W)	Soil				Sampled: 05/06/08 11:47					
Benzene	EPA 8021B	ND	----	0.0923	mg/kg dry	1x	8E11006	05/11/08 09:54	05/14/08 03:40		
Toluene	"	ND	----	0.154	"	"	"	"	"		
Ethylbenzene	"	ND	----	0.154	"	"	"	"	"		
Xylenes (total)	"	ND	----	0.308	"	"	"	"	"		
<i>Surrogate(s): 4-BFB (PID)</i>			113%		63 - 150 %	"				"	
BRE0134-28	(TP-17-050608-8)	Soil				Sampled: 05/06/08 12:39					
Benzene	EPA 8021B	ND	----	0.0634	mg/kg dry	1x	8E11006	05/11/08 09:54	05/14/08 04:13		
Toluene	"	ND	----	0.106	"	"	"	"	"		
Ethylbenzene	"	ND	----	0.106	"	"	"	"	"		
Xylenes (total)	"	ND	----	0.211	"	"	"	"	"		
<i>Surrogate(s): 4-BFB (PID)</i>			109%		63 - 150 %	"				"	
BRE0134-34	(T6-050708-8-S)	Soil				Sampled: 05/07/08 13:17					
Benzene	EPA 8021B	ND	----	0.523	mg/kg dry	10x	8E11006	05/11/08 09:54	05/14/08 09:44		
Toluene	"	ND	----	0.872	"	"	"	"	"		
Ethylbenzene	"	1.44	----	0.872	"	"	"	"	"		
Xylenes (total)	"	2.92	----	1.74	"	"	"	"	"		
<i>Surrogate(s): 4-BFB (PID)</i>			112%		63 - 150 %	1x				"	
BRE0134-35	(T6-050708-10-N)	Soil				Sampled: 05/07/08 14:03					
Benzene	EPA 8021B	ND	----	0.0593	mg/kg dry	1x	8E11006	05/11/08 09:54	05/14/08 08:38		
Toluene	"	ND	----	0.0988	"	"	"	"	"		
Ethylbenzene	"	0.135	----	0.0988	"	"	"	"	"		
Xylenes (total)	"	0.862	----	0.198	"	"	"	"	"		
<i>Surrogate(s): 4-BFB (PID)</i>			123%		63 - 150 %	"				"	
BRE0134-37	(T3-050708-8-SW)	Soil				Sampled: 05/07/08 09:16					
Benzene	EPA 8021B	ND	----	0.0561	mg/kg dry	1x	8E11006	05/11/08 09:54	05/14/08 05:52		
Toluene	"	ND	----	0.0935	"	"	"	"	"		
Ethylbenzene	"	ND	----	0.0935	"	"	"	"	"		
Xylenes (total)	"	ND	----	0.187	"	"	"	"	"		
<i>Surrogate(s): 4-BFB (PID)</i>			112%		63 - 150 %	"				"	

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BTEX by EPA Method 8021B
TestAmerica Seattle

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes	
BRE0134-38 (T3-050708-8-NE)		Soil			Sampled: 05/07/08 10:03						
Benzene	EPA 8021B	ND	----	0.0656	mg/kg dry	1x	8E11006	05/11/08 09:54	05/14/08 06:25		
Toluene	"	ND	----	0.109	"	"	"	"	"		
Ethylbenzene	"	ND	----	0.109	"	"	"	"	"		
Xylenes (total)	"	ND	----	0.219	"	"	"	"	"		
<i>Surrogate(s): 4-BFB (PID)</i>			111%		63 - 150 %	"					
BRE0134-42 (T4-050708-8-S)		Soil			Sampled: 05/07/08 10:52						RL1
Benzene	EPA 8021B	ND	----	0.672	mg/kg dry	10x	8E11006	05/11/08 09:54	05/14/08 10:17		
Toluene	"	ND	----	1.12	"	"	"	"	"		
Ethylbenzene	"	ND	----	1.12	"	"	"	"	"		
Xylenes (total)	"	ND	----	2.24	"	"	"	"	"		
<i>Surrogate(s): 4-BFB (PID)</i>			118%		63 - 150 %	1x					
BRE0134-43 (T4-050708-8-N)		Soil			Sampled: 05/07/08 11:40						RL1
Benzene	EPA 8021B	ND	----	0.494	mg/kg dry	10x	8E11006	05/11/08 09:54	05/14/08 10:50		
Toluene	"	ND	----	0.823	"	"	"	"	"		
Ethylbenzene	"	ND	----	0.823	"	"	"	"	"		
Xylenes (total)	"	ND	----	1.65	"	"	"	"	"		
<i>Surrogate(s): 4-BFB (PID)</i>			112%		63 - 150 %	1x					

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Total Metals by EPA 6000/7000 Series Methods
TestAmerica Seattle

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes	
BRE0134-03	(T1-050608-8-SW)	Soil				Sampled: 05/06/08 14:07					
Arsenic	EPA 6020	5.49	----	0.577	mg/kg dry	1x	8E27023	05/27/08 11:32	05/28/08 16:16		
Barium	"	117	----	5.77	"	"	"	"	"		
Cadmium	"	ND	----	0.577	"	"	"	"	"		
Chromium	"	61.0	----	0.577	"	"	"	"	"		
Lead	"	23.2	----	0.577	"	"	"	"	"		
Selenium	"	ND	----	1.15	"	"	"	"	"		
Silver	"	ND	----	0.577	"	"	"	"	"		
BRE0134-08	(T2-050608-8-NE)	Soil				Sampled: 05/06/08 16:03					
Arsenic	EPA 6020	2.63	----	0.493	mg/kg dry	1x	8E27023	05/27/08 11:32	05/28/08 16:34		
Barium	"	102	----	4.93	"	"	"	"	"		
Cadmium	"	ND	----	0.493	"	"	"	"	"		
Chromium	"	77.5	----	0.493	"	"	"	"	"		
Lead	"	17.4	----	0.493	"	"	"	"	"		
Selenium	"	ND	----	0.986	"	"	"	"	"		
Silver	"	ND	----	0.493	"	"	"	"	"		
BRE0134-15	(T8-050808-6-NE)	Soil				Sampled: 05/08/08 12:04					
Arsenic	EPA 6020	3.89	----	0.502	mg/kg dry	1x	8E27023	05/27/08 11:32	05/28/08 16:40		
Barium	"	49.6	----	5.02	"	"	"	"	"		
Cadmium	"	ND	----	0.502	"	"	"	"	"		
Chromium	"	49.6	----	0.502	"	"	"	"	"		
Lead	"	16.1	----	0.502	"	"	"	"	"		
Selenium	"	ND	----	1.00	"	"	"	"	"		
Silver	"	ND	----	0.502	"	"	"	"	"		
BRE0134-19	(T7-050808-8-S)	Soil				Sampled: 05/08/08 10:01					
Arsenic	EPA 6020	4.35	----	0.570	mg/kg dry	1x	8E27023	05/27/08 11:32	05/28/08 16:46		
Barium	"	63.2	----	5.70	"	"	"	"	"		
Cadmium	"	ND	----	0.570	"	"	"	"	"		
Chromium	"	59.6	----	0.570	"	"	"	"	"		
Lead	"	2.27	----	0.570	"	"	"	"	"		
Selenium	"	ND	----	1.14	"	"	"	"	"		
Silver	"	ND	----	0.570	"	"	"	"	"		

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Sandra Yakamavich

Sandra Yakamavich, Project Manager

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Farallon Consulting LLC 975 5th Ave NW Ste 100 Issaquah, WA/USA 98027	Project Name: BNSF - John Michael Lease Site Project Number: 683-018 Project Manager: Dan Caputo	Report Created: 06/09/08 14:10
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Total Metals by EPA 6000/7000 Series Methods
TestAmerica Seattle

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes	
BRE0134-25	(T5-050608-8-SW)	Soil				Sampled: 05/06/08 11:25					
Arsenic	EPA 6020	12.4	----	0.519	mg/kg dry	1x	8E27023	05/27/08 11:32	05/28/08 16:52		
Barium	"	94.3	----	5.19	"	"	"	"	"	"	
Cadmium	"	ND	----	0.519	"	"	"	"	"	"	
Chromium	"	38.8	----	0.519	"	"	"	"	"	"	
Lead	"	55.0	----	0.519	"	"	"	"	"	"	
Selenium	"	ND	----	1.04	"	"	"	"	"	"	
Silver	"	ND	----	0.519	"	"	"	"	"	"	
BRE0134-35	(T6-050708-10-N)	Soil				Sampled: 05/07/08 14:03					
Arsenic	EPA 6020	2.83	----	0.562	mg/kg dry	1x	8E27023	05/27/08 11:32	05/28/08 16:58		
Barium	"	35.4	----	5.62	"	"	"	"	"	"	
Cadmium	"	ND	----	0.562	"	"	"	"	"	"	
Chromium	"	82.3	----	0.562	"	"	"	"	"	"	
Lead	"	6.24	----	0.562	"	"	"	"	"	"	
Selenium	"	ND	----	1.12	"	"	"	"	"	"	
Silver	"	ND	----	0.562	"	"	"	"	"	"	
BRE0134-37	(T3-050708-8-SW)	Soil				Sampled: 05/07/08 09:16					
Arsenic	EPA 6020	4.77	----	0.562	mg/kg dry	1x	8E27023	05/27/08 11:32	05/28/08 17:04		
Barium	"	45.7	----	5.62	"	"	"	"	"	"	
Cadmium	"	ND	----	0.562	"	"	"	"	"	"	
Chromium	"	85.6	----	0.562	"	"	"	"	"	"	
Lead	"	25.8	----	0.562	"	"	"	"	"	"	
Selenium	"	ND	----	1.12	"	"	"	"	"	"	
Silver	"	ND	----	0.562	"	"	"	"	"	"	
BRE0134-43	(T4-050708-8-N)	Soil				Sampled: 05/07/08 11:40					
Arsenic	EPA 6020	1.83	----	0.557	mg/kg dry	1x	8E27023	05/27/08 11:32	05/28/08 17:10		
Barium	"	24.4	----	5.57	"	"	"	"	"	"	
Cadmium	"	ND	----	0.557	"	"	"	"	"	"	
Chromium	"	154	----	0.557	"	"	"	"	"	"	
Lead	"	1.00	----	0.557	"	"	"	"	"	"	
Selenium	"	ND	----	1.11	"	"	"	"	"	"	
Silver	"	ND	----	0.557	"	"	"	"	"	"	

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Sandra Yakamavich

Sandra Yakamavich, Project Manager

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Polychlorinated Biphenyls by EPA Method 8082
TestAmerica Seattle

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BRE0134-03	(T1-050608-8-SW)	Soil				Sampled: 05/06/08 14:07				H4
Aroclor 1016	EPA 8082	ND	----	321	ug/kg dry	10x	8E28037	05/28/08 13:45	06/04/08 12:15	RL1
Aroclor 1221	"	ND	----	642	"	"	"	"	"	
Aroclor 1232	"	ND	----	321	"	"	"	"	"	
Aroclor 1242	"	ND	----	321	"	"	"	"	"	
Aroclor 1248	"	ND	----	321	"	"	"	"	"	
Aroclor 1254	"	ND	----	321	"	"	"	"	"	
Aroclor 1260	"	ND	----	321	"	"	"	"	"	RL1
Aroclor 1262	"	ND	----	321	"	"	"	"	"	
Aroclor 1268	"	ND	----	321	"	"	"	"	"	
<i>Surrogate(s): TCX</i>			112%		65 - 125 %	"			"	
<i>Decachlorobiphenyl</i>			113%		40 - 150 %	"			"	

BRE0134-08	(T2-050608-8-NE)	Soil				Sampled: 05/06/08 16:03				H4
Aroclor 1016	EPA 8082	ND	----	281	ug/kg dry	10x	8E28037	05/28/08 13:45	06/04/08 12:32	RL1
Aroclor 1221	"	ND	----	561	"	"	"	"	"	
Aroclor 1232	"	ND	----	281	"	"	"	"	"	
Aroclor 1242	"	ND	----	281	"	"	"	"	"	
Aroclor 1248	"	ND	----	281	"	"	"	"	"	
Aroclor 1254	"	ND	----	281	"	"	"	"	"	
Aroclor 1260	"	ND	----	281	"	"	"	"	"	RL1
Aroclor 1262	"	ND	----	281	"	"	"	"	"	
Aroclor 1268	"	ND	----	281	"	"	"	"	"	
<i>Surrogate(s): TCX</i>			94.6%		65 - 125 %	"			"	
<i>Decachlorobiphenyl</i>			83.8%		40 - 150 %	"			"	

BRE0134-15	(T8-050808-6-NE)	Soil				Sampled: 05/08/08 12:04				RL1
Aroclor 1016	EPA 8082	ND	----	295	ug/kg dry	10x	8E22044	05/22/08 13:36	06/04/08 18:07	
Aroclor 1221	"	ND	----	591	"	"	"	"	"	
Aroclor 1232	"	ND	----	295	"	"	"	"	"	
Aroclor 1242	"	ND	----	295	"	"	"	"	"	
Aroclor 1248	"	ND	----	295	"	"	"	"	"	
Aroclor 1254	"	ND	----	295	"	"	"	"	"	
Aroclor 1260	"	ND	----	295	"	"	"	"	"	
Aroclor 1262	"	ND	----	295	"	"	"	"	"	
Aroclor 1268	"	ND	----	295	"	"	"	"	"	
<i>Surrogate(s): TCX</i>			101%		65 - 125 %	"			"	
<i>Decachlorobiphenyl</i>			113%		40 - 150 %	"			"	

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Sandra Yakamovich

Sandra Yakamovich, Project Manager



Farallon Consulting LLC 975 5th Ave NW Ste 100 Issaquah, WA/USA 98027	Project Name: BNSF - John Michael Lease Site Project Number: 683-018 Project Manager: Dan Caputo	Report Created: 06/09/08 14:10
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Polychlorinated Biphenyls by EPA Method 8082
TestAmerica Seattle

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BRE0134-19 (T7-050808-8-S)		Soil			Sampled: 05/08/08 10:01					RL1
Aroclor 1016	EPA 8082	ND	----	2790	ug/kg dry	50x	8E22044	05/22/08 13:36	06/04/08 18:42	
Aroclor 1221	"	ND	----	5570	"	"	"	"	"	
Aroclor 1232	"	ND	----	2790	"	"	"	"	"	
Aroclor 1242	"	ND	----	2790	"	"	"	"	"	
Aroclor 1248	"	ND	----	2790	"	"	"	"	"	
Aroclor 1254	"	ND	----	2790	"	"	"	"	"	
Aroclor 1260	"	ND	----	2790	"	"	"	"	"	
Aroclor 1262	"	ND	----	2790	"	"	"	"	"	
Aroclor 1268	"	ND	----	2790	"	"	"	"	"	
Surrogate(s): TCX			106%		65 - 125 %	"				
Decachlorobiphenyl			124%		40 - 150 %	"				
BRE0134-25 (T5-050608-8-SW)		Soil			Sampled: 05/06/08 11:25					H4
Aroclor 1016	EPA 8082	ND	----	290	ug/kg dry	10x	8E28037	05/28/08 13:45	06/04/08 12:50	RL1
Aroclor 1221	"	ND	----	581	"	"	"	"	"	
Aroclor 1232	"	ND	----	290	"	"	"	"	"	
Aroclor 1242	"	ND	----	290	"	"	"	"	"	
Aroclor 1248	"	ND	----	290	"	"	"	"	"	
Aroclor 1254	"	ND	----	290	"	"	"	"	"	
Aroclor 1260	"	ND	----	290	"	"	"	"	"	RL1
Aroclor 1262	"	ND	----	290	"	"	"	"	"	
Aroclor 1268	"	ND	----	290	"	"	"	"	"	
Surrogate(s): TCX			164%		65 - 125 %	"				ZX
Decachlorobiphenyl			144%		40 - 150 %	"				
BRE0134-35 (T6-050708-10-N)		Soil			Sampled: 05/07/08 14:03					
Aroclor 1016	EPA 8082	ND	----	843	ug/kg dry	10x	8E21059	05/21/08 17:52	06/04/08 19:18	
Aroclor 1221	"	ND	----	1690	"	"	"	"	"	
Aroclor 1232	"	ND	----	843	"	"	"	"	"	
Aroclor 1242	"	ND	----	843	"	"	"	"	"	
Aroclor 1248	"	ND	----	843	"	"	"	"	"	
Aroclor 1254	"	ND	----	843	"	"	"	"	"	
Aroclor 1260	"	ND	----	843	"	"	"	"	"	
Aroclor 1262	"	ND	----	843	"	"	"	"	"	
Aroclor 1268	"	ND	----	843	"	"	"	"	"	
Surrogate(s): TCX			82.7%		65 - 125 %	"				
Decachlorobiphenyl			84.9%		40 - 150 %	"				

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Polychlorinated Biphenyls by EPA Method 8082
TestAmerica Seattle

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
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BRE0134-37 (T3-050708-8-SW)		Soil			Sampled: 05/07/08 09:16					
Aroclor 1016	EPA 8082	ND	----	277	ug/kg dry	10x	8E21059	05/21/08 17:52	06/04/08 19:35	
Aroclor 1221	"	ND	----	554	"	"	"	"	"	
Aroclor 1232	"	ND	----	277	"	"	"	"	"	
Aroclor 1242	"	ND	----	277	"	"	"	"	"	
Aroclor 1248	"	ND	----	277	"	"	"	"	"	
Aroclor 1254	"	ND	----	277	"	"	"	"	"	
Aroclor 1260	"	ND	----	277	"	"	"	"	"	
Aroclor 1262	"	ND	----	277	"	"	"	"	"	
Aroclor 1268	"	ND	----	277	"	"	"	"	"	
Surrogate(s): TCX			98.6%		65 - 125 %	"				"
Decachlorobiphenyl			89.3%		40 - 150 %	"				"

BRE0134-43 (T4-050708-8-N)		Soil			Sampled: 05/07/08 11:40					
Aroclor 1016	EPA 8082	ND	----	540	ug/kg dry	10x	8E21059	05/21/08 17:52	06/04/08 20:46	
Aroclor 1221	"	ND	----	1080	"	"	"	"	"	
Aroclor 1232	"	ND	----	540	"	"	"	"	"	
Aroclor 1242	"	ND	----	540	"	"	"	"	"	
Aroclor 1248	"	ND	----	540	"	"	"	"	"	
Aroclor 1254	"	ND	----	540	"	"	"	"	"	
Aroclor 1260	"	ND	----	540	"	"	"	"	"	
Aroclor 1262	"	ND	----	540	"	"	"	"	"	
Aroclor 1268	"	ND	----	540	"	"	"	"	"	
Surrogate(s): TCX			86.6%		65 - 125 %	"				"
Decachlorobiphenyl			94.2%		40 - 150 %	"				"

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Polynuclear Aromatic Hydrocarbons by GC/MS-SIM
 TestAmerica Seattle

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BRE0134-02 (T1-050608-8-NE)		Soil			Sampled: 05/06/08 13:52					
Acenaphthene	EPA 8270C-SIM	ND	----	0.0117	mg/kg dry	1x	8E12039	05/12/08 13:31	05/20/08 01:34	
Acenaphthylene	"	ND	----	0.0117	"	"	"	"	"	
Anthracene	"	ND	----	0.0117	"	"	"	"	"	
Benzo (a) anthracene	"	ND	----	0.0117	"	"	"	"	"	
Benzo (a) pyrene	"	ND	----	0.0117	"	"	"	"	"	
Benzo (b) fluoranthene	"	ND	----	0.0117	"	"	"	"	"	
Benzo (k) fluoranthene	"	ND	----	0.0117	"	"	"	"	"	
Benzo (ghi) perylene	"	ND	----	0.0117	"	"	"	"	"	
Chrysene	"	0.0155	----	0.0117	"	"	"	"	"	
Dibenz (a,h) anthracene	"	ND	----	0.0117	"	"	"	"	"	
Fluoranthene	"	0.0132	----	0.0117	"	"	"	"	"	
Fluorene	"	ND	----	0.0117	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	"	ND	----	0.0117	"	"	"	"	"	
1-Methylnaphthalene	"	ND	----	0.0117	"	"	"	"	"	
2-Methylnaphthalene	"	ND	----	0.0117	"	"	"	"	"	
Naphthalene	"	ND	----	0.0117	"	"	"	"	"	
Phenanthrene	"	ND	----	0.0117	"	"	"	"	"	
Pyrene	"	0.0163	----	0.0117	"	"	"	"	"	
<i>Surrogate(s): p-Terphenyl-d14</i>			93.4%		50 - 147 %	"				

BRE0134-03 (T1-050608-8-SW)		Soil			Sampled: 05/06/08 14:07					
Acenaphthene	EPA 8270C-SIM	ND	----	0.0128	mg/kg dry	1x	8E12039	05/12/08 13:31	05/20/08 01:09	
Acenaphthylene	"	ND	----	0.0128	"	"	"	"	"	
Anthracene	"	ND	----	0.0128	"	"	"	"	"	
Benzo (a) anthracene	"	0.0255	----	0.0128	"	"	"	"	"	
Benzo (a) pyrene	"	0.0230	----	0.0128	"	"	"	"	"	
Benzo (b) fluoranthene	"	0.0366	----	0.0128	"	"	"	"	"	
Benzo (k) fluoranthene	"	0.0204	----	0.0128	"	"	"	"	"	
Benzo (ghi) perylene	"	0.0281	----	0.0128	"	"	"	"	"	
Chrysene	"	0.0502	----	0.0128	"	"	"	"	"	
Dibenz (a,h) anthracene	"	ND	----	0.0128	"	"	"	"	"	
Fluoranthene	"	0.0204	----	0.0128	"	"	"	"	"	
Fluorene	"	ND	----	0.0128	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	"	0.0153	----	0.0128	"	"	"	"	"	
1-Methylnaphthalene	"	ND	----	0.0128	"	"	"	"	"	
2-Methylnaphthalene	"	0.0153	----	0.0128	"	"	"	"	"	
Naphthalene	"	ND	----	0.0128	"	"	"	"	"	
Phenanthrene	"	ND	----	0.0128	"	"	"	"	"	
Pyrene	"	0.0340	----	0.0128	"	"	"	"	"	
<i>Surrogate(s): p-Terphenyl-d14</i>			94.9%		50 - 147 %	"				

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Sandra Yakamovich

Sandra Yakamovich, Project Manager

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Polynuclear Aromatic Hydrocarbons by GC/MS-SIM
TestAmerica Seattle

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BRE0134-07 (T2-050608-8-SW)		Soil				Sampled: 05/06/08 15:13				
Acenaphthene	EPA 8270C-SIM	ND	----	0.327	mg/kg dry	10x	8E12039	05/12/08 13:31	05/20/08 03:44	
Acenaphthylene	"	ND	----	0.327	"	"	"	"	"	
Anthracene	"	ND	----	0.327	"	"	"	"	"	
Benzo (a) anthracene	"	ND	----	0.327	"	"	"	"	"	
Benzo (a) pyrene	"	0.415	----	0.327	"	"	"	"	"	
Benzo (b) fluoranthene	"	ND	----	0.327	"	"	"	"	"	
Benzo (k) fluoranthene	"	ND	----	0.327	"	"	"	"	"	
Benzo (ghi) perylene	"	ND	----	0.327	"	"	"	"	"	
Chrysene	"	ND	----	0.327	"	"	"	"	"	
Dibenz (a,h) anthracene	"	ND	----	0.327	"	"	"	"	"	
Fluoranthene	"	ND	----	0.327	"	"	"	"	"	
Fluorene	"	ND	----	0.327	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	"	ND	----	0.327	"	"	"	"	"	
1-Methylnaphthalene	"	ND	----	0.327	"	"	"	"	"	
2-Methylnaphthalene	"	ND	----	0.327	"	"	"	"	"	
Naphthalene	"	ND	----	0.327	"	"	"	"	"	
Phenanthrene	"	ND	----	0.327	"	"	"	"	"	
Pyrene	"	ND	----	0.327	"	"	"	"	"	
<i>Surrogate(s): p-Terphenyl-d14</i>			109%		50 - 147 %	"				"

BRE0134-08 (T2-050608-8-NE)		Soil				Sampled: 05/06/08 16:03					RL1
Acenaphthene	EPA 8270C-SIM	ND	----	0.282	mg/kg dry	10x	8E12039	05/12/08 13:31	05/20/08 03:19		
Acenaphthylene	"	ND	----	0.282	"	"	"	"	"		
Anthracene	"	ND	----	0.282	"	"	"	"	"		
Benzo (a) anthracene	"	ND	----	0.282	"	"	"	"	"		
Benzo (a) pyrene	"	ND	----	0.282	"	"	"	"	"		
Benzo (b) fluoranthene	"	ND	----	0.282	"	"	"	"	"		
Benzo (k) fluoranthene	"	ND	----	0.282	"	"	"	"	"		
Benzo (ghi) perylene	"	ND	----	0.282	"	"	"	"	"		
Chrysene	"	ND	----	0.282	"	"	"	"	"		
Dibenz (a,h) anthracene	"	ND	----	0.282	"	"	"	"	"		
Fluoranthene	"	ND	----	0.282	"	"	"	"	"		
Fluorene	"	ND	----	0.282	"	"	"	"	"		
Indeno (1,2,3-cd) pyrene	"	ND	----	0.282	"	"	"	"	"		
1-Methylnaphthalene	"	ND	----	0.282	"	"	"	"	"		
2-Methylnaphthalene	"	ND	----	0.282	"	"	"	"	"		
Naphthalene	"	ND	----	0.282	"	"	"	"	"		
Phenanthrene	"	ND	----	0.282	"	"	"	"	"		
Pyrene	"	ND	----	0.282	"	"	"	"	"		
<i>Surrogate(s): p-Terphenyl-d14</i>			105%		50 - 147 %	"				"	

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Sandra Yakamavich

Sandra Yakamavich, Project Manager



Farallon Consulting LLC 975 5th Ave NW Ste 100 Issaquah, WA/USA 98027	Project Name: BNSF - John Michael Lease Site Project Number: 683-018 Project Manager: Dan Caputo	Report Created: 06/09/08 14:10
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Polynuclear Aromatic Hydrocarbons by GC/MS-SIM
TestAmerica Seattle

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BRE0134-11 (TP-18-050808-8)		Soil					Sampled: 05/08/08 12:29			RL1
Acenaphthene	EPA 8270C-SIM	ND	----	0.133	mg/kg dry	10x	8E12039	05/12/08 13:31	05/20/08 02:53	
Acenaphthylene	"	ND	----	0.133	"	"	"	"	"	
Anthracene	"	ND	----	0.133	"	"	"	"	"	
Benzo (a) anthracene	"	ND	----	0.133	"	"	"	"	"	
Benzo (a) pyrene	"	ND	----	0.133	"	"	"	"	"	
Benzo (b) fluoranthene	"	ND	----	0.133	"	"	"	"	"	
Benzo (k) fluoranthene	"	ND	----	0.133	"	"	"	"	"	
Benzo (ghi) perylene	"	ND	----	0.133	"	"	"	"	"	
Chrysene	"	ND	----	0.133	"	"	"	"	"	
Dibenz (a,h) anthracene	"	ND	----	0.133	"	"	"	"	"	
Fluoranthene	"	ND	----	0.133	"	"	"	"	"	
Fluorene	"	ND	----	0.133	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	"	ND	----	0.133	"	"	"	"	"	
1-Methylnaphthalene	"	ND	----	0.133	"	"	"	"	"	
2-Methylnaphthalene	"	ND	----	0.133	"	"	"	"	"	
Naphthalene	"	ND	----	0.133	"	"	"	"	"	
Phenanthrene	"	ND	----	0.133	"	"	"	"	"	
Pyrene	"	ND	----	0.133	"	"	"	"	"	
<i>Surrogate(s): p-Terphenyl-d14</i>			98.4%		50 - 147 %					

BRE0134-14 (T8-050808-6-SW)		Soil					Sampled: 05/08/08 11:20			
Acenaphthene	EPA 8270C-SIM	ND	----	0.0120	mg/kg dry	1x	8E12039	05/12/08 13:31	05/19/08 23:28	
Acenaphthylene	"	ND	----	0.0120	"	"	"	"	"	
Anthracene	"	ND	----	0.0120	"	"	"	"	"	
Benzo (a) anthracene	"	ND	----	0.0120	"	"	"	"	"	
Benzo (a) pyrene	"	ND	----	0.0120	"	"	"	"	"	
Benzo (b) fluoranthene	"	ND	----	0.0120	"	"	"	"	"	
Benzo (k) fluoranthene	"	ND	----	0.0120	"	"	"	"	"	
Benzo (ghi) perylene	"	ND	----	0.0120	"	"	"	"	"	
Chrysene	"	ND	----	0.0120	"	"	"	"	"	
Dibenz (a,h) anthracene	"	ND	----	0.0120	"	"	"	"	"	
Fluoranthene	"	ND	----	0.0120	"	"	"	"	"	
Fluorene	"	ND	----	0.0120	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	"	ND	----	0.0120	"	"	"	"	"	
1-Methylnaphthalene	"	ND	----	0.0120	"	"	"	"	"	
2-Methylnaphthalene	"	ND	----	0.0120	"	"	"	"	"	
Naphthalene	"	0.0376	----	0.0120	"	"	"	"	"	
Phenanthrene	"	ND	----	0.0120	"	"	"	"	"	
Pyrene	"	ND	----	0.0120	"	"	"	"	"	
<i>Surrogate(s): p-Terphenyl-d14</i>			99.4%		50 - 147 %					

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Sandra Yakunovich

Sandra Yakunovich, Project Manager

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Farallon Consulting LLC 975 5th Ave NW Ste 100 Issaquah, WA/USA 98027	Project Name: BNSF - John Michael Lease Site Project Number: 683-018 Project Manager: Dan Caputo	Report Created: 06/09/08 14:10
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Polynuclear Aromatic Hydrocarbons by GC/MS-SIM
TestAmerica Seattle

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BRE0134-15 (T8-050808-6-NE)		Soil			Sampled: 05/08/08 12:04					
Acenaphthene	EPA 8270C-SIM	ND	----	0.0118	mg/kg dry	1x	8E12039	05/12/08 13:31	05/19/08 23:53	
Acenaphthylene	"	ND	----	0.0118	"	"	"	"	"	
Anthracene	"	ND	----	0.0118	"	"	"	"	"	
Benzo (a) anthracene	"	0.0212	----	0.0118	"	"	"	"	"	
Benzo (a) pyrene	"	0.0204	----	0.0118	"	"	"	"	"	
Benzo (b) fluoranthene	"	0.0228	----	0.0118	"	"	"	"	"	
Benzo (k) fluoranthene	"	0.0188	----	0.0118	"	"	"	"	"	
Benzo (ghi) perylene	"	0.0165	----	0.0118	"	"	"	"	"	
Chrysene	"	0.0236	----	0.0118	"	"	"	"	"	
Dibenz (a,h) anthracene	"	ND	----	0.0118	"	"	"	"	"	
Fluoranthene	"	0.0290	----	0.0118	"	"	"	"	"	
Fluorene	"	ND	----	0.0118	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	"	0.0141	----	0.0118	"	"	"	"	"	
1-Methylnaphthalene	"	ND	----	0.0118	"	"	"	"	"	
2-Methylnaphthalene	"	ND	----	0.0118	"	"	"	"	"	
Naphthalene	"	ND	----	0.0118	"	"	"	"	"	
Phenanthrene	"	ND	----	0.0118	"	"	"	"	"	
Pyrene	"	0.0298	----	0.0118	"	"	"	"	"	

Surrogate(s): *p-Terphenyl-d14* 98.4% 50 - 147 % " "

BRE0134-19 (T7-050808-8-S)		Soil			Sampled: 05/08/08 10:01					
Acenaphthene	EPA 8270C-SIM	15.5	----	4.15	mg/kg dry	50x	8E12039	05/12/08 13:31	05/18/08 14:13	
Acenaphthylene	"	ND	----	4.15	"	"	"	"	"	
Anthracene	"	9.97	----	4.15	"	"	"	"	"	
Benzo (a) anthracene	"	5.54	----	4.15	"	"	"	"	"	
Benzo (a) pyrene	"	ND	----	4.15	"	"	"	"	"	
Benzo (b) fluoranthene	"	ND	----	4.15	"	"	"	"	"	
Benzo (k) fluoranthene	"	ND	----	4.15	"	"	"	"	"	
Benzo (ghi) perylene	"	ND	----	4.15	"	"	"	"	"	
Chrysene	"	13.8	----	4.15	"	"	"	"	"	
Dibenz (a,h) anthracene	"	ND	----	4.15	"	"	"	"	"	
Fluoranthene	"	5.26	----	4.15	"	"	"	"	"	
Fluorene	"	18.0	----	4.15	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	"	ND	----	4.15	"	"	"	"	"	
1-Methylnaphthalene	"	82.8	----	4.15	"	"	"	"	"	
2-Methylnaphthalene	"	107	----	4.15	"	"	"	"	"	
Naphthalene	"	18.0	----	4.15	"	"	"	"	"	
Phenanthrene	"	49.3	----	4.15	"	"	"	"	"	
Pyrene	"	24.1	----	4.15	"	"	"	"	"	

Surrogate(s): *p-Terphenyl-d14* 110% 50 - 147 % " "

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Sandra Yakamovich

Sandra Yakamovich, Project Manager



Farallon Consulting LLC 975 5th Ave NW Ste 100 Issaquah, WA/USA 98027	Project Name: BNSF - John Michael Lease Site Project Number: 683-018 Project Manager: Dan Caputo	Report Created: 06/09/08 14:10
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Polynuclear Aromatic Hydrocarbons by GC/MS-SIM
TestAmerica Seattle

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BRE0134-20 (T7-050808-8-N)		Soil			Sampled: 05/08/08 10:39					
Acenaphthene	EPA 8270C-SIM	4.55	----	1.52	mg/kg dry	50x	8E12039	05/12/08 13:31	05/18/08 14:45	
Acenaphthylene	"	ND	----	1.52	"	"	"	"	"	
Anthracene	"	2.13	----	1.52	"	"	"	"	"	
Benzo (a) anthracene	"	ND	----	1.52	"	"	"	"	"	
Benzo (a) pyrene	"	ND	----	1.52	"	"	"	"	"	
Benzo (b) fluoranthene	"	ND	----	1.52	"	"	"	"	"	
Benzo (k) fluoranthene	"	ND	----	1.52	"	"	"	"	"	
Benzo (ghi) perylene	"	ND	----	1.52	"	"	"	"	"	
Chrysene	"	3.04	----	1.52	"	"	"	"	"	
Dibenz (a,h) anthracene	"	ND	----	1.52	"	"	"	"	"	
Fluoranthene	"	ND	----	1.52	"	"	"	"	"	
Fluorene	"	3.74	----	1.52	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	"	ND	----	1.52	"	"	"	"	"	
1-Methylnaphthalene	"	6.98	----	1.52	"	"	"	"	"	
2-Methylnaphthalene	"	ND	----	1.52	"	"	"	"	"	
Naphthalene	"	ND	----	1.52	"	"	"	"	"	
Phenanthrene	"	ND	----	1.52	"	"	"	"	"	
Pyrene	"	5.16	----	1.52	"	"	"	"	"	

Surrogate(s): p-Terphenyl-d14 110% 50 - 147 % " "

BRE0134-24 (T5-050608-8-NE)		Soil			Sampled: 05/06/08 11:17					
Acenaphthene	EPA 8270C-SIM	ND	----	0.0118	mg/kg dry	1x	8E12039	05/12/08 13:31	05/20/08 00:43	
Acenaphthylene	"	ND	----	0.0118	"	"	"	"	"	
Anthracene	"	ND	----	0.0118	"	"	"	"	"	
Benzo (a) anthracene	"	ND	----	0.0118	"	"	"	"	"	
Benzo (a) pyrene	"	ND	----	0.0118	"	"	"	"	"	
Benzo (b) fluoranthene	"	ND	----	0.0118	"	"	"	"	"	
Benzo (k) fluoranthene	"	ND	----	0.0118	"	"	"	"	"	
Benzo (ghi) perylene	"	ND	----	0.0118	"	"	"	"	"	
Chrysene	"	ND	----	0.0118	"	"	"	"	"	
Dibenz (a,h) anthracene	"	ND	----	0.0118	"	"	"	"	"	
Fluoranthene	"	ND	----	0.0118	"	"	"	"	"	
Fluorene	"	ND	----	0.0118	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	"	ND	----	0.0118	"	"	"	"	"	
1-Methylnaphthalene	"	ND	----	0.0118	"	"	"	"	"	
2-Methylnaphthalene	"	ND	----	0.0118	"	"	"	"	"	
Naphthalene	"	ND	----	0.0118	"	"	"	"	"	
Phenanthrene	"	ND	----	0.0118	"	"	"	"	"	
Pyrene	"	ND	----	0.0118	"	"	"	"	"	

Surrogate(s): p-Terphenyl-d14 94.5% 50 - 147 % " "

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Sandra Yaknavich

Sandra Yaknavich, Project Manager

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Farallon Consulting LLC 975 5th Ave NW Ste 100 Issaquah, WA/USA 98027	Project Name: BNSF - John Michael Lease Site Project Number: 683-018 Project Manager: Dan Caputo	Report Created: 06/09/08 14:10
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Polynuclear Aromatic Hydrocarbons by GC/MS-SIM
TestAmerica Seattle

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BRE0134-26 (T5-050608-8-W)		Soil					Sampled: 05/06/08 11:47			
Acenaphthene	EPA 8270C-SIM	0.0668	----	0.0127	mg/kg dry	1x	8E12039	05/12/08 13:31	05/20/08 00:18	
Acenaphthylene	"	0.0211	----	0.0127	"	"	"	"	"	
Anthracene	"	0.0313	----	0.0127	"	"	"	"	"	
Benzo (a) anthracene	"	0.0177	----	0.0127	"	"	"	"	"	
Benzo (a) pyrene	"	ND	----	0.0127	"	"	"	"	"	
Benzo (b) fluoranthene	"	ND	----	0.0127	"	"	"	"	"	
Benzo (k) fluoranthene	"	ND	----	0.0127	"	"	"	"	"	
Benzo (ghi) perylene	"	ND	----	0.0127	"	"	"	"	"	
Chrysene	"	0.0237	----	0.0127	"	"	"	"	"	
Dibenz (a,h) anthracene	"	ND	----	0.0127	"	"	"	"	"	
Fluoranthene	"	0.101	----	0.0127	"	"	"	"	"	
Fluorene	"	0.109	----	0.0127	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	"	ND	----	0.0127	"	"	"	"	"	
1-Methylnaphthalene	"	0.0169	----	0.0127	"	"	"	"	"	
2-Methylnaphthalene	"	0.0313	----	0.0127	"	"	"	"	"	
Naphthalene	"	0.0769	----	0.0127	"	"	"	"	"	
Phenanthrene	"	0.220	----	0.0127	"	"	"	"	"	
Pyrene	"	0.0684	----	0.0127	"	"	"	"	"	
<i>Surrogate(s): p-Terphenyl-d14</i>			96.4%			50 - 147 %	"			"

BRE0134-28 (TP-17-050608-8)		Soil					Sampled: 05/06/08 12:39			RL1
Acenaphthene	EPA 8270C-SIM	ND	----	0.107	mg/kg dry	10x	8E12039	05/12/08 13:31	05/20/08 02:03	
Acenaphthylene	"	ND	----	0.107	"	"	"	"	"	
Anthracene	"	ND	----	0.107	"	"	"	"	"	
Benzo (a) anthracene	"	ND	----	0.107	"	"	"	"	"	
Benzo (a) pyrene	"	ND	----	0.107	"	"	"	"	"	
Benzo (b) fluoranthene	"	ND	----	0.107	"	"	"	"	"	
Benzo (k) fluoranthene	"	ND	----	0.107	"	"	"	"	"	
Benzo (ghi) perylene	"	ND	----	0.107	"	"	"	"	"	
Chrysene	"	ND	----	0.107	"	"	"	"	"	
Dibenz (a,h) anthracene	"	ND	----	0.107	"	"	"	"	"	
Fluoranthene	"	ND	----	0.107	"	"	"	"	"	
Fluorene	"	ND	----	0.107	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	"	ND	----	0.107	"	"	"	"	"	
1-Methylnaphthalene	"	ND	----	0.107	"	"	"	"	"	
2-Methylnaphthalene	"	ND	----	0.107	"	"	"	"	"	
Naphthalene	"	ND	----	0.107	"	"	"	"	"	
Phenanthrene	"	ND	----	0.107	"	"	"	"	"	
Pyrene	"	ND	----	0.107	"	"	"	"	"	
<i>Surrogate(s): p-Terphenyl-d14</i>			113%			50 - 147 %	"			"

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Sandra Yakamovich

Sandra Yakamovich, Project Manager

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Polynuclear Aromatic Hydrocarbons by GC/MS-SIM
TestAmerica Seattle

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BRE0134-34 (T6-050708-8-S)		Soil			Sampled: 05/07/08 13:17					
Acenaphthene	EPA 8270C-SIM	5.79	----	1.55	mg/kg dry	50x	8E12039	05/12/08 13:31	05/18/08 16:52	
Acenaphthylene	"	ND	----	1.55	"	"	"	"	"	
Anthracene	"	3.51	----	1.55	"	"	"	"	"	
Benzo (a) anthracene	"	1.86	----	1.55	"	"	"	"	"	
Benzo (a) pyrene	"	ND	----	1.55	"	"	"	"	"	
Benzo (b) fluoranthene	"	ND	----	1.55	"	"	"	"	"	
Benzo (k) fluoranthene	"	ND	----	1.55	"	"	"	"	"	
Benzo (ghi) perylene	"	ND	----	1.55	"	"	"	"	"	
Chrysene	"	4.55	----	1.55	"	"	"	"	"	
Dibenz (a,h) anthracene	"	ND	----	1.55	"	"	"	"	"	
Fluoranthene	"	1.76	----	1.55	"	"	"	"	"	
Fluorene	"	6.92	----	1.55	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	"	ND	----	1.55	"	"	"	"	"	
1-Methylnaphthalene	"	33.1	----	1.55	"	"	"	"	"	
2-Methylnaphthalene	"	ND	----	1.55	"	"	"	"	"	
Naphthalene	"	1.86	----	1.55	"	"	"	"	"	
Phenanthrene	"	11.0	----	1.55	"	"	"	"	"	
Pyrene	"	9.92	----	1.55	"	"	"	"	"	

Surrogate(s): p-Terphenyl-d14 96.0% 50 - 147 % " "

BRE0134-35 (T6-050708-10-N)		Soil			Sampled: 05/07/08 14:03					
Acenaphthene	EPA 8270C-SIM	7.39	----	1.61	mg/kg dry	50x	8E12039	05/12/08 13:31	05/18/08 17:24	
Acenaphthylene	"	ND	----	1.61	"	"	"	"	"	
Anthracene	"	5.78	----	1.61	"	"	"	"	"	
Benzo (a) anthracene	"	2.68	----	1.61	"	"	"	"	"	
Benzo (a) pyrene	"	ND	----	1.61	"	"	"	"	"	
Benzo (b) fluoranthene	"	ND	----	1.61	"	"	"	"	"	
Benzo (k) fluoranthene	"	ND	----	1.61	"	"	"	"	"	
Benzo (ghi) perylene	"	ND	----	1.61	"	"	"	"	"	
Chrysene	"	7.17	----	1.61	"	"	"	"	"	
Dibenz (a,h) anthracene	"	ND	----	1.61	"	"	"	"	"	
Fluoranthene	"	2.89	----	1.61	"	"	"	"	"	
Fluorene	"	10.5	----	1.61	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	"	ND	----	1.61	"	"	"	"	"	
1-Methylnaphthalene	"	55.1	----	1.61	"	"	"	"	"	
2-Methylnaphthalene	"	32.2	----	1.61	"	"	"	"	"	
Naphthalene	"	10.1	----	1.61	"	"	"	"	"	
Phenanthrene	"	25.7	----	1.61	"	"	"	"	"	
Pyrene	"	13.7	----	1.61	"	"	"	"	"	

Surrogate(s): p-Terphenyl-d14 120% 50 - 147 % " "

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Sandra Yakamavich

Sandra Yakamavich, Project Manager

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Polynuclear Aromatic Hydrocarbons by GC/MS-SIM
TestAmerica Seattle

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
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BRE0134-37 (T3-050708-8-SW)		Soil	Sampled: 05/07/08 09:16								RL1
Acenaphthene	EPA 8270C-SIM	ND	----	0.109	mg/kg dry	10x	8E12039	05/12/08 13:31	05/20/08 02:28		
Acenaphthylene	"	ND	----	0.109	"	"	"	"	"		
Anthracene	"	ND	----	0.109	"	"	"	"	"		
Benzo (a) anthracene	"	ND	----	0.109	"	"	"	"	"		
Benzo (a) pyrene	"	ND	----	0.109	"	"	"	"	"		
Benzo (b) fluoranthene	"	ND	----	0.109	"	"	"	"	"		
Benzo (k) fluoranthene	"	ND	----	0.109	"	"	"	"	"		
Benzo (ghi) perylene	"	ND	----	0.109	"	"	"	"	"		
Chrysene	"	ND	----	0.109	"	"	"	"	"		
Dibenz (a,h) anthracene	"	ND	----	0.109	"	"	"	"	"		
Fluoranthene	"	ND	----	0.109	"	"	"	"	"		
Fluorene	"	ND	----	0.109	"	"	"	"	"		
Indeno (1,2,3-cd) pyrene	"	ND	----	0.109	"	"	"	"	"		
1-Methylnaphthalene	"	ND	----	0.109	"	"	"	"	"		
2-Methylnaphthalene	"	ND	----	0.109	"	"	"	"	"		
Naphthalene	"	ND	----	0.109	"	"	"	"	"		
Phenanthrene	"	ND	----	0.109	"	"	"	"	"		
Pyrene	"	ND	----	0.109	"	"	"	"	"		

Surrogate(s): *p*-Terphenyl-d14 106% 50 - 147 % " "

BRE0134-38 (T3-050708-8-NE)		Soil	Sampled: 05/07/08 10:03							
Acenaphthene	EPA 8270C-SIM	ND	----	0.530	mg/kg dry	50x	8E12039	05/12/08 13:31	05/18/08 18:27	
Acenaphthylene	"	ND	----	0.530	"	"	"	"	"	
Anthracene	"	ND	----	0.530	"	"	"	"	"	
Benzo (a) anthracene	"	ND	----	0.530	"	"	"	"	"	
Benzo (a) pyrene	"	ND	----	0.530	"	"	"	"	"	
Benzo (b) fluoranthene	"	ND	----	0.530	"	"	"	"	"	
Benzo (k) fluoranthene	"	ND	----	0.530	"	"	"	"	"	
Benzo (ghi) perylene	"	ND	----	0.530	"	"	"	"	"	
Chrysene	"	0.635	----	0.530	"	"	"	"	"	
Dibenz (a,h) anthracene	"	ND	----	0.530	"	"	"	"	"	
Fluoranthene	"	ND	----	0.530	"	"	"	"	"	
Fluorene	"	ND	----	0.530	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	"	ND	----	0.530	"	"	"	"	"	
1-Methylnaphthalene	"	ND	----	0.530	"	"	"	"	"	
2-Methylnaphthalene	"	ND	----	0.530	"	"	"	"	"	
Naphthalene	"	ND	----	0.530	"	"	"	"	"	
Phenanthrene	"	ND	----	0.530	"	"	"	"	"	
Pyrene	"	1.66	----	0.530	"	"	"	"	"	

Surrogate(s): *p*-Terphenyl-d14 94.0% 50 - 147 % " "

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Sandra Yakamovich

Sandra Yakamovich, Project Manager



Farallon Consulting LLC 975 5th Ave NW Ste 100 Issaquah, WA/USA 98027	Project Name: BNSF - John Michael Lease Site Project Number: 683-018 Project Manager: Dan Caputo	Report Created: 06/09/08 14:10
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Polynuclear Aromatic Hydrocarbons by GC/MS-SIM
TestAmerica Seattle

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BRE0134-42 (T4-050708-8-S)		Soil					Sampled: 05/07/08 10:52			
Acenaphthene	EPA 8270C-SIM	ND	----	0.600	mg/kg dry	50x	8E12039	05/12/08 13:31	05/18/08 18:59	
Acenaphthylene	"	ND	----	0.600	"	"	"	"	"	
Anthracene	"	1.00	----	0.600	"	"	"	"	"	
Benzo (a) anthracene	"	0.680	----	0.600	"	"	"	"	"	
Benzo (a) pyrene	"	ND	----	0.600	"	"	"	"	"	
Benzo (b) fluoranthene	"	ND	----	0.600	"	"	"	"	"	
Benzo (k) fluoranthene	"	ND	----	0.600	"	"	"	"	"	
Benzo (ghi) perylene	"	ND	----	0.600	"	"	"	"	"	
Chrysene	"	1.56	----	0.600	"	"	"	"	"	
Dibenz (a,h) anthracene	"	ND	----	0.600	"	"	"	"	"	
Fluoranthene	"	ND	----	0.600	"	"	"	"	"	
Fluorene	"	ND	----	0.600	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	"	ND	----	0.600	"	"	"	"	"	
1-Methylnaphthalene	"	ND	----	0.600	"	"	"	"	"	
2-Methylnaphthalene	"	ND	----	0.600	"	"	"	"	"	
Naphthalene	"	ND	----	0.600	"	"	"	"	"	
Phenanthrene	"	ND	----	0.600	"	"	"	"	"	
Pyrene	"	3.60	----	0.600	"	"	"	"	"	
<i>Surrogate(s): p-Terphenyl-d14</i>			120%		50 - 147 %	"				

BRE0134-43 (T4-050708-8-N)		Soil					Sampled: 05/07/08 11:40			
Acenaphthene	EPA 8270C-SIM	4.13	----	1.59	mg/kg dry	50x	8E12039	05/12/08 13:31	05/18/08 19:31	
Acenaphthylene	"	ND	----	1.59	"	"	"	"	"	
Anthracene	"	ND	----	1.59	"	"	"	"	"	
Benzo (a) anthracene	"	ND	----	1.59	"	"	"	"	"	
Benzo (a) pyrene	"	ND	----	1.59	"	"	"	"	"	
Benzo (b) fluoranthene	"	ND	----	1.59	"	"	"	"	"	
Benzo (k) fluoranthene	"	ND	----	1.59	"	"	"	"	"	
Benzo (ghi) perylene	"	ND	----	1.59	"	"	"	"	"	
Chrysene	"	3.39	----	1.59	"	"	"	"	"	
Dibenz (a,h) anthracene	"	ND	----	1.59	"	"	"	"	"	
Fluoranthene	"	ND	----	1.59	"	"	"	"	"	
Fluorene	"	2.12	----	1.59	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	"	ND	----	1.59	"	"	"	"	"	
1-Methylnaphthalene	"	ND	----	1.59	"	"	"	"	"	
2-Methylnaphthalene	"	ND	----	1.59	"	"	"	"	"	
Naphthalene	"	ND	----	1.59	"	"	"	"	"	
Phenanthrene	"	ND	----	1.59	"	"	"	"	"	
Pyrene	"	7.20	----	1.59	"	"	"	"	"	
<i>Surrogate(s): p-Terphenyl-d14</i>			94.0%		50 - 147 %	"				

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Sandra Yakamavich

Sandra Yakamavich, Project Manager

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Farallon Consulting LLC 975 5th Ave NW Ste 100 Issaquah, WA/USA 98027	Project Name: BNSF - John Michael Lease Site Project Number: 683-018 Project Manager: Dan Caputo	Report Created: 06/09/08 14:10
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Physical Parameters by APHA/ASTM/EPA Methods
TestAmerica Seattle

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BRE0134-02 (T1-050608-8-NE)		Soil						Sampled: 05/06/08 13:52		
Dry Weight	BSOPSPL003R0 8	84.7	----	1.00	%	1x	8E13043	05/13/08 13:33	05/14/08 00:00	
BRE0134-03 (T1-050608-8-SW)		Soil						Sampled: 05/06/08 14:07		
Dry Weight	BSOPSPL003R0 8	78.1	----	1.00	%	1x	8E13043	05/13/08 13:33	05/14/08 00:00	
BRE0134-07 (T2-050608-8-SW)		Soil						Sampled: 05/06/08 15:13		
Dry Weight	BSOPSPL003R0 8	76.1	----	1.00	%	1x	8E13043	05/13/08 13:33	05/14/08 00:00	
BRE0134-08 (T2-050608-8-NE)		Soil						Sampled: 05/06/08 16:03		
Dry Weight	BSOPSPL003R0 8	88.2	----	1.00	%	1x	8E13043	05/13/08 13:33	05/14/08 00:00	
BRE0134-09 (T3-050708-2-C)		Soil						Sampled: 05/07/08 08:29		
Dry Weight	BSOPSPL003R0 8	91.4	----	1.00	%	1x	8E23038	05/23/08 18:32	05/27/08 00:00	
BRE0134-10 (T3-050708-4-NE)		Soil						Sampled: 05/07/08 08:36		
Dry Weight	BSOPSPL003R0 8	90.2	----	1.00	%	1x	8E23038	05/23/08 18:32	05/27/08 00:00	
BRE0134-11 (TP-18-050808-8)		Soil						Sampled: 05/08/08 12:29		
Dry Weight	BSOPSPL003R0 8	75.0	----	1.00	%	1x	8E13044	05/13/08 13:34	05/14/08 00:00	
BRE0134-12 (T8-050808-2-SW)		Soil						Sampled: 05/08/08 11:08		
Dry Weight	BSOPSPL003R0 8	80.4	----	1.00	%	1x	8E23038	05/23/08 18:32	05/27/08 00:00	
BRE0134-13 (T8-050808-4-NE)		Soil						Sampled: 05/08/08 11:57		
Dry Weight	BSOPSPL003R0 8	92.0	----	1.00	%	1x	8E23038	05/23/08 18:32	05/27/08 00:00	
BRE0134-14 (T8-050808-6-SW)		Soil						Sampled: 05/08/08 11:20		
Dry Weight	BSOPSPL003R0 8	84.4	----	1.00	%	1x	8E13044	05/13/08 13:34	05/14/08 00:00	
BRE0134-15 (T8-050808-6-NE)		Soil						Sampled: 05/08/08 12:04		

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Sandra Yakamavich, Project Manager

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Physical Parameters by APHA/ASTM/EPA Methods
TestAmerica Seattle

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BRE0134-15 (T8-050808-6-NE)		Soil			Sampled: 05/08/08 12:04					
Dry Weight	BSOPSP1003R0 8	85.2	----	1.00	%	1x	8E13044	05/13/08 13:34	05/14/08 00:00	
BRE0134-16 (T7-050808-2-S)		Soil			Sampled: 05/08/08 09:20					
Dry Weight	BSOPSP1003R0 8	95.4	----	1.00	%	1x	8E23038	05/23/08 18:32	05/27/08 00:00	
BRE0134-17 (T7-050808-4-N)		Soil			Sampled: 05/08/08 10:37					
Dry Weight	BSOPSP1003R0 8	90.2	----	1.00	%	1x	8E23038	05/23/08 18:32	05/27/08 00:00	
BRE0134-18 (T7-050808-6-S)		Soil			Sampled: 05/08/08 09:38					
Dry Weight	BSOPSP1003R0 8	84.4	----	1.00	%	1x	8E23038	05/23/08 18:32	05/27/08 00:00	
BRE0134-19 (T7-050808-8-S)		Soil			Sampled: 05/08/08 10:01					
Dry Weight	BSOPSP1003R0 8	86.8	----	1.00	%	1x	8E13044	05/13/08 13:34	05/14/08 00:00	
BRE0134-20 (T7-050808-8-N)		Soil			Sampled: 05/08/08 10:39					
Dry Weight	BSOPSP1003R0 8	94.1	----	1.00	%	1x	8E13044	05/13/08 13:34	05/14/08 00:00	
BRE0134-24 (T5-050608-8-NE)		Soil			Sampled: 05/06/08 11:17					
Dry Weight	BSOPSP1003R0 8	83.6	----	1.00	%	1x	8E13044	05/13/08 13:34	05/14/08 00:00	
BRE0134-25 (T5-050608-8-SW)		Soil			Sampled: 05/06/08 11:25					
Dry Weight	BSOPSP1003R0 8	85.2	----	1.00	%	1x	8E28041	05/28/08 13:49	05/29/08 00:00	
BRE0134-26 (T5-050608-8-W)		Soil			Sampled: 05/06/08 11:47					
Dry Weight	BSOPSP1003R0 8	78.9	----	1.00	%	1x	8E13044	05/13/08 13:34	05/14/08 00:00	
BRE0134-28 (TP-17-050608-8)		Soil			Sampled: 05/06/08 12:39					
Dry Weight	BSOPSP1003R0 8	93.8	----	1.00	%	1x	8E13044	05/13/08 13:34	05/14/08 00:00	
BRE0134-31 (T6-050708-2-N)		Soil			Sampled: 05/07/08 12:53					

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Sandra Yakamovich

Sandra Yakamovich, Project Manager

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Physical Parameters by APHA/ASTM/EPA Methods
TestAmerica Seattle

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BRE0134-31 (T6-050708-2-N)		Soil						Sampled: 05/07/08 12:53		
Dry Weight	BSOPSPL003R0 8	95.0	----	1.00	%	1x	8E23038	05/23/08 18:32	05/27/08 00:00	
BRE0134-32 (T6-050708-4-S)		Soil						Sampled: 05/07/08 13:03		
Dry Weight	BSOPSPL003R0 8	92.1	----	1.00	%	1x	8E23038	05/23/08 18:32	05/27/08 00:00	
BRE0134-33 (T6-050708-6-N)		Soil						Sampled: 05/07/08 13:45		
Dry Weight	BSOPSPL003R0 8	94.3	----	1.00	%	1x	8E23038	05/23/08 18:32	05/27/08 00:00	
BRE0134-34 (T6-050708-8-S)		Soil						Sampled: 05/07/08 13:17		
Dry Weight	BSOPSPL003R0 8	94.9	----	1.00	%	1x	8E13044	05/13/08 13:34	05/14/08 00:00	
BRE0134-35 (T6-050708-10-N)		Soil						Sampled: 05/07/08 14:03		
Dry Weight	BSOPSPL003R0 8	89.0	----	1.00	%	1x	8E13044	05/13/08 13:34	05/14/08 00:00	
BRE0134-36 (T3-050708-6-SW)		Soil						Sampled: 05/07/08 08:52		
Dry Weight	BSOPSPL003R0 8	83.6	----	1.00	%	1x	8E23038	05/23/08 18:32	05/27/08 00:00	
BRE0134-37 (T3-050708-8-SW)		Soil						Sampled: 05/07/08 09:16		
Dry Weight	BSOPSPL003R0 8	89.9	----	1.00	%	1x	8E13044	05/13/08 13:34	05/14/08 00:00	
BRE0134-38 (T3-050708-8-NE)		Soil						Sampled: 05/07/08 10:03		
Dry Weight	BSOPSPL003R0 8	93.5	----	1.00	%	1x	8E13044	05/13/08 13:34	05/14/08 00:00	
BRE0134-39 (T4-050708-2-S)		Soil						Sampled: 05/07/08 10:22		
Dry Weight	BSOPSPL003R0 8	92.8	----	1.00	%	1x	8E23038	05/23/08 18:32	05/27/08 00:00	
BRE0134-40 (T4-050708-4-N)		Soil						Sampled: 05/07/08 10:31		
Dry Weight	BSOPSPL003R0 8	88.7	----	1.00	%	1x	8E23038	05/23/08 18:32	05/27/08 00:00	
BRE0134-41 (T4-050708-6-N)		Soil						Sampled: 05/07/08 11:14		

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Physical Parameters by APHA/ASTM/EPA Methods
TestAmerica Seattle

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BRE0134-41 (T4-050708-6-N)		Soil			Sampled: 05/07/08 11:14					
Dry Weight	BSOPSPL003R0 8	91.3	----	1.00	%	1x	8E23038	05/23/08 18:32	05/27/08 00:00	
BRE0134-42 (T4-050708-8-S)		Soil			Sampled: 05/07/08 10:52					
Dry Weight	BSOPSPL003R0 8	82.8	----	1.00	%	1x	8E13044	05/13/08 13:34	05/14/08 00:00	
BRE0134-43 (T4-050708-8-N)		Soil			Sampled: 05/07/08 11:40					
Dry Weight	BSOPSPL003R0 8	92.6	----	1.00	%	1x	8E13044	05/13/08 13:34	05/14/08 00:00	
BRE0134-44 (T9-050808-8-SE)		Soil			Sampled: 05/08/08 13:42					
Dry Weight	BSOPSPL003R0 8	91.6	----	1.00	%	1x	8E23038	05/23/08 18:32	05/27/08 00:00	
BRE0134-45 (TP-19-050808-8)		Soil			Sampled: 05/08/08 12:39					
Dry Weight	BSOPSPL003R0 8	83.7	----	1.00	%	1x	8E23038	05/23/08 18:32	05/27/08 00:00	

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Total Metals by EPA 6010/7000 Series Methods
TestAmerica Spokane

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BRE0134-03 (T1-050608-8-SW)		Soil			Sampled: 05/06/08 14:07					
Mercury	EPA 7471	0.0745	----	0.0500	mg/kg dry	1x	8050148	05/30/08 09:37	05/30/08 14:20	
BRE0134-08 (T2-050608-8-NE)		Soil			Sampled: 05/06/08 16:03					
Mercury	EPA 7471	ND	----	0.0500	mg/kg dry	1x	8050148	05/30/08 09:37	05/30/08 13:14	
BRE0134-15 (T8-050808-6-NE)		Soil			Sampled: 05/08/08 12:04					
Mercury	EPA 7471	ND	----	0.0500	mg/kg dry	1x	8050148	05/30/08 09:37	05/30/08 13:16	
BRE0134-19 (T7-050808-8-S)		Soil			Sampled: 05/08/08 10:01					
Mercury	EPA 7471	ND	----	0.0500	mg/kg dry	1x	8050148	05/30/08 09:37	05/30/08 13:18	
BRE0134-25 (T5-050608-8-SW)		Soil			Sampled: 05/06/08 11:25					
Mercury	EPA 7471	0.0672	----	0.0500	mg/kg dry	1x	8050148	05/30/08 09:37	05/30/08 13:20	
BRE0134-35 (T6-050708-10-N)		Soil			Sampled: 05/07/08 14:03					
Mercury	EPA 7471	ND	----	0.0500	mg/kg dry	1x	8050148	05/30/08 09:37	05/30/08 13:23	
BRE0134-37 (T3-050708-8-SW)		Soil			Sampled: 05/07/08 09:16					
Mercury	EPA 7471	0.0874	----	0.0500	mg/kg dry	1x	8050148	05/30/08 09:37	05/30/08 13:25	
BRE0134-43 (T4-050708-8-N)		Soil			Sampled: 05/07/08 11:40					
Mercury	EPA 7471	ND	----	0.0500	mg/kg dry	1x	8050148	05/30/08 09:37	05/30/08 13:27	

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Sandra Yakamovich, Project Manager

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Conventional Chemistry Parameters by APHA/EPA Methods
 TestAmerica Spokane

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BRE0134-03 (T1-050608-8-SW)		Soil			Sampled: 05/06/08 14:07					
% Solids	TA SOP	80.8	----	0.0100	% by Weight	1x	8060002	06/02/08 07:00	06/02/08 13:27	
BRE0134-08 (T2-050608-8-NE)		Soil			Sampled: 05/06/08 16:03					
% Solids	TA SOP	93.1	----	0.0100	% by Weight	1x	8060002	06/02/08 07:00	06/02/08 13:27	
BRE0134-15 (T8-050808-6-NE)		Soil			Sampled: 05/08/08 12:04					
% Solids	TA SOP	86.8	----	0.0100	% by Weight	1x	8060002	06/02/08 07:00	06/02/08 13:27	
BRE0134-19 (T7-050808-8-S)		Soil			Sampled: 05/08/08 10:01					
% Solids	TA SOP	86.4	----	0.0100	% by Weight	1x	8060002	06/02/08 07:00	06/02/08 13:27	
BRE0134-25 (T5-050608-8-SW)		Soil			Sampled: 05/06/08 11:25					
% Solids	TA SOP	83.6	----	0.0100	% by Weight	1x	8060002	06/02/08 07:00	06/02/08 13:27	
BRE0134-35 (T6-050708-10-N)		Soil			Sampled: 05/07/08 14:03					
% Solids	TA SOP	89.0	----	0.0100	% by Weight	1x	8060002	06/02/08 07:00	06/02/08 13:27	
BRE0134-37 (T3-050708-8-SW)		Soil			Sampled: 05/07/08 09:16					
% Solids	TA SOP	90.7	----	0.0100	% by Weight	1x	8060002	06/02/08 07:00	06/02/08 13:27	
BRE0134-43 (T4-050708-8-N)		Soil			Sampled: 05/07/08 11:40					
% Solids	TA SOP	95.0	----	0.0100	% by Weight	1x	8060002	06/02/08 07:00	06/02/08 13:27	

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Volatile Petroleum Products by NWTPH-Gx - Laboratory Quality Control Results
 TestAmerica Seattle

QC Batch: 8E11006 Soil Preparation Method: EPA 5030B (P/T)

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (8E11006-BLK1)													Extracted: 05/11/08 09:54	
Gasoline Range Hydrocarbons	NWTPH-Gx	ND	---	5.00	mg/kg wet	1x	--	--	--	--	--	--	05/13/08 18:18	
<i>Surrogate(s): 4-BFB (FID)</i>		<i>Recovery: 85.9%</i>		<i>Limits: 50-150%</i>	"								05/13/08 18:18	
LCS (8E11006-BS1)													Extracted: 05/11/08 09:54	
Gasoline Range Hydrocarbons	NWTPH-Gx	46.5	---	5.00	mg/kg wet	1x	--	50.0	93.1%	(75-125)	--	--	05/13/08 18:51	
<i>Surrogate(s): 4-BFB (FID)</i>		<i>Recovery: 96.6%</i>		<i>Limits: 50-150%</i>	"								05/13/08 18:51	
Duplicate (8E11006-DUP1)													QC Source: BRE0134-02 Extracted: 05/11/08 09:54	
Gasoline Range Hydrocarbons	NWTPH-Gx	ND	---	11.3	mg/kg dry	1x	ND	--	--	--	5.24% (40)		05/13/08 20:30	
<i>Surrogate(s): 4-BFB (FID)</i>		<i>Recovery: 96.6%</i>		<i>Limits: 50-150%</i>	"								05/13/08 20:30	
Duplicate (8E11006-DUP2)													QC Source: BRE0134-03 Extracted: 05/11/08 09:54	
Gasoline Range Hydrocarbons	NWTPH-Gx	ND	---	12.6	mg/kg dry	1x	ND	--	--	--	8.30% (40)		05/13/08 21:36	
<i>Surrogate(s): 4-BFB (FID)</i>		<i>Recovery: 101%</i>		<i>Limits: 50-150%</i>	"								05/13/08 21:36	
Matrix Spike (8E11006-MS1)													QC Source: BRE0134-02 Extracted: 05/11/08 09:54	
Gasoline Range Hydrocarbons	NWTPH-Gx	117	---	11.3	mg/kg dry	1x	2.85	104	109%	(60-175)	--	--	05/13/08 22:42	
<i>Surrogate(s): 4-BFB (FID)</i>		<i>Recovery: 106%</i>		<i>Limits: 50-150%</i>	"								05/13/08 22:42	

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Sandra Yakamavich

Sandra Yakamavich, Project Manager

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Farallon Consulting LLC 975 5th Ave NW Ste 100 Issaquah, WA/USA 98027	Project Name: BNSF - John Michael Lease Site Project Number: 683-018 Project Manager: Dan Caputo	Report Created: 06/09/08 14:10
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Semivolatile Petroleum Products by NWTPH-Dx (w/o Acid/Silica Gel Clean-up) - Laboratory Quality Control Results
 TestAmerica Seattle

QC Batch: 8E12040 Soil Preparation Method: EPA 3550B

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
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Blank (8E12040-BLK1) Extracted: 05/12/08 13:33

Diesel Range Hydrocarbons	NWTPH-Dx	ND	---	10.0	mg/kg wet	1x	--	--	--	--	--	--	05/13/08 21:37	
Lube Oil Range Hydrocarbons	"	ND	---	25.0	"	"	--	--	--	--	--	--	"	
<i>Surrogate(s): 2-FBP</i>		<i>Recovery:</i>	<i>90.9%</i>	<i>Limits: 54-148%</i>		<i>"</i>							<i>05/13/08 21:37</i>	
<i>Octacosane</i>		<i>99.0%</i>		<i>62-142%</i>		<i>"</i>							<i>"</i>	

LCS (8E12040-BS1) Extracted: 05/12/08 13:33

Diesel Range Hydrocarbons	NWTPH-Dx	62.0	---	10.0	mg/kg wet	1x	--	66.7	92.9%	(78-129)	--	--	05/13/08 22:03	
<i>Surrogate(s): 2-FBP</i>		<i>Recovery:</i>	<i>92.9%</i>	<i>Limits: 54-148%</i>		<i>"</i>							<i>05/13/08 22:03</i>	
<i>Octacosane</i>		<i>102%</i>		<i>62-142%</i>		<i>"</i>							<i>"</i>	

Duplicate (8E12040-DUP2) QC Source: BRE0134-38 Extracted: 05/12/08 13:33

Diesel Range Hydrocarbons	NWTPH-Dx	66.7	---	53.3	mg/kg dry	5x	ND	--	--	--	29.2%	(40)	05/13/08 22:56	
Lube Oil Range Hydrocarbons	"	195	---	133	"	"	142	--	--	--	31.5%	"	"	
<i>Surrogate(s): 2-FBP</i>		<i>Recovery:</i>	<i>139%</i>	<i>Limits: 54-148%</i>		<i>"</i>							<i>05/13/08 22:56</i>	
<i>Octacosane</i>		<i>124%</i>		<i>62-142%</i>		<i>"</i>							<i>"</i>	

Duplicate (8E12040-DUP3) QC Source: BRE0134-07RE1 Extracted: 05/12/08 13:33

Diesel Range Hydrocarbons	NWTPH-Dx	589	---	263	mg/kg dry	20x	854	--	--	--	36.7%	(40)	05/15/08 09:13	Z3
Lube Oil Range Hydrocarbons	"	2990	---	657	"	"	3840	--	--	--	24.9%	"	"	Z3
<i>Surrogate(s): 2-FBP</i>		<i>Recovery:</i>	<i>274%</i>	<i>Limits: 54-148%</i>		<i>"</i>							<i>05/15/08 09:13</i>	
<i>Octacosane</i>		<i>171%</i>		<i>62-142%</i>		<i>"</i>							<i>"</i>	

Matrix Spike (8E12040-MS2) QC Source: BRE0134-07RE1 Extracted: 05/12/08 13:33

Diesel Range Hydrocarbons	NWTPH-Dx	422	---	263	mg/kg dry	20x	854	87.6	-493%	(46-155)	--	--	05/15/08 09:40	MHA
<i>Surrogate(s): 2-FBP</i>		<i>Recovery:</i>	<i>274%</i>	<i>Limits: 54-148%</i>		<i>"</i>							<i>05/15/08 09:40</i>	Z3
<i>Octacosane</i>		<i>174%</i>		<i>62-142%</i>		<i>"</i>							<i>"</i>	Z3

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Sandra Yakamovich

Sandra Yakamovich, Project Manager

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BTEX by EPA Method 8021B - Laboratory Quality Control Results
 TestAmerica Seattle

QC Batch: 8E11006 Soil Preparation Method: EPA 5030B (P/T)

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
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Blank (8E11006-BLK1) Extracted: 05/11/08 09:54

Benzene	EPA 8021B	ND	---	0.0300	mg/kg wet	1x	--	--	--	--	--	--	05/13/08 18:18	
Toluene	"	ND	---	0.0500	"	"	--	--	--	--	--	--	"	
Ethylbenzene	"	ND	---	0.0500	"	"	--	--	--	--	--	--	"	
Xylenes (total)	"	ND	---	0.100	"	"	--	--	--	--	--	--	"	

Surrogate(s): 4-BFB (PID) Recovery: 103% Limits: 63-150% " 05/13/08 18:18

LCS (8E11006-BS2) Extracted: 05/11/08 09:54

Benzene	EPA 8021B	1.42	---	0.0300	mg/kg wet	1x	--	1.50	94.7%	(75-125)	--	--	05/13/08 19:24	
Toluene	"	1.44	---	0.0500	"	"	--	"	96.2%	"	--	--	"	
Ethylbenzene	"	1.45	---	0.0500	"	"	--	"	96.9%	"	--	--	"	
Xylenes (total)	"	4.37	---	0.100	"	"	--	4.50	97.2%	"	--	--	"	

Surrogate(s): 4-BFB (PID) Recovery: 103% Limits: 63-150% " 05/13/08 19:24

Duplicate (8E11006-DUP1) QC Source: BRE0134-02 Extracted: 05/11/08 09:54

Benzene	EPA 8021B	ND	---	0.0679	mg/kg dry	1x	ND	--	--	--	NR (35)	--	05/13/08 20:30	
Toluene	"	0.113	---	0.113	"	"	0.117	--	--	--	3.24%	"	"	
Ethylbenzene	"	ND	---	0.113	"	"	ND	--	--	--	44.7%	"	"	R4
Xylenes (total)	"	ND	---	0.226	"	"	ND	--	--	--	45.1%	"	"	R4

Surrogate(s): 4-BFB (PID) Recovery: 113% Limits: 63-150% " 05/13/08 20:30

Duplicate (8E11006-DUP2) QC Source: BRE0134-03 Extracted: 05/11/08 09:54

Benzene	EPA 8021B	ND	---	0.0755	mg/kg dry	1x	ND	--	--	--	NR (35)	--	05/13/08 21:36	
Toluene	"	ND	---	0.126	"	"	ND	--	--	--	4.69%	"	"	
Ethylbenzene	"	ND	---	0.126	"	"	ND	--	--	--	3.80%	"	"	
Xylenes (total)	"	ND	---	0.252	"	"	ND	--	--	--	1.42%	"	"	

Surrogate(s): 4-BFB (PID) Recovery: 120% Limits: 63-150% " 05/13/08 21:36

Matrix Spike (8E11006-MS2) QC Source: BRE0134-03 Extracted: 05/11/08 09:54

Benzene	EPA 8021B	3.93	---	0.0755	mg/kg dry	1x	ND	3.36	117%	(60-160)	--	--	05/13/08 23:16	
Toluene	"	4.04	---	0.126	"	"	0.0330	"	119%	"	--	--	"	
Ethylbenzene	"	4.13	---	0.126	"	"	0.0162	"	123%	"	--	--	"	
Xylenes (total)	"	12.4	---	0.252	"	"	0.0624	10.1	123%	"	--	--	"	

Surrogate(s): 4-BFB (PID) Recovery: 120% Limits: 63-150% " 05/13/08 23:16

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Sandra Yakamavich

Sandra Yakamavich, Project Manager

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Total Metals by EPA 6000/7000 Series Methods - Laboratory Quality Control Results
 TestAmerica Seattle

QC Batch: 8E27023 Soil Preparation Method: EPA 3050B

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
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Blank (8E27023-BLK1) Extracted: 05/27/08 11:32

Barium	EPA 6020	ND	---	5.00	mg/kg wet	1x	--	--	--	--	--	--	05/28/08 15:41	
Lead	"	ND	---	0.500	"	"	--	--	--	--	--	--	"	
Cadmium	"	ND	---	0.500	"	"	--	--	--	--	--	--	"	
Selenium	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
Silver	"	ND	---	0.500	"	"	--	--	--	--	--	--	"	
Arsenic	"	ND	---	0.500	"	"	--	--	--	--	--	--	"	
Chromium	"	ND	---	0.500	"	"	--	--	--	--	--	--	"	

LCS (8E27023-BS1) Extracted: 05/27/08 11:32

Barium	EPA 6020	38.2	---	5.00	mg/kg wet	1x	--	40.0	95.6%	(80-120)	--	--	05/28/08 15:47	
Lead	"	36.9	---	0.500	"	"	--	"	92.1%	"	--	--	"	
Selenium	"	37.8	---	1.00	"	"	--	"	94.4%	"	--	--	"	
Cadmium	"	37.0	---	0.500	"	"	--	"	92.4%	"	--	--	"	
Chromium	"	39.6	---	0.500	"	"	--	"	99.1%	"	--	--	"	
Silver	"	36.9	---	0.500	"	"	--	"	92.4%	"	--	--	"	
Arsenic	"	37.0	---	0.500	"	"	--	"	92.4%	"	--	--	"	

Duplicate (8E27023-DUP1) QC Source: BRE0107-15 Extracted: 05/27/08 11:32

Chromium	EPA 6020	32.4	---	0.531	mg/kg dry	1x	38.9	--	--	--	18.4%	(40)	05/28/08 16:05	
Arsenic	"	3.73	---	0.531	"	"	3.27	--	--	--	13.2%	"	"	
Selenium	"	ND	---	1.06	"	"	ND	--	--	--	8.42%	"	"	
Silver	"	ND	---	0.531	"	"	ND	--	--	--	"	"	"	
Barium	"	51.1	---	5.31	"	"	51.0	--	--	--	0.240%	(30)	"	
Lead	"	24.8	---	0.531	"	"	23.8	--	--	--	3.93%	(40)	"	
Cadmium	"	ND	---	0.531	"	"	ND	--	--	--	4.65%	"	"	

Matrix Spike (8E27023-MS1) QC Source: BRE0107-15 Extracted: 05/27/08 11:32

Cadmium	EPA 6020	39.0	---	0.515	mg/kg dry	1x	0.284	41.2	93.8%	(75-125)	--	--	05/28/08 15:59	
Arsenic	"	41.3	---	0.515	"	"	3.27	"	92.3%	(59-125)	--	--	"	
Selenium	"	38.5	---	1.03	"	"	0.342	"	92.6%	(73-120)	--	--	"	
Silver	"	37.4	---	0.515	"	"	ND	"	90.7%	(73-125)	--	--	"	
Lead	"	65.5	---	0.515	"	"	23.8	"	101%	(60-134)	--	--	"	
Chromium	"	73.3	---	0.515	"	"	38.9	"	83.3%	(64-138)	--	--	"	
Barium	"	91.1	---	5.15	"	"	51.0	"	97.2%	(23-160)	--	--	"	

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Sandra Yakamovich

Sandra Yakamovich, Project Manager

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Total Metals by EPA 6000/7000 Series Methods - Laboratory Quality Control Results
 TestAmerica Seattle

QC Batch: 8E27023 Soil Preparation Method: EPA 3050B

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Post Spike (8E27023-PS1)			QC Source: BRE0107-15				Extracted: 05/27/08 11:32							
Selenium	EPA 6020	0.0967	---		ug/ml	1x	0.000650	0.100	96.0%	(75-125)	--	--	05/28/08 15:53	
Silver	"	0.0941	---		"	"	0.000100	"	94.0%	"	--	--	"	
Chromium	"	0.178	---		"	"	0.0741	"	104%	"	--	--	"	
Cadmium	"	0.0984	---		"	"	0.000540	"	97.8%	"	--	--	"	
Barium	"	0.198	---		"	"	0.0971	"	101%	"	--	--	"	
Arsenic	"	0.104	---		"	"	0.00622	0.0995	98.7%	"	--	--	"	
Lead	"	0.142	---		"	"	0.0454	0.100	96.0%	"	--	--	"	

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Polychlorinated Biphenyls by EPA Method 8082 - Laboratory Quality Control Results
 TestAmerica Seattle

QC Batch: 8E21059 Soil Preparation Method: EPA 3550B

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
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Blank (8E21059-BLK1) Extracted: 05/21/08 17:52

Aroclor 1016	EPA 8082	ND	---	25.0	ug/kg wet	1x	--	--	--	--	--	--	06/04/08 11:57	
Aroclor 1221	"	ND	---	50.0	"	"	--	--	--	--	--	--	"	
Aroclor 1232	"	ND	---	25.0	"	"	--	--	--	--	--	--	"	
Aroclor 1242	"	ND	---	25.0	"	"	--	--	--	--	--	--	"	
Aroclor 1248	"	ND	---	25.0	"	"	--	--	--	--	--	--	"	
Aroclor 1254	"	ND	---	25.0	"	"	--	--	--	--	--	--	"	
Aroclor 1260	"	ND	---	25.0	"	"	--	--	--	--	--	--	"	
Aroclor 1262	"	ND	---	25.0	"	"	--	--	--	--	--	--	"	
Aroclor 1268	"	ND	---	25.0	"	"	--	--	--	--	--	--	"	
Surrogate(s): TCX		Recovery:	101%	Limits:	65-125%	"							06/04/08 11:57	
Decachlorobiphenyl			100%		40-150%	"							"	

LCS (8E21059-BS1) Extracted: 05/21/08 17:52

Aroclor 1016	EPA 8082	86.6	---	25.0	ug/kg wet	1x	--	83.3	104%	(80-120)	--	--	06/04/08 14:35	
Aroclor 1260	"	76.2	---	25.0	"	"	--	"	91.5%	(70-124)	--	--	"	
Surrogate(s): TCX		Recovery:	107%	Limits:	65-125%	"							06/04/08 14:35	
Decachlorobiphenyl			91.7%		40-150%	"							"	

Matrix Spike (8E21059-MS1) QC Source: BRE0134-09 Extracted: 05/21/08 17:52

Aroclor 1016	EPA 8082	67.2	---	271	ug/kg dry	10x	ND	90.2	74.4%	(68-132)	--	--	06/04/08 17:31	
Aroclor 1260	"	130	---	271	"	"	ND	"	144%	(59-131)	--	--	"	M1
Surrogate(s): TCX		Recovery:	99.3%	Limits:	65-125%	"							06/04/08 17:31	
Decachlorobiphenyl			98.4%		40-150%	"							"	

Matrix Spike Dup (8E21059-MSD1) QC Source: BRE0134-09 Extracted: 05/21/08 17:52

Aroclor 1016	EPA 8082	62.5	---	273	ug/kg dry	10x	ND	90.8	68.8%	(68-132)	7.25% (20)		06/04/08 17:49	
Aroclor 1260	"	105	---	273	"	"	ND	"	116%	(59-131)	20.9% (35)		"	
Surrogate(s): TCX		Recovery:	94.6%	Limits:	65-125%	"							06/04/08 17:49	
Decachlorobiphenyl			103%		40-150%	"							"	

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Sandra Yakamovich

Sandra Yakamovich, Project Manager



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Polychlorinated Biphenyls by EPA Method 8082 - Laboratory Quality Control Results
 TestAmerica Seattle

QC Batch: 8E22044 Soil Preparation Method: EPA 3550B

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
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Blank (8E22044-BLK1) Extracted: 05/22/08 13:36

Aroclor 1016	EPA 8082	ND	---	25.0	ug/kg wet	1x	--	--	--	--	--	--	06/04/08 14:00	
Aroclor 1221	"	ND	---	50.0	"	"	--	--	--	--	--	--	"	
Aroclor 1232	"	ND	---	25.0	"	"	--	--	--	--	--	--	"	
Aroclor 1242	"	ND	---	25.0	"	"	--	--	--	--	--	--	"	
Aroclor 1248	"	ND	---	25.0	"	"	--	--	--	--	--	--	"	
Aroclor 1254	"	ND	---	25.0	"	"	--	--	--	--	--	--	"	
Aroclor 1260	"	ND	---	25.0	"	"	--	--	--	--	--	--	"	
Aroclor 1262	"	ND	---	25.0	"	"	--	--	--	--	--	--	"	
Aroclor 1268	"	ND	---	25.0	"	"	--	--	--	--	--	--	"	
<i>Surrogate(s): TCX</i>		<i>Recovery:</i>	<i>106%</i>	<i>Limits:</i>	<i>65-125%</i>	<i>"</i>							<i>06/04/08 14:00</i>	
<i>Decachlorobiphenyl</i>			<i>90.1%</i>		<i>40-150%</i>	<i>"</i>							<i>"</i>	

LCS (8E22044-BS1) Extracted: 05/22/08 13:36

Aroclor 1016	EPA 8082	84.0	---	25.0	ug/kg wet	1x	--	83.3	101%	(80-120)	--	--	06/04/08 14:17	
Aroclor 1260	"	75.5	---	25.0	"	"	--	"	90.6%	(70-124)	--	--	"	
<i>Surrogate(s): TCX</i>		<i>Recovery:</i>	<i>106%</i>	<i>Limits:</i>	<i>65-125%</i>	<i>"</i>							<i>06/04/08 14:17</i>	
<i>Decachlorobiphenyl</i>			<i>91.7%</i>		<i>40-150%</i>	<i>"</i>							<i>"</i>	

Matrix Spike (8E22044-MS1) QC Source: BRE0134-16 Extracted: 05/22/08 13:36

Aroclor 1016	EPA 8082	99.4	---	262	ug/kg dry	10x	ND	87.3	114%	(68-132)	--	--	06/04/08 16:56	
Aroclor 1260	"	70.3	---	262	"	"	ND	"	80.5%	(59-131)	--	--	"	
<i>Surrogate(s): TCX</i>		<i>Recovery:</i>	<i>112%</i>	<i>Limits:</i>	<i>65-125%</i>	<i>"</i>							<i>06/04/08 16:56</i>	
<i>Decachlorobiphenyl</i>			<i>116%</i>		<i>40-150%</i>	<i>"</i>							<i>"</i>	

Matrix Spike Dup (8E22044-MSD1) QC Source: BRE0134-16 Extracted: 05/22/08 13:36

Aroclor 1016	EPA 8082	136	---	264	ug/kg dry	10x	ND	87.9	155%	(68-132)	31.3% (20)		06/04/08 17:14	M1, R3
Aroclor 1260	"	153	---	264	"	"	ND	"	173%	(59-131)	73.8% (35)		"	M1, R3
<i>Surrogate(s): TCX</i>		<i>Recovery:</i>	<i>117%</i>	<i>Limits:</i>	<i>65-125%</i>	<i>"</i>							<i>06/04/08 17:14</i>	
<i>Decachlorobiphenyl</i>			<i>104%</i>		<i>40-150%</i>	<i>"</i>							<i>"</i>	

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Sandra Yakamovich

Sandra Yakamovich, Project Manager

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Farallon Consulting LLC 975 5th Ave NW Ste 100 Issaquah, WA/USA 98027	Project Name: BNSF - John Michael Lease Site Project Number: 683-018 Project Manager: Dan Caputo	Report Created: 06/09/08 14:10
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Polychlorinated Biphenyls by EPA Method 8082 - Laboratory Quality Control Results
 TestAmerica Seattle

QC Batch: 8E28037 Soil Preparation Method: EPA 3550B

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (8E28037-BLK1)													Extracted: 05/28/08 13:45	
Aroclor 1016	EPA 8082	ND	---	25.0	ug/kg wet	1x	--	--	--	--	--	--	06/02/08 13:20	
Aroclor 1221	"	ND	---	50.0	"	"	--	--	--	--	--	--	"	
Aroclor 1232	"	ND	---	25.0	"	"	--	--	--	--	--	--	"	
Aroclor 1242	"	ND	---	25.0	"	"	--	--	--	--	--	--	"	
Aroclor 1248	"	ND	---	25.0	"	"	--	--	--	--	--	--	"	
Aroclor 1254	"	ND	---	25.0	"	"	--	--	--	--	--	--	"	
Aroclor 1260	"	ND	---	25.0	"	"	--	--	--	--	--	--	"	
Aroclor 1262	"	ND	---	25.0	"	"	--	--	--	--	--	--	"	
Aroclor 1268	"	ND	---	25.0	"	"	--	--	--	--	--	--	"	

Surrogate(s): TCX Recovery: 98.4% Limits: 65-125% " 06/02/08 13:20
Decachlorobiphenyl 87.6% 40-150% " "

LCS (8E28037-BS1)													Extracted: 05/28/08 13:45	
Aroclor 1016	EPA 8082	83.1	---	25.0	ug/kg wet	1x	--	83.3	99.8%	(80-120)	--	--	06/02/08 13:38	
Aroclor 1016 [2C]	"	86.1	---	25.0	"	"	--	"	103%	"	--	--	"	
Aroclor 1260	"	72.0	---	25.0	"	"	--	"	86.3%	(70-124)	--	--	"	
Aroclor 1260 [2C]	"	74.5	---	25.0	"	"	--	"	89.4%	"	--	--	"	

Surrogate(s): TCX Recovery: 101% Limits: 65-125% " 06/02/08 13:38
TCX [2C] 112% 65-125% " "
Decachlorobiphenyl 92.5% 40-150% " "
Decachlorobiphenyl [2C] 94.2% 40-150% " "

Matrix Spike (8E28037-MS1)													QC Source: BRE0357-01		Extracted: 05/28/08 13:45	
Aroclor 1016	EPA 8082	108	---	49.7	ug/kg wet	2x	ND	82.8	131%	(68-132)	--	--	06/02/08 14:13			
Aroclor 1016 [2C]	"	108	---	49.7	"	"	ND	"	130%	"	--	--	"			
Aroclor 1260	"	101	---	49.7	"	"	ND	"	123%	(59-131)	--	--	"			
Aroclor 1260 [2C]	"	91.8	---	49.7	"	"	ND	"	111%	"	--	--	"			

Surrogate(s): TCX Recovery: 89.4% Limits: 65-125% " 06/02/08 14:13
TCX [2C] 102% 65-125% " "
Decachlorobiphenyl 86.9% 40-150% " "
Decachlorobiphenyl [2C] 82.5% 40-150% " "

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Sandra Yakamovich

Sandra Yakamovich, Project Manager

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Polychlorinated Biphenyls by EPA Method 8082 - Laboratory Quality Control Results
 TestAmerica Seattle

QC Batch: 8E28037 Soil Preparation Method: EPA 3550B

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Matrix Spike Dup (8E28037-MSD1)			QC Source: BRE0357-01				Extracted: 05/28/08 13:45							
Aroclor 1016	EPA 8082	110	---	50.3	ug/kg wet	2x	ND	83.9	132%	(68-132)	2.10%	(20)	06/02/08 14:31	
Aroclor 1260	"	96.0	---	50.3	"	"	ND	"	114%	(59-131)	5.58%	(35)	"	
<i>Surrogate(s): TCX</i>		<i>Recovery: 94.9%</i>		<i>Limits: 65-125%</i>		"						<i>06/02/08 14:31</i>		
<i>Decachlorobiphenyl</i>		<i>90.7%</i>		<i>40-150%</i>		"						<i>"</i>		

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Sandra Yakamavich

Sandra Yakamavich, Project Manager

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Polynuclear Aromatic Hydrocarbons by GC/MS-SIM - Laboratory Quality Control Results
 TestAmerica Seattle

QC Batch: **8E12039** Soil Preparation Method: **EPA 3550B**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (8E12039-BLK2)														
Extracted: 05/12/08 13:31														
Acenaphthene	EPA 8270C-SIM	ND	---	0.0100	mg/kg wet	1x	--	--	--	--	--	--	05/21/08 16:36	
Acenaphthylene	"	ND	---	0.0100	"	"	--	--	--	--	--	--	"	
Anthracene	"	ND	---	0.0100	"	"	--	--	--	--	--	--	"	
Benzo (a) anthracene	"	ND	---	0.0100	"	"	--	--	--	--	--	--	"	
Benzo (a) pyrene	"	ND	---	0.0100	"	"	--	--	--	--	--	--	"	
Benzo (b) fluoranthene	"	ND	---	0.0100	"	"	--	--	--	--	--	--	"	
Benzo (k) fluoranthene	"	ND	---	0.0100	"	"	--	--	--	--	--	--	"	
Benzo (ghi) perylene	"	ND	---	0.0100	"	"	--	--	--	--	--	--	"	
Chrysene	"	ND	---	0.0100	"	"	--	--	--	--	--	--	"	
Dibenz (a,h) anthracene	"	ND	---	0.0100	"	"	--	--	--	--	--	--	"	
Fluoranthene	"	ND	---	0.0100	"	"	--	--	--	--	--	--	"	
Fluorene	"	ND	---	0.0100	"	"	--	--	--	--	--	--	"	
Indeno (1,2,3-cd) pyrene	"	ND	---	0.0100	"	"	--	--	--	--	--	--	"	
1-Methylnaphthalene	"	ND	---	0.0100	"	"	--	--	--	--	--	--	"	
2-Methylnaphthalene	"	ND	---	0.0100	"	"	--	--	--	--	--	--	"	
Naphthalene	"	ND	---	0.0100	"	"	--	--	--	--	--	--	"	
Phenanthrene	"	ND	---	0.0100	"	"	--	--	--	--	--	--	"	
Pyrene	"	ND	---	0.0100	"	"	--	--	--	--	--	--	"	
Surrogate(s): p-Terphenyl-d14		Recovery: 115%	Limits: 50-147%										05/21/08 16:36	

LCS (8E12039-BS2)														
Extracted: 05/12/08 13:31														
Acenaphthene	EPA 8270C-SIM	0.651	---	0.0100	mg/kg wet	1x	--	0.667	97.6%	(70-125)	--	--	05/21/08 17:52	
Acenaphthylene	"	0.759	---	0.0100	"	"	--	"	114%	(70-133)	--	--	"	
Anthracene	"	0.777	---	0.0100	"	"	--	"	116%	(70-152)	--	--	"	
Benzo (a) anthracene	"	0.713	---	0.0100	"	"	--	"	107%	(60-125)	--	--	"	
Benzo (a) pyrene	"	0.727	---	0.0100	"	"	--	"	109%	(64-134)	--	--	"	
Benzo (b) fluoranthene	"	0.758	---	0.0100	"	"	--	"	114%	(62-147)	--	--	"	
Benzo (k) fluoranthene	"	0.695	---	0.0100	"	"	--	"	104%	(60-144)	--	--	"	
Benzo (ghi) perylene	"	0.720	---	0.0100	"	"	--	"	108%	(57-137)	--	--	"	
Chrysene	"	0.729	---	0.0100	"	"	--	"	109%	(70-139)	--	--	"	
Dibenz (a,h) anthracene	"	0.711	---	0.0100	"	"	--	"	107%	(56-140)	--	--	"	
Fluoranthene	"	0.739	---	0.0100	"	"	--	"	111%	(70-141)	--	--	"	
Fluorene	"	0.766	---	0.0100	"	"	--	"	115%	(76-132)	--	--	"	
Indeno (1,2,3-cd) pyrene	"	0.691	---	0.0100	"	"	--	"	104%	(55-138)	--	--	"	
1-Methylnaphthalene	"	0.530	---	0.0100	"	"	--	"	79.5%	(46-128)	--	--	"	
2-Methylnaphthalene	"	0.533	---	0.0100	"	"	--	"	80.0%	(41-125)	--	--	"	
Naphthalene	"	0.496	---	0.0100	"	"	--	"	74.4%	(43-125)	--	--	"	
Phenanthrene	"	0.652	---	0.0100	"	"	--	"	97.8%	(73-125)	--	--	"	

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Sandra Yakamovich

Sandra Yakamovich, Project Manager



Farallon Consulting LLC 975 5th Ave NW Ste 100 Issaquah, WA/USA 98027	Project Name: BNSF - John Michael Lease Site Project Number: 683-018 Project Manager: Dan Caputo	Report Created: 06/09/08 14:10
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Polynuclear Aromatic Hydrocarbons by GC/MS-SIM - Laboratory Quality Control Results
 TestAmerica Seattle

QC Batch: **8E12039** Soil Preparation Method: **EPA 3550B**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
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LCS (8E12039-BS2) Extracted: 05/12/08 13:31

Pyrene	EPA 8270C-SIM	0.777	---	0.0100	mg/kg wet	1x	--	0.667	117%	(68-140)	--	--	05/21/08 17:52	
<i>Surrogate(s): p-Terphenyl-d14</i>		<i>Recovery: 102%</i>		<i>Limits: 50-147%</i>		<i>"</i>						<i>05/21/08 17:52</i>		

Matrix Spike (8E12039-MS2) QC Source: BRE0134-26 Extracted: 05/12/08 13:31

Acenaphthene	EPA 8270C-SIM	0.930	---	0.0127	mg/kg dry	1x	0.0668	0.845	102%	(67-132)	--	--	05/21/08 18:17	
Acenaphthylene	"	1.04	---	0.0127	"	"	0.0211	"	121%	(65-142)	--	--	"	
Anthracene	"	1.04	---	0.0127	"	"	0.0313	"	120%	(66-158)	--	--	"	
Benzo (a) anthracene	"	0.960	---	0.0127	"	"	0.0177	"	112%	(41-156)	--	--	"	
Benzo (a) pyrene	"	0.966	---	0.0127	"	"	0.00930	"	113%	(52-148)	--	--	"	
Benzo (b) fluoranthene	"	0.984	---	0.0127	"	"	0.0118	"	115%	(53-151)	--	--	"	
Benzo (k) fluoranthene	"	0.890	---	0.0127	"	"	0.00930	"	104%	(46-161)	--	--	"	
Benzo (ghi) perylene	"	0.802	---	0.0127	"	"	0.00761	"	94.0%	(26-154)	--	--	"	
Chrysene	"	0.990	---	0.0127	"	"	0.0237	"	114%	(55-155)	--	--	"	
Dibenz (a,h) anthracene	"	0.863	---	0.0127	"	"	0.00338	"	102%	(27-157)	--	--	"	
Fluoranthene	"	1.04	---	0.0127	"	"	0.101	"	111%	(46-172)	--	--	"	
Fluorene	"	1.12	---	0.0127	"	"	0.109	"	120%	(66-143)	--	--	"	
Indeno (1,2,3-cd) pyrene	"	0.813	---	0.0127	"	"	0.00592	"	95.5%	(24-159)	--	--	"	
1-Methylnaphthalene	"	0.695	---	0.0127	"	"	0.0169	"	80.3%	(39-140)	--	--	"	
2-Methylnaphthalene	"	0.697	---	0.0127	"	"	0.0313	"	78.8%	(32-139)	--	--	"	
Naphthalene	"	0.634	---	0.0127	"	"	0.0769	"	65.9%	(38-134)	--	--	"	
Phenanthrene	"	0.982	---	0.0127	"	"	0.220	"	90.2%	(63-139)	--	--	"	
Pyrene	"	0.996	---	0.0127	"	"	0.0684	"	110%	(51-172)	--	--	"	
<i>Surrogate(s): p-Terphenyl-d14</i>		<i>Recovery: 96.9%</i>		<i>Limits: 50-147%</i>		<i>"</i>						<i>05/21/08 18:17</i>		

Matrix Spike Dup (8E12039-MSD2) QC Source: BRE0134-26 Extracted: 05/12/08 13:31

Acenaphthene	EPA 8270C-SIM	0.921	---	0.0127	mg/kg dry	1x	0.0668	0.845	101%	(67-132)	1.00%	(50)	05/21/08 18:43	
Acenaphthylene	"	1.01	---	0.0127	"	"	0.0211	"	117%	(65-142)	3.55%	"	"	
Anthracene	"	1.01	---	0.0127	"	"	0.0313	"	116%	(66-158)	3.46%	"	"	
Benzo (a) anthracene	"	0.914	---	0.0127	"	"	0.0177	"	106%	(41-156)	4.87%	"	"	
Benzo (a) pyrene	"	0.928	---	0.0127	"	"	0.00930	"	109%	(52-148)	4.02%	"	"	
Benzo (b) fluoranthene	"	0.962	---	0.0127	"	"	0.0118	"	112%	(53-151)	2.34%	"	"	
Benzo (k) fluoranthene	"	0.869	---	0.0127	"	"	0.00930	"	102%	(46-161)	2.40%	"	"	
Benzo (ghi) perylene	"	0.720	---	0.0127	"	"	0.00761	"	84.3%	(26-154)	10.8%	"	"	
Chrysene	"	0.944	---	0.0127	"	"	0.0237	"	109%	(55-155)	4.81%	(44)	"	
Dibenz (a,h) anthracene	"	0.796	---	0.0127	"	"	0.00338	"	93.8%	(27-157)	8.05%	(50)	"	
Fluoranthene	"	1.03	---	0.0127	"	"	0.101	"	110%	(46-172)	0.573%	"	"	
Fluorene	"	1.13	---	0.0127	"	"	0.109	"	121%	(66-143)	0.973%	(52)	"	
Indeno (1,2,3-cd) pyrene	"	0.740	---	0.0127	"	"	0.00592	"	86.9%	(24-159)	9.36%	(43)	"	

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Sandra Yakamovich
 Sandra Yakamovich, Project Manager

Farallon Consulting LLC 975 5th Ave NW Ste 100 Issaquah, WA/USA 98027	Project Name: BNSF - John Michael Lease Site Project Number: 683-018 Project Manager: Dan Caputo	Report Created: 06/09/08 14:10
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Polynuclear Aromatic Hydrocarbons by GC/MS-SIM - Laboratory Quality Control Results
 TestAmerica Seattle

QC Batch: 8E12039 Soil Preparation Method: EPA 3550B

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Matrix Spike Dup (8E12039-MSD2)			QC Source: BRE0134-26				Extracted: 05/12/08 13:31							
1-Methylnaphthalene	EPA 8270C-SIM	0.700	---	0.0127	mg/kg dry	1x	0.0169	0.845	80.8%	(39-140)	0.606%	(50)	05/21/08 18:43	
2-Methylnaphthalene	"	0.705	---	0.0127	"	"	0.0313	"	79.7%	(32-139)	1.08%	"	"	
Naphthalene	"	0.664	---	0.0127	"	"	0.0769	"	69.5%	(38-134)	4.69%	"	"	
Phenanthrene	"	1.04	---	0.0127	"	"	0.220	"	97.5%	(63-139)	6.09%	"	"	
Pyrene	"	0.935	---	0.0127	"	"	0.0684	"	102%	(51-172)	6.39%	"	"	
Surrogate(s): <i>p-Terphenyl-d14</i>		Recovery: 93.0%		Limits: 50-147%								05/21/08 18:43		

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Sandra Yakamavich

Sandra Yakamavich, Project Manager

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Physical Parameters by APHA/ASTM/EPA Methods - Laboratory Quality Control Results
 TestAmerica Seattle

QC Batch: 8E13043 Soil Preparation Method: Dry Weight

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
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Blank (8E13043-BLK1) Extracted: 05/13/08 13:33

Dry Weight	BSOPSPL00 3R08	100	---	1.00	%	1x	--	--	--	--	--	--	05/14/08 00:00	
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QC Batch: 8E13044 Soil Preparation Method: Dry Weight

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
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Blank (8E13044-BLK1) Extracted: 05/13/08 13:34

Dry Weight	BSOPSPL00 3R08	100	---	1.00	%	1x	--	--	--	--	--	--	05/14/08 00:00	
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QC Batch: 8E23038 Soil Preparation Method: Dry Weight

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
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Blank (8E23038-BLK1) Extracted: 05/23/08 18:32

Dry Weight	BSOPSPL00 3R08	100	---	1.00	%	1x	--	--	--	--	--	--	05/27/08 00:00	
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QC Batch: 8E28041 Soil Preparation Method: Dry Weight

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
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Blank (8E28041-BLK1) Extracted: 05/28/08 13:49

Dry Weight	BSOPSPL00 3R08	100	---	1.00	%	1x	--	--	--	--	--	--	05/29/08 00:00	
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Sandra Yakamavich

Sandra Yakamavich, Project Manager

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Farallon Consulting LLC 975 5th Ave NW Ste 100 Issaquah, WA/USA 98027	Project Name: BNSF - John Michael Lease Site Project Number: 683-018 Project Manager: Dan Caputo	Report Created: 06/09/08 14:10
--	---	-----------------------------------

Total Metals by EPA 6010/7000 Series Methods - Laboratory Quality Control Results
 TestAmerica Spokane

QC Batch: 8050148 Soil Preparation Method: Metals

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (8050148-BLK1)								Extracted: 05/30/08 09:37						
Mercury	EPA 7471	ND	---	0.0500	mg/kg wet	1x	--	--	--	--	--	--	05/30/08 12:58	
LCS (8050148-BS1)								Extracted: 05/30/08 09:37						
Mercury	EPA 7471	0.0912	---	0.0500	mg/kg wet	1x	--	0.100	91.2%	(70.3-130)	--	--	05/30/08 12:55	
Duplicate (8050148-DUP1)				QC Source: BRE0134-43				Extracted: 05/30/08 09:37						
Mercury	EPA 7471	ND	---	0.0500	mg/kg dry	1x	ND	--	--	--	26.2% (40)	--	05/30/08 13:39	
Matrix Spike (8050148-MS1)				QC Source: BRE0134-43				Extracted: 05/30/08 09:37						
Mercury	EPA 7471	0.102	---	0.0500	mg/kg dry	1x	0.0348	0.105	63.9%	(60.2-137)	--	--	05/30/08 13:41	
Matrix Spike Dup (8050148-MSD1)				QC Source: BRE0134-43				Extracted: 05/30/08 09:37						
Mercury	EPA 7471	0.101	---	0.0500	mg/kg dry	1x	0.0348	0.105	62.6%	(60.2-137)	1.35% (23)	--	05/30/08 13:43	

TestAmerica Seattle

Sandra Yakamavich

Sandra Yakamavich, Project Manager

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Farallon Consulting LLC

975 5th Ave NW Ste 100
 Issaquah, WA/USA 98027

Project Name: **BNSF - John Michael Lease Site**

Project Number: 683-018

Project Manager: Dan Caputo

Report Created:

06/09/08 14:10

Notes and Definitions

Report Specific Notes:

- C - Calibration Verification recovery was above the method control limit for this analyte. Analyte not detected, data not impacted.
- C8 - Calibration Verification recovery was above the method control limit for this analyte. A high bias may be indicated.
- H4 - Sample was extracted past holding time, but analyzed within analysis holding time.
- M1 - The MS and/or MSD were above the acceptance limits due to sample matrix interference. See Blank Spike (LCS).
- MHA - Due to high levels of analyte in the sample, the MS/MSD calculation does not provide useful spike recovery information. See Blank Spike (LCS).
- Q4 - The hydrocarbons present are a complex mixture of diesel range and heavy oil range organics.
- Q6 - Results in the diesel organics range are primarily due to overlap from a heavy oil range product.
- Q8 - Detected hydrocarbons in the gasoline range appear to be due to overlap of diesel range hydrocarbons.
- R3 - The RPD exceeded the acceptance limit due to sample matrix effects.
- R4 - Due to the low levels of analyte in the sample, the duplicate RPD calculation does not provide useful information.
- RL1 - Reporting limit raised due to sample matrix effects.
- Z3 - The sample required a dilution due to the nature of the sample matrix. Because of this dilution, the surrogate spike concentration in the sample was reduced to a level where the recovery calculation does not provide useful information.
- ZX - Due to sample matrix effects, the surrogate recovery was outside the acceptance limits.

Laboratory Reporting Conventions:

- DET - Analyte DETECTED at or above the Reporting Limit. Qualitative Analyses only.
- ND - Analyte NOT DETECTED at or above the reporting limit (MDL or MRL, as appropriate).
- NR/NA - Not Reported / Not Available
- dry - Sample results reported on a Dry Weight Basis. Results and Reporting Limits have been corrected for Percent Dry Weight.
- wet - Sample results and reporting limits reported on a Wet Weight Basis (as received). Results with neither 'wet' nor 'dry' are reported on a Wet Weight Basis.
- RPD - RELATIVE PERCENT DIFFERENCE (RPDs calculated using Results, not Percent Recoveries).
- MRL - METHOD REPORTING LIMIT. Reporting Level at, or above, the lowest level standard of the Calibration Table.
- MDL* - METHOD DETECTION LIMIT. Reporting Level at, or above, the statistically derived limit based on 40CFR, Part 136, Appendix B. *MDLs are listed on the report only if the data has been evaluated below the MRL. Results between the MDL and MRL are reported as Estimated Results.
- Dil - Dilutions are calculated based on deviations from the standard dilution performed for an analysis, and may not represent the dilution found on the analytical raw data.
- Reporting Limits - Reporting limits (MDLs and MRLs) are adjusted based on variations in sample preparation amounts, analytical dilutions and percent solids, where applicable.
- Electronic Signature - Electronic Signature added in accordance with TestAmerica's *Electronic Reporting and Electronic Signatures Policy*. Application of electronic signature indicates that the report has been reviewed and approved for release by the laboratory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

TestAmerica Seattle

Sandra Yakamovich

Sandra Yakamovich, Project Manager

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 2000 W International Airport Rd Ste A10, Anchorage, AK 99502-1119
 907-563-9200 FAX 563-9210

CHAIN OF CUSTODY REPORT

Work Order #: **BRE0134**

CLIENT: Fargallon REPORT TO: Nan Caputo ADDRESS: 935 5th Ave, NW Issaquah, WA PHONE: 425 295 0840 FAX:		INVOICE TO: Bruce Sheppard 2454 Occidental Ave S, Suite 1A SeaTac, WA P.O. NUMBER: 683-018-779206-702		PROJECT NAME: John Michael lease site PROJECT NUMBER: 683-018		SAMPLED BY: J. Ruck		CLIENT SAMPLE IDENTIFICATION		SAMPLING DATE/TIME							
PRESERVATIVE		REQUESTED ANALYSES		NORTH BR RTF-1-021 NORTH-2 CATHS EPA-8172XIM													
TURNOURD REQUEST In Business Days * Organic & Inorganic Analyses Petroleum Hydrocarbon Analyses		OTHER Specify:		MATRIX (W.S.O)		# OF CONT.		LOCATION / COMMENTS		NCA W/O ID							
10	7	5	4	3	2	1	<1	10	7	5	4	3	2	1	<1		
* Turnaround Requests less than standard may incur Rush Charge.				5 3										01			
														02			
														03			
														04			
														05			
														06			
														07			
														08			
														09			
														10			
RECEIVED BY: [Signature] PRINT NAME: Jovan Mueank DATE: 5/9/08 TIME: 12:15		RECEIVED BY: [Signature] PRINT NAME: Francisco Lung, Jr DATE: 5/9/08 TIME: 14:00		RECEIVED BY: [Signature] PRINT NAME: Fargallon DATE: 5/9/08 TIME: 12:15		RECEIVED BY: [Signature] PRINT NAME: TA-SEA DATE: 5/9/08 TIME: 14:00											
ADDITIONAL REMARKS: Following receipt of laboratory analytical results, per EPA 8081 and Metals 6009/2000 @ Lab 1700 v10 analysis will be done on select soil samples																TEMP: 8.4°C PAGE: 1 of 5	

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 907-563-9200 FAX 563-9210

CHAIN OF CUSTODY REPORT

Work Order #: **BR0134**

CLIENT: **Fargallon**
 REPORT TO: **Dan Caputo**
 ADDRESS: **975 5th Ave NW
 Issaquah, WA**
 PHONE: **425 295 0810** FAX:
 PROJECT NAME: **John Michael Lease Site**
 PROJECT NUMBER: **683-018**
 SAMPLED BY: **J. Ruark**

INVOICE TO: **Bruce Sheppard
 2854 Occidentale Ave S, Seattle
 Seattle, WA**
 P.O. NUMBER: **779206-102**
 PRESERVATIVE

CLIENT SAMPLE IDENTIFICATION	SAMPLING DATE/TIME	REQUESTED ANALYSES				OTHER	MATRIX (W.S.O)	# OF CONT.	LOCATION / COMMENTS	NCA WORD
		PH-EX	PH-EX	PH-EX	PH-EX					
1. 78-050808-8	5/8/08/1229	X	X	X			5	3		11
2. 78-050808-2-5W	5/8/08/1108									12
3. 78-050808-4-1A	5/8/08/1157									13
4. 78-060808-6-5W	5/8/08/1120	X	X	X						14
5. 78-050808-6-1A	5/8/08/1204	X	X	X						15
6. 77050808-2-5	5/8/08/0920									16
7. 77050808-4-U	5/8/08/1037									17
8. 77050808-6-5	5/8/08/0938									18
9. 77050808-8-5	5/8/08/1001	X	X	X						19
10. 77050808-8-U	5/8/08/1039	X	X	X						20

RELEASED BY: **J. Ruark** DATE: **5-9-08**
 PRINT NAME: **Jaway Ruark** FIRM: **Fargallon** TIME: **1215**
 RECEIVED BY: **FR** DATE: **5/9/08**
 PRINT NAME: **Francisco Luna Jr** FIRM: **TH-SEA** TIME: **1400**

RECEIVED BY: DATE: TIME:
 PRINT NAME: FIRM: TIME:
 ADDITIONAL REMARKS: *** Same as page 1**
 TEMP: **8.9** PAGE **2 of 5**

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 907-563-9200 FAX 563-9210

CHAIN OF CUSTODY REPORT

Work Order #: **BRE0134**

CLIENT: Farellon REPORT TO: Dan Caputo ADDRESS: 75 5th Ave NW Issaquah, WA PHONE: 425 295 0800 FAX:		INVOICE TO: Bruce Shepard 2454 Occidental Ave S, Suite 1A Seattle, WA P.O. NUMBER: JR 683-018 979206-102 PRESERVATIVE			
PROJECT NAME: John Michael hearse site PROJECT NUMBER: 683-018		TURNAROUND REQUEST in Business Days * Organic & Inorganic Analyses 10 <input type="checkbox"/> 7 <input type="checkbox"/> 5 <input type="checkbox"/> 4 <input type="checkbox"/> 3 <input type="checkbox"/> 2 <input type="checkbox"/> 1 <input type="checkbox"/> <1 <input type="checkbox"/> Petroleum Hydrocarbon Analyses 10 <input type="checkbox"/> 7 <input type="checkbox"/> 5 <input type="checkbox"/> 4 <input type="checkbox"/> 3 <input type="checkbox"/> 2 <input type="checkbox"/> 1 <input type="checkbox"/> <1 <input type="checkbox"/> OTHER: <input type="checkbox"/> Specify:			
SAMPLED BY: J. Ruark		REQUESTED ANALYSES			
CLIENT SAMPLE IDENTIFICATION	SAMPLING DATE/TIME	MATRIX (W, S, O)	# OF CONT.	LOCATION / COMMENTS	NCA W/O ID
1. T5-050608-2-C	5/6/08 / 1024	S	3		21
2. T5-050608-4-S	5/6/08 / 1043				22
3. T5-050608-6-C	5/6/08 / 1056				23
4. T5-050608-8-IE	5/6/08 / 1117				24
5. T5-050608-8-S	5/6/08 / 1125				25
6. T5-050608-8-40	5/6/08 / 1147				26
7. TP-16-050608-8	5/6/08 / 1217				27
8. TP-17-050608-8	5/6/08 / 1239				28
9. T1-050608-2-S	5/6/08 / 1300				29
10. T1-050608-4-IE	5/6/08 / 1376				30

RECEIVED BY: **[Signature]** DATE: **5/14/08**
 PRINT NAME: **Francisco Lungs, Jr** FIRM: **TA-SEA** TIME: **1400**
 RECEIVED BY: DATE: TIME:
 PRINT NAME: FIRM: TIME:

RECEIVED BY: **[Signature]** DATE: **5/14/08**
 PRINT NAME: **Farellon** FIRM: **Farellon** TIME: **12:15**
 RECEIVED BY: DATE: TIME:
 PRINT NAME: FIRM: TIME:

ADDITIONAL REMARKS: *** Same as page 1**
 @ Lab 1700 w/o 8.4'c
 TEMP: 8.4'c
 PAGE 3 OF 5

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 2000 W International Airport Rd Ste A10, Anchorage, AK 99502-1119
 907-563-9200 FAX 563-9210

CHAIN OF CUSTODY REPORT

Work Order #: **BRE0134**

CLIENT: <i>Farghlow</i> REPORT TO: <i>Dan Caputo</i> ADDRESS: <i>975 5th Ave NW</i> <i>Issaquah, WA</i> PHONE: <i>425 295 0840</i> FAX: PROJECT NAME: <i>John Michael lease site</i> PROJECT NUMBER: <i>683-018</i>		INVOICE TO: <i>Bruce Grossard</i> <i>2454 Occidental Ave, Suite 1A</i> <i>Seattle, WA 98134</i> P.O. NUMBER: <i>683-018 119206-H02</i> PRESERVATIVE		TURNAROUND REQUEST in Business Days * Organic & Inorganic Analyses Petroleum Hydrocarbon Analyses 10 <input type="checkbox"/> 7 <input type="checkbox"/> 5 <input type="checkbox"/> 4 <input type="checkbox"/> 3 <input type="checkbox"/> 2 <input type="checkbox"/> 1 <input type="checkbox"/> <1 11 <input type="checkbox"/> 8 <input type="checkbox"/> 6 <input type="checkbox"/> 5 <input type="checkbox"/> 4 <input type="checkbox"/> 3 <input type="checkbox"/> 2 <input type="checkbox"/> 1 <input type="checkbox"/> <1 OTHER Specify:	
SAMPLED BY: <i>D. Ruark</i> CLIENT SAMPLE IDENTIFICATION 1. <i>T6-050708-2-U</i> <i>5/7/08/1253</i> 2. <i>T6-050708-4-S</i> <i>5/7/08/1303</i> 3. <i>T6-050708-6-U</i> <i>5/7/07/1345</i> 4. <i>T6-050708-8-S</i> <i>5/7/07/1317</i> 5. <i>T6-050708-8-U</i> <i>5/7/07/1403</i> 6. <i>per client</i> 7. <i>per client</i> 8. <i>per client</i> 9. 10.		REQUESTED ANALYSES BTEX 802 VIO 79402 EPA 8210G EPA 8210G		MATRIX (W.S. 0) 5 3 31 5 3 32 5 3 33 5 3 34 5 3 35	
RECEIVED BY: <i>[Signature]</i> PRINT NAME: <i>Jovan Ruark</i> DATE: <i>5/9/08</i> TIME: <i>12:15</i>		RECEIVED BY: <i>[Signature]</i> PRINT NAME: <i>Francisco Luna, Jr.</i> DATE: <i>5/9/08</i> TIME: <i>14:00</i>		FIRM: <i>Farghlow</i> TA-SEA DATE: TIME:	
RELEASING FIRM: <i>Farghlow</i> DATE: TIME:		RELEASING FIRM: <i>Farghlow</i> DATE: TIME:		RELEASING FIRM: <i>Farghlow</i> DATE: TIME:	
ADDITIONAL REMARKS: <i>* Sample as page 1</i>		ADDITIONAL REMARKS: <i>Elab 1700</i> <i>w/c</i> <i>8.4%</i>		ADDITIONAL REMARKS: <i>8.4%</i> PAGE 4 OF 5	

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 503-906-9200 FAX 906-9210
 907-563-9200 FAX 563-9210

CHAIN OF CUSTODY REPORT

Work Order #: **PRE0134**

CLIENT: Parallon REPORT TO: Nay Caputo ADDRESS: 975 8th Ave NW Issaquah, WA PHONE: 425 275 0840 FAX: PROJECT NAME: John Michael Leas Sr PROJECT NUMBER: 683-018 SAMPLED BY: J. Rucinski		INVOICE TO: Brace Sheppard 2454 Occidental Ave S, Suite 1A Seattle, WA P.O. NUMBER: TT9206-H02 PRESERVATIVE		TURNAROUND REQUEST in Business Days * Organic & Inorganic Analyses Petroleum Hydrocarbon Analyses STD. <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 7 <input type="checkbox"/> 10 STD. <input checked="" type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 OTHER Specify:					
REQUESTED ANALYSES METHYL-X ATEX 800 MUMPH CPDMS EMP-20-AM		* Turnaround Requests less than standard may incur Rush Charges.		MATRIX (W, S, O) LOCATION / COMMENTS # OF CONT. NCA WO ID					
1	73-050708-6-80	5/7/08 / 0852			6	3			36
2	73-050708-8-80	5/7/08 / 0916							37
3	73-050708-8-0E	5/7/08 / 1003							38
4	74-050708-2-5	5/7/08 / 1022							39
5	74-050708-4-1	5/7/08 / 1031							40
6	74-050708-6-1	5/7/08 / 1114							41
7	74-050708-8-5	5/7/08 / 1052							42
8	74-050708-8-1	5/7/08 / 1140							43
9	79-050808-8-5E	5/8/08 / 1342							44
10	79-050808-8	5/8/08 / 1239							45

RECEIVED BY: **[Signature]** DATE: **5/9/08**
 PRINT NAME: **Francisco Luna, Jr.** FIRM: **TASE/H** TIME: **1400**
 RECEIVED BY: DATE: TIME:
 PRINT NAME: FIRM: TIME:
 ADDITIONAL REMARKS: **X Same as Page 1**
 @Lab 1700 w/o 8.9 2 PAGE 5 OF 5

August 06, 2008

Dan Caputo
Farallon Consulting LLC
975 5th Ave NW Ste 100
Issaquah, WA/USA 98027

RE: BNSF - John Michael Lease Site

Enclosed are the results of analyses for samples received by the laboratory on 07/30/08 08:34.
The following list is a summary of the Work Orders contained in this report, generated on 08/06/08
12:20.

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

<u>Work Order</u>	<u>Project</u>	<u>ProjectNumber</u>
BRG0376	BNSF - John Michael Lease Si	683-018

TestAmerica Seattle

Sandra Yakamavich

Sandra Yakamavich, Project Manager

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Farallon Consulting LLC 975 5th Ave NW Ste 100 Issaquah, WA/USA 98027	Project Name: BNSF - John Michael Lease Site Project Number: 683-018 Project Manager: Dan Caputo	Report Created: 08/06/08 12:20
--	---	-----------------------------------

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW4-5-072908	BRG0376-01	Soil	07/29/08 14:03	07/30/08 08:34
MW1-10-072908	BRG0376-02	Soil	07/29/08 16:01	07/30/08 08:34

TestAmerica Seattle



Sandra Yakamavich, Project Manager

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Farallon Consulting LLC 975 5th Ave NW Ste 100 Issaquah, WA/USA 98027	Project Name: BNSF - John Michael Lease Site Project Number: 683-018 Project Manager: Dan Caputo	Report Created: 08/06/08 12:20
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Volatile Petroleum Products by NWTPH-Gx
TestAmerica Seattle

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BRG0376-01 (MW4-5-072908)		Soil			Sampled: 07/29/08 14:03					
Gasoline Range Hydrocarbons	NWTPH-Gx	ND	----	5.07	mg/kg dry	1x	8H01020	08/01/08 09:49	08/02/08 13:40	
<i>Surrogate(s): 4-BFB (FID)</i>			97.4%		50 - 150 %	"				"
BRG0376-02 (MW1-10-072908)		Soil			Sampled: 07/29/08 16:01					
Gasoline Range Hydrocarbons	NWTPH-Gx	1250	----	74.8	mg/kg dry	10x	8H01020	08/01/08 09:49	08/02/08 14:12	Q8
<i>Surrogate(s): 4-BFB (FID)</i>			150%		50 - 150 %	1x				"

TestAmerica Seattle

Sandra Yakamavich

Sandra Yakamavich, Project Manager

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Farallon Consulting LLC 975 5th Ave NW Ste 100 Issaquah, WA/USA 98027	Project Name: BNSF - John Michael Lease Site Project Number: 683-018 Project Manager: Dan Caputo	Report Created: 08/06/08 12:20
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Semivolatile Petroleum Products by NWTPH-Dx (w/o Acid/Silica Gel Clean-up)
 TestAmerica Seattle

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BRG0376-01 (MW4-5-072908)		Soil			Sampled: 07/29/08 14:03					
Diesel Range Hydrocarbons	NWTPH-Dx	11.0	----	10.9	mg/kg dry	1x	8G31041	07/31/08 13:49	08/01/08 17:29	Q6
Lube Oil Range Hydrocarbons	"	80.4	----	27.2	"	"	"	"	"	"
<i>Surrogate(s): 2-FBP</i>			109%		54 - 148 %	"				"
<i>Octacosane</i>			97.8%		62 - 142 %	"				"
BRG0376-02 (MW1-10-072908)		Soil			Sampled: 07/29/08 16:01					
Diesel Range Hydrocarbons	NWTPH-Dx	38700	----	3550	mg/kg dry	50x	8G31041	07/31/08 13:49	08/01/08 17:59	Q4
Lube Oil Range Hydrocarbons	"	58100	----	8880	"	"	"	"	"	Q4
<i>Surrogate(s): 2-FBP</i>			NR		54 - 148 %	"				Z3
<i>Octacosane</i>			NR		62 - 142 %	"				Z3

TestAmerica Seattle

Sandra Yakamavich

Sandra Yakamavich, Project Manager

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report shall not be reproduced except in full, without the written approval of the laboratory.



