



Environment

Prepared for:
The BNSF Railway Company
Seattle, WA

Prepared by:
AECOM
Seattle, WA
60136319-0640
May 3, 2010

2010 Engineering Design Report

BNSF Former Maintenance and Fueling Facility – Skykomish, Washington



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A handwritten signature in blue ink, appearing to read 'Mark B. Havighorst', written over a horizontal line.

Prepared by Mark B. Havighorst, P.E.

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Reviewed by Halah Voges, P.E.

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List of Acronyms

AMP	Air and Noise Monitoring Plan
AS	air sparging
BMP	Best Management Practice
CAO	Critical Areas Ordinance
CD	Consent Decree
CDW	construction demolition waste
CMP	Compliance Monitoring Plan
CPS	construction plans and specifications
CUL	cleanup level
CWA	Clean Water Act
DFW	Department of Fish and Wildlife
Ecology	State of Washington Department of Ecology
EDR	Engineering Design Report
EIS	Environmental Impact Statement
Facility	BNSF Railway Company's Former Maintenance and Fueling Facility
FMC	Former Maloney Creek
FMCZ	Former Maloney Creek Zone
FS	Feasibility Study
HASP	Health and Safety Plan
HCC	hydraulic control and containment
JARPA	Joint Aquatic Resource Permit Application
MTCA	Model Toxics Cleanup Act
NEDZ	Northeast Developed Zone
NPDES	National Pollutant Discharge Elimination System
NWDZ	Northwest Developed Zone
OHWM	ordinary high water mark
P.E.	Professional Engineer
PCB	polychlorinated biphenyl
PSE	Puget Sound Energy
RCW	Revised Code of Washington
RI	Remedial Investigation
RL	remediation level
ROW	right-of-way
RYZ	Railyard Zone
SDZ	South Developed Zone
SEPA	State Environmental Policy Act
SHA	soil handling area

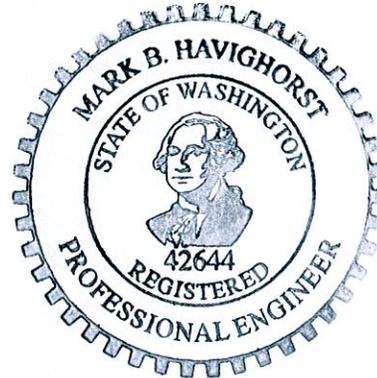
SWPPP	Stormwater Pollution Prevention Plan
Town	Town of Skykomish
USACE	United States Army Corps of Engineers
USFS	United States Forest Service
USPS	United States Postal Service
WAC	Washington Administrative Code
WSDOT	Washington State Department of Transportation

Professional Certification

This Engineering Design Report (EDR) was prepared for the Site by AECOM on behalf of the BNSF Railway Company (BNSF) pursuant to a Consent Decree (CD, State of WA v. BNSF Railway Company, King County Case No. 07-2-33672-9SEA) between BNSF and Washington State Department of Ecology. The EDR is required under the Model Toxics Control Act (MTCA; Revised Code of Washington 70.105D; Washington Administration Code 173-340) and as such was prepared under the supervision of the Professional Engineer whose seal and signature appears hereon.



Mark Havighorst, P.E.
Registered Professional Engineer
State of Washington #42644



EXPIRES 4/14/11

1.0 Introduction

This document presents the *2010 Engineering Design Report (EDR)* for the BNSF Railway Company's Former Maintenance and Fueling Facility (Facility) and surrounding area located within the Town of Skykomish (Town), Washington (site). The site location is shown on Drawing T-100 and a site plan is included as Drawing C-100.

This *2010 EDR* was prepared for the site by AECOM Environment (AECOM; formerly ENSR) on behalf of the BNSF Railway Company (BNSF). EDRs are part of the series of documents required under the Consent Decree (CD, Department of Ecology v. BNSF Railway Company, King County Superior Court Cause No. 07-2-33672-9 SEA) and the Model Toxics Control Act (MTCA; Revised Code of Washington 70.105D; Washington Administration Code (WAC)173-340) cleanup process. The major documents that define the criteria and scope of remediation activities for the site are described below.

- **Remedial Investigation and Feasibility Studies.** The *Remedial Investigation (RI)* (RETEC 1996) and the *Supplemental RI* (RETEC 2002) presented the results of investigations of the nature and extent of contamination at the site. The *Final Feasibility Study* (RETEC 1999, 2005) evaluated the extent of impacts and the feasibility of remedial alternatives for the site. BNSF completed the RI, Supplemental RI and the FSs pursuant to Agreed Order No. DE 91TC-N213.
- **Cleanup Action Plan.** The *Cleanup Action Plan for BNSF Former Maintenance and Fueling Facility, Skykomish, Washington (CAP)*, which was prepared by the Washington State Department of Ecology (Ecology), describes the cleanup action to be taken at the site. The CAP is Exhibit B of the CD and is an integral and enforceable part of the CD. Following public comment, the CAP and CD (CAP and CD; Ecology 2007a and b) were finalized on October 18, 2007 and entered into court on October 19, 2007. *Department of Ecology v. BNSF Railway Company*, King County Superior Court Cause No. 07-2-33672-9 SEA. CD/CAP amendments were approved by the Court on October 17, 2008 and May 11, 2009.
- **Environmental Impact Statement.** The *Final Environmental Impact Statement from BNSF Former Maintenance and Fueling Facility, Skykomish, Washington* (Ecology 2007c) describes the existing environmental conditions, environmental impacts, and mitigation measures associated with the proposed cleanup action.
- **Levee Zone EDR.** The *Levee Zone EDR* (RETEC 2006) describes the design, construction, and operation of cleanup actions conducted at the levee.
- **Master EDR.** The *Master EDR* (ENSR 2008a) provides an overview of cleanup activities that will be conducted in 2008 through 2011 and beyond throughout the Town.
- **2008 EDR.** The *2008 EDR* (ENSR 2008b) describes the design, construction, and operation of the cleanup actions conducted in calendar year 2008.
- **2008 CMP.** The *2008 Compliance Monitoring Plan* (ENSR 2008c) describes the compliance monitoring activities which were completed in calendar year 2008.
- **2008 Remedial Design Investigation (RDI).** The *2008 RDI* report (ENSR 2008d) describes the investigation conducted to collect data on the magnitude and extent of contamination in support of design and cleanup activities. The 2008 RDI was

performed in accordance with the RDI work plan Addenda 1 through 4 required by the CAP.

- **2008 Addendum to the RDI.** The *2008 Addendum* (AECOM 2009a) describes the additional data collected to estimate magnitude and extent of contamination in support of design and cleanup activities.
- **2009 EDR.** The *2009 EDR* (AECOM 2009b) and Addendum No. 1 (AECOM 2009c) describe the design, construction, and operation of the cleanup actions conducted in calendar year 2009. The *2009 EDR* described Former Maloney Creek Zone (FMCZ) East Wetland and South Developed Zone (SDZ) remediation activities which were originally scheduled to be completed in 2009. These activities have been re-scheduled to 2010, so that they occur concurrently with the FMCZ West Wetland remediation.
- **2009 CMP Update.** The *2009 Compliance Monitoring Plan Update* (AECOM 2009d) describes the compliance monitoring activities to be completed in calendar years 2009 and 2010 as part of remediation in the Northwest Developed Zone (NWDZ) and Northeast Developed Zone (NEDZ).
- **HCC SDR.** The *Hydraulic Control and Containment System Special Design Report* (HCC SDR; ENSR 2008e) describes the unique design, construction, and operation aspects of the HCC constructed at the north RYZ boundary.
- **FMC SDRs.** The *Former Maloney Creek East Wetlands Special Design Report* (FMC East SDR; ENSR 2008f, 2009e) and *Former Maloney Creek West Wetlands Special Design Report* (FMC West SDR; AECOM 2009d) describe the unique design, construction, and operation aspects of the Former Maloney Creek (FMC) component of the overall cleanup action to be completed in the east and West Wetlands in 2010.
- **Bridge Coordination.** The *Skykomish Bridge Coordination Report* (AECOM 2009f) provides an introduction to the design basis to begin coordination of cleanup around the south abutment of the Fifth Street Bridge with the Washington State Department of Transportation (WSDOT).

It is important to note that the *2010 EDR* includes information required by WAC 173-340-400(4)(c) and presents the design basis (30 percent design) only for the 2010 cleanup activities that were not included in the 2009 EDR. The 2010 EDR will not be revised to reflect design development as plans proceed from the 30 percent to 100 percent. Design development will be captured in draft and final construction plans and specifications (CPS), which will be submitted in accordance with the CD.

BNSF has adopted a design-build approach to completing cleanup work being performed from 2009–2011. CPS have been developed for much of the NWDZ remediation activities. Adopting the design-build approach resulted in the need to prepare an addendum to the *2009 EDR*. The addendum described a revised work schedule and additional remediation activities that were not described in the *2009 EDR*, but could be completed in 2009 or 2010, as determined by BNSF in consultation with the Contractor and Ecology. This addendum was submitted to and approved by Ecology. This *2010 EDR* describes work that will be completed in 2010 and was not described in the *2009 EDR* or addenda. This *2010 EDR* also describes work that may be completed at the levee west end in 2011. Additional cleanup activities, including remediation of School District-owned property west of 6th Street, will be described in the *2011 EDR*.

1.1 Scope

The *Master EDR*, annual EDRs, and FMC SDRs are interdependent and together provide all of the information outlined in WAC 173-340-400(a) for the work to be completed in 2010. The *Master EDR* includes background and general site-wide information that will not be included in the annual EDRs and addresses all phases of the work required by the CD through at least 2012. The *2010 EDR* includes information that is specific to 2010 remediation activities and not presented in the *Master EDR*, *2009 EDR*, or FMC SDRs. The *2010 EDR* is not intended to be a stand-alone document, but together with the FMC SDRs and *2009 EDR* provides sufficient information for the development and review of CPS and documents engineering concepts and design criteria used for design of the cleanup action activities scheduled for 2010. CPS will be submitted to Ecology separately, as specified in CD Exhibit C. Table 1-1 summarizes the scopes of the *Master EDR*, Annual EDRs, and FMC SDRs (including supporting work plans and design documents) as they pertain to the requirements of WAC 173-340-400(a).

Table 1-1 Master EDR, Annual EDRs, and FMC SDR Scopes

Information required per WAC 173-340-400(a)	Included in		
	Master EDR	Annual EDRs	FMC SDRs
<p>(i) Cleanup Action Goals</p> <p>Overall goals of the cleanup action including the all specific cleanup and performance requirements.</p> <p>Goals of the cleanup action to be implemented in the time period covered by the Annual EDR, including the cleanup and performance requirements specific to those actions.</p>	X	X X	X X
<p>(ii) Site Information</p> <p>General site information and a summary of information in the remedial investigation/feasibility study.</p> <p>A summary of site information pertinent to the cleanup action to be implemented in the time period covered by the Annual EDR, including an updated summary of investigation findings, as necessary to reflect the current condition within the target year work area.</p>	X	X	X
<p>(iii) Owner, Operator, Maintenance Responsibilities</p> <p>Identification of who will generally own, operate, and maintain the cleanup action during and following construction.</p>	X		
<p>(iv) Facility Maps</p> <p>Facility maps showing existing site conditions and the proposed location of the cleanup action.</p> <p>Facility maps showing updated site conditions (if necessary) and the proposed location of the cleanup action in the time period covered by the Annual EDR.</p>	X	X	X
<p>(v) Hazardous Substances Treatment and Management</p> <p>Characteristics, quantity, and locations of materials to be treated or otherwise managed, including ground water containing hazardous substances.</p> <p>Characteristics, quantity, and location of materials to be treated or otherwise managed in the time period covered by the Annual EDR, including ground water containing hazardous substances.</p>	X	X	X
<p>(vi) Schedule</p> <p>A general schedule for the overall cleanup action.</p> <p>A schedule for final design and construction for the time period covered by the Annual EDR.</p>	X	X	X
<p>(viii) Engineering Justification for Design and Operation Parameters</p> <p>A summary of the general design criteria for components of the cleanup action.</p> <p>Design criteria, assumptions, and calculations for the cleanup action components that will be conducted throughout the cleanup action (e.g. construction water treatment).</p>	X X		

Information required per WAC 173-340-400(a)	Included in		
	Master EDR	Annual EDRs	FMC SDRs
Design criteria, assumptions, and detailed calculations for cleanup action components that will be completed within the time period covered by the Annual EDR.		X	X
Expected treatment, destruction, immobilization, or containment efficiencies for cleanup action components that will be conducted throughout the duration of the cleanup action (e.g. construction water treatment), and documentation on how that degree of effectiveness is determined.	X		
Expected treatment, destruction, immobilization, or containment efficiencies for the cleanup action components that will be completed within the time period covered by the Annual EDR, and documentation on how that degree of effectiveness is determined.		X	X
Demonstration that the cleanup action components that will be conducted throughout the duration of the cleanup action (e.g. construction water treatment) will achieve compliance with cleanup requirements by citing pilot or treatability test data, results from similar operations, or scientific evidence from the literature.	X		
Demonstration that the cleanup action components that will be completed within the time period covered by the Annual EDR will achieve compliance with cleanup requirements by citing pilot or treatability test data, results from similar operations, or scientific evidence from the literature.		X	X
(ix) Spill Control			
A general description of the spill control and response measures that will be implemented throughout the cleanup action.	X		
Design features for control of hazardous materials spills and accidental discharges (for example, containment structures, leak detection devices, run-on and runoff controls).		X	X
(x) Public and Worker Safety			
A general description of the public and worker safety measures that will be implemented throughout the cleanup action.	X		
A description of design features to assure long-term safety of workers and local residences (for example, hazardous substances monitoring devices, pressure valves, bypass systems, safety cutoffs).		X	X
(xi) Waste Management			
A discussion of general methods for management or disposal of any treatment residual and other waste materials containing hazardous substances generated as a result of the cleanup action.	X		
A discussion of waste management methods to be implemented during the cleanup action time period covered by the Annual EDR, if different from the general methods.		X	X

Information required per WAC 173-340-400(a)	Included in		
	Master EDR	Annual EDRs	FMC SDRs
<p>(xii) Facility-Specific Characteristics Facility-specific characteristics that may affect design, construction, or operation of the selected cleanup action, including:</p> <ul style="list-style-type: none"> • The general relationship of the proposed cleanup action to existing facility operations • Relationship of the proposed cleanup action to be implemented during the cleanup action time period covered by the Annual EDR to existing facility operations, if different from the general relationship described in the <i>Master EDR</i> • General probability of flooding, probability of seismic activity, temperature extremes, local planning and development issues • Probability of flooding, probability of seismic activity, temperature extremes, local planning and development issues during the cleanup action time period covered by the Annual EDR, if different from general conditions described in the <i>Master EDR</i>. 	X	X	X
<p>General soil characteristics and ground water system characteristics. Soil characteristics and ground water system characteristics specific to the cleanup action to be completed within time period covered by the Annual EDR, if different from general characteristics described in the <i>Master EDR</i>.</p>	X	X	X
<p>(xiii) Quality Control A general description of the overall approach to quality control. A description of construction testing that will be used to demonstrate adequate quality control within time period covered by the Annual EDR.</p>	X	X	X
<p>(xiv) Compliance Monitoring A general description of compliance monitoring that will be performed during and after construction to meet the requirements of WAC 173-340-410. A description of compliance monitoring that will be performed during and after construction activities specified in the Annual EDR to meet the requirements of WAC 173-340-410.</p>	X	X ¹	X ¹
<p>(xv) Health and Safety A general description of construction procedures proposed to assure that the safety and health requirements of WAC 173-340-810 are met. A general description of construction procedures proposed to be completed during and after construction activities specified in the Annual EDR in order to assure that the safety and health requirements of WAC 173-340-810 are met.</p>	X	X ²	X ²
<p>(xvi) SEPA Requirements Any information not provided in the remedial investigation/feasibility study needed to fulfill the applicable requirements of the State Environmental Policy Act (chapter 43.21C RCW).</p>		X	X

Information required per WAC 173-340-400(a)	Included in		
	Master EDR	Annual EDRs	FMC SDRs
<p>(xvii) Permitting</p> <p>Any additional information needed to address the applicable state, federal and local requirements including the substantive requirements for any exempted permits; and property access issues which need to be resolved to implement the cleanup action.</p>		X	X
<p>(xviii) Financial Assurance</p> <p>For sites requiring financial assurance and where not already incorporated into the order or decree or other previously submitted document, preliminary cost calculations and financial information describing the basis for the amount and form of financial assurance and, a draft financial assurance document.</p>	X ³		
<p>(xix) Institutional Controls</p> <p>For sites using institutional controls as part of the cleanup action and where not already incorporated into the order or decree or other previously submitted documents, copies of draft restrictive covenants and/or other draft documents establishing these institutional controls.</p>	X ³		
<p>(xx) Other</p> <p>Other information as required by the department (e.g., supplemental investigation data).</p>	X ⁴		

Notes:

1. Will be described in the Compliance Monitoring Plans
2. Will be described in the Health and Safety Plan
3. Will be submitted as separate documents, as specified in CD Exhibit C
4. Will be included, as needed, in separate documents

1.2 Overview of 2010 Cleanup Activities

Cleanup activities for 2010 include: 1) operation of treatment systems constructed in 2008/2009 and ancillary activities; 2) RYZ excavation; 3) Bridge Area remediation; 4) Levee West End excavation; 5) HCC barrier east end excavation; 6) Cascadia Inn Property remediation; 7) FMC East Wetland remediation and groundwater barrier construction¹; 8) FMC West Wetland remediation; and 9) continuation and/or completion of cleanup activities not completed in previous years, which includes work on King County Parcels 7807800675 (Community Center), 7807800660 (Opera House), and 7807800670 (Town Maintenance Building) and 6th Street right of way (ROW) described in 2009 EDR Addendum No. 1 (AECOM, 2009c). These activities will be completed in all of the six remediation zones, including the RYZ, Levee Zone, NWDZ, NEDZ, SDZ, and FMCZ. The actions for each zone

¹ The groundwater barrier will only be constructed if the "Selected Remedy" described in Section 1.2.7.1 is implemented.

are interdependent. Achieving cleanup in one zone depends not only upon the actions to be taken in that zone, but also upon the actions to be taken in other zones.

1.2.1 Treatment System Operation/Ancillary Activities

The following treatment system operation and ancillary cleanup activities are planned for the RYZ and NEDZ.

- **HCC Water Treatment System Operation:** An HCC water treatment system was constructed in 2008 to treat groundwater recovered via the HCC. The system will be operated from the Remediation Equipment Building located on the railyard in 2010 per the system *Draft Operations and Maintenance and Monitoring Manual for Hydraulic Control and Containment System* (ENSR 2008g).
- **HCC System Treated Groundwater Injection and Surface Water Discharge:** A portion of the treated groundwater from the HCC system will be re-injected on the railyard in accordance with NPDES permit WA-003212-3² (NPDES permit). The remaining portion of the treated groundwater from the HCC system will be discharged to surface water via the Town storm water system consistent with the NPDES permit.
- **Construction Water Treatment:** A temporary system will be operated in the RYZ to treat water generated from construction activities.
- **Treated Construction Water Discharge:** Treated construction water will be discharged to surface water via the Town stormwater system consistent with NPDES permit WA-003212-3.
- **Air Sparging (AS) System Operation:** In 2008/2009 an AS system, including sparging wells, underground piping, and blowers was installed to treat impacted soil and groundwater on King County tax lot 7807800085 (Joselyn property), which is located in the NEDZ. In 2010, the system will be operated from the Remediation Equipment Building, which is located on the railyard.
- **Compliance Monitoring:** The compliance monitoring activities listed below will be conducted during and after remediation activities. These activities will be described in the 2010 CMP Update.
 - Protection monitoring to confirm that human health and the environment are adequately protected during remediation activities.
 - Performance monitoring to assess whether or not the cleanup action has attained the designated Cleanup Levels (CULs), Remediation Levels (RLs), and other performance standards.
 - Confirmational monitoring to evaluate the long-term effectiveness of the remediation activities.
- **Vapor Mitigation:** Protective measures will be designed and implemented for the house located on the Joselyn property, if necessary based on the air monitoring results.

² National Pollutant Discharge Elimination System Waste Discharge Permit No. WA- 003212-3, Issued May 4, 2006; 1st Modification Date: August 15, 2006; 2nd Modification Date: June 30, 2008.

1.2.2 RYZ Excavation

The following cleanup activities are planned for the RYZ and part of King County tax lot 5061800095 (Goebel Property, aka Skykomish Library property) and the Railroad Avenue and 5th Street right of ways (ROWs).

- **Excavation:** BNSF will continue RYZ excavation of 1) soil located within 2 feet of the surface with concentrations of lead exceeding 250 mg/kg, arsenic exceeding 20 mg/kg, total PCBs exceeding 0.65 mg/kg and/or petroleum exceeding 1,870 mg/kg NWTPH-Dx (the concentration protective of soil biota); 2) soil from BNSF property within the RYZ with free product and/or petroleum concentrations exceeding 3,400 mg/kg NWTPH-Dx; and 3) soil from property within the RYZ that is not owned by BNSF (this property is located within Town ROWs and is shown on the figures, where appropriate) with soil petroleum concentrations exceeding 3,400 mg/kg NWTPH-Dx.
- **Compliance Monitoring:** The following compliance monitoring activities will be conducted during and after remediation activities. These activities will be described in the 2010 CMP Update.
 - Protection monitoring to confirm that human health and the environment are adequately protected during remediation activities.
 - Performance monitoring to assess whether or not the cleanup action has attained the designated cleanup CULs, RLs, and other performance standards.
 - Right-of-Way Restoration: Sections of the Railroad Avenue and 5th Street ROWs that are excavated as part of remediation activities will be restored to meet current applicable King County standards as adopted by the Town, or as agreed by BNSF and the Town.
- **Utilities Construction and Restoration:** Electrical and telecommunications services will be reconfigured as necessary to maintain these services to residences and businesses that remain inhabitable/operational during remediation activities. New permanent electrical, communications, and potable water utilities that are removed as part of remediation activities will be restored in-kind, or constructed as agreed by BNSF and the Town.

1.2.3 Bridge Area Excavation

The following cleanup activities are planned for the Fifth Street Bridge south abutment, which is located in the Levee Zone and NWDZ on King County tax lots 7807800480 and 7807800505 (collectively: Goranson Property), and within Town ROWs.

- **Excavation:** Sediment between the ordinary high water mark (OHWM) of the South Fork Skykomish River and up to a depth of 10 feet below the river bottom, with petroleum concentrations exceeding 40.9 mg/kg NWTPH-Dx will be excavated. Soil within a 25-foot lateral buffer zone extending outward from the OHWM and up to 10 feet below the river bottom, with petroleum concentrations exceeding 22 mg/kg NWTPH-Dx will be excavated. Soil upland of the 25-foot lateral buffer zone with petroleum concentrations exceeding 3,400 mg/kg NWTPH-Dx will also be excavated. The proposed excavation extents have been determined based on investigation results. Actual extents could vary and will be verified based on field observations and performance monitoring.

- **Compliance Monitoring:** The following compliance monitoring activities will be conducted during and after remediation activities. These activities will be described in the 2010 CMP Update.
 - Protection monitoring to confirm that human health and the environment are adequately protected during remediation activities.
 - Performance monitoring to evaluate whether or not the cleanup action has attained the designated CULs, RLs, and other performance standards.
- **River and Levee Restoration:** Excavated sections of the river and levee will be restored to meet current applicable King County and Army Corps of Engineers standards. The levee will also be restored to match to the extent practicable, the existing levee constructed in 2006.
- **Right-of-Way Restoration:** ROWs that are excavated as part of remediation activities will be restored to meet current applicable King County standards as adopted by the Town, or as agreed by BNSF and the Town.
- **Utilities Construction and Restoration:** Electrical and telecommunications services will be reconfigured as necessary to maintain these services to residences and businesses that remain inhabitable/operational during remediation activities. New permanent electrical, communications, and potable water utilities that are removed as part of remediation activities will be restored in-kind, or constructed as agreed by BNSF and the Town.

1.2.4 Levee West End Excavation

The following cleanup activities are planned for the area near the levee west end, which is located in the NWDZ, and includes parts of King County tax lots 2626119029, 2626119039, 2626119043, and 5060800060 (collectively: Shawver Property) and the West River Drive ROW. This work may be completed in 2011.

- **Building Relocation:** The shop and wood sheds on the Shawver Property will be temporarily relocated to facilitate excavation activities.
- **Excavation:** All free product and/or soil upland of the 25-foot lateral buffer zone with petroleum concentrations exceeding 3,400 mg/kg NWTPH-Dx will be excavated. The proposed excavation extents have been determined based on the results of an August 2009 investigation. Actual extents could vary and will be verified based on field observations and performance monitoring. Excavation confirmation samples will be collected immediately upland of the buffer zone boundary. Soil within the 25-foot lateral buffer zone extending outward from the OHWM and up to 10 feet below the river bottom, with petroleum concentrations exceeding 22 mg/kg NWTPH-Dx will be excavated if these buffer zone boundary confirmation samples exceed 3,400 mg/kg NWTPH-Dx. Confirmation samples will be collected at the buffer zone excavation extents. In-water excavation will occur if the buffer zone excavation extends to the OHWM and confirmation sample concentrations exceed 40.9 mg/kg. If this occurs, then sediment between the OHWM and up to a depth of 10 feet below the river bottom, with petroleum concentrations exceeding 40.9 mg/kg NWTPH-Dx will be excavated.
- **Compliance Monitoring:** The following compliance monitoring activities will be conducted during and after remediation activities. These activities will be described in the 2010 CMP Update.

- Protection monitoring to confirm that human health and the environment are adequately protected during remediation activities.
 - Performance monitoring to evaluate whether or not the cleanup action has attained the designated CULs, RLs, and other performance standards.
- **River and Levee Restoration:** Excavated sections of the river and levee will be restored to meet current applicable King County and Army Corps of Engineers (USACE) standards. The levee will also be restored to match to the extent practicable, the existing levee constructed in 2006.
- **Right-of-Way Restoration:** ROWs that are excavated as part of remediation activities will be restored to meet current applicable King County standards as adopted by the Town, or as agreed by BNSF and the Town.
- **Utilities Construction and Restoration:** Electrical and telecommunications services will be reconfigured as necessary to maintain these services to residences and businesses that remain inhabitable/operational during remediation activities. New permanent electrical, communications, and potable water utilities that are removed as part of remediation activities will be restored in-kind, or constructed as agreed by BNSF and the Town.
- **Vapor Mitigation:** It is anticipated that vapor mitigation will not be required for excavation in this area because no occupied buildings or structures will remain in place or will be built over petroleum contamination exceeding 3,400 mg/kg NWTPH-Dx.

1.2.5 HCC East End Excavation and Barrier Wall Extension

The following cleanup activities are planned for the Railroad Avenue ROW, east of the HCC barrier wall, which is located in the NEDZ.

- **Excavation:** Unanticipated petroleum hydrocarbon impacted soil was discovered east of the existing HCC barrier wall and the 2008 excavation prism during boring for installation of compliance monitoring well EW-2. The impacted soil extents in this area were further delineated during August 2009 investigation activities. Based on the investigation results 1) the volume of impacted soil with petroleum hydrocarbon concentrations exceeding 3,400 mg/kg NWTPH-Dx was found to be small (approximately 350 cubic yards); 2) the impacted soil was found to be separate and isolated from the main soil impacts that were removed in 2008.

This isolated free product and impacted soil with concentrations of petroleum hydrocarbons exceeding 3,400 mg/kg NWTPH-Dx will be excavated to the extent possible from the Railroad Avenue ROW at the east end of the HCC, using a combination of standard excavation equipment and specialized methods such as large diameter borings completed inside a casing, or shoring/trench boxes. Removal of these impacted soil zones in accordance with the intent of the CD is subject to a number of serious implementability factors that impact the feasibility of conventional excavation methods. A conventional, sloped excavation would cause distress to existing remedial systems (the nearby vault) and railroad mainline infrastructure. Specifically, the system vault would be in jeopardy of damage caused by backfill failure and the excavation slope intersects with the stress slope of the railroad mainline. Both of these conditions pose unacceptable

risks and, for this reason, a sloped excavation by itself was eliminated as a feasible remedial alternative.

- **Extension of HCC:** The excavation procedures are intended to remove impacted soil that is off railroad property and it is anticipated that some amount of soil with petroleum hydrocarbon concentrations above 3,400 mg/kg NWTPH-Dx will remain on the BNSF railroad property. A study is being completed to evaluate the need to extend the HCC barrier wall to the area to provide containment of LNAPL and groundwater with petroleum hydrocarbon concentrations exceeding 477 µg/L NWTPH-Dx from leaving the railyard. It is anticipated that this study will be completed by mid-December. Several methods will be evaluated for extension of the HCC, including backfill of large diameter borings (if used for excavation) with controlled density fill (CDF), cement-bentonite slurry, a granular mixture that includes organo-clay, or permeation grouting after removal of the impacted soil. The groundwater flow model will be updated, as necessary, to determine the length and nature of the extension and the need for additional groundwater recovery from this area. An amendment to the *HCC SDR* will be prepared to document this design work. The study results will be included in this amendment, which will be submitted to Ecology for comment in December 2009, before or together with the Draft 2010 CPS submittal.
- **Compliance Monitoring:** The following compliance monitoring activities will be conducted during and after remediation activities. These activities will be described in the 2010 CMP Update.
 - Protection monitoring to confirm that human health and the environment are adequately protected during remediation activities.
 - Performance monitoring to evaluate whether or not the cleanup action has attained the designated CULs, RLs, and other performance standards.
- **Right-of-Way Restoration:** The section of the Railroad Avenue ROW that is excavated as part of remediation activities will be restored to meet current applicable King County standards as adopted by the Town, or as agreed by BNSF and the Town.
- **Utilities Construction and Restoration:** Electrical and telecommunications services will be reconfigured as necessary to maintain these services to residences and businesses that remain inhabitable/operational during remediation activities. New permanent electrical, communications, and potable water utilities that are removed as part of remediation activities will be restored in-kind, or constructed as agreed by BNSF and the Town.

1.2.6 Cascadia Inn Property Remediation

The following cleanup activities are planned for the King County tax lots 7807800240 and 7807800251, (collectively: Cascadia Inn property) and the Railroad Avenue ROW. The Cascadia Inn building is located entirely in tax lot 7807800240. The approximate west half of the building is located in the NWDZ; the approximate east half is located in the NEDZ. Tax lot 7807800251 is located entirely in the NEDZ.

- **Excavation:** All free product and/or soil with concentrations of petroleum hydrocarbons exceeding 3,400 mg/kg will be excavated from the Cascadia Inn property. This excavation is focused on petroleum hydrocarbons comprised of approximately equal portions of diesel and Bunker C and therefore is considered to be located entirely within the NWDZ. We currently anticipate that excavation

beneath the west side/restaurant portion of the building will be facilitated by underpinning rather than relocation of part or all of the structure. The proposed excavation extents have been determined based on 2008 and August 2009 investigation results. Actual extents could vary and will be verified based on field observations and performance monitoring.

- **Containment Structures:** Excavation of impacted soil may not occur beneath part of the Cascadia Inn if underpinning or temporary relocation of the building is not feasible. Containment structures will be constructed on or near property boundaries as necessary to prevent recontamination of excavated properties. These containment structures could remain in place under the following circumstances:
 - Due to technical reasons (i.e., space constraints and adjacent building stability)
- Design of these containment structures would be addressed on a case-by-case basis in consultation with Ecology and affected property owners. The barriers will be designed to meet the performance standard of a permanent barrier if they must remain in place to prevent contaminant migration. Containment structure design for buildings to which BNSF is denied access by owners within the 2010 excavation area will be described in the 2010 EDR addenda. At this time, BNSF does not expect that any such containment structures would be required.
- **Compliance Monitoring:** The following compliance monitoring activities will be conducted during and after remediation activities. These activities will be described in the 2010 CMP Update.
 - Protection monitoring to confirm that human health and the environment are adequately protected during remediation activities.
 - Performance monitoring to evaluate whether or not the cleanup action has attained the designated CULs, RLs, and other performance standards.
- **Vapor Mitigation:** Protective measures will be designed and implemented for the Cascadia Inn building as long as it is located over petroleum contamination exceeding 3,400 mg/kg NWTPH-Dx, and if the concentration of total petroleum hydrocarbons in indoor air exceeds the CUL of 1,346 $\mu\text{g}/\text{m}^3$.
- **Right-of-Way Restoration:** ROWs that are excavated as part of remediation activities will be restored to meet current applicable King County standards as adopted by the Town, or as agreed by BNSF and the Town.
- **Utilities Construction and Restoration:** Electrical and telecommunications services will be reconfigured as necessary to maintain these services to residences and businesses that remain inhabitable/operational during remediation activities. New permanent electrical, communications, and potable water utilities that are removed as part of remediation activities will be restored in-kind, or constructed as agreed by BNSF and the Town.

1.2.7 FMC East Wetland Remediation

The FMC East Wetland cleanup area includes the FMCZ east of 5th Street and the SDZ, as well as part of the RYZ.

1.2.7.1 Selected Remedy

This approach includes the following cleanup activities, as described in the *FMC East SDR* and 2009 *EDR* Section 1.2.3.

- **Building Relocation:** The shed partially located on the BNSF property adjacent to King County parcel 5061300126 (Robinson Property) will be permanently relocated to the building owner's property. All building relocation work on the Robinson property will be contingent upon obtaining access from the owner.
- **Excavation:** All soil located within a 25-foot lateral buffer zone extending outward from the OHWM or wetland boundary at a depth less than 4 feet below the bottom of the stream channel with petroleum concentrations exceeding 22 mg/kg NWTPH-Dx, will be excavated. All soil located within a 25-foot lateral buffer zone extending outward from the OHWM or wetland boundary at a depth greater than 4 feet below the bottom of the stream channel with petroleum concentration exceeding 3,400 mg/kg NWTPH-Dx will also be excavated. The proposed excavation extents have been determined based on investigation results. Actual soil excavation extents could vary and will be verified based on field observations and performance monitoring.
- All sediment located within the OHWM or wetland boundary at a depth less than 4 feet below the bottom of the stream channel, with petroleum concentrations exceeding 40.9 mg/kg NWTPH-Dx will be excavated. This excavation will also remove dioxin/furan-impacted soil which is co-located with petroleum impacted soil. All sediment located within the OHWM or wetland boundary at a depth less than 4 feet from the bottom of the stream channel with petroleum concentrations exceeding 3,400 mg/kg NWTPH-Dx will also be excavated. Actual sediment excavation extents could vary and will be verified based on field observations and performance monitoring.
- **Restoration as On-site Wetlands in Accordance with Substantive Requirements:** Following excavation of impacted soil and sediment, the excavated creek areas and adjacent wetlands will be backfilled with appropriate clean material and restored as habitat by replanting appropriate vegetation. The restoration will be consistent with the substantive requirements of the Town's Shoreline Management Program and regulations, and with other applicable laws and regulations such as the Town's Critical Areas Ordinance (CAO) and Section 404 of the Federal Clean Water Act. Restoration is described in the *Former Maloney Creek East Wetland Restoration and Mitigation Plan*, which is Appendix F of the *FMC East SDR*.
- **Compliance Monitoring:** The following compliance monitoring activities will be conducted during and after remediation activities. These activities will be described in the 2010 CMP Update.
 - Protection monitoring to confirm that human health and the environment are adequately protected during remediation activities.
 - Performance monitoring to assess whether or not the cleanup action has attained the designated cleanup CULs, RLs, and other performance standards.
 - Confirmational monitoring to evaluate the long-term effectiveness of the remediation activities.

1.2.7.2 Alternate Remedy

BNSF, the Town and Ecology are currently discussing another option to restore the Former Maloney Creek East Wetland. This approach includes the following cleanup activities, as described in the FMC East Wetland JARPA permit application, which was submitted to The United States Army Corps of Engineers (USACE) on August 7, 2009.

- **Building Relocation:** The shed partially located on the BNSF property adjacent to King County parcel 5061300126 (Robinson Property) will be permanently relocated to the building owner's property. All building relocation on the Robinson property will be contingent upon obtaining access from the owner.
- **Excavation:** All soil located within a 25-foot lateral buffer zone extending outward from the OHWM or wetland boundary at a depth greater than 4 feet below the bottom of the stream channel with petroleum concentration exceeding 3,400 mg/kg NWTPH-Dx will also be excavated. The proposed excavation extents have been determined based on investigation results. Actual soil excavation extents could vary and will be verified based on field observations and performance monitoring.
- All sediment located within the OHWM or wetland boundary at a depth less than 4 feet from the bottom of the stream channel with petroleum concentrations exceeding 3,400 mg/kg NWTPH-Dx will also be excavated. This excavation will also remove dioxin/furan-impacted soil which is co-located with petroleum impacted soil. Actual sediment excavation extents could vary and will be verified based on field observations and performance monitoring.
- **Stormwater Control System Construction:** A storm drain will be installed to convey surface water flows from upstream road ditches through the project area for discharge to the FMC West Wetland via the existing culvert that spans beneath Old Cascade Highway.
- **Restoration as Uplands and Off-site Mitigation/Compensation:** Following excavation of impacted soil and sediment, the excavated areas and adjacent wetlands will be backfilled with appropriate clean material and restored as upland, not as a wetland, as described in Option 1. Restoration as upland would result in a loss of wetland habitat, which will be compensated for by the purchase of wetland credits from the Skykomish Habitat LLC wetland mitigation bank and potential mitigation opportunities along Maloney Creek. Non-BNSF-owned SDZ parcels within the FMC East Wetland remediation area will be restored with topsoil and installation of vegetation according to agreements with the individual property owners. The BNSF owned portions of the project area will be restored with a granular backfill cover.
- **Compliance Monitoring:** The following compliance monitoring activities will be conducted during and after remediation activities. These activities will be described in the 2010 CMP Update.
 - Protection monitoring to confirm that human health and the environment are adequately protected during remediation activities.
 - Performance monitoring to assess whether or not the cleanup action has attained the designated cleanup CULs, RLs, and other performance standards.
 - Confirmational monitoring to evaluate the long-term effectiveness of the remediation activities.

BNSF anticipates that one of the two remedies will be selected for implementation before the start of the 2010 construction season. Implementation of either option is contingent upon approval of the JARPA. Implementation of Option 2 is also contingent upon Ecology approval and coordination with the Town. An addendum to the *FMC East SDR* would be prepared and submitted to Ecology for approval if the Alternate Remedy is selected.

1.2.8 FMC West Wetland Remediation

The following cleanup activities are planned as part of the FMC West Wetland remediation and described in the *FMC West SDR*. The FMC West Wetland cleanup area includes the FMCZ west of 5th Street and parts of King County Tax lots 5061300115 and 5061300110 (King County Fire Protection District 50 Property; KCFPD 50 Property), 2626119103 (Domina Property), 2626119073 (Calderon Property), 2626119125 (Fortun Property), 262611917 (Puget Western Property), 3526119001 (US Government Property), and 2626119121 (Town Wetland Property).

- **Excavation:** All soil located within a 25-foot lateral buffer zone extending north from the OHWM or wetland boundary at a depth less than 4 feet below the bottom of the stream channel with petroleum concentrations exceeding 22 mg/kg NWTPH-Dx, will be excavated. All soil located within a 25-foot lateral buffer zone extending north from the OHWM or wetland boundary at a depth greater than 4 feet below the bottom of the stream channel with petroleum concentration exceeding 3,400 mg/kg NWTPH-Dx will also be excavated. The proposed excavation extents are based on CAP requirements, in the absence of any groundwater flow direction or groundwater and soil chemistry data. Additional investigation work in the West Wetland buffer zone (located on the north side of the wetland), including installation of several borings and monitoring wells, was performed in August 2009. A *FMC West SDR* addendum is currently being prepared to document the investigation results and any proposed changes to the excavation extents. The amendment will be submitted to Ecology approximately on the same schedule as this document. Actual soil excavation extents could vary from the planned extents, and will be verified based on field observations and performance monitoring.
- All sediment located within the OHWM or wetland boundary at a depth less than 4 feet below the bottom of the stream channel, with petroleum concentrations exceeding 40.9 mg/kg NWTPH-Dx will be excavated. This excavation will also remove dioxin/furan-impacted soil which is co-located with petroleum impacted soil. All sediment located within the OHWM or wetland boundary at a depth less than 4 feet from the bottom of the stream channel with petroleum concentrations exceeding 3,400 mg/kg NWTPH-Dx will also be excavated. The sediment excavation extents proposed in the *FMC West SDR* are based on 2007 and 2008 investigation results. Additional investigation work in the West Wetland, including biological testing, was performed in August 2009. Based on preliminary results, BNSF anticipates that the sediment excavation extents will decrease. A *FMC West SDR* amendment is currently being prepared to document the investigation results and any proposed changes to the excavation extents. The amendment will be submitted to Ecology approximately on the same schedule as this document. Actual sediment excavation extents could vary from the planned extents, and will be verified based on field observations and performance monitoring.
- **Wetlands Restoration in Accordance with Substantive Requirements:** Following excavation of impacted soil and sediment, the excavated creek areas and adjacent wetlands will be backfilled with appropriate clean material and restored as habitat by replanting appropriate vegetation. The restoration will be

consistent with the substantive requirements of the Town's Shoreline Management Program and regulations, and with other applicable laws and regulations such as the Town's CAO and Section 404 of the Federal Clean Water Act. Restoration is described in *FMC West SDR* Section 4.2.11.

- **Compliance Monitoring:** The following compliance monitoring activities will be conducted during and after remediation activities. These activities will be described in the 2010 CMP Update.
 - Protection monitoring to confirm that human health and the environment are adequately protected during remediation activities.
 - Performance monitoring to assess whether or not the cleanup action has attained the designated cleanup CULs, RLs, and other performance standards.
 - Confirmational monitoring to evaluate the long-term effectiveness of the remediation activities.

1.2.9 Associated Plans

A number of follow-on documents are necessary to complete each phase of cleanup work and required by regulation. These include EDRs, CPS, operation and maintenance plans, permits and substantive permit requirements, compliance monitoring plans; and as-built reports. The Project Document Control Matrix (see *Master EDR*: Appendix E) summarizes the plans that are associated with the cleanup. Several of these plans are referenced in the *Master EDR*.

2.0 Regulatory Framework

The regulatory framework for 2010 cleanup activities is described in *Master EDR* (ENSR 2008a), Section 2.0, *Levee Zone EDR* (RETE 2006), Section 2, and the CD, Exhibit D and E. These include 1) MTCA design requirements; 2) applicable or relevant and appropriate substantive requirements established by state, and local governments to protect public health and the environment; and 3) permitting requirements established by federal law. The regulatory framework presented in the Master EDR and Levee Zone EDR was established with the understanding that the referenced regulatory requirements and guidelines are subject to change over the anticipated duration of the remediation activities and that changing site conditions could warrant revision of this framework.

2.1 MTCA Design Requirements

No changes to applicable MTCA Design Requirements have been made since the submittal dates of the Master EDR and Levee Zone EDR, and there have been no apparent significant changes to site conditions. The MTCA regulatory framework presented in the Master EDR and Levee Zone EDR is therefore applicable to the 2010 cleanup activities.

2.2 Applicable and Relevant and Appropriate Requirements

No changes to other applicable or relevant and appropriate requirements have been made since the submittal date of the Master EDR and Levee Zone EDR. The applicable and relevant and appropriate requirements presented in the Master EDR and Levee Zone EDR are therefore applicable to the 2010 cleanup activities.

2.3 Permits

No changes to permit requirements have been made since the submittal dates of the Master EDR and Levee Zone EDR, with the exception of the NPDES permit, which was modified on June 30, 2008 to describe HCC system flow rates and change to outfall locations. The other permit requirements presented in the Master EDR and Levee Zone EDR are therefore applicable to the 2010 cleanup activities. It is important to note that in-water work for the FMC east and West Wetlands remediation, bridge excavation, and potential in-water excavation at the levee west end cannot be initiated without approval of JARPA. The permit applications have been submitted to USACE and Washington State Department of Fish and Wildlife (DFW) along with the FMC SDRs. The Bridge excavation also requires a WSDOT permit.

3.0 Design Criteria

3.1 Design Criteria Described in the Master EDR

This section lists references to the site-wide and zone-specific design requirements that were originally presented in the Master EDR, and are pertinent to 2010 site activities. These criteria are explicit goals that the remediation activities must achieve in order to be successful. The zone-specific design criteria in the Master EDR were established with the understanding that they could be revised in future annual EDRs or SDRs as the scope of work was further clarified or re-defined. The overall design criteria presented in the Master EDR therefore require no revision.

3.1.1 Site-Wide Design Requirements

Table 3-1 provides citations to the site-wide design requirements described in Master EDR Section 3.1, which are applicable to the 2010 cleanup activities.

Table 3-1 Master EDR Site-Wide Design Requirements Citations

2010 Site-Wide Design Requirement	<i>Master EDR Section</i>
Codes	3.1.1
Standards and Guidelines	3.1.2
Shoring and Excavation Stabilization	3.1.3
Excavation Dewatering	3.1.4
Product Recovery	3.1.5
Impacted Soil Handling and Disposal	3.1.6
Clean Overburden Handling and Onsite Reuse	3.1.7
Construction Dewatering Treatment	3.1.8
Construction Treated Water Discharge	3.1.9
Compliance Monitoring	3.1.10
Spill Control and Response	3.1.11
Building Relocation	3.1.12
Access/Haul Roads	3.1.13
Public ROW Restoration	3.1.14
Utilities Restoration	3.1.15
Cleanup Standards	3.1.16
Vapor Mitigation	3.1.17
Construction Safety	3.1.18
Traffic Routing and Pedestrian Access	3.1.19
Survey Control	3.1.20

3.1.2 2010 Cleanup Activities Zone-Specific Design Requirements

Table 3-2 provides citations to the zone-specific design requirements described in Master EDR Section 3.2 which are applicable to the 2010 cleanup activities.

Table 3-2 Master EDR Zone-Specific Design Requirements Citations

2010 Zone-Specific Design Requirement	Master EDR Section
Railyard Zone	3.2.2
RLs and CULs)	Table 3-2
HCC Water Treatment System	3.2.2.4
HCC Treated Water Disposal	3.2.2.5
Northwest Developed Zone (Bridge Area, Levee West End, and Cascadia Inn property)	3.2.4
RLs and CULs	Table 3-2
Excavation Extents	3.2.4.4
Compliance Monitoring	3.2.4.8
Northeast Developed Zone (HCC East End)	3.2.5
RLs and CULs	Table 3-2
Air Sparging System	3.2.5.3
Compliance Monitoring	3.2.5.4
Former Maloney Creek Zone	3.2.3
RLs and CULs	Table 3-2
Sediment Excavation Extents	3.2.3.2
Buffer Zone Soil Excavation Extents	3.2.3.3
Surface Water Impacts	3.2.3.4
Restoration In Accordance with the Town of Skykomish Shoreline Management Program and CWA	3.2.3.5

3.2 Supplemental 2010 Cleanup Activities Design Criteria

This section presents supplemental design criteria information with respect to the following 2010 cleanup activities:

- Construction dewatering treatment
- RYZ excavation

- Bridge Area excavation
- Levee West End excavation
- HCC East End excavation
- Cascadia Inn property remediation
- FMC West Wetland remediation
- FMC East Wetland remediation
- Utilities construction.

3.2.1 Construction Dewatering Treatment

A temporary treatment system will be constructed on a pad within a secured/isolated facility, located in the RYZ. The treatment system will remove petroleum from water generated from construction dewatering activities and rainfall runoff that contacts the impacted soil stockpile in the soil handling facility. With the exception of decontamination water, the system will treat the water to achieve required treatment levels described in the NPDES permit applicable to the system using the processes outlined in the *Operations and Maintenance Manual for Water Treatment* (ENSR 2008f) or a similar process as required by the NPDES permit. The predicted nominal capacity of the treatment system is 500 gpm, with a maximum flow of 673 gpm in the summer (June 1 through September 30) and 269 gpm in the winter (October 1 through May 30) in accordance with the NPDES permit issued for the project.

3.2.2 RYZ Excavation

The RYZ excavation will occur in much the same manner as excavation in the NEDZ and NWDZ were completed in 2008 and 2009. Full excavation dewatering is not anticipated given the extents of required removal and the generally high permeability of the sand and gravel soils being removed. Excavation below the water table will be completed in the wet and excavated materials will be allowed to drain to facilitate transfer and disposal. Some screening of the excavated soils may occur on the railyard if sufficient oversized material is encountered

3.2.2.1 Excavation Extents

The RYZ lateral excavation extents are shown on Drawing C-201 through C-205 and include the following:

- **Surface Excavation Areas.** This excavation includes two areas, based on the contaminant and CULs:
 - *Metals Hot Spots.* Metals hot spots are located on the railyard, on King County tax lot tax lot 5061880095 (Goebel property), and in the 5th Street and Railroad Avenue ROWs.
 - *Surface TPH (aka 1,870 Dig Areas).* The 1,870 dig areas are located entirely on the railyard.
- **Free Product Areas.** These areas are located in the railyard and in the Railroad Avenue ROW. Some of these areas are located in close proximity to active tracks.
- **Opportunistic Dig Area.** This area is located in the railyard area in close proximity to active tracks and north of the soil handling area (SHA).

These limits were generally developed based on the results of previous investigations and the following criteria:

- Remediation construction phasing and schedule requested by the Town
- Property boundaries determined by the 2007 survey
- Obtaining access agreements
- Maintaining a vehicle and pedestrian traffic corridor in the Railroad Avenue ROW
- Potential impacts to railyard operations
- The following RYZ RL and CULs described in the CD and *Master EDR*
 - 3,400 mg/kg NWTPH-Dx for petroleum hydrocarbons (for free product, opportunistic dig areas, and property within the RYZ which is not part of BNSF's railyard facility property)
 - 1,870 mg/kg NWTPH-Dx for petroleum hydrocarbons to a maximum depth of 2 feet bgs - established by the CAP as being protective of biota (for TPH excavation areas)
 - 250 mg/kg for lead and 20 mg/kg for arsenic to a maximum depth of 2 feet bgs (for metals hot spots).

The anticipated vertical extent of the RYZ surface excavation is 2 feet bgs, based on the CAP requirement. The total anticipated RYZ surface excavation volume is 10,400 cubic yards, including the metal and TPH (1,870 dig) excavation areas.

The anticipated maximum depth for the three free product excavations is 15 ft bgs, as shown on Drawings C-203 and C-204. The total anticipated RYZ free product excavation volume is 4,200 cubic yards. There are two potential excavation limits shown for free product removal near monitoring well 2A-W-11. The smaller limits represent the predicted known free product extents based on field observations and analysis of soil samples collected during well construction. The larger limits represent the predicted maximum free product extents. At a minimum, excavation within the smaller limits will be completed in 2010.

The maximum depths of the opportunistic dig excavation areas shown on Drawings C-205 and C-206 correspond to the depth at which soil TPH impacts are greatest. The total anticipated opportunistic dig excavation volume is 6,900 cubic yards. It is assumed that the free product and opportunistic dig areas excavation could be accommodated in a stable manner using slopes of 1.5H:1V above the groundwater table, and from 1.5H:1V up to 2.5H:1V below the groundwater table.

Boring logs which document observations during sampling and laboratory analytical results were submitted in the RDI Report (ENSR 2008d) and Addendum to the RDI (AECOM 2009a). Additional investigation was completed in July – August 2009, and additional boring logs and laboratory analytical results are included in Appendix A. The planned excavation extents have been refined based on this investigation and the refined excavation extents are reflected herein. The actual excavation extents within the 2010 remediation boundary will be determined in the field based on excavation confirmation sampling.

3.2.2.2 ROWs

The RYZ excavation extents include parts of Railroad Avenue west of 6th Street and east of 3rd Street, and part of the 5th Street ROW. The excavation west of 6th Street and in the 5th Street ROW

will be completed in order to remove soil exceeding the lead and arsenic CULs. The excavation east of 3rd Street will be completed in order to remove soil exceeding the petroleum RL. Actual excavation extents within the 2010 remediation boundary will be determined in the field based on excavation confirmation sampling. The Railroad Avenue ROW will be closed at some time during the excavation. Street traffic flow may be restricted at times to allow for removal of impacted soil. Postings of traffic flow limitations will be provided early in the process so planning can occur, and individual notifications will be made prior to full lane closures. The needs of individual residents will be accommodated as much as possible. Emergency access will be provided at all times. Traffic will be routed around the active excavation area, or excavations will be phased to facilitate access. Traffic routing and pedestrian access are discussed in more detail in Section 5.

3.2.2.3 Private Properties

The RYZ excavation extents will include part of the Goebel property. Excavation on the Goebel property will be completed to remove soil exceeding the lead and arsenic CULs. Alternative excavation extents will be evaluated if access agreements cannot be obtained to the Goebel property.

3.2.2.4 Shoring and Excavation Stabilization

No shoring or other stabilization is anticipated to be necessary to complete the RYZ excavation.

3.2.3 Bridge Excavation

The Bridge excavation extents include in-water sediments and upland soils located within the NWDZ and Levee Zone. The excavation extents include the south side of the 5th Street Bridge, parts of the 5th Street, East River Drive and West River Drive ROWs, and parts of the Goranson Property, as well as part of the existing levee.

3.2.3.1 Excavation Extents

The upland and in-water excavation limits were developed based on the results of previous investigations and the following criteria:

- Remediation construction phasing and schedule requested by the Town of Skykomish agreements
- The following RLs described in the CD and Master EDR and Levee Zone EDR:
 - 40.9 mg/kg NWTPH-Dx for sediment between the OHWM of the South Fork Skykomish River and up to a depth of 10 feet below the river bottom
 - 22 mg/kg NWTPH-Dx for soil within a 25-foot lateral buffer zone extending outward from the OHWM and up to 10 feet below the river bottom
 - 3,400 mg/kg for soil upland of the 25-foot lateral buffer zone.
- Coordination with WSDOT.

Boring logs which document observations during sampling and laboratory analytical results were submitted in the *RDI Report* (ENSR 2008d) and *Addendum to the RDI* (AECOM 2009a). The planned excavation extents are based on these investigation and WSDOT requirements. With WSDOT concurrence, the excavation extents are set back a minimum of 5 feet from the bridge abutment in order to avoid direct impacts to its structure and foundation. Therefore, no structural disturbances to the bridge are anticipated. The excavation extents dictated by this set back requirement might not include all soil and sediment exceeding the applicable RLs. The final bridge area excavation extents

within the 2010 remediation boundary will be determined in the field based on confirmation sampling. This confirmation sampling will also evaluate whether or not residual “de minimus” soil and/or sediment exceeding RLs is left behind at the abutments. Engineered backfill and/or concrete could be used to help contain residual TPH in this “de minimis” soil and/or sediment. It is anticipated that long-term compliance monitoring will be implemented to evaluate potential impacts resulting from “de minimus” soil and/or sediment. This monitoring would be described in a 2010 CMP update addendum.

If substantial (greater than “de minimus”) contamination is left in place, BNSF will work with WSDOT, King County, the Town, and Ecology to implement one or more of the following:

- **Containment.** Engineered backfill could be placed to contain residual TPH in soil and/or sediment. This backfill would be designed based on field conditions. The design would be described in an EDR addendum.
- **Institutional controls.** The following institutional controls could be implemented to limit exposure to TPH soil left in place in the bridge abutment area.
 - *Planning.* BNSF would work with WSDOT to develop a plan to limit worker exposure during future structural inspection and bridge maintenance activities. The plan would also describe provisions for future potential cleanup work, which would be completed if future bridge abutment and/or embankment work occurs in the vicinity of residual TPH.
 - *Financial assurances.* Financial liabilities for institutional control implementation would be considered in the CD-required annual financial assurance reports.
- **Restrictive covenants.** The affected landowners (Town and SkyRiver Inn) have agreed to adopt covenants if required by Ecology.

3.2.3.2 ROWs

The Bridge area excavation includes the 5th Street Bridge, which is owned by WSDOT and provides access to the Town of Skykomish via US Highway 2, and part of the 5th Street ROW. The 5th Street Bridge will be closed at some time during the excavation. The Bridge area excavation also includes parts of the East River Drive and West River Drive ROWs. Traffic flow on these streets may be restricted at times to allow for removal of impacted soil. Postings of traffic flow limitations will be provided early in the process so planning can occur, and individual notifications will be made prior to full lane closures. Individual resident’s needs will be accommodated as much as possible. Emergency access will be provided at all times. Traffic will be routed around the active excavation area, or excavations will be phased to facilitate access. Traffic routing and pedestrian access are discussed in more detail in Section 5.

3.2.3.3 Private Properties

The Bridge area excavation extents will include part of the Goranson Property. Excavation on these properties will be completed to remove existing MSE walls and soil exceeding the petroleum RL of 3,400 mg/kg NWTPH-Dx.

3.2.3.4 Excavation Dewatering

It is anticipated that some of the excavation will be completed under wet conditions, depending on the river level and excavation depth, and that some pumping of water from the excavation will be required

to create a gradient toward the excavation pit, and away from the river or surface water. The excavation water will be transferred to the construction water treatment system.

3.2.3.5 **Shoring and Excavation Stabilization**

The bridge abutment excavation extents terminate at the HDPE liner installed during the 2009 excavation (refer to Figure C-207). It is anticipated that the north and south excavation sidewalls will be sloped 1.5H:1V (horizontal to vertical) above the OHWM or river level, and 2H:1V below the OHWM or river level. Sloping/shoring requirements will be further evaluated during development of the CPS.

3.2.3.6 **Cofferdams**

Tertiary containment will be used to isolate the excavation and construction work from the river. A primary temporary river exclusion wall (cofferdam) will be placed waterward of the proposed excavated prism. The cofferdam will be placed within the south portion of the river channel, and will prevent water from entering the construction site in the event of high flows. The wall will also exclude migrating fish from entering the construction area. A second cofferdam will be located just beyond the primary cofferdam to provide secondary containment to ensure that soil, sediment and organic contaminants are not released to the river. Tertiary containment will consist of oil absorbent booms placed outside of the second cofferdam. Since a construction water treatment plant will be available on site as part of the project facilities, there will also be provisions for pumping of water as necessary (and as treatment capacity allows) in the event contaminants are released beyond the primary cofferdam. Additional contingencies could also include the placement of sorbent material between the two coffer dams.

3.2.3.7 **River Levels during Construction Months**

The anticipated river levels design criteria described in Levee EDR Section 3.2 will be used to determine the cofferdam design and to evaluate dewatering needs. The river maximum water level during the fish window is needed to select the design height of the top of the cofferdam.

3.2.3.8 **Fish Window**

Construction below the OHWM will be limited to: 1) the fish window, which varies yearly, but is approximately July 1 to August 31 and can be extended until approximately September 15; and 2) other timing restrictions that may be established by USACE, NOAA Fisheries, USFWS, or DFW. Other design criteria to minimize impacts to fish are described in Levee EDR Section 3.2.3.

3.2.3.9 **Levee Restoration**

After completion of the excavation, sediment substrate of comparable type and gradation to existing materials will be replaced. The levee repair itself is simplified by the fact that the existing levee will be replaced in-kind by using the current configuration as a guide during replacement.

The repairs will be completed in accordance with the following design criteria, which were originally described in Levee EDR Section 3.

- The river face of the levee must meet Ecology and the Town's substantive requirements for habitat and resource restoration as well as all of the Federal standards of DFW, NOAA-Fisheries, USFWS, and USACE as specified in the USACE permit and HPA that will be obtained for this work

- The levee interior will meet the existing substantive standards of King County, USACE, and the Town for flood control and public safety
- The levee crest, back-slope, home sites and public rights-of-way will meet the existing substantive standards of the Town for land use, zoning and building codes
- Native vegetation will be replanted along the face of the repaired levee section.

3.2.4 Levee West End Excavation

The Levee West End excavation will occur in much the same manner as excavation in other parts of the NWDZ was completed in 2009. Full excavation dewatering is not anticipated given the extents of required removal and the generally high permeability of the sand and gravel soils being removed. Excavation below the water table will be completed in the wet and excavated materials will be allowed to drain to facilitate transfer and disposal. Some screening of the excavated soils may occur on the railyard if sufficient oversized material is encountered.

3.2.4.1 Excavation Extents

The Levee West End planned excavation lateral extents are shown on Drawing C-209 and include parts of the West River Drive ROW, as well as either a portion of the Shawver property (King County tax lots 2626119029, 2626119039, 2626119043, and 5060800060). These extents were developed based on field observations and laboratory analytical results from previous investigations and the following criteria:

- Remediation construction phasing and schedule requested by the Town
- Property boundaries determined by the 2007 survey
- Maintaining a vehicle and pedestrian traffic corridor in the West River Drive ROW
- Obtaining access agreements
- The following RL and CULs described in the CD and Master EDR and Levee Zone EDR:
 - 3,400 mg/kg for soil upland of the 25-foot lateral buffer zone
 - 22 mg/kg NWTPH-Dx for soil within a 25-foot lateral buffer zone extending outward from the OHWM and up to 10 feet below the river bottom (if excavation within the buffer zone is required based on confirmation sampling completed immediately upland of the buffer)
 - 40.9 mg/kg NWTPH-Dx for sediment between the OHWM of the South Fork Skykomish River and up to a depth of 10 feet below the river bottom (if excavation below the OHWM is required based on confirmation sampling completed at the buffer zone excavation boundary)

The approximate excavation limits are shown on Drawings C-209 and C-210. These limits include a contiguous excavation in the school yard. The school yard excavation design basis will be described in an addendum. The anticipated maximum depth of the excavation to remove impacted soil exceeding the RL is 17 feet bgs. Based on these extents, it is estimated that approximately 13,800 cubic yards of soil will be excavated from the levee west end and school yard area.

Boring logs which document observations during sampling and laboratory analytical results were submitted in the RDI Report (ENSR 2008d) and Addendum to the RDI (AECOM 2009a). Additional

investigation was completed in July – August 2009, and additional boring logs and laboratory analytical results are included in Appendix A. The planned excavation extents have been refined based on this investigation and the refined excavation extents are reflected herein. The actual excavation extents within the 2010 remediation boundary will be determined in the field based on excavation confirmation sampling.

3.2.4.2 Cofferdams

A cofferdam will be used to isolate the excavation and construction work from the river. The cofferdam will be placed waterward of the proposed excavation prism to ensure that soil, sediment and organic contaminants are not released to the river.

3.2.4.3 ROWs

The West River Drive ROW could be closed at some time during the excavation. Some level of disruption and inconvenience for local residents is inevitable. Street traffic flow may be restricted at times to allow for removal of impacted soil. Postings of traffic flow limitations will be provided early in the process so planning can occur, and individual notifications will be made prior to full lane closures. Individual resident's needs will be accommodated as much as possible. Emergency access will be provided at all times. Traffic will be routed around the active excavation area, or excavations will be phased to facilitate access. Traffic routing and pedestrian access are discussed in more detail in Section 5.

3.2.4.4 Private Properties

The Levee West End excavation extents will include part of the Shawver Property. Excavation on the Shawver property will be completed to remove soil exceeding the petroleum RL. Alternative excavation extents will be evaluated if an access agreement cannot be obtained.

3.2.4.5 Shoring and Excavation Stabilization

No shoring or other stabilization is anticipated to be necessary to complete the Levee West End excavation.

3.2.5 HCC East End Excavation and Barrier Wall Extension

The original predicted lateral and vertical extents of the excavation required to construct the HCC were determined based on the design criteria for the HCC system and were shown in the 2008 CPS drawings C-202 through C-208. Pre-2009 boring data indicated that soil with petroleum hydrocarbon concentrations exceeding 3,400 mg/kg NWTPH-Dx was located only west of the east HCC vault. Confirmation sampling and observations during HCC wall construction in 2008 backup up the pre-construction excavation limits. Unanticipated petroleum hydrocarbon impacted soil was discovered east of the existing HCC wall and the 2008 excavation prism during boring for installation of a compliance monitoring well EW-2. The impacted soil extents in this area were further delineated during August 2009 investigation activities. Based on the investigation results 1) the volume of impacted soil with petroleum hydrocarbon concentrations exceeding 3,400 mg/kg NWTPH-Dx was found to be small (approximately 350 cubic yards); 2) the impacted soil was separate and isolated from the main soil impacts that were removed in 2008.

Removal of this impacted soil in accordance with the intent of the CD is subject to a number of serious implementability factors that impact the feasibility of conventional excavation methods. A conventional, sloped excavation would cause distress to existing remedial systems (the nearby vault) and railroad mainline infrastructure. Specifically, the HCC east vault would be in jeopardy of damage caused by

backfill failure and the excavation slope intersects with the stress slope of the railroad mainline. Both of these conditions pose unacceptable risks and, for this reason, a sloped excavation was eliminated as a feasible remedial alternative.

Several alternative approaches to open excavation are being evaluated to provide an overall approach that is effective, implementable, and cost effective. These alternatives include excavation with shoring utilized below a certain depth to provide the lateral support required to maintain safe operations of the mainline tracks and to minimize the potential for damage to the existing subsurface vault. Another alternative, which is considered feasible, is to utilize overlapping, large diameter drilled vertical shafts. The drilling procedure would remove impacted soil. The boring sidewall integrity would be maintained by steel casing. At the completion of each shaft, the hole would be backfilled with a structural material that meets the requirements identified in the upcoming HCC SDR amendment. Backfill could consist of a low permeability flowable fill, compacted structural fill, or stabilization aggregate or a treatment media. The shafts would be drilled in two phases. In the initial phase, every other shaft would be drilled; in the next phase, the intervening shafts would be drilled, overlapping the initial phase shafts. In this manner, a continuous, overlapping area will be constructed that will beneficially function to extend the functionality of the existing sheet pile barrier (if this is the appropriate approach determined by modeling).

3.2.5.1 Excavation Extents

The HCC East End lateral extents are shown on Drawing C-211 and include a part of the Railroad Avenue ROW. These extents were developed based on field observations and laboratory analytical results from previous investigations and the following criteria:

- Remediation construction phasing and schedule requested by the Town
- Property boundaries determined by the 2007 survey
- Maintaining a vehicle and pedestrian traffic corridor in the Railroad Avenue ROW
- Obtaining access agreements
- The following NWDZ RL described in the CD and Master EDR:
 - 3,400 mg/kg NWTPH-Dx for petroleum hydrocarbons.

The HCC East End is located in the NEDZ, but the NWDZ 3,400 mg/kg NWTPH-Dx RL is applicable to the excavation due to the motor oil:diesel fuel indicated by the laboratory analysis, which is approximately 1:1.

Boring logs which document observations during sampling and laboratory analytical results were submitted in the RDI Report (ENSR 2008d) and Addendum to the RDI (AECOM 2009a). Additional investigation was completed in July – August 2009, and additional boring logs and laboratory analytical results are included in Appendix A. The planned excavation extents have been refined based on this investigation and the refined excavation extents are reflected herein. The actual excavation extents within the 2010 remediation boundary will be determined in the field based on excavation confirmation sampling.

3.2.5.2 Barrier Wall Extension

The performance objective and design criteria for the HCC barrier wall were presented in HCC SDR (ENSR 2008d). As described in HCC SDR Section 6.2, the primary objective of the HCC is to satisfy requirements that groundwater leaving the BNSF property meets the appropriate RL. For groundwater flowing immediately north of the RYZ, the RL is 477 µg/L NWTPH-Dx and the absence of visible

sheen or free product. If it is found that this groundwater RL is not anticipated to be met at the east end of the HCC after soil exceeding 3,400 mg/kg NWTPH-Dx is excavated from Town property, the barrier wall installed in 2009 will be extended as necessary to satisfy the requirements of the CD. The HCC could be extended as an impermeable wall by backfilling the excavation with low permeability flowable fill. This approach is comparable to the permeation grouting method used in 2009 to construct portions of the HCC and is expected to result in a very low permeability barrier consistent with the objectives outlined in the CAP and HCC SDR. The design criteria for extension of the barrier wall will be described in an upcoming HCC SDR addendum.

3.2.5.3 ROWs

Traffic flow on the Railroad Avenue ROW will be limited to one lane during some of the excavation. Some level of disruption and inconvenience for local residents is inevitable. Street traffic flow may be restricted at times to allow for removal of impacted soil. Postings of traffic flow limitations will be provided early in the process so planning can occur, and individual notifications will be made prior to full lane closures. Individual resident's needs will be accommodated as much as possible. Emergency access will be provided at all times. Traffic will be routed around the active excavation area, or excavations will be phased to facilitate access. Traffic routing and pedestrian access are discussed in more detail in Section 5.

3.2.5.4 Private Properties

The HCC east end excavation will not impact any private properties.

3.2.5.5 Shoring and Excavation Stabilization

No shoring or other stabilization is anticipated to be necessary to complete the HCC East End excavation or barrier wall extension.

3.2.6 Cascadia Inn Property Remediation

The Cascadia Inn Property excavation work refers to the proposed remediation activities adjacent to and underneath the southwest portion of the Cascadia Inn. The boundary between the NWDZ and NEDZ passes through the Cascadia Inn. The southwest portion of the Inn is located within the NWDZ. Section 4 of the CAP describes the design criteria for NWDZ and NEDZ remediation activities. These design criteria have been established with the understanding that the scope of work could be further clarified or re-defined over the anticipated duration of remediation design and permitting activities.

3.2.6.1 Excavation Extents

The Cascadia Inn Property excavation lateral extents are shown on Drawing C-213 and include parts of the Railroad Avenue ROW and King County tax lots 7807800240 and 7807800251. The Cascadia Inn building is located entirely in tax lot 7807800240. The approximate west half of the building is located in the NWDZ; the approximate east half is located in the NEDZ. The excavation will be completed entirely in the NWDZ. These extents were developed based on field observations and laboratory analytical results from previous investigations and the following criteria:

- Remediation construction phasing and schedule requested by the Town
- Property boundaries determined by the 2007 survey
- Maintaining a vehicle and pedestrian traffic corridor in the Railroad Avenue ROW
- Obtaining access agreements

- The following NWDZ RL described in the CD and Master EDR:
 - 3,400 mg/kg NWTPH-Dx for petroleum hydrocarbons in the NWDZ.

The anticipated maximum depth of the excavation to remove impacted soil exceeding the RL is 18 feet bgs. Based on these extents, it is estimated that approximately 2,420 cubic yards of soil will be excavated. The excavation extents could change based on benching/sloping requirements. These requirements will be dictated in part by the selected structural stability methods (e.g., underpinning) used to support Cascadia Inn during the excavation work.

Boring logs which document observations during sampling and laboratory analytical results were submitted in the RDI Report (ENSR 2008d) and Addendum to the RDI (AECOM 2009a). Additional investigation was completed in July – August 2009, and additional boring logs and laboratory analytical results are included in Appendix A. The planned excavation extents have been refined based on this investigation and the refined excavation extents are reflected herein. The analytical results indicate that the diesel to bunker fuel ratio in TPH impacted soil located on the Cascadia Inn Property and adjacent section of the Railroad Avenue ROW is approximately 1:1, which indicates that the NWDZ RL of 3,400 mg/kg applies. The actual excavation extents within the 2010 remediation boundary will be determined in the field based on excavation confirmation sampling.

An isolated pocket of TPH-impacted soil was identified near the southeast corner of the Cascadia Inn building based on the sidewall confirmation sample CONF-C32-SIDEWALL, which was collected during the 2008 Railroad Avenue excavation. The sample TPH concentration was 16,200 mg/kg NWTPH-Dx. The sample was collected at an approximate elevation of 926 feet, which was approximately 10 feet bgs and above the groundwater table. Two angle borings, 1B-B-23A and 1B-B-23B were placed during the July-August 2009 supplemental investigation to delineate the extents of the pocket. The angle borings were located less than approximately 3 feet south of the excavation sidewall confirmation sample and advanced to depths of approximately 30 feet bgs. The boring and sidewall sample locations are shown in Addendum to the RDI Figure 6-5. No LNAPL or TPH odor was detected in the soil cuttings. Samples were collected from the borings at 1 foot intervals from 13 to 18 feet bgs. TPH concentrations in these samples were typically non-detect and/or less than 6 mg/kg NWTPH-Dx. These analytical results confirmed that the TPH impacts are isolated and do not extend beneath the Cascadia Inn building.

The isolated pocket TPH concentration exceeds the applicable RL of 3,400 mg/kg, but the pocket will not be excavated or remediated by biosparging because 1) it is located in close proximity to the Cascadia Inn; and 2) its small size means that the pocket is unlikely to significantly impact groundwater quality. A groundwater well will be constructed on the west side of the Cascadia Inn Property after the 2010 excavation is completed and monitored to evaluate potential groundwater quality impacts resulting from the TPH pocket. This monitoring will be described in the 2010 CMP Update. Additional remediation, such as excavation would be completed in future years if it becomes apparent that this action is necessary to meet the 208 µg/L NWTPH-Dx at the conditional point of compliance (CPOC) and/or 477 µg/L NWTPH-Dx in the NWDZ. This work would be described in a 2010 EDR addendum.

3.2.6.2 ROWs

The 2010 excavation extents will include parts of Railroad Avenue ROW. The sloped excavation in the Railroad Avenue will be completed in order to remove soil exceeding the petroleum RL at the edge of Railroad Avenue and the south property boundary of Cascadia Inn Property. The Railroad Avenue ROW could be closed at some time during the excavation. Some level of disruption and inconvenience for local residents is inevitable. Street traffic flow may be restricted at times to allow for

removal of impacted material. Postings of traffic flow limitations will be provided early in the process so planning can occur, and individual notifications will be made prior to full lane closures. Individual residents will need to be accommodated as much as possible. Emergency access will be provided at all times. Traffic will be routed around the excavation area, or the excavations will be phased to facilitate access.

3.2.6.3 Private Properties

The Cascadia excavation extents will include parts of King County parcels 7807800240 and 7807800251.

3.2.6.4 Shoring and Excavation Stabilization

Appropriate structural stability methods (e.g., underpinning) will be used to support Cascadia Inn during remediation work. The excavation edges will be stabilized using sloping methods. Dry side slopes are expected to stand at a stable slope of 1.5H:1V (horizontal to vertical). Excavation side slopes below water are expected to slant at about 2H:1V. During detailed design for the excavation work, sloping/shoring requirements will be further evaluated.

3.2.7 FMC East Wetland Remediation

Selected Remedy. FMC East SDR Section 4 and 2009 EDR Section 3.2.3 describe the design criteria for the selected remedy for FMC East Wetland remediation activities. These design criteria have been established with the understanding that the scope of work could be further clarified or re-defined over the anticipated duration of remediation design and permitting activities.

Alternate Remedy. The alternate remedy design criteria will be provided in FMC East SDR and Master EDR addenda, if selected.

3.2.8 FMC West Wetland Remediation

FMC West SDR Section 4 and Section 4.1.5 of the CAP describe the design criteria for FMC West Wetland remediation activities. These design criteria have been established with the understanding that the scope of work could be further clarified or re-defined over the anticipated duration of remediation design and permitting activities.

3.2.9 Utility Reconstruction

The basis of design for PSE, Verizon, and Town of Skykomish utilities is unchanged from the Master EDR. PSE, Verizon, and the Town are completing separate designs for power, telephone, and sanitary sewer, respectively. AECOM will be designing the potable water distribution system on behalf of BNSF. These designs will be incorporated into the 2010 CPS, which will be submitted to Ecology in accordance with the schedule set forth in CD Exhibit C.

4.0 Scope of Work

4.1 Site-Wide Scope of Work Described in the Master EDR

This section lists references to the elements of the site-wide scope of work that were originally presented in the Master EDR and are pertinent to 2010 site activities. The site-wide scope of work was established with the understanding that it could be further clarified or redefined over the anticipated duration of remediation activities. No changes to the scope of work have been identified since preparation of the Master EDR. Table 4-1 provides to the site-wide scope of work items described in Master EDR Section 4.1 which are applicable to the 2009 cleanup activities.

Table 4-1 Master EDR Site-Wide Scope of Work

2010 Site-Wide Scope of Work	Master EDR Section
Drawings	4.1.1
Solicitation Package and Procurement	4.1.2
Permits	4.1.3
Mobilization and Site Preparation	4.1.4
Utility Locate	4.1.4.1
Surveying	4.1.4.2
Clearing and Grubbing	4.1.4.3
Spill Response	4.1.4.4
Temporary Facilities Construction	4.1.5
Access Agreements	4.1.6
Building Relocation	4.1.7
Relocation of Landmark and Historic Buildings	4.1.7.1
Relocation of Other Buildings	4.1.7.2
Excavation	4.1.8
Product Recovery	4.1.8.1
Wildlife Exposure Mitigation	4.1.8.2
Historic Structure Monitoring	4.1.8.3
Dewatering	4.1.8.4
Transporting Excavated Soil Onsite	4.1.8.5
Stockpiling Impacted Soil	4.1.8.6
Stockpiling Clean Overburden for Potential onsite Re-Use	4.1.8.7
Excavation Performance Sampling	4.1.8.8
Stockpile Amendment	4.1.8.9
Transportation and Disposal of Impacted Soil	4.1.8.10

2010 Site-Wide Scope of Work	Master EDR Section
Backfilling	4.1.8.11
Grading and Compaction	4.1.8.12
Dust Suppression and Mitigation	4.1.8.13
Compliance Monitoring	4.1.9
Protection Monitoring	4.1.9.1
Performance Monitoring	4.1.9.2
Confirmational Monitoring	4.1.9.3
Replacement of Relocated Structures and Restoration of Remediated Properties	4.1.10
Electrical and Telecommunications Utilities Restoration	4.1.11
Stormwater Collection System Construction	4.1.13
Wastewater Collection and Treatment System Construction	4.1.14
ROW Restoration	4.1.15

4.2 2010 Scope of Work

The following description of the 2010 scope of work supplements the information provided in the Master EDR and the FMC SDRs.

4.2.1 Access Agreements

BNSF is contacting property owners to negotiate access agreements for properties where excavation is required to meet RLs and/or CULs. As described in the CAP, property access and restoration is to be conducted according to agreements made with each property owner (Section 5.4, p. 59; Section 6.1). As described in the Master EDR, property owners may elect to not relocate and have subsurface containment put in place. Property owners may also elect to receive payment in lieu of having BNSF conduct property restoration (Section 4.1.10). Properties that require access agreements for the 2010 work are as follows. King County tax lot numbers are in parentheses.

4.2.1.1 RYZ Excavation Access Agreements

Goebel Property (5061880095). Access to the Goebel Property will be necessary to complete excavation and restoration activities. Access negotiations are in progress.

4.2.1.2 Bridge Area Excavation Access Agreements

Goranson Property (7807800480, 7807800505). Access to the Goranson Property will be necessary to complete excavation and restoration activities. Access has been obtained.

4.2.1.3 Levee West End Excavation Access Agreements

Shawver Property (2626119029, 2626119039, 2626119043, and 5060800060). Access to tax lots 2626119029, 2626119039, 2626119043 will be necessary to complete excavation and restoration activities. Access to lot 5060800060 could be necessary to temporarily store relocated buildings. Access has been obtained. This work may be completed in 2011. The work will be done concurrently

with the 50 western feet of the school yard excavation, which is contingent upon obtaining access to School District property west of 6th Street (5060800005).

4.2.1.4 **Cascadia Inn Property Excavation Access Agreements**

Cascadia Inn Property (78078000240 and 7807080251). Access to the Cascadia Inn Property will be necessary to complete excavation and restoration activities. Access has been obtained.

4.2.1.5 **FMC East Wetland**

The access agreement requirements for the FMC East Wetland Option 1 are described in 2009 EDR Section 4.2.3.

4.2.1.6 **FMC West Wetland**

King County FPD 50 Property (5061300115, 5061300110). Access to KCFPD 50 Property will be necessary to complete excavation and restoration activities in the vicinity of the stormwater culvert. Access negotiations are in progress.

Domina Property (2626119103). Access to this property will be necessary to complete wetland excavation and restoration activities. Access negotiations are in progress.

Calderon Property (2626119073). Access to this property will be necessary to complete wetland excavation and restoration activities. Access negotiations are in progress.

Fortun Property (2626119125). Access to this property will be necessary to complete wetland excavation and restoration activities. Access negotiations are in progress.

Puget Western Property (2626119117). Access to this property will be necessary to complete wetland excavation and restoration activities. Access negotiations are in progress.

US Government Property (3526119001). Access to this property will be necessary to complete wetland excavation and restoration activities. Access negotiations are in progress.

Town Wetland Property (226119121). Access to this Town property will be necessary to complete excavation and restoration activities in the vicinity of the stormwater culvert. Access has been obtained.

4.2.1.7 **Town ROWs**

Access to the Town ROWs will be necessary to complete various excavation and restoration activities. This access agreement has been obtained.

As required by the CD, documentation that access agreements necessary for 2010 work have been obtained will be provided to Ecology on or before December 31, 2010.

4.2.2 **Building Relocation**

The following buildings will be temporarily relocated in 2010, contingent on obtaining property access agreements.

Levee West End Excavation. The shop and wood shed on the Shawver Property will be temporarily relocated to facilitate excavation activities. It is anticipated that these structures will be moved to other

locations on the Shawver property. These buildings are not on the National Register of Historic Places, and will therefore be moved and restored in accordance with the procedures described in Master EDR Section 4.1.7.2. Information from structural surveys will be incorporated into relocation scopes of work, plans, and specifications. Structures will be monitored in accordance with the developed guidelines during the move to the temporary storage location. No security fencing will be installed around the buildings unless they are moved to off-property locations for the duration of their storage.

4.2.3 Resident Relocation

No residents will be relocated in 2010. Some level of noise, vibration, and traffic congestion are unavoidable such that these residents could determine that the construction impacts and their unique living circumstances are such that relocation is desirable and warranted. These are properties where BNSF does not need access for purposes of completing the work. BNSF will consider these requests on a case-by-case basis in consultation with Ecology and will attempt to accommodate affected residents if, as and when necessary.

A scope of work summary, including a status summary for access agreements is provided in Table 4-2.

Table 4-2 Access Agreement and Scope of Work Summary

Parcel Number	Property Owner or Designation	2010 Scope of Work	Access Status
<i>Railyard Zone Excavation</i>			
5061800095	Goebel Property	Partial excavation	Negotiations in progress
<i>Bridge Area Excavation</i>			
7807800480, 7807800505	Goranson	Partial excavation	Access obtained
<i>Levee West End Excavation</i>			
2626119029, 2626119039, 2626119043, 5060800060	Shawver Property	Partial excavation	Access obtained
<i>Cascadia Remediation</i>			
7807800240, 7807800251	Cascadia Inn Property	Underpinning (or temporary relocation) and excavation of parcel	Access obtained
<i>FMC West Wetlands Remediation Properties</i>			
5061300115, 5061300110	King County FPD 50	Partial wetland excavation	Negotiations in progress
2626119103	Domina	Partial wetland excavation	Negotiations in progress
2626119073	Calderon	Partial wetland excavation	Negotiations in progress

Parcel Number	Property Owner or Designation	2010 Scope of Work	Access Status
2626119125	Fortun	Partial wetland excavation	Negotiations in progress
2626119117	Puget Western, Inc.	Partial wetland excavation	Negotiations in progress
3526119001	US Government	Partial wetland excavation	Negotiations in progress
2626119121	Town Property	Partial wetland excavation	Access obtained

4.2.4 Post Office Operations

United States Postal Service (USPS) operations were temporarily relocated to a building in the USFS compound in 2009. The temporary building has been equipped with all appurtenances, as designated necessary by the USPS and operated in a way that accommodates regular USPS functions. The temporary building will remain in use until the end of 2010.

4.2.5 Temporary Facilities Construction

4.2.5.1 Access and Haul Roads

The main access and haul roads that will be used during the 2010 work are 5th Street, Railroad Avenue, West River Drive, and Old Cascade Highway, as shown on Drawings C-104 through C-106. It is anticipated that trucks hauling excavated material will enter the railyard from 5th Street and exit to Old Cascade Highway after transferring material to the soil handling facility. Trucks hauling material from the FMCZ and SDZ will transfer materials to the soil handling facility using temporary haul roads constructed in the FMCZ, SDZ, and RYZ when possible. Other roads and/or alternate truck routing may be used at the discretion of the Contractor. These changes will be proposed to Town officials and emergency personnel for approval prior to implementation.

4.2.5.2 Equipment Decontamination Area

A heavy equipment and truck decontamination area will be constructed in the RYZ at appropriate locations, as recommended by the Contractor. Decontamination water will be temporarily stored on-site and taken to an off-site licensed facility for disposal or treatment.

4.2.5.3 Construction Offices

Temporary construction offices will be located on the railyard. A temporary engineering field office may be established in Maloney's General Store on Railroad Avenue.

4.2.5.4 Temporary Electric and Communications Utilities

PSE and Verizon constructed temporary bypasses for overhead electric and telecommunications wiring in 2008 and 2009. Some of these bypasses remain in place, and will be used in conjunction with other existing overhead and underground utilities to supply electric and communications services for all Skykomish residences and businesses that remain occupied during the 2010 remediation activities. Structures that are outside of the active construction zones but vacant due to relocation of residents will also continue to be serviced by all appropriate utilities.

4.2.5.5 Temporary Potable Water Utilities

Temporary potable water piping will be constructed in ROWs and/or private properties as necessary to maintain services during excavation activities.

4.2.5.6 Enclosures and Fencing

Temporary chain link fencing will be installed at the perimeter of the 2010 remediation areas, as shown on Drawings C-104 through C-107. Warning signs will be posted at every gated entrance and at approximate 50-foot intervals along the fence line to warn the public that the fenced area contains physical and chemical hazards and that access is forbidden to unauthorized personnel.

4.2.5.7 Sediment and Erosion Controls

Sediment and erosion control measures will be implemented as described in the *Stormwater Pollution Prevention Plan and Temporary Erosion and Sediment Control Measures* (SWPPP; ENSR 2008h) and 2009 SWPPP Update (SWPPP; AECOM 2009g) and as shown in Drawings C-104 through C-107

4.2.5.8 Construction Staging Areas

Construction staging areas will be established in the RYZ at the locations shown on Drawing C-200 through C-206, and at other RYZ locations as agreed to by BNSF and the Contractor, or at locations outside of the RYZ as agreed to by the Town, BNSF, and the Contractor. Staging will also occur on private properties that are in the excavation area.

4.2.5.9 Spill/Emergency Response Equipment

Spill response equipment will be located in the Contractor staging area shown in Drawing C-200 through C-206, or at a location determined by the Contractor. Spill response equipment will include oil absorbent booms and pads, as described in the Spill Response Plan (part of the SWPPP).

4.2.5.10 Construction Water Treatment System

A treatment system similar in function and performance to the one implemented for the 2008 and 2009 remediation and permitted under the existing NPDES permit will be operated during 2010 remediation activities. The water treatment system will be constructed in a lined facility located within the RYZ at the approximate location shown on Drawing C-101. Other locations on the railyard will be considered if the Contractor suggests moving the system to facilitate work activities. The treatment system will remove petroleum from water generated from construction activities, except decontamination water, and treat the water to achieve required treatment levels described in the NPDES permit. The water treatment system operation and maintenance is described in the SWPPP (ENSR 2008h), in the *Operations and Maintenance Manual for Water Treatment System* (ENSR 2008i) and the ClearWater Compliance Services (ClearWater) *Water Treatment Plan* (WTP) (ClearWater 2009), which was submitted as part of 2009 *Technical Execution Plan* (Strider, 2009)

4.2.6 RYZ/NWDZ/NEDZ Excavation

This section applies to the following

- RYZ Excavation
- Levee West End Excavation
- HCC East End Excavation
- Cascadia Inn Property Remediation.

4.2.6.1 Clearing and Grubbing

All surface objects, brush, roots, and other protruding obstructions, and all trees and stumps will be cleared and/or grubbed from the excavation limits as indicated on Drawings C-104 and C-105. The removed vegetation and debris will be recycled or disposed of at an appropriate municipal landfill.

4.2.6.2 Demolition

Asphalt roads, concrete building foundations, slabs, and walkways located within the excavation areas will be demolished and recycled or disposed of at an appropriate Construction Demolition Waste (CDW) landfill.

4.2.6.3 Extents

Excavation will include removing soil as necessary to reach the estimated areal and vertical extents of impacted soil shown on Drawings C-200 through C-206, and C-209 through C-212. Based on these extents, it is estimated that approximately 37,300 cubic yards of soil will be removed from these RYZ, NWDZ, and NEDZ excavation areas in 2010. The excavation extents as well as the clean overburden and impacted soil volumes will be refined based on the results of performance monitoring. Table 4-3 summarizes the excavation volumes for each area.

Table 4-3 Excavation Volume Summary

Excavation	Approximate Excavation Volume (cubic yards)
RYZ Excavation	
Surface Excavation (Metals Hot Spots, 1,870 mg/kg TPH)	10,400
Free Product Areas	4,200
Opportunistic Dig Areas	6,900
Levee West End Excavation (includes School Yard excavation)	13,800
HCC East End Excavation and Barrier Wall Extension	500
Cascadia Inn Property Remediation	2,500

4.2.6.4 Removing Utilities

At grade and underground stormwater and potable water utilities will be removed during the excavation activities and will be recycled or disposed of at an appropriate CDW landfill. Aboveground electrical and communications utilities will be removed as necessary to complete the excavation.

4.2.6.5 Shoring and Barriers

It is anticipated that no impacted material exceeding applicable RLs or CULs will be left in place at the completion of 2010 construction activities, and therefore no impermeable barriers will be necessary for the 2010 work. If impacted material is left in place, a temporary liner similar to the one placed at the upgradient extent of the 2006 and 2008 removals, or a sheetpile wall will be placed between the impacted material and clean backfill. Where steel sheetpiles are used for temporary shoring, the sheetpiles are considered to suffice for the barrier without special sealing of sheetpile joints. Barriers

will be placed as close to the property boundaries as possible, thus minimizing the potential need for excavation to remove impacted soils in the years following 2010.

4.2.6.6 **Barrier Wall Extension**

The barrier wall extension design will be described in an upcoming HCC SDR addendum.

4.2.6.7 **Backfilling**

Excavations will be backfilled with both clean overburden material and imported aggregate material. Topsoil will be placed on residential properties and on Town properties that will be restored with landscaping.

Clean Overburden Material

Overburden material with petroleum concentrations less than 3,400 mg/kg NWTPH-Dx may be used as backfill on-site as outlined in Section 6.4 of the CAP. Overburden material will be used for either stabilization or structural fill as long as it meets the gradation requirements outlined below. Soil within two feet of final grade must meet the petroleum cleanup level of 1,870 mg/kg NWTPH-Dx. No soil with arsenic concentrations exceeding 20 mg/kg, lead concentrations exceeding 250 mg/kg, PCB concentrations exceeding 0.65 mg/kg, or dioxin/furan concentrations exceeding 6.67 ng/kg Total Toxicity Equivalent Concentration will be used as backfill on the site.

Imported Aggregate Material

Excavations will also be backfilled with imported aggregate material that is suitable for placement and compaction under the site conditions. The South Fork Skykomish River will be visually monitored daily to demonstrate that backfilling activities do not result in exceedances of water quality standards in surface water. If turbidity is detected visually, turbidity measurements will be taken upstream and downstream of the release to determine if the water exceeds water quality criteria. This monitoring will be described in more detail in the 2010 CMP Update. The Contractor will be responsible for preventing and responding to turbidity exceedances. The Contractor's Technical Execution Plan will describe a prevention and response strategy. This strategy could include 1) controlled backfilling with low permeability fill or backfilling in smaller lifts; 2) localized excavation dewatering; 3) installation of temporary barriers, such as steel plates, to reduce mobilization of fine-grained soils; and/or 4) other measures as deemed appropriate by the Contractor and approved by the Engineer. The CPS will require the Contractor to have the equipment necessary to implement the strategy onsite during excavation.

Given that the excavations will not be fully dewatered, backfill placed below the water table will need to be relatively clean (little to no fines) granular material that goes in place relatively compact, and is relatively easy to compact in a thick layer when compaction equipment is placed on the fill once it extends above the water surface elevation. The water surface elevation is anticipated to change throughout the construction season as the water table drops into summer. Given that the material will be placed below the water table, compaction testing below standing water will not be possible. A large compaction effort will be required on the fill at the point where it protrudes above the water level. Material placed below the water table (stabilization aggregate) is to conform to the grain size specification listed in Table 4-4.

Table 4-4 Stabilization Aggregate Grain-Size Requirements

Sieve Size	Percent Passing
2 ½ square	100
2 square	65-100
¾ square	40-80
U.S. No. 4	5 (max.)
U.S. No. 100	0-2
% Fracture	75 (min.)

Backfill placed above the stabilization aggregate is called structural fill, and it will conform to the grain size requirements listed in Table 4-5.

Table 4-5 Structural Fill Grain-Size Requirements

U.S Standard Sieve Size	Allowable Percent Passing
5-inch square	100
2-inch square	75-100
No. 4	50-80
No. 40	30 max.
No. 200	15 max.
Sand Equivalent	50 min.

All percentages are by weight. Note that the quantity of fines (material passing the No. 200 sieve) may be decreased to a maximum of 5 percent if the fill is to be placed during wet weather conditions.

Prior to importing material to the site, the Contractor will be required to provide lab analyses indicating that imported structural fill does not contain potential contaminants with concentrations greater than those shown in Table 4-6.

Table 4-6 Chemical Criteria for Backfill

Substance	Maximum Concentration
Arsenic	20 mg/kg
Cadmium	2 mg/kg
Chromium VI	19 mg/kg
Chromium III	2,000 mg/kg
Lead	250 mg/kg
Mercury	2 mg/kg
NWTPH-Dx	1,870 mg/kg

Topsoil

Topsoil will be placed in residential yards and public parks up to one (1) foot thick. Topsoil must meet the requirements listed in Table 4-7.

Table 4-7 Topsoil Requirements

Parameter	Requirements
Sieve Analysis	Screened using sieve no finer than 7/16" and no greater than 3/4"
pH	5.5-7.5
Electrical Conductivity	< 3.0 mhos/cm
Carbon to Nitrogen Ratio	< 15:1
Process to Further Reduce Pathogens Certified for Hot Composting at Compost Facility as outlined in WAC 173-350-220	Yes
Manufactured Inerts	< 1 percent
Sharps	0
Arsenic	≤ 20 mg/kg
Cadmium	≤ 10 mg/kg
Copper	≤ 750 mg/kg
Lead	≤ 150 mg/kg
Mercury	≤ 8 mg/kg
Molybdenum ¹	≤ 9 mg/kg
Nickel	< 210 mg/kg
Selenium ¹	≤ 18 mg/kg
Zinc	≤ 1400 mg/kg
NWTPH-Dx	≤ 1,870 mg/kg

Notes:

¹ If required under WAC 173-350-220

4.2.6.8 Grading

Excavated areas will be restored to their original grade or to a suitable grade to facilitate stormwater control, as agreed to by BNSF, the Town, and property owners (where applicable). Grading plans will be presented as part of subsequent design plans. Structural fill will be placed in lifts and compacted to a minimum density of 95 percent of the maximum proctor density as determined by ASTM D-1557, Modified Proctor.

4.2.7 Bridge Excavation

The Bridge remediation excavation scope of work is described in the JARPA Part 6 for the Bridge Work and includes in-water and upland areas.

4.2.7.1 **Clearing and Grubbing**

Minimal clearing and grubbing is anticipated to be required for performing the Bridge work. All surface objects, brush, roots, and other protruding obstructions, and all trees and stumps will be cleared and/or grubbed from the excavation limits as indicated on Drawings C-207 and C-208. The removed vegetation and debris will be recycled or disposed of at an appropriate municipal landfill.

4.2.7.2 **Demolition**

Asphalt roads, concrete building foundations, slabs, and walkways located within the excavation areas will be demolished and recycled or disposed of at an appropriate CDW landfill. The bridge abutment will be left in tact. The excavation will occur at minimum setback of 5 feet from the bridge abutment in order to avoid direct impacts to its structure and foundation.

4.2.7.3 **Extents**

Excavation will include removing soil and sediment as necessary to reach the estimated areal and vertical extents of impacted soil shown on Drawings C-207 through C-208. Based on these extents, it is estimated that approximately 12,100 cubic yards of impacted soil and 1,400 cubic yards of impacted river sediment will be removed in 2010. The excavation extents and impacted soil and sediment volumes will be refined based on the results of performance monitoring.

4.2.7.4 **Removing Utilities**

A water line is attached under the pier of the bridge and will be temporarily relocated and then restored after project completion. Electrical utilities to the west of the bridge will also be temporarily relocated and then restored after project completion.

4.2.7.5 **Shoring and Barriers**

The excavation near the bridge will occur at minimum setback of 5 feet from the bridge abutment in order to avoid direct impacts to its structure and foundation. Therefore, no structural disturbances to the bridge are anticipated in association with the remediation work. The excavation slopes along the east and west edges of excavation are designed to terminate at the 2009 excavation side slopes. The other excavation walls will be stabilized using sloping methods. Dry side slopes are expected to stand at a stable slope of 1.5H:1V (horizontal to vertical). Excavation side slopes below water are expected to slant at about 2H:1V. During detailed design for the excavation work, sloping/shoring requirements will be further evaluated.

4.2.7.6 **Backfilling**

Upland areas will be backfilled in accordance with the criteria described in Section 4.2.7.6. Backfilling of excavated in-water areas are described in Part 7 of the JARPA and summarized as follows.

Stabilization aggregate topped with structural fill will be used to restore built areas, such as paved roadways. Stabilization aggregate and structural fill, topped with 4' of armor rock will be used as backfill within the excavation area between the bridge abutment and pier. Specifications for in-river backfill will be similar to that used and approved by WDFW during the interim remediation and clean-up work completed along the levee in 2006 and 2007. A rounded sand and gravel with less than 5 percent fines was used to backfill the river from the base of excavation to approximately 18 inches below the final riverbed. The final surface riverbed fill material backfill consisted of washed gravel mixed with cobble. A minimum 1 foot thickness of riverbed material fill will be placed over the armor rock layer. An organic compost amended silt loam, approximately 1' in depth, will be used as a top soil

on the restored levee areas that are to be planted with upland native vegetation. All clean backfill will be acquired from an approved source.

Low-permeability backfill, such as organoclay, could be used in the near vicinity of the bridge abutment and south excavation limits to prevent migration of residual de minimus DNAPL into the Skykomish River.

4.2.7.7 **Grading**

Excavated areas within the bridge excavation work will be graded to generally match the pre-excavation conditions.

4.2.8 **FMC East Wetland Remediation Excavation**

The FMC East wetland Option 1 remediation excavation scope of work is described in the FMC East SDR Section 4, the *FMCZ East Wetland Restoration Plan*, which is *FMC East SDR Appendix A*, and the 2009 EDR Section 4. The applicable sections are described in this section. The FMC East wetland Option 2 remediation excavation scope of work will be described in an SDR addendum if this option is selected.

4.2.8.1 **Clearing and Grubbing**

Clearing and grubbing and other site preparation for the FMC East Wetland remediation is described in FMC East SDR Section 4.1.3 and in FMC East SDR Appendix A Sections 3.1 through and 3.3.

4.2.8.2 **Demolition**

The barn on BNSF property identified as King County lot 5061300165, as well as building foundations, slabs, and walkways within the SDZ and RYZ Excavation area will be demolished and recycled or disposed of at an appropriate CDW landfill.

4.2.8.3 **Extents**

Excavation extents are described in FMC SDR Section 4.2.3 and in FMCZ East Wetland Restoration Plan Section 3.3.

4.2.8.4 **Removing Utilities**

Utilities impacts are described in FMC SDR Section 4.1.15.

4.2.8.5 **Shoring and Barriers**

Shoring and excavation stabilization for the FMC East Wetland remediation are described in FMC SDR Section 4.1.4 and FMCZ East Wetland Restoration Plan Sections 3.1 through and 3.3.

4.2.8.6 **Backfilling**

Backfilling of excavated areas is described in the FMCZ East Wetland Restoration Plan Section 3.3.

4.2.8.7 **Grading**

Grading of excavated areas is described in the FMCZ East Wetland Restoration Plan Section 3.3.

4.2.9 FMC West Wetland Remediation Excavation

The FMC West Wetland remediation excavation scope of work is described in the FMC West Wetland SDR Section 4.

4.2.9.1 Clearing and Grubbing

Clearing and grubbing for the FMC West Wetland remediation is described in FMC West Wetland SDR Section 4.2.4.2.

4.2.9.2 Fish and Wildlife Mitigation

Site preparation particular to the FMC West Wetland remediation, including but not limited to fish and wildlife exposure mitigation, is described in the FMC West Wetland SDR Section 4.2.4.3.

4.2.9.3 Demolition

Demolition for the FMC West Wetland remediation is described in FMC West Wetland SDR Section 4.2.5.1. It is anticipated that no demolition of structures will be required for FMC West Wetland remediation.

4.2.9.4 Extents

Excavation extents are described in FMC West Wetland SDR Section 4.2.9.

4.2.9.5 Removing Utilities

Utilities impacts are described in FMC West Wetland SDR Section 4.2.4.1.

4.2.9.6 Shoring and Barriers

Shoring and excavation stabilization for the FMC West Wetland remediation are described in FMC West Wetland SDR Section 4.2.9.1.

4.2.9.7 Excavation Dewatering

Excavation dewatering for the FMC West Wetland remediation are described in FMC West Wetland SDR Section 4.2.9.2

4.2.9.8 Surface Water Impacts

Prevention of surface water impacts are described in FMC West Wetland SDR Section 4.2.9.4.

4.2.9.9 Backfilling

Backfilling of excavated areas is described in the FMC West Wetland SDR Section 4.2.10.2 and 4.2.10.3.

4.2.9.10 Grading

Grading of excavated areas is described in the FMC West Wetland SDR Section 4.2.10.4.

4.2.9.11 Wetland Restoration and Mitigation

Wetland restoration is described in the FMC West Wetland SDR Section 4.2.11.

4.2.10 Stormwater Collection System Construction

Stormwater that normally flows from the East wetland into the West wetland will be temporarily diverted around the West wetland during West wetland remediation. Cofferdams will be installed both upstream and downstream of the West wetland excavation prism to isolate the work area from existing surface water flow paths. A temporary breach of the existing berm that separates Maloney Creek from the West wetland will be constructed just upstream of the upper cofferdam. The berm breach will divert clean surface water flow from the undisturbed upstream portion of the West wetland into Maloney Creek. The excavated area with cofferdams will act as a bowl to contain any precipitation caused erosion at the edges of the excavation prism. Biodegradable erosion control matting will be installed as needed to provide temporary erosion control to those portions of the restoration site that will be subjected to more rapidly flowing water after site restoration is complete. Those areas of the restoration that will be subjected to permanent rapidly flowing water will be reinforced with habitat-appropriate erosion-resistant natural materials, such as river rock. Erosion-control fencing will be used to isolate construction access to the work area from adjacent wetlands and properties. Cofferdams and other erosion control measures will be removed at the end of the fish window. Construction access to the West wetland will be rocked if necessary to prevent tracking of soil onto local roadways.

4.2.11 Wastewater Collection and Treatment System Construction

Sanitary sewer infrastructure for the community collection system will be installed at the Shawver and Scisco properties, and in the excavated sections of the West Street ROWs. Infrastructure may include the tanks, piping, pumps, vaults, and electrical appurtenances. These systems are designed by the Town. Construction details will be included in subsequent design plans.

4.2.12 ROW Restoration

Town roads within the 2010 excavation area, as shown in the 2010 Conceptual Restoration Plan (Appendix B), will be restored to King County road standards, as adopted by the Town. Restoration will include backfilling and grading roadways, placing base material, asphalt paving, and installing curbs and gutters at select locations. The approximate locations of sidewalks, utilities, curbs, and gutters have been determined based on the locations of existing curbs and gutters. As was the case with the 2008 and 2009 restoration work, the actual locations of sidewalks, utilities, curbs, and gutters will be determined based on Town comments and by agreement between the Town and BNSF and between the Town and affected landowners. Revised locations and construction details will be provided in 2010 construction plans, which will be submitted to Ecology in accordance with the schedule set forth in CD Exhibit C.

4.2.13 Electrical and Telecommunications Utilities Restoration

BNSF is responsible for replacing utilities to their current or equivalent configuration (i.e., above ground) in accordance with applicable codes. The Town has entered into Schedule 74 agreement with PSE for the conversion of overhead electrical utilities located within the 2010 remediation area and in additional areas. The conversion will include installing underground wiring and pad-mounted transformers in place of pole mounted equipment, installing wiring from transformers to residential meters, and providing stub-ups or junction boxes for connection to street lights and other appurtenances installed as part of the restoration. Per the agreement terms, 60 percent of design and construction costs to complete this scope of work will be paid for by PSE. Payment for the remaining 40 percent will be the responsibility of the Town. Per agreement with the Town, BNSF will also convert select aboveground telecommunications utilities within the electrical utility conversion area to underground. Design drawings for the conversion scope of work will be prepared by PSE and Verizon and incorporated into final BNSF plans.

4.2.14 Replacement of Relocated Structures and Restoration of Remediated Properties

Replacement of relocated structures and restoration of remediated properties will be completed at the conclusion of excavation activities as outlined in Master EDR Section 4.1.10 and as described above in Section 4.2.2 for specific properties.

5.0 Construction Sequencing and Phasing

Construction sequencing and phasing will generally be determined by the General Contractor subject to approval by the P.E. of record (Engineer). Certain restrictions on the work are anticipated including the following.

- Resident access must generally be maintained at all times to all occupied houses. No occupied house can be fully blocked off from all access for any significant period of time. Vehicle access may be restricted to single traffic lanes, or closed in some short-term periods of time (less than one week), and pedestrian access may be guided through active construction zones for safety reasons.
- Emergency access must be maintained at all times to occupied houses.
- Access for firefighting equipment must be maintained to all remaining structures and to houses that are temporarily stored in staging areas.
- FMC East and West Wetland in-water (i.e., inside the wetland delineation boundary) construction activities must be completed within the fish window established under the JARPA permit, approximately July 1 through August 31.
 - Bridge excavation in-water construction activities must be completed within the fish window established under the JARPA permit, approximately July 1 through August 31.

These excavation and remediation activities are largely independent and could be conducted concurrently, or separately, as determined by the Contractor. Some sequencing is time critical or affects pedestrian and vehicle access throughout the Town. The sequencing described below is specific to each excavation/remediation area. It is not intended to be all inclusive, but instead is intended to present the basic components of construction. The sequencing was developed based on the stated restrictions and could be utilized by the Contractor as they develop their approach to the work. However, any suggested work approach will need to follow the restrictions previously stated to be considered a viable approach to the work.

5.1 RYZ Excavation

Excavations on the railyard property will be completed at appropriate times and coordinated with other construction activities. Much of the excavation area is located within the existing SHA. It is anticipated that excavation within the SHA will be conducted in multiple stages, and/or after the completion of off-railyard excavations that require the use of the SHA. The soil excavated from the SHA will be directly placed into rail-cars and will be transported off-site. It is anticipated that the off-railyard excavations will be completed using the approach described below.

- Complete all preparation work within the off-railyard excavation areas
- Prepare to divert traffic on the Railroad Avenue and 5th Street ROWs
- Complete the excavations
- Backfill the excavation area and establish a new driving surface on Railroad Avenue
- Open Railroad Avenue to traffic.

5.2 Bridge Area Excavation

It is anticipated that the bridge area excavation will be completed in one continuous phase.

- Complete all preparation work within the excavation area.
- Close the 5th Street ROW and bridge.
- Divert bridge traffic. Westbound Highway 2 traffic will be diverted approximately 3.2 miles on Old Cascade Highway. Eastbound Highway 2 traffic will be diverted approximately 1.2 miles east on Old Cascade Highway.
- Construct shoring and complete the excavation.
- Backfill the excavation area and establish a new driving surface on 5th Street.
- Open the 5th Street ROW and bridge to traffic

5.3 Levee West End Excavation

It is anticipated that the levee west end excavation will be completed in one continuous phase, and concurrently with the 50 western feet of the schoolyard excavation in 2010 or 2011. The work will be coordinated with the School Building excavation to allow for access to the occupied properties west of 6th Street.

- Complete all preparation work within the excavation area.
- Construct a temporary road on the BNSF-owned parcel (tax lot 5060800070, aka Lyderson Property)
- Close the West River Drive ROW to traffic, while maintaining at least one open traffic lane on Railroad Avenue west of 6th Street. This will give residents access to occupied properties west of the School.
- Construct and complete the excavation.
- Backfill the excavation area and establish a new driving surface on the West River Drive ROW.

5.4 HCC East End Excavation and Barrier Wall Extension

It is anticipated that the HCC east end excavation and barrier wall extension will be completed in a single phase, concurrent with the RYZ excavation in Railroad Avenue east of 3rd Street.

- Complete all preparation work within the excavation area
- Close the south side of the Railroad Avenue ROW located within the excavation extents to traffic, while maintaining one-way traffic on the north side of Railroad Avenue
- Removal all soil exceeding the RL from the NEDZ
- Backfill the excavation area, in conjunction with extension of the HCC barrier, and establish a new driving surface on Railroad Avenue.

5.5 Cascadia Inn Property Excavation

It is anticipated that the Cascadia Inn Property excavation will be completed in one continuous phase, and concurrently with the RYZ excavation in Railroad Avenue east of 3rd Street.

- Complete all preparation work within the excavation area
- Close the north side of the Railroad Avenue ROW located within the excavation extents to traffic, while maintaining one-way (or two-way traffic) on the south side of Railroad Avenue
- Construct shoring and complete the excavation
- Backfill the excavation area and establish a new driving surface on Railroad Avenue.

5.6 FMC East and West Wetland Remediation

It is anticipated that the East and West Wetland remediation will be completed in one continuous phase. The following more detailed description is not intended to be all inclusive, but instead is intended to present the basic components of construction. This phasing is applicable to either FMC East Wetland remediation option.

- Complete all preparation work.
- Prepare the Robinson shed for moving. This includes relocation of residents and building contents, installation of support beams, disconnection of all utilities, and securing structures so that they are ready to move.
- Move the Robinson shed to a location on the Robinson property.
- Construct shoring (if necessary) and complete the excavation.
- Backfill the excavation area.
- Complete restoration activities.

5.7 Traffic Routing and Pedestrian Access

Construction will impact West River Drive, East River Drive, Railroad Avenue, 5th Street, and 6th Street. Some disruption to daily traffic patterns will therefore be unavoidable and some level of disruption and inconvenience for local residents is inevitable.

Vehicle access will be maintained at all times for all occupied residential structures through Town. Postings of road closures will be provided early in the process so planning can occur, and individual notifications will be made prior to full lane closures. Resident's needs will be accommodated as much as possible. Signage related to the project will be that typical of a road construction project with traffic routing and authorized personnel access.

Proposed traffic routing and pedestrian access during 2010 remediation activities is shown on Drawings C-104 through C-106 and on FMC West SDR Figure C-104. These drawings will be submitted for review by all affected agencies and persons, including the fire department, the police department (county and state), residents, and the school. These drawings will be submitted to the Contractor during the bidding process, with the understanding that they will need to evaluate the drawings based on the restrictions presented in this EDR, and either accept the proposed traffic routing and pedestrian access as a viable method, or develop an alternative method that meets all

requirements for approval by the Engineer. If the Contractor requests revisions to traffic routing to accommodate their construction schedule and approach, the revisions will be reviewed by the Engineer and transmitted to the Town, Ecology, and local fire and emergency personnel.

6.0 Construction Quality Assurance

Construction quality assurance (CQA) includes practices to demonstrate that construction activities are completed in accordance with CPS and the regulatory framework described in this EDR. The goals of this section are to:

- Describe the quality program to be implemented
- Describe guidelines for inspection and documentation of construction activities
- Provide reasonable assurance that the completed work will meet the CPS requirements
- Describe how any unexpected changes or conditions that could affect the construction quality will be detected, documented, and addressed during construction.

6.1 Quality Assurance Structure

The quality of construction activities will be demonstrated through an integrated system of quality assurance performed by the Engineer and quality control provided by the Contractor.

6.2 Construction Quality Assurance Responsibilities

6.2.1 BNSF

BNSF is responsible for implementing the remediation activities in accordance with the CD and for ensuring that its Contractor performs construction in accordance with the CD, Master EDR, 2009 EDR, FMC West SDR, FMC East SDR, and CPS. BNSF is responsible for verifying that the Engineer it has retained effectively implements and manages the scope of work detailed in this 2010 EDR.

6.2.2 Engineer

The Engineer is responsible for providing design and engineering services in connection with the project. The Engineer is responsible for implementation of this CQA program. The Engineer will manage Contractors on behalf of BNSF and serve as the primary point of contact with the Contractor for all communications. The Engineer provides submittal review and resolution of design issues as they arise during construction. The Engineer will provide QA through daily monitoring and as-needed inspections to verify the effectiveness of the Contractor's QC program and assure that the quality and CPS are met. The Engineer will assure that the Contractor's QC is working effectively and that the resultant construction complies with the quality requirements. The Engineer is also responsible for formal communications with and submittals to Ecology.

6.2.3 Contractors

The Contractor is retained by BNSF to provide the labor, materials, and equipment required to complete the scope of work detailed in the CPS. Contractors are responsible for quality control and completing the necessary inspections and tests to demonstrate that their work complies with the CPS and the regulatory framework described in this EDR.

6.3 Quality Assurance Monitoring Structure

Quality assurance monitoring includes the following:

- Submittals review
- Protection monitoring
- Inspection and verification
- Construction deficiencies
- Documentation
- Ecology approvals
- QA/QC changes
- Completion reporting.

This section describes these monitoring practices in detail.

6.3.1 Submittals

Contractors will submit one copy of all testing results, quality control reports, other quality control documentation, and Daily Construction Reports to the Engineer. The Engineer will administer and control the processing of Contractor submittals. After being reviewed for completeness, submittal documents will be transmitted to the relevant project staff for review and verification for compliance with contract requirements. The submittal's disposition will be noted on the submittal, which will be signed, dated, and returned to the Contractor. If required, the Contractor will revise the submittal, incorporating the comments and will resubmit it for review and verification for compliance. Submittals will be logged and copies will be retained in the project files.

6.3.2 Protection Monitoring

The protection monitoring requirements applicable to the 2010 EDR scope of work include air and noise monitoring, as described in the 2009 AMP, and worker and public health and safety requirements, as described in the HASP. The Engineer will perform QA oversight of Contractor compliance and related work-area protection monitoring.

6.3.3 Inspection and Verification Activities

6.3.3.1 QC Inspection

The Contractor will perform QC inspections as necessary to control the Project work to the extent necessary to achieve specified quality and ensure conformance with the CPS and Contract Documents.

The Contractor will document inspections in daily reports. The reports will identify inspections conducted, results of inspections, location and nature of defects found, causes for rejection, and remedial or corrective action taken or proposed.

6.3.3.2 QC Testing

The Contractor will perform QC testing necessary to control the Project work to the extent necessary to achieve specified quality and ensure conformance with the CPS and Contract Documents. The

Contractor will document QC testing in daily reports. The Contractor will review test results on a daily basis and identify any non-conforming test results for discussion and resolution with the Engineer.

6.3.3.3 QA Testing

QA testing will be completed to verify the adequacy and effectiveness of the Contractor QC testing. QA testing may be performed by the Engineer, on an as-needed basis. In lieu of performing independent tests the Engineer may choose to witness QC testing or conduct tests on split samples from QC testing. Additional testing may be needed to validate the results when QA and QC test results do not compare or have wide variances. The Engineer will document QA testing in daily reports. The Engineer will review QA tests and maintain files for all field QA testing.

Construction Acceptance Criteria

Construction acceptance criteria for materials qualifications, inspection, and testing are established in the CPS. The criteria for materials and equipment have been set by the Engineer in accordance with the applicable codes and standards, and by manufacturers' recommendations. Contractor submittals will document conformance with the acceptance criteria.

Compliance with Handling, Storage, Packaging, Preservation, and Delivery Requirements

The Engineer will inspect the Contractor activities to demonstrate technical compliance in identification, handling, storage, packaging, preservation, and delivery of materials, parts, assemblies, and end products. Related quality records and documents will be maintained by the Contractor.

6.3.3.4 Material Identification and Traceability

The Engineer will monitor the Contractor to demonstrate that identification and traceability requirements are met. Products and materials shall be traced from receipt through all project stages to installation. Documentation such as project control checklists, material receipts, material tracking forms, procedures, sample and test documentation, and reports will be maintained by the Contractor to demonstrate that the applicable material item traceability is maintained. Product identification and traceability requirements are defined in the CPS.

6.3.4 Construction Deficiencies

A deficiency occurs when a material, performed work, or installation does not meet the plans and/or specifications for the project. When material, performed work, or installation is found deficient, the Contractor will demonstrate that the non-conforming material, work, or installation is identified and controlled to prevent unintended use or delivery.

6.3.4.1 Deficiency Notification

The Contractor will notify the Engineer of any minor deficiencies (items that do not require significant rework or repair work to correct, and will not result in significant deviations from required quality standard if corrected immediately) and major deficiencies (major deviations from the CPS and/or accepted standard of quality) immediately upon detection and note the deficiency in daily reports.

6.3.4.2 Deficiency Correction

Minor deficiencies can be corrected on the spot by agreement between the Contractor and the Engineer. Correction of major deficiencies could include removal and replacement of deficient work using methods approved by the Engineer. Deficiency correction will be documented in daily reports.

6.3.4.3 Deficiency Prevention

The Contractor will take preventive actions as necessary to eliminate the causes of potential deficiencies to prevent their occurrence. The Engineer will have the authority to improve the project's work processes to eliminate the causes of potential non-conformities.

6.3.5 Documentation

6.3.5.1 Daily Construction Report

The Contractor will prepare daily construction reports, which will include a summary of the Contractor daily construction activities.

6.3.5.2 Inspection and Testing Reporting Forms

The Contractor and the Engineer will prepare inspection and testing reporting forms. These forms will vary depending on inspection or test type.

6.3.5.3 Record Drawings

The Contractor will submit draft record drawings to the Engineer for review. The Engineer will prepare draft and final record drawings. The Engineer, working with the Contractor, will be responsible for assuring that red-line record drawings are maintained throughout the construction process. These red-line record drawings will be used to update the design drawings to as-built status at the completion of the work.

6.3.5.4 Preparation of As-Built Drawings

The Engineer, working with the Contractor, will be responsible for red-lining construction drawings in the field as preparation for as-built drawings. The as-built drawings will record approved actual field conditions upon completion of the work. The original design drawings will be marked up by the Contractor as the project progresses to indicate as-built conditions. Where there was a change to a specified material, dimension, location, or other feature, the as-built drawing will indicate the work performed.

6.3.5.5 Record Maintenance

The Engineer will maintain copies of all quality-related documentation on site. The Contractor will provide electronic or paper copies (suitable for scanning) of QC documentation. The Contractor will maintain all original QC records onsite until the project is completed.

6.3.6 Field Changes

The Engineer or Contractor may propose changes to the QC/QA procedures if it becomes apparent that the procedures or controls are inadequate to support work being produced in conformance with the CPS or are deemed to be more excessive than required to support work being produced.

6.3.7 Completion Reporting

Upon completion of remedial activities, the Engineer will submit a final as-built report. The report will include as-built drawings, work accomplished, materials used, inspections and tests conducted, results of inspections and tests, nature of defects found (if any), and corrective actions taken.

7.0 References

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Appendix A

2009 Supplementary Investigation Summary

Attachment A-1

Data Tables

Table 1 Soil and Sediment Sampling Summary

		Analyte	Total Petroleum Hydrocarbons	Total Petroleum Hydrocarbons	Microtox [®] /Sulfide/ Ammonia	Total Organic Carbon	Grain Size
		Analytical Method	NWTPH-Dx (without SG cleanup)	NWTPH-Dx (with SG cleanup)	Multiple ¹	SW9060	ASTM D422
Location ID	Sample Date	Sample Depth Interval (feet)					
Cascadia Inn Investigation							
1B-B-30A	8/25/2009	4- 4	X	—	—	—	—
		6- 6	X	—	—	—	—
		8- 8	X	—	—	—	—
		9- 9	X	—	—	—	—
1B-B-31	8/20/2009	4.1- 4.1	X	—	—	—	—
		6- 6	X	—	—	—	—
		8- 8	X	—	—	—	—
East End of Hydraulic Control and Containment Wall Investigation							
1C-B-10	8/3/2009	12- 14	X	—	—	—	—
1C-B-11	8/14/2009	9- 10	X	—	—	—	—
		11- 13	X	—	—	—	—
		13- 15	X	—	—	—	—
		15- 17	X	—	—	—	—
1C-B-9	8/13/2009	9- 11	X	—	—	—	—
		11- 13	X	—	—	—	—
		13- 15	X	—	—	—	—
2A-B-43	7/30/2009	14- 16	X	—	—	—	—
		16- 18	X	—	—	—	—
		18- 20	X	—	—	—	—
2A-B-44	7/29/2009	10- 12	X	—	—	—	—
		14- 16	X	—	—	—	—
		16- 18	X	—	—	—	—
		19- 21	X	—	—	—	—
2A-B-45	7/29/2009	12- 14	X	—	—	—	—
		14- 16	X	—	—	—	—
		16- 18	X	—	—	—	—
		18- 19	X	—	—	—	—
2A-B-46	7/31/2009	12- 14	X	—	—	—	—
		14- 16	X	—	—	—	—
		17- 19	X	—	—	—	—
EW-2A	3/19/2009	9- 11	X	—	—	—	—
		11- 13	X	—	—	—	—
		13- 15	X	—	—	—	—
		15- 17	X	—	—	—	—

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		Analytical Method	NWTPH-Dx (without SG cleanup)	NWTPH-Dx (with SG cleanup)	Multiple ¹	SW9060	ASTM D422
Location ID	Sample Date	Sample Depth Interval (feet)					
Former Maloney Creek Zone - West Wetland Investigation							
3-B-30	8/14/2009	0- 4	—	—	—	—	X
		4- 6	X	X	—	X	X
		6- 8	X	X	—	X	—
		8- 10	X	X	—	X	—
		10- 12	X	X	—	X	—
3-B-31	8/24/2009	0- 2	X	X	—	X	X
		2- 4	X	X	—	X	X
		4- 6	X	X	—	X	—
		6- 7.5	—	—	—	—	X
3-B-33	8/24/2009	0- 2	X	X	X	X	—
		2- 4	X	X	—	X	—
		4- 6	X	X	—	X	—
3-B-34	8/24/2009	0- 2	X	X	—	X	—
		1- 2	—	—	—	—	X
		2- 4	X	X	—	X	—
		4- 6	X	X	—	X	—
3-B-36	8/26/2009	0- 2	X	X	—	X	—
		2- 4	X	X	—	X	—
		5.25- 5.75	X	X	—	X	—
3-B-37	8/25/2009	0- 2	X	X	—	X	—
		2- 4	X	X	—	X	—
		4- 6	X	X	—	X	—
3-B-38	8/24/2009	0- 2	X	X	—	X	—
		2- 3.25	—	—	—	—	X
		2- 4	X	X	—	X	—
		4- 5	X	X	—	X	—
3-B-39	8/24/2009	0- 2	X	X	—	X	—
		2- 3.25	—	—	—	—	X
		2- 4	X	X	—	X	—
		4- 6	X	X	—	X	—
		6- 7	X	X	—	X	—
3-B-44	8/25/2009	0- 2	X	X	—	X	—
		2- 4	X	X	—	X	—
		4- 6	X	X	—	X	—

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		Analytical Method	NWTPH-Dx (without SG cleanup)	NWTPH-Dx (with SG cleanup)	Multiple ¹	SW9060	ASTM D422
Location ID	Sample Date	Sample Depth Interval (feet)					
3-B-45	8/25/2009	0- 2	X	X	—	X	—
		2- 4	X	X	—	X	—
		4- 6	X	X	—	X	—
3-B-46	8/26/2009	0- 2	X	X	—	X	X
		2- 4	X	X	—	X	X
		4- 6	X	X	—	X	—
3-B-47	8/26/2009	0- 2	—	—	X	X	—
3-B-48	8/26/2009	0- 2	X	X	X	X	—
		2- 3.25	—	—	—	—	X
		2- 4	X	X	—	X	—
		3.75- 5	—	—	—	—	X
3-B-49	8/25/2009	4- 5.5	X	X	—	X	—
		0- 2	X	X	X	X	X
		2- 4	X	X	—	X	—
		4- 6	X	X	—	X	—
3-B-50	8/25/2009	0- 2	X	X	X	X	—
		2- 4	X	X	—	X	—
		4- 5	X	X	—	X	—
3-B-51	8/25/2009	0- 2	X	X	X	X	—
		2- 4	X	X	—	X	—
		4- 6	X	X	—	X	—
3-B-52	8/24/2009	0- 2	X	X	X	X	—
		2- 4	X	X	—	X	—
		4- 6	X	X	—	X	—
3-W-41	8/17/2009	4- 6	X	—	—	—	—
		6- 8	X	—	—	—	—
		8- 10	X	—	—	—	—
		10- 12	X	—	—	—	—
3-W-42	8/14/2009	4- 6	X	—	—	—	—
		6- 8	X	—	—	—	—
		8- 10	X	—	—	—	—
3-W-43	8/18/2009	10- 12	X	—	—	—	—
		4- 6	X	—	—	—	—
		6- 8	X	—	—	—	—
		8- 10	X	—	—	—	—

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		Analytical Method	NWTPH-Dx (without SG cleanup)	NWTPH-Dx (with SG cleanup)	Multiple ¹	SW9060	ASTM D422
Location ID	Sample Date	Sample Depth Interval (feet)					
Levee Zone - West End Investigation							
5-B-75	8/12/2009	9- 11	X	—	—	—	—
		11- 13	X	—	—	—	—
		13- 15	X	—	—	—	—
		15- 17	X	—	—	—	—
5-B-76	8/5/2009	NS	—	—	—	—	
5-B-77	8/5/2009	9- 11	X	—	—	—	—
		11- 12.5	X	—	—	—	—
		15- 17	X	—	—	—	—
5-B-78	8/13/2009	9- 11	X	—	—	—	—
		11- 13	X	—	—	—	—
		13- 15	X	—	—	—	—
		15- 17	X	—	—	—	—
5-B-79	8/13/2009	7- 9	X	—	—	—	—
		9- 11	X	—	—	—	—
		11- 13	X	—	—	—	—
		13- 15	X	—	—	—	—
5-B-80	8/5/2009	9- 11	X	—	—	—	—
		11- 13	X	—	—	—	—
		13- 15	X	—	—	—	—
		15- 17	X	—	—	—	—
5-B-81	8/12/2009	9- 11	X	—	—	—	—
		11- 13	X	—	—	—	—
		13- 15	X	—	—	—	—
		15- 17	X	—	—	—	—
5-B-82	8/11/2009	9- 10	X	—	—	—	—
		10- 12	X	—	—	—	—
		12- 14	X	—	—	—	—
		14- 16	X	—	—	—	—
5-B-83	8/11/2009	9- 11	X	—	—	—	—
		12- 14	X	—	—	—	—
		14- 16	X	—	—	—	—
		16- 18	X	—	—	—	—
5-B-84D	8/17/2009	13- 15	X	—	—	—	—
		15- 17	X	—	—	—	—
		17- 19	X	—	—	—	—

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		Analyte	Total Petroleum Hydrocarbons	Total Petroleum Hydrocarbons	Microtox [®] /Sulfide/ Ammonia	Total Organic Carbon	Grain Size
		Analytical Method	NWTPH-Dx (without SG cleanup)	NWTPH-Dx (with SG cleanup)	Multiple ¹	SW9060	ASTM D422
Location ID	Sample Date	Sample Depth Interval (feet)					
5-B-85	8/18/2009	14- 16	X	—	—	—	—
		16- 18	X	—	—	—	—
		18- 20	X	—	—	—	—
		20- 22	X	—	—	—	—
5-B-86	8/13/2009	9- 11	X	—	—	—	—
		11- 13	X	—	—	—	—
		13- 15	X	—	—	—	—

Notes:

X = Analysis conducted on this sample

— = Analysis not conducted on this sample

NS = Not sampled

SG = Silica Gel

¹Multiple Analytical Methods:

Microtox[®] Method = Freshwater Microtox[®] 100 Percent Sediment Porewater Toxicity Assessment (Ecology, 2008)

Sulfide Method = Methylene Blue Method (equivalent to EPA Method 376.2)

Ammonia Method = Clinica Chimica Acta 14 403 (1996; equivalent to EPA Method 351.2)

Table 2 Boring Completion Summary

Boring ID	Date Drilled	Ground Surface Elevation (NAVD 88)	Total Boring Depth (feet)	Boring Diameter (inches)	Seal Material	Depth to Water during Installation (feet)
East End of Hydraulic Control and Containment Wall Investigation						
1C-B-9	8/13/2009	935.38	15	6	Bentonite	9.5
1C-B-10	8/3/2009	935.41	14	4	Bentonite	—
1C-B-11	8/14/2009	935.19	20	6	Bentonite	13
2A-B-43	7/30/2009	935.70	21	4	Bentonite	14
2A-B-44	7/29/2009	936.97	21	4	Bentonite	14
2A-B-45	7/29/2009	936.48	25	4	Bentonite	16
2A-B-46	7/31/2009	937.11	22	4	Bentonite	14
Former Maloney Creek Zone — West Wetland Investigation						
3-B-30	8/14/2009	927.48	16	4	Bentonite	6
3-B-31	8/24/2009	924.04	7.5	2	Bentonite	6
3-B-33	8/24/2009	924.29	6	2	Bentonite	14
3-B-34	8/24/2009	924.93	6	2	Bentonite	1.5
3-B-36	8/26/2009	923.24	5.75	2	Bentonite	2
3-B-37	8/25/2009	923.94	6.5	2	Bentonite	2.58
3-B-38	8/24/2009	924.38	5	2	Bentonite	1.5
3-B-39	8/24/2009	925.90	7	2	Bentonite	2.66
3-W-41	8/17/2009	926.92	20	4	Bentonite	6
3-W-42	8/14/2009	930.60	22	4	Bentonite	13.5
3-W-43	8/18/2009	929.07	20	4	Bentonite	6
3-B-44	8/25/2009	922.02	6	2	Bentonite	1.5
3-B-45	8/25/2009	923.63	6	2	Bentonite	2.5
3-B-46	8/26/2009	922.06	5	2	Bentonite	2
3-B-47	8/26/2009	921.37	2.5	2	Bentonite	2
3-B-48	8/26/2009	918.17	5.5	2	Bentonite	1.66
3-B-49	8/25/2009	923.43	6	2	Bentonite	4
3-B-50	8/25/2009	923.13	6	2	Bentonite	1.5
3-B-51	8/25/2009	923.83	6	2	Bentonite	2
3-B-52	8/24/2009	923.89	7	2	Bentonite	1
Levee Zone — West End Investigation						
5-B-75	8/12/2009	923.54	18	6	Bentonite	11
5-B-76	8/5/2009	923.46	19	4	Bentonite	14
5-B-77	8/5/2009	923.67	20	4	Bentonite	10
5-B-78	8/12/2009	924.26	17	6	Bentonite	11
5-B-79	8/12/2009	923.63	21	6	Bentonite	11.5
5-B-80	8/13/2009	923.25	20	4	Bentonite	9
5-B-81	8/5/2009	923.81	18	4	Bentonite	9.5
5-B-82	8/11/2009	923.87	20	6	Bentonite	11
5-B-83	8/11/2009	923.76	24	6	Bentonite	12
5-B-84	8/17/2009	928.06	21	4	Bentonite	8
5-B-85	8/18/2009	927.97	23	4	Bentonite	12
5-B-86	8/13/2009	923.30	16	6	Bentonite	11

Table 3 Well Completion Summary

Well ID	Date Installed	MP Elevation	Ground Surface Elevation (NAVD 88)	Total Well Depth (ft – bgs)	Surface Completion	Well Diameter (inches)	Well Material	Screen Slot Size (inch)
3-W-41	8/19/2009	926.45	926.92	19.0	Flush Mount	2	Schedule 40 PVC	0.02
3-W-42	8/14/2009	930.37	930.60	20.0	Flush Mount	2	Schedule 40 PVC	0.02
3-W-43	8/18/2009	928.85	929.07	16.0	Flush Mount	2	Schedule 40 PVC	0.02

Well ID	Screen Interval (ft – bgs)	Concrete Interval (ft – bgs)	Seal Material	Surface Seal Interval	Sand Pack Material	Sand Pack Interval during Installation	DTW during Installation (ft.)
3-W-41	4 – 19	0 – 1	Bentonite	1 – 3	#2/12 silica sand	3 – 20	6
3-W-42	5 – 20	0 – 1	Bentonite	1 – 4	#2/12 silica sand	4 – 22	13.5
3-W-43	4 – 16	0 – 1	Bentonite	1 – 3	#2/12 silica sand	3 – 17	6

Notes:

MP – Measuring Point

ft – bgs – feet below ground surface

Table 4 Fluid Level Gauging Results

Well Number	Date	TOC Elevation (feet above MSL)	Depth to Water from TOC (feet)	Corrected Depth to Water from TOC (feet)	DTP from TOC (feet)	Groundwater Elevation (feet above MSL)	Product Thickness (feet)	Notes
1B-W-2	8/25/2009	935.81	14.27	NA	NA	921.54	None	
1B-W-3	8/25/2009	936.66	15.52	NA	NA	921.14	None	
1C-W-1	8/25/2009	936.44	14.22	NA	NA	922.22	None	
1C-W-2	8/25/2009	935.29	11.02	NA	NA	924.27	None	
1C-W-7	8/25/2009	934.3	12.24	NA	NA	922.06	None	
1C-W-8	8/25/2009	934.18	13.71	NA	NA	920.47	None	
2A-W-10	8/25/2009	937.93	12.89	NA	NA	925.04	None	
2A-W-11	8/25/2009	933.59	9.62	NA	NA	923.97	Heavy Trace	Heavy trace product; gauged with tape & paste
2A-W-3	8/25/2009	934.43	12.36	NA	NA	922.07	Heavy Trace	Heavy trace product; gauged with tape & paste
2A-W-4	8/25/2009	935.31	12.94	NA	12.63	922.67	0.31	Product pumped out
2A-W-5	8/25/2009	939.47	15.01	NA	NA	924.46	None	
2A-W-7	8/25/2009	937.76	12.86	NA	NA	924.9	None	
2A-W-9	8/25/2009	936.58	12.23	NA	NA	924.35	None	
2B-B-21	8/25/2009	930.5	7.38	NA	NA	923.12	None	
2B-W-11	8/25/2009	930.80	5.41	NA	NA	925.39	None	Dry
2B-W-12	8/25/2009	933.48	8.68	8.42	NA	925.06	None	Dry
2B-W-13	8/25/2009	932.52	8.05	NA	NA	924.47	None	Dry
2B-W-14	8/25/2009	931.25	6.6	NA	NA	924.65	None	Dry
2B-W-15	8/25/2009	931.74	NM	NA	NA	NM	None	Dry at 4.2 feet
2B-W-19	8/25/2009	935.25	9.58	NA	NA	925.67	None	
2B-W-21	8/25/2009	935.81	10.95	NA	NA	924.86	None	
2B-W-30	8/25/2009	936.60	13.1	NA	NA	923.5	None	
2B-W-32	8/25/2009	935.45	9.95	NA	NA	925.5	None	
2B-W-33	8/25/2009	938.28	12.84	NA	NA	925.44	None	
2B-W-4	8/25/2009	931.03	5.58	NA	NA	925.45	None	
2B-W-45	8/25/2009	935.74	12.91	12.13	NA	923.61	None	
2B-W-46	8/25/2009	935.28	13.1	11.34	NA	923.94	None	
3-W-41	8/25/2009	926.45	6.91	NA	NA	919.54	None	

Table 4 Fluid Level Gauging Results

Well Number	Date	TOC Elevation (feet above MSL)	Depth to Water from TOC (feet)	Corrected Depth to Water from TOC (feet)	DTP from TOC (feet)	Groundwater Elevation (feet above MSL)	Product Thickness (feet)	Notes
3-W-42	8/25/2009	930.37	10.01	NA	NA	920.36	None	
3-W-43	8/25/2009	928.85	6.11	NA	NA	922.74	None	
CV	8/24/2009	936.10	17.14	NA	NA	918.96	None	
EV	8/24/2009	934.23	10.73	NA	NA	923.50	None	
FWV	8/24/2009	930.76	10.64	NA	NA	920.12	None	
IW-01	8/24/2009	933.44	9.90	NA	NA	923.54	None	
IW-02	8/24/2009	934.10	11.66	NA	NA	922.44	None	Trace product; gauged with tape & paste
MW-1	8/25/2009	939.20	14.21	NA	NA	924.99	None	
MW-10	8/25/2009	938.34	14.28	NA	NA	924.06	None	
MW-11	8/25/2009	939.20	14.79	NA	NA	924.41	None	
MW-13	8/25/2009	934.93	11.55	NA	NA	923.38	None	
MW-14	8/25/2009	936.49	13.43	NA	NA	923.06	None	
MW-15	8/25/2009	936.80	14.82	NA	NA	921.98	None	
MW-16	8/25/2009	933.32	14.43	NA	NA	918.89	None	
MW-17	8/25/2009	937.15	NM	NA	NA	NM	NM	Inaccessible; buried under soil stockpile
MW-18	8/25/2009	940.68	16.23	NA	NA	924.45	None	
MW-2	8/25/2009	939.20	13.99	NA	NA	925.21	None	
MW-3	8/25/2009	938.03	12.59	NA	NA	925.44	None	
MW-38R	8/25/2009	922.39	5.71	NA	NA	916.68	None	
MW-39	8/25/2009	936.21	11.19	NA	NA	925.02	Trace	Trace product; gauged with tape & paste
MW-4	8/25/2009	936.95	11.63	NA	NA	925.32	None	
MW-40	8/25/2009	936.52	14.35	NA	NA	922.17	None	
MW-5	8/25/2009	933.36	9.13	NA	NA	924.23	None	
MW-7	8/25/2009	936.89	14.51	NA	NA	922.38	None	Gauged with tape & paste
MW-9	8/25/2009	937.53	14.51	NA	NA	923.02	None	
PW-01	8/24/2009	930.34	10.62	NA	NA	919.72	None	
PW-03	8/24/2009	935.59	15.62	NA	NA	919.97	None	
PW-04	8/24/2009	938.26	14.80	NA	NA	923.46	None	
PZ-1	8/24/2009	935.39	11.29	NA	NA	924.1	None	
PZ-2N	8/24/2009	934.38	12.25	NA	NA	922.13	None	

Table 4 Fluid Level Gauging Results

Well Number	Date	TOC Elevation (feet above MSL)	Depth to Water from TOC (feet)	Corrected Depth to Water from TOC (feet)	DTP from TOC (feet)	Groundwater Elevation (feet above MSL)	Product Thickness (feet)	Notes
PZ-2S	8/24/2009	934.96	10.79	NA	NA	924.166	None	
PZ-3N	8/24/2009	934.45	14.01	NA	NA	920.44	None	
PZ-3S	8/24/2009	935.47	11.49	NA	NA	923.98	None	Trace product; gauged with tape & paste
PZ-4N	8/24/2009	935.33	14.66	NA	NA	920.667	None	
PZ-4S	8/24/2009	935.37	12.97	NA	NA	922.40	None	
PZ-5N	8/24/2009	933.16	13.25	NA	NA	919.91	None	
PZ-5S	8/24/2009	933.53	11.36	NA	NA	922.17	None	Trace product; gauged with tape & paste
PZ-6N	8/24/2009	931.21	11.30	NA	NA	919.907	None	
PZ-6S	8/24/2009	931.44	NM	NA	NA	NM	None	Heavy product; unable to gauge with pump and tubing
PZ-7N	8/24/2009	930.41	10.73	NA	NA	919.675	None	
PZ-7S	8/24/2009	930.43	9.76	NA	NA	920.67	None	
PZ-8	8/24/2009	929.50	10.42	NA	NA	919.075	None	
RW-01	8/24/2009	932.80	12.81	NA	NA	919.99	None	
RW-06	8/24/2009	928.51	8.65	NA	NA	919.86	None	
WV	8/24/2009	931.82	11.96	NA	NA	919.86	None	

Notes:

TOC = Top of Casing

NA = Not Applicable

NM = Not Measured

Table 5 Levee Zone — West End Investigation Total Petroleum Hydrocarbon Soil Results

Analytical Method Chemical Name Unit			NWTPH-Dx Lube Oil mg/kg			NWTPH-Dx PHC as Diesel Fuel mg/kg			NWTPH-Dx TPH (calc) mg/kg
Location ID	Sample Date	Depth Interval (feet)	Result & Qualifier	MDL	RDL	Result & Qualifier	MDL	RDL	
5-B-75	8/12/2009	9- 11	92	9.5	52	67	6	26	159
5-B-75	8/12/2009	11- 13	ND	10	55	ND	6.3	28	8.15
5-B-75	8/12/2009	13- 15	ND	12	66	ND	7.5	33	9.75
5-B-75	8/12/2009	15- 17	ND	12	66	ND	7.5	33	9.75
5-B-77	8/5/2009	9- 11	7700	51	280	6000	32	140	13700
5-B-77	8/5/2009	11- 12.5	1100	10	56	690	6.3	28	1790
5-B-77	8/5/2009	15- 17	ND	11	61	ND	6.9	30	8.95
5-B-78	8/13/2009	9- 11	5500 J	41	250	6800 J	24	100	12300
5-B-78	8/12/2009	11- 13	350	41	250	620	24	100	970
5-B-78	8/12/2009	13- 15	1400	41	250	2000	24	100	3400
5-B-78	8/12/2009	15- 17	100	10	57	56	6.5	29	156
5-B-79	8/13/2009	7- 9	17000 J	49	270	16000 J	31	130	33000
5-B-79	8/13/2009	9- 11	1300	9.7	53	1300	6.1	27	2600
5-B-79	8/13/2009	11- 13	1300	9.4	52	1200	5.9	26	2500
5-B-79	8/13/2009	13- 15	1200	9.3	51	1100	5.8	25	2300
5-B-80	8/5/2009	9- 11	ND	9.3	51	ND	5.8	26	7.55
5-B-80	8/5/2009	11- 13	ND	9.9	54	ND	6.2	27	8.05
5-B-80	8/5/2009	13- 15	ND	9.2	51	ND	5.8	25	7.5
5-B-80	8/5/2009	15- 17	ND	11	60	ND	6.8	30	8.9
5-B-81	8/12/2009	9- 11	ND	9.4	52	ND	5.9	26	7.65
5-B-81	8/12/2009	11- 13	ND	9.5	52	ND	5.9	26	7.7
5-B-81	8/12/2009	13- 15	ND	12	66	ND	7.5	33	9.75
5-B-81	8/12/2009	15- 17	ND	12	67	ND	7.6	33	9.8
5-B-82	8/11/2009	9- 10	1300 J	10	55	780 J	6.3	28	2080
5-B-82	8/11/2009	9- 10	700 J	10	56	410 J	6.3	28	1110
5-B-82	8/11/2009	10- 12	3700	9.3	51	2000	5.8	26	5700
5-B-82	8/11/2009	12- 14	500	41	250	760	24	100	1260
5-B-82	8/11/2009	14- 16	420	41	250	640	24	100	1060
5-B-83	8/11/2009	9- 11	13000	94	520	13000	59	260	26000
5-B-83	8/11/2009	12- 14	640	9.8	54	390	6.1	27	1030
5-B-83	8/11/2009	14- 16	140	9.7	53	64	6.1	27	204
5-B-83	8/11/2009	16- 18	160	9.2	51	98	5.8	25	258
5-B-84D	8/17/2009	13- 15	2100	410	2500	2900	240	1000	5000
5-B-84D	8/17/2009	15- 17	170	4.1	25	200	2.4	10	370
5-B-84D	8/17/2009	17- 19	43	4.1	25	ND	2.4	10	44.2
5-B-85	8/18/2009	14- 16	120	4.1	25	140	2.4	10	260
5-B-85	8/18/2009	16- 18	39	4.1	25	78	2.4	10	117
5-B-85	8/18/2009	18- 20	38 J	12	65	33	7.4	32	71
5-B-85	8/18/2009	20- 22	ND	13	70	ND	8	35	10.5

Table 5 Levee Zone — West End Investigation Total Petroleum Hydrocarbon Soil Results

Analytical Method Chemical Name Unit			NWTPH-Dx Lube Oil mg/kg			NWTPH-Dx PHC as Diesel Fuel mg/kg			NWTPH-Dx TPH (calc) mg/kg
Location ID	Sample Date	Depth Interval (feet)	Result & Qualifier	MDL	RDL	Result & Qualifier	MDL	RDL	
5-B-86	8/13/2009	9- 11	ND	9	49	ND	5.6	25	7.3
5-B-86	8/13/2009	9- 11	ND	8.9	49	ND	5.6	25	7.25
5-B-86	8/13/2009	11- 13	ND	11	58	ND	6.6	29	8.8
5-B-86	8/13/2009	11- 13	ND	10	57	ND	6.6	29	8.3
5-B-86	8/13/2009	13- 15	ND	12	64	ND	7.3	32	9.65
5-B-86	8/13/2009	13- 15	ND	11	60	ND	6.8	30	8.9
Maximum			17000			16000			33000
Minimum			ND			ND			7.25
Average									2613.41

Notes:

- FD Field Duplicate
- J Detected Result, Estimated Concentration
- N Normal
- ND Not Detected
- MDL Method Detection Limit
- PHC Petroleum Hydrocarbon
- RDL Reporting Detection Limit
- RL Remediation Level
- TPH Total Petroleum Hydrocarbon
- mg/kg Milligrams per kilogram
- TPH results exceed the RL (3,400 mg/kg NWTPH-Dx)

NWTPH-Dx TPH (Calc) = Sum of the Lube Oil Range and Diesel Fuel Range Hydrocarbons by Method NWTPH-Dx. 1/2 the MDL was used for all NDs.