Farallon Consulting LLC 975 5th Ave NW Ste 100 Issaquah, WA/USA 98027	Project Name: BNSF - John Michael Lease Site Project Number: 683-018 Project Manager: Dan Caputo	Report Created: 08/06/08 12:20
--	---	-----------------------------------

BTEX by EPA Method 8021B
TestAmerica Seattle

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BRG0376-01 (MW4-5-072908)		Soil			Sampled: 07/29/08 14:03					
Benzene	EPA 8021B	ND	----	0.0304	mg/kg dry	1x	8H01020	08/01/08 09:49	08/02/08 13:40	
Toluene	"	ND	----	0.0507	"	"	"	"	"	
Ethylbenzene	"	ND	----	0.0507	"	"	"	"	"	
Xylenes (total)	"	ND	----	0.101	"	"	"	"	"	
<i>Surrogate(s): 4-BFB (PID)</i>			112%		63 - 150 %	"				"
BRG0376-02 (MW1-10-072908)		Soil			Sampled: 07/29/08 16:01					
Benzene	EPA 8021B	ND	----	0.449	mg/kg dry	10x	8H01020	08/01/08 09:49	08/02/08 14:12	
Toluene	"	ND	----	0.748	"	"	"	"	"	
Ethylbenzene	"	3.08	----	0.748	"	"	"	"	"	
Xylenes (total)	"	8.14	----	1.50	"	"	"	"	"	
<i>Surrogate(s): 4-BFB (PID)</i>			150%		63 - 150 %	1x				"

TestAmerica Seattle

Sandra Yakamovich

Sandra Yakamovich, Project Manager

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Farallon Consulting LLC 975 5th Ave NW Ste 100 Issaquah, WA/USA 98027	Project Name: BNSF - John Michael Lease Site Project Number: 683-018 Project Manager: Dan Caputo	Report Created: 08/06/08 12:20
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Physical Parameters by APHA/ASTM/EPA Methods
TestAmerica Seattle

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BRG0376-01 (MW4-5-072908)		Soil			Sampled: 07/29/08 14:03					
Dry Weight	BSOPSPL003R0 8	91.5	----	1.00	%	1x	8H04039	08/04/08 13:32	08/05/08 00:00	
BRG0376-02 (MW1-10-072908)		Soil			Sampled: 07/29/08 16:01					
Dry Weight	BSOPSPL003R0 8	70.4	----	1.00	%	1x	8H04039	08/04/08 13:32	08/05/08 00:00	

TestAmerica Seattle

Sandra Yakamavich

Sandra Yakamavich, Project Manager

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Farallon Consulting LLC 975 5th Ave NW Ste 100 Issaquah, WA/USA 98027	Project Name: BNSF - John Michael Lease Site Project Number: 683-018 Project Manager: Dan Caputo	Report Created: 08/06/08 12:20
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Volatile Petroleum Products by NWTPH-Gx - Laboratory Quality Control Results
 TestAmerica Seattle

QC Batch: 8H01020 Soil Preparation Method: EPA 5030B (P/T)

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (8H01020-BLK1)													Extracted: 08/01/08 09:49	
Gasoline Range Hydrocarbons	NWTPH-Gx	ND	---	5.00	mg/kg wet	1x	--	--	--	--	--	--	08/01/08 19:33	
Surrogate(s): 4-BFB (FID)		Recovery: 86.8%		Limits: 50-150%		"						08/01/08 19:33		
LCS (8H01020-BS1)													Extracted: 08/01/08 09:49	
Gasoline Range Hydrocarbons	NWTPH-Gx	45.6	---	5.00	mg/kg wet	1x	--	50.0	91.2%	(75-125)	--	--	08/01/08 20:06	
Surrogate(s): 4-BFB (FID)		Recovery: 93.9%		Limits: 50-150%		"						08/01/08 20:06		
LCS Dup (8H01020-BSD1)													Extracted: 08/01/08 09:49	
Gasoline Range Hydrocarbons	NWTPH-Gx	46.6	---	5.00	mg/kg wet	1x	--	50.0	93.2%	(75-125)	2.17%	(25)	08/01/08 20:38	
Surrogate(s): 4-BFB (FID)		Recovery: 95.5%		Limits: 50-150%		"						08/01/08 20:38		
Duplicate (8H01020-DUP1)													QC Source: BRG0393-01	Extracted: 08/01/08 09:49
Gasoline Range Hydrocarbons	NWTPH-Gx	ND	---	2.62	mg/kg dry	1x	ND	--	--	--	4.11%	(40)	08/01/08 22:48	
Surrogate(s): 4-BFB (FID)		Recovery: 152%		Limits: 50-150%		"						08/01/08 22:48		ZX
Duplicate (8H01020-DUP2)													QC Source: BRG0393-02	Extracted: 08/01/08 09:49
Gasoline Range Hydrocarbons	NWTPH-Gx	3.73	---	2.01	mg/kg dry	1x	3.55	--	--	--	4.91%	(40)	08/01/08 23:54	
Surrogate(s): 4-BFB (FID)		Recovery: 111%		Limits: 50-150%		"						08/01/08 23:54		
Matrix Spike (8H01020-MS1)													QC Source: BRG0393-01	Extracted: 08/01/08 09:49
Gasoline Range Hydrocarbons	NWTPH-Gx	25.3	---	2.62	mg/kg dry	1x	0.549	15.3	161%	(60-175)	--	--	08/02/08 00:26	
Surrogate(s): 4-BFB (FID)		Recovery: 164%		Limits: 50-150%		"						08/02/08 00:26		ZX

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Sandra Yakamavich

Sandra Yakamavich, Project Manager

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Farallon Consulting LLC 975 5th Ave NW Ste 100 Issaquah, WA/USA 98027	Project Name: BNSF - John Michael Lease Site Project Number: 683-018 Project Manager: Dan Caputo	Report Created: 08/06/08 12:20
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Semivolatile Petroleum Products by NWTPH-Dx (w/o Acid/Silica Gel Clean-up) - Laboratory Quality Control Results
 TestAmerica Seattle

QC Batch: 8G31041 Soil Preparation Method: EPA 3550B

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
---------	--------	--------	------	-----	-------	-----	---------------	-----------	-------	----------	-------	----------	----------	-------

Blank (8G31041-BLK1) Extracted: 07/31/08 13:49

Diesel Range Hydrocarbons	NWTPH-Dx	ND	---	10.0	mg/kg wet	1x	--	--	--	--	--	--	08/01/08 15:32	
Lube Oil Range Hydrocarbons	"	ND	---	25.0	"	"	--	--	--	--	--	--	"	
<i>Surrogate(s): 2-FBP</i>		<i>Recovery: 91.3%</i>		<i>Limits: 54-148%</i>		"							08/01/08 15:32	
<i>Octacosane</i>		<i>92.4%</i>		<i>62-142%</i>		"							"	

LCS (8G31041-BS1) Extracted: 07/31/08 13:49

Diesel Range Hydrocarbons	NWTPH-Dx	59.4	---	10.0	mg/kg wet	1x	--	66.7	89.1%	(78-129)	--	--	08/01/08 16:02	
<i>Surrogate(s): 2-FBP</i>		<i>Recovery: 114%</i>		<i>Limits: 54-148%</i>		"							08/01/08 16:02	
<i>Octacosane</i>		<i>95.9%</i>		<i>62-142%</i>		"							"	

Duplicate (8G31041-DUP1) QC Source: BRG0376-01 Extracted: 07/31/08 13:49

Diesel Range Hydrocarbons	NWTPH-Dx	13.1	---	10.9	mg/kg dry	1x	11.0	--	--	--	17.8% (40)	--	08/01/08 16:31	
Lube Oil Range Hydrocarbons	"	96.3	---	27.2	"	"	80.4	--	--	--	18.0%	"	"	
<i>Surrogate(s): 2-FBP</i>		<i>Recovery: 107%</i>		<i>Limits: 54-148%</i>		"							08/01/08 16:31	
<i>Octacosane</i>		<i>98.6%</i>		<i>62-142%</i>		"							"	

Matrix Spike (8G31041-MS1) QC Source: BRG0376-01 Extracted: 07/31/08 13:49

Diesel Range Hydrocarbons	NWTPH-Dx	66.3	---	10.8	mg/kg dry	1x	11.0	72.2	76.6%	(46-155)	--	--	08/01/08 17:00	
<i>Surrogate(s): 2-FBP</i>		<i>Recovery: 103%</i>		<i>Limits: 54-148%</i>		"							08/01/08 17:00	
<i>Octacosane</i>		<i>85.2%</i>		<i>62-142%</i>		"							"	

TestAmerica Seattle

Sandra Yakamavich

Sandra Yakamavich, Project Manager

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Farallon Consulting LLC 975 5th Ave NW Ste 100 Issaquah, WA/USA 98027	Project Name: BNSF - John Michael Lease Site Project Number: 683-018 Project Manager: Dan Caputo	Report Created: 08/06/08 12:20
--	---	--

BTEX by EPA Method 8021B - Laboratory Quality Control Results
 TestAmerica Seattle

QC Batch: 8H01020 **Soil Preparation Method: EPA 5030B (P/T)**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
---------	--------	--------	------	-----	-------	-----	---------------	-----------	-------	----------	-------	----------	----------	-------

Blank (8H01020-BLK1) Extracted: 08/01/08 09:49

Benzene	EPA 8021B	ND	---	0.0300	mg/kg wet	1x	--	--	--	--	--	--	08/01/08 19:33	
Toluene	"	ND	---	0.0500	"	"	--	--	--	--	--	--	"	
Ethylbenzene	"	ND	---	0.0500	"	"	--	--	--	--	--	--	"	
Xylenes (total)	"	ND	---	0.100	"	"	--	--	--	--	--	--	"	
<i>Surrogate(s): 4-BFB (PID)</i>		<i>Recovery: 102%</i>		<i>Limits: 63-150%</i>										<i>08/01/08 19:33</i>

LCS (8H01020-BS2) Extracted: 08/01/08 09:49

Benzene	EPA 8021B	1.48	---	0.0300	mg/kg wet	1x	--	1.50	98.6%	(75-125)	--	--	08/01/08 21:11	
Toluene	"	1.51	---	0.0500	"	"	--	"	101%	"	--	--	"	
Ethylbenzene	"	1.54	---	0.0500	"	"	--	"	103%	"	--	--	"	
Xylenes (total)	"	4.58	---	0.100	"	"	--	4.50	102%	"	--	--	"	
<i>Surrogate(s): 4-BFB (PID)</i>		<i>Recovery: 101%</i>		<i>Limits: 63-150%</i>										<i>08/01/08 21:11</i>

LCS Dup (8H01020-BSD2) Extracted: 08/01/08 09:49

Benzene	EPA 8021B	1.54	---	0.0300	mg/kg wet	1x	--	1.50	102%	(75-125)	3.82%	(25)	08/01/08 21:44	
Toluene	"	1.57	---	0.0500	"	"	--	"	105%	"	3.47%	"	"	
Ethylbenzene	"	1.60	---	0.0500	"	"	--	"	107%	"	3.88%	"	"	
Xylenes (total)	"	4.77	---	0.100	"	"	--	4.50	106%	"	4.14%	"	"	
<i>Surrogate(s): 4-BFB (PID)</i>		<i>Recovery: 102%</i>		<i>Limits: 63-150%</i>										<i>08/01/08 21:44</i>

Duplicate (8H01020-DUP1) QC Source: BRG0393-01 Extracted: 08/01/08 09:49

Benzene	EPA 8021B	ND	---	0.0157	mg/kg dry	1x	ND	--	--	--	NR	(35)	08/01/08 22:48	
Toluene	"	ND	---	0.0262	"	"	ND	--	--	--	51.0%	"	"	R4
Ethylbenzene	"	ND	---	0.0262	"	"	ND	--	--	--	59.7%	"	"	R4
Xylenes (total)	"	ND	---	0.0525	"	"	ND	--	--	--	56.1%	"	"	R4
<i>Surrogate(s): 4-BFB (PID)</i>		<i>Recovery: 173%</i>		<i>Limits: 63-150%</i>										<i>08/01/08 22:48</i> ZX

Duplicate (8H01020-DUP2) QC Source: BRG0393-02 Extracted: 08/01/08 09:49

Benzene	EPA 8021B	ND	---	0.0121	mg/kg dry	1x	ND	--	--	--	NR	(35)	08/01/08 23:54	
Toluene	"	ND	---	0.0201	"	"	ND	--	--	--	1.10%	"	"	
Ethylbenzene	"	ND	---	0.0201	"	"	ND	--	--	--	1.39%	"	"	
Xylenes (total)	"	0.107	---	0.0402	"	"	0.106	--	--	--	0.908%	"	"	
<i>Surrogate(s): 4-BFB (PID)</i>		<i>Recovery: 125%</i>		<i>Limits: 63-150%</i>										<i>08/01/08 23:54</i>

TestAmerica Seattle

Sandra Yakamavich

Sandra Yakamavich, Project Manager

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Farallon Consulting LLC 975 5th Ave NW Ste 100 Issaquah, WA/USA 98027	Project Name: BNSF - John Michael Lease Site Project Number: 683-018 Project Manager: Dan Caputo	Report Created: 08/06/08 12:20
--	---	-----------------------------------

BTEX by EPA Method 8021B - Laboratory Quality Control Results
 TestAmerica Seattle

QC Batch: 8H01020 Soil Preparation Method: EPA 5030B (P/T)

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes	
Matrix Spike (8H01020-MS2)			QC Source: BRG0393-02					Extracted: 08/01/08 09:49							
Benzene	EPA 8021B	0.655	---	0.0121	mg/kg dry	1x	ND	0.495	132%	(60-160)	--	--	08/02/08 07:29		
Toluene	"	0.676	---	0.0201	"	"	0.0127	"	134%	"	--	--	"		
Ethylbenzene	"	0.695	---	0.0201	"	"	0.0187	"	136%	"	--	--	"		
Xylenes (total)	"	2.10	---	0.0402	"	"	0.106	1.49	134%	"	--	--	"		
Surrogate(s): 4-BFB (PID)		Recovery: 124%		Limits: 63-150%										08/02/08 07:29	

TestAmerica Seattle

Sandra Yakamavich

Sandra Yakamavich, Project Manager

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Farallon Consulting LLC 975 5th Ave NW Ste 100 Issaquah, WA/USA 98027	Project Name: BNSF - John Michael Lease Site Project Number: 683-018 Project Manager: Dan Caputo	Report Created: 08/06/08 12:20
--	---	-----------------------------------

Physical Parameters by APHA/ASTM/EPA Methods - Laboratory Quality Control Results
 TestAmerica Seattle

QC Batch: 8H04039 Soil Preparation Method: Dry Weight

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (8H04039-BLK1)										Extracted: 08/04/08 13:32				
Dry Weight	BSOPSP00 3R08	100	---	1.00	%	1x	--	--	--	--	--	--	08/05/08 00:00	

TestAmerica Seattle

Sandra Yakamavich

Sandra Yakamavich, Project Manager

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Farallon Consulting LLC

975 5th Ave NW Ste 100
Issaquah, WA/USA 98027

Project Name: **BNSF - John Michael Lease Site**

Project Number: 683-018

Project Manager: Dan Caputo

Report Created:

08/06/08 12:20

Notes and Definitions

Report Specific Notes:

- Q4 - The hydrocarbons present are a complex mixture of diesel range and heavy oil range organics.
- Q6 - Results in the diesel organics range are primarily due to overlap from a heavy oil range product.
- Q8 - Detected hydrocarbons in the gasoline range appear to be due to overlap of diesel range hydrocarbons.
- R4 - Due to the low levels of analyte in the sample, the duplicate RPD calculation does not provide useful information.
- Z3 - The sample required a dilution due to the nature of the sample matrix. Because of this dilution, the surrogate spike concentration in the sample was reduced to a level where the recovery calculation does not provide useful information.
- ZX - Due to sample matrix effects, the surrogate recovery was outside the acceptance limits.

Laboratory Reporting Conventions:

- DET - Analyte DETECTED at or above the Reporting Limit. Qualitative Analyses only.
- ND - Analyte NOT DETECTED at or above the reporting limit (MDL or MRL, as appropriate).
- NR/NA - Not Reported / Not Available
- dry - Sample results reported on a Dry Weight Basis. Results and Reporting Limits have been corrected for Percent Dry Weight.
- wet - Sample results and reporting limits reported on a Wet Weight Basis (as received). Results with neither 'wet' nor 'dry' are reported on a Wet Weight Basis.
- RPD - RELATIVE PERCENT DIFFERENCE (RPDs calculated using Results, not Percent Recoveries).
- MRL - METHOD REPORTING LIMIT. Reporting Level at, or above, the lowest level standard of the Calibration Table.
- MDL* - METHOD DETECTION LIMIT. Reporting Level at, or above, the statistically derived limit based on 40CFR, Part 136, Appendix B. *MDLs are listed on the report only if the data has been evaluated below the MRL. Results between the MDL and MRL are reported as Estimated Results.
- Dil - Dilutions are calculated based on deviations from the standard dilution performed for an analysis, and may not represent the dilution found on the analytical raw data.
- Reporting Limits - Reporting limits (MDLs and MRLs) are adjusted based on variations in sample preparation amounts, analytical dilutions and percent solids, where applicable.
- Electronic Signature - Electronic Signature added in accordance with TestAmerica's *Electronic Reporting and Electronic Signatures Policy*. Application of electronic signature indicates that the report has been reviewed and approved for release by the laboratory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.



Sandra Yakamavich, Project Manager



TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

11720 North Creek Pkwy N Suite 400, Bothell, WA 98011-8244
 11922 E. First Ave, Spokane, WA 99206-5302
 9405 SW Nimbus Ave, Beaverton, OR 97008-7145
 2000 W International Airport Rd Ste A10, Anchorage, AK 99502-1119

425-420-9200 FAX 420-9210
 509-924-9200 FAX 924-9290
 503-906-9200 FAX 906-9210
 907-563-9200 FAX 563-9210

CHAIN OF CUSTODY REPORT

Work Order #: **BR60376**

CLIENT: Farallon REPORT TO: 975 5th AVE MW ADDRESS: Spokane, WA 99207 PHONE: (425) 453-3783 FAX: PROJECT NAME: John Michael Lease Site PROJECT NUMBER: 603 - 018		INVOICE TO: BNSF NO: TT9206-H02 lu 7/31/08 P.O. NUMBER:		PRESERVATIVE REQUESTED ANALYSES		TURNAROUND REQUEST in Business Days * Organic & Inorganic Analyses Petroleum Hydrocarbon Analyses STD. <input type="checkbox"/> 10 <input type="checkbox"/> 7 <input type="checkbox"/> 5 <input type="checkbox"/> 4 <input type="checkbox"/> 3 <input type="checkbox"/> 2 <input type="checkbox"/> 1 <input type="checkbox"/> <1 STD. <input checked="" type="checkbox"/> 4 <input type="checkbox"/> 3 <input type="checkbox"/> 2 <input type="checkbox"/> 1 <input type="checkbox"/> <1 OTHER Specify:					
SAMPLED BY: TAdams		DATE: 7/30/08 TIME: 0834		RECEIVED BY: Patricia Campbell PRINT NAME: Patricia Campbell RECEIVED BY: Patricia Campbell PRINT NAME: Patricia Campbell		FIRM: Farallon DATE: 7/31/08 TIME: 07:31:08					
CLIENT SAMPLE IDENTIFICATION		SAMPLING DATE/TIME		MATRIX (W, S, O)		# OF CONT.		LOCATION/ COMMENTS		TA W/O ID	
1. MW4-5-072908		7/29/08 1403		MS		4				-01	
2. MW1-10-072908		7/29/08 1621				4				-02	
3. MW1-17.5-072908		7/29/08 1617				4				-03	
4.											
5.											
6.											
7.											
8.											
9.											
10.											
RELEASED BY: TIFFANY ADAMS PRINT NAME:		FIRM: Farallon		DATE: 7/30/08 TIME: 0834		RECEIVED BY: Patricia Campbell PRINT NAME: Patricia Campbell		FIRM: TA See		DATE: 7/31/08 TIME: 8:34	
RELEASED BY:		FIRM:		DATE:		RECEIVED BY:		FIRM:		DATE:	
PRINT NAME:		FIRM:		DATE:		RECEIVED BY:		FIRM:		DATE:	
ADDITIONAL REMARKS: Analyze Samples -01 + -02 + hold -03 per Farallon (Dan Caputo) 07/31/08 lu		FIRM:		DATE:		RECEIVED BY:		FIRM:		DATE:	

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

11720 North Creek Pkwy N Suite 400, Bothell, WA 98011-8244
 11922 E. First Ave, Spokane, WA 99206-5302
 9405 SW Nimbus Ave, Beaverton, OR 97008-7145
 2000 W International Airport Rd Ste A10, Anchorage, AK 99502-1119

425-420-9200 FAX 420-9210
 509-924-9200 FAX 924-9290
 503-906-9200 FAX 906-9210
 907-563-9200 FAX 563-9210

CHAIN OF CUSTODY REPORT

Work Order #: **BR60376**

CLIENT: Farallon		INVOICE TO:			
REPORT TO: 975 5th AVE MW		P.O. NUMBER:			
ADDRESS: Asagwah, WA 98027		PRESERVATIVE			
PHONE: (425) 433-3788 FAX:		REQUESTED ANALYSES			
PROJECT NAME: John Michael Lease Site		<input checked="" type="checkbox"/> DEQ/00 <input checked="" type="checkbox"/> SWP/00 <input checked="" type="checkbox"/> GR0 <input checked="" type="checkbox"/> MT/00 <input checked="" type="checkbox"/> STX <input checked="" type="checkbox"/> SP/00			
PROJECT NUMBER: 603 - 018		<input type="checkbox"/> 10 STD. <input type="checkbox"/> 7 <input type="checkbox"/> 5 <input type="checkbox"/> 4 <input checked="" type="checkbox"/> 4 <input type="checkbox"/> 3 <input type="checkbox"/> 2 <input type="checkbox"/> 1 <input type="checkbox"/> <1			
SAMPLED BY: T Adams		<input type="checkbox"/> 10 STD. <input type="checkbox"/> 7 <input type="checkbox"/> 5 <input type="checkbox"/> 4 <input checked="" type="checkbox"/> 4 <input type="checkbox"/> 3 <input type="checkbox"/> 2 <input type="checkbox"/> 1 <input type="checkbox"/> <1			
CLIENT SAMPLE IDENTIFICATION	SAMPLING DATE/TIME	MATRIX (W, S, O)	# OF CONT.	LOCATION/ COMMENTS	TA W/O ID
1. MW4-5-072908	7/29/08 1403	TS	4		-01
2. MW1-10-072908	7/29/08 1601	IS	4		-02
3. MW1-17.5-072908	7/29/08 1617	S	4		-03
4.					
5.					
6.					
7.					
8.					
9.					
10.					
RELEASED BY: TIFFANY ADAMS	DATE: 7/30/08	RECEIVED BY: Cathy Campbell	DATE: 7/30/08	FIRM: TA Sea	DATE: 8:34
PRINT NAME:	TIME: 0834	PRINT NAME:	TIME:	FIRM:	TIME:
RELEASED BY:	DATE:	RECEIVED BY:	DATE:	FIRM:	DATE:
PRINT NAME:	TIME:	PRINT NAME:	TIME:	FIRM:	TIME:
ADDITIONAL REMARKS:					
TEMP: 2.3 PAGE OF					

TAT: _____

Paperwork to PM - Date: 1/30 Time: 8:35

Non-Conformances?

Page Time & Initials: _____

Circle Y or N

(If Y, see other side)

TEST AMERICA SAMPLE RECEIPT CHECKLIST

Received By:
(applies to temp at receipt)

Logged-in By:

Unpacked/Labeled By:

Cooler ID: 221

Date: 1/30

Date: 07-30

Date: 07-30-08

Work Order No. BR610376

Time: 8:34

Time: 1228

Time: _____

Client: Farrallon

Initials: Clz

Initials: CW

Initials: CW

Project: BNSF - John Michael Lease Site

Container Type:

COC Seals:

Packing Material:

Cooler
 Box
 None/Other

Ship Container
 On Bottles
 None
Sign By _____
Date _____

Bubble Bags
 Styrofoam
 Foam Packs
 None/Other

Refrigerant:

Gel Ice Pack
 Loose Ice
 None/Other

Received Via: Bill#

Fed Ex
 Client
 URS
 DHL
 Servoy
 GS
 TA Courier
 Mid Valley
 TDP
 Other

Cooler Temperature (IR): _____ °C Plastic Glass (Frozen filters, Tedlars and aqueous Metals exempt)

Temperature Blank? 2.3 °C or NA

Trip Blank? Y or (N) or NA

BP, OPLC, ARCO-Temperature monitoring every 15 minutes:

(initial/date/time): _____

Comments: _____

Sample Containers:

ID

ID

Intact? or N
Provided by TA? or N
Correct Type? or N
#Containers match COC? or N
IDs/time/date match COC? or N
Hold Times in hold? or N

Metals Preserved? Y or N or (NA)
Client QAPP Preserved? Y or N or (NA)
Adequate Volume? or N
(for tests requested)
Water VOAs: Headspace? Y or N or (NA)
Comments: _____

PROJECT MANAGEMENT

Is the Chain of Custody complete?

or N. If N, circle the items that were incomplete

Comments, Problems

All Samples on Hold.

Total access set up?

Has client been contacted regarding non-conformances?

Y or (N)

If Y, _____ / _____ / _____
Date Time

PM Initials: Szy

Date: 1/30/08 Time: 0856

August 22, 2008

Dan Caputo
Farallon Consulting LLC
975 5th Ave NW Ste 100
Issaquah, WA/USA 98027

RE: BNSF - John Michael Lease Site

Enclosed are the results of analyses for samples received by the laboratory on 08/08/08 09:45.
The following list is a summary of the Work Orders contained in this report, generated on 08/22/08
10:36.

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

<u>Work Order</u>	<u>Project</u>	<u>ProjectNumber</u>
BRH0095	BNSF - John Michael Lease Si	683-018

TestAmerica Seattle

Sandra Yakamavich

Sandra Yakamavich, Project Manager

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Farallon Consulting LLC

975 5th Ave NW Ste 100
Issaquah, WA/USA 98027

Project Name: **BNSF - John Michael Lease Site**

Project Number: 683-018

Project Manager: Dan Caputo

Report Created:
08/22/08 10:36

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW1-080608	BRH0095-01	Water	08/06/08 17:12	08/08/08 09:45
MW2-080608	BRH0095-02	Water	08/06/08 15:50	08/08/08 09:45
MW3-080608	BRH0095-03	Water	08/06/08 13:55	08/08/08 09:45
MW4-080608	BRH0095-04	Water	08/06/08 14:55	08/08/08 09:45
QA/QC-1-080608	BRH0095-05	Water	08/06/08 12:00	08/08/08 09:45

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Farallon Consulting LLC 975 5th Ave NW Ste 100 Issaquah, WA/USA 98027	Project Name: BNSF - John Michael Lease Site Project Number: 683-018 Project Manager: Dan Caputo	Report Created: 08/22/08 10:36
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Volatile Petroleum Products by NWTPH-Gx
TestAmerica Seattle

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BRH0095-01 (MW1-080608)		Water					Sampled: 08/06/08 17:12			
Gasoline Range Hydrocarbons	NWTPH-Gx	145	----	50.0	ug/l	1x	8H11017	08/11/08 09:43	08/11/08 14:11	Q8
Surrogate(s): 4-BFB (FID)		86.7%		58 - 144 %		"			"	
BRH0095-02 (MW2-080608)		Water					Sampled: 08/06/08 15:50			
Gasoline Range Hydrocarbons	NWTPH-Gx	ND	----	50.0	ug/l	1x	8H11017	08/11/08 09:43	08/11/08 16:21	
Surrogate(s): 4-BFB (FID)		84.2%		58 - 144 %		"			"	
BRH0095-03 (MW3-080608)		Water					Sampled: 08/06/08 13:55			
Gasoline Range Hydrocarbons	NWTPH-Gx	ND	----	50.0	ug/l	1x	8H11017	08/11/08 09:43	08/11/08 20:09	
Surrogate(s): 4-BFB (FID)		83.7%		58 - 144 %		"			"	
BRH0095-04 (MW4-080608)		Water					Sampled: 08/06/08 14:55			
Gasoline Range Hydrocarbons	NWTPH-Gx	ND	----	50.0	ug/l	1x	8H11017	08/11/08 09:43	08/11/08 15:16	
Surrogate(s): 4-BFB (FID)		83.6%		58 - 144 %		"			"	
BRH0095-05 (QA/QC-1-080608)		Water					Sampled: 08/06/08 12:00			
Gasoline Range Hydrocarbons	NWTPH-Gx	141	----	50.0	ug/l	1x	8H11017	08/11/08 09:43	08/11/08 20:42	Q8
Surrogate(s): 4-BFB (FID)		87.2%		58 - 144 %		"			"	

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Farallon Consulting LLC 975 5th Ave NW Ste 100 Issaquah, WA/USA 98027	Project Name: BNSF - John Michael Lease Site Project Number: 683-018 Project Manager: Dan Caputo	Report Created: 08/22/08 10:36
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Semivolatile Petroleum Products by NWTPH-Dx (w/o Acid/Silica Gel Clean-up)
 TestAmerica Seattle

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BRH0095-01 (MW1-080608)	Water		Sampled: 08/06/08 17:12							
Lube Oil Range Hydrocarbons	NWTPH-Dx	ND	----	0.472	mg/l	1x	8H11026	08/11/08 12:06	08/12/08 22:21	
Surrogate(s): 2-FBP		91.4%		53 - 125 %	"	"				C8
Octacosane		95.2%		68 - 125 %	"	"				
BRH0095-01RE1 (MW1-080608)	Water		Sampled: 08/06/08 17:12							
Diesel Range Hydrocarbons	NWTPH-Dx	1.11	----	0.236	mg/l	1x	8H11026	08/11/08 12:06	08/13/08 09:01	Q11
Surrogate(s): 2-FBP		92.1%		53 - 125 %	"	"				
Octacosane		92.5%		68 - 125 %	"	"				
BRH0095-02 (MW2-080608)	Water		Sampled: 08/06/08 15:50							
Diesel Range Hydrocarbons	NWTPH-Dx	ND	----	0.236	mg/l	1x	8H11026	08/11/08 12:06	08/12/08 22:47	
Lube Oil Range Hydrocarbons	"	ND	----	0.472	"	"	"	"	"	
Surrogate(s): 2-FBP		75.9%		53 - 125 %	"	"				C
Octacosane		92.5%		68 - 125 %	"	"				
BRH0095-03 (MW3-080608)	Water		Sampled: 08/06/08 13:55							
Diesel Range Hydrocarbons	NWTPH-Dx	ND	----	0.236	mg/l	1x	8H11026	08/11/08 12:06	08/12/08 23:12	
Lube Oil Range Hydrocarbons	"	0.499	----	0.472	"	"	"	"	"	QP
Surrogate(s): 2-FBP		88.6%		53 - 125 %	"	"				C
Octacosane		95.8%		68 - 125 %	"	"				
BRH0095-04 (MW4-080608)	Water		Sampled: 08/06/08 14:55							
Diesel Range Hydrocarbons	NWTPH-Dx	ND	----	0.236	mg/l	1x	8H11026	08/11/08 12:06	08/12/08 23:39	
Lube Oil Range Hydrocarbons	"	ND	----	0.472	"	"	"	"	"	
Surrogate(s): 2-FBP		65.1%		53 - 125 %	"	"				C
Octacosane		84.4%		68 - 125 %	"	"				
BRH0095-05 (QA/QC-1-080608)	Water		Sampled: 08/06/08 12:00							
Lube Oil Range Hydrocarbons	NWTPH-Dx	ND	----	0.472	mg/l	1x	8H11026	08/11/08 12:06	08/13/08 00:05	
Surrogate(s): 2-FBP		86.0%		53 - 125 %	"	"				C8
Octacosane		93.7%		68 - 125 %	"	"				

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Sandra Yakamavich, Project Manager



Farallon Consulting LLC 975 5th Ave NW Ste 100 Issaquah, WA/USA 98027	Project Name:	BNSF - John Michael Lease Site	Report Created: 08/22/08 10:36
	Project Number:	683-018	
	Project Manager:	Dan Caputo	

Semivolatle Petroleum Products by NWTPH-Dx (w/o Acid/Silica Gel Clean-up)
 TestAmerica Seattle

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BRH0095-05RE1 (QA/QC-1-080608)		Water			Sampled: 08/06/08 12:00					
Diesel Range Hydrocarbons	NWTPH-Dx	1.01	----	0.236	mg/l	1x	8H11026	08/11/08 12:06	08/13/08 09:28	Q11
Surrogate(s): 2-FBP		88.0%		53 - 125 %		"			"	
Octacosane		93.8%		68 - 125 %		"			"	

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Farallon Consulting LLC 975 5th Ave NW Ste 100 Issaquah, WA/USA 98027	Project Name: BNSF - John Michael Lease Site Project Number: 683-018 Project Manager: Dan Caputo	Report Created: 08/22/08 10:36
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BTEX by EPA Method 8021B
TestAmerica Seattle

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BRH0095-01	(MW1-080608)	Water			Sampled: 08/06/08 17:12					
Benzene	EPA 8021B	1.09	----	0.500	ug/l	1x	8H11017	08/11/08 09:43	08/11/08 14:11	
Toluene	"	0.700	----	0.500	"	"	"	"	"	
Ethylbenzene	"	0.893	----	0.500	"	"	"	"	"	
Xylenes (total)	"	2.84	----	1.00	"	"	"	"	"	
<i>Surrogate(s): 4-BFB (PID)</i>		96.9%		68 - 140 %		"				
BRH0095-02	(MW2-080608)	Water			Sampled: 08/06/08 15:50					
Benzene	EPA 8021B	ND	----	0.500	ug/l	1x	8H11017	08/11/08 09:43	08/11/08 16:21	
Toluene	"	ND	----	0.500	"	"	"	"	"	
Ethylbenzene	"	ND	----	0.500	"	"	"	"	"	
Xylenes (total)	"	ND	----	1.00	"	"	"	"	"	
<i>Surrogate(s): 4-BFB (PID)</i>		97.1%		68 - 140 %		"				
BRH0095-03	(MW3-080608)	Water			Sampled: 08/06/08 13:55					
Benzene	EPA 8021B	ND	----	0.500	ug/l	1x	8H11017	08/11/08 09:43	08/11/08 20:09	
Toluene	"	ND	----	0.500	"	"	"	"	"	
Ethylbenzene	"	ND	----	0.500	"	"	"	"	"	
Xylenes (total)	"	ND	----	1.00	"	"	"	"	"	
<i>Surrogate(s): 4-BFB (PID)</i>		96.4%		68 - 140 %		"				
BRH0095-04	(MW4-080608)	Water			Sampled: 08/06/08 14:55					
Benzene	EPA 8021B	ND	----	0.500	ug/l	1x	8H11017	08/11/08 09:43	08/11/08 15:16	
Toluene	"	ND	----	0.500	"	"	"	"	"	
Ethylbenzene	"	ND	----	0.500	"	"	"	"	"	
Xylenes (total)	"	ND	----	1.00	"	"	"	"	"	
<i>Surrogate(s): 4-BFB (PID)</i>		97.5%		68 - 140 %		"				
BRH0095-05	(QA/QC-1-080608)	Water			Sampled: 08/06/08 12:00					
Benzene	EPA 8021B	1.02	----	0.500	ug/l	1x	8H11017	08/11/08 09:43	08/11/08 20:42	
Toluene	"	0.647	----	0.500	"	"	"	"	"	
Ethylbenzene	"	0.872	----	0.500	"	"	"	"	"	
Xylenes (total)	"	2.76	----	1.00	"	"	"	"	"	
<i>Surrogate(s): 4-BFB (PID)</i>		97.0%		68 - 140 %		"				

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Polynuclear Aromatic Hydrocarbons by GC/MS-SIM
TestAmerica Seattle

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BRH0095-01 (MW1-080608)		Water			Sampled: 08/06/08 17:12					
Acenaphthene	EPA 8270C-SIM	0.866	----	0.0943	ug/l	1x	8H11021	08/11/08 10:56	08/15/08 15:57	
Acenaphthylene	"	ND	----	0.0943	"	"	"	"	"	
Anthracene	"	ND	----	0.0943	"	"	"	"	"	
Benzo (a) anthracene	"	ND	----	0.0943	"	"	"	"	"	
Benzo (a) pyrene	"	0.255	----	0.0943	"	"	"	"	"	
Benzo (b) fluoranthene	"	0.289	----	0.0943	"	"	"	"	"	
Benzo (k) fluoranthene	"	ND	----	0.0943	"	"	"	"	"	
Benzo (ghi) perylene	"	0.0962	----	0.0943	"	"	"	"	"	
Chrysene	"	ND	----	0.0943	"	"	"	"	"	
Dibenz (a,h) anthracene	"	ND	----	0.0943	"	"	"	"	"	
Fluoranthene	"	ND	----	0.0943	"	"	"	"	"	
Fluorene	"	1.08	----	0.0943	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	"	ND	----	0.0943	"	"	"	"	"	
1-Methylnaphthalene	"	4.17	----	0.0943	"	"	"	"	"	
2-Methylnaphthalene	"	0.608	----	0.0943	"	"	"	"	"	
Naphthalene	"	0.975	----	0.0943	"	"	"	"	"	
Phenanthrene	"	ND	----	0.0943	"	"	"	"	"	
Pyrene	"	0.266	----	0.0943	"	"	"	"	"	
Surrogate(s): <i>p-Terphenyl-d14</i>			94.1%		20 - 131 %	"				

BRH0095-02 (MW2-080608)		Water			Sampled: 08/06/08 15:50					
Acenaphthene	EPA 8270C-SIM	ND	----	0.0943	ug/l	1x	8H11021	08/11/08 10:56	08/15/08 16:22	
Acenaphthylene	"	ND	----	0.0943	"	"	"	"	"	
Anthracene	"	ND	----	0.0943	"	"	"	"	"	
Benzo (a) anthracene	"	ND	----	0.0943	"	"	"	"	"	
Benzo (a) pyrene	"	ND	----	0.0943	"	"	"	"	"	
Benzo (b) fluoranthene	"	ND	----	0.0943	"	"	"	"	"	
Benzo (k) fluoranthene	"	ND	----	0.0943	"	"	"	"	"	
Benzo (ghi) perylene	"	ND	----	0.0943	"	"	"	"	"	
Chrysene	"	ND	----	0.0943	"	"	"	"	"	
Dibenz (a,h) anthracene	"	ND	----	0.0943	"	"	"	"	"	
Fluoranthene	"	ND	----	0.0943	"	"	"	"	"	
Fluorene	"	ND	----	0.0943	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	"	ND	----	0.0943	"	"	"	"	"	
1-Methylnaphthalene	"	ND	----	0.0943	"	"	"	"	"	
2-Methylnaphthalene	"	ND	----	0.0943	"	"	"	"	"	
Naphthalene	"	ND	----	0.0943	"	"	"	"	"	
Phenanthrene	"	ND	----	0.0943	"	"	"	"	"	
Pyrene	"	ND	----	0.0943	"	"	"	"	"	
Surrogate(s): <i>p-Terphenyl-d14</i>			104%		20 - 131 %	"				

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Polynuclear Aromatic Hydrocarbons by GC/MS-SIM
TestAmerica Seattle

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BRH0095-03 (MW3-080608)	Water		Sampled: 08/06/08 13:55							
Acenaphthene	EPA 8270C-SIM	ND	----	0.0943	ug/l	1x	8H11021	08/11/08 10:56	08/15/08 16:47	
Acenaphthylene	"	ND	----	0.0943	"	"	"	"	"	
Anthracene	"	ND	----	0.0943	"	"	"	"	"	
Benzo (a) anthracene	"	ND	----	0.0943	"	"	"	"	"	
Benzo (a) pyrene	"	ND	----	0.0943	"	"	"	"	"	
Benzo (b) fluoranthene	"	ND	----	0.0943	"	"	"	"	"	
Benzo (k) fluoranthene	"	ND	----	0.0943	"	"	"	"	"	
Benzo (ghi) perylene	"	ND	----	0.0943	"	"	"	"	"	
Chrysene	"	ND	----	0.0943	"	"	"	"	"	
Dibenz (a,h) anthracene	"	ND	----	0.0943	"	"	"	"	"	
Fluoranthene	"	ND	----	0.0943	"	"	"	"	"	
Fluorene	"	ND	----	0.0943	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	"	ND	----	0.0943	"	"	"	"	"	
1-Methylnaphthalene	"	ND	----	0.0943	"	"	"	"	"	
2-Methylnaphthalene	"	ND	----	0.0943	"	"	"	"	"	
Naphthalene	"	ND	----	0.0943	"	"	"	"	"	
Phenanthrene	"	ND	----	0.0943	"	"	"	"	"	
Pyrene	"	ND	----	0.0943	"	"	"	"	"	
<i>Surrogate(s): p-Terphenyl-d14</i>			101%		20 - 131 %	"				"

BRH0095-04 (MW4-080608)	Water		Sampled: 08/06/08 14:55							
Acenaphthene	EPA 8270C-SIM	ND	----	0.0943	ug/l	1x	8H11021	08/11/08 10:56	08/15/08 17:21	
Acenaphthylene	"	ND	----	0.0943	"	"	"	"	"	
Anthracene	"	ND	----	0.0943	"	"	"	"	"	
Benzo (a) anthracene	"	ND	----	0.0943	"	"	"	"	"	
Benzo (a) pyrene	"	ND	----	0.0943	"	"	"	"	"	
Benzo (b) fluoranthene	"	ND	----	0.0943	"	"	"	"	"	
Benzo (k) fluoranthene	"	ND	----	0.0943	"	"	"	"	"	
Benzo (ghi) perylene	"	ND	----	0.0943	"	"	"	"	"	
Chrysene	"	ND	----	0.0943	"	"	"	"	"	
Dibenz (a,h) anthracene	"	ND	----	0.0943	"	"	"	"	"	
Fluoranthene	"	ND	----	0.0943	"	"	"	"	"	
Fluorene	"	ND	----	0.0943	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	"	ND	----	0.0943	"	"	"	"	"	
1-Methylnaphthalene	"	ND	----	0.0943	"	"	"	"	"	
2-Methylnaphthalene	"	ND	----	0.0943	"	"	"	"	"	
Naphthalene	"	ND	----	0.0943	"	"	"	"	"	
Phenanthrene	"	ND	----	0.0943	"	"	"	"	"	
Pyrene	"	ND	----	0.0943	"	"	"	"	"	
<i>Surrogate(s): p-Terphenyl-d14</i>			112%		20 - 131 %	"				"

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Polynuclear Aromatic Hydrocarbons by GC/MS-SIM
TestAmerica Seattle

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BRH0095-05 (QA/QC-1-080608)		Water			Sampled: 08/06/08 12:00					
Acenaphthene	EPA 8270C-SIM	1.06	----	0.0943	ug/l	1x	8H11021	08/11/08 10:56	08/15/08 18:11	
Acenaphthylene	"	ND	----	0.0943	"	"	"	"	"	
Anthracene	"	ND	----	0.0943	"	"	"	"	"	
Benzo (a) anthracene	"	ND	----	0.0943	"	"	"	"	"	
Benzo (a) pyrene	"	ND	----	0.0943	"	"	"	"	"	
Benzo (b) fluoranthene	"	ND	----	0.0943	"	"	"	"	"	
Benzo (k) fluoranthene	"	ND	----	0.0943	"	"	"	"	"	
Benzo (ghi) perylene	"	ND	----	0.0943	"	"	"	"	"	
Chrysene	"	ND	----	0.0943	"	"	"	"	"	
Dibenz (a,h) anthracene	"	ND	----	0.0943	"	"	"	"	"	
Fluoranthene	"	ND	----	0.0943	"	"	"	"	"	
Fluorene	"	1.68	----	0.0943	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	"	ND	----	0.0943	"	"	"	"	"	
1-Methylnaphthalene	"	7.54	----	0.0943	"	"	"	"	"	
2-Methylnaphthalene	"	1.86	----	0.0943	"	"	"	"	"	
Naphthalene	"	1.15	----	0.0943	"	"	"	"	"	
Phenanthrene	"	0.266	----	0.0943	"	"	"	"	"	
Pyrene	"	0.383	----	0.0943	"	"	"	"	"	
Surrogate(s): p-Terphenyl-d14			89.6%		20 - 131 %	"				

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Volatile Petroleum Products by NWTPH-Gx - Laboratory Quality Control Results
 TestAmerica Seattle

QC Batch: 8H11017 Water Preparation Method: EPA 5030B (P/T)

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (8H11017-BLK1)													Extracted: 08/11/08 09:43	
Gasoline Range Hydrocarbons	NWTPH-Gx	ND	---	50.0	ug/l	1x	--	--	--	--	--	--	08/11/08 12:33	
<i>Surrogate(s): 4-BFB (FID)</i>		<i>Recovery: 82.9%</i>		<i>Limits: 58-144%</i>	<i>"</i>								08/11/08 12:33	
LCS (8H11017-BS1)													Extracted: 08/11/08 09:43	
Gasoline Range Hydrocarbons	NWTPH-Gx	913	---	50.0	ug/l	1x	--	1000	91.3%	(80-120)	--	--	08/11/08 13:06	
<i>Surrogate(s): 4-BFB (FID)</i>		<i>Recovery: 92.3%</i>		<i>Limits: 58-144%</i>	<i>"</i>								08/11/08 13:06	
Duplicate (8H11017-DUP1)													QC Source: BRH0095-01 Extracted: 08/11/08 09:43	
Gasoline Range Hydrocarbons	NWTPH-Gx	127	---	50.0	ug/l	1x	145	--	--	--	12.7% (25)	--	08/11/08 14:43	
<i>Surrogate(s): 4-BFB (FID)</i>		<i>Recovery: 78.9%</i>		<i>Limits: 58-144%</i>	<i>"</i>								08/11/08 14:43	
Duplicate (8H11017-DUP2)													QC Source: BRH0095-04 Extracted: 08/11/08 09:43	
Gasoline Range Hydrocarbons	NWTPH-Gx	ND	---	50.0	ug/l	1x	ND	--	--	--	NR (25)	--	08/11/08 15:48	
<i>Surrogate(s): 4-BFB (FID)</i>		<i>Recovery: 83.4%</i>		<i>Limits: 58-144%</i>	<i>"</i>								08/11/08 15:48	
Matrix Spike (8H11017-MS1)													QC Source: BRH0095-01 Extracted: 08/11/08 09:43	
Gasoline Range Hydrocarbons	NWTPH-Gx	1080	---	50.0	ug/l	1x	145	1000	93.1%	(75-131)	--	--	08/11/08 16:54	
<i>Surrogate(s): 4-BFB (FID)</i>		<i>Recovery: 93.1%</i>		<i>Limits: 58-144%</i>	<i>"</i>								08/11/08 16:54	

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Sandra Yakamovich

Sandra Yakamovich, Project Manager

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Farallon Consulting LLC 975 5th Ave NW Ste 100 Issaquah, WA/USA 98027	Project Name: BNSF - John Michael Lease Site Project Number: 683-018 Project Manager: Dan Caputo	Report Created: 08/22/08 10:36
--	---	--

Semivolatile Petroleum Products by NWTPH-Dx (w/o Acid/Silica Gel Clean-up) - Laboratory Quality Control Results
 TestAmerica Seattle

QC Batch: 8H11026 **Water Preparation Method:** EPA 3520C

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
---------	--------	--------	------	-----	-------	-----	---------------	-----------	-------	----------	-------	----------	----------	-------

Blank (8H11026-BLK1) Extracted: 08/11/08 12:06

Diesel Range Hydrocarbons	NWTPH-Dx	ND	---	0.250	mg/l	1x	--	--	--	--	--	--	08/12/08 20:11	
Lube Oil Range Hydrocarbons	"	ND	---	0.500	"	"	--	--	--	--	--	--	"	
<i>Surrogate(s): 2-FBP</i>		<i>Recovery:</i>	<i>93.3%</i>	<i>Limits: 53-125%</i>		<i>"</i>							<i>08/12/08 20:11</i>	<i>C8</i>
<i>Octacosane</i>		<i>92.5%</i>		<i>68-125%</i>		<i>"</i>							<i>"</i>	

LCS (8H11026-BS1) Extracted: 08/11/08 12:06

Diesel Range Hydrocarbons	NWTPH-Dx	1.70	---	0.250	mg/l	1x	--	2.00	85.0%	(61-132)	--	--	08/12/08 20:37	
<i>Surrogate(s): 2-FBP</i>		<i>Recovery:</i>	<i>92.5%</i>	<i>Limits: 53-125%</i>		<i>"</i>							<i>08/12/08 20:37</i>	<i>C8</i>
<i>Octacosane</i>		<i>94.8%</i>		<i>68-125%</i>		<i>"</i>							<i>"</i>	

LCS Dup (8H11026-BSD1) Extracted: 08/11/08 12:06

Diesel Range Hydrocarbons	NWTPH-Dx	1.60	---	0.250	mg/l	1x	--	2.00	80.0%	(61-132)	6.04%	(40)	08/12/08 21:03	
<i>Surrogate(s): 2-FBP</i>		<i>Recovery:</i>	<i>86.0%</i>	<i>Limits: 53-125%</i>		<i>"</i>							<i>08/12/08 21:03</i>	<i>C8</i>
<i>Octacosane</i>		<i>90.6%</i>		<i>68-125%</i>		<i>"</i>							<i>"</i>	

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Sandra Yakamavich

Sandra Yakamavich, Project Manager

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Farallon Consulting LLC 975 5th Ave NW Ste 100 Issaquah, WA/USA 98027	Project Name: BNSF - John Michael Lease Site Project Number: 683-018 Project Manager: Dan Caputo	Report Created: 08/22/08 10:36
--	---	-----------------------------------

BTEX by EPA Method 8021B - Laboratory Quality Control Results
 TestAmerica Seattle

QC Batch: 8H11017 Water Preparation Method: EPA 5030B (P/T)

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
---------	--------	--------	------	-----	-------	-----	---------------	-----------	-------	----------	-------	----------	----------	-------

Blank (8H11017-BLK1) Extracted: 08/11/08 09:43

Benzene	EPA 8021B	ND	---	0.500	ug/l	1x	--	--	--	--	--	--	08/11/08 12:33	
Toluene	"	ND	---	0.500	"	"	--	--	--	--	--	--	"	
Ethylbenzene	"	ND	---	0.500	"	"	--	--	--	--	--	--	"	
Xylenes (total)	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
<i>Surrogate(s): 4-BFB (PID)</i>		<i>Recovery: 95.8%</i>		<i>Limits: 68-140%</i>										<i>08/11/08 12:33</i>

LCS (8H11017-BS2) Extracted: 08/11/08 09:43

Benzene	EPA 8021B	29.8	---	0.500	ug/l	1x	--	30.0	99.3%	(80-120)	--	--	08/11/08 13:38	
Toluene	"	30.7	---	0.500	"	"	--	"	102%	"	--	--	"	
Ethylbenzene	"	31.0	---	0.500	"	"	--	"	103%	"	--	--	"	
Xylenes (total)	"	92.3	---	1.00	"	"	--	90.0	103%	"	--	--	"	
<i>Surrogate(s): 4-BFB (PID)</i>		<i>Recovery: 97.4%</i>		<i>Limits: 68-140%</i>										<i>08/11/08 13:38</i>

Duplicate (8H11017-DUP1) QC Source: BRH0095-01 Extracted: 08/11/08 09:43

Benzene	EPA 8021B	1.10	---	0.500	ug/l	1x	1.09	--	--	--	1.28%	(25)	08/11/08 14:43	
Toluene	"	0.692	---	0.500	"	"	0.700	--	--	--	1.15%	"	"	
Ethylbenzene	"	0.928	---	0.500	"	"	0.893	--	--	--	3.84%	"	"	
Xylenes (total)	"	2.90	---	1.00	"	"	2.84	--	--	--	1.99%	"	"	
<i>Surrogate(s): 4-BFB (PID)</i>		<i>Recovery: 97.3%</i>		<i>Limits: 68-140%</i>										<i>08/11/08 14:43</i>

Duplicate (8H11017-DUP2) QC Source: BRH0095-04 Extracted: 08/11/08 09:43

Benzene	EPA 8021B	ND	---	0.500	ug/l	1x	ND	--	--	--	NR	(25)	08/11/08 15:48	
Toluene	"	ND	---	0.500	"	"	ND	--	--	--	NR	"	"	
Ethylbenzene	"	ND	---	0.500	"	"	ND	--	--	--	NR	"	"	
Xylenes (total)	"	ND	---	1.00	"	"	ND	--	--	--	NR	"	"	
<i>Surrogate(s): 4-BFB (PID)</i>		<i>Recovery: 96.5%</i>		<i>Limits: 68-140%</i>										<i>08/11/08 15:48</i>

Matrix Spike (8H11017-MS2) QC Source: BRH0095-04 Extracted: 08/11/08 09:43

Benzene	EPA 8021B	32.5	---	0.500	ug/l	1x	ND	30.0	108%	(46-130)	--	--	08/11/08 17:26	
Toluene	"	33.1	---	0.500	"	"	ND	"	110%	(60-124)	--	--	"	
Ethylbenzene	"	33.9	---	0.500	"	"	ND	"	113%	(56-141)	--	--	"	
Xylenes (total)	"	99.8	---	1.00	"	"	ND	90.0	111%	(66-132)	--	--	"	
<i>Surrogate(s): 4-BFB (PID)</i>		<i>Recovery: 97.1%</i>		<i>Limits: 68-140%</i>										<i>08/11/08 17:26</i>

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Sandra Yakamovich

Sandra Yakamovich, Project Manager

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Farallon Consulting LLC 975 5th Ave NW Ste 100 Issaquah, WA/USA 98027	Project Name: BNSF - John Michael Lease Site Project Number: 683-018 Project Manager: Dan Caputo	Report Created: 08/22/08 10:36
--	---	-----------------------------------

Polynuclear Aromatic Hydrocarbons by GC/MS-SIM - Laboratory Quality Control Results
 TestAmerica Seattle

QC Batch: 8H11021 Water Preparation Method: EPA 3520C

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (8H11021-BLK2)													Extracted: 08/11/08 10:56	
Acenaphthene	EPA 8270C-SIM	ND	---	0.100	ug/l	1x	--	--	--	--	--	--	08/15/08 17:46	
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 (k) fluoranthene	"	ND	---	0.100	"	"	--	--	--	--	--	--	"	
Benzo (ghi) perylene	"	ND	---	0.100	"	"	--	--	--	--	--	--	"	
Chrysene	"	ND	---	0.100	"	"	--	--	--	--	--	--	"	
Dibenz (a,h) anthracene	"	ND	---	0.100	"	"	--	--	--	--	--	--	"	
Fluoranthene	"	ND	---	0.100	"	"	--	--	--	--	--	--	"	
Fluorene	"	ND	---	0.100	"	"	--	--	--	--	--	--	"	
Indeno (1,2,3-cd) pyrene	"	ND	---	0.100	"	"	--	--	--	--	--	--	"	
1-Methylnaphthalene	"	ND	---	0.100	"	"	--	--	--	--	--	--	"	
2-Methylnaphthalene	"	ND	---	0.100	"	"	--	--	--	--	--	--	"	
Naphthalene	"	ND	---	0.100	"	"	--	--	--	--	--	--	"	
Phenanthrene	"	ND	---	0.100	"	"	--	--	--	--	--	--	"	
Pyrene	"	ND	---	0.100	"	"	--	--	--	--	--	--	"	
Surrogate(s): p-Terphenyl-d14		Recovery: 111%	Limits: 20-131%		"							08/15/08 17:46		

LCS (8H11021-BS2)													Extracted: 08/11/08 10:56	
Acenaphthene	EPA 8270C-SIM	19.8	---	0.100	ug/l	1x	--	20.0	99.2%	(68-129)	--	--	08/15/08 14:03	
Acenaphthylene	"	22.7	---	0.100	"	"	--	"	113%	(77-129)	--	--	"	
Anthracene	"	22.6	---	0.100	"	"	--	"	113%	(80-146)	--	--	"	
Benzo (a) anthracene	"	22.0	---	0.100	"	"	--	"	110%	(73-120)	--	--	"	
Benzo (a) pyrene	"	20.6	---	0.100	"	"	--	"	103%	(70-132)	--	--	"	
Benzo (b) fluoranthene	"	23.3	---	0.100	"	"	--	"	117%	(68-148)	--	--	"	
Benzo (k) fluoranthene	"	20.8	---	0.100	"	"	--	"	104%	(63-150)	--	--	"	
Benzo (ghi) perylene	"	18.0	---	0.100	"	"	--	"	89.8%	(46-142)	--	--	"	
Chrysene	"	23.4	---	0.100	"	"	--	"	117%	(80-132)	--	--	"	
Dibenz (a,h) anthracene	"	18.5	---	0.100	"	"	--	"	92.4%	(56-138)	--	--	"	
Fluoranthene	"	22.2	---	0.100	"	"	--	"	111%	(79-138)	--	--	"	
Fluorene	"	21.7	---	0.100	"	"	--	"	108%	(42-120)	--	--	"	
Indeno (1,2,3-cd) pyrene	"	17.6	---	0.100	"	"	--	"	88.2%	(53-136)	--	--	"	
1-Methylnaphthalene	"	15.4	---	0.100	"	"	--	"	77.1%	(41-120)	--	--	"	
2-Methylnaphthalene	"	14.6	---	0.100	"	"	--	"	73.2%	(43-122)	--	--	"	
Naphthalene	"	15.2	---	0.100	"	"	--	"	75.8%	(38-128)	--	--	"	
Phenanthrene	"	22.4	---	0.100	"	"	--	"	112%	(77-123)	--	--	"	

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Sandra Yakamovich

Sandra Yakamovich, Project Manager

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Farallon Consulting LLC 975 5th Ave NW Ste 100 Issaquah, WA/USA 98027	Project Name: BNSF - John Michael Lease Site Project Number: 683-018 Project Manager: Dan Caputo	Report Created: 08/22/08 10:36
--	---	-----------------------------------

Polynuclear Aromatic Hydrocarbons by GC/MS-SIM - Laboratory Quality Control Results
 TestAmerica Seattle

QC Batch: 8H11021 Water Preparation Method: EPA 3520C

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
---------	--------	--------	------	-----	-------	-----	---------------	-----------	-------	----------	-------	----------	----------	-------

LCS (8H11021-BS2) Extracted: 08/11/08 10:56

Pyrene	EPA 8270C-SIM	21.0	---	0.100	ug/l	1x	--	20.0	105%	(60-150)	--	--	08/15/08 14:03	
<i>Surrogate(s): p-Terphenyl-d14</i>		<i>Recovery: 93.2%</i>		<i>Limits: 20-131%</i>										<i>08/15/08 14:03</i>

LCS Dup (8H11021-BSD2) Extracted: 08/11/08 10:56

Acenaphthene	EPA 8270C-SIM	19.8	---	0.100	ug/l	1x	--	20.0	98.8%	(68-129)	0.465% (30)		08/15/08 15:31	
Acenaphthylene	"	22.8	---	0.100	"	"	--	"	114%	(77-129)	0.414%	"	"	
Anthracene	"	24.1	---	0.100	"	"	--	"	121%	(80-146)	6.63%	"	"	
Benzo (a) anthracene	"	22.4	---	0.100	"	"	--	"	112%	(73-120)	1.98%	"	"	
Benzo (a) pyrene	"	21.5	---	0.100	"	"	--	"	108%	(70-132)	4.49%	"	"	
Benzo (b) fluoranthene	"	24.4	---	0.100	"	"	--	"	122%	(68-148)	4.25%	"	"	
Benzo (k) fluoranthene	"	21.9	---	0.100	"	"	--	"	109%	(63-150)	4.91%	"	"	
Benzo (ghi) perylene	"	17.2	---	0.100	"	"	--	"	86.1%	(46-142)	4.28%	"	"	
Chrysene	"	23.8	---	0.100	"	"	--	"	119%	(80-132)	1.48%	"	"	
Dibenz (a,h) anthracene	"	19.2	---	0.100	"	"	--	"	96.1%	(56-138)	3.93%	"	"	
Fluoranthene	"	23.2	---	0.100	"	"	--	"	116%	(79-138)	4.15%	"	"	
Fluorene	"	22.2	---	0.100	"	"	--	"	111%	(42-120)	2.16%	"	"	
Indeno (1,2,3-cd) pyrene	"	17.8	---	0.100	"	"	--	"	88.8%	(53-136)	0.610%	"	"	
1-Methylnaphthalene	"	15.7	---	0.100	"	"	--	"	78.5%	(41-120)	1.85%	"	"	
2-Methylnaphthalene	"	14.9	---	0.100	"	"	--	"	74.6%	(43-122)	1.85%	"	"	
Naphthalene	"	15.0	---	0.100	"	"	--	"	75.2%	(38-128)	0.768%	"	"	
Phenanthrene	"	23.4	---	0.100	"	"	--	"	117%	(77-123)	4.58%	"	"	
Pyrene	"	21.0	---	0.100	"	"	--	"	105%	(60-150)	0.105%	"	"	
<i>Surrogate(s): p-Terphenyl-d14</i>		<i>Recovery: 92.3%</i>		<i>Limits: 20-131%</i>										<i>08/15/08 15:31</i>

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Sandra Yakamavich

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Farallon Consulting LLC

975 5th Ave NW Ste 100
Issaquah, WA/USA 98027

Project Name: **BNSF - John Michael Lease Site**

Project Number: 683-018

Project Manager: Dan Caputo

Report Created:
08/22/08 10:36

Notes and Definitions

Report Specific Notes:

- C - Calibration Verification recovery was above the method control limit for this analyte. Analyte not detected, data not impacted.
- C8 - Calibration Verification recovery was above the method control limit for this analyte. A high bias may be indicated.
- Q11 - Detected hydrocarbons in the diesel range do not have a distinct diesel pattern and may be due to heavily weathered diesel.
- Q8 - Detected hydrocarbons in the gasolinc range appear to be due to overlap of diesel range hydrocarbons.
- QP - Hydrocarbon result partly due to individual peak(s) in quantitation range.

Laboratory Reporting Conventions:

- DET - Analyte DETECTED at or above the Reporting Limit. Qualitative Analyses only.
- ND - Analyte NOT DETECTED at or above the reporting limit (MDL or MRL, as appropriate).
- NR/NA - Not Reported / Not Available
- dry - Sample results reported on a Dry Weight Basis. Results and Reporting Limits have been corrected for Percent Dry Weight.
- wct - Sample results and reporting limits reported on a Wet Weight Basis (as received). Results with neither 'wet' nor 'dry' are reported on a Wet Weight Basis.
- RPD - RELATIVE PERCENT DIFFERENCE (RPDs calculated using Results, not Percent Recoveries).
- MRL - METHOD REPORTING LIMIT. Reporting Level at, or above, the lowest level standard of the Calibration Table.
- MDL* - METHOD DETECTION LIMIT. Reporting Level at, or above, the statistically derived limit based on 40CFR, Part 136, Appendix B.
*MDLs are listed on the report only if the data has been evaluated below the MRL. Results between the MDL and MRL are reported as Estimated Results.
- Dil - Dilutions are calculated based on deviations from the standard dilution performed for an analysis, and may not represent the dilution found on the analytical raw data.
- Reporting Limits - Reporting limits (MDLs and MRLs) are adjusted based on variations in sample preparation amounts, analytical dilutions and percent solids, where applicable.
- Electronic Signature - Electronic Signature added in accordance with TestAmerica's *Electronic Reporting and Electronic Signatures Policy*.
Application of electronic signature indicates that the report has been reviewed and approved for release by the laboratory.
Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

TestAmerica Seattle



Sandra Yakamavich, Project Manager

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 2000 W International Airport Rd Ste A10, Anchorage, AK 99502-1119

425-420-9200 FAX 420-9210
 509-924-9200 FAX 924-9290
 503-906-9200 FAX 906-9210
 907-563-9200 FAX 563-9210

CHAIN OF CUSTODY REPORT

Work Order #: **BZHO095**

CLIENT: **Farallon Consulting**
 REPORT TO: **Dan Caputo**
 ADDRESS: **975 5th Ave NW Issaquah, WA 98027**
 PHONE: **(425) 295-0800** FAX: **(425) 295-0840**
 PROJECT NAME: **John Michael Lease Site**
 PROJECT NUMBER: **603-010**
 SAMPLED BY: **Lyndsey Needham**

INVOICE TO: **Bruce Sheppard BNSF**

PO NUMBER:

PRESERVATIVE

REQUESTED ANALYSES

CLIENT SAMPLE IDENTIFICATION	SAMPLING DATE/TIME	DR/PRO	WPT-D	GR/STX	WPT-GX	and	EPA 821B	CPAHs	PAHs	OTHER
1. MW1-080608	8/6/08 / 1712	X	X	X	X	X	X	X	X	7
2. MW2-080608	8/6/08 / 1550	X	X	X	X	X	X	X	X	7
3. MW3-080608	8/6/08 / 1355	X	X	X	X	X	X	X	X	7
4. MW4-080608	8/6/08 / 1455	X	X	X	X	X	X	X	X	7
5. QA/QC-1-080608	8/6/08 / 1200	X	X	X	X	X	X	X	X	7
6. Trip blank	8/6/08 / 170									1
7. <i>Blank</i>										
8.										
9.										
10.										

RELEASED BY: **Lyndsey Needham** FIRM: **Farallon** DATE: **8/7/08** TIME: **1600**
 PRINT NAME: **Lyndsey Needham** FIRM: **Farallon** DATE: **8/7/08** TIME: **1600**
 RECEIVED BY: **Colette Weaver** FIRM: **TAL-Seattle** DATE: **08-08-08** TIME: **0945**
 PRINT NAME: **Colette Weaver** FIRM: **TAL-Seattle** DATE: **08-08-08** TIME: **0945**

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 PRINT NAME: **Colette Weaver** FIRM: **TAL-Seattle** DATE: **08-08-08** TIME: **0945**

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 PRINT NAME: **WLS** FIRM: **WLS** DATE: **08-08-08** TIME: **0945**

TEMP: **6.8c** PAGE **1** OF **1**

TAT: _____

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Non-Conformances?

Circle or N

Page Time & Initials: _____

(If Y, see other side)

TEST AMERICA SAMPLE RECEIPT CHECKLIST

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Date: 08-08

Date: 8/8

Work Order No. BRH0095

Time: 0945

Time: 1425

Time: 15:30

Client: Farallon Consulting LLC

Initials: CW

Initials: CW

Initials: PL

Project: _____

Container Type:

COC Seals:

Packing Material:

Cooler

Ship Container

Lynsey

Needham Sign By

Bubble Bags

____ Styrofoam

____ Box

____ On Bottles

08-07-08 Date

____ Foam Packs

____ None/Other _____

____ None

None Other bubble wrap

Refrigerant:

Received Via: Bill#

____ Gel Ice Pack _____

Fed Ex _____ Client

Loose Ice ice was melted.

____ UPS _____ TA Courier

____ None/Other _____

____ DHL _____ Mid Valley

____ Senvoy _____ TDP

____ GS _____ Other _____

Cooler Temperature (IR): _____ °C Plastic Glass (Frozen filters, Tedlars and aqueous Metals exempt)

(circle one)

Temperature Blank? 6.8 °C or NA 5.5°C, 3.8°C

Trip Blank? Y or N or NA

BP, OPLC, ARCO-Temperature monitoring every 15 minutes:

(initial/date/time): _____

Comments: _____

Sample Containers:

ID

ID

Intact? or N _____

Metals Preserved? Y or N or NA _____

Provided by TA? or N _____

Client QAPP Preserved? or N or NA _____

Correct Type? or N _____

Adequate Volume? or N _____
(for tests requested)

#Containers match COC? or N _____

Water VOAs: Headspace? Y or N or NA _____

IDs/time/date match COC? or N _____

Comments: _____

Hold Times in hold? or N _____

PROJECT MANAGEMENT

Is the Chain of Custody complete?

Y or N If N, circle the items that were incomplete

Comments, Problems _____

Total access set up? _____

Y or N

Has client been contacted regarding non-conformances? _____

Y or N

If Y, _____ / _____
Date Time

PM Initials: _____ Date: _____ Time: _____

NOTIFICATION OF DISCREPANCY

DATE: <u>08-08-08</u>	TIME: <u>1053</u>	PM: <u>Sandra Yakamavich</u>	SC INITIALS: <u>CW</u>
Rush/Short Hold? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			

- Project Not Set Up in ELM New Client COC Received ON HOLD
 Analysis Requested on COC – Not Listed for Project in ELM

- PM To Add Analysis: _____
 Clarification of Analysis: _____
 Hold Time Expired: (Analysis) _____
 Turnaround Time Not Checked: _____
 Did Not Receive Sample(s) Listed on COC: _____

Received Extra Sample(s) Not Listed on COC: Two blanks received added to COC.

Sample Description(s) or Date/Time Sampled Do Not Match COC:

- Improper Preservative For method: _____
 Sample Received Broken: _____
 Insufficient Sample Volume: _____
 Sample preserved upon receipt: _____

- Temperature Outside recommended range (4°C±2°C): 6.8c
 Received on-ice within 4 hours of collection, temperature between ambient to 2°C acceptable.
 Other: _____

PROJECT MANAGER RESOLUTION:	(Date & Time when returned to SC)

Approval By:	Date:	Time:
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April 15, 2009

Dan Caputo
Farallon Consulting LLC
975 5th Ave NW Ste 100
Issaquah, WA/USA 98027

RE: JML Site

Enclosed are the results of analyses for samples received by the laboratory on 04/08/09 16:15.
The following list is a summary of the Work Orders contained in this report, generated on 04/15/09
16:29.

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

<u>Work Order</u>	<u>Project</u>	<u>ProjectNumber</u>
BSD0099	JML Site	683-018

TestAmerica Seattle



Curtis D. Armstrong, Project Manager

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Farallon Consulting LLC

975 5th Ave NW Ste 100
Issaquah, WA/USA 98027

Project Name: **JML Site**
Project Number: 683-018
Project Manager: Dan Caputo

Report Created:
04/15/09 16:29

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
TP-25-14	BSD0099-02	Soil	04/06/09 16:25	04/08/09 16:15
TP-26-10	BSD0099-07	Soil	04/07/09 07:59	04/08/09 16:15
TP-26-16	BSD0099-09	Soil	04/07/09 08:19	04/08/09 16:15
TP-28-10	BSD0099-12	Soil	04/07/09 11:32	04/08/09 16:15
TP-29-8	BSD0099-16	Soil	04/07/09 11:51	04/08/09 16:15
TP-27-8	BSD0099-20	Soil	04/07/09 08:36	04/08/09 16:15
TP-27-12	BSD0099-22	Soil	04/07/09 08:46	04/08/09 16:15
TP-21-8	BSD0099-28	Soil	04/06/09 12:05	04/08/09 16:15
TP-24-14	BSD0099-52	Soil	04/06/09 15:40	04/08/09 16:15
TP-25-8	BSD0099-56	Soil	04/06/09 16:04	04/08/09 16:15
TP-22-15	BSD0099-58	Soil	04/06/09 13:35	04/08/09 16:15
TP-23-14	BSD0099-65	Soil	04/06/09 14:50	04/08/09 16:15

TestAmerica Seattle



Curtis D. Armstrong, Project Manager

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Farallon Consulting LLC 975 5th Ave NW Ste 100 Issaquah, WA/USA 98027	Project Name: JML Site Project Number: 683-018 Project Manager: Dan Caputo	Report Created: 04/15/09 16:29
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Semivolatile Petroleum Products by NWTPH-Dx (w/o Acid/Silica Gel Clean-up)
 TestAmerica Seattle

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BSD0099-02 (TP-25-14)		Soil		Sampled: 04/06/09 16:25						
Diesel Range Hydrocarbons	NWTPH-Dx	44500	----	2920	mg/kg dry	50x	9D09025	04/09/09 12:28	04/10/09 12:18	Q4
Lube Oil Range Hydrocarbons	"	61000	----	7310	"	"	"	"	"	Q4
Surrogate(s): 2-FBP			NR		60 - 135 %	"				Z3
Octacosane			NR		75 - 125 %	"				Z3
BSD0099-07 (TP-26-10)		Soil		Sampled: 04/07/09 07:59						
Diesel Range Hydrocarbons	NWTPH-Dx	ND	----	15.5	mg/kg dry	1x	9D09025	04/09/09 12:28	04/10/09 12:40	
Lube Oil Range Hydrocarbons	"	105	----	38.8	"	"	"	"	"	
Surrogate(s): 2-FBP			95.2%		60 - 135 %	"				
Octacosane			105%		75 - 125 %	"				
BSD0099-09 (TP-26-16)		Soil		Sampled: 04/07/09 08:19						
Diesel Range Hydrocarbons	NWTPH-Dx	8080	----	441	mg/kg dry	20x	9D09025	04/09/09 12:28	04/10/09 13:03	Q4
Lube Oil Range Hydrocarbons	"	12900	----	1100	"	"	"	"	"	Q4
Surrogate(s): 2-FBP			236%		60 - 135 %	"				ZX
Octacosane			73.5%		75 - 125 %	"				ZX
BSD0099-12RE1 (TP-28-10)		Soil		Sampled: 04/07/09 11:32						
Diesel Range Hydrocarbons	NWTPH-Dx	47.5	----	21.1	mg/kg dry	2x	9D09025	04/09/09 12:28	04/13/09 11:18	Q6
Lube Oil Range Hydrocarbons	"	301	----	52.7	"	"	"	"	"	
Surrogate(s): 2-FBP			93.1%		60 - 135 %	"				
Octacosane			101%		75 - 125 %	"				
BSD0099-16RE1 (TP-29-8)		Soil		Sampled: 04/07/09 11:51						
Diesel Range Hydrocarbons	NWTPH-Dx	40.1	----	22.0	mg/kg dry	2x	9D09025	04/09/09 12:28	04/13/09 11:40	Q6
Lube Oil Range Hydrocarbons	"	397	----	55.1	"	"	"	"	"	
Surrogate(s): 2-FBP			96.4%		60 - 135 %	"				
Octacosane			103%		75 - 125 %	"				
BSD0099-20 (TP-27-8)		Soil		Sampled: 04/07/09 08:36						
Diesel Range Hydrocarbons	NWTPH-Dx	ND	----	11.8	mg/kg dry	1x	9D09025	04/09/09 12:28	04/10/09 15:17	
Surrogate(s): 2-FBP			91.6%		60 - 135 %	"				
Octacosane			102%		75 - 125 %	"				

TestAmerica Seattle



Curtis D. Armstrong, Project Manager

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Farallon Consulting LLC 975 5th Ave NW Ste 100 Issaquah, WA/USA 98027	Project Name: JML Site Project Number: 683-018 Project Manager: Dan Caputo	Report Created: 04/15/09 16:29
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Semivolatile Petroleum Products by NWTPH-Dx (w/o Acid/Silica Gel Clean-up)
 TestAmerica Seattle

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BSD0099-20RE1 (TP-27-8)		Soil		Sampled: 04/07/09 08:36						
Lube Oil Range Hydrocarbons	NWTPH-Dx	49.3	----	29.6	mg/kg dry	1x	9D09025	04/09/09 12:28	04/14/09 12:22	
Surrogate(s): 2-FBP			87.2%		60 - 135 %	"				"
Octacosane			98.3%		75 - 125 %	"				"
BSD0099-22 (TP-27-12)		Soil		Sampled: 04/07/09 08:46						
Diesel Range Hydrocarbons	NWTPH-Dx	37400	----	2620	mg/kg dry	50x	9D09025	04/09/09 12:28	04/10/09 15:39	Q4
Surrogate(s): 2-FBP			1010%		60 - 135 %	"				Z3
Octacosane			501%		75 - 125 %	"				Z3
BSD0099-22RE1 (TP-27-12)		Soil		Sampled: 04/07/09 08:46						
Lube Oil Range Hydrocarbons	NWTPH-Dx	51500	----	6550	mg/kg dry	50x	9D09025	04/09/09 12:28	04/14/09 12:44	Q4
Surrogate(s): 2-FBP			NR		60 - 135 %	"				Z3
Octacosane			NR		75 - 125 %	"				Z3
BSD0099-28 (TP-21-8)		Soil		Sampled: 04/06/09 12:05						
Diesel Range Hydrocarbons	NWTPH-Dx	15.5	----	11.8	mg/kg dry	1x	9D09025	04/09/09 12:28	04/10/09 16:02	Q6
Surrogate(s): 2-FBP			91.4%		60 - 135 %	"				"
Octacosane			109%		75 - 125 %	"				"
BSD0099-28RE1 (TP-21-8)		Soil		Sampled: 04/06/09 12:05						
Lube Oil Range Hydrocarbons	NWTPH-Dx	129	----	29.5	mg/kg dry	1x	9D09025	04/09/09 12:28	04/14/09 13:06	
Surrogate(s): 2-FBP			89.2%		60 - 135 %	"				"
Octacosane			106%		75 - 125 %	"				"
BSD0099-52 (TP-24-14)		Soil		Sampled: 04/06/09 15:40						
Diesel Range Hydrocarbons	NWTPH-Dx	ND	----	10.6	mg/kg dry	1x	9D09025	04/09/09 12:28	04/10/09 16:24	
Lube Oil Range Hydrocarbons	"	ND	----	26.4	"	"	"	"	"	C
Surrogate(s): 2-FBP			89.9%		60 - 135 %	"				"
Octacosane			104%		75 - 125 %	"				"

TestAmerica Seattle



Curtis D. Armstrong, Project Manager

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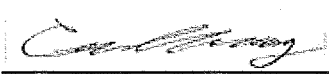


Farallon Consulting LLC 975 5th Ave NW Ste 100 Issaquah, WA/USA 98027	Project Name: JML Site Project Number: 683-018 Project Manager: Dan Caputo	Report Created: 04/15/09 16:29
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Semivolatile Petroleum Products by NWTPH-Dx (w/o Acid/Silica Gel Clean-up)
 TestAmerica Seattle

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BSD0099-56 (TP-25-8)		Soil		Sampled: 04/06/09 16:04						
Diesel Range Hydrocarbons	NWTPH-Dx	318	----	225	mg/kg dry	20x	9D09025	04/09/09 12:28	04/10/09 16:46	Q6
<i>Surrogate(s): 2-FBP</i>			203%		60 - 135 %	"				ZX
<i>Octacosane</i>			137%		75 - 125 %	"				ZX
BSD0099-56RE1 (TP-25-8)		Soil		Sampled: 04/06/09 16:04						
Lube Oil Range Hydrocarbons	NWTPH-Dx	1880	----	561	mg/kg dry	20x	9D09025	04/09/09 12:28	04/14/09 13:28	
<i>Surrogate(s): 2-FBP</i>			204%		60 - 135 %	"				ZX
<i>Octacosane</i>			138%		75 - 125 %	"				ZX
BSD0099-58 (TP-22-15)		Soil		Sampled: 04/06/09 13:35						
Diesel Range Hydrocarbons	NWTPH-Dx	ND	----	11.7	mg/kg dry	1x	9D09025	04/09/09 12:28	04/10/09 17:09	
<i>Surrogate(s): 2-FBP</i>			89.0%		60 - 135 %	"				
<i>Octacosane</i>			104%		75 - 125 %	"				
BSD0099-58RE1 (TP-22-15)		Soil		Sampled: 04/06/09 13:35						
Lube Oil Range Hydrocarbons	NWTPH-Dx	52.9	----	29.2	mg/kg dry	1x	9D09025	04/09/09 12:28	04/14/09 13:51	
<i>Surrogate(s): 2-FBP</i>			85.7%		60 - 135 %	"				
<i>Octacosane</i>			101%		75 - 125 %	"				
BSD0099-65 (TP-23-14)		Soil		Sampled: 04/06/09 14:50						
Diesel Range Hydrocarbons	NWTPH-Dx	20.4	----	11.9	mg/kg dry	1x	9D09025	04/09/09 12:28	04/10/09 17:31	Q6
<i>Surrogate(s): 2-FBP</i>			93.0%		60 - 135 %	"				
<i>Octacosane</i>			110%		75 - 125 %	"				
BSD0099-65RE1 (TP-23-14)		Soil		Sampled: 04/06/09 14:50						
Lube Oil Range Hydrocarbons	NWTPH-Dx	119	----	29.9	mg/kg dry	1x	9D09025	04/09/09 12:28	04/14/09 14:13	
<i>Surrogate(s): 2-FBP</i>			86.9%		60 - 135 %	"				
<i>Octacosane</i>			103%		75 - 125 %	"				

TestAmerica Seattle



Curtis D. Armstrong, Project Manager

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Farallon Consulting LLC 975 5th Ave NW Ste 100 Issaquah, WA/USA 98027	Project Name: JML Site Project Number: 683-018 Project Manager: Dan Caputo	Report Created: 04/15/09 16:29
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Physical Parameters by APHA/ASTM/EPA Methods
TestAmerica Seattle

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BSD0099-02 (TP-25-14)		Soil					Sampled: 04/06/09 16:25			
Dry Weight	BSOPSP003R0 8	85.0	----	1.00	%	1x	9D09028	04/09/09 12:32	04/10/09 00:00	
BSD0099-07 (TP-26-10)		Soil					Sampled: 04/07/09 07:59			
Dry Weight	BSOPSP003R0 8	63.6	----	1.00	%	1x	9D09048	04/09/09 16:14	04/10/09 00:00	
BSD0099-09 (TP-26-16)		Soil					Sampled: 04/07/09 08:19			
Dry Weight	BSOPSP003R0 8	89.5	----	1.00	%	1x	9D09028	04/09/09 12:32	04/10/09 00:00	
BSD0099-12 (TP-28-10)		Soil					Sampled: 04/07/09 11:32			
Dry Weight	BSOPSP003R0 8	93.3	----	1.00	%	1x	9D09028	04/09/09 12:32	04/10/09 00:00	
BSD0099-16 (TP-29-8)		Soil					Sampled: 04/07/09 11:51			
Dry Weight	BSOPSP003R0 8	89.6	----	1.00	%	1x	9D09028	04/09/09 12:32	04/10/09 00:00	
BSD0099-20 (TP-27-8)		Soil					Sampled: 04/07/09 08:36			
Dry Weight	BSOPSP003R0 8	84.5	----	1.00	%	1x	9D09048	04/09/09 16:14	04/10/09 00:00	
BSD0099-22 (TP-27-12)		Soil					Sampled: 04/07/09 08:46			
Dry Weight	BSOPSP003R0 8	94.2	----	1.00	%	1x	9D09028	04/09/09 12:32	04/10/09 00:00	
BSD0099-28 (TP-21-8)		Soil					Sampled: 04/06/09 12:05			
Dry Weight	BSOPSP003R0 8	83.9	----	1.00	%	1x	9D09028	04/09/09 12:32	04/10/09 00:00	
BSD0099-52 (TP-24-14)		Soil					Sampled: 04/06/09 15:40			
Dry Weight	BSOPSP003R0 8	93.3	----	1.00	%	1x	9D09028	04/09/09 12:32	04/10/09 00:00	
BSD0099-56 (TP-25-8)		Soil					Sampled: 04/06/09 16:04			
Dry Weight	BSOPSP003R0 8	88.5	----	1.00	%	1x	9D09048	04/09/09 16:14	04/10/09 00:00	
BSD0099-58 (TP-22-15)		Soil					Sampled: 04/06/09 13:35			

TestAmerica Seattle



Curtis D. Armstrong, Project Manager

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Farallon Consulting LLC 975 5th Ave NW Ste 100 Issaquah, WA/USA 98027	Project Name: JML Site Project Number: 683-018 Project Manager: Dan Caputo	Report Created: 04/15/09 16:29
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Physical Parameters by APHA/ASTM/EPA Methods
TestAmerica Seattle

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BSD0099-58 (TP-22-15)		Soil					Sampled: 04/06/09 13:35			
Dry Weight	BSOPSP003R0 8	84.3	-----	1.00	%	1x	9D09028	04/09/09 12:32	04/10/09 00:00	
BSD0099-65 (TP-23-14)		Soil					Sampled: 04/06/09 14:50			
Dry Weight	BSOPSP003R0 8	82.4	-----	1.00	%	1x	9D09028	04/09/09 12:32	04/10/09 00:00	

TestAmerica Seattle



Curtis D. Armstrong, Project Manager

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Farallon Consulting LLC 975 5th Ave NW Ste 100 Issaquah, WA/USA 98027	Project Name: JML Site Project Number: 683-018 Project Manager: Dan Caputo	Report Created: 04/15/09 16:29
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Semivolatile Petroleum Products by NWTPH-Dx (w/o Acid/Silica Gel Clean-up) - Laboratory Quality Control Results
 TestAmerica Seattle

QC Batch: 9D09025 Soil Preparation Method: EPA 3550B

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
---------	--------	--------	------	-----	-------	-----	---------------	-----------	-------	----------	-------	----------	----------	-------

Blank (9D09025-BLK1) Extracted: 04/09/09 12:28

Diesel Range Hydrocarbons	NWTPH-Dx	ND	---	10.0	mg/kg wet	1x	--	--	--	--	--	--	04/10/09 09:40	
Lube Oil Range Hydrocarbons	"	ND	---	25.0	"	"	--	--	--	--	--	--	"	
<i>Surrogate(s): 2-FBP</i>		<i>Recovery: 100%</i>		<i>Limits: 60-135%</i>										04/10/09 09:40
<i>Octacosane</i>		<i>105%</i>		<i>75-125%</i>										"

LCS (9D09025-BS1) Extracted: 04/09/09 12:28

Diesel Range Hydrocarbons	NWTPH-Dx	74.8	---	10.0	mg/kg wet	1x	--	66.7	112%	(75-125)	--	--	04/10/09 10:02	
Lube Oil Range Hydrocarbons	"	71.0	---	25.0	"	"	--	"	107%	(63-125)	--	--	"	
<i>Surrogate(s): 2-FBP</i>		<i>Recovery: 100%</i>		<i>Limits: 60-135%</i>										04/10/09 10:02
<i>Octacosane</i>		<i>105%</i>		<i>75-125%</i>										"

Duplicate (9D09025-DUP1) QC Source: BSD0105-02 Extracted: 04/09/09 12:28

Diesel Range Hydrocarbons	NWTPH-Dx	13.4	---	11.5	mg/kg dry	1x	12.7	--	--	--	4.93% (40)	--	04/10/09 10:25	
Lube Oil Range Hydrocarbons	"	ND	---	28.9	"	"	ND	--	--	--	31.2%	"	"	
<i>Surrogate(s): 2-FBP</i>		<i>Recovery: 93.0%</i>		<i>Limits: 60-135%</i>										04/10/09 10:25
<i>Octacosane</i>		<i>97.4%</i>		<i>75-125%</i>										"

Duplicate (9D09025-DUP2) QC Source: BSD0099-12 Extracted: 04/09/09 12:28

Diesel Range Hydrocarbons	NWTPH-Dx	54.9	---	53.1	mg/kg dry	5x	ND	--	--	--	34.2% (40)	--	04/10/09 10:48	
Lube Oil Range Hydrocarbons	"	504	---	133	"	"	295	--	--	--	52.4%	"	"	R3
<i>Surrogate(s): 2-FBP</i>		<i>Recovery: 111%</i>		<i>Limits: 60-135%</i>										04/10/09 10:48
<i>Octacosane</i>		<i>109%</i>		<i>75-125%</i>										"

Duplicate (9D09025-DUP3) QC Source: BSD0099-12 Extracted: 04/09/09 12:28

Lube Oil Range Hydrocarbons	NWTPH-Dx	492	---	53.1	mg/kg dry	2x	295	--	--	--	50.2% (40)	--	04/14/09 15:20	R3
<i>Surrogate(s): 2-FBP</i>		<i>Recovery: 97.4%</i>		<i>Limits: 60-135%</i>										04/14/09 15:20
<i>Octacosane</i>		<i>105%</i>		<i>75-125%</i>										"

Matrix Spike (9D09025-MS1) QC Source: BSD0105-02 Extracted: 04/09/09 12:28

Diesel Range Hydrocarbons	NWTPH-Dx	130	---	11.5	mg/kg dry	1x	12.7	77.0	152%	(40-145)	--	--	04/10/09 11:11	M1
Lube Oil Range Hydrocarbons	"	102	---	28.9	"	"	10.7	"	119%	(26-150)	--	--	"	
<i>Surrogate(s): 2-FBP</i>		<i>Recovery: 89.9%</i>		<i>Limits: 60-135%</i>										04/10/09 11:11
<i>Octacosane</i>		<i>95.3%</i>		<i>75-125%</i>										"

TestAmerica Seattle



Curtis D. Armstrong, Project Manager

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Farallon Consulting LLC 975 5th Ave NW Ste 100 Issaquah, WA/USA 98027	Project Name: JML Site Project Number: 683-018 Project Manager: Dan Caputo	Report Created: 04/15/09 16:29
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Physical Parameters by APHA/ASTM/EPA Methods - Laboratory Quality Control Results
 TestAmerica Seattle

QC Batch: 9D09028 Soil Preparation Method: Dry Weight

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (9D09028-BLK1)													Extracted: 04/09/09 12:32	
Dry Weight	BSOPSPLO0 3R08	100	---	1.00	%	1x	--	--	--	--	--	--	04/10/09 00:00	

QC Batch: 9D09048 Soil Preparation Method: Dry Weight

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (9D09048-BLK1)													Extracted: 04/09/09 16:14	
Dry Weight	BSOPSPLO0 3R08	100	---	1.00	%	1x	--	--	--	--	--	--	04/10/09 00:00	

TestAmerica Seattle



Curtis D. Armstrong, Project Manager

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report shall not be reproduced except in full, without the written approval of the laboratory.



Farallon Consulting LLC

975 5th Ave NW Ste 100
Issaquah, WA/USA 98027

Project Name: **JML Site**
Project Number: 683-018
Project Manager: Dan Caputo

Report Created:
04/15/09 16:29

CERTIFICATION SUMMARY

TestAmerica Seattle

Method	Matrix	Nelac	Washington
BSOPSPL003R08	Soil		
NWTPH-Dx	Soil		X

Any abnormalities or departures from sample acceptance policy shall be documented on the 'Sample Receipt and Temperature Log Form' and 'Sample Non-conformance Form' (if applicable) included with this report.

For information concerning certifications of this facility or another TestAmerica facility, please visit our website at www.TestAmericaInc.com

Samples collected by TestAmerica Field Services personnel are noted on the Chain of Custody (COC) .

TestAmerica Seattle



Curtis D. Armstrong, Project Manager

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Farallon Consulting LLC

975 5th Ave NW Ste 100
Issaquah, WA/USA 98027

Project Name: **JML Site**
Project Number: 683-018
Project Manager: Dan Caputo

Report Created:
04/15/09 16:29

Notes and Definitions

Report Specific Notes:

- A-01 - Overdiluted
- A-01a - Results in the diesel organics range are due to overlap from both a gasoline range product and a heavy oil range product.
- A-01b - The sample has a 2.5x prep dilution in addition to the 20x analysis dilution.
- C - Calibration Verification recovery was above the method control limit for this analyte. Analyte not detected, data not impacted.
- C8 - Calibration Verification recovery was above the method control limit for this analyte. A high bias may be indicated.
- E - Concentration exceeds the calibration range and therefore result is semi-quantitative.
- M1 - The MS and/or MSD were above the acceptance limits due to sample matrix interference. See Blank Spike (LCS).
- Q4 - The hydrocarbons present are a complex mixture of diesel range and heavy oil range organics.
- Q5 - Results in the diesel organics range are primarily due to overlap from a gasoline range product.
- Q6 - Results in the diesel organics range are primarily due to overlap from a heavy oil range product.
- R3 - The RPD exceeded the acceptance limit due to sample matrix effects.
- Z3 - The sample required a dilution due to the nature of the sample matrix. Because of this dilution, the surrogate spike concentration in the sample was reduced to a level where the recovery calculation does not provide useful information.
- ZX - Due to sample matrix effects, the surrogate recovery was outside the acceptance limits.

Laboratory Reporting Conventions:

- DET - Analyte DETECTED at or above the Reporting Limit. Qualitative Analyses only.
- ND - Analyte NOT DETECTED at or above the reporting limit (MDL or MRL, as appropriate).
- NR/NA - Not Reported / Not Available
- dry - Sample results reported on a Dry Weight Basis. Results and Reporting Limits have been corrected for Percent Dry Weight.
- wet - Sample results and reporting limits reported on a Wet Weight Basis (as received). Results with neither 'wet' nor 'dry' are reported on a Wet Weight Basis.
- RPD - RELATIVE PERCENT DIFFERENCE (RPDs calculated using Results, not Percent Recoveries).
- MRL - METHOD REPORTING LIMIT. Reporting Level at, or above, the lowest level standard of the Calibration Table.
- MDL* - METHOD DETECTION LIMIT. Reporting Level at, or above, the statistically derived limit based on 40CFR, Part 136, Appendix B.
*MDLs are listed on the report only if the data has been evaluated below the MRL. Results between the MDL and MRL are reported as Estimated Results.
- Dil - Dilutions are calculated based on deviations from the standard dilution performed for an analysis, and may not represent the dilution found on the analytical raw data.
- Reporting Limits - Reporting limits (MDLs and MRLs) are adjusted based on variations in sample preparation amounts, analytical dilutions and percent solids, where applicable.
- Electronic Signature - Electronic Signature added in accordance with TestAmerica's *Electronic Reporting and Electronic Signatures Policy*.
Application of electronic signature indicates that the report has been reviewed and approved for release by the laboratory.
Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

TestAmerica Seattle

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Curtis D. Armstrong, Project Manager



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CHAIN OF CUSTODY REPORT

Work Order #: **540099**

CLIENT: Forsillon	INVOICE TO: Area Captain Bruce Sheppard	TURNAROUND REQUEST
REPORT TO: New Caputo	ADDRESS: 2454 Occidental Ave S, Seattle	in Business Days *
PHONE: 425 299 8800 FAX	P.O. NUMBER: 683-018	<input type="checkbox"/> 10 <input type="checkbox"/> 7 <input type="checkbox"/> 5 <input type="checkbox"/> 4 <input checked="" type="checkbox"/> 3 <input type="checkbox"/> 2 <input type="checkbox"/> 1 <input type="checkbox"/> <1
PROJECT NAME: JML Site	PRESERVATIVE	Organic & Inorganic Analyses Petroleum Hydrocarbon Analyses Specify: Hold all other samples
PROJECT NUMBER: 683-018	REQUESTED ANALYSES	OTHER: Hold all other samples * Turnaround Request less than standard may incur Rush Charges.
SAMPLED BY: JGwen Recaptk		MATRIX (W, S, O) # OF CONT. LOCATION/ COMMENTS TA W/O ID
1. TA-25-12 4/16/09 1607 2. TA-25-14 4/16/09 1625 3. TA-26-2 4/17/09 0750 4. TA-26-4 0751 5. TA-26-6 0755 6. TA-26-8 0757 7. TA-26-10 0759 8. TA-26-12 0804 9. TA-26-16 0819 10. TA-27-2 0830		01 02 03 04 05 06 07 08 09 10
RELEASED BY: Lansen	DATE: 4/18/09	RECEIVED BY: [Signature]
PRINT NAME: Tasha Rutak	TIME: 1005	PRINT NAME: Francisco Lamy Jr.
RELEASED BY:	DATE:	PRINT NAME:
PRINT NAME:	TIME:	PRINT NAME:
ADDITIONAL REMARKS:		FIRM: TA-SEA DATE: 4/18/09 FIRM: 68316CF DATE: 4/10 TEMP: 7.3°C

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 503-906-9200 FAX 906-9210
 907-563-9200 FAX 563-9210

CHAIN OF CUSTODY REPORT

Work Order #: **BA00099**

CLIENT: Farallon REPORT TO: Don Caputo ADDRESS: 775 5th Ave NW 2592404, WA 98027 PHONE: 425-295-0800 FAX: PROJECT NAME: JML 548 PROJECT NUMBER: 683-018		INVOICE TO: Don Caputo Bruce Shepard 2454 accidental Aves, Suite 14 Seattle, WA 98134 P.O. NUMBER: 683-018		TURNAROUND REQUEST in Business Days * Organic & Inorganic Analyses Petroleum Hydrocarbon Analyses <input type="checkbox"/> 10 <input type="checkbox"/> 7 <input type="checkbox"/> 5 <input type="checkbox"/> 4 <input type="checkbox"/> 3 <input type="checkbox"/> 2 <input type="checkbox"/> 1 <input type="checkbox"/> <1 STD. <input checked="" type="checkbox"/> 4 <input type="checkbox"/> 3 <input type="checkbox"/> 2 <input type="checkbox"/> 1 <input type="checkbox"/> <1 OTHER: <input type="checkbox"/> Specify: Hold all when sample! * Turnaround Requests less than standard may incur Rush Charges.	
SAMPLED BY: Jason Burack		PRESERVATIVE			
CLIENT SAMPLE IDENTIFICATION		REQUESTED ANALYSES			
SAMPLING DATE/TIME		MATRIX (W, S, O)			
# OF CONT.		LOCATION/ COMMENTS			
TA WO ID		DATE:			
DATE:		TIME:			
FIRM:		RECEIVED BY:			
FIRM:		PRINT NAME:			
FIRM:		DATE:			
FIRM:		TIME:			
FIRM:		RECEIVED BY:			
FIRM:		PRINT NAME:			
FIRM:		DATE:			
FIRM:		TIME:			
ADDITIONAL REMARKS:		TEMP:			
ADDITIONAL REMARKS:		C			
ADDITIONAL REMARKS:		7.3			

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 907-563-9200 FAX 563-9210

CHAIN OF CUSTODY REPORT

Work Order #:

CLIENT: <i>Fargiloy</i> REPORT TO: <i>Don Caputo</i> ADDRESS: <i>975 5th Ave NW</i> <i>Issaquah, WA 98027</i> PHONE: <i>425-275-0800</i> FAX: PROJECT NAME: <i>JML Site</i> PROJECT NUMBER: <i>683-018</i>		INVOICE TO: <i>Don Caputo</i> <i>2454 Occidental Ave, S. Suite 101</i> <i>Seattle, WA 98134</i> P.O. NUMBER: <i>683-018</i>		TURNAROUND REQUEST in Business Days * Organic & Inorganic Analyses Petroleum Hydrocarbon Analyses STD. <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 7 <input type="checkbox"/> 10 <input type="checkbox"/> <1 OTHER: <input type="checkbox"/> <i>Hold all other samples</i> Specify: <i>samples</i> * Turnaround Request: less than standard for Rush Charges.	
SAMPLED BY: <i>Jewen Ruark</i>		REQUESTED ANALYSES			
CLIENT SAMPLE IDENTIFICATION	SAMPLING DATE/TIME	MATRIX (W, S, O)	# OF CONT.	LOCATION/ COMMENTS	TA WO ID
1. <i>TA-27-4</i>	<i>4/2/09 0832</i>	<i>S</i>	<i>1</i>		<i>-18</i>
2. <i>TA-27-6</i>	<i>0835</i>				<i>-19</i>
3. <i>TA-27-8</i>	<i>0836</i>				<i>-20</i>
4. <i>TA-27-10</i>	<i>0839</i>				<i>-21</i>
5. <i>TA-27-12</i>	<i>0846</i>				<i>-22</i>
6. <i>TA-27-14</i>	<i>0854</i>				<i>-23</i>
7. <i>TA-27-15</i>	<i>0900</i>				<i>-24</i>
8. <i>TA-28-2</i>	<i>1118</i>				<i>-25</i>
9. <i>TA-28-4</i>	<i>1120</i>				<i>-26</i>
10. <i>TA-28-6</i>	<i>1123</i>				<i>-27</i>
RELEASED BY: <i>Jewen Ruark</i> PRINT NAME: <i>Jewen Ruark</i> RELEASED BY: <i>Fargiloy</i> PRINT NAME: <i>Fargiloy</i>		DATE: <i>4/8/09</i> TIME: <i>1000</i>		DATE: <i>4/8/09</i> TIME: <i>1205</i>	
FIRM: <i>Fargiloy</i>		FIRM: <i>Fargiloy</i>		FIRM: <i>TA-SEA</i>	
ADDITIONAL REMARKS: <i>6661615 w/o</i>					

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CHAIN OF CUSTODY REPORT

Work Order #:

CLIENT: <u>Frangillo</u> REPORT TO: <u>775 5th Ave NW</u> ADDRESS: <u>Issaquah, WA 98027</u> PHONE: <u>425-295-0800 FAX: ---</u> PROJECT NAME: <u>JML Site</u> PROJECT NUMBER: <u>683-078</u>		INVOICE TO: <u>Ben Capato</u> <u>2454 Occidental Ave S, Seattle</u> <u>Seattle, WA 98134</u> PO. NUMBER: <u>683-018</u>		TURNAROUND REQUEST in Business Days * Organic & Inorganic Analyses: [7] [5] [4] [3] [2] [1] [<u>1</u>] Petroleum Hydrocarbon Analyses: [4] [3] [2] [1] [<u>1</u>] OTHER: <u>Hold all other samples</u> Specify: <u>samples</u> * Turnaround Requests less than standard may incur Rush Charges.	
SAMPLED BY: <u>Jesse Ruark</u>		PRESERVATIVE: _____ REQUESTED ANALYSES: _____			
CLIENT SAMPLE IDENTIFICATION	SAMPLING DATE/TIME	MATRIX (W, S, O)			
1. <u>TP-21-8</u>	<u>4/6/09 12:05</u>	<u>S</u>	# OF CONT.	LOCATION/ COMMENTS	TA WO ID
2. <u>TP-21-10</u>	<u>12:10</u>				<u>-28</u>
3. <u>TP-21-12</u>	<u>12:18</u>				<u>-29</u>
4. <u>TP-21-13</u>	<u>12:30</u>				<u>-30</u>
5. <u>TP-22-2</u>	<u>12:45</u>				<u>-31</u>
6. <u>TP-22-4</u>	<u>12:54</u>				<u>-32</u>
7. <u>TP-22-6</u>	<u>12:58</u>				<u>-33</u>
8. <u>TP-22-8</u>	<u>13:07</u>				<u>-34</u>
9. <u>TP-22-10</u>	<u>13:11</u>				<u>-35</u>
10. <u>TP-22-12</u>	<u>13:21</u>				<u>-36</u>
RELEASED BY: <u>Jesse</u> PRINT NAME: <u>Jesse Ruark</u> FIRM: <u>Frangillo</u>	DATE: <u>4/30/09</u> TIME: <u>1000</u>	RECEIVED BY: <u>Ben Capato</u> PRINT NAME: <u>Ben Capato</u> RECEIVED BY: <u>Ben Capato</u> PRINT NAME: <u>Ben Capato</u>	DATE: <u>4/30/09</u> TIME: <u>1205</u>	FIRM: <u>Frangillo</u>	DATE: <u>4/30/09</u> TIME: <u>1205</u>
ADDITIONAL REMARKS:		@ 12:16:05 TEMP = 7.3 v10			

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CHAIN OF CUSTODY REPORT

Work Order #:

CLIENT: <i>Paragon</i> REPORT TO: <i>Nan Caputo</i> ADDRESS: <i>975 5th Ave NW Issaquah, WA 98027</i> PHONE: <i>475 295 0800</i> FAX: <i>-</i> PROJECT NAME: <i>JHL Site</i> PROJECT NUMBER: <i>683-018</i> SAMPLED BY: <i>Jawan Ruark</i>		INVOICE TO: <i>Nan Caputo - Bruce Sheppard 254 Occidental Ave S, Suite 1A Seattle WA 98134</i> P.O. NUMBER: <i>683-018</i>		TURNAROUND REQUEST in Business Days * Organic & Inorganic Analyses Petroleum Hydrocarbon Analyses STD: <input type="checkbox"/> 10 <input type="checkbox"/> 7 <input type="checkbox"/> 5 <input type="checkbox"/> 4 <input type="checkbox"/> 3 <input type="checkbox"/> 2 <input type="checkbox"/> 1 <input type="checkbox"/> <1 <input checked="" type="checkbox"/> 4 <input type="checkbox"/> 3 <input type="checkbox"/> 2 <input type="checkbox"/> 1 <input type="checkbox"/> <1 OTHER: <input type="checkbox"/> <i>Hold all other samples</i> Specify: <i>Samples</i> * Turnaround Requests less than standard may incur Rush Charges.	
PRESERVATIVE REQUESTED ANALYSES		RECEIVED BY: <i>[Signature]</i> PRINT NAME: <i>Francisco Lung Jr.</i> FIRM: <i>TH-SEA</i> DATE: <i>4/8/09</i> TIME: <i>1205</i>		RECEIVED BY: <i>[Signature]</i> PRINT NAME: <i>Francisco Lung Jr.</i> FIRM: <i>TH-SEA</i> DATE: <i>4/8/09</i> TIME: <i>1205</i>	
SAMPLED BY: <i>Jawan Ruark</i>		RECEIVED BY: <i>[Signature]</i> PRINT NAME: <i>Francisco Lung Jr.</i> FIRM: <i>TH-SEA</i> DATE: <i>4/8/09</i> TIME: <i>1205</i>		RECEIVED BY: <i>[Signature]</i> PRINT NAME: <i>Francisco Lung Jr.</i> FIRM: <i>TH-SEA</i> DATE: <i>4/8/09</i> TIME: <i>1205</i>	
CLIENT SAMPLE IDENTIFICATION		DATE/TIME		LOCATION/COMMENTS	
1. <i>TP-20-2</i>		4/6/09 1010		S 1	
2. <i>TP-20-4</i>		1015		-38	
3. <i>TP-20-6</i>		1020		-39	
4. <i>TP-20-8</i>		1025		-40	
5. <i>TP-20-10</i>		1028		-41	
6. <i>TP-20-12</i>		1030		-42	
7. <i>TP-20-14</i>		1050		-43	
8. <i>TP-21-2</i>		1120		-44	
9. <i>TP-21-4</i>		1127		-45	
10. <i>TP-21-6</i>		1145		-46	
RELEASED BY: <i>Jawan Ruark</i> PRINT NAME: <i>Jawan Ruark</i> FIRM: <i>Paragon</i>		DATE: <i>4/8/09</i> TIME: <i>1000</i>		DATE: <i>4/8/09</i> TIME: <i>1205</i>	
RELEASED BY: <i>[Signature]</i> PRINT NAME: <i>Jawan Ruark</i> FIRM: <i>Paragon</i>		DATE: <i>4/8/09</i> TIME: <i>1000</i>		DATE: <i>4/8/09</i> TIME: <i>1205</i>	
ADDITIONAL REMARKS:		TEMP: <i>7.3</i>		PAGE OF	

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CHAIN OF CUSTODY REPORT

Work Order #:

CLIENT: <u>Perallon</u> REPORT TO: <u>Don Caputo</u> ADDRESS: <u>975 5th Ave NW</u> <u>Issaquah, WA 98027</u> PHONE: <u>425 295 8500</u> FAX: <u>---</u> PROJECT NAME: <u>JML site</u> PROJECT NUMBER: <u>683-018</u> SAMPLED BY: <u>Jayen Ruark</u>		INVOICE TO: <u>Don Caputo</u> <u>2554 Occidental Ave S, Seattle, WA 98134</u> P.O. NUMBER: <u>683-018</u> PRESERVATIVE: _____ REQUESTED ANALYSES: _____ OTHER: _____ Specify: <u>held all other</u> * Turnaround Requests less than standard may incur Rush Charges		TURNAROUND REQUEST in Business Days * Organic & Inorganic Analyses Petroleum Hydrocarbon Analyses STD. <input type="checkbox"/> 10 <input type="checkbox"/> 7 <input type="checkbox"/> 5 <input type="checkbox"/> 4 <input type="checkbox"/> 3 <input type="checkbox"/> 2 <input type="checkbox"/> 1 <input type="checkbox"/> <1 <input checked="" type="checkbox"/> 4 <input type="checkbox"/> 3 <input type="checkbox"/> 2 <input type="checkbox"/> 1 <input type="checkbox"/> <1	
CLIENT SAMPLE IDENTIFICATION 1. <u>TP-24-6</u> 2. <u>TP-24-8</u> 3. <u>TP-24-10</u> 4. <u>TP-24-12</u> 5. <u>TP-24-14</u> 6. <u>TP-25-2</u> 7. <u>TP-25-4</u> 8. <u>TP-25-6</u> 9. <u>TP-25-8</u> 10. <u>TP-25-10</u>		SAMPLING DATE/TIME 4/8/09 1814 11/1820 1524 1530 1540 1556 1600 1603 1604 1606		MATRIX (W, S, O) S 1 	
RELEASED BY: <u>Jayen Ruark</u> PRINT NAME: <u>Jayen Ruark</u> FIRM: <u>Perallon</u>		RECEIVED BY: <u>[Signature]</u> PRINT NAME: <u>Francisco Lung, Jr</u> FIRM: <u>TH-SEA</u>		DATE: <u>4/8/09</u> TIME: <u>1000</u> DATE: <u>4/8/09</u> TIME: <u>1205</u>	
ADDITIONAL REMARKS: _____		TEMP: <u>7.3</u> W/O		PAGE OF _____	

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 503-906-9200 FAX 906-9210
 907-563-9200 FAX 563-9210

CHAIN OF CUSTODY REPORT

Work Order #:

CLIENT: <i>Paragon</i> REPORT TO: <i>Don Caputo</i> ADDRESS: <i>975 5th Ave NW</i> <i>Issaquah, WA 98027</i> PHONE: <i>425-295-0800</i> FAX: PROJECT NAME: <i>JML 574C</i> PROJECT NUMBER: <i>683-018</i> SAMPLED BY: <i>Jacqui Russek</i>		INVOICE TO: <i>Don Caputo Bruce Sheppard</i> <i>2454 Occidental Ave. S, Suite 1A</i> <i>Seattle, WA 98134</i> P.O. NUMBER: <i>683-018</i>		TURNAROUND REQUEST in Business Days * Organic & Inorganic Analyses Petroleum Hydrocarbon Analyses STD. <input type="checkbox"/> 10 <input type="checkbox"/> 7 <input type="checkbox"/> 5 <input type="checkbox"/> 4 <input type="checkbox"/> 3 <input type="checkbox"/> 2 <input type="checkbox"/> 1 <input type="checkbox"/> <1 STD. <input checked="" type="checkbox"/> 4 <input type="checkbox"/> 3 <input type="checkbox"/> 2 <input type="checkbox"/> 1 <input type="checkbox"/> <1 OTHER: <input type="checkbox"/> Specify: <i>Hold all other samples</i> * Turnaround Requests less than standard may incur rush charges.							
PRESERVATIVE		REQUESTED ANALYSES		MATRIX (W, S, O)		# OF CONT.		LOCATION/ COMMENTS		TA WO ID	
1. <i>TP-22-18</i>		4/6/09 1339		S		1		-58		-58	
2. <i>TP-23-2</i>		1345		S		1		-59		-59	
3. <i>TP-23-4</i>		1348		S		1		-60		-60	
4. <i>TP-23-6</i>		1355		S		1		-61		-61	
5. <i>TP-23-8</i>		1405		S		1		-62		-62	
6. <i>TP-23-10</i>		1434		S		1		-63		-63	
7. <i>TP-23-12</i>		1441		S		1		-64		-64	
8. <i>TP-23-14</i>		1450		S		1		-65		-65	
9. <i>TP-24-2</i>		1501		S		1		-66		-66	
10. <i>TP-24-4</i>		1504		S		1		-67		-67	
RELEASED BY: <i>Paragon</i> PRINT NAME: <i>Jacqui Russek</i> RELEASED BY: <i>Paragon</i> PRINT NAME: <i>Jacqui Russek</i>		DATE: <i>4/8/09</i> TIME: <i>1200</i> DATE: <i>4/8/09</i> TIME: <i>1205</i>		RECEIVED BY: <i>Francisco Lung, Jr.</i> PRINT NAME: <i>Francisco Lung, Jr.</i> RECEIVED BY: <i>Francisco Lung, Jr.</i> PRINT NAME: <i>Francisco Lung, Jr.</i>		FIRM: <i>Paragon</i> FIRM: <i>Paragon</i>		FIRM: <i>TH-SEA</i> FIRM: <i>TH-SEA</i>		DATE: <i>4/8/09</i> TIME: <i>1205</i> DATE: <i>4/8/09</i> TIME: <i>1205</i>	
ADDITIONAL REMARKS:		@Lab1615 via		TEMP: <i>7.3 C</i>		PAGE <i>7.3</i> OF					

TAT: _____

Paperwork to PM - Date: _____ Time: _____

Non-Conformances?

Page Time & Initials: _____

Circle (Y) or N

(If Y, see other side)

TEST AMERICA SAMPLE RECEIPT CHECKLIST

Received By:
(applies to temp at receipt)

Logged-in By:

Unpacked/Labeled By:

Cooler ID: 360

Date: 4/8/09

Date: 04-08 @ 04:09

Date: 04-09 /

Work Order No. BSD0099

Time: 1615

Time: 1806 @ 0614

Time: 1345

Client: Foxall LLC

Initials: FL

Initials: CG / CW

Initials: CW / SO

Project: JML site

Container Type:

COC Seals:

Packing Material:

Cooler
 Box
 None/Other _____

Ship Container
 On Bottles
 None
Sign By _____
Date _____

Bubble Bags
 Styrofoam
 Foam Packs
 None/Other Plastic Bag

Refrigerant:

Soil Stir Bars/Encores:

Received Via: Bill#:

Gel Ice Pack
 Loose Ice Ice at Bottom
 None/Other _____

Placed in freezer #46:
Y or N or NA
Initial/date/time _____

Fed Ex
 UPS
 DHL
 Senvoy
 GS
 Client
 TA Courier
 Mid Valley
 TDP
 Other _____

Cooler Temperature (IR): 7.3 °C Plastic Glass (Frozen filters, Tedlars and aqueous Metals exempt)

Temperature Blank? FL Y or NA comments _____

Trip Blank? Y or N or NA

BP, OPLC, ARCO-Temperature monitoring every 15 minutes:

(initial/date/time): _____

Comments: _____

Sample Containers:

ID

ID

Intact? Y or N _____
Provided by TA? Y or N _____
Correct Type? Y or N _____
#Containers match COC? Y or N _____
IDs/time/date match COC? Y or N _____
Hold Times in hold? Y or N _____

Metals Preserved? Y or N or NA _____
Client QAPP Preserved? Y or N or NA _____
Adequate Volume? Y or N _____
(for tests requested)
Water VOAs: Headspace? Y or N or NA _____
Comments: _____

PROJECT MANAGEMENT

Is the Chain of Custody complete? Y or N If N, circle the items that were incomplete

Comments, Problems _____

Total access set up?

Has client been contacted regarding non-conformances?

Y or N
Y or N

If Y, _____ / _____
Date Time

PM Initials: de

Date: 4/8/09

Time: 4:54 pm



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Quality Control Summary

SDG: L582845

For: Farallon Consulting - BNSF Region 1
Project: BNSF - JML - Cashmere, WA
July 13, 2012

Sample Receiving and Handling

All sample aliquots were received at the correct temperature, in the proper containers, and with the appropriate preservatives. All method specified holding times were met.

Total Solids by Method 2540G

Laboratory Control Sample

Sample L582845-01 was analyzed in analytical batch WG600898. The laboratory control sample associated with this sample was within the laboratory control limits.

Samples L582845-09, -10, -02, -06, -03, -04, -05, -11, -07, and -08 were analyzed in analytical batch WG600899. The laboratory control sample associated with these samples was within the laboratory control limits.

Sample L582845-12 was analyzed in analytical batch WG600900. The laboratory control sample associated with this sample was within the laboratory control limits.

Sample Duplicate Analysis

For analytical batch WG600898 sample duplicate analysis was performed on sample L582662-01. The relative percent differences were within the method limits.

For analytical batch WG600899 sample duplicate analysis was performed on sample L582845-06. The relative percent differences were within the method limits.

For analytical batch WG600900 sample duplicate analysis was performed on sample L582949-01. The relative percent differences were within the method limits.

Blank Analysis

The method blank, the initial, and all continuing calibration blanks contained no analytes at concentrations above the method reporting limit.

Method 8021B

Laboratory Control Sample

Samples L582845-01, -04, -06, -08, -09, -11, -02, -05, -10, -07, -12, and -03 were analyzed in analytical batch WG600547. The laboratory control sample associated with these samples was within the laboratory control limits for all compounds.

Samples L582845-03 and 01 were analyzed in analytical batch WG600584. The laboratory control sample associated with these samples was within the laboratory control limits for all compounds.

Matrix Spike/Matrix Spike Duplicate

For analytical batch WG600547 matrix spike/matrix spike duplicate analysis was performed on sample L582845-02. The matrix spike recoveries and relative percent differences were within laboratory control limits for all target analytes.

For analytical batch WG600584 matrix spike/matrix spike duplicate analysis was performed on sample L582692-03. The matrix spike recoveries and relative percent differences were within laboratory control limits for all target analytes.

For analytical batch WG600584 matrix spike/matrix spike duplicate analysis was performed on sample L582918-13. The matrix spike recoveries and relative percent differences were within laboratory control limits for all target analytes.



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Quality Control Summary

SDG: L582845

For: Farallon Consulting - BNSF Region 1
Project: BNSF - JML - Cashmere, WA
July 13, 2012

Blank Analysis

The method blank, the initial, and all continuing calibration blanks contained no analytes at concentrations above the method reporting limit.

Semi-volatile Organic Compounds by Method 8270C-SIM

Laboratory Control Sample

Samples L582845-01, -02, -03, -05, -06, -07, -08, -09, -10, -11, -12, and -04 were analyzed in analytical batch WG600930. The laboratory control sample associated with these samples was within the laboratory control limits for all compounds.

Matrix Spike/Matrix Spike Duplicate

For analytical batch WG600930 matrix spike/matrix spike duplicate analysis was performed on sample L582845-11. The matrix spike recoveries were within laboratory control limits for all target analytes. The relative percent difference exceeded laboratory limits for Fluoranthene and Phenanthrene.

Blank Analysis

The method blank, the initial, and all continuing calibration blanks contained no analytes at concentrations above the method reporting limit.

Diesel Range Organics by Method 8015

Laboratory Control Sample

Samples L582845-02, -03, and -01 were analyzed in analytical batch WG600178. The laboratory control sample associated with these samples was within the laboratory control limits.

Samples L582845-04, -10, -09, -05, -08, -12, -06, -07, and -11 were analyzed in analytical batch WG601131. The laboratory control sample associated with these samples was within the laboratory control limits.

Matrix Spike/Matrix Spike Duplicate

For analytical batch WG600178, matrix spike/matrix spike duplicate analysis was performed on sample L582318-10. The spike recoveries and relative percent differences were within laboratory control limits.

For analytical batch WG601131, matrix spike/matrix spike duplicate analysis was performed on sample L582845-07. The spike recoveries were within the laboratory control limits. The relative percent difference exceeded control limits.

Blank Analysis

The method blank, the initial, and all continuing calibration blanks contained no analytes at concentrations above the method reporting limit.

Nancy F. Winters
ESC Representative
ESC Lab Sciences



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Kristin Darnell
Farallon Consulting - BNSF Region 1
975 5th Avenue Northwest
Issaquah, WA 98027

Report Summary

Friday July 13, 2012

Report Number: L582845

Samples Received: 06/28/12

Client Project: TT9206-M02

Description: BNSF - JML - Cashmere, WA

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

Entire Report Reviewed By:

Mark W. Beasley, ESC Representative

Laboratory Certification Numbers

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

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

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

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REPORT OF ANALYSIS

Kristin Darnell
 Farallon Consulting - BNSF Region 1
 975 5th Avenue Northwest
 Issaquah, WA 98027

July 13, 2012

Date Received : June 28, 2012
 Description : BNSF - JML - Cashmere, WA
 Sample ID : TP34-062512-14.0
 Collected By :
 Collection Date : 06/25/12 11:45

ESC Sample # : L582845-01
 Site ID :
 Project # : TT9206-M02

Parameter	Dry Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Total Solids	93.8	0.0330	0.100	%		2540G	07/05/12	1
Gasoline Range Organics-NWTPH	72.	2.5	5.3	mg/kg		NWTPHGX	07/01/12	50
Benzene	0.0079	0.00037	0.0027	mg/kg		8021B	06/30/12	5
Toluene	0.032	0.00067	0.027	mg/kg		8021B	06/30/12	5
Ethylbenzene	0.20	0.00037	0.0027	mg/kg		8021B	06/30/12	5
Total Xylene	0.47	0.0015	0.0080	mg/kg		8021B	06/30/12	5
Surrogate Recovery(%)								
a,a,a-Trifluorotoluene(PID)	107.			% Rec.		8021B	06/30/12	5
a,a,a-Trifluorotoluene(FID)	104.			% Rec.		NWTPHGX	07/01/12	50
Diesel Range Organics (DRO)	120	2.0	4.3	mg/kg		NWTPHDX	07/12/12	1
Residual Range Organics (RRO)	19000	500	1100	mg/kg		NWTPHDX	07/12/12	100
Surrogate Recovery								
o-Terphenyl	119.			% Rec.		NWTPHDX	07/12/12	1
Polynuclear Aromatic Hydrocarbons								
Anthracene	1.5	0.038	0.32	mg/kg		8270C-SI	07/04/12	50
Acenaphthene	0.80	0.035	0.32	mg/kg		8270C-SI	07/04/12	50
Acenaphthylene	U	0.029	0.32	mg/kg		8270C-SI	07/04/12	50
Benzo(a)anthracene	1.0	0.046	0.32	mg/kg		8270C-SI	07/04/12	50
Benzo(a)pyrene	0.27	0.031	0.32	mg/kg	J	8270C-SI	07/04/12	50
Benzo(b)fluoranthene	0.24	0.041	0.32	mg/kg	J	8270C-SI	07/04/12	50
Benzo(g,h,i)perylene	0.14	0.062	0.32	mg/kg	J	8270C-SI	07/04/12	50
Benzo(k)fluoranthene	U	0.067	0.32	mg/kg		8270C-SI	07/04/12	50
Chrysene	U	0.055	0.32	mg/kg		8270C-SI	07/04/12	50
Dibenz(a,h)anthracene	U	0.056	0.32	mg/kg		8270C-SI	07/04/12	50
Fluoranthene	0.27	0.052	0.32	mg/kg	J	8270C-SI	07/04/12	50
Fluorene	1.7	0.028	0.32	mg/kg		8270C-SI	07/04/12	50
Indeno(1,2,3-cd)pyrene	U	0.058	0.32	mg/kg		8270C-SI	07/04/12	50
Naphthalene	1.4	0.032	0.32	mg/kg		8270C-SI	07/04/12	50
Phenanthrene	3.9	0.037	0.32	mg/kg		8270C-SI	07/04/12	50
Pyrene	2.4	0.030	0.32	mg/kg		8270C-SI	07/04/12	50
1-Methylnaphthalene	7.0	0.039	0.32	mg/kg		8270C-SI	07/04/12	50
2-Methylnaphthalene	5.1	0.029	0.32	mg/kg		8270C-SI	07/04/12	50
2-Chloronaphthalene	U	0.030	0.32	mg/kg		8270C-SI	07/04/12	50
Surrogate Recovery								
Nitrobenzene-d5	298.			% Rec.	J7	8270C-SI	07/04/12	50
2-Fluorobiphenyl	78.0			% Rec.	J7	8270C-SI	07/04/12	50
p-Terphenyl-d14	118.			% Rec.	J7	8270C-SI	07/04/12	50

Results listed are dry weight basis.

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD = TRRP SDL

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

Note:

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L582845-01 (SV8270PAHSIM) - Dilution due to matrix



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REPORT OF ANALYSIS

Kristin Darnell
 Farallon Consulting - BNSF Region 1
 975 5th Avenue Northwest
 Issaquah, WA 98027

July 13, 2012

Date Received : June 28, 2012
 Description : BNSF - JML - Cashmere, WA
 Sample ID : TP30-062512-14.0
 Collected By :
 Collection Date : 06/25/12 13:30

ESC Sample # : L582845-02
 Site ID :
 Project # : TT9206-M02

Parameter	Dry Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Total Solids	91.1	0.0330	0.100	%		2540G	07/05/12	1
Gasoline Range Organics-NWTPH	U	0.25	0.55	mg/kg		NWTPHGX	06/30/12	5
Benzene	U	0.00037	0.0027	mg/kg		8021B	06/30/12	5
Toluene	U	0.00067	0.027	mg/kg		8021B	06/30/12	5
Ethylbenzene	U	0.00037	0.0027	mg/kg		8021B	06/30/12	5
Total Xylene	U	0.0015	0.0082	mg/kg		8021B	06/30/12	5
Surrogate Recovery(%)								
a,a,a-Trifluorotoluene(PID)	105.			% Rec.		8021B	06/30/12	5
a,a,a-Trifluorotoluene(FID)	97.5			% Rec.		NWTPHGX	06/30/12	5
Diesel Range Organics (DRO)	110	2.0	4.4	mg/kg		NWTPHDX	07/12/12	1
Residual Range Organics (RRO)	19000	500	1100	mg/kg		NWTPHDX	07/12/12	100
Surrogate Recovery								
o-Terphenyl	89.9			% Rec.		NWTPHDX	07/12/12	1
Polynuclear Aromatic Hydrocarbons								
Anthracene	0.013	0.00076	0.0066	mg/kg		8270C-SI	07/04/12	1
Acenaphthene	0.0056	0.00071	0.0066	mg/kg	J	8270C-SI	07/04/12	1
Acenaphthylene	0.0024	0.00057	0.0066	mg/kg	J	8270C-SI	07/04/12	1
Benzo(a)anthracene	0.0055	0.00092	0.0066	mg/kg	J	8270C-SI	07/04/12	1
Benzo(a)pyrene	0.0064	0.00062	0.0066	mg/kg	J	8270C-SI	07/04/12	1
Benzo(b)fluoranthene	0.0083	0.00082	0.0066	mg/kg		8270C-SI	07/04/12	1
Benzo(g,h,i)perylene	0.0069	0.0012	0.0066	mg/kg		8270C-SI	07/04/12	1
Benzo(k)fluoranthene	U	0.0013	0.0066	mg/kg		8270C-SI	07/04/12	1
Chrysene	0.012	0.0011	0.0066	mg/kg		8270C-SI	07/04/12	1
Dibenz(a,h)anthracene	0.0018	0.0011	0.0066	mg/kg	J	8270C-SI	07/04/12	1
Fluoranthene	0.0064	0.0010	0.0066	mg/kg	J	8270C-SI	07/04/12	1
Fluorene	0.012	0.00055	0.0066	mg/kg		8270C-SI	07/04/12	1
Indeno(1,2,3-cd)pyrene	0.0057	0.0012	0.0066	mg/kg	J	8270C-SI	07/04/12	1
Naphthalene	0.011	0.00065	0.0066	mg/kg		8270C-SI	07/04/12	1
Phenanthrene	0.034	0.00074	0.0066	mg/kg		8270C-SI	07/04/12	1
Pyrene	0.021	0.00059	0.0066	mg/kg		8270C-SI	07/04/12	1
1-Methylnaphthalene	0.052	0.00079	0.0066	mg/kg		8270C-SI	07/04/12	1
2-Methylnaphthalene	0.031	0.00059	0.0066	mg/kg		8270C-SI	07/04/12	1
2-Chloronaphthalene	U	0.00060	0.0066	mg/kg		8270C-SI	07/04/12	1
Surrogate Recovery								
Nitrobenzene-d5	76.2			% Rec.		8270C-SI	07/04/12	1
2-Fluorobiphenyl	82.9			% Rec.		8270C-SI	07/04/12	1
p-Terphenyl-d14	123.			% Rec.		8270C-SI	07/04/12	1

Results listed are dry weight basis.

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REPORT OF ANALYSIS

Kristin Darnell
 Farallon Consulting - BNSF Region 1
 975 5th Avenue Northwest
 Issaquah, WA 98027

July 13, 2012

Date Received : June 28, 2012
 Description : BNSF - JML - Cashmere, WA
 Sample ID : TP30-062512-16.0
 Collected By :
 Collection Date : 06/25/12 13:35

ESC Sample # : L582845-03
 Site ID :
 Project # : TT9206-M02

Parameter	Dry Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Total Solids	91.4	0.0330	0.100	%		2540G	07/05/12	1
Gasoline Range Organics-NWTPH	U	0.25	0.55	mg/kg		NWTPHGX	07/01/12	5
Benzene	U	0.00037	0.0027	mg/kg		8021B	06/30/12	5
Toluene	U	0.00067	0.027	mg/kg		8021B	06/30/12	5
Ethylbenzene	U	0.00037	0.0027	mg/kg		8021B	06/30/12	5
Total Xylene	U	0.0015	0.0082	mg/kg		8021B	06/30/12	5
Surrogate Recovery(%)								
a,a,a-Trifluorotoluene(PID)	106.			% Rec.		8021B	06/30/12	5
a,a,a-Trifluorotoluene(FID)	104.			% Rec.		NWTPHGX	07/01/12	5
Diesel Range Organics (DRO)	2.4	2.0	4.4	mg/kg	J	NWTPHDX	07/12/12	1
Residual Range Organics (RRO)	7.8	5.0	11.	mg/kg	J	NWTPHDX	07/12/12	1
Surrogate Recovery								
o-Terphenyl	81.8			% Rec.		NWTPHDX	07/12/12	1
Polynuclear Aromatic Hydrocarbons								
Anthracene	U	0.00076	0.0066	mg/kg		8270C-SI	07/04/12	1
Acenaphthene	U	0.00071	0.0066	mg/kg		8270C-SI	07/04/12	1
Acenaphthylene	U	0.00057	0.0066	mg/kg		8270C-SI	07/04/12	1
Benzo(a)anthracene	0.0012	0.00092	0.0066	mg/kg	J	8270C-SI	07/04/12	1
Benzo(a)pyrene	U	0.00062	0.0066	mg/kg		8270C-SI	07/04/12	1
Benzo(b)fluoranthene	0.0011	0.00082	0.0066	mg/kg	J	8270C-SI	07/04/12	1
Benzo(g,h,i)perylene	U	0.0012	0.0066	mg/kg		8270C-SI	07/04/12	1
Benzo(k)fluoranthene	U	0.0013	0.0066	mg/kg		8270C-SI	07/04/12	1
Chrysene	U	0.0011	0.0066	mg/kg		8270C-SI	07/04/12	1
Dibenz(a,h)anthracene	U	0.0011	0.0066	mg/kg		8270C-SI	07/04/12	1
Fluoranthene	0.0012	0.0010	0.0066	mg/kg	J	8270C-SI	07/04/12	1
Fluorene	U	0.00055	0.0066	mg/kg		8270C-SI	07/04/12	1
Indeno(1,2,3-cd)pyrene	U	0.0012	0.0066	mg/kg		8270C-SI	07/04/12	1
Naphthalene	U	0.00065	0.0066	mg/kg		8270C-SI	07/04/12	1
Phenanthrene	0.0016	0.00074	0.0066	mg/kg	J	8270C-SI	07/04/12	1
Pyrene	0.00089	0.00059	0.0066	mg/kg	J	8270C-SI	07/04/12	1
1-Methylnaphthalene	U	0.00079	0.0066	mg/kg		8270C-SI	07/04/12	1
2-Methylnaphthalene	U	0.00059	0.0066	mg/kg		8270C-SI	07/04/12	1
2-Chloronaphthalene	U	0.00060	0.0066	mg/kg		8270C-SI	07/04/12	1
Surrogate Recovery								
Nitrobenzene-d5	69.7			% Rec.		8270C-SI	07/04/12	1
2-Fluorobiphenyl	73.2			% Rec.		8270C-SI	07/04/12	1
p-Terphenyl-d14	102.			% Rec.		8270C-SI	07/04/12	1

Results listed are dry weight basis.