Table 6 East End of Hydraulic Containment and Control Wall Investigation – Total Petroleum Hydrocarbon Soil Results

Analytical Method Chemical Name Unit				NWTPH-Dx Lube Oil mg/kg			NWTPH-Dx PHC as Diesel Fuel mg/kg			NWTPH-Dx TPH (calc) mg/kg
Location ID	Sample Date	Sample Type	Depth Interval (feet)	Result & Qualifier	MDL	RDL	Result & Qualifier	MDL	RDL	
1C-B-9	8/13/2009	N	9- 11	86	9.8	54	48	6.1	27	134
1C-B-9	8/13/2009	N	11- 13	ND	9.9	54	ND	6.2	27	8.05
1C-B-9	8/13/2009	N	13- 15	ND	9.6	53	ND	6	26	7.8
1C-B-10	8/3/2009	N	12- 14	6400 J	94	510	4000	59	260	10400
1C-B-11	8/14/2009	N	9- 10	ND	8.9	49	ND	5.6	24	7.25
1C-B-11	8/14/2009	N	11- 13	ND	9.3	51	ND	5.8	26	7.55
1C-B-11	8/14/2009	N	13- 15	ND	9.3	51	ND	5.8	26	7.55
1C-B-11	8/14/2009	N	15- 17	ND	11	60	ND	6.9	30	8.95
2A-B-43	7/30/2009	N	14- 16	11000	99	550	8600	62	270	19600
2A-B-43	7/30/2009	N	16- 18	ND	11	61	ND	7	31	9
2A-B-43	7/30/2009	N	18- 20	ND	12	64	ND	7.3	32	9.65
2A-B-44	7/29/2009	N	10- 12	ND	9.7	53	ND	6.1	27	7.9
2A-B-44	7/30/2009	N	14- 16	340	9.7	53	240	6.1	27	580
2A-B-44	7/30/2009	N	16- 18	4900	95	520	4100	59	260	9000
2A-B-44	7/30/2009	N	19- 21	ND	12	65	ND	7.4	32	9.7
2A-B-45	7/29/2009	N	12- 14	ND	9.2	51	ND	5.8	25	7.5
2A-B-45	7/29/2009	FD	12- 14	ND	9.9	54	ND	6.2	27	8.05
2A-B-45	7/29/2009	N	14- 16	ND	9.2	51	ND	5.8	25	7.5
2A-B-45	7/29/2009	N	16- 18	ND	11	61	ND	6.9	30	8.95
2A-B-45	7/29/2009	N	18- 19	ND	12	66	ND	7.5	33	9.75
2A-B-46	7/31/2009	N	12- 14	340	9.8	54	240	6.1	27	580
2A-B-46	7/31/2009	N	14- 16	3000	52	280	2000	32	140	5000
2A-B-46	7/31/2009	N	17- 19	ND	12	63	ND	7.2	32	9.6
EW-2A	3/19/2009	N	9- 11	5230 J	83.2	520	4660 J	20.8	104	9890
EW-2A	3/19/2009	N	11- 13	295 J	4.33	27	279 J	2.16	10.8	574
EW-2A	3/19/2009	N	13- 15	367	8.68	54.2	373 J	2.17	10.8	740
EW-2A	3/19/2009	N	15- 17	172 J	4.24	26.5	163 J	2.12	10.6	335
Maximum				11000			8600			19600
Minimum				ND			ND			7.25
Average										2109.92

Notes:

- FD Field Duplicate
- J Detected Result, Estimated Concentration
- N Normal
- ND Not Detected
- MDL Method Detection Limit
- PHC Petroleum Hydrocarbon
- RDL Reporting Detection Limit
- RL Remediation Level
- TPH Total Petroleum Hydrocarbon
- mg/kg Milligrams per kilogram

TPH results exceed the RL (3,400 mg/kg NWTPH-Dx)

NWTPH-Dx TPH (Calc) = Sum of the Lube Oil Range and Diesel Fuel Range Hydrocarbons by Method NWTPH-Dx.
1/2 the MDL was used for all NDs.

Table 7 Cascadia Inn Investigation Total Petroleum Hydrocarbon Soil Results

Location ID	Sample Date	Analytical Method		NWTPH-Dx Lube Oil mg/kg			NWTPH-Dx PHC AS DIESEL FUEL mg/kg			NWTPH-Dx TPH (calc) mg/kg	
		Chemical Name	Unit	Result & Qualifier	MDL	RDL	Result	MDL	RDL		
1B-B-30A	8/25/2009	N	Depth Interval (feet)	28	J	9.5	52	47	5.9	26	75
1B-B-30A	8/25/2009	N	4- 4	21	J	9.5	52	72	6	26	93
1B-B-30A	8/25/2009	N	6- 6	46	J	9.6	53	35	6	26	81
1B-B-30A	8/26/2009	N	8- 8	22		9.3	51	13	5.8	26	35
1B-B-31	8/20/2009	N	9- 9	160		9.9	54	2200	6.2	27	2360
1B-B-31	8/20/2009	N	4.1- 4.1	35	J	9.3	51	400	5.8	26	435
1B-B-31	8/21/2009	N	6- 6	35	J	9.9	54	39	6.2	27	74
1B-B-31	8/21/2009	FD	8- 8	49	J	9.8	54	53	6.2	27	102
Minimum				21			13			35	
Maximum				160			2200			2360	
Average										407	

Notes:

- FD Field Duplicate
- J Detected Result, Estimated Concentration
- N Normal
- ND Not Detected
- MDL Method Detection Limit
- PHC Petroleum Hydrocarbon
- RDL Reporting Detection Limit
- TPH Total Petroleum Hydrocarbon
- mg/kg Milligrams per kilogram
- NWTPH-Dx TPH (Calc) = Sum of the Lube Oil Range and Diesel Fuel Range Hydrocarbons by Method NWTPH-Dx.
- 1/2 the MDL was used for all NDs.

Table 8 Summary of Data Validation and Usability

Lab SDG	Sample ID	Method	Analyte	Concentration and Qualifier	Unit	Reason Code
BSC0216	EW-2A(11-13)	NWTPH-Dx	Lube Oil Range Hydrocarbons	295 J	mg/kg	CHRO
BSC0216	EW-2A(11-13)	NWTPH-Dx	Diesel Range Hydrocarbons	279 J	mg/kg	CHRO
BSC0216	EW-2A(13-15)	NWTPH-Dx	Diesel Range Hydrocarbons	373 J	mg/kg	CHRO
BSC0216	EW-2A(15-17)	NWTPH-Dx	Lube Oil Range Hydrocarbons	172 J	mg/kg	CHRO
BSC0216	EW-2A(15-17)	NWTPH-Dx	Diesel Range Hydrocarbons	163 J	mg/kg	CHRO
BSC0216	EW-2A(9-11)	NWTPH-Dx	Lube Oil Range Hydrocarbons	5230 J	mg/kg	SUR
BSC0216	EW-2A(9-11)	NWTPH-Dx	Diesel Range Hydrocarbons	4660 J	mg/kg	CHRO, SUR
580147361	1C-B-10-12-14	NWTPH-Dx	#2 Diesel (C10-C24)	4000 J	mg/kg	MS
580147361	1C-B-10-12-14	NWTPH-Dx	Motor Oil (>C24-C36)	6400 J	mg/kg	MS
580149121	5-B-82 90-100	NWTPH-Dx	#2 Diesel (C10-C24)	410 J	mg/kg	FD
580149121	5-B-82 90-100	NWTPH-Dx	Motor Oil (>C24-C36)	700 J	mg/kg	FD
580149121	5-B-82 9-10	NWTPH-Dx	#2 Diesel (C10-C24)	780 J	mg/kg	FD
580149121	5-B-82 9-10	NWTPH-Dx	Motor Oil (>C24-C36)	1300 J	mg/kg	FD
580149631	5-B-79 7-9	NWTPH-Dx	#2 Diesel (C10-C24)	16000 J	mg/kg	SUR, RPD
580149631	5-B-79 7-9	NWTPH-Dx	Motor Oil (>C24-C36)	17000 J	mg/kg	SUR, RPD
580150311	3-W-41 8-10	NWTPHDxSG	#2 Diesel (C10-C24)	15 J	mg/kg	BRL
580150311	3-W-43 4-6	NWTPH-Dx	Motor Oil (>C24-C36)	10 J	mg/kg	BRL
580150311	3-W-43 6-8	NWTPH-Dx	Motor Oil (>C24-C36)	24 J	mg/kg	BRL
580150311	3-W-43 6-8	NWTPHDxSG	Motor Oil (>C24-C36)	25 J	mg/kg	BRL
580150311	5-B-85 18-20	NWTPH-Dx	Motor Oil (>C24-C36)	38 J	mg/kg	BRL
580150971	1B-B-31 6	NWTPH-Dx	Motor Oil (>C24-C36)	35 J	mg/kg	BRL
580150971	1B-B-31 8	NWTPH-Dx	Motor Oil (>C24-C36)	35 J	mg/kg	BRL
580150971	1B-B-31 8(DUP)	NWTPH-Dx	Motor Oil (>C24-C36)	49 J	mg/kg	BRL
580150971	3-B-31 0-2	NWTPH-Dx	Motor Oil (>C24-C36)	25 J	mg/kg	BRL
580150971	3-B-33 4-6	NWTPH-Dx	Motor Oil (>C24-C36)	41 J	mg/kg	BRL
580150971	3-B-33 4-6	NWTPHDxSG	Motor Oil (>C24-C36)	32 J	mg/kg	BRL
580150971	3-B-34 0-2	NWTPH-Dx	Motor Oil (>C24-C36)	91 J	mg/kg	BRL
580150971	3-B-38 2-4	NWTPH-Dx	Motor Oil (>C24-C36)	26 J	mg/kg	BRL
580150971	3-B-39 0-2	NWTPHDxSG	Motor Oil (>C24-C36)	13 J	mg/kg	BRL
580150971	3-B-39 4-6	NWTPH-Dx	#2 Diesel (C10-C24)	11 J	mg/kg	BRL
580150972	3-B-33 0-2	E350.2	Ammonia	< 160 UJ	mg/kg	MS
580150972	3-B-52 0-2	E350.2	Ammonia	< 110 UJ	mg/kg	MS
580151281	1B-B-30A 4	NWTPH-Dx	Motor Oil (>C24-C36)	28 J	mg/kg	BRL
580151281	1B-B-30A 6	NWTPH-Dx	Motor Oil (>C24-C36)	21 J	mg/kg	BRL
580151281	1B-B-30A 8	NWTPH-Dx	#2 Diesel (C10-C24)	35 J	mg/kg	RPD
580151281	1B-B-30A 8	NWTPH-Dx	Motor Oil (>C24-C36)	46 J	mg/kg	BRL

Table 8 Summary of Data Validation and Usability

Lab SDG	Sample ID	Method	Analyte	Concentration and Qualifier	Unit	Reason Code
580151281	3-B-37 0-2	NWTPH-Dx	#2 Diesel (C10-C24)	20 J	mg/kg	BRL
580151281	3-B-37 0-2	NWTPHDxSG	#2 Diesel (C10-C24)	16 J	mg/kg	BRL
580151281	3-B-37 10-12	NWTPH-Dx	Motor Oil (>C24-C36)	36 J	mg/kg	BRL
580151281	3-B-37 10-12	NWTPHDxSG	Motor Oil (>C24-C36)	44 J	mg/kg	BRL
580151281	3-B-45 4-6	NWTPH-Dx	#2 Diesel (C10-C24)	8.5 J	mg/kg	BRL
580151281	3-B-45 4-6	NWTPH-Dx	Motor Oil (>C24-C36)	22 J	mg/kg	BRL
580151281	3-B-45 4-6	NWTPHDxSG	#2 Diesel (C10-C24)	8.5 J	mg/kg	BRL
580151281	3-B-45 4-6	NWTPHDxSG	Motor Oil (>C24-C36)	< 74 U	mg/kg	MB, BRL, original result was 28 mg/Kg
580151281	3-B-45-0-2	NWTPH-Dx	#2 Diesel (C10-C24)	12 J	mg/kg	BRL
580151281	3-B-45-0-2	NWTPHDxSG	#2 Diesel (C10-C24)	9.7 J	mg/kg	BRL
580151281	3-B-45-2-4	NWTPH-Dx	#2 Diesel (C10-C24)	12 J	mg/kg	BRL
580151281	3-B-45-2-4	NWTPH-Dx	Motor Oil (>C24-C36)	35 J	mg/kg	BRL
580151281	3-B-45-2-4	NWTPHDxSG	#2 Diesel (C10-C24)	8.4 J	mg/kg	BRL
580151281	3-B-45-2-4	NWTPHDxSG	Motor Oil (>C24-C36)	< 73 U	mg/kg	MB, BRL, original result was 30 mg/Kg
580151282	3-B-49 0-2	NWTPH-Dx	Motor Oil (>C24-C36)	21 J	mg/kg	BRL
580151282	3-B-49 0-2	NWTPHDxSG	Motor Oil (>C24-C36)	15 J	mg/kg	BRL
580151282	3-B-50 0-2	NWTPH-Dx	Motor Oil (>C24-C36)	48 J	mg/kg	BRL
580151282	3-B-50 0-2	NWTPHDxSG	Motor Oil (>C24-C36)	42 J	mg/kg	BRL
580151282	3-B-51 0-2	NWTPH-Dx	#2 Diesel (C10-C24)	11 J	mg/kg	BRL
580151282	3-B-51 0-2	NWTPH-Dx	Motor Oil (>C24-C36)	73 J	mg/kg	BRL
580151282	3-B-51 0-2	NWTPHDxSG	#2 Diesel (C10-C24)	14 J	mg/kg	BRL
580151282	3-B-51 0-2	NWTPHDxSG	Motor Oil (>C24-C36)	74 J	mg/kg	BRL
580151451	1B-B-30A 9	NWTPH-Dx	#2 Diesel (C10-C24)	13 J	mg/kg	BRL
580151451	1B-B-30A 9	NWTPH-Dx	Motor Oil (>C24-C36)	< 51 U	mg/kg	MB, BRL, original result was 22 mg/Kg

Table 8 Summary of Data Validation and Usability

Lab SDG	Sample ID	Method	Analyte	Concentration and Qualifier	Unit	Reason Code
580151451	3-B-36 0-2	NWTPH-Dx	#2 Diesel (C10-C24)	9.2 J	mg/kg	BRL, FD
580151451	3-B-36 0-2	NWTPH-Dx	Motor Oil (>C24-C36)	< 70 U	mg/kg	MB, BRL, FD, original result was 42 mg/Kg
580151451	3-B-36 0-2	NWTPHDxSG	#2 Diesel (C10-C24)	8.9 J	mg/kg	BRL, FD
580151451	3-B-36 0-2	NWTPHDxSG	Motor Oil (>C24-C36)	< 70 U	mg/kg	MB, BRL, FD, original result was 37 mg/Kg
580151451	3-B-36 0-2	SW9060	Total Organic Carbon	35000 J	mg/kg	MS
580151451	3-B-36 10-12	NWTPH-Dx	#2 Diesel (C10-C24)	100 J	mg/kg	FD
580151451	3-B-36 10-12	NWTPH-Dx	Motor Oil (>C24-C36)	700 J	mg/kg	FD
580151451	3-B-36 10-12	NWTPHDxSG	#2 Diesel (C10-C24)	77 J	mg/kg	FD
580151451	3-B-36 10-12	NWTPHDxSG	Motor Oil (>C24-C36)	410 J	mg/kg	FD
580151451	3-B-36 10-12	SW9060	Total Organic Carbon	27000 J	mg/kg	MS
580151451	3-B-36 2-4	NWTPHDxSG	Motor Oil (>C24-C36)	< 70 U	mg/kg	MB, BRL, original result was 20 mg/Kg
580151451	3-B-36 2-4	SW9060	Total Organic Carbon	18000 J	mg/kg	MS
580151451	3-B-36 5.25-5.75	NWTPH-Dx	Motor Oil (>C24-C36)	< 58 U	mg/kg	MB, BRL, original result was 24 mg/Kg
580151451	3-B-36 5.25-5.75	NWTPHDxSG	#2 Diesel (C10-C24)	18 J	mg/kg	BRL
580151451	3-B-36 5.25-5.75	NWTPHDxSG	Motor Oil (>C24-C36)	< 58 U	mg/kg	MB, BRL, original result was 11 mg/Kg
580151451	3-B-36 5.25-5.75	SW9060	Total Organic Carbon	5700 J	mg/kg	MS
580151451	3-B-46 0-2	NWTPH-Dx	#2 Diesel (C10-C24)	34 J	mg/kg	BRL, SUR
580151451	3-B-46 0-2	NWTPH-Dx	Motor Oil (>C24-C36)	300 J	mg/kg	SUR
580151451	3-B-46 0-2	NWTPHDxSG	#2 Diesel (C10-C24)	17 J	mg/kg	BRL
580151451	3-B-46 0-2	SW9060	Total Organic Carbon	42000 J	mg/kg	MS, FD
580151451	3-B-46 10-12	NWTPH-Dx	#2 Diesel (C10-C24)	39 J	mg/kg	BRL
580151451	3-B-46 10-12	NWTPHDxSG	#2 Diesel (C10-C24)	25 J	mg/kg	BRL
580151451	3-B-46 10-12	SW9060	Total Organic Carbon	10000 J	mg/kg	MS, FD

Table 8 Summary of Data Validation and Usability

Lab SDG	Sample ID	Method	Analyte	Concentration and Qualifier	Unit	Reason Code
580151451	3-B-46 2-4	NWTPH-Dx	Motor Oil (>C24-C36)	< 75 U	mg/kg	MB, BRL, original result was 32 mg/Kg
580151451	3-B-46 2-4	NWTPHDxSG	Motor Oil (>C24-C36)	< 75 U	mg/kg	MB, BRL, original result was 19 mg/Kg
580151451	3-B-46 2-4	SW9060	Total Organic Carbon	15000 J	mg/kg	MS
580151451	3-B-46 4-6	NWTPH-Dx	#2 Diesel (C10-C24)	9.8 J	mg/kg	BRL
580151451	3-B-46 4-6	NWTPH-Dx	Motor Oil (>C24-C36)	< 66 U	mg/kg	MB, BRL, original result was 42 mg/Kg
580151451	3-B-46 4-6	NWTPHDxSG	Motor Oil (>C24-C36)	< 66 U	mg/kg	MB, BRL, original result was 16 mg/Kg
580151451	3-B-46 4-6	SW9060	Total Organic Carbon	39000 J	mg/kg	MS
580151451	3-B-48 14-15.5	NWTPH-Dx	Motor Oil (>C24-C36)	< 60 U	mg/kg	MB, BRL, original result was 17 mg/Kg
580151451	3-B-48 14-15.5	NWTPHDxSG	#2 Diesel (C10-C24)	7.7 J	mg/kg	BRL
580151451	3-B-48 14-15.5	NWTPHDxSG	Motor Oil (>C24-C36)	< 60 U	mg/kg	MB, BRL, original result was 14 mg/Kg
580151451	3-B-48 14-15.5	SW9060	Total Organic Carbon	4800 J	mg/kg	MS
580151451	3-B-48 2-4	NWTPH-Dx	#2 Diesel (C10-C24)	12 J	mg/kg	BRL
580151451	3-B-48 2-4	NWTPH-Dx	Motor Oil (>C24-C36)	< 72 U	mg/kg	MB, BRL, original result was 32 mg/Kg
580151451	3-B-48 2-4	NWTPHDxSG	Motor Oil (>C24-C36)	< 72 U	mg/kg	MB, BRL, original result was 31 mg/Kg
580151451	3-B-48 2-4	SW9060	Total Organic Carbon	21000 J	mg/kg	MS
580151451	3-B-48 4-5.5	NWTPH-Dx	Motor Oil (>C24-C36)	< 61 U	mg/kg	MB, BRL, original result was 12 mg/Kg
580151451	3-B-48 4-5.5	NWTPHDxSG	Motor Oil (>C24-C36)	< 61 U	mg/kg	MB, BRL, original result was 16 mg/Kg
580151451	3-B-48 4-5.5	SW9060	Total Organic Carbon	4700 J	mg/kg	MS
580151452	3-B-47 0-2	SW9034	Sulfide	54.4 J	mg/kg	RPD

Table 8 Summary of Data Validation and Usability

Lab SDG	Sample ID	Method	Analyte	Concentration and Qualifier	Unit	Reason Code
580151452	3-B-48 0-2	NWTPH-Dx	Motor Oil (>C24-C36)	< 72 U	mg/kg	MB, BRL, original result was 32 mg/Kg
580151452	3-B-48 0-2	NWTPHDxSG	#2 Diesel (C10-C24)	9.7 J	mg/kg	BRL
580151452	3-B-48 0-2	NWTPHDxSG	Motor Oil (>C24-C36)	< 72 U	mg/kg	MB, BRL, original result was 21 mg/Kg
580151452	3-B-48 0-2	SW9060	Total Organic Carbon	32000 J	mg/kg	MS
S090813	5-B-78 9-11	NWTPHDX	Diesel Rang (C10-C25)	6800 J	mg/kg	SUR
S090813	5-B-78 9-11	NWTPHDX	Motor Oil Range (C25-C36)	5500 J	mg/kg	SUR

Qualifier Definitions

J – Estimated concentration

U – Undetected at the reporting limit or at the reported concentration; result is considered to be a false positive.

UJ – Undetected result, reporting limit is estimated

Reason Code Definitions

BRL – Reported concentration is greater than the MDL but less than the reporting limit.

CHRO – Detected response in the diesel range, but the chromatographic pattern does not match the calibration standard utilized.

FD – Field duplicate RPD outside limits.

MB – Method blank contamination.

MS – Matrix spike recovery is outside quality control limits.

RPD – Duplicate sample relative percent difference outside quality control limits.

SUR – Surrogate recovery is outside quality control limits.

Attachment A-2

Laboratory Reports

Please note: Laboratory and data validation reports are provided on the attached CD.

March 25, 2009

Sarah Albano
AECOM - Seattle
710 2nd Ave. Ste. 1000
Seattle, WA 98104

RE: BNSF-Skykomish

Enclosed are the results of analyses for samples received by the laboratory on 03/19/09 16:55.
The following list is a summary of the Work Orders contained in this report, generated on 03/25/09
13:56.

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

<u>Work Order</u>	<u>Project</u>	<u>ProjectNumber</u>
BSC0216	BNSF-Skykomish	01140-222-0230

TestAmerica Seattle



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.



AECOM - Seattle

710 2nd Ave. Ste. 1000
Seattle, WA 98104

Project Name: **BNSF-Skykomish**

Project Number: 01140-222-0230

Project Manager: Sarah Albano

Report Created:

03/25/09 13:56

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
EW-2A(9-11)	BSC0216-01	Soil	03/19/09 11:20	03/19/09 16:55
EW-2A(11-13)	BSC0216-02	Soil	03/19/09 12:55	03/19/09 16:55
EW-2A(13-15)	BSC0216-03	Soil	03/19/09 13:45	03/19/09 16:55
EW-2A(15-17)	BSC0216-04	Soil	03/19/09 14:15	03/19/09 16:55

TestAmerica Seattle



Kate Haney, Project Manager

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AECOM - Seattle

710 2nd Ave. Ste. 1000
Seattle, WA 98104

Project Name: **BNSF-Skykomish**

Project Number: 01140-222-0230

Project Manager: Sarah Albano

Report Created:

03/25/09 13:56

Analytical Case Narrative

TestAmerica - Seattle, WA

BSC0216

SAMPLE RECEIPT

The samples were received 03/19/2009 by TestAmerica - Seattle. The temperature of the samples at the time of receipt was 6.0 degrees Celsius.

PREPARATIONS AND ANALYSIS

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



Kate Haney, Project Manager

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AECOM - Seattle 710 2nd Ave. Ste. 1000 Seattle, WA 98104	Project Name: BNSF-Skykomish Project Number: 01140-222-0230 Project Manager: Sarah Albano	Report Created: 03/25/09 13:56
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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
BSC0216-01 (EW-2A(9-11))		Soil		Sampled: 03/19/09 11:20						
Diesel Range Hydrocarbons	NWTPH-Dx	4660	----	104	mg/kg dry	5x	9C24014	03/24/09 14:29	03/24/09 20:56	Q4
Surrogate(s): 2-FBP			157%		60 - 135 %	"			"	ZX
Octacosane			117%		75 - 125 %	"			"	
BSC0216-01RE1 (EW-2A(9-11))		Soil		Sampled: 03/19/09 11:20						
Lube Oil Range Hydrocarbons	NWTPH-Dx	5230	----	520	mg/kg dry	10x	9C24014	03/24/09 14:29	03/25/09 11:11	
Surrogate(s): 2-FBP			145%		60 - 135 %	"			"	ZX
Octacosane			134%		75 - 125 %	"			"	ZX
BSC0216-02 (EW-2A(11-13))		Soil		Sampled: 03/19/09 12:55						
Diesel Range Hydrocarbons	NWTPH-Dx	279	----	10.8	mg/kg dry	1x	9C24014	03/24/09 14:29	03/24/09 21:18	Q4
Lube Oil Range Hydrocarbons	"	295	----	27.0	"	"	"	"	"	Q4
Surrogate(s): 2-FBP			101%		60 - 135 %	"			"	
Octacosane			105%		75 - 125 %	"			"	
BSC0216-03 (EW-2A(13-15))		Soil		Sampled: 03/19/09 13:45						
Diesel Range Hydrocarbons	NWTPH-Dx	373	----	10.8	mg/kg dry	1x	9C24014	03/24/09 14:29	03/24/09 21:39	Q4
Surrogate(s): 2-FBP			104%		60 - 135 %	"			"	
Octacosane			108%		75 - 125 %	"			"	
BSC0216-03RE1 (EW-2A(13-15))		Soil		Sampled: 03/19/09 13:45						
Lube Oil Range Hydrocarbons	NWTPH-Dx	367	----	54.2	mg/kg dry	2x	9C24014	03/24/09 14:29	03/25/09 11:33	
Surrogate(s): 2-FBP			91.9%		60 - 135 %	"			"	
Octacosane			104%		75 - 125 %	"			"	
BSC0216-04 (EW-2A(15-17))		Soil		Sampled: 03/19/09 14:15						
Diesel Range Hydrocarbons	NWTPH-Dx	163	----	10.6	mg/kg dry	1x	9C24014	03/24/09 14:29	03/24/09 22:00	Q4
Lube Oil Range Hydrocarbons	"	172	----	26.5	"	"	"	"	"	Q4
Surrogate(s): 2-FBP			90.6%		60 - 135 %	"			"	
Octacosane			108%		75 - 125 %	"			"	

TestAmerica Seattle

Kate Haney

Kate Haney, Project Manager

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AECOM - Seattle

710 2nd Ave. Ste. 1000
 Seattle, WA 98104

Project Name: **BNSF-Skykomish**

Project Number: 01140-222-0230

Project Manager: Sarah Albano

Report Created:

03/25/09 13:56

Physical Parameters by APHA/ASTM/EPA Methods

TestAmerica Seattle

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BSC0216-01 (EW-2A(9-11))		Soil		Sampled: 03/19/09 11:20						
Dry Weight	BSOPSP003R0 8	93.7	----	1.00	%	1x	9C23046	03/23/09 15:06	03/24/09 00:00	
BSC0216-02 (EW-2A(11-13))		Soil		Sampled: 03/19/09 12:55						
Dry Weight	BSOPSP003R0 8	90.9	----	1.00	%	1x	9C23046	03/23/09 15:06	03/24/09 00:00	
BSC0216-03 (EW-2A(13-15))		Soil		Sampled: 03/19/09 13:45						
Dry Weight	BSOPSP003R0 8	92.2	----	1.00	%	1x	9C23046	03/23/09 15:06	03/24/09 00:00	
BSC0216-04 (EW-2A(15-17))		Soil		Sampled: 03/19/09 14:15						
Dry Weight	BSOPSP003R0 8	93.0	----	1.00	%	1x	9C23046	03/23/09 15:06	03/24/09 00:00	

TestAmerica Seattle



Kate Haney, Project Manager

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AECOM - Seattle 710 2nd Ave. Ste. 1000 Seattle, WA 98104	Project Name: BNSF-Skykomish Project Number: 01140-222-0230 Project Manager: Sarah Albano	Report Created: 03/25/09 13:56
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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: 9C24014 Soil Preparation Method: EPA 3550B

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

Blank (9C24014-BLK1)

Extracted: 03/24/09 14:29

Diesel Range Hydrocarbons	NWTPH-Dx	ND	---	10.0	mg/kg wet	1x	--	--	--	--	--	--	03/24/09 19:09	
Lube Oil Range Hydrocarbons	"	ND	---	25.0	"	"	--	--	--	--	--	--	"	
<i>Surrogate(s): 2-FBP</i>		<i>Recovery:</i>	<i>94.9%</i>	<i>Limits: 60-135%</i>		<i>"</i>							<i>03/24/09 19:09</i>	
<i>Octacosane</i>			<i>112%</i>	<i>75-125%</i>		<i>"</i>							<i>"</i>	

LCS (9C24014-BS1)

Extracted: 03/24/09 14:29

Diesel Range Hydrocarbons	NWTPH-Dx	74.7	---	10.0	mg/kg wet	1x	--	66.7	112%	(75-125)	--	--	03/24/09 19:30	
Lube Oil Range Hydrocarbons	"	66.4	---	25.0	"	"	--	"	99.6%	(63-125)	--	--	"	
<i>Surrogate(s): 2-FBP</i>		<i>Recovery:</i>	<i>97.6%</i>	<i>Limits: 60-135%</i>		<i>"</i>							<i>03/24/09 19:30</i>	
<i>Octacosane</i>			<i>113%</i>	<i>75-125%</i>		<i>"</i>							<i>"</i>	

Duplicate (9C24014-DUP1)

QC Source: BSC0235-01

Extracted: 03/24/09 14:29

Diesel Range Hydrocarbons	NWTPH-Dx	202	---	10.9	mg/kg dry	1x	210	--	--	--	3.83%	(40)	03/24/09 19:51	
Lube Oil Range Hydrocarbons	"	ND	---	27.4	"	"	ND	--	--	--	0.874%	"	"	
<i>Surrogate(s): 2-FBP</i>		<i>Recovery:</i>	<i>86.6%</i>	<i>Limits: 60-135%</i>		<i>"</i>							<i>03/24/09 19:51</i>	
<i>Octacosane</i>			<i>108%</i>	<i>75-125%</i>		<i>"</i>							<i>"</i>	

Duplicate (9C24014-DUP2)

QC Source: BSC0245-08

Extracted: 03/24/09 14:29

Diesel Range Hydrocarbons	NWTPH-Dx	223	---	30.5	mg/kg dry	1x	289	--	--	--	25.8%	(40)	03/24/09 20:13	
Lube Oil Range Hydrocarbons	"	472	---	76.2	"	"	537	--	--	--	12.7%	"	"	
<i>Surrogate(s): 2-FBP</i>		<i>Recovery:</i>	<i>94.5%</i>	<i>Limits: 60-135%</i>		<i>"</i>							<i>03/24/09 20:13</i>	
<i>Octacosane</i>			<i>91.8%</i>	<i>75-125%</i>		<i>"</i>							<i>"</i>	

Matrix Spike (9C24014-MS1)

QC Source: BSC0235-01

Extracted: 03/24/09 14:29

Diesel Range Hydrocarbons	NWTPH-Dx	242	---	10.9	mg/kg dry	1x	210	72.5	44.7%	(40-145)	--	--	03/24/09 20:35	
Lube Oil Range Hydrocarbons	"	90.4	---	27.2	"	"	24.2	"	91.4%	(26-150)	--	--	"	
<i>Surrogate(s): 2-FBP</i>		<i>Recovery:</i>	<i>95.1%</i>	<i>Limits: 60-135%</i>		<i>"</i>							<i>03/24/09 20:35</i>	
<i>Octacosane</i>			<i>108%</i>	<i>75-125%</i>		<i>"</i>							<i>"</i>	

TestAmerica Seattle

Kate Haney

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.



AECOM - Seattle 710 2nd Ave. Ste. 1000 Seattle, WA 98104	Project Name: BNSF-Skykomish Project Number: 01140-222-0230 Project Manager: Sarah Albano	Report Created: 03/25/09 13:56
---	--	-----------------------------------

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

QC Batch: 9C23046 Soil Preparation Method: Dry Weight

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (9C23046-BLK1)										Extracted: 03/23/09 15:06				
Dry Weight	BSOPSPLO0 3R08	100	---	1.00	%	1x	--	--	--	--	--	--	03/24/09 00:00	

TestAmerica Seattle



Kate Haney, Project Manager

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AECOM - Seattle

710 2nd Ave. Ste. 1000
Seattle, WA 98104

Project Name: **BNSF-Skykomish**

Project Number: 01140-222-0230

Project Manager: Sarah Albano

Report Created:

03/25/09 13:56

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



Kate Haney, Project Manager

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AECOM - Seattle

710 2nd Ave. Ste. 1000
Seattle, WA 98104

Project Name: **BNSF-Skykomish**

Project Number: 01140-222-0230

Project Manager: Sarah Albano

Report Created:

03/25/09 13:56

Notes and Definitions

Report Specific Notes:

- Q4 - The hydrocarbons present are a complex mixture of diesel range and heavy oil range organics.
- 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



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.



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 #: *BALOR 16*

CLIENT: <i>AECOM Environment / BNSF</i> REPORT TO: <i>Renee Knecht / Sarah Albano</i> ADDRESS: <i>7102 W Ave Ste 1000, 10th Floor Seattle WA 98104</i> PHONE: <i>206.624.9344</i> FAX: PROJECT NAME: <i>SKYKOMISH</i> PROJECT NUMBER: <i>01140-222-0230</i> SAMPLED BY: <i>Renee Knecht</i>		INVOICE TO: <i>Sarah Albano / AECOM</i> <i>Bruce Sheppard / BNSF</i> P.O. NUMBER:	
PRESERVATIVE		TURNOUROUND REQUEST in Business Days *	
REQUESTED ANALYSES		Organic & Inorganic Analyses Petroleum Hydrocarbon Analyses	
MATRIX (W, S, O)		# OF CONT.	
LOCATION / COMMENTS		TA WO ID	
DATE: <i>3/19/09</i> TIME: <i>10:55</i>		DATE: <i>3/19/09</i> TIME: <i>11:50</i>	
FIRM: <i>AECOM ENI</i>		FIRM: <i>TA SIA</i>	
RECEIVED BY: <i>Renee Knecht</i>		RECEIVED BY: <i>Cathy Campbell</i>	
PRINT NAME: <i>Renee Knecht</i>		PRINT NAME: <i>Cathy Campbell</i>	
FIRM:		FIRM:	
ADDITIONAL REMARKS:		TEMP: <i>0.0</i>	
PAGE OF		PAGE OF	

Place all samples on HOLD
 - Removed from Hold 3/23 by R. Knecht
 - Rush requested 3/24/09 by R. Knecht → 24 hr due 3/25/09 Ken.

TAT: _____

Paperwork to PM - Date: _____ Time: _____

Non-Conformances?

Page Time & Initials: _____

Circle Y or **N**

(If Y, see other side)

on hold

TEST AMERICA SAMPLE RECEIPT CHECKLIST

Received By:
(applies to temp at receipt)

Logged-in By:

Unpacked/Labeled By:

Cooler ID: 357

Date: 3/17

Date: 3/20

Date: 3/20

Work Order No. BAP0216

Time: 16:55

Time: 14:11

Time: 16:50

Client: _____

Initials: CB

Initials: CB

Initials: CB

Project: _____

Container Type:

COC Seals:

Packing Material:

Cooler
 Box
 None/Other _____

Ship Container Sign By
 On Bottles Date
 None

Bubble Bags Styrofoam
 Foam Packs
 None/Other _____

Refrigerant:

Soil Stir Bars/Encores:

Received Via: Bill#:

Gel Ice Pack _____
 Loose Ice _____
 None/Other _____

Placed in freezer #46:
Y or N or **NA**
Initial/date/time _____

Fed Ex Client
 UPS TA Courier
 DHL Mid Valley
 Senvoy TDP
 GS Other _____

Cooler Temperature (IR): 6.0 °C Plastic Glass (Frozen filters, Tedlars and aqueous Metals exempt)

Temperature Blank? _____ °C 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? 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?

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: _____ Date: _____ Time: _____

ANALYTICAL REPORT

Job Number: 580-14686-1

Job Description: BNSF-Skykomish Soil

For:

AECOM, Inc.

710 Second Avenue

Suite 1000

Seattle, WA 98104

Attention: Sarah Albano



Approved for release.
Kate Haney
Project Manager II
8/4/2009 5:41 PM

Kate Haney
Project Manager II
kate.haney@testamericainc.com
08/04/2009

cc: Greg Chase
Mark Havighorst
Aaron Huntington
Karen Kane
Eric Storkerson
Denell Warren

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This report shall not be reproduced except in full, without prior express written approval by the laboratory. The results relate only to the item(s) tested and the sample(s) as received by the laboratory.

The results included in this report have been reviewed for compliance with the laboratory QA/QC plan and meet all requirements of NELAC. All data have been found to be compliant with laboratory protocol, with the exception of any

TestAmerica Laboratories, Inc.

TestAmerica Tacoma 5755 8th Street East, Tacoma, WA 98424
Tel (253) 922-2310 Fax (253) 922-5047 www.testamericainc.com



Job Narrative
580-J14686-1

Comments

No additional comments.

Receipt

All samples were received in good condition within temperature requirements.

GC Semi VOA

No analytical or quality issues were noted.

General Chemistry

No analytical or quality issues were noted.

Organic Prep

No analytical or quality issues were noted.

METHOD SUMMARY

Client: AECOM, Inc.

Job Number: 580-14686-1

Description	Lab Location	Method	Preparation Method
Matrix: Solid			
Northwest - Semi-Volatile Petroleum Products (GC)	TAL TAC	NWTPH NWTPH-Dx	
Ultrasonic Extraction	TAL TAC		SW846 3550B
Percent Moisture	TAL TAC	EPA Moisture	

Lab References:

TAL TAC = TestAmerica Tacoma

Method References:

EPA = US Environmental Protection Agency

NWTPH = Northwest Total Petroleum Hydrocarbon

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

SAMPLE SUMMARY

Client: AECOM, Inc.

Job Number: 580-14686-1

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
580-14686-1	2A-B-45-120-140	Solid	07/29/2009 0900	07/31/2009 1530
580-14686-2	2A-B-45-12-14	Solid	07/29/2009 1025	07/31/2009 1530
580-14686-3	2A-B-45-14-16	Solid	07/29/2009 1100	07/31/2009 1530
580-14686-4	2A-B-45-16-18	Solid	07/29/2009 1105	07/31/2009 1530
580-14686-5	2A-B-45-18-19	Solid	07/29/2009 1115	07/31/2009 1530
580-14686-6	2A-B-44-10-12	Solid	07/29/2009 1520	07/31/2009 1530
580-14686-7	2A-B-44-14-16	Solid	07/30/2009 0805	07/31/2009 1530
580-14686-8	2A-B-44-16-18	Solid	07/30/2009 0830	07/31/2009 1530
580-14686-9	2A-B-44-19-21	Solid	07/30/2009 0840	07/31/2009 1530
580-14686-10	2A-B-43-14-16	Solid	07/30/2009 1125	07/31/2009 1530
580-14686-11	2A-B-43-16-18	Solid	07/30/2009 1340	07/31/2009 1530
580-14686-12	2A-B-43-18-20	Solid	07/30/2009 1345	07/31/2009 1530

Analytical Data

Client: AECOM, Inc.

Job Number: 580-14686-1

Client Sample ID: 2A-B-45-120-140

Lab Sample ID: 580-14686-1

Date Sampled: 07/29/2009 0900

Client Matrix: Solid

% Moisture: 9.6

Date Received: 07/31/2009 1530

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method:	NWTPH-Dx	Analysis Batch: 580-47519	Instrument ID:	SEA011
Preparation:	3550B	Prep Batch: 580-47501	Lab File ID:	AA000704.D
Dilution:	1.0		Initial Weight/Volume:	10.1843 g
Date Analyzed:	08/01/2009 0211		Final Weight/Volume:	10 mL
Date Prepared:	07/31/2009 1643		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
Motor Oil (>C24-C36)		ND		54
#2 Diesel (C10-C24)		ND		27

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	100		50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-14686-1

Client Sample ID: 2A-B-45-12-14

Lab Sample ID: 580-14686-2

Date Sampled: 07/29/2009 1025

Client Matrix: Solid

% Moisture: 7.5

Date Received: 07/31/2009 1530

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method:	NWTPH-Dx	Analysis Batch: 580-47519	Instrument ID:	SEA011
Preparation:	3550B	Prep Batch: 580-47501	Lab File ID:	AA000707.D
Dilution:	1.0		Initial Weight/Volume:	10.6331 g
Date Analyzed:	08/01/2009 0309		Final Weight/Volume:	10 mL
Date Prepared:	07/31/2009 1643		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
Motor Oil (>C24-C36)		ND		51
#2 Diesel (C10-C24)		ND		25

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	104		50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-14686-1

Client Sample ID: 2A-B-45-14-16

Lab Sample ID: 580-14686-3

Date Sampled: 07/29/2009 1100

Client Matrix: Solid

% Moisture: 6.8

Date Received: 07/31/2009 1530

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method:	NWTPH-Dx	Analysis Batch: 580-47519	Instrument ID:	SEA011
Preparation:	3550B	Prep Batch: 580-47501	Lab File ID:	AA000708.D
Dilution:	1.0		Initial Weight/Volume:	10.6067 g
Date Analyzed:	08/01/2009 0329		Final Weight/Volume:	10 mL
Date Prepared:	07/31/2009 1643		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
Motor Oil (>C24-C36)		ND		51
#2 Diesel (C10-C24)		ND		25

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	97		50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-14686-1

Client Sample ID: 2A-B-45-16-18

Lab Sample ID: 580-14686-4

Date Sampled: 07/29/2009 1105

Client Matrix: Solid

% Moisture: 20.1

Date Received: 07/31/2009 1530

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method:	NWTPH-Dx	Analysis Batch: 580-47519	Instrument ID:	SEA011
Preparation:	3550B	Prep Batch: 580-47501	Lab File ID:	AA000709.D
Dilution:	1.0		Initial Weight/Volume:	10.3226 g
Date Analyzed:	08/01/2009 0348		Final Weight/Volume:	10 mL
Date Prepared:	07/31/2009 1643		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
Motor Oil (>C24-C36)		ND		61
#2 Diesel (C10-C24)		ND		30

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	100		50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-14686-1

Client Sample ID: 2A-B-45-18-19

Lab Sample ID: 580-14686-5

Date Sampled: 07/29/2009 1115

Client Matrix: Solid

% Moisture: 23.9

Date Received: 07/31/2009 1530

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method:	NWTPH-Dx	Analysis Batch: 580-47519	Instrument ID:	SEA011
Preparation:	3550B	Prep Batch: 580-47501	Lab File ID:	AA000710.D
Dilution:	1.0		Initial Weight/Volume:	10.0197 g
Date Analyzed:	08/01/2009 0407		Final Weight/Volume:	10 mL
Date Prepared:	07/31/2009 1643		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
Motor Oil (>C24-C36)		ND		66
#2 Diesel (C10-C24)		ND		33

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	100		50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-14686-1

Client Sample ID: 2A-B-44-10-12

Lab Sample ID: 580-14686-6

Date Sampled: 07/29/2009 1520

Client Matrix: Solid

% Moisture: 11.1

Date Received: 07/31/2009 1530

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method:	NWTPH-Dx	Analysis Batch: 580-47519	Instrument ID:	SEA011
Preparation:	3550B	Prep Batch: 580-47501	Lab File ID:	AA000711.D
Dilution:	1.0		Initial Weight/Volume:	10.5223 g
Date Analyzed:	08/01/2009 0427		Final Weight/Volume:	10 mL
Date Prepared:	07/31/2009 1643		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
Motor Oil (>C24-C36)		ND		53
#2 Diesel (C10-C24)		ND		27

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	103		50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-14686-1

Client Sample ID: 2A-B-44-14-16

Lab Sample ID: 580-14686-7

Date Sampled: 07/30/2009 0805

Client Matrix: Solid

% Moisture: 8.1

Date Received: 07/31/2009 1530

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method:	NWTPH-Dx	Analysis Batch: 580-47519	Instrument ID:	SEA011
Preparation:	3550B	Prep Batch: 580-47501	Lab File ID:	AA000713.D
Dilution:	1.0		Initial Weight/Volume:	10.2105 g
Date Analyzed:	08/01/2009 0506		Final Weight/Volume:	10 mL
Date Prepared:	07/31/2009 1643		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
Motor Oil (>C24-C36)		340		53
#2 Diesel (C10-C24)		240		27

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	111		50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-14686-1

Client Sample ID: 2A-B-44-16-18

Lab Sample ID: 580-14686-8

Date Sampled: 07/30/2009 0830

Client Matrix: Solid

% Moisture: 4.7

Date Received: 07/31/2009 1530

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method:	NWTPH-Dx	Analysis Batch: 580-47519	Instrument ID:	SEA011
Preparation:	3550B	Prep Batch: 580-47501	Lab File ID:	AA000714.D
Dilution:	10		Initial Weight/Volume:	10.1027 g
Date Analyzed:	08/01/2009 0525		Final Weight/Volume:	10 mL
Date Prepared:	07/31/2009 1643		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
Motor Oil (>C24-C36)		4900		520
#2 Diesel (C10-C24)		4100		260

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	0	X D	50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-14686-1

Client Sample ID: 2A-B-44-19-21

Lab Sample ID: 580-14686-9

Date Sampled: 07/30/2009 0840

Client Matrix: Solid

% Moisture: 24.2

Date Received: 07/31/2009 1530

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method:	NWTPH-Dx	Analysis Batch: 580-47519	Instrument ID:	SEA011
Preparation:	3550B	Prep Batch: 580-47501	Lab File ID:	AA000715.D
Dilution:	1.0		Initial Weight/Volume:	10.1702 g
Date Analyzed:	08/01/2009 0544		Final Weight/Volume:	10 mL
Date Prepared:	07/31/2009 1643		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
Motor Oil (>C24-C36)		ND		65
#2 Diesel (C10-C24)		ND		32

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	108		50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-14686-1

Client Sample ID: 2A-B-43-14-16

Lab Sample ID: 580-14686-10

Date Sampled: 07/30/2009 1125

Client Matrix: Solid

% Moisture: 8.9

Date Received: 07/31/2009 1530

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method:	NWTPH-Dx	Analysis Batch: 580-47519	Instrument ID:	SEA011
Preparation:	3550B	Prep Batch: 580-47501	Lab File ID:	AA000716.D
Dilution:	10		Initial Weight/Volume:	10.0399 g
Date Analyzed:	08/01/2009 0604		Final Weight/Volume:	10 mL
Date Prepared:	07/31/2009 1643		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
Motor Oil (>C24-C36)		11000		550
#2 Diesel (C10-C24)		8600		270

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	0	X D	50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-14686-1

Client Sample ID: 2A-B-43-16-18

Lab Sample ID: 580-14686-11

Date Sampled: 07/30/2009 1340

Client Matrix: Solid

% Moisture: 19.1

Date Received: 07/31/2009 1530

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method:	NWTPH-Dx	Analysis Batch: 580-47519	Instrument ID:	SEA011
Preparation:	3550B	Prep Batch: 580-47501	Lab File ID:	AA000717.D
Dilution:	1.0		Initial Weight/Volume:	10.1096 g
Date Analyzed:	08/01/2009 0623		Final Weight/Volume:	10 mL
Date Prepared:	07/31/2009 1643		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
Motor Oil (>C24-C36)		ND		61
#2 Diesel (C10-C24)		ND		31

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	104		50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-14686-1

Client Sample ID: 2A-B-43-18-20

Lab Sample ID: 580-14686-12

Date Sampled: 07/30/2009 1345

Client Matrix: Solid

% Moisture: 22.3

Date Received: 07/31/2009 1530

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method:	NWTPH-Dx	Analysis Batch: 580-47519	Instrument ID:	SEA011
Preparation:	3550B	Prep Batch: 580-47501	Lab File ID:	AA000718.D
Dilution:	1.0		Initial Weight/Volume:	10.0210 g
Date Analyzed:	08/01/2009 0642		Final Weight/Volume:	10 mL
Date Prepared:	07/31/2009 1643		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
Motor Oil (>C24-C36)		ND		64
#2 Diesel (C10-C24)		ND		32

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	103		50 - 150

Client: AECOM, Inc.

Job Number: 580-14686-1

General Chemistry

Client Sample ID: 2A-B-45-120-140

Lab Sample ID: 580-14686-1

Client Matrix: Solid

Date Sampled: 07/29/2009 0900

Date Received: 07/31/2009 1530

Analyte	Result	Qual	Units	RL	Dil	Method
Percent Solids	90		%	0.10	1.0	Moisture
	Analysis Batch: 580-47503	Date Analyzed: 07/31/2009 1701				DryWt Corrected: N
Percent Moisture	9.6		%	0.10	1.0	Moisture
	Analysis Batch: 580-47503	Date Analyzed: 07/31/2009 1701				DryWt Corrected: N

Client: AECOM, Inc.

Job Number: 580-14686-1

General Chemistry

Client Sample ID: 2A-B-45-12-14

Lab Sample ID: 580-14686-2

Client Matrix: Solid

Date Sampled: 07/29/2009 1025

Date Received: 07/31/2009 1530

Analyte	Result	Qual	Units	RL	Dil	Method
Percent Solids	93		%	0.10	1.0	Moisture
	Analysis Batch: 580-47503	Date Analyzed: 07/31/2009 1701				DryWt Corrected: N
Percent Moisture	7.5		%	0.10	1.0	Moisture
	Analysis Batch: 580-47503	Date Analyzed: 07/31/2009 1701				DryWt Corrected: N

Client: AECOM, Inc.

Job Number: 580-14686-1

General Chemistry

Client Sample ID: 2A-B-45-14-16

Lab Sample ID: 580-14686-3

Client Matrix: Solid

Date Sampled: 07/29/2009 1100

Date Received: 07/31/2009 1530

Analyte	Result	Qual	Units	RL	Dil	Method
Percent Solids	93		%	0.10	1.0	Moisture
	Analysis Batch: 580-47503	Date Analyzed: 07/31/2009 1701				DryWt Corrected: N
Percent Moisture	6.8		%	0.10	1.0	Moisture
	Analysis Batch: 580-47503	Date Analyzed: 07/31/2009 1701				DryWt Corrected: N

Client: AECOM, Inc.

Job Number: 580-14686-1

General Chemistry

Client Sample ID: 2A-B-45-16-18

Lab Sample ID: 580-14686-4

Client Matrix: Solid

Date Sampled: 07/29/2009 1105

Date Received: 07/31/2009 1530

Analyte	Result	Qual	Units	RL	Dil	Method
Percent Solids	80		%	0.10	1.0	Moisture
	Analysis Batch: 580-47503	Date Analyzed: 07/31/2009 1701				DryWt Corrected: N
Percent Moisture	20		%	0.10	1.0	Moisture
	Analysis Batch: 580-47503	Date Analyzed: 07/31/2009 1701				DryWt Corrected: N

Client: AECOM, Inc.

Job Number: 580-14686-1

General Chemistry

Client Sample ID: 2A-B-45-18-19

Lab Sample ID: 580-14686-5

Client Matrix: Solid

Date Sampled: 07/29/2009 1115

Date Received: 07/31/2009 1530

Analyte	Result	Qual	Units	RL	Dil	Method
Percent Solids	76		%	0.10	1.0	Moisture
	Analysis Batch: 580-47503	Date Analyzed: 07/31/2009 1701				DryWt Corrected: N
Percent Moisture	24		%	0.10	1.0	Moisture
	Analysis Batch: 580-47503	Date Analyzed: 07/31/2009 1701				DryWt Corrected: N

Client: AECOM, Inc.

Job Number: 580-14686-1

General Chemistry

Client Sample ID: 2A-B-44-10-12

Lab Sample ID: 580-14686-6

Client Matrix: Solid

Date Sampled: 07/29/2009 1520

Date Received: 07/31/2009 1530

Analyte	Result	Qual	Units	RL	Dil	Method
Percent Solids	89		%	0.10	1.0	Moisture
	Analysis Batch: 580-47503	Date Analyzed: 07/31/2009 1701				DryWt Corrected: N
Percent Moisture	11		%	0.10	1.0	Moisture
	Analysis Batch: 580-47503	Date Analyzed: 07/31/2009 1701				DryWt Corrected: N

Client: AECOM, Inc.

Job Number: 580-14686-1

General Chemistry

Client Sample ID: 2A-B-44-14-16

Lab Sample ID: 580-14686-7

Client Matrix: Solid

Date Sampled: 07/30/2009 0805

Date Received: 07/31/2009 1530

Analyte	Result	Qual	Units	RL	Dil	Method
Percent Solids	92		%	0.10	1.0	Moisture
	Analysis Batch: 580-47503	Date Analyzed: 07/31/2009 1701				DryWt Corrected: N
Percent Moisture	8.1		%	0.10	1.0	Moisture
	Analysis Batch: 580-47503	Date Analyzed: 07/31/2009 1701				DryWt Corrected: N

Client: AECOM, Inc.

Job Number: 580-14686-1

General Chemistry

Client Sample ID: 2A-B-44-16-18

Lab Sample ID: 580-14686-8

Client Matrix: Solid

Date Sampled: 07/30/2009 0830

Date Received: 07/31/2009 1530

Analyte	Result	Qual	Units	RL	Dil	Method
Percent Solids	95		%	0.10	1.0	Moisture
	Analysis Batch: 580-47503	Date Analyzed: 07/31/2009 1701				DryWt Corrected: N
Percent Moisture	4.7		%	0.10	1.0	Moisture
	Analysis Batch: 580-47503	Date Analyzed: 07/31/2009 1701				DryWt Corrected: N

Client: AECOM, Inc.

Job Number: 580-14686-1

General Chemistry

Client Sample ID: 2A-B-44-19-21

Lab Sample ID: 580-14686-9

Client Matrix: Solid

Date Sampled: 07/30/2009 0840

Date Received: 07/31/2009 1530

Analyte	Result	Qual	Units	RL	Dil	Method
Percent Solids	76		%	0.10	1.0	Moisture
	Analysis Batch: 580-47503	Date Analyzed: 07/31/2009 1701				DryWt Corrected: N
Percent Moisture	24		%	0.10	1.0	Moisture
	Analysis Batch: 580-47503	Date Analyzed: 07/31/2009 1701				DryWt Corrected: N

Client: AECOM, Inc.

Job Number: 580-14686-1

General Chemistry

Client Sample ID: 2A-B-43-14-16

Lab Sample ID: 580-14686-10

Client Matrix: Solid

Date Sampled: 07/30/2009 1125

Date Received: 07/31/2009 1530

Analyte	Result	Qual	Units	RL	Dil	Method
Percent Solids	91		%	0.10	1.0	Moisture
	Analysis Batch: 580-47503	Date Analyzed: 07/31/2009 1701				DryWt Corrected: N
Percent Moisture	8.9		%	0.10	1.0	Moisture
	Analysis Batch: 580-47503	Date Analyzed: 07/31/2009 1701				DryWt Corrected: N

Client: AECOM, Inc.

Job Number: 580-14686-1

General Chemistry

Client Sample ID: 2A-B-43-16-18

Lab Sample ID: 580-14686-11

Client Matrix: Solid

Date Sampled: 07/30/2009 1340

Date Received: 07/31/2009 1530

Analyte	Result	Qual	Units	RL	Dil	Method
Percent Solids	81		%	0.10	1.0	Moisture
	Analysis Batch: 580-47503	Date Analyzed: 07/31/2009 1701				DryWt Corrected: N
Percent Moisture	19		%	0.10	1.0	Moisture
	Analysis Batch: 580-47503	Date Analyzed: 07/31/2009 1701				DryWt Corrected: N

Client: AECOM, Inc.

Job Number: 580-14686-1

General Chemistry

Client Sample ID: 2A-B-43-18-20

Lab Sample ID: 580-14686-12

Client Matrix: Solid

Date Sampled: 07/30/2009 1345

Date Received: 07/31/2009 1530

Analyte	Result	Qual	Units	RL	Dil	Method
Percent Solids	78		%	0.10	1.0	Moisture
	Analysis Batch: 580-47503	Date Analyzed: 07/31/2009 1701				DryWt Corrected: N
Percent Moisture	22		%	0.10	1.0	Moisture
	Analysis Batch: 580-47503	Date Analyzed: 07/31/2009 1701				DryWt Corrected: N

Quality Control Results

Client: AECOM, Inc.

Job Number: 580-14686-1

Method Blank - Batch: 580-47501

**Method: NWTPH-Dx
Preparation: 3550B**

Lab Sample ID: MB 580-47501/1-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 08/01/2009 0132
Date Prepared: 07/31/2009 1643

Analysis Batch: 580-47519
Prep Batch: 580-47501
Units: mg/Kg

Instrument ID: SEA011
Lab File ID: AA000702.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 10 mL
Injection Volume: 1 uL

Analyte	Result	Qual	RL
Motor Oil (>C24-C36)	ND		50
#2 Diesel (C10-C24)	ND		25
<hr/>			
Surrogate	% Rec	Acceptance Limits	
o-Terphenyl	103	50 - 150	

Lab Control Sample - Batch: 580-47501

**Method: NWTPH-Dx
Preparation: 3550B**

Lab Sample ID: LCS 580-47501/2-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 08/01/2009 0152
Date Prepared: 07/31/2009 1643

Analysis Batch: 580-47519
Prep Batch: 580-47501
Units: mg/Kg

Instrument ID: SEA011
Lab File ID: AA000703.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 10 mL
Injection Volume: 1 uL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Motor Oil (>C24-C36)	500	497	99	64 - 127	
#2 Diesel (C10-C24)	500	510	102	70 - 125	
<hr/>					
Surrogate	% Rec		Acceptance Limits		
o-Terphenyl	114		50 - 150		

Calculations are performed before rounding to avoid round-off errors in calculated results.

Quality Control Results

Client: AECOM, Inc.

Job Number: 580-14686-1

Matrix Spike - Batch: 580-47501

Method: NWTPH-Dx
Preparation: 3550B

Lab Sample ID: 580-14686-1
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 08/01/2009 0230
Date Prepared: 07/31/2009 1643

Analysis Batch: 580-47519
Prep Batch: 580-47501
Units: mg/Kg

Instrument ID: SEA011
Lab File ID: AA000705.D
Initial Weight/Volume: 10.0064 g
Final Weight/Volume: 10 mL
Injection Volume: 1 uL

Analyte	Sample Result/Qual	Spike Amount	Result	% Rec.	Limit	Qual
Motor Oil (>C24-C36)	ND	552	590	107	64 - 127	
#2 Diesel (C10-C24)	ND	552	593	107	70 - 125	
Surrogate		% Rec			Acceptance Limits	
o-Terphenyl		112			50 - 150	

Calculations are performed before rounding to avoid round-off errors in calculated results.

Quality Control Results

Client: AECOM, Inc.

Job Number: 580-14686-1

Duplicate - Batch: 580-47501

**Method: NWTPH-Dx
Preparation: 3550B**

Lab Sample ID: 580-14686-1
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 08/01/2009 0250
Date Prepared: 07/31/2009 1643

Analysis Batch: 580-47519
Prep Batch: 580-47501
Units: mg/Kg

Instrument ID: SEA011
Lab File ID: AA000706.D
Initial Weight/Volume: 10.5229 g
Final Weight/Volume: 10 mL
Injection Volume: 1 uL

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
Motor Oil (>C24-C36)	ND	ND	NC	35	
#2 Diesel (C10-C24)	ND	ND	NC	35	
Surrogate	% Rec		Acceptance Limits		
o-Terphenyl	104		50 - 150		

Duplicate - Batch: 580-47501

**Method: NWTPH-Dx
Preparation: 3550B**

Lab Sample ID: 580-14686-12
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 08/01/2009 0702
Date Prepared: 07/31/2009 1643

Analysis Batch: 580-47519
Prep Batch: 580-47501
Units: mg/Kg

Instrument ID: SEA011
Lab File ID: AA000719.D
Initial Weight/Volume: 10.8053 g
Final Weight/Volume: 10 mL
Injection Volume: 1 uL

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
Motor Oil (>C24-C36)	ND	ND	NC	35	
#2 Diesel (C10-C24)	ND	ND	NC	35	
Surrogate	% Rec		Acceptance Limits		
o-Terphenyl	107		50 - 150		

Calculations are performed before rounding to avoid round-off errors in calculated results.

Quality Control Results

Client: AECOM, Inc.

Job Number: 580-14686-1

Duplicate - Batch: 580-47503

Method: Moisture
Preparation: N/A

Lab Sample ID: 580-14686-12
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 07/31/2009 1701
Date Prepared: N/A

Analysis Batch: 580-47503
Prep Batch: N/A
Units: %

Instrument ID: No Equipment Assigned
Lab File ID: N/A
Initial Weight/Volume:
Final Weight/Volume:

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
Percent Solids	78	78	0	20	
Percent Moisture	22	22	1	20	

Calculations are performed before rounding to avoid round-off errors in calculated results.

DATA REPORTING QUALIFIERS

Client: AECOM, Inc.

Job Number: 580-14686-1

Lab Section	Qualifier	Description
GC Semi VOA		
	X	Surrogate exceeds the control limits
	D	Surrogate or matrix spike recoveries were not obtained because the extract was diluted for analysis; also compounds analyzed at a dilution may be flagged with a D.

Login Sample Receipt Check List

Client: AECOM, Inc.

Job Number: 580-14686-1

Login Number: 14686

List Source: TestAmerica Tacoma

Creator: Blankinship, Tom

List Number: 1

Question	T / F / NA	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	N/A	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Is the Field Sampler's name present on COC?	True	
Sample Preservation Verified	N/A	

ANALYTICAL REPORT

Job Number: 580-14736-1

Job Description: BNSF-Skykomish Soil

For:
AECOM, Inc.
710 Second Avenue
Suite 1000
Seattle, WA 98104
Attention: Sarah Albano



Approved for release.
Kate Haney
Project Manager II
8/6/2009 10:49 AM

Kate Haney
Project Manager II
kate.haney@testamericainc.com
08/06/2009

cc: Greg Chase
Mark Havighorst
Aaron Huntington
Karen Kane
Eric Storkerson
Denell Warren

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This report shall not be reproduced except in full, without prior express written approval by the laboratory. The results relate only to the item(s) tested and the sample(s) as received by the laboratory.

The results included in this report have been reviewed for compliance with the laboratory QA/QC plan and meet all requirements of NELAC. All data have been found to be compliant with laboratory protocol, with the exception of any

TestAmerica Laboratories, Inc.

TestAmerica Tacoma 5755 8th Street East, Tacoma, WA 98424
Tel (253) 922-2310 Fax (253) 922-5047 www.testamericainc.com



Job Narrative
580-J14736-1

Comments

No additional comments.

Receipt

All samples were received in good condition within temperature requirements.

GC Semi VOA

No analytical or quality issues were noted.

General Chemistry

No analytical or quality issues were noted.

Organic Prep

No analytical or quality issues were noted.

METHOD SUMMARY

Client: AECOM, Inc.

Job Number: 580-14736-1

Description	Lab Location	Method	Preparation Method
Matrix: Solid			
Northwest - Semi-Volatile Petroleum Products (GC)	TAL TAC	NWTPH NWTPH-Dx	
Ultrasonic Extraction	TAL TAC		SW846 3550B
Percent Moisture	TAL TAC	EPA Moisture	

Lab References:

TAL TAC = TestAmerica Tacoma

Method References:

EPA = US Environmental Protection Agency

NWTPH = Northwest Total Petroleum Hydrocarbon

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

SAMPLE SUMMARY

Client: AECOM, Inc.

Job Number: 580-14736-1

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
580-14736-1	2A-B-46-12-14	Solid	07/31/2009 0900	08/04/2009 1345
580-14736-2	2A-B-46-14-16	Solid	07/31/2009 0905	08/04/2009 1345
580-14736-3	1C-B-10-12-14	Solid	08/03/2009 1035	08/04/2009 1345
580-14736-4	2A-B-46-17-19	Solid	07/31/2009 0950	08/04/2009 1345

Analytical Data

Client: AECOM, Inc.

Job Number: 580-14736-1

Client Sample ID: 2A-B-46-12-14

Lab Sample ID: 580-14736-1

Date Sampled: 07/31/2009 0900

Client Matrix: Solid

% Moisture: 8.2

Date Received: 08/04/2009 1345

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method:	NWTPH-Dx	Analysis Batch: 580-47638	Instrument ID:	TAC013
Preparation:	3550B	Prep Batch: 580-47679	Lab File ID:	FA38592.D
Dilution:	1.0		Initial Weight/Volume:	10.1364 g
Date Analyzed:	08/05/2009 0102		Final Weight/Volume:	10 mL
Date Prepared:	08/04/2009 1757		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
#2 Diesel (C10-C24)		240		27

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	99		50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-14736-1

Client Sample ID: 2A-B-46-12-14

Lab Sample ID: 580-14736-1

Date Sampled: 07/31/2009 0900

Client Matrix: Solid

% Moisture: 8.2

Date Received: 08/04/2009 1345

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method:	NWTPH-Dx	Analysis Batch: 580-47690	Instrument ID:	SEA011
Preparation:	3550B	Prep Batch: 580-47679	Lab File ID:	AA000788.D
Dilution:	1.0		Initial Weight/Volume:	10.1364 g
Date Analyzed:	08/05/2009 1322		Final Weight/Volume:	10 mL
Date Prepared:	08/04/2009 1757		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier
Motor Oil (>C24-C36)		340	RL

Analytical Data

Client: AECOM, Inc.

Job Number: 580-14736-1

Client Sample ID: 2A-B-46-14-16

Lab Sample ID: 580-14736-2

Date Sampled: 07/31/2009 0905

Client Matrix: Solid

% Moisture: 16.3

Date Received: 08/04/2009 1345

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method:	NWTPH-Dx	Analysis Batch: 580-47638	Instrument ID:	TAC013
Preparation:	3550B	Prep Batch: 580-47679	Lab File ID:	FA38593.D
Dilution:	5.0		Initial Weight/Volume:	10.5310 g
Date Analyzed:	08/05/2009 0122		Final Weight/Volume:	10 mL
Date Prepared:	08/04/2009 1757		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
#2 Diesel (C10-C24)		2000		140

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	108		50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-14736-1

Client Sample ID: 2A-B-46-14-16

Lab Sample ID: 580-14736-2

Date Sampled: 07/31/2009 0905

Client Matrix: Solid

% Moisture: 16.3

Date Received: 08/04/2009 1345

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method:	NWTPH-Dx	Analysis Batch: 580-47690	Instrument ID:	SEA011
Preparation:	3550B	Prep Batch: 580-47679	Lab File ID:	AA000789.D
Dilution:	5.0		Initial Weight/Volume:	10.5310 g
Date Analyzed:	08/05/2009 1342		Final Weight/Volume:	10 mL
Date Prepared:	08/04/2009 1757		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
Motor Oil (>C24-C36)		3000		280

Analytical Data

Client: AECOM, Inc.

Job Number: 580-14736-1

Client Sample ID: 1C-B-10-12-14

Lab Sample ID: 580-14736-3

Date Sampled: 08/03/2009 1035

Client Matrix: Solid

% Moisture: 3.8

Date Received: 08/04/2009 1345

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method:	NWTPH-Dx	Analysis Batch: 580-47638	Instrument ID:	TAC013
Preparation:	3550B	Prep Batch: 580-47679	Lab File ID:	FA38594.D
Dilution:	10		Initial Weight/Volume:	10.1107 g
Date Analyzed:	08/05/2009 0142		Final Weight/Volume:	10 mL
Date Prepared:	08/04/2009 1757		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
#2 Diesel (C10-C24)		4000		260

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	0	X D	50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-14736-1

Client Sample ID: 1C-B-10-12-14

Lab Sample ID: 580-14736-3

Date Sampled: 08/03/2009 1035

Client Matrix: Solid

% Moisture: 3.8

Date Received: 08/04/2009 1345

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method:	NWTPH-Dx	Analysis Batch: 580-47690	Instrument ID:	SEA011
Preparation:	3550B	Prep Batch: 580-47679	Lab File ID:	AA000790.D
Dilution:	10		Initial Weight/Volume:	10.1107 g
Date Analyzed:	08/05/2009 1406		Final Weight/Volume:	10 mL
Date Prepared:	08/04/2009 1757		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
Motor Oil (>C24-C36)		6400		510

Analytical Data

Client: AECOM, Inc.

Job Number: 580-14736-1

Client Sample ID: 2A-B-46-17-19

Lab Sample ID: 580-14736-4

Date Sampled: 07/31/2009 0950

Client Matrix: Solid

% Moisture: 22.6

Date Received: 08/04/2009 1345

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method:	NWTPH-Dx	Analysis Batch: 580-47638	Instrument ID:	TAC013
Preparation:	3550B	Prep Batch: 580-47679	Lab File ID:	FA38597.D
Dilution:	1.0		Initial Weight/Volume:	10.2035 g
Date Analyzed:	08/05/2009 0243		Final Weight/Volume:	10 mL
Date Prepared:	08/04/2009 1757		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
#2 Diesel (C10-C24)		ND		32

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	98		50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-14736-1

Client Sample ID: 2A-B-46-17-19

Lab Sample ID: 580-14736-4

Date Sampled: 07/31/2009 0950

Client Matrix: Solid

% Moisture: 22.6

Date Received: 08/04/2009 1345

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method:	NWTPH-Dx	Analysis Batch: 580-47690	Instrument ID:	SEA011
Preparation:	3550B	Prep Batch: 580-47679	Lab File ID:	AA000793.D
Dilution:	1.0		Initial Weight/Volume:	10.2035 g
Date Analyzed:	08/05/2009 1520		Final Weight/Volume:	10 mL
Date Prepared:	08/04/2009 1757		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
Motor Oil (>C24-C36)		ND		63

Client: AECOM, Inc.

Job Number: 580-14736-1

General Chemistry

Client Sample ID: 2A-B-46-12-14

Lab Sample ID: 580-14736-1

Client Matrix: Solid

Date Sampled: 07/31/2009 0900

Date Received: 08/04/2009 1345

Analyte	Result	Qual	Units	RL	Dil	Method
Percent Solids	92		%	0.10	1.0	Moisture
	Analysis Batch: 580-47683	Date Analyzed: 08/04/2009 1826				DryWt Corrected: N
Percent Moisture	8.2		%	0.10	1.0	Moisture
	Analysis Batch: 580-47683	Date Analyzed: 08/04/2009 1826				DryWt Corrected: N

Client: AECOM, Inc.

Job Number: 580-14736-1

General Chemistry

Client Sample ID: 2A-B-46-14-16

Lab Sample ID: 580-14736-2

Client Matrix: Solid

Date Sampled: 07/31/2009 0905

Date Received: 08/04/2009 1345

Analyte	Result	Qual	Units	RL	Dil	Method
Percent Solids	84		%	0.10	1.0	Moisture
	Analysis Batch: 580-47683	Date Analyzed: 08/04/2009	1826			DryWt Corrected: N
Percent Moisture	16		%	0.10	1.0	Moisture
	Analysis Batch: 580-47683	Date Analyzed: 08/04/2009	1826			DryWt Corrected: N

Client: AECOM, Inc.

Job Number: 580-14736-1

General Chemistry

Client Sample ID: 1C-B-10-12-14

Lab Sample ID: 580-14736-3

Client Matrix: Solid

Date Sampled: 08/03/2009 1035

Date Received: 08/04/2009 1345

Analyte	Result	Qual	Units	RL	Dil	Method
Percent Solids	96		%	0.10	1.0	Moisture
	Analysis Batch: 580-47683	Date Analyzed: 08/04/2009	1826			DryWt Corrected: N
Percent Moisture	3.8		%	0.10	1.0	Moisture
	Analysis Batch: 580-47683	Date Analyzed: 08/04/2009	1826			DryWt Corrected: N

Client: AECOM, Inc.

Job Number: 580-14736-1

General Chemistry

Client Sample ID: 2A-B-46-17-19

Lab Sample ID: 580-14736-4

Client Matrix: Solid

Date Sampled: 07/31/2009 0950

Date Received: 08/04/2009 1345

Analyte	Result	Qual	Units	RL	Dil	Method
Percent Solids	77		%	0.10	1.0	Moisture
	Analysis Batch: 580-47683	Date Analyzed: 08/04/2009	1826			DryWt Corrected: N
Percent Moisture	23		%	0.10	1.0	Moisture
	Analysis Batch: 580-47683	Date Analyzed: 08/04/2009	1826			DryWt Corrected: N

Quality Control Results

Client: AECOM, Inc.

Job Number: 580-14736-1

Method Blank - Batch: 580-47679

Lab Sample ID: MB 580-47679/1-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 08/05/2009 0021
Date Prepared: 08/04/2009 1757

Analysis Batch: 580-47638
Prep Batch: 580-47679
Units: mg/Kg

Method: NWTPH-Dx Preparation: 3550B

Instrument ID: TAC013
Lab File ID: FA38590.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 10 mL
Injection Volume: 1 uL

Analyte	Result	Qual	RL
#2 Diesel (C10-C24)	ND		25
Surrogate	% Rec	Acceptance Limits	
o-Terphenyl	96	50 - 150	

Method Blank - Batch: 580-47679

Lab Sample ID: MB 580-47679/1-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 08/05/2009 1238
Date Prepared: 08/04/2009 1757

Analysis Batch: 580-47690
Prep Batch: 580-47679
Units: mg/Kg

Method: NWTPH-Dx Preparation: 3550B

Instrument ID: SEA011
Lab File ID: AA000786.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 10 mL
Injection Volume: 1 uL

Analyte	Result	Qual	RL
Motor Oil (>C24-C36)	ND		50

Calculations are performed before rounding to avoid round-off errors in calculated results.

Quality Control Results

Client: AECOM, Inc.

Job Number: 580-14736-1

Lab Control Sample - Batch: 580-47679

Method: NWTPH-Dx
Preparation: 3550B

Lab Sample ID: LCS 580-47679/2-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 08/05/2009 0041
Date Prepared: 08/04/2009 1757

Analysis Batch: 580-47638
Prep Batch: 580-47679
Units: mg/Kg

Instrument ID: TAC013
Lab File ID: FA38591.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 10 mL
Injection Volume: 1 uL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
#2 Diesel (C10-C24)	500	426	85	70 - 125	
Surrogate		% Rec		Acceptance Limits	
o-Terphenyl		94		50 - 150	

Lab Control Sample - Batch: 580-47679

Method: NWTPH-Dx
Preparation: 3550B

Lab Sample ID: LCS 580-47679/2-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 08/05/2009 1258
Date Prepared: 08/04/2009 1757

Analysis Batch: 580-47690
Prep Batch: 580-47679
Units: mg/Kg

Instrument ID: SEA011
Lab File ID: AA000787.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 10 mL
Injection Volume: 1 uL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Motor Oil (>C24-C36)	500	562	112	64 - 127	

Calculations are performed before rounding to avoid round-off errors in calculated results.

Quality Control Results

Client: AECOM, Inc.

Job Number: 580-14736-1

Matrix Spike - Batch: 580-47679

**Method: NWTPH-Dx
Preparation: 3550B**

Lab Sample ID: 580-14736-3
Client Matrix: Solid
Dilution: 10
Date Analyzed: 08/05/2009 0202
Date Prepared: 08/04/2009 1757

Analysis Batch: 580-47638
Prep Batch: 580-47679
Units: mg/Kg

Instrument ID: TAC013
Lab File ID: FA38595.D
Initial Weight/Volume: 10.3419 g
Final Weight/Volume: 10 mL
Injection Volume: 1 uL

Analyte	Sample Result/Qual	Spike Amount	Result	% Rec.	Limit	Qual
#2 Diesel (C10-C24)	4000	502	4950	195	70 - 125	4
Surrogate		% Rec			Acceptance Limits	
o-Terphenyl	0	X D			50 - 150	

Matrix Spike - Batch: 580-47679

**Method: NWTPH-Dx
Preparation: 3550B**

Lab Sample ID: 580-14736-3
Client Matrix: Solid
Dilution: 10
Date Analyzed: 08/05/2009 1431
Date Prepared: 08/04/2009 1757

Analysis Batch: 580-47690
Prep Batch: 580-47679
Units: mg/Kg

Instrument ID: SEA011
Lab File ID: AA000791.D
Initial Weight/Volume: 10.3419 g
Final Weight/Volume: 10 mL
Injection Volume: 1 uL

Analyte	Sample Result/Qual	Spike Amount	Result	% Rec.	Limit	Qual
Motor Oil (>C24-C36)	6400	502	8250	365	64 - 127	4

Calculations are performed before rounding to avoid round-off errors in calculated results.

Quality Control Results

Client: AECOM, Inc.

Job Number: 580-14736-1

Duplicate - Batch: 580-47679

**Method: NWTPH-Dx
Preparation: 3550B**

Lab Sample ID: 580-14736-3
Client Matrix: Solid
Dilution: 10
Date Analyzed: 08/05/2009 0223
Date Prepared: 08/04/2009 1757

Analysis Batch: 580-47638
Prep Batch: 580-47679
Units: mg/Kg

Instrument ID: TAC013
Lab File ID: FA38596.D
Initial Weight/Volume: 10.1328 g
Final Weight/Volume: 10 mL
Injection Volume: 1 uL

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
#2 Diesel (C10-C24)	4000	5240	28	35	
Surrogate	% Rec		Acceptance Limits		
o-Terphenyl	0	X D	50 - 150		

Duplicate - Batch: 580-47679

**Method: NWTPH-Dx
Preparation: 3550B**

Lab Sample ID: 580-14736-3
Client Matrix: Solid
Dilution: 10
Date Analyzed: 08/05/2009 1455
Date Prepared: 08/04/2009 1757

Analysis Batch: 580-47690
Prep Batch: 580-47679
Units: mg/Kg

Instrument ID: SEA011
Lab File ID: AA000792.D
Initial Weight/Volume: 10.1328 g
Final Weight/Volume: 10 mL
Injection Volume: 1 uL

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
Motor Oil (>C24-C36)	6400	8530	28	35	

Calculations are performed before rounding to avoid round-off errors in calculated results.

Quality Control Results

Client: AECOM, Inc.

Job Number: 580-14736-1

Duplicate - Batch: 580-47683

Method: Moisture
Preparation: N/A

Lab Sample ID: 580-14736-1
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 08/04/2009 1826
Date Prepared: N/A

Analysis Batch: 580-47683
Prep Batch: N/A
Units: %

Instrument ID: No Equipment Assigned
Lab File ID: N/A
Initial Weight/Volume:
Final Weight/Volume:

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
Percent Solids	92	89	3	20	
Percent Moisture	8.2	11	29	20	F

Calculations are performed before rounding to avoid round-off errors in calculated results.

DATA REPORTING QUALIFIERS

Client: AECOM, Inc.

Job Number: 580-14736-1

Lab Section	Qualifier	Description
GC Semi VOA		
	4	MS, MSD: The analyte present in the original sample is 4 times greater than the matrix spike concentration; therefore, control limits are not applicable.
	X	Surrogate exceeds the control limits
	D	Surrogate or matrix spike recoveries were not obtained because the extract was diluted for analysis; also compounds analyzed at a dilution may be flagged with a D.
General Chemistry		
	F	Duplicate RPD exceeds the control limit

Login Sample Receipt Check List

Client: AECOM, Inc.

Job Number: 580-14736-1

Login Number: 14736

List Source: TestAmerica Tacoma

Creator: Presley, Kim

List Number: 1

Question	T / F / NA	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
There are no discrepancies between the sample IDs on the containers and the COC.	False	label 2A-B-43-14-16 COC 2A-B-46-14-16 client advise to use coc ID.
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Is the Field Sampler's name present on COC?	False	no name
Sample Preservation Verified	True	

ANALYTICAL REPORT

Job Number: 580-14784-1

Job Description: BNSF-Skykomish Soil

For:
AECOM, Inc.
710 Second Avenue
Suite 1000
Seattle, WA 98104
Attention: Sarah Albano



Approved for release.
Kate Haney
Project Manager II
8/7/2009 3:12 PM

Kate Haney
Project Manager II
kate.haney@testamericainc.com
08/07/2009

cc: Denell Warren

TestAmerica Tacoma is a part of TestAmerica Laboratories, Inc.

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This report shall not be reproduced except in full, without prior express written approval by the laboratory. The results relate only to the item(s) tested and the sample(s) as received by the laboratory.

The results included in this report have been reviewed for compliance with the laboratory QA/QC plan and meet all requirements of NELAC. All data have been found to be compliant with laboratory protocol, with the exception of any items noted in the case narrative.

TestAmerica Laboratories, Inc.

TestAmerica Tacoma 5755 8th Street East, Tacoma, WA 98424
Tel (253) 922-2310 Fax (253) 922-5047 www.testamericainc.com



Job Narrative
580-J14784-1

Comments

No additional comments.

Receipt

All samples were received in good condition within temperature requirements.

GC Semi VOA

No analytical or quality issues were noted.

General Chemistry

No analytical or quality issues were noted.

Organic Prep

No analytical or quality issues were noted.

METHOD SUMMARY

Client: AECOM, Inc.

Job Number: 580-14784-1

Description	Lab Location	Method	Preparation Method
Matrix: Solid			
Northwest - Semi-Volatile Petroleum Products (GC)	TAL TAC	NWTPH NWTPH-Dx	
Ultrasonic Extraction	TAL TAC		SW846 3550B
Percent Moisture	TAL TAC	EPA Moisture	

Lab References:

TAL TAC = TestAmerica Tacoma

Method References:

EPA = US Environmental Protection Agency

NWTPH = Northwest Total Petroleum Hydrocarbon

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

SAMPLE SUMMARY

Client: AECOM, Inc.

Job Number: 580-14784-1

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
580-14784-1	5-B-77-11-12.5	Solid	08/05/2009 1205	08/06/2009 1315
580-14784-2	5-B-77-9-11	Solid	08/05/2009 1120	08/06/2009 1315
580-14784-3	5-B-77-15-17	Solid	08/05/2009 1330	08/06/2009 1315
580-14784-4	5-B-80-9-11	Solid	08/05/2009 1500	08/06/2009 1315
580-14784-5	5-B-80-11-13	Solid	08/05/2009 1520	08/06/2009 1315
580-14784-6	5-B-80-13-15	Solid	08/05/2009 1525	08/06/2009 1315
580-14784-7	5-B-80-15-17	Solid	08/05/2009 1535	08/06/2009 1315

Analytical Data

Client: AECOM, Inc.

Job Number: 580-14784-1

Client Sample ID: 5-B-77-11-12.5

Lab Sample ID: 580-14784-1

Date Sampled: 08/05/2009 1205

Client Matrix: Solid

% Moisture: 13.8

Date Received: 08/06/2009 1315

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method:	NWTPH-Dx	Analysis Batch: 580-47800	Instrument ID:	TAC017
Preparation:	3550B	Prep Batch: 580-47809	Lab File ID:	ZZ00025.D
Dilution:	1.0		Initial Weight/Volume:	10.4427 g
Date Analyzed:	08/06/2009 2030		Final Weight/Volume:	10 mL
Date Prepared:	08/06/2009 1422		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
#2 Diesel (C10-C24)		690		28
Motor Oil (>C24-C36)		1100		56

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	103		50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-14784-1

Client Sample ID: 5-B-77-9-11

Lab Sample ID: 580-14784-2

Date Sampled: 08/05/2009 1120

Client Matrix: Solid

% Moisture: 13.4

Date Received: 08/06/2009 1315

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method:	NWTPH-Dx	Analysis Batch: 580-47834	Instrument ID:	SEA011
Preparation:	3550B	Prep Batch: 580-47809	Lab File ID:	AA000839.D
Dilution:	5.0		Initial Weight/Volume:	10.2906 g
Date Analyzed:	08/07/2009 1117		Final Weight/Volume:	10 mL
Date Prepared:	08/06/2009 1422		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
#2 Diesel (C10-C24)		6000		140
Motor Oil (>C24-C36)		7700		280

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	126		50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-14784-1

Client Sample ID: 5-B-77-15-17

Lab Sample ID: 580-14784-3

Date Sampled: 08/05/2009 1330

Client Matrix: Solid

% Moisture: 24.4

Date Received: 08/06/2009 1315

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method:	NWTPH-Dx	Analysis Batch: 580-47800	Instrument ID:	TAC017
Preparation:	3550B	Prep Batch: 580-47809	Lab File ID:	ZZ00027.D
Dilution:	1.0		Initial Weight/Volume:	10.8762 g
Date Analyzed:	08/06/2009 2119		Final Weight/Volume:	10 mL
Date Prepared:	08/06/2009 1422		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
#2 Diesel (C10-C24)		ND		30
Motor Oil (>C24-C36)		ND		61

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	102		50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-14784-1

Client Sample ID: 5-B-80-9-11

Lab Sample ID: 580-14784-4

Date Sampled: 08/05/2009 1500

Client Matrix: Solid

% Moisture: 9.5

Date Received: 08/06/2009 1315

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method:	NWTPH-Dx	Analysis Batch: 580-47834	Instrument ID:	SEA011
Preparation:	3550B	Prep Batch: 580-47809	Lab File ID:	AA000841.D
Dilution:	1.0		Initial Weight/Volume:	10.7968 g
Date Analyzed:	08/07/2009 1240		Final Weight/Volume:	10 mL
Date Prepared:	08/06/2009 1422		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
#2 Diesel (C10-C24)		ND		26
Motor Oil (>C24-C36)		ND		51

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	112		50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-14784-1

Client Sample ID: 5-B-80-11-13

Lab Sample ID: 580-14784-5

Date Sampled: 08/05/2009 1520

Client Matrix: Solid

% Moisture: 8.2

Date Received: 08/06/2009 1315

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method:	NWTPH-Dx	Analysis Batch: 580-47800	Instrument ID:	TAC017
Preparation:	3550B	Prep Batch: 580-47809	Lab File ID:	ZZ00029.D
Dilution:	1.0		Initial Weight/Volume:	10.0100 g
Date Analyzed:	08/06/2009 2209		Final Weight/Volume:	10 mL
Date Prepared:	08/06/2009 1422		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
#2 Diesel (C10-C24)		ND		27
Motor Oil (>C24-C36)		ND		54

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	90		50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-14784-1

Client Sample ID: 5-B-80-13-15

Lab Sample ID: 580-14784-6

Date Sampled: 08/05/2009 1525

Client Matrix: Solid

% Moisture: 9.7

Date Received: 08/06/2009 1315

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method:	NWTPH-Dx	Analysis Batch: 580-47800	Instrument ID:	TAC017
Preparation:	3550B	Prep Batch: 580-47809	Lab File ID:	ZZ00030.D
Dilution:	1.0		Initial Weight/Volume:	10.9621 g
Date Analyzed:	08/06/2009 2234		Final Weight/Volume:	10 mL
Date Prepared:	08/06/2009 1422		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
#2 Diesel (C10-C24)		ND		25
Motor Oil (>C24-C36)		ND		51

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	106		50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-14784-1

Client Sample ID: 5-B-80-15-17

Lab Sample ID: 580-14784-7

Date Sampled: 08/05/2009 1535

Client Matrix: Solid

% Moisture: 23.0

Date Received: 08/06/2009 1315

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method:	NWTPH-Dx	Analysis Batch: 580-47800	Instrument ID:	TAC017
Preparation:	3550B	Prep Batch: 580-47809	Lab File ID:	ZZ00031.D
Dilution:	1.0		Initial Weight/Volume:	10.8753 g
Date Analyzed:	08/06/2009 2259		Final Weight/Volume:	10 mL
Date Prepared:	08/06/2009 1422		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
#2 Diesel (C10-C24)		ND		30
Motor Oil (>C24-C36)		ND		60

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	90		50 - 150

Client: AECOM, Inc.

Job Number: 580-14784-1

General Chemistry

Client Sample ID: 5-B-77-11-12.5

Lab Sample ID: 580-14784-1

Client Matrix: Solid

Date Sampled: 08/05/2009 1205

Date Received: 08/06/2009 1315

Analyte	Result	Qual	Units	RL	Dil	Method
Percent Solids	86		%	0.10	1.0	Moisture
	Analysis Batch: 580-47815	Date Analyzed: 08/06/2009 1629				DryWt Corrected: N
Percent Moisture	14		%	0.10	1.0	Moisture
	Analysis Batch: 580-47815	Date Analyzed: 08/06/2009 1629				DryWt Corrected: N

Client: AECOM, Inc.

Job Number: 580-14784-1

General Chemistry

Client Sample ID: 5-B-77-9-11

Lab Sample ID: 580-14784-2

Client Matrix: Solid

Date Sampled: 08/05/2009 1120

Date Received: 08/06/2009 1315

Analyte	Result	Qual	Units	RL	Dil	Method
Percent Solids	87		%	0.10	1.0	Moisture
	Analysis Batch: 580-47815	Date Analyzed: 08/06/2009 1629				DryWt Corrected: N
Percent Moisture	13		%	0.10	1.0	Moisture
	Analysis Batch: 580-47815	Date Analyzed: 08/06/2009 1629				DryWt Corrected: N

Client: AECOM, Inc.

Job Number: 580-14784-1

General Chemistry

Client Sample ID: 5-B-77-15-17

Lab Sample ID: 580-14784-3

Client Matrix: Solid

Date Sampled: 08/05/2009 1330

Date Received: 08/06/2009 1315

Analyte	Result	Qual	Units	RL	Dil	Method
Percent Solids	76		%	0.10	1.0	Moisture
	Analysis Batch: 580-47815	Date Analyzed: 08/06/2009 1629				DryWt Corrected: N
Percent Moisture	24		%	0.10	1.0	Moisture
	Analysis Batch: 580-47815	Date Analyzed: 08/06/2009 1629				DryWt Corrected: N

Client: AECOM, Inc.

Job Number: 580-14784-1

General Chemistry

Client Sample ID: 5-B-80-9-11

Lab Sample ID: 580-14784-4

Client Matrix: Solid

Date Sampled: 08/05/2009 1500

Date Received: 08/06/2009 1315

Analyte	Result	Qual	Units	RL	Dil	Method
Percent Solids	90		%	0.10	1.0	Moisture
	Analysis Batch: 580-47815	Date Analyzed: 08/06/2009 1629				DryWt Corrected: N
Percent Moisture	9.5		%	0.10	1.0	Moisture
	Analysis Batch: 580-47815	Date Analyzed: 08/06/2009 1629				DryWt Corrected: N

Client: AECOM, Inc.

Job Number: 580-14784-1

General Chemistry

Client Sample ID: 5-B-80-11-13

Lab Sample ID: 580-14784-5

Client Matrix: Solid

Date Sampled: 08/05/2009 1520

Date Received: 08/06/2009 1315

Analyte	Result	Qual	Units	RL	Dil	Method
Percent Solids	92		%	0.10	1.0	Moisture
	Analysis Batch: 580-47815	Date Analyzed: 08/06/2009	1629			DryWt Corrected: N
Percent Moisture	8.2		%	0.10	1.0	Moisture
	Analysis Batch: 580-47815	Date Analyzed: 08/06/2009	1629			DryWt Corrected: N

Client: AECOM, Inc.

Job Number: 580-14784-1

General Chemistry

Client Sample ID: 5-B-80-13-15

Lab Sample ID: 580-14784-6

Client Matrix: Solid

Date Sampled: 08/05/2009 1525

Date Received: 08/06/2009 1315

Analyte	Result	Qual	Units	RL	Dil	Method
Percent Solids	90		%	0.10	1.0	Moisture
	Analysis Batch: 580-47815	Date Analyzed: 08/06/2009 1629				DryWt Corrected: N
Percent Moisture	9.7		%	0.10	1.0	Moisture
	Analysis Batch: 580-47815	Date Analyzed: 08/06/2009 1629				DryWt Corrected: N

Client: AECOM, Inc.

Job Number: 580-14784-1

General Chemistry

Client Sample ID: 5-B-80-15-17

Lab Sample ID: 580-14784-7

Client Matrix: Solid

Date Sampled: 08/05/2009 1535

Date Received: 08/06/2009 1315

Analyte	Result	Qual	Units	RL	Dil	Method
Percent Solids	77		%	0.10	1.0	Moisture
	Analysis Batch: 580-47815	Date Analyzed: 08/06/2009 1629				DryWt Corrected: N
Percent Moisture	23		%	0.10	1.0	Moisture
	Analysis Batch: 580-47815	Date Analyzed: 08/06/2009 1629				DryWt Corrected: N

Quality Control Results

Client: AECOM, Inc.

Job Number: 580-14784-1

Method Blank - Batch: 580-47809

**Method: NWTPH-Dx
Preparation: 3550B**

Lab Sample ID: MB 580-47809/1-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 08/07/2009 1058
Date Prepared: 08/06/2009 1422

Analysis Batch: 580-47834
Prep Batch: 580-47809
Units: mg/Kg

Instrument ID: SEA011
Lab File ID: AA000838.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 10 mL
Injection Volume: 1 uL

Analyte	Result	Qual	RL
#2 Diesel (C10-C24)	ND		25
Motor Oil (>C24-C36)	ND		50
Surrogate	% Rec	Acceptance Limits	
o-Terphenyl	99	50 - 150	

Lab Control Sample - Batch: 580-47809

**Method: NWTPH-Dx
Preparation: 3550B**

Lab Sample ID: LCS 580-47809/2-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 08/06/2009 2005
Date Prepared: 08/06/2009 1422

Analysis Batch: 580-47800
Prep Batch: 580-47809
Units: mg/Kg

Instrument ID: TAC017
Lab File ID: ZZ00024.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 10 mL
Injection Volume: 1 uL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
#2 Diesel (C10-C24)	500	500	100	70 - 125	
Motor Oil (>C24-C36)	500	541	108	64 - 127	
Surrogate	% Rec		Acceptance Limits		
o-Terphenyl	101		50 - 150		

Calculations are performed before rounding to avoid round-off errors in calculated results.

Quality Control Results

Client: AECOM, Inc.

Job Number: 580-14784-1

Duplicate - Batch: 580-47809

Method: NWTPH-Dx
Preparation: 3550B

Lab Sample ID: 580-14784-1
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 08/06/2009 2055
Date Prepared: 08/06/2009 1422

Analysis Batch: 580-47800
Prep Batch: 580-47809
Units: mg/Kg

Instrument ID: TAC017
Lab File ID: ZZ00026.D
Initial Weight/Volume: 10.3554 g
Final Weight/Volume: 10 mL
Injection Volume: 1 uL

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
#2 Diesel (C10-C24)	690	493	33	35	
Motor Oil (>C24-C36)	1100	833	29	35	
Surrogate	% Rec		Acceptance Limits		
o-Terphenyl	103		50 - 150		

Calculations are performed before rounding to avoid round-off errors in calculated results.

Quality Control Results

Client: AECOM, Inc.

Job Number: 580-14784-1

Duplicate - Batch: 580-47815

Method: Moisture
Preparation: N/A

Lab Sample ID: 580-14784-7
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 08/06/2009 1629
Date Prepared: N/A

Analysis Batch: 580-47815
Prep Batch: N/A
Units: %

Instrument ID: No Equipment Assigned
Lab File ID: N/A
Initial Weight/Volume:
Final Weight/Volume:

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
Percent Solids	77	77	0	20	
Percent Moisture	23	23	0	20	

Calculations are performed before rounding to avoid round-off errors in calculated results.



CHAIN OF CUSTODY

BNSF PROJECT INFORMATION

BNSF Project Number: Skykomish
 BNSF Project Name: Skykomish
 BNSF Contact: Bruce Sheppard

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?

SAMPLE INFORMATION

Containers	Sample Identification	Sample Collection		Type (Comp/Grab)	Matrix
		Date	Time		
1	5-B-77-11-12-5	8/5/09	1205 MG	G	S
1	5-B-77-9-11	8/5/09	1120 MG	G	S
1	5-B-77-15-17	8/5/09	1330 MG	G	S
1	5-B-80-9-11	8/5/09	1500 MG	G	S
1	5-B-80-11-13	8/5/09	1520 MG	G	S
1	5-B-80-13-15	8/5/09	1525 MG	G	S
1	5-B-80-15-17	8/5/09	1535 MG	G	S
1	5-B-80-17-19	8/5/09	1540 MG	G	S

Relinquished By: *Melvin Zambor*
 Date/Time: 8/10/09 1215
 Received By: *[Signature]*
 Date/Time: 8/10/09 1215

Laboratory: Test America
 Project Manager: Kate Haney
 Address: 5755 8th Street E
 Phone: 253-922-9310
 City/State/ZIP: Tacoma, WA 98424
 Fax: 253-922-5077

Project State of Origin: Washington
 Project City: Skykomish
 Company: AECOM Environment
 Address: 710 2nd Ave., Suite 1000
 City/State/ZIP: Seattle, WA 98104
 Email: Sarah.albano@aecom.com
 Phone: 206-624-9349
 Fax: 206-623-3793

LABORATORY INFORMATION

Project Manager: Kate Haney
 Phone: 253-922-9310
 Fax: 253-922-5077

SHIPMENT INFORMATION

Shipment Method: Carrier
 Tracking Number: -
 Project Number: 01140-28A-0270
 Project Manager: Sarah Albano

METHODS FOR ANALYSIS

LAB USE	COMMENTS
1	
2	
3	
4	

Comments and Special Analytical Requirements:
 1-4 TB: 1.0 w/o Lg Blue/white
 Date/Time: 8/16/09 1215
 Date/Time:
 Date/Time:
 Lab: Custody intact? Yes No
 BNSF COC No.:

Login Sample Receipt Check List

Client: AECOM, Inc.

Job Number: 580-14784-1

Login Number: 14784

List Source: TestAmerica Tacoma

Creator: Luna, Francisco

List Number: 1

Question	T / F / NA	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	N/A	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Is the Field Sampler's name present on COC?	True	
Sample Preservation Verified	N/A	

ANALYTICAL REPORT

Job Number: 580-14912-1

Job Description: BNSF-Skykomish Soil

For:

AECOM, Inc.

710 Second Avenue

Suite 1000

Seattle, WA 98104

Attention: Eric Storkerson



Approved for release.
Curtis Armstrong
Project Manager I
8/17/2009 5:05 PM

Designee for
Kate Haney
Project Manager II
kate.haney@testamericainc.com
08/17/2009

cc: Greg Chase
Mark Havighorst
Aaron Huntington
Denell Warren

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This report shall not be reproduced except in full, without prior express written approval by the laboratory. The results relate only to the item(s) tested and the sample(s) as received by the laboratory.

The results included in this report have been reviewed for compliance with the laboratory QA/QC plan and meet all requirements of NELAC. All data have been found to be compliant with laboratory protocol, with the exception of any

TestAmerica Laboratories, Inc.

TestAmerica Tacoma 5755 8th Street East, Tacoma, WA 98424
Tel (253) 922-2310 Fax (253) 922-5047 www.testamericainc.com



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Job Narrative
580-J14912-1

Comments

No additional comments.

Receipt

All samples were received in good condition within temperature requirements.

GC Semi VOA

Method NWTPH-Dx:

Due to the level of dilution (10x) required the surrogate recoveries are not reported for sample 580-14912-5.

No other analytical or quality issues were noted.

General Chemistry

No analytical or quality issues were noted.

Organic Prep

No analytical or quality issues were noted.

METHOD SUMMARY

Client: AECOM, Inc.

Job Number: 580-14912-1

Description	Lab Location	Method	Preparation Method
Matrix Solid			
Northwest - Semi-Volatile Petroleum Products (GC)	TAL TAC	NWTPH NWTPH-Dx	
Ultrasonic Extraction	TAL TAC		SW846 3550B
Percent Moisture	TAL TAC	EPA Moisture	

Lab References:

TAL TAC = TestAmerica Tacoma

Method References:

EPA = US Environmental Protection Agency

NWTPH = Northwest Total Petroleum Hydrocarbon

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

SAMPLE SUMMARY

Client: AECOM, Inc.

Job Number: 580-14912-1

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
580-14912-1	5-B-82 9-10	Solid	08/11/2009 1055	08/13/2009 1140
580-14912-2	5-B-82 10-12	Solid	08/11/2009 1110	08/13/2009 1140
580-14912-3	5-B-82 90-100	Solid	08/11/2009 1000	08/13/2009 1140
580-14912-5	5-B-83 9-11	Solid	08/11/2009 1415	08/13/2009 1140
580-14912-6	5-B-83 12-14	Solid	08/11/2009 1440	08/13/2009 1140
580-14912-7	5-B-83 14-16	Solid	08/11/2009 1540	08/13/2009 1140
580-14912-8	5-B-83 16-18	Solid	08/11/2009 1545	08/13/2009 1140
580-14912-11	5-B-78 15-17	Solid	08/12/2009 0950	08/13/2009 1140
580-14912-12	5-B-81 9-11	Solid	08/12/2009 1205	08/13/2009 1140
580-14912-13	5-B-81 11-13	Solid	08/12/2009 1215	08/13/2009 1140
580-14912-14	5-B-81 13-15	Solid	08/12/2009 1220	08/13/2009 1140
580-14912-15	5-B-81 15-17	Solid	08/12/2009 1235	08/13/2009 1140
580-14912-16	5-B-75 9-11	Solid	08/12/2009 1425	08/13/2009 1140
580-14912-17	5-B-75 11-13	Solid	08/12/2009 1430	08/13/2009 1140
580-14912-18	5-B-75 13-15	Solid	08/12/2009 1440	08/13/2009 1140
580-14912-19	5-B-75 15-17	Solid	08/12/2009 1450	08/13/2009 1140
580-14912-20	5-B-86 9-11	Solid	08/13/2009 0800	08/13/2009 1140
580-14912-21	5-B-86 11-13	Solid	08/13/2009 0810	08/13/2009 1140
580-14912-22	5-B-86 13-15	Solid	08/13/2009 0825	08/13/2009 1140
580-14912-23	5-B-86 90-110	Solid	08/13/2009 0720	08/13/2009 1140
580-14912-24	5-B-86 110-130	Solid	08/13/2009 0725	08/13/2009 1140
580-14912-25	5-B-86 130-150	Solid	08/13/2009 0740	08/13/2009 1140

Analytical Data

Client: AECOM, Inc.

Job Number: 580-14912-1

Client Sample ID: 5-B-82 9-10

Lab Sample ID: 580-14912-1

Date Sampled: 08/11/2009 1055

Client Matrix: Solid

% Moisture: 14.8

Date Received: 08/13/2009 1140

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method:	NWTPH-Dx	Analysis Batch: 580-48333	Instrument ID:	TAC013
Preparation:	3550B	Prep Batch: 580-48275	Lab File ID:	FA38947.D
Dilution:	1.0		Initial Weight/Volume:	10.5811 g
Date Analyzed:	08/14/2009 1008		Final Weight/Volume:	10 mL
Date Prepared:	08/13/2009 1404		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
#2 Diesel (C10-C24)		780		28
Motor Oil (>C24-C36)		1300		55

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	99		50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-14912-1

Client Sample ID: 5-B-82 10-12

Lab Sample ID: 580-14912-2

Date Sampled: 08/11/2009 1110

Client Matrix: Solid

% Moisture: 9.5

Date Received: 08/13/2009 1140

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method:	NWTPH-Dx	Analysis Batch: 580-48333	Instrument ID:	TAC013
Preparation:	3550B	Prep Batch: 580-48275	Lab File ID:	FA38949.D
Dilution:	1.0		Initial Weight/Volume:	10.7754 g
Date Analyzed:	08/14/2009 1048		Final Weight/Volume:	10 mL
Date Prepared:	08/13/2009 1404		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
#2 Diesel (C10-C24)		2000		26
Motor Oil (>C24-C36)		3700		51

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	101		50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-14912-1

Client Sample ID: 5-B-82 90-100

Lab Sample ID: 580-14912-3

Date Sampled: 08/11/2009 1000

Client Matrix: Solid

% Moisture: 16.2

Date Received: 08/13/2009 1140

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method:	NWTPH-Dx	Analysis Batch: 580-48333	Instrument ID:	TAC013
Preparation:	3550B	Prep Batch: 580-48275	Lab File ID:	FA38956.D
Dilution:	1.0		Initial Weight/Volume:	10.7259 g
Date Analyzed:	08/14/2009 1404		Final Weight/Volume:	10 mL
Date Prepared:	08/13/2009 1404		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
#2 Diesel (C10-C24)		410		28
Motor Oil (>C24-C36)		700		56

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	106		50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-14912-1

Client Sample ID: 5-B-83 9-11

Lab Sample ID: 580-14912-5

Date Sampled: 08/11/2009 1415

Client Matrix: Solid

% Moisture: 8.1

Date Received: 08/13/2009 1140

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method:	NWTPH-Dx	Analysis Batch: 580-48462	Instrument ID:	TAC013
Preparation:	3550B	Prep Batch: 580-48275	Lab File ID:	FA39018.D
Dilution:	10		Initial Weight/Volume:	10.5239 g
Date Analyzed:	08/17/2009 1150		Final Weight/Volume:	10 mL
Date Prepared:	08/13/2009 1404		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
#2 Diesel (C10-C24)		13000		260
Motor Oil (>C24-C36)		13000		520

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	0	X	50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-14912-1

Client Sample ID: 5-B-83 12-14

Lab Sample ID: 580-14912-6

Date Sampled: 08/11/2009 1440

Client Matrix: Solid

% Moisture: 10.9

Date Received: 08/13/2009 1140

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method:	NWTPH-Dx	Analysis Batch: 580-48333	Instrument ID:	TAC013
Preparation:	3550B	Prep Batch: 580-48275	Lab File ID:	FA38958.D
Dilution:	1.0		Initial Weight/Volume:	10.4704 g
Date Analyzed:	08/14/2009 1444		Final Weight/Volume:	10 mL
Date Prepared:	08/13/2009 1404		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
#2 Diesel (C10-C24)		390		27
Motor Oil (>C24-C36)		640		54

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	103		50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-14912-1

Client Sample ID: 5-B-83 14-16

Lab Sample ID: 580-14912-7

Date Sampled: 08/11/2009 1540

Client Matrix: Solid

% Moisture: 7.3

Date Received: 08/13/2009 1140

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method:	NWTPH-Dx	Analysis Batch: 580-48333	Instrument ID:	TAC013
Preparation:	3550B	Prep Batch: 580-48275	Lab File ID:	FA38959.D
Dilution:	1.0		Initial Weight/Volume:	10.1455 g
Date Analyzed:	08/14/2009 1504		Final Weight/Volume:	10 mL
Date Prepared:	08/13/2009 1404		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
#2 Diesel (C10-C24)		64		27
Motor Oil (>C24-C36)		140		53

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	99		50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-14912-1

Client Sample ID: 5-B-83 16-18

Lab Sample ID: 580-14912-8

Date Sampled: 08/11/2009 1545

Client Matrix: Solid

% Moisture: 8.6

Date Received: 08/13/2009 1140

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method:	NWTPH-Dx	Analysis Batch: 580-48333	Instrument ID:	TAC013
Preparation:	3550B	Prep Batch: 580-48275	Lab File ID:	FA38960.D
Dilution:	1.0		Initial Weight/Volume:	10.7652 g
Date Analyzed:	08/14/2009 1524		Final Weight/Volume:	10 mL
Date Prepared:	08/13/2009 1404		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
#2 Diesel (C10-C24)		98		25
Motor Oil (>C24-C36)		160		51

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	103		50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-14912-1

Client Sample ID: 5-B-78 15-17

Lab Sample ID: 580-14912-11

Date Sampled: 08/12/2009 0950

Client Matrix: Solid

% Moisture: 17.8

Date Received: 08/13/2009 1140

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method:	NWTPH-Dx	Analysis Batch: 580-48333	Instrument ID:	TAC013
Preparation:	3550B	Prep Batch: 580-48275	Lab File ID:	FA38961.D
Dilution:	1.0		Initial Weight/Volume:	10.6617 g
Date Analyzed:	08/14/2009 1544		Final Weight/Volume:	10 mL
Date Prepared:	08/13/2009 1404		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
#2 Diesel (C10-C24)		56		29
Motor Oil (>C24-C36)		100		57

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	108		50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-14912-1

Client Sample ID: 5-B-81 9-11

Lab Sample ID: 580-14912-12

Date Sampled: 08/12/2009 1205

Client Matrix: Solid

% Moisture: 11.4

Date Received: 08/13/2009 1140

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method:	NWTPH-Dx	Analysis Batch: 580-48333	Instrument ID:	TAC013
Preparation:	3550B	Prep Batch: 580-48275	Lab File ID:	FA38962.D
Dilution:	1.0		Initial Weight/Volume:	10.9053 g
Date Analyzed:	08/14/2009 1605		Final Weight/Volume:	10 mL
Date Prepared:	08/13/2009 1404		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
#2 Diesel (C10-C24)		ND		26
Motor Oil (>C24-C36)		ND		52

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	102		50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-14912-1

Client Sample ID: 5-B-81 11-13

Lab Sample ID: 580-14912-13

Date Sampled: 08/12/2009 1215

Client Matrix: Solid

% Moisture: 11.1

Date Received: 08/13/2009 1140

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method:	NWTPH-Dx	Analysis Batch: 580-48333	Instrument ID:	TAC013
Preparation:	3550B	Prep Batch: 580-48275	Lab File ID:	FA38963.D
Dilution:	1.0		Initial Weight/Volume:	10.7782 g
Date Analyzed:	08/14/2009 1625		Final Weight/Volume:	10 mL
Date Prepared:	08/13/2009 1404		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
#2 Diesel (C10-C24)		ND		26
Motor Oil (>C24-C36)		ND		52

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	106		50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-14912-1

Client Sample ID: 5-B-81 13-15

Lab Sample ID: 580-14912-14

Date Sampled: 08/12/2009 1220

Client Matrix: Solid

% Moisture: 27.7

Date Received: 08/13/2009 1140

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method:	NWTPH-Dx	Analysis Batch: 580-48333	Instrument ID:	TAC013
Preparation:	3550B	Prep Batch: 580-48275	Lab File ID:	FA38964.D
Dilution:	1.0		Initial Weight/Volume:	10.5566 g
Date Analyzed:	08/14/2009 1645		Final Weight/Volume:	10 mL
Date Prepared:	08/13/2009 1404		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
#2 Diesel (C10-C24)		ND		33
Motor Oil (>C24-C36)		ND		66

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	99		50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-14912-1

Client Sample ID: 5-B-81 15-17

Lab Sample ID: 580-14912-15

Date Sampled: 08/12/2009 1235

Client Matrix: Solid

% Moisture: 29.0

Date Received: 08/13/2009 1140

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method:	NWTPH-Dx	Analysis Batch: 580-48333	Instrument ID:	TAC013
Preparation:	3550B	Prep Batch: 580-48275	Lab File ID:	FA38966.D
Dilution:	1.0		Initial Weight/Volume:	10.5297 g
Date Analyzed:	08/14/2009 1725		Final Weight/Volume:	10 mL
Date Prepared:	08/13/2009 1404		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
#2 Diesel (C10-C24)		ND		33
Motor Oil (>C24-C36)		ND		67

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	105		50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-14912-1

Client Sample ID: 5-B-75 9-11

Lab Sample ID: 580-14912-16

Date Sampled: 08/12/2009 1425

Client Matrix: Solid

% Moisture: 7.1

Date Received: 08/13/2009 1140

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method:	NWTPH-Dx	Analysis Batch: 580-48333	Instrument ID:	TAC013
Preparation:	3550B	Prep Batch: 580-48275	Lab File ID:	FA38967.D
Dilution:	1.0		Initial Weight/Volume:	10.2847 g
Date Analyzed:	08/14/2009 1745		Final Weight/Volume:	10 mL
Date Prepared:	08/13/2009 1404		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
#2 Diesel (C10-C24)		67		26
Motor Oil (>C24-C36)		92		52

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	94		50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-14912-1

Client Sample ID: 5-B-75 11-13

Lab Sample ID: 580-14912-17

Date Sampled: 08/12/2009 1430

Client Matrix: Solid

% Moisture: 14.9

Date Received: 08/13/2009 1140

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method:	NWTPH-Dx	Analysis Batch: 580-48333	Instrument ID:	TAC013
Preparation:	3550B	Prep Batch: 580-48275	Lab File ID:	FA38968.D
Dilution:	1.0		Initial Weight/Volume:	10.6295 g
Date Analyzed:	08/14/2009 1805		Final Weight/Volume:	10 mL
Date Prepared:	08/13/2009 1404		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
#2 Diesel (C10-C24)		ND		28
Motor Oil (>C24-C36)		ND		55

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	99		50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-14912-1

Client Sample ID: 5-B-75 13-15

Lab Sample ID: 580-14912-18

Date Sampled: 08/12/2009 1440

Client Matrix: Solid

% Moisture: 25.7

Date Received: 08/13/2009 1140

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method:	NWTPH-Dx	Analysis Batch: 580-48333	Instrument ID:	TAC013
Preparation:	3550B	Prep Batch: 580-48275	Lab File ID:	FA38969.D
Dilution:	1.0		Initial Weight/Volume:	10.2749 g
Date Analyzed:	08/14/2009 1824		Final Weight/Volume:	10 mL
Date Prepared:	08/13/2009 1404		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
#2 Diesel (C10-C24)		ND		33
Motor Oil (>C24-C36)		ND		66

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	104		50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-14912-1

Client Sample ID: 5-B-75 15-17

Lab Sample ID: 580-14912-19

Date Sampled: 08/12/2009 1450

Client Matrix: Solid

% Moisture: 26.3

Date Received: 08/13/2009 1140

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method:	NWTPH-Dx	Analysis Batch: 580-48333	Instrument ID:	TAC013
Preparation:	3550B	Prep Batch: 580-48275	Lab File ID:	FA38970.D
Dilution:	1.0		Initial Weight/Volume:	10.2746 g
Date Analyzed:	08/14/2009 1844		Final Weight/Volume:	10 mL
Date Prepared:	08/13/2009 1404		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
#2 Diesel (C10-C24)		ND		33
Motor Oil (>C24-C36)		ND		66

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	103		50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-14912-1

Client Sample ID: 5-B-86 9-11

Lab Sample ID: 580-14912-20

Date Sampled: 08/13/2009 0800

Client Matrix: Solid

% Moisture: 2.3

Date Received: 08/13/2009 1140

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method:	NWTPH-Dx	Analysis Batch: 580-48333	Instrument ID:	TAC013
Preparation:	3550B	Prep Batch: 580-48307	Lab File ID:	FA38974.D
Dilution:	1.0		Initial Weight/Volume:	10.3467 g
Date Analyzed:	08/14/2009 2015		Final Weight/Volume:	10 mL
Date Prepared:	08/13/2009 1651		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
#2 Diesel (C10-C24)		ND		25
Motor Oil (>C24-C36)		ND		49

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	106		50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-14912-1

Client Sample ID: 5-B-86 11-13

Lab Sample ID: 580-14912-21

Date Sampled: 08/13/2009 0810

Client Matrix: Solid

% Moisture: 15.0

Date Received: 08/13/2009 1140

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method:	NWTPH-Dx	Analysis Batch: 580-48333	Instrument ID:	TAC013
Preparation:	3550B	Prep Batch: 580-48307	Lab File ID:	FA38975.D
Dilution:	1.0		Initial Weight/Volume:	10.1485 g
Date Analyzed:	08/14/2009 2036		Final Weight/Volume:	10 mL
Date Prepared:	08/13/2009 1651		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
#2 Diesel (C10-C24)		ND		29
Motor Oil (>C24-C36)		ND		58

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	103		50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-14912-1

Client Sample ID: 5-B-86 13-15

Lab Sample ID: 580-14912-22

Date Sampled: 08/13/2009 0825

Client Matrix: Solid

% Moisture: 23.3

Date Received: 08/13/2009 1140

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method:	NWTPH-Dx	Analysis Batch: 580-48333	Instrument ID:	TAC013
Preparation:	3550B	Prep Batch: 580-48307	Lab File ID:	FA38976.D
Dilution:	1.0		Initial Weight/Volume:	10.2079 g
Date Analyzed:	08/14/2009 2056		Final Weight/Volume:	10 mL
Date Prepared:	08/13/2009 1651		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
#2 Diesel (C10-C24)		ND		32
Motor Oil (>C24-C36)		ND		64

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	104		50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-14912-1

Client Sample ID: 5-B-86 90-110

Lab Sample ID: 580-14912-23

Date Sampled: 08/13/2009 0720

Client Matrix: Solid

% Moisture: 2.8

Date Received: 08/13/2009 1140

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method:	NWTPH-Dx	Analysis Batch: 580-48333	Instrument ID:	TAC013
Preparation:	3550B	Prep Batch: 580-48307	Lab File ID:	FA38977.D
Dilution:	1.0		Initial Weight/Volume:	10.4810 g
Date Analyzed:	08/14/2009 2116		Final Weight/Volume:	10 mL
Date Prepared:	08/13/2009 1651		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
#2 Diesel (C10-C24)		ND		25
Motor Oil (>C24-C36)		ND		49

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	103		50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-14912-1

Client Sample ID: 5-B-86 110-130

Lab Sample ID: 580-14912-24

Date Sampled: 08/13/2009 0725

Client Matrix: Solid

% Moisture: 14.8

Date Received: 08/13/2009 1140

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method:	NWTPH-Dx	Analysis Batch: 580-48333	Instrument ID:	TAC013
Preparation:	3550B	Prep Batch: 580-48307	Lab File ID:	FA38978.D
Dilution:	1.0		Initial Weight/Volume:	10.2131 g
Date Analyzed:	08/14/2009 2137		Final Weight/Volume:	10 mL
Date Prepared:	08/13/2009 1651		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
#2 Diesel (C10-C24)		ND		29
Motor Oil (>C24-C36)		ND		57

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	108		50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-14912-1

Client Sample ID: 5-B-86 130-150

Lab Sample ID: 580-14912-25

Date Sampled: 08/13/2009 0740

Client Matrix: Solid

% Moisture: 21.4

Date Received: 08/13/2009 1140

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method:	NWTPH-Dx	Analysis Batch: 580-48333	Instrument ID:	TAC013
Preparation:	3550B	Prep Batch: 580-48307	Lab File ID:	FA38979.D
Dilution:	1.0		Initial Weight/Volume:	10.6753 g
Date Analyzed:	08/14/2009 2157		Final Weight/Volume:	10 mL
Date Prepared:	08/13/2009 1651		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
#2 Diesel (C10-C24)		ND		30
Motor Oil (>C24-C36)		ND		60

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	106		50 - 150

Client: AECOM, Inc.

Job Number: 580-14912-1

General Chemistry

Client Sample ID: 5-B-82 9-10

Lab Sample ID: 580-14912-1

Client Matrix: Solid

Date Sampled: 08/11/2009 1055

Date Received: 08/13/2009 1140

Analyte	Result	Qual	Units	RL	Dil	Method
Percent Solids	85		%	0.10	1.0	Moisture
	Analysis Batch: 580-48277	Date Analyzed: 08/13/2009 1413				DryWt Corrected: N
Percent Moisture	15		%	0.10	1.0	Moisture
	Analysis Batch: 580-48277	Date Analyzed: 08/13/2009 1413				DryWt Corrected: N

Client: AECOM, Inc.

Job Number: 580-14912-1

General Chemistry

Client Sample ID: 5-B-82 10-12

Lab Sample ID: 580-14912-2

Client Matrix: Solid

Date Sampled: 08/11/2009 1110

Date Received: 08/13/2009 1140

Analyte	Result	Qual	Units	RL	Dil	Method
Percent Solids	90		%	0.10	1.0	Moisture
	Analysis Batch: 580-48277	Date Analyzed: 08/13/2009 1413				DryWt Corrected: N
Percent Moisture	9.5		%	0.10	1.0	Moisture
	Analysis Batch: 580-48277	Date Analyzed: 08/13/2009 1413				DryWt Corrected: N

Client: AECOM, Inc.

Job Number: 580-14912-1

General Chemistry

Client Sample ID: 5-B-82 90-100

Lab Sample ID: 580-14912-3

Date Sampled: 08/11/2009 1000

Client Matrix: Solid

Date Received: 08/13/2009 1140

Analyte	Result	Qual	Units	RL	Dil	Method
Percent Solids	84		%	0.10	1.0	Moisture
	Analysis Batch: 580-48277	Date Analyzed: 08/13/2009 1413				DryWt Corrected: N
Percent Moisture	16		%	0.10	1.0	Moisture
	Analysis Batch: 580-48277	Date Analyzed: 08/13/2009 1413				DryWt Corrected: N

Client: AECOM, Inc.

Job Number: 580-14912-1

General Chemistry

Client Sample ID: 5-B-83 9-11

Lab Sample ID: 580-14912-5

Client Matrix: Solid

Date Sampled: 08/11/2009 1415

Date Received: 08/13/2009 1140

Analyte	Result	Qual	Units	RL	Dil	Method
Percent Solids	92		%	0.10	1.0	Moisture
	Analysis Batch: 580-48277		Date Analyzed: 08/13/2009 1413			DryWt Corrected: N
Percent Moisture	8.1		%	0.10	1.0	Moisture
	Analysis Batch: 580-48277		Date Analyzed: 08/13/2009 1413			DryWt Corrected: N

Client: AECOM, Inc.

Job Number: 580-14912-1

General Chemistry

Client Sample ID: 5-B-83 12-14

Lab Sample ID: 580-14912-6

Client Matrix: Solid

Date Sampled: 08/11/2009 1440

Date Received: 08/13/2009 1140

Analyte	Result	Qual	Units	RL	Dil	Method
Percent Solids	89		%	0.10	1.0	Moisture
	Analysis Batch: 580-48277	Date Analyzed: 08/13/2009 1413				DryWt Corrected: N
Percent Moisture	11		%	0.10	1.0	Moisture
	Analysis Batch: 580-48277	Date Analyzed: 08/13/2009 1413				DryWt Corrected: N

Client: AECOM, Inc.

Job Number: 580-14912-1

General Chemistry

Client Sample ID: 5-B-83 14-16

Lab Sample ID: 580-14912-7

Client Matrix: Solid

Date Sampled: 08/11/2009 1540

Date Received: 08/13/2009 1140

Analyte	Result	Qual	Units	RL	Dil	Method
Percent Solids	93		%	0.10	1.0	Moisture
	Analysis Batch: 580-48277	Date Analyzed: 08/13/2009 1413				DryWt Corrected: N
Percent Moisture	7.3		%	0.10	1.0	Moisture
	Analysis Batch: 580-48277	Date Analyzed: 08/13/2009 1413				DryWt Corrected: N

Client: AECOM, Inc.

Job Number: 580-14912-1

General Chemistry

Client Sample ID: 5-B-83 16-18

Lab Sample ID: 580-14912-8

Client Matrix: Solid

Date Sampled: 08/11/2009 1545

Date Received: 08/13/2009 1140

Analyte	Result	Qual	Units	RL	Dil	Method
Percent Solids	91		%	0.10	1.0	Moisture
	Analysis Batch: 580-48277	Date Analyzed: 08/13/2009 1413				DryWt Corrected: N
Percent Moisture	8.6		%	0.10	1.0	Moisture
	Analysis Batch: 580-48277	Date Analyzed: 08/13/2009 1413				DryWt Corrected: N

Client: AECOM, Inc.

Job Number: 580-14912-1

General Chemistry

Client Sample ID: 5-B-78 15-17

Lab Sample ID: 580-14912-11

Client Matrix: Solid

Date Sampled: 08/12/2009 0950

Date Received: 08/13/2009 1140

Analyte	Result	Qual	Units	RL	Dil	Method
Percent Solids	82		%	0.10	1.0	Moisture
	Analysis Batch: 580-48277	Date Analyzed: 08/13/2009 1413				DryWt Corrected: N
Percent Moisture	18		%	0.10	1.0	Moisture
	Analysis Batch: 580-48277	Date Analyzed: 08/13/2009 1413				DryWt Corrected: N

Client: AECOM, Inc.

Job Number: 580-14912-1

General Chemistry

Client Sample ID: 5-B-81 9-11

Lab Sample ID: 580-14912-12

Date Sampled: 08/12/2009 1205

Client Matrix: Solid

Date Received: 08/13/2009 1140

Analyte	Result	Qual	Units	RL	Dil	Method
Percent Solids	89		%	0.10	1.0	Moisture
	Analysis Batch: 580-48277	Date Analyzed: 08/13/2009 1413				DryWt Corrected: N
Percent Moisture	11		%	0.10	1.0	Moisture
	Analysis Batch: 580-48277	Date Analyzed: 08/13/2009 1413				DryWt Corrected: N

Client: AECOM, Inc.

Job Number: 580-14912-1

General Chemistry

Client Sample ID: 5-B-81 11-13

Lab Sample ID: 580-14912-13

Date Sampled: 08/12/2009 1215

Client Matrix: Solid

Date Received: 08/13/2009 1140

Analyte	Result	Qual	Units	RL	Dil	Method
Percent Solids	89		%	0.10	1.0	Moisture
	Analysis Batch: 580-48277	Date Analyzed: 08/13/2009 1413				DryWt Corrected: N
Percent Moisture	11		%	0.10	1.0	Moisture
	Analysis Batch: 580-48277	Date Analyzed: 08/13/2009 1413				DryWt Corrected: N

Client: AECOM, Inc.

Job Number: 580-14912-1

General Chemistry

Client Sample ID: 5-B-81 13-15

Lab Sample ID: 580-14912-14

Client Matrix: Solid

Date Sampled: 08/12/2009 1220

Date Received: 08/13/2009 1140

Analyte	Result	Qual	Units	RL	Dil	Method
Percent Solids	72		%	0.10	1.0	Moisture
	Analysis Batch: 580-48277	Date Analyzed: 08/13/2009 1413				DryWt Corrected: N
Percent Moisture	28		%	0.10	1.0	Moisture
	Analysis Batch: 580-48277	Date Analyzed: 08/13/2009 1413				DryWt Corrected: N

Client: AECOM, Inc.

Job Number: 580-14912-1

General Chemistry

Client Sample ID: 5-B-81 15-17

Lab Sample ID: 580-14912-15

Client Matrix: Solid

Date Sampled: 08/12/2009 1235

Date Received: 08/13/2009 1140

Analyte	Result	Qual	Units	RL	Dil	Method
Percent Solids	71		%	0.10	1.0	Moisture
	Analysis Batch: 580-48277	Date Analyzed: 08/13/2009 1413				DryWt Corrected: N
Percent Moisture	29		%	0.10	1.0	Moisture
	Analysis Batch: 580-48277	Date Analyzed: 08/13/2009 1413				DryWt Corrected: N

Client: AECOM, Inc.

Job Number: 580-14912-1

General Chemistry

Client Sample ID: 5-B-75 9-11

Lab Sample ID: 580-14912-16

Date Sampled: 08/12/2009 1425

Client Matrix: Solid

Date Received: 08/13/2009 1140

Analyte	Result	Qual	Units	RL	Dil	Method
Percent Solids	93		%	0.10	1.0	Moisture
	Analysis Batch: 580-48277	Date Analyzed: 08/13/2009 1413				DryWt Corrected: N
Percent Moisture	7.1		%	0.10	1.0	Moisture
	Analysis Batch: 580-48277	Date Analyzed: 08/13/2009 1413				DryWt Corrected: N

Client: AECOM, Inc.

Job Number: 580-14912-1

General Chemistry

Client Sample ID: 5-B-75 11-13

Lab Sample ID: 580-14912-17

Date Sampled: 08/12/2009 1430

Client Matrix: Solid

Date Received: 08/13/2009 1140

Analyte	Result	Qual	Units	RL	Dil	Method
Percent Solids	85		%	0.10	1.0	Moisture
	Analysis Batch: 580-48277	Date Analyzed: 08/13/2009 1413				DryWt Corrected: N
Percent Moisture	15		%	0.10	1.0	Moisture
	Analysis Batch: 580-48277	Date Analyzed: 08/13/2009 1413				DryWt Corrected: N

Client: AECOM, Inc.

Job Number: 580-14912-1

General Chemistry

Client Sample ID: 5-B-75 13-15

Lab Sample ID: 580-14912-18

Client Matrix: Solid

Date Sampled: 08/12/2009 1440

Date Received: 08/13/2009 1140

Analyte	Result	Qual	Units	RL	Dil	Method
Percent Solids	74		%	0.10	1.0	Moisture
	Analysis Batch: 580-48277	Date Analyzed: 08/13/2009 1413				DryWt Corrected: N
Percent Moisture	26		%	0.10	1.0	Moisture
	Analysis Batch: 580-48277	Date Analyzed: 08/13/2009 1413				DryWt Corrected: N

Client: AECOM, Inc.

Job Number: 580-14912-1

General Chemistry

Client Sample ID: 5-B-75 15-17

Lab Sample ID: 580-14912-19

Client Matrix: Solid

Date Sampled: 08/12/2009 1450

Date Received: 08/13/2009 1140

Analyte	Result	Qual	Units	RL	Dil	Method
Percent Solids	74		%	0.10	1.0	Moisture
	Analysis Batch: 580-48277	Date Analyzed: 08/13/2009 1413				DryWt Corrected: N
Percent Moisture	26		%	0.10	1.0	Moisture
	Analysis Batch: 580-48277	Date Analyzed: 08/13/2009 1413				DryWt Corrected: N

Client: AECOM, Inc.

Job Number: 580-14912-1

General Chemistry

Client Sample ID: 5-B-86 9-11

Lab Sample ID: 580-14912-20

Date Sampled: 08/13/2009 0800

Client Matrix: Solid

Date Received: 08/13/2009 1140

Analyte	Result	Qual	Units	RL	Dil	Method
Percent Solids	98		%	0.10	1.0	Moisture
	Analysis Batch: 580-48460	Date Analyzed: 08/17/2009 0938				DryWt Corrected: N
Percent Moisture	2.3		%	0.10	1.0	Moisture
	Analysis Batch: 580-48460	Date Analyzed: 08/17/2009 0938				DryWt Corrected: N

Client: AECOM, Inc.

Job Number: 580-14912-1

General Chemistry

Client Sample ID: 5-B-86 11-13

Lab Sample ID: 580-14912-21

Client Matrix: Solid

Date Sampled: 08/13/2009 0810

Date Received: 08/13/2009 1140

Analyte	Result	Qual	Units	RL	Dil	Method
Percent Solids	85		%	0.10	1.0	Moisture
	Analysis Batch: 580-48460	Date Analyzed: 08/17/2009 0938				DryWt Corrected: N
Percent Moisture	15		%	0.10	1.0	Moisture
	Analysis Batch: 580-48460	Date Analyzed: 08/17/2009 0938				DryWt Corrected: N

Client: AECOM, Inc.

Job Number: 580-14912-1

General Chemistry

Client Sample ID: 5-B-86 13-15

Lab Sample ID: 580-14912-22

Date Sampled: 08/13/2009 0825

Client Matrix: Solid

Date Received: 08/13/2009 1140

Analyte	Result	Qual	Units	RL	Dil	Method
Percent Solids	77		%	0.10	1.0	Moisture
	Analysis Batch: 580-48460	Date Analyzed: 08/17/2009 0938				DryWt Corrected: N
Percent Moisture	23		%	0.10	1.0	Moisture
	Analysis Batch: 580-48460	Date Analyzed: 08/17/2009 0938				DryWt Corrected: N

Client: AECOM, Inc.