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REPORT OF ANALYSIS

Kristin Darnell
 Farallon Consulting - BNSF Region 1
 975 5th Avenue Northwest
 Issaquah, WA 98027

July 13, 2012

Date Received : June 28, 2012
 Description : BNSF - JML - Cashmere, WA
 Sample ID : TP33-062512-14.0
 Collected By :
 Collection Date : 06/25/12 14:35

ESC Sample # : L582845-04
 Site ID :
 Project # : TT9206-M02

Parameter	Dry Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Total Solids	81.0	0.0330	0.100	%		2540G	07/05/12	1
Gasoline Range Organics-NWTPH	8.4	0.25	0.62	mg/kg		NWTPHGX	06/30/12	5
Benzene	U	0.00037	0.0031	mg/kg		8021B	06/30/12	5
Toluene	U	0.00067	0.031	mg/kg		8021B	06/30/12	5
Ethylbenzene	0.016	0.00037	0.0031	mg/kg		8021B	06/30/12	5
Total Xylene	0.049	0.0015	0.0092	mg/kg		8021B	06/30/12	5
Surrogate Recovery(%)								
a,a,a-Trifluorotoluene(PID)	104.			% Rec.		8021B	06/30/12	5
a,a,a-Trifluorotoluene(FID)	98.5			% Rec.		NWTPHGX	06/30/12	5
Diesel Range Organics (DRO)	1000	20.	49.	mg/kg		NWTPHDX	07/13/12	10
Residual Range Organics (RRO)	1500	50.	120	mg/kg		NWTPHDX	07/13/12	10
Surrogate Recovery								
o-Terphenyl	149.			% Rec.		NWTPHDX	07/13/12	10
Polynuclear Aromatic Hydrocarbons								
Anthracene	0.72	0.038	0.37	mg/kg		8270C-SI	07/04/12	50
Acenaphthene	0.38	0.035	0.37	mg/kg		8270C-SI	07/04/12	50
Acenaphthylene	0.067	0.029	0.37	mg/kg	J	8270C-SI	07/04/12	50
Benzo(a)anthracene	0.22	0.046	0.37	mg/kg	J	8270C-SI	07/04/12	50
Benzo(a)pyrene	0.14	0.031	0.37	mg/kg	J	8270C-SI	07/04/12	50
Benzo(b)fluoranthene	0.14	0.041	0.37	mg/kg	J	8270C-SI	07/04/12	50
Benzo(g,h,i)perylene	0.079	0.062	0.37	mg/kg	J	8270C-SI	07/04/12	50
Benzo(k)fluoranthene	U	0.067	0.37	mg/kg		8270C-SI	07/04/12	50
Chrysene	0.63	0.055	0.37	mg/kg		8270C-SI	07/04/12	50
Dibenz(a,h)anthracene	U	0.056	0.37	mg/kg		8270C-SI	07/04/12	50
Fluoranthene	0.14	0.052	0.37	mg/kg	J	8270C-SI	07/04/12	50
Fluorene	0.81	0.028	0.37	mg/kg		8270C-SI	07/04/12	50
Indeno(1,2,3-cd)pyrene	U	0.058	0.37	mg/kg		8270C-SI	07/04/12	50
Naphthalene	0.65	0.032	0.37	mg/kg		8270C-SI	07/04/12	50
Phenanthrene	2.1	0.037	0.37	mg/kg		8270C-SI	07/04/12	50
Pyrene	1.2	0.030	0.37	mg/kg		8270C-SI	07/04/12	50
1-Methylnaphthalene	3.1	0.039	0.37	mg/kg		8270C-SI	07/04/12	50
2-Methylnaphthalene	4.2	0.029	0.37	mg/kg		8270C-SI	07/04/12	50
2-Chloronaphthalene	U	0.030	0.37	mg/kg		8270C-SI	07/04/12	50
Surrogate Recovery								
Nitrobenzene-d5	132.			% Rec.	J7	8270C-SI	07/04/12	50
2-Fluorobiphenyl	63.4			% Rec.	J7	8270C-SI	07/04/12	50
p-Terphenyl-d14	147.			% Rec.	J7	8270C-SI	07/04/12	50

Results listed are dry weight basis.

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L582845-04 (SV8270PAHSIM) - Dilution due to matrix



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REPORT OF ANALYSIS

Kristin Darnell
 Farallon Consulting - BNSF Region 1
 975 5th Avenue Northwest
 Issaquah, WA 98027

July 13, 2012

Date Received : June 28, 2012
 Description : BNSF - JML - Cashmere, WA
 Sample ID : TP31-062512-12.0
 Collected By :
 Collection Date : 06/25/12 15:30

ESC Sample # : L582845-05
 Site ID :
 Project # : TT9206-M02

Parameter	Dry Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Total Solids	92.3	0.0330	0.100	%		2540G	07/05/12	1
Gasoline Range Organics-NWTPH	0.28	0.25	0.54	mg/kg	J	NWTPHGX	06/30/12	5
Benzene	U	0.00037	0.0027	mg/kg		8021B	06/30/12	5
Toluene	U	0.00067	0.027	mg/kg		8021B	06/30/12	5
Ethylbenzene	U	0.00037	0.0027	mg/kg		8021B	06/30/12	5
Total Xylene	U	0.0015	0.0081	mg/kg		8021B	06/30/12	5
Surrogate Recovery(%)								
a,a,a-Trifluorotoluene(PID)	106.			% Rec.		8021B	06/30/12	5
a,a,a-Trifluorotoluene(FID)	98.5			% Rec.		NWTPHGX	06/30/12	5
Diesel Range Organics (DRO)	U	2.0	4.3	mg/kg		NWTPHDX	07/13/12	1
Residual Range Organics (RRO)	U	5.0	11.	mg/kg		NWTPHDX	07/13/12	1
Surrogate Recovery								
o-Terphenyl	59.4			% Rec.		NWTPHDX	07/13/12	1
Polynuclear Aromatic Hydrocarbons								
Anthracene	U	0.00076	0.0065	mg/kg		8270C-SI	07/04/12	1
Acenaphthene	U	0.00071	0.0065	mg/kg		8270C-SI	07/04/12	1
Acenaphthylene	U	0.00057	0.0065	mg/kg		8270C-SI	07/04/12	1
Benzo(a)anthracene	0.0018	0.00092	0.0065	mg/kg	J	8270C-SI	07/04/12	1
Benzo(a)pyrene	0.0012	0.00062	0.0065	mg/kg	J	8270C-SI	07/04/12	1
Benzo(b)fluoranthene	0.0015	0.00082	0.0065	mg/kg	J	8270C-SI	07/04/12	1
Benzo(g,h,i)perylene	U	0.0012	0.0065	mg/kg		8270C-SI	07/04/12	1
Benzo(k)fluoranthene	U	0.0013	0.0065	mg/kg		8270C-SI	07/04/12	1
Chrysene	U	0.0011	0.0065	mg/kg		8270C-SI	07/04/12	1
Dibenz(a,h)anthracene	U	0.0011	0.0065	mg/kg		8270C-SI	07/04/12	1
Fluoranthene	0.0016	0.0010	0.0065	mg/kg	J	8270C-SI	07/04/12	1
Fluorene	U	0.00055	0.0065	mg/kg		8270C-SI	07/04/12	1
Indeno(1,2,3-cd)pyrene	U	0.0012	0.0065	mg/kg		8270C-SI	07/04/12	1
Naphthalene	U	0.00065	0.0065	mg/kg		8270C-SI	07/04/12	1
Phenanthrene	0.0014	0.00074	0.0065	mg/kg	J	8270C-SI	07/04/12	1
Pyrene	0.0020	0.00059	0.0065	mg/kg	J	8270C-SI	07/04/12	1
1-Methylnaphthalene	U	0.00079	0.0065	mg/kg		8270C-SI	07/04/12	1
2-Methylnaphthalene	U	0.00059	0.0065	mg/kg		8270C-SI	07/04/12	1
2-Chloronaphthalene	U	0.00060	0.0065	mg/kg		8270C-SI	07/04/12	1
Surrogate Recovery								
Nitrobenzene-d5	65.9			% Rec.		8270C-SI	07/04/12	1
2-Fluorobiphenyl	74.5			% Rec.		8270C-SI	07/04/12	1
p-Terphenyl-d14	124.			% Rec.		8270C-SI	07/04/12	1

Results listed are dry weight basis.

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REPORT OF ANALYSIS

Kristin Darnell
 Farallon Consulting - BNSF Region 1
 975 5th Avenue Northwest
 Issaquah, WA 98027

July 13, 2012

Date Received : June 28, 2012
 Description : BNSF - JML - Cashmere, WA
 Sample ID : TP31-062512-16.0
 Collected By :
 Collection Date : 06/25/12 15:40

ESC Sample # : L582845-06
 Site ID :
 Project # : TT9206-M02

Parameter	Dry Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Total Solids	89.6	0.0330	0.100	%		2540G	07/05/12	1
Gasoline Range Organics-NWTPH	U	0.25	0.56	mg/kg		NWTPHGX	06/30/12	5
Benzene	U	0.00037	0.0028	mg/kg		8021B	06/30/12	5
Toluene	U	0.00067	0.028	mg/kg		8021B	06/30/12	5
Ethylbenzene	U	0.00037	0.0028	mg/kg		8021B	06/30/12	5
Total Xylene	U	0.0015	0.0084	mg/kg		8021B	06/30/12	5
Surrogate Recovery(%)								
a,a,a-Trifluorotoluene(PID)	105.			% Rec.		8021B	06/30/12	5
a,a,a-Trifluorotoluene(FID)	98.2			% Rec.		NWTPHGX	06/30/12	5
Diesel Range Organics (DRO)	U	2.0	4.5	mg/kg		NWTPHDX	07/13/12	1
Residual Range Organics (RRO)	U	5.0	11.	mg/kg		NWTPHDX	07/13/12	1
Surrogate Recovery								
o-Terphenyl	60.3			% Rec.		NWTPHDX	07/13/12	1
Polynuclear Aromatic Hydrocarbons								
Anthracene	U	0.00076	0.0067	mg/kg		8270C-SI	07/04/12	1
Acenaphthene	U	0.00071	0.0067	mg/kg		8270C-SI	07/04/12	1
Acenaphthylene	U	0.00057	0.0067	mg/kg		8270C-SI	07/04/12	1
Benzo(a)anthracene	U	0.00092	0.0067	mg/kg		8270C-SI	07/04/12	1
Benzo(a)pyrene	U	0.00062	0.0067	mg/kg		8270C-SI	07/04/12	1
Benzo(b)fluoranthene	U	0.00082	0.0067	mg/kg		8270C-SI	07/04/12	1
Benzo(g,h,i)perylene	U	0.0012	0.0067	mg/kg		8270C-SI	07/04/12	1
Benzo(k)fluoranthene	U	0.0013	0.0067	mg/kg		8270C-SI	07/04/12	1
Chrysene	U	0.0011	0.0067	mg/kg		8270C-SI	07/04/12	1
Dibenz(a,h)anthracene	U	0.0011	0.0067	mg/kg		8270C-SI	07/04/12	1
Fluoranthene	U	0.0010	0.0067	mg/kg		8270C-SI	07/04/12	1
Fluorene	U	0.00055	0.0067	mg/kg		8270C-SI	07/04/12	1
Indeno(1,2,3-cd)pyrene	U	0.0012	0.0067	mg/kg		8270C-SI	07/04/12	1
Naphthalene	U	0.00065	0.0067	mg/kg		8270C-SI	07/04/12	1
Phenanthrene	U	0.00074	0.0067	mg/kg		8270C-SI	07/04/12	1
Pyrene	U	0.00059	0.0067	mg/kg		8270C-SI	07/04/12	1
1-Methylnaphthalene	U	0.00079	0.0067	mg/kg		8270C-SI	07/04/12	1
2-Methylnaphthalene	U	0.00059	0.0067	mg/kg		8270C-SI	07/04/12	1
2-Chloronaphthalene	U	0.00060	0.0067	mg/kg		8270C-SI	07/04/12	1
Surrogate Recovery								
Nitrobenzene-d5	72.5			% Rec.		8270C-SI	07/04/12	1
2-Fluorobiphenyl	71.0			% Rec.		8270C-SI	07/04/12	1
p-Terphenyl-d14	105.			% Rec.		8270C-SI	07/04/12	1

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REPORT OF ANALYSIS

Kristin Darnell
 Farallon Consulting - BNSF Region 1
 975 5th Avenue Northwest
 Issaquah, WA 98027

July 13, 2012

Date Received : June 28, 2012
 Description : BNSF - JML - Cashmere, WA
 Sample ID : TP32-062612-12.0
 Collected By :
 Collection Date : 06/26/12 09:15

ESC Sample # : L582845-07
 Site ID :
 Project # : TT9206-M02

Parameter	Dry Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Total Solids	96.5	0.0330	0.100	%		2540G	07/05/12	1
Gasoline Range Organics-NWTPH	U	0.25	0.52	mg/kg		NWTPHGX	06/30/12	5
Benzene	U	0.00037	0.0026	mg/kg		8021B	06/30/12	5
Toluene	U	0.00067	0.026	mg/kg		8021B	06/30/12	5
Ethylbenzene	U	0.00037	0.0026	mg/kg		8021B	06/30/12	5
Total Xylene	U	0.0015	0.0078	mg/kg		8021B	06/30/12	5
Surrogate Recovery(%)								
a,a,a-Trifluorotoluene(PID)	105.			% Rec.		8021B	06/30/12	5
a,a,a-Trifluorotoluene(FID)	98.2			% Rec.		NWTPHGX	06/30/12	5
Diesel Range Organics (DRO)	U	2.0	4.1	mg/kg		NWTPHDX	07/13/12	1
Residual Range Organics (RRO)	U	5.0	10.	mg/kg	J3	NWTPHDX	07/13/12	1
Surrogate Recovery								
o-Terphenyl	79.5			% Rec.		NWTPHDX	07/13/12	1
Polynuclear Aromatic Hydrocarbons								
Anthracene	U	0.00076	0.0062	mg/kg		8270C-SI	07/04/12	1
Acenaphthene	U	0.00071	0.0062	mg/kg		8270C-SI	07/04/12	1
Acenaphthylene	U	0.00057	0.0062	mg/kg		8270C-SI	07/04/12	1
Benzo(a)anthracene	0.0032	0.00092	0.0062	mg/kg	J	8270C-SI	07/04/12	1
Benzo(a)pyrene	0.0031	0.00062	0.0062	mg/kg	J	8270C-SI	07/04/12	1
Benzo(b)fluoranthene	0.0046	0.00082	0.0062	mg/kg	J	8270C-SI	07/04/12	1
Benzo(g,h,i)perylene	0.0024	0.0012	0.0062	mg/kg	J	8270C-SI	07/04/12	1
Benzo(k)fluoranthene	U	0.0013	0.0062	mg/kg		8270C-SI	07/04/12	1
Chrysene	0.0026	0.0011	0.0062	mg/kg	J	8270C-SI	07/04/12	1
Dibenz(a,h)anthracene	U	0.0011	0.0062	mg/kg		8270C-SI	07/04/12	1
Fluoranthene	0.0040	0.0010	0.0062	mg/kg	J	8270C-SI	07/04/12	1
Fluorene	U	0.00055	0.0062	mg/kg		8270C-SI	07/04/12	1
Indeno(1,2,3-cd)pyrene	0.0021	0.0012	0.0062	mg/kg	J	8270C-SI	07/04/12	1
Naphthalene	U	0.00065	0.0062	mg/kg		8270C-SI	07/04/12	1
Phenanthrene	0.0024	0.00074	0.0062	mg/kg	J	8270C-SI	07/04/12	1
Pyrene	0.0039	0.00059	0.0062	mg/kg	J	8270C-SI	07/04/12	1
1-Methylnaphthalene	U	0.00079	0.0062	mg/kg		8270C-SI	07/04/12	1
2-Methylnaphthalene	0.00072	0.00059	0.0062	mg/kg	J	8270C-SI	07/04/12	1
2-Chloronaphthalene	U	0.00060	0.0062	mg/kg		8270C-SI	07/04/12	1
Surrogate Recovery								
Nitrobenzene-d5	57.2			% Rec.		8270C-SI	07/04/12	1
2-Fluorobiphenyl	63.6			% Rec.		8270C-SI	07/04/12	1
p-Terphenyl-d14	98.6			% Rec.		8270C-SI	07/04/12	1

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REPORT OF ANALYSIS

Kristin Darnell
 Farallon Consulting - BNSF Region 1
 975 5th Avenue Northwest
 Issaquah, WA 98027

July 13, 2012

Date Received : June 28, 2012
 Description : BNSF - JML - Cashmere, WA
 Sample ID : TP32-062612-16.0
 Collected By :
 Collection Date : 06/26/12 09:25

ESC Sample # : L582845-08
 Site ID :
 Project # : TT9206-M02

Parameter	Dry Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Total Solids	90.3	0.0330	0.100	%		2540G	07/05/12	1
Gasoline Range Organics-NWTPH	U	0.25	0.55	mg/kg		NWTPHGX	06/30/12	5
Benzene	U	0.00037	0.0028	mg/kg		8021B	06/30/12	5
Toluene	U	0.00067	0.028	mg/kg		8021B	06/30/12	5
Ethylbenzene	U	0.00037	0.0028	mg/kg		8021B	06/30/12	5
Total Xylene	U	0.0015	0.0083	mg/kg		8021B	06/30/12	5
Surrogate Recovery(%)								
a,a,a-Trifluorotoluene(PID)	105.			% Rec.		8021B	06/30/12	5
a,a,a-Trifluorotoluene(FID)	98.0			% Rec.		NWTPHGX	06/30/12	5
Diesel Range Organics (DRO)	U	2.0	4.4	mg/kg		NWTPHDX	07/13/12	1
Residual Range Organics (RRO)	U	5.0	11.	mg/kg		NWTPHDX	07/13/12	1
Surrogate Recovery								
o-Terphenyl	52.9			% Rec.		NWTPHDX	07/13/12	1
Polynuclear Aromatic Hydrocarbons								
Anthracene	U	0.00076	0.0066	mg/kg		8270C-SI	07/04/12	1
Acenaphthene	U	0.00071	0.0066	mg/kg		8270C-SI	07/04/12	1
Acenaphthylene	U	0.00057	0.0066	mg/kg		8270C-SI	07/04/12	1
Benzo(a)anthracene	U	0.00092	0.0066	mg/kg		8270C-SI	07/04/12	1
Benzo(a)pyrene	U	0.00062	0.0066	mg/kg		8270C-SI	07/04/12	1
Benzo(b)fluoranthene	U	0.00082	0.0066	mg/kg		8270C-SI	07/04/12	1
Benzo(g,h,i)perylene	U	0.0012	0.0066	mg/kg		8270C-SI	07/04/12	1
Benzo(k)fluoranthene	U	0.0013	0.0066	mg/kg		8270C-SI	07/04/12	1
Chrysene	U	0.0011	0.0066	mg/kg		8270C-SI	07/04/12	1
Dibenz(a,h)anthracene	U	0.0011	0.0066	mg/kg		8270C-SI	07/04/12	1
Fluoranthene	U	0.0010	0.0066	mg/kg		8270C-SI	07/04/12	1
Fluorene	U	0.00055	0.0066	mg/kg		8270C-SI	07/04/12	1
Indeno(1,2,3-cd)pyrene	U	0.0012	0.0066	mg/kg		8270C-SI	07/04/12	1
Naphthalene	U	0.00065	0.0066	mg/kg		8270C-SI	07/04/12	1
Phenanthrene	U	0.00074	0.0066	mg/kg		8270C-SI	07/04/12	1
Pyrene	U	0.00059	0.0066	mg/kg		8270C-SI	07/04/12	1
1-Methylnaphthalene	U	0.00079	0.0066	mg/kg		8270C-SI	07/04/12	1
2-Methylnaphthalene	U	0.00059	0.0066	mg/kg		8270C-SI	07/04/12	1
2-Chloronaphthalene	U	0.00060	0.0066	mg/kg		8270C-SI	07/04/12	1
Surrogate Recovery								
Nitrobenzene-d5	61.2			% Rec.		8270C-SI	07/04/12	1
2-Fluorobiphenyl	65.1			% Rec.		8270C-SI	07/04/12	1
p-Terphenyl-d14	90.2			% Rec.		8270C-SI	07/04/12	1

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REPORT OF ANALYSIS

Kristin Darnell
 Farallon Consulting - BNSF Region 1
 975 5th Avenue Northwest
 Issaquah, WA 98027

July 13, 2012

Date Received : June 28, 2012
 Description : BNSF - JML - Cashmere, WA
 Sample ID : TP38-062612-4.0
 Collected By :
 Collection Date : 06/26/12 09:45

ESC Sample # : L582845-09
 Site ID :
 Project # : TT9206-M02

Parameter	Dry Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Total Solids	86.6	0.0330	0.100	%		2540G	07/05/12	1
Gasoline Range Organics-NWTPH	U	0.25	0.58	mg/kg		NWTPHGX	06/30/12	5
Benzene	U	0.00037	0.0029	mg/kg		8021B	06/30/12	5
Toluene	U	0.00067	0.029	mg/kg		8021B	06/30/12	5
Ethylbenzene	U	0.00037	0.0029	mg/kg		8021B	06/30/12	5
Total Xylene	U	0.0015	0.0087	mg/kg		8021B	06/30/12	5
Surrogate Recovery(%)								
a,a,a-Trifluorotoluene(PID)	105.			% Rec.		8021B	06/30/12	5
a,a,a-Trifluorotoluene(FID)	98.1			% Rec.		NWTPHGX	06/30/12	5
Diesel Range Organics (DRO)	U	20.	46.	mg/kg		NWTPHDX	07/13/12	10
Residual Range Organics (RRO)	98.	50.	120	mg/kg	J	NWTPHDX	07/13/12	10
Surrogate Recovery								
o-Terphenyl	50.6			% Rec.		NWTPHDX	07/13/12	10
Polynuclear Aromatic Hydrocarbons								
Anthracene	U	0.015	0.14	mg/kg		8270C-SI	07/04/12	20
Acenaphthene	U	0.014	0.14	mg/kg		8270C-SI	07/04/12	20
Acenaphthylene	U	0.011	0.14	mg/kg		8270C-SI	07/04/12	20
Benzo(a)anthracene	0.045	0.018	0.14	mg/kg	J	8270C-SI	07/04/12	20
Benzo(a)pyrene	0.039	0.012	0.14	mg/kg	J	8270C-SI	07/04/12	20
Benzo(b)fluoranthene	0.059	0.016	0.14	mg/kg	J	8270C-SI	07/04/12	20
Benzo(g,h,i)perylene	0.048	0.025	0.14	mg/kg	J	8270C-SI	07/04/12	20
Benzo(k)fluoranthene	U	0.027	0.14	mg/kg		8270C-SI	07/04/12	20
Chrysene	0.026	0.022	0.14	mg/kg	J	8270C-SI	07/04/12	20
Dibenz(a,h)anthracene	U	0.022	0.14	mg/kg		8270C-SI	07/04/12	20
Fluoranthene	0.032	0.021	0.14	mg/kg	J	8270C-SI	07/04/12	20
Fluorene	U	0.011	0.14	mg/kg		8270C-SI	07/04/12	20
Indeno(1,2,3-cd)pyrene	0.035	0.023	0.14	mg/kg	J	8270C-SI	07/04/12	20
Naphthalene	U	0.013	0.14	mg/kg		8270C-SI	07/04/12	20
Phenanthrene	0.023	0.015	0.14	mg/kg	J	8270C-SI	07/04/12	20
Pyrene	0.033	0.012	0.14	mg/kg	J	8270C-SI	07/04/12	20
1-Methylnaphthalene	U	0.016	0.14	mg/kg		8270C-SI	07/04/12	20
2-Methylnaphthalene	U	0.012	0.14	mg/kg		8270C-SI	07/04/12	20
2-Chloronaphthalene	U	0.012	0.14	mg/kg		8270C-SI	07/04/12	20
Surrogate Recovery								
Nitrobenzene-d5	55.5			% Rec.	J7	8270C-SI	07/04/12	20
2-Fluorobiphenyl	55.0			% Rec.	J7	8270C-SI	07/04/12	20
p-Terphenyl-d14	88.1			% Rec.	J7	8270C-SI	07/04/12	20

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L582845-09 (SV8270PAHSIM) - Dilution due to matrix



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Est. 1970

REPORT OF ANALYSIS

Kristin Darnell
 Farallon Consulting - BNSF Region 1
 975 5th Avenue Northwest
 Issaquah, WA 98027

July 13, 2012

Date Received : June 28, 2012
 Description : BNSF - JML - Cashmere, WA
 Sample ID : TP38-062612-10.0
 Collected By :
 Collection Date : 06/26/12 10:00

ESC Sample # : L582845-10
 Site ID :
 Project # : TT9206-M02

Parameter	Dry Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Total Solids	68.0	0.0330	0.100	%		2540G	07/05/12	1
Gasoline Range Organics-NWTPH	U	0.25	0.74	mg/kg		NWTPHGX	06/30/12	5
Benzene	0.0046	0.00037	0.0037	mg/kg		8021B	06/30/12	5
Toluene	U	0.00067	0.037	mg/kg		8021B	06/30/12	5
Ethylbenzene	U	0.00037	0.0037	mg/kg		8021B	06/30/12	5
Total Xylene	U	0.0015	0.011	mg/kg		8021B	06/30/12	5
Surrogate Recovery(%)								
a,a,a-Trifluorotoluene(PID)	106.			% Rec.		8021B	06/30/12	5
a,a,a-Trifluorotoluene(FID)	98.7			% Rec.		NWTPHGX	06/30/12	5
Diesel Range Organics (DRO)	60.	2.0	5.9	mg/kg		NWTPHDX	07/13/12	1
Residual Range Organics (RRO)	70.	5.0	15.	mg/kg		NWTPHDX	07/13/12	1
Surrogate Recovery								
o-Terphenyl	60.4			% Rec.		NWTPHDX	07/13/12	1
Polynuclear Aromatic Hydrocarbons								
Anthracene	0.26	0.0076	0.088	mg/kg		8270C-SI	07/04/12	10
Acenaphthene	0.14	0.0071	0.088	mg/kg		8270C-SI	07/04/12	10
Acenaphthylene	U	0.0057	0.088	mg/kg		8270C-SI	07/04/12	10
Benzo(a)anthracene	0.097	0.0092	0.088	mg/kg		8270C-SI	07/04/12	10
Benzo(a)pyrene	0.034	0.0062	0.088	mg/kg	J	8270C-SI	07/04/12	10
Benzo(b)fluoranthene	0.082	0.0082	0.088	mg/kg	J	8270C-SI	07/04/12	10
Benzo(g,h,i)perylene	0.020	0.012	0.088	mg/kg	J	8270C-SI	07/04/12	10
Benzo(k)fluoranthene	U	0.013	0.088	mg/kg		8270C-SI	07/04/12	10
Chrysene	0.11	0.011	0.088	mg/kg		8270C-SI	07/04/12	10
Dibenz(a,h)anthracene	U	0.011	0.088	mg/kg		8270C-SI	07/04/12	10
Fluoranthene	0.91	0.010	0.088	mg/kg		8270C-SI	07/04/12	10
Fluorene	0.18	0.0055	0.088	mg/kg		8270C-SI	07/04/12	10
Indeno(1,2,3-cd)pyrene	U	0.012	0.088	mg/kg		8270C-SI	07/04/12	10
Naphthalene	1.4	0.0065	0.088	mg/kg		8270C-SI	07/04/12	10
Phenanthrene	2.8	0.0074	0.088	mg/kg		8270C-SI	07/04/12	10
Pyrene	0.51	0.0059	0.088	mg/kg		8270C-SI	07/04/12	10
1-Methylnaphthalene	0.15	0.0079	0.088	mg/kg		8270C-SI	07/04/12	10
2-Methylnaphthalene	0.24	0.0059	0.088	mg/kg		8270C-SI	07/04/12	10
2-Chloronaphthalene	U	0.0060	0.088	mg/kg		8270C-SI	07/04/12	10
Surrogate Recovery								
Nitrobenzene-d5	195.			% Rec.	J1	8270C-SI	07/04/12	10
2-Fluorobiphenyl	114.			% Rec.		8270C-SI	07/04/12	10
p-Terphenyl-d14	165.			% Rec.	J1	8270C-SI	07/04/12	10

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L582845-10 (SV8270PAHSIM) - Dilution due to matrix



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REPORT OF ANALYSIS

Kristin Darnell
 Farallon Consulting - BNSF Region 1
 975 5th Avenue Northwest
 Issaquah, WA 98027

July 13, 2012

Date Received : June 28, 2012
 Description : BNSF - JML - Cashmere, WA
 Sample ID : TP38-062612-12.0
 Collected By :
 Collection Date : 06/26/12 10:05

ESC Sample # : L582845-11
 Site ID :
 Project # : TT9206-M02

Parameter	Dry Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Total Solids	80.0	0.0330	0.100	%		2540G	07/05/12	1
Gasoline Range Organics-NWTPH	U	0.25	0.62	mg/kg		NWTPHGX	06/30/12	5
Benzene	U	0.00037	0.0031	mg/kg		8021B	06/30/12	5
Toluene	U	0.00067	0.031	mg/kg		8021B	06/30/12	5
Ethylbenzene	U	0.00037	0.0031	mg/kg		8021B	06/30/12	5
Total Xylene	U	0.0015	0.0094	mg/kg		8021B	06/30/12	5
Surrogate Recovery(%)								
a,a,a-Trifluorotoluene(PID)	105.			% Rec.		8021B	06/30/12	5
a,a,a-Trifluorotoluene(FID)	97.9			% Rec.		NWTPHGX	06/30/12	5
Diesel Range Organics (DRO)	6.0	2.0	5.0	mg/kg		NWTPHDX	07/13/12	1
Residual Range Organics (RRO)	31.	5.0	12.	mg/kg		NWTPHDX	07/13/12	1
Surrogate Recovery								
o-Terphenyl	53.7			% Rec.		NWTPHDX	07/13/12	1
Polynuclear Aromatic Hydrocarbons								
Anthracene	0.00096	0.00076	0.0075	mg/kg	J	8270C-SI	07/10/12	1
Acenaphthene	U	0.00071	0.0075	mg/kg		8270C-SI	07/10/12	1
Acenaphthylene	U	0.00057	0.0075	mg/kg		8270C-SI	07/10/12	1
Benzo(a)anthracene	U	0.00092	0.0075	mg/kg		8270C-SI	07/10/12	1
Benzo(a)pyrene	0.0031	0.00062	0.0075	mg/kg	J	8270C-SI	07/10/12	1
Benzo(b)fluoranthene	0.0022	0.00082	0.0075	mg/kg	J	8270C-SI	07/10/12	1
Benzo(g,h,i)perylene	0.0074	0.0012	0.0075	mg/kg	J	8270C-SI	07/10/12	1
Benzo(k)fluoranthene	U	0.0013	0.0075	mg/kg		8270C-SI	07/10/12	1
Chrysene	0.0029	0.0011	0.0075	mg/kg	J	8270C-SI	07/10/12	1
Dibenz(a,h)anthracene	0.0029	0.0011	0.0075	mg/kg	J	8270C-SI	07/10/12	1
Fluoranthene	0.0026	0.0010	0.0075	mg/kg	JJ3	8270C-SI	07/10/12	1
Fluorene	0.0010	0.00055	0.0075	mg/kg	J	8270C-SI	07/10/12	1
Indeno(1,2,3-cd)pyrene	0.0024	0.0012	0.0075	mg/kg	J	8270C-SI	07/10/12	1
Naphthalene	0.0040	0.00065	0.0075	mg/kg	J	8270C-SI	07/10/12	1
Phenanthrene	0.0065	0.00074	0.0075	mg/kg	JJ3	8270C-SI	07/10/12	1
Pyrene	0.0041	0.00059	0.0075	mg/kg	J	8270C-SI	07/10/12	1
1-Methylnaphthalene	0.0031	0.00079	0.0075	mg/kg	J	8270C-SI	07/10/12	1
2-Methylnaphthalene	0.0042	0.00059	0.0075	mg/kg	J	8270C-SI	07/10/12	1
2-Chloronaphthalene	U	0.00060	0.0075	mg/kg		8270C-SI	07/10/12	1
Surrogate Recovery								
Nitrobenzene-d5	82.1			% Rec.		8270C-SI	07/10/12	1
2-Fluorobiphenyl	76.7			% Rec.		8270C-SI	07/10/12	1
p-Terphenyl-d14	85.9			% Rec.		8270C-SI	07/10/12	1

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REPORT OF ANALYSIS

Kristin Darnell
 Farallon Consulting - BNSF Region 1
 975 5th Avenue Northwest
 Issaquah, WA 98027

July 13, 2012

Date Received : June 28, 2012
 Description : BNSF - JML - Cashmere, WA
 Sample ID : TP38-062612-16.0
 Collected By :
 Collection Date : 06/26/12 10:15

ESC Sample # : L582845-12
 Site ID :
 Project # : TT9206-M02

Parameter	Dry Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Total Solids	89.4	0.0330	0.100	%		2540G	07/05/12	1
Gasoline Range Organics-NWTPH	U	0.25	0.56	mg/kg		NWTPHGX	06/30/12	5
Benzene	U	0.00037	0.0028	mg/kg		8021B	06/30/12	5
Toluene	U	0.00067	0.028	mg/kg		8021B	06/30/12	5
Ethylbenzene	U	0.00037	0.0028	mg/kg		8021B	06/30/12	5
Total Xylene	U	0.0015	0.0084	mg/kg		8021B	06/30/12	5
Surrogate Recovery(%)								
a,a,a-Trifluorotoluene(PID)	105.			% Rec.		8021B	06/30/12	5
a,a,a-Trifluorotoluene(FID)	97.7			% Rec.		NWTPHGX	06/30/12	5
Diesel Range Organics (DRO)	U	2.0	4.5	mg/kg		NWTPHDX	07/13/12	1
Residual Range Organics (RRO)	U	5.0	11.	mg/kg		NWTPHDX	07/13/12	1
Surrogate Recovery								
o-Terphenyl	50.9			% Rec.		NWTPHDX	07/13/12	1
Polynuclear Aromatic Hydrocarbons								
Anthracene	U	0.00076	0.0067	mg/kg		8270C-SI	07/04/12	1
Acenaphthene	U	0.00071	0.0067	mg/kg		8270C-SI	07/04/12	1
Acenaphthylene	U	0.00057	0.0067	mg/kg		8270C-SI	07/04/12	1
Benzo(a)anthracene	U	0.00092	0.0067	mg/kg		8270C-SI	07/04/12	1
Benzo(a)pyrene	U	0.00062	0.0067	mg/kg		8270C-SI	07/04/12	1
Benzo(b)fluoranthene	U	0.00082	0.0067	mg/kg		8270C-SI	07/04/12	1
Benzo(g,h,i)perylene	U	0.0012	0.0067	mg/kg		8270C-SI	07/04/12	1
Benzo(k)fluoranthene	U	0.0013	0.0067	mg/kg		8270C-SI	07/04/12	1
Chrysene	U	0.0011	0.0067	mg/kg		8270C-SI	07/04/12	1
Dibenz(a,h)anthracene	U	0.0011	0.0067	mg/kg		8270C-SI	07/04/12	1
Fluoranthene	U	0.0010	0.0067	mg/kg		8270C-SI	07/04/12	1
Fluorene	U	0.00055	0.0067	mg/kg		8270C-SI	07/04/12	1
Indeno(1,2,3-cd)pyrene	U	0.0012	0.0067	mg/kg		8270C-SI	07/04/12	1
Naphthalene	U	0.00065	0.0067	mg/kg		8270C-SI	07/04/12	1
Phenanthrene	U	0.00074	0.0067	mg/kg		8270C-SI	07/04/12	1
Pyrene	U	0.00059	0.0067	mg/kg		8270C-SI	07/04/12	1
1-Methylnaphthalene	U	0.00079	0.0067	mg/kg		8270C-SI	07/04/12	1
2-Methylnaphthalene	U	0.00059	0.0067	mg/kg		8270C-SI	07/04/12	1
2-Chloronaphthalene	U	0.00060	0.0067	mg/kg		8270C-SI	07/04/12	1
Surrogate Recovery								
Nitrobenzene-d5	68.7			% Rec.		8270C-SI	07/04/12	1
2-Fluorobiphenyl	69.9			% Rec.		8270C-SI	07/04/12	1
p-Terphenyl-d14	111.			% Rec.		8270C-SI	07/04/12	1

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Attachment A
List of Analytes with QC Qualifiers

Sample Number	Work Group	Sample Type	Analyte	Run ID	Qualifier
L582845-01	WG600930	SAMP	Benzo(a)pyrene	R2241054	J
	WG600930	SAMP	Benzo(b)fluoranthene	R2241054	J
	WG600930	SAMP	Benzo(g,h,i)perylene	R2241054	J
	WG600930	SAMP	Fluoranthene	R2241054	J
	WG600930	SAMP	Nitrobenzene-d5	R2241054	J7
	WG600930	SAMP	2-Fluorobiphenyl	R2241054	J7
	WG600930	SAMP	p-Terphenyl-d14	R2241054	J7
L582845-02	WG600930	SAMP	Acenaphthene	R2241054	J
	WG600930	SAMP	Acenaphthylene	R2241054	J
	WG600930	SAMP	Benzo(a)anthracene	R2241054	J
	WG600930	SAMP	Benzo(a)pyrene	R2241054	J
	WG600930	SAMP	Dibenz(a,h)anthracene	R2241054	J
	WG600930	SAMP	Fluoranthene	R2241054	J
	WG600930	SAMP	Indeno(1,2,3-cd)pyrene	R2241054	J
L582845-03	WG600930	SAMP	Benzo(a)anthracene	R2241054	J
	WG600930	SAMP	Benzo(b)fluoranthene	R2241054	J
	WG600930	SAMP	Fluoranthene	R2241054	J
	WG600930	SAMP	Phenanthrene	R2241054	J
	WG600930	SAMP	Pyrene	R2241054	J
	WG600178	SAMP	Diesel Range Organics (DRO)	R2240913	J
	WG600178	SAMP	Residual Range Organics (RRO)	R2240913	J
L582845-04	WG600930	SAMP	Acenaphthylene	R2241054	J
	WG600930	SAMP	Benzo(a)anthracene	R2241054	J
	WG600930	SAMP	Benzo(a)pyrene	R2241054	J
	WG600930	SAMP	Benzo(b)fluoranthene	R2241054	J
	WG600930	SAMP	Benzo(g,h,i)perylene	R2241054	J
	WG600930	SAMP	Fluoranthene	R2241054	J
	WG600930	SAMP	Nitrobenzene-d5	R2241054	J7
	WG600930	SAMP	2-Fluorobiphenyl	R2241054	J7
	WG600930	SAMP	p-Terphenyl-d14	R2241054	J7
L582845-05	WG600930	SAMP	Benzo(a)anthracene	R2241054	J
	WG600930	SAMP	Benzo(a)pyrene	R2241054	J
	WG600930	SAMP	Benzo(b)fluoranthene	R2241054	J
	WG600930	SAMP	Fluoranthene	R2241054	J
	WG600930	SAMP	Phenanthrene	R2241054	J
	WG600930	SAMP	Pyrene	R2241054	J
	WG600547	SAMP	Gasoline Range Organics-NWTPH	R2234795	J
L582845-07	WG600930	SAMP	Benzo(a)anthracene	R2241054	J
	WG600930	SAMP	Benzo(a)pyrene	R2241054	J
	WG600930	SAMP	Benzo(b)fluoranthene	R2241054	J
	WG600930	SAMP	Benzo(g,h,i)perylene	R2241054	J
	WG600930	SAMP	Chrysene	R2241054	J
	WG600930	SAMP	Fluoranthene	R2241054	J
	WG600930	SAMP	Indeno(1,2,3-cd)pyrene	R2241054	J
	WG600930	SAMP	Phenanthrene	R2241054	J
	WG600930	SAMP	Pyrene	R2241054	J
	WG600930	SAMP	2-Methylnaphthalene	R2241054	J
	WG601131	SAMP	Residual Range Organics (RRO)	R2253394	J3
L582845-09	WG600930	SAMP	Benzo(a)anthracene	R2241054	J
	WG600930	SAMP	Benzo(a)pyrene	R2241054	J
	WG600930	SAMP	Benzo(b)fluoranthene	R2241054	J
	WG600930	SAMP	Benzo(g,h,i)perylene	R2241054	J
	WG600930	SAMP	Chrysene	R2241054	J
	WG600930	SAMP	Fluoranthene	R2241054	J
	WG600930	SAMP	Indeno(1,2,3-cd)pyrene	R2241054	J
	WG600930	SAMP	Phenanthrene	R2241054	J
	WG600930	SAMP	Pyrene	R2241054	J
	WG600930	SAMP	Nitrobenzene-d5	R2241054	J7
	WG600930	SAMP	2-Fluorobiphenyl	R2241054	J7
	WG600930	SAMP	p-Terphenyl-d14	R2241054	J7
	WG601131	SAMP	Residual Range Organics (RRO)	R2253394	J
L582845-10	WG600930	SAMP	Benzo(a)pyrene	R2241054	J
	WG600930	SAMP	Benzo(b)fluoranthene	R2241054	J
	WG600930	SAMP	Benzo(g,h,i)perylene	R2241054	J
	WG600930	SAMP	Nitrobenzene-d5	R2241054	J1
	WG600930	SAMP	p-Terphenyl-d14	R2241054	J1
L582845-11	WG600930	SAMP	Anthracene	R2241054	J
	WG600930	SAMP	Benzo(a)pyrene	R2241054	J
	WG600930	SAMP	Benzo(b)fluoranthene	R2241054	J

Attachment A
List of Analytes with QC Qualifiers

Sample Number	Work Group	Sample Type	Analyte	Run ID	Qualifier
	WG600930	SAMP	Benzo(g,h,i)perylene	R2241054	J
	WG600930	SAMP	Chrysene	R2241054	J
	WG600930	SAMP	Dibenz(a,h)anthracene	R2241054	J
	WG600930	SAMP	Fluoranthene	R2241054	JJ3
	WG600930	SAMP	Fluorene	R2241054	J
	WG600930	SAMP	Indeno(1,2,3-cd)pyrene	R2241054	J
	WG600930	SAMP	Naphthalene	R2241054	J
	WG600930	SAMP	Phenanthrene	R2241054	JJ3
	WG600930	SAMP	Pyrene	R2241054	J
	WG600930	SAMP	1-Methylnaphthalene	R2241054	J
	WG600930	SAMP	2-Methylnaphthalene	R2241054	J

Attachment B
Explanation of QC Qualifier Codes

Qualifier	Meaning
J	(EPA) - Estimated value below the lowest calibration point. Confidence correlates with concentration.
J1	Surrogate recovery limits have been exceeded; values are outside upper control limits
J3	The associated batch QC was outside the established quality control range for precision.
J7	Surrogate recovery cannot be used for control limit evaluation due to dilution.

Qualifier Report Information

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

Definitions

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

Summary of Remarks For Samples Printed
07/13/12 at 11:33:13

TSR Signing Reports: 134
R5 - Desired TAT

Sample: L582845-01 Account: BNSF1FAR Received: 06/28/12 09:00 Due Date: 07/10/12 00:00 RPT Date: 07/13/12 11:32
Sample: L582845-02 Account: BNSF1FAR Received: 06/28/12 09:00 Due Date: 07/10/12 00:00 RPT Date: 07/13/12 11:32
Sample: L582845-03 Account: BNSF1FAR Received: 06/28/12 09:00 Due Date: 07/10/12 00:00 RPT Date: 07/13/12 11:32
Sample: L582845-04 Account: BNSF1FAR Received: 06/28/12 09:00 Due Date: 07/10/12 00:00 RPT Date: 07/13/12 11:32
Sample: L582845-05 Account: BNSF1FAR Received: 06/28/12 09:00 Due Date: 07/10/12 00:00 RPT Date: 07/13/12 11:32
Sample: L582845-06 Account: BNSF1FAR Received: 06/28/12 09:00 Due Date: 07/10/12 00:00 RPT Date: 07/13/12 11:32
Sample: L582845-07 Account: BNSF1FAR Received: 06/28/12 09:00 Due Date: 07/10/12 00:00 RPT Date: 07/13/12 11:32
Sample: L582845-08 Account: BNSF1FAR Received: 06/28/12 09:00 Due Date: 07/10/12 00:00 RPT Date: 07/13/12 11:32
Sample: L582845-09 Account: BNSF1FAR Received: 06/28/12 09:00 Due Date: 07/10/12 00:00 RPT Date: 07/13/12 11:32
Sample: L582845-10 Account: BNSF1FAR Received: 06/28/12 09:00 Due Date: 07/10/12 00:00 RPT Date: 07/13/12 11:32
Sample: L582845-11 Account: BNSF1FAR Received: 06/28/12 09:00 Due Date: 07/10/12 00:00 RPT Date: 07/13/12 11:32
Sample: L582845-12 Account: BNSF1FAR Received: 06/28/12 09:00 Due Date: 07/10/12 00:00 RPT Date: 07/13/12 11:32



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 Est. 1970

Quality Control Summary
SDG: L582845
Farallon Consulting - BNSF Region 1

Test:	Total Solids by Method 2540G	Matrix:	Soil - mg/kg
Project No:	TT9206-M02	EPA ID:	TN00003
Project:	BNSF - JML - Cashmere, WA	Analytic Batch:	WG600898
Collection Date:	6/25/2012	Analyst:	519
Analysis Date:	7/5/2012 8:30:00 AM	Extraction Date:	7/3/2012
Instrument ID:	LOGBAL2		
Sample Numbers:	L582845-01		

Method Blank

Analyte	CAS	PQL	Qualifiers
Total Solids		<0.100	

Laboratory Control Sample (LCS)

Analyte	True Value	Found	Recovery %	Control Limits	Qualifiers
Total Solids	50.0	50.0	100	85 - 115	



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Quality Control Summary
SDG: L582845
Farallon Consulting - BNSF Region 1

Test:	Total Solids by Method 2540G	Matrix:	Soil - mg/kg
Project No:	TT9206-M02	EPA ID:	TN00003
Project:	BNSF - JML - Cashmere, WA	Analytic Batch:	WG600899
Collection Date:	6/25/2012	Analyst:	519
Analysis Date:	7/5/2012 8:01:00 AM	Extraction Date:	7/3/2012
Instrument ID:	LOGBAL2		
Sample Numbers:	L582845-09, -10, -02, -06, -03, -04, -05, -11, -07, -08		

Method Blank

Analyte	CAS	PQL	Qualifiers
Total Solids		<0.100	

Laboratory Control Sample (LCS)

Analyte	True Value	Found	Recovery %	Control Limits	Qualifiers
Total Solids	50.0	50.0	99.9	85 - 115	



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Quality Control Summary
SDG: L582845
Farallon Consulting - BNSF Region 1

Test:	Total Solids by Method 2540G	Matrix:	Soil - mg/kg
Project No:	TT9206-M02	EPA ID:	TN00003
Project:	BNSF - JML - Cashmere, WA	Analytic Batch:	WG600900
Collection Date:	6/25/2012	Analyst:	519
Analysis Date:	7/5/2012 7:48:00 AM	Extraction Date:	7/3/2012
Instrument ID:	LOGBAL2		
Sample Numbers:	L582845-12		

Method Blank

Analyte	CAS	PQL	Qualifiers
Total Solids		<0.100	

Laboratory Control Sample (LCS)

Analyte	True Value	Found	Recovery %	Control Limits	Qualifiers
Total Solids	50.0	50.0	99.9	85 - 115	



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Quality Control Summary
SDG: L582845
Farallon Consulting - BNSF Region 1

Test:	Total Solids by Method 2540G	Matrix:	Soil - mg/kg
Project No:	TT9206-M02	EPA ID:	TN00003
Project:	BNSF - JML - Cashmere, WA	Analytic Batch:	WG600898
Collection Date:	6/25/2012	Analyst:	519
Analysis Date:	7/5/2012 8:30:00 AM	Extraction Date:	7/3/2012
Instrument ID:	LOGBAL2		
Sample Numbers:	L582845-01		

Sample Duplicate
 L582662-01

Name	Sample Results	Duplic Results	%RPD	Limit	Qualifiers
Total Solids	90.1	90.3	0.2	5	



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Quality Control Summary
SDG: L582845
Farallon Consulting - BNSF Region 1

Test:	Total Solids by Method 2540G	Matrix:	Soil - mg/kg
Project No:	TT9206-M02	EPA ID:	TN00003
Project:	BNSF - JML - Cashmere, WA	Analytic Batch:	WG600899
Collection Date:	6/25/2012	Analyst:	519
Analysis Date:	7/5/2012 8:01:00 AM	Extraction Date:	7/3/2012
Instrument ID:	LOGBAL2		
Sample Numbers:	L582845-09, -10, -02, -06, -03, -04, -05, -11, -07, -08		

Sample Duplicate
 L582845-06

Name	Sample Results	Duplic Results	%RPD	Limit	Qualifiers
Total Solids	89.6	87.1	2.9	5	



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Quality Control Summary
SDG: L582845
Farallon Consulting - BNSF Region 1

Test:	Total Solids by Method 2540G	Matrix:	Soil - mg/kg
Project No:	TT9206-M02	EPA ID:	TN00003
Project:	BNSF - JML - Cashmere, WA	Analytic Batch:	WG600900
Collection Date:	6/25/2012	Analyst:	519
Analysis Date:	7/5/2012 7:48:00 AM	Extraction Date:	7/3/2012
Instrument ID:	LOGBAL2		
Sample Numbers:	L582845-12		

Sample Duplicate
 L582949-01

Name	Sample Results	Duplic Results	%RPD	Limit	Qualifiers
Total Solids	84.9	84.9	0.1	5	



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Quality Control Summary
SDG: L582845
Farallon Consulting - BNSF Region 1

Test:	Method 8021B	Matrix:	Soil - mg/kg
Project No:	TT9206-M02	EPA ID:	TN00003
Project:	BNSF - JML - Cashmere, WA	Analytic Batch:	WG600547
Collection Date:	6/25/2012	Analyst:	366
Analysis Date:	6/29/2012		
Instrument ID:	VOCGC1		
Sample Numbers:	L582845-01, -04, -06, -08, -09, -11, -02, -05, -10, -07, -12, -03		

Method Blank

Analyte	CAS	PQL	Qualifiers
Gasoline Range Organics-NWTPH		<0.100	
Benzene	71-43-2	<0.0005	
Toluene	108-88-3	<0.0050	
Ethylbenzene	100-41-4	<0.0005	
m&p-Xylene	1330-20-7	<0.0015	
o-Xylene	1330-20-7	<0.0015	

Laboratory Control Sample (LCS)

Analyte	True Value	Found	Recovery %	Control Limits	Qualifiers
Benzene	0.0500	0.0415	83.0	76 - 113	
Toluene	0.0500	0.0432	86.4	76 - 114	
Ethylbenzene	0.0500	0.0434	86.9	78 - 115	
m&p-Xylene	0.100	0.0901	90.1	81 - 120	
o-Xylene	0.0500	0.0453	90.7	79 - 115	
Gasoline Range Organics-NWTPH	5.50	6.25	114	67 - 135	

Laboratory Control Sample Duplicate (LCSD)

Analyte	True Value	Found	Recovery %	Control Limits	Qualifiers
Benzene	0.0500	0.0427	85.3	76 - 113	
Toluene	0.0500	0.0440	87.9	76 - 114	
Ethylbenzene	0.0500	0.0448	89.7	78 - 115	
m&p-Xylene	0.100	0.0926	92.6	81 - 120	
o-Xylene	0.0500	0.0468	93.5	79 - 115	
Gasoline Range Organics-NWTPH	5.50	6.44	117	67 - 135	



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Quality Control Summary
SDG: L582845
Farallon Consulting - BNSF Region 1

Test:	Method NWTPHGX	Matrix:	Soil - mg/kg
Project No:	TT9206-M02	EPA ID:	TN00003
Project:	BNSF - JML - Cashmere, WA	Analytic Batch:	WG600584
Collection Date:	6/25/2012	Analyst:	366
Analysis Date:	7/1/2012		
Instrument ID:	VOCGC4		
Sample Numbers:	L582845-03, -01		

Method Blank

Analyte	CAS	PQL	Qualifiers
Gasoline Range Organics-NWTPH		<0.100	

Laboratory Control Sample (LCS)

Analyte	True Value	Found	Recovery %	Control Limits	Qualifiers
Gasoline Range Organics-NWTPH	5.50	5.43	98.7	67 - 135	

Laboratory Control Sample Duplicate (LCSD)

Analyte	True Value	Found	Recovery %	Control Limits	Qualifiers
Gasoline Range Organics-NWTPH	5.50	5.33	96.9	67 - 135	



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Quality Control Summary

SDG: L582845

Farallon Consulting - BNSF Region 1

Test:	Method 8021B	Matrix:	Soil - mg/kg
Project No:	TT9206-M02	EPA ID:	TN00003
Project:	BNSF - JML - Cashmere, WA	Analytic Batch:	WG600547
Collection Date:	6/25/2012	Analyst:	366
Analysis Date:	6/29/2012		
Instrument ID:	VOCGC1		
Sample Numbers:	L582845-01, -04, -06, -08, -09, -11, -02, -05, -10, -07, -12, -03		

Surrogate Summary

Laboratory Sample ID	a,a,a-Trifluorotoluene - FID		a,a,a-Trifluorotoluene - PID	
	ppb	% Rec	ppb	% Rec
LCS WG600547	196	98.2	208	104
LCSD WG600547	196	98.0	209	105
LCS WG600547	208	104	232	116
LCSD WG600547	209	105	229	114
MS WG600547	196	97.9	209	104
MSD WG600547	195	97.7	208	104
MS WG600547	207	103	227	113
MSD WG600547	206	103	226	113
Blank WG600547	197	98.3	210	105
L582845-02	195	97.5	210	105
L582845-01	201	101	213	107
L582845-03	196	98.2	211	106
L582845-04	197	98.5	209	104
L582845-05	197	98.4	211	106
L582845-06	196	98.2	211	105
L582845-07	196	98.2	210	105
L582845-08	196	98.0	210	105
L582845-09	196	98.1	211	105
L582845-10	197	98.7	211	106
L582845-11	196	97.9	209	105
L582845-12	195	97.7	209	105

a,a,a-Trifluorotoluene (FID)	200 ppb	Limits - 59 - 128
a,a,a-Trifluorotoluene (PID)	200 ppb	Limits - 54 - 144



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Quality Control Summary
SDG: L582845
Farallon Consulting - BNSF Region 1

Test:	Method NWTPHGX	Matrix:	Soil - mg/kg
Project No:	TT9206-M02	EPA ID:	TN00003
Project:	BNSF - JML - Cashmere, WA	Analytic Batch:	WG600584
Collection Date:	6/25/2012	Analyst:	366
Analysis Date:	7/1/2012		
Instrument ID:	VOCGC4		
Sample Numbers:	L582845-03, -01		

Surrogate Summary

Laboratory Sample ID	a,a,a-Trifluorotoluene - FID		a,a,a-Trifluorotoluene - PID	
	ppb	% Rec	ppb	% Rec
LCS WG600584	209	104	201	100
LCSD WG600584	209	105	200	99.8
LCS WG600584	206	103	212	106
LCSD WG600584	202	101	212	106
MS WG600584	208	104	201	100
MSD WG600584	207	104	199	99.6
MS WG600584	208	104	208	104
MSD WG600584	207	104	209	105
Blank WG600584	209	104	203	102
L582845-01	208	104	202	101
L582845-03	208	104	202	101

a,a,a-Trifluorotoluene (FID) 200 ppb Limits - 59 - 128
 a,a,a-Trifluorotoluene (PID) 200 ppb Limits - 54 - 144



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Quality Control Summary
SDG: L582845
Farallon Consulting - BNSF Region 1

Test:	Method 8021B	Matrix:	Soil - mg/kg
Project No:	TT9206-M02	EPA ID:	TN00003
Project:	BNSF - JML - Cashmere, WA	Analytic Batch:	WG600547
Collection Date:	6/25/2012	Analyst:	366
Analysis Date:	6/29/2012		
Instrument ID:	VOCGC1		
Sample Numbers:	L582845-01, -04, -06, -08, -09, -11, -02, -05, -10, -07, -12, -03		

Laboratory Control Sample/ Laboratory Control Sample Duplicate

Analyte	Spike	LCS	%		Control Limits	Qualifier	RPD	Control	
			Rec	LCSD				Rec	Limits
Benzene	0.0500	0.0415	83.0	0.0427	85.3	76-113	2.8	20	
Toluene	0.0500	0.0432	86.4	0.0440	87.9	76-114	1.8	20	
Ethylbenzene	0.0500	0.0434	86.9	0.0448	89.7	78-115	3.2	20	
m&p-Xylene	0.100	0.0901	90.1	0.0926	92.6	81-120	2.7	20	
o-Xylene	0.0500	0.0453	90.7	0.0468	93.5	79-115	3.1	20	
Gasoline Range Organics-	5.50	6.25	114	6.44	117	67-135	3.0	20	

Matrix Spike/Matrix Spike Duplicate

L582845-02

Analyte	Spike		MS	%		MSD	Control Limits	% Rec Qualifier	RPD	Control Limits	RPD Qual
	Value	Sample		Rec	MSD						
Benzene	0.250	0.0000	0.193	77.0	0.207	82.8	32-137		7.2	39	
Toluene	0.250	0.0000	0.197	78.7	0.204	81.8	20-142		3.9	42	
Ethylbenzene	0.250	0.0000	0.187	74.7	0.199	79.5	10-150		6.2	44	
m&p-Xylene	0.500	0.0000	0.386	77.2	0.408	81.5	14-141		5.4	44	
o-Xylene	0.250	0.0000	0.198	79.0	0.211	84.3	10-157		6.4	44	
Gasoline Range Organics-	27.5	0.0000	28.0	102	26.0	94.4	55-109		7.6	20	



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Quality Control Summary
SDG: L582845
Farallon Consulting - BNSF Region 1

Test:	Method NWTPHGX	Matrix:	Soil - mg/kg
Project No:	TT9206-M02	EPA ID:	TN00003
Project:	BNSF - JML - Cashmere, WA	Analytic Batch:	WG600584
Collection Date:	6/25/2012	Analyst:	366
Analysis Date:	7/1/2012		
Instrument ID:	VOCGC4		
Sample Numbers:	L582845-03, -01		

Laboratory Control Sample/ Laboratory Control Sample Duplicate

Analyte	Spike	LCS	% Rec		LCS	LCS	% Rec	Control Limits	Qualifier	% RPD	% Control	
			Rec	MSD							Rec	Limits
Gasoline Range Organics-	5.50	5.43	98.7	5.33	96.9	67-135				1.8	20	

Matrix Spike/Matrix Spike Duplicate

L582918-13

Analyte	Spike		MS	% Rec		MSD	% Rec	Control Limits	% Rec	Qualifier	% RPD	% Control	
	Value	Sample		Rec	MSD							Rec	Limits
Gasoline Range Organics-	27.5	0.0785	21.0	76.2	22.3	80.7	55-109				5.8	20	



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Quality Control Summary

SDG: L582845

Farallon Consulting - BNSF Region 1

Test:	Method 8021B	Matrix:	Soil - mg/kg
Project No:	TT9206-M02	EPA ID:	TN00003
Project:	BNSF - JML - Cashmere, WA	Analytic Batch:	WG600547
Collection Date:	6/25/2012	Analyst:	366
Analysis Date:	6/29/2012		
Instrument ID:	VOCGC1		
Sample Numbers:	L582845-01, -04, -06, -08, -09, -11, -02, -05, -10, -07, -12, -03		

Internal Standard Response and Retention Time Summary

FileID:0629_03.D Date:6/29/2012 Time:7:21 PM

	IS - FID		IS - PID	
	Response	RT	Response	RT
12 Hour Std	2882632	5.96	684321	5.95
Upper Limit	5765264	6.46	1368642	6.45
Lower Limit	1441316	5.46	342160.5	5.45

Sample ID	Response	RT	Response	RT
Blank WG600547	2699896	5.94	623578	5.94
L582845-01	2458897	5.93	584737	5.93
L582845-02	2687335	5.94	621351	5.94
L582845-03	2563750	5.93	589412	5.93
L582845-04	2561033	5.93	595996	5.93
L582845-05	2619175	5.93	602871	5.93
L582845-06	2599329	5.93	596128	5.93
L582845-07	2605372	5.93	601698	5.93
L582845-08	2615520	5.93	602354	5.93
L582845-09	2652635	5.93	609691	5.93
L582845-10	2603311	5.93	601794	5.93
LCS WG600547	2732446	5.96	644700	5.96
LCS WG600547	2843156	5.95	679746	5.95
LCSD WG600547	2722859	5.96	639377	5.95
LCSD WG600547	2833156	5.95	673775	5.95
MS WG600547	2640826	5.94	627137	5.94
MS WG600547	2790484	5.94	653951	5.94
MSD WG600547	2711680	5.93	638111	5.93
MSD WG600547	2726906	5.94	636336	5.94

Quality Control Summary
SDG: L582845
Farallon Consulting - BNSF Region 1

Test:	Method 8021B	Matrix:	Soil - mg/kg
Project No:	TT9206-M02	EPA ID:	TN00003
Project:	BNSF - JML - Cashmere, WA	Analytic Batch:	WG600547
Collection Date:	6/25/2012	Analyst:	366
Analysis Date:	6/29/2012		
Instrument ID:	VOCGC1		
Sample Numbers:	L582845-01, -04, -06, -08, -09, -11, -02, -05, -10, -07, -12, -03		

Internal Standard Response and Retention Time Summary

FileID:0629_26.D		Date:6/30/2012		Time:4:53 AM
	Response	IS - FID RT	Response	IS - PID RT
12 Hour Std	2789033	5.93	654328	5.93
Upper Limit	5578066	6.43	1308656	6.43
Lower Limit	1394516.5	5.43	327164	5.43
<hr/>				
Sample ID	Response	RT	Response	RT
<hr/>				
L582845-11	2641075	5.93	617006	5.93
L582845-12	2652672	5.93	614062	5.93



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Quality Control Summary
SDG: L582845
Farallon Consulting - BNSF Region 1

Test:	Diesel Range Organics by Method 8015	Matrix:	Soil - mg/kg
Project No:	TT9206-M02	EPA ID:	TN00003
Project:	BNSF - JML - Cashmere, WA	Analytic Batch:	WG600178
Collection Date:	6/25/2012	Analyst:	164
Analysis Date:	7/5/2012	Extraction Date:	6/27/2012
Instrument ID:	SVGC13		
Sample Numbers:	L582845-02, -03, -01		

Method Blank

Analyte	CAS	PQL	Qualifiers
Diesel Range Organics (DRO)		<4.0	
Residual Range Organics (RRO)		<10.0	

Laboratory Control Sample (LCS)

Analyte	True Value	Found	Recovery %	Control Limits	Qualifiers
Total Range Organics	60.0	47.7	79.6	50 - 150	

Laboratory Control Sample Duplicate (LCSD)

Analyte	True Value	Found	Recovery %	Control Limits	Qualifiers
Total Range Organics	60.0	49.8	83.0	50 - 150	



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Quality Control Summary
SDG: L582845
Farallon Consulting - BNSF Region 1

Test:	Diesel Range Organics by Method 8015		
Project No:	TT9206-M02	Matrix:	Soil - mg/kg
Project:	BNSF - JML - Cashmere, WA	EPA ID:	TN00003
Collection Date:	6/25/2012	Analytic Batch:	WG601131
Analysis Date:	7/13/2012	Analyst:	187
Instrument ID:	SVGC13	Extraction Date:	7/4/2012
Sample Numbers:	L582845-04, -10, -09, -05, -08, -12, -06, -07, -11		

Method Blank

Analyte	CAS	PQL	Qualifiers
Diesel Range Organics (DRO)		<4.0	
Residual Range Organics (RRO)		<10.0	

Laboratory Control Sample (LCS)

Analyte	True Value	Found	Recovery %	Control Limits	Qualifiers
Total Range Organics	60.0	57.3	95.5	50 - 150	

Laboratory Control Sample Duplicate (LCSD)

Analyte	True Value	Found	Recovery %	Control Limits	Qualifiers
Total Range Organics	60.0	52.6	87.7	50 - 150	



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Quality Control Summary
SDG: L582845
Farallon Consulting - BNSF Region 1

Test:	Diesel Range Organics by Method 8015	Matrix:	Soil - mg/kg
Project No:	TT9206-M02	EPA ID:	TN00003
Project:	BNSF - JML - Cashmere, WA	Analytic Batch:	WG600178
Collection Date:	6/25/2012	Analyst:	164
Analysis Date:	7/5/2012	Extraction Date:	6/27/2012
Instrument ID:	SVGC13		
Sample Numbers:	L582845-02, -03, -01		

Surrogate Summary

Laboratory Sample ID	o-Terphenyl	
	ppm	% Rec
Blank WG600178	0.623	77.9
LCS WG600178	0.560	69.9
LCSD WG600178	0.588	73.5
MS WG600178	0.830	104
MSD WG600178	0.771	96.3
L582845-03	0.654	81.8
L582845-01	0.950	119
L582845-02	0.719	89.9

o-Terphenyl

True Value: 0.8ppm Limits: 50 - 150



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Quality Control Summary
SDG: L582845
Farallon Consulting - BNSF Region 1

Test:	Diesel Range Organics by Method 8015		
Project No:	TT9206-M02	Matrix:	Soil - mg/kg
Project:	BNSF - JML - Cashmere, WA	EPA ID:	TN00003
Collection Date:	6/25/2012	Analytic Batch:	WG601131
Analysis Date:	7/13/2012	Analyst:	187
Instrument ID:	SVGC13	Extraction Date:	7/4/2012
Sample Numbers:	L582845-04, -10, -09, -05, -08, -12, -06, -07, -11		

Surrogate Summary

Laboratory Sample ID	o-Terphenyl	
	ppm	% Rec
Blank WG601131	0.524	65.6
LCS WG601131	0.558	69.8
LCSD WG601131	0.496	62.0
L582845-12	0.407	50.9
L582845-06	0.482	60.3
L582845-05	0.475	59.4
L582845-08	0.424	52.9
L582845-07	0.636	79.5
MS WG601131	0.509	63.7
MSD WG601131	0.574	71.8
L582845-11	0.429	53.7
L582845-10	0.483	60.4
L582845-04 10x	1.19	149
L582845-09 10x	0.404	50.6

o-Terphenyl

True Value: 0.8ppm Limits: 50 - 150



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Quality Control Summary
SDG: L582845
Farallon Consulting - BNSF Region 1

Test:	Diesel Range Organics by Method 8015	Matrix:	Soil - mg/kg
Project No:	TT9206-M02	EPA ID:	TN00003
Project:	BNSF - JML - Cashmere, WA	Analytic Batch:	WG600178
Collection Date:	6/25/2012	Analyst:	164
Analysis Date:	7/5/2012	Extraction Date:	6/27/2012
Instrument ID:	SVGC13		
Sample Numbers:	L582845-02, -03, -01		

Laboratory Control Sample/ Laboratory Control Sample Duplicate

Analyte	Spike	LCS	%		Control Limits	Qualifier	%		Control Limits	Qualifier
			Rec	LCSD			Rec	RPD		
Total Range Organics	60.0	47.7	79.6	49.8	83.0	50-150		4.3	25	

Matrix Spike/Matrix Spike Duplicate

L582318-10

Analyte	Spike		MS	%		Control Limits	% Rec Qualifier	% RPD	Control Limits	RPD Qual
	Value	Sample		Rec	MSD					
Total Range Organics	60.0	0.0	63.8	106	61.7	103	50-150		3.4	25



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Quality Control Summary
SDG: L582845
Farallon Consulting - BNSF Region 1

Test:	Diesel Range Organics by Method 8015	Matrix:	Soil - mg/kg
Project No:	TT9206-M02	EPA ID:	TN00003
Project:	BNSF - JML - Cashmere, WA	Analytic Batch:	WG601131
Collection Date:	6/25/2012	Analyst:	187
Analysis Date:	7/13/2012	Extraction Date:	7/4/2012
Instrument ID:	SVGC13		
Sample Numbers:	L582845-04, -10, -09, -05, -08, -12, -06, -07, -11		

Laboratory Control Sample/ Laboratory Control Sample Duplicate

Analyte	Spike	LCS	% Rec		LCS D	% Rec	Control Limits	Qualifier	% RPD	% Control	
			Rec	MSD						Limits	Qualifier
Total Range Organics	60.0	57.3	95.5	52.6	87.7	50-150		8.6	25		

Matrix Spike/Matrix Spike Duplicate

L582845-07

Analyte	Spike		MS	% Rec		MSD	% Rec	Control Limits	% Rec	% RPD	Control Limits	RPD Qual
	Value	Sample		Rec	MSD							
Total Range Organics	60.0	0.0	58.0	96.6	77.4	129	50-150	29	25	J3		



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Quality Control Summary
SDG: L582845
Farallon Consulting - BNSF Region 1

Test:	Semi-Volatiles by Method 8270C-SIM		
Project No:	TT9206-M02	Matrix:	Soil - mg/kg
Project:	BNSF - JML - Cashmere, WA	EPA ID:	TN00003
Collection Date:	6/25/2012	Analytic Batch:	WG600930
Analysis Date:	7/4/2012	Analyst:	0
Instrument ID:	BNAMS3	Extraction Date:	7/3/2012
Sample Numbers:	L582845-01, -02, -03, -05, -06, -07, -08, -09, -10, -11, -12, -04		

Method Blank

Analyte	CAS	PQL	Qualifiers
Naphthalene	91-20-3	<0.00600	
2-Methylnaphthalene	91-57-6	<0.00600	
1-Methylnaphthalene	90-12-0	<0.00600	
2-Chloronaphthalene	91-58-7	<0.00600	
Acenaphthylene	208-96-8	<0.00600	
Acenaphthene	83-32-9	<0.00600	
Fluorene	86-73-7	<0.00600	
Phenanthrene	85-01-8	<0.00600	
Anthracene	120-12-7	<0.00600	
Fluoranthene	206-44-0	<0.00600	
Pyrene	129-00-0	<0.00600	
Benzo(a)anthracene	56-55-3	<0.00600	
Chrysene	218-01-9	<0.00600	
Benzo(b)fluoranthene	205-99-2	<0.00600	
Benzo(k)fluoranthene	207-08-9	<0.00600	
Benzo(a)pyrene	50-32-8	<0.00600	
Indeno(1,2,3-cd)pyrene	193-39-5	<0.00600	
Dibenz(a,h)anthracene	53-70-3	<0.00600	
Benzo(g,h,i)perylene	191-24-2	<0.00600	



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Quality Control Summary

SDG: L582845

Farallon Consulting - BNSF Region 1

Test:	Semi-volatile Organic Compounds by Method 8270C-SIM		
Project No:	TT9206-M02	Matrix:	Soil - mg/kg
Project:	BNSF - JML - Cashmere, WA	EPA ID:	TN00003
Collection Date:	6/25/2012	Analytic Batch:	WG600930
Analysis Date:	7/4/2012 9:58:00 AM	Analyst:	0
Instrument ID:	BNAMS3	Extraction Date:	7/3/2012
Sample Numbers:	L582845-01, -02, -03, -05, -06, -07, -08, -09, -10, -11, -12, -04		

Laboratory Control Sample (LCS)

Analyte	True Value	Found	Recovery %	Control Limits	Qualifiers
1-Methylnaphthalene	0.0330	0.0222	67.4	48 - 113	
2-Chloronaphthalene	0.0330	0.0222	67.2	51 - 114	
2-Methylnaphthalene	0.0330	0.0244	74.0	44 - 109	
Acenaphthene	0.0330	0.0217	65.9	52 - 108	
Acenaphthylene	0.0330	0.0228	69.0	51 - 110	
Anthracene	0.0330	0.0271	82.3	58 - 120	
Benzo(a)anthracene	0.0330	0.0267	80.8	54 - 110	
Benzo(a)pyrene	0.0330	0.0299	90.6	56 - 118	
Benzo(b)fluoranthene	0.0330	0.0329	99.8	55 - 114	
Benzo(g,h,i)perylene	0.0330	0.0292	88.3	48 - 130	
Benzo(k)fluoranthene	0.0330	0.0245	74.3	55 - 122	
Chrysene	0.0330	0.0261	79.1	57 - 118	
Dibenz(a,h)anthracene	0.0330	0.0322	97.5	53 - 122	
Fluoranthene	0.0330	0.0266	80.7	58 - 118	
Fluorene	0.0330	0.0256	77.5	54 - 109	
Indeno(1,2,3-cd)pyrene	0.0330	0.0314	95.0	51 - 125	
Naphthalene	0.0330	0.0213	64.6	45 - 105	
Phenanthrene	0.0330	0.0262	79.3	53 - 114	
Pyrene	0.0330	0.0256	77.5	53 - 121	



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Quality Control Summary

SDG: L582845

Farallon Consulting - BNSF Region 1

Test:	Semi-volatile Organic Compounds by Method 8270C-SIM		
Project No:	TT9206-M02	Matrix:	Soil - mg/kg
Project:	BNSF - JML - Cashmere, WA	EPA ID:	TN00003
Collection Date:	6/25/2012	Analytic Batch:	WG600930
Analysis Date:	7/4/2012 9:58:00 AM	Analyst:	0
Instrument ID:	BNAMS3	Extraction Date:	7/3/2012
Sample Numbers:	L582845-01, -02, -03, -05, -06, -07, -08, -09, -10, -11, -12, -04		

Laboratory Control Sample Duplicate (LCSD)

Analyte	True Value	Found	Recovery %	Control Limits	Qualifiers
1-Methylnaphthalene	0.0330	0.0236	71.4	48 - 113	
2-Chloronaphthalene	0.0330	0.0239	72.5	51 - 114	
2-Methylnaphthalene	0.0330	0.0252	76.5	44 - 109	
Acenaphthene	0.0330	0.0236	71.6	52 - 108	
Acenaphthylene	0.0330	0.0237	71.9	51 - 110	
Anthracene	0.0330	0.0267	80.9	58 - 120	
Benzo(a)anthracene	0.0330	0.0274	82.9	54 - 110	
Benzo(a)pyrene	0.0330	0.0304	92.0	56 - 118	
Benzo(b)fluoranthene	0.0330	0.0324	98.2	55 - 114	
Benzo(g,h,i)perylene	0.0330	0.0305	92.4	48 - 130	
Benzo(k)fluoranthene	0.0330	0.0267	81.0	55 - 122	
Chrysene	0.0330	0.0266	80.6	57 - 118	
Dibenz(a,h)anthracene	0.0330	0.0339	103	53 - 122	
Fluoranthene	0.0330	0.0266	80.7	58 - 118	
Fluorene	0.0330	0.0269	81.4	54 - 109	
Indeno(1,2,3-cd)pyrene	0.0330	0.0315	95.5	51 - 125	
Naphthalene	0.0330	0.0230	69.6	45 - 105	
Phenanthrene	0.0330	0.0263	79.6	53 - 114	
Pyrene	0.0330	0.0261	79.2	53 - 121	



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Quality Control Summary

SDG: L582845

Farallon Consulting - BNSF Region 1

Test:	Semi-Volatiles by Method 8270C-SIM		
Project No:	TT9206-M02	Matrix:	Soil - mg/kg
Project:	BNSF - JML - Cashmere, WA	EPA ID:	TN00003
Collection Date:	6/25/2012	Analytic Batch:	WG600930
Analysis Date:	7/4/2012	Analyst:	0
Instrument ID:	BNAMS3	Extraction Date:	7/3/2012
Sample Numbers:	L582845-01, -02, -03, -05, -06, -07, -08, -09, -10, -11, -12, -04		

Surrogate Summary

Laboratory Sample ID	NBZ		2FP		TRP	
	ppb	% Rec	ppb	% Rec	ppb	% Rec
LCS WG600930	23.2	69.7	22.8	68.3	38.2	115
LCSD WG600930	22.8	68.6	24.7	74.3	38.5	116
Blank WG600930	23.0	69.0	24.2	72.7	39.7	119
L582845-06	24.1	72.5	23.6	71.0	35.1	105
L582845-12	22.9	68.7	23.3	69.9	37.0	111
L582845-08	20.4	61.2	21.7	65.1	30.0	90.2
L582845-05	22.0	65.9	24.8	74.4	41.4	124
L582845-03	23.2	69.7	24.4	73.2	34.0	102
L582845-07	19.0	57.2	21.2	63.6	32.8	98.6
L582845-02	25.4	76.2	27.6	82.9	41.1	123
L582845-10	64.8	195 J1	38.1	114	55.0	165 J1
L582845-01	99.2	298 J7	26.0	78.0 J7	393	118 J7
L582845-04	44.0	132 J7	21.1	63.4 J7	49.0	147 J7
L582845-11	27.3	82.1	25.5	76.6	28.6	85.9
MS WG600930	25.8	77.5	23.7	71.1	28.2	84.6
MSD WG600930	29.8	89.6	28.0	84.1	34.1	102
L582845-09	18.5	55.5 J7	18.3	55.0 J7	29.3	88.1 J7

NBZ - Nitrobenzene-d5	14-141
2FP - 2-Fluorobiphenyl	34-129
TPH - Terphneyl-d14	25-139



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Quality Control Summary

SDG: L582845

Farallon Consulting - BNSF Region 1

Test:	Semi-volatile Organic Compounds by Method 8270C-SIM		
Project No:	TT9206-M02	Matrix:	Soil - mg/kg
Project:	BNSF - JML - Cashmere, WA	EPA ID:	TN00003
Collection Date:	6/25/2012	Analytic Batch:	WG600930
Analysis Date:	7/4/2012 9:58:00 AM	Analyst:	0
Instrument ID:	BNAMS3	Extraction Date:	7/3/2012
Sample Numbers:	L582845-01, -02, -03, -05, -06, -07, -08, -09, -10, -11, -12, -04		

Matrix Spike/Matrix Spike Duplicate

L582845-11

Analyte	Spike		%		MSD	% Rec	Control Limits	% Rec Qualifier	% RPD	Control Limits	RPD Qual
	Value	Sample	MS	Rec							
1-Methylnaphthalene	0.0330	0.00250	0.0273	75.1	0.0312	87.0	25-155		13	27	
2-Chloronaphthalene	0.0330	0.00000	0.0264	79.9	0.0287	87.1	31-153		8.6	22	
2-Methylnaphthalene	0.0330	0.00340	0.0284	75.9	0.0335	91.2	22-172		16	29	
Acenaphthene	0.0330	0.00000	0.0244	74.0	0.0285	86.4	43-133		15	26	
Acenaphthylene	0.0330	0.00000	0.0257	78.0	0.0307	93.0	42-146		18	22	
Anthracene	0.0330	0.00077	0.0282	83.0	0.0346	103	38-153		21	27	
Benzo(a)anthracene	0.0330	0.00000	0.0321	97.3	0.0358	108	31-142		11	31	
Benzo(a)pyrene	0.0330	0.00250	0.0313	87.3	0.0355	100.0	26-152		13	32	
Benzo(b)fluoranthene	0.0330	0.00180	0.0282	79.9	0.0370	107	10-188		27	33	
Benzo(g,h,i)perylene	0.0330	0.00590	0.0309	75.9	0.0291	70.3	10-176		6.2	30	
Benzo(k)fluoranthene	0.0330	0.00000	0.0244	73.9	0.0301	91.3	22-163		21	29	
Chrysene	0.0330	0.00230	0.0274	76.1	0.0342	96.6	26-146		22	30	
Dibenz(a,h)anthracene	0.0330	0.00230	0.0263	72.6	0.0294	82.2	10-160		11	39	
Fluoranthene	0.0330	0.00210	0.0269	75.1	0.0339	96.4	23-160		23	22	J3
Fluorene	0.0330	0.00084	0.0264	77.5	0.0305	89.8	44-143		14	23	
Indeno(1,2,3-cd)pyrene	0.0330	0.00190	0.0248	69.3	0.0286	80.9	10-157		14	40	
Naphthalene	0.0330	0.00320	0.0262	69.8	0.0303	82.2	22-156		15	27	
Phenanthrene	0.0330	0.00520	0.0279	68.7	0.0377	98.5	23-164		30	25	J3
Pyrene	0.0330	0.00330	0.0282	75.3	0.0350	96.2	12-170		22	24	



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Quality Control Summary

SDG: L582845

Farallon Consulting - BNSF Region 1

Test:	Semi-volatile Organic Compounds by Method 8270C-SIM		
Project No:	TT9206-M02	Matrix:	Soil - mg/kg
Project:	BNSF - JML - Cashmere, WA	EPA ID:	TN00003
Collection Date:	6/25/2012	Analytic Batch:	WG600930
Analysis Date:	7/4/2012 9:58:00 AM	Analyst:	0
Instrument ID:	BNAMS3	Extraction Date:	7/3/2012
Sample Numbers:	L582845-01, -02, -03, -05, -06, -07, -08, -09, -10, -11, -12, -04		

Laboratory Control Sample/ Laboratory Control Sample Duplicate

Analyte	Spike	LCS	% Rec		Control Limits		Qualifier	% Control	
			Rec	LCS	Rec	Limits		RPD	Limits
1-Methylnaphthalene	0.0330	0.0222	67.4	0.0236	71.4	48-113		5.9	24
2-Chloronaphthalene	0.0330	0.0222	67.2	0.0239	72.5	51-114		7.6	24
2-Methylnaphthalene	0.0330	0.0244	74.0	0.0252	76.5	44-109		3.3	24
Acenaphthene	0.0330	0.0217	65.9	0.0236	71.6	52-108		8.3	22
Acenaphthylene	0.0330	0.0228	69.0	0.0237	71.9	51-110		4.1	21
Anthracene	0.0330	0.0271	82.3	0.0267	80.9	58-120		1.6	20
Benzo(a)anthracene	0.0330	0.0267	80.8	0.0274	82.9	54-110		2.6	22
Benzo(a)pyrene	0.0330	0.0299	90.6	0.0304	92.0	56-118		1.6	21
Benzo(b)fluoranthene	0.0330	0.0329	99.8	0.0324	98.2	55-114		1.7	20
Benzo(g,h,i)perylene	0.0330	0.0292	88.3	0.0305	92.4	48-130		4.4	20
Benzo(k)fluoranthene	0.0330	0.0245	74.3	0.0267	81.0	55-122		8.6	25
Chrysene	0.0330	0.0261	79.1	0.0266	80.6	57-118		1.9	20
Dibenz(a,h)anthracene	0.0330	0.0322	97.5	0.0339	103	53-122		5.3	20
Fluoranthene	0.0330	0.0266	80.7	0.0266	80.7	58-118		0.0	20
Fluorene	0.0330	0.0256	77.5	0.0269	81.4	54-109		4.8	20
Indeno(1,2,3-cd)pyrene	0.0330	0.0314	95.0	0.0315	95.5	51-125		0.5	21
Naphthalene	0.0330	0.0213	64.6	0.0230	69.6	45-105		7.4	24
Phenanthrene	0.0330	0.0262	79.3	0.0263	79.6	53-114		0.3	20
Pyrene	0.0330	0.0256	77.5	0.0261	79.2	53-121		2.1	20



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

Quality Control Summary

SDG: L582845

Farallon Consulting - BNSF Region 1

Test:	Semi-Volatiles by Method 8270C-SIM		
Project No:	TT9206-M02	Matrix:	Soil - mg/kg
Project:	BNSF - JML - Cashmere, WA	EPA ID:	TN00003
Collection Date:	6/25/2012	Analytic Batch:	WG600930
Analysis Date:	7/4/2012	Analyst:	0
Instrument ID:	BNAMS3	Extraction Date:	7/3/2012
Sample Numbers:	L582845-01, -02, -03, -05, -06, -07, -08, -09, -10, -11, -12, -04		

Internal Standard Response and Retention Time Summary

FileID:0704_02.D

Date:7/4/2012

Time:1:43 AM

	IS1		IS2		IS3	
	Response	RT	Response	RT	Response	RT
12 Hour Std			609567	5.56	326680	6.6
Upper Limit			1219134	6.06	653360	7.1
Lower Limit			304783.5	5.06	163340	6.1
Sample ID	Response	RT	Response	RT	Response	RT
Blank WG600930			597971	5.56	326112	6.60
L582845-01			519362	5.56	286951	6.60
L582845-02			549365	5.56	298823	6.60
L582845-03			561702	5.56	299301	6.60
L582845-04			540163	5.57	293359	6.60
L582845-05			629560	5.56	340628	6.60
L582845-06			541970	5.57	300815	6.60
L582845-07			585489	5.56	313329	6.60
L582845-08			586280	5.56	313133	6.60
L582845-09			569807	5.56	315355	6.60
L582845-10			522028	5.57	295858	6.60
L582845-12			593031	5.56	324155	6.60
LCS WG600930			580973	5.56	320504	6.60
LCSD WG600930			600331	5.56	316799	6.60



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Quality Control Summary

SDG: L582845

Farallon Consulting - BNSF Region 1

Test:	Semi-Volatiles by Method 8270C-SIM		
Project No:	TT9206-M02	Matrix:	Soil - mg/kg
Project:	BNSF - JML - Cashmere, WA	EPA ID:	TN00003
Collection Date:	6/25/2012	Analytic Batch:	WG600930
Analysis Date:	7/4/2012	Analyst:	0
Instrument ID:	BNAMS3	Extraction Date:	7/3/2012
Sample Numbers:	L582845-01, -02, -03, -05, -06, -07, -08, -09, -10, -11, -12, -04		

Internal Standard Response and Retention Time Summary

FileID:0704_02.D

Date:7/4/2012

Time:1:43 AM

	IS4		IS5		IS6	
	Response	RT	Response	RT	Response	RT
12 Hour Std	515338	7.48	368689	9.39	323166	11.43
Upper Limit	1030676	7.98	737378	9.89	646332	11.93
Lower Limit	257669	6.98	184344.5	8.89	161583	10.93
Sample ID	Response	RT	Response	RT	Response	RT
Blank WG600930	492169	7.48	346899	9.39	282912	11.43
L582845-01	430757	7.48	316124	9.40	278974	11.46
L582845-02	457868	7.48	334988	9.39	298593	11.46
L582845-03	452261	7.48	327033	9.39	289818	11.43
L582845-04	463344	7.48	329277	9.39	293298	11.45
L582845-05	503776	7.48	334543	9.39	302909	11.43
L582845-06	444355	7.48	308950	9.39	274490	11.43
L582845-07	474854	7.48	339191	9.39	300378	11.43
L582845-08	491060	7.48	345065	9.38	301063	11.43
L582845-09	483166	7.48	343317	9.39	305462	11.44
L582845-10	435013	7.48	323675	9.39	287935	11.45
L582845-12	507644	7.48	352902	9.39	308415	11.43
LCS WG600930	481478	7.48	343438	9.39	301784	11.43
LCSD WG600930	490672	7.48	330687	9.39	284165	11.43



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 Est. 1970

Quality Control Summary

SDG: L582845

Farallon Consulting - BNSF Region 1

Test:	Semi-Volatiles by Method 8270C-SIM		
Project No:	TT9206-M02	Matrix:	Soil - mg/kg
Project:	BNSF - JML - Cashmere, WA	EPA ID:	TN00003
Collection Date:	6/25/2012	Analytic Batch:	WG600930
Analysis Date:	7/4/2012	Analyst:	0
Instrument ID:	BNAMS3	Extraction Date:	7/3/2012
Sample Numbers:	L582845-01, -02, -03, -05, -06, -07, -08, -09, -10, -11, -12, -04		

Internal Standard Response and Retention Time Summary

FileID:0710A_02.D

Date:7/10/2012

Time:6:22 AM

	IS1		IS2		IS3	
	Response	RT	Response	RT	Response	RT
12 Hour Std			944612	5.48	507697	6.52
Upper Limit			1889224	5.98	1015394	7.02
Lower Limit			472306	4.98	253848.5	6.02
Sample ID	Response	RT	Response	RT	Response	RT
L582845-11			490064	5.48	274069	6.52
MS WG600930			588722	5.48	328174	6.52
MSD WG600930			653389	5.48	364374	6.52



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 Est. 1970

Quality Control Summary

SDG: L582845

Farallon Consulting - BNSF Region 1

Test:	Semi-Volatiles by Method 8270C-SIM		
Project No:	TT9206-M02	Matrix:	Soil - mg/kg
Project:	BNSF - JML - Cashmere, WA	EPA ID:	TN00003
Collection Date:	6/25/2012	Analytic Batch:	WG600930
Analysis Date:	7/4/2012	Analyst:	0
Instrument ID:	BNAMS3	Extraction Date:	7/3/2012
Sample Numbers:	L582845-01, -02, -03, -05, -06, -07, -08, -09, -10, -11, -12, -04		

Internal Standard Response and Retention Time Summary

FileID:0710A_02.D

Date:7/10/2012

Time:6:22 AM

	IS4		IS5		IS6	
	Response	RT	Response	RT	Response	RT
12 Hour Std	796519	7.39	575171	9.24	510158	11.19
Upper Limit	1593038	7.89	1150342	9.74	1020316	11.69
Lower Limit	398259.5	6.89	287585.5	8.74	255079	10.69
Sample ID	Response	RT	Response	RT	Response	RT
L582845-11	408713	7.39	306560	9.24	273417	11.19
MS WG600930	501350	7.39	349217	9.24	313203	11.20
MSD WG600930	540514	7.39	397552	9.24	349904	11.20



LABORATORY INFORMATION	
Laboratory: ESC	Project Manager: Mark Beasley
Address: 12045 Lebanon Rd.	Phone: 615 758 5454
City/State/ZIP: Mt Juliet, TN, 37122	Fax:

LAB WORK ORDER:
SHIPMENT INFORMATION
Shipment Method:
Tracking Number:

BNSF PROJECT INFORMATION	
BNSF Project Number:	Project State of Origin: Washington
BNSF Project Name: John Michael Lease	Project City: Cashmere
BNSF Contact: Mark Engdahl	BNSF Work Order No.:

CONSULTANT INFORMATION	
Company: Farallon Consulting, LLC	Project Number: 243-006
Address: 975 5th Ave NW	Project Manager: Kristin Darnell
City/State/ZIP: Issaquah, WA, 98027	Email: kdarnell@farallonconsulting.com
	Phone: 425-295-0811

TURNAROUND TIME	
<input type="checkbox"/> 1-day Rush	<input type="checkbox"/> 5- to 8-day Rush
<input type="checkbox"/> 2-day Rush	<input type="checkbox"/> Standard 10-Day
<input type="checkbox"/> 3-day Rush	<input type="checkbox"/> Other: _____

DELIVERABLES	
<input type="checkbox"/> BNSF Standard (Level II)	<input type="checkbox"/> Other Deliverables?
<input type="checkbox"/> Level III	<input type="checkbox"/> EDD Req. Format?
<input type="checkbox"/> Level IV	

METHODS FOR ANALYSIS										COMMENTS	LAB USE
6-157EX	DT	GRAH									

SAMPLE INFORMATION

Sample Identification	Containers	Sample Collection			Filtered Y/N	Type (Comp/Grab)	Matrix	METHODS FOR ANALYSIS										COMMENTS	LAB USE			
		Date	Time	Sampler																		
TP37-062512-11.7	2	6/25/12	1100	Tc		Grab	Soil															
TP34-062512-2.0			1115																			
TP34-062512-4.0			1120																			
TP34-062512-6.0			1125																			
TP34-062512-8.0			1130																			
TP34-062512-10.0			1135																			
TP34-062512-12.0			1140																			
TP34-062512-14.0			1145																			
TP34-062512-16.0			1150																			
TP30-062512-2.0			1300																			
TP30-062512-4.0			1305																			
TP30-062512-6.0			1310																			
TP30-062512-8.0			1315																			
TP30-062512-10.0			1320																			
TP30-062512-12.0			1325																			

Relinquished By: Jon Peterson	Date/Time: 6/27/12 1550	Received By:	Date/Time:	Comments and Special Analytical Requirements: Call to discuss sample selection Call to discuss BTEX method
Relinquished By:	Date/Time:	Received By:	Date/Time:	
Relinquished By:	Date/Time:	Received By:	Date/Time:	
Received by Laboratory:	Date/Time:	Lab Remarks:	Date/Time:	



CHAIN OF CUSTODY

LABORATORY INFORMATION

Laboratory: ESC Project Manager: Mark Beasley
 Address: 12065 Lebanon Rd Phone: 615 756 5456
 City/State/Zip: Mt. Juliet, TN, 37122 Fax:

LAB WORK ORDER: Page 2
 SHIPMENT INFORMATION
 Shipment Method:
 Tracking Number:

BNSF PROJECT INFORMATION
 Project State of Origin: Washington
 Project City: Cashmere
 BNSF Project Number:
 BNSF Project Name: John Michael Lease
 BNSF Contact: Mark Engahl

CONSULTANT INFORMATION
 Company: Farallon Consulting, LLC
 Address: 475 5th Ave NW
 City/State/Zip: Issaquah, WA, 94027
 Project Number: 283-006
 Project Manager: Kristin Darnell
 Email: Kdarnell@farallonconsulting.com
 Phone: 425-245-0811 Fax:

TURNAROUND TIME
 1-day Rush
 2-day Rush
 3-day Rush
 5- to 8-day Rush
 Standard 10-Day
 Other

DELIVERABLES
 BNSF Standard (Level II)
 Level III
 Level IV
 Other Deliverables?
 EDD Req. Format?

METHODS FOR ANALYSIS

6x BTX	Dx	EPAH																	
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Sample Identification	Containers	Sample Collection			Filtered Y/N	Type (Comp Grab)	Matrix	METHODS FOR ANALYSIS										COMMENTS	LAB USE			
		Date	Time	Sampler																		
TP30-062512-14.0	2	6/25/12	1330	Jon		Grab	Soil	X	X	X												
TP30-062512-16.0			1335					X	X	X												03
TP33-062512-2.0			1405																			
TP33-062512-4.0			1410																			
TP33-062512-6.0			1415																			
TP33-062512-8.0			1420																			
TP33-062512-10.0			1425																			
TP33-062512-11.0			1430																			
TP33-062512-14.0			1435					X	X	X												04
TP33-062512-16.0			1440																			
TP33-062512-18.0			1445																			
TP31-062512-2.0			1505																			
TP31-062512-4.0			1510																			
TP31-062512-6.0			1515																			
TP31-062512-8.0			1520																			

Relinquished By: <u>Jan Peterson</u>	Date/Time: <u>6/27/12 1550</u>	Received By:	Date/Time:	Comments and Special Analytical Requirements: <u>Call to discuss sample selection</u> <u>Call to discuss BTEX method</u>	
Relinquished By:	Date/Time:	Received By:	Date/Time:		
Relinquished By:	Date/Time:	Received By:	Date/Time:		
Relinquished By:	Date/Time:	Received By:	Date/Time:		
Received by Laboratory:	Date/Time:	Lab Remarks:	Lab Custody Inact? <input type="checkbox"/> Yes <input type="checkbox"/> No	Custody Bear No.:	BNSF COC No.:



LABORATORY INFORMATION

Laboratory: **ESC** Project Manager: **Mark Beasley**

Address: **12065 Lebanon Rd** Phone: **615 754 5454**

City/State/Zip: **Mt. Juliet, TN 37122** Fax:

LAB WORK ORDER: **page 3**

SHIPMENT INFORMATION

Shipment Method:

Tracking Number:

CHAIN OF CUSTODY

BNSF PROJECT INFORMATION

BNSF Project Number:

BNSF Project Name: **John Michael Lease**

BNSF Contact: **Mark Engdahl**

Project State of Origin: **Washington**

Project City: **Cashmere**

BNSF Work Order No.:

CONSULTANT INFORMATION

Company: **Farallon Consulting, LLC**

Address: **415 5th Ave NW**

City/State/Zip: **Issaquah, WA 98027**

Project Number: **243-006**

Project Manager: **Kristin Durrell**

Email: **Kdurrell@farallonconsulting.com**

Phone: **425-295-1311** Fax:

TURNAROUND TIME

1-day Rush 5- to 8-day Rush

2-day Rush Standard 10-Day

3-day Rush Other _____

DELIVERABLES

Other Deliverables?

BNSF Standard (Level II)

Level III EDD Req. Format?

Level IV

METHODS FOR ANALYSIS

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SAMPLE INFORMATION

Sample Identification	Containers	Sample Collection			Filtered Y/N	Type (Comp/ Grab)	Matrix	METHODS FOR ANALYSIS										COMMENTS	LAB USE								
		Date	Time	Sampler																							
TP31-062512-10.0	2	6/25/12	1525	Jon		Grab Soil																					
TP31-062512-12.0			1530				X	X	X																		L 582845-05
TP31-062512-14.0			1535				X	X	X																		
TP31-062512-16.0			1540				X	X	X																		
TP31-062512-18.0			1545				X	X	X																		06
TP32-062612-2.0		6/26/12	0710																								
TP32-062612-4.0			0715																								
TP32-062612-6.0			0720																								
TP32-062612-8.0			0725																								
TP32-062612-10.0			0910																								
TP32-062612-12.0			0915				X	X	X																		07
TP32-062612-14.0			0920				X	X	X																		
TP32-062612-16.0			0925				X	X	X																		
TP38-062612-2.0			0940				X	X	X																		08
TP38-062612-4.0			0945				X	X	X																		09

Released By: **Jon Peterson** Date/Time: **6/27/12 1550** Received By: _____ Date/Time: _____

Relinquished By: _____ Date/Time: _____ Received By: _____ Date/Time: _____

Relinquished by: _____ Date/Time: _____ Received By: _____ Date/Time: _____

Received by Laboratory: _____ Date/Time: _____ Lab Remarks: _____

Lab: Custody IN/ACT? Yes No

Custody Seal No.: _____ BNSF COC No.: _____

Comments and Special Analytical Requirements:
Call to discuss sample selection & RTEX method

ORIGINAL - RETURN TO LABORATORY WITH SAMPLES

DUPLICATE - CONSULTANT



CHAIN OF CUSTODY

LABORATORY INFORMATION

LAB WORK ORDER: page 4

Laboratory: **ESC** Project Manager: **Mark Beasley**
 Address: **12065 Lebanon Rd.** Phone: **615-756-5458**
 City/State/ZIP: **Mt. Juliet, TN, 37122** Fax:

SHIPMENT INFORMATION

Shipment Method:
 Tracking Number:

BNSF PROJECT INFORMATION

Project State of Origin: **Washington**
 Project City: **Cashmere**

CONSULTANT INFORMATION

Company: **Farallon Consulting, LLC**
 Address: **975 5th Ave NW**
 City/State/ZIP: **Issaquah, WA, 98027**

Project Number: **243-006**
 Project Manager: **Kristin Darnell**
 Email: **ktdarnell@farallonconsulting.com**
 Phone: **425-245-0811** Fax:

BNSF Project Number:
 BNSF Project Name: **John Michael Lease**
 BNSF Contact: **Mark Eppdahl**

BNSF Work Order No.:

TURNAROUND TIME

- 1-day Rush
- 2-day Rush
- 3-day Rush
- 5- to 8-day Rush
- Standard 10-Day
- Other _____

DELIVERABLES

- BNSF Standard (Level II)
- Level III
- Level IV
- Other Deliverables?
- EDD Req. Format?

METHODS FOR ANALYSIS

Gx BTEX	Dx	CPA4																	
---------	----	------	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

SAMPLE INFORMATION

Sample Identification	Containers	Sample Collection			Filtered Y/N	Type (Comp/Grab)	Matrix	Gx BTEX	Dx	CPA4										COMMENTS	LAB USE	
		Date	Time	Sampler																		
TP38-062612-6.0	2	6/26/12	0950	Jen		Grab	soil															
TP38-062612-8.0			0955																			
TP38-062612-10.0			1000					X	X	X												L58206-10
TP38-062612-12.0			1005					X	X	X												11
TP38-062612-14.0			1010																			
TP38-062612-16.0			1015					X	X	X												12
TP41-062612-10.0	L		1440																			
062512-7B1	1	6/25/12	1050																			
062512-7B2	1	6/26/12	1020																			
10																						
11																						
12																						
13																						
14																						
15																						

Retrieved By: Jon Peterson	Date/Time: 6/27/12 1550	Received By:	Date/Time:	Comments and Special Analytical Requirements: Call to discuss sample selection call to discuss BTEX method
Retrieved By:	Date/Time:	Received By:	Date/Time:	
Retrieved By:	Date/Time:	Received By:	Date/Time:	
Received by Laboratory:	Date/Time:	Lab Remarks:	Lab Custody Intact? <input type="checkbox"/> Yes <input type="checkbox"/> No	

ORIGINAL - RETURN TO LABORATORY WITH SAMPLES

DUPLICATE - CONSULTANT

Andy Vann

From: Mark Beasley
Sent: Friday, June 29, 2012 1:40 PM
To: Login
Subject: *BNSF1FAR* hold samples
Attachments: CoC w samples selected for analysis test pits June 2012.pdf

Log the below (see attached COC) samples previously on hold for NWTPHGXBTX, NWTPHDX, SV8270PAHSIM, TS, & QC2MODCN. Log as R5 due 7/6.

Thanks
Mark

From: Kristin Darnell [mailto:kjdarnell@farallonconsulting.com]

Sent: Friday, June 29, 2012 12:38 PM

To: Mark Beasley

Cc: Woodburne, Keith (Concord,CA-US); Amy Essig Desai; Jon Peterson
Subject: sample selection, JML, Cashmere, WA

Hi Mark,

Please find attached the revised chain of custody showing soil samples selected for analysis. They are also listed below.

Kristin Darnell, Project Scientist

Farallon Consulting, L.L.C.

975 5th Avenue Northwest

Issaquah, Washington 98027

Direct: (425) 295-0811 Fax: (425) 295-0850

Please consider the environment before printing this e-mail.

New Seattle Office: Farallon now has a downtown Seattle office, joining its Issaquah and Bellingham locations.

This correspondence contains confidential or privileged information from Farallon Consulting and may be "Attorney-Client Privileged" and protected as "Work Product". The information contained herein is intended for the use of the individual or party named above. If you are not the intended recipient, note that any copying, distribution, disclosure, or use of the text and/or attached document(s) is strictly prohibited. If you have received this correspondence in error, please notify us immediately. Thank you.

- TP30 – soil sample collected at 14.0 feet bgs (TP30-062512-14.0)
- TP30 – soil sample collected at 16.0 feet bgs (TP30-062512-16.0)
- TP31 – soil sample collected at 12.0 feet bgs (TP31-062512-12.0)
- TP31 – soil sample collected at 16.0 feet bgs (TP31-062512-16.0)
- TP32 – soil sample collected at 12.0 feet bgs (TP32-062612-12.0)
- TP32 – soil sample collected at 16.0 feet bgs (TP32-062612-16.0)
- TP33 – soil sample collected at 14.0 feet bgs (TP33-062512-14.0)
- TP34 – soil sample collected at 14.0 feet bgs (TP34-062512-14.0)
- TP38 – soil sample collected at 10.0 feet bgs (TP38-062612-10.0)
- TP38 – soil sample collected at 12.0 feet bgs (TP38-062612-12.0)
- TP38 – soil sample collected at 4.0 feet bgs (TP38-062612-4.0)
- TP38 – soil sample collected at 16.0 feet bgs (TP38-062612-16.0)



CHAIN OF CUSTODY

BNSF PROJECT INFORMATION

BNSF Project Number:
 BNSF Project Name: **John Michael Lease**
 BNSF Contact: **Mark Engdahl**

LABORATORY INFORMATION
 Project: **ESC**
 Address: **2065 Lebanon Rd.**
 City/State/ZIP: **Mt. Juliet, TN, 37122**

Project State of Origin: **Washington**
 Project City: **Cashmere**

Project Manager: **Mark Beasley**
 Phone: **615 758 5458**
 Fax:

CONSULTANT INFORMATION
 Company: **Farallon Consulting, LLC**
 Address: **975 5th Ave NW**
 City/State/ZIP: **Issaquah, WA, 98027**

LAB WORK ORDER: *page 1*
SHIPMENT INFORMATION
 Shipment Method:
 Tracking Number:

Project Number: **243-006**
 Project Manager: **Kristin Damell**
 Email: **Kdamell@farallonconsulting.com**
 Phone: **425-295-0811**
 Fax:

TURNAROUND TIME

1-day Rush
 2-day Rush
 3-day Rush

5- to 8-day Rush
 Standard 10-Day
 Other _____

DELIVERABLES

BNSF Standard (Level II)
 Level III
 Level IV

Other Deliverables?
 EDD Req. Foreign?

METHODS FOR ANALYSIS

SAMPLE INFORMATION

Sample Identification	Containers	Sample Collection			Filtered Y/N	Type (Comp/Grab)	Matrix	METHODS FOR ANALYSIS				COMMENTS	LAB USE	
		Date	Time	Sampler				Gx/BTEX	Dx	GRAH				
TP37-062512-11.7	2	6/25/12	1100	Jon		Grab	soil							
TP34-062512-2.0			1115											
TP34-062512-4.0			1120											
TP34-062512-6.0			1125											
TP34-062512-8.0			1130											
TP34-062512-10.0			1135											
TP34-062512-12.0			1140											
TP34-062512-14.0			1145											
TP34-062512-16.0			1150											
TP30-062512-2.0			1300											
TP30-062512-4.0			1305											
TP30-062512-6.0			1310											
TP30-062512-8.0			1315											
TP30-062512-10.0			1320											
TP30-062512-12.0			1325											

Requested By: **Jon Peterson**
 Retinquished By:
 Retinquished By:
 Received by Laboratory:

Date/Time: **6/27/12 1550**
 Date/Time:
 Date/Time:
 Date/Time:

Received By: **[Signature]**
 Received By:
 Received By:
 Lab Remarks:

Date/Time: **6/28/12 0900**
 Date/Time:
 Date/Time:
 Date/Time:

Comments and Special Analytical Requirements:
call to discuss sample selection
call to discuss BTEX method

ORIGINAL - RETURN TO LABORATORY WITH SAMPLES

DUPLICATE - CONSULTANT

Yes No

Custody Seal No. _____ BNSF COC No. _____

BNSF RAILWAY
CHAIN OF CUSTODY

LABORATORY INFORMATION
 Project Manager: Mark Beasley
 Phone: 615 754 5456
 City/State/ZIP: Mt. Juliet, TN, 37122

LAB WORK ORDER: page 2
SHIPMENT INFORMATION
 Shipment Method:
 Tracking Number:

BNSF PROJECT INFORMATION
 Project State of Origin: Washington
 Project City: Cashmere
 BNSF Project Number:
 BNSF Project Name: John Michael Lease
 BNSF Contact: Mark Engdahl
 BNSF Work Order No.:

CONSULTANT INFORMATION
 Company: Facallon Consulting, LLC
 Address: 975 5th Ave NW
 City/State/ZIP: Issaquah, WA, 98027
 Project Number: 283-006
 Project Manager: Kristin Darnell
 Email: Kdarnell@facallonconsulting.com
 Phone: 425-245-0811

TURNAROUND TIME
 1-day Rush
 2-day Rush
 3-day Rush
 5-to 8-day Rush
 Standard 10-Day
 Other _____

DELIVERABLES
 BNSF Standard (Level II)
 Level III
 Level IV
 Other Deliverables?
 EDD Req. Format?

METHODS FOR ANALYSIS

SAMPLE INFORMATION

Sample Identification	Containers	Sample Collection			Filtered Y/N	Type (Comp/Grab)	Matrix	COMMENTS	LAB USE
		Date	Time	Sampler					
TP30-062512-14.0	2	6/25/12	1330	Jon		Grab soil			
TP30-062512-16.0			1335						
TP33-062512-2.0			1405						
TP33-062512-4.0			1410						
TP33-062512-6.0			1415						
TP33-062512-8.0			1420						
TP33-062512-10.0			1425						
TP33-062512-12.0			1430						
TP33-062512-14.0			1435						
TP33-062512-16.0			1440						
TP33-062512-18.0			1445						
TP31-062512-2.0			1505						
TP31-062512-4.0			1510						
TP31-062512-6.0			1515						
TP31-062512-8.0			1520						

Requested By: Jon Peterson Date/Time: 6/27/12 1550
 Requested By: _____ Date/Time: _____
 Requested By: _____ Date/Time: _____
 Received by Laboratory: _____ Date/Time: _____

Received By: Matthew Work Date/Time: 6/27/12 01:00
 Received By: _____ Date/Time: _____
 Received By: _____ Date/Time: _____

Comments and Special Analytical Requirements:
call to discuss sample selection
call to discuss BTEX method

Lab Custody Instruct?
 Yes No

Custody Seal No. _____ BNSF ECC No. _____



LABORATORY INFORMATION

Laboratory: **ESC**

Project Manager: **Mark Beasley**

Address: **12065 Lebanon Rd**

Phone: **615 756 5654**

City/State/ZIP: **Mt. Juliet, TN, 37122**

Fax:

LAB WORK ORDER: **page 3**

SHIPMENT INFORMATION

Shipment Method:

Tracking Number:

CHAIN OF CUSTODY

BNSF PROJECT INFORMATION

BNSF Project Number:

BNSF Project Name: **John Michael Lease**

BNSF Contact: **Mark Engdahl**

Project State of Origin: **Washington**

Project City: **Cashmere**

BNSF Work Order No.:

CONSULTANT INFORMATION

Company: **Farallon Consulting, LLC**

Address: **475 5th Ave NW**

City/State/ZIP: **Issaquah, WA, 98027**

Project Number: **283-006**

Project Manager: **Kristin Darnell**

Email: **Kdarnell@farallonconsulting.com**

Phone: **425-295-0811**

TURNAROUND TIME

1-day Rush

2-day Rush

3-day Rush

5- to 8-day Rush

Standard 10-Day

Other _____

DELIVERABLES

BNSF Standard (Level II)

Level III

Level IV

Other Deliverables?

EDD Req. Format?

METHODS FOR ANALYSIS

6x/BTEX

Px

CPAH

SAMPLE INFORMATION

Sample Identification	Containers	Sample Collection			Filtered Y/N	Type (Comp/Grab)	Matrix	COMMENTS	LAB USE
		Date	Time	Sampler					
TP31-062512-10.0	2	6/25/12	1525	Jon		Grab Soil			
TP31-062512-12.0			1530						
TP31-062512-14.0			1535						
TP31-062512-16.0			1540						
TP31-062512-18.0			1545						
TP32-062612-2.0		6/26/12	0710						
TP32-062612-4.0			0715						
TP32-062612-6.0			0720						
TP32-062612-8.0			0725						
TP32-062612-10.0			0730						
TP32-062612-12.0			0735						
TP32-062612-14.0			0740						
TP32-062612-16.0			0745						
TP38-062612-2.0			0740						
TP38-062612-4.0			0745						

Requested By: **Jon Paterson**

Received By: **9/11/12 - [Signature]**

Date/Time: **6/27/12 1550**

Date/Time: **6/28/12 09:00**

Comments and Special Analytical Requirements:

call to discuss sample selection + BTEX method

 CHAIN OF CUSTODY	LABORATORY INFORMATION		LAB WORK ORDER:	
	Laboratory: ESC Address: 12065 Lebanon Rd City/State/Zip: Wt. Juliet, TN, 37122	Project Manager: Mark Beasley Phone: 615-756-5856 Fax:	SHIPMENT INFORMATION	
	Project State of Origin: Washington Project City: Cashmere		Project Number: 243-006 Project Manager: Kristin Darnell Email: krdarnell@farallonconsulting.com Phone: 425-295-0811 Fax:	

BNSF Project Number: BNSF Project Name: John Michael Lease BNSF Contact: Mark Engdahl	BNSF Work Order No.: Company: Farallon Consulting, LLC Address: 975 5th Ave NW City/State/Zip: Issaquah, WA, 98027	Tracking Number: Project Number:
---	--	-------------------------------------

TURNAROUND TIME <input type="checkbox"/> 1-day Rush <input type="checkbox"/> 2-day Rush <input type="checkbox"/> 3-day Rush <input type="checkbox"/> 5- to 8-day Rush <input type="checkbox"/> Standard 10-Day <input type="checkbox"/> Other _____	DELIVERABLES <input type="checkbox"/> BNSF Standard (Level II) <input type="checkbox"/> Level III <input type="checkbox"/> Level IV <input type="checkbox"/> Other Deliverables? <input type="checkbox"/> EDD Req. Format?	METHODS FOR ANALYSIS <div style="display: flex; justify-content: space-around; font-size: 2em; font-weight: bold;"> Gx/BTEX DX GRAH </div>
--	--	---

SAMPLE INFORMATION							COMMENTS	LAB USE
Sample Identification	Containers	Sample Collection			Filtered Y/N	Type (Comp/Grab)		
		Date	Time	Sampler				
TP38-062612-6.0	2	6/26/12	0950	For	Grab	soil		
TP38-062612-8.0			0955					
TP38-062612-10.0			1000					
TP38-062612-12.0			1005					
TP38-062612-14.0			1010					
TP38-062612-16.0			1015					
TP41-062612-10.0	L		1440					
062512-TB1	1	6/25/12	1050					
062512-TB2	1	6/26/12	1020					

Requisitioned By: Jon Peterson Date/Time: 6/27/12 15:50	Received By: Matthew Mallock Date/Time: 6/28/12 09:00	Comments and Special Analytical Requirements: call to discuss sample selection call to discuss BTEX method	
Requisitioned By: Date/Time:	Received By: Date/Time:	Lab Custody Intact? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Requisitioned By: Date/Time:	Received By: Date/Time:	BNSF CDC No.:	



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Kristin Darnell
Farallon Consulting - BNSF Region 1
975 5th Avenue Northwest
Issaquah, WA 98027

Report Summary

Friday October 05, 2012

Report Number: L597295

Samples Received: 09/26/12

Client Project: TT9206-M03

Description: BNSF - JML - Cashmere, WA

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

Entire Report Reviewed By:

T. Alan Harvill , ESC Representative

Laboratory Certification Numbers

A2LA - 1461-01, AIHA - 100789, AL - 40660, CA - 01157CA, CT - PH-0197,
FL - E87487, GA - 923, IN - C-TN-01, KY - 90010, KYUST - 0016,
NC - ENV375/DW21704/BIO041, ND - R-140, NJ - TN002, NJ NELAP - TN002,
SC - 84004, TN - 2006, VA - 460132, WV - 233, AZ - 0612,
MN - 047-999-395, NY - 11742, WI - 998093910, NV - TN000032011-1,
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REPORT OF ANALYSIS

Kristin Darnell
 Farallon Consulting - BNSF Region 1
 975 5th Avenue Northwest
 Issaquah, WA 98027

October 05, 2012

Date Received : September 26, 2012
 Description : BNSF - JML - Cashmere, WA

ESC Sample # : L597295-01

Sample ID : MW1-092512

Site ID :

Collected By : Jon Peterson
 Collection Date : 09/25/12 08:00

Project # : TT9206-M03

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Nitrate	2000	9.1	100	ug/l		9056	09/26/12	1
Sulfate	16000	400	5000	ug/l		9056	09/26/12	1
Free Carbon Dioxide	29000	6600	20000	ug/l	T8	SM4500C	10/03/12	1
Ferrous Iron	U	17.	50.	ug/l	T8	3500Fe-	09/27/12	1
Sulfide	U	19.	50.	ug/l		4500-S2	10/02/12	1
Iron	240	26.	100	ug/l		6010B	10/02/12	1
Iron,Dissolved	U	26.	100	ug/l		6010B	10/02/12	1
Gasoline Range Organics-NWTPH	U	50.	100	ug/l		NWTPHGX	09/28/12	1
Benzene	U	0.19	0.50	ug/l		NWTPHGX	09/28/12	1
Toluene	U	0.18	5.0	ug/l		NWTPHGX	09/28/12	1
Ethylbenzene	U	0.16	0.50	ug/l		NWTPHGX	09/28/12	1
Total Xylene	U	0.51	1.5	ug/l		NWTPHGX	09/28/12	1
Surrogate Recovery(%)								
a,a,a-Trifluorotoluene(PID)	103.			% Rec.		NWTPHGX	09/28/12	1
a,a,a-Trifluorotoluene(FID)	98.8			% Rec.		NWTPHGX	09/28/12	1
Diesel Range Organics (DRO)	U	50.	100	ug/l		NWTPHDX	10/05/12	1
Residual Range Organics (RRO)	U	120	250	ug/l		NWTPHDX	10/05/12	1
Surrogate Recovery								
o-Terphenyl	97.0			% Rec.		NWTPHDX	10/05/12	1
Polynuclear Aromatic Hydrocarbons								
Anthracene	0.027	0.0076	0.050	ug/l	J	8270C-S	10/01/12	1
Acenaphthene	0.022	0.0082	0.050	ug/l	J	8270C-S	10/01/12	1
Acenaphthylene	U	0.0068	0.050	ug/l		8270C-S	10/01/12	1
Benzo(a)anthracene	U	0.012	0.050	ug/l		8270C-S	10/01/12	1
Benzo(a)pyrene	U	0.012	0.050	ug/l		8270C-S	10/01/12	1
Benzo(b)fluoranthene	U	0.014	0.050	ug/l		8270C-S	10/01/12	1
Benzo(g,h,i)perylene	U	0.011	0.050	ug/l		8270C-S	10/01/12	1
Benzo(k)fluoranthene	U	0.014	0.050	ug/l		8270C-S	10/01/12	1
Chrysene	U	0.011	0.050	ug/l		8270C-S	10/01/12	1
Dibenz(a,h)anthracene	U	0.0040	0.050	ug/l		8270C-S	10/01/12	1
Fluoranthene	U	0.016	0.050	ug/l		8270C-S	10/01/12	1
Fluorene	0.011	0.0085	0.050	ug/l	J	8270C-S	10/01/12	1
Indeno(1,2,3-cd)pyrene	U	0.015	0.050	ug/l		8270C-S	10/01/12	1
Naphthalene	0.079	0.020	0.25	ug/l	J	8270C-S	10/01/12	1
Phenanthrene	0.0091	0.0082	0.050	ug/l	J	8270C-S	10/01/12	1
Pyrene	0.040	0.012	0.050	ug/l	J	8270C-S	10/01/12	1

U = ND (Not Detected)

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

MDL = Minimum Detection Limit = LOD = TRRP SDL

Note:

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REPORT OF ANALYSIS

Kristin Darnell
 Farallon Consulting - BNSF Region 1
 975 5th Avenue Northwest
 Issaquah, WA 98027

October 05, 2012

Date Received : September 26, 2012
 Description : BNSF - JML - Cashmere, WA
 Sample ID : MW1-092512
 Collected By : Jon Peterson
 Collection Date : 09/25/12 08:00

ESC Sample # : L597295-01
 Site ID :
 Project # : TT9206-M03

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
1-Methylnaphthalene	0.15	0.0082	0.25	ug/l	J	8270C-S	10/01/12	1
2-Methylnaphthalene	0.024	0.0090	0.25	ug/l	J	8270C-S	10/01/12	1
2-Chloronaphthalene	U	0.0065	0.25	ug/l		8270C-S	10/01/12	1
Surrogate Recovery								
Nitrobenzene-d5	107.			% Rec.		8270C-S	10/01/12	1
2-Fluorobiphenyl	104.			% Rec.		8270C-S	10/01/12	1
p-Terphenyl-d14	94.7			% Rec.		8270C-S	10/01/12	1

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

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REPORT OF ANALYSIS

Kristin Darnell
 Farallon Consulting - BNSF Region 1
 975 5th Avenue Northwest
 Issaquah, WA 98027

October 05, 2012

Date Received : September 26, 2012
 Description : BNSF - JML - Cashmere, WA

ESC Sample # : L597295-02

Sample ID : MW2-092512

Site ID :

Collected By : Jon Peterson
 Collection Date : 09/25/12 08:30

Project # : TT9206-M03

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Nitrate	3800	9.1	100	ug/l		9056	09/26/12	1
Sulfate	16000	400	5000	ug/l		9056	09/26/12	1
Free Carbon Dioxide	22000	6600	20000	ug/l	T8	SM4500C	10/03/12	1
Ferrous Iron	U	17.	50.	ug/l	T8	3500Fe-	09/27/12	1
Sulfide	U	19.	50.	ug/l		4500-S2	10/02/12	1
Iron	170	26.	100	ug/l		6010B	10/02/12	1
Iron, Dissolved	U	26.	100	ug/l		6010B	10/02/12	1
Gasoline Range Organics-NWTPH	U	50.	100	ug/l		NWTPHGX	09/28/12	1
Benzene	U	0.19	0.50	ug/l		NWTPHGX	09/28/12	1
Toluene	U	0.18	5.0	ug/l		NWTPHGX	09/28/12	1
Ethylbenzene	U	0.16	0.50	ug/l		NWTPHGX	09/28/12	1
Total Xylene	U	0.51	1.5	ug/l		NWTPHGX	09/28/12	1
Surrogate Recovery(%)								
a,a,a-Trifluorotoluene(PID)	104.			% Rec.		NWTPHGX	09/28/12	1
a,a,a-Trifluorotoluene(FID)	99.2			% Rec.		NWTPHGX	09/28/12	1
Diesel Range Organics (DRO)	U	50.	100	ug/l		NWTPHDX	10/05/12	1
Residual Range Organics (RRO)	U	120	250	ug/l		NWTPHDX	10/05/12	1
Surrogate Recovery								
o-Terphenyl	101.			% Rec.		NWTPHDX	10/05/12	1
Polynuclear Aromatic Hydrocarbons								
Anthracene	U	0.0076	0.050	ug/l		8270C-S	10/01/12	1
Acenaphthene	U	0.0082	0.050	ug/l		8270C-S	10/01/12	1
Acenaphthylene	U	0.0068	0.050	ug/l		8270C-S	10/01/12	1
Benzo(a)anthracene	U	0.012	0.050	ug/l		8270C-S	10/01/12	1
Benzo(a)pyrene	U	0.012	0.050	ug/l		8270C-S	10/01/12	1
Benzo(b)fluoranthene	U	0.014	0.050	ug/l		8270C-S	10/01/12	1
Benzo(g,h,i)perylene	U	0.011	0.050	ug/l		8270C-S	10/01/12	1
Benzo(k)fluoranthene	U	0.014	0.050	ug/l		8270C-S	10/01/12	1
Chrysene	U	0.011	0.050	ug/l		8270C-S	10/01/12	1
Dibenz(a,h)anthracene	U	0.0040	0.050	ug/l		8270C-S	10/01/12	1
Fluoranthene	U	0.016	0.050	ug/l		8270C-S	10/01/12	1
Fluorene	U	0.0085	0.050	ug/l		8270C-S	10/01/12	1
Indeno(1,2,3-cd)pyrene	U	0.015	0.050	ug/l		8270C-S	10/01/12	1
Naphthalene	U	0.020	0.25	ug/l		8270C-S	10/01/12	1
Phenanthrene	U	0.0082	0.050	ug/l		8270C-S	10/01/12	1
Pyrene	U	0.012	0.050	ug/l		8270C-S	10/01/12	1

U = ND (Not Detected)

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

MDL = Minimum Detection Limit = LOD = TRRP SDL

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REPORT OF ANALYSIS

Kristin Darnell
 Farallon Consulting - BNSF Region 1
 975 5th Avenue Northwest
 Issaquah, WA 98027

October 05, 2012

Date Received : September 26, 2012
 Description : BNSF - JML - Cashmere, WA
 Sample ID : MW2-092512
 Collected By : Jon Peterson
 Collection Date : 09/25/12 08:30

ESC Sample # : L597295-02

Site ID :

Project # : TT9206-M03

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
1-Methylnaphthalene	0.0085	0.0082	0.25	ug/l	J	8270C-S	10/01/12	1
2-Methylnaphthalene	0.012	0.0090	0.25	ug/l	J	8270C-S	10/01/12	1
2-Chloronaphthalene	U	0.0065	0.25	ug/l		8270C-S	10/01/12	1
Surrogate Recovery								
Nitrobenzene-d5	105.			%	Rec.	8270C-S	10/01/12	1
2-Fluorobiphenyl	110.			%	Rec.	8270C-S	10/01/12	1
p-Terphenyl-d14	99.7			%	Rec.	8270C-S	10/01/12	1

U = ND (Not Detected)

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

MDL = Minimum Detection Limit = LOD = TRRP SDL

Note:

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REPORT OF ANALYSIS

Kristin Darnell
 Farallon Consulting - BNSF Region 1
 975 5th Avenue Northwest
 Issaquah, WA 98027

October 05, 2012

Date Received : September 26, 2012
 Description : BNSF - JML - Cashmere, WA

ESC Sample # : L597295-03

Sample ID : MW4-092512

Site ID :

Collected By : Jon Peterson
 Collection Date : 09/25/12 09:20

Project # : TT9206-M03

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Nitrate	4000	9.1	100	ug/l		9056	09/26/12	1
Sulfate	14000	400	5000	ug/l		9056	09/26/12	1
Free Carbon Dioxide	22000	6600	20000	ug/l	T8	SM4500C	10/03/12	1
Ferrous Iron	U	17.	50.	ug/l	T8	3500Fe-	09/27/12	1
Sulfide	U	19.	50.	ug/l		4500-S2	10/02/12	1
Iron	57.	26.	100	ug/l	J	6010B	10/02/12	1
Iron, Dissolved	U	26.	100	ug/l		6010B	10/02/12	1
Gasoline Range Organics-NWTPH	U	50.	100	ug/l		NWTPHGX	09/28/12	1
Benzene	U	0.19	0.50	ug/l		NWTPHGX	09/28/12	1
Toluene	U	0.18	5.0	ug/l		NWTPHGX	09/28/12	1
Ethylbenzene	U	0.16	0.50	ug/l		NWTPHGX	09/28/12	1
Total Xylene	U	0.51	1.5	ug/l		NWTPHGX	09/28/12	1
Surrogate Recovery(%)								
a,a,a-Trifluorotoluene(PID)	104.			% Rec.		NWTPHGX	09/28/12	1
a,a,a-Trifluorotoluene(FID)	99.4			% Rec.		NWTPHGX	09/28/12	1
Diesel Range Organics (DRO)	U	50.	100	ug/l		NWTPHDX	10/05/12	1
Residual Range Organics (RRO)	U	120	250	ug/l		NWTPHDX	10/05/12	1
Surrogate Recovery								
o-Terphenyl	98.3			% Rec.		NWTPHDX	10/05/12	1
Polynuclear Aromatic Hydrocarbons								
Anthracene	U	0.0076	0.050	ug/l		8270C-S	10/01/12	1
Acenaphthene	U	0.0082	0.050	ug/l		8270C-S	10/01/12	1
Acenaphthylene	U	0.0068	0.050	ug/l		8270C-S	10/01/12	1
Benzo(a)anthracene	U	0.012	0.050	ug/l		8270C-S	10/01/12	1
Benzo(a)pyrene	U	0.012	0.050	ug/l		8270C-S	10/01/12	1
Benzo(b)fluoranthene	U	0.014	0.050	ug/l		8270C-S	10/01/12	1
Benzo(g,h,i)perylene	U	0.011	0.050	ug/l		8270C-S	10/01/12	1
Benzo(k)fluoranthene	U	0.014	0.050	ug/l		8270C-S	10/01/12	1
Chrysene	U	0.011	0.050	ug/l		8270C-S	10/01/12	1
Dibenz(a,h)anthracene	U	0.0040	0.050	ug/l		8270C-S	10/01/12	1
Fluoranthene	U	0.016	0.050	ug/l		8270C-S	10/01/12	1
Fluorene	U	0.0085	0.050	ug/l		8270C-S	10/01/12	1
Indeno(1,2,3-cd)pyrene	U	0.015	0.050	ug/l		8270C-S	10/01/12	1
Naphthalene	0.028	0.020	0.25	ug/l	J	8270C-S	10/01/12	1
Phenanthrene	U	0.0082	0.050	ug/l		8270C-S	10/01/12	1
Pyrene	U	0.012	0.050	ug/l		8270C-S	10/01/12	1

U = ND (Not Detected)

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

MDL = Minimum Detection Limit = LOD = TRRP SDL

Note:

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REPORT OF ANALYSIS

Kristin Darnell
 Farallon Consulting - BNSF Region 1
 975 5th Avenue Northwest
 Issaquah, WA 98027

October 05, 2012

Date Received : September 26, 2012
 Description : BNSF - JML - Cashmere, WA
 Sample ID : MW4-092512
 Collected By : Jon Peterson
 Collection Date : 09/25/12 09:20

ESC Sample # : L597295-03

Site ID :

Project # : TT9206-M03

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
1-Methylnaphthalene	U	0.0082	0.25	ug/l		8270C-S	10/01/12	1
2-Methylnaphthalene	0.011	0.0090	0.25	ug/l	J	8270C-S	10/01/12	1
2-Chloronaphthalene	U	0.0065	0.25	ug/l		8270C-S	10/01/12	1
Surrogate Recovery								
Nitrobenzene-d5	108.			% Rec.		8270C-S	10/01/12	1
2-Fluorobiphenyl	109.			% Rec.		8270C-S	10/01/12	1
p-Terphenyl-d14	102.			% Rec.		8270C-S	10/01/12	1

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

Note:
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REPORT OF ANALYSIS

Kristin Darnell
 Farallon Consulting - BNSF Region 1
 975 5th Avenue Northwest
 Issaquah, WA 98027

October 05, 2012

Date Received : September 26, 2012
 Description : BNSF - JML - Cashmere, WA

ESC Sample # : L597295-04

Sample ID : MW3-092512

Site ID :

Collected By : Jon Peterson
 Collection Date : 09/25/12 10:00

Project # : TT9206-M03

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Nitrate	1400	9.1	100	ug/l		9056	09/26/12	1
Sulfate	9900	400	5000	ug/l		9056	09/26/12	1
Free Carbon Dioxide	39000	6600	20000	ug/l	T8	SM4500C	10/03/12	1
Ferrous Iron	U	17.	50.	ug/l	T8	3500Fe-	09/27/12	1
Sulfide	U	19.	50.	ug/l		4500-S2	10/02/12	1
Iron	46.	26.	100	ug/l	J	6010B	10/02/12	1
Iron, Dissolved	U	26.	100	ug/l		6010B	10/02/12	1
Gasoline Range Organics-NWTPH	U	50.	100	ug/l		NWTPHGX	09/28/12	1
Benzene	U	0.19	0.50	ug/l		NWTPHGX	09/28/12	1
Toluene	U	0.18	5.0	ug/l		NWTPHGX	09/28/12	1
Ethylbenzene	U	0.16	0.50	ug/l		NWTPHGX	09/28/12	1
Total Xylene	U	0.51	1.5	ug/l		NWTPHGX	09/28/12	1
Surrogate Recovery(%)								
a,a,a-Trifluorotoluene(PID)	104.			% Rec.		NWTPHGX	09/28/12	1
a,a,a-Trifluorotoluene(FID)	99.5			% Rec.		NWTPHGX	09/28/12	1
Diesel Range Organics (DRO)	U	50.	100	ug/l		NWTPHDX	10/05/12	1
Residual Range Organics (RRO)	U	120	250	ug/l		NWTPHDX	10/05/12	1
Surrogate Recovery								
o-Terphenyl	94.3			% Rec.		NWTPHDX	10/05/12	1
Polynuclear Aromatic Hydrocarbons								
Anthracene	U	0.0076	0.050	ug/l		8270C-S	10/01/12	1
Acenaphthene	U	0.0082	0.050	ug/l		8270C-S	10/01/12	1
Acenaphthylene	U	0.0068	0.050	ug/l		8270C-S	10/01/12	1
Benzo(a)anthracene	U	0.012	0.050	ug/l		8270C-S	10/01/12	1
Benzo(a)pyrene	U	0.012	0.050	ug/l		8270C-S	10/01/12	1
Benzo(b)fluoranthene	U	0.014	0.050	ug/l		8270C-S	10/01/12	1
Benzo(g,h,i)perylene	U	0.011	0.050	ug/l		8270C-S	10/01/12	1
Benzo(k)fluoranthene	U	0.014	0.050	ug/l		8270C-S	10/01/12	1
Chrysene	U	0.011	0.050	ug/l		8270C-S	10/01/12	1
Dibenz(a,h)anthracene	U	0.0040	0.050	ug/l		8270C-S	10/01/12	1
Fluoranthene	U	0.016	0.050	ug/l		8270C-S	10/01/12	1
Fluorene	U	0.0085	0.050	ug/l		8270C-S	10/01/12	1
Indeno(1,2,3-cd)pyrene	U	0.015	0.050	ug/l		8270C-S	10/01/12	1
Naphthalene	U	0.020	0.25	ug/l		8270C-S	10/01/12	1
Phenanthrene	U	0.0082	0.050	ug/l		8270C-S	10/01/12	1
Pyrene	U	0.012	0.050	ug/l		8270C-S	10/01/12	1

U = ND (Not Detected)

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

MDL = Minimum Detection Limit = LOD = TRRP SDL

Note:

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REPORT OF ANALYSIS

Kristin Darnell
 Farallon Consulting - BNSF Region 1
 975 5th Avenue Northwest
 Issaquah, WA 98027

October 05, 2012

Date Received : September 26, 2012
 Description : BNSF - JML - Cashmere, WA
 Sample ID : MW3-092512
 Collected By : Jon Peterson
 Collection Date : 09/25/12 10:00

ESC Sample # : L597295-04
 Site ID :
 Project # : TT9206-M03

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
1-Methylnaphthalene	0.0086	0.0082	0.25	ug/l	J	8270C-S	10/01/12	1
2-Methylnaphthalene	0.011	0.0090	0.25	ug/l	J	8270C-S	10/01/12	1
2-Chloronaphthalene	U	0.0065	0.25	ug/l		8270C-S	10/01/12	1
Surrogate Recovery								
Nitrobenzene-d5	101.			%	Rec.	8270C-S	10/01/12	1
2-Fluorobiphenyl	105.			%	Rec.	8270C-S	10/01/12	1
p-Terphenyl-d14	95.1			%	Rec.	8270C-S	10/01/12	1

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

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Attachment A
List of Analytes with QC Qualifiers

Sample Number	Work Group	Sample Type	Analyte	Run ID	Qualifier	
L597295-01	WG615955	SAMP	Free Carbon Dioxide	R2374259	T8	
	WG614841	SAMP	Ferrous Iron	R2368776	T8	
	WG615059	SAMP	Anthracene	R2371994	J	
	WG615059	SAMP	Acenaphthene	R2371994	J	
	WG615059	SAMP	Fluorene	R2371994	J	
	WG615059	SAMP	Naphthalene	R2371994	J	
	WG615059	SAMP	Phenanthrene	R2371994	J	
	WG615059	SAMP	Pyrene	R2371994	J	
	WG615059	SAMP	1-Methylnaphthalene	R2371994	J	
	WG615059	SAMP	2-Methylnaphthalene	R2371994	J	
	L597295-02	WG615955	SAMP	Free Carbon Dioxide	R2374259	T8
		WG614841	SAMP	Ferrous Iron	R2368776	T8
		WG615059	SAMP	1-Methylnaphthalene	R2371994	J
	L597295-03	WG615059	SAMP	2-Methylnaphthalene	R2371994	J
WG615955		SAMP	Free Carbon Dioxide	R2374259	T8	
WG615730		SAMP	Iron	R2373174	J	
WG614841		SAMP	Ferrous Iron	R2368776	T8	
L597295-04	WG615059	SAMP	Naphthalene	R2371994	J	
	WG615059	SAMP	2-Methylnaphthalene	R2371994	J	
	WG615955	SAMP	Free Carbon Dioxide	R2374259	T8	
	WG615730	SAMP	Iron	R2373174	J	
	WG614841	SAMP	Ferrous Iron	R2368776	T8	
	WG615059	SAMP	1-Methylnaphthalene	R2371994	J	
	WG615059	SAMP	2-Methylnaphthalene	R2371994	J	

Attachment B
Explanation of QC Qualifier Codes

Qualifier	Meaning
J	(EPA) - Estimated value below the lowest calibration point. Confidence correlates with concentration.
T8	(ESC) - Additional method/sample information: Sample(s) received past/too close to holding time expiration.

Qualifier Report Information

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

Definitions

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



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Quality Control Summary

SDG: L597295

For: Farallon Consulting - BNSF Region 1
Project: BNSF - JML - Cashmere, WA
October 08, 2012

Sample Receiving and Handling

All sample aliquots were received at the correct temperature, in the proper containers, and with the appropriate preservatives. All method specified holding times were met.

Anions by Method 9056

Laboratory Control Sample

Samples L597295-04, -01, -02, and -03 were analyzed in analytical batch WG614744. The laboratory control sample associated with these samples was within the laboratory control limits for all compounds.

Sample Duplicate Analysis

For analytical batch WG614744 sample duplicate analysis was performed on sample L596017-10. The relative percent differences were within the method limits.

For analytical batch WG614744 sample duplicate analysis was performed on sample L597251-09. The relative percent differences were within the method limits.

Matrix Spike/Matrix Spike Duplicate

For analytical batch WG614744 matrix spike/matrix spike duplicate analysis was performed on sample L597231-01. The matrix spike recoveries and relative percent differences were within laboratory control limits for all target analytes.

Blank Analysis

The method blank, the initial, and all continuing calibration blanks contained no analytes at concentrations above the method reporting limit.

Ferrous Iron by Method 3500Fe-B

Laboratory Control Sample

Samples L597295-02, -01, -03, and -04 were analyzed in analytical batch WG614841. The laboratory control sample associated with these samples was within the laboratory control limits.

Sample Duplicate Analysis

For analytical batch WG614841 sample duplicate analysis was performed on sample L596445-05. The relative percent differences were within the method limits.

For analytical batch WG614841 sample duplicate analysis was performed on sample L597300-04. The relative percent differences were within the method limits.

Matrix Spike/Matrix Spike Duplicate

For analytical batch WG614841, matrix spike/matrix spike duplicate analysis was performed on sample L597315-05. The spike recoveries and relative percent differences were within laboratory control limits.

Blank Analysis

The method blank, the initial, and all continuing calibration blanks contained no analytes at concentrations above the method reporting limit.



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Quality Control Summary

SDG: L597295

For: Farallon Consulting - BNSF Region 1

Project: BNSF - JML - Cashmere, WA

October 08, 2012

Sulfide by Method 4500-S2 D

Laboratory Control Sample

Samples L597295-01, -03, -04, and -02 were analyzed in analytical batch WG615799. The laboratory control sample associated with these samples was within the laboratory control limits.

Sample Duplicate Analysis

For analytical batch WG615799 sample duplicate analysis was performed on sample L597653-08. The relative percent differences were within the method limits.

For analytical batch WG615799 sample duplicate analysis was performed on sample L597295-01. The relative percent differences were within the method limits.

Matrix Spike/Matrix Spike Duplicate

For analytical batch WG615799, matrix spike/matrix spike duplicate analysis was performed on sample L597272-06. The spike recoveries were below the laboratory control limits. The relative percent difference was within control limits.

Blank Analysis

The method blank, the initial, and all continuing calibration blanks contained no analytes at concentrations above the method reporting limit.

Free Carbon Dioxide by Method SM4500CO2D

Laboratory Control Sample

Samples L597295-04, -01, -03, -02 were analyzed in analytical batch WG615955. The associated laboratory quality control samples were within method limits.

Blank Analysis

The method blank, the initial, and all continuing calibration blanks contained no analytes at concentrations above the method reporting limit.

Trace Metals by Method 6010B

Laboratory Control Sample

Samples L597295-01, -04, -02, and -03 were analyzed in analytical batch WG615730. The laboratory control sample associated with these samples was within the laboratory control limits for all compounds.

Samples L597295-02, -04, -03, and -01 were analyzed in analytical batch WG615847. The laboratory control sample associated with these samples was within the laboratory control limits for all compounds.

Sample Duplicate Analysis

For analytical batch WG615730 sample duplicate analysis was performed on sample L597394-03. The relative percent differences were within the method limits.

For analytical batch WG615847 sample duplicate analysis was performed on sample L597304-01. The relative percent difference exceeded the method limits for Iron,Dissolved.



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Quality Control Summary

SDG: L597295

For: Farallon Consulting - BNSF Region 1

Project: BNSF - JML - Cashmere, WA

October 08, 2012

Matrix Spike/Matrix Spike Duplicate

For analytical batch WG615730 matrix spike/matrix spike duplicate analysis was performed on sample L597394-03. The matrix spike recoveries and relative percent differences were within laboratory control limits for all target analytes.

For analytical batch WG615847 matrix spike/matrix spike duplicate analysis was performed on sample L597304-01. The matrix spike recoveries and relative percent differences were within laboratory control limits for all target analytes.

Blank Analysis

The method blank, the initial, and all continuing calibration blanks contained no analytes at concentrations above the method reporting limit.

Method NWTPHGX

Laboratory Control Sample

Samples L597295-04, -01, -02, and -03 were analyzed in analytical batch WG614873. The laboratory control sample associated with these samples was within the laboratory control limits for all compounds.

Matrix Spike/Matrix Spike Duplicate

For analytical batch WG614873 matrix spike/matrix spike duplicate analysis was performed on sample L597299-05. The matrix spike recoveries and relative percent differences were within laboratory control limits for all target analytes.

For analytical batch WG614873 matrix spike/matrix spike duplicate analysis was performed on sample L597241-02. The matrix spike recoveries and relative percent differences were within laboratory control limits for all target analytes.

Blank Analysis

The method blank, the initial, and all continuing calibration blanks contained no analytes at concentrations above the method reporting limit.

Semi-volatile Organic Compounds by Method 8270C-SIM

Laboratory Control Sample

Samples L597295-01, -02, -03, and -04 were analyzed in analytical batch WG615059. The laboratory control sample associated with these samples was within the laboratory control limits for all compounds.

Matrix Spike/Matrix Spike Duplicate

Precision for batch WG615059 was evaluated using the LCS / LCSD. The RPDs were within method limits.

Blank Analysis

The method blank, the initial, and all continuing calibration blanks contained no analytes at concentrations above the method reporting limit.

Diesel Range Organics by Method 8015

Laboratory Control Sample

Samples L597295-01, -04, -02, and -03 were analyzed in analytical batch WG614796. The laboratory control sample associated with these samples was within the laboratory control limits.



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Quality Control Summary

SDG: L597295

For: Farallon Consulting - BNSF Region 1

Project: BNSF - JML - Cashmere, WA

October 08, 2012

Matrix Spike/Matrix Spike Duplicate

Precision for batch WG614796 was evaluated using the LCS / LCSD. The RPDs were within method limits.

Blank Analysis

The method blank, the initial, and all continuing calibration blanks contained no analytes at concentrations above the method reporting limit.

Nancy F. McLain
ESC Representative
ESC Lab Sciences



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Kristin Darnell
Farallon Consulting - BNSF Region 1
975 5th Avenue Northwest
Issaquah, WA 98027

Report Summary

Friday October 05, 2012

Report Number: L597295

Samples Received: 09/26/12

Client Project: TT9206-M03

Description: BNSF - JML - Cashmere, WA

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

Entire Report Reviewed By:

T. Alan Harvill , ESC Representative

Laboratory Certification Numbers

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

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

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REPORT OF ANALYSIS

Kristin Darnell
 Farallon Consulting - BNSF Region 1
 975 5th Avenue Northwest
 Issaquah, WA 98027

October 05, 2012

Date Received : September 26, 2012
 Description : BNSF - JML - Cashmere, WA

ESC Sample # : L597295-01

Sample ID : MW1-092512

Site ID :

Collected By : Jon Peterson
 Collection Date : 09/25/12 08:00

Project # : TT9206-M03

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Nitrate	2000	9.1	100	ug/l		9056	09/26/12	1
Sulfate	16000	400	5000	ug/l		9056	09/26/12	1
Free Carbon Dioxide	29000	6600	20000	ug/l	T8	SM4500C	10/03/12	1
Ferrous Iron	U	17.	50.	ug/l	T8	3500Fe-	09/27/12	1
Sulfide	U	19.	50.	ug/l		4500-S2	10/02/12	1
Iron	240	26.	100	ug/l		6010B	10/02/12	1
Iron, Dissolved	U	26.	100	ug/l		6010B	10/02/12	1
Gasoline Range Organics-NWTPH	U	50.	100	ug/l		NWTPHGX	09/28/12	1
Benzene	U	0.19	0.50	ug/l		NWTPHGX	09/28/12	1
Toluene	U	0.18	5.0	ug/l		NWTPHGX	09/28/12	1
Ethylbenzene	U	0.16	0.50	ug/l		NWTPHGX	09/28/12	1
Total Xylene	U	0.51	1.5	ug/l		NWTPHGX	09/28/12	1
Surrogate Recovery(%)								
a,a,a-Trifluorotoluene(PID)	103.			% Rec.		NWTPHGX	09/28/12	1
a,a,a-Trifluorotoluene(FID)	98.8			% Rec.		NWTPHGX	09/28/12	1
Diesel Range Organics (DRO)	U	50.	100	ug/l		NWTPHDX	10/05/12	1
Residual Range Organics (RRO)	U	120	250	ug/l		NWTPHDX	10/05/12	1
Surrogate Recovery								
o-Terphenyl	97.0			% Rec.		NWTPHDX	10/05/12	1
Polynuclear Aromatic Hydrocarbons								
Anthracene	0.027	0.0076	0.050	ug/l	J	8270C-S	10/01/12	1
Acenaphthene	0.022	0.0082	0.050	ug/l	J	8270C-S	10/01/12	1
Acenaphthylene	U	0.0068	0.050	ug/l		8270C-S	10/01/12	1
Benzo(a)anthracene	U	0.012	0.050	ug/l		8270C-S	10/01/12	1
Benzo(a)pyrene	U	0.012	0.050	ug/l		8270C-S	10/01/12	1
Benzo(b)fluoranthene	U	0.014	0.050	ug/l		8270C-S	10/01/12	1
Benzo(g,h,i)perylene	U	0.011	0.050	ug/l		8270C-S	10/01/12	1
Benzo(k)fluoranthene	U	0.014	0.050	ug/l		8270C-S	10/01/12	1
Chrysene	U	0.011	0.050	ug/l		8270C-S	10/01/12	1
Dibenz(a,h)anthracene	U	0.0040	0.050	ug/l		8270C-S	10/01/12	1
Fluoranthene	U	0.016	0.050	ug/l		8270C-S	10/01/12	1
Fluorene	0.011	0.0085	0.050	ug/l	J	8270C-S	10/01/12	1
Indeno(1,2,3-cd)pyrene	U	0.015	0.050	ug/l		8270C-S	10/01/12	1
Naphthalene	0.079	0.020	0.25	ug/l	J	8270C-S	10/01/12	1
Phenanthrene	0.0091	0.0082	0.050	ug/l	J	8270C-S	10/01/12	1
Pyrene	0.040	0.012	0.050	ug/l	J	8270C-S	10/01/12	1

U = ND (Not Detected)

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REPORT OF ANALYSIS

Kristin Darnell
 Farallon Consulting - BNSF Region 1
 975 5th Avenue Northwest
 Issaquah, WA 98027

October 05, 2012

Date Received : September 26, 2012
 Description : BNSF - JML - Cashmere, WA
 Sample ID : MW1-092512
 Collected By : Jon Peterson
 Collection Date : 09/25/12 08:00

ESC Sample # : L597295-01
 Site ID :
 Project # : TT9206-M03

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
1-Methylnaphthalene	0.15	0.0082	0.25	ug/l	J	8270C-S	10/01/12	1
2-Methylnaphthalene	0.024	0.0090	0.25	ug/l	J	8270C-S	10/01/12	1
2-Chloronaphthalene	U	0.0065	0.25	ug/l		8270C-S	10/01/12	1
Surrogate Recovery								
Nitrobenzene-d5	107.			% Rec.		8270C-S	10/01/12	1
2-Fluorobiphenyl	104.			% Rec.		8270C-S	10/01/12	1
p-Terphenyl-d14	94.7			% Rec.		8270C-S	10/01/12	1

U = ND (Not Detected)
 RDL = Reported Detection Limit = LOQ = PQL = EQL = TRRP MQL
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 975 5th Avenue Northwest
 Issaquah, WA 98027

October 05, 2012

Date Received : September 26, 2012
 Description : BNSF - JML - Cashmere, WA

ESC Sample # : L597295-02

Sample ID : MW2-092512

Site ID :

Collected By : Jon Peterson
 Collection Date : 09/25/12 08:30

Project # : TT9206-M03

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Nitrate	3800	9.1	100	ug/l		9056	09/26/12	1
Sulfate	16000	400	5000	ug/l		9056	09/26/12	1
Free Carbon Dioxide	22000	6600	20000	ug/l	T8	SM4500C	10/03/12	1
Ferrous Iron	U	17.	50.	ug/l	T8	3500Fe-	09/27/12	1
Sulfide	U	19.	50.	ug/l		4500-S2	10/02/12	1
Iron	170	26.	100	ug/l		6010B	10/02/12	1
Iron,Dissolved	U	26.	100	ug/l		6010B	10/02/12	1
Gasoline Range Organics-NWTPH	U	50.	100	ug/l		NWTPHGX	09/28/12	1
Benzene	U	0.19	0.50	ug/l		NWTPHGX	09/28/12	1
Toluene	U	0.18	5.0	ug/l		NWTPHGX	09/28/12	1
Ethylbenzene	U	0.16	0.50	ug/l		NWTPHGX	09/28/12	1
Total Xylene	U	0.51	1.5	ug/l		NWTPHGX	09/28/12	1
Surrogate Recovery(%)								
a,a,a-Trifluorotoluene(PID)	104.			% Rec.		NWTPHGX	09/28/12	1
a,a,a-Trifluorotoluene(FID)	99.2			% Rec.		NWTPHGX	09/28/12	1
Diesel Range Organics (DRO)	U	50.	100	ug/l		NWTPHDX	10/05/12	1
Residual Range Organics (RRO)	U	120	250	ug/l		NWTPHDX	10/05/12	1
Surrogate Recovery								
o-Terphenyl	101.			% Rec.		NWTPHDX	10/05/12	1
Polynuclear Aromatic Hydrocarbons								
Anthracene	U	0.0076	0.050	ug/l		8270C-S	10/01/12	1
Acenaphthene	U	0.0082	0.050	ug/l		8270C-S	10/01/12	1
Acenaphthylene	U	0.0068	0.050	ug/l		8270C-S	10/01/12	1
Benzo(a)anthracene	U	0.012	0.050	ug/l		8270C-S	10/01/12	1
Benzo(a)pyrene	U	0.012	0.050	ug/l		8270C-S	10/01/12	1
Benzo(b)fluoranthene	U	0.014	0.050	ug/l		8270C-S	10/01/12	1
Benzo(g,h,i)perylene	U	0.011	0.050	ug/l		8270C-S	10/01/12	1
Benzo(k)fluoranthene	U	0.014	0.050	ug/l		8270C-S	10/01/12	1
Chrysene	U	0.011	0.050	ug/l		8270C-S	10/01/12	1
Dibenz(a,h)anthracene	U	0.0040	0.050	ug/l		8270C-S	10/01/12	1
Fluoranthene	U	0.016	0.050	ug/l		8270C-S	10/01/12	1
Fluorene	U	0.0085	0.050	ug/l		8270C-S	10/01/12	1
Indeno(1,2,3-cd)pyrene	U	0.015	0.050	ug/l		8270C-S	10/01/12	1
Naphthalene	U	0.020	0.25	ug/l		8270C-S	10/01/12	1
Phenanthrene	U	0.0082	0.050	ug/l		8270C-S	10/01/12	1
Pyrene	U	0.012	0.050	ug/l		8270C-S	10/01/12	1

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REPORT OF ANALYSIS

Kristin Darnell
 Farallon Consulting - BNSF Region 1
 975 5th Avenue Northwest
 Issaquah, WA 98027

October 05, 2012

Date Received : September 26, 2012
 Description : BNSF - JML - Cashmere, WA
 Sample ID : MW2-092512
 Collected By : Jon Peterson
 Collection Date : 09/25/12 08:30

ESC Sample # : L597295-02
 Site ID :
 Project # : TT9206-M03

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
1-Methylnaphthalene	0.0085	0.0082	0.25	ug/l	J	8270C-S	10/01/12	1
2-Methylnaphthalene	0.012	0.0090	0.25	ug/l	J	8270C-S	10/01/12	1
2-Chloronaphthalene	U	0.0065	0.25	ug/l		8270C-S	10/01/12	1
Surrogate Recovery								
Nitrobenzene-d5	105.			%	Rec.	8270C-S	10/01/12	1
2-Fluorobiphenyl	110.			%	Rec.	8270C-S	10/01/12	1
p-Terphenyl-d14	99.7			%	Rec.	8270C-S	10/01/12	1

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October 05, 2012

Date Received : September 26, 2012
 Description : BNSF - JML - Cashmere, WA

ESC Sample # : L597295-03

Sample ID : MW4-092512

Site ID :

Collected By : Jon Peterson
 Collection Date : 09/25/12 09:20

Project # : TT9206-M03

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Nitrate	4000	9.1	100	ug/l		9056	09/26/12	1
Sulfate	14000	400	5000	ug/l		9056	09/26/12	1
Free Carbon Dioxide	22000	6600	20000	ug/l	T8	SM4500C	10/03/12	1
Ferrous Iron	U	17.	50.	ug/l	T8	3500Fe-	09/27/12	1
Sulfide	U	19.	50.	ug/l		4500-S2	10/02/12	1
Iron	57.	26.	100	ug/l	J	6010B	10/02/12	1
Iron, Dissolved	U	26.	100	ug/l		6010B	10/02/12	1
Gasoline Range Organics-NWTPH	U	50.	100	ug/l		NWTPHGX	09/28/12	1
Benzene	U	0.19	0.50	ug/l		NWTPHGX	09/28/12	1
Toluene	U	0.18	5.0	ug/l		NWTPHGX	09/28/12	1
Ethylbenzene	U	0.16	0.50	ug/l		NWTPHGX	09/28/12	1
Total Xylene	U	0.51	1.5	ug/l		NWTPHGX	09/28/12	1
Surrogate Recovery(%)								
a,a,a-Trifluorotoluene(PID)	104.			% Rec.		NWTPHGX	09/28/12	1
a,a,a-Trifluorotoluene(FID)	99.4			% Rec.		NWTPHGX	09/28/12	1
Diesel Range Organics (DRO)	U	50.	100	ug/l		NWTPHDX	10/05/12	1
Residual Range Organics (RRO)	U	120	250	ug/l		NWTPHDX	10/05/12	1
Surrogate Recovery								
o-Terphenyl	98.3			% Rec.		NWTPHDX	10/05/12	1
Polynuclear Aromatic Hydrocarbons								
Anthracene	U	0.0076	0.050	ug/l		8270C-S	10/01/12	1
Acenaphthene	U	0.0082	0.050	ug/l		8270C-S	10/01/12	1
Acenaphthylene	U	0.0068	0.050	ug/l		8270C-S	10/01/12	1
Benzo(a)anthracene	U	0.012	0.050	ug/l		8270C-S	10/01/12	1
Benzo(a)pyrene	U	0.012	0.050	ug/l		8270C-S	10/01/12	1
Benzo(b)fluoranthene	U	0.014	0.050	ug/l		8270C-S	10/01/12	1
Benzo(g,h,i)perylene	U	0.011	0.050	ug/l		8270C-S	10/01/12	1
Benzo(k)fluoranthene	U	0.014	0.050	ug/l		8270C-S	10/01/12	1
Chrysene	U	0.011	0.050	ug/l		8270C-S	10/01/12	1
Dibenz(a,h)anthracene	U	0.0040	0.050	ug/l		8270C-S	10/01/12	1
Fluoranthene	U	0.016	0.050	ug/l		8270C-S	10/01/12	1
Fluorene	U	0.0085	0.050	ug/l		8270C-S	10/01/12	1
Indeno(1,2,3-cd)pyrene	U	0.015	0.050	ug/l		8270C-S	10/01/12	1
Naphthalene	0.028	0.020	0.25	ug/l	J	8270C-S	10/01/12	1
Phenanthrene	U	0.0082	0.050	ug/l		8270C-S	10/01/12	1
Pyrene	U	0.012	0.050	ug/l		8270C-S	10/01/12	1

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REPORT OF ANALYSIS

Kristin Darnell
 Farallon Consulting - BNSF Region 1
 975 5th Avenue Northwest
 Issaquah, WA 98027

October 05, 2012

Date Received : September 26, 2012
 Description : BNSF - JML - Cashmere, WA
 Sample ID : MW4-092512
 Collected By : Jon Peterson
 Collection Date : 09/25/12 09:20

ESC Sample # : L597295-03
 Site ID :
 Project # : TT9206-M03

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
1-Methylnaphthalene	U	0.0082	0.25	ug/l		8270C-S	10/01/12	1
2-Methylnaphthalene	0.011	0.0090	0.25	ug/l	J	8270C-S	10/01/12	1
2-Chloronaphthalene	U	0.0065	0.25	ug/l		8270C-S	10/01/12	1
Surrogate Recovery								
Nitrobenzene-d5	108.			% Rec.		8270C-S	10/01/12	1
2-Fluorobiphenyl	109.			% Rec.		8270C-S	10/01/12	1
p-Terphenyl-d14	102.			% Rec.		8270C-S	10/01/12	1

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 975 5th Avenue Northwest
 Issaquah, WA 98027

October 05, 2012

Date Received : September 26, 2012
 Description : BNSF - JML - Cashmere, WA

ESC Sample # : L597295-04

Sample ID : MW3-092512

Site ID :

Collected By : Jon Peterson
 Collection Date : 09/25/12 10:00

Project # : TT9206-M03

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Nitrate	1400	9.1	100	ug/l		9056	09/26/12	1
Sulfate	9900	400	5000	ug/l		9056	09/26/12	1
Free Carbon Dioxide	39000	6600	20000	ug/l	T8	SM4500C	10/03/12	1
Ferrous Iron	U	17.	50.	ug/l	T8	3500Fe-	09/27/12	1
Sulfide	U	19.	50.	ug/l		4500-S2	10/02/12	1
Iron	46.	26.	100	ug/l	J	6010B	10/02/12	1
Iron, Dissolved	U	26.	100	ug/l		6010B	10/02/12	1
Gasoline Range Organics-NWTPH	U	50.	100	ug/l		NWTPHGX	09/28/12	1
Benzene	U	0.19	0.50	ug/l		NWTPHGX	09/28/12	1
Toluene	U	0.18	5.0	ug/l		NWTPHGX	09/28/12	1
Ethylbenzene	U	0.16	0.50	ug/l		NWTPHGX	09/28/12	1
Total Xylene	U	0.51	1.5	ug/l		NWTPHGX	09/28/12	1
Surrogate Recovery(%)								
a,a,a-Trifluorotoluene(PID)	104.			% Rec.		NWTPHGX	09/28/12	1
a,a,a-Trifluorotoluene(FID)	99.5			% Rec.		NWTPHGX	09/28/12	1
Diesel Range Organics (DRO)	U	50.	100	ug/l		NWTPHDX	10/05/12	1
Residual Range Organics (RRO)	U	120	250	ug/l		NWTPHDX	10/05/12	1
Surrogate Recovery								
o-Terphenyl	94.3			% Rec.		NWTPHDX	10/05/12	1
Polynuclear Aromatic Hydrocarbons								
Anthracene	U	0.0076	0.050	ug/l		8270C-S	10/01/12	1
Acenaphthene	U	0.0082	0.050	ug/l		8270C-S	10/01/12	1
Acenaphthylene	U	0.0068	0.050	ug/l		8270C-S	10/01/12	1
Benzo(a)anthracene	U	0.012	0.050	ug/l		8270C-S	10/01/12	1
Benzo(a)pyrene	U	0.012	0.050	ug/l		8270C-S	10/01/12	1
Benzo(b)fluoranthene	U	0.014	0.050	ug/l		8270C-S	10/01/12	1
Benzo(g,h,i)perylene	U	0.011	0.050	ug/l		8270C-S	10/01/12	1
Benzo(k)fluoranthene	U	0.014	0.050	ug/l		8270C-S	10/01/12	1
Chrysene	U	0.011	0.050	ug/l		8270C-S	10/01/12	1
Dibenz(a,h)anthracene	U	0.0040	0.050	ug/l		8270C-S	10/01/12	1
Fluoranthene	U	0.016	0.050	ug/l		8270C-S	10/01/12	1
Fluorene	U	0.0085	0.050	ug/l		8270C-S	10/01/12	1
Indeno(1,2,3-cd)pyrene	U	0.015	0.050	ug/l		8270C-S	10/01/12	1
Naphthalene	U	0.020	0.25	ug/l		8270C-S	10/01/12	1
Phenanthrene	U	0.0082	0.050	ug/l		8270C-S	10/01/12	1
Pyrene	U	0.012	0.050	ug/l		8270C-S	10/01/12	1

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 Farallon Consulting - BNSF Region 1
 975 5th Avenue Northwest
 Issaquah, WA 98027

October 05, 2012

Date Received : September 26, 2012
 Description : BNSF - JML - Cashmere, WA
 Sample ID : MW3-092512
 Collected By : Jon Peterson
 Collection Date : 09/25/12 10:00

ESC Sample # : L597295-04
 Site ID :
 Project # : TT9206-M03

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
1-Methylnaphthalene	0.0086	0.0082	0.25	ug/l	J	8270C-S	10/01/12	1
2-Methylnaphthalene	0.011	0.0090	0.25	ug/l	J	8270C-S	10/01/12	1
2-Chloronaphthalene	U	0.0065	0.25	ug/l		8270C-S	10/01/12	1
Surrogate Recovery								
Nitrobenzene-d5	101.			%	Rec.	8270C-S	10/01/12	1
2-Fluorobiphenyl	105.			%	Rec.	8270C-S	10/01/12	1
p-Terphenyl-d14	95.1			%	Rec.	8270C-S	10/01/12	1

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Attachment A
List of Analytes with QC Qualifiers

Sample Number	Work Group	Sample Type	Analyte	Run ID	Qualifier	
L597295-01	WG615955	SAMP	Free Carbon Dioxide	R2374259	T8	
	WG614841	SAMP	Ferrous Iron	R2368776	T8	
	WG615059	SAMP	Anthracene	R2371994	J	
	WG615059	SAMP	Acenaphthene	R2371994	J	
	WG615059	SAMP	Fluorene	R2371994	J	
	WG615059	SAMP	Naphthalene	R2371994	J	
	WG615059	SAMP	Phenanthrene	R2371994	J	
	WG615059	SAMP	Pyrene	R2371994	J	
	WG615059	SAMP	1-Methylnaphthalene	R2371994	J	
	WG615059	SAMP	2-Methylnaphthalene	R2371994	J	
	L597295-02	WG615955	SAMP	Free Carbon Dioxide	R2374259	T8
		WG614841	SAMP	Ferrous Iron	R2368776	T8
		WG615059	SAMP	1-Methylnaphthalene	R2371994	J
	L597295-03	WG615059	SAMP	2-Methylnaphthalene	R2371994	J
WG615955		SAMP	Free Carbon Dioxide	R2374259	T8	
WG615730		SAMP	Iron	R2373174	J	
WG614841		SAMP	Ferrous Iron	R2368776	T8	
L597295-04	WG615059	SAMP	Naphthalene	R2371994	J	
	WG615059	SAMP	2-Methylnaphthalene	R2371994	J	
	WG615955	SAMP	Free Carbon Dioxide	R2374259	T8	
	WG615730	SAMP	Iron	R2373174	J	
	WG614841	SAMP	Ferrous Iron	R2368776	T8	
	WG615059	SAMP	1-Methylnaphthalene	R2371994	J	
	WG615059	SAMP	2-Methylnaphthalene	R2371994	J	

Attachment B
Explanation of QC Qualifier Codes

Qualifier	Meaning
J	(EPA) - Estimated value below the lowest calibration point. Confidence correlates with concentration.
T8	(ESC) - Additional method/sample information: Sample(s) received past/too close to holding time expiration.

Qualifier Report Information

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

Definitions

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



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Quality Control Summary
SDG: L597295
Farallon Consulting - BNSF Region 1

Test:	Anions by Method 9056	Matrix:	Water - mg/L
Project No:	TT9206-M03	EPA ID:	TN00003
Project:	BNSF - JML - Cashmere, WA	Analytic Batch:	WG614744
Collection Date:	9/25/2012	Analyst:	477
Analysis Date:	9/26/2012		
Instrument ID:	IC-10		
Sample Numbers:	L597295-04, -01, -02, -03		

Method Blank

Analyte	CAS	PQL	Qualifiers
Nitrate		<0.100	
Sulfate		<5.00	

Laboratory Control Sample (LCS)

Analyte	True Value	Found	Recovery %	Control Limits	Qualifiers
Nitrate	8.00	8.33	104	90 - 110	
Sulfate	40.0	40.0	100	90 - 110	

Laboratory Control Sample Duplicate (LCSD)

Analyte	True Value	Found	Recovery %	Control Limits	Qualifiers
Nitrate	8.00	8.32	104	90 - 110	
Sulfate	40.0	39.7	99.2	90 - 110	



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Quality Control Summary
SDG: L597295
Farallon Consulting - BNSF Region 1

Test:	Anions by Method 9056	Matrix:	Water - mg/L
Project No:	TT9206-M03	EPA ID:	TN00003
Project:	BNSF - JML - Cashmere, WA	Analytic Batch:	WG614744
Collection Date:	9/25/2012	Analyst:	477
Analysis Date:	9/26/2012		
Instrument ID:	IC-10		
Sample Numbers:	L597295-04, -01, -02, -03		

Laboratory Control Sample/ Laboratory Control Sample Duplicate

Analyte	Spike	LCS	% Rec		Control Limits	Qualifier	% Control	
			Rec	LCSD			RPD	Limits
Nitrate	8.00	8.33	104	8.32	104	90-110	0.1	20
Sulfate	40.0	40.0	100	39.7	99.2	90-110	0.8	20

Sample Duplicate
 L596017-10

Name	Sample Results	Duplic Results	%RPD	Limit	Qualifiers
Sulfate	0.000	0.000			

Sample Duplicate
 L597251-09

Name	Sample Results	Duplic Results	%RPD	Limit	Qualifiers
Nitrate	0.000	0.000			



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Quality Control Summary
SDG: L597295
Farallon Consulting - BNSF Region 1

Test:	Anions by Method 9056	Matrix:	Water - mg/L
Project No:	TT9206-M03	EPA ID:	TN00003
Project:	BNSF - JML - Cashmere, WA	Analytic Batch:	WG614744
Collection Date:	9/25/2012	Analyst:	477
Analysis Date:	9/26/2012		
Instrument ID:	IC-10		
Sample Numbers:	L597295-04, -01, -02, -03		

Matrix Spike/Matrix Spike Duplicate

L597231-01

Analyte	Spike		%		MSD	% Rec	Control Limits	% Rec Qualifier	% RPD	Control Limits	RPD Qual
	Value	Sample	Rec	MS							
Nitrate	5.00	0.000	4.91	98.2	4.94	98.8	80-120		0.6	20	



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Quality Control Summary
SDG: L597295
Farallon Consulting - BNSF Region 1

Test:	Ferrous Iron by Method 3500Fe-B	Matrix:	Water - mg/L
Project No:	TT9206-M03	EPA ID:	TN00003
Project:	BNSF - JML - Cashmere, WA	Analytic Batch:	WG614841
Collection Date:	9/25/2012	Analyst:	568
Analysis Date:	9/27/2012 12:34:00 PM	Extraction Date:	9/26/2012
Instrument ID:	DR5000-02		
Sample Numbers:	L597295-02, -01, -03, -04		

Method Blank

Analyte	CAS	PQL	Qualifiers
Ferrous Iron		<0.0500	

Laboratory Control Sample (LCS)

Analyte	True Value	Found	Recovery %	Control Limits	Qualifiers
Ferrous Iron	1.00	0.969	96.9	85 - 115	

Laboratory Control Sample Duplicate (LCSD)

Analyte	True Value	Found	Recovery %	Control Limits	Qualifiers
Ferrous Iron	1.00	0.976	97.6	85 - 115	



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Quality Control Summary
SDG: L597295
Farallon Consulting - BNSF Region 1

Test:	Ferrous Iron by Method 3500Fe-B	Matrix:	Water - mg/L
Project No:	TT9206-M03	EPA ID:	TN00003
Project:	BNSF - JML - Cashmere, WA	Analytic Batch:	WG614841
Collection Date:	9/25/2012	Analyst:	568
Analysis Date:	9/27/2012 12:34:00 PM	Extraction Date:	9/26/2012
Instrument ID:	DR5000-02		
Sample Numbers:	L597295-02, -01, -03, -04		

Laboratory Control Sample/ Laboratory Control Sample Duplicate

Analyte	Spike	LCS	% Rec		Control Limits	Qualifier	% Control	
			Rec	LCS			RPD	Limits
Ferrous Iron	1.00	0.969	96.9	0.976	85-115		0.7	20

Sample Duplicate
 L596445-05

Name	Sample Results	Duplic Results	%RPD	Limit	Qualifiers
Ferrous Iron	2.70	2.71	0.4	20	

Sample Duplicate
 L597300-04

Name	Sample Results	Duplic Results	%RPD	Limit	Qualifiers
Ferrous Iron	3.60	3.52	2.2	20	



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Quality Control Summary
SDG: L597295
Farallon Consulting - BNSF Region 1

Test:	Ferrous Iron by Method 3500Fe-B	Matrix:	Water - mg/L
Project No:	TT9206-M03	EPA ID:	TN00003
Project:	BNSF - JML - Cashmere, WA	Analytic Batch:	WG614841
Collection Date:	9/25/2012	Analyst:	568
Analysis Date:	9/27/2012 12:34:00 PM	Extraction Date:	9/26/2012
Instrument ID:	DR5000-02		
Sample Numbers:	L597295-02, -01, -03, -04		

Matrix Spike/Matrix Spike Duplicate

L597315-05

Analyte	Spike Value	Sample	MS	% Rec	MSD	% Rec	Control Limits	% Rec Qualifier	% RPD	Control Limits	RPD Qual
Ferrous Iron	1.50	0.160	1.73	105	1.76	107	80-120		1.7	20	



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Quality Control Summary
SDG: L597295
Farallon Consulting - BNSF Region 1

Test:	Sulfide by Method 4500-S2 D	Matrix:	Water - mg/L
Project No:	TT9206-M03	EPA ID:	TN00003
Project:	BNSF - JML - Cashmere, WA	Analytic Batch:	WG615799
Collection Date:	9/25/2012	Analyst:	183
Analysis Date:	10/2/2012 6:31:00 PM	Extraction Date:	10/2/2012
Instrument ID:	DR5000		
Sample Numbers:	L597295-01, -03, -04, -02		

Method Blank

Analyte	CAS	PQL	Qualifiers
Sulfide		<0.0500	

Laboratory Control Sample (LCS)

Analyte	True Value	Found	Recovery %	Control Limits	Qualifiers
Sulfide	0.500	0.494	98.8	85 - 115	

Laboratory Control Sample Duplicate (LCSD)

Analyte	True Value	Found	Recovery %	Control Limits	Qualifiers
Sulfide	0.500	0.497	99.4	85 - 115	



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Quality Control Summary
SDG: L597295
Farallon Consulting - BNSF Region 1

Test:	Sulfide by Method 4500-S2 D	Matrix:	Water - mg/L
Project No:	TT9206-M03	EPA ID:	TN00003
Project:	BNSF - JML - Cashmere, WA	Analytic Batch:	WG615799
Collection Date:	9/25/2012	Analyst:	183
Analysis Date:	10/2/2012 6:31:00 PM	Extraction Date:	10/2/2012
Instrument ID:	DR5000		
Sample Numbers:	L597295-01, -03, -04, -02		

Laboratory Control Sample/ Laboratory Control Sample Duplicate

Analyte	Spike	LCS	% Rec		Control Limits	Qualifier	% Control	
			Rec	LCSD			RPD	Limits
Sulfide	0.500	0.494	98.8	0.497	85-115		0.6	20

Sample Duplicate

L597653-08

Name	Sample Results	Duplic Results	%RPD	Limit	Qualifiers
Sulfide	0.0000	0.0000			

Sample Duplicate

L597295-01

Name	Sample Results	Duplic Results	%RPD	Limit	Qualifiers
Sulfide	0.0000	0.0000			



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Quality Control Summary
SDG: L597295
Farallon Consulting - BNSF Region 1

Test:	Sulfide by Method 4500-S2 D	Matrix:	Water - mg/L
Project No:	TT9206-M03	EPA ID:	TN00003
Project:	BNSF - JML - Cashmere, WA	Analytic Batch:	WG615799
Collection Date:	9/25/2012	Analyst:	183
Analysis Date:	10/2/2012 6:31:00 PM	Extraction Date:	10/2/2012
Instrument ID:	DR5000		
Sample Numbers:	L597295-01, -03, -04, -02		

Matrix Spike/Matrix Spike Duplicate

L597272-06

Analyte	Spike		% Rec		% Rec		Control Limits	% Rec Qualifier	% RPD	Control Limits	RPD Qual
	Value	Sample MS	Rec	MSD	Rec	MSD					
Sulfide	1.00	0.0000	0.788	78.8	0.788	78.8	80-120	J6	0.0	20	



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Quality Control Summary
SDG: L597295
Farallon Consulting - BNSF Region 1

Test:	Trace Metals by Method 6010B	Matrix:	Water - mg/L
Project No:	TT9206-M03	EPA ID:	TN00003
Project:	BNSF - JML - Cashmere, WA	Analytic Batch:	WG615730
Collection Date:	9/25/2012	Analyst:	416
Analysis Date:	10/2/2012	Extraction Date:	10/2/2012
Instrument ID:	ICP8		
Sample Numbers:	L597295-01, -04, -02, -03		

Method Blank

Analyte	CAS	PQL	Qualifiers
Iron	7439-89-6	<0.100	

Laboratory Control Sample (LCS)

Analyte	True Value	Found	Recovery %	Control Limits	Qualifiers
Iron	1.13	1.12	99.1	85 - 115	



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Quality Control Summary
SDG: L597295
Farallon Consulting - BNSF Region 1

Test:	Trace Metals by Method 6010B	Matrix:	Water - mg/L
Project No:	TT9206-M03	EPA ID:	TN00003
Project:	BNSF - JML - Cashmere, WA	Analytic Batch:	WG615847
Collection Date:	9/25/2012	Analyst:	428
Analysis Date:	10/2/2012	Extraction Date:	10/2/2012
Instrument ID:	ICP9		
Sample Numbers:	L597295-02, -04, -03, -01		

Method Blank

Analyte	CAS	PQL	Qualifiers
Iron,Dissolved	7439-89-6	<0.100	

Laboratory Control Sample (LCS)

Analyte	True Value	Found	Recovery %	Control Limits	Qualifiers
Iron,Dissolved	1.13	1.10	97.3	85 - 115	



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Quality Control Summary
SDG: L597295
Farallon Consulting - BNSF Region 1

Test:	Trace Metals by Method 6010B	Matrix:	Water - mg/L
Project No:	TT9206-M03	EPA ID:	TN00003
Project:	BNSF - JML - Cashmere, WA	Analytic Batch:	WG615730
Collection Date:	9/25/2012	Analyst:	416
Analysis Date:	10/2/2012	Extraction Date:	10/2/2012
Instrument ID:	ICP8		
Sample Numbers:	L597295-01, -04, -02, -03		

Sample Duplicate
 L597394-03

Name	Sample Results	Duplic Results	%RPD	Limit	Qualifiers
Iron	1.64	1.60	2.5	20	

Matrix Spike/Matrix Spike Duplicate
 L597394-03

Analyte	Spike Value	Sample	MS	% Rec	MSD	% Rec	Control Limits	% Rec Qualifier	% RPD	Control Limits	RPD Qual
Iron	1.13	1.60	2.73	100	2.76	103	75-125		1.1	20	



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Quality Control Summary
SDG: L597295
Farallon Consulting - BNSF Region 1

Test:	Trace Metals by Method 6010B	Matrix:	Water - mg/L
Project No:	TT9206-M03	EPA ID:	TN00003
Project:	BNSF - JML - Cashmere, WA	Analytic Batch:	WG615847
Collection Date:	9/25/2012	Analyst:	428
Analysis Date:	10/2/2012	Extraction Date:	10/2/2012
Instrument ID:	ICP9		
Sample Numbers:	L597295-02, -04, -03, -01		

Sample Duplicate
 L597304-01

Name	Sample Results	Duplic Results	%RPD	Limit	Qualifiers
Iron,Dissolved	0.189	0.130	37	20	P1

Matrix Spike/Matrix Spike Duplicate
 L597304-01

Analyte	Spike Value	Sample	MS	% Rec	MSD	% Rec	Control Limits	% Rec Qualifier	% RPD	Control Limits	RPD Qual
Iron,Dissolved	1.13	0.130	1.22	96.5	1.23	97.3	75-125		0.8	20	



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Quality Control Summary
SDG: L597295
Farallon Consulting - BNSF Region 1

Test:	Method NWTPHGX	Matrix:	Water - mg/L
Project No:	TT9206-M03	EPA ID:	TN00003
Project:	BNSF - JML - Cashmere, WA	Analytic Batch:	WG614873
Collection Date:	9/25/2012	Analyst:	366
Analysis Date:	9/28/2012		
Instrument ID:	VOCGC3		
Sample Numbers:	L597295-04, -01, -02, -03		

Method Blank

Analyte	CAS	PQL	Qualifiers
Gasoline Range Organics-NWTPH		<0.100	
Benzene	71-43-2	<0.0005	
Toluene	108-88-3	<0.0050	
Ethylbenzene	100-41-4	<0.0005	
m&p-Xylene	1330-20-7	<0.0015	
o-Xylene	1330-20-7	<0.0015	

Laboratory Control Sample (LCS)

Analyte	True Value	Found	Recovery %	Control Limits	Qualifiers
Gasoline Range Organics-NWTPH	5.50	4.82	87.7	70 - 124	
Benzene	0.0500	0.0492	98.5	79 - 114	
Toluene	0.0500	0.0502	100	79 - 112	
Ethylbenzene	0.0500	0.0518	104	80 - 116	
m&p-Xylene	0.100	0.102	102	85 - 120	
o-Xylene	0.0500	0.0532	106	82 - 116	

Laboratory Control Sample Duplicate (LCSD)

Analyte	True Value	Found	Recovery %	Control Limits	Qualifiers
Gasoline Range Organics-NWTPH	5.50	4.97	90.3	70 - 124	
Benzene	0.0500	0.0503	101	79 - 114	
Toluene	0.0500	0.0511	102	79 - 112	
Ethylbenzene	0.0500	0.0531	106	80 - 116	
m&p-Xylene	0.100	0.104	104	85 - 120	
o-Xylene	0.0500	0.0545	109	82 - 116	



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Quality Control Summary
SDG: L597295
Farallon Consulting - BNSF Region 1

Test:	Method NWTPHGX	Matrix:	Water - mg/L
Project No:	TT9206-M03	EPA ID:	TN00003
Project:	BNSF - JML - Cashmere, WA	Analytic Batch:	WG614873
Collection Date:	9/25/2012	Analyst:	366
Analysis Date:	9/28/2012		
Instrument ID:	VOCGC3		
Sample Numbers:	L597295-04, -01, -02, -03		

Surrogate Summary

Laboratory Sample ID	a,a,a-Trifluorotoluene - FID		a,a,a-Trifluorotoluene - PID	
	ppb	% Rec	ppb	% Rec
LCS WG614873	193	96.5	227	114
LCSD WG614873	193	96.5	227	114
LCS WG614873	200	100.0	207	103
LCSD WG614873	198	99.2	206	103
MS WG614873	197	98.3	204	102
MSD WG614873	197	98.6	205	103
MS WG614873	190	95.2	232	116
MSD WG614873	190	94.8	231	116
Blank WG614873	198	99.0	208	104
L597295-01	198	98.8	207	103
L597295-02	198	99.1	208	104
L597295-03	199	99.4	208	104
L597295-04	199	99.5	209	104

a,a,a-Trifluorotoluene (FID)	200 ppb	Limits - 70 - 130
a,a,a-Trifluorotoluene (PID)	200 ppb	Limits - 55 - 122



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Quality Control Summary
SDG: L597295
Farallon Consulting - BNSF Region 1

Test:	Method NWTPHGX	Matrix:	Water - mg/L
Project No:	TT9206-M03	EPA ID:	TN00003
Project:	BNSF - JML - Cashmere, WA	Analytic Batch:	WG614873
Collection Date:	9/25/2012	Analyst:	366
Analysis Date:	9/28/2012		
Instrument ID:	VOCGC3		
Sample Numbers:	L597295-04, -01, -02, -03		

Laboratory Control Sample/ Laboratory Control Sample Duplicate

Analyte	Spike	LCS	% Rec	LCS D	% Rec	Control Limits	Qualifier	% RPD	Control Limits	Qualifier
Gasoline Range Organics-	5.50	4.82	87.7	4.97	90.3	70-124		2.9	20	
Benzene	0.0500	0.0492	98.5	0.0503	101	79-114		2.2	20	
Toluene	0.0500	0.0502	100	0.0511	102	79-112		1.7	20	
Ethylbenzene	0.0500	0.0518	104	0.0531	106	80-116		2.6	20	
m&p-Xylene	0.100	0.102	102	0.104	104	85-120		2.2	20	
o-Xylene	0.0500	0.0532	106	0.0545	109	82-116		2.4	20	

Matrix Spike/Matrix Spike Duplicate

L597299-05

Analyte	Spike Value	Sample	MS	% Rec	MSD	% Rec	Control Limits	% Rec Qualifier	% RPD	Control Limits	RPD Qual
Benzene	0.0500	0.0000	0.0493	98.7	0.0505	101	35-147		2.3	20	
Toluene	0.0500	0.0000	0.0498	99.7	0.0508	102	35-148		2.0	20	
Ethylbenzene	0.0500	0.0000	0.0513	103	0.0523	105	39-141		1.9	20	
m&p-Xylene	0.100	0.0000	0.100	100	0.102	102	26-157		1.8	20	
o-Xylene	0.0500	0.0000	0.0523	105	0.0532	106	40-145		1.8	20	

Matrix Spike/Matrix Spike Duplicate

L597241-02

Analyte	Spike Value	Sample	MS	% Rec	MSD	% Rec	Control Limits	% Rec Qualifier	% RPD	Control Limits	RPD Qual
Gasoline Range Organics-	5.50	1.83	6.41	83.4	6.04	76.5	58-122		6.0	20	



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Quality Control Summary
SDG: L597295
Farallon Consulting - BNSF Region 1

Test:	Method NWTPHGX	Matrix:	Water - mg/L
Project No:	TT9206-M03	EPA ID:	TN00003
Project:	BNSF - JML - Cashmere, WA	Analytic Batch:	WG614873
Collection Date:	9/25/2012	Analyst:	366
Analysis Date:	9/28/2012		
Instrument ID:	VOCGC3		
Sample Numbers:	L597295-04, -01, -02, -03		

Internal Standard Response and Retention Time Summary

FileID:0928_04.D Date:9/28/2012 Time:9:39 AM

	Response	IS - FID RT	Response	IS - PID RT
12 Hour Std	17960884	6.22	4583962	6.22
Upper Limit	35921768	6.72	9167924	6.72
Lower Limit	8980442	5.72	2291981	5.72
Sample ID	Response	RT	Response	RT
Blank WG614873	16912789	6.22	4015419	6.22
LCS WG614873	19555550	6.22	4797046	6.22
LCS WG614873	17292515	6.22	4307495	6.22
LCSD WG614873	18779645	6.22	4614981	6.22
LCSD WG614873	17112292	6.23	4276686	6.23
MS WG614873	17526736	6.22	4380153	6.22
MS WG614873	18812776	6.23	4595271	6.23
MSD WG614873	17142118	6.22	4306333	6.23
MSD WG614873	19890571	6.23	4834983	6.23



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Quality Control Summary
SDG: L597295
Farallon Consulting - BNSF Region 1

Test:	Diesel Range Organics by Method 8015		
Project No:	TT9206-M03	Matrix:	Water - mg/L
Project:	BNSF - JML - Cashmere, WA	EPA ID:	TN00003
Collection Date:	9/25/2012	Analytic Batch:	WG614796
Analysis Date:	10/5/2012	Analyst:	280
Instrument ID:	SVGC21	Extraction Date:	9/26/2012
Sample Numbers:	L597295-01, -04, -02, -03		

Method Blank

Analyte	CAS	PQL	Qualifiers
Diesel Range Organics (DRO)		<0.10	
Residual Range Organics (RRO)		<0.25	

Laboratory Control Sample (LCS)

Analyte	True Value	Found	Recovery %	Control Limits	Qualifiers
Total Range Organics	1.50	1.76	117	50 - 150	

Laboratory Control Sample Duplicate (LCSD)

Analyte	True Value	Found	Recovery %	Control Limits	Qualifiers
Total Range Organics	1.50	1.74	116	50 - 150	



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Quality Control Summary
SDG: L597295
Farallon Consulting - BNSF Region 1

Test:	Diesel Range Organics by Method 8015	Matrix:	Water - mg/L
Project No:	TT9206-M03	EPA ID:	TN00003
Project:	BNSF - JML - Cashmere, WA	Analytic Batch:	WG614796
Collection Date:	9/25/2012	Analyst:	280
Analysis Date:	10/5/2012	Extraction Date:	9/26/2012
Instrument ID:	SVGC21		
Sample Numbers:	L597295-01, -04, -02, -03		

Surrogate Summary

Laboratory Sample ID	o-Terphenyl	
	ppm	% Rec
Blank WG614796	0.0234	117
LCS WG614796	0.0249	124
LCSD WG614796	0.0242	121
L597295-01	0.0194	97.0
L597295-02	0.0201	101
L597295-03	0.0197	98.3
L597295-04	0.0189	94.3

o-Terphenyl

True Value: 0.02ppm Limits: 50 - 150



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Quality Control Summary
SDG: L597295
Farallon Consulting - BNSF Region 1

Test:	Diesel Range Organics by Method 8015	Matrix:	Water - mg/L
Project No:	TT9206-M03	EPA ID:	TN00003
Project:	BNSF - JML - Cashmere, WA	Analytic Batch:	WG614796
Collection Date:	9/25/2012	Analyst:	280
Analysis Date:	10/5/2012	Extraction Date:	9/26/2012
Instrument ID:	SVGC21		
Sample Numbers:	L597295-01, -04, -02, -03		

Laboratory Control Sample/ Laboratory Control Sample Duplicate

Analyte	Spike	LCS	% Rec	LCSD	% Rec	Control Limits	Qualifier	% RPD	Control Limits	Qualifier
Total Range Organics	1.50	1.76	117	1.74	116	50-150		0.8	25	



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Quality Control Summary
SDG: L597295
Farallon Consulting - BNSF Region 1

Test:	Semi-Volatiles by Method 8270C-SIM	Matrix:	Water - mg/L
Project No:	TT9206-M03	EPA ID:	TN00003
Project:	BNSF - JML - Cashmere, WA	Analytic Batch:	WG615059
Collection Date:	9/25/2012	Analyst:	0
Analysis Date:	10/1/2012	Extraction Date:	9/27/2012
Instrument ID:	BNAMS13		
Sample Numbers:	L597295-01, -02, -03, -04		

Method Blank

Analyte	CAS	PQL	Qualifiers
Naphthalene	91-20-3	<0.000250	
2-Methylnaphthalene	91-57-6	<0.000250	
1-Methylnaphthalene	90-12-0	<0.000250	
2-Chloronaphthalene	91-58-7	<0.000250	
Acenaphthylene	208-96-8	<0.0000500	
Acenaphthene	83-32-9	<0.0000500	
Fluorene	86-73-7	<0.0000500	
Phenanthrene	85-01-8	<0.0000500	
Anthracene	120-12-7	<0.0000500	
Fluoranthene	206-44-0	<0.0000500	
Pyrene	129-00-0	<0.0000500	
Benzo(a)anthracene	56-55-3	<0.0000500	
Chrysene	218-01-9	<0.0000500	
Benzo(b)fluoranthene	205-99-2	<0.0000500	
Benzo(k)fluoranthene	207-08-9	<0.0000500	
Benzo(a)pyrene	50-32-8	<0.0000500	
Indeno(1,2,3-cd)pyrene	193-39-5	<0.0000500	
Dibenz(a,h)anthracene	53-70-3	<0.0000500	
Benzo(g,h,i)perylene	191-24-2	<0.0000500	



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Quality Control Summary

SDG: L597295

Farallon Consulting - BNSF Region 1

Test:	Semi-volatile Organic Compounds by Method 8270C-SIM		
Project No:	TT9206-M03	Matrix:	Water - mg/L
Project:	BNSF - JML - Cashmere, WA	EPA ID:	TN00003
Collection Date:	9/25/2012	Analytic Batch:	WG615059
Analysis Date:	10/1/2012 7:54:00 PM	Analyst:	0
Instrument ID:	BNAMS16	Extraction Date:	9/27/2012
Sample Numbers:	L597295-01, -02, -03, -04		

Laboratory Control Sample (LCS)

Analyte	True Value	Found	Recovery %	Control Limits	Qualifiers
1-Methylnaphthalene	0.00200	0.00209	105	70 - 130	
2-Chloronaphthalene	0.00200	0.00234	117	70 - 130	
2-Methylnaphthalene	0.00200	0.00208	104	70 - 130	
Acenaphthene	0.00200	0.00210	105	70 - 130	
Acenaphthylene	0.00200	0.00226	113	70 - 130	
Anthracene	0.00200	0.00227	114	70 - 130	
Benzo(a)anthracene	0.00200	0.00228	114	70 - 130	
Benzo(a)pyrene	0.00200	0.00206	103	70 - 130	
Benzo(b)fluoranthene	0.00200	0.00195	97.4	70 - 130	
Benzo(g,h,i)perylene	0.00200	0.00208	104	70 - 130	
Benzo(k)fluoranthene	0.00200	0.00231	115	70 - 130	
Chrysene	0.00200	0.00210	105	70 - 130	
Dibenz(a,h)anthracene	0.00200	0.00212	106	70 - 130	
Fluoranthene	0.00200	0.00213	106	70 - 130	
Fluorene	0.00200	0.00221	110	70 - 130	
Indeno(1,2,3-cd)pyrene	0.00200	0.00213	106	70 - 130	
Naphthalene	0.00200	0.00203	101	70 - 130	
Phenanthrene	0.00200	0.00223	111	70 - 130	
Pyrene	0.00200	0.00204	102	70 - 130	



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 Est. 1970

Quality Control Summary

SDG: L597295

Farallon Consulting - BNSF Region 1

Test:	Semi-volatile Organic Compounds by Method 8270C-SIM		
Project No:	TT9206-M03	Matrix:	Water - mg/L
Project:	BNSF - JML - Cashmere, WA	EPA ID:	TN00003
Collection Date:	9/25/2012	Analytic Batch:	WG615059
Analysis Date:	10/1/2012 7:54:00 PM	Analyst:	0
Instrument ID:	BNAMS16	Extraction Date:	9/27/2012
Sample Numbers:	L597295-01, -02, -03, -04		

Laboratory Control Sample Duplicate (LCSD)

Analyte	True Value	Found	Recovery %	Control Limits	Qualifiers
1-Methylnaphthalene	0.00200	0.00206	103	70 - 130	
2-Chloronaphthalene	0.00200	0.00234	117	70 - 130	
2-Methylnaphthalene	0.00200	0.00203	101	70 - 130	
Acenaphthene	0.00200	0.00208	104	70 - 130	
Acenaphthylene	0.00200	0.00222	111	70 - 130	
Anthracene	0.00200	0.00222	111	70 - 130	
Benzo(a)anthracene	0.00200	0.00222	111	70 - 130	
Benzo(a)pyrene	0.00200	0.00227	113	70 - 130	
Benzo(b)fluoranthene	0.00200	0.00188	93.9	70 - 130	
Benzo(g,h,i)perylene	0.00200	0.00205	103	70 - 130	
Benzo(k)fluoranthene	0.00200	0.00220	110	70 - 130	
Chrysene	0.00200	0.00204	102	70 - 130	
Dibenz(a,h)anthracene	0.00200	0.00215	107	70 - 130	
Fluoranthene	0.00200	0.00208	104	70 - 130	
Fluorene	0.00200	0.00204	102	70 - 130	
Indeno(1,2,3-cd)pyrene	0.00200	0.00215	108	70 - 130	
Naphthalene	0.00200	0.00199	99.6	70 - 130	
Phenanthrene	0.00200	0.00215	107	70 - 130	
Pyrene	0.00200	0.00192	96.0	70 - 130	



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Quality Control Summary

SDG: L597295

Farallon Consulting - BNSF Region 1

Test:	Semi-Volatiles by Method 8270C-SIM		
Project No:	TT9206-M03	Matrix:	Water - mg/L
Project:	BNSF - JML - Cashmere, WA	EPA ID:	TN00003
Collection Date:	9/25/2012	Analytic Batch:	WG615059
Analysis Date:	10/1/2012	Analyst:	0
Instrument ID:	BNAMS13	Extraction Date:	9/27/2012
Sample Numbers:	L597295-01, -02, -03, -04		

Surrogate Summary

Laboratory Sample ID	NBZ		2FP		TRP	
	ppb	% Rec	ppb	% Rec	ppb	% Rec
Blank WG615059	2.35	118	2.25	113	2.15	107
LCS WG615059	2.35	117	2.27	114	2.07	103
LCSD WG615059	2.32	116	2.33	117	2.01	100
L597295-01	2.13	107	2.08	104	1.89	94.7
L597295-02	2.09	105	2.20	110	1.99	99.7
L597295-03	2.17	108	2.18	109	2.03	102
L597295-04	2.01	101	2.09	105	1.90	95.1

NBZ - Nitrobenzene-d5	70-130
2FP - 2-Fluorobiphenyl	70-130
TPH - Terphneyl-d14	70-130



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Quality Control Summary

SDG: L597295

Farallon Consulting - BNSF Region 1

Test:	Semi-volatile Organic Compounds by Method 8270C-SIM		
Project No:	TT9206-M03	Matrix:	Water - mg/L
Project:	BNSF - JML - Cashmere, WA	EPA ID:	TN00003
Collection Date:	9/25/2012	Analytic Batch:	WG615059
Analysis Date:	10/1/2012 7:54:00 PM	Analyst:	0
Instrument ID:	BNAMS16	Extraction Date:	9/27/2012
Sample Numbers:	L597295-01, -02, -03, -04		

Laboratory Control Sample/ Laboratory Control Sample Duplicate

Analyte	Spike	LCS	% Rec	LCS D	% Rec	Control Limits	Qualifier	% RPD	Control Limits	Qualifier
1-Methylnaphthalene	0.00200	0.00209	105	0.00206	103	70-130		1.7	25	
2-Chloronaphthalene	0.00200	0.00234	117	0.00234	117	70-130		0.3	25	
2-Methylnaphthalene	0.00200	0.00208	104	0.00203	101	70-130		2.2	25	
Acenaphthene	0.00200	0.00210	105	0.00208	104	70-130		1.0	25	
Acenaphthylene	0.00200	0.00226	113	0.00222	111	70-130		1.8	25	
Anthracene	0.00200	0.00227	114	0.00222	111	70-130		2.2	25	
Benzo(a)anthracene	0.00200	0.00228	114	0.00222	111	70-130		2.8	25	
Benzo(a)pyrene	0.00200	0.00206	103	0.00227	113	70-130		9.6	25	
Benzo(b)fluoranthene	0.00200	0.00195	97.4	0.00188	93.9	70-130		3.7	25	
Benzo(g,h,i)perylene	0.00200	0.00208	104	0.00205	103	70-130		1.6	25	
Benzo(k)fluoranthene	0.00200	0.00231	115	0.00220	110	70-130		5.1	25	
Chrysene	0.00200	0.00210	105	0.00204	102	70-130		2.8	25	
Dibenz(a,h)anthracene	0.00200	0.00212	106	0.00215	107	70-130		1.3	25	
Fluoranthene	0.00200	0.00213	106	0.00208	104	70-130		2.4	25	
Fluorene	0.00200	0.00221	110	0.00204	102	70-130		8.1	25	
Indeno(1,2,3-cd)pyrene	0.00200	0.00213	106	0.00215	108	70-130		1.3	25	
Naphthalene	0.00200	0.00203	101	0.00199	99.6	70-130		1.8	25	
Phenanthrene	0.00200	0.00223	111	0.00215	107	70-130		3.6	25	
Pyrene	0.00200	0.00204	102	0.00192	96.0	70-130		6.1	25	



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Quality Control Summary

SDG: L597295

Farallon Consulting - BNSF Region 1

Test:	Semi-Volatiles by Method 8270C-SIM		
Project No:	TT9206-M03	Matrix:	Water - mg/L
Project:	BNSF - JML - Cashmere, WA	EPA ID:	TN00003
Collection Date:	9/25/2012	Analytic Batch:	WG615059
Analysis Date:	10/1/2012	Analyst:	0
Instrument ID:	BNAMS16	Extraction Date:	9/27/2012
Sample Numbers:	L597295-01, -02, -03, -04		

Internal Standard Response and Retention Time Summary

FileID:1001B_03.D

Date:10/1/2012

Time:3:50 PM

	IS1		IS2		IS3	
	Response	RT	Response	RT	Response	RT
12 Hour Std			54314	7.68	32014	9.4
Upper Limit			108628	8.18	64028	9.9
Lower Limit			27157	7.18	16007	8.9
Sample ID	Response	RT	Response	RT	Response	RT
Blank WG615059			44149	7.68	25583	9.40
LCS WG615059			43173	7.68	25773	9.40
LCSD WG615059			41753	7.68	24277	9.40



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Quality Control Summary

SDG: L597295

Farallon Consulting - BNSF Region 1

Test:	Semi-Volatiles by Method 8270C-SIM		
Project No:	TT9206-M03	Matrix:	Water - mg/L
Project:	BNSF - JML - Cashmere, WA	EPA ID:	TN00003
Collection Date:	9/25/2012	Analytic Batch:	WG615059
Analysis Date:	10/1/2012	Analyst:	0
Instrument ID:	BNAMS16	Extraction Date:	9/27/2012
Sample Numbers:	L597295-01, -02, -03, -04		

Internal Standard Response and Retention Time Summary

FileID:1001B_03.D

Date:10/1/2012

Time:3:50 PM

	IS4		IS5		IS6	
	Response	RT	Response	RT	Response	RT
12 Hour Std	43441	10.88	50523	13.52	48065	14.91
Upper Limit	86882	11.38	101046	14.02	96130	15.41
Lower Limit	21720.5	10.38	25261.5	13.02	24032.5	14.41
Sample ID	Response	RT	Response	RT	Response	RT
Blank WG615059	43978	10.88	45192	13.52	38761	14.91
LCS WG615059	43590	10.88	50134	13.52	45557	14.91
LCSD WG615059	36067	10.88	42951	13.52	41185	14.91



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Quality Control Summary
SDG: L597295
Farallon Consulting - BNSF Region 1

Test:	Semi-Volatiles by Method 8270C-SIM	Matrix:	Water - mg/L
Project No:	TT9206-M03	EPA ID:	TN00003
Project:	BNSF - JML - Cashmere, WA	Analytic Batch:	WG615059
Collection Date:	9/25/2012	Analyst:	0
Analysis Date:	10/1/2012	Extraction Date:	9/27/2012
Instrument ID:	BNAMS13		
Sample Numbers:	L597295-01, -02, -03, -04		

Internal Standard Response and Retention Time Summary

FileID:1001A_04.D

Date:10/1/2012

Time:5:13 PM

	IS1		IS2		IS3	
	Response	RT	Response	RT	Response	RT
12 Hour Std			63428	7.5	44122	9.22
Upper Limit			126856	8	88244	9.72
Lower Limit			31714	7	22061	8.72
Sample ID	Response	RT	Response	RT	Response	RT
L597295-01			64780	7.50	44387	9.22
L597295-02			61292	7.50	43613	9.22
L597295-03			60741	7.50	43584	9.22
L597295-04			63088	7.50	45501	9.22



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Quality Control Summary

SDG: L597295

Farallon Consulting - BNSF Region 1

Test:	Semi-Volatiles by Method 8270C-SIM		
Project No:	TT9206-M03	Matrix:	Water - mg/L
Project:	BNSF - JML - Cashmere, WA	EPA ID:	TN00003
Collection Date:	9/25/2012	Analytic Batch:	WG615059
Analysis Date:	10/1/2012	Analyst:	0
Instrument ID:	BNAMS13	Extraction Date:	9/27/2012
Sample Numbers:	L597295-01, -02, -03, -04		

Internal Standard Response and Retention Time Summary

FileID:1001A_04.D

Date:10/1/2012

Time:5:13 PM

	IS4		IS5		IS6	
	Response	RT	Response	RT	Response	RT
12 Hour Std	79764	10.7	87883	13.34	97553	14.7
Upper Limit	159528	11.2	175766	13.84	195106	15.2
Lower Limit	39882	10.2	43941.5	12.84	48776.5	14.2
Sample ID	Response	RT	Response	RT	Response	RT
L597295-01	78946	10.70	87362	13.34	96689	14.70
L597295-02	79615	10.70	85100	13.34	92274	14.71
L597295-03	77322	10.70	84387	13.34	91270	14.71
L597295-04	82714	10.70	89682	13.34	97077	14.70

Farallon Consulting - BNSF
Region 1
 975 5th Avenue Northwest
 Issaquah, WA 98027

Billing information:
 Mark Engdahl
 2454 Occidental Ave S, Ste 1A
 Seattle, WA 98134-1451

Analysis/Container/Preservative

G113 Chain of Custody
 Page ___ of ___

ESC
 L.A.B S-C-I-E-N-C-E-S
 12065 Lebanon Road
 Mt. Juliet, TN 37122
 Phone: (800) 767-5859
 Phone: (615) 758-5858
 Fax: (615) 758-5859

Report to: **Kristin Darnell**

Email: **kjdarnell@farallonconsulting**

Project Description: **BNSF - JML - Cashmere, WA**

City/State Collected

Phone: (425) 295-0811
 FAX

Client Project #: **TT9206-M03**

Lab Project #: **BNSF1FAR-CASHMERE**

Collected by (print): **Jon Peterson**

Site/Facility ID#:

P.O.#:

Collected by (signature):

Immediately Packed on Ice N Y X

Rush? (Lab MUST Be Notified)
 ___ Same Day 200%
 ___ Next Day 100%
 ___ Two Day 50%
 ___ Three Day 25%

Date Results Needed

Email? ___ No X Yes
 FAX? ___ No ___ Yes

No of Cntrs

NO3, SO4 125mlHDPE-NoPres	CO2 40ml/Amb-NoPres	Dissolved Metals 500mlHDPE-NoPres	Ferrous Iron 250ml/Amb-HCl <2	NWTPHDX 40ml/Amb-HCl-BT	NWTPHGXBTEX 40ml/Amb HCl	SULFIDE 500mlHDPE-NaOH+ZnAc 7/2	SVPAHSIMLVI 40ml/Amb-NoPres-WT
---------------------------------	---------------------	-----------------------------------	-------------------------------	-------------------------	--------------------------	---------------------------------	--------------------------------

Acctnum: **BNSF1FAR** (lab use only)
 Template/Prelogin **T81876/P406327**
 Cooler #: **JB 9/17**
 Shipped Via: **FedEX Saver**

Sample ID	Comp/Grab	Matrix*	Depth	Date	Time	No of Cntrs	***NO3***, SO4 125mlHDPE-NoPres	CO2 40ml/Amb-NoPres	Dissolved Metals 500mlHDPE-NoPres	Ferrous Iron 250ml/Amb-HCl <2	NWTPHDX 40ml/Amb-HCl-BT	NWTPHGXBTEX 40ml/Amb HCl	SULFIDE 500mlHDPE-NaOH+ZnAc 7/2	SVPAHSIMLVI 40ml/Amb-NoPres-WT
MW1-092512		GW		9/25/12	800	13	X	X	X	X	X	X	X	X
MW2-092512		GW			830	13	X	X	X	X	X	X	X	X
MW4-092512		GW			920	13	X	X	X	X	X	X	X	X
MW3-092512		GW			1000	13	X	X	X	X	X	X	X	X
		GW				13	X	X	X	X	X	X	X	X
		GW				13	X	X	X	X	X	X	X	X

Remarks/Contaminant Sample # (lab only)
 6597295-01
 02
 03
 07

*Matrix: SS - Soil GW - Groundwater WW - WasteWater DW - Drinking Water OT - Other _____

pH _____ Temp _____

Flow _____ Other _____

54134724 5067

Relinquished by (Signature):	Date: 9/25/12	Time: 1300	Received by (Signature):	Samples returned via: <input type="checkbox"/> UPS <input checked="" type="checkbox"/> FedEx <input type="checkbox"/> Courier <input type="checkbox"/>	Condition: (lab use only)
Relinquished by (Signature):	Date:	Time:	Received by (Signature):	Temp: 3.22	Bottles Received: 52+770
Relinquished by (Signature):	Date:	Time:	Received for lab by (Signature):	Date: 9-26-12	Time: 0900

COC Seal Intact: ___ Y ___ N ___ NA
 pH Checked: CC, 7.12
 NCF: 46 of 46

Farallon Consulting - BNSF
Region 1
 975 5th Avenue Northwest
 Issaquah, WA 98027

Billing information:
 Mark Engdahl
 2454 Occidental Ave S, Ste 1A
 Seattle, WA 98134-1451

Analysis/Container/Preservative

G113 Chain of Custody
 Page ___ of ___

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 L.A.B S-C-I-E-N-C-E-S
 12065 Lebanon Road
 Mt. Juliet, TN 37122
 Phone: (800) 767-5859
 Phone: (615) 758-5858
 Fax: (615) 758-5859

Report to: **Kristin Darnell**

Email: **kjdarnell@farallonconsulting**

Project Description: **BNSF - JML - Cashmere, WA**

City/State Collected

Phone: (425) 295-0811
 FAX

Client Project #: **TT9206-M03**

Lab Project #: **BNSF1FAR-CASHMERE**

Collected by (print): **Jon Peterson**

Site/Facility ID#:

P.O.#:

Collected by (signature):

Immediately Packed on Ice N Y X

Rush? (Lab MUST Be Notified)
 ___ Same Day 200%
 ___ Next Day 100%
 ___ Two Day 50%
 ___ Three Day 25%

Date Results Needed

Email? ___ No X Yes
 FAX? ___ No ___ Yes

No of Cntrs

NO3, SO4 125mlHDPE-NoPres	CO2 40ml/Amb-NoPres	Dissolved Metals 500mlHDPE-NoPres	Ferrous Iron 250ml/Amb-HCl <2	NWTPHDX 40ml/Amb-HCl-BT	NWTPHGXBTEX 40ml/Amb HCl	SULFIDE 500mlHDPE-NaOH+ZnAc 7/2	SVPAHSIMLVI 40ml/Amb-NoPres-WT
---------------------------------	---------------------	-----------------------------------	-------------------------------	-------------------------	--------------------------	---------------------------------	--------------------------------

Acctnum: **BNSF1FAR** (lab use only)
 Template/Prelogin **T81876/P406327**
 Cooler #: **JB 9/17**
 Shipped Via: **FedEX Saver**

Sample ID	Comp/Grab	Matrix*	Depth	Date	Time	No of Cntrs	***NO3***, SO4 125mlHDPE-NoPres	CO2 40ml/Amb-NoPres	Dissolved Metals 500mlHDPE-NoPres	Ferrous Iron 250ml/Amb-HCl <2	NWTPHDX 40ml/Amb-HCl-BT	NWTPHGXBTEX 40ml/Amb HCl	SULFIDE 500mlHDPE-NaOH+ZnAc 7/2	SVPAHSIMLVI 40ml/Amb-NoPres-WT
MW1-092512		GW		9/25/12	800	13	X	X	X	X	X	X	X	X
MW2-092512		GW			830	13	X	X	X	X	X	X	X	X
MW4-092512		GW			920	13	X	X	X	X	X	X	X	X
MW3-092512		GW			1000	13	X	X	X	X	X	X	X	X
		GW				13	X	X	X	X	X	X	X	X
		GW				13	X	X	X	X	X	X	X	X

Remarks/Contaminant Sample # (lab only)
 6597295-01
 02
 03
 07

*Matrix: SS - Soil GW - Groundwater WW - WasteWater DW - Drinking Water OT - Other _____

pH _____ Temp _____

Flow _____ Other _____

54134724 5067

Relinquished by (Signature):	Date: 9/25/12	Time: 1300	Received by (Signature):	Samples returned via: <input type="checkbox"/> UPS <input checked="" type="checkbox"/> FedEx <input type="checkbox"/> Courier	Condition: (lab use only)
Relinquished by (Signature):	Date:	Time:	Received by (Signature):	Temp: 3.22	Bottles Received: 52+770
Relinquished by (Signature):	Date:	Time:	Received for lab by (Signature):	Date: 9-26-12	Time: 0900
				pH Checked: 7.12	NCF:



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Kristin Darnell
Farallon Consulting - BNSF Region 1
975 5th Avenue Northwest
Issaquah, WA 98027

Report Summary

Thursday December 20, 2012

Report Number: L610583

Samples Received: 12/12/12

Client Project: TT9206-M03

Description: BNSF - JML - Cashmere, WA

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

Entire Report Reviewed By:

Mark W. Beasley, ESC Representative

Laboratory Certification Numbers

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

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REPORT OF ANALYSIS

Kristin Darnell
 Farallon Consulting - BNSF Region 1
 975 5th Avenue Northwest
 Issaquah, WA 98027

December 20, 2012

Date Received : December 12, 2012
 Description : BNSF - JML - Cashmere, WA

ESC Sample # : L610583-01

Sample ID : MW2-121112

Site ID :

Collected By : Jon Peterson
 Collection Date : 12/11/12 06:50

Project # : TT9206-M03

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Nitrate	3700	23.	100	ug/l		9056	12/12/12	1
Sulfate	16000	77.	5000	ug/l		9056	12/12/12	1
Free Carbon Dioxide	U	6600	20000	ug/l	T8	SM4500C	12/19/12	1
Ferrous Iron	33.	17.	50.	ug/l	JT8	3500Fe-	12/13/12	1
Sulfide	U	19.	50.	ug/l		4500-S2	12/13/12	1
Iron	50.	14.	100	ug/l	J	6010B	12/19/12	1
Iron,Dissolved	U	14.	100	ug/l		6010B	12/18/12	1
Gasoline Range Organics-NWTPH	U	50.	100	ug/l		NWTPHGX	12/13/12	1
Benzene	U	0.19	0.50	ug/l		NWTPHGX	12/13/12	1
Toluene	U	0.18	5.0	ug/l		NWTPHGX	12/13/12	1
Ethylbenzene	U	0.16	0.50	ug/l		NWTPHGX	12/13/12	1
Total Xylene	U	0.51	1.5	ug/l		NWTPHGX	12/13/12	1
Surrogate Recovery(%)								
a,a,a-Trifluorotoluene(PID)	104.			% Rec.		NWTPHGX	12/13/12	1
a,a,a-Trifluorotoluene(FID)	97.0			% Rec.		NWTPHGX	12/13/12	1
Diesel Range Organics (DRO)	U	50.	100	ug/l		NWTPHDX	12/18/12	1
Residual Range Organics (RRO)	U	120	250	ug/l		NWTPHDX	12/18/12	1
Surrogate Recovery								
o-Terphenyl	114.			% Rec.		NWTPHDX	12/18/12	1
Polynuclear Aromatic Hydrocarbons								
Anthracene	U	0.0076	0.050	ug/l		8270C-S	12/13/12	1
Acenaphthene	U	0.0082	0.050	ug/l		8270C-S	12/13/12	1
Acenaphthylene	U	0.0068	0.050	ug/l		8270C-S	12/13/12	1
Benzo(a)anthracene	U	0.012	0.050	ug/l		8270C-S	12/13/12	1
Benzo(a)pyrene	U	0.012	0.050	ug/l		8270C-S	12/13/12	1
Benzo(b)fluoranthene	U	0.014	0.050	ug/l		8270C-S	12/13/12	1
Benzo(g,h,i)perylene	U	0.011	0.050	ug/l		8270C-S	12/13/12	1
Benzo(k)fluoranthene	U	0.014	0.050	ug/l		8270C-S	12/13/12	1
Chrysene	U	0.011	0.050	ug/l		8270C-S	12/13/12	1
Dibenz(a,h)anthracene	U	0.0040	0.050	ug/l		8270C-S	12/13/12	1
Fluoranthene	U	0.016	0.050	ug/l		8270C-S	12/13/12	1
Fluorene	U	0.0085	0.050	ug/l		8270C-S	12/13/12	1
Indeno(1,2,3-cd)pyrene	U	0.015	0.050	ug/l		8270C-S	12/13/12	1
Naphthalene	U	0.020	0.25	ug/l		8270C-S	12/13/12	1
Phenanthrene	U	0.0082	0.050	ug/l		8270C-S	12/13/12	1
Pyrene	U	0.012	0.050	ug/l		8270C-S	12/13/12	1

U = ND (Not Detected)

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

MDL = Minimum Detection Limit = LOD = TRRP SDL

Note:

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REPORT OF ANALYSIS

Kristin Darnell
 Farallon Consulting - BNSF Region 1
 975 5th Avenue Northwest
 Issaquah, WA 98027

December 20, 2012

Date Received : December 12, 2012
 Description : BNSF - JML - Cashmere, WA

ESC Sample # : L610583-01

Sample ID : MW2-121112

Site ID :

Collected By : Jon Peterson
 Collection Date : 12/11/12 06:50

Project # : TT9206-M03

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
1-Methylnaphthalene	U	0.0082	0.25	ug/l		8270C-S	12/13/12	1
2-Methylnaphthalene	U	0.0090	0.25	ug/l		8270C-S	12/13/12	1
2-Chloronaphthalene	U	0.0065	0.25	ug/l		8270C-S	12/13/12	1
Surrogate Recovery								
Nitrobenzene-d5	114.			%	Rec.	8270C-S	12/13/12	1
2-Fluorobiphenyl	103.			%	Rec.	8270C-S	12/13/12	1
p-Terphenyl-d14	99.2			%	Rec.	8270C-S	12/13/12	1

U = ND (Not Detected)
 RDL = Reported Detection Limit = LOQ = PQL = EQL = TRRP MQL
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 975 5th Avenue Northwest
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December 20, 2012

Date Received : December 12, 2012
 Description : BNSF - JML - Cashmere, WA

ESC Sample # : L610583-02

Sample ID : MW4-121112

Site ID :

Collected By : Jon Peterson
 Collection Date : 12/11/12 07:45

Project # : TT9206-M03

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Nitrate	4600	23.	100	ug/l		9056	12/12/12	1
Sulfate	16000	77.	5000	ug/l		9056	12/12/12	1
Free Carbon Dioxide	U	6600	20000	ug/l	T8	SM4500C	12/19/12	1
Ferrous Iron	U	17.	50.	ug/l	T8	3500Fe-	12/13/12	1
Sulfide	26.	19.	50.	ug/l	J	4500-S2	12/13/12	1
Iron	28.	14.	100	ug/l	J	6010B	12/19/12	1
Iron, Dissolved	U	14.	100	ug/l		6010B	12/18/12	1
Gasoline Range Organics-NWTPH	U	50.	100	ug/l		NWTPHGX	12/13/12	1
Benzene	U	0.19	0.50	ug/l		NWTPHGX	12/13/12	1
Toluene	U	0.18	5.0	ug/l		NWTPHGX	12/13/12	1
Ethylbenzene	U	0.16	0.50	ug/l		NWTPHGX	12/13/12	1
Total Xylene	U	0.51	1.5	ug/l		NWTPHGX	12/13/12	1
Surrogate Recovery(%)								
a,a,a-Trifluorotoluene(PID)	103.			% Rec.		NWTPHGX	12/13/12	1
a,a,a-Trifluorotoluene(FID)	96.9			% Rec.		NWTPHGX	12/13/12	1
Diesel Range Organics (DRO)	78.	50.	100	ug/l	J	NWTPHDX	12/18/12	1
Residual Range Organics (RRO)	170	120	250	ug/l	J	NWTPHDX	12/18/12	1
Surrogate Recovery								
o-Terphenyl	112.			% Rec.		NWTPHDX	12/18/12	1
Polynuclear Aromatic Hydrocarbons								
Anthracene	U	0.0076	0.050	ug/l		8270C-S	12/13/12	1
Acenaphthene	U	0.0082	0.050	ug/l		8270C-S	12/13/12	1
Acenaphthylene	U	0.0068	0.050	ug/l		8270C-S	12/13/12	1
Benzo(a)anthracene	U	0.012	0.050	ug/l		8270C-S	12/13/12	1
Benzo(a)pyrene	U	0.012	0.050	ug/l		8270C-S	12/13/12	1
Benzo(b)fluoranthene	U	0.014	0.050	ug/l		8270C-S	12/13/12	1
Benzo(g,h,i)perylene	U	0.011	0.050	ug/l		8270C-S	12/13/12	1
Benzo(k)fluoranthene	U	0.014	0.050	ug/l		8270C-S	12/13/12	1
Chrysene	U	0.011	0.050	ug/l		8270C-S	12/13/12	1
Dibenz(a,h)anthracene	U	0.0040	0.050	ug/l		8270C-S	12/13/12	1
Fluoranthene	U	0.016	0.050	ug/l		8270C-S	12/13/12	1
Fluorene	U	0.0085	0.050	ug/l		8270C-S	12/13/12	1
Indeno(1,2,3-cd)pyrene	U	0.015	0.050	ug/l		8270C-S	12/13/12	1
Naphthalene	0.028	0.020	0.25	ug/l	J	8270C-S	12/13/12	1
Phenanthrene	U	0.0082	0.050	ug/l		8270C-S	12/13/12	1
Pyrene	U	0.012	0.050	ug/l		8270C-S	12/13/12	1

U = ND (Not Detected)

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

MDL = Minimum Detection Limit = LOD = TRRP SDL

Note:

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REPORT OF ANALYSIS

Kristin Darnell
 Farallon Consulting - BNSF Region 1
 975 5th Avenue Northwest
 Issaquah, WA 98027

December 20, 2012

Date Received : December 12, 2012
 Description : BNSF - JML - Cashmere, WA

ESC Sample # : L610583-02

Sample ID : MW4-121112

Site ID :

Collected By : Jon Peterson
 Collection Date : 12/11/12 07:45

Project # : TT9206-M03

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
1-Methylnaphthalene	U	0.0082	0.25	ug/l		8270C-S	12/13/12	1
2-Methylnaphthalene	U	0.0090	0.25	ug/l		8270C-S	12/13/12	1
2-Chloronaphthalene	U	0.0065	0.25	ug/l		8270C-S	12/13/12	1
Surrogate Recovery								
Nitrobenzene-d5	114.			%	Rec.	8270C-S	12/13/12	1
2-Fluorobiphenyl	102.			%	Rec.	8270C-S	12/13/12	1
p-Terphenyl-d14	97.3			%	Rec.	8270C-S	12/13/12	1

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

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REPORT OF ANALYSIS

Kristin Darnell
 Farallon Consulting - BNSF Region 1
 975 5th Avenue Northwest
 Issaquah, WA 98027

December 20, 2012

Date Received : December 12, 2012
 Description : BNSF - JML - Cashmere, WA

ESC Sample # : L610583-03

Sample ID : MW3-121112

Site ID :

Collected By : Jon Peterson
 Collection Date : 12/11/12 09:00

Project # : TT9206-M03

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Nitrate	4700	23.	100	ug/l		9056	12/12/12	1
Sulfate	17000	77.	5000	ug/l		9056	12/12/12	1
Free Carbon Dioxide	U	6600	20000	ug/l	T8	SM4500C	12/19/12	1
Ferrous Iron	29.	17.	50.	ug/l	JT8P1	3500Fe-	12/13/12	1
Sulfide	28.	19.	50.	ug/l	J	4500-S2	12/13/12	1
Iron	41.	14.	100	ug/l	J	6010B	12/19/12	1
Iron, Dissolved	U	14.	100	ug/l		6010B	12/18/12	1
Gasoline Range Organics-NWTPH	U	50.	100	ug/l		NWTPHGX	12/13/12	1
Benzene	U	0.19	0.50	ug/l		NWTPHGX	12/13/12	1
Toluene	U	0.18	5.0	ug/l		NWTPHGX	12/13/12	1
Ethylbenzene	U	0.16	0.50	ug/l		NWTPHGX	12/13/12	1
Total Xylene	U	0.51	1.5	ug/l		NWTPHGX	12/13/12	1
Surrogate Recovery(%)								
a,a,a-Trifluorotoluene(PID)	104.			% Rec.		NWTPHGX	12/13/12	1
a,a,a-Trifluorotoluene(FID)	97.1			% Rec.		NWTPHGX	12/13/12	1
Diesel Range Organics (DRO)	90.	50.	100	ug/l	J	NWTPHDX	12/18/12	1
Residual Range Organics (RRO)	U	120	250	ug/l		NWTPHDX	12/18/12	1
Surrogate Recovery								
o-Terphenyl	112.			% Rec.		NWTPHDX	12/18/12	1
Polynuclear Aromatic Hydrocarbons								
Anthracene	U	0.0076	0.050	ug/l		8270C-S	12/13/12	1
Acenaphthene	U	0.0082	0.050	ug/l		8270C-S	12/13/12	1
Acenaphthylene	U	0.0068	0.050	ug/l		8270C-S	12/13/12	1
Benzo(a)anthracene	U	0.012	0.050	ug/l		8270C-S	12/13/12	1
Benzo(a)pyrene	U	0.012	0.050	ug/l		8270C-S	12/13/12	1
Benzo(b)fluoranthene	U	0.014	0.050	ug/l		8270C-S	12/13/12	1
Benzo(g,h,i)perylene	U	0.011	0.050	ug/l		8270C-S	12/13/12	1
Benzo(k)fluoranthene	U	0.014	0.050	ug/l		8270C-S	12/13/12	1
Chrysene	U	0.011	0.050	ug/l		8270C-S	12/13/12	1
Dibenz(a,h)anthracene	U	0.0040	0.050	ug/l		8270C-S	12/13/12	1
Fluoranthene	U	0.016	0.050	ug/l		8270C-S	12/13/12	1
Fluorene	U	0.0085	0.050	ug/l		8270C-S	12/13/12	1
Indeno(1,2,3-cd)pyrene	U	0.015	0.050	ug/l		8270C-S	12/13/12	1
Naphthalene	U	0.020	0.25	ug/l		8270C-S	12/13/12	1
Phenanthrene	U	0.0082	0.050	ug/l		8270C-S	12/13/12	1
Pyrene	U	0.012	0.050	ug/l		8270C-S	12/13/12	1

U = ND (Not Detected)

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

MDL = Minimum Detection Limit = LOD = TRRP SDL

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REPORT OF ANALYSIS

Kristin Darnell
 Farallon Consulting - BNSF Region 1
 975 5th Avenue Northwest
 Issaquah, WA 98027

December 20, 2012

Date Received : December 12, 2012
 Description : BNSF - JML - Cashmere, WA

ESC Sample # : L610583-03

Sample ID : MW3-121112

Site ID :

Collected By : Jon Peterson
 Collection Date : 12/11/12 09:00

Project # : TT9206-M03

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
1-Methylnaphthalene	U	0.0082	0.25	ug/l		8270C-S	12/13/12	1
2-Methylnaphthalene	U	0.0090	0.25	ug/l		8270C-S	12/13/12	1
2-Chloronaphthalene	U	0.0065	0.25	ug/l		8270C-S	12/13/12	1
Surrogate Recovery								
Nitrobenzene-d5	116.			%	Rec.	8270C-S	12/13/12	1
2-Fluorobiphenyl	104.			%	Rec.	8270C-S	12/13/12	1
p-Terphenyl-d14	94.9			%	Rec.	8270C-S	12/13/12	1

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

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REPORT OF ANALYSIS

Kristin Darnell
 Farallon Consulting - BNSF Region 1
 975 5th Avenue Northwest
 Issaquah, WA 98027

December 20, 2012

Date Received : December 12, 2012
 Description : BNSF - JML - Cashmere, WA

ESC Sample # : L610583-04

Sample ID : MW1-121112

Site ID :

Collected By : Jon Peterson
 Collection Date : 12/11/12 10:20

Project # : TT9206-M03

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Nitrate	3000	23.	100	ug/l		9056	12/12/12	1
Sulfate	16000	77.	5000	ug/l		9056	12/12/12	1
Free Carbon Dioxide	U	6600	20000	ug/l	T8	SM4500C	12/19/12	1
Ferrous Iron	37.	17.	50.	ug/l	JT8	3500Fe-	12/13/12	1
Sulfide	30.	19.	50.	ug/l	JP1	4500-S2	12/13/12	1
Iron	210	14.	100	ug/l		6010B	12/19/12	1
Iron, Dissolved	U	14.	100	ug/l		6010B	12/18/12	1
Gasoline Range Organics-NWTPH	U	50.	100	ug/l		NWTPHGX	12/13/12	1
Benzene	U	0.19	0.50	ug/l		NWTPHGX	12/13/12	1
Toluene	U	0.18	5.0	ug/l		NWTPHGX	12/13/12	1
Ethylbenzene	U	0.16	0.50	ug/l		NWTPHGX	12/13/12	1
Total Xylene	U	0.51	1.5	ug/l		NWTPHGX	12/13/12	1
Surrogate Recovery(%)								
a,a,a-Trifluorotoluene(PID)	104.			% Rec.		NWTPHGX	12/13/12	1
a,a,a-Trifluorotoluene(FID)	97.0			% Rec.		NWTPHGX	12/13/12	1
Diesel Range Organics (DRO)	200	50.	100	ug/l		NWTPHDX	12/18/12	1
Residual Range Organics (RRO)	150	120	250	ug/l	J	NWTPHDX	12/18/12	1
Surrogate Recovery								
o-Terphenyl	108.			% Rec.		NWTPHDX	12/18/12	1
Polynuclear Aromatic Hydrocarbons								
Anthracene	0.016	0.0076	0.050	ug/l	J	8270C-S	12/18/12	1
Acenaphthene	0.026	0.0082	0.050	ug/l	J	8270C-S	12/18/12	1
Acenaphthylene	U	0.0068	0.050	ug/l		8270C-S	12/18/12	1
Benzo(a)anthracene	U	0.012	0.050	ug/l		8270C-S	12/18/12	1
Benzo(a)pyrene	U	0.012	0.050	ug/l		8270C-S	12/18/12	1
Benzo(b)fluoranthene	U	0.014	0.050	ug/l		8270C-S	12/18/12	1
Benzo(g,h,i)perylene	U	0.011	0.050	ug/l		8270C-S	12/18/12	1
Benzo(k)fluoranthene	U	0.014	0.050	ug/l		8270C-S	12/18/12	1
Chrysene	U	0.011	0.050	ug/l		8270C-S	12/18/12	1
Dibenz(a,h)anthracene	U	0.0040	0.050	ug/l	L1	8270C-S	12/18/12	1
Fluoranthene	U	0.016	0.050	ug/l		8270C-S	12/18/12	1
Fluorene	0.014	0.0085	0.050	ug/l	J	8270C-S	12/18/12	1
Indeno(1,2,3-cd)pyrene	U	0.015	0.050	ug/l	L1	8270C-S	12/18/12	1
Naphthalene	0.11	0.020	0.25	ug/l	J	8270C-S	12/18/12	1
Phenanthrene	U	0.0082	0.050	ug/l		8270C-S	12/18/12	1
Pyrene	0.028	0.012	0.050	ug/l	J	8270C-S	12/18/12	1

U = ND (Not Detected)

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

MDL = Minimum Detection Limit = LOD = TRRP SDL

Note:

The reported analytical results relate only to the sample submitted.

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REPORT OF ANALYSIS

Kristin Darnell
 Farallon Consulting - BNSF Region 1
 975 5th Avenue Northwest
 Issaquah, WA 98027

December 20, 2012

Date Received : December 12, 2012
 Description : BNSF - JML - Cashmere, WA

ESC Sample # : L610583-04

Sample ID : MW1-121112

Site ID :

Collected By : Jon Peterson
 Collection Date : 12/11/12 10:20

Project # : TT9206-M03

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
1-Methylnaphthalene	0.31	0.0082	0.25	ug/l		8270C-S	12/18/12	1
2-Methylnaphthalene	0.031	0.0090	0.25	ug/l	J	8270C-S	12/18/12	1
2-Chloronaphthalene	U	0.0065	0.25	ug/l		8270C-S	12/18/12	1
Surrogate Recovery								
Nitrobenzene-d5	98.1			%	Rec.	8270C-S	12/18/12	1
2-Fluorobiphenyl	108.			%	Rec.	8270C-S	12/18/12	1
p-Terphenyl-d14	109.			%	Rec.	8270C-S	12/18/12	1

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

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Attachment A
List of Analytes with QC Qualifiers

Sample Number	Work Group	Sample Type	Analyte	Run ID	Qualifier
L610583-01	WG628714	SAMP	Free Carbon Dioxide	R2485678	T8
	WG628498	SAMP	Iron	R2485158	J
L610583-02	WG627849	SAMP	Ferrous Iron	R2475937	JT8
	WG628714	SAMP	Free Carbon Dioxide	R2485678	T8
	WG628498	SAMP	Iron	R2485158	J
	WG627849	SAMP	Ferrous Iron	R2475937	T8
	WG628018	SAMP	Diesel Range Organics (DRO)	R2484277	J
	WG628018	SAMP	Residual Range Organics (RRO)	R2484277	J
L610583-03	WG627799	SAMP	Naphthalene	R2477304	J
	WG627851	SAMP	Sulfide	R2477037	J
	WG628714	SAMP	Free Carbon Dioxide	R2485678	T8
	WG628498	SAMP	Iron	R2485158	J
	WG627849	SAMP	Ferrous Iron	R2475937	JT8P1
	WG628018	SAMP	Diesel Range Organics (DRO)	R2484277	J
L610583-04	WG627851	SAMP	Sulfide	R2477037	J
	WG628714	SAMP	Free Carbon Dioxide	R2485678	T8
	WG627849	SAMP	Ferrous Iron	R2475937	JT8
	WG628018	SAMP	Residual Range Organics (RRO)	R2484277	J
	WG627800	SAMP	Anthracene	R2484797	J
	WG627800	SAMP	Acenaphthene	R2484797	J
	WG627800	SAMP	Dibenz(a,h)anthracene	R2484797	L1
	WG627800	SAMP	Fluorene	R2484797	J
	WG627800	SAMP	Indeno(1,2,3-cd)pyrene	R2484797	L1
	WG627800	SAMP	Naphthalene	R2484797	J
	WG627800	SAMP	Pyrene	R2484797	J
	WG627800	SAMP	2-Methylnaphthalene	R2484797	J
	WG627851	SAMP	Sulfide	R2477037	JP1

Attachment B
Explanation of QC Qualifier Codes

Qualifier	Meaning
J	(EPA) - Estimated value below the lowest calibration point. Confidence correlates with concentration.
L1	(ESC) The associated batch LCS exceeded the upper control limit, which indicates a high bias; The sample analyte was "not detected" and is therefore unaffected.
P1	RPD value not applicable for sample concentrations less than 5 times the reporting limit.
T8	(ESC) - Additional method/sample information: Sample(s) received past/too close to holding time expiration.

Qualifier Report Information

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

Definitions

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

Summary of Remarks For Samples Printed
12/20/12 at 12:49:18

TSR Signing Reports: 134
R5 - Desired TAT

Sample: L610583-01 Account: BNSF1FAR Received: 12/12/12 09:00 Due Date: 12/19/12 00:00 RPT Date: 12/20/12 12:48

Sample: L610583-02 Account: BNSF1FAR Received: 12/12/12 09:00 Due Date: 12/19/12 00:00 RPT Date: 12/20/12 12:48

Sample: L610583-03 Account: BNSF1FAR Received: 12/12/12 09:00 Due Date: 12/19/12 00:00 RPT Date: 12/20/12 12:48

Sample: L610583-04 Account: BNSF1FAR Received: 12/12/12 09:00 Due Date: 12/19/12 00:00 RPT Date: 12/20/12 12:48





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Quality Control Summary

SDG: L610583

For: Farallon Consulting - BNSF Region 1
Project: BNSF - JML - Cashmere, WA
December 20, 2012

Sample Receiving and Handling

All sample aliquots were received at the correct temperature, in the proper containers, and with the appropriate preservatives. All method specified holding times were met except for Free Carbon Dioxide and Ferrous Iron.

Anions by Method 9056

Laboratory Control Sample

Samples L610583-01, -03, -04, and -02 were analyzed in analytical batch WG627747. The laboratory control sample associated with these samples was within the laboratory control limits for all compounds.

Sample Duplicate Analysis

For analytical batch WG627747 sample duplicate analysis was performed on sample L610583-01. The relative percent differences were within the method limits.

For analytical batch WG627747 sample duplicate analysis was performed on sample L610596-08. The relative percent difference exceeded the method limits for Nitrate.

Matrix Spike/Matrix Spike Duplicate

For analytical batch WG627747 matrix spike/matrix spike duplicate analysis was performed on sample L610569-01. The matrix spike recoveries and relative percent differences were within laboratory control limits for all target analytes.

Blank Analysis

The method blank, the initial, and all continuing calibration blanks contained no analytes at concentrations above the method reporting limit.

Ferrous Iron by Method 3500Fe-B

Laboratory Control Sample

Samples L610583-02, -03, -01, and -04 were analyzed in analytical batch WG627849. The laboratory control sample associated with these samples was within the laboratory control limits.

Sample Duplicate Analysis

For analytical batch WG627849 sample duplicate analysis was performed on sample L610583-03. The relative percent difference exceeded the method limits.

Matrix Spike/Matrix Spike Duplicate

For analytical batch WG627849, matrix spike/matrix spike duplicate analysis was performed on sample L610583-04. The spike recoveries and relative percent differences were within laboratory control limits.

Blank Analysis

The method blank, the initial, and all continuing calibration blanks contained no analytes at concentrations above the method reporting limit.

Sulfide by Method 4500-S2 D

Laboratory Control Sample

Samples L610583-02, -04, -03, and -01 were analyzed in analytical batch WG627851. The laboratory control sample associated with these samples was within the laboratory control limits.



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Quality Control Summary

SDG: L610583

For: Farallon Consulting - BNSF Region 1
Project: BNSF - JML - Cashmere, WA
December 20, 2012

Sample Duplicate Analysis

For analytical batch WG627851 sample duplicate analysis was performed on sample L610583-04. The relative percent difference exceeded the method limits.

For analytical batch WG627851 sample duplicate analysis was performed on sample L609772-01. The relative percent differences were within the method limits.

Matrix Spike/Matrix Spike Duplicate

For analytical batch WG627851, matrix spike/matrix spike duplicate analysis was performed on sample L609772-02. The spike recoveries and relative percent differences were within laboratory control limits.

Blank Analysis

The method blank, the initial, and all continuing calibration blanks contained no analytes at concentrations above the method reporting limit.

Free Carbon Dioxide by Method SM4500CO2D

Laboratory Control Sample

Samples L610583-02, -04, -01, -03 were analyzed in analytical batch WG628714. The associated laboratory quality control samples were within method limits.

Blank Analysis

The method blank, the initial, and all continuing calibration blanks contained no analytes at concentrations above the method reporting limit.

Trace Metals by Method 6010B

Laboratory Control Sample

Samples L610583-03, -04, -01, and -02 were analyzed in analytical batch WG628486. The laboratory control sample associated with these samples was within the laboratory control limits for all compounds.

Samples L610583-02, -04, -01, and -03 were analyzed in analytical batch WG628498. The laboratory control sample associated with these samples was within the laboratory control limits for all compounds.

Sample Duplicate Analysis

For analytical batch WG628486 sample duplicate analysis was performed on sample L610583-01. The relative percent differences were within the method limits.

For analytical batch WG628498 sample duplicate analysis was performed on sample L610649-01. The relative percent differences were within the method limits.

Matrix Spike/Matrix Spike Duplicate

For analytical batch WG628486 matrix spike/matrix spike duplicate analysis was performed on sample L610583-01. The matrix spike recoveries and relative percent differences were within laboratory control limits for all target analytes.

For analytical batch WG628498 matrix spike/matrix spike duplicate analysis was performed on sample L610649-01. The high concentration of Iron interfered with the ability to make an accurate spike determination for these analytes. The matrix spike recoveries and relative percent differences were within laboratory control limits for all target analytes.



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Quality Control Summary

SDG: L610583

For: Farallon Consulting - BNSF Region 1
Project: BNSF - JML - Cashmere, WA
December 20, 2012

Blank Analysis

The method blank, the initial, and all continuing calibration blanks contained no analytes at concentrations above the method reporting limit.

Method NWTPHGX

Laboratory Control Sample

Samples L610583-01, -02, -03, and -04 were analyzed in analytical batch WG627768. The laboratory control sample associated with these samples was within the laboratory control limits for all compounds.

Matrix Spike/Matrix Spike Duplicate

For analytical batch WG627768 matrix spike/matrix spike duplicate analysis was performed on sample L609967-05. The matrix spike recoveries were above laboratory control limits for Gasoline Range Organics-NWTPH. The spike recoveries for the remaining target compounds were within limits. The relative percent difference was within laboratory limits for all compounds.

Blank Analysis

The method blank, the initial, and all continuing calibration blanks contained no analytes at concentrations above the method reporting limit.

Semi-volatile Organic Compounds by Method 8270C-SIM

Laboratory Control Sample

Samples L610583-01, -02, and -03 were analyzed in analytical batch WG627799. The laboratory control sample associated with these samples was within the laboratory control limits for all compounds.

Sample L610583-04 was analyzed in analytical batch WG627800. The laboratory control sample associated with this sample had all target compounds within method limits except for Dibenz(a,h)anthracene and Indeno(1,2,3-cd)pyrene.

Matrix Spike/Matrix Spike Duplicate

Precision for batch WG627799 was evaluated using the LCS / LCSD. The RPDs were within method limits.

Precision for batch WG627800 was evaluated using the LCS / LCSD. The RPDs were within method limits.

Blank Analysis

The method blank, the initial, and all continuing calibration blanks contained no analytes at concentrations above the method reporting limit.

Diesel Range Organics by Method 8015

Laboratory Control Sample

Samples L610583-01, -02, -03, and -04 were analyzed in analytical batch WG628018. The laboratory control sample associated with these samples was within the laboratory control limits.

Matrix Spike/Matrix Spike Duplicate

Precision for batch WG628018 was evaluated using the LCS / LCSD. The RPDs were within method limits.



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Quality Control Summary

SDG: L610583

For: Farallon Consulting - BNSF Region 1

Project: BNSF - JML - Cashmere, WA

December 20, 2012

Blank Analysis

The method blank, the initial, and all continuing calibration blanks contained no analytes at concentrations above the method reporting limit.

Nancy F. McLain
ESC Representative
ESC Lab Sciences



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Kristin Darnell
Farallon Consulting - BNSF Region 1
975 5th Avenue Northwest
Issaquah, WA 98027

Report Summary

Thursday December 20, 2012

Report Number: L610583

Samples Received: 12/12/12

Client Project: TT9206-M03

Description: BNSF - JML - Cashmere, WA

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

Entire Report Reviewed By:

Mark W. Beasley , ESC Representative

Laboratory Certification Numbers

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

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

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REPORT OF ANALYSIS

Kristin Darnell
 Farallon Consulting - BNSF Region 1
 975 5th Avenue Northwest
 Issaquah, WA 98027

December 20, 2012

Date Received : December 12, 2012
 Description : BNSF - JML - Cashmere, WA

ESC Sample # : L610583-01

Sample ID : MW2-121112

Site ID :

Collected By : Jon Peterson
 Collection Date : 12/11/12 06:50

Project # : TT9206-M03

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Nitrate	3700	23.	100	ug/l		9056	12/12/12	1
Sulfate	16000	77.	5000	ug/l		9056	12/12/12	1
Free Carbon Dioxide	U	6600	20000	ug/l	T8	SM4500C	12/19/12	1
Ferrous Iron	33.	17.	50.	ug/l	JT8	3500Fe-	12/13/12	1
Sulfide	U	19.	50.	ug/l		4500-S2	12/13/12	1
Iron	50.	14.	100	ug/l	J	6010B	12/19/12	1
Iron, Dissolved	U	14.	100	ug/l		6010B	12/18/12	1
Gasoline Range Organics-NWTPH	U	50.	100	ug/l		NWTPHGX	12/13/12	1
Benzene	U	0.19	0.50	ug/l		NWTPHGX	12/13/12	1
Toluene	U	0.18	5.0	ug/l		NWTPHGX	12/13/12	1
Ethylbenzene	U	0.16	0.50	ug/l		NWTPHGX	12/13/12	1
Total Xylene	U	0.51	1.5	ug/l		NWTPHGX	12/13/12	1
Surrogate Recovery(%)								
a,a,a-Trifluorotoluene(PID)	104.			% Rec.		NWTPHGX	12/13/12	1
a,a,a-Trifluorotoluene(FID)	97.0			% Rec.		NWTPHGX	12/13/12	1
Diesel Range Organics (DRO)	U	50.	100	ug/l		NWTPHDX	12/18/12	1
Residual Range Organics (RRO)	U	120	250	ug/l		NWTPHDX	12/18/12	1
Surrogate Recovery								
o-Terphenyl	114.			% Rec.		NWTPHDX	12/18/12	1
Polynuclear Aromatic Hydrocarbons								
Anthracene	U	0.0076	0.050	ug/l		8270C-S	12/13/12	1
Acenaphthene	U	0.0082	0.050	ug/l		8270C-S	12/13/12	1
Acenaphthylene	U	0.0068	0.050	ug/l		8270C-S	12/13/12	1
Benzo(a)anthracene	U	0.012	0.050	ug/l		8270C-S	12/13/12	1
Benzo(a)pyrene	U	0.012	0.050	ug/l		8270C-S	12/13/12	1
Benzo(b)fluoranthene	U	0.014	0.050	ug/l		8270C-S	12/13/12	1
Benzo(g,h,i)perylene	U	0.011	0.050	ug/l		8270C-S	12/13/12	1
Benzo(k)fluoranthene	U	0.014	0.050	ug/l		8270C-S	12/13/12	1
Chrysene	U	0.011	0.050	ug/l		8270C-S	12/13/12	1
Dibenz(a,h)anthracene	U	0.0040	0.050	ug/l		8270C-S	12/13/12	1
Fluoranthene	U	0.016	0.050	ug/l		8270C-S	12/13/12	1
Fluorene	U	0.0085	0.050	ug/l		8270C-S	12/13/12	1
Indeno(1,2,3-cd)pyrene	U	0.015	0.050	ug/l		8270C-S	12/13/12	1
Naphthalene	U	0.020	0.25	ug/l		8270C-S	12/13/12	1
Phenanthrene	U	0.0082	0.050	ug/l		8270C-S	12/13/12	1
Pyrene	U	0.012	0.050	ug/l		8270C-S	12/13/12	1

U = ND (Not Detected)

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

MDL = Minimum Detection Limit = LOD = TRRP SDL

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REPORT OF ANALYSIS

Kristin Darnell
 Farallon Consulting - BNSF Region 1
 975 5th Avenue Northwest
 Issaquah, WA 98027

December 20, 2012

Date Received : December 12, 2012
 Description : BNSF - JML - Cashmere, WA
 Sample ID : MW2-121112
 Collected By : Jon Peterson
 Collection Date : 12/11/12 06:50

ESC Sample # : L610583-01
 Site ID :
 Project # : TT9206-M03

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
1-Methylnaphthalene	U	0.0082	0.25	ug/l		8270C-S	12/13/12	1
2-Methylnaphthalene	U	0.0090	0.25	ug/l		8270C-S	12/13/12	1
2-Chloronaphthalene	U	0.0065	0.25	ug/l		8270C-S	12/13/12	1
Surrogate Recovery								
Nitrobenzene-d5	114.			%	Rec.	8270C-S	12/13/12	1
2-Fluorobiphenyl	103.			%	Rec.	8270C-S	12/13/12	1
p-Terphenyl-d14	99.2			%	Rec.	8270C-S	12/13/12	1

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

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REPORT OF ANALYSIS

Kristin Darnell
 Farallon Consulting - BNSF Region 1
 975 5th Avenue Northwest
 Issaquah, WA 98027

December 20, 2012

Date Received : December 12, 2012
 Description : BNSF - JML - Cashmere, WA

ESC Sample # : L610583-02

Sample ID : MW4-121112

Site ID :

Collected By : Jon Peterson
 Collection Date : 12/11/12 07:45

Project # : TT9206-M03

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Nitrate	4600	23.	100	ug/l		9056	12/12/12	1
Sulfate	16000	77.	5000	ug/l		9056	12/12/12	1
Free Carbon Dioxide	U	6600	20000	ug/l	T8	SM4500C	12/19/12	1
Ferrous Iron	U	17.	50.	ug/l	T8	3500Fe-	12/13/12	1
Sulfide	26.	19.	50.	ug/l	J	4500-S2	12/13/12	1
Iron	28.	14.	100	ug/l	J	6010B	12/19/12	1
Iron, Dissolved	U	14.	100	ug/l		6010B	12/18/12	1
Gasoline Range Organics-NWTPH	U	50.	100	ug/l		NWTPHGX	12/13/12	1
Benzene	U	0.19	0.50	ug/l		NWTPHGX	12/13/12	1
Toluene	U	0.18	5.0	ug/l		NWTPHGX	12/13/12	1
Ethylbenzene	U	0.16	0.50	ug/l		NWTPHGX	12/13/12	1
Total Xylene	U	0.51	1.5	ug/l		NWTPHGX	12/13/12	1
Surrogate Recovery(%)								
a,a,a-Trifluorotoluene(PID)	103.			% Rec.		NWTPHGX	12/13/12	1
a,a,a-Trifluorotoluene(FID)	96.9			% Rec.		NWTPHGX	12/13/12	1
Diesel Range Organics (DRO)	78.	50.	100	ug/l	J	NWTPHDX	12/18/12	1
Residual Range Organics (RRO)	170	120	250	ug/l	J	NWTPHDX	12/18/12	1
Surrogate Recovery								
o-Terphenyl	112.			% Rec.		NWTPHDX	12/18/12	1
Polynuclear Aromatic Hydrocarbons								
Anthracene	U	0.0076	0.050	ug/l		8270C-S	12/13/12	1
Acenaphthene	U	0.0082	0.050	ug/l		8270C-S	12/13/12	1
Acenaphthylene	U	0.0068	0.050	ug/l		8270C-S	12/13/12	1
Benzo(a)anthracene	U	0.012	0.050	ug/l		8270C-S	12/13/12	1
Benzo(a)pyrene	U	0.012	0.050	ug/l		8270C-S	12/13/12	1
Benzo(b)fluoranthene	U	0.014	0.050	ug/l		8270C-S	12/13/12	1
Benzo(g,h,i)perylene	U	0.011	0.050	ug/l		8270C-S	12/13/12	1
Benzo(k)fluoranthene	U	0.014	0.050	ug/l		8270C-S	12/13/12	1
Chrysene	U	0.011	0.050	ug/l		8270C-S	12/13/12	1
Dibenz(a,h)anthracene	U	0.0040	0.050	ug/l		8270C-S	12/13/12	1
Fluoranthene	U	0.016	0.050	ug/l		8270C-S	12/13/12	1
Fluorene	U	0.0085	0.050	ug/l		8270C-S	12/13/12	1
Indeno(1,2,3-cd)pyrene	U	0.015	0.050	ug/l		8270C-S	12/13/12	1
Naphthalene	0.028	0.020	0.25	ug/l	J	8270C-S	12/13/12	1
Phenanthrene	U	0.0082	0.050	ug/l		8270C-S	12/13/12	1
Pyrene	U	0.012	0.050	ug/l		8270C-S	12/13/12	1

U = ND (Not Detected)

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

MDL = Minimum Detection Limit = LOD = TRRP SDL

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Tax I.D. 62-0814289

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REPORT OF ANALYSIS

Kristin Darnell
 Farallon Consulting - BNSF Region 1
 975 5th Avenue Northwest
 Issaquah, WA 98027

December 20, 2012

Date Received : December 12, 2012
 Description : BNSF - JML - Cashmere, WA
 Sample ID : MW4-121112
 Collected By : Jon Peterson
 Collection Date : 12/11/12 07:45

ESC Sample # : L610583-02
 Site ID :
 Project # : TT9206-M03

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
1-Methylnaphthalene	U	0.0082	0.25	ug/l		8270C-S	12/13/12	1
2-Methylnaphthalene	U	0.0090	0.25	ug/l		8270C-S	12/13/12	1
2-Chloronaphthalene	U	0.0065	0.25	ug/l		8270C-S	12/13/12	1
Surrogate Recovery								
Nitrobenzene-d5	114.			%	Rec.	8270C-S	12/13/12	1
2-Fluorobiphenyl	102.			%	Rec.	8270C-S	12/13/12	1
p-Terphenyl-d14	97.3			%	Rec.	8270C-S	12/13/12	1

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REPORT OF ANALYSIS

Kristin Darnell
 Farallon Consulting - BNSF Region 1
 975 5th Avenue Northwest
 Issaquah, WA 98027

December 20, 2012

Date Received : December 12, 2012
 Description : BNSF - JML - Cashmere, WA

ESC Sample # : L610583-03

Sample ID : MW3-121112

Site ID :

Collected By : Jon Peterson
 Collection Date : 12/11/12 09:00

Project # : TT9206-M03

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Nitrate	4700	23.	100	ug/l		9056	12/12/12	1
Sulfate	17000	77.	5000	ug/l		9056	12/12/12	1
Free Carbon Dioxide	U	6600	20000	ug/l	T8	SM4500C	12/19/12	1
Ferrous Iron	29.	17.	50.	ug/l	JT8P1	3500Fe-	12/13/12	1
Sulfide	28.	19.	50.	ug/l	J	4500-S2	12/13/12	1
Iron	41.	14.	100	ug/l	J	6010B	12/19/12	1
Iron, Dissolved	U	14.	100	ug/l		6010B	12/18/12	1
Gasoline Range Organics-NWTPH	U	50.	100	ug/l		NWTPHGX	12/13/12	1
Benzene	U	0.19	0.50	ug/l		NWTPHGX	12/13/12	1
Toluene	U	0.18	5.0	ug/l		NWTPHGX	12/13/12	1
Ethylbenzene	U	0.16	0.50	ug/l		NWTPHGX	12/13/12	1
Total Xylene	U	0.51	1.5	ug/l		NWTPHGX	12/13/12	1
Surrogate Recovery(%)								
a,a,a-Trifluorotoluene(PID)	104.			% Rec.		NWTPHGX	12/13/12	1
a,a,a-Trifluorotoluene(FID)	97.1			% Rec.		NWTPHGX	12/13/12	1
Diesel Range Organics (DRO)	90.	50.	100	ug/l	J	NWTPHDX	12/18/12	1
Residual Range Organics (RRO)	U	120	250	ug/l		NWTPHDX	12/18/12	1
Surrogate Recovery								
o-Terphenyl	112.			% Rec.		NWTPHDX	12/18/12	1
Polynuclear Aromatic Hydrocarbons								
Anthracene	U	0.0076	0.050	ug/l		8270C-S	12/13/12	1
Acenaphthene	U	0.0082	0.050	ug/l		8270C-S	12/13/12	1
Acenaphthylene	U	0.0068	0.050	ug/l		8270C-S	12/13/12	1
Benzo(a)anthracene	U	0.012	0.050	ug/l		8270C-S	12/13/12	1
Benzo(a)pyrene	U	0.012	0.050	ug/l		8270C-S	12/13/12	1
Benzo(b)fluoranthene	U	0.014	0.050	ug/l		8270C-S	12/13/12	1
Benzo(g,h,i)perylene	U	0.011	0.050	ug/l		8270C-S	12/13/12	1
Benzo(k)fluoranthene	U	0.014	0.050	ug/l		8270C-S	12/13/12	1
Chrysene	U	0.011	0.050	ug/l		8270C-S	12/13/12	1
Dibenz(a,h)anthracene	U	0.0040	0.050	ug/l		8270C-S	12/13/12	1
Fluoranthene	U	0.016	0.050	ug/l		8270C-S	12/13/12	1
Fluorene	U	0.0085	0.050	ug/l		8270C-S	12/13/12	1
Indeno(1,2,3-cd)pyrene	U	0.015	0.050	ug/l		8270C-S	12/13/12	1
Naphthalene	U	0.020	0.25	ug/l		8270C-S	12/13/12	1
Phenanthrene	U	0.0082	0.050	ug/l		8270C-S	12/13/12	1
Pyrene	U	0.012	0.050	ug/l		8270C-S	12/13/12	1

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REPORT OF ANALYSIS

Kristin Darnell
 Farallon Consulting - BNSF Region 1
 975 5th Avenue Northwest
 Issaquah, WA 98027

December 20, 2012

Date Received : December 12, 2012
 Description : BNSF - JML - Cashmere, WA
 Sample ID : MW3-121112
 Collected By : Jon Peterson
 Collection Date : 12/11/12 09:00

ESC Sample # : L610583-03
 Site ID :
 Project # : TT9206-M03

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
1-Methylnaphthalene	U	0.0082	0.25	ug/l		8270C-S	12/13/12	1
2-Methylnaphthalene	U	0.0090	0.25	ug/l		8270C-S	12/13/12	1
2-Chloronaphthalene	U	0.0065	0.25	ug/l		8270C-S	12/13/12	1
Surrogate Recovery								
Nitrobenzene-d5	116.			%	Rec.	8270C-S	12/13/12	1
2-Fluorobiphenyl	104.			%	Rec.	8270C-S	12/13/12	1
p-Terphenyl-d14	94.9			%	Rec.	8270C-S	12/13/12	1

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REPORT OF ANALYSIS

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 Farallon Consulting - BNSF Region 1
 975 5th Avenue Northwest
 Issaquah, WA 98027

December 20, 2012

Date Received : December 12, 2012
 Description : BNSF - JML - Cashmere, WA

ESC Sample # : L610583-04

Sample ID : MW1-121112

Site ID :

Collected By : Jon Peterson
 Collection Date : 12/11/12 10:20

Project # : TT9206-M03

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Nitrate	3000	23.	100	ug/l		9056	12/12/12	1
Sulfate	16000	77.	5000	ug/l		9056	12/12/12	1
Free Carbon Dioxide	U	6600	20000	ug/l	T8	SM4500C	12/19/12	1
Ferrous Iron	37.	17.	50.	ug/l	JT8	3500Fe-	12/13/12	1
Sulfide	30.	19.	50.	ug/l	JP1	4500-S2	12/13/12	1
Iron	210	14.	100	ug/l		6010B	12/19/12	1
Iron, Dissolved	U	14.	100	ug/l		6010B	12/18/12	1
Gasoline Range Organics-NWTPH	U	50.	100	ug/l		NWTPHGX	12/13/12	1
Benzene	U	0.19	0.50	ug/l		NWTPHGX	12/13/12	1
Toluene	U	0.18	5.0	ug/l		NWTPHGX	12/13/12	1
Ethylbenzene	U	0.16	0.50	ug/l		NWTPHGX	12/13/12	1
Total Xylene	U	0.51	1.5	ug/l		NWTPHGX	12/13/12	1
Surrogate Recovery(%)								
a,a,a-Trifluorotoluene(PID)	104.			% Rec.		NWTPHGX	12/13/12	1
a,a,a-Trifluorotoluene(FID)	97.0			% Rec.		NWTPHGX	12/13/12	1
Diesel Range Organics (DRO)	200	50.	100	ug/l		NWTPHDX	12/18/12	1
Residual Range Organics (RRO)	150	120	250	ug/l	J	NWTPHDX	12/18/12	1
Surrogate Recovery								
o-Terphenyl	108.			% Rec.		NWTPHDX	12/18/12	1
Polynuclear Aromatic Hydrocarbons								
Anthracene	0.016	0.0076	0.050	ug/l	J	8270C-S	12/18/12	1
Acenaphthene	0.026	0.0082	0.050	ug/l	J	8270C-S	12/18/12	1
Acenaphthylene	U	0.0068	0.050	ug/l		8270C-S	12/18/12	1
Benzo(a)anthracene	U	0.012	0.050	ug/l		8270C-S	12/18/12	1
Benzo(a)pyrene	U	0.012	0.050	ug/l		8270C-S	12/18/12	1
Benzo(b)fluoranthene	U	0.014	0.050	ug/l		8270C-S	12/18/12	1
Benzo(g,h,i)perylene	U	0.011	0.050	ug/l		8270C-S	12/18/12	1
Benzo(k)fluoranthene	U	0.014	0.050	ug/l		8270C-S	12/18/12	1
Chrysene	U	0.011	0.050	ug/l		8270C-S	12/18/12	1
Dibenz(a,h)anthracene	U	0.0040	0.050	ug/l	L1	8270C-S	12/18/12	1
Fluoranthene	U	0.016	0.050	ug/l		8270C-S	12/18/12	1
Fluorene	0.014	0.0085	0.050	ug/l	J	8270C-S	12/18/12	1
Indeno(1,2,3-cd)pyrene	U	0.015	0.050	ug/l	L1	8270C-S	12/18/12	1
Naphthalene	0.11	0.020	0.25	ug/l	J	8270C-S	12/18/12	1
Phenanthrene	U	0.0082	0.050	ug/l		8270C-S	12/18/12	1
Pyrene	0.028	0.012	0.050	ug/l	J	8270C-S	12/18/12	1

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REPORT OF ANALYSIS

Kristin Darnell
 Farallon Consulting - BNSF Region 1
 975 5th Avenue Northwest
 Issaquah, WA 98027

December 20, 2012

Date Received : December 12, 2012
 Description : BNSF - JML - Cashmere, WA
 Sample ID : MW1-121112
 Collected By : Jon Peterson
 Collection Date : 12/11/12 10:20

ESC Sample # : L610583-04
 Site ID :
 Project # : TT9206-M03

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
1-Methylnaphthalene	0.31	0.0082	0.25	ug/l		8270C-S	12/18/12	1
2-Methylnaphthalene	0.031	0.0090	0.25	ug/l	J	8270C-S	12/18/12	1
2-Chloronaphthalene	U	0.0065	0.25	ug/l		8270C-S	12/18/12	1
Surrogate Recovery								
Nitrobenzene-d5	98.1			%	Rec.	8270C-S	12/18/12	1
2-Fluorobiphenyl	108.			%	Rec.	8270C-S	12/18/12	1
p-Terphenyl-d14	109.			%	Rec.	8270C-S	12/18/12	1

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Attachment A
List of Analytes with QC Qualifiers

Sample Number	Work Group	Sample Type	Analyte	Run ID	Qualifier
L610583-01	WG628714	SAMP	Free Carbon Dioxide	R2485678	T8
	WG628498	SAMP	Iron	R2485158	J
L610583-02	WG627849	SAMP	Ferrous Iron	R2475937	JT8
	WG628714	SAMP	Free Carbon Dioxide	R2485678	T8
	WG628498	SAMP	Iron	R2485158	J
	WG627849	SAMP	Ferrous Iron	R2475937	T8
	WG628018	SAMP	Diesel Range Organics (DRO)	R2484277	J
	WG628018	SAMP	Residual Range Organics (RRO)	R2484277	J
L610583-03	WG627799	SAMP	Naphthalene	R2477304	J
	WG627851	SAMP	Sulfide	R2477037	J
	WG628714	SAMP	Free Carbon Dioxide	R2485678	T8
	WG628498	SAMP	Iron	R2485158	J
	WG627849	SAMP	Ferrous Iron	R2475937	JT8P1
L610583-04	WG628018	SAMP	Diesel Range Organics (DRO)	R2484277	J
	WG627851	SAMP	Sulfide	R2477037	J
	WG628714	SAMP	Free Carbon Dioxide	R2485678	T8
	WG627849	SAMP	Ferrous Iron	R2475937	JT8
	WG628018	SAMP	Residual Range Organics (RRO)	R2484277	J
	WG627800	SAMP	Anthracene	R2484797	J
	WG627800	SAMP	Acenaphthene	R2484797	J
	WG627800	SAMP	Dibenz(a,h)anthracene	R2484797	L1
	WG627800	SAMP	Fluorene	R2484797	J
	WG627800	SAMP	Indeno(1,2,3-cd)pyrene	R2484797	L1
	WG627800	SAMP	Naphthalene	R2484797	J
	WG627800	SAMP	Pyrene	R2484797	J
	WG627800	SAMP	2-Methylnaphthalene	R2484797	J
	WG627851	SAMP	Sulfide	R2477037	JP1

Attachment B
Explanation of QC Qualifier Codes

Qualifier	Meaning
J	(EPA) - Estimated value below the lowest calibration point. Confidence correlates with concentration.
L1	(ESC) The associated batch LCS exceeded the upper control limit, which indicates a high bias; The sample analyte was "not detected" and is therefore unaffected.
P1	RPD value not applicable for sample concentrations less than 5 times the reporting limit.
T8	(ESC) - Additional method/sample information: Sample(s) received past/too close to holding time expiration.