Job Number: 580-14912-1

General Chemistry

Client Sample ID: 5-B-86 90-110

Lab Sample ID: 580-14912-23

Client Matrix: Solid

Date Sampled: 08/13/2009 0720

Date Received: 08/13/2009 1140

Analyte	Result	Qual	Units	RL	Dil	Method
Percent Solids	97		%	0.10	1.0	Moisture
	Analysis Batch: 580-48460	Date Analyzed: 08/17/2009 0938				DryWt Corrected: N
Percent Moisture	2.8		%	0.10	1.0	Moisture
	Analysis Batch: 580-48460	Date Analyzed: 08/17/2009 0938				DryWt Corrected: N

Client: AECOM, Inc.

Job Number: 580-14912-1

General Chemistry

Client Sample ID: 5-B-86 110-130

Lab Sample ID: 580-14912-24

Client Matrix: Solid

Date Sampled: 08/13/2009 0725

Date Received: 08/13/2009 1140

Analyte	Result	Qual	Units	RL	Dil	Method
Percent Solids	85		%	0.10	1.0	Moisture
	Analysis Batch: 580-48460	Date Analyzed: 08/17/2009 0938				DryWt Corrected: N
Percent Moisture	15		%	0.10	1.0	Moisture
	Analysis Batch: 580-48460	Date Analyzed: 08/17/2009 0938				DryWt Corrected: N

Client: AECOM, Inc.

Job Number: 580-14912-1

General Chemistry

Client Sample ID: 5-B-86 130-150

Lab Sample ID: 580-14912-25

Date Sampled: 08/13/2009 0740

Client Matrix: Solid

Date Received: 08/13/2009 1140

Analyte	Result	Qual	Units	RL	Dil	Method
Percent Solids	79		%	0.10	1.0	Moisture
	Analysis Batch: 580-48460	Date Analyzed: 08/17/2009 0938				DryWt Corrected: N
Percent Moisture	21		%	0.10	1.0	Moisture
	Analysis Batch: 580-48460	Date Analyzed: 08/17/2009 0938				DryWt Corrected: N

DATA REPORTING QUALIFIERS

Client: AECOM, Inc.

Job Number: 580-14912-1

Lab Section	Qualifier	Description
GC Semi VOA	X	Surrogate exceeds the control limits

Quality Control Results

Client: AECOM, Inc.

Job Number: 580-14912-1

Method Blank - Batch: 580-48275

**Method: NWTPH-Dx
Preparation: 3550B**

Lab Sample ID: MB 580-48275/1-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 08/14/2009 0923
Date Prepared: 08/13/2009 1404

Analysis Batch: 580-48333
Prep Batch: 580-48275
Units: mg/Kg

Instrument ID: TAC013
Lab File ID: FA38945.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 10 mL
Injection Volume: 1 uL

Analyte	Result	Qual	RL
#2 Diesel (C10-C24)	ND		25
Motor Oil (>C24-C36)	ND		50
Surrogate	% Rec	Acceptance Limits	
o-Terphenyl	98	50 - 150	

Lab Control Sample - Batch: 580-48275

**Method: NWTPH-Dx
Preparation: 3550B**

Lab Sample ID: LCS 580-48275/2-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 08/14/2009 0943
Date Prepared: 08/13/2009 1404

Analysis Batch: 580-48333
Prep Batch: 580-48275
Units: mg/Kg

Instrument ID: TAC013
Lab File ID: FA38946.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 10 mL
Injection Volume: 1 uL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
#2 Diesel (C10-C24)	500	418	84	70 - 125	
Motor Oil (>C24-C36)	500	522	104	64 - 127	
Surrogate	% Rec		Acceptance Limits		
o-Terphenyl	98		50 - 150		

Calculations are performed before rounding to avoid round-off errors in calculated results.

Quality Control Results

Client: AECOM, Inc.

Job Number: 580-14912-1

Duplicate - Batch: 580-48275

**Method: NWTPH-Dx
Preparation: 3550B**

Lab Sample ID: 580-14912-14
 Client Matrix: Solid
 Dilution: 1.0
 Date Analyzed: 08/14/2009 1705
 Date Prepared: 08/13/2009 1404

Analysis Batch: 580-48333
 Prep Batch: 580-48275
 Units: mg/Kg

Instrument ID: TAC013
 Lab File ID: FA38965.D
 Initial Weight/Volume: 10.0876 g
 Final Weight/Volume: 10 mL
 Injection Volume: 1 uL

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
#2 Diesel (C10-C24)	ND	ND	NC	35	
Motor Oil (>C24-C36)	ND	ND	NC	35	
Surrogate	% Rec		Acceptance Limits		
o-Terphenyl	95		50 - 150		

Calculations are performed before rounding to avoid round-off errors in calculated results.

Quality Control Results

Client: AECOM, Inc.

Job Number: 580-14912-1

Method Blank - Batch: 580-48307

**Method: NWTPH-Dx
Preparation: 3550B**

Lab Sample ID: MB 580-48307/1-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 08/14/2009 1930
Date Prepared: 08/13/2009 1651

Analysis Batch: 580-48333
Prep Batch: 580-48307
Units: mg/Kg

Instrument ID: TAC013
Lab File ID: FA38972.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 10 mL
Injection Volume: 1 uL

Analyte	Result	Qual	RL
#2 Diesel (C10-C24)	ND		25
Motor Oil (>C24-C36)	ND		50
<hr/>			
Surrogate	% Rec	Acceptance Limits	
o-Terphenyl	103	50 - 150	

Lab Control Sample - Batch: 580-48307

**Method: NWTPH-Dx
Preparation: 3550B**

Lab Sample ID: LCS 580-48307/2-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 08/14/2009 1950
Date Prepared: 08/13/2009 1651

Analysis Batch: 580-48333
Prep Batch: 580-48307
Units: mg/Kg

Instrument ID: TAC013
Lab File ID: FA38973.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 10 mL
Injection Volume: 1 uL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
#2 Diesel (C10-C24)	500	458	92	70 - 125	
Motor Oil (>C24-C36)	500	557	111	64 - 127	
<hr/>					
Surrogate	% Rec		Acceptance Limits		
o-Terphenyl	107		50 - 150		

Calculations are performed before rounding to avoid round-off errors in calculated results.

Quality Control Results

Client: AECOM, Inc.

Job Number: 580-14912-1

Duplicate - Batch: 580-48307

Method: NWTPH-Dx
Preparation: 3550B

Lab Sample ID: 580-14912-25
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 08/14/2009 2217
Date Prepared: 08/13/2009 1651

Analysis Batch: 580-48333
Prep Batch: 580-48307
Units: mg/Kg

Instrument ID: TAC013
Lab File ID: FA38980.D
Initial Weight/Volume: 10.7156 g
Final Weight/Volume: 10 mL
Injection Volume: 1 uL

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
#2 Diesel (C10-C24)	ND	ND	NC	35	
Motor Oil (>C24-C36)	ND	ND	NC	35	
Surrogate	% Rec		Acceptance Limits		
o-Terphenyl	94		50 - 150		

Calculations are performed before rounding to avoid round-off errors in calculated results.

Quality Control Results

Client: AECOM, Inc.

Job Number: 580-14912-1

Duplicate - Batch: 580-48277

**Method: Moisture
Preparation: N/A**

Lab Sample ID: 580-14912-19
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 08/13/2009 1413
Date Prepared: N/A

Analysis Batch: 580-48277
Prep Batch: N/A
Units: %

Instrument ID: No Equipment Assigned
Lab File ID: N/A
Initial Weight/Volume:
Final Weight/Volume:

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
Percent Solids	74	74	1	20	
Percent Moisture	26	26	2	20	

Calculations are performed before rounding to avoid round-off errors in calculated results.

Login Sample Receipt Check List

Client: AECOM, Inc.

Job Number: 580-14912-1

Login Number: 14912
Creator: Gamble, Cathy
List Number: 1

List Source: TestAmerica Tacoma

Question	T / F / NA	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	N/A	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Is the Field Sampler's name present on COC?	False	
Sample Preservation Verified	N/A	

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on August 12, 2009 by Friedman & Bruya, Inc. from the Skykomish 2009 Inv 01140-284-0270, F&BI S090812 Drill project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	<u>AECOM</u>	<u>Date Analyzed</u>	<u>Time Analyzed</u>
S090812-08	5-B-82 12-14	08/12/09	18:49
S090812-09	5-B-82 14-16	08/12/09	19:48
S090812-10	5-B-78 11-13	08/12/09	20:45
S090812-11	5-B-78 13-15	08/12/09	21:42

All quality control requirements were acceptable. The surrogate used for this analysis is o-terphenyl.

The samples were analyzed at a 1 to 10 dilution. The reporting limits for this dilution level are <100 mg/kg for diesel range organics and <250 mg/kg for the motor oil range.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 08/13/09

Date Received: 08/12/09

Project: Skykomish 2009 Inv 01140-284-0270, F&BI S090812-Drill

Date Extracted: 08/12/09

Date Analyzed: 08/12/09

**MOBILE LABORATORY RESULTS FROM THE ANALYSIS OF SOIL
SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL AND
MOTOR OIL USING METHOD NWTPH-Dx
Silica Gel Cleanup Procedure Not Performed**

Results Reported on a Dry Weight Basis

Results Reported as mg/kg(ppm)

<u>Sample ID</u> Laboratory ID	<u>Diesel Range</u> (C ₁₀ -C ₂₅)	<u>Motor Oil Range</u> (C ₂₅ -C ₃₆)	<u>Surrogate</u> (% Recovery) (Limit 50-150)
5-B-82 12-14 S090812-08 1/10	760 d	500 d	117
5-B-82 14-16 S090812-09 1/10	640 d	420 d	111
5-B-78 11-13 S090812-10 1/10	620 d	350 d	114
5-B-78 13-15 S090812-11 1/10	2,000 d	1,400 d	128
Method Blank	<10	<25	78

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 08/13/09

Date Received: 08/12/09

Project: BNSF Skykomish Remediation, F&BI S090812

**MOBILE LABORATORY QUALITY ASSURANCE RESULTS FROM THE
ANALYSIS OF SOIL SAMPLES FOR DIESEL AND MOTOR OIL
BY METHOD NWTPH-Dx**

Laboratory Code: S090812-01 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	Relative Percent Difference	Acceptance Criteria
Diesel	mg/kg (ppm)	34	30	13	0-20
Motor Oil	mg/kg (ppm)	55	55	0	0-20

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Diesel	mg/kg (ppm)	100	84	70-130
Motor Oil	mg/kg (ppm)	100	86	70-130

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on August 13, 2009 by Friedman & Bruya, Inc. from the Skykomish 01140-284-0270, F&BI S090813-Drill project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	<u>AECOM</u>	<u>Date Analyzed</u>	<u>Time Analyzed</u>
S090813-01	5-B-78 9-11	08/13/09	10:42

All quality control requirements were acceptable. The surrogate used for this analysis is o-terphenyl.

The sample was analyzed at a 1:10 dilution. Reporting limits for this dilution level are <100 mg/kg for the diesel range and <250 mg/kg for the motor oil range.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 08/14/09
Date Received: 08/13/09
Project: Skykomish 01140-284-0270, F&BI S090813-Drill
Date Extracted: 08/13/09
Date Analyzed: 08/13/09

**MOBILE LABORATORY RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR
TOTAL PETROLEUM HYDROCARBONS AS DIESEL AND MOTOR OIL USING
METHOD NWTPH-Dx**

Silica Gel Cleanup Procedure Not Performed

Results Reported on a Dry Weight Basis

Results Reported as mg/kg(ppm)

<u>Sample ID</u> Laboratory ID	<u>Diesel Range</u> (C ₁₀ -C ₂₅)	<u>Motor Oil Range</u> (C ₂₅ -C ₃₆)	<u>Surrogate</u> <u>(% Recovery)</u> (Limit 50-150)
5-B-78 9-11 d S090813-01 1/10	6,800	5,500	165 ip
Method Blank	<10	<25	102

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 08/14/09

Date Received: 08/13/09

Project: AECOM 2009 Skykomish Remediation, F&BI S090813

**MOBILE LABORATORY QUALITY ASSURANCE RESULTS FROM THE ANALYSIS OF
SOIL SAMPLES FOR DIESEL AND MOTOR OIL
BY METHOD NWTPH-Dx**

Laboratory Code: S090813-02 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	Relative Percent Difference	Acceptance Criteria
Diesel	mg/kg (ppm)	<10	<10	nm	0-20
Motor Oil	mg/kg (ppm)	32	32	0	0-20

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Diesel	mg/kg (ppm)	100	89	70-130
Motor Oil	mg/kg (ppm)	100	86	70-130

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on August 17, 2009 by Friedman & Bruya, Inc. from the AECOM 2009 Skykomish 01140-284-0270, F&BI S090817 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	<u>AECOM</u>	<u>Date Analyzed</u>	<u>Time Analyzed</u>
S090817-01	3-W-41-4-6	08/17/09	18:55
S090817-02	3-W-41-6-8	08/17/09	19:23
S090817-03	3-W-41-8-10	08/17/09	19:51
S090817-04	3-W-41-10-12	08/17/09	20:20

All quality control requirements were acceptable. The surrogate used for this analysis is o-terphenyl.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 08/18/09

Date Received: 08/17/09

Project: AECOM 2009 Skykomish 01140-284-0270, F&BI S090817

Date Extracted: 08/17/09

Date Analyzed: 08/17/09

**MOBILE LABORATORY RESULTS FROM THE ANALYSIS OF SOIL
SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL AND
MOTOR OIL USING METHOD NWTPH-Dx
Silica Gel Cleanup Procedure Not Performed**

Results Reported on a Dry Weight Basis

Results Reported as mg/kg(ppm)

<u>Sample ID</u> Laboratory ID	<u>Diesel Range</u> (C ₁₀ -C ₂₅)	<u>Motor Oil Range</u> (C ₂₅ -C ₃₆)	<u>Surrogate</u> <u>(% Recovery)</u> (Limit 50-150)
3-W-41-4-6 S090817-01	<10	43	112
3-W-41-6-8 S090817-02	<10	49	110
3-W-41-8-10 S090817-03	<10	44	90
3-W-41-10-12 S090817-04	<10	43	113
Method Blank	<10	<25	105

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 08/18/09

Date Received: 08/17/09

Project: AECOM 2009 Skykomish 01140-284-0270 F&BI S090817

**MOBILE LABORATORY QUALITY ASSURANCE RESULTS FROM THE
ANALYSIS OF SOIL SAMPLES FOR DIESEL AND MOTOR OIL
BY METHOD NWTPH-Dx**

Laboratory Code: S090814-01 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	Relative Percent Difference	Acceptance Criteria
Diesel	mg/kg (ppm)	24	29	19	0-20
Motor Oil	mg/kg (ppm)	95	92	3	0-20

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Diesel	mg/kg (ppm)	100	83	70-130
Motor Oil	mg/kg (ppm)	100	95	70-130

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on August 18, 2009 by Friedman & Bruya, Inc. from the AECOM 2009 Skykomish 01140-284-0270, F&BI S090818-Drill project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	<u>AECOM</u>	<u>Date Analyzed</u>	<u>Time Analyzed</u>
S090818-01	5-B-84D 13-15	08/20/09	14:25
S090818-02	5-B-84D 15-17	08/18/09	19:05
S090818-03	5-B-84D 17-19	08/18/09	16:39
S090818-06	5-B-85 14-16	08/18/09	12:14
S090818-07	5-B-85 16-18	08/18/09	12:43

The reporting limits for sample 5-B-85 16-18 are <100 mg/kg for diesel and <250 mg/kg for motor oil. All quality control requirements were acceptable. The surrogate used for this analysis is o-terphenyl.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 08/19/09

Date Received: 08/18/09

Project: AECOM 2009 Skykomish 01140-284-0270, F&BI S090818-Drill

Date Extracted: 08/18/09

Date Analyzed: 08/18/09 and 08/20/09

**MOBILE LABORATORY RESULTS FROM THE ANALYSIS OF SOIL
SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL AND
MOTOR OIL USING METHOD NWTPH-Dx
Silica Gel Cleanup Procedure Not Performed**

Results Reported on a Dry Weight Basis

Results Reported as mg/kg(ppm)

<u>Sample ID</u> Laboratory ID	<u>Diesel Range</u> (C ₁₀ -C ₂₅)	<u>Motor Oil Range</u> (C ₂₅ -C ₃₆)	<u>Surrogate</u> (% Recovery) (Limit 50-150)
5-B-84D 13-15 S090818-01	2,900 d	2,100 d	68
5-B-84D 15-17 S090818-02	200	170	125
5-B-84D 17-19 S090818-03	<10	43	103
5-B-85 14-16 S090818-06	140	120	121
5-B-85 16-18 S090818-07	78	39	120
Method Blank	<10	<25	94

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 08/19/09

Date Received: 08/18/09

Project: AECOM 2009 Skykomish Remediation, F&BI S090818

**MOBILE LABORATORY QUALITY ASSURANCE RESULTS FROM THE
ANALYSIS OF SOIL SAMPLES FOR DIESEL AND MOTOR OIL
BY METHOD NWTPH-Dx**

Laboratory Code: S080707-02 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	Relative Percent Difference	Acceptance Criteria
Diesel	mg/kg (ppm)	<10	<10	nm	0-20
Motor Oil	mg/kg (ppm)	51	48	6	0-20

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Diesel	mg/kg (ppm)	100	89	70-130
Motor Oil	mg/kg (ppm)	100	86	70-130

ANALYTICAL REPORT

Job Number: 580-14963-1

Job Description: BNSF-Skykomish Soil

For:
AECOM, Inc.
710 Second Avenue
Suite 1000
Seattle, WA 98104
Attention: Sarah Albano



Approved for release.
Kate Haney
Project Manager II
8/26/2009 1:08 PM

Kate Haney
Project Manager II
kate.haney@testamericainc.com
08/26/2009

cc: Renee Knecht
Jennifer Wald
Denell Warren

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This report shall not be reproduced except in full, without prior express written approval by the laboratory. The results relate only to the item(s) tested and the sample(s) as received by the laboratory.

The results included in this report have been reviewed for compliance with the laboratory QA/QC plan and meet all requirements of NELAC. All data have been found to be compliant with laboratory protocol, with the exception of any items noted in the case narrative.

TestAmerica Laboratories, Inc.

TestAmerica Tacoma 5755 8th Street East, Tacoma, WA 98424
Tel (253) 922-2310 Fax (253) 922-5047 www.testamericainc.com



Job Narrative
580-J14963-1

Comments

No additional comments.

Receipt

All samples were received in good condition within temperature requirements.

GC Semi VOA

Method(s) NWTPH-Dx: Due to the level of dilution required for the following samples the surrogate recovery was outside of the upper control limits for 14963-1, samples requiring 5x dilutions; 14963-1 and 14963-1DUP

Method(s) NWTPH-Dx: Duplicate RPD above acceptable limit due to matrix of sample.
Data reported.

No other analytical or quality issues were noted.

General Chemistry

No analytical or quality issues were noted.

Organic Prep

No analytical or quality issues were noted.

METHOD SUMMARY

Client: AECOM, Inc.

Job Number: 580-14963-1

Description	Lab Location	Method	Preparation Method
Matrix: Solid			
Northwest - Semi-Volatile Petroleum Products (GC)	TAL TAC	NWTPH NWTPH-Dx	
Semi-Volatile Petroleum Products by NWTPH with Silica Gel Cleanup	TAL TAC	NWTPH NWTPH-Dx	
Ultrasonic Extraction	TAL TAC		SW846 3550B
Ultrasonic Extraction	TAL TAC		SW846 3550B
Silica Gel Cleanup	TAL TAC		SW846 3630C
Organic Carbon, Total (TOC)	TAL TAC	SW846 9060	
Percent Moisture	TAL TAC	EPA Moisture	

Lab References:

TAL TAC = TestAmerica Tacoma

Method References:

EPA = US Environmental Protection Agency

NWTPH = Northwest Total Petroleum Hydrocarbon

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

SAMPLE SUMMARY

Client: AECOM, Inc.

Job Number: 580-14963-1

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
580-14963-1	5-B-79 7-9	Solid	08/13/2009 1005	08/17/2009 1000
580-14963-2	5-B-79 9-11	Solid	08/13/2009 1025	08/17/2009 1000
580-14963-3	5-B-79 11-13	Solid	08/13/2009 1035	08/17/2009 1000
580-14963-4	5-B-79 13-15	Solid	08/13/2009 1045	08/17/2009 1000
580-14963-7	1C-B-9 9-11	Solid	08/13/2009 1515	08/17/2009 1000
580-14963-8	1C-B-9 11-13	Solid	08/13/2009 1520	08/17/2009 1000
580-14963-9	1C-B-9 13-15	Solid	08/13/2009 1525	08/17/2009 1000
580-14963-10	3-B-30 4-6	Solid	08/14/2009 0800	08/17/2009 1000
580-14963-11	3-B-30 6-8	Solid	08/14/2009 0820	08/17/2009 1000
580-14963-12	3-B-30 8-10	Solid	08/14/2009 0825	08/17/2009 1000
580-14963-13	3-B-30 10-12	Solid	08/14/2009 0830	08/17/2009 1000
580-14963-14	1C-B-11 9-10	Solid	08/14/2009 1030	08/17/2009 1000
580-14963-15	1C-B-11 11-13	Solid	08/14/2009 1035	08/17/2009 1000
580-14963-16	1C-B-11 13-15	Solid	08/14/2009 1035	08/17/2009 1000
580-14963-17	1C-B-11 15-17	Solid	08/14/2009 1040	08/17/2009 1000
580-14963-18	3-W-42 4-6	Solid	08/14/2009 0945	08/17/2009 1000
580-14963-19	3-W-42 6-8	Solid	08/14/2009 1000	08/17/2009 1000
580-14963-20	3-W-42 8-10	Solid	08/14/2009 1130	08/17/2009 1000
580-14963-21	3-W-42 10-12	Solid	08/14/2009 1155	08/17/2009 1000

Analytical Data

Client: AECOM, Inc.

Job Number: 580-14963-1

Client Sample ID: 5-B-79 7-9

Lab Sample ID: 580-14963-1

Date Sampled: 08/13/2009 1005

Client Matrix: Solid

% Moisture: 9.2

Date Received: 08/17/2009 1000

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method:	NWTPH-Dx	Analysis Batch: 580-48736	Instrument ID:	TAC015
Preparation:	3550B	Prep Batch: 580-48490	Lab File ID:	5401611.D
Dilution:	5.0		Initial Weight/Volume:	10.2182 g
Date Analyzed:	08/20/2009 1131		Final Weight/Volume:	10 mL
Date Prepared:	08/17/2009 1306		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
#2 Diesel (C10-C24)		16000		130
Motor Oil (>C24-C36)		17000		270

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	152	X D	50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-14963-1

Client Sample ID: 5-B-79 9-11

Lab Sample ID: 580-14963-2

Date Sampled: 08/13/2009 1025

Client Matrix: Solid

% Moisture: 7.6

Date Received: 08/17/2009 1000

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method:	NWTPH-Dx	Analysis Batch: 580-48736	Instrument ID:	TAC015
Preparation:	3550B	Prep Batch: 580-48490	Lab File ID:	5401613.D
Dilution:	1.0		Initial Weight/Volume:	10.1935 g
Date Analyzed:	08/20/2009 1210		Final Weight/Volume:	10 mL
Date Prepared:	08/17/2009 1306		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
#2 Diesel (C10-C24)		1300		27
Motor Oil (>C24-C36)		1300		53

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	81		50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-14963-1

Client Sample ID: 5-B-79 11-13

Lab Sample ID: 580-14963-3

Date Sampled: 08/13/2009 1035

Client Matrix: Solid

% Moisture: 9.8

Date Received: 08/17/2009 1000

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method:	NWTPH-Dx	Analysis Batch: 580-48736	Instrument ID:	TAC015
Preparation:	3550B	Prep Batch: 580-48490	Lab File ID:	5401614.D
Dilution:	1.0		Initial Weight/Volume:	10.6940 g
Date Analyzed:	08/20/2009 1230		Final Weight/Volume:	10 mL
Date Prepared:	08/17/2009 1306		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
#2 Diesel (C10-C24)		1200		26
Motor Oil (>C24-C36)		1300		52

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	129		50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-14963-1

Client Sample ID: 5-B-79 13-15

Lab Sample ID: 580-14963-4

Date Sampled: 08/13/2009 1045

Client Matrix: Solid

% Moisture: 10.2

Date Received: 08/17/2009 1000

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method:	NWTPH-Dx	Analysis Batch: 580-48736	Instrument ID:	TAC015
Preparation:	3550B	Prep Batch: 580-48490	Lab File ID:	5401615.D
Dilution:	1.0		Initial Weight/Volume:	10.9198 g
Date Analyzed:	08/20/2009 1250		Final Weight/Volume:	10 mL
Date Prepared:	08/17/2009 1306		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
#2 Diesel (C10-C24)		1100		25
Motor Oil (>C24-C36)		1200		51

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	112		50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-14963-1

Client Sample ID: 1C-B-9 9-11

Lab Sample ID: 580-14963-7

Date Sampled: 08/13/2009 1515

Client Matrix: Solid

% Moisture: 7.9

Date Received: 08/17/2009 1000

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method:	NWTPH-Dx	Analysis Batch: 580-48736	Instrument ID:	TAC015
Preparation:	3550B	Prep Batch: 580-48490	Lab File ID:	5401616.D
Dilution:	1.0		Initial Weight/Volume:	10.1125 g
Date Analyzed:	08/20/2009 1310		Final Weight/Volume:	10 mL
Date Prepared:	08/17/2009 1306		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
#2 Diesel (C10-C24)		48		27
Motor Oil (>C24-C36)		86		54

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	103		50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-14963-1

Client Sample ID: 1C-B-9 11-13

Lab Sample ID: 580-14963-8

Date Sampled: 08/13/2009 1520

Client Matrix: Solid

% Moisture: 11.2

Date Received: 08/17/2009 1000

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method:	NWTPH-Dx	Analysis Batch: 580-48736	Instrument ID:	TAC015
Preparation:	3550B	Prep Batch: 580-48490	Lab File ID:	5401617.D
Dilution:	1.0		Initial Weight/Volume:	10.3478 g
Date Analyzed:	08/20/2009 1330		Final Weight/Volume:	10 mL
Date Prepared:	08/17/2009 1306		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
#2 Diesel (C10-C24)		ND		27
Motor Oil (>C24-C36)		ND		54

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	78		50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-14963-1

Client Sample ID: 1C-B-9 13-15

Lab Sample ID: 580-14963-9

Date Sampled: 08/13/2009 1525

Client Matrix: Solid

% Moisture: 7.0

Date Received: 08/17/2009 1000

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method:	NWTPH-Dx	Analysis Batch: 580-48736	Instrument ID:	TAC015
Preparation:	3550B	Prep Batch: 580-48490	Lab File ID:	5401618.D
Dilution:	1.0		Initial Weight/Volume:	10.1568 g
Date Analyzed:	08/20/2009 1349		Final Weight/Volume:	10 mL
Date Prepared:	08/17/2009 1306		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
#2 Diesel (C10-C24)		ND		26
Motor Oil (>C24-C36)		ND		53

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	90		50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-14963-1

Client Sample ID: 3-B-30 4-6

Lab Sample ID: 580-14963-10

Date Sampled: 08/14/2009 0800

Client Matrix: Solid

% Moisture: 6.1

Date Received: 08/17/2009 1000

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method:	NWTPH-Dx	Analysis Batch: 580-48948	Instrument ID:	TAC015
Preparation:	3550B	Prep Batch: 580-48490	Lab File ID:	5401715.D
Dilution:	1.0		Initial Weight/Volume:	10.3062 g
Date Analyzed:	08/24/2009 2143		Final Weight/Volume:	10 mL
Date Prepared:	08/17/2009 1306		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
#2 Diesel (C10-C24)		35		26
Motor Oil (>C24-C36)		ND		52

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	108		50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-14963-1

Client Sample ID: 3-B-30 4-6

Lab Sample ID: 580-14963-10

Date Sampled: 08/14/2009 0800

Client Matrix: Solid

% Moisture: 6.1

Date Received: 08/17/2009 1000

NWTPH-Dx Semi-Volatile Petroleum Products by NWTPH with Silica Gel Cleanup

Method:	NWTPH-Dx	Analysis Batch: 580-48736	Instrument ID:	TAC015
Preparation:	3550B	Prep Batch: 580-48490	Lab File ID:	5401628.D
Dilution:	1.0		Initial Weight/Volume:	10.3062 g
Date Analyzed:	08/20/2009 1718		Final Weight/Volume:	10 mL
Date Prepared:	08/17/2009 1306		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
#2 Diesel (C10-C24)		ND		26
Motor Oil (>C24-C36)		ND		52

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	141		50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-14963-1

Client Sample ID: 3-B-30 6-8

Lab Sample ID: 580-14963-11

Date Sampled: 08/14/2009 0820

Client Matrix: Solid

% Moisture: 14.5

Date Received: 08/17/2009 1000

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method:	NWTPH-Dx	Analysis Batch: 580-48948	Instrument ID:	TAC015
Preparation:	3550B	Prep Batch: 580-48490	Lab File ID:	5401716.D
Dilution:	1.0		Initial Weight/Volume:	10.7109 g
Date Analyzed:	08/24/2009 2202		Final Weight/Volume:	10 mL
Date Prepared:	08/17/2009 1306		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
#2 Diesel (C10-C24)		ND		27
Motor Oil (>C24-C36)		ND		55

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	110		50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-14963-1

Client Sample ID: 3-B-30 6-8

Lab Sample ID: 580-14963-11

Date Sampled: 08/14/2009 0820

Client Matrix: Solid

% Moisture: 14.5

Date Received: 08/17/2009 1000

NWTPH-Dx Semi-Volatile Petroleum Products by NWTPH with Silica Gel Cleanup

Method:	NWTPH-Dx	Analysis Batch: 580-48736	Instrument ID:	TAC015
Preparation:	3550B	Prep Batch: 580-48490	Lab File ID:	5401629.D
Dilution:	1.0		Initial Weight/Volume:	10.7109 g
Date Analyzed:	08/20/2009 1738		Final Weight/Volume:	10 mL
Date Prepared:	08/17/2009 1306		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
#2 Diesel (C10-C24)		ND		27
Motor Oil (>C24-C36)		ND		55

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	134		50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-14963-1

Client Sample ID: 3-B-30 8-10

Lab Sample ID: 580-14963-12

Date Sampled: 08/14/2009 0825

Client Matrix: Solid

% Moisture: 9.8

Date Received: 08/17/2009 1000

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method:	NWTPH-Dx	Analysis Batch: 580-48948	Instrument ID:	TAC015
Preparation:	3550B	Prep Batch: 580-48490	Lab File ID:	5401717.D
Dilution:	1.0		Initial Weight/Volume:	10.3418 g
Date Analyzed:	08/24/2009 2222		Final Weight/Volume:	10 mL
Date Prepared:	08/17/2009 1306		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
#2 Diesel (C10-C24)		ND		27
Motor Oil (>C24-C36)		ND		54

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	107		50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-14963-1

Client Sample ID: 3-B-30 8-10

Lab Sample ID: 580-14963-12

Date Sampled: 08/14/2009 0825

Client Matrix: Solid

% Moisture: 9.8

Date Received: 08/17/2009 1000

NWTPH-Dx Semi-Volatile Petroleum Products by NWTPH with Silica Gel Cleanup

Method:	NWTPH-Dx	Analysis Batch: 580-48736	Instrument ID:	TAC015
Preparation:	3550B	Prep Batch: 580-48490	Lab File ID:	5401630.D
Dilution:	1.0		Initial Weight/Volume:	10.3418 g
Date Analyzed:	08/20/2009 1758		Final Weight/Volume:	10 mL
Date Prepared:	08/17/2009 1306		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
#2 Diesel (C10-C24)		ND		27
Motor Oil (>C24-C36)		ND		54

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	147		50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-14963-1

Client Sample ID: 3-B-30 10-12

Lab Sample ID: 580-14963-13

Date Sampled: 08/14/2009 0830

Client Matrix: Solid

% Moisture: 10.9

Date Received: 08/17/2009 1000

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method:	NWTPH-Dx	Analysis Batch: 580-48948	Instrument ID:	TAC015
Preparation:	3550B	Prep Batch: 580-48490	Lab File ID:	5401718.D
Dilution:	1.0		Initial Weight/Volume:	10.9095 g
Date Analyzed:	08/24/2009 2242		Final Weight/Volume:	10 mL
Date Prepared:	08/17/2009 1306		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
#2 Diesel (C10-C24)		ND		26
Motor Oil (>C24-C36)		ND		51

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	99		50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-14963-1

Client Sample ID: 3-B-30 10-12

Lab Sample ID: 580-14963-13

Date Sampled: 08/14/2009 0830

Client Matrix: Solid

% Moisture: 10.9

Date Received: 08/17/2009 1000

NWTPH-Dx Semi-Volatile Petroleum Products by NWTPH with Silica Gel Cleanup

Method:	NWTPH-Dx	Analysis Batch: 580-48736	Instrument ID:	TAC015
Preparation:	3550B	Prep Batch: 580-48490	Lab File ID:	5401631.D
Dilution:	1.0		Initial Weight/Volume:	10.9095 g
Date Analyzed:	08/20/2009 1817		Final Weight/Volume:	10 mL
Date Prepared:	08/17/2009 1306		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
#2 Diesel (C10-C24)		ND		26
Motor Oil (>C24-C36)		ND		51

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	129		50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-14963-1

Client Sample ID: 1C-B-11 9-10

Lab Sample ID: 580-14963-14

Date Sampled: 08/14/2009 1030

Client Matrix: Solid

% Moisture: 4.7

Date Received: 08/17/2009 1000

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method:	NWTPH-Dx	Analysis Batch: 580-48736	Instrument ID:	TAC015
Preparation:	3550B	Prep Batch: 580-48490	Lab File ID:	5401619.D
Dilution:	1.0		Initial Weight/Volume:	10.7160 g
Date Analyzed:	08/20/2009 1409		Final Weight/Volume:	10 mL
Date Prepared:	08/17/2009 1306		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
#2 Diesel (C10-C24)		ND		24
Motor Oil (>C24-C36)		ND		49

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	117		50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-14963-1

Client Sample ID: 1C-B-11 11-13

Lab Sample ID: 580-14963-15

Date Sampled: 08/14/2009 1035

Client Matrix: Solid

% Moisture: 6.9

Date Received: 08/17/2009 1000

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method:	NWTPH-Dx	Analysis Batch: 580-48736	Instrument ID:	TAC015
Preparation:	3550B	Prep Batch: 580-48490	Lab File ID:	5401620.D
Dilution:	1.0		Initial Weight/Volume:	10.4776 g
Date Analyzed:	08/20/2009 1429		Final Weight/Volume:	10 mL
Date Prepared:	08/17/2009 1306		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
#2 Diesel (C10-C24)		ND		26
Motor Oil (>C24-C36)		ND		51

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	95		50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-14963-1

Client Sample ID: 1C-B-11 13-15

Lab Sample ID: 580-14963-16

Date Sampled: 08/14/2009 1035

Client Matrix: Solid

% Moisture: 9.0

Date Received: 08/17/2009 1000

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method:	NWTPH-Dx	Analysis Batch: 580-48736	Instrument ID:	TAC015
Preparation:	3550B	Prep Batch: 580-48490	Lab File ID:	5401621.D
Dilution:	1.0		Initial Weight/Volume:	10.7693 g
Date Analyzed:	08/20/2009 1449		Final Weight/Volume:	10 mL
Date Prepared:	08/17/2009 1306		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
#2 Diesel (C10-C24)		ND		26
Motor Oil (>C24-C36)		ND		51

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	111		50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-14963-1

Client Sample ID: 1C-B-11 15-17

Lab Sample ID: 580-14963-17

Date Sampled: 08/14/2009 1040

Client Matrix: Solid

% Moisture: 19.6

Date Received: 08/17/2009 1000

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method:	NWTPH-Dx	Analysis Batch: 580-48736	Instrument ID:	TAC015
Preparation:	3550B	Prep Batch: 580-48490	Lab File ID:	5401622.D
Dilution:	1.0		Initial Weight/Volume:	10.2823 g
Date Analyzed:	08/20/2009 1509		Final Weight/Volume:	10 mL
Date Prepared:	08/17/2009 1306		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
#2 Diesel (C10-C24)		ND		30
Motor Oil (>C24-C36)		ND		60

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	102		50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-14963-1

Client Sample ID: 3-W-42 4-6

Lab Sample ID: 580-14963-18

Date Sampled: 08/14/2009 0945

Client Matrix: Solid

% Moisture: 8.2

Date Received: 08/17/2009 1000

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method:	NWTPH-Dx	Analysis Batch: 580-49031	Instrument ID:	TAC013
Preparation:	3550B	Prep Batch: 580-48490	Lab File ID:	FA39308.D
Dilution:	1.0		Initial Weight/Volume:	10.0077 g
Date Analyzed:	08/25/2009 1324		Final Weight/Volume:	10 mL
Date Prepared:	08/17/2009 1306		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
#2 Diesel (C10-C24)		ND		27
Motor Oil (>C24-C36)		ND		54

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	101		50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-14963-1

Client Sample ID: 3-W-42 4-6

Lab Sample ID: 580-14963-18

Date Sampled: 08/14/2009 0945

Client Matrix: Solid

% Moisture: 8.2

Date Received: 08/17/2009 1000

NWTPH-Dx Semi-Volatile Petroleum Products by NWTPH with Silica Gel Cleanup

Method:	NWTPH-Dx	Analysis Batch: 580-48736	Instrument ID:	TAC015
Preparation:	3550B	Prep Batch: 580-48490	Lab File ID:	5401633.D
Dilution:	1.0		Initial Weight/Volume:	10.0077 g
Date Analyzed:	08/20/2009 1857		Final Weight/Volume:	10 mL
Date Prepared:	08/17/2009 1306		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
#2 Diesel (C10-C24)		ND		27
Motor Oil (>C24-C36)		ND		54

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	142		50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-14963-1

Client Sample ID: 3-W-42 6-8

Lab Sample ID: 580-14963-19

Date Sampled: 08/14/2009 1000

Client Matrix: Solid

% Moisture: 7.2

Date Received: 08/17/2009 1000

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method:	NWTPH-Dx	Analysis Batch: 580-49031	Instrument ID:	TAC013
Preparation:	3550B	Prep Batch: 580-48490	Lab File ID:	FA39309.D
Dilution:	1.0		Initial Weight/Volume:	10.2144 g
Date Analyzed:	08/25/2009 1344		Final Weight/Volume:	10 mL
Date Prepared:	08/17/2009 1306		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
#2 Diesel (C10-C24)		ND		26
Motor Oil (>C24-C36)		ND		53

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	97		50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-14963-1

Client Sample ID: 3-W-42 6-8

Lab Sample ID: 580-14963-19

Date Sampled: 08/14/2009 1000

Client Matrix: Solid

% Moisture: 7.2

Date Received: 08/17/2009 1000

NWTPH-Dx Semi-Volatile Petroleum Products by NWTPH with Silica Gel Cleanup

Method:	NWTPH-Dx	Analysis Batch: 580-48736	Instrument ID:	TAC015
Preparation:	3550B	Prep Batch: 580-48490	Lab File ID:	5401634.D
Dilution:	1.0		Initial Weight/Volume:	10.2144 g
Date Analyzed:	08/20/2009 1917		Final Weight/Volume:	10 mL
Date Prepared:	08/17/2009 1306		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
#2 Diesel (C10-C24)		ND		26
Motor Oil (>C24-C36)		ND		53

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	130		50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-14963-1

Client Sample ID: 3-W-42 8-10

Lab Sample ID: 580-14963-20

Date Sampled: 08/14/2009 1130

Client Matrix: Solid

% Moisture: 13.5

Date Received: 08/17/2009 1000

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method:	NWTPH-Dx	Analysis Batch: 580-49031	Instrument ID:	TAC013
Preparation:	3550B	Prep Batch: 580-48490	Lab File ID:	FA39310.D
Dilution:	1.0		Initial Weight/Volume:	10.3464 g
Date Analyzed:	08/25/2009 1404		Final Weight/Volume:	10 mL
Date Prepared:	08/17/2009 1306		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
#2 Diesel (C10-C24)		ND		28
Motor Oil (>C24-C36)		ND		56

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	91		50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-14963-1

Client Sample ID: 3-W-42 8-10

Lab Sample ID: 580-14963-20

Date Sampled: 08/14/2009 1130

Client Matrix: Solid

% Moisture: 13.5

Date Received: 08/17/2009 1000

NWTPH-Dx Semi-Volatile Petroleum Products by NWTPH with Silica Gel Cleanup

Method:	NWTPH-Dx	Analysis Batch: 580-48736	Instrument ID:	TAC015
Preparation:	3550B	Prep Batch: 580-48490	Lab File ID:	5401635.D
Dilution:	1.0		Initial Weight/Volume:	10.3464 g
Date Analyzed:	08/20/2009 1936		Final Weight/Volume:	10 mL
Date Prepared:	08/17/2009 1306		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
#2 Diesel (C10-C24)		31		28
Motor Oil (>C24-C36)		ND		56

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	143		50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-14963-1

Client Sample ID: 3-W-42 10-12

Lab Sample ID: 580-14963-21

Date Sampled: 08/14/2009 1155

Client Matrix: Solid

% Moisture: 9.0

Date Received: 08/17/2009 1000

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method:	NWTPH-Dx	Analysis Batch: 580-49031	Instrument ID:	TAC013
Preparation:	3550B	Prep Batch: 580-48490	Lab File ID:	FA39311.D
Dilution:	1.0		Initial Weight/Volume:	10.5742 g
Date Analyzed:	08/25/2009 1424		Final Weight/Volume:	10 mL
Date Prepared:	08/17/2009 1306		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
#2 Diesel (C10-C24)		ND		26
Motor Oil (>C24-C36)		61		52

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	97		50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-14963-1

Client Sample ID: 3-W-42 10-12

Lab Sample ID: 580-14963-21

Date Sampled: 08/14/2009 1155

Client Matrix: Solid

% Moisture: 9.0

Date Received: 08/17/2009 1000

NWTPH-Dx Semi-Volatile Petroleum Products by NWTPH with Silica Gel Cleanup

Method:	NWTPH-Dx	Analysis Batch: 580-48736	Instrument ID:	TAC015
Preparation:	3550B	Prep Batch: 580-48490	Lab File ID:	5401636.D
Dilution:	1.0		Initial Weight/Volume:	10.5742 g
Date Analyzed:	08/20/2009 1956		Final Weight/Volume:	10 mL
Date Prepared:	08/17/2009 1306		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
#2 Diesel (C10-C24)		ND		26
Motor Oil (>C24-C36)		ND		52

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	109		50 - 150

Client: AECOM, Inc.

Job Number: 580-14963-1

General Chemistry

Client Sample ID: 5-B-79 7-9

Lab Sample ID: 580-14963-1

Client Matrix: Solid

Date Sampled: 08/13/2009 1005

Date Received: 08/17/2009 1000

Analyte	Result	Qual	Units	RL	Dil	Method
Percent Solids	91		%	0.10	1.0	Moisture
	Analysis Batch: 580-48491	Date Analyzed: 08/17/2009 1309				DryWt Corrected: N
Percent Moisture	9.2		%	0.10	1.0	Moisture
	Analysis Batch: 580-48491	Date Analyzed: 08/17/2009 1309				DryWt Corrected: N

Client: AECOM, Inc.

Job Number: 580-14963-1

General Chemistry

Client Sample ID: 5-B-79 9-11

Lab Sample ID: 580-14963-2

Date Sampled: 08/13/2009 1025

Client Matrix: Solid

Date Received: 08/17/2009 1000

Analyte	Result	Qual	Units	RL	Dil	Method
Percent Solids	92		%	0.10	1.0	Moisture
	Analysis Batch: 580-48491	Date Analyzed: 08/17/2009 1309				DryWt Corrected: N
Percent Moisture	7.6		%	0.10	1.0	Moisture
	Analysis Batch: 580-48491	Date Analyzed: 08/17/2009 1309				DryWt Corrected: N

Client: AECOM, Inc.

Job Number: 580-14963-1

General Chemistry

Client Sample ID: 5-B-79 11-13

Lab Sample ID: 580-14963-3

Client Matrix: Solid

Date Sampled: 08/13/2009 1035

Date Received: 08/17/2009 1000

Analyte	Result	Qual	Units	RL	Dil	Method
Percent Solids	90		%	0.10	1.0	Moisture
	Analysis Batch: 580-48491	Date Analyzed: 08/17/2009 1309				DryWt Corrected: N
Percent Moisture	9.8		%	0.10	1.0	Moisture
	Analysis Batch: 580-48491	Date Analyzed: 08/17/2009 1309				DryWt Corrected: N

Client: AECOM, Inc.

Job Number: 580-14963-1

General Chemistry

Client Sample ID: 5-B-79 13-15

Lab Sample ID: 580-14963-4

Client Matrix: Solid

Date Sampled: 08/13/2009 1045

Date Received: 08/17/2009 1000

Analyte	Result	Qual	Units	RL	Dil	Method
Percent Solids	90		%	0.10	1.0	Moisture
	Analysis Batch: 580-48491	Date Analyzed: 08/17/2009 1309				DryWt Corrected: N
Percent Moisture	10		%	0.10	1.0	Moisture
	Analysis Batch: 580-48491	Date Analyzed: 08/17/2009 1309				DryWt Corrected: N

Client: AECOM, Inc.

Job Number: 580-14963-1

General Chemistry

Client Sample ID: 1C-B-9 9-11

Lab Sample ID: 580-14963-7

Client Matrix: Solid

Date Sampled: 08/13/2009 1515

Date Received: 08/17/2009 1000

Analyte	Result	Qual	Units	RL	Dil	Method
Percent Solids	92		%	0.10	1.0	Moisture
	Analysis Batch: 580-48491	Date Analyzed: 08/17/2009 1309				DryWt Corrected: N
Percent Moisture	7.9		%	0.10	1.0	Moisture
	Analysis Batch: 580-48491	Date Analyzed: 08/17/2009 1309				DryWt Corrected: N

Client: AECOM, Inc.

Job Number: 580-14963-1

General Chemistry

Client Sample ID: 1C-B-9 11-13

Lab Sample ID: 580-14963-8

Client Matrix: Solid

Date Sampled: 08/13/2009 1520

Date Received: 08/17/2009 1000

Analyte	Result	Qual	Units	RL	Dil	Method
Percent Solids	89		%	0.10	1.0	Moisture
	Analysis Batch: 580-48491	Date Analyzed: 08/17/2009 1309				DryWt Corrected: N
Percent Moisture	11		%	0.10	1.0	Moisture
	Analysis Batch: 580-48491	Date Analyzed: 08/17/2009 1309				DryWt Corrected: N

Client: AECOM, Inc.

Job Number: 580-14963-1

General Chemistry

Client Sample ID: 1C-B-9 13-15

Lab Sample ID: 580-14963-9

Client Matrix: Solid

Date Sampled: 08/13/2009 1525

Date Received: 08/17/2009 1000

Analyte	Result	Qual	Units	RL	Dil	Method
Percent Solids	93		%	0.10	1.0	Moisture
	Analysis Batch: 580-48491	Date Analyzed: 08/17/2009 1309				DryWt Corrected: N
Percent Moisture	7.0		%	0.10	1.0	Moisture
	Analysis Batch: 580-48491	Date Analyzed: 08/17/2009 1309				DryWt Corrected: N

Client: AECOM, Inc.

Job Number: 580-14963-1

General Chemistry

Client Sample ID: 3-B-30 4-6

Lab Sample ID: 580-14963-10

Client Matrix: Solid

Date Sampled: 08/14/2009 0800

Date Received: 08/17/2009 1000

Analyte	Result	Qual	Units	RL	Dil	Method
Total Organic Carbon	3000		mg/Kg	2000	1.0	9060
	Analysis Batch: 580-48642		Date Analyzed: 08/18/2009 1223			DryWt Corrected: N

Analyte	Result	Qual	Units	RL	Dil	Method
Percent Solids	94		%	0.10	1.0	Moisture
	Analysis Batch: 580-48491		Date Analyzed: 08/17/2009 1309			DryWt Corrected: N
Percent Moisture	6.1		%	0.10	1.0	Moisture
	Analysis Batch: 580-48491		Date Analyzed: 08/17/2009 1309			DryWt Corrected: N

Client: AECOM, Inc.

Job Number: 580-14963-1

General Chemistry

Client Sample ID: 3-B-30 6-8

Lab Sample ID: 580-14963-11

Client Matrix: Solid

Date Sampled: 08/14/2009 0820

Date Received: 08/17/2009 1000

Analyte	Result	Qual	Units	RL	Dil	Method
Total Organic Carbon	3900		mg/Kg	2000	1.0	9060
	Analysis Batch: 580-48642		Date Analyzed: 08/18/2009 1223			DryWt Corrected: N

Analyte	Result	Qual	Units	RL	Dil	Method
Percent Solids	85		%	0.10	1.0	Moisture
	Analysis Batch: 580-48491		Date Analyzed: 08/17/2009 1309			DryWt Corrected: N
Percent Moisture	15		%	0.10	1.0	Moisture
	Analysis Batch: 580-48491		Date Analyzed: 08/17/2009 1309			DryWt Corrected: N

Client: AECOM, Inc.

Job Number: 580-14963-1

General Chemistry

Client Sample ID: 3-B-30 8-10

Lab Sample ID: 580-14963-12

Client Matrix: Solid

Date Sampled: 08/14/2009 0825

Date Received: 08/17/2009 1000

Analyte	Result	Qual	Units	RL	Dil	Method
Total Organic Carbon	3600		mg/Kg	2000	1.0	9060
	Analysis Batch: 580-48642		Date Analyzed: 08/18/2009 1223			DryWt Corrected: N

Analyte	Result	Qual	Units	RL	Dil	Method
Percent Solids	90		%	0.10	1.0	Moisture
	Analysis Batch: 580-48491		Date Analyzed: 08/17/2009 1309			DryWt Corrected: N
Percent Moisture	9.8		%	0.10	1.0	Moisture
	Analysis Batch: 580-48491		Date Analyzed: 08/17/2009 1309			DryWt Corrected: N

Client: AECOM, Inc.

Job Number: 580-14963-1

General Chemistry

Client Sample ID: 3-B-30 10-12

Lab Sample ID: 580-14963-13

Client Matrix: Solid

Date Sampled: 08/14/2009 0830

Date Received: 08/17/2009 1000

Analyte	Result	Qual	Units	RL	Dil	Method
Total Organic Carbon	2400		mg/Kg	2000	1.0	9060
	Analysis Batch: 580-48642		Date Analyzed: 08/18/2009 1223			DryWt Corrected: N

Analyte	Result	Qual	Units	RL	Dil	Method
Percent Solids	89		%	0.10	1.0	Moisture
	Analysis Batch: 580-48491		Date Analyzed: 08/17/2009 1309			DryWt Corrected: N
Percent Moisture	11		%	0.10	1.0	Moisture
	Analysis Batch: 580-48491		Date Analyzed: 08/17/2009 1309			DryWt Corrected: N

Client: AECOM, Inc.

Job Number: 580-14963-1

General Chemistry

Client Sample ID: 1C-B-11 9-10

Lab Sample ID: 580-14963-14

Client Matrix: Solid

Date Sampled: 08/14/2009 1030

Date Received: 08/17/2009 1000

Analyte	Result	Qual	Units	RL	Dil	Method
Percent Solids	95		%	0.10	1.0	Moisture
	Analysis Batch: 580-48491	Date Analyzed: 08/17/2009 1309				DryWt Corrected: N
Percent Moisture	4.7		%	0.10	1.0	Moisture
	Analysis Batch: 580-48491	Date Analyzed: 08/17/2009 1309				DryWt Corrected: N

Client: AECOM, Inc.

Job Number: 580-14963-1

General Chemistry

Client Sample ID: 1C-B-11 11-13

Lab Sample ID: 580-14963-15

Client Matrix: Solid

Date Sampled: 08/14/2009 1035

Date Received: 08/17/2009 1000

Analyte	Result	Qual	Units	RL	Dil	Method
Percent Solids	93		%	0.10	1.0	Moisture
	Analysis Batch: 580-48491	Date Analyzed: 08/17/2009 1309				DryWt Corrected: N
Percent Moisture	6.9		%	0.10	1.0	Moisture
	Analysis Batch: 580-48491	Date Analyzed: 08/17/2009 1309				DryWt Corrected: N

Client: AECOM, Inc.

Job Number: 580-14963-1

General Chemistry

Client Sample ID: 1C-B-11 13-15

Lab Sample ID: 580-14963-16

Client Matrix: Solid

Date Sampled: 08/14/2009 1035

Date Received: 08/17/2009 1000

Analyte	Result	Qual	Units	RL	Dil	Method
Percent Solids	91		%	0.10	1.0	Moisture
	Analysis Batch: 580-48491	Date Analyzed: 08/17/2009 1309				DryWt Corrected: N
Percent Moisture	9.0		%	0.10	1.0	Moisture
	Analysis Batch: 580-48491	Date Analyzed: 08/17/2009 1309				DryWt Corrected: N

Client: AECOM, Inc.

Job Number: 580-14963-1

General Chemistry

Client Sample ID: 1C-B-11 15-17

Lab Sample ID: 580-14963-17

Client Matrix: Solid

Date Sampled: 08/14/2009 1040

Date Received: 08/17/2009 1000

Analyte	Result	Qual	Units	RL	Dil	Method
Percent Solids	80		%	0.10	1.0	Moisture
	Analysis Batch: 580-48491	Date Analyzed: 08/17/2009 1309				DryWt Corrected: N
Percent Moisture	20		%	0.10	1.0	Moisture
	Analysis Batch: 580-48491	Date Analyzed: 08/17/2009 1309				DryWt Corrected: N

Client: AECOM, Inc.

Job Number: 580-14963-1

General Chemistry

Client Sample ID: 3-W-42 4-6

Lab Sample ID: 580-14963-18

Client Matrix: Solid

Date Sampled: 08/14/2009 0945

Date Received: 08/17/2009 1000

Analyte	Result	Qual	Units	RL	Dil	Method
Percent Solids	92		%	0.10	1.0	Moisture
	Analysis Batch: 580-48491	Date Analyzed: 08/17/2009 1309				DryWt Corrected: N
Percent Moisture	8.2		%	0.10	1.0	Moisture
	Analysis Batch: 580-48491	Date Analyzed: 08/17/2009 1309				DryWt Corrected: N

Client: AECOM, Inc.

Job Number: 580-14963-1

General Chemistry

Client Sample ID: 3-W-42 6-8

Lab Sample ID: 580-14963-19

Client Matrix: Solid

Date Sampled: 08/14/2009 1000

Date Received: 08/17/2009 1000

Analyte	Result	Qual	Units	RL	Dil	Method
Percent Solids	93		%	0.10	1.0	Moisture
	Analysis Batch: 580-48491	Date Analyzed: 08/17/2009 1309				DryWt Corrected: N
Percent Moisture	7.2		%	0.10	1.0	Moisture
	Analysis Batch: 580-48491	Date Analyzed: 08/17/2009 1309				DryWt Corrected: N

Client: AECOM, Inc.

Job Number: 580-14963-1

General Chemistry

Client Sample ID: 3-W-42 8-10

Lab Sample ID: 580-14963-20

Date Sampled: 08/14/2009 1130

Client Matrix: Solid

Date Received: 08/17/2009 1000

Analyte	Result	Qual	Units	RL	Dil	Method
Percent Solids	86		%	0.10	1.0	Moisture
	Analysis Batch: 580-48491	Date Analyzed: 08/17/2009 1309				DryWt Corrected: N
Percent Moisture	14		%	0.10	1.0	Moisture
	Analysis Batch: 580-48491	Date Analyzed: 08/17/2009 1309				DryWt Corrected: N

Client: AECOM, Inc.

Job Number: 580-14963-1

General Chemistry

Client Sample ID: 3-W-42 10-12

Lab Sample ID: 580-14963-21

Client Matrix: Solid

Date Sampled: 08/14/2009 1155

Date Received: 08/17/2009 1000

Analyte	Result	Qual	Units	RL	Dil	Method
Percent Solids	91		%	0.10	1.0	Moisture
	Analysis Batch: 580-48491	Date Analyzed: 08/17/2009 1309				DryWt Corrected: N
Percent Moisture	9.0		%	0.10	1.0	Moisture
	Analysis Batch: 580-48491	Date Analyzed: 08/17/2009 1309				DryWt Corrected: N

Quality Control Results

Client: AECOM, Inc.

Job Number: 580-14963-1

Method Blank - Batch: 580-48490

Lab Sample ID: MB 580-48490/1-A
 Client Matrix: Solid
 Dilution: 1.0
 Date Analyzed: 08/20/2009 1046
 Date Prepared: 08/17/2009 1306

Analysis Batch: 580-48736
 Prep Batch: 580-48490
 Units: mg/Kg

**Method: NWTPH-Dx
 Preparation: 3550B**

Instrument ID: TAC015
 Lab File ID: 5401609.D
 Initial Weight/Volume: 10 g
 Final Weight/Volume: 10 mL
 Injection Volume: 1 uL

Analyte	Result	Qual	RL
#2 Diesel (C10-C24)	ND		25
Motor Oil (>C24-C36)	ND		50
<hr/>			
Surrogate	% Rec	Acceptance Limits	
o-Terphenyl	94	50 - 150	

Method Blank - Batch: 580-48490

Lab Sample ID: MB 580-48490/1-B
 Client Matrix: Solid
 Dilution: 1.0
 Date Analyzed: 08/20/2009 1633
 Date Prepared: 08/17/2009 1306

Analysis Batch: 580-48736
 Prep Batch: 580-48490
 Units: mg/Kg

**Method: NWTPH-Dx
 Preparation: 3550B**

Instrument ID: TAC015
 Lab File ID: 5401626.D
 Initial Weight/Volume: 10 g
 Final Weight/Volume: 10 mL
 Injection Volume: 1 uL

Analyte	Result	Qual	RL
#2 Diesel (C10-C24)	ND		25
Motor Oil (>C24-C36)	ND		50
<hr/>			
Surrogate	% Rec	Acceptance Limits	
o-Terphenyl	121	50 - 150	

Calculations are performed before rounding to avoid round-off errors in calculated results.

Quality Control Results

Client: AECOM, Inc.

Job Number: 580-14963-1

Lab Control Sample - Batch: 580-48490

**Method: NWTPH-Dx
Preparation: 3550B**

Lab Sample ID: LCS 580-48490/2-A
 Client Matrix: Solid
 Dilution: 1.0
 Date Analyzed: 08/20/2009 1106
 Date Prepared: 08/17/2009 1306

Analysis Batch: 580-48736
 Prep Batch: 580-48490
 Units: mg/Kg

Instrument ID: TAC015
 Lab File ID: 5401610.D
 Initial Weight/Volume: 10 g
 Final Weight/Volume: 10 mL
 Injection Volume: 1 uL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
#2 Diesel (C10-C24)	500	418	84	70 - 125	
Motor Oil (>C24-C36)	500	381	76	64 - 127	
Surrogate		% Rec	Acceptance Limits		
o-Terphenyl		92	50 - 150		

Lab Control Sample - Batch: 580-48490

**Method: NWTPH-Dx
Preparation: 3550B**

Lab Sample ID: LCS 580-48490/2-B
 Client Matrix: Solid
 Dilution: 1.0
 Date Analyzed: 08/20/2009 1653
 Date Prepared: 08/17/2009 1306

Analysis Batch: 580-48736
 Prep Batch: 580-48490
 Units: mg/Kg

Instrument ID: TAC015
 Lab File ID: 5401627.D
 Initial Weight/Volume: 10 g
 Final Weight/Volume: 10 mL
 Injection Volume: 1 uL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
#2 Diesel (C10-C24)	500	439	88	64 - 127	
Motor Oil (>C24-C36)	500	403	81	70 - 125	
Surrogate		% Rec	Acceptance Limits		
o-Terphenyl		96	50 - 150		

Calculations are performed before rounding to avoid round-off errors in calculated results.

Quality Control Results

Client: AECOM, Inc.

Job Number: 580-14963-1

Duplicate - Batch: 580-48490

**Method: NWTPH-Dx
Preparation: 3550B**

Lab Sample ID: 580-14963-1
Client Matrix: Solid
Dilution: 5.0
Date Analyzed: 08/20/2009 1151
Date Prepared: 08/17/2009 1306

Analysis Batch: 580-48736
Prep Batch: 580-48490
Units: mg/Kg

Instrument ID: TAC015
Lab File ID: 5401612.D
Initial Weight/Volume: 10.0976 g
Final Weight/Volume: 10 mL
Injection Volume: 1 uL

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
#2 Diesel (C10-C24)	16000	11100	37	35	F
Motor Oil (>C24-C36)	17000	11500	36	35	F
Surrogate	% Rec		Acceptance Limits		
o-Terphenyl	124	D	50 - 150		

Duplicate - Batch: 580-48490

**Method: NWTPH-Dx
Preparation: 3550B**

Lab Sample ID: 580-14963-13
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 08/20/2009 1837
Date Prepared: 08/17/2009 1306

Analysis Batch: 580-48736
Prep Batch: 580-48490
Units: mg/Kg

Instrument ID: TAC015
Lab File ID: 5401632.D
Initial Weight/Volume: 10.4588 g
Final Weight/Volume: 10 mL
Injection Volume: 1 uL

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
#2 Diesel (C10-C24)	ND	ND	7	35	
Motor Oil (>C24-C36)	ND	ND	NC	35	
Surrogate	% Rec		Acceptance Limits		
o-Terphenyl	113		50 - 150		

Duplicate - Batch: 580-48490

**Method: NWTPH-Dx
Preparation: 3550B**

Lab Sample ID: 580-14963-13
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 08/24/2009 2302
Date Prepared: 08/17/2009 1306

Analysis Batch: 580-48948
Prep Batch: 580-48490
Units: mg/Kg

Instrument ID: TAC015
Lab File ID: 5401719.D
Initial Weight/Volume: 10.4588 g
Final Weight/Volume: 10 mL
Injection Volume: 1 uL

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
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Calculations are performed before rounding to avoid round-off errors in calculated results.

Quality Control Results

Client: AECOM, Inc.

Job Number: 580-14963-1

Duplicate - Batch: 580-48490

Method: NWTPH-Dx
Preparation: 3550B

Lab Sample ID: 580-14963-13
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 08/24/2009 2302
Date Prepared: 08/17/2009 1306

Analysis Batch: 580-48948
Prep Batch: 580-48490
Units: mg/Kg

Instrument ID: TAC015
Lab File ID: 5401719.D
Initial Weight/Volume: 10.4588 g
Final Weight/Volume: 10 mL
Injection Volume: 1 uL

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
#2 Diesel (C10-C24)	ND	ND	13	35	
Motor Oil (>C24-C36)	ND	ND	NC	35	
Surrogate	% Rec		Acceptance Limits		
o-Terphenyl	105		50 - 150		

Calculations are performed before rounding to avoid round-off errors in calculated results.

Quality Control Results

Client: AECOM, Inc.

Job Number: 580-14963-1

Method Blank - Batch: 580-48642

Lab Sample ID: MB 580-48642/1
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 08/18/2009 1223
Date Prepared: N/A

Analysis Batch: 580-48642
Prep Batch: N/A
Units: mg/Kg

Method: 9060
Preparation: N/A

Instrument ID: No Equipment Assigned
Lab File ID: N/A
Initial Weight/Volume: 1.0 mL
Final Weight/Volume: 1.0 mL

Analyte	Result	Qual	RL
Total Organic Carbon	ND		2000

LCS-Standard Reference Material - Batch: 580-48642

Lab Sample ID: LCSSRM 580-48642/2
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 08/18/2009 1223
Date Prepared: N/A

Analysis Batch: 580-48642
Prep Batch: N/A
Units: mg/Kg

Method: 9060
Preparation: N/A

Instrument ID: No Equipment Assigned
Lab File ID: N/A
Initial Weight/Volume: 1.0 mL
Final Weight/Volume: 1.0 mL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Total Organic Carbon	3400	5300	156	12.8 - 187	

Calculations are performed before rounding to avoid round-off errors in calculated results.

Quality Control Results

Client: AECOM, Inc.

Job Number: 580-14963-1

Duplicate - Batch: 580-48491

Method: Moisture
Preparation: N/A

Lab Sample ID: 580-14963-21
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 08/17/2009 1309
Date Prepared: N/A

Analysis Batch: 580-48491
Prep Batch: N/A
Units: %

Instrument ID: No Equipment Assigned
Lab File ID: N/A
Initial Weight/Volume:
Final Weight/Volume:

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
Percent Solids	91	91	0	20	
Percent Moisture	9.0	8.8	2	20	

Calculations are performed before rounding to avoid round-off errors in calculated results.

DATA REPORTING QUALIFIERS

Client: AECOM, Inc.

Job Number: 580-14963-1

Lab Section	Qualifier	Description
GC Semi VOA		
	F	Duplicate RPD exceeds the control limit
	X	Surrogate exceeds the control limits
	D	Surrogate or matrix spike recoveries were not obtained because the extract was diluted for analysis; also compounds analyzed at a dilution may be flagged with a D.

LAB WORK ORDER: 14963

LABORATORY INFORMATION
 Laboratory: Test America
 Address: 5755 8th Street E
 City/State/Zip: Tacoma, WA 98424
 Project Manager: Kote Haney
 Phone: 253.922.9310
 Fax: 253.922.5047

SHIPMENT INFORMATION
 Shipment Method: DROP OFF
 Tracking Number:
 Project Number: 01140-284-0270
 Project Manager: Sarah Albano
 Email: Sarah.albano@ae.com.com
 Phone: 206.424.9354
 Fax: 206.423.3793

CONSULTANT INFORMATION
 Company: AECom
 Address: 7102 2nd Ave Ste 1000
 City/State/Zip: Seattle, WA 98104

CHAIN OF CUSTODY
 BNSF Project Number:
 BNSF Project Name: Skukomish
 BNSF Contact: Bruce Sheppard
 Project State of Origin: Washington
 Project City: Skukomish

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?

Lab	Sample Identification	Containers	Sample Collection		Filtered Y/N	Type (Comp/Grab)	Matrix	METHODS FOR ANALYSIS	COMMENTS	LAB USE
			Date	Time						
1	1C-B-11 13-15	1	8/14/09	1035	N	G	SO	X		16
2	1C-B-11 15-17	1	8/14/09	1040	N	G	SO	X		17
3	1S-W-42 4-6	1	8/14/09	0945	N	G	SO	X		18
4	1S-W-42 6-8	1	8/14/09	1000	N	G	SO	X		19
5	1S-W-42 8-10	1	8/14/09	1130	N	G	SO	X		20
6	1S-W-42 10-12	1	8/14/09	1155	N	G	SO	X		21
7										
8										
9										
10										
11										
12										
13										
14										
15										

RECEIVED BY: Received By: [Signature] Date/Time: 8/14/09 430p
 Relinquished By: [Signature] Date/Time: 8/14/09 430p
 Relinquished By: [Signature] Date/Time: 8/14/09 430p
 Received by Laboratory: [Signature] Date/Time: 8/14/09 430p
 Lab Remarks: [Signature]
 Lab: Custody Intact? Yes No
 BNSF COC No.: [Signature]
 Comments and Special Analytical Requirements: 8/14/09 430p

Login Sample Receipt Check List

Client: AECOM, Inc.

Job Number: 580-14963-1

Login Number: 14963
Creator: Gamble, Cathy
List Number: 1

List Source: TestAmerica Tacoma

Question	T / F / NA	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
There are no discrepancies between the sample IDs on the containers and the COC.	False	Received 3 jars for 10-13
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	N/A	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Is the Field Sampler's name present on COC?	False	
Sample Preservation Verified	N/A	

ANALYTICAL REPORT

Job Number: 580-15031-1
Job Description: BNSF-Skykomish

For:
AECOM, Inc.
710 Second Avenue
Suite 1000
Seattle, WA 98104
Attention: Sarah Albano



Approved for release.
Kate Haney
Project Manager II
8/31/2009 6:44 PM

Kate Haney
Project Manager II
kate.haney@testamericainc.com
08/31/2009
Revision: 1

cc: Denell Warren

TestAmerica Tacoma is a part of TestAmerica Laboratories, Inc.

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This report shall not be reproduced except in full, without prior express written approval by the laboratory. The results relate only to the item(s) tested and the sample(s) as received by the laboratory.

The results included in this report have been reviewed for compliance with the laboratory QA/QC plan and meet all requirements of NELAC. All data have been found to be compliant with laboratory protocol, with the exception of any items noted in the case narrative.

TestAmerica Laboratories, Inc.

TestAmerica Tacoma 5755 8th Street East, Tacoma, WA 98424
Tel (253) 922-2310 Fax (253) 922-5047 www.testamericainc.com



Job Narrative
580-J15031-1

Comments

No additional comments.

Receipt

All samples were received in good condition within temperature requirements.

GC Semi VOA

No analytical or quality issues were noted.

General Chemistry

No analytical or quality issues were noted.

Organic Prep

No analytical or quality issues were noted.

METHOD SUMMARY

Client: AECOM, Inc.