Qualifier Report Information

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

Definitions

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

Summary of Remarks For Samples Printed
12/20/12 at 12:49:18

TSR Signing Reports: 134
R5 - Desired TAT

Sample: L610583-01 Account: BNSF1FAR Received: 12/12/12 09:00 Due Date: 12/19/12 00:00 RPT Date: 12/20/12 12:48

Sample: L610583-02 Account: BNSF1FAR Received: 12/12/12 09:00 Due Date: 12/19/12 00:00 RPT Date: 12/20/12 12:48

Sample: L610583-03 Account: BNSF1FAR Received: 12/12/12 09:00 Due Date: 12/19/12 00:00 RPT Date: 12/20/12 12:48

Sample: L610583-04 Account: BNSF1FAR Received: 12/12/12 09:00 Due Date: 12/19/12 00:00 RPT Date: 12/20/12 12:48



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Quality Control Summary
SDG: L610583
Farallon Consulting - BNSF Region 1

Test:	Anions by Method 9056	Matrix:	Water - mg/L
Project No:	TT9206-M03	EPA ID:	TN00003
Project:	BNSF - JML - Cashmere, WA	Analytic Batch:	WG627747
Collection Date:	12/11/2012	Analyst:	477
Analysis Date:	12/12/2012		
Instrument ID:	IC-9		
Sample Numbers:	L610583-01, -03, -04, -02		

Method Blank

Analyte	CAS	PQL	Qualifiers
Nitrate		<0.100	
Sulfate		<5.00	

Laboratory Control Sample (LCS)

Analyte	True Value	Found	Recovery %	Control Limits	Qualifiers
Nitrate	8.00	8.12	101	90 - 110	
Sulfate	40.0	39.8	99.5	90 - 110	

Laboratory Control Sample Duplicate (LCSD)

Analyte	True Value	Found	Recovery %	Control Limits	Qualifiers
Nitrate	8.00	8.12	101	90 - 110	
Sulfate	40.0	39.8	99.5	90 - 110	



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Quality Control Summary
SDG: L610583
Farallon Consulting - BNSF Region 1

Test:	Anions by Method 9056	Matrix:	Water - mg/L
Project No:	TT9206-M03	EPA ID:	TN00003
Project:	BNSF - JML - Cashmere, WA	Analytic Batch:	WG627747
Collection Date:	12/11/2012	Analyst:	477
Analysis Date:	12/12/2012		
Instrument ID:	IC-9		
Sample Numbers:	L610583-01, -03, -04, -02		

Laboratory Control Sample/ Laboratory Control Sample Duplicate

Analyte	Spike	LCS	% Rec		Control Limits	Qualifier	% RPD		Control Limits	Qualifier
			LCSD	Rec			RPD	RPD		
Nitrate	8.00	8.12	101	8.12	101	90-110		0.0	20	
Sulfate	40.0	39.8	99.5	39.8	99.5	90-110		0.0	20	

Sample Duplicate
 L610583-01

Name	Sample Results	Duplic Results	%RPD	Limit	Qualifiers
Nitrate	3.70	3.80	2.7	20	
Sulfate	16.0	16.0	0.0	20	

Sample Duplicate
 L610596-08

Name	Sample Results	Duplic Results	%RPD	Limit	Qualifiers
Nitrate	0.930	1.20	25	20	J3



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Quality Control Summary
SDG: L610583
Farallon Consulting - BNSF Region 1

Test:	Anions by Method 9056	Matrix:	Water - mg/L
Project No:	TT9206-M03	EPA ID:	TN00003
Project:	BNSF - JML - Cashmere, WA	Analytic Batch:	WG627747
Collection Date:	12/11/2012	Analyst:	477
Analysis Date:	12/12/2012		
Instrument ID:	IC-9		
Sample Numbers:	L610583-01, -03, -04, -02		

Matrix Spike/Matrix Spike Duplicate

L610569-01

Analyte	Spike		%		%		Control Limits	% Rec Qualifier	% RPD	Control Limits	RPD Qual
	Value	Sample	MS	Rec	MSD	Rec					
Nitrate	5.00	0.000	4.72	94.4	4.67	93.4	80-120		1.1	20	



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Quality Control Summary
SDG: L610583
Farallon Consulting - BNSF Region 1

Test:	Ferrous Iron by Method 3500Fe-B	Matrix:	Water - mg/L
Project No:	TT9206-M03	EPA ID:	TN00003
Project:	BNSF - JML - Cashmere, WA	Analytic Batch:	WG627849
Collection Date:	12/11/2012	Analyst:	578
Analysis Date:	12/13/2012 10:10:00 AM	Extraction Date:	12/12/2012
Instrument ID:	DR5000-02		
Sample Numbers:	L610583-02, -03, -01, -04		

Method Blank

Analyte	CAS	PQL	Qualifiers
Ferrous Iron		<0.0500	

Laboratory Control Sample (LCS)

Analyte	True Value	Found	Recovery %	Control Limits	Qualifiers
Ferrous Iron	1.00	0.975	97.5	85 - 115	

Laboratory Control Sample Duplicate (LCSD)

Analyte	True Value	Found	Recovery %	Control Limits	Qualifiers
Ferrous Iron	1.00	0.967	96.7	85 - 115	



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Quality Control Summary
SDG: L610583
Farallon Consulting - BNSF Region 1

Test:	Ferrous Iron by Method 3500Fe-B	Matrix:	Water - mg/L
Project No:	TT9206-M03	EPA ID:	TN00003
Project:	BNSF - JML - Cashmere, WA	Analytic Batch:	WG627849
Collection Date:	12/11/2012	Analyst:	578
Analysis Date:	12/13/2012 10:10:00 AM	Extraction Date:	12/12/2012
Instrument ID:	DR5000-02		
Sample Numbers:	L610583-02, -03, -01, -04		

Laboratory Control Sample/ Laboratory Control Sample Duplicate

Analyte	Spike	LCS	% Rec	LCSD	% Rec	Control Limits	Qualifier	% RPD	Control Limits	Qualifier
Ferrous Iron	1.00	0.975	97.5	0.967	96.7	85-115		0.8	20	

Sample Duplicate

L610583-03

Name	Sample Results	Duplic Results	%RPD	Limit	Qualifiers
Ferrous Iron	0.0290	0.0140	70	20	P1

Matrix Spike/Matrix Spike Duplicate

L610583-04

Analyte	Spike Value	Sample	MS	% Rec	MSD	% Rec	Control Limits	% Rec Qualifier	% RPD	Control Limits	RPD Qual
Ferrous Iron	1.50	0.0370	1.57	102	1.53	99.5	80-120		2.6	20	



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Quality Control Summary
SDG: L610583
Farallon Consulting - BNSF Region 1

Test:	Sulfide by Method 4500-S2 D	Matrix:	Water - mg/L
Project No:	TT9206-M03	EPA ID:	TN00003
Project:	BNSF - JML - Cashmere, WA	Analytic Batch:	WG627851
Collection Date:	12/11/2012	Analyst:	568
Analysis Date:	12/13/2012 11:08:00 AM	Extraction Date:	12/12/2012
Instrument ID:	DR5000-02		
Sample Numbers:	L610583-02, -04, -03, -01		

Method Blank

Analyte	CAS	PQL	Qualifiers
Sulfide		<0.0500	

Laboratory Control Sample (LCS)

Analyte	True Value	Found	Recovery %	Control Limits	Qualifiers
Sulfide	0.500	0.528	106	85 - 115	

Laboratory Control Sample Duplicate (LCSD)

Analyte	True Value	Found	Recovery %	Control Limits	Qualifiers
Sulfide	0.500	0.538	108	85 - 115	



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Quality Control Summary
SDG: L610583
Farallon Consulting - BNSF Region 1

Test:	Sulfide by Method 4500-S2 D	Matrix:	Water - mg/L
Project No:	TT9206-M03	EPA ID:	TN00003
Project:	BNSF - JML - Cashmere, WA	Analytic Batch:	WG627851
Collection Date:	12/11/2012	Analyst:	568
Analysis Date:	12/13/2012 11:08:00 AM	Extraction Date:	12/12/2012
Instrument ID:	DR5000-02		
Sample Numbers:	L610583-02, -04, -03, -01		

Laboratory Control Sample/ Laboratory Control Sample Duplicate

Analyte	Spike	LCS	% Rec	LCS D	% Rec	Control Limits	Qualifier	% RPD	Control Limits	Qualifier
Sulfide	0.500	0.528	106	0.538	108	85-115		1.9	20	

Sample Duplicate

L610583-04

Name	Sample Results	Duplic Results	%RPD	Limit	Qualifiers
Sulfide	0.0300	0.0230	26	20	P1

Sample Duplicate

L609772-01

Name	Sample Results	Duplic Results	%RPD	Limit	Qualifiers
Sulfide	2.80	3.00	6.9	20	



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Quality Control Summary
SDG: L610583
Farallon Consulting - BNSF Region 1

Test:	Sulfide by Method 4500-S2 D	Matrix:	Water - mg/L
Project No:	TT9206-M03	EPA ID:	TN00003
Project:	BNSF - JML - Cashmere, WA	Analytic Batch:	WG627851
Collection Date:	12/11/2012	Analyst:	568
Analysis Date:	12/13/2012 11:08:00 AM	Extraction Date:	12/12/2012
Instrument ID:	DR5000-02		
Sample Numbers:	L610583-02, -04, -03, -01		

Matrix Spike/Matrix Spike Duplicate

L609772-02

Analyte	Spike Value	Sample	MS	% Rec	MSD	% Rec	Control Limits	% Rec Qualifier	% RPD	Control Limits	RPD Qual
Sulfide	1.00	0.0000	1.05	105	1.06	106	80-120		0.9	20	



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Quality Control Summary
SDG: L610583
Farallon Consulting - BNSF Region 1

Test:	Trace Metals by Method 6010B	Matrix:	Water - mg/L
Project No:	TT9206-M03	EPA ID:	TN00003
Project:	BNSF - JML - Cashmere, WA	Analytic Batch:	WG628486
Collection Date:	12/11/2012	Analyst:	454
Analysis Date:	12/18/2012	Extraction Date:	12/16/2012
Instrument ID:	ICP8		
Sample Numbers:	L610583-03, -04, -01, -02		

Method Blank

Analyte	CAS	PQL	Qualifiers
Iron,Dissolved	7439-89-6	<0.100	

Laboratory Control Sample (LCS)

Analyte	True Value	Found	Recovery %	Control Limits	Qualifiers
Iron,Dissolved	1.11	1.04	93.7	85 - 115	



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Quality Control Summary
SDG: L610583
Farallon Consulting - BNSF Region 1

Test:	Trace Metals by Method 6010B	Matrix:	Water - mg/L
Project No:	TT9206-M03	EPA ID:	TN00003
Project:	BNSF - JML - Cashmere, WA	Analytic Batch:	WG628498
Collection Date:	12/11/2012	Analyst:	428
Analysis Date:	12/19/2012	Extraction Date:	12/17/2012
Instrument ID:	ICP9		
Sample Numbers:	L610583-02, -04, -01, -03		

Method Blank

Analyte	CAS	PQL	Qualifiers
Iron	7439-89-6	<0.100	

Laboratory Control Sample (LCS)

Analyte	True Value	Found	Recovery %	Control Limits	Qualifiers
Iron	1.11	1.22	110	85 - 115	



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Quality Control Summary
SDG: L610583
Farallon Consulting - BNSF Region 1

Test:	Trace Metals by Method 6010B	Matrix:	Water - mg/L
Project No:	TT9206-M03	EPA ID:	TN00003
Project:	BNSF - JML - Cashmere, WA	Analytic Batch:	WG628486
Collection Date:	12/11/2012	Analyst:	454
Analysis Date:	12/18/2012	Extraction Date:	12/16/2012
Instrument ID:	ICP8		
Sample Numbers:	L610583-03, -04, -01, -02		

Sample Duplicate
 L610583-01

Name	Sample Results	Duplic Results	%RPD	Limit	Qualifiers
Iron,Dissolved	0.0000	0.0000			

Matrix Spike/Matrix Spike Duplicate
 L610583-01

Analyte	Spike Value	Sample	MS	% Rec	MSD	% Rec	Control Limits	% Rec Qualifier	% RPD	Control Limits	RPD Qual
Iron,Dissolved	1.11	0.0000	1.04	93.7	1.03	92.8	75-125		1.0	20	



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Quality Control Summary
SDG: L610583
Farallon Consulting - BNSF Region 1

Test:	Trace Metals by Method 6010B	Matrix:	Water - mg/L
Project No:	TT9206-M03	EPA ID:	TN00003
Project:	BNSF - JML - Cashmere, WA	Analytic Batch:	WG628498
Collection Date:	12/11/2012	Analyst:	428
Analysis Date:	12/19/2012	Extraction Date:	12/17/2012
Instrument ID:	ICP9		
Sample Numbers:	L610583-02, -04, -01, -03		

Sample Duplicate
 L610649-01

Name	Sample Results	Duplic Results	%RPD	Limit	Qualifiers
Iron	47.0	46.0	2.2	20	

Matrix Spike/Matrix Spike Duplicate
 L610649-01

Analyte	Spike Value	Sample	MS	% Rec	MSD	% Rec	Control Limits	% Rec Qualifier	% RPD	Control Limits	RPD Qual
Iron	1.11	46.0	48.2	198	47.6	144	75-125	V	1.3	20	



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Quality Control Summary
SDG: L610583
Farallon Consulting - BNSF Region 1

Test:	Method NWTPHGX	Matrix:	Water - mg/L
Project No:	TT9206-M03	EPA ID:	TN00003
Project:	BNSF - JML - Cashmere, WA	Analytic Batch:	WG627768
Collection Date:	12/11/2012	Analyst:	229
Analysis Date:	12/13/2012		
Instrument ID:	VOCGC1		
Sample Numbers:	L610583-01, -02, -03, -04		

Method Blank

Analyte	CAS	PQL	Qualifiers
Gasoline Range Organics-NWTPH		<0.100	
Benzene	71-43-2	<0.0005	
Toluene	108-88-3	<0.0050	
Ethylbenzene	100-41-4	<0.0005	
m&p-Xylene	1330-20-7	<0.0015	
o-Xylene	1330-20-7	<0.0015	

Laboratory Control Sample (LCS)

Analyte	True Value	Found	Recovery %	Control Limits	Qualifiers
Benzene	0.0500	0.0490	98.1	79 - 114	
Toluene	0.0500	0.0489	97.8	79 - 112	
Ethylbenzene	0.0500	0.0501	100	80 - 116	
m&p-Xylene	0.100	0.0963	96.3	85 - 120	
o-Xylene	0.0500	0.0497	99.4	82 - 116	
Gasoline Range Organics-NWTPH	5.50	6.08	111	70 - 124	

Laboratory Control Sample Duplicate (LCSD)

Analyte	True Value	Found	Recovery %	Control Limits	Qualifiers
Benzene	0.0500	0.0508	102	79 - 114	
Toluene	0.0500	0.0500	100	79 - 112	
Ethylbenzene	0.0500	0.0523	105	80 - 116	
m&p-Xylene	0.100	0.100	100	85 - 120	
o-Xylene	0.0500	0.0515	103	82 - 116	
Gasoline Range Organics-NWTPH	5.50	6.07	110	70 - 124	



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Quality Control Summary
SDG: L610583
Farallon Consulting - BNSF Region 1

Test:	Method NWTPHGX	Matrix:	Water - mg/L
Project No:	TT9206-M03	EPA ID:	TN00003
Project:	BNSF - JML - Cashmere, WA	Analytic Batch:	WG627768
Collection Date:	12/11/2012	Analyst:	229
Analysis Date:	12/13/2012		
Instrument ID:	VOCGC1		
Sample Numbers:	L610583-01, -02, -03, -04		

Surrogate Summary

Laboratory Sample ID	a,a,a-Trifluorotoluene - FID		a,a,a-Trifluorotoluene - PID	
	ppb	% Rec	ppb	% Rec
LCS WG627768	195	97.5	207	103
LCSD WG627768	195	97.6	207	104
LCS WG627768	207	104	231	116
LCSD WG627768	207	103	230	115
MS WG627768	195	97.7	206	103
MSD WG627768	195	97.5	206	103
MS WG627768	208	104	230	115
MSD WG627768	209	105	233	117
Blank WG627768	195	97.7	208	104
L610583-01	194	97.0	207	104
L610583-02	194	96.9	207	103
L610583-03	194	97.1	207	104
L610583-04	194	97.0	207	104

a,a,a-Trifluorotoluene (FID) 200 ppb Limits - 62 - 128
 a,a,a-Trifluorotoluene (PID) 200 ppb Limits - 55 - 122



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Quality Control Summary
SDG: L610583
Farallon Consulting - BNSF Region 1

Test:	Method NWTPHGX	Matrix:	Water - mg/L
Project No:	TT9206-M03	EPA ID:	TN00003
Project:	BNSF - JML - Cashmere, WA	Analytic Batch:	WG627768
Collection Date:	12/11/2012	Analyst:	229
Analysis Date:	12/13/2012		
Instrument ID:	VOCGC1		
Sample Numbers:	L610583-01, -02, -03, -04		

Laboratory Control Sample/ Laboratory Control Sample Duplicate

Analyte	Spike	LCS	%		Control Limits	Qualifier	RPD	Control	
			Rec	LCSD				Rec	Limits
Benzene	0.0500	0.0490	98.1	0.0508	102	79-114	3.5	20	
Toluene	0.0500	0.0489	97.8	0.0500	100	79-112	2.3	20	
Ethylbenzene	0.0500	0.0501	100	0.0523	105	80-116	4.3	20	
m&p-Xylene	0.100	0.0963	96.3	0.100	100	85-120	4.0	20	
o-Xylene	0.0500	0.0497	99.4	0.0515	103	82-116	3.7	20	
Gasoline Range Organics-	5.50	6.08	111	6.07	110	70-124	0.3	20	

Matrix Spike/Matrix Spike Duplicate

L609967-05

Analyte	Spike		MS	%		Control Limits	% Rec Qualifier	RPD	Control Limits	RPD Qual
	Value	Sample		Rec	MSD					
Benzene	0.0500	0.0000	0.0482	96.4	0.0507	101	35-147	5.0	20	
Toluene	0.0500	0.0000	0.0492	98.4	0.0503	101	35-148	2.1	20	
Ethylbenzene	0.0500	0.0000	0.0496	99.2	0.0514	103	39-141	3.5	20	
m&p-Xylene	0.100	0.0000	0.0955	95.5	0.0986	98.6	26-157	3.2	20	
o-Xylene	0.0500	0.0000	0.0487	97.4	0.0504	101	40-145	3.5	20	
Gasoline Range Organics-	5.50	0.0000	6.26	114	6.76	123	58-122	J5	7.6	20



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Quality Control Summary
SDG: L610583
Farallon Consulting - BNSF Region 1

Test:	Diesel Range Organics by Method 8015	Matrix:	Water - mg/L
Project No:	TT9206-M03	EPA ID:	TN00003
Project:	BNSF - JML - Cashmere, WA	Analytic Batch:	WG628018
Collection Date:	12/11/2012	Analyst:	280
Analysis Date:	12/18/2012	Extraction Date:	12/13/2012
Instrument ID:	SVGC27		
Sample Numbers:	L610583-01, -02, -03, -04		

Method Blank

Analyte	CAS	PQL	Qualifiers
Diesel Range Organics (DRO)		<0.10	
Residual Range Organics (RRO)		<0.25	

Laboratory Control Sample (LCS)

Analyte	True Value	Found	Recovery %	Control Limits	Qualifiers
Total Range Organics	1.50	1.93	128	50 - 150	

Laboratory Control Sample Duplicate (LCSD)

Analyte	True Value	Found	Recovery %	Control Limits	Qualifiers
Total Range Organics	1.50	1.79	119	50 - 150	



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Quality Control Summary
SDG: L610583
Farallon Consulting - BNSF Region 1

Test:	Diesel Range Organics by Method 8015	Matrix:	Water - mg/L
Project No:	TT9206-M03	EPA ID:	TN00003
Project:	BNSF - JML - Cashmere, WA	Analytic Batch:	WG628018
Collection Date:	12/11/2012	Analyst:	280
Analysis Date:	12/18/2012	Extraction Date:	12/13/2012
Instrument ID:	SVGC27		
Sample Numbers:	L610583-01, -02, -03, -04		

Surrogate Summary

Laboratory Sample ID	o-Terphenyl	
	ppm	% Rec
Blank WG628018	0.0223	111
LCS WG628018	0.0218	109
LCSD WG628018	0.0205	102
L610583-01	0.0227	114
L610583-02	0.0224	112
L610583-03	0.0224	112
L610583-04	0.0216	108

o-Terphenyl

True Value: 0.02ppm Limits: 50 - 150



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Quality Control Summary
SDG: L610583
Farallon Consulting - BNSF Region 1

Test:	Diesel Range Organics by Method 8015	Matrix:	Water - mg/L
Project No:	TT9206-M03	EPA ID:	TN00003
Project:	BNSF - JML - Cashmere, WA	Analytic Batch:	WG628018
Collection Date:	12/11/2012	Analyst:	280
Analysis Date:	12/18/2012	Extraction Date:	12/13/2012
Instrument ID:	SVGC27		
Sample Numbers:	L610583-01, -02, -03, -04		

Laboratory Control Sample/ Laboratory Control Sample Duplicate

Analyte	Spike	LCS	% Rec		Control Limits		Qualifier	% Control	
			Rec	LCSD	Rec	Limits		RPD	Limits
Total Range Organics	1.50	1.93	128	1.79	119	50-150		7.5	25



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Quality Control Summary
SDG: L610583
Farallon Consulting - BNSF Region 1

Test:	Semi-Volatiles by Method 8270C-SIM		
Project No:	TT9206-M03	Matrix:	Water - mg/L
Project:	BNSF - JML - Cashmere, WA	EPA ID:	TN00003
Collection Date:	12/11/2012	Analytic Batch:	WG627799
Analysis Date:	12/13/2012	Analyst:	282
Instrument ID:	BNAMS12	Extraction Date:	12/12/2012
Sample Numbers:	L610583-01, -02, -03		

Method Blank

Analyte	CAS	PQL	Qualifiers
Naphthalene	91-20-3	<0.000250	
2-Methylnaphthalene	91-57-6	<0.000250	
1-Methylnaphthalene	90-12-0	<0.000250	
2-Chloronaphthalene	91-58-7	<0.0000500	
Acenaphthylene	208-96-8	<0.0000500	
Acenaphthene	83-32-9	<0.0000500	
Fluorene	86-73-7	<0.0000500	
Phenanthrene	85-01-8	<0.0000500	
Anthracene	120-12-7	<0.0000500	
Fluoranthene	206-44-0	<0.0000500	
Pyrene	129-00-0	<0.0000500	
Benzo(a)anthracene	56-55-3	<0.0000500	
Chrysene	218-01-9	<0.0000500	
Benzo(b)fluoranthene	205-99-2	<0.0000500	
Benzo(k)fluoranthene	207-08-9	<0.0000500	
Benzo(a)pyrene	50-32-8	<0.0000500	
Indeno(1,2,3-cd)pyrene	193-39-5	<0.0000500	
Dibenz(a,h)anthracene	53-70-3	<0.0000500	
Benzo(g,h,i)perylene	191-24-2	<0.0000500	



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Quality Control Summary
SDG: L610583
Farallon Consulting - BNSF Region 1

Test:	Semi-Volatiles by Method 8270C-SIM		
Project No:	TT9206-M03	Matrix:	Water - mg/L
Project:	BNSF - JML - Cashmere, WA	EPA ID:	TN00003
Collection Date:	12/11/2012	Analytic Batch:	WG627800
Analysis Date:	12/18/2012	Analyst:	282
Instrument ID:	BNAMS12	Extraction Date:	12/12/2012
Sample Numbers:	L610583-04		

Method Blank

Analyte	CAS	PQL	Qualifiers
Naphthalene	91-20-3	<0.000250	
2-Methylnaphthalene	91-57-6	<0.000250	
1-Methylnaphthalene	90-12-0	<0.000250	
2-Chloronaphthalene	91-58-7	<0.0000500	
Acenaphthylene	208-96-8	<0.0000500	
Acenaphthene	83-32-9	<0.0000500	
Fluorene	86-73-7	<0.0000500	
Phenanthrene	85-01-8	<0.0000500	
Anthracene	120-12-7	<0.0000500	
Fluoranthene	206-44-0	<0.0000500	
Pyrene	129-00-0	<0.0000500	
Benzo(a)anthracene	56-55-3	<0.0000500	
Chrysene	218-01-9	<0.0000500	
Benzo(b)fluoranthene	205-99-2	<0.0000500	
Benzo(k)fluoranthene	207-08-9	<0.0000500	
Benzo(a)pyrene	50-32-8	<0.0000500	
Indeno(1,2,3-cd)pyrene	193-39-5	<0.0000500	
Dibenz(a,h)anthracene	53-70-3	<0.0000500	
Benzo(g,h,i)perylene	191-24-2	<0.0000500	



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Quality Control Summary

SDG: L610583

Farallon Consulting - BNSF Region 1

Test:	Semi-volatile Organic Compounds by Method 8270C-SIM	Matrix:	Water - mg/L
Project No:	TT9206-M03	EPA ID:	TN00003
Project:	BNSF - JML - Cashmere, WA	Analytic Batch:	WG627799
Collection Date:	12/11/2012	Analyst:	282
Analysis Date:	12/13/2012 3:25:00 PM	Extraction Date:	12/12/2012
Instrument ID:	BNAMS12		
Sample Numbers:	L610583-01, -02, -03		

Laboratory Control Sample (LCS)

Analyte	True Value	Found	Recovery %	Control Limits	Qualifiers
1-Methylnaphthalene	0.00200	0.00204	102	70 - 130	
2-Chloronaphthalene	0.00200	0.00229	114	70 - 130	
2-Methylnaphthalene	0.00200	0.00204	102	70 - 130	
Acenaphthene	0.00200	0.00220	110	70 - 130	
Acenaphthylene	0.00200	0.00198	99.1	70 - 130	
Anthracene	0.00200	0.00207	103	70 - 130	
Benzo(a)anthracene	0.00200	0.00211	106	70 - 130	
Benzo(a)pyrene	0.00200	0.00201	100	70 - 130	
Benzo(b)fluoranthene	0.00200	0.00199	99.4	70 - 130	
Benzo(g,h,i)perylene	0.00200	0.00175	87.5	70 - 130	
Benzo(k)fluoranthene	0.00200	0.00221	111	70 - 130	
Chrysene	0.00200	0.00218	109	70 - 130	
Dibenz(a,h)anthracene	0.00200	0.00172	86.0	70 - 130	
Fluoranthene	0.00200	0.00224	112	70 - 130	
Fluorene	0.00200	0.00219	110	70 - 130	
Indeno(1,2,3-cd)pyrene	0.00200	0.00184	92.2	70 - 130	
Naphthalene	0.00200	0.00232	116	70 - 130	
Phenanthrene	0.00200	0.00213	106	70 - 130	
Pyrene	0.00200	0.00214	107	70 - 130	



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Quality Control Summary

SDG: L610583

Farallon Consulting - BNSF Region 1

Test:	Semi-volatile Organic Compounds by Method 8270C-SIM		
Project No:	TT9206-M03	Matrix:	Water - mg/L
Project:	BNSF - JML - Cashmere, WA	EPA ID:	TN00003
Collection Date:	12/11/2012	Analytic Batch:	WG627799
Analysis Date:	12/13/2012 3:25:00 PM	Analyst:	282
Instrument ID:	BNAMS12	Extraction Date:	12/12/2012
Sample Numbers:	L610583-01, -02, -03		

Laboratory Control Sample Duplicate (LCSD)

Analyte	True Value	Found	Recovery %	Control Limits	Qualifiers
1-Methylnaphthalene	0.00200	0.00200	100	70 - 130	
2-Chloronaphthalene	0.00200	0.00220	110	70 - 130	
2-Methylnaphthalene	0.00200	0.00200	100	70 - 130	
Acenaphthene	0.00200	0.00215	107	70 - 130	
Acenaphthylene	0.00200	0.00197	98.4	70 - 130	
Anthracene	0.00200	0.00206	103	70 - 130	
Benzo(a)anthracene	0.00200	0.00223	111	70 - 130	
Benzo(a)pyrene	0.00200	0.00214	107	70 - 130	
Benzo(b)fluoranthene	0.00200	0.00207	104	70 - 130	
Benzo(g,h,i)perylene	0.00200	0.00195	97.3	70 - 130	
Benzo(k)fluoranthene	0.00200	0.00228	114	70 - 130	
Chrysene	0.00200	0.00221	110	70 - 130	
Dibenz(a,h)anthracene	0.00200	0.00196	98.0	70 - 130	
Fluoranthene	0.00200	0.00227	114	70 - 130	
Fluorene	0.00200	0.00214	107	70 - 130	
Indeno(1,2,3-cd)pyrene	0.00200	0.00208	104	70 - 130	
Naphthalene	0.00200	0.00227	114	70 - 130	
Phenanthrene	0.00200	0.00212	106	70 - 130	
Pyrene	0.00200	0.00209	105	70 - 130	



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Quality Control Summary

SDG: L610583

Farallon Consulting - BNSF Region 1

Test:	Semi-volatile Organic Compounds by Method 8270C-SIM		
Project No:	TT9206-M03	Matrix:	Water - mg/L
Project:	BNSF - JML - Cashmere, WA	EPA ID:	TN00003
Collection Date:	12/11/2012	Analytic Batch:	WG627800
Analysis Date:	12/18/2012 3:46:00 PM	Analyst:	282
Instrument ID:	BNAMS12	Extraction Date:	12/12/2012
Sample Numbers:	L610583-04		

Laboratory Control Sample (LCS)

Analyte	True Value	Found	Recovery %	Control Limits	Qualifiers
1-Methylnaphthalene	0.00200	0.00250	125	70 - 130	
2-Chloronaphthalene	0.00200	0.00207	103	70 - 130	
2-Methylnaphthalene	0.00200	0.00249	124	70 - 130	
Acenaphthene	0.00200	0.00207	103	70 - 130	
Acenaphthylene	0.00200	0.00167	83.4	70 - 130	
Anthracene	0.00200	0.00176	88.1	70 - 130	
Benzo(a)anthracene	0.00200	0.00177	88.6	70 - 130	
Benzo(a)pyrene	0.00200	0.00206	103	70 - 130	
Benzo(b)fluoranthene	0.00200	0.00232	116	70 - 130	
Benzo(g,h,i)perylene	0.00200	0.00220	110	70 - 130	
Benzo(k)fluoranthene	0.00200	0.00244	122	70 - 130	
Chrysene	0.00200	0.00224	112	70 - 130	
Dibenz(a,h)anthracene	0.00200	0.00225	113	70 - 130	
Fluoranthene	0.00200	0.00192	95.9	70 - 130	
Fluorene	0.00200	0.00210	105	70 - 130	
Indeno(1,2,3-cd)pyrene	0.00200	0.00219	110	70 - 130	
Naphthalene	0.00200	0.00221	110	70 - 130	
Phenanthrene	0.00200	0.00204	102	70 - 130	
Pyrene	0.00200	0.00205	102	70 - 130	



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Quality Control Summary

SDG: L610583

Farallon Consulting - BNSF Region 1

Test:	Semi-volatile Organic Compounds by Method 8270C-SIM		
Project No:	TT9206-M03	Matrix:	Water - mg/L
Project:	BNSF - JML - Cashmere, WA	EPA ID:	TN00003
Collection Date:	12/11/2012	Analytic Batch:	WG627800
Analysis Date:	12/18/2012 3:46:00 PM	Analyst:	282
Instrument ID:	BNAMS12	Extraction Date:	12/12/2012
Sample Numbers:	L610583-04		

Laboratory Control Sample Duplicate (LCSD)

Analyte	True Value	Found	Recovery %	Control Limits	Qualifiers
1-Methylnaphthalene	0.00200	0.00251	126	70 - 130	
2-Chloronaphthalene	0.00200	0.00212	106	70 - 130	
2-Methylnaphthalene	0.00200	0.00249	125	70 - 130	
Acenaphthene	0.00200	0.00212	106	70 - 130	
Acenaphthylene	0.00200	0.00172	86.1	70 - 130	
Anthracene	0.00200	0.00180	90.2	70 - 130	
Benzo(a)anthracene	0.00200	0.00184	92.0	70 - 130	
Benzo(a)pyrene	0.00200	0.00209	105	70 - 130	
Benzo(b)fluoranthene	0.00200	0.00229	114	70 - 130	
Benzo(g,h,i)perylene	0.00200	0.00259	130	70 - 130	
Benzo(k)fluoranthene	0.00200	0.00257	129	70 - 130	
Chrysene	0.00200	0.00227	114	70 - 130	
Dibenz(a,h)anthracene	0.00200	0.00271	135	70 - 130	L1
Fluoranthene	0.00200	0.00197	98.5	70 - 130	
Fluorene	0.00200	0.00216	108	70 - 130	
Indeno(1,2,3-cd)pyrene	0.00200	0.00266	133	70 - 130	L1
Naphthalene	0.00200	0.00224	112	70 - 130	
Phenanthrene	0.00200	0.00207	103	70 - 130	
Pyrene	0.00200	0.00212	106	70 - 130	



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Quality Control Summary
SDG: L610583
Farallon Consulting - BNSF Region 1

Test:	Semi-Volatiles by Method 8270C-SIM		
Project No:	TT9206-M03	Matrix:	Water - mg/L
Project:	BNSF - JML - Cashmere, WA	EPA ID:	TN00003
Collection Date:	12/11/2012	Analytic Batch:	WG627799
Analysis Date:	12/13/2012	Analyst:	282
Instrument ID:	BNAMS12	Extraction Date:	12/12/2012
Sample Numbers:	L610583-01, -02, -03		

Surrogate Summary

Laboratory Sample ID	NBZ		2FP		TRP	
	ppb	% Rec	ppb	% Rec	ppb	% Rec
Blank WG627799	1.95	97.5	2.10	105	2.13	106
LCS WG627799	2.17	109	2.23	112	2.12	106
LCSD WG627799	2.19	109	2.19	110	2.14	107
L610583-01	2.27	114	2.07	103	1.98	99.2
L610583-02	2.28	114	2.05	102	1.95	97.4
L610583-03	2.33	116	2.08	104	1.90	94.9

NBZ - Nitrobenzene-d5	70-130
2FP - 2-Fluorobiphenyl	70-130
TPH - Terphneyl-d14	70-130



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Quality Control Summary

SDG: L610583

Farallon Consulting - BNSF Region 1

Test:	Semi-Volatiles by Method 8270C-SIM		
Project No:	TT9206-M03	Matrix:	Water - mg/L
Project:	BNSF - JML - Cashmere, WA	EPA ID:	TN00003
Collection Date:	12/11/2012	Analytic Batch:	WG627800
Analysis Date:	12/18/2012	Analyst:	282
Instrument ID:	BNAMS12	Extraction Date:	12/12/2012
Sample Numbers:	L610583-04		

Surrogate Summary

Laboratory Sample ID	NBZ		2FP		TRP	
	ppb	% Rec	ppb	% Rec	ppb	% Rec
Blank WG627800	1.70	84.8	2.15	107	2.33	116
LCS WG627800	1.70	85.2	2.15	108	2.32	116
LCSD WG627800	1.73	86.4	2.20	110	2.33	117
L610583-04	1.96	98.1	2.17	108	2.19	109

NBZ - Nitrobenzene-d5	70-130
2FP - 2-Fluorobiphenyl	70-130
TPH - Terphneyl-d14	70-130



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Quality Control Summary

SDG: L610583

Farallon Consulting - BNSF Region 1

Test:	Semi-volatile Organic Compounds by Method 8270C-SIM		
Project No:	TT9206-M03	Matrix:	Water - mg/L
Project:	BNSF - JML - Cashmere, WA	EPA ID:	TN00003
Collection Date:	12/11/2012	Analytic Batch:	WG627799
Analysis Date:	12/13/2012 3:25:00 PM	Analyst:	282
Instrument ID:	BNAMS12	Extraction Date:	12/12/2012
Sample Numbers:	L610583-01, -02, -03		

Laboratory Control Sample/ Laboratory Control Sample Duplicate

Analyte	Spike	LCS	% Rec		Control Limits	Qualifier	% Control	
			Rec	LCS			RPD	Limits
1-Methylnaphthalene	0.00200	0.00204	102	0.00200	100	70-130	1.9	25
2-Chloronaphthalene	0.00200	0.00229	114	0.00220	110	70-130	3.7	25
2-Methylnaphthalene	0.00200	0.00204	102	0.00200	100	70-130	1.8	25
Acenaphthene	0.00200	0.00220	110	0.00215	107	70-130	2.4	25
Acenaphthylene	0.00200	0.00198	99.1	0.00197	98.4	70-130	0.7	25
Anthracene	0.00200	0.00207	103	0.00206	103	70-130	0.4	25
Benzo(a)anthracene	0.00200	0.00211	106	0.00223	111	70-130	5.4	25
Benzo(a)pyrene	0.00200	0.00201	100	0.00214	107	70-130	6.6	25
Benzo(b)fluoranthene	0.00200	0.00199	99.4	0.00207	104	70-130	4.1	25
Benzo(g,h,i)perylene	0.00200	0.00175	87.5	0.00195	97.3	70-130	11	25
Benzo(k)fluoranthene	0.00200	0.00221	111	0.00228	114	70-130	2.9	25
Chrysene	0.00200	0.00218	109	0.00221	110	70-130	1.1	25
Dibenz(a,h)anthracene	0.00200	0.00172	86.0	0.00196	98.0	70-130	13	25
Fluoranthene	0.00200	0.00224	112	0.00227	114	70-130	1.6	25
Fluorene	0.00200	0.00219	110	0.00214	107	70-130	2.5	25
Indeno(1,2,3-cd)pyrene	0.00200	0.00184	92.2	0.00208	104	70-130	12	25
Naphthalene	0.00200	0.00232	116	0.00227	114	70-130	2.0	25
Phenanthrene	0.00200	0.00213	106	0.00212	106	70-130	0.2	25
Pyrene	0.00200	0.00214	107	0.00209	105	70-130	2.5	25



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Quality Control Summary

SDG: L610583

Farallon Consulting - BNSF Region 1

Test:	Semi-volatile Organic Compounds by Method 8270C-SIM		
Project No:	TT9206-M03	Matrix:	Water - mg/L
Project:	BNSF - JML - Cashmere, WA	EPA ID:	TN00003
Collection Date:	12/11/2012	Analytic Batch:	WG627800
Analysis Date:	12/18/2012 3:46:00 PM	Analyst:	282
Instrument ID:	BNAMS12	Extraction Date:	12/12/2012
Sample Numbers:	L610583-04		

Laboratory Control Sample/ Laboratory Control Sample Duplicate

Analyte	Spike	% Rec		% Rec		Control Limits	Qualifier	% Control		Qualifier
		LCS	LCSD	LCS	LCSD			RPD	Limits	
1-Methylnaphthalene	0.00200	0.00250	125	0.00251	126	70-130		0.4	25	
2-Chloronaphthalene	0.00200	0.00207	103	0.00212	106	70-130		2.5	25	
2-Methylnaphthalene	0.00200	0.00249	124	0.00249	125	70-130		0.2	25	
Acenaphthene	0.00200	0.00207	103	0.00212	106	70-130		2.6	25	
Acenaphthylene	0.00200	0.00167	83.4	0.00172	86.1	70-130		3.2	25	
Anthracene	0.00200	0.00176	88.1	0.00180	90.2	70-130		2.4	25	
Benzo(a)anthracene	0.00200	0.00177	88.6	0.00184	92.0	70-130		3.8	25	
Benzo(a)pyrene	0.00200	0.00206	103	0.00209	105	70-130		1.6	25	
Benzo(b)fluoranthene	0.00200	0.00232	116	0.00229	114	70-130		1.5	25	
Benzo(g,h,i)perylene	0.00200	0.00220	110	0.00259	130	70-130		16	25	
Benzo(k)fluoranthene	0.00200	0.00244	122	0.00257	129	70-130		5.1	25	
Chrysene	0.00200	0.00224	112	0.00227	114	70-130		1.3	25	
Dibenz(a,h)anthracene	0.00200	0.00225	113	0.00271	135	70-130	L1	18	25	
Fluoranthene	0.00200	0.00192	95.9	0.00197	98.5	70-130		2.7	25	
Fluorene	0.00200	0.00210	105	0.00216	108	70-130		2.6	25	
Indeno(1,2,3-cd)pyrene	0.00200	0.00219	110	0.00266	133	70-130	L1	19	25	
Naphthalene	0.00200	0.00221	110	0.00224	112	70-130		1.4	25	
Phenanthrene	0.00200	0.00204	102	0.00207	103	70-130		1.6	25	
Pyrene	0.00200	0.00205	102	0.00212	106	70-130		3.2	25	



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Quality Control Summary

SDG: L610583

Farallon Consulting - BNSF Region 1

Test:	Semi-Volatiles by Method 8270C-SIM	Matrix:	Water - mg/L
Project No:	TT9206-M03	EPA ID:	TN00003
Project:	BNSF - JML - Cashmere, WA	Analytic Batch:	WG627799
Collection Date:	12/11/2012	Analyst:	282
Analysis Date:	12/13/2012	Extraction Date:	12/12/2012
Instrument ID:	BNAMS12		
Sample Numbers:	L610583-01, -02, -03		

Internal Standard Response and Retention Time Summary

FileID:1213_04.D

Date:12/13/2012

Time:9:24 AM

	IS1		IS2		IS3	
	Response	RT	Response	RT	Response	RT
12 Hour Std			43727	7.36	26728	9.09
Upper Limit			87454	7.86	53456	9.59
Lower Limit			21863.5	6.86	13364	8.59
Sample ID	Response	RT	Response	RT	Response	RT
Blank WG627799			34866	7.36	20515	9.09
L610583-01			34907	7.36	21221	9.09
L610583-02			35885	7.36	22062	9.09
L610583-03			35330	7.36	21571	9.09
LCS WG627799			33983	7.36	20363	9.09
LCSD WG627799			34339	7.36	20808	9.09



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Quality Control Summary
SDG: L610583
Farallon Consulting - BNSF Region 1

Test:	Semi-Volatiles by Method 8270C-SIM		
Project No:	TT9206-M03	Matrix:	Water - mg/L
Project:	BNSF - JML - Cashmere, WA	EPA ID:	TN00003
Collection Date:	12/11/2012	Analytic Batch:	WG627799
Analysis Date:	12/13/2012	Analyst:	282
Instrument ID:	BNAMS12	Extraction Date:	12/12/2012
Sample Numbers:	L610583-01, -02, -03		

Internal Standard Response and Retention Time Summary

FileID:1213_04.D

Date:12/13/2012

Time:9:24 AM

	IS4		IS5		IS6	
	Response	RT	Response	RT	Response	RT
12 Hour Std	43772	10.57	43601	13.21	42280	14.58
Upper Limit	87544	11.07	87202	13.71	84560	15.08
Lower Limit	21886	10.07	21800.5	12.71	21140	14.08
Sample ID	Response	RT	Response	RT	Response	RT
Blank WG627799	34258	10.57	33659	13.21	32708	14.58
L610583-01	35714	10.57	38294	13.21	41010	14.58
L610583-02	37011	10.57	40116	13.21	42621	14.58
L610583-03	36242	10.57	38948	13.21	41651	14.58
LCS WG627799	33918	10.57	34888	13.21	34504	14.58
LCSD WG627799	34118	10.57	36360	13.21	36594	14.58



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Quality Control Summary

SDG: L610583

Farallon Consulting - BNSF Region 1

Test:	Semi-Volatiles by Method 8270C-SIM		
Project No:	TT9206-M03	Matrix:	Water - mg/L
Project:	BNSF - JML - Cashmere, WA	EPA ID:	TN00003
Collection Date:	12/11/2012	Analytic Batch:	WG627800
Analysis Date:	12/18/2012	Analyst:	282
Instrument ID:	BNAMS12	Extraction Date:	12/12/2012
Sample Numbers:	L610583-04		

Internal Standard Response and Retention Time Summary

FileID:1218_04.D

Date:12/18/2012

Time:11:44 AM

	IS1		IS2		IS3	
	Response	RT	Response	RT	Response	RT
12 Hour Std			34288	7.36	29090	9.09
Upper Limit			68576	7.86	58180	9.59
Lower Limit			17144	6.86	14545	8.59
Sample ID	Response	RT	Response	RT	Response	RT
Blank WG627800			25063	7.36	20262	9.09
L610583-04			24370	7.36	20448	9.09
LCS WG627800			23520	7.36	19589	9.09
LCSD WG627800			24037	7.36	19581	9.09



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Quality Control Summary

SDG: L610583

Farallon Consulting - BNSF Region 1

Test:	Semi-Volatiles by Method 8270C-SIM		
Project No:	TT9206-M03	Matrix:	Water - mg/L
Project:	BNSF - JML - Cashmere, WA	EPA ID:	TN00003
Collection Date:	12/11/2012	Analytic Batch:	WG627800
Analysis Date:	12/18/2012	Analyst:	282
Instrument ID:	BNAMS12	Extraction Date:	12/12/2012
Sample Numbers:	L610583-04		

Internal Standard Response and Retention Time Summary

FileID:1218_04.D

Date:12/18/2012

Time:11:44 AM

	IS4		IS5		IS6	
	Response	RT	Response	RT	Response	RT
12 Hour Std	48081	10.57	47448	13.21	46689	14.58
Upper Limit	96162	11.07	94896	13.71	93378	15.08
Lower Limit	24040.5	10.07	23724	12.71	23344.5	14.08
Sample ID	Response	RT	Response	RT	Response	RT
Blank WG627800	33563	10.57	29959	13.21	28314	14.58
L610583-04	34630	10.57	35403	13.21	33799	14.58
LCS WG627800	32000	10.57	29498	13.21	27200	14.58
LCSD WG627800	32303	10.57	30082	13.21	24355	14.59

Farallon Consulting - BNSF
Region 1
 975 5th Avenue Northwest
 Issaquah, WA 98027

Billing information:
 Mark Engdahl
 2454 Occidental Ave S, Ste 1A
 Seattle, WA 98134-1451

Analysis/Container/Preservative

Chain of Custody
 Page ___ of ___



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 Phone: (615) 758-5858
 Fax: (615) 758-5859

E151

Report to: **Kristin Darnell**
 Email: **kjdarnell@farallonconsulting**

Project Description: **BNSF - JML - Cashmere, WA**
 City/State Collected: **CASHMERE, WA**

Phone: (425) 295-0811
 Client Project #: **TT9206-M03**
 Lab Project #: **BNSF1FAR-CASHMERE**

Collected by (print): **Jan Peterson**
 Site/Facility ID#: _____
 P.O.#: **283 006**

Collected by (signature): _____
 Rush? (Lab MUST Be Notified)
 ___ Same Day 200%
 ___ Next Day 100%
 ___ Two Day 50%
 ___ Three Day 25%
 Date Results Needed: _____
 Email? ___ No ___ Yes
 FAX? ___ No ___ Yes
 No. of Cntrs: _____

Sample ID	Comp/Grab	Matrix*	Depth	Date	Time	No. of Cntrs
MW2 - 121112	J	GW		12-11-12	0650	14
MW4 - 121112	J	GW			0745	14
MW3 - 121112	J	GW			0900	14
MW1 - 121112	J	GW			1020	14
		GW				14

NO3, SO4 125mlHDPE-NoPres
 CO2 40ml/Amb-NoPres
 Dissolved Metals 500mlHDPE-NoPres
 Ferrous Iron 250ml/Amb-HCl L
 NWTPHDX 40ml/Amb-HCl-BT
 NWTPHGXBTEX 40ml/Amb HCl
 PAHSIML VI 40ml/Amb-NoPres-WT
 SULFIDE 500mlHDPE-NAOH+ZnAc 7/12

Accnum: **BNSF1FAR** (lab use only)
 Template/Prelogin: **T81876/P414765**
 Cooler #: **JB 1217**
 Shipped Via: **FedEX Priority**

Remarks/Contaminant Sample # (lab only)
L610583-01
-02
-03
-04

*Matrix: SS - Soil GW - Groundwater WW - WasteWater DW - Drinking Water OT - Other _____

Remarks: _____ pH _____ Temp _____
 Flow _____ Other _____

543555108375

Relinquished by (Signature): _____ Date: 12-11-12 Time: _____	Received by (Signature): _____ Date: _____ Time: _____	Samples returned via: <input checked="" type="checkbox"/> FedEx <input type="checkbox"/> UPS <input type="checkbox"/> Courier	Condition: (lab use only) OK
Relinquished by (Signature): _____ Date: _____ Time: _____	Received by (Signature): _____ Date: _____ Time: _____	Temp: 3.1 Bottles Received: 56+TB	COC Seal Intact: ___ Y ___ N ___ NA
Relinquished by (Signature): _____ Date: _____ Time: _____	Received for lab by (Signature): _____ Date: 12/12/12 Time: 0900	Date: 12/12/12 Time: 0900	pH Checked: 2.2, 7.12 NCF: 51 of 51

Farallon Consulting - BNSF
Region 1
 975 5th Avenue Northwest
 Issaquah, WA 98027

Billing information:
 Mark Engdahl
 2454 Occidental Ave S, Ste 1A
 Seattle, WA 98134-1451

Analysis/Container/Preservative

Chain of Custody
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E151

Report to: **Kristin Darnell**
 Email: **kjdarnell@farallonconsulting**

Project Description: **BNSF - JML - Cashmere, WA**
 City/State Collected: **CASHMERE, WA**

Phone: (425) 295-0811
 Client Project #: **TT9206-M03**
 Lab Project #: **BNSF1FAR-CASHMERE**

Collected by (print): **Jan Peterson**
 Site/Facility ID#: _____
 P.O.#: **283 006**

Collected by (signature): _____
 Rush? (Lab MUST Be Notified)
 ___ Same Day 200%
 ___ Next Day 100%
 ___ Two Day 50%
 ___ Three Day 25%
 Date Results Needed: _____
 Email? ___ No ___ Yes
 FAX? ___ No ___ Yes
 No. of Cntrs: _____

Sample ID	Comp/Grab	Matrix*	Depth	Date	Time	No. of Cntrs
MW2 - 121112	J	GW		12-11-12	0650	14
MW4 - 121112	J	GW			0745	14
MW3 - 121112	J	GW			0900	14
MW1 - 121112	J	GW			1020	14
		GW				14

NO3, SO4 125mlHDPE-NoPres
 CO2 40ml/Amb-NoPres
 Dissolved Metals 500mlHDPE-NoPres
 Ferrous Iron 250ml/Amb-HCl 70
 NWTPHDX 40ml/Amb-HCl-BT
 NWTPHGXBTEX 40ml/Amb HCl
 PAHSIML VI 40ml/Amb-NoPres-WT
 SULFIDE 500mlHDPE-NAOH+ZnAc 712

Accnum: **BNSF1FAR** (lab use only)
 Template/Prelogin: **T81876/P414765**
 Cooler #: **8 1217**
 Shipped Via: **FedEX Priority**

Remarks/Contaminant Sample # (lab only)
L610583-01
-02
-03
-04

*Matrix: SS - Soil GW - Groundwater WW - WasteWater DW - Drinking Water OT - Other _____

Remarks: _____ pH _____ Temp _____
 Flow _____ Other _____

543555108375

Relinquished by: (Signature) _____	Date: 12-11-12	Time: _____	Received by: (Signature) _____	Samples returned via: <input checked="" type="checkbox"/> FedEx <input type="checkbox"/> UPS <input type="checkbox"/> Courier	Condition: (lab use only) OK
Relinquished by: (Signature) _____	Date: _____	Time: _____	Received by: (Signature) _____	Temp: 3.1°C	Bottles Received: 56+TB
Relinquished by: (Signature) _____	Date: _____	Time: _____	Received for lab by: (Signature) _____	Date: 12/12/12	Time: 0900
				pH Checked: 12, 712	NCF: _____



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Kristin Darnell
Farallon Consulting - BNSF Region 1
975 5th Avenue Northwest
Issaquah, WA 98027

Report Summary

Friday March 29, 2013

Report Number: L626192

Samples Received: 03/21/13

Client Project: TT9206-M04

Description: BNSF - JML - Cashmere, WA

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

Entire Report Reviewed By:

Mark W. Beasley , ESC Representative

Laboratory Certification Numbers

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

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REPORT OF ANALYSIS

Kristin Darnell
 Farallon Consulting - BNSF Region 1
 975 5th Avenue Northwest
 Issaquah, WA 98027

March 29, 2013

Date Received : March 21, 2013
 Description : BNSF - JML - Cashmere, WA

ESC Sample # : L626192-01

Sample ID : MW4-032013

Site ID :

Collected By : Jon Peterson
 Collection Date : 03/20/13 10:00

Project # : TT9206-M04

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Nitrate	5400	23.	100	ug/l		9056	03/21/13	1
Sulfate	16000	77.	5000	ug/l		9056	03/21/13	1
Free Carbon Dioxide	U	6600	20000	ug/l	T8	4500CO2	03/28/13	1
Ferrous Iron	29.	17.	50.	ug/l	JT8	3500Fe	03/27/13	1
Sulfide	U	19.	50.	ug/l		4500S2	03/27/13	1
Iron	58.	14.	100	ug/l	J	6010B	03/28/13	1
Iron,Dissolved	U	14.	100	ug/l		6010B	03/26/13	1
Gasoline Range Organics-NWTPH	U	50.	100	ug/l		NWTPHGX	03/22/13	1
Benzene	U	0.19	0.50	ug/l		NWTPHGX	03/22/13	1
Toluene	U	0.18	5.0	ug/l		NWTPHGX	03/22/13	1
Ethylbenzene	U	0.16	0.50	ug/l		NWTPHGX	03/22/13	1
Total Xylene	U	0.51	1.5	ug/l		NWTPHGX	03/22/13	1
Surrogate Recovery(%)								
a,a,a-Trifluorotoluene(PID)	102.			% Rec.		NWTPHGX	03/22/13	1
a,a,a-Trifluorotoluene(FID)	99.6			% Rec.		NWTPHGX	03/22/13	1
Diesel Range Organics (DRO)	U	50.	100	ug/l		NWTPHDX	03/25/13	1
Residual Range Organics (RRO)	U	120	250	ug/l		NWTPHDX	03/25/13	1
Surrogate Recovery								
o-Terphenyl	103.			% Rec.		NWTPHDX	03/25/13	1
Polynuclear Aromatic Hydrocarbons								
Anthracene	U	0.0076	0.050	ug/l		8270C-S	03/25/13	1
Acenaphthene	U	0.0082	0.050	ug/l		8270C-S	03/25/13	1
Acenaphthylene	U	0.0068	0.050	ug/l		8270C-S	03/25/13	1
Benzo(a)anthracene	U	0.012	0.050	ug/l		8270C-S	03/25/13	1
Benzo(a)pyrene	U	0.012	0.050	ug/l		8270C-S	03/25/13	1
Benzo(b)fluoranthene	U	0.014	0.050	ug/l		8270C-S	03/25/13	1
Benzo(g,h,i)perylene	U	0.011	0.050	ug/l		8270C-S	03/25/13	1
Benzo(k)fluoranthene	U	0.014	0.050	ug/l		8270C-S	03/25/13	1
Chrysene	U	0.011	0.050	ug/l		8270C-S	03/25/13	1
Dibenz(a,h)anthracene	U	0.0040	0.050	ug/l		8270C-S	03/25/13	1
Fluoranthene	U	0.016	0.050	ug/l		8270C-S	03/25/13	1
Fluorene	U	0.0085	0.050	ug/l		8270C-S	03/25/13	1
Indeno(1,2,3-cd)pyrene	U	0.015	0.050	ug/l		8270C-S	03/25/13	1
Naphthalene	0.031	0.020	0.25	ug/l	J	8270C-S	03/25/13	1
Phenanthrene	U	0.0082	0.050	ug/l		8270C-S	03/25/13	1
Pyrene	U	0.012	0.050	ug/l		8270C-S	03/25/13	1

U = ND (Not Detected)

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

MDL = Minimum Detection Limit = LOD = TRRP SDL

Note:

The reported analytical results relate only to the sample submitted.

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REPORT OF ANALYSIS

Kristin Darnell
 Farallon Consulting - BNSF Region 1
 975 5th Avenue Northwest
 Issaquah, WA 98027

March 29, 2013

Date Received : March 21, 2013
 Description : BNSF - JML - Cashmere, WA

ESC Sample # : L626192-01

Sample ID : MW4-032013

Site ID :

Collected By : Jon Peterson
 Collection Date : 03/20/13 10:00

Project # : TT9206-M04

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
1-Methylnaphthalene	U	0.0082	0.25	ug/l		8270C-S	03/25/13	1
2-Methylnaphthalene	U	0.0090	0.25	ug/l		8270C-S	03/25/13	1
2-Chloronaphthalene	U	0.0065	0.25	ug/l		8270C-S	03/25/13	1
Surrogate Recovery								
Nitrobenzene-d5	106.			%	Rec.	8270C-S	03/25/13	1
2-Fluorobiphenyl	104.			%	Rec.	8270C-S	03/25/13	1
p-Terphenyl-d14	99.2			%	Rec.	8270C-S	03/25/13	1

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

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REPORT OF ANALYSIS

Kristin Darnell
 Farallon Consulting - BNSF Region 1
 975 5th Avenue Northwest
 Issaquah, WA 98027

March 29, 2013

Date Received : March 21, 2013
 Description : BNSF - JML - Cashmere, WA

ESC Sample # : L626192-02

Sample ID : MW2-032013

Site ID :

Collected By : Jon Peterson
 Collection Date : 03/20/13 11:00

Project # : TT9206-M04

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Nitrate	3600	23.	100	ug/l		9056	03/21/13	1
Sulfate	15000	77.	5000	ug/l		9056	03/21/13	1
Free Carbon Dioxide	U	6600	20000	ug/l	T8	4500CO2	03/28/13	1
Ferrous Iron	530	17.	50.	ug/l	T8	3500Fe	03/27/13	1
Sulfide	U	19.	50.	ug/l		4500S2	03/27/13	1
Iron	210	14.	100	ug/l		6010B	03/28/13	1
Iron, Dissolved	U	14.	100	ug/l		6010B	03/29/13	1
Gasoline Range Organics-NWTPH	U	50.	100	ug/l		NWTPHGX	03/22/13	1
Benzene	U	0.19	0.50	ug/l		NWTPHGX	03/22/13	1
Toluene	U	0.18	5.0	ug/l		NWTPHGX	03/22/13	1
Ethylbenzene	U	0.16	0.50	ug/l		NWTPHGX	03/22/13	1
Total Xylene	U	0.51	1.5	ug/l		NWTPHGX	03/22/13	1
Surrogate Recovery(%)								
a,a,a-Trifluorotoluene(PID)	102.			% Rec.		NWTPHGX	03/22/13	1
a,a,a-Trifluorotoluene(FID)	99.7			% Rec.		NWTPHGX	03/22/13	1
Diesel Range Organics (DRO)	U	50.	100	ug/l		NWTPHDX	03/25/13	1
Residual Range Organics (RRO)	U	120	250	ug/l		NWTPHDX	03/25/13	1
Surrogate Recovery								
o-Terphenyl	111.			% Rec.		NWTPHDX	03/25/13	1
Polynuclear Aromatic Hydrocarbons								
Anthracene	U	0.0076	0.050	ug/l		8270C-S	03/25/13	1
Acenaphthene	U	0.0082	0.050	ug/l		8270C-S	03/25/13	1
Acenaphthylene	U	0.0068	0.050	ug/l		8270C-S	03/25/13	1
Benzo(a)anthracene	U	0.012	0.050	ug/l		8270C-S	03/25/13	1
Benzo(a)pyrene	U	0.012	0.050	ug/l		8270C-S	03/25/13	1
Benzo(b)fluoranthene	U	0.014	0.050	ug/l		8270C-S	03/25/13	1
Benzo(g,h,i)perylene	U	0.011	0.050	ug/l		8270C-S	03/25/13	1
Benzo(k)fluoranthene	U	0.014	0.050	ug/l		8270C-S	03/25/13	1
Chrysene	U	0.011	0.050	ug/l		8270C-S	03/25/13	1
Dibenz(a,h)anthracene	U	0.0040	0.050	ug/l		8270C-S	03/25/13	1
Fluoranthene	U	0.016	0.050	ug/l		8270C-S	03/25/13	1
Fluorene	U	0.0085	0.050	ug/l		8270C-S	03/25/13	1
Indeno(1,2,3-cd)pyrene	U	0.015	0.050	ug/l		8270C-S	03/25/13	1
Naphthalene	0.033	0.020	0.25	ug/l	J	8270C-S	03/25/13	1
Phenanthrene	U	0.0082	0.050	ug/l		8270C-S	03/25/13	1
Pyrene	U	0.012	0.050	ug/l		8270C-S	03/25/13	1

U = ND (Not Detected)

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

MDL = Minimum Detection Limit = LOD = TRRP SDL

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REPORT OF ANALYSIS

Kristin Darnell
 Farallon Consulting - BNSF Region 1
 975 5th Avenue Northwest
 Issaquah, WA 98027

March 29, 2013

Date Received : March 21, 2013
 Description : BNSF - JML - Cashmere, WA

ESC Sample # : L626192-02

Sample ID : MW2-032013

Site ID :

Collected By : Jon Peterson
 Collection Date : 03/20/13 11:00

Project # : TT9206-M04

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
1-Methylnaphthalene	0.0086	0.0082	0.25	ug/l	J	8270C-S	03/25/13	1
2-Methylnaphthalene	0.012	0.0090	0.25	ug/l	J	8270C-S	03/25/13	1
2-Chloronaphthalene	U	0.0065	0.25	ug/l		8270C-S	03/25/13	1
Surrogate Recovery								
Nitrobenzene-d5	106.			%	Rec.	8270C-S	03/25/13	1
2-Fluorobiphenyl	107.			%	Rec.	8270C-S	03/25/13	1
p-Terphenyl-d14	103.			%	Rec.	8270C-S	03/25/13	1

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

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REPORT OF ANALYSIS

Kristin Darnell
 Farallon Consulting - BNSF Region 1
 975 5th Avenue Northwest
 Issaquah, WA 98027

March 29, 2013

Date Received : March 21, 2013
 Description : BNSF - JML - Cashmere, WA

ESC Sample # : L626192-03

Sample ID : MW1-032013

Site ID :

Collected By : Jon Peterson
 Collection Date : 03/20/13 12:00

Project # : TT9206-M04

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Nitrate	3300	23.	100	ug/l		9056	03/21/13	1
Sulfate	23000	77.	5000	ug/l		9056	03/21/13	1
Free Carbon Dioxide	U	6600	20000	ug/l	T8	4500CO2	03/28/13	1
Ferrous Iron	35.	17.	50.	ug/l	JT8	3500Fe	03/27/13	1
Sulfide	U	19.	50.	ug/l		4500S2	03/27/13	1
Iron	U	14.	100	ug/l		6010B	03/28/13	1
Iron,Dissolved	U	14.	100	ug/l		6010B	03/29/13	1
Gasoline Range Organics-NWTPH	U	50.	100	ug/l		NWTPHGX	03/22/13	1
Benzene	U	0.19	0.50	ug/l		NWTPHGX	03/22/13	1
Toluene	0.23	0.18	5.0	ug/l	J	NWTPHGX	03/22/13	1
Ethylbenzene	U	0.16	0.50	ug/l		NWTPHGX	03/22/13	1
Total Xylene	0.82	0.51	1.5	ug/l	J	NWTPHGX	03/22/13	1
Surrogate Recovery(%)								
a,a,a-Trifluorotoluene(PID)	102.			% Rec.		NWTPHGX	03/22/13	1
a,a,a-Trifluorotoluene(FID)	99.1			% Rec.		NWTPHGX	03/22/13	1
Diesel Range Organics (DRO)	100	50.	100	ug/l		NWTPHDX	03/26/13	1
Residual Range Organics (RRO)	U	120	250	ug/l		NWTPHDX	03/26/13	1
Surrogate Recovery								
o-Terphenyl	111.			% Rec.		NWTPHDX	03/26/13	1
Polynuclear Aromatic Hydrocarbons								
Anthracene	0.025	0.0076	0.050	ug/l	J	8270C-S	03/25/13	1
Acenaphthene	0.025	0.0082	0.050	ug/l	J	8270C-S	03/25/13	1
Acenaphthylene	U	0.0068	0.050	ug/l		8270C-S	03/25/13	1
Benzo(a)anthracene	U	0.012	0.050	ug/l		8270C-S	03/25/13	1
Benzo(a)pyrene	U	0.012	0.050	ug/l		8270C-S	03/25/13	1
Benzo(b)fluoranthene	U	0.014	0.050	ug/l		8270C-S	03/25/13	1
Benzo(g,h,i)perylene	U	0.011	0.050	ug/l		8270C-S	03/25/13	1
Benzo(k)fluoranthene	U	0.014	0.050	ug/l		8270C-S	03/25/13	1
Chrysene	U	0.011	0.050	ug/l		8270C-S	03/25/13	1
Dibenz(a,h)anthracene	U	0.0040	0.050	ug/l		8270C-S	03/25/13	1
Fluoranthene	U	0.016	0.050	ug/l		8270C-S	03/25/13	1
Fluorene	0.013	0.0085	0.050	ug/l	J	8270C-S	03/25/13	1
Indeno(1,2,3-cd)pyrene	U	0.015	0.050	ug/l		8270C-S	03/25/13	1
Naphthalene	0.11	0.020	0.25	ug/l	J	8270C-S	03/25/13	1
Phenanthrene	U	0.0082	0.050	ug/l		8270C-S	03/25/13	1
Pyrene	0.031	0.012	0.050	ug/l	J	8270C-S	03/25/13	1

U = ND (Not Detected)

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

MDL = Minimum Detection Limit = LOD = TRRP SDL

Note:

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REPORT OF ANALYSIS

Kristin Darnell
 Farallon Consulting - BNSF Region 1
 975 5th Avenue Northwest
 Issaquah, WA 98027

March 29, 2013

Date Received : March 21, 2013
 Description : BNSF - JML - Cashmere, WA

ESC Sample # : L626192-03

Sample ID : MW1-032013

Site ID :

Collected By : Jon Peterson
 Collection Date : 03/20/13 12:00

Project # : TT9206-M04

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
1-Methylnaphthalene	0.21	0.0082	0.25	ug/l	J	8270C-S	03/25/13	1
2-Methylnaphthalene	0.027	0.0090	0.25	ug/l	J	8270C-S	03/25/13	1
2-Chloronaphthalene	U	0.0065	0.25	ug/l		8270C-S	03/25/13	1
Surrogate Recovery								
Nitrobenzene-d5	107.			%	Rec.	8270C-S	03/25/13	1
2-Fluorobiphenyl	105.			%	Rec.	8270C-S	03/25/13	1
p-Terphenyl-d14	103.			%	Rec.	8270C-S	03/25/13	1

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

Note:
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REPORT OF ANALYSIS

Kristin Darnell
 Farallon Consulting - BNSF Region 1
 975 5th Avenue Northwest
 Issaquah, WA 98027

March 29, 2013

Date Received : March 21, 2013
 Description : BNSF - JML - Cashmere, WA

ESC Sample # : L626192-04

Sample ID : MW3-032013

Site ID :

Collected By : Jon Peterson
 Collection Date : 03/20/13 12:30

Project # : TT9206-M04

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Nitrate	5100	23.	100	ug/l		9056	03/21/13	1
Sulfate	16000	77.	5000	ug/l		9056	03/21/13	1
Free Carbon Dioxide	U	6600	20000	ug/l	T8	4500CO2	03/28/13	1
Ferrous Iron	31.	17.	50.	ug/l	JT8	3500Fe	03/27/13	1
Sulfide	U	19.	50.	ug/l		4500S2	03/27/13	1
Iron	17.	14.	100	ug/l	J	6010B	03/28/13	1
Iron, Dissolved	U	14.	100	ug/l		6010B	03/29/13	1
Gasoline Range Organics-NWTPH	U	50.	100	ug/l		NWTPHGX	03/23/13	1
Benzene	U	0.19	0.50	ug/l		NWTPHGX	03/23/13	1
Toluene	0.26	0.18	5.0	ug/l	J	NWTPHGX	03/23/13	1
Ethylbenzene	U	0.16	0.50	ug/l		NWTPHGX	03/23/13	1
Total Xylene	U	0.51	1.5	ug/l		NWTPHGX	03/23/13	1
Surrogate Recovery(%)								
a,a,a-Trifluorotoluene(PID)	102.			% Rec.		NWTPHGX	03/23/13	1
a,a,a-Trifluorotoluene(FID)	99.4			% Rec.		NWTPHGX	03/23/13	1
Diesel Range Organics (DRO)	U	50.	100	ug/l		NWTPHDX	03/26/13	1
Residual Range Organics (RRO)	U	120	250	ug/l		NWTPHDX	03/26/13	1
Surrogate Recovery								
o-Terphenyl	117.			% Rec.		NWTPHDX	03/26/13	1
Polynuclear Aromatic Hydrocarbons								
Anthracene	U	0.0076	0.050	ug/l		8270C-S	03/25/13	1
Acenaphthene	U	0.0082	0.050	ug/l		8270C-S	03/25/13	1
Acenaphthylene	U	0.0068	0.050	ug/l		8270C-S	03/25/13	1
Benzo(a)anthracene	U	0.012	0.050	ug/l		8270C-S	03/25/13	1
Benzo(a)pyrene	U	0.012	0.050	ug/l		8270C-S	03/25/13	1
Benzo(b)fluoranthene	U	0.014	0.050	ug/l		8270C-S	03/25/13	1
Benzo(g,h,i)perylene	U	0.011	0.050	ug/l		8270C-S	03/25/13	1
Benzo(k)fluoranthene	U	0.014	0.050	ug/l		8270C-S	03/25/13	1
Chrysene	U	0.011	0.050	ug/l		8270C-S	03/25/13	1
Dibenz(a,h)anthracene	U	0.0040	0.050	ug/l		8270C-S	03/25/13	1
Fluoranthene	U	0.016	0.050	ug/l		8270C-S	03/25/13	1
Fluorene	U	0.0085	0.050	ug/l		8270C-S	03/25/13	1
Indeno(1,2,3-cd)pyrene	U	0.015	0.050	ug/l		8270C-S	03/25/13	1
Naphthalene	0.028	0.020	0.25	ug/l	J	8270C-S	03/25/13	1
Phenanthrene	U	0.0082	0.050	ug/l		8270C-S	03/25/13	1
Pyrene	U	0.012	0.050	ug/l		8270C-S	03/25/13	1

U = ND (Not Detected)

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

MDL = Minimum Detection Limit = LOD = TRRP SDL

Note:

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REPORT OF ANALYSIS

Kristin Darnell
 Farallon Consulting - BNSF Region 1
 975 5th Avenue Northwest
 Issaquah, WA 98027

March 29, 2013

Date Received : March 21, 2013
 Description : BNSF - JML - Cashmere, WA

ESC Sample # : L626192-04

Sample ID : MW3-032013

Site ID :

Collected By : Jon Peterson
 Collection Date : 03/20/13 12:30

Project # : TT9206-M04

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
1-Methylnaphthalene	U	0.0082	0.25	ug/l		8270C-S	03/25/13	1
2-Methylnaphthalene	U	0.0090	0.25	ug/l		8270C-S	03/25/13	1
2-Chloronaphthalene	U	0.0065	0.25	ug/l		8270C-S	03/25/13	1
Surrogate Recovery								
Nitrobenzene-d5	106.			%	Rec.	8270C-S	03/25/13	1
2-Fluorobiphenyl	104.			%	Rec.	8270C-S	03/25/13	1
p-Terphenyl-d14	103.			%	Rec.	8270C-S	03/25/13	1

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

Note:
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Attachment A
List of Analytes with QC Qualifiers

Sample Number	Work Group	Sample Type	Analyte	Run ID	Qualifier
L626192-01	WG652882	SAMP	Iron	R2597379	J
	WG652378	SAMP	Naphthalene	R2594924	J
	WG653081	SAMP	Free Carbon Dioxide	R2597798	T8
L626192-02	WG653022	SAMP	Ferrous Iron	R2596499	JT8
	WG652378	SAMP	Naphthalene	R2594924	J
	WG652378	SAMP	1-Methylnaphthalene	R2594924	J
	WG652378	SAMP	2-Methylnaphthalene	R2594924	J
	WG653081	SAMP	Free Carbon Dioxide	R2597798	T8
L626192-03	WG653022	SAMP	Ferrous Iron	R2596499	T8
	WG652327	SAMP	Toluene	R2595018	J
	WG652327	SAMP	Total Xylene	R2595018	J
	WG652378	SAMP	Anthracene	R2594924	J
	WG652378	SAMP	Acenaphthene	R2594924	J
	WG652378	SAMP	Fluorene	R2594924	J
	WG652378	SAMP	Naphthalene	R2594924	J
	WG652378	SAMP	Pyrene	R2594924	J
	WG652378	SAMP	1-Methylnaphthalene	R2594924	J
	WG652378	SAMP	2-Methylnaphthalene	R2594924	J
L626192-04	WG653081	SAMP	Free Carbon Dioxide	R2597798	T8
	WG653022	SAMP	Ferrous Iron	R2596499	JT8
	WG652882	SAMP	Iron	R2597379	J
	WG652327	SAMP	Toluene	R2595018	J
	WG652378	SAMP	Naphthalene	R2594924	J
	WG653081	SAMP	Free Carbon Dioxide	R2597798	T8
	WG653022	SAMP	Ferrous Iron	R2596499	JT8

Attachment B
Explanation of QC Qualifier Codes

Qualifier	Meaning
J	(EPA) - Estimated value below the lowest calibration point. Confidence correlates with concentration.
T8	(ESC) - Additional method/sample information: Sample(s) received past/too close to holding time expiration.

Qualifier Report Information

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

Definitions

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

Summary of Remarks For Samples Printed
03/29/13 at 17:36:15

TSR Signing Reports: 134
R5 - Desired TAT

Sample: L626192-01 Account: BNSF1FAR Received: 03/21/13 09:00 Due Date: 03/28/13 00:00 RPT Date: 03/29/13 17:35

Sample: L626192-02 Account: BNSF1FAR Received: 03/21/13 09:00 Due Date: 03/28/13 00:00 RPT Date: 03/29/13 17:35

Sample: L626192-03 Account: BNSF1FAR Received: 03/21/13 09:00 Due Date: 03/28/13 00:00 RPT Date: 03/29/13 17:35

Sample: L626192-04 Account: BNSF1FAR Received: 03/21/13 09:00 Due Date: 03/28/13 00:00 RPT Date: 03/29/13 17:35





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Quality Control Summary

SDG: L626192

For: Farallon Consulting - BNSF Region 1

Project: BNSF - JML - Cashmere, WA

April 01, 2013

Sample Receiving and Handling

All sample aliquots were received at the correct temperature, in the proper containers, and with the appropriate preservatives. All method specified holding times were met except for Free Carbon Dioxide and Ferrous Iron.

Anions by Method 9056

Laboratory Control Sample

Samples L626192-03, -01, -04, and -02 were analyzed in analytical batch WG652100. The laboratory control sample associated with these samples was within the laboratory control limits for all compounds.

Sample Duplicate Analysis

For analytical batch WG652100 sample duplicate analysis was performed on sample L623786-02. The relative percent differences were within the method limits.

For analytical batch WG652100 sample duplicate analysis was performed on sample L624996-01. The relative percent differences were within the method limits.

For analytical batch WG652100 sample duplicate analysis was performed on sample L625572-04. The relative percent differences were within the method limits.

Matrix Spike/Matrix Spike Duplicate

For analytical batch WG652100 matrix spike/matrix spike duplicate analysis was performed on sample L625907-29. The matrix spike recoveries and relative percent differences were within laboratory control limits for all target analytes.

Blank Analysis

The method blank, the initial, and all continuing calibration blanks contained no analytes at concentrations above the method reporting limit.

Ferrous Iron by Method 3500Fe B-2011

Laboratory Control Sample

Samples L626192-02, -01, -03, and -04 were analyzed in analytical batch WG653022. The laboratory control sample associated with these samples was within the laboratory control limits.

Sample Duplicate Analysis

For analytical batch WG653022 sample duplicate analysis was performed on sample L626686-02. The relative percent differences were within the method limits.

For analytical batch WG653022 sample duplicate analysis was performed on sample L626019-01. The relative percent differences were within the method limits.

Matrix Spike/Matrix Spike Duplicate

For analytical batch WG653022, matrix spike/matrix spike duplicate analysis was performed on sample L626019-03. The spike recoveries and relative percent differences were within laboratory control limits.



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Quality Control Summary

SDG: L626192

For: Farallon Consulting - BNSF Region 1

Project: BNSF - JML - Cashmere, WA

April 01, 2013

Blank Analysis

The method blank, the initial, and all continuing calibration blanks contained no analytes at concentrations above the method reporting limit.

Sulfide by Method 4500S2 D-2011

Laboratory Control Sample

Samples L626192-02, -01, -04, and -03 were analyzed in analytical batch WG653080. The laboratory control sample associated with these samples was within the laboratory control limits.

Sample Duplicate Analysis

For analytical batch WG653080 sample duplicate analysis was performed on sample L626192-02. The relative percent differences were within the method limits.

For analytical batch WG653080 sample duplicate analysis was performed on sample L626519-01. The relative percent differences were within the method limits.

Matrix Spike/Matrix Spike Duplicate

For analytical batch WG653080, matrix spike/matrix spike duplicate analysis was performed on sample L626192-01. The spike recoveries and relative percent differences were within laboratory control limits.

Blank Analysis

The method blank, the initial, and all continuing calibration blanks contained no analytes at concentrations above the method reporting limit.

Free Carbon Dioxide by Method 4500CO2 D-2011

Laboratory Control Sample

Samples L626192-02, -04, -01, -03 were analyzed in analytical batch WG653081. The associated laboratory quality control samples were within method limits.

Blank Analysis

The method blank, the initial, and all continuing calibration blanks contained no analytes at concentrations above the method reporting limit.

Trace Metals by Method 6010B

Laboratory Control Sample

Sample L626192-01 was analyzed in analytical batch WG652771. The laboratory control sample associated with this sample was within the laboratory control limits for all compounds.

Samples L626192-03, -01, -04, and -02 were analyzed in analytical batch WG652882. The laboratory control sample associated with these samples was within the laboratory control limits for all compounds.

Samples L626192-03, -04, and -02 were analyzed in analytical batch WG652915. The laboratory control sample associated with these samples was within the laboratory control limits for all compounds.



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Quality Control Summary

SDG: L626192

For: Farallon Consulting - BNSF Region 1

Project: BNSF - JML - Cashmere, WA

April 01, 2013

Sample Duplicate Analysis

For analytical batch WG652771 sample duplicate analysis was performed on sample L626076-01. The relative percent differences were within the method limits.

For analytical batch WG652882 sample duplicate analysis was performed on sample L626201-05. The relative percent differences were within the method limits.

For analytical batch WG652915 sample duplicate analysis was performed on sample L626201-05. The relative percent differences were within the method limits.

Matrix Spike/Matrix Spike Duplicate

For analytical batch WG652771 matrix spike/matrix spike duplicate analysis was performed on sample L626076-01. The matrix spike recoveries and relative percent differences were within laboratory control limits for all target analytes.

For analytical batch WG652882 matrix spike/matrix spike duplicate analysis was performed on sample L626201-05. The matrix spike recoveries and relative percent differences were within laboratory control limits for all target analytes.

For analytical batch WG652915 matrix spike/matrix spike duplicate analysis was performed on sample L626201-05. The matrix spike recoveries and relative percent differences were within laboratory control limits for all target analytes.

Blank Analysis

The method blank, the initial, and all continuing calibration blanks contained no analytes at concentrations above the method reporting limit.

Method NWTPHGX

Laboratory Control Sample

Samples L626192-01, -02, -03, and -04 were analyzed in analytical batch WG652327. The laboratory control sample associated with these samples was within the laboratory control limits for all compounds.

Matrix Spike/Matrix Spike Duplicate

For analytical batch WG652327 matrix spike/matrix spike duplicate analysis was performed on sample L625711-02. The matrix spike recoveries and relative percent differences were within laboratory control limits for all target analytes.

Blank Analysis

The method blank, the initial, and all continuing calibration blanks contained no analytes at concentrations above the method reporting limit.

Semi-volatile Organic Compounds by Method 8270C-SIM

Laboratory Control Sample

Samples L626192-01, -02, -03, and -04 were analyzed in analytical batch WG652378. The laboratory control sample associated with these samples was within the laboratory control limits for all compounds.

Matrix Spike/Matrix Spike Duplicate

Precision for batch WG652378 was evaluated using the LCS / LCSD. The RPDs were within method limits.



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Quality Control Summary

SDG: L626192

For: Farallon Consulting - BNSF Region 1

Project: BNSF - JML - Cashmere, WA

April 01, 2013

Blank Analysis

The method blank, the initial, and all continuing calibration blanks contained no analytes at concentrations above the method reporting limit.

Diesel Range Organics by Method 8015

Laboratory Control Sample

Samples L626192-04, -02, -01, and -03 were analyzed in analytical batch WG652475. The laboratory control sample associated with these samples was within the laboratory control limits.

Matrix Spike/Matrix Spike Duplicate

Precision for batch WG652475 was evaluated using the LCS / LCSD. The RPDs were within method limits.

Blank Analysis

The method blank, the initial, and all continuing calibration blanks contained no analytes at concentrations above the method reporting limit.

Nancy F. McLain
ESC Representative
ESC Lab Sciences



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Kristin Darnell
Farallon Consulting - BNSF Region 1
975 5th Avenue Northwest
Issaquah, WA 98027

Report Summary

Friday March 29, 2013

Report Number: L626192

Samples Received: 03/21/13

Client Project: TT9206-M04

Description: BNSF - JML - Cashmere, WA

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

Entire Report Reviewed By:

Mark W. Beasley , ESC Representative

Laboratory Certification Numbers

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

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

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

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REPORT OF ANALYSIS

Kristin Darnell
 Farallon Consulting - BNSF Region 1
 975 5th Avenue Northwest
 Issaquah, WA 98027

March 29, 2013

Date Received : March 21, 2013
 Description : BNSF - JML - Cashmere, WA

ESC Sample # : L626192-01

Sample ID : MW4-032013

Site ID :

Collected By : Jon Peterson
 Collection Date : 03/20/13 10:00

Project # : TT9206-M04

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Nitrate	5400	23.	100	ug/l		9056	03/21/13	1
Sulfate	16000	77.	5000	ug/l		9056	03/21/13	1
Free Carbon Dioxide	U	6600	20000	ug/l	T8	4500CO2	03/28/13	1
Ferrous Iron	29.	17.	50.	ug/l	JT8	3500Fe	03/27/13	1
Sulfide	U	19.	50.	ug/l		4500S2	03/27/13	1
Iron	58.	14.	100	ug/l	J	6010B	03/28/13	1
Iron,Dissolved	U	14.	100	ug/l		6010B	03/26/13	1
Gasoline Range Organics-NWTPH	U	50.	100	ug/l		NWTPHGX	03/22/13	1
Benzene	U	0.19	0.50	ug/l		NWTPHGX	03/22/13	1
Toluene	U	0.18	5.0	ug/l		NWTPHGX	03/22/13	1
Ethylbenzene	U	0.16	0.50	ug/l		NWTPHGX	03/22/13	1
Total Xylene	U	0.51	1.5	ug/l		NWTPHGX	03/22/13	1
Surrogate Recovery(%)								
a,a,a-Trifluorotoluene(PID)	102.			% Rec.		NWTPHGX	03/22/13	1
a,a,a-Trifluorotoluene(FID)	99.6			% Rec.		NWTPHGX	03/22/13	1
Diesel Range Organics (DRO)	U	50.	100	ug/l		NWTPHDX	03/25/13	1
Residual Range Organics (RRO)	U	120	250	ug/l		NWTPHDX	03/25/13	1
Surrogate Recovery								
o-Terphenyl	103.			% Rec.		NWTPHDX	03/25/13	1
Polynuclear Aromatic Hydrocarbons								
Anthracene	U	0.0076	0.050	ug/l		8270C-S	03/25/13	1
Acenaphthene	U	0.0082	0.050	ug/l		8270C-S	03/25/13	1
Acenaphthylene	U	0.0068	0.050	ug/l		8270C-S	03/25/13	1
Benzo(a)anthracene	U	0.012	0.050	ug/l		8270C-S	03/25/13	1
Benzo(a)pyrene	U	0.012	0.050	ug/l		8270C-S	03/25/13	1
Benzo(b)fluoranthene	U	0.014	0.050	ug/l		8270C-S	03/25/13	1
Benzo(g,h,i)perylene	U	0.011	0.050	ug/l		8270C-S	03/25/13	1
Benzo(k)fluoranthene	U	0.014	0.050	ug/l		8270C-S	03/25/13	1
Chrysene	U	0.011	0.050	ug/l		8270C-S	03/25/13	1
Dibenz(a,h)anthracene	U	0.0040	0.050	ug/l		8270C-S	03/25/13	1
Fluoranthene	U	0.016	0.050	ug/l		8270C-S	03/25/13	1
Fluorene	U	0.0085	0.050	ug/l		8270C-S	03/25/13	1
Indeno(1,2,3-cd)pyrene	U	0.015	0.050	ug/l		8270C-S	03/25/13	1
Naphthalene	0.031	0.020	0.25	ug/l	J	8270C-S	03/25/13	1
Phenanthrene	U	0.0082	0.050	ug/l		8270C-S	03/25/13	1
Pyrene	U	0.012	0.050	ug/l		8270C-S	03/25/13	1

U = ND (Not Detected)

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

MDL = Minimum Detection Limit = LOD = TRRP SDL

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REPORT OF ANALYSIS

Kristin Darnell
 Farallon Consulting - BNSF Region 1
 975 5th Avenue Northwest
 Issaquah, WA 98027

March 29, 2013

Date Received : March 21, 2013
 Description : BNSF - JML - Cashmere, WA
 Sample ID : MW4-032013
 Collected By : Jon Peterson
 Collection Date : 03/20/13 10:00

ESC Sample # : L626192-01
 Site ID :
 Project # : TT9206-M04

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
1-Methylnaphthalene	U	0.0082	0.25	ug/l		8270C-S	03/25/13	1
2-Methylnaphthalene	U	0.0090	0.25	ug/l		8270C-S	03/25/13	1
2-Chloronaphthalene	U	0.0065	0.25	ug/l		8270C-S	03/25/13	1
Surrogate Recovery								
Nitrobenzene-d5	106.			%	Rec.	8270C-S	03/25/13	1
2-Fluorobiphenyl	104.			%	Rec.	8270C-S	03/25/13	1
p-Terphenyl-d14	99.2			%	Rec.	8270C-S	03/25/13	1

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

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REPORT OF ANALYSIS

Kristin Darnell
 Farallon Consulting - BNSF Region 1
 975 5th Avenue Northwest
 Issaquah, WA 98027

March 29, 2013

Date Received : March 21, 2013
 Description : BNSF - JML - Cashmere, WA

ESC Sample # : L626192-02

Sample ID : MW2-032013

Site ID :

Collected By : Jon Peterson
 Collection Date : 03/20/13 11:00

Project # : TT9206-M04

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Nitrate	3600	23.	100	ug/l		9056	03/21/13	1
Sulfate	15000	77.	5000	ug/l		9056	03/21/13	1
Free Carbon Dioxide	U	6600	20000	ug/l	T8	4500CO2	03/28/13	1
Ferrous Iron	530	17.	50.	ug/l	T8	3500Fe	03/27/13	1
Sulfide	U	19.	50.	ug/l		4500S2	03/27/13	1
Iron	210	14.	100	ug/l		6010B	03/28/13	1
Iron,Dissolved	U	14.	100	ug/l		6010B	03/29/13	1
Gasoline Range Organics-NWTPH	U	50.	100	ug/l		NWTPHGX	03/22/13	1
Benzene	U	0.19	0.50	ug/l		NWTPHGX	03/22/13	1
Toluene	U	0.18	5.0	ug/l		NWTPHGX	03/22/13	1
Ethylbenzene	U	0.16	0.50	ug/l		NWTPHGX	03/22/13	1
Total Xylene	U	0.51	1.5	ug/l		NWTPHGX	03/22/13	1
Surrogate Recovery(%)								
a,a,a-Trifluorotoluene(PID)	102.			% Rec.		NWTPHGX	03/22/13	1
a,a,a-Trifluorotoluene(FID)	99.7			% Rec.		NWTPHGX	03/22/13	1
Diesel Range Organics (DRO)	U	50.	100	ug/l		NWTPHDX	03/25/13	1
Residual Range Organics (RRO)	U	120	250	ug/l		NWTPHDX	03/25/13	1
Surrogate Recovery								
o-Terphenyl	111.			% Rec.		NWTPHDX	03/25/13	1
Polynuclear Aromatic Hydrocarbons								
Anthracene	U	0.0076	0.050	ug/l		8270C-S	03/25/13	1
Acenaphthene	U	0.0082	0.050	ug/l		8270C-S	03/25/13	1
Acenaphthylene	U	0.0068	0.050	ug/l		8270C-S	03/25/13	1
Benzo(a)anthracene	U	0.012	0.050	ug/l		8270C-S	03/25/13	1
Benzo(a)pyrene	U	0.012	0.050	ug/l		8270C-S	03/25/13	1
Benzo(b)fluoranthene	U	0.014	0.050	ug/l		8270C-S	03/25/13	1
Benzo(g,h,i)perylene	U	0.011	0.050	ug/l		8270C-S	03/25/13	1
Benzo(k)fluoranthene	U	0.014	0.050	ug/l		8270C-S	03/25/13	1
Chrysene	U	0.011	0.050	ug/l		8270C-S	03/25/13	1
Dibenz(a,h)anthracene	U	0.0040	0.050	ug/l		8270C-S	03/25/13	1
Fluoranthene	U	0.016	0.050	ug/l		8270C-S	03/25/13	1
Fluorene	U	0.0085	0.050	ug/l		8270C-S	03/25/13	1
Indeno(1,2,3-cd)pyrene	U	0.015	0.050	ug/l		8270C-S	03/25/13	1
Naphthalene	0.033	0.020	0.25	ug/l	J	8270C-S	03/25/13	1
Phenanthrene	U	0.0082	0.050	ug/l		8270C-S	03/25/13	1
Pyrene	U	0.012	0.050	ug/l		8270C-S	03/25/13	1

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REPORT OF ANALYSIS

Kristin Darnell
 Farallon Consulting - BNSF Region 1
 975 5th Avenue Northwest
 Issaquah, WA 98027

March 29, 2013

Date Received : March 21, 2013
 Description : BNSF - JML - Cashmere, WA
 Sample ID : MW2-032013
 Collected By : Jon Peterson
 Collection Date : 03/20/13 11:00

ESC Sample # : L626192-02
 Site ID :
 Project # : TT9206-M04

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
1-Methylnaphthalene	0.0086	0.0082	0.25	ug/l	J	8270C-S	03/25/13	1
2-Methylnaphthalene	0.012	0.0090	0.25	ug/l	J	8270C-S	03/25/13	1
2-Chloronaphthalene	U	0.0065	0.25	ug/l		8270C-S	03/25/13	1
Surrogate Recovery								
Nitrobenzene-d5	106.			%	Rec.	8270C-S	03/25/13	1
2-Fluorobiphenyl	107.			%	Rec.	8270C-S	03/25/13	1
p-Terphenyl-d14	103.			%	Rec.	8270C-S	03/25/13	1

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 975 5th Avenue Northwest
 Issaquah, WA 98027

March 29, 2013

Date Received : March 21, 2013
 Description : BNSF - JML - Cashmere, WA

ESC Sample # : L626192-03

Sample ID : MW1-032013

Site ID :

Collected By : Jon Peterson
 Collection Date : 03/20/13 12:00

Project # : TT9206-M04

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Nitrate	3300	23.	100	ug/l		9056	03/21/13	1
Sulfate	23000	77.	5000	ug/l		9056	03/21/13	1
Free Carbon Dioxide	U	6600	20000	ug/l	T8	4500CO2	03/28/13	1
Ferrous Iron	35.	17.	50.	ug/l	JT8	3500Fe	03/27/13	1
Sulfide	U	19.	50.	ug/l		4500S2	03/27/13	1
Iron	U	14.	100	ug/l		6010B	03/28/13	1
Iron,Dissolved	U	14.	100	ug/l		6010B	03/29/13	1
Gasoline Range Organics-NWTPH	U	50.	100	ug/l		NWTPHGX	03/22/13	1
Benzene	U	0.19	0.50	ug/l		NWTPHGX	03/22/13	1
Toluene	0.23	0.18	5.0	ug/l	J	NWTPHGX	03/22/13	1
Ethylbenzene	U	0.16	0.50	ug/l		NWTPHGX	03/22/13	1
Total Xylene	0.82	0.51	1.5	ug/l	J	NWTPHGX	03/22/13	1
Surrogate Recovery(%)								
a,a,a-Trifluorotoluene(PID)	102.			% Rec.		NWTPHGX	03/22/13	1
a,a,a-Trifluorotoluene(FID)	99.1			% Rec.		NWTPHGX	03/22/13	1
Diesel Range Organics (DRO)	100	50.	100	ug/l		NWTPHDX	03/26/13	1
Residual Range Organics (RRO)	U	120	250	ug/l		NWTPHDX	03/26/13	1
Surrogate Recovery								
o-Terphenyl	111.			% Rec.		NWTPHDX	03/26/13	1
Polynuclear Aromatic Hydrocarbons								
Anthracene	0.025	0.0076	0.050	ug/l	J	8270C-S	03/25/13	1
Acenaphthene	0.025	0.0082	0.050	ug/l	J	8270C-S	03/25/13	1
Acenaphthylene	U	0.0068	0.050	ug/l		8270C-S	03/25/13	1
Benzo(a)anthracene	U	0.012	0.050	ug/l		8270C-S	03/25/13	1
Benzo(a)pyrene	U	0.012	0.050	ug/l		8270C-S	03/25/13	1
Benzo(b)fluoranthene	U	0.014	0.050	ug/l		8270C-S	03/25/13	1
Benzo(g,h,i)perylene	U	0.011	0.050	ug/l		8270C-S	03/25/13	1
Benzo(k)fluoranthene	U	0.014	0.050	ug/l		8270C-S	03/25/13	1
Chrysene	U	0.011	0.050	ug/l		8270C-S	03/25/13	1
Dibenz(a,h)anthracene	U	0.0040	0.050	ug/l		8270C-S	03/25/13	1
Fluoranthene	U	0.016	0.050	ug/l		8270C-S	03/25/13	1
Fluorene	0.013	0.0085	0.050	ug/l	J	8270C-S	03/25/13	1
Indeno(1,2,3-cd)pyrene	U	0.015	0.050	ug/l		8270C-S	03/25/13	1
Naphthalene	0.11	0.020	0.25	ug/l	J	8270C-S	03/25/13	1
Phenanthrene	U	0.0082	0.050	ug/l		8270C-S	03/25/13	1
Pyrene	0.031	0.012	0.050	ug/l	J	8270C-S	03/25/13	1

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REPORT OF ANALYSIS

Kristin Darnell
 Farallon Consulting - BNSF Region 1
 975 5th Avenue Northwest
 Issaquah, WA 98027

March 29, 2013

Date Received : March 21, 2013
 Description : BNSF - JML - Cashmere, WA
 Sample ID : MW1-032013
 Collected By : Jon Peterson
 Collection Date : 03/20/13 12:00

ESC Sample # : L626192-03
 Site ID :
 Project # : TT9206-M04

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
1-Methylnaphthalene	0.21	0.0082	0.25	ug/l	J	8270C-S	03/25/13	1
2-Methylnaphthalene	0.027	0.0090	0.25	ug/l	J	8270C-S	03/25/13	1
2-Chloronaphthalene	U	0.0065	0.25	ug/l		8270C-S	03/25/13	1
Surrogate Recovery								
Nitrobenzene-d5	107.			%	Rec.	8270C-S	03/25/13	1
2-Fluorobiphenyl	105.			%	Rec.	8270C-S	03/25/13	1
p-Terphenyl-d14	103.			%	Rec.	8270C-S	03/25/13	1

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 Farallon Consulting - BNSF Region 1
 975 5th Avenue Northwest
 Issaquah, WA 98027

March 29, 2013

Date Received : March 21, 2013
 Description : BNSF - JML - Cashmere, WA

ESC Sample # : L626192-04

Sample ID : MW3-032013

Site ID :

Collected By : Jon Peterson
 Collection Date : 03/20/13 12:30

Project # : TT9206-M04

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Nitrate	5100	23.	100	ug/l		9056	03/21/13	1
Sulfate	16000	77.	5000	ug/l		9056	03/21/13	1
Free Carbon Dioxide	U	6600	20000	ug/l	T8	4500CO2	03/28/13	1
Ferrous Iron	31.	17.	50.	ug/l	JT8	3500Fe	03/27/13	1
Sulfide	U	19.	50.	ug/l		4500S2	03/27/13	1
Iron	17.	14.	100	ug/l	J	6010B	03/28/13	1
Iron,Dissolved	U	14.	100	ug/l		6010B	03/29/13	1
Gasoline Range Organics-NWTPH	U	50.	100	ug/l		NWTPHGX	03/23/13	1
Benzene	U	0.19	0.50	ug/l		NWTPHGX	03/23/13	1
Toluene	0.26	0.18	5.0	ug/l	J	NWTPHGX	03/23/13	1
Ethylbenzene	U	0.16	0.50	ug/l		NWTPHGX	03/23/13	1
Total Xylene	U	0.51	1.5	ug/l		NWTPHGX	03/23/13	1
Surrogate Recovery(%)								
a,a,a-Trifluorotoluene(PID)	102.			% Rec.		NWTPHGX	03/23/13	1
a,a,a-Trifluorotoluene(FID)	99.4			% Rec.		NWTPHGX	03/23/13	1
Diesel Range Organics (DRO)	U	50.	100	ug/l		NWTPHDX	03/26/13	1
Residual Range Organics (RRO)	U	120	250	ug/l		NWTPHDX	03/26/13	1
Surrogate Recovery								
o-Terphenyl	117.			% Rec.		NWTPHDX	03/26/13	1
Polynuclear Aromatic Hydrocarbons								
Anthracene	U	0.0076	0.050	ug/l		8270C-S	03/25/13	1
Acenaphthene	U	0.0082	0.050	ug/l		8270C-S	03/25/13	1
Acenaphthylene	U	0.0068	0.050	ug/l		8270C-S	03/25/13	1
Benzo(a)anthracene	U	0.012	0.050	ug/l		8270C-S	03/25/13	1
Benzo(a)pyrene	U	0.012	0.050	ug/l		8270C-S	03/25/13	1
Benzo(b)fluoranthene	U	0.014	0.050	ug/l		8270C-S	03/25/13	1
Benzo(g,h,i)perylene	U	0.011	0.050	ug/l		8270C-S	03/25/13	1
Benzo(k)fluoranthene	U	0.014	0.050	ug/l		8270C-S	03/25/13	1
Chrysene	U	0.011	0.050	ug/l		8270C-S	03/25/13	1
Dibenz(a,h)anthracene	U	0.0040	0.050	ug/l		8270C-S	03/25/13	1
Fluoranthene	U	0.016	0.050	ug/l		8270C-S	03/25/13	1
Fluorene	U	0.0085	0.050	ug/l		8270C-S	03/25/13	1
Indeno(1,2,3-cd)pyrene	U	0.015	0.050	ug/l		8270C-S	03/25/13	1
Naphthalene	0.028	0.020	0.25	ug/l	J	8270C-S	03/25/13	1
Phenanthrene	U	0.0082	0.050	ug/l		8270C-S	03/25/13	1
Pyrene	U	0.012	0.050	ug/l		8270C-S	03/25/13	1

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REPORT OF ANALYSIS

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 Farallon Consulting - BNSF Region 1
 975 5th Avenue Northwest
 Issaquah, WA 98027

March 29, 2013

Date Received : March 21, 2013
 Description : BNSF - JML - Cashmere, WA
 Sample ID : MW3-032013
 Collected By : Jon Peterson
 Collection Date : 03/20/13 12:30

ESC Sample # : L626192-04
 Site ID :
 Project # : TT9206-M04

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
1-Methylnaphthalene	U	0.0082	0.25	ug/l		8270C-S	03/25/13	1
2-Methylnaphthalene	U	0.0090	0.25	ug/l		8270C-S	03/25/13	1
2-Chloronaphthalene	U	0.0065	0.25	ug/l		8270C-S	03/25/13	1
Surrogate Recovery								
Nitrobenzene-d5	106.			%	Rec.	8270C-S	03/25/13	1
2-Fluorobiphenyl	104.			%	Rec.	8270C-S	03/25/13	1
p-Terphenyl-d14	103.			%	Rec.	8270C-S	03/25/13	1

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Attachment A
List of Analytes with QC Qualifiers

Sample Number	Work Group	Sample Type	Analyte	Run ID	Qualifier
L626192-01	WG652882	SAMP	Iron	R2597379	J
	WG652378	SAMP	Naphthalene	R2594924	J
	WG653081	SAMP	Free Carbon Dioxide	R2597798	T8
L626192-02	WG653022	SAMP	Ferrous Iron	R2596499	JT8
	WG652378	SAMP	Naphthalene	R2594924	J
	WG652378	SAMP	1-Methylnaphthalene	R2594924	J
	WG652378	SAMP	2-Methylnaphthalene	R2594924	J
L626192-03	WG653081	SAMP	Free Carbon Dioxide	R2597798	T8
	WG653022	SAMP	Ferrous Iron	R2596499	T8
	WG652327	SAMP	Toluene	R2595018	J
	WG652327	SAMP	Total Xylene	R2595018	J
	WG652378	SAMP	Anthracene	R2594924	J
	WG652378	SAMP	Acenaphthene	R2594924	J
	WG652378	SAMP	Fluorene	R2594924	J
	WG652378	SAMP	Naphthalene	R2594924	J
	WG652378	SAMP	Pyrene	R2594924	J
	WG652378	SAMP	1-Methylnaphthalene	R2594924	J
	WG652378	SAMP	2-Methylnaphthalene	R2594924	J
L626192-04	WG653081	SAMP	Free Carbon Dioxide	R2597798	T8
	WG653022	SAMP	Ferrous Iron	R2596499	JT8
	WG652882	SAMP	Iron	R2597379	J
	WG652327	SAMP	Toluene	R2595018	J
	WG652378	SAMP	Naphthalene	R2594924	J
	WG653081	SAMP	Free Carbon Dioxide	R2597798	T8
	WG653022	SAMP	Ferrous Iron	R2596499	JT8

Attachment B
Explanation of QC Qualifier Codes

Qualifier	Meaning
J	(EPA) - Estimated value below the lowest calibration point. Confidence correlates with concentration.
T8	(ESC) - Additional method/sample information: Sample(s) received past/too close to holding time expiration.

Qualifier Report Information

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

Definitions

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

Summary of Remarks For Samples Printed
03/29/13 at 17:36:15

TSR Signing Reports: 134
R5 - Desired TAT

Sample: L626192-01 Account: BNSF1FAR Received: 03/21/13 09:00 Due Date: 03/28/13 00:00 RPT Date: 03/29/13 17:35

Sample: L626192-02 Account: BNSF1FAR Received: 03/21/13 09:00 Due Date: 03/28/13 00:00 RPT Date: 03/29/13 17:35

Sample: L626192-03 Account: BNSF1FAR Received: 03/21/13 09:00 Due Date: 03/28/13 00:00 RPT Date: 03/29/13 17:35

Sample: L626192-04 Account: BNSF1FAR Received: 03/21/13 09:00 Due Date: 03/28/13 00:00 RPT Date: 03/29/13 17:35



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Quality Control Summary
SDG: L626192
Farallon Consulting - BNSF Region 1

Test:	Anions by Method 9056	Matrix:	Water - mg/L
Project No:	TT9206-M04	EPA ID:	TN00003
Project:	BNSF - JML - Cashmere, WA	Analytic Batch:	WG652100
Collection Date:	3/20/2013	Analyst:	477
Analysis Date:	3/21/2013		
Instrument ID:	IC-10		
Sample Numbers:	L626192-03, -01, -04, -02		

Method Blank

Analyte	CAS	PQL	Qualifiers
Nitrate		<0.100	
Nitrate		<0.100	
Sulfate		<5.00	
Sulfate		<5.00	

Laboratory Control Sample (LCS)

Analyte	True Value	Found	Recovery %	Control Limits	Qualifiers
Nitrate	8.00	8.44	106	90 - 110	
Sulfate	40.0	39.7	99.2	90 - 110	

Laboratory Control Sample Duplicate (LCSD)

Analyte	True Value	Found	Recovery %	Control Limits	Qualifiers
Nitrate	8.00	8.41	105	90 - 110	
Sulfate	40.0	39.8	99.5	90 - 110	



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Quality Control Summary
SDG: L626192
Farallon Consulting - BNSF Region 1

Test:	Anions by Method 9056	Matrix:	Water - mg/L
Project No:	TT9206-M04	EPA ID:	TN00003
Project:	BNSF - JML - Cashmere, WA	Analytic Batch:	WG652100
Collection Date:	3/20/2013	Analyst:	477
Analysis Date:	3/21/2013		
Instrument ID:	IC-10		
Sample Numbers:	L626192-03, -01, -04, -02		

Laboratory Control Sample/ Laboratory Control Sample Duplicate

Analyte	Spike	LCS	% Rec		Control Limits	Qualifier	% RPD		Control Limits	Qualifier
			LCSD	Rec			RPD	RPD		
Nitrate	8.00	8.44	106	8.41	105	90-110		0.4	20	
Sulfate	40.0	39.7	99.2	39.8	99.5	90-110		0.3	20	

Sample Duplicate

L623786-02

Name	Sample Results	Duplic Results	%RPD	Limit	Qualifiers
Nitrate	6.70	6.80	1.5	20	

Sample Duplicate

L625572-04

Name	Sample Results	Duplic Results	%RPD	Limit	Qualifiers
Nitrate	8.30	8.50	2.4	20	



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Quality Control Summary
SDG: L626192
Farallon Consulting - BNSF Region 1

Test:	Anions by Method 9056	Matrix:	Water - mg/L
Project No:	TT9206-M04	EPA ID:	TN00003
Project:	BNSF - JML - Cashmere, WA	Analytic Batch:	WG652100
Collection Date:	3/20/2013	Analyst:	477
Analysis Date:	3/21/2013		
Instrument ID:	IC-10		
Sample Numbers:	L626192-03, -01, -04, -02		

Matrix Spike/Matrix Spike Duplicate

L625907-29

Analyte	Spike		% Rec		% Rec		Control Limits	% Rec Qualifier	% RPD	Control Limits	RPD Qual
	Value	Sample	MS	Rec	MSD	Rec					
Nitrate	5.00	0.140	5.17	101	5.26	102	80-120		1.7	20	
Sulfate	50.0	1.30	51.0	99.4	51.6	101	80-120		1.2	20	



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Quality Control Summary
SDG: L626192
Farallon Consulting - BNSF Region 1

Test:	Ferrous Iron by Method 3500Fe B-2011	Matrix:	Water - mg/L
Project No:	TT9206-M04	EPA ID:	TN00003
Project:	BNSF - JML - Cashmere, WA	Analytic Batch:	WG653022
Collection Date:	3/20/2013	Analyst:	586
Analysis Date:	3/27/2013 12:21:00 PM	Extraction Date:	3/26/2013
Instrument ID:	DR5000-02		
Sample Numbers:	L626192-02, -01, -03, -04		

Method Blank

Analyte	CAS	PQL	Qualifiers
Ferrous Iron		<0.0500	

Laboratory Control Sample (LCS)

Analyte	True Value	Found	Recovery %	Control Limits	Qualifiers
Ferrous Iron	1.00	0.977	97.7	85 - 115	

Laboratory Control Sample Duplicate (LCSD)

Analyte	True Value	Found	Recovery %	Control Limits	Qualifiers
Ferrous Iron	1.00	0.984	98.4	85 - 115	



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Quality Control Summary
SDG: L626192
Farallon Consulting - BNSF Region 1

Test:	Ferrous Iron by Method 3500Fe B-2011	Matrix:	Water - mg/L
Project No:	TT9206-M04	EPA ID:	TN00003
Project:	BNSF - JML - Cashmere, WA	Analytic Batch:	WG653022
Collection Date:	3/20/2013	Analyst:	586
Analysis Date:	3/27/2013 12:21:00 PM	Extraction Date:	3/26/2013
Instrument ID:	DR5000-02		
Sample Numbers:	L626192-02, -01, -03, -04		

Laboratory Control Sample/ Laboratory Control Sample Duplicate

Analyte	Spike	LCS	% Rec	LCSD	% Rec	Control Limits	Qualifier	% RPD	Control Limits	Qualifier
Ferrous Iron	1.00	0.977	97.7	0.984	98.4	85-115		0.7	20	

Sample Duplicate

L626686-02

Name	Sample Results	Duplic Results	%RPD	Limit	Qualifiers
Ferrous Iron	0.130	0.130	0.0	20	

Sample Duplicate

L626019-01

Name	Sample Results	Duplic Results	%RPD	Limit	Qualifiers
Ferrous Iron	0.0000	0.0000			



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Quality Control Summary
SDG: L626192
Farallon Consulting - BNSF Region 1

Test:	Ferrous Iron by Method 3500Fe B-2011	Matrix:	Water - mg/L
Project No:	TT9206-M04	EPA ID:	TN00003
Project:	BNSF - JML - Cashmere, WA	Analytic Batch:	WG653022
Collection Date:	3/20/2013	Analyst:	586
Analysis Date:	3/27/2013 12:21:00 PM	Extraction Date:	3/26/2013
Instrument ID:	DR5000-02		
Sample Numbers:	L626192-02, -01, -03, -04		

Matrix Spike/Matrix Spike Duplicate

L626019-03

Analyte	Spike		%		MSD	% Rec	Control Limits	% Rec Qualifier	% RPD	Control Limits	RPD Qual
	Value	Sample	MS	Rec							
Ferrous Iron	1.50	0.0870	1.57	98.9	1.57	98.9	80-120		0.0	20	



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Quality Control Summary
SDG: L626192
Farallon Consulting - BNSF Region 1

Test:	Sulfide by Method 4500S2 D-2011	Matrix:	Water - mg/L
Project No:	TT9206-M04	EPA ID:	TN00003
Project:	BNSF - JML - Cashmere, WA	Analytic Batch:	WG653080
Collection Date:	3/20/2013	Analyst:	556
Analysis Date:	3/27/2013 3:03:00 PM	Extraction Date:	3/26/2013
Instrument ID:	DR5000-02		
Sample Numbers:	L626192-02, -01, -04, -03		

Method Blank

Analyte	CAS	PQL	Qualifiers
Sulfide		<0.0500	

Laboratory Control Sample (LCS)

Analyte	True Value	Found	Recovery %	Control Limits	Qualifiers
Sulfide	0.500	0.461	92.2	85 - 115	

Laboratory Control Sample Duplicate (LCSD)

Analyte	True Value	Found	Recovery %	Control Limits	Qualifiers
Sulfide	0.500	0.450	90.0	85 - 115	



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Quality Control Summary
SDG: L626192
Farallon Consulting - BNSF Region 1

Test:	Sulfide by Method 4500S2 D-2011	Matrix:	Water - mg/L
Project No:	TT9206-M04	EPA ID:	TN00003
Project:	BNSF - JML - Cashmere, WA	Analytic Batch:	WG653080
Collection Date:	3/20/2013	Analyst:	556
Analysis Date:	3/27/2013 3:03:00 PM	Extraction Date:	3/26/2013
Instrument ID:	DR5000-02		
Sample Numbers:	L626192-02, -01, -04, -03		

Laboratory Control Sample/ Laboratory Control Sample Duplicate

Analyte	Spike	LCS	% Rec		Control Limits	Qualifier	% Control	
			Rec	LCS			RPD	Limits
Sulfide	0.500	0.461	92.2	0.450	85-115		2.4	20

Sample Duplicate
 L626192-02

Name	Sample Results	Duplic Results	%RPD	Limit	Qualifiers
Sulfide	0.0000	0.0000			

Sample Duplicate
 L626519-01

Name	Sample Results	Duplic Results	%RPD	Limit	Qualifiers
Sulfide	0.0000	0.0000			



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Quality Control Summary
SDG: L626192
Farallon Consulting - BNSF Region 1

Test:	Sulfide by Method 4500S2 D-2011	Matrix:	Water - mg/L
Project No:	TT9206-M04	EPA ID:	TN00003
Project:	BNSF - JML - Cashmere, WA	Analytic Batch:	WG653080
Collection Date:	3/20/2013	Analyst:	556
Analysis Date:	3/27/2013 3:03:00 PM	Extraction Date:	3/26/2013
Instrument ID:	DR5000-02		
Sample Numbers:	L626192-02, -01, -04, -03		

Matrix Spike/Matrix Spike Duplicate

L626192-01

Analyte	Spike		L626192-01				Control Limits	% Rec Qualifier	% RPD	Control Limits	RPD Qual
	Value	Sample	MS	% Rec	MSD	% Rec					
Sulfide	1.00	0.0000	0.965	96.5	0.970	97.0	80-120		0.5	20	



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Quality Control Summary
SDG: L626192
Farallon Consulting - BNSF Region 1

Test:	Trace Metals by Method 6010B	Matrix:	Water - mg/L
Project No:	TT9206-M04	EPA ID:	TN00003
Project:	BNSF - JML - Cashmere, WA	Analytic Batch:	WG652771
Collection Date:	3/20/2013	Analyst:	454
Analysis Date:	3/26/2013	Extraction Date:	3/25/2013
Instrument ID:	ICP6		
Sample Numbers:	L626192-01		

Method Blank

Analyte	CAS	PQL	Qualifiers
Iron,Dissolved	7439-89-6	<0.100	

Laboratory Control Sample (LCS)

Analyte	True Value	Found	Recovery %	Control Limits	Qualifiers
Iron,Dissolved	1.11	1.10	99.1	85 - 115	



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Quality Control Summary
SDG: L626192
Farallon Consulting - BNSF Region 1

Test:	Trace Metals by Method 6010B	Matrix:	Water - mg/L
Project No:	TT9206-M04	EPA ID:	TN00003
Project:	BNSF - JML - Cashmere, WA	Analytic Batch:	WG652882
Collection Date:	3/20/2013	Analyst:	428
Analysis Date:	3/27/2013	Extraction Date:	3/25/2013
Instrument ID:	ICP8		
Sample Numbers:	L626192-03, -01, -04, -02		

Method Blank

Analyte	CAS	PQL	Qualifiers
Iron	7439-89-6	<0.100	

Laboratory Control Sample (LCS)

Analyte	True Value	Found	Recovery %	Control Limits	Qualifiers
Iron	1.11	1.20	108	85 - 115	



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Quality Control Summary
SDG: L626192
Farallon Consulting - BNSF Region 1

Test:	Trace Metals by Method 6010B	Matrix:	Water - mg/L
Project No:	TT9206-M04	EPA ID:	TN00003
Project:	BNSF - JML - Cashmere, WA	Analytic Batch:	WG652915
Collection Date:	3/20/2013	Analyst:	447
Analysis Date:	3/29/2013	Extraction Date:	3/26/2013
Instrument ID:	ICP6		
Sample Numbers:	L626192-03, -04, -02		

Method Blank

Analyte	CAS	PQL	Qualifiers
Iron,Dissolved	7439-89-6	<0.100	

Laboratory Control Sample (LCS)

Analyte	True Value	Found	Recovery %	Control Limits	Qualifiers
Iron,Dissolved	1.11	1.09	98.2	85 - 115	



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Quality Control Summary
SDG: L626192
Farallon Consulting - BNSF Region 1

Test:	Trace Metals by Method 6010B	Matrix:	Water - mg/L
Project No:	TT9206-M04	EPA ID:	TN00003
Project:	BNSF - JML - Cashmere, WA	Analytic Batch:	WG652771
Collection Date:	3/20/2013	Analyst:	454
Analysis Date:	3/26/2013	Extraction Date:	3/25/2013
Instrument ID:	ICP6		
Sample Numbers:	L626192-01		

Sample Duplicate
 L626076-01

Name	Sample Results	Duplic Results	%RPD	Limit	Qualifiers
Iron,Dissolved	0.0000	0.0000			

Matrix Spike/Matrix Spike Duplicate
 L626076-01

Analyte	Spike Value	Sample	MS	% Rec	MSD	% Rec	Control Limits	% Rec Qualifier	% RPD	Control Limits	RPD Qual
Iron,Dissolved	1.11	0.0000	1.08	97.3	1.08	97.3	75-125		0.0	20	



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Quality Control Summary
SDG: L626192
Farallon Consulting - BNSF Region 1

Test:	Trace Metals by Method 6010B	Matrix:	Water - mg/L
Project No:	TT9206-M04	EPA ID:	TN00003
Project:	BNSF - JML - Cashmere, WA	Analytic Batch:	WG652882
Collection Date:	3/20/2013	Analyst:	428
Analysis Date:	3/27/2013	Extraction Date:	3/25/2013
Instrument ID:	ICP8		
Sample Numbers:	L626192-03, -01, -04, -02		

Sample Duplicate
 L626201-05

Name	Sample Results	Duplic Results	%RPD	Limit	Qualifiers
Iron	6.80	7.20	5.7	20	

Matrix Spike/Matrix Spike Duplicate
 L626201-05

Analyte	Spike Value	Sample	MS	% Rec	MSD	% Rec	Control Limits	% Rec Qualifier	% RPD	Control Limits	RPD Qual
Iron	1.11	7.20	8.16	86.5	8.26	95.5	75-125		1.2	20	



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Quality Control Summary
SDG: L626192
Farallon Consulting - BNSF Region 1

Test:	Trace Metals by Method 6010B	Matrix:	Water - mg/L
Project No:	TT9206-M04	EPA ID:	TN00003
Project:	BNSF - JML - Cashmere, WA	Analytic Batch:	WG652915
Collection Date:	3/20/2013	Analyst:	447
Analysis Date:	3/29/2013	Extraction Date:	3/26/2013
Instrument ID:	ICP6		
Sample Numbers:	L626192-03, -04, -02		

Sample Duplicate
 L626201-05

Name	Sample Results	Duplic Results	%RPD	Limit	Qualifiers
Iron,Dissolved	0.0000	0.0000			

Matrix Spike/Matrix Spike Duplicate
 L626201-05

Analyte	Spike Value	Sample	MS	% Rec	MSD	% Rec	Control Limits	% Rec Qualifier	% RPD	Control Limits	RPD Qual
Iron,Dissolved	1.11	0.0000	1.03	92.8	1.04	93.7	75-125		1.0	20	



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Quality Control Summary
SDG: L626192
Farallon Consulting - BNSF Region 1

Test:	Method NWTPHGX	Matrix:	Water - mg/L
Project No:	TT9206-M04	EPA ID:	TN00003
Project:	BNSF - JML - Cashmere, WA	Analytic Batch:	WG652327
Collection Date:	3/20/2013	Analyst:	403
Analysis Date:	3/22/2013		
Instrument ID:	VOCGC1		
Sample Numbers:	L626192-01, -02, -03, -04		

Method Blank

Analyte	CAS	PQL	Qualifiers
Gasoline Range Organics-NWTPH		<0.100	
Benzene	71-43-2	<0.0005	
Toluene	108-88-3	<0.0050	
Ethylbenzene	100-41-4	<0.0005	
m&p-Xylene	1330-20-7	<0.0015	
o-Xylene	1330-20-7	<0.0015	

Laboratory Control Sample (LCS)

Analyte	True Value	Found	Recovery %	Control Limits	Qualifiers
Benzene	0.0500	0.0488	97.6	79 - 114	
Toluene	0.0500	0.0500	99.9	79 - 112	
Ethylbenzene	0.0500	0.0502	100	80 - 116	
m&p-Xylene	0.100	0.0964	96.4	85 - 120	
o-Xylene	0.0500	0.0500	100.0	82 - 116	
Gasoline Range Organics-NWTPH	5.50	4.89	88.9	70 - 124	

Laboratory Control Sample Duplicate (LCSD)

Analyte	True Value	Found	Recovery %	Control Limits	Qualifiers
Benzene	0.0500	0.0514	103	79 - 114	
Toluene	0.0500	0.0515	103	79 - 112	
Ethylbenzene	0.0500	0.0526	105	80 - 116	
m&p-Xylene	0.100	0.1000	100.0	85 - 120	
o-Xylene	0.0500	0.0516	103	82 - 116	
Gasoline Range Organics-NWTPH	5.50	4.93	89.7	70 - 124	



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Quality Control Summary

SDG: L626192

Farallon Consulting - BNSF Region 1

Test:	Method NWTPHGX	Matrix:	Water - mg/L
Project No:	TT9206-M04	EPA ID:	TN00003
Project:	BNSF - JML - Cashmere, WA	Analytic Batch:	WG652327
Collection Date:	3/20/2013	Analyst:	403
Analysis Date:	3/22/2013		
Instrument ID:	VOCGC1		
Sample Numbers:	L626192-01, -02, -03, -04		

Surrogate Summary

Laboratory Sample ID	a,a,a-Trifluorotoluene - FID		a,a,a-Trifluorotoluene - PID	
	ppb	% Rec	ppb	% Rec
LCS WG652327	198	99.1	203	102
LCSD WG652327	200	99.8	205	102
LCS WG652327	199	99.3	219	109
LCSD WG652327	199	99.5	219	110
MS WG652327	194	97.0	208	104
MSD WG652327	196	97.9	210	105
MS WG652327	199	99.4	223	112
MSD WG652327	198	99.0	222	111
Blank WG652327	199	99.5	205	102
L626192-01	199	99.6	204	102
L626192-02	199	99.7	204	102
L626192-03	198	99.1	203	102
L626192-04	199	99.3	204	102

a,a,a-Trifluorotoluene (FID)	200 ppb	Limits - 62 - 128
a,a,a-Trifluorotoluene (PID)	200 ppb	Limits - 55 - 122



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Quality Control Summary
SDG: L626192
Farallon Consulting - BNSF Region 1

Test:	Method NWTPHGX	Matrix:	Water - mg/L
Project No:	TT9206-M04	EPA ID:	TN00003
Project:	BNSF - JML - Cashmere, WA	Analytic Batch:	WG652327
Collection Date:	3/20/2013	Analyst:	403
Analysis Date:	3/22/2013		
Instrument ID:	VOCGC1		
Sample Numbers:	L626192-01, -02, -03, -04		

Laboratory Control Sample/ Laboratory Control Sample Duplicate

Analyte	Spike	LCS	%		Control Limits	Qualifier	RPD	Control	
			Rec	LCSD				Rec	Limits
Benzene	0.0500	0.0488	97.6	0.0514	103	79-114	5.2	20	
Toluene	0.0500	0.0500	99.9	0.0515	103	79-112	3.0	20	
Ethylbenzene	0.0500	0.0502	100	0.0526	105	80-116	4.7	20	
m&p-Xylene	0.100	0.0964	96.4	0.1000	100.0	85-120	3.7	20	
o-Xylene	0.0500	0.0500	100.0	0.0516	103	82-116	3.1	20	
Gasoline Range Organics-	5.50	4.89	88.9	4.93	89.7	70-124	0.9	20	

Matrix Spike/Matrix Spike Duplicate

L625711-02

Analyte	Spike		MS	%		Control Limits	% Rec Qualifier	RPD	Control Limits	RPD Qual
	Value	Sample		Rec	MSD					
Benzene	0.0500	0.0135	0.0572	87.4	0.0592	91.3	35-147	3.3	20	
Toluene	0.0500	0.0064	0.0588	105	0.0589	105	35-148	0.2	20	
Ethylbenzene	0.0500	0.0024	0.0515	98.2	0.0524	99.9	39-141	1.7	20	
m&p-Xylene	0.100	0.0053	0.0973	92.0	0.0975	92.2	26-157	0.2	20	
o-Xylene	0.0500	0.0022	0.0512	98.0	0.0511	97.8	40-145	0.2	20	
Gasoline Range Organics-	5.50	1.13	5.43	78.3	5.12	72.6	58-122	5.9	20	



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 Est. 1970

Quality Control Summary
SDG: L626192
Farallon Consulting - BNSF Region 1

Test:	Method NWTPHGX	Matrix:	Water - mg/L
Project No:	TT9206-M04	EPA ID:	TN00003
Project:	BNSF - JML - Cashmere, WA	Analytic Batch:	WG652327
Collection Date:	3/20/2013	Analyst:	403
Analysis Date:	3/22/2013		
Instrument ID:	VOCGC1		
Sample Numbers:	L626192-01, -02, -03, -04		

Internal Standard Response and Retention Time Summary

FileID:0322_03.D Date:3/22/2013 Time:10:09 AM

	Response	IS - FID RT	Response	IS - PID RT
12 Hour Std	20063384	6.55	10253632	6.55
Upper Limit	40126768	7.05	20507264	7.05
Lower Limit	10031692	6.05	5126816	6.05

Sample ID	Response	RT	Response	RT
Blank WG652327	18095667	6.55	9651881	6.55
L626192-01	17576842	6.54	9297669	6.54
L626192-02	17744142	6.54	9380402	6.54
L626192-03	17792123	6.53	9392521	6.53
LCS WG652327	18005989	6.55	9675667	6.55
LCS WG652327	19763232	6.55	9820099	6.55
LCSD WG652327	16927569	6.54	9034143	6.54
LCSD WG652327	19248761	6.55	9599831	6.55
MS WG652327	16363745	6.56	8440691	6.56
MS WG652327	20307450	6.55	9865314	6.55
MSD WG652327	18258874	6.55	9378153	6.55
MSD WG652327	20362034	6.55	9838025	6.55



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Quality Control Summary
SDG: L626192
Farallon Consulting - BNSF Region 1

Test:	Diesel Range Organics by Method 8015		
Project No:	TT9206-M04	Matrix:	Water - mg/L
Project:	BNSF - JML - Cashmere, WA	EPA ID:	TN00003
Collection Date:	3/20/2013	Analytic Batch:	WG652475
Analysis Date:	3/25/2013	Analyst:	187
Instrument ID:	SVGC27	Extraction Date:	3/22/2013
Sample Numbers:	L626192-04, -02, -01, -03		

Method Blank

Analyte	CAS	PQL	Qualifiers
Diesel Range Organics (DRO)		<0.10	
Residual Range Organics (RRO)		<0.25	

Laboratory Control Sample (LCS)

Analyte	True Value	Found	Recovery %	Control Limits	Qualifiers
Total Range Organics	1.50	1.54	103	50 - 150	

Laboratory Control Sample Duplicate (LCSD)

Analyte	True Value	Found	Recovery %	Control Limits	Qualifiers
Total Range Organics	1.50	1.67	111	50 - 150	



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Quality Control Summary
SDG: L626192
Farallon Consulting - BNSF Region 1

Test:	Diesel Range Organics by Method 8015	Matrix:	Water - mg/L
Project No:	TT9206-M04	EPA ID:	TN00003
Project:	BNSF - JML - Cashmere, WA	Analytic Batch:	WG652475
Collection Date:	3/20/2013	Analyst:	187
Analysis Date:	3/25/2013	Extraction Date:	3/22/2013
Instrument ID:	SVGC27		
Sample Numbers:	L626192-04, -02, -01, -03		

Surrogate Summary

Laboratory Sample ID	o-Terphenyl	
	ppm	% Rec
Blank WG652475	0.0202	101
LCS WG652475	0.0211	106
LCSD WG652475	0.0209	104
L626192-01	0.0206	103
L626192-02	0.0222	111
L626192-03	0.0222	111
L626192-04	0.0235	117

o-Terphenyl

True Value: 0.02ppm Limits: 50 - 150



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Quality Control Summary
SDG: L626192
Farallon Consulting - BNSF Region 1

Test:	Diesel Range Organics by Method 8015	Matrix:	Water - mg/L
Project No:	TT9206-M04	EPA ID:	TN00003
Project:	BNSF - JML - Cashmere, WA	Analytic Batch:	WG652475
Collection Date:	3/20/2013	Analyst:	187
Analysis Date:	3/25/2013	Extraction Date:	3/22/2013
Instrument ID:	SVGC27		
Sample Numbers:	L626192-04, -02, -01, -03		

Laboratory Control Sample/ Laboratory Control Sample Duplicate

Analyte	Spike	LCS	% Rec	LCSD	% Rec	Control Limits	Qualifier	% RPD	Control Limits	Qualifier
Total Range Organics	1.50	1.54	103	1.67	111	50-150		7.6	25	



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Quality Control Summary
SDG: L626192
Farallon Consulting - BNSF Region 1

Test:	Semi-Volatiles by Method 8270C-SIM		Matrix:	Water - mg/L
Project No:	TT9206-M04		EPA ID:	TN00003
Project:	BNSF - JML - Cashmere, WA		Analytic Batch:	WG652378
Collection Date:	3/20/2013		Analyst:	282
Analysis Date:	3/25/2013		Extraction Date:	3/22/2013
Instrument ID:	BNAMS12			
Sample Numbers:	L626192-01, -02, -03, -04			

Method Blank

Analyte	CAS	PQL	Qualifiers
Naphthalene	91-20-3	<0.000250	
2-Methylnaphthalene	91-57-6	<0.000250	
1-Methylnaphthalene	90-12-0	<0.000250	
2-Chloronaphthalene	91-58-7	<0.0000500	
Acenaphthylene	208-96-8	<0.0000500	
Acenaphthene	83-32-9	<0.0000500	
Fluorene	86-73-7	<0.0000500	
Phenanthrene	85-01-8	<0.0000500	
Anthracene	120-12-7	<0.0000500	
Fluoranthene	206-44-0	<0.0000500	
Pyrene	129-00-0	<0.0000500	
Benzo(a)anthracene	56-55-3	<0.0000500	
Chrysene	218-01-9	<0.0000500	
Benzo(b)fluoranthene	205-99-2	<0.0000500	
Benzo(k)fluoranthene	207-08-9	<0.0000500	
Benzo(a)pyrene	50-32-8	<0.0000500	
Indeno(1,2,3-cd)pyrene	193-39-5	<0.0000500	
Dibenz(a,h)anthracene	53-70-3	<0.0000500	
Benzo(g,h,i)perylene	191-24-2	<0.0000500	



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Quality Control Summary

SDG: L626192

Farallon Consulting - BNSF Region 1

Test:	Semi-volatile Organic Compounds by Method 8270C-SIM		
Project No:	TT9206-M04	Matrix:	Water - mg/L
Project:	BNSF - JML - Cashmere, WA	EPA ID:	TN00003
Collection Date:	3/20/2013	Analytic Batch:	WG652378
Analysis Date:	3/25/2013 6:38:00 PM	Analyst:	282
Instrument ID:	BNAMS12	Extraction Date:	3/22/2013
Sample Numbers:	L626192-01, -02, -03, -04		

Laboratory Control Sample (LCS)

Analyte	True Value	Found	Recovery %	Control Limits	Qualifiers
1-Methylnaphthalene	0.00200	0.00216	108	71.2 - 137	
2-Chloronaphthalene	0.00200	0.00216	108	81.1 - 129	
2-Methylnaphthalene	0.00200	0.00214	107	69.8 - 134	
Acenaphthene	0.00200	0.00217	109	80.8 - 128	
Acenaphthylene	0.00200	0.00212	106	77.2 - 132	
Anthracene	0.00200	0.00219	109	78.4 - 136	
Benzo(a)anthracene	0.00200	0.00204	102	69.2 - 141	
Benzo(a)pyrene	0.00200	0.00202	101	71.1 - 135	
Benzo(b)fluoranthene	0.00200	0.00229	114	69.5 - 140	
Benzo(g,h,i)perylene	0.00200	0.00211	105	64.6 - 138	
Benzo(k)fluoranthene	0.00200	0.00203	101	69.3 - 144	
Chrysene	0.00200	0.00209	105	75.6 - 138	
Dibenz(a,h)anthracene	0.00200	0.00215	107	64.1 - 139	
Fluoranthene	0.00200	0.00220	110	78.6 - 135	
Fluorene	0.00200	0.00216	108	78.3 - 131	
Indeno(1,2,3-cd)pyrene	0.00200	0.00215	107	64.8 - 140	
Naphthalene	0.00200	0.00229	115	80.2 - 126	
Phenanthrene	0.00200	0.00215	108	79.6 - 130	
Pyrene	0.00200	0.00211	105	76.6 - 134	



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Quality Control Summary

SDG: L626192

Farallon Consulting - BNSF Region 1

Test:	Semi-volatile Organic Compounds by Method 8270C-SIM	Matrix:	Water - mg/L
Project No:	TT9206-M04	EPA ID:	TN00003
Project:	BNSF - JML - Cashmere, WA	Analytic Batch:	WG652378
Collection Date:	3/20/2013	Analyst:	282
Analysis Date:	3/25/2013 6:38:00 PM	Extraction Date:	3/22/2013
Instrument ID:	BNAMS12		
Sample Numbers:	L626192-01, -02, -03, -04		

Laboratory Control Sample Duplicate (LCSD)

Analyte	True Value	Found	Recovery %	Control Limits	Qualifiers
1-Methylnaphthalene	0.00200	0.00218	109	71.2 - 137	
2-Chloronaphthalene	0.00200	0.00219	109	81.1 - 129	
2-Methylnaphthalene	0.00200	0.00218	109	69.8 - 134	
Acenaphthene	0.00200	0.00221	110	80.8 - 128	
Acenaphthylene	0.00200	0.00224	112	77.2 - 132	
Anthracene	0.00200	0.00223	111	78.4 - 136	
Benzo(a)anthracene	0.00200	0.00216	108	69.2 - 141	
Benzo(a)pyrene	0.00200	0.00206	103	71.1 - 135	
Benzo(b)fluoranthene	0.00200	0.00209	105	69.5 - 140	
Benzo(g,h,i)perylene	0.00200	0.00207	104	64.6 - 138	
Benzo(k)fluoranthene	0.00200	0.00224	112	69.3 - 144	
Chrysene	0.00200	0.00209	105	75.6 - 138	
Dibenz(a,h)anthracene	0.00200	0.00205	103	64.1 - 139	
Fluoranthene	0.00200	0.00223	111	78.6 - 135	
Fluorene	0.00200	0.00218	109	78.3 - 131	
Indeno(1,2,3-cd)pyrene	0.00200	0.00207	103	64.8 - 140	
Naphthalene	0.00200	0.00230	115	80.2 - 126	
Phenanthrene	0.00200	0.00216	108	79.6 - 130	
Pyrene	0.00200	0.00212	106	76.6 - 134	



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Quality Control Summary

SDG: L626192

Farallon Consulting - BNSF Region 1

Test:	Semi-volatile Organic Compounds by Method 8270C-SIM		
Project No:	TT9206-M04	Matrix:	Water - mg/L
Project:	BNSF - JML - Cashmere, WA	EPA ID:	TN00003
Collection Date:	3/20/2013	Analytic Batch:	WG652378
Analysis Date:	3/25/2013 6:38:00 PM	Analyst:	282
Instrument ID:	BNAMS12	Extraction Date:	3/22/2013
Sample Numbers:	L626192-01, -02, -03, -04		

Surrogate Summary

Laboratory Sample ID	Instrument	File ID	FBP		NBZ		TPH	
			ppm	% Rec	ppm	% Rec	ppm	% Rec
L626192-01	BNAMS12	0325A_23	0.00208	104	0.00211	106	0.00198	99.2
L626192-02	BNAMS12	0325A_24	0.00215	107	0.00212	106	0.00207	103
L626192-03	BNAMS12	0325A_25	0.0021	105	0.00215	107	0.00206	103
L626192-04	BNAMS12	0325A_26	0.00208	104	0.00212	106	0.00205	103
BLANK WG652378	BNAMS12	0325A_04	0.0022	110	0.00202	101	0.0021	105
LCS WG652378	BNAMS12	0325A_10	0.00211	106	0.00203	101	0.00207	104
LCSD WG652378	BNAMS12	0325A_11	0.00211	106	0.00206	103	0.00205	103

FBP --2-FLUOROBIPHENYL

True Value: ppm Limits: 64.4 - 143

NBZ --NITROBENZENE-D5

True Value: ppm Limits: 61.3 - 162

TPH --P-TERPHENYL-D14

True Value: ppm Limits: 55.30 - 145



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Quality Control Summary

SDG: L626192

Farallon Consulting - BNSF Region 1

Test:	Semi-volatile Organic Compounds by Method 8270C-SIM		
Project No:	TT9206-M04	Matrix:	Water - mg/L
Project:	BNSF - JML - Cashmere, WA	EPA ID:	TN00003
Collection Date:	3/20/2013	Analytic Batch:	WG652378
Analysis Date:	3/25/2013 6:38:00 PM	Analyst:	282
Instrument ID:	BNAMS12	Extraction Date:	3/22/2013
Sample Numbers:	L626192-01, -02, -03, -04		

Laboratory Control Sample/ Laboratory Control Sample Duplicate

Analyte	Spike	LCS	% Rec		Control Limits	Qualifier	% RPD	% Control	
			Rec	LCS				Limits	Qualifier
1-Methylnaphthalene	0.00200	0.00216	108	0.00218	109	71.2-137		0.6	20
2-Chloronaphthalene	0.00200	0.00216	108	0.00219	109	81.1-129		1.1	20
2-Methylnaphthalene	0.00200	0.00214	107	0.00218	109	69.8-134		1.7	20
Acenaphthene	0.00200	0.00217	109	0.00221	110	80.8-128		1.5	20
Acenaphthylene	0.00200	0.00212	106	0.00224	112	77.2-132		5.3	20
Anthracene	0.00200	0.00219	109	0.00223	111	78.4-136		1.6	20
Benzo(a)anthracene	0.00200	0.00204	102	0.00216	108	69.2-141		5.6	20
Benzo(a)pyrene	0.00200	0.00202	101	0.00206	103	71.1-135		1.5	20
Benzo(b)fluoranthene	0.00200	0.00229	114	0.00209	105	69.5-140		8.9	20
Benzo(g,h,i)perylene	0.00200	0.00211	105	0.00207	104	64.6-138		1.7	20
Benzo(k)fluoranthene	0.00200	0.00203	101	0.00224	112	69.3-144		10.0	20
Chrysene	0.00200	0.00209	105	0.00209	105	75.6-138		0.2	20
Dibenz(a,h)anthracene	0.00200	0.00215	107	0.00205	103	64.1-139		4.6	20
Fluoranthene	0.00200	0.00220	110	0.00223	111	78.6-135		1.1	20
Fluorene	0.00200	0.00216	108	0.00218	109	78.3-131		0.7	20
Indeno(1,2,3-cd)pyrene	0.00200	0.00215	107	0.00207	103	64.8-140		3.8	20
Naphthalene	0.00200	0.00229	115	0.00230	115	80.2-126		0.4	20
Phenanthrene	0.00200	0.00215	108	0.00216	108	79.6-130		0.6	20
Pyrene	0.00200	0.00211	105	0.00212	106	76.6-134		0.6	20



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Quality Control Summary

SDG: L626192

Farallon Consulting - BNSF Region 1

Test:	Semi-Volatiles by Method 8270C-SIM		
Project No:	TT9206-M04	Matrix:	Water - mg/L
Project:	BNSF - JML - Cashmere, WA	EPA ID:	TN00003
Collection Date:	3/20/2013	Analytic Batch:	WG652378
Analysis Date:	3/25/2013	Analyst:	282
Instrument ID:	BNAMS12	Extraction Date:	3/22/2013
Sample Numbers:	L626192-01, -02, -03, -04		

Internal Standard Response and Retention Time Summary

FileID:0325A_03.D

Date:3/25/2013

Time:10:14 AM

	IS1		IS2		IS3	
	Response	RT	Response	RT	Response	RT
12 Hour Std			64490	7.34	40496	9.07
Upper Limit			128980	7.84	80992	9.57
Lower Limit			32245	6.84	20248	8.57
Sample ID	Response	RT	Response	RT	Response	RT
Blank WG652378			48735	7.34	31583	9.07
L626192-01			44201	7.34	29206	9.07
L626192-02			41475	7.34	28166	9.07
L626192-03			41920	7.34	28744	9.07
L626192-04			41821	7.34	29402	9.07
LCS WG652378			45919	7.34	30515	9.07
LCSD WG652378			46402	7.34	30982	9.07



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Quality Control Summary

SDG: L626192

Farallon Consulting - BNSF Region 1

Test:	Semi-Volatiles by Method 8270C-SIM		
Project No:	TT9206-M04	Matrix:	Water - mg/L
Project:	BNSF - JML - Cashmere, WA	EPA ID:	TN00003
Collection Date:	3/20/2013	Analytic Batch:	WG652378
Analysis Date:	3/25/2013	Analyst:	282
Instrument ID:	BNAMS12	Extraction Date:	3/22/2013
Sample Numbers:	L626192-01, -02, -03, -04		

Internal Standard Response and Retention Time Summary

FileID:0325A_03.D

Date:3/25/2013

Time:10:14 AM

	IS4		IS5		IS6	
	Response	RT	Response	RT	Response	RT
12 Hour Std	63736	10.54	66178	13.18	71562	14.55
Upper Limit	127472	11.04	132356	13.68	143124	15.05
Lower Limit	31868	10.04	33089	12.68	35781	14.05
Sample ID	Response	RT	Response	RT	Response	RT
Blank WG652378	51108	10.55	53636	13.18	58420	14.55
L626192-01	49036	10.55	54506	13.18	63838	14.55
L626192-02	48394	10.54	52184	13.18	60516	14.55
L626192-03	49036	10.54	52735	13.18	61282	14.55
L626192-04	49018	10.54	53195	13.18	60844	14.55
LCS WG652378	51300	10.54	53616	13.18	58601	14.55
LCSD WG652378	52905	10.54	55397	13.18	60549	14.55

Farallon Consulting - BNSF
Region 1
 975 5th Avenue Northwest
 Issaquah, WA 98027

Billing information
 Scott MacDonald
 2454 Occidental Ave S, Ste 1A
 Seattle, WA 98134-1451

Analysis/Container/Preservative

Chain of Custody
 Page ___ of ___



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E204

Report to **Kristin Darnell** Email: **kjdarnell@farallonconsulting**

Project Description: **BNSF - JML - Cashmere, WA** City/State Collected

Phone: (425) 295-0811 Client Project #: **TT9206-M04** Lab Project #: **BNSF1FAR-CASHMERE**

Collected by (print): **Jon Peterson** Site/Facility ID#: P.O.#:

Collected by (signature): *[Signature]* **Rush? (Lab MUST Be Notified)**
 ___ Same Day 200% Date Results Needed
 ___ Next Day 100% Email? ___ No Yes
 ___ Two Day 50% FAX? ___ No ___ Yes
 ___ Three Day 25% No of Cntrs

Sample ID	Comp/Grab	Matrix*	Depth	Date	Time	No of Cntrs	***NO3***, SO4	CO2	Dissolved Iron	Ferrous Iron	NWTPHDXLVI	NWTPHGXBTEX	PAHSIMLVI	SULFIDE
MW 4 - 032013	grab	GW	NA	3/20/13	1000	14	X	X	X	X	X	X	X	X
MW 2 - 032013	L	GW	L	L	1100	14	X	X	X	X	X	X	X	X
MW 1 - 032013	L	GW	L	L	1200	14	X	X	X	X	X	X	X	X
MW 3 - 032013	L	GW	L	L	1230	14	X	X	X	X	X	X	X	X
		GW				14	X	X	X	X	X	X	X	X
		GW				14	X	X	X	X	X	X	X	X
		GW				14	X	X	X	X	X	X	X	X
		GW				14	X	X	X	X	X	X	X	X

Acctnum: **BNSF1FAR** (lab use only)
 Template/Prelogin **T81876/P423794**
 Cooler #: **3-14 MB**
 Shipped Via: **FedEX Ground**

Remarks/Contaminant Sample # (lab only)

626192 -01
-02
-03
-04

*Matrix: SS - Soil GW - Groundwater WW - WasteWater DW - Drinking Water OT - Other _____

Remarks:

pH _____ Temp _____

Flow _____ Other _____

Relinquished by: (Signature) <i>[Signature]</i>	Date: 3/20/13	Time:	Received by: (Signature) <i>[Signature]</i>	Samples returned via: <input type="checkbox"/> UPS <input checked="" type="checkbox"/> FedEx <input type="checkbox"/> Courier <input type="checkbox"/>	Condition: (lab use only) OK
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Temp: 3.7 Bottles Received: 56	COC Seal Intact: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N <input checked="" type="checkbox"/> NA
Relinquished by: (Signature)	Date:	Time:	Received for lab by: (Signature) <i>[Signature]</i>	Date: 3/21/13 Time: 0900	pH Checked: <2.712 NCF: 7 of 47

Farallon Consulting - BNSF
Region 1
 975 5th Avenue Northwest
 Issaquah, WA 98027

Billing information
 Scott MacDonald
 2454 Occidental Ave S, Ste 1A
 Seattle, WA 98134-1451

Analysis/Container/Preservative

Chain of Custody
 Page ___ of ___



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E204

Report to **Kristin Darnell** Email: **kjdarnell@farallonconsulting**

Project Description: **BNSF - JML - Cashmere, WA** City/State Collected

Phone: (425) 295-0811 Client Project #: **TT9206-M04** Lab Project #: **BNSF1FAR-CASHMERE**

Collected by (print): **Jon Peterson** Site/Facility ID#: P.O.#:

Collected by (signature): *[Signature]* **Rush? (Lab MUST Be Notified)**
 ___ Same Day 200% Date Results Needed
 ___ Next Day 100% Email? ___ No Yes
 ___ Two Day 50% FAX? ___ No ___ Yes
 ___ Three Day 25% No of Cntrs

Sample ID	Comp/Grab	Matrix*	Depth	Date	Time	No of Cntrs	***NO3***, SO4	CO2	Dissolved Iron	Ferrous Iron	NWTPHDXLVI	NWTPHGXBTEX	PAHSIMLVI	SULFIDE
MW 4 - 032013	grab	GW	NA	3/20/13	1000	14	X	X	X	X	X	X	X	X
MW 2 - 032013	L	GW	L	L	1100	14	X	X	X	X	X	X	X	X
MW 1 - 032013	L	GW	L	L	1200	14	X	X	X	X	X	X	X	X
MW 3 - 032013	L	GW	L	L	1230	14	X	X	X	X	X	X	X	X
		GW				14	X	X	X	X	X	X	X	X
		GW				14	X	X	X	X	X	X	X	X
		GW				14	X	X	X	X	X	X	X	X
		GW				14	X	X	X	X	X	X	X	X

Acctnum: **BNSF1FAR** (lab use only)
 Template/Prelogin **T81876/P423794**
 Cooler #: **3-14 MB**
 Shipped Via: **FedEX Ground**

Remarks/Contaminant Sample # (lab only)

626192 -01
-02
.03
.04

*Matrix: SS - Soil GW - Groundwater WW - WasteWater DW - Drinking Water OT - Other _____

Remarks:

pH _____ Temp _____

Flow _____ Other _____

Relinquished by: (Signature) <i>[Signature]</i>	Date: 3/20/13	Time:	Received by: (Signature) <i>[Signature]</i>	Samples returned via: <input type="checkbox"/> UPS <input checked="" type="checkbox"/> FedEx <input type="checkbox"/> Courier <input type="checkbox"/>	Condition: (lab use only) OK
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Temp: 3.7 Bottles Received: 56	COC Seal Intact: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N <input checked="" type="checkbox"/> NA
Relinquished by: (Signature)	Date:	Time:	Received for lab by: (Signature) <i>[Signature]</i>	Date: 3/21/13 Time: 0900	pH Checked: <2.712 NCF:



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Kristin Darnell
Farallon Consulting - BNSF Region 1
975 5th Avenue Northwest
Issaquah, WA 98027

Report Summary

Tuesday July 02, 2013

Report Number: L642401

Samples Received: 06/20/13

Client Project: TT9206-M04

Description: BNSF - JML - Cashmere, WA

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

Entire Report Reviewed By:

Mark W. Beasley , ESC Representative

Laboratory Certification Numbers

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

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REPORT OF ANALYSIS

Kristin Darnell
 Farallon Consulting - BNSF Region 1
 975 5th Avenue Northwest
 Issaquah, WA 98027

July 02, 2013

Date Received : June 20, 2013
 Description : BNSF - JML - Cashmere, WA

ESC Sample # : L642401-01

Sample ID : MW1-061913

Site ID :

Collected By : Jon Peterson
 Collection Date : 06/19/13 11:00

Project # : TT9206-M04

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Nitrate	3100	23.	100	ug/l		9056	06/20/13	1
Sulfate	15000	77.	5000	ug/l		9056	06/20/13	1
Free Carbon Dioxide	64000	6600	20000	ug/l	T8	4500CO2	06/27/13	1
Ferrous Iron	53.	17.	50.	ug/l	T8	3500Fe	06/21/13	1
Sulfide	U	19.	50.	ug/l		4500S2	06/26/13	1
Iron,Dissolved	130	14.	100	ug/l		6010B	07/01/13	1
Gasoline Range Organics-NWTPH	U	50.	100	ug/l		NWTPHGX	06/22/13	1
Benzene	U	0.19	0.50	ug/l		NWTPHGX	06/22/13	1
Toluene	U	0.18	5.0	ug/l		NWTPHGX	06/22/13	1
Ethylbenzene	U	0.16	0.50	ug/l		NWTPHGX	06/22/13	1
Total Xylene	U	0.51	1.5	ug/l		NWTPHGX	06/22/13	1
Surrogate Recovery(%)								
a,a,a-Trifluorotoluene(PID)	101.			% Rec.		NWTPHGX	06/22/13	1
a,a,a-Trifluorotoluene(FID)	101.			% Rec.		NWTPHGX	06/22/13	1
Diesel Range Organics (DRO)	110	50.	100	ug/l		NWTPHDX	06/24/13	1
Residual Range Organics (RRO)	U	120	250	ug/l		NWTPHDX	06/24/13	1
Surrogate Recovery								
o-Terphenyl	104.			% Rec.		NWTPHDX	06/24/13	1
Polynuclear Aromatic Hydrocarbons								
Anthracene	U	0.0076	0.050	ug/l		8270C-S	06/24/13	1
Acenaphthene	0.016	0.0082	0.050	ug/l	J	8270C-S	06/24/13	1
Acenaphthylene	U	0.0068	0.050	ug/l		8270C-S	06/24/13	1
Benzo(a)anthracene	0.015	0.012	0.050	ug/l	J	8270C-S	06/24/13	1
Benzo(a)pyrene	U	0.012	0.050	ug/l		8270C-S	06/24/13	1
Benzo(b)fluoranthene	U	0.014	0.050	ug/l		8270C-S	06/24/13	1
Benzo(g,h,i)perylene	U	0.011	0.050	ug/l		8270C-S	06/24/13	1
Benzo(k)fluoranthene	U	0.014	0.050	ug/l		8270C-S	06/24/13	1
Chrysene	0.012	0.011	0.050	ug/l	J	8270C-S	06/24/13	1
Dibenz(a,h)anthracene	U	0.0040	0.050	ug/l		8270C-S	06/24/13	1
Fluoranthene	U	0.016	0.050	ug/l		8270C-S	06/24/13	1
Fluorene	0.013	0.0085	0.050	ug/l	J	8270C-S	06/24/13	1
Indeno(1,2,3-cd)pyrene	U	0.015	0.050	ug/l		8270C-S	06/24/13	1
Naphthalene	0.11	0.020	0.25	ug/l	J	8270C-S	06/24/13	1
Phenanthrene	0.019	0.0082	0.050	ug/l	J	8270C-S	06/24/13	1
Pyrene	0.056	0.012	0.050	ug/l		8270C-S	06/24/13	1
1-Methylnaphthalene	0.14	0.0082	0.25	ug/l	J	8270C-S	06/24/13	1

U = ND (Not Detected)

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

MDL = Minimum Detection Limit = LOD = TRRP SDL

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REPORT OF ANALYSIS

Kristin Darnell
 Farallon Consulting - BNSF Region 1
 975 5th Avenue Northwest
 Issaquah, WA 98027

July 02, 2013

Date Received : June 20, 2013
 Description : BNSF - JML - Cashmere, WA
 Sample ID : MW1-061913
 Collected By : Jon Peterson
 Collection Date : 06/19/13 11:00

ESC Sample # : L642401-01
 Site ID :
 Project # : TT9206-M04

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
2-Methylnaphthalene	0.018	0.0090	0.25	ug/l	J	8270C-S	06/24/13	1
2-Chloronaphthalene	U	0.0065	0.25	ug/l		8270C-S	06/24/13	1
Surrogate Recovery								
Nitrobenzene-d5	83.0			% Rec.		8270C-S	06/24/13	1
2-Fluorobiphenyl	99.1			% Rec.		8270C-S	06/24/13	1
p-Terphenyl-d14	96.9			% Rec.		8270C-S	06/24/13	1

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REPORT OF ANALYSIS

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 Farallon Consulting - BNSF Region 1
 975 5th Avenue Northwest
 Issaquah, WA 98027

July 02, 2013

Date Received : June 20, 2013
 Description : BNSF - JML - Cashmere, WA

ESC Sample # : L642401-02

Sample ID : MW2-061913

Site ID :

Collected By : Jon Peterson
 Collection Date : 06/19/13 10:00

Project # : TT9206-M04

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Nitrate	3800	23.	100	ug/l		9056	06/20/13	1
Sulfate	15000	77.	5000	ug/l		9056	06/20/13	1
Free Carbon Dioxide	42000	6600	20000	ug/l	T8	4500CO2	06/27/13	1
Ferrous Iron	33.	17.	50.	ug/l	JT8	3500Fe	06/21/13	1
Sulfide	U	19.	50.	ug/l		4500S2	06/26/13	1
Iron,Dissolved	56.	14.	100	ug/l	J	6010B	07/01/13	1
Gasoline Range Organics-NWTPH	U	50.	100	ug/l		NWTPHGX	06/22/13	1
Benzene	U	0.19	0.50	ug/l		NWTPHGX	06/22/13	1
Toluene	U	0.18	5.0	ug/l		NWTPHGX	06/22/13	1
Ethylbenzene	U	0.16	0.50	ug/l		NWTPHGX	06/22/13	1
Total Xylene	U	0.51	1.5	ug/l		NWTPHGX	06/22/13	1
Surrogate Recovery(%)								
a,a,a-Trifluorotoluene(PID)	99.7			% Rec.		NWTPHGX	06/22/13	1
a,a,a-Trifluorotoluene(FID)	101.			% Rec.		NWTPHGX	06/22/13	1
Diesel Range Organics (DRO)	U	50.	100	ug/l		NWTPHDX	06/24/13	1
Residual Range Organics (RRO)	U	120	250	ug/l		NWTPHDX	06/24/13	1
Surrogate Recovery								
o-Terphenyl	120.			% Rec.		NWTPHDX	06/24/13	1
Polynuclear Aromatic Hydrocarbons								
Anthracene	U	0.0076	0.050	ug/l		8270C-S	06/24/13	1
Acenaphthene	U	0.0082	0.050	ug/l		8270C-S	06/24/13	1
Acenaphthylene	U	0.0068	0.050	ug/l		8270C-S	06/24/13	1
Benzo(a)anthracene	U	0.012	0.050	ug/l		8270C-S	06/24/13	1
Benzo(a)pyrene	U	0.012	0.050	ug/l		8270C-S	06/24/13	1
Benzo(b)fluoranthene	U	0.014	0.050	ug/l		8270C-S	06/24/13	1
Benzo(g,h,i)perylene	U	0.011	0.050	ug/l		8270C-S	06/24/13	1
Benzo(k)fluoranthene	U	0.014	0.050	ug/l		8270C-S	06/24/13	1
Chrysene	U	0.011	0.050	ug/l		8270C-S	06/24/13	1
Dibenz(a,h)anthracene	U	0.0040	0.050	ug/l		8270C-S	06/24/13	1
Fluoranthene	U	0.016	0.050	ug/l		8270C-S	06/24/13	1
Fluorene	U	0.0085	0.050	ug/l		8270C-S	06/24/13	1
Indeno(1,2,3-cd)pyrene	U	0.015	0.050	ug/l		8270C-S	06/24/13	1
Naphthalene	0.041	0.020	0.25	ug/l	J	8270C-S	06/24/13	1
Phenanthrene	U	0.0082	0.050	ug/l		8270C-S	06/24/13	1
Pyrene	U	0.012	0.050	ug/l		8270C-S	06/24/13	1
1-Methylnaphthalene	U	0.0082	0.25	ug/l		8270C-S	06/24/13	1

U = ND (Not Detected)

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REPORT OF ANALYSIS

Kristin Darnell
 Farallon Consulting - BNSF Region 1
 975 5th Avenue Northwest
 Issaquah, WA 98027

July 02, 2013

Date Received : June 20, 2013
 Description : BNSF - JML - Cashmere, WA
 Sample ID : MW2-061913
 Collected By : Jon Peterson
 Collection Date : 06/19/13 10:00

ESC Sample # : L642401-02
 Site ID :
 Project # : TT9206-M04

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
2-Methylnaphthalene	0.010	0.0090	0.25	ug/l	J	8270C-S	06/24/13	1
2-Chloronaphthalene	U	0.0065	0.25	ug/l		8270C-S	06/24/13	1
Surrogate Recovery								
Nitrobenzene-d5	80.2			% Rec.		8270C-S	06/24/13	1
2-Fluorobiphenyl	96.3			% Rec.		8270C-S	06/24/13	1
p-Terphenyl-d14	91.2			% Rec.		8270C-S	06/24/13	1

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REPORT OF ANALYSIS

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July 02, 2013

Date Received : June 20, 2013
 Description : BNSF - JML - Cashmere, WA
 Sample ID : MW3-061913
 Collected By : Jon Peterson
 Collection Date : 06/19/13 11:05

ESC Sample # : L642401-03
 Site ID :
 Project # : TT9206-M04

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Nitrate	2200	23.	100	ug/l		9056	06/20/13	1
Sulfate	14000	77.	5000	ug/l		9056	06/20/13	1
Free Carbon Dioxide	62000	6600	20000	ug/l	T8	4500CO2	06/27/13	1
Ferrous Iron	31.	17.	50.	ug/l	JT8	3500Fe	06/21/13	1
Sulfide	U	19.	50.	ug/l		4500S2	06/26/13	1
Iron,Dissolved	39.	14.	100	ug/l	J	6010B	07/01/13	1
Gasoline Range Organics-NWTPH	59.	50.	100	ug/l	J	NWTPHGX	06/22/13	1
Benzene	U	0.19	0.50	ug/l		NWTPHGX	06/22/13	1
Toluene	U	0.18	5.0	ug/l		NWTPHGX	06/22/13	1
Ethylbenzene	U	0.16	0.50	ug/l		NWTPHGX	06/22/13	1
Total Xylene	U	0.51	1.5	ug/l		NWTPHGX	06/22/13	1
Surrogate Recovery(%)								
a,a,a-Trifluorotoluene(PID)	101.			% Rec.		NWTPHGX	06/22/13	1
a,a,a-Trifluorotoluene(FID)	101.			% Rec.		NWTPHGX	06/22/13	1
Diesel Range Organics (DRO)	57.	50.	100	ug/l	J	NWTPHDX	06/24/13	1
Residual Range Organics (RRO)	U	120	250	ug/l		NWTPHDX	06/24/13	1
Surrogate Recovery								
o-Terphenyl	105.			% Rec.		NWTPHDX	06/24/13	1
Polynuclear Aromatic Hydrocarbons								
Anthracene	U	0.0076	0.050	ug/l		8270C-S	06/24/13	1
Acenaphthene	U	0.0082	0.050	ug/l		8270C-S	06/24/13	1
Acenaphthylene	U	0.0068	0.050	ug/l		8270C-S	06/24/13	1
Benzo(a)anthracene	U	0.012	0.050	ug/l		8270C-S	06/24/13	1
Benzo(a)pyrene	U	0.012	0.050	ug/l		8270C-S	06/24/13	1
Benzo(b)fluoranthene	U	0.014	0.050	ug/l		8270C-S	06/24/13	1
Benzo(g,h,i)perylene	U	0.011	0.050	ug/l		8270C-S	06/24/13	1
Benzo(k)fluoranthene	U	0.014	0.050	ug/l		8270C-S	06/24/13	1
Chrysene	U	0.011	0.050	ug/l		8270C-S	06/24/13	1
Dibenz(a,h)anthracene	U	0.0040	0.050	ug/l		8270C-S	06/24/13	1
Fluoranthene	U	0.016	0.050	ug/l		8270C-S	06/24/13	1
Fluorene	U	0.0085	0.050	ug/l		8270C-S	06/24/13	1
Indeno(1,2,3-cd)pyrene	U	0.015	0.050	ug/l		8270C-S	06/24/13	1
Naphthalene	0.038	0.020	0.25	ug/l	J	8270C-S	06/24/13	1
Phenanthrene	U	0.0082	0.050	ug/l		8270C-S	06/24/13	1
Pyrene	U	0.012	0.050	ug/l		8270C-S	06/24/13	1
1-Methylnaphthalene	0.012	0.0082	0.25	ug/l	J	8270C-S	06/24/13	1

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REPORT OF ANALYSIS

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 975 5th Avenue Northwest
 Issaquah, WA 98027

July 02, 2013

Date Received : June 20, 2013
 Description : BNSF - JML - Cashmere, WA
 Sample ID : MW3-061913
 Collected By : Jon Peterson
 Collection Date : 06/19/13 11:05

ESC Sample # : L642401-03

Site ID :

Project # : TT9206-M04

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
2-Methylnaphthalene	0.0092	0.0090	0.25	ug/l	J	8270C-S	06/24/13	1
2-Chloronaphthalene	U	0.0065	0.25	ug/l		8270C-S	06/24/13	1
Surrogate Recovery								
Nitrobenzene-d5	75.4			% Rec.		8270C-S	06/24/13	1
2-Fluorobiphenyl	92.7			% Rec.		8270C-S	06/24/13	1
p-Terphenyl-d14	92.6			% Rec.		8270C-S	06/24/13	1

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REPORT OF ANALYSIS

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 975 5th Avenue Northwest
 Issaquah, WA 98027

July 02, 2013

Date Received : June 20, 2013
 Description : BNSF - JML - Cashmere, WA

ESC Sample # : L642401-04

Sample ID : MW4-061913

Site ID :

Collected By : Jon Peterson
 Collection Date : 06/19/13 11:45

Project # : TT9206-M04

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Nitrate	6200	23.	100	ug/l		9056	06/20/13	1
Sulfate	14000	77.	5000	ug/l		9056	06/20/13	1
Free Carbon Dioxide	45000	6600	20000	ug/l	T8	4500CO2	06/27/13	1
Ferrous Iron	36.	17.	50.	ug/l	JT8	3500Fe	06/21/13	1
Sulfide	U	19.	50.	ug/l		4500S2	06/26/13	1
Iron,Dissolved	40.	14.	100	ug/l	JP1	6010B	07/01/13	1
Gasoline Range Organics-NWTPH	50.	50.	100	ug/l	J	NWTPHGX	06/22/13	1
Benzene	U	0.19	0.50	ug/l		NWTPHGX	06/22/13	1
Toluene	U	0.18	5.0	ug/l		NWTPHGX	06/22/13	1
Ethylbenzene	U	0.16	0.50	ug/l		NWTPHGX	06/22/13	1
Total Xylene	U	0.51	1.5	ug/l		NWTPHGX	06/22/13	1
Surrogate Recovery(%)								
a,a,a-Trifluorotoluene(PID)	101.			% Rec.		NWTPHGX	06/22/13	1
a,a,a-Trifluorotoluene(FID)	101.			% Rec.		NWTPHGX	06/22/13	1
Diesel Range Organics (DRO)	U	50.	100	ug/l		NWTPHDX	06/24/13	1
Residual Range Organics (RRO)	U	120	250	ug/l		NWTPHDX	06/24/13	1
Surrogate Recovery								
o-Terphenyl	125.			% Rec.		NWTPHDX	06/24/13	1
Polynuclear Aromatic Hydrocarbons								
Anthracene	U	0.0076	0.050	ug/l		8270C-S	06/24/13	1
Acenaphthene	U	0.0082	0.050	ug/l		8270C-S	06/24/13	1
Acenaphthylene	U	0.0068	0.050	ug/l		8270C-S	06/24/13	1
Benzo(a)anthracene	U	0.012	0.050	ug/l		8270C-S	06/24/13	1
Benzo(a)pyrene	U	0.012	0.050	ug/l		8270C-S	06/24/13	1
Benzo(b)fluoranthene	U	0.014	0.050	ug/l		8270C-S	06/24/13	1
Benzo(g,h,i)perylene	U	0.011	0.050	ug/l		8270C-S	06/24/13	1
Benzo(k)fluoranthene	U	0.014	0.050	ug/l		8270C-S	06/24/13	1
Chrysene	U	0.011	0.050	ug/l		8270C-S	06/24/13	1
Dibenz(a,h)anthracene	U	0.0040	0.050	ug/l		8270C-S	06/24/13	1
Fluoranthene	U	0.016	0.050	ug/l		8270C-S	06/24/13	1
Fluorene	U	0.0085	0.050	ug/l		8270C-S	06/24/13	1
Indeno(1,2,3-cd)pyrene	U	0.015	0.050	ug/l		8270C-S	06/24/13	1
Naphthalene	0.040	0.020	0.25	ug/l	J	8270C-S	06/24/13	1
Phenanthrene	U	0.0082	0.050	ug/l		8270C-S	06/24/13	1
Pyrene	U	0.012	0.050	ug/l		8270C-S	06/24/13	1
1-Methylnaphthalene	U	0.0082	0.25	ug/l		8270C-S	06/24/13	1

U = ND (Not Detected)

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

MDL = Minimum Detection Limit = LOD = TRRP SDL

Note:

The reported analytical results relate only to the sample submitted.

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REPORT OF ANALYSIS

Kristin Darnell
 Farallon Consulting - BNSF Region 1
 975 5th Avenue Northwest
 Issaquah, WA 98027

July 02, 2013

Date Received : June 20, 2013
 Description : BNSF - JML - Cashmere, WA
 Sample ID : MW4-061913
 Collected By : Jon Peterson
 Collection Date : 06/19/13 11:45

ESC Sample # : L642401-04
 Site ID :
 Project # : TT9206-M04

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
2-Methylnaphthalene	U	0.0090	0.25	ug/l		8270C-S	06/24/13	1
2-Chloronaphthalene	U	0.0065	0.25	ug/l		8270C-S	06/24/13	1
Surrogate Recovery								
Nitrobenzene-d5	77.5			%	Rec.	8270C-S	06/24/13	1
2-Fluorobiphenyl	93.4			%	Rec.	8270C-S	06/24/13	1
p-Terphenyl-d14	93.0			%	Rec.	8270C-S	06/24/13	1

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

Note:
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Attachment A
List of Analytes with QC Qualifiers

Sample Number	Work Group	Sample Type	Analyte	Run ID	Qualifier	
L642401-01	WG668193	SAMP	Acenaphthene	R2721061	J	
	WG668193	SAMP	Benzo(a)anthracene	R2721061	J	
	WG668193	SAMP	Chrysene	R2721061	J	
	WG668193	SAMP	Fluorene	R2721061	J	
	WG668193	SAMP	Naphthalene	R2721061	J	
	WG668193	SAMP	Phenanthrene	R2721061	J	
	WG668193	SAMP	1-Methylnaphthalene	R2721061	J	
	WG668193	SAMP	2-Methylnaphthalene	R2721061	J	
	WG669165	SAMP	Free Carbon Dioxide	R2725089	T8	
	WG667771	SAMP	Ferrous Iron	R2717000	T8	
	L642401-02	WG668998	SAMP	Iron,Dissolved	R2729985	J
		WG668193	SAMP	Naphthalene	R2721061	J
		WG668193	SAMP	2-Methylnaphthalene	R2721061	J
WG669165		SAMP	Free Carbon Dioxide	R2725089	T8	
WG667771		SAMP	Ferrous Iron	R2717000	JT8	
L642401-03	WG668998	SAMP	Iron,Dissolved	R2729985	J	
	WG668195	SAMP	Diesel Range Organics (DRO)	R2722790	J	
	WG668101	SAMP	Gasoline Range Organics-NWTPH	R2718380	J	
	WG668193	SAMP	Naphthalene	R2721061	J	
	WG668193	SAMP	1-Methylnaphthalene	R2721061	J	
	WG668193	SAMP	2-Methylnaphthalene	R2721061	J	
	WG669165	SAMP	Free Carbon Dioxide	R2725089	T8	
	WG667771	SAMP	Ferrous Iron	R2717000	JT8	
L642401-04	WG668998	SAMP	Iron,Dissolved	R2729985	JP1	
	WG668101	SAMP	Gasoline Range Organics-NWTPH	R2718380	J	
	WG668193	SAMP	Naphthalene	R2721061	J	
	WG669165	SAMP	Free Carbon Dioxide	R2725089	T8	
	WG667771	SAMP	Ferrous Iron	R2717000	JT8	

Attachment B
Explanation of QC Qualifier Codes

Qualifier	Meaning
J	(EPA) - Estimated value below the lowest calibration point. Confidence correlates with concentration.
P1	RPD value not applicable for sample concentrations less than 5 times the reporting limit.
T8	(ESC) - Additional method/sample information: Sample(s) received past/too close to holding time expiration.

Qualifier Report Information

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

Definitions

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

Summary of Remarks For Samples Printed
07/02/13 at 10:02:56

TSR Signing Reports: 134
RX - Priority Rush

Sample: L642401-01 Account: BNSF1FAR Received: 06/20/13 09:30 Due Date: 07/02/13 00:00 RPT Date: 07/02/13 10:02
Field Filtered
Sample: L642401-02 Account: BNSF1FAR Received: 06/20/13 09:30 Due Date: 07/02/13 00:00 RPT Date: 07/02/13 10:02
Field Filtered
Sample: L642401-03 Account: BNSF1FAR Received: 06/20/13 09:30 Due Date: 07/02/13 00:00 RPT Date: 07/02/13 10:02
Field Filtered
Sample: L642401-04 Account: BNSF1FAR Received: 06/20/13 09:30 Due Date: 07/02/13 00:00 RPT Date: 07/02/13 10:02
Field Filtered



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Quality Control Summary

SDG: L642401

For: Farallon Consulting - BNSF Region 1

Project: BNSF - JML - Cashmere, WA

July 02, 2013

Sample Receiving and Handling

All sample aliquots were received at the correct temperature, in the proper containers, and with the appropriate preservatives. All method specified holding times were met except for Free Carbon Dioxide and Ferrous Iron.

Anions by Method 9056

Laboratory Control Sample

Samples L642401-02, -01, -04, and -03 were analyzed in analytical batch WG667854. The laboratory control sample associated with these samples was within the laboratory control limits for all compounds.

Sample Duplicate Analysis

For analytical batch WG667854 sample duplicate analysis was performed on sample L642401-04. The relative percent differences were within the method limits.

For analytical batch WG667854 sample duplicate analysis was performed on sample L642445-01. The relative percent differences were within the method limits.

Matrix Spike/Matrix Spike Duplicate

For analytical batch WG667854 matrix spike/matrix spike duplicate analysis was performed on sample L642395-01. The matrix spike recoveries and relative percent differences were within laboratory control limits for all target analytes.

Blank Analysis

The method blank, the initial, and all continuing calibration blanks contained no analytes at concentrations above the method reporting limit.

Ferrous Iron by Method 3500Fe B-2011

Laboratory Control Sample

Samples L642401-04, -01, -03, and -02 were analyzed in analytical batch WG667771. The laboratory control sample associated with these samples was within the laboratory control limits.

Sample Duplicate Analysis

For analytical batch WG667771 sample duplicate analysis was performed on sample L642043-07. The relative percent differences were within the method limits.

For analytical batch WG667771 sample duplicate analysis was performed on sample L642401-03. The relative percent differences were within the method limits.

Matrix Spike/Matrix Spike Duplicate

For analytical batch WG667771, matrix spike/matrix spike duplicate analysis was performed on sample L642401-04. The spike recoveries and relative percent differences were within laboratory control limits.

Blank Analysis

The method blank, the initial, and all continuing calibration blanks contained no analytes at concentrations above the method reporting limit.



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Quality Control Summary

SDG: L642401

For: Farallon Consulting - BNSF Region 1

Project: BNSF - JML - Cashmere, WA

July 02, 2013

Sulfide by Method 4500S2 D-2011

Laboratory Control Sample

Samples L642401-04, -03, -01, and -02 were analyzed in analytical batch WG668723. The laboratory control sample associated with these samples was within the laboratory control limits.

Sample Duplicate Analysis

For analytical batch WG668723 sample duplicate analysis was performed on sample L643143-06. The relative percent differences were within the method limits.

For analytical batch WG668723 sample duplicate analysis was performed on sample L642382-03. The relative percent differences were within the method limits.

Matrix Spike/Matrix Spike Duplicate

For analytical batch WG668723, matrix spike/matrix spike duplicate analysis was performed on sample L642401-01. The spike recoveries and relative percent differences were within laboratory control limits.

Blank Analysis

The method blank, the initial, and all continuing calibration blanks contained no analytes at concentrations above the method reporting limit.

Carbon Dioxide

Laboratory Control Sample

Samples L642401-01, -03, -02, -04 were analyzed in analytical batch WG669165. The associated laboratory quality control samples were within method limits.

Blank Analysis

The method blank, the initial, and all continuing calibration blanks contained no analytes at concentrations above the method reporting limit.

Trace Metals by Method 6010B

Laboratory Control Sample

Samples L642401-03, -04, -02, and -01 were analyzed in analytical batch WG668998. The laboratory control sample associated with these samples was within the laboratory control limits for all compounds.

Sample Duplicate Analysis

For analytical batch WG668998 sample duplicate analysis was performed on sample L642401-04. The relative percent difference exceeded the method limits for Iron,Dissolved.

Matrix Spike/Matrix Spike Duplicate

For analytical batch WG668998 matrix spike/matrix spike duplicate analysis was performed on sample L642401-04. The matrix spike recoveries and relative percent differences were within laboratory control limits for all target analytes.

Blank Analysis

The method blank, the initial, and all continuing calibration blanks contained no analytes at concentrations above the method reporting limit.



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Quality Control Summary

SDG: L642401

For: Farallon Consulting - BNSF Region 1
Project: BNSF - JML - Cashmere, WA
July 02, 2013

Method NWTPHGX

Laboratory Control Sample

Samples L642401-03, -01, -02, and -04 were analyzed in analytical batch WG668101. The laboratory control sample associated with these samples was within the laboratory control limits for all compounds.

Matrix Spike/Matrix Spike Duplicate

For analytical batch WG668101 matrix spike/matrix spike duplicate analysis was performed on sample L642401-01. The matrix spike recoveries and relative percent differences were within laboratory control limits for all target analytes.

Blank Analysis

The method blank, the initial, and all continuing calibration blanks contained no analytes at concentrations above the method reporting limit.

Semi-volatile Organic Compounds by Method 8270C-SIM

Laboratory Control Sample

Samples L642401-01, -02, -03, and -04 were analyzed in analytical batch WG668193. The laboratory control sample associated with these samples was within the laboratory control limits for all compounds.

Matrix Spike/Matrix Spike Duplicate

Precision for batch WG668193 was evaluated using the LCS / LCSD. The RPDs were within method limits.

Blank Analysis

The method blank, the initial, and all continuing calibration blanks contained no analytes at concentrations above the method reporting limit.

Method NWTPHDX

Laboratory Control Sample

Samples L642401-01, -04, -02, and -03 were analyzed in analytical batch WG668195. The laboratory control sample associated with these samples was within the laboratory control limits.

Matrix Spike/Matrix Spike Duplicate

Precision for batch WG668195 was evaluated using the LCS / LCSD. The RPDs were within method limits.

Blank Analysis

The method blank, the initial, and all continuing calibration blanks contained no analytes at concentrations above the method reporting limit.

Nancy F. McLain
ESC Representative
ESC Lab Sciences



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Kristin Darnell
Farallon Consulting - BNSF Region 1
975 5th Avenue Northwest
Issaquah, WA 98027

Report Summary

Tuesday July 02, 2013

Report Number: L642401

Samples Received: 06/20/13

Client Project: TT9206-M04

Description: BNSF - JML - Cashmere, WA

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

Entire Report Reviewed By:

Mark W. Beasley, ESC Representative

Laboratory Certification Numbers

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

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

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REPORT OF ANALYSIS

Kristin Darnell
 Farallon Consulting - BNSF Region 1
 975 5th Avenue Northwest
 Issaquah, WA 98027

July 02, 2013

Date Received : June 20, 2013
 Description : BNSF - JML - Cashmere, WA

ESC Sample # : L642401-01

Sample ID : MW1-061913

Site ID :

Collected By : Jon Peterson
 Collection Date : 06/19/13 11:00

Project # : TT9206-M04

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Nitrate	3100	23.	100	ug/l		9056	06/20/13	1
Sulfate	15000	77.	5000	ug/l		9056	06/20/13	1
Free Carbon Dioxide	64000	6600	20000	ug/l	T8	4500CO2	06/27/13	1
Ferrous Iron	53.	17.	50.	ug/l	T8	3500Fe	06/21/13	1
Sulfide	U	19.	50.	ug/l		4500S2	06/26/13	1
Iron,Dissolved	130	14.	100	ug/l		6010B	07/01/13	1
Gasoline Range Organics-NWTPH	U	50.	100	ug/l		NWTPHGX	06/22/13	1
Benzene	U	0.19	0.50	ug/l		NWTPHGX	06/22/13	1
Toluene	U	0.18	5.0	ug/l		NWTPHGX	06/22/13	1
Ethylbenzene	U	0.16	0.50	ug/l		NWTPHGX	06/22/13	1
Total Xylene	U	0.51	1.5	ug/l		NWTPHGX	06/22/13	1
Surrogate Recovery(%)								
a,a,a-Trifluorotoluene(PID)	101.			% Rec.		NWTPHGX	06/22/13	1
a,a,a-Trifluorotoluene(FID)	101.			% Rec.		NWTPHGX	06/22/13	1
Diesel Range Organics (DRO)	110	50.	100	ug/l		NWTPHDX	06/24/13	1
Residual Range Organics (RRO)	U	120	250	ug/l		NWTPHDX	06/24/13	1
Surrogate Recovery								
o-Terphenyl	104.			% Rec.		NWTPHDX	06/24/13	1
Polynuclear Aromatic Hydrocarbons								
Anthracene	U	0.0076	0.050	ug/l		8270C-S	06/24/13	1
Acenaphthene	0.016	0.0082	0.050	ug/l	J	8270C-S	06/24/13	1
Acenaphthylene	U	0.0068	0.050	ug/l		8270C-S	06/24/13	1
Benzo(a)anthracene	0.015	0.012	0.050	ug/l	J	8270C-S	06/24/13	1
Benzo(a)pyrene	U	0.012	0.050	ug/l		8270C-S	06/24/13	1
Benzo(b)fluoranthene	U	0.014	0.050	ug/l		8270C-S	06/24/13	1
Benzo(g,h,i)perylene	U	0.011	0.050	ug/l		8270C-S	06/24/13	1
Benzo(k)fluoranthene	U	0.014	0.050	ug/l		8270C-S	06/24/13	1
Chrysene	0.012	0.011	0.050	ug/l	J	8270C-S	06/24/13	1
Dibenz(a,h)anthracene	U	0.0040	0.050	ug/l		8270C-S	06/24/13	1
Fluoranthene	U	0.016	0.050	ug/l		8270C-S	06/24/13	1
Fluorene	0.013	0.0085	0.050	ug/l	J	8270C-S	06/24/13	1
Indeno(1,2,3-cd)pyrene	U	0.015	0.050	ug/l		8270C-S	06/24/13	1
Naphthalene	0.11	0.020	0.25	ug/l	J	8270C-S	06/24/13	1
Phenanthrene	0.019	0.0082	0.050	ug/l	J	8270C-S	06/24/13	1
Pyrene	0.056	0.012	0.050	ug/l		8270C-S	06/24/13	1
1-Methylnaphthalene	0.14	0.0082	0.25	ug/l	J	8270C-S	06/24/13	1

U = ND (Not Detected)

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

MDL = Minimum Detection Limit = LOD = TRRP SDL

Note:

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REPORT OF ANALYSIS

Kristin Darnell
 Farallon Consulting - BNSF Region 1
 975 5th Avenue Northwest
 Issaquah, WA 98027

July 02, 2013

Date Received : June 20, 2013
 Description : BNSF - JML - Cashmere, WA
 Sample ID : MW1-061913
 Collected By : Jon Peterson
 Collection Date : 06/19/13 11:00

ESC Sample # : L642401-01

Site ID :

Project # : TT9206-M04

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
2-Methylnaphthalene	0.018	0.0090	0.25	ug/l	J	8270C-S	06/24/13	1
2-Chloronaphthalene	U	0.0065	0.25	ug/l		8270C-S	06/24/13	1
Surrogate Recovery								
Nitrobenzene-d5	83.0			% Rec.		8270C-S	06/24/13	1
2-Fluorobiphenyl	99.1			% Rec.		8270C-S	06/24/13	1
p-Terphenyl-d14	96.9			% Rec.		8270C-S	06/24/13	1

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

Note:
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REPORT OF ANALYSIS

Kristin Darnell
 Farallon Consulting - BNSF Region 1
 975 5th Avenue Northwest
 Issaquah, WA 98027

July 02, 2013

Date Received : June 20, 2013
 Description : BNSF - JML - Cashmere, WA

ESC Sample # : L642401-02

Sample ID : MW2-061913

Site ID :

Collected By : Jon Peterson
 Collection Date : 06/19/13 10:00

Project # : TT9206-M04

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Nitrate	3800	23.	100	ug/l		9056	06/20/13	1
Sulfate	15000	77.	5000	ug/l		9056	06/20/13	1
Free Carbon Dioxide	42000	6600	20000	ug/l	T8	4500CO2	06/27/13	1
Ferrous Iron	33.	17.	50.	ug/l	JT8	3500Fe	06/21/13	1
Sulfide	U	19.	50.	ug/l		4500S2	06/26/13	1
Iron,Dissolved	56.	14.	100	ug/l	J	6010B	07/01/13	1
Gasoline Range Organics-NWTPH	U	50.	100	ug/l		NWTPHGX	06/22/13	1
Benzene	U	0.19	0.50	ug/l		NWTPHGX	06/22/13	1
Toluene	U	0.18	5.0	ug/l		NWTPHGX	06/22/13	1
Ethylbenzene	U	0.16	0.50	ug/l		NWTPHGX	06/22/13	1
Total Xylene	U	0.51	1.5	ug/l		NWTPHGX	06/22/13	1
Surrogate Recovery(%)								
a,a,a-Trifluorotoluene(PID)	99.7			% Rec.		NWTPHGX	06/22/13	1
a,a,a-Trifluorotoluene(FID)	101.			% Rec.		NWTPHGX	06/22/13	1
Diesel Range Organics (DRO)	U	50.	100	ug/l		NWTPHDX	06/24/13	1
Residual Range Organics (RRO)	U	120	250	ug/l		NWTPHDX	06/24/13	1
Surrogate Recovery								
o-Terphenyl	120.			% Rec.		NWTPHDX	06/24/13	1
Polynuclear Aromatic Hydrocarbons								
Anthracene	U	0.0076	0.050	ug/l		8270C-S	06/24/13	1
Acenaphthene	U	0.0082	0.050	ug/l		8270C-S	06/24/13	1
Acenaphthylene	U	0.0068	0.050	ug/l		8270C-S	06/24/13	1
Benzo(a)anthracene	U	0.012	0.050	ug/l		8270C-S	06/24/13	1
Benzo(a)pyrene	U	0.012	0.050	ug/l		8270C-S	06/24/13	1
Benzo(b)fluoranthene	U	0.014	0.050	ug/l		8270C-S	06/24/13	1
Benzo(g,h,i)perylene	U	0.011	0.050	ug/l		8270C-S	06/24/13	1
Benzo(k)fluoranthene	U	0.014	0.050	ug/l		8270C-S	06/24/13	1
Chrysene	U	0.011	0.050	ug/l		8270C-S	06/24/13	1
Dibenz(a,h)anthracene	U	0.0040	0.050	ug/l		8270C-S	06/24/13	1
Fluoranthene	U	0.016	0.050	ug/l		8270C-S	06/24/13	1
Fluorene	U	0.0085	0.050	ug/l		8270C-S	06/24/13	1
Indeno(1,2,3-cd)pyrene	U	0.015	0.050	ug/l		8270C-S	06/24/13	1
Naphthalene	0.041	0.020	0.25	ug/l	J	8270C-S	06/24/13	1
Phenanthrene	U	0.0082	0.050	ug/l		8270C-S	06/24/13	1
Pyrene	U	0.012	0.050	ug/l		8270C-S	06/24/13	1
1-Methylnaphthalene	U	0.0082	0.25	ug/l		8270C-S	06/24/13	1

U = ND (Not Detected)

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

MDL = Minimum Detection Limit = LOD = TRRP SDL

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REPORT OF ANALYSIS

Kristin Darnell
 Farallon Consulting - BNSF Region 1
 975 5th Avenue Northwest
 Issaquah, WA 98027

July 02, 2013

Date Received : June 20, 2013
 Description : BNSF - JML - Cashmere, WA
 Sample ID : MW2-061913
 Collected By : Jon Peterson
 Collection Date : 06/19/13 10:00

ESC Sample # : L642401-02

Site ID :

Project # : TT9206-M04

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
2-Methylnaphthalene	0.010	0.0090	0.25	ug/l	J	8270C-S	06/24/13	1
2-Chloronaphthalene	U	0.0065	0.25	ug/l		8270C-S	06/24/13	1
Surrogate Recovery								
Nitrobenzene-d5	80.2			% Rec.		8270C-S	06/24/13	1
2-Fluorobiphenyl	96.3			% Rec.		8270C-S	06/24/13	1
p-Terphenyl-d14	91.2			% Rec.		8270C-S	06/24/13	1

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 Farallon Consulting - BNSF Region 1
 975 5th Avenue Northwest
 Issaquah, WA 98027

July 02, 2013

Date Received : June 20, 2013
 Description : BNSF - JML - Cashmere, WA

ESC Sample # : L642401-03

Sample ID : MW3-061913

Site ID :

Collected By : Jon Peterson
 Collection Date : 06/19/13 11:05

Project # : TT9206-M04

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Nitrate	2200	23.	100	ug/l		9056	06/20/13	1
Sulfate	14000	77.	5000	ug/l		9056	06/20/13	1
Free Carbon Dioxide	62000	6600	20000	ug/l	T8	4500CO2	06/27/13	1
Ferrous Iron	31.	17.	50.	ug/l	JT8	3500Fe	06/21/13	1
Sulfide	U	19.	50.	ug/l		4500S2	06/26/13	1
Iron,Dissolved	39.	14.	100	ug/l	J	6010B	07/01/13	1
Gasoline Range Organics-NWTPH	59.	50.	100	ug/l	J	NWTPHGX	06/22/13	1
Benzene	U	0.19	0.50	ug/l		NWTPHGX	06/22/13	1
Toluene	U	0.18	5.0	ug/l		NWTPHGX	06/22/13	1
Ethylbenzene	U	0.16	0.50	ug/l		NWTPHGX	06/22/13	1
Total Xylene	U	0.51	1.5	ug/l		NWTPHGX	06/22/13	1
Surrogate Recovery(%)								
a,a,a-Trifluorotoluene(PID)	101.			% Rec.		NWTPHGX	06/22/13	1
a,a,a-Trifluorotoluene(FID)	101.			% Rec.		NWTPHGX	06/22/13	1
Diesel Range Organics (DRO)	57.	50.	100	ug/l	J	NWTPHDX	06/24/13	1
Residual Range Organics (RRO)	U	120	250	ug/l		NWTPHDX	06/24/13	1
Surrogate Recovery								
o-Terphenyl	105.			% Rec.		NWTPHDX	06/24/13	1
Polynuclear Aromatic Hydrocarbons								
Anthracene	U	0.0076	0.050	ug/l		8270C-S	06/24/13	1
Acenaphthene	U	0.0082	0.050	ug/l		8270C-S	06/24/13	1
Acenaphthylene	U	0.0068	0.050	ug/l		8270C-S	06/24/13	1
Benzo(a)anthracene	U	0.012	0.050	ug/l		8270C-S	06/24/13	1
Benzo(a)pyrene	U	0.012	0.050	ug/l		8270C-S	06/24/13	1
Benzo(b)fluoranthene	U	0.014	0.050	ug/l		8270C-S	06/24/13	1
Benzo(g,h,i)perylene	U	0.011	0.050	ug/l		8270C-S	06/24/13	1
Benzo(k)fluoranthene	U	0.014	0.050	ug/l		8270C-S	06/24/13	1
Chrysene	U	0.011	0.050	ug/l		8270C-S	06/24/13	1
Dibenz(a,h)anthracene	U	0.0040	0.050	ug/l		8270C-S	06/24/13	1
Fluoranthene	U	0.016	0.050	ug/l		8270C-S	06/24/13	1
Fluorene	U	0.0085	0.050	ug/l		8270C-S	06/24/13	1
Indeno(1,2,3-cd)pyrene	U	0.015	0.050	ug/l		8270C-S	06/24/13	1
Naphthalene	0.038	0.020	0.25	ug/l	J	8270C-S	06/24/13	1
Phenanthrene	U	0.0082	0.050	ug/l		8270C-S	06/24/13	1
Pyrene	U	0.012	0.050	ug/l		8270C-S	06/24/13	1
1-Methylnaphthalene	0.012	0.0082	0.25	ug/l	J	8270C-S	06/24/13	1

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REPORT OF ANALYSIS

Kristin Darnell
 Farallon Consulting - BNSF Region 1
 975 5th Avenue Northwest
 Issaquah, WA 98027

July 02, 2013

Date Received : June 20, 2013
 Description : BNSF - JML - Cashmere, WA
 Sample ID : MW3-061913
 Collected By : Jon Peterson
 Collection Date : 06/19/13 11:05

ESC Sample # : L642401-03

Site ID :

Project # : TT9206-M04

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
2-Methylnaphthalene	0.0092	0.0090	0.25	ug/l	J	8270C-S	06/24/13	1
2-Chloronaphthalene	U	0.0065	0.25	ug/l		8270C-S	06/24/13	1
Surrogate Recovery								
Nitrobenzene-d5	75.4			% Rec.		8270C-S	06/24/13	1
2-Fluorobiphenyl	92.7			% Rec.		8270C-S	06/24/13	1
p-Terphenyl-d14	92.6			% Rec.		8270C-S	06/24/13	1

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REPORT OF ANALYSIS

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 975 5th Avenue Northwest
 Issaquah, WA 98027

July 02, 2013

Date Received : June 20, 2013
 Description : BNSF - JML - Cashmere, WA

ESC Sample # : L642401-04

Sample ID : MW4-061913

Site ID :

Collected By : Jon Peterson
 Collection Date : 06/19/13 11:45

Project # : TT9206-M04

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Nitrate	6200	23.	100	ug/l		9056	06/20/13	1
Sulfate	14000	77.	5000	ug/l		9056	06/20/13	1
Free Carbon Dioxide	45000	6600	20000	ug/l	T8	4500CO2	06/27/13	1
Ferrous Iron	36.	17.	50.	ug/l	JT8	3500Fe	06/21/13	1
Sulfide	U	19.	50.	ug/l		4500S2	06/26/13	1
Iron,Dissolved	40.	14.	100	ug/l	JP1	6010B	07/01/13	1
Gasoline Range Organics-NWTPH	50.	50.	100	ug/l	J	NWTPHGX	06/22/13	1
Benzene	U	0.19	0.50	ug/l		NWTPHGX	06/22/13	1
Toluene	U	0.18	5.0	ug/l		NWTPHGX	06/22/13	1
Ethylbenzene	U	0.16	0.50	ug/l		NWTPHGX	06/22/13	1
Total Xylene	U	0.51	1.5	ug/l		NWTPHGX	06/22/13	1
Surrogate Recovery(%)								
a,a,a-Trifluorotoluene(PID)	101.			% Rec.		NWTPHGX	06/22/13	1
a,a,a-Trifluorotoluene(FID)	101.			% Rec.		NWTPHGX	06/22/13	1
Diesel Range Organics (DRO)	U	50.	100	ug/l		NWTPHDX	06/24/13	1
Residual Range Organics (RRO)	U	120	250	ug/l		NWTPHDX	06/24/13	1
Surrogate Recovery								
o-Terphenyl	125.			% Rec.		NWTPHDX	06/24/13	1
Polynuclear Aromatic Hydrocarbons								
Anthracene	U	0.0076	0.050	ug/l		8270C-S	06/24/13	1
Acenaphthene	U	0.0082	0.050	ug/l		8270C-S	06/24/13	1
Acenaphthylene	U	0.0068	0.050	ug/l		8270C-S	06/24/13	1
Benzo(a)anthracene	U	0.012	0.050	ug/l		8270C-S	06/24/13	1
Benzo(a)pyrene	U	0.012	0.050	ug/l		8270C-S	06/24/13	1
Benzo(b)fluoranthene	U	0.014	0.050	ug/l		8270C-S	06/24/13	1
Benzo(g,h,i)perylene	U	0.011	0.050	ug/l		8270C-S	06/24/13	1
Benzo(k)fluoranthene	U	0.014	0.050	ug/l		8270C-S	06/24/13	1
Chrysene	U	0.011	0.050	ug/l		8270C-S	06/24/13	1
Dibenz(a,h)anthracene	U	0.0040	0.050	ug/l		8270C-S	06/24/13	1
Fluoranthene	U	0.016	0.050	ug/l		8270C-S	06/24/13	1
Fluorene	U	0.0085	0.050	ug/l		8270C-S	06/24/13	1
Indeno(1,2,3-cd)pyrene	U	0.015	0.050	ug/l		8270C-S	06/24/13	1
Naphthalene	0.040	0.020	0.25	ug/l	J	8270C-S	06/24/13	1
Phenanthrene	U	0.0082	0.050	ug/l		8270C-S	06/24/13	1
Pyrene	U	0.012	0.050	ug/l		8270C-S	06/24/13	1
1-Methylnaphthalene	U	0.0082	0.25	ug/l		8270C-S	06/24/13	1

U = ND (Not Detected)

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

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REPORT OF ANALYSIS

Kristin Darnell
 Farallon Consulting - BNSF Region 1
 975 5th Avenue Northwest
 Issaquah, WA 98027

July 02, 2013

Date Received : June 20, 2013
 Description : BNSF - JML - Cashmere, WA
 Sample ID : MW4-061913
 Collected By : Jon Peterson
 Collection Date : 06/19/13 11:45

ESC Sample # : L642401-04
 Site ID :
 Project # : TT9206-M04

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
2-Methylnaphthalene	U	0.0090	0.25	ug/l		8270C-S	06/24/13	1
2-Chloronaphthalene	U	0.0065	0.25	ug/l		8270C-S	06/24/13	1
Surrogate Recovery								
Nitrobenzene-d5	77.5			%	Rec.	8270C-S	06/24/13	1
2-Fluorobiphenyl	93.4			%	Rec.	8270C-S	06/24/13	1
p-Terphenyl-d14	93.0			%	Rec.	8270C-S	06/24/13	1

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Attachment A
List of Analytes with QC Qualifiers

Sample Number	Work Group	Sample Type	Analyte	Run ID	Qualifier	
L642401-01	WG668193	SAMP	Acenaphthene	R2721061	J	
	WG668193	SAMP	Benzo(a)anthracene	R2721061	J	
	WG668193	SAMP	Chrysene	R2721061	J	
	WG668193	SAMP	Fluorene	R2721061	J	
	WG668193	SAMP	Naphthalene	R2721061	J	
	WG668193	SAMP	Phenanthrene	R2721061	J	
	WG668193	SAMP	1-Methylnaphthalene	R2721061	J	
	WG668193	SAMP	2-Methylnaphthalene	R2721061	J	
	WG669165	SAMP	Free Carbon Dioxide	R2725089	T8	
	WG667771	SAMP	Ferrous Iron	R2717000	T8	
	L642401-02	WG668998	SAMP	Iron,Dissolved	R2729985	J
		WG668193	SAMP	Naphthalene	R2721061	J
		WG668193	SAMP	2-Methylnaphthalene	R2721061	J
WG669165		SAMP	Free Carbon Dioxide	R2725089	T8	
WG667771		SAMP	Ferrous Iron	R2717000	JT8	
L642401-03	WG668998	SAMP	Iron,Dissolved	R2729985	J	
	WG668195	SAMP	Diesel Range Organics (DRO)	R2722790	J	
	WG668101	SAMP	Gasoline Range Organics-NWTPH	R2718380	J	
	WG668193	SAMP	Naphthalene	R2721061	J	
	WG668193	SAMP	1-Methylnaphthalene	R2721061	J	
	WG668193	SAMP	2-Methylnaphthalene	R2721061	J	
	WG669165	SAMP	Free Carbon Dioxide	R2725089	T8	
	WG667771	SAMP	Ferrous Iron	R2717000	JT8	
L642401-04	WG668998	SAMP	Iron,Dissolved	R2729985	JP1	
	WG668101	SAMP	Gasoline Range Organics-NWTPH	R2718380	J	
	WG668193	SAMP	Naphthalene	R2721061	J	
	WG669165	SAMP	Free Carbon Dioxide	R2725089	T8	
	WG667771	SAMP	Ferrous Iron	R2717000	JT8	

Attachment B
Explanation of QC Qualifier Codes

Qualifier	Meaning
J	(EPA) - Estimated value below the lowest calibration point. Confidence correlates with concentration.
P1	RPD value not applicable for sample concentrations less than 5 times the reporting limit.
T8	(ESC) - Additional method/sample information: Sample(s) received past/too close to holding time expiration.

Qualifier Report Information

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

Definitions

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



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Quality Control Summary
SDG: L642401
Farallon Consulting - BNSF Region 1

Test:	Anions by Method 9056	Matrix:	Water - mg/L
Project No:	TT9206-M04	EPA ID:	TN00003
Project:	BNSF - JML - Cashmere, WA	Analytic Batch:	WG667854
Collection Date:	6/19/2013	Analyst:	477
Analysis Date:	6/20/2013		
Instrument ID:	IC-10		
Sample Numbers:	L642401-02, -01, -04, -03		

Method Blank

Analyte	CAS	PQL	Qualifiers
Nitrate		<0.100	
Sulfate		<5.00	

Laboratory Control Sample (LCS)

Analyte	True Value	Found	Recovery %	Control Limits	Qualifiers
Nitrate	8.00	8.32	104	90 - 110	
Sulfate	40.0	39.2	98.0	90 - 110	

Laboratory Control Sample Duplicate (LCSD)

Analyte	True Value	Found	Recovery %	Control Limits	Qualifiers
Nitrate	8.00	8.32	104	90 - 110	
Sulfate	40.0	39.6	99.0	90 - 110	



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Quality Control Summary
SDG: L642401
Farallon Consulting - BNSF Region 1

Test:	Anions by Method 9056	Matrix:	Water - mg/L
Project No:	TT9206-M04	EPA ID:	TN00003
Project:	BNSF - JML - Cashmere, WA	Analytic Batch:	WG667854
Collection Date:	6/19/2013	Analyst:	477
Analysis Date:	6/20/2013		
Instrument ID:	IC-10		
Sample Numbers:	L642401-02, -01, -04, -03		

Laboratory Control Sample/ Laboratory Control Sample Duplicate

Analyte	Spike	LCS	% Rec		Control Limits	Qualifier	% RPD		Control Limits	Qualifier
			Rec	LCSD			RPD	RPD		
Nitrate	8.00	8.32	104	8.32	104	90-110		0.0	20	
Sulfate	40.0	39.2	98.0	39.6	99.0	90-110		1.0	20	

Sample Duplicate

L642401-04

Name	Sample Results	Duplic Results	%RPD	Limit	Qualifiers
Sulfate	14.0	14.0	0.0	20	

Sample Duplicate

L642445-01

Name	Sample Results	Duplic Results	%RPD	Limit	Qualifiers
Nitrate	0.180	0.190	5.4	20	
Sulfate	0.000	0.000			



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Quality Control Summary
SDG: L642401
Farallon Consulting - BNSF Region 1

Test:	Anions by Method 9056	Matrix:	Water - mg/L
Project No:	TT9206-M04	EPA ID:	TN00003
Project:	BNSF - JML - Cashmere, WA	Analytic Batch:	WG667854
Collection Date:	6/19/2013	Analyst:	477
Analysis Date:	6/20/2013		
Instrument ID:	IC-10		
Sample Numbers:	L642401-02, -01, -04, -03		

Matrix Spike/Matrix Spike Duplicate

L642395-01

Analyte	Spike		%		%		Control Limits	% Rec Qualifier	% RPD	Control Limits	RPD Qual
	Value	Sample	MS	Rec	MSD	Rec					
Nitrate	5.00	0.000	4.84	96.8	4.91	98.2	80-120		1.4	20	
Sulfate	50.0	40.0	87.6	95.2	87.8	95.6	80-120		0.2	20	



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Quality Control Summary
SDG: L642401
Farallon Consulting - BNSF Region 1

Test:	Ferrous Iron by Method 3500Fe B-2011	Matrix:	Water - mg/L
Project No:	TT9206-M04	EPA ID:	TN00003
Project:	BNSF - JML - Cashmere, WA	Analytic Batch:	WG667771
Collection Date:	6/19/2013	Analyst:	586
Analysis Date:	6/21/2013 11:08:00 AM	Extraction Date:	6/20/2013
Instrument ID:	DR5000-02		
Sample Numbers:	L642401-04, -01, -03, -02		

Method Blank

Analyte	CAS	PQL	Qualifiers
Ferrous Iron		<0.0500	

Laboratory Control Sample (LCS)

Analyte	True Value	Found	Recovery %	Control Limits	Qualifiers
Ferrous Iron	1.00	0.916	91.6	85 - 115	

Laboratory Control Sample Duplicate (LCSD)

Analyte	True Value	Found	Recovery %	Control Limits	Qualifiers
Ferrous Iron	1.00	0.921	92.1	85 - 115	



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Quality Control Summary
SDG: L642401
Farallon Consulting - BNSF Region 1

Test:	Ferrous Iron by Method 3500Fe B-2011	Matrix:	Water - mg/L
Project No:	TT9206-M04	EPA ID:	TN00003
Project:	BNSF - JML - Cashmere, WA	Analytic Batch:	WG667771
Collection Date:	6/19/2013	Analyst:	586
Analysis Date:	6/21/2013 11:08:00 AM	Extraction Date:	6/20/2013
Instrument ID:	DR5000-02		
Sample Numbers:	L642401-04, -01, -03, -02		

Laboratory Control Sample/ Laboratory Control Sample Duplicate

Analyte	Spike	LCS	% Rec		Control Limits	Qualifier	% Control	
			Rec	LCS			RPD	Limits
Ferrous Iron	1.00	0.916	91.6	0.921	85-115		0.5	20

Sample Duplicate

L642043-07

Name	Sample Results	Duplic Results	%RPD	Limit	Qualifiers
Ferrous Iron	0.0970	0.0980	1.0	20	

Sample Duplicate

L642401-03

Name	Sample Results	Duplic Results	%RPD	Limit	Qualifiers
Ferrous Iron	0.0310	0.0300	3.3	20	



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Quality Control Summary
SDG: L642401
Farallon Consulting - BNSF Region 1

Test:	Ferrous Iron by Method 3500Fe B-2011	Matrix:	Water - mg/L
Project No:	TT9206-M04	EPA ID:	TN00003
Project:	BNSF - JML - Cashmere, WA	Analytic Batch:	WG667771
Collection Date:	6/19/2013	Analyst:	586
Analysis Date:	6/21/2013 11:08:00 AM	Extraction Date:	6/20/2013
Instrument ID:	DR5000-02		
Sample Numbers:	L642401-04, -01, -03, -02		

Matrix Spike/Matrix Spike Duplicate

L642401-04

Analyte	Spike		L642401-04			% Rec	Control Limits	% Rec Qualifier	% RPD	Control Limits	RPD Qual
	Value	Sample	MS	% Rec	MSD						
Ferrous Iron	1.50	0.0360	1.46	94.9	1.45	94.3	80-120		0.7	20	



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Quality Control Summary
SDG: L642401
Farallon Consulting - BNSF Region 1

Test:	Sulfide by Method 4500S2 D-2011	Matrix:	Water - mg/L
Project No:	TT9206-M04	EPA ID:	TN00003
Project:	BNSF - JML - Cashmere, WA	Analytic Batch:	WG668723
Collection Date:	6/19/2013	Analyst:	578
Analysis Date:	6/26/2013 6:53:00 PM	Extraction Date:	6/25/2013
Instrument ID:	DR5000		
Sample Numbers:	L642401-04, -03, -01, -02		

Method Blank

Analyte	CAS	PQL	Qualifiers
Sulfide		<0.0500	

Laboratory Control Sample (LCS)

Analyte	True Value	Found	Recovery %	Control Limits	Qualifiers
Sulfide	0.500	0.516	103	85 - 115	

Laboratory Control Sample Duplicate (LCSD)

Analyte	True Value	Found	Recovery %	Control Limits	Qualifiers
Sulfide	0.500	0.503	101	85 - 115	



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Quality Control Summary
SDG: L642401
Farallon Consulting - BNSF Region 1

Test:	Sulfide by Method 4500S2 D-2011	Matrix:	Water - mg/L
Project No:	TT9206-M04	EPA ID:	TN00003
Project:	BNSF - JML - Cashmere, WA	Analytic Batch:	WG668723
Collection Date:	6/19/2013	Analyst:	578
Analysis Date:	6/26/2013 6:53:00 PM	Extraction Date:	6/25/2013
Instrument ID:	DR5000		
Sample Numbers:	L642401-04, -03, -01, -02		

Laboratory Control Sample/ Laboratory Control Sample Duplicate

Analyte	Spike	LCS	% Rec		Control Limits	Qualifier	% Control	
			Rec	LCSD			RPD	Limits
Sulfide	0.500	0.516	103	0.503	101	85-115	2.6	20

Sample Duplicate
 L643143-06

Name	Sample Results	Duplic Results	%RPD	Limit	Qualifiers
Sulfide	0.0000	0.0000			

Sample Duplicate
 L642382-03

Name	Sample Results	Duplic Results	%RPD	Limit	Qualifiers
Sulfide	0.0000	0.0000			



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Quality Control Summary
SDG: L642401
Farallon Consulting - BNSF Region 1

Test:	Sulfide by Method 4500S2 D-2011	Matrix:	Water - mg/L
Project No:	TT9206-M04	EPA ID:	TN00003
Project:	BNSF - JML - Cashmere, WA	Analytic Batch:	WG668723
Collection Date:	6/19/2013	Analyst:	578
Analysis Date:	6/26/2013 6:53:00 PM	Extraction Date:	6/25/2013
Instrument ID:	DR5000		
Sample Numbers:	L642401-04, -03, -01, -02		

Matrix Spike/Matrix Spike Duplicate

L642401-01

Analyte	Spike		L642401-01				Control Limits	% Rec Qualifier	% RPD	Control Limits	RPD Qual
	Value	Sample	MS	% Rec	MSD	% Rec					
Sulfide	1.00	0.0000	1.04	104	1.03	103	80-120		1.0	20	



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Quality Control Summary
SDG: L642401
Farallon Consulting - BNSF Region 1

Test:	Trace Metals by Method 6010B	Matrix:	Water - mg/L
Project No:	TT9206-M04	EPA ID:	TN00003
Project:	BNSF - JML - Cashmere, WA	Analytic Batch:	WG668998
Collection Date:	6/19/2013	Analyst:	136
Analysis Date:	7/1/2013	Extraction Date:	6/26/2013
Instrument ID:	ICP6		
Sample Numbers:	L642401-03, -04, -02, -01		

Method Blank

Analyte	CAS	PQL	Qualifiers
Iron,Dissolved	7439-89-6	<0.100	

Laboratory Control Sample (LCS)

Analyte	True Value	Found	Recovery %	Control Limits	Qualifiers
Iron,Dissolved	1.11	1.13	102	85 - 115	



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Quality Control Summary
SDG: L642401
Farallon Consulting - BNSF Region 1

Test:	Trace Metals by Method 6010B	Matrix:	Water - mg/L
Project No:	TT9206-M04	EPA ID:	TN00003
Project:	BNSF - JML - Cashmere, WA	Analytic Batch:	WG668998
Collection Date:	6/19/2013	Analyst:	136
Analysis Date:	7/1/2013	Extraction Date:	6/26/2013
Instrument ID:	ICP6		
Sample Numbers:	L642401-03, -04, -02, -01		

Sample Duplicate
 L642401-04

Name	Sample Results	Duplic Results	%RPD	Limit	Qualifiers
Iron,Dissolved	0.0530	0.0400	28	20	P1

Matrix Spike/Matrix Spike Duplicate
 L642401-04

Analyte	Spike Value	Sample	MS	% Rec	MSD	% Rec	Control Limits	% Rec Qualifier	% RPD	Control Limits	RPD Qual
Iron,Dissolved	1.11	0.0400	1.13	98.2	1.13	98.2	75-125		0.0	20	



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Quality Control Summary
SDG: L642401
Farallon Consulting - BNSF Region 1

Test:	Method NWTPHGX	Matrix:	Water - mg/L
Project No:	TT9206-M04	EPA ID:	TN00003
Project:	BNSF - JML - Cashmere, WA	Analytic Batch:	WG668101
Collection Date:	6/19/2013	Analyst:	403
Analysis Date:	6/22/2013		
Instrument ID:	VOCGC6		
Sample Numbers:	L642401-03, -01, -02, -04		

Method Blank

Analyte	CAS	PQL	Qualifiers
Gasoline Range Organics-NWTPH		<0.100	
Benzene	71-43-2	<0.0005	
Toluene	108-88-3	<0.0050	
Ethylbenzene	100-41-4	<0.0005	
m&p-Xylene	1330-20-7	<0.0015	
o-Xylene	1330-20-7	<0.0015	

Laboratory Control Sample (LCS)

Analyte	True Value	Found	Recovery %	Control Limits	Qualifiers
Benzene	0.0500	0.0460	91.9	79 - 114	
Toluene	0.0500	0.0458	91.5	79 - 112	
Ethylbenzene	0.0500	0.0461	92.2	80 - 116	
m&p-Xylene	0.100	0.0936	93.6	85 - 120	
o-Xylene	0.0500	0.0475	95.1	82 - 116	
Gasoline Range Organics-NWTPH	5.50	4.93	89.6	70 - 124	

Laboratory Control Sample Duplicate (LCSD)

Analyte	True Value	Found	Recovery %	Control Limits	Qualifiers
Benzene	0.0500	0.0461	92.2	79 - 114	
Toluene	0.0500	0.0455	91.0	79 - 112	
Ethylbenzene	0.0500	0.0466	93.3	80 - 116	
m&p-Xylene	0.100	0.0938	93.8	85 - 120	
o-Xylene	0.0500	0.0473	94.5	82 - 116	
Gasoline Range Organics-NWTPH	5.50	5.30	96.3	70 - 124	



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Quality Control Summary
SDG: L642401
Farallon Consulting - BNSF Region 1

Test:	Method NWTPHGX	Matrix:	Water - mg/L
Project No:	TT9206-M04	EPA ID:	TN00003
Project:	BNSF - JML - Cashmere, WA	Analytic Batch:	WG668101
Collection Date:	6/19/2013	Analyst:	403
Analysis Date:	6/22/2013		
Instrument ID:	VOCGC6		
Sample Numbers:	L642401-03, -01, -02, -04		

Surrogate Summary

Laboratory Sample ID	a,a,a-Trifluorotoluene - FID		a,a,a-Trifluorotoluene - PID	
	ppb	% Rec	ppb	% Rec
LCS WG668101	201	101	199	99.5
LCSD WG668101	201	100	199	99.5
LCS WG668101	202	101	203	101
LCSD WG668101	204	102	203	102
MS WG668101	201	101	200	99.9
MSD WG668101	202	101	200	100
MS WG668101	207	103	195	97.4
MSD WG668101	209	104	195	97.3
Blank WG668101	203	101	202	101
L642401-01	203	101	201	101
L642401-02	202	101	199	99.7
L642401-03	202	101	201	101
L642401-04	202	101	201	101

a,a,a-Trifluorotoluene (FID)	200 ppb	Limits - 62 - 128
a,a,a-Trifluorotoluene (PID)	200 ppb	Limits - 55 - 122



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Quality Control Summary
SDG: L642401
Farallon Consulting - BNSF Region 1

Test:	Method NWTPHGX	Matrix:	Water - mg/L
Project No:	TT9206-M04	EPA ID:	TN00003
Project:	BNSF - JML - Cashmere, WA	Analytic Batch:	WG668101
Collection Date:	6/19/2013	Analyst:	403
Analysis Date:	6/22/2013		
Instrument ID:	VOCGC6		
Sample Numbers:	L642401-03, -01, -02, -04		

Laboratory Control Sample/ Laboratory Control Sample Duplicate

Analyte	Spike	LCS	% Rec		Control Limits	Qualifier	% RPD	% Rec		Control Limits	Qualifier
			Rec	LCSD				Rec	RPD		
Benzene	0.0500	0.0460	91.9	0.0461	92.2	79-114		0.3	20		
Toluene	0.0500	0.0458	91.5	0.0455	91.0	79-112		0.6	20		
Ethylbenzene	0.0500	0.0461	92.2	0.0466	93.3	80-116		1.2	20		
m&p-Xylene	0.100	0.0936	93.6	0.0938	93.8	85-120		0.3	20		
o-Xylene	0.0500	0.0475	95.1	0.0473	94.5	82-116		0.6	20		
Gasoline Range Organics-	5.50	4.93	89.6	5.30	96.3	70-124		7.2	20		

Matrix Spike/Matrix Spike Duplicate

L642401-01

Analyte	Spike		MS	% Rec		MSD	% Rec	Control Limits	% Rec	Control Limits	RPD Qual
	Value	Sample		Rec	MSD						
Benzene	0.0500	0.0000	0.0472	94.5	0.0448	89.7	35-147		5.2	20	
Toluene	0.0500	0.0000	0.0480	96.0	0.0442	88.4	35-148		8.3	20	
Ethylbenzene	0.0500	0.0000	0.0473	94.6	0.0436	87.2	39-141		8.1	20	
m&p-Xylene	0.100	0.0000	0.0991	99.1	0.0922	92.2	26-157		7.3	20	
o-Xylene	0.0500	0.0000	0.0472	94.3	0.0436	87.2	40-145		7.9	20	
Gasoline Range Organics-	5.50	0.0484	5.25	94.6	5.58	101	58-122		6.1	20	



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Quality Control Summary
SDG: L642401
Farallon Consulting - BNSF Region 1

Test:	Method NWTPHDX	Matrix:	Water - mg/L
Project No:	TT9206-M04	EPA ID:	TN00003
Project:	BNSF - JML - Cashmere, WA	Analytic Batch:	WG668195
Collection Date:	6/19/2013	Analyst:	187
Analysis Date:	6/24/2013	Extraction Date:	6/22/2013
Instrument ID:	SVGC27		
Sample Numbers:	L642401-01, -04, -02, -03		

Method Blank

Analyte	CAS	PQL	Qualifiers
Diesel Range Organics (DRO)		<0.10	
Residual Range Organics (RRO)		<0.25	

Laboratory Control Sample (LCS)

Analyte	True Value	Found	Recovery %	Control Limits	Qualifiers
Total Range Organics	1.50	1.82	122	50 - 150	

Laboratory Control Sample Duplicate (LCSD)

Analyte	True Value	Found	Recovery %	Control Limits	Qualifiers
Total Range Organics	1.50	1.86	124	50 - 150	



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Quality Control Summary
SDG: L642401
Farallon Consulting - BNSF Region 1

Test:	Method NWTPHDX	Matrix:	Water - mg/L
Project No:	TT9206-M04	EPA ID:	TN00003
Project:	BNSF - JML - Cashmere, WA	Analytic Batch:	WG668195
Collection Date:	6/19/2013	Analyst:	187
Analysis Date:	6/24/2013	Extraction Date:	6/22/2013
Instrument ID:	SVGC27		
Sample Numbers:	L642401-01, -04, -02, -03		

Surrogate Summary

Laboratory Sample ID	o-Terphenyl	
	ppm	% Rec
Blank WG668195	0.0248	124
LCS WG668195	0.0209	105
LCSD WG668195	0.0209	104
L642401-01	0.0207	104
L642401-02	0.0241	120
L642401-03	0.0209	105
L642401-04	0.0249	125

o-Terphenyl

True Value: 0.02ppm Limits: 50 - 150



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Quality Control Summary
SDG: L642401
Farallon Consulting - BNSF Region 1

Test:	Method NWTPHDX	Matrix:	Water - mg/L
Project No:	TT9206-M04	EPA ID:	TN00003
Project:	BNSF - JML - Cashmere, WA	Analytic Batch:	WG668195
Collection Date:	6/19/2013	Analyst:	187
Analysis Date:	6/24/2013	Extraction Date:	6/22/2013
Instrument ID:	SVGC27		
Sample Numbers:	L642401-01, -04, -02, -03		

Laboratory Control Sample/ Laboratory Control Sample Duplicate

Analyte	Spike	LCS	% Rec	LCSD	% Rec	Control Limits	Qualifier	% RPD	Control Limits	Qualifier
Total Range Organics	1.50	1.82	122	1.86	124	50-150		2.0	25	



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Quality Control Summary
SDG: L642401
Farallon Consulting - BNSF Region 1

Test:	Semi-Volatiles by Method 8270C-SIM	Matrix:	Water - mg/L
Project No:	TT9206-M04	EPA ID:	TN00003
Project:	BNSF - JML - Cashmere, WA	Analytic Batch:	WG668193
Collection Date:	6/19/2013	Analyst:	282
Analysis Date:	6/24/2013	Extraction Date:	6/22/2013
Instrument ID:	BNAMS13		
Sample Numbers:	L642401-01, -02, -03, -04		

Method Blank

Analyte	CAS	PQL	Qualifiers
Naphthalene	91-20-3	<0.000250	
2-Methylnaphthalene	91-57-6	<0.000250	
1-Methylnaphthalene	90-12-0	<0.000250	
2-Chloronaphthalene	91-58-7	<0.0000500	
Acenaphthylene	208-96-8	<0.0000500	
Acenaphthene	83-32-9	<0.0000500	
Fluorene	86-73-7	<0.0000500	
Phenanthrene	85-01-8	<0.0000500	
Anthracene	120-12-7	<0.0000500	
Fluoranthene	206-44-0	<0.0000500	
Pyrene	129-00-0	<0.0000500	
Benzo(a)anthracene	56-55-3	<0.0000500	
Chrysene	218-01-9	<0.0000500	
Benzo(b)fluoranthene	205-99-2	<0.0000500	
Benzo(k)fluoranthene	207-08-9	<0.0000500	
Benzo(a)pyrene	50-32-8	<0.0000500	
Indeno(1,2,3-cd)pyrene	193-39-5	<0.0000500	
Dibenz(a,h)anthracene	53-70-3	<0.0000500	
Benzo(g,h,i)perylene	191-24-2	<0.0000500	



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Quality Control Summary

SDG: L642401

Farallon Consulting - BNSF Region 1

Test:	Semi-volatile Organic Compounds by Method 8270C-SIM	Matrix:	Water - mg/L
Project No:	TT9206-M04	EPA ID:	TN00003
Project:	BNSF - JML - Cashmere, WA	Analytic Batch:	WG668193
Collection Date:	6/19/2013	Analyst:	282
Analysis Date:	6/24/2013 12:48:00 PM	Extraction Date:	6/22/2013
Instrument ID:	BNAMS13		
Sample Numbers:	L642401-01, -02, -03, -04		

Laboratory Control Sample (LCS)

Analyte	True Value	Found	Recovery %	Control Limits	Qualifiers
1-Methylnaphthalene	0.00200	0.00193	96.4	71.2 - 137	
2-Chloronaphthalene	0.00200	0.00178	89.2	81.1 - 129	
2-Methylnaphthalene	0.00200	0.00192	96.2	69.8 - 134	
Acenaphthene	0.00200	0.00188	93.8	80.8 - 128	
Acenaphthylene	0.00200	0.00180	90.1	77.2 - 132	
Anthracene	0.00200	0.00197	98.4	78.4 - 136	
Benzo(a)anthracene	0.00200	0.00185	92.3	69.2 - 141	
Benzo(a)pyrene	0.00200	0.00204	102	71.1 - 135	
Benzo(b)fluoranthene	0.00200	0.00189	94.4	69.5 - 140	
Benzo(g,h,i)perylene	0.00200	0.00175	87.3	64.6 - 138	
Benzo(k)fluoranthene	0.00200	0.00204	102	69.3 - 144	
Chrysene	0.00200	0.00192	96.2	75.6 - 138	
Dibenz(a,h)anthracene	0.00200	0.00165	82.3	64.1 - 139	
Fluoranthene	0.00200	0.00199	99.7	78.6 - 135	
Fluorene	0.00200	0.00189	94.4	78.3 - 131	
Indeno(1,2,3-cd)pyrene	0.00200	0.00165	82.4	64.8 - 140	
Naphthalene	0.00200	0.00174	86.8	80.2 - 126	
Phenanthrene	0.00200	0.00184	92.0	79.6 - 130	
Pyrene	0.00200	0.00182	91.1	76.6 - 134	



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Quality Control Summary

SDG: L642401

Farallon Consulting - BNSF Region 1

Test:	Semi-volatile Organic Compounds by Method 8270C-SIM	Matrix:	Water - mg/L
Project No:	TT9206-M04	EPA ID:	TN00003
Project:	BNSF - JML - Cashmere, WA	Analytic Batch:	WG668193
Collection Date:	6/19/2013	Analyst:	282
Analysis Date:	6/24/2013 12:48:00 PM	Extraction Date:	6/22/2013
Instrument ID:	BNAMS13		
Sample Numbers:	L642401-01, -02, -03, -04		

Laboratory Control Sample Duplicate (LCSD)

Analyte	True Value	Found	Recovery %	Control Limits	Qualifiers
1-Methylnaphthalene	0.00200	0.00193	96.7	71.2 - 137	
2-Chloronaphthalene	0.00200	0.00174	87.0	81.1 - 129	
2-Methylnaphthalene	0.00200	0.00195	97.5	69.8 - 134	
Acenaphthene	0.00200	0.00177	88.3	80.8 - 128	
Acenaphthylene	0.00200	0.00171	85.3	77.2 - 132	
Anthracene	0.00200	0.00186	93.2	78.4 - 136	
Benzo(a)anthracene	0.00200	0.00174	87.2	69.2 - 141	
Benzo(a)pyrene	0.00200	0.00189	94.4	71.1 - 135	
Benzo(b)fluoranthene	0.00200	0.00175	87.6	69.5 - 140	
Benzo(g,h,i)perylene	0.00200	0.00160	80.2	64.6 - 138	
Benzo(k)fluoranthene	0.00200	0.00188	94.2	69.3 - 144	
Chrysene	0.00200	0.00176	88.1	75.6 - 138	
Dibenz(a,h)anthracene	0.00200	0.00149	74.3	64.1 - 139	
Fluoranthene	0.00200	0.00188	93.9	78.6 - 135	
Fluorene	0.00200	0.00176	88.1	78.3 - 131	
Indeno(1,2,3-cd)pyrene	0.00200	0.00150	74.9	64.8 - 140	
Naphthalene	0.00200	0.00172	85.8	80.2 - 126	
Phenanthrene	0.00200	0.00173	86.4	79.6 - 130	
Pyrene	0.00200	0.00170	84.9	76.6 - 134	



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Quality Control Summary

SDG: L642401

Farallon Consulting - BNSF Region 1

Test:	Semi-volatile Organic Compounds by Method 8270C-SIM		
Project No:	TT9206-M04	Matrix:	Water - mg/L
Project:	BNSF - JML - Cashmere, WA	EPA ID:	TN00003
Collection Date:	6/19/2013	Analytic Batch:	WG668193
Analysis Date:	6/24/2013 12:48:00 PM	Analyst:	282
Instrument ID:	BNAMS13	Extraction Date:	6/22/2013
Sample Numbers:	L642401-01, -02, -03, -04		

Surrogate Summary

Laboratory Sample ID	Instrument	File ID	FBP		NBZ		TPH	
			ppm	% Rec	ppm	% Rec	ppm	% Rec
L642401-01	BNAMS13	0624_11	0.00198	99.1	0.00166	83.0	0.00194	96.9
L642401-02	BNAMS13	0624_12	0.00193	96.3	0.0016	80.2	0.00182	91.2
L642401-03	BNAMS13	0624_13	0.00185	92.7	0.00151	75.4	0.00185	92.6
L642401-04	BNAMS13	0624_14	0.00187	93.4	0.00155	77.5	0.00186	93.0
BLANK WG668193	BNAMS13	0624_05	0.00187	93.5	0.00155	77.3	0.00175	87.7
LCS WG668193	BNAMS13	0624_06	0.00198	99.0	0.00163	81.4	0.00183	91.5
LCSD WG668193	BNAMS13	0624_07	0.00183	91.6	0.00148	74.0	0.00168	83.9

FBP --2-FLUOROBIPHENYL

True Value: 0.002 ppm Limits: 64.4 - 143

NBZ --NITROBENZENE-D5

True Value: 0.002 ppm Limits: 61.3 - 162

TPH --P-TERPHENYL-D14

True Value: 0.002 ppm Limits: 55.30 - 145



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Quality Control Summary

SDG: L642401

Farallon Consulting - BNSF Region 1

Test:	Semi-volatile Organic Compounds by Method 8270C-SIM		
Project No:	TT9206-M04	Matrix:	Water - mg/L
Project:	BNSF - JML - Cashmere, WA	EPA ID:	TN00003
Collection Date:	6/19/2013	Analytic Batch:	WG668193
Analysis Date:	6/24/2013 12:48:00 PM	Analyst:	282
Instrument ID:	BNAMS13	Extraction Date:	6/22/2013
Sample Numbers:	L642401-01, -02, -03, -04		

Laboratory Control Sample/ Laboratory Control Sample Duplicate

Analyte	Spike	LCS	% Rec		LCS D	% Rec	Control Limits	Qualifier	% RPD	% Control	
			Rec	LCS D						Limits	Qualifier
1-Methylnaphthalene	0.00200	0.00193	96.4	0.00193	96.7	71.2-137		0.4	20		
2-Chloronaphthalene	0.00200	0.00178	89.2	0.00174	87.0	81.1-129		2.5	20		
2-Methylnaphthalene	0.00200	0.00192	96.2	0.00195	97.5	69.8-134		1.4	20		
Acenaphthene	0.00200	0.00188	93.8	0.00177	88.3	80.8-128		6.1	20		
Acenaphthylene	0.00200	0.00180	90.1	0.00171	85.3	77.2-132		5.5	20		
Anthracene	0.00200	0.00197	98.4	0.00186	93.2	78.4-136		5.4	20		
Benzo(a)anthracene	0.00200	0.00185	92.3	0.00174	87.2	69.2-141		5.7	20		
Benzo(a)pyrene	0.00200	0.00204	102	0.00189	94.4	71.1-135		7.9	20		
Benzo(b)fluoranthene	0.00200	0.00189	94.4	0.00175	87.6	69.5-140		7.5	20		
Benzo(g,h,i)perylene	0.00200	0.00175	87.3	0.00160	80.2	64.6-138		8.6	20		
Benzo(k)fluoranthene	0.00200	0.00204	102	0.00188	94.2	69.3-144		7.9	20		
Chrysene	0.00200	0.00192	96.2	0.00176	88.1	75.6-138		8.8	20		
Dibenz(a,h)anthracene	0.00200	0.00165	82.3	0.00149	74.3	64.1-139		10	20		
Fluoranthene	0.00200	0.00199	99.7	0.00188	93.9	78.6-135		6.0	20		
Fluorene	0.00200	0.00189	94.4	0.00176	88.1	78.3-131		6.9	20		
Indeno(1,2,3-cd)pyrene	0.00200	0.00165	82.4	0.00150	74.9	64.8-140		9.6	20		
Naphthalene	0.00200	0.00174	86.8	0.00172	85.8	80.2-126		1.2	20		
Phenanthrene	0.00200	0.00184	92.0	0.00173	86.4	79.6-130		6.2	20		
Pyrene	0.00200	0.00182	91.1	0.00170	84.9	76.6-134		7.0	20		



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Quality Control Summary

SDG: L642401

Farallon Consulting - BNSF Region 1

Test:	Semi-Volatiles by Method 8270C-SIM		
Project No:	TT9206-M04	Matrix:	Water - mg/L
Project:	BNSF - JML - Cashmere, WA	EPA ID:	TN00003
Collection Date:	6/19/2013	Analytic Batch:	WG668193
Analysis Date:	6/24/2013	Analyst:	282
Instrument ID:	BNAMS13	Extraction Date:	6/22/2013
Sample Numbers:	L642401-01, -02, -03, -04		

Internal Standard Response and Retention Time Summary

FileID:0624_04.D

Date:6/24/2013

Time:10:17 AM

	IS1		IS2		IS3	
	Response	RT	Response	RT	Response	RT
12 Hour Std			75050	5.4	59554	7.32
Upper Limit			150100	5.9	119108	7.82
Lower Limit			37525	4.9	29777	6.82
Sample ID	Response	RT	Response	RT	Response	RT
Blank WG668193			85205	5.40	65235	7.32
L642401-01			84303	5.39	68178	7.32
L642401-02			83890	5.40	66956	7.32
L642401-03			86361	5.39	69615	7.32
L642401-04			86712	5.40	70092	7.32
LCS WG668193			84748	5.40	66741	7.32
LCSD WG668193			86327	5.40	70426	7.32



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Quality Control Summary
SDG: L642401
Farallon Consulting - BNSF Region 1

Test:	Semi-Volatiles by Method 8270C-SIM		
Project No:	TT9206-M04	Matrix:	Water - mg/L
Project:	BNSF - JML - Cashmere, WA	EPA ID:	TN00003
Collection Date:	6/19/2013	Analytic Batch:	WG668193
Analysis Date:	6/24/2013	Analyst:	282
Instrument ID:	BNAMS13	Extraction Date:	6/22/2013
Sample Numbers:	L642401-01, -02, -03, -04		

Internal Standard Response and Retention Time Summary

FileID:0624_04.D

Date:6/24/2013

Time:10:17 AM

	IS4		IS5		IS6	
	Response	RT	Response	RT	Response	RT
12 Hour Std	103587	8.86	121592	11.54	137401	13.09
Upper Limit	207174	9.36	243184	12.04	274802	13.59
Lower Limit	51793.5	8.36	60796	11.04	68700.5	12.59
Sample ID	Response	RT	Response	RT	Response	RT
Blank WG668193	109974	8.86	129434	11.54	129548	13.09
L642401-01	124060	8.86	143514	11.54	150872	13.09
L642401-02	114898	8.86	134792	11.54	140676	13.09
L642401-03	124945	8.86	137884	11.54	148745	13.09
L642401-04	129647	8.86	150398	11.54	157693	13.09
LCS WG668193	119302	8.86	137753	11.54	143582	13.09
LCSD WG668193	124395	8.86	146113	11.54	153208	13.09

Farallon Consulting - BNSF
Region 1
 975 5th Avenue Northwest
 Issaquah, WA 98027

Billing information:
 Scott MacDonald
 2454 Occidental Ave S, Ste 1A
 Seattle, WA 98134-1451

Analysis/Container/Preservative

Chain of Custody
 Page ___ of ___



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F027

Report to: **Kristin Darnell** Email: **kjdarnell@farallonconsulting**

Project Description: **BNSF - JML - Cashmere, WA** City/State Collected

Phone: (425) 295-0811 Client Project #: **TT9206-M04** Lab Project #: **BNSFIFAR-CASHMERE**

Collected by (print): **Jon Peterson** Site/Facility ID#: P.O.#:

Collected by (signature): *Jon Peterson* Rush? (Lab MUST Be Notified)
 ___ Same Day 200%
 ___ Next Day 100%
 ___ Two Day 50%
 ___ Three Day 25%
 Date Results Needed
 Email? ___ No ___ Yes
 FAX? ___ No ___ Yes
 No. of Cntrs

Sample ID	Comp/Grab	Matrix*	Depth	Date	Time	No. of Cntrs
MW1-061913	Grab	GW	N/A	6/19/13	1100	14
MW2-061913	Grab	GW	N/A	6/19/13	1000	14
MW3-061913	Grab	GW	N/A	6/19/13	1105	14
MW4-061913	Grab	GW	N/A	6/19/13	1145	14

Total Iron 500ml HDPE-NO3 CO2 40ml Amb-NoPres
 NO3, SO4 125ml HDPE-NoPres
 Dissolved Iron 500ml HDPE-NoPres <Z
 Ferrrous Iron 250ml Amb-HCl <Z
 NWTPHDXLVI 40ml Amb-HCl-BT
 NWTPHGXBTEX 40ml Amb HCl
 PAHSIMLVI 40ml Amb-NoPres-WT
 SULFIDE 500ml HDPE-NaOH+ZnAc >1Z

Account: **BNSFIFAR** (lab use only)
 Template/Prelogin **T87077/P431096**
 Cooler #: **5/28**
 Shipped Via: **FedEX Ground**

Remarks/Contaminant Sample # (lab only)
 L642401 L642390-01
 W
 02
 03
 04

*Matrix: SS - Soil GW - Groundwater WW - WasteWater DW - Drinking Water OT - Other _____

Remarks: pH _____ Temp _____
 Flow _____ Other _____

5547 0244 3411

Relinquished by: (Signature) <i>Jon Peterson</i>	Date: 6/19/13	Time: 1200	Received by: (Signature)	Samples returned via: <input checked="" type="checkbox"/> FedEx <input type="checkbox"/> Courier <input type="checkbox"/> UPS	Condition: <i>OK</i> (lab use only)
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Temp: 3.41 Bottles Received: 50+2TB	COC Seal Intact: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> NA
Relinquished by: (Signature)	Date:	Time:	Received for lab by: (Signature) <i>Charles Kordella</i>	Date: 6-20-13 Time: 0930	pH Checked: <2, >12 NCF: 41 of 41

Farallon Consulting - BNSF
Region 1
 975 5th Avenue Northwest
 Issaquah, WA 98027

Billing information:
 Scott MacDonald
 2454 Occidental Ave S, Ste 1A
 Seattle, WA 98134-1451

Analysis/Container/Preservative

Chain of Custody
 Page ___ of ___



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Report to: **Kristin Darnell** Email: **kjdarnell@farallonconsulting**

Project Description: **BNSF - JML - Cashmere, WA** City/State Collected

Phone: (425) 295-0811 Client Project #: **TT9206-M04** Lab Project #: **BNSFIFAR-CASHMERE**

Collected by (print): **Jon Peterson** Site/Facility ID#: P.O.#:

Collected by (signature): *Jon Peterson* Rush? (Lab MUST Be Notified)
 ___ Same Day 200%
 ___ Next Day 100%
 ___ Two Day 50%
 ___ Three Day 25%
 Date Results Needed
 Email? ___ No ___ Yes
 FAX? ___ No ___ Yes
 No. of Cntrs

Sample ID	Comp/Grab	Matrix*	Depth	Date	Time	No. of Cntrs
MW1-061913	Grab	GW	N/A	6/19/13	1100	14
MW2-061913	Grab	GW	N/A	6/19/13	1000	14
MW3-061913	Grab	GW	N/A	6/19/13	1105	14
MW4-061913	Grab	GW	N/A	6/19/13	1145	14

Total Iron 500ml HDPE-NO3- CO2 40ml Amb-NO3Pres
 NO3, SO4 125ml HDPE-NO3Pres
 Dissolved Iron 500ml HDPE-NO3Pres <Z
 Ferrrous Iron 250ml Amb-HCl <Z
 NWTPHDXLVI 40ml Amb-HCl-BT
 NWTPHGXBTEX 40ml Amb HCl
 PAHSIMLVI 40ml Amb-NO3Pres-WT
 SULFIDE 500ml HDPE-NAOH+ZnAc >1Z

Account: **BNSFIFAR** (lab use only)
 Template/Prelogin **T87077/P431096**
 Cooler #: **5/28**
 Shipped Via: **FedEX Ground**

Remarks/Contaminant Sample # (lab only)
 L642401 L642390-01
 W
 02
 03
 04

*Matrix: SS - Soil GW - Groundwater WW - WasteWater DW - Drinking Water OT - Other _____

Remarks:

pH _____ Temp _____
 Flow _____ Other _____

5547 0244 3411

Relinquished by: (Signature) <i>Jon Peterson</i>	Date: 6/19/13	Time: 1200	Received by: (Signature)	Samples returned via: <input checked="" type="checkbox"/> FedEx <input type="checkbox"/> UPS <input type="checkbox"/> Courier	Condition: OK (lab use only)
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Temp: 3.41 Bottles Received: 50+2TB	COC Seal Intact: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> NA
Relinquished by: (Signature)	Date:	Time:	Received for lab by: (Signature) <i>Charles Kordella</i>	Date: 6-20-13 Time: 0930	pH Checked: <2, >12 NCF:



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Kristin Darnell
Farallon Consulting - BNSF Region 1
975 5th Avenue Northwest
Issaquah, WA 98027

Report Summary

Monday July 22, 2013

Report Number: L647360

Samples Received: 06/20/13

Client Project: TT9206-M04

Description: BNSF - JML - Cashmere, WA

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

Entire Report Reviewed By:

Mark W. Beasley, ESC Representative

Laboratory Certification Numbers

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

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

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

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REPORT OF ANALYSIS

Kristin Darnell
Farallon Consulting - BNSF Region 1
975 5th Avenue Northwest
Issaquah, WA 98027

July 22, 2013

Date Received : June 20, 2013
Description : BNSF - JML - Cashmere, WA
Sample ID : MW1-061913
Collected By : Jon Peterson
Collection Date : 06/19/13 11:00

ESC Sample # : L647360-01

Site ID :

Project # : TT9206-M04

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Iron	79.	14.	100	ug/l	J	6010B	07/20/13	1

U = ND (Not Detected)

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

MDL = Minimum Detection Limit = LOD = TRRP SDL

Note:

The reported analytical results relate only to the sample submitted.

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Reported: 07/22/13 11:27 Printed: 07/22/13 11:28



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REPORT OF ANALYSIS

Kristin Darnell
Farallon Consulting - BNSF Region 1
975 5th Avenue Northwest
Issaquah, WA 98027

July 22, 2013

Date Received : June 20, 2013
Description : BNSF - JML - Cashmere, WA
Sample ID : MW2-061913
Collected By : Jon Peterson
Collection Date : 06/19/13 10:00

ESC Sample # : L647360-02

Site ID :

Project # : TT9206-M04

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Iron	45.	14.	100	ug/l	J	6010B	07/20/13	1

U = ND (Not Detected)

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

MDL = Minimum Detection Limit = LOD = TRRP SDL

Note:

The reported analytical results relate only to the sample submitted.

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Reported: 07/22/13 11:27 Printed: 07/22/13 11:28



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REPORT OF ANALYSIS

Kristin Darnell
Farallon Consulting - BNSF Region 1
975 5th Avenue Northwest
Issaquah, WA 98027

July 22, 2013

Date Received : June 20, 2013
Description : BNSF - JML - Cashmere, WA
Sample ID : MW3-061913
Collected By : Jon Peterson
Collection Date : 06/19/13 11:05

ESC Sample # : L647360-03

Site ID :

Project # : TT9206-M04

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Iron	62.	14.	100	ug/l	J	6010B	07/20/13	1

U = ND (Not Detected)

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

MDL = Minimum Detection Limit = LOD = TRRP SDL

Note:

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Reported: 07/22/13 11:27 Printed: 07/22/13 11:28



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REPORT OF ANALYSIS

Kristin Darnell
 Farallon Consulting - BNSF Region 1
 975 5th Avenue Northwest
 Issaquah, WA 98027

July 22, 2013

Date Received : June 20, 2013
 Description : BNSF - JML - Cashmere, WA
 Sample ID : MW4-061913
 Collected By : Jon Peterson
 Collection Date : 06/19/13 11:45

ESC Sample # : L647360-04

Site ID :

Project # : TT9206-M04

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Iron	51.	14.	100	ug/l	J	6010B	07/20/13	1

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

Note:
 The reported analytical results relate only to the sample submitted.
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Reported: 07/22/13 11:27 Printed: 07/22/13 11:28

Attachment A
List of Analytes with QC Qualifiers

Sample Number	Work Group	Sample Type	Analyte	Run ID	Qualifier
L647360-01	WG672748	SAMP	Iron	R2752241	J
L647360-02	WG672820	SAMP	Iron	R2751261	J
L647360-03	WG672820	SAMP	Iron	R2751261	J
L647360-04	WG672820	SAMP	Iron	R2751261	J

Attachment B
Explanation of QC Qualifier Codes

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

Qualifier Report Information

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

Definitions

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

Summary of Remarks For Samples Printed
07/22/13 at 11:28:26

TSR Signing Reports: 134
R5 - Desired TAT

Sample: L647360-01 Account: BNSF1FAR Received: 06/20/13 09:30 Due Date: 07/25/13 00:00 RPT Date: 07/22/13 11:27
Relogged from L642401-01
Sample: L647360-02 Account: BNSF1FAR Received: 06/20/13 09:30 Due Date: 07/25/13 00:00 RPT Date: 07/22/13 11:27
Relogged from L642401-02
Sample: L647360-03 Account: BNSF1FAR Received: 06/20/13 09:30 Due Date: 07/25/13 00:00 RPT Date: 07/22/13 11:27
Relogged from L642401-03
Sample: L647360-04 Account: BNSF1FAR Received: 06/20/13 09:30 Due Date: 07/25/13 00:00 RPT Date: 07/22/13 11:27
Relogged from L642401-04

Farallon Consulting - BNSF
Region 1
 975 5th Avenue Northwest
 Issaquah, WA 98027

Billing information:
 Scott MacDonald
 2454 Occidental Ave S, Ste 1A
 Seattle, WA 98134-1451

Analysis/Container/Preservative

Chain of Custody
 Page ___ of ___

6647360



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F027

Report to: **Kristin Darnell**

Email: **kjdarnell@farallonconsulting**

Project Description: **BNSF - JML - Cashmere, WA**

City/State Collected

Phone: (425) 295-0811
 FAX:

Client Project #: **TT9206-M04**

Lab Project #: **BNSF1FAR-CASHMERE**

Collected by (print): **Jon Petersen**

Site/Facility ID#:

P.O.#:

Collected by (signature):
 Immediately Packed on Ice N ___ Y

Rush? (Lab MUST Be Notified)
 ___ Same Day 200%
 ___ Next Day 100%
 ___ Two Day 50%
 ___ Three Day 25%

Date Results Needed
 Email? ___ No Yes
 FAX? ___ No ___ Yes

No. of Cntrs

Sample ID	Comp/Grab	Matrix*	Depth	Date	Time	No. of Cntrs	Total Iron	NO3	NO2	SO4	Iron	Ferrous Iron	NWTPHDXLVI	NWTPHGXBTX	PAHSIMLVI	SULFIDE
MW1-061913	Grab	GW	N/A	6/19/13	1100	14	X	X	X	X	X	X	X	X	X	X
MW2-061913	Grab	GW	N/A	6/19/13	1000	14	X	X	X	X	X	X	X	X	X	X
MW3-061913	Grab	GW	N/A	6/19/13	1105	14	X	X	X	X	X	X	X	X	X	X
MW4-061913	Grab	GW	N/A	6/19/13	1145	14	X	X	X	X	X	X	X	X	X	X

Acctnum: **BNSF1FAR** (lab use only)
 Template/Prelogin: **T87077/P431096**
 Cooler #: **5/28 MWB**
 Shipped Via: **FedEX Ground**

Remarks/Contaminant Sample # (lab only)
6642207 6642390-01
W 02
03
04

*Matrix: **SS** - Soil **GW** - Groundwater **WW** - WasteWater **DW** - Drinking Water **OT** - Other _____

pH _____ Temp _____

Remarks:

Flow _____ Other _____

Relinquished by: (Signature) Jon Petersen	Date: 6/19/13	Time: 1200	Received by: (Signature) 	Samples returned via: <input type="checkbox"/> UPS <input checked="" type="checkbox"/> FedEx <input type="checkbox"/> Courier <input type="checkbox"/>	Condition: 5 (lab use only)
Relinquished by: (Signature) 	Date:	Time:	Received by: (Signature) 	Temp: 3.4 Bottles Received: 56+2TB	COC Seal Intact: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> NA
Relinquished by: (Signature) 	Date:	Time:	Received for lab by: (Signature) Charles Kondel	Date: 6-20-13 Time: 0930	pH Checked: 2.2, 7.2 NCF:

5547 0244 3411

Andy Vann

From: Mark Beasley
Sent: Thursday, July 18, 2013 3:54 PM
To: Login; Sample Storage
Subject: L642401 BNSF1FAR* relogs

Relog L642401-01 thru -04 for FEICP. Log as R5 due 7/25. Preserve an unpreserved bottle with HNO3.