Job Number: 580-15031-1

Description	Lab Location	Method	Preparation Method
Matrix: Solid			
Northwest - Semi-Volatile Petroleum Products (GC)	TAL TAC	NWTPH NWTPH-Dx	
Semi-Volatile Petroleum Products by NWTPH with Silica Gel Cleanup	TAL TAC	NWTPH NWTPH-Dx	
Ultrasonic Extraction	TAL TAC		SW846 3550B
Ultrasonic Extraction	TAL TAC		SW846 3550B
Silica Gel Cleanup	TAL TAC		SW846 3630C
Percent Moisture	TAL TAC	EPA Moisture	

Lab References:

TAL TAC = TestAmerica Tacoma

Method References:

EPA = US Environmental Protection Agency

NWTPH = Northwest Total Petroleum Hydrocarbon

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

SAMPLE SUMMARY

Client: AECOM, Inc.

Job Number: 580-15031-1

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
580-15031-1	3-W-41 4-6	Solid	08/17/2009 1000	08/20/2009 1130
580-15031-2	3-W-41 6-8	Solid	08/17/2009 1020	08/20/2009 1130
580-15031-3	3-W-41 8-10	Solid	08/17/2009 1025	08/20/2009 1130
580-15031-4	3-W-41 10-12	Solid	08/17/2009 1040	08/20/2009 1130
580-15031-5	5-B-85 20-22	Solid	08/18/2009 1040	08/20/2009 1130
580-15031-6	5-B-85 18-20	Solid	08/18/2009 1000	08/20/2009 1130
580-15031-7	3-W-43 4-6	Solid	08/18/2009 1335	08/20/2009 1130
580-15031-8	3-W-43 6-8	Solid	08/18/2009 1340	08/20/2009 1130
580-15031-9	3-W-43 8-10	Solid	08/18/2009 1342	08/20/2009 1130
580-15031-10	3-W-43 10-12	Solid	08/18/2009 1416	08/20/2009 1130

Analytical Data

Client: AECOM, Inc.

Job Number: 580-15031-1

Client Sample ID: 3-W-41 4-6

Lab Sample ID: 580-15031-1

Date Sampled: 08/17/2009 1000

Client Matrix: Solid

% Moisture: 11.3

Date Received: 08/20/2009 1130

NWTPH-Dx Semi-Volatile Petroleum Products by NWTPH with Silica Gel Cleanup

Method:	NWTPH-Dx	Analysis Batch: 580-48918	Instrument ID:	TAC013
Preparation:	3550B	Prep Batch: 580-48860	Lab File ID:	FA39245.D
Dilution:	1.0		Initial Weight/Volume:	10.2361 g
Date Analyzed:	08/24/2009 0111	Run Type: RA	Final Weight/Volume:	10 mL
Date Prepared:	08/21/2009 1252		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
#2 Diesel (C10-C24)		ND		6.3	28
Motor Oil (>C24-C36)		ND		10	55

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	88		50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-15031-1

Client Sample ID: 3-W-41 6-8

Lab Sample ID: 580-15031-2

Date Sampled: 08/17/2009 1020

Client Matrix: Solid

% Moisture: 38.6

Date Received: 08/20/2009 1130

NWTPH-Dx Semi-Volatile Petroleum Products by NWTPH with Silica Gel Cleanup

Method: NWTPH-Dx Analysis Batch: 580-48918 Instrument ID: TAC013
Preparation: 3550B Prep Batch: 580-48860 Lab File ID: FA39246.D
Dilution: 1.0 Initial Weight/Volume: 10.7279 g
Date Analyzed: 08/24/2009 0132 Run Type: RA Final Weight/Volume: 10 mL
Date Prepared: 08/21/2009 1252 Injection Volume: 1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
#2 Diesel (C10-C24)		ND		8.7	38
Motor Oil (>C24-C36)		ND		14	76

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	99		50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-15031-1

Client Sample ID: 3-W-41 8-10

Lab Sample ID: 580-15031-3

Date Sampled: 08/17/2009 1025

Client Matrix: Solid

% Moisture: 46.9

Date Received: 08/20/2009 1130

NWTPH-Dx Semi-Volatile Petroleum Products by NWTPH with Silica Gel Cleanup

Method:	NWTPH-Dx	Analysis Batch: 580-48918	Instrument ID:	TAC013
Preparation:	3550B	Prep Batch: 580-48860	Lab File ID:	FA39247.D
Dilution:	1.0		Initial Weight/Volume:	10.2478 g
Date Analyzed:	08/24/2009 0152	Run Type: RA	Final Weight/Volume:	10 mL
Date Prepared:	08/21/2009 1252		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
#2 Diesel (C10-C24)		15	J	10	46
Motor Oil (>C24-C36)		ND		17	92

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	95		50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-15031-1

Client Sample ID: 3-W-41 10-12

Lab Sample ID: 580-15031-4

Date Sampled: 08/17/2009 1040

Client Matrix: Solid

% Moisture: 6.5

Date Received: 08/20/2009 1130

NWTPH-Dx Semi-Volatile Petroleum Products by NWTPH with Silica Gel Cleanup

Method:	NWTPH-Dx	Analysis Batch: 580-48918	Instrument ID:	TAC013
Preparation:	3550B	Prep Batch: 580-48860	Lab File ID:	FA39248.D
Dilution:	1.0		Initial Weight/Volume:	10.3219 g
Date Analyzed:	08/24/2009 0212	Run Type: RA	Final Weight/Volume:	10 mL
Date Prepared:	08/21/2009 1252		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
#2 Diesel (C10-C24)		ND		5.9	26
Motor Oil (>C24-C36)		ND		9.4	52

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	96		50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-15031-1

Client Sample ID: 5-B-85 20-22

Lab Sample ID: 580-15031-5

Date Sampled: 08/18/2009 1040

Client Matrix: Solid

% Moisture: 30.1

Date Received: 08/20/2009 1130

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method:	NWTPH-Dx	Analysis Batch: 580-48925	Instrument ID:	TAC013
Preparation:	3550B	Prep Batch: 580-48860	Lab File ID:	FA39274.D
Dilution:	1.0		Initial Weight/Volume:	10.1464 g
Date Analyzed:	08/24/2009 1458		Final Weight/Volume:	10 mL
Date Prepared:	08/21/2009 1252		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
#2 Diesel (C10-C24)		ND		8.0	35
Motor Oil (>C24-C36)		ND		13	70

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	99		50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-15031-1

Client Sample ID: 5-B-85 18-20

Lab Sample ID: 580-15031-6

Date Sampled: 08/18/2009 1000

Client Matrix: Solid

% Moisture: 26.2

Date Received: 08/20/2009 1130

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method:	NWTPH-Dx	Analysis Batch: 580-48925	Instrument ID:	TAC013
Preparation:	3550B	Prep Batch: 580-48860	Lab File ID:	FA39275.D
Dilution:	1.0		Initial Weight/Volume:	10.4404 g
Date Analyzed:	08/24/2009 1518		Final Weight/Volume:	10 mL
Date Prepared:	08/21/2009 1252		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
#2 Diesel (C10-C24)		33		7.4	32
Motor Oil (>C24-C36)		38	J	12	65

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	98		50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-15031-1

Client Sample ID: 3-W-43 4-6

Lab Sample ID: 580-15031-7

Date Sampled: 08/18/2009 1335

Client Matrix: Solid

% Moisture: 12.0

Date Received: 08/20/2009 1130

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method:	NWTPH-Dx	Analysis Batch: 580-48925	Instrument ID:	TAC013
Preparation:	3550B	Prep Batch: 580-48860	Lab File ID:	FA39276.D
Dilution:	1.0		Initial Weight/Volume:	10.5891 g
Date Analyzed:	08/24/2009 1538		Final Weight/Volume:	10 mL
Date Prepared:	08/21/2009 1252		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
#2 Diesel (C10-C24)		ND		6.1	27
Motor Oil (>C24-C36)		10	J	9.8	54

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	100		50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-15031-1

Client Sample ID: 3-W-43 4-6

Lab Sample ID: 580-15031-7

Date Sampled: 08/18/2009 1335

Client Matrix: Solid

% Moisture: 12.0

Date Received: 08/20/2009 1130

NWTPH-Dx Semi-Volatile Petroleum Products by NWTPH with Silica Gel Cleanup

Method:	NWTPH-Dx	Analysis Batch: 580-48918	Instrument ID:	TAC013
Preparation:	3550B	Prep Batch: 580-48860	Lab File ID:	FA39249.D
Dilution:	1.0		Initial Weight/Volume:	10.5891 g
Date Analyzed:	08/24/2009 0232	Run Type: RA	Final Weight/Volume:	10 mL
Date Prepared:	08/21/2009 1252		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
#2 Diesel (C10-C24)		ND		6.1	27
Motor Oil (>C24-C36)		ND		9.8	54

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	93		50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-15031-1

Client Sample ID: 3-W-43 6-8

Lab Sample ID: 580-15031-8

Date Sampled: 08/18/2009 1340

Client Matrix: Solid

% Moisture: 20.7

Date Received: 08/20/2009 1130

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method:	NWTPH-Dx	Analysis Batch: 580-48925	Instrument ID:	TAC013
Preparation:	3550B	Prep Batch: 580-48860	Lab File ID:	FA39277.D
Dilution:	1.0		Initial Weight/Volume:	10.3595 g
Date Analyzed:	08/24/2009 1558		Final Weight/Volume:	10 mL
Date Prepared:	08/21/2009 1252		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
#2 Diesel (C10-C24)		ND		6.9	30
Motor Oil (>C24-C36)		24	J	11	61

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	82		50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-15031-1

Client Sample ID: 3-W-43 6-8

Lab Sample ID: 580-15031-8

Date Sampled: 08/18/2009 1340

Client Matrix: Solid

% Moisture: 20.7

Date Received: 08/20/2009 1130

NWTPH-Dx Semi-Volatile Petroleum Products by NWTPH with Silica Gel Cleanup

Method:	NWTPH-Dx	Analysis Batch: 580-48918	Instrument ID:	TAC013
Preparation:	3550B	Prep Batch: 580-48860	Lab File ID:	FA39250.D
Dilution:	1.0		Initial Weight/Volume:	10.3595 g
Date Analyzed:	08/24/2009 0252	Run Type: RA	Final Weight/Volume:	10 mL
Date Prepared:	08/21/2009 1252		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
#2 Diesel (C10-C24)		ND		6.9	30
Motor Oil (>C24-C36)		25	J	11	61

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	86		50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-15031-1

Client Sample ID: 3-W-43 8-10

Lab Sample ID: 580-15031-9

Date Sampled: 08/18/2009 1342

Client Matrix: Solid

% Moisture: 5.8

Date Received: 08/20/2009 1130

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method:	NWTPH-Dx	Analysis Batch: 580-48925	Instrument ID:	TAC013
Preparation:	3550B	Prep Batch: 580-48860	Lab File ID:	FA39278.D
Dilution:	1.0		Initial Weight/Volume:	10.5134 g
Date Analyzed:	08/24/2009 1618		Final Weight/Volume:	10 mL
Date Prepared:	08/21/2009 1252		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
#2 Diesel (C10-C24)		ND		5.8	25
Motor Oil (>C24-C36)		ND		9.2	50

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	101		50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-15031-1

Client Sample ID: 3-W-43 8-10

Lab Sample ID: 580-15031-9

Date Sampled: 08/18/2009 1342

Client Matrix: Solid

% Moisture: 5.8

Date Received: 08/20/2009 1130

NWTPH-Dx Semi-Volatile Petroleum Products by NWTPH with Silica Gel Cleanup

Method:	NWTPH-Dx	Analysis Batch: 580-48918	Instrument ID:	TAC013
Preparation:	3550B	Prep Batch: 580-48860	Lab File ID:	FA39251.D
Dilution:	1.0		Initial Weight/Volume:	10.5134 g
Date Analyzed:	08/24/2009 0313	Run Type: RA	Final Weight/Volume:	10 mL
Date Prepared:	08/21/2009 1252		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
#2 Diesel (C10-C24)		ND		5.8	25
Motor Oil (>C24-C36)		ND		9.2	50

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	123		50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-15031-1

Client Sample ID: 3-W-43 10-12

Lab Sample ID: 580-15031-10

Date Sampled: 08/18/2009 1416

Client Matrix: Solid

% Moisture: 9.1

Date Received: 08/20/2009 1130

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method:	NWTPH-Dx	Analysis Batch: 580-48925	Instrument ID:	TAC013
Preparation:	3550B	Prep Batch: 580-48860	Lab File ID:	FA39279.D
Dilution:	1.0		Initial Weight/Volume:	10.2355 g
Date Analyzed:	08/24/2009 1638		Final Weight/Volume:	10 mL
Date Prepared:	08/21/2009 1252		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
#2 Diesel (C10-C24)		ND		6.1	27
Motor Oil (>C24-C36)		ND		9.8	54

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	95		50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-15031-1

Client Sample ID: 3-W-43 10-12

Lab Sample ID: 580-15031-10

Date Sampled: 08/18/2009 1416

Client Matrix: Solid

% Moisture: 9.1

Date Received: 08/20/2009 1130

NWTPH-Dx Semi-Volatile Petroleum Products by NWTPH with Silica Gel Cleanup

Method:	NWTPH-Dx	Analysis Batch: 580-48918	Instrument ID:	TAC013
Preparation:	3550B	Prep Batch: 580-48860	Lab File ID:	FA39252.D
Dilution:	1.0		Initial Weight/Volume:	10.2355 g
Date Analyzed:	08/24/2009 0333	Run Type: RA	Final Weight/Volume:	10 mL
Date Prepared:	08/21/2009 1252		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
#2 Diesel (C10-C24)		ND		6.1	27
Motor Oil (>C24-C36)		ND		9.8	54

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	99		50 - 150

Client: AECOM, Inc.

Job Number: 580-15031-1

General Chemistry

Client Sample ID: 3-W-41 4-6

Lab Sample ID: 580-15031-1

Client Matrix: Solid

Date Sampled: 08/17/2009 1000

Date Received: 08/20/2009 1130

Analyte	Result	Qual	Units	RL	Dil	Method
Percent Solids	89		%	0.10	1.0	Moisture
	Analysis Batch: 580-48914	Date Analyzed: 08/23/2009 0924				DryWt Corrected: N
Percent Moisture	11		%	0.10	1.0	Moisture
	Analysis Batch: 580-48914	Date Analyzed: 08/23/2009 0924				DryWt Corrected: N

Client: AECOM, Inc.

Job Number: 580-15031-1

General Chemistry

Client Sample ID: 3-W-41 6-8

Lab Sample ID: 580-15031-2

Client Matrix: Solid

Date Sampled: 08/17/2009 1020

Date Received: 08/20/2009 1130

Analyte	Result	Qual	Units	RL	Dil	Method
Percent Solids	61		%	0.10	1.0	Moisture
	Analysis Batch: 580-48914	Date Analyzed: 08/23/2009 0924				DryWt Corrected: N
Percent Moisture	39		%	0.10	1.0	Moisture
	Analysis Batch: 580-48914	Date Analyzed: 08/23/2009 0924				DryWt Corrected: N

Client: AECOM, Inc.

Job Number: 580-15031-1

General Chemistry

Client Sample ID: 3-W-41 8-10

Lab Sample ID: 580-15031-3

Client Matrix: Solid

Date Sampled: 08/17/2009 1025

Date Received: 08/20/2009 1130

Analyte	Result	Qual	Units	RL	Dil	Method
Percent Solids	53		%	0.10	1.0	Moisture
	Analysis Batch: 580-48914	Date Analyzed: 08/23/2009 0924				DryWt Corrected: N
Percent Moisture	47		%	0.10	1.0	Moisture
	Analysis Batch: 580-48914	Date Analyzed: 08/23/2009 0924				DryWt Corrected: N

Client: AECOM, Inc.

Job Number: 580-15031-1

General Chemistry

Client Sample ID: 3-W-41 10-12

Lab Sample ID: 580-15031-4

Client Matrix: Solid

Date Sampled: 08/17/2009 1040

Date Received: 08/20/2009 1130

Analyte	Result	Qual	Units	RL	Dil	Method
Percent Solids	93		%	0.10	1.0	Moisture
	Analysis Batch: 580-48914	Date Analyzed: 08/23/2009 0924				DryWt Corrected: N
Percent Moisture	6.5		%	0.10	1.0	Moisture
	Analysis Batch: 580-48914	Date Analyzed: 08/23/2009 0924				DryWt Corrected: N

Client: AECOM, Inc.

Job Number: 580-15031-1

General Chemistry

Client Sample ID: 5-B-85 20-22

Lab Sample ID: 580-15031-5

Client Matrix: Solid

Date Sampled: 08/18/2009 1040

Date Received: 08/20/2009 1130

Analyte	Result	Qual	Units	RL	Dil	Method
Percent Solids	70		%	0.10	1.0	Moisture
	Analysis Batch: 580-48914	Date Analyzed: 08/23/2009 0924				DryWt Corrected: N
Percent Moisture	30		%	0.10	1.0	Moisture
	Analysis Batch: 580-48914	Date Analyzed: 08/23/2009 0924				DryWt Corrected: N

Client: AECOM, Inc.

Job Number: 580-15031-1

General Chemistry

Client Sample ID: 5-B-85 18-20

Lab Sample ID: 580-15031-6

Client Matrix: Solid

Date Sampled: 08/18/2009 1000

Date Received: 08/20/2009 1130

Analyte	Result	Qual	Units	RL	Dil	Method
Percent Solids	74		%	0.10	1.0	Moisture
	Analysis Batch: 580-48914	Date Analyzed: 08/23/2009 0924				DryWt Corrected: N
Percent Moisture	26		%	0.10	1.0	Moisture
	Analysis Batch: 580-48914	Date Analyzed: 08/23/2009 0924				DryWt Corrected: N

Client: AECOM, Inc.

Job Number: 580-15031-1

General Chemistry

Client Sample ID: 3-W-43 4-6

Lab Sample ID: 580-15031-7

Client Matrix: Solid

Date Sampled: 08/18/2009 1335

Date Received: 08/20/2009 1130

Analyte	Result	Qual	Units	RL	Dil	Method
Percent Solids	88		%	0.10	1.0	Moisture
	Analysis Batch: 580-48914	Date Analyzed: 08/23/2009 0924				DryWt Corrected: N
Percent Moisture	12		%	0.10	1.0	Moisture
	Analysis Batch: 580-48914	Date Analyzed: 08/23/2009 0924				DryWt Corrected: N

Client: AECOM, Inc.

Job Number: 580-15031-1

General Chemistry

Client Sample ID: 3-W-43 6-8

Lab Sample ID: 580-15031-8

Date Sampled: 08/18/2009 1340

Client Matrix: Solid

Date Received: 08/20/2009 1130

Analyte	Result	Qual	Units	RL	Dil	Method
Percent Solids	79		%	0.10	1.0	Moisture
	Analysis Batch: 580-48914	Date Analyzed: 08/23/2009 0924				DryWt Corrected: N
Percent Moisture	21		%	0.10	1.0	Moisture
	Analysis Batch: 580-48914	Date Analyzed: 08/23/2009 0924				DryWt Corrected: N

Client: AECOM, Inc.

Job Number: 580-15031-1

General Chemistry

Client Sample ID: 3-W-43 8-10

Lab Sample ID: 580-15031-9

Client Matrix: Solid

Date Sampled: 08/18/2009 1342

Date Received: 08/20/2009 1130

Analyte	Result	Qual	Units	RL	Dil	Method
Percent Solids	94		%	0.10	1.0	Moisture
	Analysis Batch: 580-48914	Date Analyzed: 08/23/2009 0924				DryWt Corrected: N
Percent Moisture	5.8		%	0.10	1.0	Moisture
	Analysis Batch: 580-48914	Date Analyzed: 08/23/2009 0924				DryWt Corrected: N

Client: AECOM, Inc.

Job Number: 580-15031-1

General Chemistry

Client Sample ID: 3-W-43 10-12

Lab Sample ID: 580-15031-10

Client Matrix: Solid

Date Sampled: 08/18/2009 1416

Date Received: 08/20/2009 1130

Analyte	Result	Qual	Units	RL	Dil	Method
Percent Solids	91		%	0.10	1.0	Moisture
	Analysis Batch: 580-48914	Date Analyzed: 08/23/2009 0924				DryWt Corrected: N
Percent Moisture	9.1		%	0.10	1.0	Moisture
	Analysis Batch: 580-48914	Date Analyzed: 08/23/2009 0924				DryWt Corrected: N

Quality Control Results

Client: AECOM, Inc.

Job Number: 580-15031-1

Method Blank - Batch: 580-48860

Lab Sample ID: MB 580-48860/1-B
 Client Matrix: Solid
 Dilution: 1.0
 Date Analyzed: 08/24/2009 0025
 Date Prepared: 08/21/2009 1252

Analysis Batch: 580-48918
 Prep Batch: 580-48860
 Units: mg/Kg

**Method: NWTPH-Dx
 Preparation: 3550B**

Instrument ID: TAC013
 Lab File ID: FA39243.D
 Initial Weight/Volume: 10 g
 Final Weight/Volume: 10 mL
 Injection Volume: 1 uL

Analyte	Result	Qual	MDL	RL
#2 Diesel (C10-C24)	ND		5.7	25
Motor Oil (>C24-C36)	ND		9.1	50
<hr/>				
Surrogate	% Rec	Acceptance Limits		
o-Terphenyl	121	50 - 150		

Method Blank - Batch: 580-48860

Lab Sample ID: MB 580-48860/1-A
 Client Matrix: Solid
 Dilution: 1.0
 Date Analyzed: 08/24/2009 1253
 Date Prepared: 08/21/2009 1252

Analysis Batch: 580-48925
 Prep Batch: 580-48860
 Units: mg/Kg

**Method: NWTPH-Dx
 Preparation: 3550B**

Instrument ID: TAC013
 Lab File ID: FA39268.D
 Initial Weight/Volume: 10 g
 Final Weight/Volume: 10 mL
 Injection Volume: 1 uL

Analyte	Result	Qual	MDL	RL
#2 Diesel (C10-C24)	ND		5.7	25
Motor Oil (>C24-C36)	ND		9.1	50
<hr/>				
Surrogate	% Rec	Acceptance Limits		
o-Terphenyl	103	50 - 150		

Calculations are performed before rounding to avoid round-off errors in calculated results.

Quality Control Results

Client: AECOM, Inc.

Job Number: 580-15031-1

Lab Control Sample - Batch: 580-48860

**Method: NWTPH-Dx
Preparation: 3550B**

Lab Sample ID: LCS 580-48860/2-B
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 08/24/2009 0046
Date Prepared: 08/21/2009 1252

Analysis Batch: 580-48918
Prep Batch: 580-48860
Units: mg/Kg

Instrument ID: TAC013
Lab File ID: FA39244.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 10 mL
Injection Volume: 1 uL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
#2 Diesel (C10-C24)	500	440	88	64 - 127	
Motor Oil (>C24-C36)	500	491	98	70 - 125	
Surrogate		% Rec	Acceptance Limits		
o-Terphenyl		114		50 - 150	

Lab Control Sample - Batch: 580-48860

**Method: NWTPH-Dx
Preparation: 3550B**

Lab Sample ID: LCS 580-48860/2-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 08/24/2009 1313
Date Prepared: 08/21/2009 1252

Analysis Batch: 580-48925
Prep Batch: 580-48860
Units: mg/Kg

Instrument ID: TAC013
Lab File ID: FA39269.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 10 mL
Injection Volume: 1 uL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
#2 Diesel (C10-C24)	500	433	87	70 - 125	
Motor Oil (>C24-C36)	500	501	100	64 - 127	
Surrogate		% Rec	Acceptance Limits		
o-Terphenyl		110		50 - 150	

Calculations are performed before rounding to avoid round-off errors in calculated results.

Quality Control Results

Client: AECOM, Inc.

Job Number: 580-15031-1

Matrix Spike - Batch: 580-48860

**Method: NWTPH-Dx
Preparation: 3550B**

Lab Sample ID: 580-15031-9RA
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 08/24/2009 0353
Date Prepared: 08/21/2009 1252

Analysis Batch: 580-48918
Prep Batch: 580-48860
Units: mg/Kg
Run Type: RA

Instrument ID: TAC013
Lab File ID: FA39253.D
Initial Weight/Volume: 10.1776 g
Final Weight/Volume: 10 mL
Injection Volume: 1 uL

Analyte	Sample Result/Qual	Spike Amount	Result	% Rec.	Limit	Qual
#2 Diesel (C10-C24)	ND	521	438	84	70 - 125	
Motor Oil (>C24-C36)	ND	521	490	94	64 - 127	
Surrogate	% Rec		Acceptance Limits			
o-Terphenyl	101			50 - 150		

Matrix Spike - Batch: 580-48860

**Method: NWTPH-Dx
Preparation: 3550B**

Lab Sample ID: 580-15031-9
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 08/24/2009 1658
Date Prepared: 08/21/2009 1252

Analysis Batch: 580-48925
Prep Batch: 580-48860
Units: mg/Kg

Instrument ID: TAC013
Lab File ID: FA39280.D
Initial Weight/Volume: 10.1776 g
Final Weight/Volume: 10 mL
Injection Volume: 1 uL

Analyte	Sample Result/Qual	Spike Amount	Result	% Rec.	Limit	Qual
#2 Diesel (C10-C24)	ND	521	399	76	70 - 125	
Motor Oil (>C24-C36)	ND	521	397	76	64 - 127	
Surrogate	% Rec		Acceptance Limits			
o-Terphenyl	93			50 - 150		

Calculations are performed before rounding to avoid round-off errors in calculated results.

Quality Control Results

Client: AECOM, Inc.

Job Number: 580-15031-1

Duplicate - Batch: 580-48860

**Method: NWTPH-Dx
Preparation: 3550B**

Lab Sample ID: 580-15031-9RA
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 08/24/2009 0418
Date Prepared: 08/21/2009 1252

Analysis Batch: 580-48918
Prep Batch: 580-48860
Units: mg/Kg
Run Type: RA

Instrument ID: TAC013
Lab File ID: FA39254.D
Initial Weight/Volume: 10.3014 g
Final Weight/Volume: 10 mL
Injection Volume: 1 uL

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
#2 Diesel (C10-C24)	ND	ND	NC	35	
Motor Oil (>C24-C36)	ND	10.6	NC	35	J
Surrogate	% Rec		Acceptance Limits		
o-Terphenyl	81		50 - 150		

Duplicate - Batch: 580-48860

**Method: NWTPH-Dx
Preparation: 3550B**

Lab Sample ID: 580-15031-9
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 08/24/2009 1723
Date Prepared: 08/21/2009 1252

Analysis Batch: 580-48925
Prep Batch: 580-48860
Units: mg/Kg

Instrument ID: TAC013
Lab File ID: FA39281.D
Initial Weight/Volume: 10.3014 g
Final Weight/Volume: 10 mL
Injection Volume: 1 uL

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
#2 Diesel (C10-C24)	ND	ND	NC	35	
Motor Oil (>C24-C36)	ND	ND	NC	35	
Surrogate	% Rec		Acceptance Limits		
o-Terphenyl	89		50 - 150		

Calculations are performed before rounding to avoid round-off errors in calculated results.

DATA REPORTING QUALIFIERS

Client: AECOM, Inc.

Job Number: 580-15031-1

Lab Section	Qualifier	Description
GC Semi VOA	J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Login Sample Receipt Check List

Client: AECOM, Inc.

Job Number: 580-15031-1

Login Number: 15031
Creator: Gamble, Cathy
List Number: 1

List Source: TestAmerica Tacoma

Question	T / F / NA	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	N/A	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Is the Field Sampler's name present on COC?	True	
Sample Preservation Verified	N/A	

ANALYTICAL REPORT

Job Number: 580-15097-1

Job Description: BNSF Skykomish Diesel

For:
AECOM, Inc.
710 Second Avenue
Suite 1000
Seattle, WA 98104
Attention: Sarah Albano



Approved for release.
Kate Haney
Project Manager II
9/4/2009 6:11 PM

Kate Haney
Project Manager II
kate.haney@testamericainc.com
09/04/2009

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This report shall not be reproduced except in full, without prior express written approval by the laboratory. The results relate only to the item(s) tested and the sample(s) as received by the laboratory.

The results included in this report have been reviewed for compliance with the laboratory QA/QC plan and meet all requirements of NELAC. All data have been found to be compliant with laboratory protocol, with the exception of any items noted in the case narrative.

TestAmerica Laboratories, Inc.

TestAmerica Tacoma 5755 8th Street East, Tacoma, WA 98424
Tel (253) 922-2310 Fax (253) 922-5047 www.testamericainc.com



Job Narrative
580-J15097-1

Comments

No additional comments.

Receipt

All samples were received in good condition within temperature requirements.

GC Semi VOA

Method(s) NWTPH-Dx: The continuing calibration verification (CCV) for Motor Oil and Diesel recovered above the upper control limit for analysis batches 49031, 49805, 49205. All samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

No other analytical or quality issues were noted.

General Chemistry

No analytical or quality issues were noted.

Organic Prep

No analytical or quality issues were noted.

METHOD SUMMARY

Client: AECOM, Inc.

Job Number: 580-15097-1

Description	Lab Location	Method	Preparation Method
Matrix: Solid			
Northwest - Semi-Volatile Petroleum Products (GC)	TAL TAC	NWTPH NWTPH-Dx	
Semi-Volatile Petroleum Products by NWTPH with Silica Gel Cleanup	TAL TAC	NWTPH NWTPH-Dx	
Ultrasonic Extraction	TAL TAC		SW846 3550B
Ultrasonic Extraction	TAL TAC		SW846 3550B
Silica Gel Cleanup	TAL TAC		SW846 3630C
Organic Carbon, Total (TOC)	TAL TAC	SW846 9060	
Percent Moisture	TAL TAC	EPA Moisture	

Lab References:

TAL TAC = TestAmerica Tacoma

Method References:

EPA = US Environmental Protection Agency

NWTPH = Northwest Total Petroleum Hydrocarbon

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

SAMPLE SUMMARY

Client: AECOM, Inc.

Job Number: 580-15097-1

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
580-15097-1	3-B-31 0-2	Solid	08/24/2009 1115	08/25/2009 1250
580-15097-2	3-B-31 2-4	Solid	08/24/2009 1030	08/25/2009 1250
580-15097-3	3-B-31 4-6	Solid	08/24/2009 1045	08/25/2009 1250
580-15097-4	3-B-34 0-2	Solid	08/24/2009 1223	08/25/2009 1250
580-15097-5	3-B-34 2-4	Solid	08/24/2009 1230	08/25/2009 1250
580-15097-6	3-B-34 4-6	Solid	08/24/2009 1240	08/25/2009 1250
580-15097-7	3-B-39 0-2	Solid	08/24/2009 1324	08/25/2009 1250
580-15097-8	3-B-39 2-4	Solid	08/24/2009 1340	08/25/2009 1250
580-15097-9	3-B-39 4-6	Solid	08/24/2009 1400	08/25/2009 1250
580-15097-10	3-B-39 6-7	Solid	08/24/2009 1410	08/25/2009 1250
580-15097-11	3-B-38 0-2	Solid	08/24/2009 1445	08/25/2009 1250
580-15097-12	3-B-38 2-4	Solid	08/24/2009 1500	08/25/2009 1250
580-15097-13	3-B-38 4-5	Solid	08/24/2009 1530	08/25/2009 1250
580-15097-14	3-B-52 0-2	Solid	08/24/2009 1620	08/25/2009 1250
580-15097-15	3-B-52 2-4	Solid	08/24/2009 1640	08/25/2009 1250
580-15097-16	3-B-52 4-6	Solid	08/24/2009 1645	08/25/2009 1250
580-15097-17	3-B-33 0-2	Solid	08/24/2009 1740	08/25/2009 1250
580-15097-18	3-B-33 2-4	Solid	08/24/2009 1745	08/25/2009 1250
580-15097-19	3-B-33 4-6	Solid	08/24/2009 1800	08/25/2009 1250
580-15097-20	3-B-52 0-2	Solid	08/24/2009 1555	08/25/2009 1250
580-15097-21	3-B-33 0-2	Solid	08/24/2009 1725	08/25/2009 1250
580-15097-22	1B-B-31 8	Solid	08/21/2009 1120	08/25/2009 1250
580-15097-23	1B-B-31 8(DUP)	Solid	08/21/2009 1120	08/25/2009 1250
580-15097-24	1B-B-31 4.1	Solid	08/20/2009 1330	08/25/2009 1250
580-15097-25	1B-B-31 6	Solid	08/20/2009 1610	08/25/2009 1250

Analytical Data

Client: AECOM, Inc.

Job Number: 580-15097-1

Client Sample ID: 3-B-31 0-2

Lab Sample ID: 580-15097-1

Date Sampled: 08/24/2009 1115

Client Matrix: Solid

% Moisture: 53.6

Date Received: 08/25/2009 1250

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method:	NWTPH-Dx	Analysis Batch: 580-49205	Instrument ID:	SEA011
Preparation:	3550B	Prep Batch: 580-49079	Lab File ID:	AA00124.D
Dilution:	1.0		Initial Weight/Volume:	10.3777 g
Date Analyzed:	08/28/2009 0254		Final Weight/Volume:	10 mL
Date Prepared:	08/25/2009 1821		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
#2 Diesel (C10-C24)		ND		12	52
Motor Oil (>C24-C36)		25	J	19	100

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	101		50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-15097-1

Client Sample ID: 3-B-31 0-2

Lab Sample ID: 580-15097-1

Date Sampled: 08/24/2009 1115

Client Matrix: Solid

% Moisture: 53.6

Date Received: 08/25/2009 1250

NWTPH-Dx Semi-Volatile Petroleum Products by NWTPH with Silica Gel Cleanup

Method:	NWTPH-Dx	Analysis Batch: 580-49205	Instrument ID:	SEA011
Preparation:	3550B	Prep Batch: 580-49079	Lab File ID:	AA00107.D
Dilution:	1.0		Initial Weight/Volume:	10.3777 g
Date Analyzed:	08/27/2009 2112		Final Weight/Volume:	10 mL
Date Prepared:	08/25/2009 1821		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
#2 Diesel (C10-C24)		ND		12	52
Motor Oil (>C24-C36)		ND		19	100

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	93		50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-15097-1

Client Sample ID: 3-B-31 2-4

Lab Sample ID: 580-15097-2

Date Sampled: 08/24/2009 1030

Client Matrix: Solid

% Moisture: 45.0

Date Received: 08/25/2009 1250

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method:	NWTPH-Dx	Analysis Batch: 580-49205	Instrument ID:	SEA011
Preparation:	3550B	Prep Batch: 580-49079	Lab File ID:	AA00125.D
Dilution:	1.0		Initial Weight/Volume:	10.4751 g
Date Analyzed:	08/28/2009 0314		Final Weight/Volume:	10 mL
Date Prepared:	08/25/2009 1821		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
#2 Diesel (C10-C24)		ND		9.9	43
Motor Oil (>C24-C36)		ND		16	87

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	98		50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-15097-1

Client Sample ID: 3-B-31 2-4

Lab Sample ID: 580-15097-2

Date Sampled: 08/24/2009 1030

Client Matrix: Solid

% Moisture: 45.0

Date Received: 08/25/2009 1250

NWTPH-Dx Semi-Volatile Petroleum Products by NWTPH with Silica Gel Cleanup

Method:	NWTPH-Dx	Analysis Batch: 580-49205	Instrument ID:	SEA011
Preparation:	3550B	Prep Batch: 580-49079	Lab File ID:	AA00108.D
Dilution:	1.0		Initial Weight/Volume:	10.4751 g
Date Analyzed:	08/27/2009 2132		Final Weight/Volume:	10 mL
Date Prepared:	08/25/2009 1821		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
#2 Diesel (C10-C24)		ND		9.9	43
Motor Oil (>C24-C36)		ND		16	87

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	96		50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-15097-1

Client Sample ID: 3-B-31 4-6

Lab Sample ID: 580-15097-3

Date Sampled: 08/24/2009 1045

Client Matrix: Solid

% Moisture: 23.4

Date Received: 08/25/2009 1250

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method:	NWTPH-Dx	Analysis Batch: 580-49205	Instrument ID:	SEA011
Preparation:	3550B	Prep Batch: 580-49079	Lab File ID:	AA00126.D
Dilution:	1.0		Initial Weight/Volume:	10.4182 g
Date Analyzed:	08/28/2009 0334		Final Weight/Volume:	10 mL
Date Prepared:	08/25/2009 1821		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
#2 Diesel (C10-C24)		ND		7.1	31
Motor Oil (>C24-C36)		ND		11	63

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	102		50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-15097-1

Client Sample ID: 3-B-31 4-6

Lab Sample ID: 580-15097-3

Date Sampled: 08/24/2009 1045

Client Matrix: Solid

% Moisture: 23.4

Date Received: 08/25/2009 1250

NWTPH-Dx Semi-Volatile Petroleum Products by NWTPH with Silica Gel Cleanup

Method:	NWTPH-Dx	Analysis Batch: 580-49205	Instrument ID:	SEA011
Preparation:	3550B	Prep Batch: 580-49079	Lab File ID:	AA00109.D
Dilution:	1.0		Initial Weight/Volume:	10.4182 g
Date Analyzed:	08/27/2009 2152		Final Weight/Volume:	10 mL
Date Prepared:	08/25/2009 1821		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
#2 Diesel (C10-C24)		ND		7.1	31
Motor Oil (>C24-C36)		ND		11	63

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	92		50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-15097-1

Client Sample ID: 3-B-34 0-2

Lab Sample ID: 580-15097-4

Date Sampled: 08/24/2009 1223

Client Matrix: Solid

% Moisture: 53.3

Date Received: 08/25/2009 1250

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method:	NWTPH-Dx	Analysis Batch: 580-49205	Instrument ID:	SEA011
Preparation:	3550B	Prep Batch: 580-49079	Lab File ID:	AA00127.D
Dilution:	1.0		Initial Weight/Volume:	10.1527 g
Date Analyzed:	08/28/2009 0354		Final Weight/Volume:	10 mL
Date Prepared:	08/25/2009 1821		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
#2 Diesel (C10-C24)		ND		12	53
Motor Oil (>C24-C36)		91	J	19	110

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	104		50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-15097-1

Client Sample ID: 3-B-34 0-2

Lab Sample ID: 580-15097-4

Date Sampled: 08/24/2009 1223

Client Matrix: Solid

% Moisture: 53.3

Date Received: 08/25/2009 1250

NWTPH-Dx Semi-Volatile Petroleum Products by NWTPH with Silica Gel Cleanup

Method:	NWTPH-Dx	Analysis Batch: 580-49205	Instrument ID:	SEA011
Preparation:	3550B	Prep Batch: 580-49079	Lab File ID:	AA00110.D
Dilution:	1.0		Initial Weight/Volume:	10.1527 g
Date Analyzed:	08/27/2009 2211		Final Weight/Volume:	10 mL
Date Prepared:	08/25/2009 1821		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
#2 Diesel (C10-C24)		ND		12	53
Motor Oil (>C24-C36)		ND		19	110

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	100		50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-15097-1

Client Sample ID: 3-B-34 2-4

Lab Sample ID: 580-15097-5

Date Sampled: 08/24/2009 1230

Client Matrix: Solid

% Moisture: 42.6

Date Received: 08/25/2009 1250

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method:	NWTPH-Dx	Analysis Batch: 580-49205	Instrument ID:	SEA011
Preparation:	3550B	Prep Batch: 580-49079	Lab File ID:	AA00128.D
Dilution:	1.0		Initial Weight/Volume:	10.0896 g
Date Analyzed:	08/28/2009 0413		Final Weight/Volume:	10 mL
Date Prepared:	08/25/2009 1821		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
#2 Diesel (C10-C24)		ND		9.8	43
Motor Oil (>C24-C36)		ND		16	86

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	102		50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-15097-1

Client Sample ID: 3-B-34 2-4

Lab Sample ID: 580-15097-5

Date Sampled: 08/24/2009 1230

Client Matrix: Solid

% Moisture: 42.6

Date Received: 08/25/2009 1250

NWTPH-Dx Semi-Volatile Petroleum Products by NWTPH with Silica Gel Cleanup

Method:	NWTPH-Dx	Analysis Batch: 580-49205	Instrument ID:	SEA011
Preparation:	3550B	Prep Batch: 580-49079	Lab File ID:	AA00111.D
Dilution:	1.0		Initial Weight/Volume:	10.0896 g
Date Analyzed:	08/27/2009 2231		Final Weight/Volume:	10 mL
Date Prepared:	08/25/2009 1821		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
#2 Diesel (C10-C24)		ND		9.8	43
Motor Oil (>C24-C36)		ND		16	86

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	97		50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-15097-1

Client Sample ID: 3-B-34 4-6

Lab Sample ID: 580-15097-6

Date Sampled: 08/24/2009 1240

Client Matrix: Solid

% Moisture: 18.6

Date Received: 08/25/2009 1250

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method:	NWTPH-Dx	Analysis Batch: 580-49031	Instrument ID:	TAC013
Preparation:	3550B	Prep Batch: 580-49079	Lab File ID:	FA39335.D
Dilution:	1.0		Initial Weight/Volume:	10.2861 g
Date Analyzed:	08/25/2009 2325		Final Weight/Volume:	10 mL
Date Prepared:	08/25/2009 1821		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
#2 Diesel (C10-C24)		ND		6.8	30
Motor Oil (>C24-C36)		ND		11	60

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	95		50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-15097-1

Client Sample ID: 3-B-34 4-6

Lab Sample ID: 580-15097-6

Date Sampled: 08/24/2009 1240

Client Matrix: Solid

% Moisture: 18.6

Date Received: 08/25/2009 1250

NWTPH-Dx Semi-Volatile Petroleum Products by NWTPH with Silica Gel Cleanup

Method:	NWTPH-Dx	Analysis Batch: 580-49085	Instrument ID:	TAC017
Preparation:	3550B	Prep Batch: 580-49079	Lab File ID:	ZZ00382.D
Dilution:	1.0		Initial Weight/Volume:	10.2861 g
Date Analyzed:	08/26/2009 0437		Final Weight/Volume:	10 mL
Date Prepared:	08/25/2009 1821		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
#2 Diesel (C10-C24)		ND		6.8	30
Motor Oil (>C24-C36)		ND		11	60

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	87		50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-15097-1

Client Sample ID: 3-B-39 0-2

Lab Sample ID: 580-15097-7

Date Sampled: 08/24/2009 1324

Client Matrix: Solid

% Moisture: 28.2

Date Received: 08/25/2009 1250

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method:	NWTPH-Dx	Analysis Batch: 580-49205	Instrument ID:	SEA011
Preparation:	3550B	Prep Batch: 580-49079	Lab File ID:	AA00129.D
Dilution:	1.0		Initial Weight/Volume:	10.6173 g
Date Analyzed:	08/28/2009 0433		Final Weight/Volume:	10 mL
Date Prepared:	08/25/2009 1821		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
#2 Diesel (C10-C24)		ND		7.5	33
Motor Oil (>C24-C36)		ND		12	66

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	99		50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-15097-1

Client Sample ID: 3-B-39 0-2

Lab Sample ID: 580-15097-7

Date Sampled: 08/24/2009 1324

Client Matrix: Solid

% Moisture: 28.2

Date Received: 08/25/2009 1250

NWTPH-Dx Semi-Volatile Petroleum Products by NWTPH with Silica Gel Cleanup

Method:	NWTPH-Dx	Analysis Batch: 580-49205	Instrument ID:	SEA011
Preparation:	3550B	Prep Batch: 580-49079	Lab File ID:	AA00112.D
Dilution:	1.0		Initial Weight/Volume:	10.6173 g
Date Analyzed:	08/27/2009 2251		Final Weight/Volume:	10 mL
Date Prepared:	08/25/2009 1821		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
#2 Diesel (C10-C24)		ND		7.5	33
Motor Oil (>C24-C36)		13	J	12	66

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	92		50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-15097-1

Client Sample ID: 3-B-39 2-4

Lab Sample ID: 580-15097-8

Date Sampled: 08/24/2009 1340

Client Matrix: Solid

% Moisture: 46.8

Date Received: 08/25/2009 1250

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method:	NWTPH-Dx	Analysis Batch: 580-49205	Instrument ID:	SEA011
Preparation:	3550B	Prep Batch: 580-49079	Lab File ID:	AA00130.D
Dilution:	1.0		Initial Weight/Volume:	10.6793 g
Date Analyzed:	08/28/2009 0453		Final Weight/Volume:	10 mL
Date Prepared:	08/25/2009 1821		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
#2 Diesel (C10-C24)		ND		10	44
Motor Oil (>C24-C36)		ND		16	88

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	95		50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-15097-1

Client Sample ID: 3-B-39 2-4

Lab Sample ID: 580-15097-8

Date Sampled: 08/24/2009 1340

Client Matrix: Solid

% Moisture: 46.8

Date Received: 08/25/2009 1250

NWTPH-Dx Semi-Volatile Petroleum Products by NWTPH with Silica Gel Cleanup

Method:	NWTPH-Dx	Analysis Batch: 580-49205	Instrument ID:	SEA011
Preparation:	3550B	Prep Batch: 580-49079	Lab File ID:	AA00113.D
Dilution:	1.0		Initial Weight/Volume:	10.6793 g
Date Analyzed:	08/27/2009 2311		Final Weight/Volume:	10 mL
Date Prepared:	08/25/2009 1821		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
#2 Diesel (C10-C24)		ND		10	44
Motor Oil (>C24-C36)		ND		16	88

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	101		50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-15097-1

Client Sample ID: 3-B-39 4-6

Lab Sample ID: 580-15097-9

Date Sampled: 08/24/2009 1400

Client Matrix: Solid

% Moisture: 29.7

Date Received: 08/25/2009 1250

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method:	NWTPH-Dx	Analysis Batch: 580-49031	Instrument ID:	TAC013
Preparation:	3550B	Prep Batch: 580-49079	Lab File ID:	FA39338.D
Dilution:	1.0		Initial Weight/Volume:	10.7210 g
Date Analyzed:	08/26/2009 0042		Final Weight/Volume:	10 mL
Date Prepared:	08/25/2009 1821		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
#2 Diesel (C10-C24)		11	J	7.6	33
Motor Oil (>C24-C36)		ND		12	66

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	93		50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-15097-1

Client Sample ID: 3-B-39 4-6

Lab Sample ID: 580-15097-9

Date Sampled: 08/24/2009 1400

Client Matrix: Solid

% Moisture: 29.7

Date Received: 08/25/2009 1250

NWTPH-Dx Semi-Volatile Petroleum Products by NWTPH with Silica Gel Cleanup

Method:	NWTPH-Dx	Analysis Batch: 580-49085	Instrument ID:	TAC017
Preparation:	3550B	Prep Batch: 580-49079	Lab File ID:	ZZ00385.D
Dilution:	1.0		Initial Weight/Volume:	10.7210 g
Date Analyzed:	08/26/2009 0545		Final Weight/Volume:	10 mL
Date Prepared:	08/25/2009 1821		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
#2 Diesel (C10-C24)		ND		7.6	33
Motor Oil (>C24-C36)		ND		12	66

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	103		50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-15097-1

Client Sample ID: 3-B-39 6-7

Lab Sample ID: 580-15097-10

Date Sampled: 08/24/2009 1410

Client Matrix: Solid

% Moisture: 22.7

Date Received: 08/25/2009 1250

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method:	NWTPH-Dx	Analysis Batch: 580-49205	Instrument ID:	SEA011
Preparation:	3550B	Prep Batch: 580-49079	Lab File ID:	AA00131.D
Dilution:	1.0		Initial Weight/Volume:	10.2251 g
Date Analyzed:	08/28/2009 0513		Final Weight/Volume:	10 mL
Date Prepared:	08/25/2009 1821		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
#2 Diesel (C10-C24)		ND		7.2	32
Motor Oil (>C24-C36)		ND		12	63

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	99		50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-15097-1

Client Sample ID: 3-B-39 6-7

Lab Sample ID: 580-15097-10

Date Sampled: 08/24/2009 1410

Client Matrix: Solid

% Moisture: 22.7

Date Received: 08/25/2009 1250

NWTPH-Dx Semi-Volatile Petroleum Products by NWTPH with Silica Gel Cleanup

Method:	NWTPH-Dx	Analysis Batch: 580-49205	Instrument ID:	SEA011
Preparation:	3550B	Prep Batch: 580-49079	Lab File ID:	AA00114.D
Dilution:	1.0		Initial Weight/Volume:	10.2251 g
Date Analyzed:	08/27/2009 2330		Final Weight/Volume:	10 mL
Date Prepared:	08/25/2009 1821		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
#2 Diesel (C10-C24)		ND		7.2	32
Motor Oil (>C24-C36)		ND		12	63

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	103		50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-15097-1

Client Sample ID: 3-B-38 0-2

Lab Sample ID: 580-15097-11

Date Sampled: 08/24/2009 1445

Client Matrix: Solid

% Moisture: 40.3

Date Received: 08/25/2009 1250

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method:	NWTPH-Dx	Analysis Batch: 580-49205	Instrument ID:	SEA011
Preparation:	3550B	Prep Batch: 580-49079	Lab File ID:	AA00132.D
Dilution:	1.0		Initial Weight/Volume:	10.2435 g
Date Analyzed:	08/28/2009 0532		Final Weight/Volume:	10 mL
Date Prepared:	08/25/2009 1821		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
#2 Diesel (C10-C24)		ND		9.3	41
Motor Oil (>C24-C36)		ND		15	82

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	108		50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-15097-1

Client Sample ID: 3-B-38 0-2

Lab Sample ID: 580-15097-11

Date Sampled: 08/24/2009 1445

Client Matrix: Solid

% Moisture: 40.3

Date Received: 08/25/2009 1250

NWTPH-Dx Semi-Volatile Petroleum Products by NWTPH with Silica Gel Cleanup

Method:	NWTPH-Dx	Analysis Batch: 580-49205	Instrument ID:	SEA011
Preparation:	3550B	Prep Batch: 580-49079	Lab File ID:	AA00115.D
Dilution:	1.0		Initial Weight/Volume:	10.2435 g
Date Analyzed:	08/27/2009 2350		Final Weight/Volume:	10 mL
Date Prepared:	08/25/2009 1821		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
#2 Diesel (C10-C24)		ND		9.3	41
Motor Oil (>C24-C36)		ND		15	82

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	103		50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-15097-1

Client Sample ID: 3-B-38 2-4

Lab Sample ID: 580-15097-12

Date Sampled: 08/24/2009 1500

Client Matrix: Solid

% Moisture: 54.0

Date Received: 08/25/2009 1250

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method:	NWTPH-Dx	Analysis Batch: 580-49205	Instrument ID:	SEA011
Preparation:	3550B	Prep Batch: 580-49079	Lab File ID:	AA00133.D
Dilution:	1.0		Initial Weight/Volume:	10.2865 g
Date Analyzed:	08/28/2009 0552		Final Weight/Volume:	10 mL
Date Prepared:	08/25/2009 1821		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
#2 Diesel (C10-C24)		ND		12	53
Motor Oil (>C24-C36)		26	J	19	110

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	106		50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-15097-1

Client Sample ID: 3-B-38 2-4

Lab Sample ID: 580-15097-12

Date Sampled: 08/24/2009 1500

Client Matrix: Solid

% Moisture: 54.0

Date Received: 08/25/2009 1250

NWTPH-Dx Semi-Volatile Petroleum Products by NWTPH with Silica Gel Cleanup

Method:	NWTPH-Dx	Analysis Batch: 580-49205	Instrument ID:	SEA011
Preparation:	3550B	Prep Batch: 580-49079	Lab File ID:	AA00116.D
Dilution:	1.0		Initial Weight/Volume:	10.2865 g
Date Analyzed:	08/28/2009 0010		Final Weight/Volume:	10 mL
Date Prepared:	08/25/2009 1821		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
#2 Diesel (C10-C24)		ND		12	53
Motor Oil (>C24-C36)		ND		19	110

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	98		50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-15097-1

Client Sample ID: 3-B-38 4-5

Lab Sample ID: 580-15097-13

Date Sampled: 08/24/2009 1530

Client Matrix: Solid

% Moisture: 33.7

Date Received: 08/25/2009 1250

NWTPH-Dx Semi-Volatile Petroleum Products by NWTPH with Silica Gel Cleanup

Method:	NWTPH-Dx	Analysis Batch: 580-49085	Instrument ID:	TAC017
Preparation:	3550B	Prep Batch: 580-49079	Lab File ID:	ZZ00387.D
Dilution:	1.0		Initial Weight/Volume:	10.1971 g
Date Analyzed:	08/26/2009 0628		Final Weight/Volume:	10 mL
Date Prepared:	08/25/2009 1821		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
#2 Diesel (C10-C24)		ND		8.4	37
Motor Oil (>C24-C36)		ND		13	74

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	98		50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-15097-1

Client Sample ID: 3-B-38 4-5

Lab Sample ID: 580-15097-13

Date Sampled: 08/24/2009 1530

Client Matrix: Solid

% Moisture: 33.7

Date Received: 08/25/2009 1250

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method:	NWTPH-Dx	Analysis Batch: 580-49031	Instrument ID:	TAC013
Preparation:	3550B	Prep Batch: 580-49079	Lab File ID:	FA39340.D
Dilution:	1.0		Initial Weight/Volume:	10.1971 g
Date Analyzed:	08/26/2009 0133		Final Weight/Volume:	10 mL
Date Prepared:	08/25/2009 1821		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
#2 Diesel (C10-C24)		ND		8.4	37
Motor Oil (>C24-C36)		ND		13	74

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	91		50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-15097-1

Client Sample ID: 3-B-52 0-2

Lab Sample ID: 580-15097-14

Date Sampled: 08/24/2009 1620

Client Matrix: Solid

% Moisture: 43.6

Date Received: 08/25/2009 1250

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method:	NWTPH-Dx	Analysis Batch: 580-49205	Instrument ID:	SEA011
Preparation:	3550B	Prep Batch: 580-49079	Lab File ID:	AA00134.D
Dilution:	1.0		Initial Weight/Volume:	10.1896 g
Date Analyzed:	08/28/2009 0611		Final Weight/Volume:	10 mL
Date Prepared:	08/25/2009 1821		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
#2 Diesel (C10-C24)		ND		9.9	44
Motor Oil (>C24-C36)		ND		16	87

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	104		50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-15097-1

Client Sample ID: 3-B-52 0-2

Lab Sample ID: 580-15097-14

Date Sampled: 08/24/2009 1620

Client Matrix: Solid

% Moisture: 43.6

Date Received: 08/25/2009 1250

NWTPH-Dx Semi-Volatile Petroleum Products by NWTPH with Silica Gel Cleanup

Method:	NWTPH-Dx	Analysis Batch: 580-49205	Instrument ID:	SEA011
Preparation:	3550B	Prep Batch: 580-49079	Lab File ID:	AA00117.D
Dilution:	1.0		Initial Weight/Volume:	10.1896 g
Date Analyzed:	08/28/2009 0030		Final Weight/Volume:	10 mL
Date Prepared:	08/25/2009 1821		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
#2 Diesel (C10-C24)		ND		9.9	44
Motor Oil (>C24-C36)		ND		16	87

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	95		50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-15097-1

Client Sample ID: 3-B-52 2-4

Lab Sample ID: 580-15097-15

Date Sampled: 08/24/2009 1640

Client Matrix: Solid

% Moisture: 43.8

Date Received: 08/25/2009 1250

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method:	NWTPH-Dx	Analysis Batch: 580-49205	Instrument ID:	SEA011
Preparation:	3550B	Prep Batch: 580-49079	Lab File ID:	AA00135.D
Dilution:	1.0		Initial Weight/Volume:	10.1719 g
Date Analyzed:	08/28/2009 0631		Final Weight/Volume:	10 mL
Date Prepared:	08/25/2009 1821		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
#2 Diesel (C10-C24)		ND		10	44
Motor Oil (>C24-C36)		ND		16	87

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	102		50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-15097-1

Client Sample ID: 3-B-52 2-4

Lab Sample ID: 580-15097-15

Date Sampled: 08/24/2009 1640

Client Matrix: Solid

% Moisture: 43.8

Date Received: 08/25/2009 1250

NWTPH-Dx Semi-Volatile Petroleum Products by NWTPH with Silica Gel Cleanup

Method:	NWTPH-Dx	Analysis Batch: 580-49205	Instrument ID:	SEA011
Preparation:	3550B	Prep Batch: 580-49079	Lab File ID:	AA00118.D
Dilution:	1.0		Initial Weight/Volume:	10.1719 g
Date Analyzed:	08/28/2009 0049		Final Weight/Volume:	10 mL
Date Prepared:	08/25/2009 1821		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
#2 Diesel (C10-C24)		ND		10	44
Motor Oil (>C24-C36)		ND		16	87

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	104		50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-15097-1

Client Sample ID: 3-B-52 4-6

Lab Sample ID: 580-15097-16

Date Sampled: 08/24/2009 1645

Client Matrix: Solid

% Moisture: 26.2

Date Received: 08/25/2009 1250

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method:	NWTPH-Dx	Analysis Batch: 580-49205	Instrument ID:	SEA011
Preparation:	3550B	Prep Batch: 580-49079	Lab File ID:	AA00136.D
Dilution:	1.0		Initial Weight/Volume:	10.3050 g
Date Analyzed:	08/28/2009 0651		Final Weight/Volume:	10 mL
Date Prepared:	08/25/2009 1821		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
#2 Diesel (C10-C24)		ND		7.5	33
Motor Oil (>C24-C36)		ND		12	66

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	102		50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-15097-1

Client Sample ID: 3-B-52 4-6

Lab Sample ID: 580-15097-16

Date Sampled: 08/24/2009 1645

Client Matrix: Solid

% Moisture: 26.2

Date Received: 08/25/2009 1250

NWTPH-Dx Semi-Volatile Petroleum Products by NWTPH with Silica Gel Cleanup

Method:	NWTPH-Dx	Analysis Batch: 580-49205	Instrument ID:	SEA011
Preparation:	3550B	Prep Batch: 580-49079	Lab File ID:	AA00119.D
Dilution:	1.0		Initial Weight/Volume:	10.3050 g
Date Analyzed:	08/28/2009 0109		Final Weight/Volume:	10 mL
Date Prepared:	08/25/2009 1821		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
#2 Diesel (C10-C24)		ND		7.5	33
Motor Oil (>C24-C36)		ND		12	66

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	103		50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-15097-1

Client Sample ID: 3-B-33 0-2

Lab Sample ID: 580-15097-17

Date Sampled: 08/24/2009 1740

Client Matrix: Solid

% Moisture: 58.4

Date Received: 08/25/2009 1250

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method:	NWTPH-Dx	Analysis Batch: 580-49205	Instrument ID:	SEA011
Preparation:	3550B	Prep Batch: 580-49079	Lab File ID:	AA00137.D
Dilution:	1.0		Initial Weight/Volume:	10.0585 g
Date Analyzed:	08/28/2009 0711		Final Weight/Volume:	10 mL
Date Prepared:	08/25/2009 1821		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
#2 Diesel (C10-C24)		ND		14	60
Motor Oil (>C24-C36)		ND		22	120

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	101		50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-15097-1

Client Sample ID: 3-B-33 0-2

Lab Sample ID: 580-15097-17

Date Sampled: 08/24/2009 1740

Client Matrix: Solid

% Moisture: 58.4

Date Received: 08/25/2009 1250

NWTPH-Dx Semi-Volatile Petroleum Products by NWTPH with Silica Gel Cleanup

Method:	NWTPH-Dx	Analysis Batch: 580-49205	Instrument ID:	SEA011
Preparation:	3550B	Prep Batch: 580-49079	Lab File ID:	AA00120.D
Dilution:	1.0		Initial Weight/Volume:	10.0585 g
Date Analyzed:	08/28/2009 0129		Final Weight/Volume:	10 mL
Date Prepared:	08/25/2009 1821		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
#2 Diesel (C10-C24)		ND		14	60
Motor Oil (>C24-C36)		ND		22	120

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	97		50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-15097-1

Client Sample ID: 3-B-33 2-4

Lab Sample ID: 580-15097-18

Date Sampled: 08/24/2009 1745

Client Matrix: Solid

% Moisture: 51.9

Date Received: 08/25/2009 1250

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method:	NWTPH-Dx	Analysis Batch: 580-49357	Instrument ID:	TAC013
Preparation:	3550B	Prep Batch: 580-49079	Lab File ID:	FA39490.D
Dilution:	1.0		Initial Weight/Volume:	10.7164 g
Date Analyzed:	08/29/2009 1317		Final Weight/Volume:	10 mL
Date Prepared:	08/25/2009 1821		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
#2 Diesel (C10-C24)		1100		11	48
Motor Oil (>C24-C36)		2800		18	97

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	118		50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-15097-1

Client Sample ID: 3-B-33 2-4

Lab Sample ID: 580-15097-18

Date Sampled: 08/24/2009 1745

Client Matrix: Solid

% Moisture: 51.9

Date Received: 08/25/2009 1250

NWTPH-Dx Semi-Volatile Petroleum Products by NWTPH with Silica Gel Cleanup

Method:	NWTPH-Dx	Analysis Batch: 580-49616	Instrument ID:	TAC013
Preparation:	3550B	Prep Batch: 580-49079	Lab File ID:	FA39621.D
Dilution:	1.0		Initial Weight/Volume:	10.7164 g
Date Analyzed:	09/03/2009 1735		Final Weight/Volume:	10 mL
Date Prepared:	08/25/2009 1821		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
#2 Diesel (C10-C24)		1200		11	48
Motor Oil (>C24-C36)		2700		18	97

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	118		50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-15097-1

Client Sample ID: 3-B-33 4-6

Lab Sample ID: 580-15097-19

Date Sampled: 08/24/2009 1800

Client Matrix: Solid

% Moisture: 29.6

Date Received: 08/25/2009 1250

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method:	NWTPH-Dx	Analysis Batch: 580-49205	Instrument ID:	SEA011
Preparation:	3550B	Prep Batch: 580-49079	Lab File ID:	AA00139.D
Dilution:	1.0		Initial Weight/Volume:	10.6332 g
Date Analyzed:	08/28/2009 0750		Final Weight/Volume:	10 mL
Date Prepared:	08/25/2009 1821		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
#2 Diesel (C10-C24)		ND		7.6	33
Motor Oil (>C24-C36)		41	J	12	67

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	101		50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-15097-1

Client Sample ID: 3-B-33 4-6

Lab Sample ID: 580-15097-19

Date Sampled: 08/24/2009 1800

Client Matrix: Solid

% Moisture: 29.6

Date Received: 08/25/2009 1250

NWTPH-Dx Semi-Volatile Petroleum Products by NWTPH with Silica Gel Cleanup

Method:	NWTPH-Dx	Analysis Batch: 580-49205	Instrument ID:	SEA011
Preparation:	3550B	Prep Batch: 580-49079	Lab File ID:	AA00122.D
Dilution:	1.0		Initial Weight/Volume:	10.6332 g
Date Analyzed:	08/28/2009 0209		Final Weight/Volume:	10 mL
Date Prepared:	08/25/2009 1821		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
#2 Diesel (C10-C24)		ND		7.6	33
Motor Oil (>C24-C36)		32	J	12	67

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	102		50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-15097-1

Client Sample ID: 1B-B-31 8

Lab Sample ID: 580-15097-22

Date Sampled: 08/21/2009 1120

Client Matrix: Solid

% Moisture: 10.8

Date Received: 08/25/2009 1250

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method:	NWTPH-Dx	Analysis Batch: 580-49282	Instrument ID:	TAC013
Preparation:	3550B	Prep Batch: 580-49080	Lab File ID:	FA39471.D
Dilution:	1.0		Initial Weight/Volume:	10.3329 g
Date Analyzed:	08/28/2009 1958		Final Weight/Volume:	10 mL
Date Prepared:	08/25/2009 1851		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
#2 Diesel (C10-C24)		39		6.2	27
Motor Oil (>C24-C36)		35	J	9.9	54

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	114		50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-15097-1

Client Sample ID: 1B-B-31 8(DUP)

Lab Sample ID: 580-15097-23

Date Sampled: 08/21/2009 1120

Client Matrix: Solid

% Moisture: 10.6

Date Received: 08/25/2009 1250

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method:	NWTPH-Dx	Analysis Batch: 580-49282	Instrument ID:	TAC013
Preparation:	3550B	Prep Batch: 580-49080	Lab File ID:	FA39472.D
Dilution:	1.0		Initial Weight/Volume:	10.3426 g
Date Analyzed:	08/28/2009 2018		Final Weight/Volume:	10 mL
Date Prepared:	08/25/2009 1851		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
#2 Diesel (C10-C24)		53		6.2	27
Motor Oil (>C24-C36)		49	J	9.8	54

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	120		50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-15097-1

Client Sample ID: 1B-B-31 4.1

Lab Sample ID: 580-15097-24

Date Sampled: 08/20/2009 1330

Client Matrix: Solid

% Moisture: 8.6

Date Received: 08/25/2009 1250

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method:	NWTPH-Dx	Analysis Batch: 580-49282	Instrument ID:	TAC013
Preparation:	3550B	Prep Batch: 580-49080	Lab File ID:	FA39473.D
Dilution:	1.0		Initial Weight/Volume:	10.0889 g
Date Analyzed:	08/28/2009 2039		Final Weight/Volume:	10 mL
Date Prepared:	08/25/2009 1851		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
#2 Diesel (C10-C24)		2200		6.2	27
Motor Oil (>C24-C36)		160		9.9	54

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	119		50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-15097-1

Client Sample ID: 1B-B-31 6

Lab Sample ID: 580-15097-25

Date Sampled: 08/20/2009 1610

Client Matrix: Solid

% Moisture: 6.5

Date Received: 08/25/2009 1250

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method:	NWTPH-Dx	Analysis Batch: 580-49282	Instrument ID:	TAC013
Preparation:	3550B	Prep Batch: 580-49080	Lab File ID:	FA39470.D
Dilution:	1.0		Initial Weight/Volume:	10.4501 g
Date Analyzed:	08/28/2009 2059		Final Weight/Volume:	10 mL
Date Prepared:	08/25/2009 1851		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
#2 Diesel (C10-C24)		400		5.8	26
Motor Oil (>C24-C36)		35	J	9.3	51

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	115		50 - 150

Client: AECOM, Inc.

Job Number: 580-15097-1

General Chemistry

Client Sample ID: 3-B-31 0-2

Lab Sample ID: 580-15097-1

Client Matrix: Solid

Date Sampled: 08/24/2009 1115

Date Received: 08/25/2009 1250

Analyte	Result	Qual	Units	RL	Dil	Method
Total Organic Carbon	71000		mg/Kg	2000	1.0	9060
	Analysis Batch: 580-49245		Date Analyzed: 08/27/2009 1211			DryWt Corrected: N

Analyte	Result	Qual	Units	RL	Dil	Method
Percent Solids	46		%	0.10	1.0	Moisture
	Analysis Batch: 580-49170		Date Analyzed: 08/26/2009 1721			DryWt Corrected: N
Percent Moisture	54		%	0.10	1.0	Moisture
	Analysis Batch: 580-49170		Date Analyzed: 08/26/2009 1721			DryWt Corrected: N

Client: AECOM, Inc.

Job Number: 580-15097-1

General Chemistry

Client Sample ID: 3-B-31 2-4

Lab Sample ID: 580-15097-2

Client Matrix: Solid

Date Sampled: 08/24/2009 1030

Date Received: 08/25/2009 1250

Analyte	Result	Qual	Units	RL	Dil	Method
Total Organic Carbon	29000		mg/Kg	2000	1.0	9060
	Analysis Batch: 580-49245		Date Analyzed: 08/27/2009 1211			DryWt Corrected: N

Analyte	Result	Qual	Units	RL	Dil	Method
Percent Solids	55		%	0.10	1.0	Moisture
	Analysis Batch: 580-49170		Date Analyzed: 08/26/2009 1721			DryWt Corrected: N
Percent Moisture	45		%	0.10	1.0	Moisture
	Analysis Batch: 580-49170		Date Analyzed: 08/26/2009 1721			DryWt Corrected: N

Client: AECOM, Inc.

Job Number: 580-15097-1

General Chemistry

Client Sample ID: 3-B-31 4-6

Lab Sample ID: 580-15097-3

Client Matrix: Solid

Date Sampled: 08/24/2009 1045

Date Received: 08/25/2009 1250

Analyte	Result	Qual	Units	RL	Dil	Method
Total Organic Carbon	23000		mg/Kg	2000	1.0	9060
	Analysis Batch: 580-49245		Date Analyzed: 08/27/2009 1211			DryWt Corrected: N

Analyte	Result	Qual	Units	RL	Dil	Method
Percent Solids	77		%	0.10	1.0	Moisture
	Analysis Batch: 580-49170		Date Analyzed: 08/26/2009 1721			DryWt Corrected: N
Percent Moisture	23		%	0.10	1.0	Moisture
	Analysis Batch: 580-49170		Date Analyzed: 08/26/2009 1721			DryWt Corrected: N

Client: AECOM, Inc.

Job Number: 580-15097-1

General Chemistry

Client Sample ID: 3-B-34 0-2

Lab Sample ID: 580-15097-4

Client Matrix: Solid

Date Sampled: 08/24/2009 1223

Date Received: 08/25/2009 1250

Analyte	Result	Qual	Units	RL	Dil	Method
Total Organic Carbon	67000		mg/Kg	2000	1.0	9060
	Analysis Batch: 580-49245		Date Analyzed: 08/27/2009 1211			DryWt Corrected: N

Analyte	Result	Qual	Units	RL	Dil	Method
Percent Solids	47		%	0.10	1.0	Moisture
	Analysis Batch: 580-49170		Date Analyzed: 08/26/2009 1721			DryWt Corrected: N
Percent Moisture	53		%	0.10	1.0	Moisture
	Analysis Batch: 580-49170		Date Analyzed: 08/26/2009 1721			DryWt Corrected: N

Client: AECOM, Inc.