Thanks
Mark Beasley
ESC Lab Sciences
Direct Phone: (615) 773-9672
Toll-free: 1-800-767-5859 ext 9672
Email: mbeasley@esclabsciences.com

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APPENDIX B
BORING, TEST PIT, AND TEST TRENCH LOGS

REVISED CLEANUP ACTION WORK PLAN

John Michael Lease Site
5640 Sunset Highway
Cashmere, Washington

Farallon PN: 283-006

Client: BNSF
Project: John Michael Lease Site
Location: Cashmere, WA








Date/Time Started: 7/29/08 1530
Date/Time Completed: 7/29/08 1620
Equipment: Mini Rae 2000 PID
Drilling Company: Cascade Drilling
Drilling Foreman: Scott Krueger
Drilling Method: Hollow-Stem Auger

Sampler Type: D&M 18"
Drive Hammer (lbs.):
Depth of Water ATD (ft bgs): 14
Total Boring Depth (ft bgs): 18
Total Well Depth (ft bgs): 18

Farallon PN: 683-018

Logged By: T. Adams

Depth (feet bgs.)	Sample Interval	Lithologic Description	USCS	USGS Graphic	% Recovery	Blow Counts 8/8/8	PID (ppm)	Sample ID	Sample Analyzed	Boring/Well Construction Details
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0							NA	0.0		
		Well-graded SAND with gravel 80% sand 20% gravel, sand ranges from fine to coarse predominantly coarse, light brown, gravels are subangular, dry, no odor, no sheen, grass found in sample.	SW		50	18/20/20	0.8			
5		Well-graded SAND 100% sand ranging from medium to coarse predominantly medium grained, dark grey with one 20mm band of light brown, moist, no odor, no sheen, some burnt wood found in sample.	SW		60	6/6/7	0.8			
		Well-graded SAND 100% sand ranging from medium to coarse predominantly medium grained, dark grey, moist, no odor, no sheen.	SW		90	6/26/28	1.6			
10		Well-graded SAND 100% sand, sand ranges from medium to coarse predominantly medium, black, wet, strong odor, definite sheen, brown staining, amber colored "syrup" looking material, wood chunks also found in sample.	SW		70	35/50	38.1	MW1-10-072908	X	
		Well-graded SAND 100% sand, sand ranges from medium to coarse predominantly medium, black, wet, moderate odor, definite sheen, brown staining.	SW		10	28/50	13.5			
15		Well-graded SAND 100% sand, sand ranges from medium to coarse predominantly medium, black, wet, moderate odor, definite sheen, brown staining.	SW		10	34/50	5.1			
		Well-graded SAND 100% sand, sand ranges from medium to coarse predominantly medium, black, wet, moderate odor, definite sheen, brown staining.	SW		100	50	6.7	MW1-17.5-072908	X	
20										

Monument Type: Flush

Casing Diameter (inches): 2"

Screen Slot Size (inches): 0.010

Screened Interval (ft bgs): 8-18

Well Construction Information

Filter Pack: 2/12 Lapis Luster Cemex Sand

Surface Seal: Asphalt

Annular Seal: Bentonite chips & concrete

Ground Surface Elevation (ft):

Top of Casing Elevation (ft):

Boring Abandonment: NA

Surveyed Location: X:

Y:



Log of Boring: MW2

Client: BNSF
Project: John Michael Lease Site
Location: Cashmere, WA

Date/Time Started: 7/29/08 1003
Date/Time Completed: 7/29/08 1048
Equipment: Mini Rae 2000 PID
Drilling Company: Cascade Drilling
Drilling Foreman: Scott Krueger
Drilling Method: Hollow-Stem Auger

Sampler Type: D&M 18"
Drive Hammer (lbs.):
Depth of Water ATD (ft bgs): 9
Total Boring Depth (ft bgs): 16.5
Total Well Depth (ft bgs): 15

Farallon PN: 683-018

Logged By: T. Adams

Depth (feet bgs.)	Sample Interval	Lithologic Description	USCS	USGS Graphic	% Recovery	Blow Counts 8/8/8	PID (ppm)	Sample ID	Sample Analyzed	Boring/Well Construction Details
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0						NA	0.0			
		Well-graded SAND with gravel 60% sand 40% gravel, sand ranges from fine to coarse, light grey, gravels are angular to subangular, dry, no odor, no sheen.	SW		30	50/5	0.7			
5		Well-graded SAND with gravel 60% sand 40% gravel, sand ranges from fine to coarse, light grey, gravels are angular to subangular, dry, no odor, no sheen.	SW		30	50/6	2.1			
		Well-graded SAND with gravel 85% sand 15% gravel, sand ranges from fine to coarse predominantly coarse, olive grey, gravels are angular to subangular, dry, no odor, no sheen.	SW		10	10/4/12	1.3			
10		Well-graded SAND 95% sand 5% gravel, sand ranges from fine to coarse predominantly coarse, olive grey, moist, slight odor, slight sheen, organic material, paper in sample.	SW		10	33/50	3.5	MW2-080608	X	
		Well-graded SAND with silt 85% sand 15% silt, sand ranges from fine to coarse predominantly coarse, light brown, dry, no odor, no sheen (sample looks like riverbed deposits).	SW-SM		90	15/20/25	1.4			
15		Well-graded SAND 90% sand 5% silt, 5% gravels, sand ranges from fine to coarse predominantly coarse, light brown, dry, no odor, no sheen (sample looks like riverbed deposits).	SW		95	15/20/28	2.2			

Well Construction Information			Ground Surface Elevation (ft):	
Monument Type: Flush	Filter Pack: 2/12 Lapis Luster Cemex Sand	Top of Casing Elevation (ft):		
Casing Diameter (inches): 2"	Surface Seal: Asphalt	Boring Abandonment:	NA	
Screen Slot Size (inches): 0.010	Annular Seal: Bentonite chips & concrete	Surveyed Location: X:	Y:	
Screened Interval (ft bgs): 5-15				



Log of Boring: MW3

Client: BNSF
Project: John Michael Lease Site
Location: Cashmere, WA

Date/Time Started: 7/29/08 1152
Date/Time Completed: 7/29/08 1220
Equipment: Mini Rae 2000 PID
Drilling Company: Cascade Drilling
Drilling Foreman: Scott Krueger
Drilling Method: Hollow-Stem Auger

Sampler Type: D&M 18"
Drive Hammer (lbs.):
Depth of Water ATD (ft bgs): 8
Total Boring Depth (ft bgs): 16
Total Well Depth (ft bgs): 15

Farallon PN: 683-018

Logged By: T. Adams

Depth (feet bgs.)	Sample Interval	Lithologic Description	USCS	USGS Graphic	% Recovery	Blow Counts 8/8/8	PID (ppm)	Sample ID	Sample Analyzed	Boring/Well Construction Details
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0						NA	0.0			
		Poorly-graded SAND with gravel 85% sand 15% gravel, sand ranges from fine to coarse predominantly coarse, olive grey with bands of light brown, gravels are angular to subangular, dry, no odor, no sheen, asphalt chunks found in sample.	SP		80	25/15/10	3.4			
5		Well-graded SAND with gravel 85% sand 15% gravel, sand ranges from fine to coarse predominantly coarse, olive grey, gravels are angular to subangular, dry, no odor, no sheen.	SW		45	15/50	-			
		Well-graded SAND with gravel 75% sand 25% gravel, sand ranges from fine to coarse predominantly coarse, olive grey, gravels are angular to subangular, wet, slight odor, slight sheen.	SW		45	25/10/10	-			
10		Well-graded SAND with gravel 75% sand 25% gravel, sand ranges from fine to coarse predominantly coarse, olive grey, gravels are angular to subangular, wet, slight odor, slight sheen.	SW		55	25/27/30	3.1	MW3-080608	X	
		Well-graded SAND with gravel 75% sand 25% gravel, sand ranges from fine to coarse predominantly coarse, olive grey, gravels are angular to subangular, wet, slight odor, slight sheen.	SW		30	26/50	2.5			
15		Well-graded SAND with gravel 75% sand 25% gravel, sand ranges from fine to coarse predominantly coarse, olive grey, gravels are angular to subangular, wet, slight odor, slight sheen.	SW		50	50	3.2			

Well Construction Information		
Monument Type: Flush	Filter Pack: 2/12 Lapis Luster Cemex Sand	Ground Surface Elevation (ft):
Casing Diameter (inches): 2"	Surface Seal: Asphalt	Top of Casing Elevation (ft):
Screen Slot Size (inches): 0.010	Annular Seal: Bentonite chips & concrete	Boring Abandonment: NA
Screened Interval (ft bgs): 5-15	Surveyed Location: X: Y:	



Log of Boring: MW4

Client: BNSF
Project: John Michael Lease Site
Location: Cashmere, WA

Date/Time Started: 7/29/08 1345
Date/Time Completed: 7/29/08 1418
Equipment: Mini Rae 2000 PID
Drilling Company: Cascade Drilling
Drilling Foreman: Scott Krueger
Drilling Method: Hollow-Stem Auger

Sampler Type: D&M 18"
Drive Hammer (lbs.):
Depth of Water ATD (ft bgs): 6.5
Total Boring Depth (ft bgs): 16
Total Well Depth (ft bgs): 15

Farallon PN: 683-018

Logged By: T. Adams

Depth (feet bgs.)	Sample Interval	Lithologic Description	USCS	USGS Graphic	% Recovery	Blow Counts 8/8/8	PID (ppm)	Sample ID	Sample Analyzed	Boring/Well Construction Details
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0						NA	0.0			
		Well-graded SAND 90% sand 10% gravel, sand ranges from fine to coarse predominantly coarse, light brown, gravels are subangular, dry, no odor, no sheen.	SW		100	4/2/4	3.1			
5		Well-graded SAND with gravel 65% sand 35% gravel, sand ranges from fine to coarse predominantly coarse, olive grey, gravels are angular to subangular, wet, no odor, no sheen.	SW		50	22/25/20	1.7	MW4-5-072908	X	
		Well-graded SAND with gravel 80% sand 20% gravel, sand grades from fine to coarse predominantly coarse, olive grey, gravels are angular to subangular, saturated, slight odor, slight sheen.	SW		30	50	1.4			
10		Well-graded SAND 100% sand, sand ranges from fine to coarse predominantly coarse, olive grey, wet, no odor, no sheen.	SW		20	20/23/28	3.8	MW4-080608	X	
		Well-graded SAND 90% sand, 10% silt, sand ranges from fine to coarse predominantly coarse, olive grey, wet, no odor, no sheen.	SW		10	25/30/32	2.6			
15		Well-graded SAND 90% sand, 10% silt, sand ranges from fine to coarse predominantly coarse, olive grey, wet, no odor, no sheen.	SW		50	50	1.8			

Well Construction Information		
Monument Type: Flush	Filter Pack: 2/12 Lapis Luster Cemex Sand	Ground Surface Elevation (ft):
Casing Diameter (inches): 2"	Surface Seal: Asphalt	Top of Casing Elevation (ft):
Screen Slot Size (inches): 0.010	Annular Seal: Bentonite chips & concrete	Boring Abandonment: NA
Screened Interval (ft bgs): 5-15	Surveyed Location: X:	Y:



Log of Boring: T-1

Client: BNSF
Project: John Michael Lease Site
Location: Cashmere, WA

Date/Time Started: 5/06/08 1250
Date/Time Completed: 5/06/08 1430
Equipment: Deere 310G
Drilling Company: Glacier Environmental
Drilling Foreman: Stacey Tolbert
Drilling Method: Backhoe

Sampler Type: 5035 and bucket
Drive Hammer (lbs.):
Depth of Water ATD (ft bgs): 9.5
Total Boring Depth (ft bgs): 9.5
Total Well Depth (ft bgs): NA

Farallon PN: 683-018

Logged By: J. Ruark

Depth (feet bgs.)	Sample Interval	Lithologic Description	USCS	USGS Graphic	% Recovery	Blow Counts 8/8/8	PID (ppm)	Sample ID	Sample Analyzed	Boring/Well Construction Details
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0		Silty SAND (85% sand, 10% silt, 5% gravel), fine- to medium-grained sand, grey, moist, slight odor.	SP-SM				10.7			
		Silty SAND (90% sand, 5% silt, 5% gravel), medium-grained sand, brown, moist, no odor.	SP				1.6	T1-050608-2-SW		
		Silty SAND (90% sand, 5% silt, 5% gravel), medium-grained sand, brown, moist, no odor.	SP				2.6	T1-050608-4-NE		
5		Silty SAND (90% sand, 5% silt, 5% gravel), medium-grained sand, brown, moist, no odor.	SP				1.3	T1-050608-6-NE		
							2.4	T1-050608-8-SW T1-050608-8-NE	X X	
10										

Well Construction Information

Monument Type:	Filter Pack:	Ground Surface Elevation (ft):
Casing Diameter (inches):	Surface Seal:	Top of Casing Elevation (ft):
Screen Slot Size (inches):	Annular Seal:	Boring Abandonment:
Screened Interval (ft bgs):	Surveyed Location: X:	Y:



Log of Boring: T-2

Client: BNSF
Project: John Michael Lease Site
Location: Cashmere, WA

Date/Time Started: 5/06/08 1440
Date/Time Completed: 5/06/08 1620
Equipment: Deere 310G
Drilling Company: Glacier Environmental
Drilling Foreman: Stacey Tolbert
Drilling Method: Backhoe

Sampler Type: 5035 and bucket
Drive Hammer (lbs.):
Depth of Water ATD (ft bgs): 9.5
Total Boring Depth (ft bgs): 9.5
Total Well Depth (ft bgs): NA

Farallon PN: 683-018

Logged By: J. Ruark

Depth (feet bgs.)	Sample Interval	Lithologic Description	USCS	USGS Graphic	% Recovery	Blow Counts 8/8/8	PID (ppm)	Sample ID	Sample Analyzed	Boring/Well Construction Details
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0		Silty SAND (85% sand, 10% silt, 5% gravel), fine- to medium-grained sand, brown, moist, no odor.	SP-SM				1.4			
		Silty SAND (85% sand, 10% silt, 5% gravel), fine- to medium-grained sand, brown, moist, slight odor.	SP-SM				1.2	T2-050608-2-SW		
		Sandy GRAVEL (90% gravel, 10% sand), medium- to coarse-grained sand, grey, moist, odor.	GP				2.3	T2-050608-4-SW		
5		Sandy GRAVEL (85% gravel, 10% sand, 5% silt), medium-grained sand, grey to brown, moist, slight odor.	GP				1.7	T2-050608-6-NE		
							0.0	T2-050608-8-SW T2-050608-8-NE	X X	
10										

Well Construction Information

Monument Type:	Filter Pack:	Ground Surface Elevation (ft):
Casing Diameter (inches):	Surface Seal:	Top of Casing Elevation (ft):
Screen Slot Size (inches):	Annular Seal:	Boring Abandonment:
Screened Interval (ft bgs):	Surveyed Location: X: Y:	



Log of Boring: T-3

Client: BNSF
Project: John Michael Lease Site
Location: Cashmere, WA

Date/Time Started: 5/07/08 0820
Date/Time Completed: 5/07/08 1010
Equipment: Deere 310G
Drilling Company: Glacier Environmental
Drilling Foreman: Stacey Tolbert
Drilling Method: Backhoe

Sampler Type: 5035 and bucket
Drive Hammer (lbs.):
Depth of Water ATD (ft bgs): 8.5
Total Boring Depth (ft bgs): 8.5
Total Well Depth (ft bgs): NA

Farallon PN: 683-018

Logged By: J. Ruark

Depth (feet bgs.)	Sample Interval	Lithologic Description	USCS	USGS Graphic	% Recovery	Blow Counts 8/8/8	PID (ppm)	Sample ID	Sample Analyzed	Boring/Well Construction Details
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0		Silty SAND (90% sand, 10% silt), fine- to medium-grained sand, brown, moist, no odor.	SP-SM				0.0			
		Silty SAND (90% sand, 10% silt), fine- to medium-grained sand, brown, moist, no odor.	SP-SM				0.0	T3-050708-2-C		
		Silty SAND (90% sand, 5% silt, 5% gravel), medium-grained sand, brown, moist, no odor.	SP				0.0	T3-050708-4-NE		
5		Silty SAND (90% sand, 5% silt, 5% gravel), medium-grained sand, brown, moist, no odor.	SP				0.0	T3-050708-6-SW		
							5.1	T3-050708-8-SW T3-050708-8-NE	X X	

Well Construction Information

Monument Type:	Filter Pack:	Ground Surface Elevation (ft):
Casing Diameter (inches):	Surface Seal:	Top of Casing Elevation (ft):
Screen Slot Size (inches):	Annular Seal:	Boring Abandonment:
Screened Interval (ft bgs):	Surveyed Location: X:	Y:



Log of Boring: T4

Client: BNSF
Project: John Michael Lease Site
Location: Cashmere, WA

Date/Time Started: 5/7/08 1015 **Sampler Type:** 5035 and bucket
Date/Time Completed: 5/7/08 1200 **Drive Hammer (lbs.):** NA
Equipment: Deere 310G **Depth of Water ATD (ft bgs):** 8
Drilling Company: Glacier Environmental **Total Boring Depth (ft bgs):** 8
Drilling Foreman: Stacey Tolbert **Total Well Depth (ft bgs):** NA
Drilling Method: Backhoe

Farallon PN: 683-018

Logged By: J. Ruark

Depth (feet bgs.)	Sample Interval	Lithologic Description	USCS	USGS Graphic	% Recovery	Blow Counts 8/8/8	PID (ppm)	Sample ID	Sample Analyzed	Boring/Well Construction Details
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0		Silty SAND (90% sand, 5% silt, 5% gravel), fine- to medium-grained sand, brown, moist, no odor.	SP				0.0			
		Silty SAND (90% sand, 5% silt, 5% gravel), fine- to medium-grained sand, brown, moist, no odor.	SP				0.0	T4-050708-2-S		
		SAND with gravel (90% sand, 10% gravel), medium- to coarse-grained sand, black/brown, moist, strong odor.	SP				1.3	T4-050708-4-N		
5		Gravelly SAND (85% sand, 10% silt, 5% gravel) medium- to coarse-grained sand, black, moist, strong odor, sheen.	SP-SM				12.7	T4-050708-6-N		
							19.6	T4-050708-8-S T4-050708-8-N	X X	
10										

Well Construction Information

Monument Type: NA	Filter Pack: NA	Ground Surface Elevation (ft): NA
Casing Diameter (inches): NA	Surface Seal: NA	Top of Casing Elevation (ft): NA
Screen Slot Size (inches): NA	Annular Seal: NA	Boring Abandonment: NA
Screened Interval (ft bgs): NA	Surveyed Location: X: NA Y: NA	



Log of Boring: T-5

Client: BNSF
Project: John Michael Lease Site
Location: Cashmere, WA

Date/Time Started: 5/6/08 1010
Date/Time Completed: 5/6/08 120
Equipment: DEere 310G
Drilling Company: Glacier Environmental
Drilling Foreman: Stacey Tolbert
Drilling Method: Backhoe

Sampler Type: 5035 and bucket
Drive Hammer (lbs.): NA
Depth of Water ATD (ft bgs): 9
Total Boring Depth (ft bgs): 9
Total Well Depth (ft bgs): NA

Farallon PN: 683-018

Logged By: J. Ruark

Depth (feet bgs.)	Sample Interval	Lithologic Description	USCS	USGS Graphic	% Recovery	Blow Counts 8/8/8	PID (ppm)	Sample ID	Sample Analyzed	Boring/Well Construction Details
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0		Silty SAND (85% sand, 10% silt, 5% gravel, cobbles) fine- to medium-grained sand, brown to grey, moist, no odor.	SP-SM				0.0			
		Silty SAND (85% sand, 10% silt, 5% gravel) fine- to medium-grained sand, brown, moist, no odor.	SP-SM				0.1	T5-050608-2-C		
		SAND with gravel (85% sand, 10% gravel, 5% silt) medium- to coarse-grained sand, grey, moist, odor.	SP				0.7	T5-050608-4-SW		
5		SAND with gravel (85% sand, 10% gravel, 5% silt) medium- to coarse-grained sand, grey, moist, odor.	SP				0.0	T5-050608-6-C		
							0.0	T5-050608-8-NE T5-050608-8-SW T5-050608-8-W	X X X	

Well Construction Information

Monument Type: NA	Filter Pack: NA	Ground Surface Elevation (ft): NA
Casing Diameter (inches): NA	Surface Seal: NA	Top of Casing Elevation (ft): NA
Screen Slot Size (inches): NA	Annular Seal: NA	Boring Abandonment: NA
Screened Interval (ft bgs): NA	Surveyed Location: X: NA Y: NA	



Log of Boring: T-6

Client: BNSF
Project: John Michael Lease Site
Location: Cashmere, WA

Date/Time Started: 05/07/08 1245
Date/Time Completed: 05/07/08 1420
Equipment: Deere 310G
Drilling Company: Glacier Environmental
Drilling Foreman: Stacey Tobert
Drilling Method: Backhoe

Sampler Type: 5035 and bucket
Drive Hammer (lbs.): NA
Depth of Water ATD (ft bgs): 10.5
Total Boring Depth (ft bgs): 10.5
Total Well Depth (ft bgs): NA

Farallon PN: 683-018

Logged By: J. Ruark

Depth (feet bgs.)	Sample Interval	Lithologic Description	USCS	USGS Graphic	% Recovery	Blow Counts 8/8/8	PID (ppm)	Sample ID	Sample Analyzed	Boring/Well Construction Details
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0		Silty SAND (85% sand, 10% silt, 5% gravel) fine- to medium-grained sand, brown, moist, no odor.	SP-SM				0.2			
		Silty SAND (85% sand, 5% silt, 10% gravel) medium-grained sand, brown, moist, no odor, concrete observed in soil.	SP				0.0	T6-050708-2-N		
		Gravelly SAND (85% sand, 15% gravel) medium- to coarse-grained sand, brown, moist, no odor.	SP				0.0	T6-050708-4-S		
5		Gravelly SAND (80% sand, 15% gravel, 5% silt) medium- to coarse-grained sand, black, moist, strong odor, sticky tar-like substance observed.	SP				57.8	T6-050708-6-N		
		Gravelly SAND (80% sand, 15% gravel, 5% silt) medium- to coarse-grained sand, black, moist, strong odor, sticky tar-like substance observed.	SP				32.5	T6-050708-8-S	X	
10								T6-050708-10-N	X	

Well Construction Information

Monument Type: NA	Filter Pack: NA	Ground Surface Elevation (ft): NA
Casing Diameter (inches): NA	Surface Seal: NA	Top of Casing Elevation (ft): NA
Screen Slot Size (inches): NA	Annular Seal: NA	Boring Abandonment: NA
Screened Interval (ft bgs): NA	Surveyed Location: X: NA Y: NA	



Log of Boring: T-7

Client: BNSF
Project: John Michael Lease Site
Location: Cashmere, WA

Date/Time Started: 05/08/08 0900 **Sampler Type:** 5035 and bucket
Date/Time Completed: 05/08/08 1050 **Drive Hammer (lbs.):** NA
Equipment: Deere 310G **Depth of Water ATD (ft bgs):** 10
Drilling Company: Glacier Environmental **Total Boring Depth (ft bgs):** 10
Drilling Foreman: Stacey Tolbert **Total Well Depth (ft bgs):** NA
Drilling Method: Backhoe

Farallon PN: 683-018

Logged By: J. Ruark

Depth (feet bgs.)	Sample Interval	Lithologic Description	USCS	USGS Graphic	% Recovery	Blow Counts 8/8/8	PID (ppm)	Sample ID	Sample Analyzed	Boring/Well Construction Details
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0		Silty SAND (85% sand, 10% silt, 5% gravel) fine- to medium-grained sand, brown, moist, no odor.	SP-SM				0.0			
		Silty SAND (85% sand, 10% silt, 5% gravel) medium- to coarse-grained sand, brown, moist, slight odor.	SP-SM				1.7	T7-050808-2-S		
		SAND with gravel (85% sand, 10% gravel, 5% silt) medium- to coarse-grained sand, brown, moist, slight odor.	SP				0.0	T7-050808-4-N		
5		SAND with gravel (75% sand, 25% gravel) medium- to coarse-grained sand, black, moist, strong odor	SP				61.8	T7-050808-6-S		
							16.8	T7-050808-8-S T7-050808-8-N	X X	
10										

Well Construction Information

Monument Type: NA	Filter Pack: NA	Ground Surface Elevation (ft): NA
Casing Diameter (inches): NA	Surface Seal: NA	Top of Casing Elevation (ft): NA
Screen Slot Size (inches): NA	Annular Seal: NA	Boring Abandonment: NA
Screened Interval (ft bgs): NA	Surveyed Location: X: NA Y: NA	



Log of Boring: T-8

Client: BNSF
Project: John Michael Lease Site
Location: Cashmere, WA

Date/Time Started: 0508/08 1100 **Sampler Type:** 5035 and bucket
Date/Time Completed: 05/08/0/ 1220 **Drive Hammer (lbs.):** NA
Equipment: Deere 310G **Depth of Water ATD (ft bgs):** 6.5
Drilling Company: Glacier Environmental **Total Boring Depth (ft bgs):** 6.5
Drilling Foreman: Stacey Tolbert **Total Well Depth (ft bgs):** NA
Drilling Method: Backhoe

Farallon PN: 683-018

Logged By: J. Ruark

Depth (feet bgs.)	Sample Interval	Lithologic Description	USCS	USGS Graphic	% Recovery	Blow Counts 8/8/8	PID (ppm)	Sample ID	Sample Analyzed	Boring/Well Construction Details
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0		Silty SAND (85% sand, 15% silt) fine- to medium-grained sand, brown moist, no odor.	SM				0.9			
		Silty SAND (80% sand, 20% silt) fine-grained sand, brown, moist, no odor.	SM				0.36	T8-050808-2-SW		
		Gravelly SAND (85% sand, 15% gravel) medium- to coarse-grained sand, grey, moist, no odor.	SP				0.0	T8-050808-4-NE		
5							0.0	T8-050808-6-SW T8-050808-6-NE	X X	

Well Construction Information

Monument Type: NA	Filter Pack: NA	Ground Surface Elevation (ft): NA
Casing Diameter (inches): NA	Surface Seal: NA	Top of Casing Elevation (ft): NA
Screen Slot Size (inches): NA	Annular Seal: NA	Boring Abandonment: NA
Screened Interval (ft bgs): NA	Surveyed Location: X: NA Y: NA	



Log of Boring: TP1

Client: BNSF
Project: John Michael Lease Site
Location: Cashmere, WA

Date/Time Started: 9/20/07 0900 **Sampler Type:** 5035 and bucket
Date/Time Completed: 9/20/07 1000 **Drive Hammer (lbs.):**
Equipment: Deere 310G **Depth of Water ATD (ft bgs):** NA
Drilling Company: Glacier Environmental **Total Boring Depth (ft bgs):** 8
Drilling Foreman: Randy Bevin **Total Well Depth (ft bgs):** NA
Drilling Method: Backhoe

Farallon PN: 683-018

Logged By: Jon Peterson

Depth (feet bgs.)	Sample Interval	Lithologic Description	USCS	USGS Graphic	% Recovery	Blow Counts 8/8/8	PID (ppm)	Sample ID	Sample Analyzed	Boring/Well Construction Details
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0		Fill- medium sand and concrete cobbles and boulders (50%/50%), gray and brown, loose, dry, no odor, no sheen.	SP				15.1	TP1-092007-0-2 @0920	X	
		Fill- medium sand and concrete cobbles and boulders (50%/50%), gray and brown, loose, dry, no odor, no sheen.	SP				4.9	TP1-092007-2-4 @0928		
		Fill- medium sand and concrete cobbles and boulders (50%/50%), gray and brown, loose, dry, petroleum odor at oily stripe near 6 feet bgs, sheen.	SP				4.1	TP1-092007-4-6 @0940		
5		Fill- medium sand and concrete cobbles and boulders (50%/50%), gray and brown, loose, moist, strong petroleum odor, free product observed.	SP				18.1	TP1-092007-6-8 @0955	X	
10										

Well Construction Information

Monument Type:	Filter Pack:	Ground Surface Elevation (ft):
Casing Diameter (inches):	Surface Seal:	Top of Casing Elevation (ft):
Screen Slot Size (inches):	Annular Seal:	Boring Abandonment:
Screened Interval (ft bgs):	Surveyed Location: X:	Y:



Log of Boring: TP2

Client: BNSF
Project: John Michael Lease Site
Location: Cashmere, WA

Date/Time Started: 9/20/07 1045
Date/Time Completed: 9/20/07 1200
Equipment: Deere 310G
Drilling Company: Glacier Environmental
Drilling Foreman: Randy Bevin
Drilling Method: Backhoe

Sampler Type: 5035 and bucket
Drive Hammer (lbs.):
Depth of Water ATD (ft bgs): NA
Total Boring Depth (ft bgs): 8
Total Well Depth (ft bgs): NA

Farallon PN: 683-018

Logged By: Jon Peterson

Depth (feet bgs.)	Sample Interval	Lithologic Description	USCS	USGS Graphic	% Recovery	Blow Counts 8/8/8	PID (ppm)	Sample ID	Sample Analyzed	Boring/Well Construction Details
0		Fill- medium sand and gravel with cobbles and boulders (34%/33%/33%), gray and tan, loose, dry, heating oil-type odor, slight sheen.	SP				0	TP2-092007-0-2 @1100		
		Fill- medium sand and gravel with cobbles and boulders (34%/33%/33%), gray and tan, loose, dry, heating oil-type odor, slight sheen.	SP				0	TP2-092007-2-4 @1110	X	
		Fill- medium sand and gravel with cobbles and boulders (34%/33%/33%), gray and tan, loose, dry, tar-type odor, no sheen. Tar- type substance increases (downward) toward 6' bgs.	SP				0.1	TP2-092007-4-6 @1145		
5		Fill- medium sand and gravel with cobbles and boulders (34%/33%/33%), gray and tan, loose, dry, strong odor, black tar, sheen.	SP				0	TP2-092007-6-8 @1200	X	
10										

Well Construction Information

Monument Type:	Filter Pack:	Ground Surface Elevation (ft):
Casing Diameter (inches):	Surface Seal:	Top of Casing Elevation (ft):
Screen Slot Size (inches):	Annular Seal:	Boring Abandonment:
Screened Interval (ft bgs):	Surveyed Location: X:	Y:



Log of Boring: TP3

Client: BNSF
Project: John Michael Lease Site
Location: Cashmere, WA

Date/Time Started: 9/20/07 1230
Date/Time Completed: 9/20/07 1300
Equipment: Deere 310G
Drilling Company: Glacier Environmental
Drilling Foreman: Randy Bevin
Drilling Method: Backhoe

Sampler Type: 5035 and bucket
Drive Hammer (lbs.):
Depth of Water ATD (ft bgs): NA
Total Boring Depth (ft bgs): 8
Total Well Depth (ft bgs): NA

Farallon PN: 683-018

Logged By: Jon Peterson

Depth (feet bgs.)	Sample Interval	Lithologic Description	USCS	USGS Graphic	% Recovery	Blow Counts 8/8/8	PID (ppm)	Sample ID	Sample Analyzed	Boring/Well Construction Details
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0		Poorly graded medium sand with coarse gravel (60%/25%/15%), subrounded gravel, brown, loose, dry, faint odor, no sheen.	SP				0	TP3-092007-0-2 @ 1240		
		Poorly graded medium sand with coarse gravel (60%/25%/15%), subrounded gravel, brown, loose, dry, faint odor, no sheen.	SP				0	TP3-092007-2-4 @ 1245	X	
		Poorly graded medium sand with coarse gravel (60%/25%/15%), subrounded gravel, brown, loose, dry, faint odor, no sheen. Some tar towards 6' bgs.	SP				0.5	TP3-092007-4-6 @ 1250	X	
5		Tar and poorly graded coarse gravel with construction debris (60%/25%/15%), black to gray, sticky, moist, strong odor, sheen.	GP				30.6	TP3-092007-6-8 @ 1300		
10										

Well Construction Information

Monument Type:	Filter Pack:	Ground Surface Elevation (ft):
Casing Diameter (inches):	Surface Seal:	Top of Casing Elevation (ft):
Screen Slot Size (inches):	Annular Seal:	Boring Abandonment:
Screened Interval (ft bgs):	Surveyed Location: X: Y:	



Log of Boring: TP4

Client: BNSF
Project: John Michael Lease Site
Location: Cashmere, WA

Date/Time Started: 9/20/07 1330
Date/Time Completed: 9/20/07 1405
Equipment: Deere 310G
Drilling Company: Glacier Environmental
Drilling Foreman: Randy Bevin
Drilling Method: Backhoe

Sampler Type: 5035 and bucket
Drive Hammer (lbs.):
Depth of Water ATD (ft bgs): NA
Total Boring Depth (ft bgs): 8
Total Well Depth (ft bgs): NA

Farallon PN: 683-018

Logged By: Jon Peterson

Depth (feet bgs.)	Sample Interval	Lithologic Description	USCS	USGS Graphic	% Recovery	Blow Counts 8/8/8	PID (ppm)	Sample ID	Sample Analyzed	Boring/Well Construction Details
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0		Poorly graded medium sand with coarse gravel (60%/30%), brown, loose, dry, no odor, no sheen, rounded 4" cobble.	SP				0	TP4-092007-0-2 @1315		
		Poorly graded medium sand with coarse gravel (60%/30%), brown, loose, dry, no odor, no sheen, rounded 4" cobble.	SP				0	TP4-092007-2-4 @1320		
		Poorly graded medium sand with coarse gravel (60%/30%), brown, loose, dry, slight odor, no sheen, rounded 4" cobble.	SP				1.9	TP4-092007-4-6 @1325	X	
5		Poorly graded medium sand with coarse gravel (60%/30%), brown, loose, dry, slight odor, no sheen, rounded 4" cobble.	SP				0	TP4-092007-6-8 @1330	X	
		Poorly graded medium sand with coarse gravel (60%/30%) gray, loose, moist, odor, sheen.	SP							
10										

Well Construction Information

Monument Type:	Filter Pack:	Ground Surface Elevation (ft):
Casing Diameter (inches):	Surface Seal:	Top of Casing Elevation (ft):
Screen Slot Size (inches):	Annular Seal:	Boring Abandonment:
Screened Interval (ft bgs):	Surveyed Location: X:	Y:



Log of Boring: TP5

Client: BNSF
Project: John Michael Lease Site
Location: Cashmere, WA

Date/Time Started: 9/20/07 1400
Date/Time Completed: 9/20/07 1440
Equipment: Deere 310G
Drilling Company: Glacier Environmental
Drilling Foreman: Randy Bevin
Drilling Method: Backhoe

Sampler Type: 5035 and bucket
Drive Hammer (lbs.): NA
Depth of Water ATD (ft bgs): NA
Total Boring Depth (ft bgs): 8
Total Well Depth (ft bgs): NA

Farallon PN: 683-018

Logged By: Jon Peterson

Depth (feet bgs.)	Sample Interval	Lithologic Description	USCS	USGS Graphic	% Recovery	Blow Counts 8/8/8	PID (ppm)	Sample ID	Sample Analyzed	Boring/Well Construction Details
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0		Poorly graded medium sand with coarse gravel (75%/25%), brown, loose, dry, no odor, no sheen. Cobble greater than 4" in diameter.	SP				0	TP5-092007-0-2 @1415		
		Poorly graded medium sand with coarse gravel (75%/25%), brown, loose, dry, no odor, no sheen. Cobble greater than 4" in diameter.	SP				0	TP5-092007-2-4 @1420	X	
		Poorly graded medium sand with coarse gravel (75%/25%), brown, loose, dry, no odor, no sheen. Cobble greater than 4" in diameter.	SP				0.1	TP5-092007-4-6 @1430		
5		Poorly graded medium sand with coarse gravel (75%/25%), brown, loose, dry, no odor, no sheen. Cobble greater than 4" in diameter.	SP				0	TP5-092007-6-8 @1435	X	
		Silty sand (55%/45%), medium, gray, loose, moist, odor, sheen. There is also contamination in the form of gray petroleum product that saturates pockets of sand.	SM							

Well Construction Information

Monument Type: NA	Filter Pack: NA	Ground Surface Elevation (ft): NA
Casing Diameter (inches): NA	Surface Seal: NA	Top of Casing Elevation (ft): NA
Screen Slot Size (inches): NA	Annular Seal: NA	Boring Abandonment: NA
Screened Interval (ft bgs): NA	Surveyed Location: X: NA Y: NA	



Log of Boring: TP6

Client: BNSF Project: John Michael Lease Site Location: Cashmere, WA	Date/Time Started: 9/20/07 1440 Date/Time Completed: 9/20/07 1520 Equipment: Deere 310G Drilling Company: Glacier Environmental Drilling Foreman: Randy Bevin Drilling Method: Backhoe	Sampler Type: 5035 and bucket Drive Hammer (lbs.): Depth of Water ATD (ft bgs): NA Total Boring Depth (ft bgs): 8 Total Well Depth (ft bgs): NA
Farallon PN: 683-018		
Logged By: Jon Peterson		

Depth (feet bgs.)	Sample Interval	Lithologic Description	USCS	USGS Graphic	% Recovery	Blow Counts 8/8/8	PID (ppm)	Sample ID	Sample Analyzed	Boring/Well Construction Details
0		Poorly graded medium sand with coarse gravel (70%/25%), brown, medium dense, dry, no odor, no sheen. Cobble greater than 4" in diameter.	SP				0	TP6-092007-0-2 @ 1450		
		Poorly graded medium sand with coarse gravel (70%/25%), brown, medium dense, dry, no odor, no sheen. Cobble greater than 4" in diameter.	SP				0.1	TP6-092007-2-4 @ 1455		
		Poorly graded medium sand with coarse gravel (70%/25%), brown, medium dense, dry, no odor, no sheen. Cobble greater than 4" in diameter.	SP				0	TP6-092007-4-6 @ 1500	X	
5		Silty sand with coarse gravel (40%/40%/20%), medium, gray, loose, moist to wet, petroleum odor, sheen. Cobble is greater than 5" in diameter.	SM				0.2	TP6-092007-6-8 @ 1505	X	
10										

Well Construction Information		
Monument Type:	Filter Pack:	Ground Surface Elevation (ft):
Casing Diameter (inches):	Surface Seal:	Top of Casing Elevation (ft):
Screen Slot Size (inches):	Annular Seal:	Boring Abandonment:
Screened Interval (ft bgs):		Surveyed Location: X: Y:



Log of Boring: TP7

Client: BNSF
Project: John Michael Lease Site
Location: Cashmere, WA

Date/Time Started: 9/20/07 1520
Date/Time Completed: 9/20/07 1610
Equipment: Deere 310G
Drilling Company: Glacier Environmental
Drilling Foreman: Randy Bevin
Drilling Method: Backhoe

Sampler Type: 5035 and bucket
Drive Hammer (lbs.):
Depth of Water ATD (ft bgs): NA
Total Boring Depth (ft bgs): 8
Total Well Depth (ft bgs): NA

Farallon PN: 683-018

Logged By: Jon Peterson

Depth (feet bgs.)	Sample Interval	Lithologic Description	USCS	USGS Graphic	% Recovery	Blow Counts 8/8/8	PID (ppm)	Sample ID	Sample Analyzed	Boring/Well Construction Details
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0		Poorly graded medium sand with silt and coarse gravel (70%/15%/15%), tan, medium dense, dry, no odor, no sheen.	SP-SM				0	TP7-092007-0-2 @ 1530		
		Poorly graded medium sand with silt and coarse gravel (70%/15%/15%), tan, medium dense, dry, no odor, no sheen.	SP-SM				0	TP7-092007-2-4 @ 1535	X	
		Poorly graded medium sand with silt and coarse gravel (70%/15%/15%), tan, medium dense, dry, no odor, no sheen.	SP-SM				0	TP7-092007-4-6 @ 1545	X	
5		Gradual transition to sandy silt (50%/50%), medium sand, dark brown, loose, moist, petroleum odor, no sheen.	ML				0.1	TP7-092007-6-8 @ 1550		
10										

Well Construction Information

Monument Type:	Filter Pack:	Ground Surface Elevation (ft):
Casing Diameter (inches):	Surface Seal:	Top of Casing Elevation (ft):
Screen Slot Size (inches):	Annular Seal:	Boring Abandonment:
Screened Interval (ft bgs):	Surveyed Location: X:	Y:



Log of Boring: TP8

Client: BNSF
Project: John Michael Lease Site
Location: Cashmere, WA

Date/Time Started: 9/20/07 1615
Date/Time Completed: 9/20/07 1700
Equipment: Deere 310G
Drilling Company: Glacier Environmental
Drilling Foreman: Randy Bevin
Drilling Method: Backhoe

Sampler Type: 5035 and bucket
Drive Hammer (lbs.):
Depth of Water ATD (ft bgs): NA
Total Boring Depth (ft bgs): 8
Total Well Depth (ft bgs): NA

Farallon PN: 683-018

Logged By: Jon Peterson

Depth (feet bgs.)	Sample Interval	Lithologic Description	USCS	USGS Graphic	% Recovery	Blow Counts 8/8/8	PID (ppm)	Sample ID	Sample Analyzed	Boring/Well Construction Details
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0		Poorly graded fine sand with coarse gravel (70%/30%) highly organic, dark brown, loose, dry, slight odor, no sheen. 5" clasts to boulders.	SP				0.1	TP8-092007-0-2 @ 1625		
		Poorly graded fine sand with coarse gravel (70%/30%) highly organic, dark brown, loose, dry, slight odor, no sheen. 5" clasts to boulders.	SP				0.2	TP8-092007-2-4 @ 1630	X	
		Poorly graded fine sand with coarse gravel (70%/30%) highly organic, dark brown, loose, dry, slight odor, no sheen. 5" clasts to boulders.	SP				0.1	TP8-092007-4-6 @ 1640		
5		Poorly graded fine sand with coarse gravel (70%/30%) highly organic, dark brown, loose, dry, slight odor, no sheen. 5" clasts to boulders.	SP				0	TP8-092007-6-8 @ 1645	X	
10										

Well Construction Information

Monument Type:	Filter Pack:	Ground Surface Elevation (ft):
Casing Diameter (inches):	Surface Seal:	Top of Casing Elevation (ft):
Screen Slot Size (inches):	Annular Seal:	Boring Abandonment:
Screened Interval (ft bgs):	Surveyed Location: X:	Y:



Log of Boring: TP9

Client: BNSF
Project: John Michael Lease Site
Location: Cashmere, WA

Date/Time Started: 9/20/07 1700
Date/Time Completed: 9/20/07 1730
Equipment: Deere 310G
Drilling Company: Glacier Environmental
Drilling Foreman: Randy Bevin
Drilling Method: Backhoe

Sampler Type: 5035 and bucket
Drive Hammer (lbs.):
Depth of Water ATD (ft bgs): NA
Total Boring Depth (ft bgs): 8
Total Well Depth (ft bgs): NA

Farallon PN: 683-018

Logged By: Jon Peterson

Depth (feet bgs.)	Sample Interval	Lithologic Description	USCS	USGS Graphic	% Recovery	Blow Counts 8/8/8	PID (ppm)	Sample ID	Sample Analyzed	Boring/Well Construction Details
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0		Poorly graded coarse gravel with sand (75%/25%), brown, dense, dry, no odor, no sheen. Boulders.	GP				0.1	TP9-092007-0-2 @ 1710		
		Poorly graded medium sand with coarse gravel (75%/25%), rounded, organics, dark brown, loose, dry, no odor, no sheen.	SP							
		Poorly graded medium sand with coarse gravel (75%/25%), rounded, organics, dark brown, loose, dry, no odor, no sheen.	SP				0	TP9-092007-2-4 @ 1715	X	
		Poorly graded medium sand with coarse gravel (75%/25%), rounded, organics, dark brown, loose, dry, no odor, no sheen.	SP				0.5	TP9-092007-4-6 @ 1720		
5		Poorly graded medium sand with coarse gravel (75%/25%), rounded, organics, dark brown, loose, dry, faint odor, faint sheen.	SP				0.1	TP9-092007-6-8 @ 1725	X	
10										

Well Construction Information

Monument Type:	Filter Pack:	Ground Surface Elevation (ft):
Casing Diameter (inches):	Surface Seal:	Top of Casing Elevation (ft):
Screen Slot Size (inches):	Annular Seal:	Boring Abandonment:
Screened Interval (ft bgs):	Surveyed Location: X:	Y:



Log of Boring: TP10

Client: BNSF
Project: John Michael Lease Site
Location: Cashmere, WA

Date/Time Started: 9/20/07 1730
Date/Time Completed: 9/20/07 1800
Equipment: Deere 310G
Drilling Company: Glacier Environmental
Drilling Foreman: Randy Bevin
Drilling Method: Backhoe

Sampler Type: 5035 and bucket
Drive Hammer (lbs.):
Depth of Water ATD (ft bgs): NA
Total Boring Depth (ft bgs): 8
Total Well Depth (ft bgs): NA

Farallon PN: 683-018

Logged By: Jon Peterson

Depth (feet bgs.)	Sample Interval	Lithologic Description	USCS	USGS Graphic	% Recovery	Blow Counts 8/8/8	PID (ppm)	Sample ID	Sample Analyzed	Boring/Well Construction Details
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0		Poorly graded medium sand with coarse gravel (70%/30%), tan, dense, dry, no odor, no sheen.	SP				0	TP10-092007-0-2 @ 1740		
		Poorly graded medium sand with coarse gravel (70%/30%), tan, dense, dry, no odor, no sheen.	SP				0.1	TP10-092007-2-4 @ 1745	X	
		Poorly graded medium sand with coarse gravel (70%/30%), tan, dense, dry, no odor, no sheen.	SP				0.5	TP10-092007-4-6 @ 1750		
5		Silty sand with fine gravel (50%/30%/20%), medium, medium dense, moist, strong petroleum odor, sheen. Some gravel has an interstitial, tar-type matrix.	SM				0.5	TP10-092007-6-8 @ 1755	X	
		Silty sand with fine gravel (50%/30%/20%), medium, medium dense, moist, strong petroleum odor, sheen. Some gravel has an interstitial, tar-type matrix.	SM							
10										

Well Construction Information

Monument Type:	Filter Pack:	Ground Surface Elevation (ft):
Casing Diameter (inches):	Surface Seal:	Top of Casing Elevation (ft):
Screen Slot Size (inches):	Annular Seal:	Boring Abandonment:
Screened Interval (ft bgs):	Surveyed Location: X:	Y:



Log of Boring: TP11

Client: BNSF
Project: John Michael Lease Site
Location: Cashmere, WA

Date/Time Started: 9/20/07 1800
Date/Time Completed: 9/20/07 1840
Equipment: Deere 310G
Drilling Company: Glacier Environmental
Drilling Foreman: Randy Bevin
Drilling Method: Backhoe

Sampler Type: 5035 and bucket
Drive Hammer (lbs.):
Depth of Water ATD (ft bgs): NA
Total Boring Depth (ft bgs): 8
Total Well Depth (ft bgs): NA

Farallon PN: 683-018

Logged By: Jon Peterson

Depth (feet bgs.)	Sample Interval	Lithologic Description	USCS	USGS Graphic	% Recovery	Blow Counts 8/8/8	PID (ppm)	Sample ID	Sample Analyzed	Boring/Well Construction Details
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0		Silty sand with fine to coarse gravel (55%/30%/15%), medium, tan, dense, dry, no odor, no sheen. Gravel is subrounded.	SM				0	TP11-092007-0-2 @ 1810		
		Silty sand with fine to coarse gravel (55%/30%/15%), medium, tan, dense, dry, no odor, no sheen. Gravel is subrounded.	SM				0	TP11-092007-2-4 @ 1815	X	
		Silty sand with fine to coarse gravel (55%/30%/15%), medium, tan, dense, dry, no odor, no sheen. Gravel is subrounded.	SM							
5		Silty sand with fine to coarse gravel (55%/30%/15%), medium, tan, dense, moist, petroleum odor, sheen. Free product observed, tar stains left on sampling equipment.	SM				0.5	TP11-092007-4-6 @ 1820	X	
		Silty sand with fine to coarse gravel (55%/30%/15%), medium, tan, dense, moist, petroleum odor, sheen. Free product observed, tar stains left on sampling equipment.	SM				35.8	TP11-092007-6-8 @ 1825		
10										

Well Construction Information

Monument Type:	Filter Pack:	Ground Surface Elevation (ft):
Casing Diameter (inches):	Surface Seal:	Top of Casing Elevation (ft):
Screen Slot Size (inches):	Annular Seal:	Boring Abandonment:
Screened Interval (ft bgs):	Surveyed Location: X: Y:	



Log of Boring: TP12

Client: BNSF
Project: John Michael Lease Site
Location: Cashmere, WA

Date/Time Started: 9/21/07 0630
Date/Time Completed: 9/21/07 1715
Equipment: Deere 310G
Drilling Company: Glacier Environmental
Drilling Foreman: Randy Bevin
Drilling Method: Backhoe

Sampler Type: 5035 and bucket
Drive Hammer (lbs.):
Depth of Water ATD (ft bgs): NA
Total Boring Depth (ft bgs): 8
Total Well Depth (ft bgs): NA

Farallon PN: 683-018

Logged By: Jon Peterson

Depth (feet bgs.)	Sample Interval	Lithologic Description	USCS	USGS Graphic	% Recovery	Blow Counts 8/8/8	PID (ppm)	Sample ID	Sample Analyzed	Boring/Well Construction Details
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0		Poorly graded medium sand with coarse gravel (70%/30%), tan, med.dense, dry, slight odor, no sheen. Boulders present.	SP				0	TP12-092107-0-2 @0640		
		Poorly graded medium sand with coarse gravel (70%/30%), tan, med.dense, dry, slight odor, no sheen. Boulders present.	SP				0	TP12-092107-2-4 @0645		
		Poorly graded medium sand with coarse gravel (70%/30%), gray, loose, moist, strong odor, sheen.	SP				0	TP12-092107-4-6 @0650	X	
5		Poorly graded medium sand with coarse gravel (70%/30%), gray, loose, moist, very strong odor, sheen.	SP				51.3	TP12-092107-6-8 @0655	X	
10										

Well Construction Information

Monument Type:	Filter Pack:	Ground Surface Elevation (ft):
Casing Diameter (inches):	Surface Seal:	Top of Casing Elevation (ft):
Screen Slot Size (inches):	Annular Seal:	Boring Abandonment:
Screened Interval (ft bgs):	Surveyed Location: X:	Y:



Log of Boring: TP13

Client: BNSF
Project: John Michael Lease Site
Location: Cashmere, WA

Date/Time Started: 9/21/07 0730
Date/Time Completed: 9/21/07 0800
Equipment: Deere 310G
Drilling Company: Glacier Environmental
Drilling Foreman: Randy Bevin
Drilling Method: Backhoe

Sampler Type: 5035 and bucket
Drive Hammer (lbs.):
Depth of Water ATD (ft bgs): 7
Total Boring Depth (ft bgs): 7.5
Total Well Depth (ft bgs): NA

Farallon PN: 683-018

Logged By: Jon Peterson

Depth (feet bgs.)	Sample Interval	Lithologic Description	USCS	USGS Graphic	% Recovery	Blow Counts 8/8/8	PID (ppm)	Sample ID	Sample Analyzed	Boring/Well Construction Details
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0		Fill - Medium sand with coarse gravel and bricks and other construction debris (60%/25%/15%), tan, loose, dry, no odor, no sheen. Abundant river rock: subrounded 3" gravel.	SP				0	TP13-092107-0-2 @0740	X	
		Fill - Medium sand with coarse gravel and bricks and other construction debris (60%/25%/15%), tan, loose, dry, no odor, no sheen. Abundant river rock: subrounded 3" gravel.	SP				0.1	TP13-092107-2-4 @0745		
		Fill - Medium sand with coarse gravel and bricks and other construction debris (60%/25%/15%), tan, loose, dry, no odor, no sheen. Abundant river rock: subrounded 3" gravel.	SP				0	TP13-092107-4-6 @0750		
5		Fill - Medium sand with coarse gravel and bricks and other construction debris (60%/25%/15%), tan, loose, wet below 7' bgs, no odor, no sheen. Abundant river rock: subrounded 3" gravel.	SP				0.2	TP13-092107-6-8 @0755	X	
10										

Well Construction Information

Monument Type:	Filter Pack:	Ground Surface Elevation (ft):
Casing Diameter (inches):	Surface Seal:	Top of Casing Elevation (ft):
Screen Slot Size (inches):	Annular Seal:	Boring Abandonment:
Screened Interval (ft bgs):	Surveyed Location: X:	Y:



Log of Boring: TP14

Client: BNSF
Project: John Michael Lease Site
Location: Cashmere, WA

Date/Time Started: 9/21/07 0815 **Sampler Type:** 5035 and bucket
Date/Time Completed: 9/21/07 0900 **Drive Hammer (lbs.):**
Equipment: Deere 310G **Depth of Water ATD (ft bgs):** 8
Drilling Company: Glacier Environmental **Total Boring Depth (ft bgs):** 8
Drilling Foreman: Randy Bevin **Total Well Depth (ft bgs):** NA
Drilling Method: Backhoe

Farallon PN: 683-018

Logged By: Jon Peterson

Depth (feet bgs.)	Sample Interval	Lithologic Description	USCS	USGS Graphic	% Recovery	Blow Counts 8/8/8	PID (ppm)	Sample ID	Sample Analyzed	Boring/Well Construction Details
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0		Fill - Medium sand with coarse gravel and bricks and other construction debris (60%/25%/15%), tan, loose, dry, no odor, no sheen. Abundant river rock: subrounded 3" gravel.	SP				0	TP14-092107-0-2 @0815		
		Fill - Medium sand with coarse gravel and bricks and other construction debris (60%/25%/15%), tan, loose, dry, no odor, no sheen. Abundant river rock: subrounded 3" gravel.	SP				0.1	TP14-092107-2-4 @0820		
		Fill - Medium sand with coarse gravel and bricks and other construction debris (60%/25%/15%), tan, loose, very moist, slight odor, no sheen. Abundant river rock: subrounded 3" gravel.	SP				NA	TP14-092107-4-6 @0835	X	
5		Fill - Medium sand with coarse gravel and bricks and other construction debris (60%/25%/15%), tan, loose, wet (water at 8' bgs), slight odor, no sheen. Abundant river rock: subrounded 3" gravel.	SP				NA	TP14-092107-6-8 @0840	X	
10										

Well Construction Information

Monument Type:	Filter Pack:	Ground Surface Elevation (ft):
Casing Diameter (inches):	Surface Seal:	Top of Casing Elevation (ft):
Screen Slot Size (inches):	Annular Seal:	Boring Abandonment:
Screened Interval (ft bgs):	Surveyed Location: X:	Y:



Log of Boring: TP15

Client: BNSF
Project: John Michael Lease Site
Location: Cashmere, WA

Date/Time Started: 9/21/07 0900
Date/Time Completed: 9/21/07 0950
Equipment: Deere 310G
Drilling Company: Glacier Environmental
Drilling Foreman: Randy Bevin
Drilling Method: Backhoe

Sampler Type: 5035 and bucket
Drive Hammer (lbs.):
Depth of Water ATD (ft bgs): 8
Total Boring Depth (ft bgs): 8
Total Well Depth (ft bgs): NA

Farallon PN: 683-018

Logged By: Jon Peterson

Depth (feet bgs.)	Sample Interval	Lithologic Description	USCS	USGS Graphic	% Recovery	Blow Counts 8/8/8	PID (ppm)	Sample ID	Sample Analyzed	Boring/Well Construction Details
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0		Fill - Medium sand with coarse gravel and bricks and other construction debris (60%/25%/15%), tan, medium dense, dry, no odor, no sheen.	SP				0.1	TP15-092107-0-2 @0910	X	
		Fill - Medium sand with coarse gravel and bricks and other construction debris (60%/25%/15%), tan, medium dense, dry, no odor, no sheen.	SP				0	TP15-092107-2-4 @0915		
		Fill - Medium sand with coarse gravel and bricks and other construction debris (60%/25%/15%), tan, medium dense, dry, no odor, no sheen.	SP				0.1	TP15-092107-4-6 @0920	X	
5		Fill - Medium sand with coarse gravel and bricks and other construction debris (60%/25%/15%), tan, medium dense, wet at 8' bgs, no odor, no sheen.	SP				0	TP15-092107-6-8 @0925		
10										

Well Construction Information

Monument Type:	Filter Pack:	Ground Surface Elevation (ft):
Casing Diameter (inches):	Surface Seal:	Top of Casing Elevation (ft):
Screen Slot Size (inches):	Annular Seal:	Boring Abandonment:
Screened Interval (ft bgs):	Surveyed Location: X:	Y:



Client: BNSF
Project: John Michael Lease Site
Location: Cashmere, WA

Date/Time Started: 4/6/09 1005
Date/Time Completed: 4/6/09 1114
Equipment: Excavator
Drilling Company: Glacier Environmental
Drilling Foreman: Chris Eriksson
Drilling Method: Backhoe

Sampler Type: Bucket
Drive Hammer (lbs.):
Depth of Water ATD (ft bgs): 14
Total Boring Depth (ft bgs): 14
Total Well Depth (ft bgs): NA

Farallon PN: 683-018

Logged By: Javan Ruark

Depth (feet bgs.)	Sample Interval	Lithologic Description	USCS	USGS Graphic	% Recovery	Blow Counts 8/8/8	PID (ppm)	Sample ID	Sample Analyzed	Boring/Well Construction Details
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0		Poorly graded SAND with Gravel (70% sand, 25% gravel, 5% silt), medium grained sand, medium to coarse gravel, brown, moist, no odor.	SP							
		Poorly graded SAND with Gravel (70% sand, 25% gravel, 5% silt), medium grained sand, medium to coarse gravel, grey, moist, no odor.	SP				0.1	TP-20-2 @1010		
		Poorly graded SAND with Gravel (70% sand, 25% gravel, 5% silt), medium grained sand, medium to coarse gravel, black staining, moist, slight odor.	SP				0.0	TP-20-4 @1015		
5		Fill - Medium sand with coarse gravel and bricks and other construction debris (60%/25%/15%), tan, medium dense, wet at 8' bgs, no odor, no sheen.	SP				0.0	TP-20-6 @1020		
		Poorly graded SAND with Silt (85% sand, 10% silt, 5% gravel), fine to medium grained sand, medium gravel, grey to black, moist, slight odor.	SP-SM				0.0	TP-20-8 @1025		
10		Poorly graded SAND with Silt (85% sand, 10% silt, 5% gravel), fine to medium grained sand, medium gravel, grey to black, moist, slight odor.	SP-SM				0.0	TP-20-10 @1028		
		Poorly graded SAND with Silt (85% sand, 10% silt, 5% gravel), fine to medium grained sand, medium gravel, grey to black, moist, slight odor.	SP-SM				0.0	TP-20-12 @1030		
							0.0	TP-20-14 @1050		

Well Construction Information

Monument Type:	Filter Pack:	Ground Surface Elevation (ft):
Casing Diameter (inches):	Surface Seal:	Top of Casing Elevation (ft):
Screen Slot Size (inches):	Annular Seal:	Boring Abandonment:
Screened Interval (ft bgs):	Surveyed Location: X: Y:	



Log of Boring: TP21

Client: BNSF
Project: John Michael Lease Site
Location: Cashmere, WA

Date/Time Started: 4/6/09 1115
Date/Time Completed: 4/6/09 1240
Equipment: Excavator
Drilling Company: Glacier Environmental
Drilling Foreman: Chris Eriksson
Drilling Method: Backhoe
Sampler Type: Bucket
Drive Hammer (lbs.):
Depth of Water ATD (ft bgs): 14
Total Boring Depth (ft bgs): 14
Total Well Depth (ft bgs): NA

Farallon PN: 683-018

Logged By: Javan Ruark

Depth (feet bgs.)	Sample Interval	Lithologic Description	USCS	USGS Graphic	% Recovery	Blow Counts 8/8/8	PID (ppm)	Sample ID	Sample Analyzed	Boring/Well Construction Details
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0		Silty SAND (85% sand, 15% silt), fine grained sand, brown, moist, no odor.	SP							
		Silty SAND (80% sand, 10% silt,	SP				0.0	TP-21-2 @1120		
		Poorly graded SAND with Gravel (70% sand, 25% gravel, 5% silt), medium grained sand, medium to coarse gravel, black staining, moist, slight odor.	SP				0.0	TP-21-4 @1142		
5		Fill - Medium sand with coarse gravel and bricks and other construction debris (60%/25%/15%), tan, medium dense, wet at 8' bgs, no odor, no sheen.	SP				0.0	TP-21-6 @1145		
		Poorly graded SAND with Silt (85% sand, 10% silt, 5% gravel), fine to medium grained sand, medium gravel, grey to black, moist, slight odor.	SP-SM				0.0	TP-21-8 @1205		
10		Poorly graded SAND with Silt (85% sand, 10% silt, 5% gravel), fine to medium grained sand, medium gravel, grey to black, moist, slight odor.	SP-SM				0.1	TP-21-10 @1210		
		Poorly graded SAND with Silt (85% sand, 10% silt, 5% gravel), fine to medium grained sand, medium gravel, grey to black, moist, slight odor.	SP-SM				0.1	TP-21-12 @1218		
							0.1	TP-21-13.5 @1230		

Well Construction Information

Monument Type:	Filter Pack:	Ground Surface Elevation (ft):
Casing Diameter (inches):	Surface Seal:	Top of Casing Elevation (ft):
Screen Slot Size (inches):	Annular Seal:	Boring Abandonment:
Screened Interval (ft bgs):	Surveyed Location: X: Y:	



Log of Boring:

Client:
Project:
Location:

Farallon PN:

Logged By:

Date/Time Started:
Date/Time Completed:
Equipment:
Drilling Company:
Drilling Foreman:
Drilling Method:

Sampler Type:
Drive Hammer (lbs.):
Depth of Water ATD (ft bgs):
Total Boring Depth (ft bgs):
Total Well Depth (ft bgs):

Depth (feet bgs.)	Sample Interval	Lithologic Description	USCS	USGS Graphic	% Recovery	Blow Counts 8/8/8	PID (ppm)	Sample ID	Sample Analyzed	Boring/Well Construction Details
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Well Construction Information		
Monument Type:	Filter Pack:	Ground Surface Elevation (ft):
Casing Diameter (inches):	Surface Seal:	Top of Casing Elevation (ft):
Screen Slot Size (inches):	Annular Seal:	Boring Abandonment:
Screened Interval (ft bgs):		Surveyed Location: X: Y:

Client: John Michael Lease
Project: BNSF Cashmere
Location: Cashmere, Washington

Date/Time Started: 4/6/09 @ 1345
Date/Time Completed: 4/6/09 @ 1455
Equipment: Excavator
Drilling Company: Glacier
Drilling Foreman: Chris Erickson
Drilling Method: N/A

Sampler Type: bucket
Drive Hammer (lbs.):
Depth of Water ATD (ft bgs): 14.5'
Total Boring Depth (ft bgs): 14.5'
Total Well Depth (ft bgs): N/A

Farallon PN: 683-018

Logged By: Javan Ruark

Depth (feet bgs.)	Sample Interval	Lithologic Description	USCS	USGS Graphic	% Recovery	Blow Counts 8/8/8	PID (ppm)	Sample ID	Sample Analyzed	Boring/Well Construction Details
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0										
		SILT with Sand (80% silt, 20% sand), fine sand, dark brown, moist, no			100	N/A	0.0	TP-23-2		
		SILT with Sand (80% silt, 20% sand), fine sand, dark brown, moist, no odor.	ML		100	N/A	0.0	TP-23-4		
5		SILT with Sand (85% silt, 15% sand), fine sand, brown, moist, no odor.			100	N/A	0.3	TP-23-6		
		SILT with Sand (85% silt, 15% sand), fine sand, brown, moist, no			100	N/A	0.0	TP-23-8		
10		Poorly-graded SAND with gravel (80% sand, 15% gravel, 5% silt), medium to coarse sand, fine gravel, gray-brown, moist, no odor.	SP		100	N/A	0.0	TP-23-10		
		Poorly-graded SAND with gravel (80% sand, 15% gravel, 5% silt), medium to coarse sand, fine gravel, gray-brown, moist, no odor.			100	N/A	0.1	TP-23-12		
15		Poorly-graded SAND with gravel (85% sand, 10% gravel, 5% silt), medium to coarse sand, fine gravel, gray-brown, moist, no odor.	SP		100	N/A	0.0	TP-23-14	X	

Well Construction Information

Monument Type:	Filter Pack:	Ground Surface Elevation (ft):
Casing Diameter (inches):	Surface Seal:	Top of Casing Elevation (ft):
Screen Slot Size (inches):	Annular Seal:	Boring Abandonment:
Screened Interval (ft bgs):	Surveyed Location:	X: Y:

Client: John Michael Lease
Project: BNSF Cashmere
Location: Cashmere, Washington

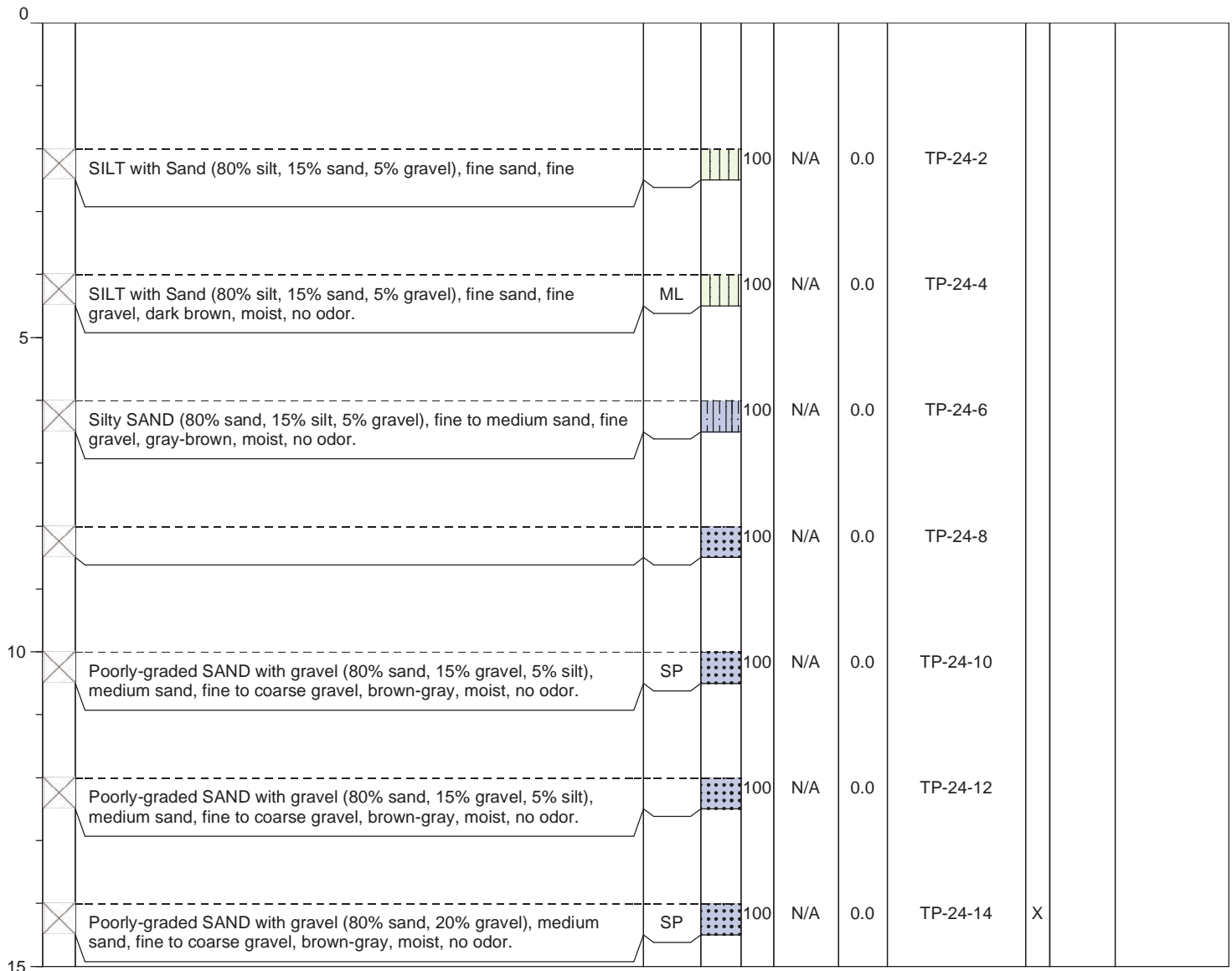
Date/Time Started: 4/6/09 @ 1500
Date/Time Completed: 4/6/09 @ 1550
Equipment: Excavator
Drilling Company: Glacier
Drilling Foreman: Chris Erickson
Drilling Method: N/A

Sampler Type: bucket
Drive Hammer (lbs.):
Depth of Water ATD (ft bgs): 14.5'
Total Boring Depth (ft bgs): 14'
Total Well Depth (ft bgs): N/A

Farallon PN: 683-018

Logged By: Javan Ruark

Depth (feet bgs.)	Sample Interval	Lithologic Description	USCS	USGS Graphic	% Recovery	Blow Counts 8/8/8	PID (ppm)	Sample ID	Sample Analyzed	Boring/Well Construction Details
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Well Construction Information

Monument Type:	Filter Pack:	Ground Surface Elevation (ft):
Casing Diameter (inches):	Surface Seal:	Top of Casing Elevation (ft):
Screen Slot Size (inches):	Annular Seal:	Boring Abandonment:
Screened Interval (ft bgs):	Surveyed Location: X:	Y:



Log of Boring: TP-25

Client: John Michael Lease
Project: BNSF Cashmere
Location: Cashmere, Washington

Date/Time Started: 4/6/09 @ 1550
Date/Time Completed: 4/6/09 @ 1630
Equipment: Excavator
Drilling Company: Glacier
Drilling Foreman: Chris Erickson
Drilling Method: N/A

Sampler Type: bucket
Drive Hammer (lbs.):
Depth of Water ATD (ft bgs): 14
Total Boring Depth (ft bgs): 14.5
Total Well Depth (ft bgs): N/A

Farallon PN: 683-018

Logged By: Javan Ruark

Depth (feet bgs.)	Sample Interval	Lithologic Description	USCS	USGS Graphic	% Recovery	Blow Counts 8/8/8	PID (ppm)	Sample ID	Sample Analyzed	Boring/Well Construction Details
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Well Construction Information

Monument Type:	Filter Pack:	Ground Surface Elevation (ft):
Casing Diameter (inches):	Surface Seal:	Top of Casing Elevation (ft):
Screen Slot Size (inches):	Annular Seal:	Boring Abandonment:
Screened Interval (ft bgs):	Surveyed Location: X: Y:	



Client: John Michael Lease
Project: BNSF Cashmere
Location: Cashmere, Washington

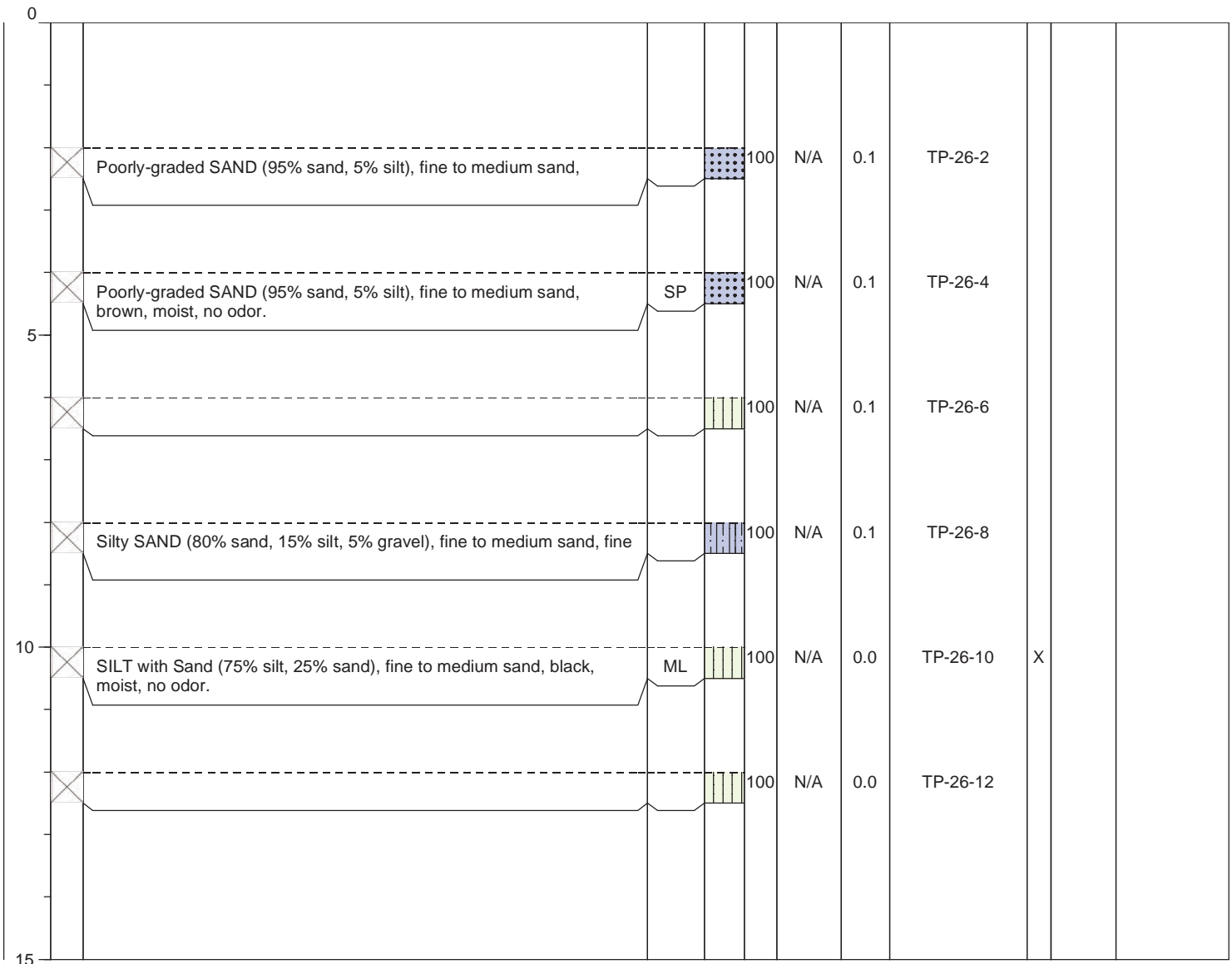
Date/Time Started: 4/7/09 @ 748
Date/Time Completed: 4/7/09 @ 825
Equipment: Excavator
Drilling Company: Glacier
Drilling Foreman: Chris Erickson
Drilling Method: N/A

Sampler Type: bucket
Drive Hammer (lbs.):
Depth of Water ATD (ft bgs): 16
Total Boring Depth (ft bgs): 16
Total Well Depth (ft bgs): N/A

Farallon PN: 683-018

Logged By: Javan Ruark

Depth (feet bgs.)	Sample Interval	Lithologic Description	USCS	USGS Graphic	% Recovery	Blow Counts 8/8/8	PID (ppm)	Sample ID	Sample Analyzed	Boring/Well Construction Details
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Well Construction Information

Monument Type:
Casing Diameter (inches):
Screen Slot Size (inches):
Screened Interval (ft bgs):

Filter Pack:
Surface Seal:
Annular Seal:

Ground Surface Elevation (ft):
Top of Casing Elevation (ft):
Boring Abandonment:

Surveyed Location: X: Y:

Client:
Project:
Location:

Farallon PN:

Logged By:

Date/Time Started:
Date/Time Completed:
Equipment:
Drilling Company:
Drilling Foreman:
Drilling Method:

Sampler Type:
Drive Hammer (lbs.):
Depth of Water ATD (ft bgs):
Total Boring Depth (ft bgs):
Total Well Depth (ft bgs):

Depth (feet bgs.)	Sample Interval	Lithologic Description	USCS	USGS Graphic	% Recovery	Blow Counts 8/8/8	PID (ppm)	Sample ID	Sample Analyzed	Boring/Well Construction Details
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Well Construction Information		
Monument Type:	Filter Pack:	Ground Surface Elevation (ft):
Casing Diameter (inches):	Surface Seal:	Top of Casing Elevation (ft):
Screen Slot Size (inches):	Annular Seal:	Boring Abandonment:
Screened Interval (ft bgs):		Surveyed Location: X: Y:



Log of Boring: TP-28

Client: John Michael Lease
Project: BNSF Cashmere
Location: Cashmere, Washington

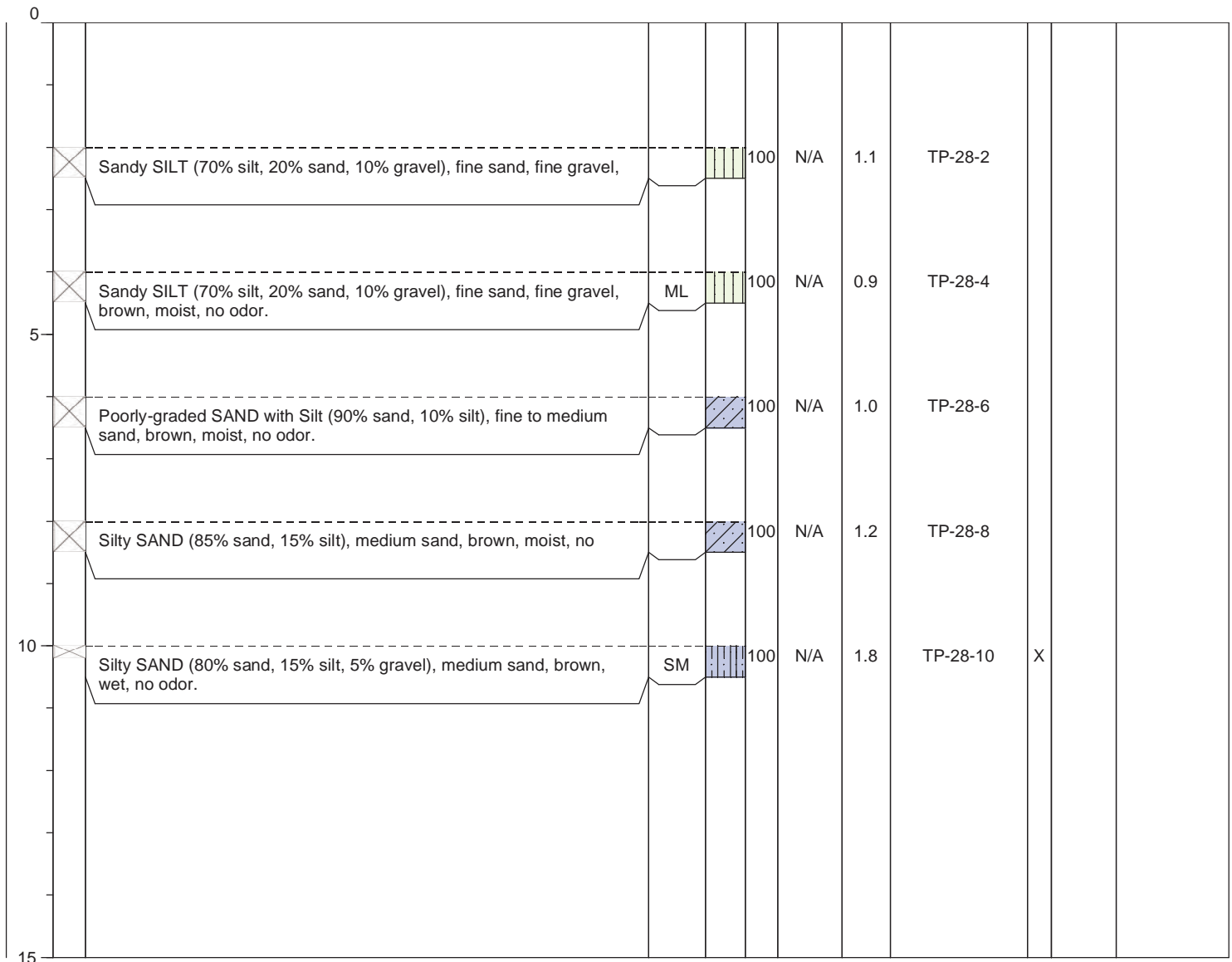
Date/Time Started: 4/7/09 @ 1115
Date/Time Completed: 4/7/09 @ 1138
Equipment: Excavator
Drilling Company: Glacier
Drilling Foreman: Chris Erickson
Drilling Method: N/A

Sampler Type: bucket
Drive Hammer (lbs.):
Depth of Water ATD (ft bgs): 10
Total Boring Depth (ft bgs): 10.2
Total Well Depth (ft bgs): N/A

Farallon PN: 683-018

Logged By: Javan Ruark

Depth (feet bgs.)	Sample Interval	Lithologic Description	USCS	USGS Graphic	% Recovery	Blow Counts 8/8/8	PID (ppm)	Sample ID	Sample Analyzed	Boring/Well Construction Details
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Well Construction Information

Monument Type:
Casing Diameter (inches):
Screen Slot Size (inches):
Screened Interval (ft bgs):

Filter Pack:
Surface Seal:
Annular Seal:

Ground Surface Elevation (ft):
Top of Casing Elevation (ft):
Boring Abandonment:

Surveyed Location: X: Y:



Log of Boring: TP-29

Client: John Michael Lease
Project: BNSF Cashmere
Location: Cashmere, Washington

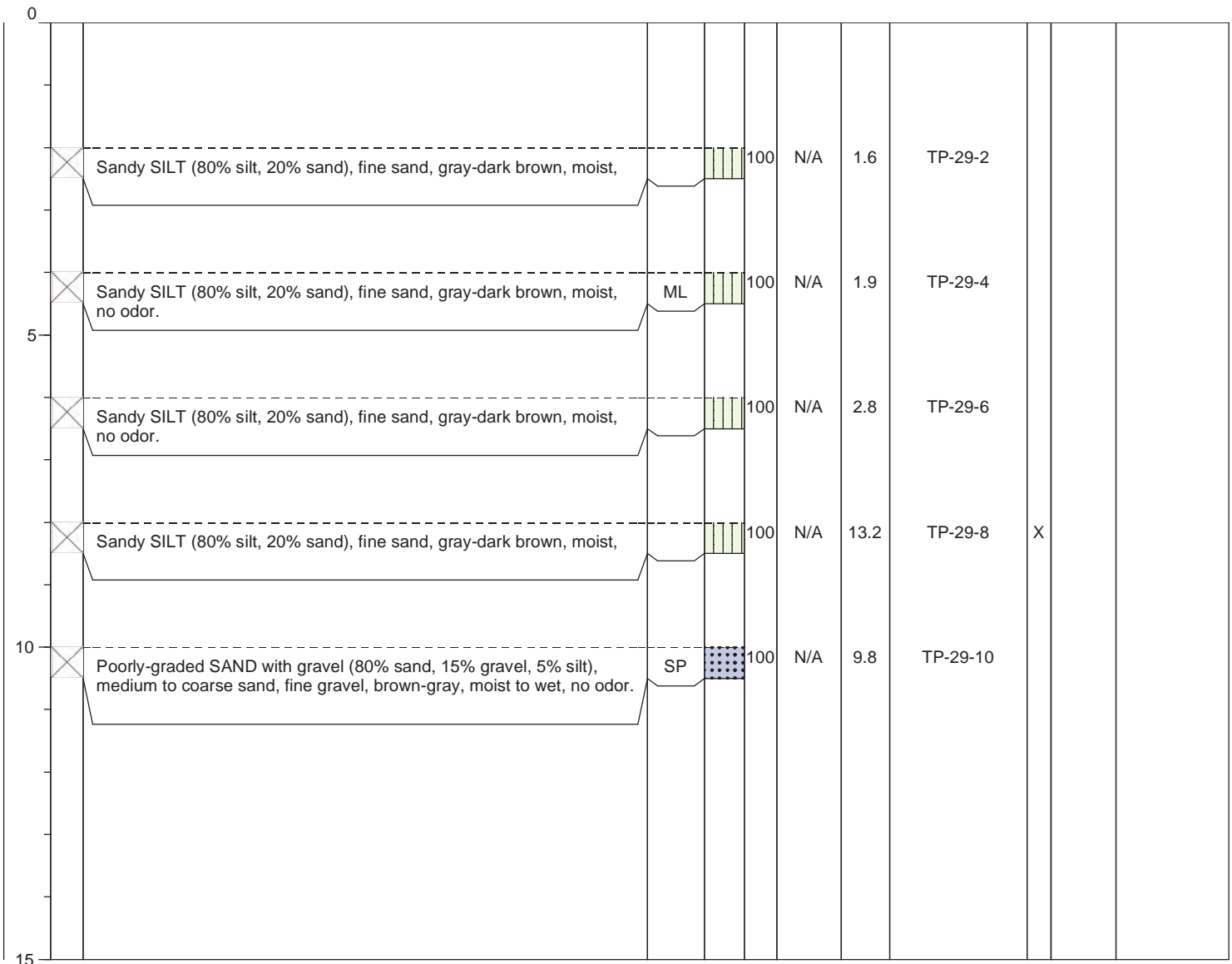
Date/Time Started: 4/7/09 @ 1142
Date/Time Completed: 4/7/09 @ 1210
Equipment: Excavator
Drilling Company: Glacier
Drilling Foreman: Chris Erickson
Drilling Method: N/A

Sampler Type: bucket
Drive Hammer (lbs.):
Depth of Water ATD (ft bgs): 10
Total Boring Depth (ft bgs): 10.2
Total Well Depth (ft bgs): N/A

Farallon PN: 683-018

Logged By: Javan Ruark

Depth (feet bgs.)	Sample Interval	Lithologic Description	USCS	USGS Graphic	% Recovery	Blow Counts 8/8/8	PID (ppm)	Sample ID	Sample Analyzed	Boring/Well Construction Details
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Well Construction Information

Monument Type:	Filter Pack:	Ground Surface Elevation (ft):
Casing Diameter (inches):	Surface Seal:	Top of Casing Elevation (ft):
Screen Slot Size (inches):	Annular Seal:	Boring Abandonment:
Screened Interval (ft bgs):	Surveyed Location: X: Y:	



Log of Test Pit: TP30

Client: BNSF	Date/Time Started: 06/25/12 1245	Sampler Type: Backhoe bucket
Project: John Michael Lease Site	Date/Time Completed: 06/25/12 1400	Depth of Water (ft bgs): 16
Location: Cashmere, WA	Equipment: Backhoe	Total Excavation Depth (ft bgs): 16
Farallon PN: 283-006	Excavation Company: Clear Creek	
Logged By: Jon Peterson	Excavation Foreman: Matt Clayton	
	Excavating Method: Backhoe	

Depth (feet bgs)	Sample Interval	Lithologic Description	USCS	USGS Graphic	PID (ppmv)	Sample ID	Sample Analyzed
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0		0-8' bgs: Silty SAND (75% sand, 15% silt), fine to medium sand, brown, moist, no odor, observed glass, plastic, and metal debris.	SM				
					3.9	TP30-062512-2.0 @ 1300	
					0.0	TP30-062512-4.0 @ 1305	
5					0.0	TP30-062512-6.0 @ 1310	
		8-9' bgs: Well-graded GRAVEL with sand (60% gravel, 40% sand), fine to coarse gravel, fine to medium sand, brown, moist, no odor.	GW		0.0	TP30-062512-8.0 @ 1315	
		9-16' bgs: Silty SAND with gravel (50% sand, 30% gravel, 20% silt), fine to medium sand, fine to coarse gravel, gray to brown, moist to wet, odor, observed glass, plastic, and metal debris.	SM		0.0	TP30-062512-10.0 @ 1320	
10					0.0	TP30-062512-12.0 @ 1325	
					0.0	TP30-062512-14.0 @ 1330	X
15					0.2	TP30-062512-16.0 @ 1335	X



Log of Test Pit: TP31

Client: BNSF	Date/Time Started: 06/25/12 1500	Sampler Type: Backhoe bucket
Project: John Michael Lease Site	Date/Time Completed: 06/25/12 1620	Depth of Water (ft bgs): 14
Location: Cashmere, WA	Equipment: Backhoe	Total Excavation Depth (ft bgs): 18
Farallon PN: 283-006	Excavation Company: Clear Creek	
Logged By: Jon Peterson	Excavation Foreman: Matt Clayton	
	Excavating Method: Backhoe	

Depth (feet bgs)	Sample Interval	Lithologic Description	USCS	USGS Graphic	PID (ppmv)	Sample ID	Sample Analyzed
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0		0-7' bgs: Silty SAND with wood (80% sand, 20% silt), fine to medium sand, sparse boulders, brown, moist, no odor, metal debris.	SM				
					4.1	TP31-062512-2.0 @ 1505	
					7.5	TP31-062512-4.0 @ 1510	
5					2.9	TP31-062512-6.0 @ 1515	
		7-10' bgs: Well-graded SAND (100% sand), fine to coarse sand, tan, moist, no odor.	SW				
					2.8	TP31-062512-8.0 @ 1520	
10		10-18' bgs: Well-graded SAND with gravel (60% sand, 40% gravel), fine to coarse sand, fine to coarse gravel, tan, moist to wet, no odor.	SW				
					1.6	TP31-062512-10.0 @ 1525	
					0.4	TP31-062512-12.0 @ 1530	X
					0.0	TP31-062512-14.0 @ 1535	
15					0.0	TP31-062512-16.0 @ 1540	X
					0.0	TP31-062512-18.0 @ 1545	



Log of Test Pit: TP32

Client: BNSF	Date/Time Started: 06/26/12 0700	Sampler Type: Backhoe bucket
Project: John Michael Lease Site	Date/Time Completed: 06/26/12 0930	Depth of Water (ft bgs): 14
Location: Cashmere, WA	Equipment: Backhoe	Total Excavation Depth (ft bgs): 16
Farallon PN: 283-006	Excavation Company: Clear Creek	
Logged By: Jon Peterson	Excavation Foreman: Matt Clayton	
	Excavating Method: Backhoe	

Depth (feet bgs)	Sample Interval	Lithologic Description	USCS	USGS Graphic	PID (ppmv)	Sample ID	Sample Analyzed
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0		0-7' bgs: Silty SAND with wood (80% sand, 20% silt), fine to medium sand, dark brown, dry, no odor, observed glass, plastic, wood, and metal debris.	SM				
					0.0	TP32-062612-2.0 @ 0710	
					0.0	TP32-062612-4.0 @ 0715	
5					0.1	TP32-062612-6.0 @ 0720	
		7-9' bgs: Poorly graded SAND (100% sand), fine to medium sand, tan, moist, no odor, observed railroad ballast.	SP				
					0.0	TP32-062612-8.0 @ 0725	
		9-16' bgs: Well-graded SAND with gravel (60% sand, 40% gravel), fine to coarse sand, fine to coarse gravel, gray, moist to wet, no odor, light sheen, no anthropogenic debris below 8' bgs.	SW				
10					0.0	TP32-062612-10.0 @ 0910	
					0.0	TP32-062612-12.0 @ 0915	X
					0.1	TP32-062612-14.0 @ 0920	
15					0.0	TP32-062612-16.0 @ 0925	X



Log of Test Pit: TP33

Client: BNSF	Date/Time Started: 06/25/12 1400	Sampler Type: Backhoe bucket
Project: John Michael Lease Site	Date/Time Completed: 06/25/12 1500	Depth of Water (ft bgs): 16
Location: Cashmere, WA	Equipment: Backhoe	Total Excavation Depth (ft bgs): 18
Farallon PN: 283-006	Excavation Company: Clear Creek	
Logged By: Jon Peterson	Excavation Foreman: Matt Clayton	
	Excavating Method: Backhoe	

Depth (feet bgs)	Sample Interval	Lithologic Description	USCS	USGS Graphic	PID (ppmv)	Sample ID	Sample Analyzed
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0		0-12' bgs: Silty SAND with gravel (50% sand, 30% gravel, 20% silt), fine to medium sand, fine to coarse gravel, brown, moist, no odor, observed glass, plastic, and metal debris.	SM				
					1.8	TP33-062512-2.0 @ 1405	
					1.3	TP33-062512-4.0 @ 1410	
5					1.6	TP33-062512-6.0 @ 1415	
					0	TP33-062512-8.0 @ 1420	
					3.9	TP33-062512-10.0 @ 1425	
		12-17' bgs: Silty SAND with gravel (50% sand, 35% gravel, 15% silt), fine to medium sand, fine to coarse gravel, gray to brown, moist to wet, faint odor increasing with depth, some black staining.	SM		17.9	TP33-062512-11.7 @ 1430	
					24.4	TP33-062512-14.0 @ 1435	X
15					24.5	TP33-062512-16.0 @ 1440	
		17-18' bgs: Silty SAND with gravel (50% sand, 30% gravel, 20% silt), fine to medium sand, fine to coarse gravel, gray to brown, moist, odor.	SM				
					42.7	TP33-062512-18.0 @ 1445	



Log of Test Pit: TP34

Client: BNSF	Date/Time Started: 06/25/12 1110	Sampler Type: Backhoe bucket
Project: John Michael Lease Site	Date/Time Completed: 06/25/12 1245	Depth of Water (ft bgs): 15.5
Location: Cashmere, WA	Equipment: Backhoe	Total Excavation Depth (ft bgs): 16
Farallon PN: 283-006	Excavation Company: Clear Creek	
Logged By: Jon Peterson	Excavation Foreman: Matt Clayton	
	Excavating Method: Backhoe	

Depth (feet bgs)	Sample Interval	Lithologic Description	USCS	USGS Graphic	PID (ppmv)	Sample ID	Sample Analyzed
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0		0-8' bgs: Silty SAND with wood (80% sand, 20% silt), fine to medium sand, brown, dry, no odor, no sheen, observed plastic and metal debris.	SM				
					12.1	TP34-062512-2.0 @ 1115	
					13.9	TP34-062512-4.0 @ 1120	
5					78	TP34-062512-6.0 @ 1125	
					933	TP34-062512-8.0 @ 1130	
		8-16' bgs: Well-graded SAND with silt and gravel (50% sand, 40% gravel, 10% silt), fine to coarse sand, fine to coarse gravel, black, moist to wet, odor, sheen, no anthropogenic debris.	SW-SM				
10					1163	TP34-062512-10.0 @ 1135	
					1034	TP34-062512-12.0 @ 1140	
					771	TP34-062512-14.0 @ 1145	X
15					791	TP34-062512-16.0 @ 1150	



Log of Test Pit: TP-35

Client: BNSF	Date/Time Started: 06/25/12 0830	Sampler Type: Backhoe bucket
Project: John Michael Lease Site	Date/Time Completed: 06/25/12 0940	Depth of Water (ft bgs): 7.5
Location: Cashmere, WA	Equipment: Backhoe	Total Excavation Depth (ft bgs): 7.5
Farallon PN: 283-006	Excavation Company: Clear Creek	
Logged By: Jon Peterson	Excavation Foreman: Matt Clayton	
	Excavating Method: Backhoe	

Depth (feet bgs)	Sample Interval	Lithologic Description	USCS	USGS Graphic	PID (ppmv)	Sample ID	Sample Analyzed
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0		0-5' bgs: Well-graded SAND with silt and gravel (50% sand, 40% gravel, 10% silt), fine to coarse sand, fine to coarse gravel, brown, moist, no odor, observed subrounded 12" cobbles, wood, brick, metal, plastic, asphalt, and other debris.	SW-SM				
5		5-7.5' bgs: Well-graded SAND with silt and gravel (50% sand, 40% gravel, 10% silt), fine to coarse sand, fine to coarse gravel, increasingly darker brown color with depth, moist to wet, odor, sheen, observed 2' concrete slabs, wood, brick, metal, plastic, asphalt, and other debris.	SW-SM				
					4.4		



Log of Test Pit: TP36

Client: BNSF
Project: John Michael Lease Site
Location: Cashmere, WA

Date/Time Started: 06/25/12 0950
Date/Time Completed: 06/25/12 1030
Equipment: Backhoe
Excavation Company: Clear Creek
Excavation Foreman: Matt Clayton
Excavating Method: Backhoe

Sampler Type: Backhoe bucket
Depth of Water (ft bgs): 8
Total Excavation Depth (ft bgs): 8

Farallon PN: 283-006

Logged By: Jon Peterson

Depth (feet bgs)	Sample Interval	Lithologic Description	USCS	USGS Graphic	PID (ppmv)	Sample ID	Sample Analyzed
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0		0-5' bgs: Well-graded SAND with silt and gravel (70% sand, 20% gravel, 10% silt), fine to coarse sand, fine to coarse gravel, brown, moist, no odor, observed metal debris.	SW-SM				
5		5-8' bgs: Well-graded SAND with silt and gravel (70% sand, 20% gravel, 10% silt), fine to coarse sand, fine to coarse gravel, black, moist to wet, odor, sheen, observed concrete, wood, metal, and other debris.	SW-SM				
						134	



Log of Test Pit: TP37

Client: BNSF
Project: John Michael Lease Site
Location: Cashmere, WA

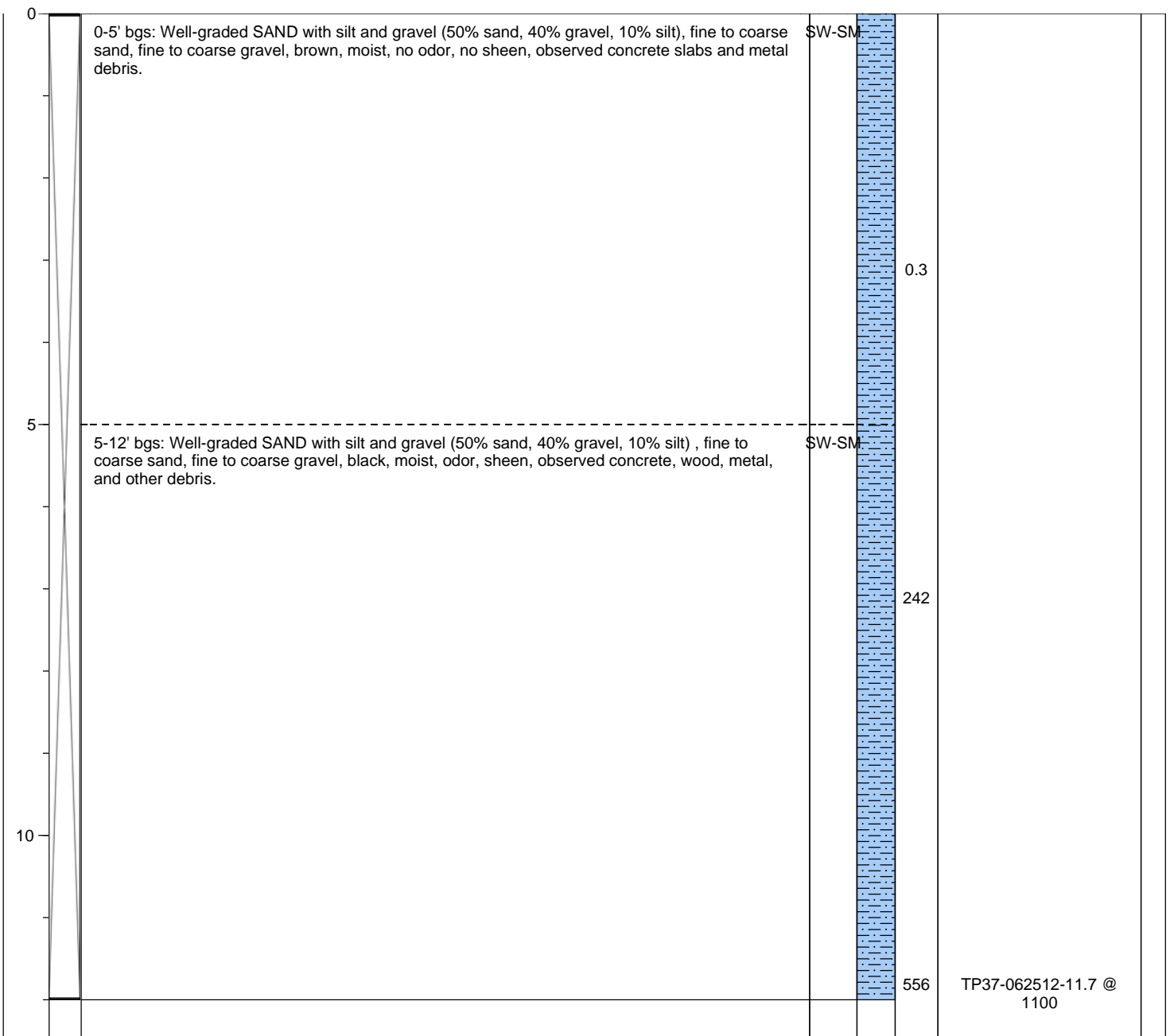
Date/Time Started: 06/25/12 1030
Date/Time Completed: 06/25/12 1100
Equipment: Backhoe
Excavation Company: Clear Creek
Excavation Foreman: Matt Clayton
Excavating Method: Backhoe

Sampler Type: Backhoe bucket
Depth of Water (ft bgs): 8
Total Excavation Depth (ft bgs): 12

Farallon PN: 283-006

Logged By: Jon Peterson

Depth (feet bgs)	Sample Interval	Lithologic Description	USCS	USGS Graphic	PID (ppmv)	Sample ID	Sample Analyzed
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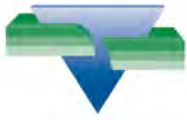


Log of Test Pit: TP38

Client: BNSF	Date/Time Started: 06/26/12 0930	Sampler Type: Backhoe bucket
Project: John Michael Lease Site	Date/Time Completed: 06/26/12 1050	Depth of Water (ft bgs): 14
Location: Cashmere, WA	Equipment: Backhoe	Total Excavation Depth (ft bgs): 16
Farallon PN: 283-006	Excavation Company: Clear Creek	
Logged By: Jon Peterson	Excavation Foreman: Matt Clayton	
	Excavating Method: Backhoe	

Depth (feet bgs)	Sample Interval	Lithologic Description	USCS	USGS Graphic	PID (ppmv)	Sample ID	Sample Analyzed
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0	0-3.5' bgs: Broken concrete with some poorly-graded sand, fine to medium sand, tan, dry, no odor.	SW					
					0.0	TP38-062612-2.0 @ 0940	
	3.5-12' bgs: Silty SAND (80% sand, 20% silt), fine to medium sand, black, moist, no odor, light sheen, wood, observed plastic and metal debris.	SM			0.0	TP38-062612-4.0 @ 0945	X
5					0.0	TP38-062612-6.0 @ 0950	
					0.0	TP38-062612-8.0 @ 0955	
10					57	TP38-062612-10.0 @ 1000	X
	12-13' bgs: Poorly graded SAND (100% sand), fine to medium sand, gray, moist, no odor.	SW			2.0	TP38-062612-12.0 @ 1005	X
	13-16' bgs: Poorly graded SAND with gravel (55% sand, 45% gravel), coarse sand, coarse gravel, gray, moist to wet, no odor, no sheen, no anthropogenic debris below 12' bgs.	SP			0.0	TP38-062612-14.0 @ 1010	
15					0.0	TP38-062612-16.0 @ 1015	X



Log of Test Pit: TP39

Client: BNSF
Project: John Michael Lease Site
Location: Cashmere, WA

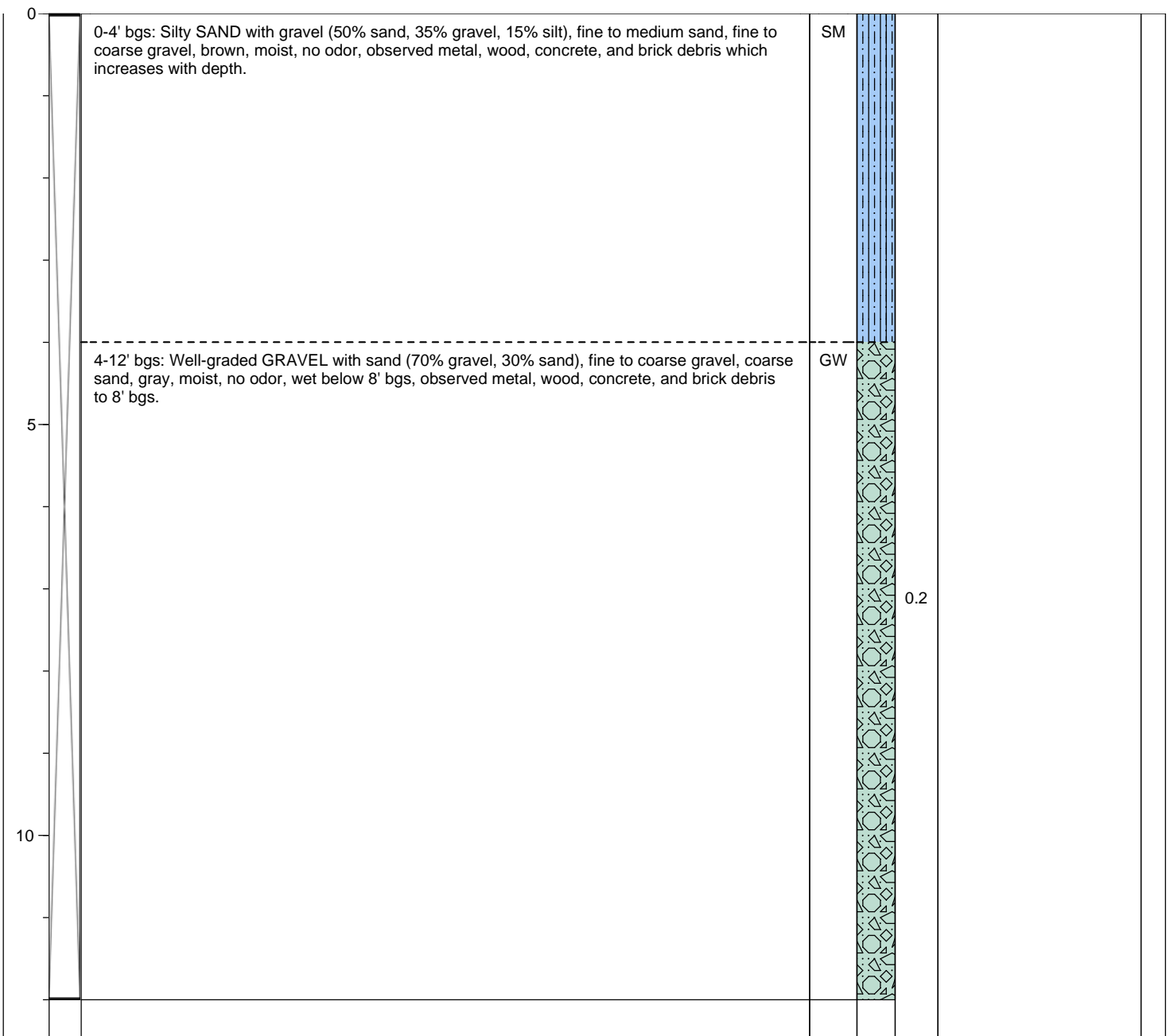
Date/Time Started: 06/26/12 1055
Date/Time Completed: 06/26/12 1130
Equipment: Backhoe
Excavation Company: Clear Creek
Excavation Foreman: Matt Clayton
Excavating Method: Backhoe

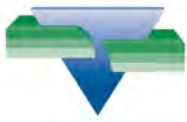
Sampler Type: Backhoe bucket
Depth of Water (ft bgs): 8
Total Excavation Depth (ft bgs): 12

Farallon PN: 283-006

Logged By: Jon Peterson

Depth (feet bgs)	Sample Interval	Lithologic Description	USCS	USGS Graphic	PID (ppmv)	Sample ID	Sample Analyzed
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Log of Test Pit: TP40

Client: BNSF	Date/Time Started: 06/26/12 1130	Sampler Type: Backhoe bucket
Project: John Michael Lease Site	Date/Time Completed: 06/26/12 1155	Depth of Water (ft bgs): 8
Location: Cashmere, WA	Equipment: Backhoe	Total Excavation Depth (ft bgs): 13
Farallon PN: 283-006	Excavation Company: Clear Creek	
Logged By: Jon Peterson	Excavation Foreman: Matt Clayton	
	Excavating Method: Backhoe	

Depth (feet bgs)	Sample Interval	Lithologic Description	USCS	USGS Graphic	PID (ppmv)	Sample ID	Sample Analyzed
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0		0-3.5 bgs: Silty SAND with gravel (50% sand, 30% gravel, 20% silt), fine to medium sand, fine to coarse gravel, brown, dry, no odor, observed bricks, concrete, and metal debris.	SM				
5		3.5-13' bgs: Silty sand with gravel (50% sand, 35% gravel, 15% silt), fine to medium sand, fine to coarse gravel, brown, moist, odor, sheen, black below 5' bgs, wet below 8', black liquid surface of water, silt decreases with depth, no anthropogenic debris observed below 8' bgs.	SM				
10					308		



Log of Test Pit: TP41

Client: BNSF	Date/Time Started: 06/26/12 1155	Sampler Type: Backhoe bucket
Project: John Michael Lease Site	Date/Time Completed: 06/26/12 1250	Depth of Water (ft bgs): 8
Location: Cashmere, WA	Equipment: Backhoe	Total Excavation Depth (ft bgs): 12
Farallon PN: 283-006	Excavation Company: Clear Creek	
Logged By: Jon Peterson	Excavation Foreman: Matt Clayton	
	Excavating Method: Backhoe	

Depth (feet bgs)	Sample Interval	Lithologic Description	USCS	USGS Graphic	PID (ppmv)	Sample ID	Sample Analyzed
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0		0-7' bgs: Well-graded SAND with silt and gravel (50% sand, 40% gravel, 10% silt), fine to medium sand, fine to coarse gravel, brown, moist, no odor, concrete debris decreasing with depth past 5' bgs.	SW				
5							
		7-12' bgs: Well-graded SAND with silt and gravel (50% sand, 20% gravel, 10% silt), fine to medium sand, fine to coarse gravel, black, moist, odor, sheen, no anthropogenic debris, wet below 8'.	SW				
10					913	TP41-062612-10.0 @ 1440	

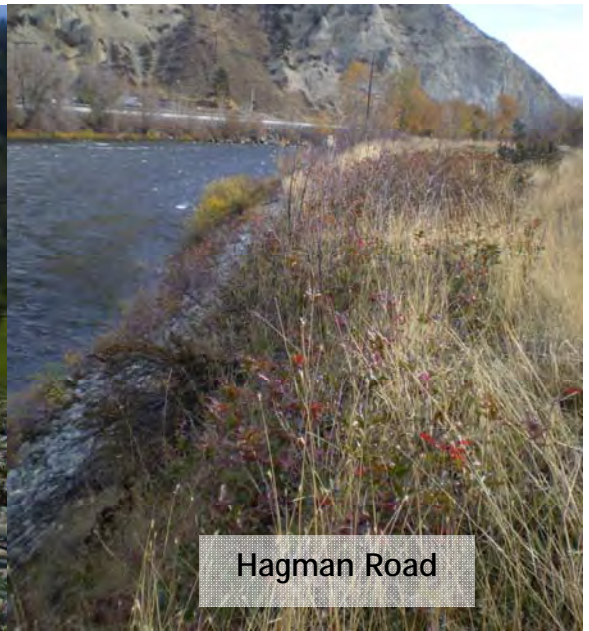
APPENDIX C
CHELAN COUNTY DESIGN REPORT FOR RM 11 RESTORATION
PROJECT

REVISED CLEANUP ACTION WORK PLAN
John Michael Lease Site
5640 Sunset Highway
Cashmere, Washington

Farallon PN: 283-006

Design Report for Hagman Road and Wendlandt Riparian Restoration Projects (UPA Wenatchee Riparian, BPA Contract# 40061, Project# 2007-086-00)

- Chelan County Natural Resource Department, March 2009



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Recommended Citation:

Fonville, Erin. 2009. Design Report for Hagman Road and Wendlandt Riparian Restoration Projects. Chelan County Natural Resource Department. Report for UPA Wenatchee Riparian BPA Contract #40061, Project #2007-086-00. Wenatchee, Washington.

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Introduction

The Chelan County Natural Resource Department (CCNRD) is proposing two separate planting projects along the lower Wenatchee River to improve riparian habitat in the Lower Wenatchee River watershed near Cashmere, Washington. These projects will assist salmon recovery efforts in the Columbia Cascade Province, to benefit Upper Columbia steelhead, spring Chinook and bull trout along the Lower Wenatchee River.

Riparian function along the Wenatchee River has been degraded and reduced by development and agriculture. These practices have increased fine sediment input and water temperatures along the Lower Wenatchee River. Under the Upper Columbia Salmon Recovery Plan's (UCSRP) Implementation Schedule (Upper Columbia Salmon Recovery Board [UCSRB], 2007) it defines sediment as a limiting factor and ranks reducing sediment through riparian planting and sediment control a priority. In the Lower Wenatchee, the Upper Columbia Biological Strategy (UCRTT 2008) found that of the limiting factors affecting habitat condition, riparian habitat has been significantly lost or degraded in the lower Wenatchee River reach.

The proposed riparian projects are located within the lower Wenatchee watershed which has been identified by the Upper Columbia Regional Technical Team (UCRTT) as a Category II watershed. Category II watersheds have a higher level of fragmentation resulting from habitat disturbance or loss; the Wenatchee Watershed Planning Unit (WWPU) has identified the restoration and protection of ecosystem functions as a priority in these watersheds because they have the highest potential to increase abundance and productivity through restoration efforts. Additionally, the lower Wenatchee River is a minor spawning area for spring Chinook, a major spawning area for steelhead and a bull trout core area (UCRTT 2008).

The project sites were also identified as high priority sites in the 2006 Wenatchee Watershed Riparian Assessment (EcoAIM) that was completed for the Wenatchee Watershed Planning Unit Habitat sub-committee.

The CCNRD has been working with local, state, and federal agencies, private landowners, and the WWPU to identify and implement riparian enhancement projects throughout the Wenatchee subbasin to benefit Upper Columbia steelhead, spring Chinook and bull trout. The overall purpose of the proposed projects is to complete riparian enhancement projects that will recover watershed processes and functions associated with native plant communities. Most riparian planting projects take at least 5 to 10 years to realize the full benefits of riparian plantings, including bank stabilization, shading and leaf input into the stream.

Project Location

The Hagman Road Project is located in the SW $\frac{1}{4}$ SE $\frac{1}{4}$ of Section 32, Township 24 North, Range 19 East, Willamette (*Figure 1*). Project site latitude/longitude is: N 47° 31.55', W 120° 29.10'. The project site is located immediately adjacent to the mulching center drop off site for the City of Cashmere. Access to the project site is by a gravel road that is accessible through a locked gate at the end of Hagman Road, off of Sunset Highway in Cashmere. The Wendlandt Riparian Project is located on privately owned property in the SE $\frac{1}{4}$ NE $\frac{1}{4}$ of Section 35, Township 24 North, Range 18 East, Willamette (*Figure 2*). Project site

latitude/longitude is: N 47° 31.94', W 120° 32.45'. The project is located west of Cashmere and access to the project site is by a paved driveway off of Stines Hill Road.

Ownership and Land Use

The Hagman Road Project is located on property owned by the City of Cashmere and is used for the City's mulching center drop off site. The size of the parcel is approximately 6 acres and is heavily used by the public to access the Wenatchee River for recreational dredging (gold panning), glass bottle collection from a historic dump site and other recreational uses. Public access to the site is limited to foot traffic with the exception of weekend vehicle traffic on the existing road to drop off mulching materials. There is a locked gate on the property to limit vehicle traffic.

In 2008, the City of Cashmere hired a consultant to draft conceptual plans for the future development of the property. The conceptual plans are for a riverside park and trail system and include a fitness trail with stations, skate court, observation deck, multiple use field, bandstand, restroom facilities, parking lot, picnic shelter and spray pad. In September 2008, we met on site with Mark Botello (Building/Planning Director for the City of Cashmere) to discuss the proposed riparian project and were informed that currently there are no plans in the works by the City to move forward with the park project.

The Wendlandt project is located on private property owned by Paul and Kathy Wendlandt and the parcel is 4.3 acres in size. The property is currently being used for a private residence and horse pasture. Public access is not permitted at this site.

Figure 1: Hagman Road Vicinity Map

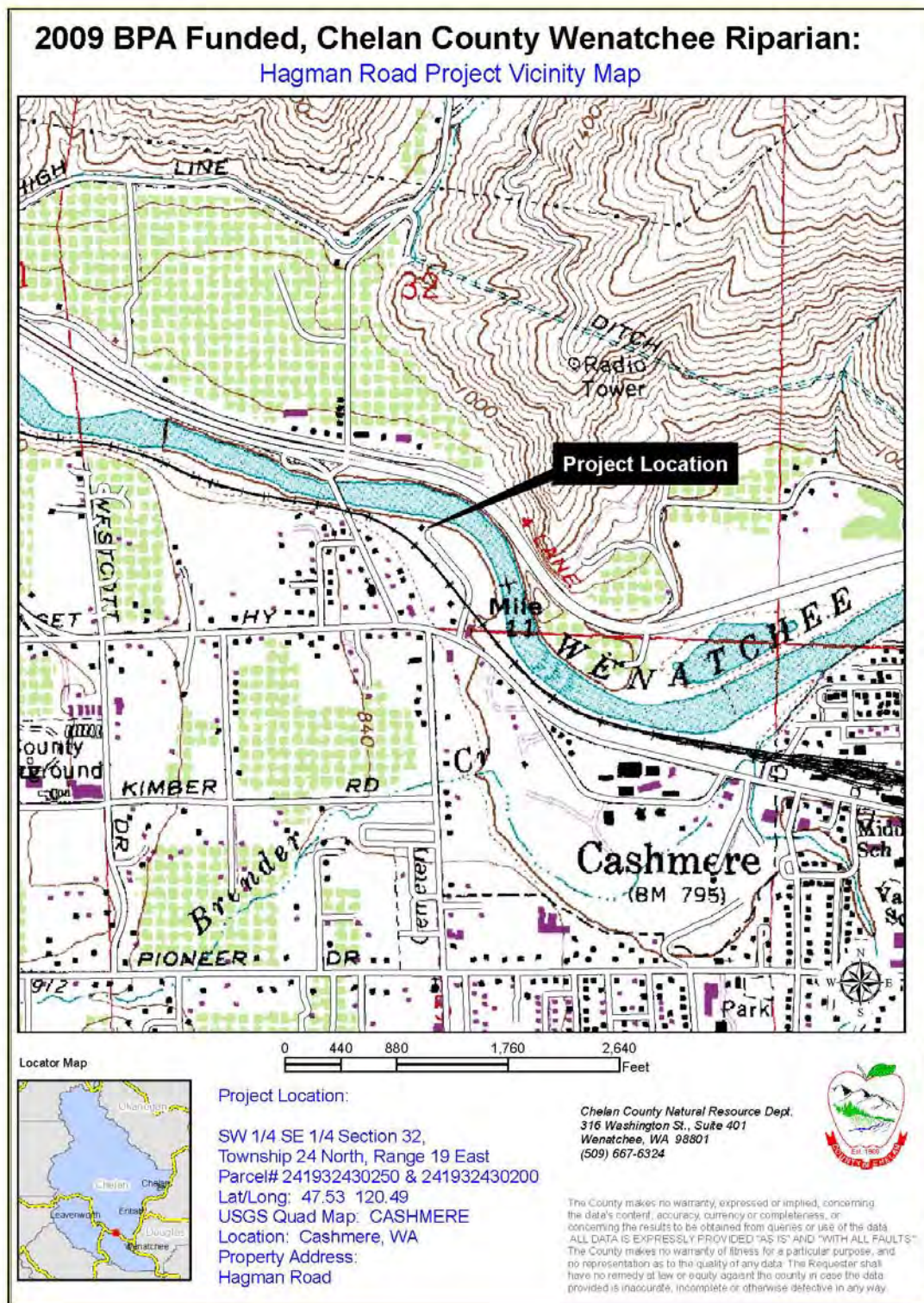
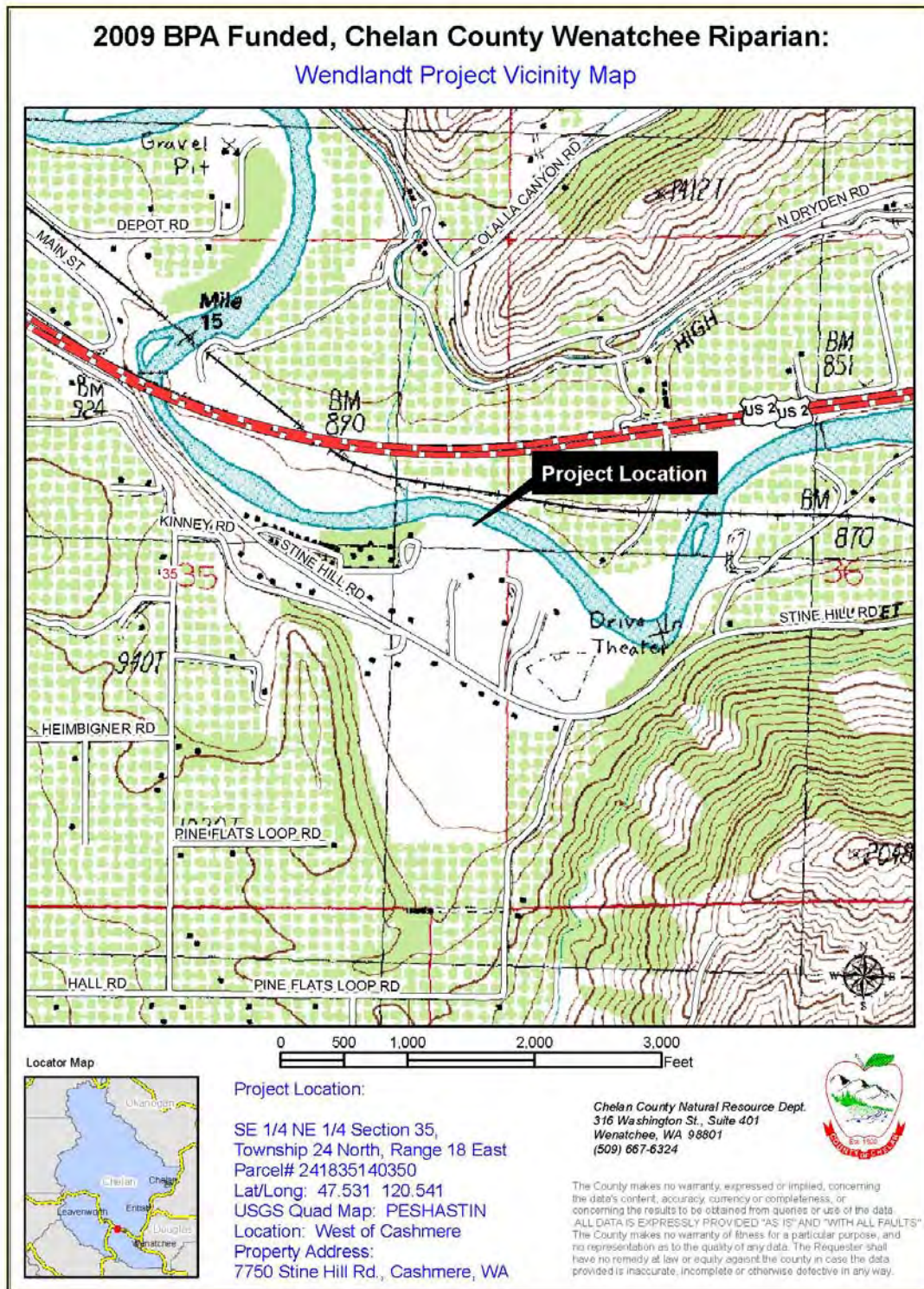


Figure 2: Wendlandt Vicinity Map



Existing Conditions

The Hagman Road project site is primarily an undeveloped area that is dominated by native and non-native (invasive) vegetation. The site is located on a predominately north facing bank above the Wenatchee River with a flat bench at the top of the bank. The primary vegetation at the site consists of a mixture of Wood's Rose (*Rosa woodsii*), Oregon grape (*Mahonia aquifolium*), serviceberry (*Amelanchier alnifolia*), chokecherry (*Prunus virginiana*), red osier dogwood (*Cornus sericea*) and a mixture of willows (*Salix spp.*) along the bank. The upland forest community consists of black cottonwood (*Populus trichocarpa*), paper birch (*Betula papyrifera*), mountain alder (*Alnus tenuifolia*), smooth sumac (*Rhus glabra*), bitterbrush (*Purshia tridentata*), sage brush (*Artemisia tridentata*) and scattered Ponderosa Pine (*Pinus ponderosa*). Invasive vegetation at the site includes dalmation toadflax (*Linaria dalmatica*), diffuse knapweed (*Centaurea diffusa*) and cheat grass (*Bromus tectorum*).

The Wendlandt project site is a single family resident and horse pasture that is dominated by a mixture of native and non-native (ornamental) grasses. The presence of vegetation within the existing floodplain is limited to scattered common mullein (*Verbascum Thapsus*), Ponderosa Pine (*Pinus ponderosa*), and black cottonwood (*Populus trichocarpa*). Various willow species (*Salix spp.*) and cottonwoods can be found growing along the stream bank.

Photographs of both sites are provided in Appendix B.

Project Description

The Hagman Road project consists of restoring up to 1,700 linear feet of riparian habitat adjacent to the right bank (looking downstream) of the Wenatchee River at river mile 11 (*Figure 3*). Approximately 0.70 acres of the riparian bank community will be planted with native shrubs and willow cuttings. Approximately 0.67 acres of the upland forest community will be planted with native trees and shrubs. The stream bank will be planted with local native willow cuttings within the ordinary high water mark.

A temporary drip-line irrigation system will be installed at the Hagman Road site to provide watering for the plants during the summer months and assist with plant establishment. A seasonal surface water permit will be applied for through the Washington Department of Ecology to allow withdrawal from the Wenatchee River.

The Wendlandt project consists of restoring approximately 325 linear feet of riparian habitat in the existing floodplain, adjacent to the right bank (looking downstream) of the Wenatchee River at river mile 13.6 (*Figure 4*). Approximately 0.90 acres of the riparian bank community will be planted with native shrub and tree species. The stream bank will be planted with local native willow cuttings within the ordinary high water mark. The landowner's existing irrigation system at the site will be extended to provide water to the new plantings. All of the native trees and shrubs will be adapted to hydric conditions and coarse grained substrates. The planting and growth of the shrubs and trees will stabilize the stream banks within the active floodplain to protect the upland areas.

Site specific design plans are provided in Appendix A.

Figure 3: Hagman Road Project Map

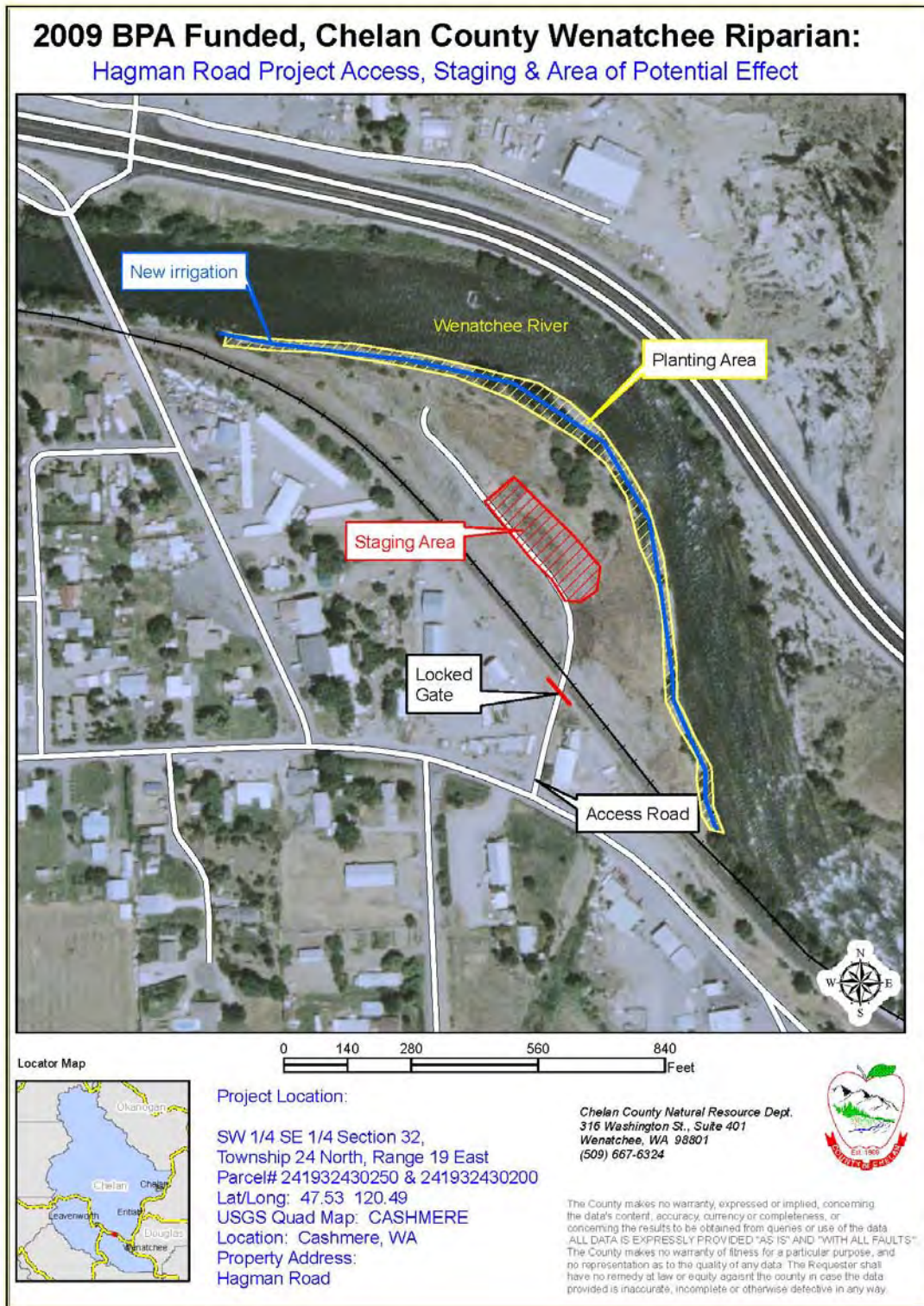
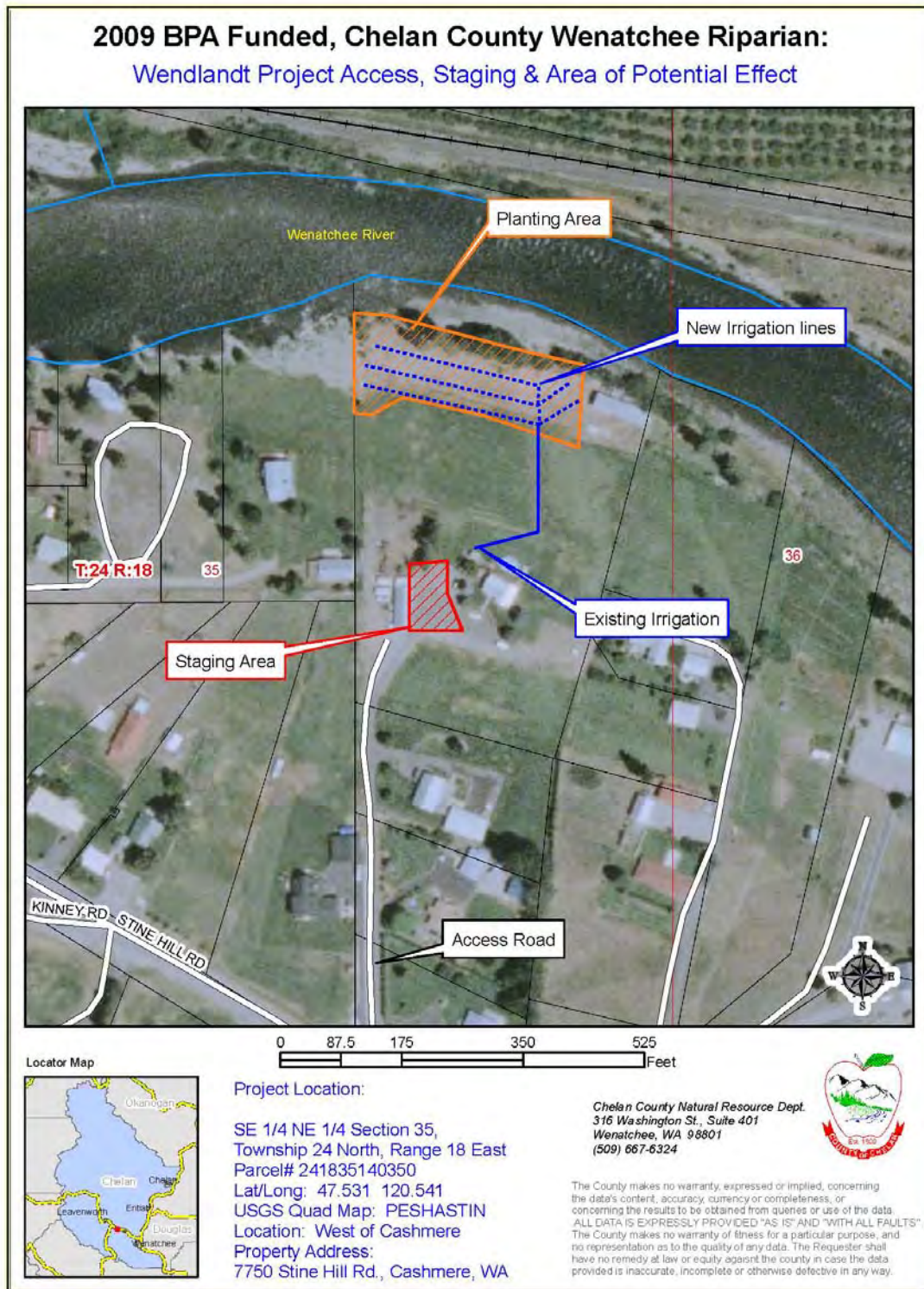


Figure 4: Wendlandt Project Map



Project Goals & Objectives

- Address a primary salmonid limiting factor affecting habitat condition; riparian habitat has been significantly lost or degraded in the lower Wenatchee River reach.
 - Restore approximately 1.60 acres of the riparian bank community and approximately 0.67 acres of the upland forest community by planting native trees and shrubs.
- Increase stream bank stability by planting riparian vegetation along the stream banks.
 - Plant with native riparian shrub and trees to establish deep-rooted stream bank vegetation.
- Increase biological and structural diversity in the riparian community.
 - Plant a mix of native deciduous and coniferous tree, shrub and willow species within the existing floodplain.