Job Number: 580-15097-1

General Chemistry

Client Sample ID: 3-B-34 2-4

Lab Sample ID: 580-15097-5

Date Sampled: 08/24/2009 1230

Client Matrix: Solid

Date Received: 08/25/2009 1250

Analyte	Result	Qual	Units	RL	Dil	Method
Total Organic Carbon	32000		mg/Kg	2000	1.0	9060
	Analysis Batch: 580-49245		Date Analyzed: 08/27/2009 1211			DryWt Corrected: N

Analyte	Result	Qual	Units	RL	Dil	Method
Percent Solids	57		%	0.10	1.0	Moisture
	Analysis Batch: 580-49170		Date Analyzed: 08/26/2009 1721			DryWt Corrected: N
Percent Moisture	43		%	0.10	1.0	Moisture
	Analysis Batch: 580-49170		Date Analyzed: 08/26/2009 1721			DryWt Corrected: N

Client: AECOM, Inc.

Job Number: 580-15097-1

General Chemistry

Client Sample ID: 3-B-34 4-6

Lab Sample ID: 580-15097-6

Date Sampled: 08/24/2009 1240

Client Matrix: Solid

Date Received: 08/25/2009 1250

Analyte	Result	Qual	Units	RL	Dil	Method
Total Organic Carbon	38000		mg/Kg	2000	1.0	9060
	Analysis Batch: 580-49245		Date Analyzed: 08/27/2009 1211			DryWt Corrected: N

Analyte	Result	Qual	Units	RL	Dil	Method
Percent Solids	81		%	0.10	1.0	Moisture
	Analysis Batch: 580-49135		Date Analyzed: 08/26/2009 1351			DryWt Corrected: N
Percent Moisture	19		%	0.10	1.0	Moisture
	Analysis Batch: 580-49135		Date Analyzed: 08/26/2009 1351			DryWt Corrected: N

Client: AECOM, Inc.

Job Number: 580-15097-1

General Chemistry

Client Sample ID: 3-B-39 0-2

Lab Sample ID: 580-15097-7

Client Matrix: Solid

Date Sampled: 08/24/2009 1324

Date Received: 08/25/2009 1250

Analyte	Result	Qual	Units	RL	Dil	Method
Total Organic Carbon	34000		mg/Kg	2000	1.0	9060
	Analysis Batch: 580-49245		Date Analyzed: 08/27/2009 1211			DryWt Corrected: N

Analyte	Result	Qual	Units	RL	Dil	Method
Percent Solids	72		%	0.10	1.0	Moisture
	Analysis Batch: 580-49170		Date Analyzed: 08/26/2009 1721			DryWt Corrected: N
Percent Moisture	28		%	0.10	1.0	Moisture
	Analysis Batch: 580-49170		Date Analyzed: 08/26/2009 1721			DryWt Corrected: N

Client: AECOM, Inc.

Job Number: 580-15097-1

General Chemistry

Client Sample ID: 3-B-39 2-4

Lab Sample ID: 580-15097-8

Client Matrix: Solid

Date Sampled: 08/24/2009 1340

Date Received: 08/25/2009 1250

Analyte	Result	Qual	Units	RL	Dil	Method
Total Organic Carbon	43000		mg/Kg	2000	1.0	9060
	Analysis Batch: 580-49245		Date Analyzed: 08/27/2009 1211			DryWt Corrected: N

Analyte	Result	Qual	Units	RL	Dil	Method
Percent Solids	53		%	0.10	1.0	Moisture
	Analysis Batch: 580-49170		Date Analyzed: 08/26/2009 1721			DryWt Corrected: N
Percent Moisture	47		%	0.10	1.0	Moisture
	Analysis Batch: 580-49170		Date Analyzed: 08/26/2009 1721			DryWt Corrected: N

Client: AECOM, Inc.

Job Number: 580-15097-1

General Chemistry

Client Sample ID: 3-B-39 4-6

Lab Sample ID: 580-15097-9

Client Matrix: Solid

Date Sampled: 08/24/2009 1400

Date Received: 08/25/2009 1250

Analyte	Result	Qual	Units	RL	Dil	Method
Total Organic Carbon	9700		mg/Kg	2000	1.0	9060
	Analysis Batch: 580-49245		Date Analyzed: 08/27/2009 1211			DryWt Corrected: N

Analyte	Result	Qual	Units	RL	Dil	Method
Percent Solids	70		%	0.10	1.0	Moisture
	Analysis Batch: 580-49135		Date Analyzed: 08/26/2009 1351			DryWt Corrected: N
Percent Moisture	30		%	0.10	1.0	Moisture
	Analysis Batch: 580-49135		Date Analyzed: 08/26/2009 1351			DryWt Corrected: N

Client: AECOM, Inc.

Job Number: 580-15097-1

General Chemistry

Client Sample ID: 3-B-39 6-7

Lab Sample ID: 580-15097-10

Date Sampled: 08/24/2009 1410

Client Matrix: Solid

Date Received: 08/25/2009 1250

Analyte	Result	Qual	Units	RL	Dil	Method
Total Organic Carbon	8600		mg/Kg	2000	1.0	9060
	Analysis Batch: 580-49245		Date Analyzed: 08/27/2009 1211			DryWt Corrected: N

Analyte	Result	Qual	Units	RL	Dil	Method
Percent Solids	77		%	0.10	1.0	Moisture
	Analysis Batch: 580-49170		Date Analyzed: 08/26/2009 1721			DryWt Corrected: N
Percent Moisture	23		%	0.10	1.0	Moisture
	Analysis Batch: 580-49170		Date Analyzed: 08/26/2009 1721			DryWt Corrected: N

Client: AECOM, Inc.

Job Number: 580-15097-1

General Chemistry

Client Sample ID: 3-B-38 0-2

Lab Sample ID: 580-15097-11

Date Sampled: 08/24/2009 1445

Client Matrix: Solid

Date Received: 08/25/2009 1250

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Total Organic Carbon	46000		mg/Kg	610	2000	1.0	9060
	Analysis Batch: 580-49380		Date Analyzed: 08/30/2009 1702				DryWt Corrected: N

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Percent Solids	60		%		0.10	1.0	Moisture
	Analysis Batch: 580-49170		Date Analyzed: 08/26/2009 1721				DryWt Corrected: N
Percent Moisture	40		%		0.10	1.0	Moisture
	Analysis Batch: 580-49170		Date Analyzed: 08/26/2009 1721				DryWt Corrected: N

Client: AECOM, Inc.

Job Number: 580-15097-1

General Chemistry

Client Sample ID: 3-B-38 2-4

Lab Sample ID: 580-15097-12

Date Sampled: 08/24/2009 1500

Client Matrix: Solid

Date Received: 08/25/2009 1250

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Total Organic Carbon	53000		mg/Kg	610	2000	1.0	9060
	Analysis Batch: 580-49380		Date Analyzed: 08/30/2009 1702				DryWt Corrected: N

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Percent Solids	46		%		0.10	1.0	Moisture
	Analysis Batch: 580-49170		Date Analyzed: 08/26/2009 1721				DryWt Corrected: N
Percent Moisture	54		%		0.10	1.0	Moisture
	Analysis Batch: 580-49170		Date Analyzed: 08/26/2009 1721				DryWt Corrected: N

Client: AECOM, Inc.

Job Number: 580-15097-1

General Chemistry

Client Sample ID: 3-B-38 4-5

Lab Sample ID: 580-15097-13

Date Sampled: 08/24/2009 1530

Client Matrix: Solid

Date Received: 08/25/2009 1250

Analyte	Result	Qual	Units	RL	Dil	Method
Total Organic Carbon	21000		mg/Kg	2000	1.0	9060
	Analysis Batch: 580-49162		Date Analyzed: 08/26/2009 1226			DryWt Corrected: N

Analyte	Result	Qual	Units	RL	Dil	Method
Percent Solids	66		%	0.10	1.0	Moisture
	Analysis Batch: 580-49135		Date Analyzed: 08/26/2009 1351			DryWt Corrected: N
Percent Moisture	34		%	0.10	1.0	Moisture
	Analysis Batch: 580-49135		Date Analyzed: 08/26/2009 1351			DryWt Corrected: N

Client: AECOM, Inc.

Job Number: 580-15097-1

General Chemistry

Client Sample ID: 3-B-52 0-2

Lab Sample ID: 580-15097-14

Date Sampled: 08/24/2009 1620

Client Matrix: Solid

Date Received: 08/25/2009 1250

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Total Organic Carbon	62000		mg/Kg	610	2000	1.0	9060
Analysis Batch: 580-49380		Date Analyzed: 08/30/2009 1702		DryWt Corrected: N			

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Percent Solids	56		%		0.10	1.0	Moisture
Analysis Batch: 580-49170		Date Analyzed: 08/26/2009 1721		DryWt Corrected: N			
Percent Moisture	44		%		0.10	1.0	Moisture
Analysis Batch: 580-49170		Date Analyzed: 08/26/2009 1721		DryWt Corrected: N			

Client: AECOM, Inc.

Job Number: 580-15097-1

General Chemistry

Client Sample ID: 3-B-52 2-4

Lab Sample ID: 580-15097-15

Date Sampled: 08/24/2009 1640

Client Matrix: Solid

Date Received: 08/25/2009 1250

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Total Organic Carbon	17000		mg/Kg	610	2000	1.0	9060
	Analysis Batch: 580-49380		Date Analyzed: 08/30/2009 1702				DryWt Corrected: N

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Percent Solids	56		%		0.10	1.0	Moisture
	Analysis Batch: 580-49214		Date Analyzed: 08/27/2009 1014				DryWt Corrected: N
Percent Moisture	44		%		0.10	1.0	Moisture
	Analysis Batch: 580-49214		Date Analyzed: 08/27/2009 1014				DryWt Corrected: N

Client: AECOM, Inc.

Job Number: 580-15097-1

General Chemistry

Client Sample ID: 3-B-52 4-6

Lab Sample ID: 580-15097-16

Date Sampled: 08/24/2009 1645

Client Matrix: Solid

Date Received: 08/25/2009 1250

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Total Organic Carbon	5500		mg/Kg	610	2000	1.0	9060
	Analysis Batch: 580-49380		Date Analyzed: 08/30/2009 1702				DryWt Corrected: N

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Percent Solids	74		%		0.10	1.0	Moisture
	Analysis Batch: 580-49214		Date Analyzed: 08/27/2009 1014				DryWt Corrected: N
Percent Moisture	26		%		0.10	1.0	Moisture
	Analysis Batch: 580-49214		Date Analyzed: 08/27/2009 1014				DryWt Corrected: N

Client: AECOM, Inc.

Job Number: 580-15097-1

General Chemistry

Client Sample ID: 3-B-33 0-2

Lab Sample ID: 580-15097-17

Date Sampled: 08/24/2009 1740

Client Matrix: Solid

Date Received: 08/25/2009 1250

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Total Organic Carbon	79000		mg/Kg	610	2000	1.0	9060
Analysis Batch: 580-49380		Date Analyzed: 08/30/2009 1702		DryWt Corrected: N			

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Percent Solids	42		%		0.10	1.0	Moisture
Analysis Batch: 580-49214		Date Analyzed: 08/27/2009 1014		DryWt Corrected: N			
Percent Moisture	58		%		0.10	1.0	Moisture
Analysis Batch: 580-49214		Date Analyzed: 08/27/2009 1014		DryWt Corrected: N			

Client: AECOM, Inc.

Job Number: 580-15097-1

General Chemistry

Client Sample ID: 3-B-33 2-4

Lab Sample ID: 580-15097-18

Date Sampled: 08/24/2009 1745

Client Matrix: Solid

Date Received: 08/25/2009 1250

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Total Organic Carbon	66000		mg/Kg	610	2000	1.0	9060
	Analysis Batch: 580-49380		Date Analyzed: 08/30/2009 1702				DryWt Corrected: N

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Percent Solids	48		%		0.10	1.0	Moisture
	Analysis Batch: 580-49214		Date Analyzed: 08/27/2009 1014				DryWt Corrected: N
Percent Moisture	52		%		0.10	1.0	Moisture
	Analysis Batch: 580-49214		Date Analyzed: 08/27/2009 1014				DryWt Corrected: N

Client: AECOM, Inc.

Job Number: 580-15097-1

General Chemistry

Client Sample ID: 3-B-33 4-6

Lab Sample ID: 580-15097-19

Date Sampled: 08/24/2009 1800

Client Matrix: Solid

Date Received: 08/25/2009 1250

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Total Organic Carbon	15000		mg/Kg	610	2000	1.0	9060
	Analysis Batch: 580-49380		Date Analyzed: 08/30/2009 1702				DryWt Corrected: N

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Percent Solids	70		%		0.10	1.0	Moisture
	Analysis Batch: 580-49214		Date Analyzed: 08/27/2009 1014				DryWt Corrected: N
Percent Moisture	30		%		0.10	1.0	Moisture
	Analysis Batch: 580-49214		Date Analyzed: 08/27/2009 1014				DryWt Corrected: N

Analytical Data

Client: AECOM, Inc.

Job Number: 580-15097-1

General Chemistry

Client Sample ID: 3-B-52 0-2

Lab Sample ID: 580-15097-20

Date Sampled: 08/24/2009 1555

Client Matrix: Solid

Date Received: 08/25/2009 1250

Analyte	Result	Qual	Units	RL	Dil	Method
Percent Solids	53		%	0.10	1.0	Moisture
	Analysis Batch: 580-49214	Date Analyzed: 08/27/2009	1014			DryWt Corrected: N
Percent Moisture	47		%	0.10	1.0	Moisture
	Analysis Batch: 580-49214	Date Analyzed: 08/27/2009	1014			DryWt Corrected: N

Client: AECOM, Inc.

Job Number: 580-15097-1

General Chemistry

Client Sample ID: 3-B-33 0-2

Lab Sample ID: 580-15097-21

Client Matrix: Solid

Date Sampled: 08/24/2009 1725

Date Received: 08/25/2009 1250

Analyte	Result	Qual	Units	RL	Dil	Method
Percent Solids	45		%	0.10	1.0	Moisture
	Analysis Batch: 580-49214	Date Analyzed: 08/27/2009	1014			DryWt Corrected: N
Percent Moisture	55		%	0.10	1.0	Moisture
	Analysis Batch: 580-49214	Date Analyzed: 08/27/2009	1014			DryWt Corrected: N

Client: AECOM, Inc.

Job Number: 580-15097-1

General Chemistry

Client Sample ID: 1B-B-31 8

Lab Sample ID: 580-15097-22

Date Sampled: 08/21/2009 1120

Client Matrix: Solid

Date Received: 08/25/2009 1250

Analyte	Result	Qual	Units	RL	Dil	Method
Percent Solids	89		%	0.10	1.0	Moisture
	Analysis Batch: 580-49214	Date Analyzed: 08/27/2009	1014			DryWt Corrected: N
Percent Moisture	11		%	0.10	1.0	Moisture
	Analysis Batch: 580-49214	Date Analyzed: 08/27/2009	1014			DryWt Corrected: N

Client: AECOM, Inc.

Job Number: 580-15097-1

General Chemistry

Client Sample ID: 1B-B-31 8(DUP)

Lab Sample ID: 580-15097-23

Date Sampled: 08/21/2009 1120

Client Matrix: Solid

Date Received: 08/25/2009 1250

Analyte	Result	Qual	Units	RL	Dil	Method
Percent Solids	89		%	0.10	1.0	Moisture
	Analysis Batch: 580-49214	Date Analyzed: 08/27/2009	1014			DryWt Corrected: N
Percent Moisture	11		%	0.10	1.0	Moisture
	Analysis Batch: 580-49214	Date Analyzed: 08/27/2009	1014			DryWt Corrected: N

Client: AECOM, Inc.

Job Number: 580-15097-1

General Chemistry

Client Sample ID: 1B-B-31 4.1

Lab Sample ID: 580-15097-24

Date Sampled: 08/20/2009 1330

Client Matrix: Solid

Date Received: 08/25/2009 1250

Analyte	Result	Qual	Units	RL	Dil	Method
Percent Solids	91		%	0.10	1.0	Moisture
	Analysis Batch: 580-49214	Date Analyzed: 08/27/2009	1014			DryWt Corrected: N
Percent Moisture	8.6		%	0.10	1.0	Moisture
	Analysis Batch: 580-49214	Date Analyzed: 08/27/2009	1014			DryWt Corrected: N

Client: AECOM, Inc.

Job Number: 580-15097-1

General Chemistry

Client Sample ID: 1B-B-31 6

Lab Sample ID: 580-15097-25

Date Sampled: 08/20/2009 1610

Client Matrix: Solid

Date Received: 08/25/2009 1250

Analyte	Result	Qual	Units	RL	Dil	Method
Percent Solids	94		%	0.10	1.0	Moisture
	Analysis Batch: 580-49214	Date Analyzed: 08/27/2009	1014			DryWt Corrected: N
Percent Moisture	6.5		%	0.10	1.0	Moisture
	Analysis Batch: 580-49214	Date Analyzed: 08/27/2009	1014			DryWt Corrected: N

Quality Control Results

Client: AECOM, Inc.

Job Number: 580-15097-1

Method Blank - Batch: 580-49079

**Method: NWTPH-Dx
Preparation: 3550B**

Lab Sample ID: MB 580-49079/1-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 08/25/2009 2234
Date Prepared: 08/25/2009 1821

Analysis Batch: 580-49031
Prep Batch: 580-49079
Units: mg/Kg

Instrument ID: TAC013
Lab File ID: FA39333.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 10 mL
Injection Volume: 1 uL

Analyte	Result	Qual	MDL	RL
#2 Diesel (C10-C24)	ND		5.7	25
Motor Oil (>C24-C36)	ND		9.1	50
Surrogate	% Rec	Acceptance Limits		
o-Terphenyl	89	50 - 150		

Method Blank - Batch: 580-49079

**Method: NWTPH-Dx
Preparation: 3550B**

Lab Sample ID: MB 580-49079/1-B
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 08/26/2009 0351
Date Prepared: 08/25/2009 1821

Analysis Batch: 580-49085
Prep Batch: 580-49079
Units: mg/Kg

Instrument ID: TAC017
Lab File ID: ZZ00380.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 10 mL
Injection Volume: 1 uL

Analyte	Result	Qual	MDL	RL
#2 Diesel (C10-C24)	ND		5.7	25
Motor Oil (>C24-C36)	ND		9.1	50
Surrogate	% Rec	Acceptance Limits		
o-Terphenyl	106	50 - 150		

Calculations are performed before rounding to avoid round-off errors in calculated results.

Quality Control Results

Client: AECOM, Inc.

Job Number: 580-15097-1

Lab Control Sample - Batch: 580-49079

**Method: NWTPH-Dx
Preparation: 3550B**

Lab Sample ID: LCS 580-49079/2-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 08/25/2009 2259
Date Prepared: 08/25/2009 1821

Analysis Batch: 580-49031
Prep Batch: 580-49079
Units: mg/Kg

Instrument ID: TAC013
Lab File ID: FA39334.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 10 mL
Injection Volume: 1 uL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
#2 Diesel (C10-C24)	500	457	91	70 - 125	
Motor Oil (>C24-C36)	500	575	115	64 - 127	
Surrogate		% Rec	Acceptance Limits		
o-Terphenyl		107	50 - 150		

Lab Control Sample - Batch: 580-49079

**Method: NWTPH-Dx
Preparation: 3550B**

Lab Sample ID: LCS 580-49079/2-B
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 08/26/2009 0847
Date Prepared: 08/25/2009 1821

Analysis Batch: 580-49085
Prep Batch: 580-49079
Units: mg/Kg

Instrument ID: TAC017
Lab File ID: ZZ00389.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 10 mL
Injection Volume: 1 uL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
#2 Diesel (C10-C24)	500	581	116	64 - 127	
Motor Oil (>C24-C36)	500	587	117	70 - 125	
Surrogate		% Rec	Acceptance Limits		
o-Terphenyl		111	50 - 150		

Calculations are performed before rounding to avoid round-off errors in calculated results.

Quality Control Results

Client: AECOM, Inc.

Job Number: 580-15097-1

Matrix Spike - Batch: 580-49079

**Method: NWTPH-Dx
Preparation: 3550B**

Lab Sample ID: 580-15097-6
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 08/25/2009 2351
Date Prepared: 08/25/2009 1821

Analysis Batch: 580-49031
Prep Batch: 580-49079
Units: mg/Kg

Instrument ID: TAC013
Lab File ID: FA39336.D
Initial Weight/Volume: 10.4738 g
Final Weight/Volume: 10 mL
Injection Volume: 1 uL

Analyte	Sample Result/Qual	Spike Amount	Result	% Rec.	Limit	Qual
#2 Diesel (C10-C24)	ND	587	524	89	70 - 125	
Motor Oil (>C24-C36)	ND	587	603	103	64 - 127	
Surrogate	% Rec		Acceptance Limits			
o-Terphenyl	107		50 - 150			

Matrix Spike - Batch: 580-49079

**Method: NWTPH-Dx
Preparation: 3550B**

Lab Sample ID: 580-15097-6
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 08/26/2009 0912
Date Prepared: 08/25/2009 1821

Analysis Batch: 580-49085
Prep Batch: 580-49079
Units: mg/Kg

Instrument ID: TAC017
Lab File ID: ZZ00390.D
Initial Weight/Volume: 10.4738 g
Final Weight/Volume: 10 mL
Injection Volume: 1 uL

Analyte	Sample Result/Qual	Spike Amount	Result	% Rec.	Limit	Qual
#2 Diesel (C10-C24)	ND	587	616	105	70 - 125	
Motor Oil (>C24-C36)	ND	587	623	106	64 - 127	
Surrogate	% Rec		Acceptance Limits			
o-Terphenyl	95		50 - 150			

Calculations are performed before rounding to avoid round-off errors in calculated results.

Quality Control Results

Client: AECOM, Inc.

Job Number: 580-15097-1

Duplicate - Batch: 580-49079

**Method: NWTPH-Dx
Preparation: 3550B**

Lab Sample ID: 580-15097-6
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 08/26/2009 0016
Date Prepared: 08/25/2009 1821

Analysis Batch: 580-49031
Prep Batch: 580-49079
Units: mg/Kg

Instrument ID: TAC013
Lab File ID: FA39337.D
Initial Weight/Volume: 10.1151 g
Final Weight/Volume: 10 mL
Injection Volume: 1 uL

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
#2 Diesel (C10-C24)	ND	ND	NC	35	
Motor Oil (>C24-C36)	ND	ND	NC	35	
Surrogate	% Rec		Acceptance Limits		
o-Terphenyl	92		50 - 150		

Duplicate - Batch: 580-49079

**Method: NWTPH-Dx
Preparation: 3550B**

Lab Sample ID: 580-15097-9
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 08/26/2009 0108
Date Prepared: 08/25/2009 1821

Analysis Batch: 580-49031
Prep Batch: 580-49079
Units: mg/Kg

Instrument ID: TAC013
Lab File ID: FA39339.D
Initial Weight/Volume: 10.6338 g
Final Weight/Volume: 10 mL
Injection Volume: 1 uL

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
#2 Diesel (C10-C24)	11	ND	NC	35	
Motor Oil (>C24-C36)	ND	ND	NC	35	
Surrogate	% Rec		Acceptance Limits		
o-Terphenyl	93		50 - 150		

Duplicate - Batch: 580-49079

**Method: NWTPH-Dx
Preparation: 3550B**

Lab Sample ID: 580-15097-6
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 08/26/2009 0523
Date Prepared: 08/25/2009 1821

Analysis Batch: 580-49085
Prep Batch: 580-49079
Units: mg/Kg

Instrument ID: TAC017
Lab File ID: ZZ00384.D
Initial Weight/Volume: 10.1151 g
Final Weight/Volume: 10 mL
Injection Volume: 1 uL

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
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Calculations are performed before rounding to avoid round-off errors in calculated results.

Quality Control Results

Client: AECOM, Inc.

Job Number: 580-15097-1

Duplicate - Batch: 580-49079

**Method: NWTPH-Dx
Preparation: 3550B**

Lab Sample ID: 580-15097-6
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 08/26/2009 0523
Date Prepared: 08/25/2009 1821

Analysis Batch: 580-49085
Prep Batch: 580-49079
Units: mg/Kg

Instrument ID: TAC017
Lab File ID: ZZ00384.D
Initial Weight/Volume: 10.1151 g
Final Weight/Volume: 10 mL
Injection Volume: 1 uL

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
#2 Diesel (C10-C24)	ND	ND	NC	35	
Motor Oil (>C24-C36)	ND	ND	NC	35	
Surrogate	% Rec		Acceptance Limits		
o-Terphenyl	96		50 - 150		

Duplicate - Batch: 580-49079

**Method: NWTPH-Dx
Preparation: 3550B**

Lab Sample ID: 580-15097-9
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 08/26/2009 0606
Date Prepared: 08/25/2009 1821

Analysis Batch: 580-49085
Prep Batch: 580-49079
Units: mg/Kg

Instrument ID: TAC017
Lab File ID: ZZ00386.D
Initial Weight/Volume: 10.6338 g
Final Weight/Volume: 10 mL
Injection Volume: 1 uL

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
#2 Diesel (C10-C24)	ND	ND	NC	35	
Motor Oil (>C24-C36)	ND	ND	NC	35	
Surrogate	% Rec		Acceptance Limits		
o-Terphenyl	113		50 - 150		

Calculations are performed before rounding to avoid round-off errors in calculated results.

Quality Control Results

Client: AECOM, Inc.

Job Number: 580-15097-1

Method Blank - Batch: 580-49080

**Method: NWTPH-Dx
Preparation: 3550B**

Lab Sample ID: MB 580-49080/1-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 08/28/2009 1913
Date Prepared: 08/25/2009 1851

Analysis Batch: 580-49282
Prep Batch: 580-49080
Units: mg/Kg

Instrument ID: TAC013
Lab File ID: FA39469.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 10 mL
Injection Volume: 1 uL

Analyte	Result	Qual	MDL	RL
#2 Diesel (C10-C24)	ND		5.7	25
Motor Oil (>C24-C36)	ND		9.1	50
Surrogate	% Rec	Acceptance Limits		
o-Terphenyl	114	50 - 150		

Lab Control Sample - Batch: 580-49080

**Method: NWTPH-Dx
Preparation: 3550B**

Lab Sample ID: LCS 580-49080/2-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 08/28/2009 1933
Date Prepared: 08/25/2009 1851

Analysis Batch: 580-49282
Prep Batch: 580-49080
Units: mg/Kg

Instrument ID: TAC013
Lab File ID: FA39470.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 10 mL
Injection Volume: 1 uL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
#2 Diesel (C10-C24)	500	512	102	70 - 125	
Motor Oil (>C24-C36)	500	429	86	64 - 127	
Surrogate	% Rec		Acceptance Limits		
o-Terphenyl	118		50 - 150		

Calculations are performed before rounding to avoid round-off errors in calculated results.

Quality Control Results

Client: AECOM, Inc.

Job Number: 580-15097-1

Matrix Spike - Batch: 580-49080

**Method: NWTPH-Dx
Preparation: 3550B**

Lab Sample ID: 580-15097-25
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 08/28/2009 2119
Date Prepared: 08/25/2009 1851

Analysis Batch: 580-49282
Prep Batch: 580-49080
Units: mg/Kg

Instrument ID: TAC013
Lab File ID: FA39475.D
Initial Weight/Volume: 10.3042 g
Final Weight/Volume: 10 mL
Injection Volume: 1 uL

Analyte	Sample Result/Qual	Spike Amount	Result	% Rec.	Limit	Qual
#2 Diesel (C10-C24)	400	519	945	105	70 - 125	
Motor Oil (>C24-C36)	35	519	561	101	64 - 127	
Surrogate	% Rec		Acceptance Limits			
o-Terphenyl	125		50 - 150			

Duplicate - Batch: 580-49080

**Method: NWTPH-Dx
Preparation: 3550B**

Lab Sample ID: 580-15097-25
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 08/28/2009 2145
Date Prepared: 08/25/2009 1851

Analysis Batch: 580-49282
Prep Batch: 580-49080
Units: mg/Kg

Instrument ID: TAC013
Lab File ID: FA39476.D
Initial Weight/Volume: 10.3359 g
Final Weight/Volume: 10 mL
Injection Volume: 1 uL

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
#2 Diesel (C10-C24)	400	312	25	35	
Motor Oil (>C24-C36)	35	26.9	25	35	J
Surrogate	% Rec		Acceptance Limits		
o-Terphenyl	109		50 - 150		

Calculations are performed before rounding to avoid round-off errors in calculated results.

Quality Control Results

Client: AECOM, Inc.

Job Number: 580-15097-1

Method Blank - Batch: 580-49162

Lab Sample ID: MB 580-49162/1
 Client Matrix: Solid
 Dilution: 1.0
 Date Analyzed: 08/26/2009 1226
 Date Prepared: N/A

Analysis Batch: 580-49162
 Prep Batch: N/A
 Units: mg/Kg

**Method: 9060
 Preparation: N/A**

Instrument ID: No Equipment Assigned
 Lab File ID: N/A
 Initial Weight/Volume: 1.0 mL
 Final Weight/Volume: 1.0 mL

Analyte	Result	Qual	RL
Total Organic Carbon	ND		2000

LCS-Standard Reference Material - Batch: 580-49162

Lab Sample ID: LCSSRM 580-49162/2
 Client Matrix: Solid
 Dilution: 1.0
 Date Analyzed: 08/26/2009 1226
 Date Prepared: N/A

Analysis Batch: 580-49162
 Prep Batch: N/A
 Units: mg/Kg

**Method: 9060
 Preparation: N/A**

Instrument ID: No Equipment Assigned
 Lab File ID: N/A
 Initial Weight/Volume: 1.0 mL
 Final Weight/Volume: 1.0 mL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Total Organic Carbon	3400	5700	168	12.8 - 187	

Calculations are performed before rounding to avoid round-off errors in calculated results.

Quality Control Results

Client: AECOM, Inc.

Job Number: 580-15097-1

Method Blank - Batch: 580-49245

Lab Sample ID: MB 580-49245/1
 Client Matrix: Solid
 Dilution: 1.0
 Date Analyzed: 08/27/2009 1211
 Date Prepared: N/A

Analysis Batch: 580-49245
 Prep Batch: N/A
 Units: mg/Kg

**Method: 9060
 Preparation: N/A**

Instrument ID: No Equipment Assigned
 Lab File ID: N/A
 Initial Weight/Volume: 1.0 mL
 Final Weight/Volume: 1.0 mL

Analyte	Result	Qual	RL
Total Organic Carbon	ND		2000

Lab Control Sample - Batch: 580-49245

Lab Sample ID: LCS 580-49245/2
 Client Matrix: Solid
 Dilution: 1.0
 Date Analyzed: 08/27/2009 1211
 Date Prepared: N/A

Analysis Batch: 580-49245
 Prep Batch: N/A
 Units: mg/Kg

**Method: 9060
 Preparation: N/A**

Instrument ID: No Equipment Assigned
 Lab File ID: N/A
 Initial Weight/Volume: 1.0 mL
 Final Weight/Volume: 1.0 mL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Total Organic Carbon	3400	6100	179	13 - 187	

**Matrix Spike/
 Matrix Spike Duplicate Recovery Report - Batch: 580-49245**

**Method: 9060
 Preparation: N/A**

MS Lab Sample ID: 580-15097-1
 Client Matrix: Solid
 Dilution: 1.0
 Date Analyzed: 08/27/2009 1211
 Date Prepared: N/A

Analysis Batch: 580-49245
 Prep Batch: N/A

Instrument ID: No Equipment Assigned
 Lab File ID: N/A
 Initial Weight/Volume: 51.4 mL
 Final Weight/Volume: 51.4 mL

MSD Lab Sample ID: 580-15097-1
 Client Matrix: Solid
 Dilution: 1.0
 Date Analyzed: 08/27/2009 1211
 Date Prepared: N/A

Analysis Batch: 580-49245
 Prep Batch: N/A

Instrument ID: No Equipment Assigned
 Lab File ID: N/A
 Initial Weight/Volume: 50.0 mL
 Final Weight/Volume: 50.0 mL

Analyte	% Rec.		Limit	RPD	RPD Limit	MS Qual	MSD Qual
	MS	MSD					
Total Organic Carbon	114000	74500	76 - 128	8	28	4	4

Calculations are performed before rounding to avoid round-off errors in calculated results.

Quality Control Results

Client: AECOM, Inc.

Job Number: 580-15097-1

Duplicate - Batch: 580-49245

Method: 9060
Preparation: N/A

Lab Sample ID: 580-15097-1
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 08/27/2009 1211
Date Prepared: N/A

Analysis Batch: 580-49245
Prep Batch: N/A
Units: mg/Kg

Instrument ID: No Equipment Assigned
Lab File ID: N/A
Initial Weight/Volume: 1.0 mL
Final Weight/Volume: 1.0 mL

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
Total Organic Carbon	71000	71000	1	50	
Total Organic Carbon	71000	75500	6	50	

Calculations are performed before rounding to avoid round-off errors in calculated results.

Quality Control Results

Client: AECOM, Inc.

Job Number: 580-15097-1

Method Blank - Batch: 580-49380

Method: 9060
Preparation: N/A

Lab Sample ID: MB 580-49380/1
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 08/30/2009 1702
Date Prepared: N/A

Analysis Batch: 580-49380
Prep Batch: N/A
Units: mg/Kg

Instrument ID: No Equipment Assigned
Lab File ID: N/A
Initial Weight/Volume: 1.0 mL
Final Weight/Volume: 1.0 mL

Analyte	Result	Qual	MDL	RL
Total Organic Carbon	ND		610	2000

LCS-Standard Reference Material - Batch: 580-49380

Method: 9060
Preparation: N/A

Lab Sample ID: LCSSRM 580-49380/2
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 08/30/2009 1702
Date Prepared: N/A

Analysis Batch: 580-49380
Prep Batch: N/A
Units: mg/Kg

Instrument ID: No Equipment Assigned
Lab File ID: N/A
Initial Weight/Volume: 1.0 mL
Final Weight/Volume: 1.0 mL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Total Organic Carbon	3400	5300	156	12.8 - 187	

**Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 580-49380**

Method: 9060
Preparation: N/A

MS Lab Sample ID: 580-15097-11
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 08/30/2009 1702
Date Prepared: N/A

Analysis Batch: 580-49380
Prep Batch: N/A

Instrument ID: No Equipment Assigned
Lab File ID: N/A
Initial Weight/Volume: 50.5 mg
Final Weight/Volume: 50.5 mg

MSD Lab Sample ID: 580-15097-11
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 08/30/2009 1702
Date Prepared: N/A

Analysis Batch: 580-49380
Prep Batch: N/A

Instrument ID: No Equipment Assigned
Lab File ID: N/A
Initial Weight/Volume: 53.8 mg
Final Weight/Volume: 53.8 mg

Analyte	% Rec.		Limit	RPD	RPD Limit	MS Qual	MSD Qual
	MS	MSD					
Total Organic Carbon	70	86	76 - 128	3	28	F	

Calculations are performed before rounding to avoid round-off errors in calculated results.

Quality Control Results

Client: AECOM, Inc.

Job Number: 580-15097-1

Duplicate - Batch: 580-49380

Method: 9060
Preparation: N/A

Lab Sample ID: 580-15097-11
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 08/30/2009 1702
Date Prepared: N/A

Analysis Batch: 580-49380
Prep Batch: N/A
Units: mg/Kg

Instrument ID: No Equipment Assigned
Lab File ID: N/A
Initial Weight/Volume: 1.0 mL
Final Weight/Volume: 1.0 mL

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
Total Organic Carbon	46000	43700	4	50	
Total Organic Carbon	46000	45900	1	50	

Calculations are performed before rounding to avoid round-off errors in calculated results.

Quality Control Results

Client: AECOM, Inc.

Job Number: 580-15097-1

Duplicate - Batch: 580-49135

Method: Moisture
Preparation: N/A

Lab Sample ID: 580-15097-9
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 08/26/2009 1351
Date Prepared: N/A

Analysis Batch: 580-49135
Prep Batch: N/A
Units: %

Instrument ID: No Equipment Assigned
Lab File ID: N/A
Initial Weight/Volume:
Final Weight/Volume:

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
Percent Solids	70	71	1	20	
Percent Moisture	30	29	2	20	

Calculations are performed before rounding to avoid round-off errors in calculated results.

Quality Control Results

Client: AECOM, Inc.

Job Number: 580-15097-1

Duplicate - Batch: 580-49170

Method: Moisture
Preparation: N/A

Lab Sample ID: 580-15097-14
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 08/26/2009 1721
Date Prepared: N/A

Analysis Batch: 580-49170
Prep Batch: N/A
Units: %

Instrument ID: No Equipment Assigned
Lab File ID: N/A
Initial Weight/Volume:
Final Weight/Volume:

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
Percent Solids	56	57	1	20	
Percent Moisture	44	43	1	20	

Calculations are performed before rounding to avoid round-off errors in calculated results.

Quality Control Results

Client: AECOM, Inc.

Job Number: 580-15097-1

Duplicate - Batch: 580-49214

Method: Moisture
Preparation: N/A

Lab Sample ID: 580-15120-A-6 DU
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 08/27/2009 1014
Date Prepared: N/A

Analysis Batch: 580-49214
Prep Batch: N/A
Units: %

Instrument ID: No Equipment Assigned
Lab File ID: N/A
Initial Weight/Volume:
Final Weight/Volume:

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
Percent Solids	93	93	0	20	
Percent Moisture	7.4	7.0	6	20	

Calculations are performed before rounding to avoid round-off errors in calculated results.

DATA REPORTING QUALIFIERS

Client: AECOM, Inc.

Job Number: 580-15097-1

Lab Section	Qualifier	Description
GC Semi VOA	J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
General Chemistry	F	MS or MSD exceeds the control limits
	4	MS, MSD: The analyte present in the original sample is 4 times greater than the matrix spike concentration; therefore, control limits are not applicable.



CHAIN OF CUSTODY

BNSF PROJECT INFORMATION

BNSF Project Number:

BNSF Project Name: Stylkominish

BNSF Contact: Bruce Sheppard

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?

SAMPLE INFORMATION

Sample Identification	Containers	Sample Collection		Type (Comp/Grab)	Matrix
		Date	Time		
3-B-31 0-2	2	8/24/09	1115	G	SO
3-B-31 2-4	2	8/24/09	1030	G	SO
3-B-31 4-6	2	8/24/09	1645	G	SO
3-B-34 0-2	2	8/24/09	1300	G	SO
3-B-34 2-4	2	8/24/09	1230	G	SO
3-B-34 4-6	2	8/24/09	1240	G	SO
3-B-39 0-2	4	8/24/09	1324	G	SO
3-B-39 2-4	4	8/24/09	1340	G	SO
3-B-39 4-6	4	8/24/09	1400	G	SO
3-B-39 6-7	2	8/24/09	1410	G	SO
3-B-38 0-2	4	8/24/09	1445	G	SO
3-B-38 2-4	4	8/24/09	1500	G	SO
3-B-38 4-5	2	8/24/09	1530	G	SO
3-B-52 0-2	4	8/24/09	1620	G	SO
3-B-52 2-4	4	8/24/09	1640	G	SO

Relinquished By: [Signature]

LAB WORK ORDER: 15097

Project Manager: Kate Huneey

Phone: 253.922.2310

Fax: 253.922.6047

Shipment Method: Carrier

Tracking Number:

Project Number: 0140-284-0270

Project Manager: Sarah Albano

Email: Sarah.albano@gecom.com

Phone: 206.624.9349

Fax: 206.623.3433

CONSULTANT INFORMATION

Company: A ECOM

Address: 710 2nd Ave Ste 1000

City/State/Zip: Seattle, WA 98104

METHODS FOR ANALYSIS

Method	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
TC	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
MTPH-Dx/WSG	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
MTPH-Dx/SG	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

Date/Time: 8/25/09 1250

Date/Time:

Date/Time:

Date/Time:

Date/Time:

Date/Time:

Date/Time:

Date/Time:

Date/Time:

@ Lab 1250 Temp TB 5.7
Cooler Dsc 6m/Blue/Wed Packs
Packing Bubble
w/cs

Login Sample Receipt Check List

Client: AECOM, Inc.

Job Number: 580-15097-1

Login Number: 15097

Creator: Presley, Kim

List Number: 1

List Source: TestAmerica Tacoma

Question	T / F / NA	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	N/A	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Is the Field Sampler's name present on COC?	True	
Sample Preservation Verified	N/A	

ANALYTICAL REPORT

Job Number: 580-15128-1

Job Description: BNSF Skykomish Diesel

For:
AECOM, Inc.
710 Second Avenue
Suite 1000
Seattle, WA 98104
Attention: Sarah Albano



Approved for release.
Kate Haney
Project Manager II
9/8/2009 2:59 PM

Kate Haney
Project Manager II
kate.haney@testamericainc.com
09/08/2009

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This report shall not be reproduced except in full, without prior express written approval by the laboratory. The results relate only to the item(s) tested and the sample(s) as received by the laboratory.

The results included in this report have been reviewed for compliance with the laboratory QA/QC plan and meet all requirements of NELAC. All data have been found to be compliant with laboratory protocol, with the exception of any items noted in the case narrative.

TestAmerica Laboratories, Inc.

TestAmerica Tacoma 5755 8th Street East, Tacoma, WA 98424
Tel (253) 922-2310 Fax (253) 922-5047 www.testamericainc.com



Job Narrative
580-J15128-1

Comments

No additional comments.

Receipt

All samples were received in good condition within temperature requirements.

GC Semi VOA

Method(s) NWTPH-Dx: Surrogate recovery for the following sample(s) was outside the upper control limit: 15128-2. This sample did not contain any target analytes; therefore, re-extraction and/or re-analysis was not performed.

No other analytical or quality issues were noted.

General Chemistry

No analytical or quality issues were noted.

Organic Prep

No analytical or quality issues were noted.

METHOD SUMMARY

Client: AECOM, Inc.

Job Number: 580-15128-1

Description	Lab Location	Method	Preparation Method
Matrix: Solid			
Northwest - Semi-Volatile Petroleum Products (GC)	TAL TAC	NWTPH NWTPH-Dx	
Semi-Volatile Petroleum Products by NWTPH with Silica Gel Cleanup	TAL TAC	NWTPH NWTPH-Dx	
Ultrasonic Extraction	TAL TAC		SW846 3550B
Ultrasonic Extraction	TAL TAC		SW846 3550B
Silica Gel Cleanup	TAL TAC		SW846 3630C
Organic Carbon, Total (TOC)	TAL TAC	SW846 9060	
Percent Moisture	TAL TAC	EPA Moisture	

Lab References:

TAL TAC = TestAmerica Tacoma

Method References:

EPA = US Environmental Protection Agency

NWTPH = Northwest Total Petroleum Hydrocarbon

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

SAMPLE SUMMARY

Client: AECOM, Inc.

Job Number: 580-15128-1

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
580-15128-1	3-B-44 0-2	Solid	08/25/2009 1000	08/26/2009 1100
580-15128-2	3-B-44 2-4	Solid	08/25/2009 1010	08/26/2009 1100
580-15128-3	3-B-44 4-6	Solid	08/25/2009 1020	08/26/2009 1100
580-15128-4	3-B-51 0-2	Solid	08/25/2009 1120	08/26/2009 1100
580-15128-5	3-B-51 2-4	Solid	08/25/2009 1125	08/26/2009 1100
580-15128-6	3-B-51 12-14	Solid	08/25/2009 1130	08/26/2009 1100
580-15128-7	3-B-51 4-6	Solid	08/25/2009 1145	08/26/2009 1100
580-15128-8	3-B-51 0-2	Solid	08/25/2009 1150	08/26/2009 1100
580-15128-9	3-B-50 0-2	Solid	08/25/2009 1332	08/26/2009 1100
580-15128-10	3-B-50 2-4	Solid	08/25/2009 1335	08/26/2009 1100
580-15128-11	3-B-50 4-5	Solid	08/25/2009 1355	08/26/2009 1100
580-15128-12	3-B-50 0-2	Solid	08/25/2009 1405	08/26/2009 1100
580-15128-13	3-B-37 0-2	Solid	08/25/2009 1455	08/26/2009 1100
580-15128-14	3-B-37 2-4	Solid	08/25/2009 1525	08/26/2009 1100
580-15128-15	3-B-37 4-6	Solid	08/25/2009 1527	08/26/2009 1100
580-15128-16	3-B-37 10-12	Solid	08/25/2009 1500	08/26/2009 1100
580-15128-17	3-B-49 0-2	Solid	08/25/2009 1612	08/26/2009 1100
580-15128-18	3-B-49 2-4	Solid	08/25/2009 1615	08/26/2009 1100
580-15128-19	3-B-49 4-6	Solid	08/25/2009 1645	08/26/2009 1100
580-15128-20	3-B-49 0-2	Solid	08/25/2009 1650	08/26/2009 1100
580-15128-21	3-B-49 12-14	Solid	08/25/2009 1600	08/26/2009 1100
580-15128-22	1B-B-30A 4	Solid	08/25/2009 1130	08/26/2009 1100
580-15128-23	1B-B-30A 6	Solid	08/25/2009 1430	08/26/2009 1100
580-15128-24	1B-B-30A 8	Solid	08/25/2009 1530	08/26/2009 1100
580-15128-25	3-B-45-0-2	Solid	08/25/2009 0848	08/26/2009 1100
580-15128-26	3-B-45-2-4	Solid	08/25/2009 0925	08/26/2009 1100
580-15128-27	3-B-45 4-6	Solid	08/25/2009 0910	08/26/2009 1100

Analytical Data

Client: AECOM, Inc.

Job Number: 580-15128-1

Client Sample ID: 3-B-44 0-2

Lab Sample ID: 580-15128-1

Date Sampled: 08/25/2009 1000

Client Matrix: Solid

% Moisture: 32.6

Date Received: 08/26/2009 1100

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method:	NWTPH-Dx	Analysis Batch: 580-49762	Instrument ID:	TAC013
Preparation:	3550B	Prep Batch: 580-49269	Lab File ID:	FA39711.D
Dilution:	1.0		Initial Weight/Volume:	10.2558 g
Date Analyzed:	09/05/2009 1556		Final Weight/Volume:	10 mL
Date Prepared:	08/27/2009 1626		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
#2 Diesel (C10-C24)		ND		8.2	36
Motor Oil (>C24-C36)		ND		13	72

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	115		50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-15128-1

Client Sample ID: 3-B-44 0-2

Lab Sample ID: 580-15128-1

Date Sampled: 08/25/2009 1000

Client Matrix: Solid

% Moisture: 32.6

Date Received: 08/26/2009 1100

NWTPH-Dx Semi-Volatile Petroleum Products by NWTPH with Silica Gel Cleanup

Method:	NWTPH-Dx	Analysis Batch: 580-49357	Instrument ID:	TAC013
Preparation:	3550B	Prep Batch: 580-49269	Lab File ID:	FA39521.D
Dilution:	1.0		Initial Weight/Volume:	10.2558 g
Date Analyzed:	08/30/2009 0037		Final Weight/Volume:	10 mL
Date Prepared:	08/27/2009 1626		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
#2 Diesel (C10-C24)		ND		8.2	36
Motor Oil (>C24-C36)		ND		13	72

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	118		50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-15128-1

Client Sample ID: 3-B-44 2-4

Lab Sample ID: 580-15128-2

Date Sampled: 08/25/2009 1010

Client Matrix: Solid

% Moisture: 30.5

Date Received: 08/26/2009 1100

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method:	NWTPH-Dx	Analysis Batch: 580-49762	Instrument ID:	TAC013
Preparation:	3550B	Prep Batch: 580-49269	Lab File ID:	FA39714.D
Dilution:	1.0		Initial Weight/Volume:	10.3654 g
Date Analyzed:	09/05/2009 1713		Final Weight/Volume:	10 mL
Date Prepared:	08/27/2009 1626		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
#2 Diesel (C10-C24)		ND		7.9	35
Motor Oil (>C24-C36)		ND		13	69

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	154	X	50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-15128-1

Client Sample ID: 3-B-44 2-4

Lab Sample ID: 580-15128-2

Date Sampled: 08/25/2009 1010

Client Matrix: Solid

% Moisture: 30.5

Date Received: 08/26/2009 1100

NWTPH-Dx Semi-Volatile Petroleum Products by NWTPH with Silica Gel Cleanup

Method:	NWTPH-Dx	Analysis Batch: 580-49357	Instrument ID:	TAC013
Preparation:	3550B	Prep Batch: 580-49269	Lab File ID:	FA39524.D
Dilution:	1.0		Initial Weight/Volume:	10.3654 g
Date Analyzed:	08/30/2009 0154		Final Weight/Volume:	10 mL
Date Prepared:	08/27/2009 1626		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
#2 Diesel (C10-C24)		ND		7.9	35
Motor Oil (>C24-C36)		ND		13	69

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	142		50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-15128-1

Client Sample ID: 3-B-44 4-6

Lab Sample ID: 580-15128-3

Date Sampled: 08/25/2009 1020

Client Matrix: Solid

% Moisture: 18.6

Date Received: 08/26/2009 1100

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method:	NWTPH-Dx	Analysis Batch: 580-49762	Instrument ID:	TAC013
Preparation:	3550B	Prep Batch: 580-49269	Lab File ID:	FA39715.D
Dilution:	1.0		Initial Weight/Volume:	10.1998 g
Date Analyzed:	09/05/2009 1739		Final Weight/Volume:	10 mL
Date Prepared:	08/27/2009 1626		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
#2 Diesel (C10-C24)		ND		6.9	30
Motor Oil (>C24-C36)		ND		11	60

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	111		50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-15128-1

Client Sample ID: 3-B-44 4-6

Lab Sample ID: 580-15128-3

Date Sampled: 08/25/2009 1020

Client Matrix: Solid

% Moisture: 18.6

Date Received: 08/26/2009 1100

NWTPH-Dx Semi-Volatile Petroleum Products by NWTPH with Silica Gel Cleanup

Method:	NWTPH-Dx	Analysis Batch: 580-49357	Instrument ID:	TAC013
Preparation:	3550B	Prep Batch: 580-49269	Lab File ID:	FA39525.D
Dilution:	1.0		Initial Weight/Volume:	10.1998 g
Date Analyzed:	08/30/2009 0215		Final Weight/Volume:	10 mL
Date Prepared:	08/27/2009 1626		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
#2 Diesel (C10-C24)		ND		6.9	30
Motor Oil (>C24-C36)		ND		11	60

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	113		50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-15128-1

Client Sample ID: 3-B-51 2-4

Lab Sample ID: 580-15128-5

Date Sampled: 08/25/2009 1125

Client Matrix: Solid

% Moisture: 40.5

Date Received: 08/26/2009 1100

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method:	NWTPH-Dx	Analysis Batch: 580-49762	Instrument ID:	TAC013
Preparation:	3550B	Prep Batch: 580-49269	Lab File ID:	FA39716.D
Dilution:	1.0		Initial Weight/Volume:	10.6710 g
Date Analyzed:	09/05/2009 1805		Final Weight/Volume:	10 mL
Date Prepared:	08/27/2009 1626		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
#2 Diesel (C10-C24)		ND		9.0	39
Motor Oil (>C24-C36)		ND		14	79

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	111		50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-15128-1

Client Sample ID: 3-B-51 2-4

Lab Sample ID: 580-15128-5

Date Sampled: 08/25/2009 1125

Client Matrix: Solid

% Moisture: 40.5

Date Received: 08/26/2009 1100

NWTPH-Dx Semi-Volatile Petroleum Products by NWTPH with Silica Gel Cleanup

Method:	NWTPH-Dx	Analysis Batch: 580-49357	Instrument ID:	TAC013
Preparation:	3550B	Prep Batch: 580-49269	Lab File ID:	FA39526.D
Dilution:	1.0		Initial Weight/Volume:	10.6710 g
Date Analyzed:	08/30/2009 0235		Final Weight/Volume:	10 mL
Date Prepared:	08/27/2009 1626		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
#2 Diesel (C10-C24)		ND		9.0	39
Motor Oil (>C24-C36)		ND		14	79

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	112		50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-15128-1

Client Sample ID: 3-B-51 12-14

Lab Sample ID: 580-15128-6

Date Sampled: 08/25/2009 1130

Client Matrix: Solid

% Moisture: 38.9

Date Received: 08/26/2009 1100

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method:	NWTPH-Dx	Analysis Batch: 580-49762	Instrument ID:	TAC013
Preparation:	3550B	Prep Batch: 580-49269	Lab File ID:	FA39717.D
Dilution:	1.0		Initial Weight/Volume:	10.1906 g
Date Analyzed:	09/05/2009 1830		Final Weight/Volume:	10 mL
Date Prepared:	08/27/2009 1626		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
#2 Diesel (C10-C24)		ND		9.2	40
Motor Oil (>C24-C36)		ND		15	80

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	131		50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-15128-1

Client Sample ID: 3-B-51 12-14

Lab Sample ID: 580-15128-6

Date Sampled: 08/25/2009 1130

Client Matrix: Solid

% Moisture: 38.9

Date Received: 08/26/2009 1100

NWTPH-Dx Semi-Volatile Petroleum Products by NWTPH with Silica Gel Cleanup

Method:	NWTPH-Dx	Analysis Batch: 580-49357	Instrument ID:	TAC013
Preparation:	3550B	Prep Batch: 580-49269	Lab File ID:	FA39527.D
Dilution:	1.0		Initial Weight/Volume:	10.1906 g
Date Analyzed:	08/30/2009 0255		Final Weight/Volume:	10 mL
Date Prepared:	08/27/2009 1626		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
#2 Diesel (C10-C24)		ND		9.2	40
Motor Oil (>C24-C36)		ND		15	80

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	145		50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-15128-1

Client Sample ID: 3-B-51 4-6

Lab Sample ID: 580-15128-7

Date Sampled: 08/25/2009 1145

Client Matrix: Solid

% Moisture: 33.3

Date Received: 08/26/2009 1100

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method:	NWTPH-Dx	Analysis Batch: 580-49762	Instrument ID:	TAC013
Preparation:	3550B	Prep Batch: 580-49269	Lab File ID:	FA39718.D
Dilution:	1.0		Initial Weight/Volume:	10.4860 g
Date Analyzed:	09/05/2009 1856		Final Weight/Volume:	10 mL
Date Prepared:	08/27/2009 1626		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
#2 Diesel (C10-C24)		ND		8.2	36
Motor Oil (>C24-C36)		ND		13	72

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	115		50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-15128-1

Client Sample ID: 3-B-51 4-6

Lab Sample ID: 580-15128-7

Date Sampled: 08/25/2009 1145

Client Matrix: Solid

% Moisture: 33.3

Date Received: 08/26/2009 1100

NWTPH-Dx Semi-Volatile Petroleum Products by NWTPH with Silica Gel Cleanup

Method:	NWTPH-Dx	Analysis Batch: 580-49357	Instrument ID:	TAC013
Preparation:	3550B	Prep Batch: 580-49269	Lab File ID:	FA39528.D
Dilution:	1.0		Initial Weight/Volume:	10.4860 g
Date Analyzed:	08/30/2009 0316		Final Weight/Volume:	10 mL
Date Prepared:	08/27/2009 1626		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
#2 Diesel (C10-C24)		ND		8.2	36
Motor Oil (>C24-C36)		ND		13	72

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	118		50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-15128-1

Client Sample ID: 3-B-51 0-2

Lab Sample ID: 580-15128-8

Date Sampled: 08/25/2009 1150

Client Matrix: Solid

% Moisture: 39.3

Date Received: 08/26/2009 1100

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method:	NWTPH-Dx	Analysis Batch: 580-49762	Instrument ID:	TAC013
Preparation:	3550B	Prep Batch: 580-49269	Lab File ID:	FA39720.D
Dilution:	1.0		Initial Weight/Volume:	10.4231 g
Date Analyzed:	09/05/2009 1942		Final Weight/Volume:	10 mL
Date Prepared:	08/27/2009 1626		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
#2 Diesel (C10-C24)		11	J	9.0	40
Motor Oil (>C24-C36)		73	J	14	79

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	110		50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-15128-1

Client Sample ID: 3-B-51 0-2

Lab Sample ID: 580-15128-8

Date Sampled: 08/25/2009 1150

Client Matrix: Solid

% Moisture: 39.3

Date Received: 08/26/2009 1100

NWTPH-Dx Semi-Volatile Petroleum Products by NWTPH with Silica Gel Cleanup

Method:	NWTPH-Dx	Analysis Batch: 580-49357	Instrument ID:	TAC013
Preparation:	3550B	Prep Batch: 580-49269	Lab File ID:	FA39529.D
Dilution:	1.0		Initial Weight/Volume:	10.4231 g
Date Analyzed:	08/30/2009 0336		Final Weight/Volume:	10 mL
Date Prepared:	08/27/2009 1626		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
#2 Diesel (C10-C24)		14	J	9.0	40
Motor Oil (>C24-C36)		74	J	14	79

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	120		50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-15128-1

Client Sample ID: 3-B-50 0-2

Lab Sample ID: 580-15128-9

Date Sampled: 08/25/2009 1332

Client Matrix: Solid

% Moisture: 44.8

Date Received: 08/26/2009 1100

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method:	NWTPH-Dx	Analysis Batch: 580-49762	Instrument ID:	TAC013
Preparation:	3550B	Prep Batch: 580-49269	Lab File ID:	FA39721.D
Dilution:	1.0		Initial Weight/Volume:	10.127 g
Date Analyzed:	09/05/2009 2002		Final Weight/Volume:	10 mL
Date Prepared:	08/27/2009 1626		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
#2 Diesel (C10-C24)		ND		10	45
Motor Oil (>C24-C36)		48	J	16	89

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	120		50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-15128-1

Client Sample ID: 3-B-50 0-2

Lab Sample ID: 580-15128-9

Date Sampled: 08/25/2009 1332

Client Matrix: Solid

% Moisture: 44.8

Date Received: 08/26/2009 1100

NWTPH-Dx Semi-Volatile Petroleum Products by NWTPH with Silica Gel Cleanup

Method:	NWTPH-Dx	Analysis Batch: 580-49357	Instrument ID:	TAC013
Preparation:	3550B	Prep Batch: 580-49269	Lab File ID:	FA39530.D
Dilution:	1.0		Initial Weight/Volume:	10.127 g
Date Analyzed:	08/30/2009 0356		Final Weight/Volume:	10 mL
Date Prepared:	08/27/2009 1626		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
#2 Diesel (C10-C24)		ND		10	45
Motor Oil (>C24-C36)		42	J	16	89

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	124		50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-15128-1

Client Sample ID: 3-B-50 2-4

Lab Sample ID: 580-15128-10

Date Sampled: 08/25/2009 1335

Client Matrix: Solid

% Moisture: 41.5

Date Received: 08/26/2009 1100

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method:	NWTPH-Dx	Analysis Batch: 580-49762	Instrument ID:	TAC013
Preparation:	3550B	Prep Batch: 580-49269	Lab File ID:	FA39722.D
Dilution:	1.0		Initial Weight/Volume:	10.0263 g
Date Analyzed:	09/05/2009 2113		Final Weight/Volume:	10 mL
Date Prepared:	08/27/2009 1626		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
#2 Diesel (C10-C24)		ND		9.7	43
Motor Oil (>C24-C36)		ND		16	85

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	133		50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-15128-1

Client Sample ID: 3-B-50 2-4

Lab Sample ID: 580-15128-10

Date Sampled: 08/25/2009 1335

Client Matrix: Solid

% Moisture: 41.5

Date Received: 08/26/2009 1100

NWTPH-Dx Semi-Volatile Petroleum Products by NWTPH with Silica Gel Cleanup

Method:	NWTPH-Dx	Analysis Batch: 580-49357	Instrument ID:	TAC013
Preparation:	3550B	Prep Batch: 580-49269	Lab File ID:	FA39531.D
Dilution:	1.0		Initial Weight/Volume:	10.0263 g
Date Analyzed:	08/30/2009 0417		Final Weight/Volume:	10 mL
Date Prepared:	08/27/2009 1626		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
#2 Diesel (C10-C24)		ND		9.7	43
Motor Oil (>C24-C36)		ND		16	85

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	141		50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-15128-1

Client Sample ID: 3-B-50 4-5

Lab Sample ID: 580-15128-11

Date Sampled: 08/25/2009 1355

Client Matrix: Solid

% Moisture: 23.9

Date Received: 08/26/2009 1100

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method:	NWTPH-Dx	Analysis Batch: 580-49762	Instrument ID:	TAC013
Preparation:	3550B	Prep Batch: 580-49269	Lab File ID:	FA39723.D
Dilution:	1.0		Initial Weight/Volume:	10.3745 g
Date Analyzed:	09/05/2009 2133		Final Weight/Volume:	10 mL
Date Prepared:	08/27/2009 1626		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
#2 Diesel (C10-C24)		ND		7.2	32
Motor Oil (>C24-C36)		ND		12	63

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	129		50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-15128-1

Client Sample ID: 3-B-50 4-5

Lab Sample ID: 580-15128-11

Date Sampled: 08/25/2009 1355

Client Matrix: Solid

% Moisture: 23.9

Date Received: 08/26/2009 1100

NWTPH-Dx Semi-Volatile Petroleum Products by NWTPH with Silica Gel Cleanup

Method:	NWTPH-Dx	Analysis Batch: 580-49357	Instrument ID:	TAC013
Preparation:	3550B	Prep Batch: 580-49269	Lab File ID:	FA39532.D
Dilution:	1.0		Initial Weight/Volume:	10.3745 g
Date Analyzed:	08/30/2009 0437		Final Weight/Volume:	10 mL
Date Prepared:	08/27/2009 1626		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
#2 Diesel (C10-C24)		ND		7.2	32
Motor Oil (>C24-C36)		ND		12	63

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	129		50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-15128-1

Client Sample ID: 3-B-37 0-2

Lab Sample ID: 580-15128-13

Date Sampled: 08/25/2009 1455

Client Matrix: Solid

% Moisture: 35.7

Date Received: 08/26/2009 1100

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method:	NWTPH-Dx	Analysis Batch: 580-49762	Instrument ID:	TAC013
Preparation:	3550B	Prep Batch: 580-49269	Lab File ID:	FA39724.D
Dilution:	1.0		Initial Weight/Volume:	10.5729 g
Date Analyzed:	09/05/2009 2154		Final Weight/Volume:	10 mL
Date Prepared:	08/27/2009 1626		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
#2 Diesel (C10-C24)		20	J	8.4	37
Motor Oil (>C24-C36)		110		13	74

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	146		50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-15128-1

Client Sample ID: 3-B-37 0-2

Lab Sample ID: 580-15128-13

Date Sampled: 08/25/2009 1455

Client Matrix: Solid

% Moisture: 35.7

Date Received: 08/26/2009 1100

NWTPH-Dx Semi-Volatile Petroleum Products by NWTPH with Silica Gel Cleanup

Method:	NWTPH-Dx	Analysis Batch: 580-49357	Instrument ID:	TAC013
Preparation:	3550B	Prep Batch: 580-49269	Lab File ID:	FA39533.D
Dilution:	1.0		Initial Weight/Volume:	10.5729 g
Date Analyzed:	08/30/2009 0457		Final Weight/Volume:	10 mL
Date Prepared:	08/27/2009 1626		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
#2 Diesel (C10-C24)		16	J	8.4	37
Motor Oil (>C24-C36)		100		13	74

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	142		50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-15128-1

Client Sample ID: 3-B-37 2-4

Lab Sample ID: 580-15128-14

Date Sampled: 08/25/2009 1525

Client Matrix: Solid

% Moisture: 44.9

Date Received: 08/26/2009 1100

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method:	NWTPH-Dx	Analysis Batch: 580-49762	Instrument ID:	TAC013
Preparation:	3550B	Prep Batch: 580-49269	Lab File ID:	FA39726.D
Dilution:	1.0		Initial Weight/Volume:	10.0039 g
Date Analyzed:	09/05/2009 2234		Final Weight/Volume:	10 mL
Date Prepared:	08/27/2009 1626		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
#2 Diesel (C10-C24)		ND		10	45
Motor Oil (>C24-C36)		ND		17	91

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	128		50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-15128-1

Client Sample ID: 3-B-37 2-4

Lab Sample ID: 580-15128-14

Date Sampled: 08/25/2009 1525

Client Matrix: Solid

% Moisture: 44.9

Date Received: 08/26/2009 1100

NWTPH-Dx Semi-Volatile Petroleum Products by NWTPH with Silica Gel Cleanup

Method:	NWTPH-Dx	Analysis Batch: 580-49357	Instrument ID:	TAC013
Preparation:	3550B	Prep Batch: 580-49269	Lab File ID:	FA39535.D
Dilution:	1.0		Initial Weight/Volume:	10.0039 g
Date Analyzed:	08/30/2009 0538		Final Weight/Volume:	10 mL
Date Prepared:	08/27/2009 1626		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
#2 Diesel (C10-C24)		ND		10	45
Motor Oil (>C24-C36)		ND		17	91

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	144		50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-15128-1

Client Sample ID: 3-B-37 4-6

Lab Sample ID: 580-15128-15

Date Sampled: 08/25/2009 1527

Client Matrix: Solid

% Moisture: 59.5

Date Received: 08/26/2009 1100

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method:	NWTPH-Dx	Analysis Batch: 580-49762	Instrument ID:	TAC013
Preparation:	3550B	Prep Batch: 580-49269	Lab File ID:	FA39727.D
Dilution:	1.0		Initial Weight/Volume:	10.5144 g
Date Analyzed:	09/05/2009 2255		Final Weight/Volume:	10 mL
Date Prepared:	08/27/2009 1626		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
#2 Diesel (C10-C24)		ND		13	59
Motor Oil (>C24-C36)		ND		21	120

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	111		50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-15128-1

Client Sample ID: 3-B-37 4-6

Lab Sample ID: 580-15128-15

Date Sampled: 08/25/2009 1527

Client Matrix: Solid

% Moisture: 59.5

Date Received: 08/26/2009 1100

NWTPH-Dx Semi-Volatile Petroleum Products by NWTPH with Silica Gel Cleanup

Method:	NWTPH-Dx	Analysis Batch: 580-49357	Instrument ID:	TAC013
Preparation:	3550B	Prep Batch: 580-49269	Lab File ID:	FA39536.D
Dilution:	1.0		Initial Weight/Volume:	10.5144 g
Date Analyzed:	08/30/2009 0558		Final Weight/Volume:	10 mL
Date Prepared:	08/27/2009 1626		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
#2 Diesel (C10-C24)		ND		13	59
Motor Oil (>C24-C36)		ND		21	120

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	109		50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-15128-1

Client Sample ID: 3-B-37 10-12

Lab Sample ID: 580-15128-16

Date Sampled: 08/25/2009 1500

Client Matrix: Solid

% Moisture: 33.3

Date Received: 08/26/2009 1100

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method:	NWTPH-Dx	Analysis Batch: 580-49762	Instrument ID:	TAC013
Preparation:	3550B	Prep Batch: 580-49269	Lab File ID:	FA39728.D
Dilution:	1.0		Initial Weight/Volume:	10.4405 g
Date Analyzed:	09/05/2009 2315		Final Weight/Volume:	10 mL
Date Prepared:	08/27/2009 1626		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
#2 Diesel (C10-C24)		ND		8.2	36
Motor Oil (>C24-C36)		36	J	13	72

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	107		50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-15128-1

Client Sample ID: 3-B-37 10-12

Lab Sample ID: 580-15128-16

Date Sampled: 08/25/2009 1500

Client Matrix: Solid

% Moisture: 33.3

Date Received: 08/26/2009 1100

NWTPH-Dx Semi-Volatile Petroleum Products by NWTPH with Silica Gel Cleanup

Method:	NWTPH-Dx	Analysis Batch: 580-49357	Instrument ID:	TAC013
Preparation:	3550B	Prep Batch: 580-49269	Lab File ID:	FA39537.D
Dilution:	1.0		Initial Weight/Volume:	10.4405 g
Date Analyzed:	08/30/2009 0618		Final Weight/Volume:	10 mL
Date Prepared:	08/27/2009 1626		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
#2 Diesel (C10-C24)		ND		8.2	36
Motor Oil (>C24-C36)		44	J	13	72

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	127		50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-15128-1

Client Sample ID: 3-B-49 2-4

Lab Sample ID: 580-15128-18

Date Sampled: 08/25/2009 1615

Client Matrix: Solid

% Moisture: 36.6

Date Received: 08/26/2009 1100

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method:	NWTPH-Dx	Analysis Batch: 580-49762	Instrument ID:	TAC013
Preparation:	3550B	Prep Batch: 580-49269	Lab File ID:	FA39729.D
Dilution:	1.0		Initial Weight/Volume:	10.1175 g
Date Analyzed:	09/05/2009 2335		Final Weight/Volume:	10 mL
Date Prepared:	08/27/2009 1626		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
#2 Diesel (C10-C24)		ND		8.9	39
Motor Oil (>C24-C36)		ND		14	78

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	115		50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-15128-1