Project Materials

Plant list by Project Site (containers):

<u>Common name</u>	<u>Wendlandt</u>		<u>Hagman Road</u>		<u>Total</u>
	<u>Size</u>	<u>Qty.</u>	<u>Size</u>	<u>Qty.</u>	
serviceberry (<i>Amelanchier alnifolia</i>)	1 gal	25	1 gal	60	85
red osier dogwood (<i>Cornus sericea</i>)	40 ci	60	40 ci	125	185
red osier dogwood (<i>Cornus sericea</i>)			10 ci	175	175
mockorange (<i>Philadelphus lewisii</i>)	1 gal	25			25
chokecherry (<i>Prunus virginiana</i>)	1 gal	10	1 gal	40	50
golden currant (<i>Ribes aureum</i>)	1 gal	27	1 gal	200	227
Nootka rose (<i>Rosa nutkana</i>)					0
Wood's rose (<i>Rosa woodsii</i>)	10 ci	40	10 ci	300	340
common snowberry (<i>Symphoricarpos albus</i>)					0
blue elderberry (<i>Sambucus cerulean</i>)					0
vine maple (<i>Acer circinatum</i>)					0
mountain alder (<i>Alnus tenuifolia</i>)					0
water birch (<i>Betula occidentalis</i>)					0
Douglas hawthorne (<i>Crataegus douglasii</i>)			1 gal	50	50
Ponderosa pine (<i>Pinus ponderosa</i>)	1 gal	10	40 ci	200	210
black cottonwood (<i>Populus trichocarpa</i>)	1 gal	12	40 ci	100	112
Quaking aspen (<i>Populus tremuloides</i>)	1 gal	18			18
Douglas fir (<i>Pseudotsuga menziesii</i>)					0
Totals		227		1250	1477

Materials & Supplies by project site:

Project Component	Materials Description
Property boundary/corners, planting area layout & photo points establishment	48" wood laths, 1"x 2" x 18" wood stakes, orange spray paint, rebar, orange plastic caps, pink flagging and orange flagging.
Irrigation Installation	1" round poly tube, 5 mm bulk tubing, 1" male adapters, 1" hose clamps, barbed couplings, .5 gallon drip emitters, gas powered pump, hose kit combo kit, and pump fish screen.
Herbivory Protection	14 gauge metal fencing 36" x 50', form tie wire, wire snips, 1" x 2" x 24" high wood stakes.
Stream bank Stabilization	Erosion control fabric (coconut matting) and wooden stakes.

Methodology/ Site Preparation

Staging

- Hagman Road: The staging area will be within the existing parking area for the mulching center, adjacent to the gravel road as identified in Figure 3. The staging area will be used to store equipment and supplies, as well as vehicle use by crews and county staff. The area is currently graveled and will not need to be grass seeded at the completion of the project. The crew will hand carry all materials to the planting site. A key to the locked gate will be obtained from the City of Cashmere prior to project implementation and will be promptly returned at completion.
- Wendlandt: The staging area will be within the existing paved driveway as identified in Figure 4 and will be used for vehicle parking and the storage of planting materials. The crew will hand carry all materials to the planting site.

Site Preparation *(to occur prior to project implementation)*

- Locate and flag the property corners for each project site.
- Stake and flag the approximate boundary of the planting areas and native vegetation to be preserved.
- Identify banks that need stabilization and install erosion control fabric.
- Remove any invasive vegetation on the site prior to planting.
- Layout plants prior to installation to maintain proper spacing.

Riparian Planting

- Collect willow cuttings from approved sites and install along the stream banks within the ordinary high water mark.

- Install native shrubs and trees as per design plans in Appendix A. No trees will be planted beneath the drip line of existing trees.
- Hagman Road Riparian Bank Community: Species to be planted include serviceberry, choke cherry, golden currant, Wood's rose and Douglas Hawthorne. Red osier dogwood and native willow cuttings will be installed between the edge of water and the ordinary high water mark.
- Hagman Road Upland Forest Community: Species to be planted include ponderosa pine and black cottonwood.
- Wendlandt Riparian Bank Community: Species to be planted include serviceberry, mockorange, chokecherry, golden currant, Wood's rose and black cottonwood. Ponderosa pine, quaking aspen and some black cottonwood will be planted on the outer edge of the existing floodplain towards the upland. Redosier dogwood and native willow cuttings will be installed between the edge of water and the ordinary high water mark.

Irrigation

- Hagman Road: Install a drip line irrigation system to provide water opportunities to each individual plant.
- Wendlandt: Extend the existing irrigation system to provide water to the planting area.

Monitoring & Maintenance

The monitoring plan for both project sites will follow guidelines from Project Monitoring: a guide for sponsors in the Upper Columbia Basin (Hillman 2005). The longevity of monitoring and maintenance by CCNRD will depend on funding availability. Assuming adequate funding, monitoring will occur during years 1, 3 and 5. A photo monitoring system will be established to evaluate changes over time and survival of vegetation and bank stability will be measured. The photo points will be established prior to project implementation. Site maintenance will be determined by monitoring results and may include: fill planting, invasive plant control, irrigation system maintenance and repair predator protection materials.

References

EcoAIM. 2006. Wenatchee Subbasin Riparian Assessment. Prepared for the Chelan County Natural Resource Department, Wenatchee, WA.

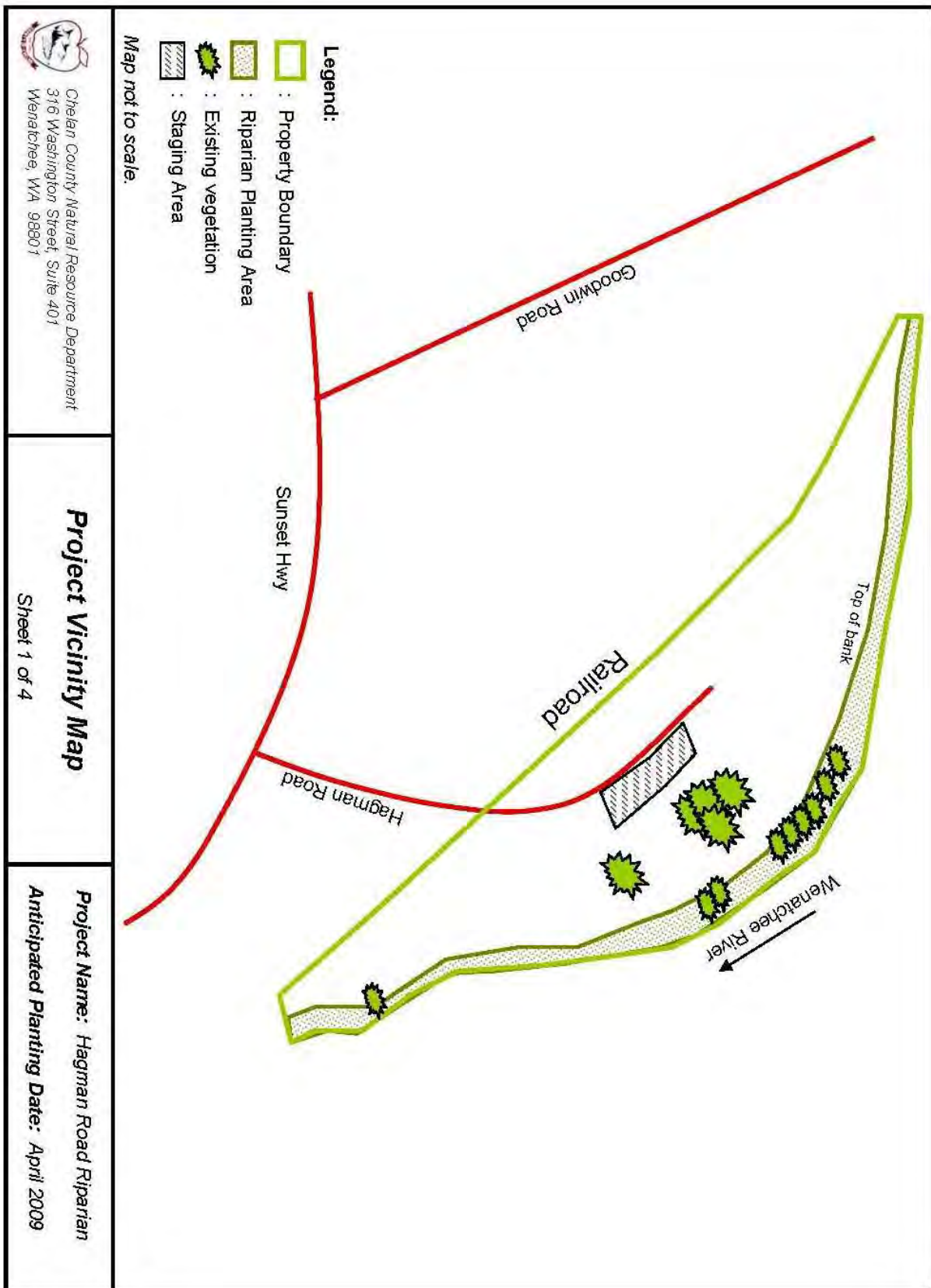
Hillman, Tracy. 2005. Project Monitoring: A Guide for Sponsors in the Upper Columbia Basin

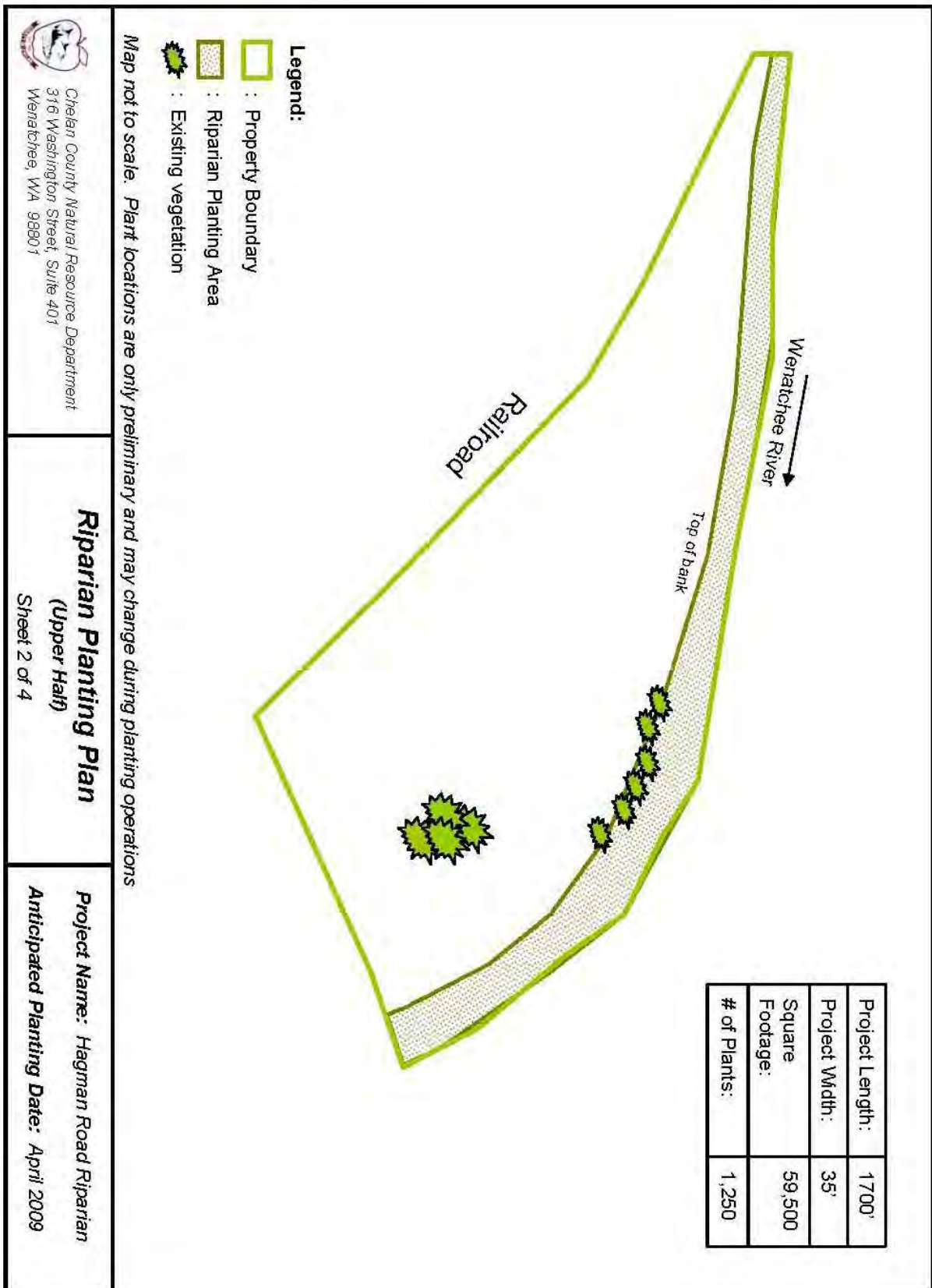
Upper Columbia Regional Technical Team (UCRTT). 2008. A Biological Strategy to Protect and Restore Salmonid Habitat in the Upper Columbia Region. Revised April 30, 2008.

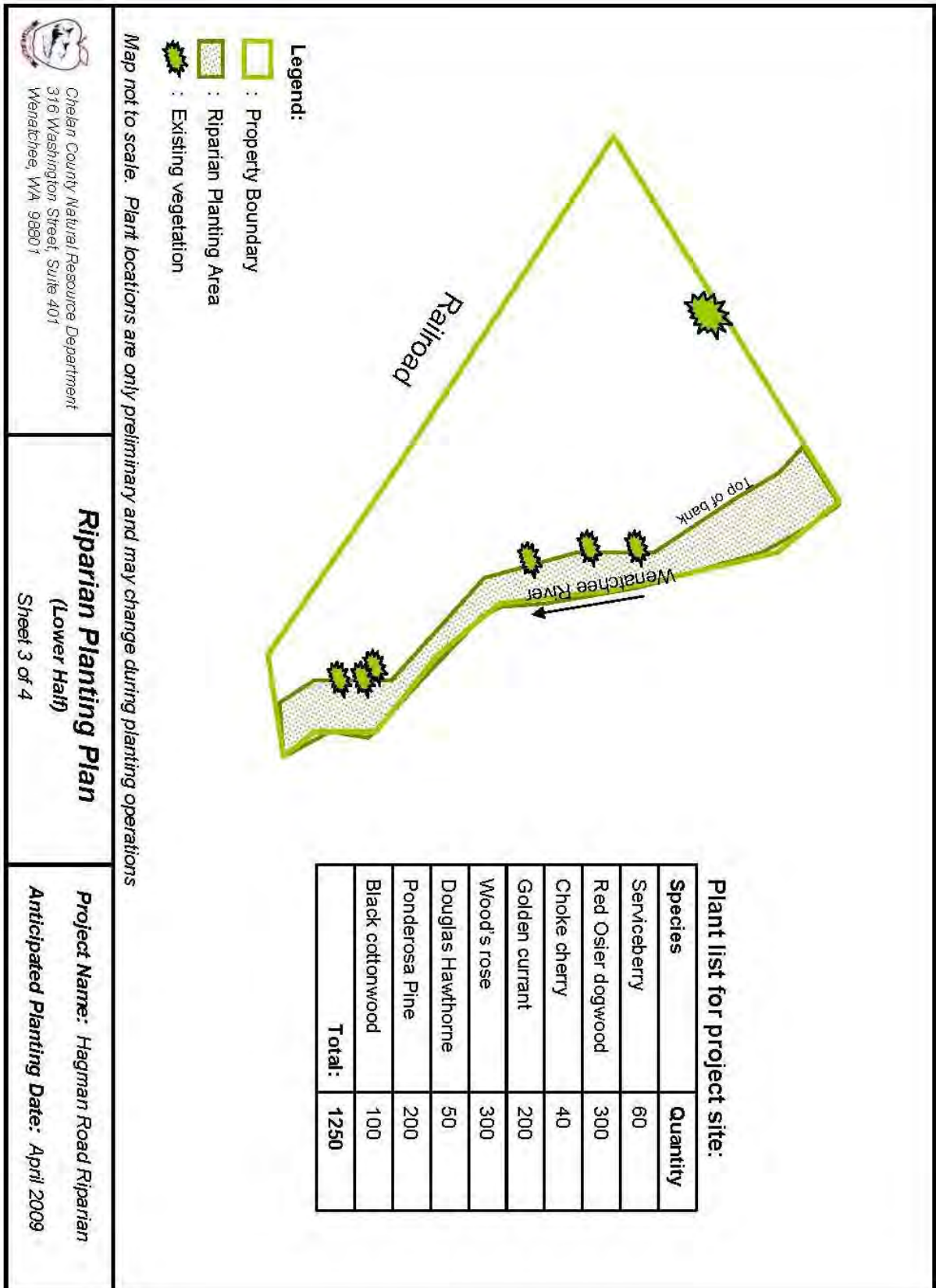
Upper Columbia Salmon Recovery Funding Board. 2007. Upper Columbia Spring Chinook Salmon and Steelhead Recovery Plan.

Wenatchee Watershed Planning Unit. 2008. Wenatchee Watershed Planning Phase IV - Detailed Implementation Plan.

Appendix A: Design Sheets



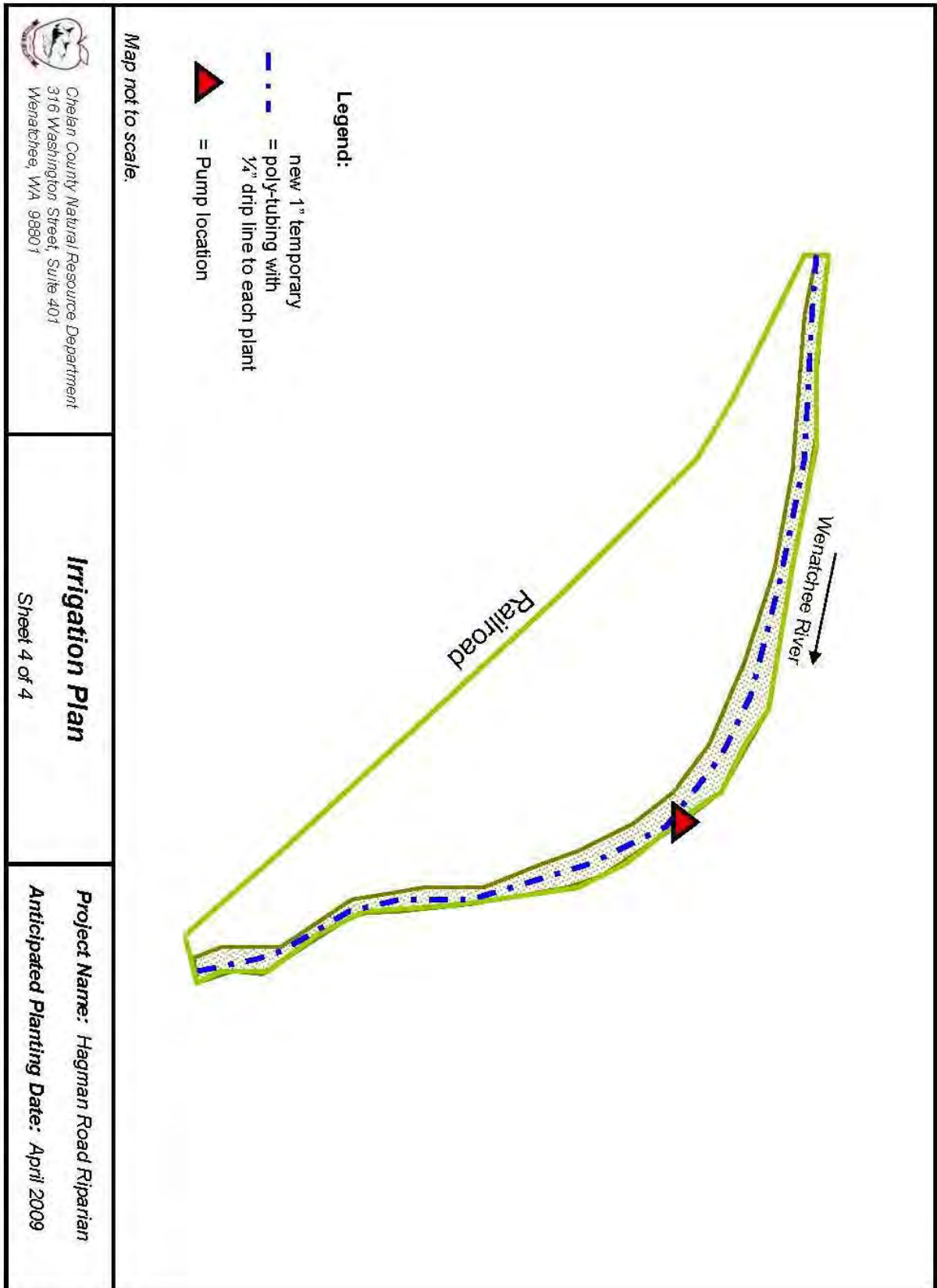




Chelan County Natural Resource Department
 316 Washington Street, Suite 401
 Wenatchee, WA 98801

Riparian Planting Plan
 (Lower Half)
 Sheet 3 of 4

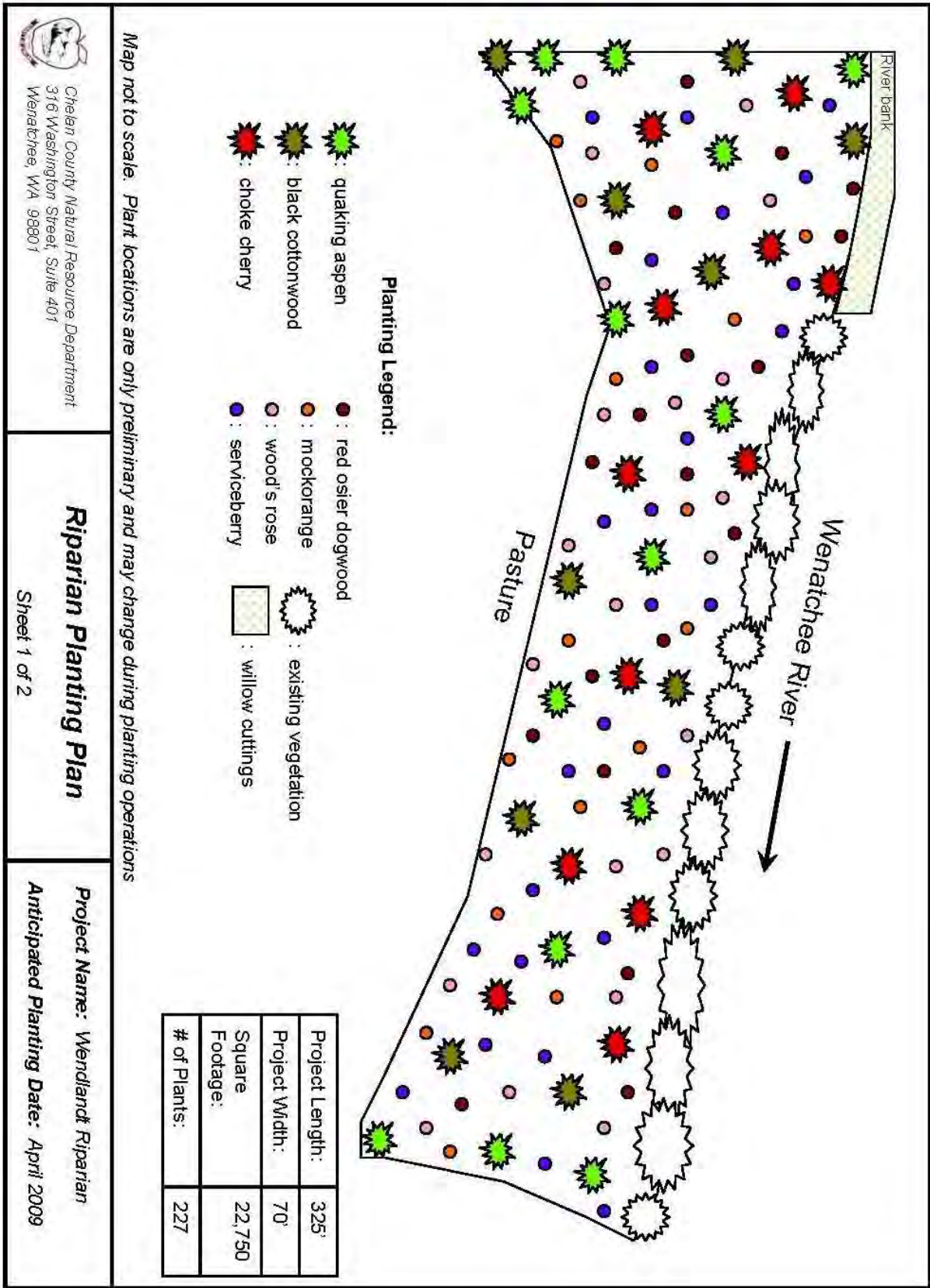
Project Name: Hagman Road Riparian
Anticipated Planting Date: April 2009



Chelan County Natural Resource Department
316 Washington Street, Suite 401
Wenatchee, WA 98801

Irrigation Plan
Sheet 4 of 4

Project Name: Hagman Road Riparian
Anticipated Planting Date: April 2009



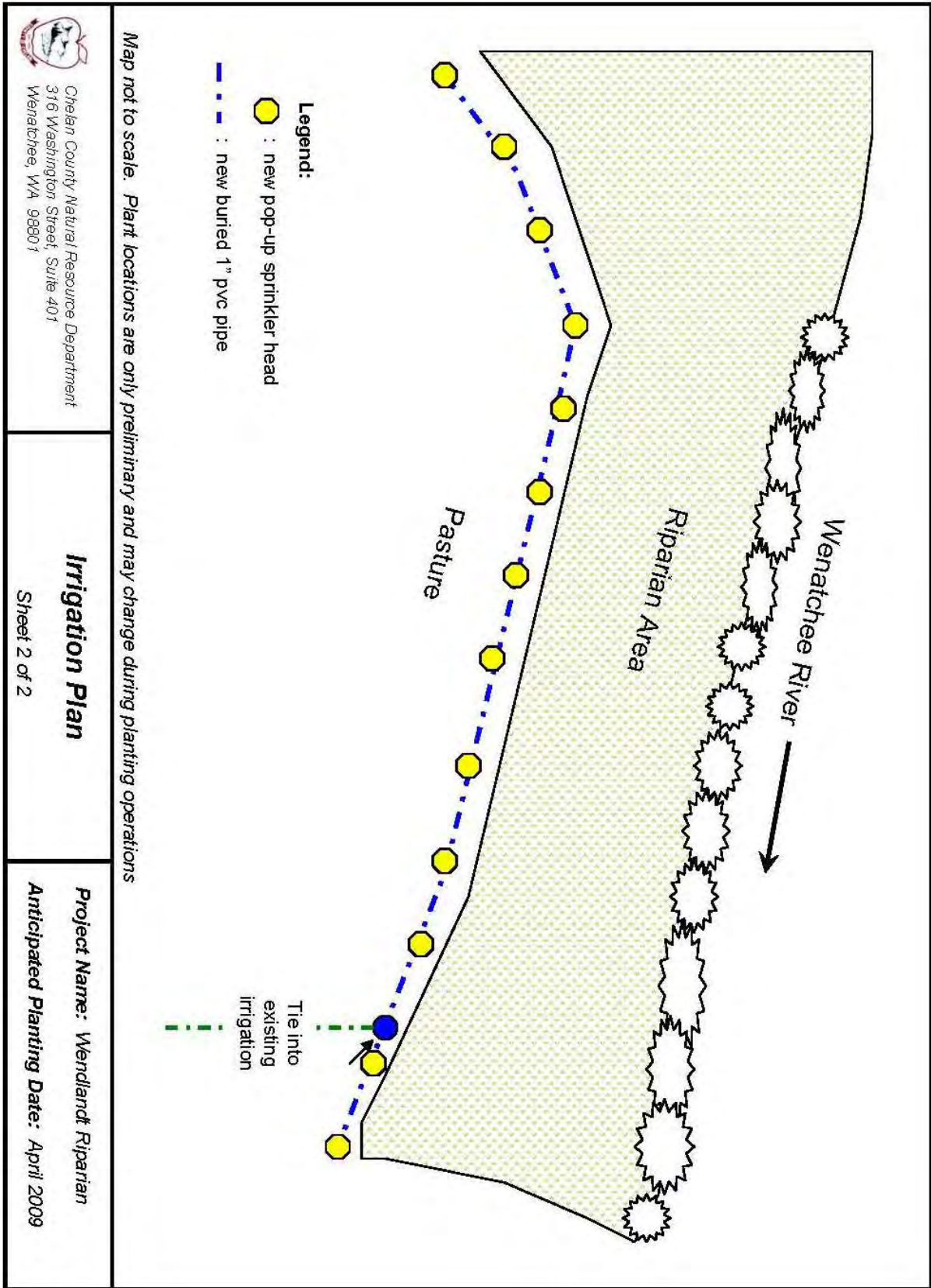
Chelan County Natural Resource Department
 316 Washington Street, Suite 401
 Wenatchee, WA 98801

Riparian Planting Plan

Sheet 1 of 2

Project Name: Wendlandt Riparian

Anticipated Planting Date: April 2009



Appendix B: Photos

Hagman Road Project (photos taken November 10, 2008)



Wendlandt Project (photos taken May 29, 2008)



**APPENDIX D
PERMITS**

REVISED CLEANUP ACTION WORK PLAN
John Michael Lease Site
5640 Sunset Highway
Cashmere, Washington

Farallon PN: 283-006

RECEIVED

SEP 19 2011

Farallon Consulting, L.L.C.

SHORELINE MANAGEMENT PERMIT

ACTION SHEET

Application #: SDP 2010-035
SCUP 2010-036
RipV 2011-047

Administering Agency Chelan County Department of Community Development

Type of Permits:

- Shoreline Substantial Development Permit
- Shoreline Conditional Use Permit
- Riparian Variance

Action: ■ Approved □ Denied

Date of Action: September 12, 2011

Date Mailed to DOE/AG

Pursuant to Chapter 90.58 RCW, the Chelan County Shoreline Master Program, the Chelan County Comprehensive Code and the Chelan County Code, the above-referenced permits are hereby approved for:

**BNSF Railway Company
2454 Occidental Ave. S, Suite 1A
Seattle, WA 98134-1451**

**John Michael
PO Box 383
Cashmere, WA 98815**

To undertake the following development: The applicant proposes a cleanup project that consists of excavation and off-site disposal of 6,643 cubic yards of soil with concentrations of petroleum hydrocarbons exceeding the Washington State Model Toxics Control Act Cleanup Regulation (MTCA) cleanup levels for soil. Excavation will extend from the ground surface to a depth of approximately 12 to 16 feet below ground surface. The excavation will be conducted in

SDP 2010-035/SCUP 2010-036/RipV 2011-047 BNSF Railway Company/John Michael

three areas, covering a total estimated area of 17,106 square feet. It is not anticipated that excavation activities will extend to the Wenatchee River shoreline.

The excavating activities will be conducted using a rubber-tire backhoe and/or track-mounted excavator. Excavations will be backfilled with clean, imported fill and clean overburden removed during excavation activities. Excavated soil containing concentrations of total petroleum hydrocarbons above the MTCA cleanup levels will be loaded directly into trucks and transferred for disposal at a solid waste landfill. Clean overburden will be stockpiled on the property during excavation activities. Both excavation and stockpiling activities will be conducted within the 100-year floodplain and west of the Wenatchee River. Cleanup action activities are not anticipated to be conducted within 35 feet of the Wenatchee River shoreline. Excavation activities are estimated to extend laterally to within 35 feet of the Wenatchee River shoreline and vertically down to and into the upper 2 feet of the groundwater table, estimated at 15 to 16 feet below ground surface.

Groundwater may be removed from the excavation areas, and there will not be adverse impacts to the Wenatchee River or the aquatic environment. Work will not be conducted near or waterward of the Ordinary High Water Mark of the Wenatchee River. An Erosion Control Plan that provides specific measures to control erosion has been prepared for the cleanup action. These erosion-control measures include installing a silt fence around the perimeter of excavations, berming and covering soil stockpiles, and hydroseeding after backfilling activities have been completed. Stormwater and wastewater from decontamination will be collected in a temporary lined sump and pumped to an on-site storage tank for off-site disposal during excavation. Stormwater will be allowed to infiltrate permeable soil after completion of the excavation and backfill.

No fill material will be placed in the Wenatchee River. Clean fill materials will be used to backfill the excavation areas, consistent with appropriate engineering practices. There will be no net loss or gain of subsurface material volume as a result of the cleanup action. It is estimated that approximately 6,600 cubic yards of fill material will be used for backfill. Clean overburden removed during excavation activities also will be used to backfill the excavation areas;

Upon the following property: The subject property is located on the northeast corner of Sunset Highway and Hagman Road, Cashmere, WA 98815, and is found within a portion of Section 05, Township 23 North, Range 19 East, W.M., in Chelan County, Washington;

Within 200 feet of Wenatchee River and/or its associated wetlands.

The project will be within a shoreline of statewide significance (RCW 90.58.030). The project will be located within an Urban shoreline environment designation.

The following Shoreline Master Program provisions are applicable to this development: Sections 7, 9, 11, 16, 21, 27 and 29.

All conditions imposed herein shall be binding on the "Applicant," which terms shall include the owner or owners of the property, heirs, assigns and successors.

CONDITIONS OF APPROVAL

Chelan County Community Development

1. A copy of this permit and attached conditions shall be kept on-site and provided to the contractor and all others working within the shoreline area at all times. The applicant,

contractor, machinery operators and all others working within the shoreline area shall have read this permit and attached conditions and shall follow its conditions at all times.

2. All conditions imposed by the Administrator shall be binding on the Applicant, which includes the owner or owners of the properties, heirs, assigns, and successors.
3. The project shall proceed in compliance with the Shoreline Management Act (RCW 90.58), the Washington Administrative Code, the Chelan County Shoreline Master Program, the City of Cashmere Comprehensive Plan, the City of Cashmere Municipal Code, and the Chelan County Code.
4. No structures or development other than what is described within the JARPA, date stamped February 15, 2011, shall be conducted under this permit.
5. Prior to commencement of this project, the applicant shall obtain all necessary permits from agencies with jurisdiction. This may include, but is not limited to: the United States Army Corps of Engineers, the Washington State Department of Fish and Wildlife, the Washington State Department of Ecology, and the Washington State Department of Natural Resources.
6. Development activities shall proceed substantially as shown on the application materials and the site plans (date stamped February 15, 2011) on file with the Chelan County Department of Community Development. However, changes required by other permitting agencies shall be allowed if required by an agency to protect the functions or values of the shoreline, riparian and/or wetland areas.
7. Development activities pursuant to the Shoreline Substantial Development Permit, and Shoreline Conditional Use Permit shall not begin and is not authorized until twenty-one (21) days from the date of receipt, as defined in RCW 90.58.140(6) and WAC 173-27-130, or until all review proceedings initiated within twenty-one (21) days from the date of such receipt have been terminated; except as provided in RCW 90.58.140(5)(a) and (b). The date of receipt is the date of actual receipt of a complete submittal of local government action by the Department of Ecology (DOE). After local government approval of the shoreline conditional use permit application, local government shall submit the permit to DOE for approval, approval with conditions or denial. DOE shall render and transmit to local government and the applicant its final decision approving, approving with conditions, or disapproving the permit within thirty days of the date of receipt from local government. Authorization to conduct the entire development may not occur for 51 days from receipt of the local government permit filing by DOE.
8. Development activities shall commence for the project for which these shoreline permits have been granted, within two (2) years of the granting of these permits. Authorization to conduct development activities granted by these permits shall terminate five (5) years from the Department of Ecology issuance date of these permits.
9. Pursuant to Chelan County Code Section 11.95.080, this Riparian Variance shall become void three years after approval if no substantial construction has taken place or such other time period as established by the hearing examiner.
10. The applicant did not submit an Aquifer Recharge Disclosure Form. Pursuant to Chapter 11.82 of Chelan County Code, an Aquifer Recharge Disclosure Form shall be required to be submitted, prior to issuance of a building permit for this project.

11. Any construction debris and excavated material removed from the shoreline area as a result of the development activities shall be transported to a legal disposal facility located outside shoreline jurisdiction.
12. The applicant shall be responsible for properly installing and maintaining erosion control devices on the site to control silts, soils or other debris from entering the Wenatchee River and the riparian area due to runoff across disturbed areas of the property. Erosion control shall be installed and maintained until such time that native vegetation has been planted and established in all disturbed areas.
13. Off-site disturbance or grading of any kind is prohibited.
14. Chelan County reserves the right to stop all grading and excavation activities during rain events, to prevent erosion.
15. Existing native vegetation within the riparian buffer shall be maintained as riparian habitat. Disturbance of this vegetation shall be limited solely to the permitted activities outlined within this substantial development permit, shoreline conditional use permit, and riparian variance. Disturbed riparian vegetation shall be supplemented with native vegetation and plant materials selected from an approved plant list, developed jointly by Chelan County, the Washington State Department of Ecology and the Washington State Department of Fish & Wildlife, or as approved in a Habitat Management and Mitigation Plan for this site. New plantings shall consist of large nursery stock, commercial tublings or seedlings, and/or cuttings from local donor sites.
16. Once final grading of the site is complete, the applicant shall revegetate all disturbed areas. Revegetation shall be conducted in kind regarding the vegetation that was removed; eg. All trees removed shall be replaced with trees, and all shrubs shall be replaced with shrubs. Only native trees, shrubs and grasses shall be used to revegetate disturbed areas.
17. Prior to commencing the project, the applicant shall obtain a bond or an irrevocable letter of credit in favor of Chelan County, only to be released by Chelan County at the end of 2 years, or until such a time that the County can verify 80% survival rate. Bonding or credit shall be obtained in the amount of 150% of the total cost of plants, labor and materials for the planting plan for all areas of disturbance caused by slope grading. The applicant shall submit two cost estimates for the planting work to be completed.
18. A Mitigated Determination of Non-Significance, with multiple conditions, was issued on June 3, 2011. The applicant shall comply with all conditions associated with this SEPA determination.
19. The applicant shall conduct a full archaeological survey before any excavation and/or other ground disturbing activities and shall comply with all recommendations contained within this survey.
20. Chelan County is not responsible for notification or enforcement of covenants or deed restrictions or reservations affecting use or title. Any permit issued does not acknowledge or recognize any covenants or deed restrictions or reservations that may burden or otherwise affect this property. Applicant/owner assumes all risk and liability for any claims and liabilities for covenants or deed restrictions or reservations.

21. Chelan County hereby acknowledges the potential for existing easements which have previously been recorded on this property. These previously recorded easements may have an "indeterminate" location. These indeterminate easements which encumber the property may result in the inability of the County to issue a building permit or cause a delay in permit issuance until such time as the aforementioned easement issue is resolved to the satisfaction of Chelan County or other applicable permitting authority.

Department of Ecology

22. Erosion control measures must be in place prior to any clearing, grading or construction. These control measures must be effective to prevent soil from being carried into surface water by stormwater runoff. Sand, silt and soil will damage aquatic habitat and are considered pollutants.
23. Any discharge of sediment-laden runoff or other pollutants to waters of the state is prohibited.
24. Best management practices must be used to prevent any sediment, oil, gas or other pollutants from entering surface or ground water.

Chelan County Public Works

25. Prior to commencement of operation, the applicant shall provide a haul route to Chelan County Public Works (PW). Identify the location where the excavated material will be taken. A highlighted map with a narrative on the route from the site to the dump location shall be provided to PW for review and approval. The amount of material being taken from, and replaced to, the site shall be indicated. The County Engineer must approve of the haul route. The County Engineer may modify the haul route to put less burden on the County road system. If City or State roads are being used to transport material, the applicant shall notify affected agencies of the activity.
26. Due to the number of heavy trucks that will be hauling material to and from the site, it shall be the applicant's responsibility to repair any and all damage done to the county roads that is attributed to this project. Road damage and consequential repairs shall be determined at the County Engineer's discretion.
27. According to discussions with the engineer of record, Dan Caputo with Farallon Consulting LLC., the intent is to not excavate within the county right-of-way (ROW). If excavation in the ROW is performed, the following criteria shall be adhered to: a) Structural integrity of the county roadway(s) shall be maintained at all times. b) a ROW permit shall be obtained from the PW department prior to any work being done. c) The ROW shall be restored to its original condition or better.
28. According to the application "Site Plan Showing Limits of Excavation" and discussions with the engineer of record, Dan Caputo with Farallon Consulting LLC., it appears the access to the site will need to be moved. Prior to commencement of operation, the applicant shall obtain a Temporary Driveway Access Permit from PW. Upon completion of the work, the roadway and ROW shall be restored to their original condition or better.

Chelan County PUD

29. Grading or excavation in transmission line right-of-way shall not commence without prior written approval of the District.
30. District's access must be maintained at all times.
31. Grading or excavation within 50 feet of the District's poles is prohibited. Beyond 50 feet excavation shall be a minimum slope of 2:1.
32. The excavation contractor shall schedule a pre-construction meeting with the District representative prior to the start of the project; Jeff Mitchell 509-661-4160.
33. Temporary or permanent relocation of District facilities will be at the discretion of the District's engineer and anticipated to be at the expense of the requesting party.

Hearing Examiner

34. Any groundwater removed from the excavation area shall be stored on-site in a tank for later removal or shall be removed from the site by truck for off-site disposal.

FINDINGS OF FACT

1. The applicant/agent is Farallon Consulting LLC, Attn: Amy Essig Desai, 975 – 5th Ave. NW, Issaquah, WA 98027.
2. The owners are BNSF Railway Company, Attn: Mark Engdahl, 2454 Occidental Ave. S, Suite 1A, Seattle, WA 98134-1451, and John Michael, PO Box 383, Cashmere, WA 98815.
3. The subject property is located on the northeast corner of Sunset Highway and Hagman Road, Cashmere, WA 98815, and is found within a portion of Section 05, Township 23 North, Range 19 East, W.M., in Chelan County, Washington.
4. The parcel numbers are Parcel Nos. 23-19-05-120-070 and 23-19-05-120-120.
5. The legal descriptions are:
23-19-05-120-070= Burlington Northern lease 250 477;
23-19-05-120-120= Pt of the North ½ NWNWNE, East of the County Road.
6. The project is located within the City of Cashmere's Urban Growth Area.
7. The Comprehensive Plan Designations are Warehouse Industrial (WI) and Public (P).
8. The zoning designations are Warehouse Industrial (WI) and Public (P).
9. The subject properties are mixed use and consist of the BNSF right-of-way adjacent to the real property at 5640 Sunset Highway. A portion of the BNSF right-of-way is leased by a private citizen, John Michael, for commercial operations associated with Michael's Tires and Supply. The leased portion consists of a 0.34 acre parcel (23-19-05-120-070) that is used for parking and storage of irrigation materials. There is a commercial structure on site

that the business is conducted from. There is no record of a building permit for this structure. An active rail line crosses the property. The remainder of the property is vegetated.

10. The subject properties are located on nearly flat land, with slopes ranging from 0 to 3 percent.
11. According to Assessor's records, parcel ending in 070 is 0.34 acres, and parcel ending 120 is 0.27 acres.
12. The property to the north is lot zoned Public and the Wenatchee River.
13. The property to the south is Sunset Highway and lots zoned Multi Family and Mixed Commercial – Light Industrial.
14. The property to the east is BNSF rail line and the Wenatchee River.
15. The property to the west is Hagman Road and lots zoned Mixed Commercial – Light Industrial.
16. The applicant has not submitted an Aquifer Recharge Disclosure Form. Pursuant to Chapter 11.82 of Chelan County Code, Zoning Resolution, an Aquifer Recharge Disclosure Form will be required.
17. The subject properties are located within the Horizontal Surface of the Cashmere Municipal Airport.
18. According to the Washington State Department of Fish and Wildlife Priority Habitat and Species Maps, the subject properties are within an identified fish and wildlife habitat conservation area; Class II for Riparian area. There is a small riparian area east of the tracks along the shoreline of the Wenatchee River.
19. According to the Federal Emergency Management Agency, panel # 5300150600A of the FIRM maps identify flood plain associated with the subject properties. Floodplain runs along the tracks and along the northeast property line of parcel 23-19-05-120-070.
20. According to Chapter 11.86 of the Chelan County Code, the subject properties are located outside an identified Chelan County Geologically Hazardous Area.
21. According to the National Wetlands Inventory Map prepared by the US Department of Fish and Wildlife Services, there are no identified wetlands located on the subject properties.
22. The subject properties are within the jurisdiction of the Chelan County Shoreline Master Program. The Wenatchee River is a shoreline of statewide significance. The shoreline environment classification is Urban.
23. The subject properties are within or adjacent to riparian areas or buffers. According to the Forest Practices Application Review System map, there is a Type N stream located on the subject property. The stream is mapped on the west side of the structures on the property, along Hagman Road. A staff site visit found no evidence of a stream on site. If the stream exists, it may be piped underground.

24. A cultural resource survey has not been completed, but through the public comment period, Yakama Nation and the Department of Archaeology & Historical Preservation have requested that a cultural resource survey be conducted prior to the project commencing. Should cultural materials be encountered during construction of this project, work shall be halted in the immediate vicinity, and the applicant/contractor shall immediately contact the Department of Archaeology and Historical Preservation.
25. The applicant proposes a cleanup project that consists of excavation and off-site disposal of 6,643 cubic yards of soil with concentrations of petroleum hydrocarbons exceeding the Washington State Model Toxics Control Act Cleanup Regulation (MTCA) cleanup levels for soil. Excavation will extend from the ground surface to a depth of approximately 12 to 16 feet below ground surface. The excavation will be conducted in three areas, covering a total estimated area of 17,106 square feet. It is not anticipated that excavation activities will extend to the Wenatchee River shoreline.
26. The excavating activities will be conducted using a rubber-tire backhoe and/or track-mounted excavator. Excavations will be backfilled with clean, imported fill and clean overburden removed during excavation activities. Excavated soil containing concentrations of total petroleum hydrocarbons above the MTCA cleanup levels will be loaded directly into trucks and transferred for disposal at a solid waste landfill. Clean overburden will be stockpiled on the property during excavation activities. Both excavation and stockpiling activities will be conducted within the 100-year floodplain and west of the Wenatchee River. Cleanup action activities are not anticipated to be conducted within 35 feet of the Wenatchee River shoreline. Excavation activities are estimated to extend laterally to within 35 feet of the Wenatchee River shoreline and vertically down to and into the upper 2 feet of the groundwater table, estimated at 15 to 16 feet below ground surface.
27. Groundwater may be removed from the excavation areas, and there will not be adverse impacts to the Wenatchee River or the aquatic environment. Work will not be conducted near or waterward of the Ordinary High Water Mark of the Wenatchee River. An Erosion Control Plan that provides specific measures to control erosion has been prepared for the cleanup action. These erosion-control measures include installing a silt fence around the perimeter of excavations, berming and covering soil stockpiles, and hydroseeding after backfilling activities have been completed. Stormwater and wastewater from decontamination will be collected in a temporary lined sump and pumped to an on-site storage tank for off-site disposal during excavation. Stormwater will be allowed to infiltrate permeable soil after completion of the excavation and backfill.
28. No fill material will be placed in the Wenatchee River. Clean fill materials will be used to backfill the excavation areas, consistent with appropriate engineering practices. There will be no net loss or gain of subsurface material volume as a result of the cleanup action. It is estimated that approximately 6,600 cubic yards of fill material will be used for backfill. Clean overburden removed during excavation activities also will be used to backfill the excavation areas.
29. Construction to begin as soon as all permits and approvals have been received.
30. The subject properties can be accessed from Sunset Highway.
31. According to the Department of Ecology's well logs, there is no record of a well on the subject property. Water is not needed for this proposal.

32. Electricity provided by Chelan County PUD # 1.
33. There is no sanitation on site.
34. The subject property is within the Chelan County Fire District No. 6
35. Noise impacts are similar to other machinery excavation work.
36. The subject proposal will have no long term visual impact due to the fact that no structure is being constructed as part of this proposal. During construction of this project, machinery will be visible, but will not obstruct the view of the river.
37. The Notice of Application was referred to jurisdictional agencies and departments of the County. These agencies were notified on March 3, 2011. Comments were due April 3, 2011. Agency comments are in the form of recommended Conditions of Approval for the proposal. The following agencies and County departments provided comments:
 - 37.1 Chelan County Public Works responded on April 18, 2011.
 - 37.2 Chelan-Douglas Health District responded on March 9, 2011.
 - 37.3 Chelan County PUD Power responded on April 4, 2011.
 - 37.4 Chelan County PUD Property responded on April 4, 2011.
 - 37.5 Washington State Department of Ecology responded on March 31, 2011 and May 4, 2011.
 - 37.6 WA State Department of Transportation responded on March 3, 2011
 - 37.7 Department of Archaeology & Historic Preservation responded on April 4, 2011.
 - 37.8 Yakama Tribe responded on March 10, 2011, and April 7, 2011.
38. The following agencies were notified but did not respond:
 - 38.1 Chelan County Fire Marshal.
 - 38.2 Chelan County Fire District 6.
 - 38.3 City of Cashmere.
 - 38.4 WA. Dept. of Fish & Wildlife.
 - 38.5 Confederated Tribes of the Colville Reservation.
 - 38.6 US Fish & Wildlife.
 - 38.7 Washington Department of Natural Resources.
 - 38.8 US Army Corps of Engineers.
 - 38.9 Board of County Commissioners.
 - 38.10 Natural Resources Department – Mike Kaputa.
39. No public comments were received.
40. A Determination of Non-significance (DNS) was noticed on April 18, 2011, in accordance with the DNS process found in WAC 197.11.340. The proposal does not have a probable significant adverse impact on the environment that cannot be adequately mitigated on-site, and an environmental impact statement (EIS) is not required. A Mitigated DNS, with multiple conditions, was issued on June 3, 2011. The SEPA Checklist and MDNS are included within the file of record as adopted by reference.
41. The application was submitted on August 30, 2010.
42. A Determination of Incomplete was issued on September 9, 2010, and November 1, 2010.

43. A determination of completeness was issued on February 28, 2011.
44. Notice published, posted (on-site) and mailed to property owners/taxpayers within 300 feet of the property on March 3, 2011, with Public Comment Period that ended April 3, 2011.
45. Notice published and mailed to property owners/taxpayers within 300 feet of the property on August 26, 2011.
46. The applicant has demonstrated compliance with all applicable provisions of the Revised Code of Washington. The applicant indicates that the estimated cost of the proposed project will be \$430,000, which is considered substantial development pursuant to RCW 90.58.030(3)(e) [amended by WSR 7-15-090].
47. The applicant has demonstrated compliance with the applicable provisions of the Washington Administrative Code. The proposed project is designed to meet the policies, procedures, and regulations of the Shoreline Management Act. The subject proposal does not meet the terms of a listed exemption, therefore the proposal requires the approval of a substantial development permit.
48. According to the definition found in section 7.2.810, wetlands are considered those lands found within shoreline jurisdiction. Any impacts proposed within shoreline jurisdiction must be restored.
49. According to RCW 90.58.030(3)(e), "Substantial Development" shall mean any development of which the total cost or fair market value exceeds \$5,718.00, or any development which materially interferes with the normal public use of the water or shorelines of the state. The proposal exceeds this dollar threshold (the applicant estimates approximately \$430,000), thus necessitating a Shoreline Substantial Development Permit.
50. The excavation and landfill (also known simply as fill) will only take place landward of the OHWM. The project is proposed for cleanup of the contaminated soils located on the subject properties, and only clean fill is proposed to be used. This project will not facilitate a water dependent use, nor will it impact navigation of the river, so Section 22.1.4 does not apply.
51. The project is consistent with Chelan County Shoreline Master Program Section 29.1(a) in the following respects:
 - 51.1 The goal of the Shoreline Management Act (SMA) is "to prevent the inherent harm in an uncoordinated and piecemeal development of the state's shorelines" (RCW 90.58.020). The cleanup action will not extend to the shoreline along the Wenatchee River and will not result in development of the shoreline. The project is a repair-in-kind for removal of soil with concentrations of total petroleum hydrocarbons (TPH) and replacement with clean imported backfill. The excavation areas will be backfilled using clean soil and compacted to pre-excavation conditions.
 - 51.2 The proposed project will positively affect state and local interests through the improvement of the soils within shoreline jurisdiction, and will decrease the likelihood that contaminated groundwater could enter the Wenatchee River. The project does not pose a significant impact to the natural character of the shoreline

because the work will be conducted in areas that are already impacted/developed. The proposed development will not cause additional harm to the shoreline. Through the design elements of the project and the answers to the applicable review criteria, the applicant has demonstrated compliance with the applicable provisions of the Shoreline Management Act, RCW 90.58.100.

52. The project is consistent with Chelan County Shoreline Master Program Section 29.1(b) in the following respects:
 - 52.1 The cleanup action is consistent with Chapter 173-27 of the Washington Administrative Code as the shoreline is not modified, removed or altered.
 - 52.2 The applicant provided documentation in the file of record addressing this requirement. The excavation and fill work will be conducted within shoreline jurisdiction, but at least 35 feet from the Ordinary High Water Mark of the river. The Hearing Examiner has determined that the proposal will be consistent with the policies and procedures of the Shoreline Management Act and the provisions found in WAC 173-27.
53. The project is consistent with Chelan County Shoreline Master Program Section 29.1(c) in the following respects:
 - 53.1 The cleanup action is being conducted to protect human health and the environment, and will protect both the shoreline and the Wenatchee River from potential contamination. Protection of public health, waters and land is one of the purposes of the Chelan County Shoreline Master Program. The cleanup action will not affect the integrity of the shoreline or river, and will improve the quality of the environment.
 - 53.2 The applicant has demonstrated compliance with the applicable provisions and sections of the Chelan County Shoreline Master Program. The location and design of the project have been found to be consistent with this document.
54. The project is consistent with Chelan County Shoreline Master Program Section 29.3.2(a) in the following respects:
 - 54.1 The cleanup action is being conducted to protect human health and the environment and will protect both the shoreline and Wenatchee River from potential contamination. The protection of waters, land and public health is one of the purposes of the Chelan County Shoreline Master Program. The cleanup action will not affect the integrity of the shoreline of the Wenatchee River, and will help ensure a healthy environment. Best Management Practices (BMPs) will be implemented to control erosion and runoff during the excavation activities.
 - 54.2 The applicant has demonstrated that the proposed project will be consistent with the policies of the Shoreline Management Act and the policies of the Chelan County Shoreline Master Program. The Act and the SMP support this type of shoreline development and use.
55. The project is consistent with Chelan County Shoreline Master Program Section 29.3.2(b) in the following respects:

- 55.1 The cleanup action does not take place along or on the shoreline of or in the Wenatchee River. There is no public access to the proposed work; therefore, the cleanup action will not interfere with normal public use.
- 55.2 This project is being conducted as a cleanup effort to decrease the potential for contaminants to enter the shoreline area and river. Upon completion of the project, there will not be any additional structures on the properties. The project will not negatively impact recreational opportunities already established nearby, nor the normal public use of public shorelines.
- 56. The project is consistent with Chelan County Shoreline Master Program Section 29.3.2(c) in the following respects:
 - 56.1 Not applicable, as no change to current site use will occur as a result of the cleanup action.
 - 56.2 The proposed project is not introducing a new use on the subject properties. The granting of this conditional use permit will allow for the cleanup of the soil on the properties which will increase public safety and decrease the potential for waterbody and groundwater contamination. The project will not be increasing the footprint of the existing structures on site.
- 57. The project is consistent with Chelan County Shoreline Master Program Section 29.3.2(d) in the following respects:
 - 57.1 The cleanup action will not extend to the shoreline or into the Wenatchee River. Best Management Practices will be implemented to control erosion and runoff during the excavation activities.
 - 57.2 The proposed use shall not cause unreasonable adverse effects to the shoreline, and the use is consistent with uses allowed within the Urban environment designation of the shoreline. This project is similar to other permitted projects within this designation, and should positively affect the shoreline environment and river.
- 58. The project is consistent with Chelan County Shoreline Master Program Section 29.3.2(e) in the following respects:
 - 58.1 The cleanup action will not result in a significant change to the appearance of the site and will not involve alternations to the shoreline or the Wenatchee River. Once the cleanup action has been completed, the site will appear similar to the present. No public access exists on site. The cleanup action is being conducted to protect human health and the environment, and will improve the environment conditions of the site.
 - 58.2 This project will not cause substantial detrimental effects upon the public interest. The project is proposed to help protect the public and environment from the effects of the contaminated soil on site.
- 59. The project is consistent with Chelan County Shoreline Master Program Section 29.3.3 in the following respects:

- 59.1 The proposed cleanup action is an unclassified use of the Shoreline Master Program. The conditional use permit will authorize this use that is not specifically addressed within the applicable master program.
60. The project is consistent with Chelan County Shoreline Master Program Section 29.3.4 in the following respects:
- 60.1 The cleanup action is being conducted to protect human health and the environment by removing concentrations of petroleum hydrocarbons above regulatory cleanup levels in soil. The cleanup action will not occur on the shoreline; therefore, the shoreline should not be adversely affected.
- 60.2 According to the submitted materials and site plans of record, date stamped February 15, 2011, the applicant has demonstrated compliance with the applicable provisions of the Shoreline Management Act and Shoreline Conditional Use evaluation criteria as outlined in the Chelan County Shoreline Master Program. The proposed project will not produce substantial adverse effects to the shoreline environment. On the contrary, it will benefit the shoreline environment by removing the contaminants from the soil, thus protecting the groundwater and river from contaminant leaching.
61. The project is consistent with Chelan County Shoreline Master Program Section 29.4.1(a) in the following respects:
- 61.1 The cleanup action is being conducted to protect human health and the environment by removing concentrations of petroleum hydrocarbons above regulatory cleanup levels in soil.
- 61.2 The proposed project should positively affect state and local interests since it is being conducted in order to protect public and environment health.
62. The project is consistent with Chelan County Shoreline Master Program Section 29.4.1(b) in the following respects:
- 62.1 The cleanup action will not extend to the shoreline or the Wenatchee River; therefore, the natural character should not be affected.
- 62.2 It is unlikely the project will alter the shoreline. The proposal is proposed to be conducted at least 35 feet from the OHWM of the river. The native vegetation along the shoreline will be preserved, and the natural character of the shoreline will be enhanced with the removal of the contaminated soil.
63. The project is consistent with Chelan County Shoreline Master Program Section 29.4.1(c) in the following respects:
- 63.1 The removal of petroleum-contaminated soil from the site is both a short- and long-term benefit to the site, the shoreline, and the Wenatchee River. The excavation areas will be restored to grade and will appear similar to today.
- 63.2 The proposed project will benefit the property owner and the public by increasing their safety through the removal of contaminated soil on site, both for the short term and long term.

64. The project is consistent with Chelan County Shoreline Master Program Section 29.4.1(d) in the following respects:
 - 64.1 The cleanup action protects the resources and ecology of the shoreline by removing petroleum-contaminated soil. The cleanup action will not take place on the shoreline; therefore, the ecology should not be adversely affected.
 - 64.2 The proposed project will not increase the footprint of what currently exists, therefore protecting the resources and ecology of the shoreline. The project will help protect the resources and ecology of the shoreline by removing the contaminated soil on site. This removal will protect human health as well.
65. The project is consistent with Chelan County Shoreline Master Program Section 29.4.1(e) in the following respects:
 - 65.1 The cleanup action will not affect publicly owned areas of the shoreline.
 - 65.2 The project will be conducted on private land, and therefore will not increase public access to publicly owned areas of the shoreline, nor will the project decrease access.
66. The project is consistent with Chelan County Shoreline Master Program Section 29.4.1(f) in the following respects:
 - 66.1 This project will not increase recreational opportunities for more of the public, and will not negatively impact recreational opportunities already established nearby.
67. According to the submitted materials and site plans of record (date stamped February 15, 2011), staff review and analysis have found that the applicant has demonstrated compliance with the Review Criteria for Shorelines of Statewide Significance as established by the Shoreline Management Act [RCW 90.58.020, WAC 173-16-040(5)] for substantial development of the shoreline.
68. The applicant has demonstrated compliance with the applicable provisions of the City of Cashmere Comprehensive Plan.
69. According to the Washington State Department of Fish and Wildlife Priority Habitat and Species Maps, the subject properties are within an identified fish and wildlife habitat conservation area for Riparian Areas. The proposed project will take place at least 35 feet landward of the OHWM. The project should not have a new impact on Riparian Areas.
70. The setback of this Urban shoreline is a 100 foot riparian buffer from the Ordinary High Water Mark (OHWM). Calculated setbacks may differ for future construction projects outside of this Substantial Development Permit, Shoreline Conditional Use Permit and Riparian Variance. The excavation and fill work will take place within the riparian buffer, thus the need for the riparian variance.
71. This project satisfies Chapter 11.95 - Variances in the following respects:
 - 71.1 The variance is being proposed to remove petroleum-contaminated soil located within the riparian buffer zone. The objective of this project is to improve soil and

groundwater quality and protect human health and the environment. This project is being conducted under the US Environmental Protection Agency Voluntary Cleanup Program. The petroleum-contaminated soil will be transported off-site for disposal and replaced with clean fill. Because actions such as the proposed soil removal are not allowed under the Chelan County Code, a variance must be granted for this work to be completed.

- 71.2 This variance is necessary for the preservation of a property right of the applicant substantially the same as is possessed by owners of other property in the same neighborhood or district and shall not constitute a grant of special privilege because:
 - 71.2.1 The proposed work within the riparian buffer zone is due to the presence of petroleum-contaminated soil. A similar variance would be needed if this work was proposed elsewhere by others (so long as that project was within the riparian buffer zone). The area will be restored to the condition of the surrounding habitat after soil removal is completed, and therefore does not constitute a grant or special privilege.
 - 71.2.2 The granting of this variance is necessary in order for the applicant to be able to conduct this proposed project. The excavation of contaminated soil and back fill of clean soil being proposed, within an already developed area, will improve soil and groundwater quality, as well as protect human health, the shoreline and river. The project will not constitute special privilege for the applicant. A variance is necessary for this type of project (consistent with the SMP and comprehensive plan) until such time as Chelan County Code allows for this type of development to take place within the riparian buffer.
- 71.3 The plight of the applicant is due to unique circumstances such as topography, lot size or shape, or size of buildings over which the applicant has no control because:
 - 71.3.1 The remediation activities, which include the removal and transportation off-site of petroleum-contaminated soils, were developed specific to this site, and therefore are unique circumstances for which the applicant has no control.
 - 71.3.2 The plight of the applicant, and thus the need for this variance is due to the Chelan County Code restriction of development within a riparian buffer, pursuant to Chapter 11.78. Relocating this project outside the riparian buffer would hinder the purpose of this proposed project, since the project (cleanup of contaminated soils) is necessary within the riparian buffer. This plight is out of the applicant's own control.
- 71.4 The hardship asserted by the applicant is not the result of the applicant or owner's own action because:
 - 71.4.1 The original cause of the soil contamination at the site and within the riparian buffer zone is not known.
 - 71.4.2 The proposed project must be conducted within the riparian buffer in order for it to be beneficial and provide for a complete cleanup. Since

some of the contaminated soils lie within the first 100 feet of the shoreline, a portion of the project must be conducted within the riparian buffer. Current Chelan County Code restricts development within a riparian buffer, creating a hardship on the applicant for this type of project. This hardship is not the result of the applicant's own action.

71.5 The authorization of the variance shall not be materially detrimental to the public welfare and safety, to the purposes of this title, be injurious to property in the same district or neighborhood in which the property is located, or otherwise be detrimental to the objectives of the comprehensive plan because:

71.5.1 The proposed work will remove petroleum-contaminated soil from the site and within the riparian buffer zone. The petroleum-contaminated soil will be transported and disposed of off the site. The excavated soil will be replaced with clean imported fill. The objective of the project is to improve soil and groundwater quality and protect human health and the environment.

71.5.2 The authorization of this variance would not negatively impact the public in anyway. It would, however, positively impact the public by removing the contaminated soils on the properties, thus protecting human health. The project meets the purpose of this title, isn't injurious to property, and wouldn't be detrimental to the objectives of the comprehensive plan.

71.6. The hardship asserted by the applicant results from the application of this title to the property because:

71.6.1 A portion of the proposed work is located within the BNSF right-of-way and within the riparian buffer zone. Therefore, the hardship results from conducting the proposed work within these overlapping areas.

71.6.2 The hardship that faces the applicant is the application of Chelan County Code Chapter 11.78 that prohibits development within the riparian buffer. Due to the nature of the proposal, it is necessary for this work/development to be located within the riparian buffer of the Wenatchee River, thus the need for this Riparian Variance.

72. This application satisfies the variance provisions set forth in Chelan County Code 11.78.230 in the following respects:

72.1 Pursuant to 11.78.230(2)(A) significant impacts for the Fish & Wildlife habitat functions as stated in Section 11.06.020 would be mitigated by the applicant by addressing with conditions of approval where practical as follows:

i. Erosion control and shoreline stabilization:

An Erosion Control Plan that provides specific measures to control erosion has been prepared and will be implemented during the cleanup action. The erosion control measures include: excavation during extended dry weather; placement of silt fence around the perimeter of the excavation; covering and containment of open excavation areas with visqueen; temporary stormwater and sediment retention ponds; graveled surface-contamination-reduction

corridor for equipment access; soil bin unload/load; and truck-wash decontamination during excavation and grading activities. Berming and covering of soil stockpiles; hydroseeding after completion of backfill.

ii. Stream temperature control:

Water runoff (including stormwater) will be collected in a temporary lined sump and pumped to an on-site storage tank for off-site disposal during excavation.

iii. Water purification:

Does not apply. Water runoff (including stormwater) will be collected in a temporary lined sump and pumped to an on-site storage tank for off-site disposal during excavation.

iv. Water storage and conservation:

Water runoff (including stormwater) will be collected in a temporary lined sump and pumped to an on-site storage tank for off-site disposal during excavation.

v. Nutrient and food input to the aquatic system:

Nutrient and food input to the aquatic system will not be impacted by the proposed work.

vi. Instream structure by provision of large woody debris:

Instream structures will not be impacted by the proposed work.

vii. Moderate micro-climate:

Micro-climate will not be impacted by the proposed work.

viii. Diverse and productive habitat for riparian and upland wildlife:

The cleanup action will not result in a significant change to the appearance of the site and will not involve alterations to the shoreline or the Wenatchee River. Once the cleanup action has been completed, the site will appear similar to the present condition.

ix. Habitat continuity and travel corridors for wildlife in a fragmented landscape:

The cleanup action will not result in a significant change to the appearance of the site and will not involve alterations to the shoreline or the Wenatchee River. Once the cleanup action has been completed, the site will appear similar to the present condition.

x. High fish and wildlife density and diversity:

The cleanup action will not result in a significant change to the appearance of the site and will not involve alterations to the shoreline or the Wenatchee River. Once the cleanup action has been completed, the site will appear similar to the present condition.

xi. Seasonal ranges:

The cleanup action will not result in a significant change to the appearance of the site and will not involve alterations to the shoreline or the Wenatchee River. Once the cleanup action has been completed, the site will appear similar to the present condition.

xii. Breeding habitat:

The cleanup action will not result in a significant change to the appearance of the site and will not involve alterations to the shoreline or the Wenatchee River. Once the cleanup action has been completed, the site will appear similar to the present condition.

xiii. Food and cover:

The cleanup action will not result in a significant change to the appearance of the site and will not involve alterations to the shoreline or the Wenatchee River. Once the cleanup action has been completed, the site will appear similar to the present condition.

72.2 The applicant has considered the fish and wildlife habitat functions within the project area, and has designed the project with these functions in mind. This project will not have a detrimental effect on these functions.

72.3 No other reasonable use with less impact is possible because:

72.3.1 The cleanup action is being conducted to protect human health and the environment and will protect both the shoreline and Wenatchee River from the potential migration of contamination. The cleanup action will not affect the integrity of the shoreline or river, and will improve the quality of the environment.

72.3.2 The proposed work within the riparian buffer is the only way to complete this cleanup action. The project has been designed to require the minimum necessary impacts to the riparian buffer.

72.4 Impacts to fish and wildlife habitat cannot be lessened through location or design changes to the proposed use because:

72.4.1 The cleanup action is being conducted to protect human health and the environment and will protect both the shoreline and Wenatchee River from the potential migration of contamination. The cleanup action will not affect the integrity of the shoreline or river, and will improve the quality of the environment.

72.4.2 The purpose of the proposed project is to remove contaminated soil to improve soil and groundwater quality and to protect human health and the environment. There will be very little impacts to fish and wildlife habitat. The project has been designed to minimize all potential negative impacts.

73. The granting of this variance is not substantially based upon precedent established by illegal or nonconforming circumstances because:
- 73.1 The proposed work is intended to remove petroleum-contaminated soil from the riparian buffer zone. The work area will be restored to the natural habitat of the surrounding area.
 - 73.2 The current proposal is not based on any illegal or nonconforming circumstances. The subject properties were contaminated in the past and the proposed project is designed to rectify this.
74. The proposal is not substantially based upon lack of reasonable economic return or a claim that the existing/proposed structure is too small because:
- 74.1 The proposed work does not include the development of an existing structure or the development of a new structure within the riparian buffer zone. The work area will be restored to the natural habitat of the surrounding area.
 - 74.2 There will not be an economic return for the applicant through this project. There will be no new structural construction associated with this project.
75. The proposal is not based on the fact that the condition for which the variance is requested existed at the time the applicant acquired the property because:
- 75.1 The variance is requested for the removal and off-site transportation and disposal of contaminated soil within the riparian buffer zone. The cause of the contamination is not known.
 - 75.2 The applicant has no knowledge of when the contamination of soil took place. The proposal is based on the need to cleanup the contaminated soil.
76. The proposal will not result in a de facto zone reclassification because:
- 76.1 The proposed work will restore the work area to the natural habitat of the surrounding area and therefore will not change the use or the classification of the property.
 - 76.2 The proposed project will not conflict with current zoning, and will not require reclassification. The use of the property will remaining the same at the completion of the project.
77. The proposal is not substantially for the purpose of circumventing density regulations because:
- 77.1 The proposed work will restore the work area to the natural habitat of the surrounding area and therefore the property will be left in similar condition as prior to the proposed work.

77.2 The proposed project will not increase density in any way.

78. The applicant has demonstrated compliance with the applicable provisions of the Chelan County Code. The project has been designed to meet all applicable zoning and critical area regulations.

79. SEPA

A Determination of Non-significance (DNS) was noticed on April 18, 2011, in accordance with the DNS process found in WAC 197.11.340. The proposal does not have a probable significant adverse impact on the environment that cannot be adequately mitigated on-site, and an environmental impact statement (EIS) is not required. A Mitigated DNS, with multiple conditions, was issued on June 3, 2011. The SEPA Checklist and MDNS are included within the file of record as adopted by reference.

80. SHORELINES

80.1 The proposal is within the Urban environment classification.

80.2 Currently, the subject properties are mixed use and consist of the BNSF right-of-way adjacent to the real property at 5640 Sunset Highway. A portion of the BNSF right-of-way is leased by a private citizen, John Michael, for commercial operations associated with Michael's Tires and Supply. The leased portion consists of a 0.34 acre parcel (23-19-05-120-070) that is used for parking and storage of irrigation materials. An active rail line crosses the property. The remainder of the property is vegetated. There is a commercial structure on site that the business is conducted from. There is no record of a building permit for this structure.

80.3 The project is located on a shoreline of statewide significance, and must also be consistent with the CCSMP 29.4.1 (page 15). The project is not located on a public beach, nor does it block or reduce public use or enjoyment of the area.

80.4 The shoreline activities included in the application proposal are for the site clean-up through the excavation and off-site disposal of 6,643 cubic yards of soil with high concentrations of petroleum hydrocarbons. The project will exceed the valuation threshold of \$5,718 for the individual uses. These uses are not listed uses which can be narrowly construed to meet a listed exemption from a substantial development permit. Therefore, the activities are not exempt from the substantial development permit process, and in the case of the site excavation, a shoreline conditional use permit is required.

81. COMPREHENSIVE PLAN

81.1 The site of the subject proposal is within the Warehouse Industrial (WI) and Public (P) Comprehensive Plan designations of the City of Cashmere's Urban Growth Area.

81.2 In relationship to this proposal, the primary focus of the Comprehensive Plan is to ensure that adequate provisions are in place to address critical area protection and maintaining the land's character.

81.3 The best means for balancing these policies is to encourage reasonable use of the property while the impacts from development are mitigated through appropriate conditions.

81.4 The project, as described by the applicant, with the appropriate measures from development regulations incorporated into the recommended conditions of approval, can adequately demonstrate consistency with the purpose and intent of the City of Cashmere's Comprehensive Plan.

82. ZONING

82.1 The subject proposal with the recommended conditions of approval can demonstrate consistency with the City of Cashmere's Zoning, Title 17.

82.2 The subject proposal with the recommended conditions of approval can demonstrate consistency with the Chelan County Title 11, which includes critical areas regulations.

83. Based on the information contained in the application and compliance with the Revised Code of Washington, the Washington Administrative Code, the Chelan County Shoreline Master Program, City of Cashmere's Comprehensive Plan, City of Cashmere Municipal Code, and the Chelan County Code, staff recommended approval of this Shoreline Substantial Development Permit, Shoreline Conditional Use Permit and Riparian Variance, subject to the Recommended Conditions of Approval.

84. The File of Record, Chelan County Department of Community Development Staff Report, and exhibits were received, admitted into the record and considered by the Hearing Examiner.

85. An open record public hearing after legal notice was provided was held on September 7, 2011.

86. Admitted into the record were the following exhibits:

86.1 Exhibit 1: The affidavit of posting dated September 6, 2011.

87. Appearing and testifying on behalf of the applicant was Stacy Patterson. Ms. Patterson testified that she was an agent authorized to appear and speak on behalf of the applicant. Ms. Patterson indicated that the applicant concurred with the staff report findings and conclusions, with the exception that groundwater may be removed from the excavation areas. She stated that any groundwater so removed would either be stored on-site in tanks for later removal or would be placed into trucks for off-site removal. Further, Ms. Patterson stated that the applicant would conduct a full archaeological survey before any excavation and/or ground disturbing activities. She further testified that all of the proposed conditions of approval were acceptable.

88. No member of the public appeared at this hearing.

89. The Chelan County Hearing Examiner considered all evidence within the record in rendering this decision.

90. Any Conclusion of Law that is more correctly a Finding of Fact is incorporated herein as such by this reference.

CONCLUSIONS

1. The Hearing Examiner has authority to render this Decision.
2. Referral agency comments were received and considered in the review of this proposal.
3. The site of the subject proposal is in the proximity of the Chelan County Comprehensive Plan Rural Village, Rural Industrial, Residential/Resource 2.5 and Residential/Resource 5 land use designations. As described, the proposal is consistent with the Chelan County Comprehensive Plan.
4. As conditioned, the subject proposal is consistent with the Chelan County Code, Title 11.
5. Environmental and Critical Areas review has been completed. As conditioned, the proposal does not have negative impacts on critical areas which cannot be mitigated.
6. The proposed project meets the definition of "Development" as defined in the Chelan County Shoreline Master Program and WAC 173-27-030 and is considered a substantial development.
7. The authorization of the shoreline permits will not be materially detrimental to the purposes of the Revised Code of Washington, the Washington Administrative Code, the Chelan County Shoreline Master Program, the Chelan County Comprehensive Plan, the Chelan County, or not be otherwise detrimental to the public interest.
8. The project is not located on a public beach, nor does it block or reduce public use or enjoyment of the area.
9. Subject to the Conditions of Approval, the project design is consistent with the Chelan County Shoreline Master Program requirements.
10. Any Finding of Fact that is more correctly a Conclusion of Law is incorporated herein as such by this reference.

This Shoreline Substantial Development Permit, Shoreline Conditional Use Permit and Riparian Variance is granted pursuant to the Shoreline Master Program of Chelan County, as amended, and nothing in this permit shall excuse the applicant from compliance with any other federal, state, or local statutes, ordinances, or regulations applicable to this project, but not inconsistent with the Shoreline Management Act of 1971 (Chapter 90.58 RCW).

This Shoreline Substantial Development Permit, Shoreline Conditional Use Permit and Riparian Variance may be rescinded pursuant to RCW 90.58.140(7) in the event the permittee fails to comply with the terms and conditions hereof.

CONSTRUCTION PURSUANT TO THIS SHORELINE SUBSTANTIAL DEVELOPMENT PERMIT, SHORELINE CONDITIONAL USE PERMIT AND RIPARIAN VARIANCE SHALL

NOT BEGIN NOR IS AUTHORIZED UNTIL TWENTY-ONE (21) DAYS FROM THE DATE OF FILING AS DEFINED IN RCW 90.58.140(6) AND WAC 173-14-090, OR UNTIL ALL REVIEW PROCEEDINGS INITIATED WITHIN TWENTY-ONE (21) DAYS FROM THE DATE OF SUCH FILING HAVE TERMINATED; EXCEPT AS PROVIDED IN RCW 90.58.140(5)(a)(b)(c).

Substantial progress toward construction of the project for which this permit has been granted must be accomplished within two (2) years of the filing date of this permit. Authorization to conduct development activities granted by this permit shall terminate five (5) years from the filing date of this permit.

Approved this 12th day of September, 2011.

CHELAN COUNTY HEARING EXAMINER



Andrew L. Kottkamp

Anyone aggrieved by this decision has twenty-one (21) days from the "date of receipt" as defined by Washington Law to file a petition for review with the Shorelines Hearings Board (for the shoreline permit and shoreline conditional use permit) as provided for in RCW 90.58.180 and Chapter 461-08 WAC, the rules of practice and procedure of the Shorelines Hearings Board.

Anyone aggrieved by this decision (for the riparian variance) has twenty-one days from the issuance of this decision to file an appeal with the Chelan County Superior Court as provided for under Judicial Review of Land Use Decisions, RCW 36.70C.040(3).

Chelan County Code Section 1.61.130 provides that any aggrieved party or agency may make a written request for reconsideration by the Hearing Examiner within ten (10) days of the filing of the written record of decision. The request for reconsideration shall be submitted to the Community Development Department. Reconsideration of the decision is wholly within the discretion of the Hearing Examiner. If the Hearing Examiner chooses to reconsider, the Hearing Examiner may take such further action deemed proper and may render revised decision within five (5) days after the date of filing of the request for reconsideration. A request for reconsideration is not a prerequisite to filing an appeal under Section 1.61.160.

**THIS SECTION FOR DEPARTMENT OF ECOLOGY USE ONLY IN REGARD TO A
CONDITIONAL USE AND/OR VARIANCE PERMIT**

Date received by the Department _____

Approved _____

Denied _____

This conditional use/variance permit is approved / denied by the Department pursuant to Chapter 90.58 RCW.

Development shall be undertaken pursuant to the following additional terms and conditions:

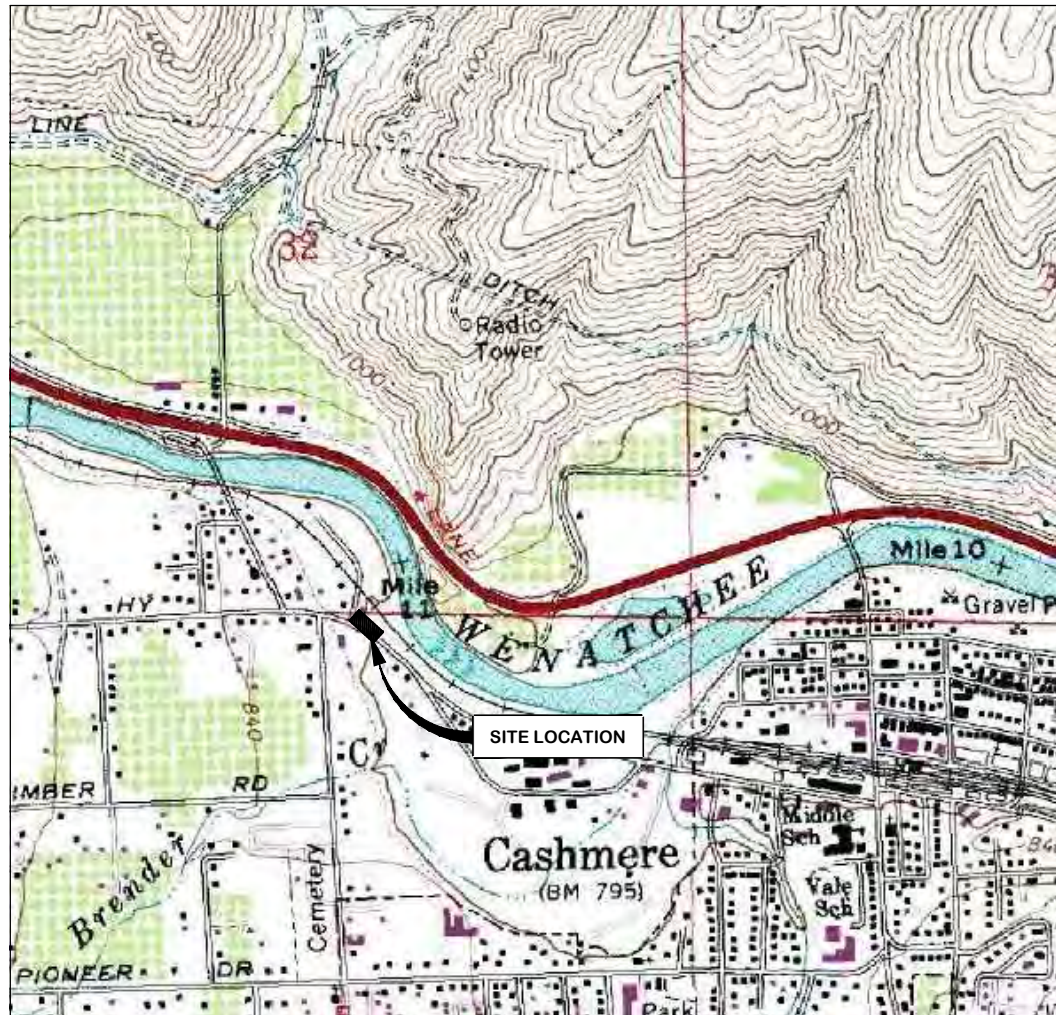
APPENDIX E
ENGINEERING DESIGN DRAWINGS

REVISED CLEANUP ACTION WORK PLAN
John Michael Lease Site
5640 Sunset Highway
Cashmere, Washington

Farallon PN: 283-006

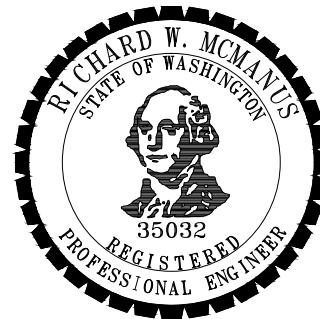
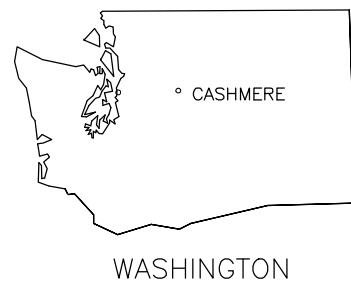
SOIL EXCAVATION PROJECT

JOHN MICHAEL LEASE SITE
5640 SUNSET HIGHWAY
CASHMERE, WASHINGTON



REFERENCE: 7.5 MINUTE USGS QUADRANGLE CASHMERE, WASHINGTON. DATED 1987


SITE LOCATION MAP
(NOT TO SCALE)



DRAWING INDEX

SHEET NO.	DRAWING TITLE
1	TITLE SHEET, SITE LOCATION MAP, AND DRAWING INDEX
2	GENERAL NOTES, LEGEND, SYMBOLS, AND ABBREVIATIONS
3	EXCAVATION PLAN
4	EROSION CONTROL PLAN
5	EROSION CONTROL DETAILS

DATE	DESCRIPTION	BY	CHKD.	APP.
12/17/2013	ISSUED FOR DEPARTMENT OF ECOLOGY REVIEW	DEW	JH	RM

<p>PREPARED BY</p>  <p>FARALLON CONSULTING, L.L.C. 975 5th Avenue Northwest ISSAQUAH, WA 98027</p>	<p>PREPARED FOR</p> <p>BNSF RAILWAY COMPANY 2454 OCCIDENTAL AVENUE SOUTH SUITE 1A SEATTLE, WASHINGTON</p>	<p>JOHN MICHAEL LEASE SITE SOIL EXCAVATION PROJECT CASHMERE, WASHINGTON</p> <p>TITLE SHEET, SITE LOCATION MAP, AND DRAWING INDEX</p>	<p>SCALE AS SHOWN</p> <p>PROJECT NO. 283-006</p> <p>FILE NAME EXCAVATION.dwg</p> <p>SHEET NO. 1 OF 5</p>
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ELECTRICAL ABBREVIATIONS		STANDARD ABBREVIATIONS			PIPING, ELECTRICAL AND EQUIPMENT SYMBOLS					
A/AMP AC BD C CB CLG DC DIS DP DT EG E(OH) E(UG) EMER EPO EMT EXP FBO FLEX FRN GEN GFIC GND GRC HOA IRD HP HZ JB LFMC M MCC MCP NC NEC NEMA NF NO OL PBS PF PL PLC RC RCPT SN SP ST SW TF/TRAN UF UG V VFD VP WHT WP XP	AMP ALTERNATING CURRENT BUS DUCT CURRENT CIRCUIT BREAKER CEILING DIRECT CURRENT DISCONNECT DOUBLE POLE DOUBLE THROW ENCLOSED AND GASKETED ELECTRICAL (OVERHEAD) ELECTRICAL (UNDERGROUND) EMERGENCY EMERGENCY POWER OFF ELECTRICAL METALLIC TUBING EXPOSED FURNISHED BY OTHERS FLEXIBLE METAL CONDUIT DUAL ELEMENT FUSE GENERATOR GROUND FAULT INTERRUPTER GROUND GALVANIZED RIGID CONDUIT HAND-OFF-AUTO SWITCH INFRARED DETECTOR HORSE POWER CYCLES PER SECOND JUNCTION BOX LIQUID TIGHT FLEXIBLE METAL CONDUIT MOTOR/MOTOR STARTER COIL MOTOR CONTROL CENTER MOTOR CIRCUIT PROTECTOR NORMALLY CLOSED NATIONAL ELECTRICAL CODE NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION NON-FUSED NORMALLY OPEN OVERLOADS PUSHBUTTON POWER FACTOR PILOT LIGHT PROGRAMMABLE LOGIC CONTROLLER RIGID CONDUIT RECEPTACLE SOLID NEUTRAL SINGLE POLE SINGLE THROW SWITCH TRANSFORMER UNDERFLOOR UNDERGROUND VOLTS VARIABLE FREQUENCY DRIVE VAPOR PROOF WHITE WEATHER PROOF EXPLOSION PROOF	AF AB AC APPROX AF AS BF B.G.S. BLDG BOP BV CONC CPLG C/CL CV DC D/DIA DWG DPI DP DPI EF EL/ELEV ELEC ELB EPDM EXIST(E) EXP EW EA FC FO FLXC FM FL FT FUT FIN GR FE FNPT GA GAC GALV GI GPM GR GND GSKT GW GV	AIR FILTER AGGREGATE BASE ASPHALTIC CONCRETE APPROXIMATELY AIR FILTER AIR SPARGE BLIND FLANGE BELOW GROUND SURFACE BUILDING BOTTOM OF PIPE BALL VALVE CONCRETE COUPLING CENTERLINE CONTROL VALVE/CHECK VALVE DOUBLE CONTAINED DIAMETER DRAWING DUAL PHASE DIFFERENTIAL PRESSURE INDICATOR EACH FACE ELEVATION ELECTRICAL ELBOW ETHYLENE PROPYLENE RUBBER EXISTING EXPANSION EACH WAY EACH FAIL CLOSE FAIL OPEN FLEXIBLE CONNECTION FLOW METER FLOW LINE FOOT FUTURE FINISHED GRADE FLANGED END FEMALE NATIONAL PIPE THREAD GAUGE GRANULAR ACTIVATED CARBON GALVANIZED GALVANIZED IRON GALLONS PER MINUTE GRADE GROUND GASKET GROUNDWATER GATE VALVE	HDPE HORIZ HP HR HS HYD HOA ID IN INV IPS JT JB KO LSHH M MAX MH MJ MIN MISC MNPT MP MON.PORT MW NC NIC NO NO. N NTS NPDES OC OD OSHA OVHD #/LB PB PBF PC PCC PG PL PO P	HIGH DENSITY POLYETHYLENE HORIZONTAL HORSEPOWER/HIGH PRESSURE HOUR HOSE HYDRANT HAND OFF AUTOMATIC INSIDE DIAMETER INCHES INVERT IRON PIPE SIZE JOINT JUNCTION BOX KNOCK OUT LEVEL SWITCH MOTOR MAXIMUM MANHOLE MECHANICAL JOINT MINUTE/MINIMUM MISCELLANEOUS MALE NATIONAL PIPE THREAD METER PUMP MONITORING PORT MONITORING WELL NORMALLY CLOSED NOT IN CONTRACT NORMALLY OPEN NUMBER NEW NOT TO SCALE NATIONAL POLLUTION DISCHARGE ELIMINATION SYSTEM ON CENTER OUTSIDE DIAMETER OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION OVERHEAD POUND PULL BOX PROVIDED BY FARALLON PORTLAND CEMENT PORTLAND CEMENT CONCRETE PRESSURE GAS PROPERTY LINE/PIPE LINE PUMP OUT PRESSURE	PRV PSI PSIA PSIG PTW PVC PV PR PUE R RC REQ REF SCH SDR SECT SHT SPEC SQ STA STD STL SBO ST STR SS STL SVE SW TYP TOC TOS TOW UBC UGPS UTIL V VAC VAR VERT VP VRV W W/O WS	PRESSURE RELEASE VALVE POUNDS PER SQUARE INCH POUNDS PER SQUARE INCH, ABSOLUTE POUNDS PER SQUARE INCH, GAUGE PRESSURE TREATMENT POLYVINYL CHLORIDE PROCESS VARIABLE PAIR PUBLIC UTILITY EASEMENT RADIUS/RISER REINFORCED CONCRETE REQUIRED REFERENCE SCHEDULE STANDARD DIMENSION RATIO SECTION SHEET SPECIFICATION SQUARE STATION STANDARD STEEL SUPPLIED BY OWNER SAMPLE TAP STRAINER STAINLESS STEEL STEEL SOIL VAPOR EXTRACTION SWITCH TYPICAL TOP OF CASING/CURB TOP OF STEEL TOP OF WALL UNIFORM BUILDING CODE UNDERGROUND PULL SECTION UTILITY VALVE/VENT/VOLTS VACUUM VARIES/VARIABLE VERTICAL VAPOR VACUUM RELIEF VALVE WITH WITHOUT WATER SURFACE/WATER STOP			

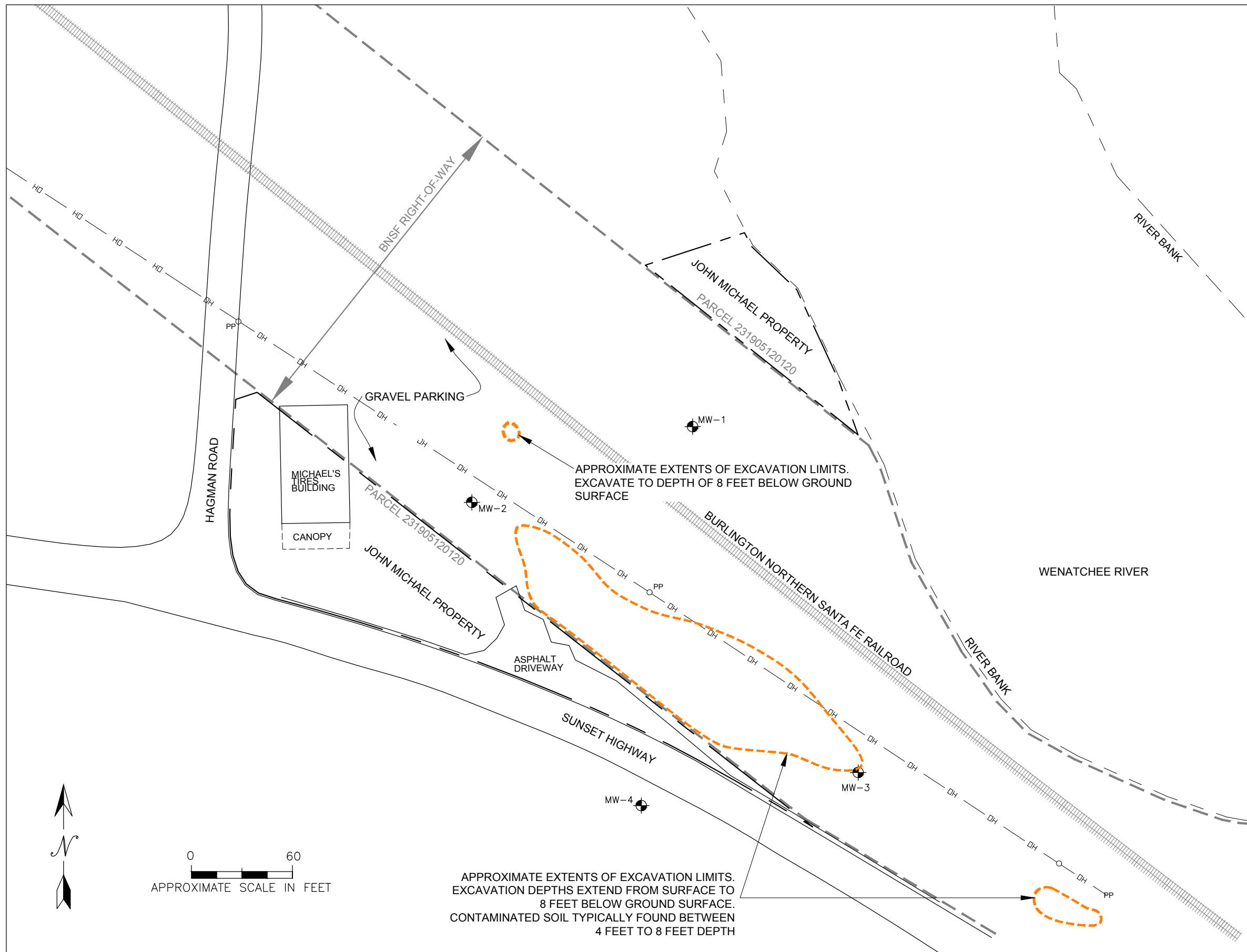
INSTRUMENTATION ABBREVIATIONS AND SYMBOLS				LEGEND		GENERAL NOTES	
INSTRUMENT LEGEND		INSTRUMENT SYMBOLS		LEGEND		GENERAL NOTES	
FIRST LETTER INITIATING VARIABLE	SUCCEEDING LETTERS OUTPUT FUNCTIONS	SYMBOL	DESCRIPTION			<p>1. A COPY OF THE PROJECT DESIGN DRAWINGS AND SPECIFICATIONS SHALL BE MAINTAINED ON THE JOB SITE AT ALL TIMES.</p> <p>2. COPIES OF ALL PERMITS SHALL BE MAINTAINED ON THE JOB SITE AT ALL TIMES. THE CONTRACTOR SHALL COMPLY WITH ALL PERMIT REQUIREMENTS.</p> <p>3. CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING ALL DIMENSIONS.</p> <p>4. BURIED UTILITIES SHOWN ON THE DRAWINGS ARE FOR GENERAL INFORMATION ONLY. UTILITY LOCATIONS ARE APPROXIMATE AND MAY NOT BE INCLUSIVE OF ALL UTILITIES THAT EXIST ON THE PROPERTY.</p> <p>5. THE CONTRACTOR SHALL HAVE A PRIVATE UTILITY LOCATE SERVICE VERIFY ALL UTILITIES AND MARK THEIR LOCATIONS ON THE GROUND PRIOR TO STARTING CONSTRUCTION. THE OWNER'S REPRESENTATIVE SHALL BE CONTACTED IMMEDIATELY IF A CONFLICT IS FOUND BETWEEN EXISTING UTILITIES AND THE PROJECT DESIGN.</p> <p>6. THE OWNER'S REPRESENTATIVE SHALL BE NOTIFIED OF DISCREPANCIES BETWEEN CONTRACT DRAWINGS AND ACTUAL SITE CONDITIONS.</p> <p>7. THE CONTRACTOR SHALL ASSUME RESPONSIBILITY FOR THE JOB SITE CONDITIONS AND ENSURE THE SAFETY OF ALL PERSONS AND PROPERTY FOR THE DURATION OF ON SITE PROJECT WORK. THE CONTRACTOR SHALL PROTECT STRUCTURES, UTILITIES, AND PAVING FROM DAMAGE, DIRECT OR INDIRECT, RESULTING FROM THE WORK. THIS REQUIREMENT SHALL APPLY CONTINUOUSLY OVER THE DURATION OF ON SITE ACTIVITIES AND NOT BE LIMITED TO NORMAL WORKING HOURS.</p> <p>8. ALL EXCAVATIONS SHALL BE PERFORMED IN STRICT ACCORDANCE WITH APPLICABLE U.S. DEPARTMENT OF LABOR OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) AND THE WASHINGTON INDUSTRIAL SAFETY AND HEALTH ACT (WISHA) REGULATIONS. THE CONTRACTOR ASSUMES FULL RESPONSIBILITY FOR THE SAFETY OF ALL CONSTRUCTION OPERATIONS.</p> <p>9. NO TRENCHES SHALL BE LEFT OPEN WHEN WORK IS NOT IN PROGRESS. ALL OPEN EXCAVATIONS SHALL BE FENCED.</p>	
A B C D E F G H I J K L M N P Q R S T U V W X Y Z	ANALYSIS BURNER CONDUCTIVITY DENSITY POTENTIAL (VOLTS) FLOW RATE FIRE ALARM HAND (MANUALLY) CURRENT (AMPERES) POWER TIME LEVEL MOISTURE/HUMIDITY EQUIPMENT STATUS PRESSURE/VACUUM QUANTITY SPEED TEMPERATURE MULTIVARIABLE VIBRATION/VOLUME WEIGHT/FORCE/TORQUE UNCLASSIFIED POSITION	ALARM CONTROL DIFFERENTIAL PRIMARY ELEMENT RATIO (FRACTION) GLASS (SIGHT GAUGE) HIGH INDICATE LEAK, LOW LIGHT (PILOT) POINT (TEST CONNECTION) INTEGRATE (TOTALIZE) RECORD/PRINT SWITCH TRANSMIT MULTIFUNCTION VALVE/DAMPER UNCLASSIFIED RELAY/COMPUTE DRIVE/ACTUATE		<p>ALL LOCATIONS ARE APPROXIMATE</p>			
PIPE CODES		STANDARD SYMBOLS					

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DATE	DESCRIPTION	BY	CHKD.	APP.				PROJECT NO. 283-006



EXCAVATION AND GRADING NOTES

1. CALL THE UNDERGROUND LOCATE LINE 1-800-424-5555 A MINIMUM OF 48 HOURS PRIOR TO ANY EXCAVATIONS.
2. ALL UTILITIES SHOWN ON THE DRAWINGS ARE PRESENTED FOR GENERAL INFORMATION ONLY. THE UTILITIES MAY NOT BE INCLUSIVE OF ALL UTILITIES THAT EXIST ON THE PROPERTY. UTILITY LOCATIONS ARE APPROXIMATE AND ARE NOT TO BE RELIED UPON DURING CONSTRUCTION. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE ACTUAL LOCATIONS OF ALL UTILITIES.
4. INSTALL AND MAINTAIN PERIMETER TEMPORARY CHAIN LINK FENCING AROUND OPEN EXCAVATIONS.
5. EXCAVATION SHALL BE PERFORMED IN SUCH A WAY AS TO NOT REQUIRE SHORING OR TRENCH BOXES.
6. EXCAVATION LIMITS SHOWN ON THE DRAWING DENOTE THE APPROXIMATE EXTENT OF EXCAVATION REQUIRED TO REMOVE THE PETROLEUM CONTAMINATED SOIL. THE ACTUAL LIMITS OF EXCAVATION WILL BE DETERMINED BY THE ENGINEER IN THE FIELD.
7. SITE EXCAVATIONS SHALL EXTEND FROM THE SURFACE TO A DEPTH OF 8 FEET BELOW EXISTING GRADE. CONTAMINATED SOIL TYPICALLY FOUND BETWEEN 4 FEET TO 8 FEET DEPTH. CONTAMINATED SOIL SHALL BE EXCAVATED, LOADED, AND TRANSPORTED TO A LICENSED LANDFILL. THE CONTRACTOR SHALL COOPERATE WITH THE ENGINEER FOR THE COLLECTION OF SOIL SAMPLES.
8. ALL SOIL STAGING, STOCKPILING, AND STORAGE SHALL BE MANAGED SO AS TO PREVENT WIND OR STORMWATER DISTURBANCE AND SEDIMENTATION.
9. QUARRY SPALLS SHALL BE USED AS BACKFILL WHERE GROUNDWATER IS ENCOUNTERED.
10. ALL EXCAVATIONS SHALL BE BACKFILLED WITH SUITABLE CLEAN OVERBURDEN, CONTROLLED DENSITY FILL, OR IMPORTED STRUCTURAL BACKFILL MATERIAL. ALL IMPORTED STRUCTURAL BACKFILL SHALL BE CLEAN AND FREE OF ORGANIC AND OTHER DELETERIOUS MATERIALS. BACKFILL SOILS PLACED IN 2 FOOT LIFTS AND SHALL BE COMPACTED TO 90% OF THE MODIFIED PROCTOR (ASTM 1557)
11. THE EXCAVATION AREA SHALL BE RESTORED TO MATCH EXISTING GRADE. IF THE ASPHALT DRIVEWAYS IS DAMAGED DURING EXCAVATION ACTIVITIES, IT SHALL BE RESTORED TO PRE-EXISTING CONDITIONS.
12. SLOPE EXCAVATION SIDEWALLS AS REQUIRED BY WASHINGTON ADMINISTRATIVE CODE 296-155-PART N, SAFETY STANDARDS FOR CONSTRUCTION WORK, EXCAVATION, TRENCHING, AND SHORING.
13. NO EXCAVATION ACTIVITIES CAN TAKE PLACE WITHIN 25 FEET OF THE RAILROAD TRACKS WITHOUT CONSENT FROM A BNSF FLAGGER. NO EQUIPMENT AND STOCKPILES CAN BE STAGED WITHIN 25 FEET OF THE RAILROAD TRACKS.
14. THE POWER POLE LOCATED WITHIN THE SOUTH EXCAVATION AREA SHALL BE SUPPORTED DURING EXCAVATION ACTIVITIES NEAR THE POLE AS REQUIRED. COORDINATE WITH UTILITY PRIOR TO WORK IN THIS AREA.



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PREPARED BY

 FARALLON CONSULTING, L.L.C.
 975 5th Avenue Northwest
 ISSAQUAH, WA 98027

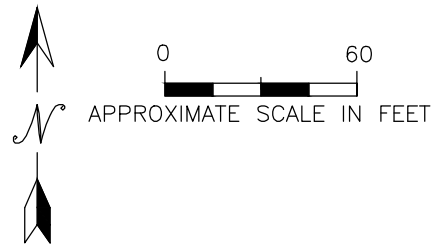
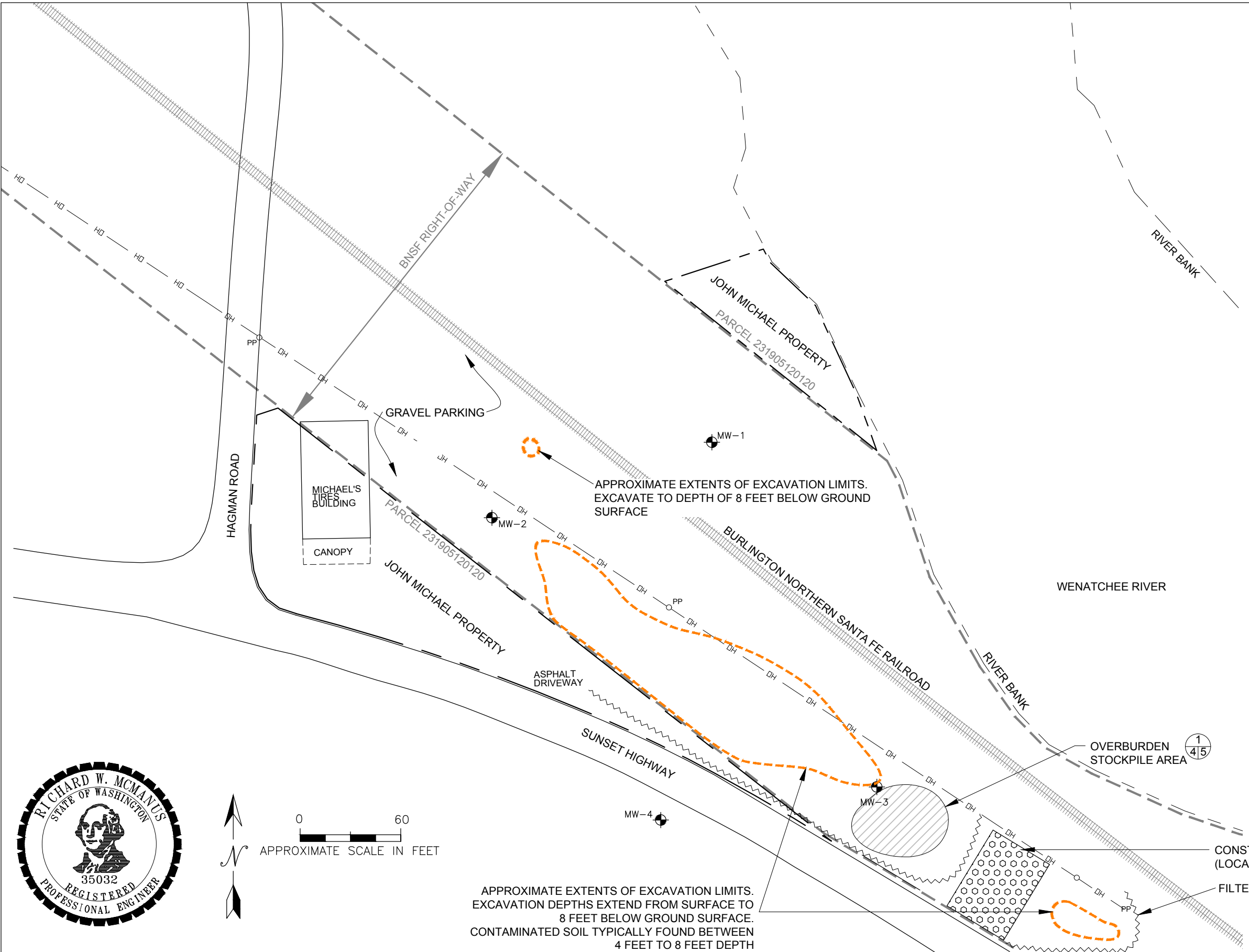
PREPARED FOR
 BNSF RAILWAY COMPANY
 2454 OCCIDENTAL AVENUE SOUTH
 SUITE 1A
 SEATTLE, WASHINGTON

JOHN MICHAEL LEASE SITE
 SOIL EXCAVATION PROJECT
 CASHMERE, WASHINGTON
EXCAVATION PLAN

SCALE AS SHOWN	
PROJECT NO. 283-006	
FILE NAME EXCAVATION.dwg	
SHEET NO. 3	OF 5

EROSION CONTROL NOTES

- ON-SITE EROSION CONTROL MEASURES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
- CONTRACTOR SHALL BE AVAILABLE FOR A PRE-CONSTRUCTION CONFERENCE WITH THE AGENCY REPRESENTATIVE TO DISCUSS IMPLEMENTATION AND MAINTENANCE OF PROJECT EROSION CONTROL FEATURES.
- DEVELOP RESPONSE STRATEGY TO ADDRESS POTENTIAL SEDIMENT TRANSPORT OFF-SITE OR INTO EXISTING STORM SEWER, STRATEGY SHOULD INCLUDE COVER MEASURES AND APPROACH TO STABILIZE ANY EXPOSED SOILS.
- INSTALL AND MAINTAIN FILTER FABRIC FENCING AS SHOWN.
- INSTALL AND MAINTAIN CONSTRUCTION ENTRANCE AT EXISTING SITE ACCESS.
- ALL EROSION CONTROL MEASURES SHALL COMPLY WITH THE WASHINGTON STATE DEPARTMENT OF ECOLOGY STORMWATER MANAGEMENT MANUAL FOR EASTERN WASHINGTON.
- IN CASE EROSION OR SEDIMENTATION OCCURS TO AN ADJACENT PROPERTY, WORK AT THE SITE MUST CEASE AND THE CONTRACTOR SHALL IMMEDIATELY COMMENCE ON-SITE RESTORATION OR MITIGATION MEASURES. RESTORATION ACTIVITY SHALL CONTINUE UNTIL SUCH TIME AS THE PROBLEM IS RECTIFIED AND THE SITE IS STABILIZED.
- ALL EROSION AND SEDIMENTATION CONTROL DEVICES SHOWN ON THE DRAWINGS SHALL BE INSTALLED PRIOR TO OR AS PART OF THE FIRST STAGE OF SITE PREPARATION.
- ALL EROSION CONTROL PROVISIONS SHALL BE INSTALLED AND INSPECTED PRIOR TO START OF ANY OTHER SITE ACTIVITIES.
- SHOULD THE TEMPORARY EROSION AND SEDIMENTATION CONTROL MEASURES AS SHOWN ON THIS DRAWING NOT PROVE ADEQUATE TO CONTROL EROSION AND SEDIMENTATION, THE CONTRACTOR SHALL INSTALL ADDITIONAL FACILITIES AS NECESSARY TO PROTECT ADJACENT PROPERTIES, SENSITIVE AREAS, NATURAL WATER COURSES, AND/OR STORM DRAINAGE SYSTEMS.
- ALL NECESSARY EROSION CONTROL FACILITIES SHALL BE PROPERLY MAINTAINED TO PREVENT DEBRIS, DUST, AND MUD FROM ACCUMULATING ON THE PUBLIC RIGHT-OF-WAY.
- TRACK NO MUD OR DEBRIS ON TO CITY STREETS AND/OR SIDEWALKS. PROVIDE SWEEPING TO KEEP CITY STREETS AND SIDEWALKS CLEAN.
- ALL EROSION CONTROL MEASURES SHALL BE CLEANED OF ALL CONSTRUCTION DEPOSITS OR DEBRIS PRIOR TO FINAL COMPLETION OF SITE ACTIVITIES.
- STABILIZE ENTRANCE WITH QUARRY SPALLS TO PROTECT AGAINST SEDIMENT LEAVING THE SITE.
- PREVENT SEDIMENT, CONSTRUCTION DEBRIS, OR ANY OTHER UNWARRANTED SUBSTANCES OR MATERIALS FROM ENTERING PUBLIC STORM DRAINS OR ADJACENT WATER BODIES.



APPROXIMATE EXTENTS OF EXCAVATION LIMITS. EXCAVATION DEPTHS EXTEND FROM SURFACE TO 8 FEET BELOW GROUND SURFACE. CONTAMINATED SOIL TYPICALLY FOUND BETWEEN 4 FEET TO 8 FEET DEPTH

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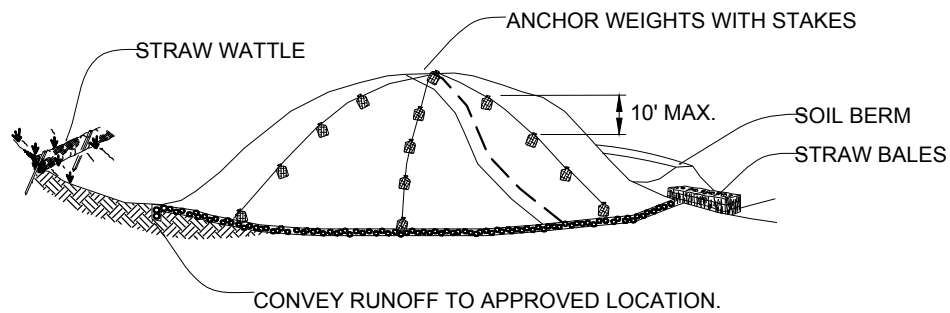
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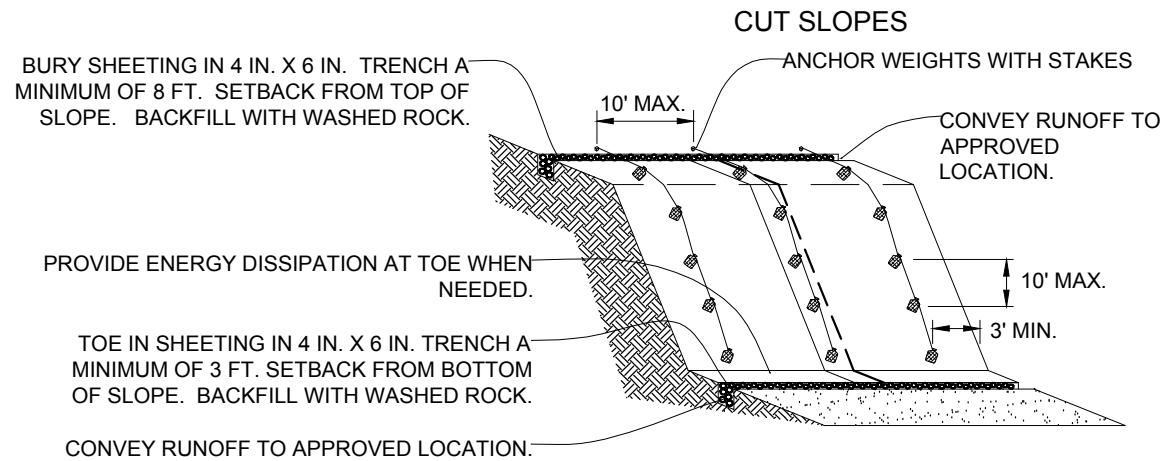
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JOHN MICHAEL LEASE SITE
 SOIL EXCAVATION PROJECT
 CASHMERE, WASHINGTON
EROSION CONTROL PLAN

SCALE AS SHOWN	
PROJECT NO. 283-006	
FILE NAME EXCAVATION.dwg	
SHEET NO. 4	OF 5



CONVEY RUNOFF TO APPROVED LOCATION.



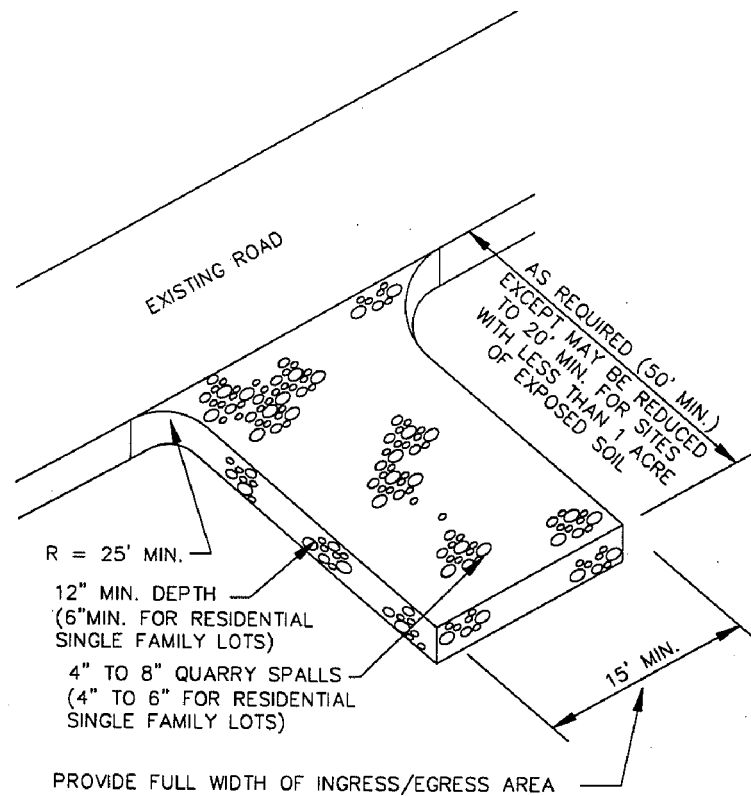
BURY SHEETING IN 4 IN. X 6 IN. TRENCH A MINIMUM OF 8 FT. SETBACK FROM TOP OF SLOPE. BACKFILL WITH WASHED ROCK.

PROVIDE ENERGY DISSIPATION AT TOE WHEN NEEDED.

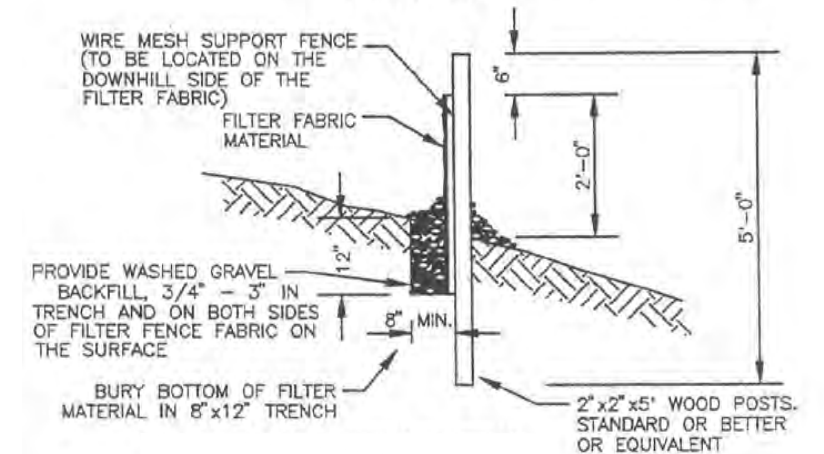
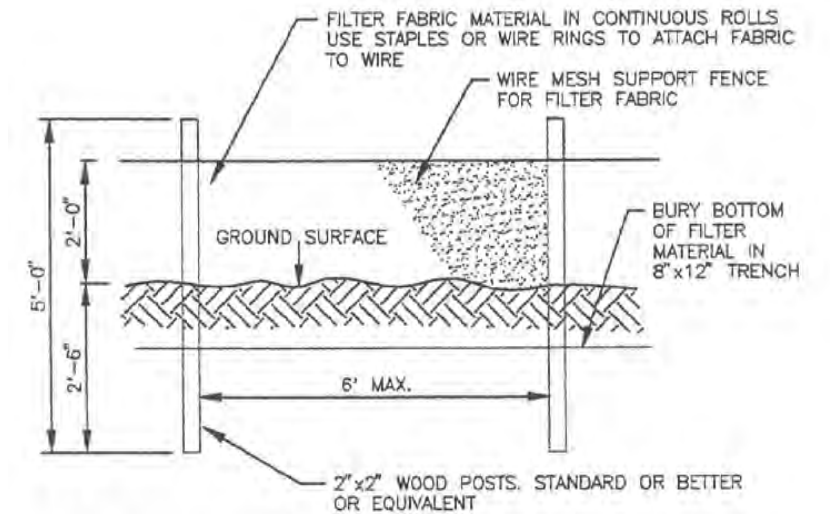
TOE IN SHEETING IN 4 IN. X 6 IN. TRENCH A MINIMUM OF 3 FT. SETBACK FROM BOTTOM OF SLOPE. BACKFILL WITH WASHED ROCK.

CONVEY RUNOFF TO APPROVED LOCATION.

1
54 TYPICAL STOCKPILE
NOT TO SCALE



2
54 CONSTRUCTION ENTRANCE DETAIL
NOT TO SCALE



3
54 FILTER FABRIC FENCE DETAIL
NOT TO SCALE



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APPENDIX F
FIELD SAMPLING FORMS

REVISED CLEANUP ACTION WORK PLAN
John Michael Lease Site
5640 Sunset Highway
Cashmere, Washington

Farallon PN: 283-006

FIELD SAMPLING FORMS

1. Field Report Form
2. Log of Well Form
3. Monitoring Well Construction Data Form
4. Well Purging and Sampling Data Form
5. Waste Inventory Form
6. Sample Label
7. Waste Material Label
8. Chain of Custody Form



FIELD REPORT (continued)

Page ___ of ___

Project: _____ **Date:** _____ **Project #:** _____ **Task #:** _____

Area with horizontal dashed lines for writing the field report content.

MONITORING WELL CONSTRUCTION DATA

WELL/BORING NO: _____

PERMIT NO: _____

DATE: _____

PROJECT NAME: _____

PROJECT NO: _____

WELL SITE LOCATION PLAN: _____

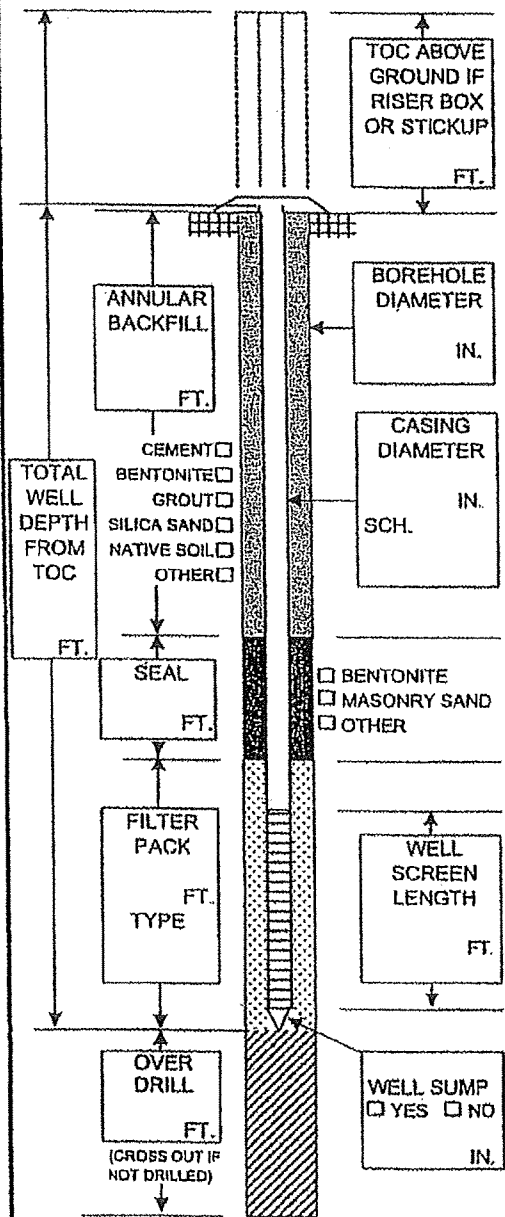
SEC: _____ TWN: _____ RGE: _____ LAT: _____ LONG: _____

DRILLING CO: _____

DRILL CREW: _____

WELL TYPE: SHALLOW SINGLE CASED MONITORING
 PERMANENT INTERMEDIATE DOUBLE CASED RECOVERY
 TEMPORARY DEEP OTHER OTHER

WELL SCHEMATIC



INSTALLATION DATA

DECON. STEAM CLEAN HIGH PRESSURE WASH
 SOAP WASH OTHER _____

CASING TYPE: PVC STAINLESS TEFLON OTHER
 JOINTS: THREADED WELDED COUPLED
 SCREWED OTHER _____

PIT CASING: YES NO DESCRIBE _____

WELL SCREEN: PVC STAINLESS TEFLON OTHER
 DIAMETER: 2" 4" 6" OTHER _____ IN
 SLOT: 0.010 0.020 OTHER _____ IN

DRILLING METHOD: SOLID STEM HOLLOW STEM MUD ROTARY
 AIR ROTARY DIRECT PUSH HAND AUGER
 OTHER _____

BIT SIZE: 2" 4" 6" 8" 12" OTHER _____ IN
 DRILLING MUD: NONE WATER BENTONITE
 OTHER _____

COMPLETION: FLUSH MOUNT STICKUP RISER BOX
 LOCK TYPE: DOLPHIN MASTER KEY NO. _____
 OTHER _____

PAD: 2'X2' 4'X4' OTHER _____

CUTTINGS: DRUMMED NUMBER OF DRUMS _____
 SPREAD OTHER _____

DEVELOPMENT METHOD: NONE BAILING PUMPING AIR LIFT
 SURGE & BLOCK OTHER _____

TIME: 10 MIN 20 MIN OTHER _____ MIN
 AMOUNT: 5 GAL 10 GAL OTHER _____ GAL

WATER BEFORE: SILTY TURBID OPAQUE CLEAR
 WATER AFTER: SILTY TURBID OPAQUE CLEAR

EVIDENT ODOR: YES NO TYPE _____

DEVELOPMENT WATER: DRUMMED NUMBER OF DRUMS _____
 SPREAD TREATED POTW OTHER _____

WATER LEVEL: INITIAL _____ FT BTOC BLS

DATE: _____ FT BELOW TOC

DATE: _____ FT BELOW TOC

NOTES: (DESCRIBE ALL NON-STANDARD METHODS & MATERIALS)

PREPARED BY: _____

CUSTODY SEAL

Date _____

Signature _____



**OnSite
Environmental Inc.**

14648 NE 95th Street
Redmond, WA 98052
(425) 883-3881

Client _____

Project _____

Sample ID _____

Date _____ Time _____

Analysis _____ Preservative _____

NON- HAZARDOUS WASTE

SOLID WASTE EXCLUDED
FROM REGULATION UNDER
40CFR 261.4 (b)

GENERATOR INFORMATION: (optional)

SHIPPER _____

ADDRESS _____

CITY, STATE, ZIP _____

CONTENTS: _____

NON-HAZARDOUS WASTE