Client Sample ID: 3-B-49 2-4

Lab Sample ID: 580-15128-18

Date Sampled: 08/25/2009 1615

Client Matrix: Solid

% Moisture: 36.6

Date Received: 08/26/2009 1100

NWTPH-Dx Semi-Volatile Petroleum Products by NWTPH with Silica Gel Cleanup

Method:	NWTPH-Dx	Analysis Batch: 580-49357	Instrument ID:	TAC013
Preparation:	3550B	Prep Batch: 580-49269	Lab File ID:	FA39538.D
Dilution:	1.0		Initial Weight/Volume:	10.1175 g
Date Analyzed:	08/30/2009 0639		Final Weight/Volume:	10 mL
Date Prepared:	08/27/2009 1626		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
#2 Diesel (C10-C24)		ND		8.9	39
Motor Oil (>C24-C36)		ND		14	78

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	123		50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-15128-1

Client Sample ID: 3-B-49 4-6

Lab Sample ID: 580-15128-19

Date Sampled: 08/25/2009 1645

Client Matrix: Solid

% Moisture: 24.0

Date Received: 08/26/2009 1100

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method:	NWTPH-Dx	Analysis Batch: 580-49778	Instrument ID:	TAC013
Preparation:	3550B	Prep Batch: 580-49269	Lab File ID:	FA39739.D
Dilution:	1.0		Initial Weight/Volume:	10.5683 g
Date Analyzed:	09/06/2009 1548		Final Weight/Volume:	10 mL
Date Prepared:	08/27/2009 1626		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
#2 Diesel (C10-C24)		ND		7.1	31
Motor Oil (>C24-C36)		ND		11	62

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	117		50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-15128-1

Client Sample ID: 3-B-49 4-6

Lab Sample ID: 580-15128-19

Date Sampled: 08/25/2009 1645

Client Matrix: Solid

% Moisture: 24.0

Date Received: 08/26/2009 1100

NWTPH-Dx Semi-Volatile Petroleum Products by NWTPH with Silica Gel Cleanup

Method:	NWTPH-Dx	Analysis Batch: 580-49357	Instrument ID:	TAC013
Preparation:	3550B	Prep Batch: 580-49269	Lab File ID:	FA39540.D
Dilution:	1.0		Initial Weight/Volume:	10.5683 g
Date Analyzed:	08/30/2009 0725		Final Weight/Volume:	10 mL
Date Prepared:	08/27/2009 1626		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
#2 Diesel (C10-C24)		ND		7.1	31
Motor Oil (>C24-C36)		ND		11	62

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	127		50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-15128-1

Client Sample ID: 3-B-49 0-2

Lab Sample ID: 580-15128-20

Date Sampled: 08/25/2009 1650

Client Matrix: Solid

% Moisture: 31.7

Date Received: 08/26/2009 1100

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method:	NWTPH-Dx	Analysis Batch: 580-49778	Instrument ID:	TAC013
Preparation:	3550B	Prep Batch: 580-49269	Lab File ID:	FA39740.D
Dilution:	1.0		Initial Weight/Volume:	10.2053 g
Date Analyzed:	09/06/2009 1609		Final Weight/Volume:	10 mL
Date Prepared:	08/27/2009 1626		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
#2 Diesel (C10-C24)		ND		8.2	36
Motor Oil (>C24-C36)		21	J	13	72

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	120		50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-15128-1

Client Sample ID: 3-B-49 0-2

Lab Sample ID: 580-15128-20

Date Sampled: 08/25/2009 1650

Client Matrix: Solid

% Moisture: 31.7

Date Received: 08/26/2009 1100

NWTPH-Dx Semi-Volatile Petroleum Products by NWTPH with Silica Gel Cleanup

Method:	NWTPH-Dx	Analysis Batch: 580-49357	Instrument ID:	TAC013
Preparation:	3550B	Prep Batch: 580-49269	Lab File ID:	FA39541.D
Dilution:	1.0		Initial Weight/Volume:	10.2053 g
Date Analyzed:	08/30/2009 0750		Final Weight/Volume:	10 mL
Date Prepared:	08/27/2009 1626		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
#2 Diesel (C10-C24)		ND		8.2	36
Motor Oil (>C24-C36)		15	J	13	72

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	122		50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-15128-1

Client Sample ID: 3-B-49 12-14

Lab Sample ID: 580-15128-21

Date Sampled: 08/25/2009 1600

Client Matrix: Solid

% Moisture: 37.1

Date Received: 08/26/2009 1100

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method:	NWTPH-Dx	Analysis Batch: 580-49778	Instrument ID:	TAC013
Preparation:	3550B	Prep Batch: 580-49269	Lab File ID:	FA39741.D
Dilution:	1.0		Initial Weight/Volume:	10.2508 g
Date Analyzed:	09/06/2009 1629		Final Weight/Volume:	10 mL
Date Prepared:	08/27/2009 1626		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
#2 Diesel (C10-C24)		ND		8.8	39
Motor Oil (>C24-C36)		ND		14	78

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	119		50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-15128-1

Client Sample ID: 3-B-49 12-14

Lab Sample ID: 580-15128-21

Date Sampled: 08/25/2009 1600

Client Matrix: Solid

% Moisture: 37.1

Date Received: 08/26/2009 1100

NWTPH-Dx Semi-Volatile Petroleum Products by NWTPH with Silica Gel Cleanup

Method:	NWTPH-Dx	Analysis Batch: 580-49357	Instrument ID:	TAC013
Preparation:	3550B	Prep Batch: 580-49269	Lab File ID:	FA39542.D
Dilution:	1.0		Initial Weight/Volume:	10.2508 g
Date Analyzed:	08/30/2009 0816		Final Weight/Volume:	10 mL
Date Prepared:	08/27/2009 1626		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
#2 Diesel (C10-C24)		ND		8.8	39
Motor Oil (>C24-C36)		ND		14	78

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	137		50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-15128-1

Client Sample ID: 1B-B-30A 4

Lab Sample ID: 580-15128-22

Date Sampled: 08/25/2009 1130

Client Matrix: Solid

% Moisture: 6.7

Date Received: 08/26/2009 1100

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method:	NWTPH-Dx	Analysis Batch: 580-49778	Instrument ID:	TAC013
Preparation:	3550B	Prep Batch: 580-49269	Lab File ID:	FA39742.D
Dilution:	1.0		Initial Weight/Volume:	10.3060 g
Date Analyzed:	09/06/2009 1649		Final Weight/Volume:	10 mL
Date Prepared:	08/27/2009 1626		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
#2 Diesel (C10-C24)		47		5.9	26
Motor Oil (>C24-C36)		28	J	9.5	52

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	128		50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-15128-1

Client Sample ID: 1B-B-30A 6

Lab Sample ID: 580-15128-23

Date Sampled: 08/25/2009 1430

Client Matrix: Solid

% Moisture: 5.6

Date Received: 08/26/2009 1100

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method:	NWTPH-Dx	Analysis Batch: 580-49778	Instrument ID:	TAC013
Preparation:	3550B	Prep Batch: 580-49269	Lab File ID:	FA39743.D
Dilution:	1.0		Initial Weight/Volume:	10.1125 g
Date Analyzed:	09/06/2009 1709		Final Weight/Volume:	10 mL
Date Prepared:	08/27/2009 1626		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
#2 Diesel (C10-C24)		72		6.0	26
Motor Oil (>C24-C36)		21	J	9.5	52

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	115		50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-15128-1

Client Sample ID: 1B-B-30A 8

Lab Sample ID: 580-15128-24

Date Sampled: 08/25/2009 1530

Client Matrix: Solid

% Moisture: 8.3

Date Received: 08/26/2009 1100

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method:	NWTPH-Dx	Analysis Batch: 580-49540	Instrument ID:	TAC019
Preparation:	3550B	Prep Batch: 580-49280	Lab File ID:	GR00123.D
Dilution:	1.0		Initial Weight/Volume:	10.3349 g
Date Analyzed:	09/02/2009 1543		Final Weight/Volume:	10 mL
Date Prepared:	08/28/2009 0842		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
#2 Diesel (C10-C24)		35		6.0	26
Motor Oil (>C24-C36)		46	J	9.6	53

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	106		50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-15128-1

Client Sample ID: 3-B-45-0-2

Lab Sample ID: 580-15128-25

Date Sampled: 08/25/2009 0848

Client Matrix: Solid

% Moisture: 21.5

Date Received: 08/26/2009 1100

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method:	NWTPH-Dx	Analysis Batch: 580-49540	Instrument ID:	TAC019
Preparation:	3550B	Prep Batch: 580-49280	Lab File ID:	GR00126.D
Dilution:	1.0		Initial Weight/Volume:	10.2804 g
Date Analyzed:	09/02/2009 1645		Final Weight/Volume:	10 mL
Date Prepared:	08/28/2009 0842		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
#2 Diesel (C10-C24)		12	J	7.1	31
Motor Oil (>C24-C36)		95		11	62

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	111		50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-15128-1

Client Sample ID: 3-B-45-0-2

Lab Sample ID: 580-15128-25

Date Sampled: 08/25/2009 0848

Client Matrix: Solid

% Moisture: 21.5

Date Received: 08/26/2009 1100

NWTPH-Dx Semi-Volatile Petroleum Products by NWTPH with Silica Gel Cleanup

Method:	NWTPH-Dx	Analysis Batch: 580-49741	Instrument ID:	TAC019
Preparation:	3550B	Prep Batch: 580-49280	Lab File ID:	GR00199.D
Dilution:	1.0		Initial Weight/Volume:	10.2804 g
Date Analyzed:	09/04/2009 2035		Final Weight/Volume:	10 mL
Date Prepared:	08/28/2009 0842		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
#2 Diesel (C10-C24)		9.7	J	7.1	31
Motor Oil (>C24-C36)		62	B	11	62

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	86		50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-15128-1

Client Sample ID: 3-B-45-2-4

Lab Sample ID: 580-15128-26

Date Sampled: 08/25/2009 0925

Client Matrix: Solid

% Moisture: 32.1

Date Received: 08/26/2009 1100

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method:	NWTPH-Dx	Analysis Batch: 580-49540	Instrument ID:	TAC019
Preparation:	3550B	Prep Batch: 580-49280	Lab File ID:	GR00127.D
Dilution:	1.0		Initial Weight/Volume:	10.0581 g
Date Analyzed:	09/02/2009 1705		Final Weight/Volume:	10 mL
Date Prepared:	08/28/2009 0842		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
#2 Diesel (C10-C24)		12	J	8.4	37
Motor Oil (>C24-C36)		35	J	13	73

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	99		50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-15128-1

Client Sample ID: 3-B-45-2-4

Lab Sample ID: 580-15128-26

Date Sampled: 08/25/2009 0925

Client Matrix: Solid

% Moisture: 32.1

Date Received: 08/26/2009 1100

NWTPH-Dx Semi-Volatile Petroleum Products by NWTPH with Silica Gel Cleanup

Method:	NWTPH-Dx	Analysis Batch: 580-49741	Instrument ID:	TAC019
Preparation:	3550B	Prep Batch: 580-49280	Lab File ID:	GR00200.D
Dilution:	1.0		Initial Weight/Volume:	10.0581 g
Date Analyzed:	09/04/2009 2056		Final Weight/Volume:	10 mL
Date Prepared:	08/28/2009 0842		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
#2 Diesel (C10-C24)		8.4	J	8.4	37
Motor Oil (>C24-C36)		30	J B	13	73

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	94		50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-15128-1

Client Sample ID: 3-B-45 4-6

Lab Sample ID: 580-15128-27

Date Sampled: 08/25/2009 0910

Client Matrix: Solid

% Moisture: 34.1

Date Received: 08/26/2009 1100

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method:	NWTPH-Dx	Analysis Batch: 580-49540	Instrument ID:	TAC019
Preparation:	3550B	Prep Batch: 580-49280	Lab File ID:	GR00128.D
Dilution:	1.0		Initial Weight/Volume:	10.2262 g
Date Analyzed:	09/02/2009 1726		Final Weight/Volume:	10 mL
Date Prepared:	08/28/2009 0842		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
#2 Diesel (C10-C24)		8.5	J	8.5	37
Motor Oil (>C24-C36)		22	J	14	74

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	103		50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-15128-1

Client Sample ID: 3-B-45 4-6

Lab Sample ID: 580-15128-27

Date Sampled: 08/25/2009 0910

Client Matrix: Solid

% Moisture: 34.1

Date Received: 08/26/2009 1100

NWTPH-Dx Semi-Volatile Petroleum Products by NWTPH with Silica Gel Cleanup

Method:	NWTPH-Dx	Analysis Batch: 580-49741	Instrument ID:	TAC019
Preparation:	3550B	Prep Batch: 580-49280	Lab File ID:	GR00201.D
Dilution:	1.0		Initial Weight/Volume:	10.2262 g
Date Analyzed:	09/04/2009 2117		Final Weight/Volume:	10 mL
Date Prepared:	08/28/2009 0842		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
#2 Diesel (C10-C24)		8.5	J	8.5	37
Motor Oil (>C24-C36)		28	J B	14	74

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	99		50 - 150

Client: AECOM, Inc.

Job Number: 580-15128-1

General Chemistry

Client Sample ID: 3-B-44 0-2

Lab Sample ID: 580-15128-1

Client Matrix: Solid

Date Sampled: 08/25/2009 1000

Date Received: 08/26/2009 1100

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Total Organic Carbon	41000		mg/Kg	610	2000	1.0	9060
	Analysis Batch: 580-49694		Date Analyzed: 09/03/2009 0740				DryWt Corrected: N

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Percent Solids	67		%		0.10	1.0	Moisture
	Analysis Batch: 580-49307		Date Analyzed: 08/28/2009 1107				DryWt Corrected: N
Percent Moisture	33		%		0.10	1.0	Moisture
	Analysis Batch: 580-49307		Date Analyzed: 08/28/2009 1107				DryWt Corrected: N

Client: AECOM, Inc.

Job Number: 580-15128-1

General Chemistry

Client Sample ID: 3-B-44 2-4

Lab Sample ID: 580-15128-2

Client Matrix: Solid

Date Sampled: 08/25/2009 1010

Date Received: 08/26/2009 1100

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Total Organic Carbon	16000		mg/Kg	610	2000	1.0	9060
	Analysis Batch: 580-49694		Date Analyzed: 09/03/2009 0740				DryWt Corrected: N

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Percent Solids	69		%		0.10	1.0	Moisture
	Analysis Batch: 580-49307		Date Analyzed: 08/28/2009 1107				DryWt Corrected: N
Percent Moisture	31		%		0.10	1.0	Moisture
	Analysis Batch: 580-49307		Date Analyzed: 08/28/2009 1107				DryWt Corrected: N

Client: AECOM, Inc.

Job Number: 580-15128-1

General Chemistry

Client Sample ID: 3-B-44 4-6

Lab Sample ID: 580-15128-3

Date Sampled: 08/25/2009 1020

Client Matrix: Solid

Date Received: 08/26/2009 1100

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Total Organic Carbon	6400		mg/Kg	610	2000	1.0	9060
	Analysis Batch: 580-49694		Date Analyzed: 09/03/2009 0740				DryWt Corrected: N

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Percent Solids	81		%		0.10	1.0	Moisture
	Analysis Batch: 580-49307		Date Analyzed: 08/28/2009 1107				DryWt Corrected: N
Percent Moisture	19		%		0.10	1.0	Moisture
	Analysis Batch: 580-49307		Date Analyzed: 08/28/2009 1107				DryWt Corrected: N

Client: AECOM, Inc.

Job Number: 580-15128-1

General Chemistry

Client Sample ID: 3-B-51 0-2

Lab Sample ID: 580-15128-4

Client Matrix: Solid

Date Sampled: 08/25/2009 1120

Date Received: 08/26/2009 1100

Analyte	Result	Qual	Units	RL	Dil	Method
Percent Solids	65		%	0.10	1.0	Moisture
	Analysis Batch: 580-49307	Date Analyzed: 08/28/2009 1107				DryWt Corrected: N
Percent Moisture	35		%	0.10	1.0	Moisture
	Analysis Batch: 580-49307	Date Analyzed: 08/28/2009 1107				DryWt Corrected: N

Client: AECOM, Inc.

Job Number: 580-15128-1

General Chemistry

Client Sample ID: 3-B-51 2-4

Lab Sample ID: 580-15128-5

Client Matrix: Solid

Date Sampled: 08/25/2009 1125

Date Received: 08/26/2009 1100

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Total Organic Carbon	26000		mg/Kg	610	2000	1.0	9060
	Analysis Batch: 580-49694		Date Analyzed: 09/03/2009 0740				DryWt Corrected: N

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Percent Solids	60		%		0.10	1.0	Moisture
	Analysis Batch: 580-49307		Date Analyzed: 08/28/2009 1107				DryWt Corrected: N
Percent Moisture	40		%		0.10	1.0	Moisture
	Analysis Batch: 580-49307		Date Analyzed: 08/28/2009 1107				DryWt Corrected: N

Client: AECOM, Inc.

Job Number: 580-15128-1

General Chemistry

Client Sample ID: 3-B-51 12-14

Lab Sample ID: 580-15128-6

Client Matrix: Solid

Date Sampled: 08/25/2009 1130

Date Received: 08/26/2009 1100

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Total Organic Carbon	28000		mg/Kg	610	2000	1.0	9060
Analysis Batch: 580-49694		Date Analyzed: 09/03/2009 0740		DryWt Corrected: N			

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Percent Solids	61		%		0.10	1.0	Moisture
Analysis Batch: 580-49307		Date Analyzed: 08/28/2009 1107		DryWt Corrected: N			
Percent Moisture	39		%		0.10	1.0	Moisture
Analysis Batch: 580-49307		Date Analyzed: 08/28/2009 1107		DryWt Corrected: N			

Client: AECOM, Inc.

Job Number: 580-15128-1

General Chemistry

Client Sample ID: 3-B-51 4-6

Lab Sample ID: 580-15128-7

Client Matrix: Solid

Date Sampled: 08/25/2009 1145

Date Received: 08/26/2009 1100

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Total Organic Carbon	29000		mg/Kg	610	2000	1.0	9060
	Analysis Batch: 580-49694		Date Analyzed: 09/03/2009 0740				DryWt Corrected: N

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Percent Solids	67		%		0.10	1.0	Moisture
	Analysis Batch: 580-49307		Date Analyzed: 08/28/2009 1107				DryWt Corrected: N
Percent Moisture	33		%		0.10	1.0	Moisture
	Analysis Batch: 580-49307		Date Analyzed: 08/28/2009 1107				DryWt Corrected: N

Client: AECOM, Inc.

Job Number: 580-15128-1

General Chemistry

Client Sample ID: 3-B-51 0-2

Lab Sample ID: 580-15128-8

Client Matrix: Solid

Date Sampled: 08/25/2009 1150

Date Received: 08/26/2009 1100

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Total Organic Carbon	45000		mg/Kg	610	2000	1.0	9060
	Analysis Batch: 580-49694		Date Analyzed: 09/03/2009 0740				DryWt Corrected: N

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Percent Solids	61		%		0.10	1.0	Moisture
	Analysis Batch: 580-49307		Date Analyzed: 08/28/2009 1107				DryWt Corrected: N
Percent Moisture	39		%		0.10	1.0	Moisture
	Analysis Batch: 580-49307		Date Analyzed: 08/28/2009 1107				DryWt Corrected: N

Client: AECOM, Inc.

Job Number: 580-15128-1

General Chemistry

Client Sample ID: 3-B-50 0-2

Lab Sample ID: 580-15128-9

Date Sampled: 08/25/2009 1332

Client Matrix: Solid

Date Received: 08/26/2009 1100

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Total Organic Carbon	56000		mg/Kg	610	2000	1.0	9060
Analysis Batch: 580-49694		Date Analyzed: 09/03/2009 0740		DryWt Corrected: N			

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Percent Solids	55		%		0.10	1.0	Moisture
Analysis Batch: 580-49307		Date Analyzed: 08/28/2009 1107		DryWt Corrected: N			
Percent Moisture	45		%		0.10	1.0	Moisture
Analysis Batch: 580-49307		Date Analyzed: 08/28/2009 1107		DryWt Corrected: N			

Client: AECOM, Inc.

Job Number: 580-15128-1

General Chemistry

Client Sample ID: 3-B-50 2-4

Lab Sample ID: 580-15128-10

Client Matrix: Solid

Date Sampled: 08/25/2009 1335

Date Received: 08/26/2009 1100

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Total Organic Carbon	42000		mg/Kg	610	2000	1.0	9060
Analysis Batch: 580-49694		Date Analyzed: 09/03/2009 0740		DryWt Corrected: N			

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Percent Solids	59		%		0.10	1.0	Moisture
Analysis Batch: 580-49307		Date Analyzed: 08/28/2009 1107		DryWt Corrected: N			
Percent Moisture	41		%		0.10	1.0	Moisture
Analysis Batch: 580-49307		Date Analyzed: 08/28/2009 1107		DryWt Corrected: N			

Client: AECOM, Inc.

Job Number: 580-15128-1

General Chemistry

Client Sample ID: 3-B-50 4-5

Lab Sample ID: 580-15128-11

Date Sampled: 08/25/2009 1355

Client Matrix: Solid

Date Received: 08/26/2009 1100

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Total Organic Carbon	35000		mg/Kg	610	2000	1.0	9060
	Analysis Batch: 580-49749		Date Analyzed: 09/04/2009 1634				DryWt Corrected: N

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Percent Solids	76		%		0.10	1.0	Moisture
	Analysis Batch: 580-49307		Date Analyzed: 08/28/2009 1107				DryWt Corrected: N
Percent Moisture	24		%		0.10	1.0	Moisture
	Analysis Batch: 580-49307		Date Analyzed: 08/28/2009 1107				DryWt Corrected: N

Client: AECOM, Inc.

Job Number: 580-15128-1

General Chemistry

Client Sample ID: 3-B-50 0-2

Lab Sample ID: 580-15128-12

Client Matrix: Solid

Date Sampled: 08/25/2009 1405

Date Received: 08/26/2009 1100

Analyte	Result	Qual	Units	RL	Dil	Method
Percent Solids	53		%	0.10	1.0	Moisture
	Analysis Batch: 580-49307	Date Analyzed: 08/28/2009 1107				DryWt Corrected: N
Percent Moisture	47		%	0.10	1.0	Moisture
	Analysis Batch: 580-49307	Date Analyzed: 08/28/2009 1107				DryWt Corrected: N

Client: AECOM, Inc.

Job Number: 580-15128-1

General Chemistry

Client Sample ID: 3-B-37 0-2

Lab Sample ID: 580-15128-13

Date Sampled: 08/25/2009 1455

Client Matrix: Solid

Date Received: 08/26/2009 1100

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Total Organic Carbon	36000		mg/Kg	610	2000	1.0	9060
	Analysis Batch: 580-49694		Date Analyzed: 09/03/2009 0740				DryWt Corrected: N

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Percent Solids	64		%		0.10	1.0	Moisture
	Analysis Batch: 580-49307		Date Analyzed: 08/28/2009 1107				DryWt Corrected: N
Percent Moisture	36		%		0.10	1.0	Moisture
	Analysis Batch: 580-49307		Date Analyzed: 08/28/2009 1107				DryWt Corrected: N

Client: AECOM, Inc.

Job Number: 580-15128-1

General Chemistry

Client Sample ID: 3-B-37 2-4

Lab Sample ID: 580-15128-14

Client Matrix: Solid

Date Sampled: 08/25/2009 1525

Date Received: 08/26/2009 1100

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Total Organic Carbon	22000		mg/Kg	610	2000	1.0	9060
	Analysis Batch: 580-49694		Date Analyzed: 09/03/2009 0740				DryWt Corrected: N

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Percent Solids	55		%		0.10	1.0	Moisture
	Analysis Batch: 580-49307		Date Analyzed: 08/28/2009 1107				DryWt Corrected: N
Percent Moisture	45		%		0.10	1.0	Moisture
	Analysis Batch: 580-49307		Date Analyzed: 08/28/2009 1107				DryWt Corrected: N

Client: AECOM, Inc.

Job Number: 580-15128-1

General Chemistry

Client Sample ID: 3-B-37 4-6

Lab Sample ID: 580-15128-15

Date Sampled: 08/25/2009 1527

Client Matrix: Solid

Date Received: 08/26/2009 1100

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Total Organic Carbon	80000		mg/Kg	610	2000	1.0	9060
	Analysis Batch: 580-49694		Date Analyzed: 09/03/2009 0740				DryWt Corrected: N

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Percent Solids	40		%		0.10	1.0	Moisture
	Analysis Batch: 580-49307		Date Analyzed: 08/28/2009 1107				DryWt Corrected: N
Percent Moisture	60		%		0.10	1.0	Moisture
	Analysis Batch: 580-49307		Date Analyzed: 08/28/2009 1107				DryWt Corrected: N

Client: AECOM, Inc.

Job Number: 580-15128-1

General Chemistry

Client Sample ID: 3-B-37 10-12

Lab Sample ID: 580-15128-16

Client Matrix: Solid

Date Sampled: 08/25/2009 1500

Date Received: 08/26/2009 1100

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Total Organic Carbon	34000		mg/Kg	610	2000	1.0	9060
	Analysis Batch: 580-49694		Date Analyzed: 09/03/2009 0740				DryWt Corrected: N

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Percent Solids	67		%		0.10	1.0	Moisture
	Analysis Batch: 580-49307		Date Analyzed: 08/28/2009 1107				DryWt Corrected: N
Percent Moisture	33		%		0.10	1.0	Moisture
	Analysis Batch: 580-49307		Date Analyzed: 08/28/2009 1107				DryWt Corrected: N

Client: AECOM, Inc.

Job Number: 580-15128-1

General Chemistry

Client Sample ID: 3-B-49 0-2

Lab Sample ID: 580-15128-17

Date Sampled: 08/25/2009 1612

Client Matrix: Solid

Date Received: 08/26/2009 1100

Analyte	Result	Qual	Units	RL	Dil	Method
Percent Solids	67		%	0.10	1.0	Moisture
	Analysis Batch: 580-49307	Date Analyzed: 08/28/2009 1107				DryWt Corrected: N
Percent Moisture	33		%	0.10	1.0	Moisture
	Analysis Batch: 580-49307	Date Analyzed: 08/28/2009 1107				DryWt Corrected: N

Client: AECOM, Inc.

Job Number: 580-15128-1

General Chemistry

Client Sample ID: 3-B-49 2-4

Lab Sample ID: 580-15128-18

Date Sampled: 08/25/2009 1615

Client Matrix: Solid

Date Received: 08/26/2009 1100

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Total Organic Carbon	17000		mg/Kg	610	2000	1.0	9060
	Analysis Batch: 580-49694		Date Analyzed: 09/03/2009 0740				DryWt Corrected: N

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Percent Solids	63		%		0.10	1.0	Moisture
	Analysis Batch: 580-49307		Date Analyzed: 08/28/2009 1107				DryWt Corrected: N
Percent Moisture	37		%		0.10	1.0	Moisture
	Analysis Batch: 580-49307		Date Analyzed: 08/28/2009 1107				DryWt Corrected: N

Client: AECOM, Inc.

Job Number: 580-15128-1

General Chemistry

Client Sample ID: 3-B-49 4-6

Lab Sample ID: 580-15128-19

Date Sampled: 08/25/2009 1645

Client Matrix: Solid

Date Received: 08/26/2009 1100

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Total Organic Carbon	9100		mg/Kg	610	2000	1.0	9060
	Analysis Batch: 580-49749		Date Analyzed: 09/04/2009 1634				DryWt Corrected: N

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Percent Solids	76		%		0.10	1.0	Moisture
	Analysis Batch: 580-49307		Date Analyzed: 08/28/2009 1107				DryWt Corrected: N
Percent Moisture	24		%		0.10	1.0	Moisture
	Analysis Batch: 580-49307		Date Analyzed: 08/28/2009 1107				DryWt Corrected: N

Client: AECOM, Inc.

Job Number: 580-15128-1

General Chemistry

Client Sample ID: 3-B-49 0-2

Lab Sample ID: 580-15128-20

Date Sampled: 08/25/2009 1650

Client Matrix: Solid

Date Received: 08/26/2009 1100

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Total Organic Carbon	35000		mg/Kg	610	2000	1.0	9060
	Analysis Batch: 580-49749		Date Analyzed: 09/04/2009 1634				DryWt Corrected: N

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Percent Solids	68		%		0.10	1.0	Moisture
	Analysis Batch: 580-49307		Date Analyzed: 08/28/2009 1107				DryWt Corrected: N
Percent Moisture	32		%		0.10	1.0	Moisture
	Analysis Batch: 580-49307		Date Analyzed: 08/28/2009 1107				DryWt Corrected: N

Client: AECOM, Inc.

Job Number: 580-15128-1

General Chemistry

Client Sample ID: 3-B-49 12-14

Lab Sample ID: 580-15128-21

Client Matrix: Solid

Date Sampled: 08/25/2009 1600

Date Received: 08/26/2009 1100

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Total Organic Carbon	14000		mg/Kg	610	2000	1.0	9060
	Analysis Batch: 580-49749		Date Analyzed: 09/04/2009 1634				DryWt Corrected: N

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Percent Solids	63		%		0.10	1.0	Moisture
	Analysis Batch: 580-49307		Date Analyzed: 08/28/2009 1107				DryWt Corrected: N
Percent Moisture	37		%		0.10	1.0	Moisture
	Analysis Batch: 580-49307		Date Analyzed: 08/28/2009 1107				DryWt Corrected: N

Client: AECOM, Inc.

Job Number: 580-15128-1

General Chemistry

Client Sample ID: 1B-B-30A 4

Lab Sample ID: 580-15128-22

Date Sampled: 08/25/2009 1130

Client Matrix: Solid

Date Received: 08/26/2009 1100

Analyte	Result	Qual	Units	RL	Dil	Method
Percent Solids	93		%	0.10	1.0	Moisture
	Analysis Batch: 580-49307	Date Analyzed: 08/28/2009 1107				DryWt Corrected: N
Percent Moisture	6.7		%	0.10	1.0	Moisture
	Analysis Batch: 580-49307	Date Analyzed: 08/28/2009 1107				DryWt Corrected: N

Client: AECOM, Inc.

Job Number: 580-15128-1

General Chemistry

Client Sample ID: 1B-B-30A 6

Lab Sample ID: 580-15128-23

Date Sampled: 08/25/2009 1430

Client Matrix: Solid

Date Received: 08/26/2009 1100

Analyte	Result	Qual	Units	RL	Dil	Method
Percent Solids	94		%	0.10	1.0	Moisture
	Analysis Batch: 580-49307	Date Analyzed: 08/28/2009 1107				DryWt Corrected: N
Percent Moisture	5.6		%	0.10	1.0	Moisture
	Analysis Batch: 580-49307	Date Analyzed: 08/28/2009 1107				DryWt Corrected: N

Client: AECOM, Inc.

Job Number: 580-15128-1

General Chemistry

Client Sample ID: 1B-B-30A 8

Lab Sample ID: 580-15128-24

Date Sampled: 08/25/2009 1530

Client Matrix: Solid

Date Received: 08/26/2009 1100

Analyte	Result	Qual	Units	RL	Dil	Method
Percent Solids	92		%	0.10	1.0	Moisture
	Analysis Batch: 580-49281	Date Analyzed: 08/28/2009 0849				DryWt Corrected: N
Percent Moisture	8.3		%	0.10	1.0	Moisture
	Analysis Batch: 580-49281	Date Analyzed: 08/28/2009 0849				DryWt Corrected: N

Client: AECOM, Inc.

Job Number: 580-15128-1

General Chemistry

Client Sample ID: 3-B-45-0-2

Lab Sample ID: 580-15128-25

Date Sampled: 08/25/2009 0848

Client Matrix: Solid

Date Received: 08/26/2009 1100

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Total Organic Carbon	35000		mg/Kg	610	2000	1.0	9060
	Analysis Batch: 580-49749		Date Analyzed: 09/04/2009 1634				DryWt Corrected: N

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Percent Solids	79		%		0.10	1.0	Moisture
	Analysis Batch: 580-49281		Date Analyzed: 08/28/2009 0849				DryWt Corrected: N
Percent Moisture	21		%		0.10	1.0	Moisture
	Analysis Batch: 580-49281		Date Analyzed: 08/28/2009 0849				DryWt Corrected: N

Client: AECOM, Inc.

Job Number: 580-15128-1

General Chemistry

Client Sample ID: 3-B-45-2-4

Lab Sample ID: 580-15128-26

Date Sampled: 08/25/2009 0925

Client Matrix: Solid

Date Received: 08/26/2009 1100

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Total Organic Carbon	32000		mg/Kg	610	2000	1.0	9060
Analysis Batch: 580-49749		Date Analyzed: 09/04/2009 1634		DryWt Corrected: N			

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Percent Solids	68		%		0.10	1.0	Moisture
Analysis Batch: 580-49281		Date Analyzed: 08/28/2009 0849		DryWt Corrected: N			
Percent Moisture	32		%		0.10	1.0	Moisture
Analysis Batch: 580-49281		Date Analyzed: 08/28/2009 0849		DryWt Corrected: N			

Client: AECOM, Inc.

Job Number: 580-15128-1

General Chemistry

Client Sample ID: 3-B-45 4-6

Lab Sample ID: 580-15128-27

Date Sampled: 08/25/2009 0910

Client Matrix: Solid

Date Received: 08/26/2009 1100

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Total Organic Carbon	14000		mg/Kg	610	2000	1.0	9060
	Analysis Batch: 580-49749		Date Analyzed: 09/04/2009 1634				DryWt Corrected: N

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Percent Solids	66		%		0.10	1.0	Moisture
	Analysis Batch: 580-49281		Date Analyzed: 08/28/2009 0849				DryWt Corrected: N
Percent Moisture	34		%		0.10	1.0	Moisture
	Analysis Batch: 580-49281		Date Analyzed: 08/28/2009 0849				DryWt Corrected: N

Quality Control Results

Client: AECOM, Inc.

Job Number: 580-15128-1

Method Blank - Batch: 580-49269

Lab Sample ID: MB 580-49269/1-B
 Client Matrix: Solid
 Dilution: 1.0
 Date Analyzed: 08/29/2009 2346
 Date Prepared: 08/27/2009 1626

Analysis Batch: 580-49357
 Prep Batch: 580-49269
 Units: mg/Kg

**Method: NWTPH-Dx
 Preparation: 3550B**

Instrument ID: TAC013
 Lab File ID: FA39519.D
 Initial Weight/Volume: 10 g
 Final Weight/Volume: 10 mL
 Injection Volume: 1 uL

Analyte	Result	Qual	MDL	RL
#2 Diesel (C10-C24)	ND		5.7	25
Motor Oil (>C24-C36)	ND		9.1	50
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Surrogate	% Rec	Acceptance Limits		
o-Terphenyl	124	50 - 150		

Method Blank - Batch: 580-49269

Lab Sample ID: MB 580-49269/1-A
 Client Matrix: Solid
 Dilution: 1.0
 Date Analyzed: 09/05/2009 1505
 Date Prepared: 08/27/2009 1626

Analysis Batch: 580-49762
 Prep Batch: 580-49269
 Units: mg/Kg

**Method: NWTPH-Dx
 Preparation: 3550B**

Instrument ID: TAC013
 Lab File ID: FA39709.D
 Initial Weight/Volume: 10 g
 Final Weight/Volume: 10 mL
 Injection Volume: 1 uL

Analyte	Result	Qual	MDL	RL
#2 Diesel (C10-C24)	ND		5.7	25
Motor Oil (>C24-C36)	ND		9.1	50
<hr/>				
Surrogate	% Rec	Acceptance Limits		
o-Terphenyl	108	50 - 150		

Calculations are performed before rounding to avoid round-off errors in calculated results.

Quality Control Results

Client: AECOM, Inc.

Job Number: 580-15128-1

Lab Control Sample - Batch: 580-49269

Method: NWTPH-Dx
Preparation: 3550B

Lab Sample ID: LCS 580-49269/2-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 09/05/2009 1530
Date Prepared: 08/27/2009 1626

Analysis Batch: 580-49762
Prep Batch: 580-49269
Units: mg/Kg

Instrument ID: TAC013
Lab File ID: FA39710.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 10 mL
Injection Volume: 1 uL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
#2 Diesel (C10-C24)	500	506	101	70 - 125	
Motor Oil (>C24-C36)	500	468	94	64 - 127	
Surrogate		% Rec		Acceptance Limits	
o-Terphenyl		115		50 - 150	

Calculations are performed before rounding to avoid round-off errors in calculated results.

Quality Control Results

Client: AECOM, Inc.

Job Number: 580-15128-1

Matrix Spike - Batch: 580-49269

**Method: NWTPH-Dx
Preparation: 3550B**

Lab Sample ID: 580-15128-1
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 08/30/2009 0103
Date Prepared: 08/27/2009 1626

Analysis Batch: 580-49357
Prep Batch: 580-49269
Units: mg/Kg

Instrument ID: TAC013
Lab File ID: FA39522.D
Initial Weight/Volume: 10.3853 g
Final Weight/Volume: 10 mL
Injection Volume: 1 uL

Analyte	Sample Result/Qual	Spike Amount	Result	% Rec.	Limit	Qual
#2 Diesel (C10-C24)	ND	714	788	110	70 - 125	
Motor Oil (>C24-C36)	ND	714	784	110	64 - 127	
Surrogate	% Rec		Acceptance Limits			
o-Terphenyl	125		50 - 150			

Matrix Spike - Batch: 580-49269

**Method: NWTPH-Dx
Preparation: 3550B**

Lab Sample ID: 580-15128-1
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 09/05/2009 1622
Date Prepared: 08/27/2009 1626

Analysis Batch: 580-49762
Prep Batch: 580-49269
Units: mg/Kg

Instrument ID: TAC013
Lab File ID: FA39712.D
Initial Weight/Volume: 10.3853 g
Final Weight/Volume: 10 mL
Injection Volume: 1 uL

Analyte	Sample Result/Qual	Spike Amount	Result	% Rec.	Limit	Qual
#2 Diesel (C10-C24)	ND	714	742	104	70 - 125	
Motor Oil (>C24-C36)	ND	714	727	102	64 - 127	
Surrogate	% Rec		Acceptance Limits			
o-Terphenyl	122		50 - 150			

Calculations are performed before rounding to avoid round-off errors in calculated results.

Quality Control Results

Client: AECOM, Inc.

Job Number: 580-15128-1

Duplicate - Batch: 580-49269

**Method: NWTPH-Dx
Preparation: 3550B**

Lab Sample ID: 580-15128-1
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 08/30/2009 0128
Date Prepared: 08/27/2009 1626

Analysis Batch: 580-49357
Prep Batch: 580-49269
Units: mg/Kg

Instrument ID: TAC013
Lab File ID: FA39523.D
Initial Weight/Volume: 10.5873 g
Final Weight/Volume: 10 mL
Injection Volume: 1 uL

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
#2 Diesel (C10-C24)	ND	ND	NC	35	
Motor Oil (>C24-C36)	ND	ND	NC	35	
Surrogate	% Rec		Acceptance Limits		
o-Terphenyl	124		50 - 150		

Duplicate - Batch: 580-49269

**Method: NWTPH-Dx
Preparation: 3550B**

Lab Sample ID: 580-15128-13
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 08/30/2009 0517
Date Prepared: 08/27/2009 1626

Analysis Batch: 580-49357
Prep Batch: 580-49269
Units: mg/Kg

Instrument ID: TAC013
Lab File ID: FA39534.D
Initial Weight/Volume: 10.4959 g
Final Weight/Volume: 10 mL
Injection Volume: 1 uL

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
#2 Diesel (C10-C24)	16 J	16.2	2	35	J
Motor Oil (>C24-C36)	100	108	7	35	
Surrogate	% Rec		Acceptance Limits		
o-Terphenyl	111		50 - 150		

Duplicate - Batch: 580-49269

**Method: NWTPH-Dx
Preparation: 3550B**

Lab Sample ID: 580-15128-1
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 09/05/2009 1647
Date Prepared: 08/27/2009 1626

Analysis Batch: 580-49762
Prep Batch: 580-49269
Units: mg/Kg

Instrument ID: TAC013
Lab File ID: FA39713.D
Initial Weight/Volume: 10.5873 g
Final Weight/Volume: 10 mL
Injection Volume: 1 uL

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
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Calculations are performed before rounding to avoid round-off errors in calculated results.

Quality Control Results

Client: AECOM, Inc.

Job Number: 580-15128-1

Duplicate - Batch: 580-49269

**Method: NWTPH-Dx
Preparation: 3550B**

Lab Sample ID: 580-15128-1
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 09/05/2009 1647
Date Prepared: 08/27/2009 1626

Analysis Batch: 580-49762
Prep Batch: 580-49269
Units: mg/Kg

Instrument ID: TAC013
Lab File ID: FA39713.D
Initial Weight/Volume: 10.5873 g
Final Weight/Volume: 10 mL
Injection Volume: 1 uL

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
#2 Diesel (C10-C24)	ND	ND	NC	35	
Motor Oil (>C24-C36)	ND	ND	NC	35	
Surrogate	% Rec		Acceptance Limits		
o-Terphenyl	125		50 - 150		

Duplicate - Batch: 580-49269

**Method: NWTPH-Dx
Preparation: 3550B**

Lab Sample ID: 580-15128-13
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 09/05/2009 2214
Date Prepared: 08/27/2009 1626

Analysis Batch: 580-49762
Prep Batch: 580-49269
Units: mg/Kg

Instrument ID: TAC013
Lab File ID: FA39725.D
Initial Weight/Volume: 10.4959 g
Final Weight/Volume: 10 mL
Injection Volume: 1 uL

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
#2 Diesel (C10-C24)	20 J	20.0	2	35	J
Motor Oil (>C24-C36)	110	150	27	35	
Surrogate	% Rec		Acceptance Limits		
o-Terphenyl	120		50 - 150		

Calculations are performed before rounding to avoid round-off errors in calculated results.

Quality Control Results

Client: AECOM, Inc.

Job Number: 580-15128-1

Method Blank - Batch: 580-49280

Lab Sample ID: MB 580-49280/1-A
 Client Matrix: Solid
 Dilution: 1.0
 Date Analyzed: 09/02/2009 1456
 Date Prepared: 08/28/2009 0842

Analysis Batch: 580-49540
 Prep Batch: 580-49280
 Units: mg/Kg

**Method: NWTPH-Dx
 Preparation: 3550B**

Instrument ID: TAC019
 Lab File ID: GR00121.D
 Initial Weight/Volume: 10 g
 Final Weight/Volume: 10 mL
 Injection Volume: 1 uL

Analyte	Result	Qual	MDL	RL
#2 Diesel (C10-C24)	ND		5.7	25
Motor Oil (>C24-C36)	ND		9.1	50
<hr/>				
Surrogate	% Rec	Acceptance Limits		
o-Terphenyl	88	50 - 150		

Method Blank - Batch: 580-49280

Lab Sample ID: MB 580-49280/1-B
 Client Matrix: Solid
 Dilution: 1.0
 Date Analyzed: 09/04/2009 1948
 Date Prepared: 08/28/2009 0842

Analysis Batch: 580-49741
 Prep Batch: 580-49280
 Units: mg/Kg

**Method: NWTPH-Dx
 Preparation: 3550B**

Instrument ID: TAC019
 Lab File ID: GR00197.D
 Initial Weight/Volume: 10 g
 Final Weight/Volume: 10 mL
 Injection Volume: 1 uL

Analyte	Result	Qual	MDL	RL
#2 Diesel (C10-C24)	ND		5.7	25
Motor Oil (>C24-C36)	23.5	J	9.1	50
<hr/>				
Surrogate	% Rec	Acceptance Limits		
o-Terphenyl	97	50 - 150		

Calculations are performed before rounding to avoid round-off errors in calculated results.

Quality Control Results

Client: AECOM, Inc.

Job Number: 580-15128-1

Lab Control Sample - Batch: 580-49280

**Method: NWTPH-Dx
Preparation: 3550B**

Lab Sample ID: LCS 580-49280/2-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 09/02/2009 1517
Date Prepared: 08/28/2009 0842

Analysis Batch: 580-49540
Prep Batch: 580-49280
Units: mg/Kg

Instrument ID: TAC019
Lab File ID: GR00122.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 10 mL
Injection Volume: 1 uL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
#2 Diesel (C10-C24)	500	439	88	70 - 125	
Motor Oil (>C24-C36)	500	499	100	64 - 127	
Surrogate		% Rec	Acceptance Limits		
o-Terphenyl		86		50 - 150	

Lab Control Sample - Batch: 580-49280

**Method: NWTPH-Dx
Preparation: 3550B**

Lab Sample ID: LCS 580-49280/2-B
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 09/04/2009 2008
Date Prepared: 08/28/2009 0842

Analysis Batch: 580-49741
Prep Batch: 580-49280
Units: mg/Kg

Instrument ID: TAC019
Lab File ID: GR00198.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 10 mL
Injection Volume: 1 uL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
#2 Diesel (C10-C24)	500	508	102	64 - 127	
Motor Oil (>C24-C36)	500	540	108	70 - 125	
Surrogate		% Rec	Acceptance Limits		
o-Terphenyl		106		50 - 150	

Calculations are performed before rounding to avoid round-off errors in calculated results.

Quality Control Results

Client: AECOM, Inc.

Job Number: 580-15128-1

Matrix Spike - Batch: 580-49280

**Method: NWTPH-Dx
Preparation: 3550B**

Lab Sample ID: 580-15128-24
 Client Matrix: Solid
 Dilution: 1.0
 Date Analyzed: 09/02/2009 1603
 Date Prepared: 08/28/2009 0842

Analysis Batch: 580-49540
 Prep Batch: 580-49280
 Units: mg/Kg

Instrument ID: TAC019
 Lab File ID: GR00124.D
 Initial Weight/Volume: 10.0087 g
 Final Weight/Volume: 10 mL
 Injection Volume: 1 uL

Analyte	Sample Result/Qual	Spike Amount	Result	% Rec.	Limit	Qual
#2 Diesel (C10-C24)	35	545	598	103	70 - 125	
Motor Oil (>C24-C36)	46 J	545	630	107	64 - 127	
Surrogate	% Rec		Acceptance Limits			
o-Terphenyl	110			50 - 150		

Calculations are performed before rounding to avoid round-off errors in calculated results.

Quality Control Results

Client: AECOM, Inc.

Job Number: 580-15128-1

Duplicate - Batch: 580-49280

**Method: NWTPH-Dx
Preparation: 3550B**

Lab Sample ID: 580-15128-24
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 09/02/2009 1624
Date Prepared: 08/28/2009 0842

Analysis Batch: 580-49540
Prep Batch: 580-49280
Units: mg/Kg

Instrument ID: TAC019
Lab File ID: GR00125.D
Initial Weight/Volume: 10.3783 g
Final Weight/Volume: 10 mL
Injection Volume: 1 uL

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
#2 Diesel (C10-C24)	35	24.2	36	35	J F
Motor Oil (>C24-C36)	46 J	45.5	2	35	J
Surrogate	% Rec		Acceptance Limits		
o-Terphenyl	105		50 - 150		

Duplicate - Batch: 580-49280

**Method: NWTPH-Dx
Preparation: 3550B**

Lab Sample ID: 580-15145-A-8-D DU
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 09/05/2009 1206
Date Prepared: 08/28/2009 0842

Analysis Batch: 580-49741
Prep Batch: 580-49280
Units: mg/Kg

Instrument ID: TAC019
Lab File ID: GR00209.D
Initial Weight/Volume: 10.3395 g
Final Weight/Volume: 10 mL
Injection Volume: 1 uL

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
#2 Diesel (C10-C24)	7.7 J	ND	NC	35	
Motor Oil (>C24-C36)	14 J	13.4	7	35	J
Surrogate	% Rec		Acceptance Limits		
o-Terphenyl	99		50 - 150		

Calculations are performed before rounding to avoid round-off errors in calculated results.

Quality Control Results

Client: AECOM, Inc.

Job Number: 580-15128-1

Method Blank - Batch: 580-49694

Method: 9060
Preparation: N/A

Lab Sample ID: MB 580-49694/1
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 09/03/2009 0740
Date Prepared: N/A

Analysis Batch: 580-49694
Prep Batch: N/A
Units: mg/Kg

Instrument ID: No Equipment Assigned
Lab File ID: N/A
Initial Weight/Volume: 1.0 mL
Final Weight/Volume: 1.0 mL

Analyte	Result	Qual	MDL	RL
Total Organic Carbon	ND		610	2000

LCS-Standard Reference Material - Batch: 580-49694

Method: 9060
Preparation: N/A

Lab Sample ID: LCSSRM 580-49694/2
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 09/03/2009 0740
Date Prepared: N/A

Analysis Batch: 580-49694
Prep Batch: N/A
Units: mg/Kg

Instrument ID: No Equipment Assigned
Lab File ID: N/A
Initial Weight/Volume: 1.0 mL
Final Weight/Volume: 1.0 mL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Total Organic Carbon	3400	5200	153	12.8 - 187	

Matrix Spike - Batch: 580-49694

Method: 9060
Preparation: N/A

Lab Sample ID: 580-15128-1
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 09/03/2009 0740
Date Prepared: N/A

Analysis Batch: 580-49694
Prep Batch: N/A
Units: mg/Kg

Instrument ID: No Equipment Assigned
Lab File ID: N/A
Initial Weight/Volume: 1.0 mL
Final Weight/Volume: 1.0 mL

Analyte	Sample Result/Qual	Spike Amount	Result	% Rec.	Limit	Qual
Total Organic Carbon	41000	20000	57100	79	76 - 128	

Calculations are performed before rounding to avoid round-off errors in calculated results.

Quality Control Results

Client: AECOM, Inc.

Job Number: 580-15128-1

Duplicate - Batch: 580-49694

Method: 9060
Preparation: N/A

Lab Sample ID: 580-15128-1
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 09/03/2009 0740
Date Prepared: N/A

Analysis Batch: 580-49694
Prep Batch: N/A
Units: mg/Kg

Instrument ID: No Equipment Assigned
Lab File ID: N/A
Initial Weight/Volume: 1.0 mL
Final Weight/Volume: 1.0 mL

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
Total Organic Carbon	41000	37600	9	50	
Total Organic Carbon	41000	39200	5	50	

Calculations are performed before rounding to avoid round-off errors in calculated results.

Quality Control Results

Client: AECOM, Inc.

Job Number: 580-15128-1

Method Blank - Batch: 580-49749

Lab Sample ID: MB 580-49749/1
 Client Matrix: Solid
 Dilution: 1.0
 Date Analyzed: 09/04/2009 1634
 Date Prepared: N/A

Analysis Batch: 580-49749
 Prep Batch: N/A
 Units: mg/Kg

Method: 9060
Preparation: N/A

Instrument ID: No Equipment Assigned
 Lab File ID: N/A
 Initial Weight/Volume: 1.0 mL
 Final Weight/Volume: 1.0 mL

Analyte	Result	Qual	MDL	RL
Total Organic Carbon	ND		610	2000

LCS-Standard Reference Material - Batch: 580-49749

Lab Sample ID: LCSSRM 580-49749/2
 Client Matrix: Solid
 Dilution: 1.0
 Date Analyzed: 09/04/2009 1634
 Date Prepared: N/A

Analysis Batch: 580-49749
 Prep Batch: N/A
 Units: mg/Kg

Method: 9060
Preparation: N/A

Instrument ID: No Equipment Assigned
 Lab File ID: N/A
 Initial Weight/Volume: 1.0 mL
 Final Weight/Volume: 1.0 mL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Total Organic Carbon	3400	6000	176	12.8 - 187	

Matrix Spike - Batch: 580-49749

Lab Sample ID: 580-15069-B-2 MS
 Client Matrix: Solid
 Dilution: 1.0
 Date Analyzed: 09/04/2009 1634
 Date Prepared: N/A

Analysis Batch: 580-49749
 Prep Batch: N/A
 Units: mg/Kg

Method: 9060
Preparation: N/A

Instrument ID: No Equipment Assigned
 Lab File ID: N/A
 Initial Weight/Volume: 1.0 mL
 Final Weight/Volume: 1.0 mL

Analyte	Sample Result/Qual	Spike Amount	Result	% Rec.	Limit	Qual
Total Organic Carbon	24000	20000	44600	104	76 - 128	

Calculations are performed before rounding to avoid round-off errors in calculated results.

Quality Control Results

Client: AECOM, Inc.

Job Number: 580-15128-1

Duplicate - Batch: 580-49749

Lab Sample ID: 580-15069-B-2 DU
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 09/04/2009 1634
Date Prepared: N/A

Analysis Batch: 580-49749
Prep Batch: N/A
Units: mg/Kg

Method: 9060 Preparation: N/A

Instrument ID: No Equipment Assigned
Lab File ID: N/A
Initial Weight/Volume: 1.0 mL
Final Weight/Volume: 1.0 mL

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
Total Organic Carbon	24000	24900	4	50	

Calculations are performed before rounding to avoid round-off errors in calculated results.

Quality Control Results

Client: AECOM, Inc.

Job Number: 580-15128-1

Duplicate - Batch: 580-49281

Method: Moisture
Preparation: N/A

Lab Sample ID: 580-15127-A-3 DU
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 08/28/2009 0849
Date Prepared: N/A

Analysis Batch: 580-49281
Prep Batch: N/A
Units: %

Instrument ID: No Equipment Assigned
Lab File ID: N/A
Initial Weight/Volume:
Final Weight/Volume:

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
Percent Solids	91	92	1	20	
Percent Moisture	8.8	7.9	11	20	

Calculations are performed before rounding to avoid round-off errors in calculated results.

Quality Control Results

Client: AECOM, Inc.

Job Number: 580-15128-1

Duplicate - Batch: 580-49307

Method: Moisture
Preparation: N/A

Lab Sample ID: 580-15128-23
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 08/28/2009 1107
Date Prepared: N/A

Analysis Batch: 580-49307
Prep Batch: N/A
Units: %

Instrument ID: No Equipment Assigned
Lab File ID: N/A
Initial Weight/Volume:
Final Weight/Volume:

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
Percent Solids	94	93	1	20	
Percent Moisture	5.6	6.5	14	20	

Calculations are performed before rounding to avoid round-off errors in calculated results.

DATA REPORTING QUALIFIERS

Client: AECOM, Inc.

Job Number: 580-15128-1

Lab Section	Qualifier	Description
GC Semi VOA		
	B	Compound was found in the blank and sample.
	J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
	X	Surrogate exceeds the control limits

Login Sample Receipt Check List

Client: AECOM, Inc.

Job Number: 580-15128-1

Login Number: 15128
Creator: Gamble, Cathy
List Number: 1

List Source: TestAmerica Tacoma

Question	T / F / NA	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	N/A	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Is the Field Sampler's name present on COC?	True	
Sample Preservation Verified	N/A	

ANALYTICAL REPORT

Job Number: 580-15097-2

Job Description: BNSF Skykomish Diesel

For:
AECOM, Inc.
710 Second Avenue
Suite 1000
Seattle, WA 98104
Attention: Sarah Albano



Approved for release.
Curtis Armstrong
Project Manager I
9/10/2009 5:52 PM

Designee for
Kate Haney
Project Manager II
kate.haney@testamericainc.com
09/10/2009

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This report shall not be reproduced except in full, without prior express written approval by the laboratory. The results relate only to the item(s) tested and the sample(s) as received by the laboratory.

The results included in this report have been reviewed for compliance with the laboratory QA/QC plan and meet all requirements of NELAC. All data have been found to be compliant with laboratory protocol, with the exception of any items noted in the case narrative.

TestAmerica Laboratories, Inc.

TestAmerica Tacoma 5755 8th Street East, Tacoma, WA 98424
Tel (253) 922-2310 Fax (253) 922-5047 www.testamericainc.com



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Job Narrative
580-J15097-2

Comments

No additional comments.

Receipt

All samples were received in good condition within temperature requirements.

General Chemistry

No analytical or quality issues were noted.

Subcontract non-Sister

No analytical or quality issues were noted.

METHOD SUMMARY

Client: AECOM, Inc.

Job Number: 580-15097-2

Description	Lab Location	Method	Preparation Method
Matrix: Solid			
Nitrogen, Ammonia, Distillation	TAL TAC	MCAWW 350.2	
Distillation, Ammonia	TAL TAC		Distill/Ammonia
General Sub Contract Method	TAL NSH	Subcontract	

Lab References:

TAL NSH = TestAmerica Nashville

TAL TAC = TestAmerica Tacoma

Method References:

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

SAMPLE SUMMARY

Client: AECOM, Inc.

Job Number: 580-15097-2

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
580-15097-20	3-B-52 0-2	Solid	08/24/2009 1555	08/25/2009 1250
580-15097-21	3-B-33 0-2	Solid	08/24/2009 1725	08/25/2009 1250

Analytical Data

Client: AECOM, Inc.

Job Number: 580-15097-2

General Chemistry

Client Sample ID: 3-B-52 0-2

Lab Sample ID: 580-15097-20

Date Sampled: 08/24/2009 1555

Client Matrix: Solid

% Moisture: 46.7

Date Received: 08/25/2009 1250

Analyte	Result	Qual	Units	RL	Dil	Method
Ammonia	ND		mg/Kg	110	1.0	350.2
	Analysis Batch: 580-49157	Date Analyzed: 08/26/2009	1534			DryWt Corrected: Y
	Prep Batch: 580-49095	Date Prepared: 08/26/2009	0857			

Analytical Data

Client: AECOM, Inc.

Job Number: 580-15097-2

General Chemistry

Client Sample ID: 3-B-33 0-2

Lab Sample ID: 580-15097-21

Date Sampled: 08/24/2009 1725

Client Matrix: Solid

% Moisture: 55.3

Date Received: 08/25/2009 1250

Analyte	Result	Qual	Units	RL	Dil	Method
Ammonia	ND		mg/Kg	160	1.0	350.2
	Analysis Batch: 580-49157	Date Analyzed: 08/26/2009	1534			DryWt Corrected: Y
	Prep Batch: 580-49095	Date Prepared: 08/26/2009	0857			

Quality Control Results

Client: AECOM, Inc.

Job Number: 580-15097-2

Method Blank - Batch: 580-49095

Lab Sample ID: MB 580-49095/1-A
 Client Matrix: Solid
 Dilution: 1.0
 Date Analyzed: 08/26/2009 1534
 Date Prepared: 08/26/2009 0857

Analysis Batch: 580-49157
 Prep Batch: 580-49095
 Units: mg/Kg

Method: 350.2
Preparation: Distill/Ammonia

Instrument ID: No Equipment Assigned
 Lab File ID: N/A
 Initial Weight/Volume: 1.00 g
 Final Weight/Volume: 250 mL

Analyte	Result	Qual	RL
Ammonia	ND		88

**Lab Control Sample/
 Lab Control Sample Duplicate Recovery Report - Batch: 580-49095**

LCS Lab Sample ID: LCS 580-49095/2-A
 Client Matrix: Solid
 Dilution: 1.0
 Date Analyzed: 08/26/2009 1534
 Date Prepared: 08/26/2009 0857

Analysis Batch: 580-49157
 Prep Batch: 580-49095
 Units: mg/Kg

Method: 350.2
Preparation: Distill/Ammonia

Instrument ID: No Equipment Assigned
 Lab File ID: N/A
 Initial Weight/Volume: 1.00 g
 Final Weight/Volume: 250 mL

LCSD Lab Sample ID: LCSD 580-49095/3-A
 Client Matrix: Solid
 Dilution: 1.0
 Date Analyzed: 08/26/2009 1534
 Date Prepared: 08/26/2009 0857

Analysis Batch: 580-49157
 Prep Batch: 580-49095
 Units: mg/Kg

Instrument ID: No Equipment Assigned
 Lab File ID: N/A
 Initial Weight/Volume: 1.00 g
 Final Weight/Volume: 250 mL

Analyte	<u>% Rec.</u>		Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
	LCS	LCSD					
Ammonia	101	92	90 - 110	10	20		

Calculations are performed before rounding to avoid round-off errors in calculated results.

Quality Control Results

Client: AECOM, Inc.

Job Number: 580-15097-2

**Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 580-49095**

**Method: 350.2
Preparation: Distill/Ammonia**

MS Lab Sample ID: 580-15097-20
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 08/26/2009 1534
Date Prepared: 08/26/2009 0857

Analysis Batch: 580-49157
Prep Batch: 580-49095

Instrument ID: No Equipment Assigned
Lab File ID: N/A
Initial Weight/Volume: 1.30 g
Final Weight/Volume: 250 mL

MSD Lab Sample ID: 580-15097-20
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 08/26/2009 1534
Date Prepared: 08/26/2009 0857

Analysis Batch: 580-49157
Prep Batch: 580-49095

Instrument ID: No Equipment Assigned
Lab File ID: N/A
Initial Weight/Volume: 1.28 g
Final Weight/Volume: 250 mL

Analyte	% Rec.		Limit	RPD	RPD Limit	MS Qual	MSD Qual
	MS	MSD					
Ammonia	70	80	90 - 110	15	20	F	F

Duplicate - Batch: 580-49095

**Method: 350.2
Preparation: Distill/Ammonia**

Lab Sample ID: 580-15097-20
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 08/26/2009 1534
Date Prepared: 08/26/2009 0857

Analysis Batch: 580-49157
Prep Batch: 580-49095
Units: mg/Kg

Instrument ID: No Equipment Assigned
Lab File ID: N/A
Initial Weight/Volume: 1.73 g
Final Weight/Volume: 250 mL

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
Ammonia	ND	ND	NC	20	

Calculations are performed before rounding to avoid round-off errors in calculated results.

September 03, 2009 12:09:31PM

Client: TestAmerica Tacoma
5755 8th Street East
Tacoma, WA 98424
Attn: Kate Haney

Work Order: NSH2373
Project Name: TA-Tacoma: BNSF-Skyomish Diesel
Project Nbr: 580-15097-2
P/O Nbr:
Date Received: 08/27/09

SAMPLE IDENTIFICATION	LAB NUMBER	COLLECTION DATE AND TIME
3-B-52 0-2	NSH2373-01	08/24/09 15:55
3-B-33 0-2	NSH2373-02	08/24/09 17:25

An executed copy of the chain of custody, the project quality control data, and the sample receipt form are also included as an addendum to this report. If you have any questions relating to this analytical report, please contact your Laboratory Project Manager at 1-800-765-0980. Any opinions, if expressed, are outside the scope of the Laboratory's accreditation.

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Washington Certification Number: C1712

The Chain(s) of Custody, 2 pages, are included and are an integral part of this report.

These results relate only to the items tested. This report shall not be reproduced except in full and with permission of the laboratory.

All solids results are reported in wet weight unless specifically stated.

Estimated uncertainty is available upon request.

This report has been electronically signed.

Report Approved By:



Debbie LaValle

Project Manager

Client TestAmerica Tacoma
 5755 8th Street East
 Tacoma, WA 98424
 Attn Kate Haney

Work Order: NSH2373
 Project Name: TA-Tacoma: BNSF-Skyomish Diesel
 Project Number: 580-15097-2
 Received: 08/27/09 08:00

ANALYTICAL REPORT

Analyte	Result	Flag	Units	MRL	Dilution Factor	Analysis Date/Time	Method	Batch
Sample ID: NSH2373-01 (3-B-52 0-2 - Soil) Sampled: 08/24/09 15:55								
General Chemistry Parameters								
% Dry Solids	55.0		%	0.500	1	09/03/09 10:50	SW-846	9090277
Sulfide	ND		mg/kg dry	36.4	1	08/30/09 16:22	W846 9030B/903	9084809
Sample ID: NSH2373-02 (3-B-33 0-2 - Soil) Sampled: 08/24/09 17:25								
General Chemistry Parameters								
% Dry Solids	45.9		%	0.500	1	09/03/09 10:50	SW-846	9090277
Sulfide	ND		mg/kg dry	43.6	1	08/30/09 16:22	W846 9030B/903	9084809

Client TestAmerica Tacoma
5755 8th Street East
Tacoma, WA 98424
Attn Kate Haney

Work Order: NSH2373
Project Name: TA-Tacoma: BNSF-Skyomish Diesel
Project Number: 580-15097-2
Received: 08/27/09 08:00

PROJECT QUALITY CONTROL DATA
Blank

Analyte	Blank Value	Q	Units	Q.C. Batch	Lab Number	Analyzed Date/Time
General Chemistry Parameters						
9084809-BLK1						
Sulfide	<5.00		mg/kg wet	9084809	9084809-BLK1	08/30/09 16:22

Client TestAmerica Tacoma
 5755 8th Street East
 Tacoma, WA 98424
 Attn Kate Haney

Work Order: NSH2373
 Project Name: TA-Tacoma: BNSF-Skyomish Diesel
 Project Number: 580-15097-2
 Received: 08/27/09 08:00

PROJECT QUALITY CONTROL DATA
Duplicate

Analyte	Orig. Val.	Duplicate	Q	Units	RPD	Limit	Batch	Sample Duplicated	% Rec.	Analyzed Date/Time
General Chemistry Parameters										
9084809-DUP1										
Sulfide	ND	17.4		mg/kg dry		12	9084809	NSH2373-02		08/30/09 16:22
9090277-DUP1										
% Dry Solids	83.2	83.7		%	0.6	20	9090277	NSH1987-01		09/03/09 10:50

Client TestAmerica Tacoma
5755 8th Street East
Tacoma, WA 98424
Attn Kate Haney

Work Order: NSH2373
Project Name: TA-Tacoma: BNSF-Skyomish Diesel
Project Number: 580-15097-2
Received: 08/27/09 08:00

PROJECT QUALITY CONTROL DATA
LCS

Analyte	Known Val.	Analyzed Val	Q	Units	% Rec.	Target Range	Batch	Analyzed Date/Time
General Chemistry Parameters								
9084809-BS1								
Sulfide	200	167		mg/kg wet	84%	80 - 120	9084809	08/30/09 16:22

Client TestAmerica Tacoma
 5755 8th Street East
 Tacoma, WA 98424
 Attn Kate Haney

Work Order: NSH2373
 Project Name: TA-Tacoma: BNSF-Skyomish Diesel
 Project Number: 580-15097-2
 Received: 08/27/09 08:00

PROJECT QUALITY CONTROL DATA

LCS Dup

Analyte	Orig. Val.	Duplicate	Q	Units	Spike Conc	% Rec.	Target Range	RPD	Limit	Batch	Sample Duplicated	Analyzed Date/Time
General Chemistry Parameters												
9084809-BSD1												
Sulfide		168		mg/kg wet	200	84%	80 - 120	0.6	12	9084809		08/30/09 16:22

Client TestAmerica Tacoma
 5755 8th Street East
 Tacoma, WA 98424
 Attn Kate Haney

Work Order: NSH2373
 Project Name: TA-Tacoma: BNSF-Skyomish Diesel
 Project Number: 580-15097-2
 Received: 08/27/09 08:00

PROJECT QUALITY CONTROL DATA
Matrix Spike

Analyte	Orig. Val.	MS Val	Q	Units	Spike Conc	% Rec.	Target Range	Batch	Sample Spiked	Analyzed Date/Time
General Chemistry Parameters										
9084809-MS1										
Sulfide	ND	109	M2	mg/kg dry	213	51%	70 - 130	9084809	NSH2433-01	08/30/09 16:22

Client TestAmerica Tacoma
 5755 8th Street East
 Tacoma, WA 98424
 Attn Kate Haney

Work Order: NSH2373
 Project Name: TA-Tacoma: BNSF-Skyomish Diesel
 Project Number: 580-15097-2
 Received: 08/27/09 08:00

PROJECT QUALITY CONTROL DATA

Matrix Spike Dup

Analyte	Orig. Val.	Duplicate	Q	Units	Spike Conc	% Rec.	Target Range	RPD	Limit	Batch	Sample Duplicated	Analyzed Date/Time
General Chemistry Parameters												
9084809-MSD1												
Sulfide	ND	106	M2	mg/kg dry	213	50%	70 - 130	2	12	9084809	NSH2433-01	08/30/09 16:22

Client TestAmerica Tacoma
5755 8th Street East
Tacoma, WA 98424
Attn Kate Haney

Work Order: NSH2373
Project Name: TA-Tacoma: BNSF-Skyomish Diesel
Project Number: 580-15097-2
Received: 08/27/09 08:00

CERTIFICATION SUMMARY

TestAmerica Nashville

Method	Matrix	AIHA	Nelac	Washington
SW846 9030B/9034	Soil	N/A	X	X
SW-846	Soil			

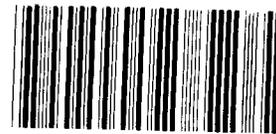
Client TestAmerica Tacoma
5755 8th Street East
Tacoma, WA 98424
Attn Kate Haney

Work Order: NSH2373
Project Name: TA-Tacoma: BNSF-Skyomish Diesel
Project Number: 580-15097-2
Received: 08/27/09 08:00

DATA QUALIFIERS AND DEFINITIONS

M2 The MS and/or MSD were below the acceptance limits due to sample matrix interference. See Blank Spike (LCS).
ND Not detected at the reporting limit (or method detection limit if shown)

METHOD MODIFICATION NOTES



NSH23/3

Cooler Received, dated On 9/22/09

1. Tracking # 401 (last 4 digits, FedEx)

Carrier FedEx Account # 3400220

2. Temperature of rep. sample or temp blank when opened: 4.1 Degrees Celsius

3. If Item #2 temperature is 0°C or less, was the representative sample or temp blank frozen? YES NO NA

4. Were custody seals on outside of cooler? YES NO...NA
If yes, how many and where: (1) Front

5. Were the seals intact, signed, and dated correctly? YES..NO...NA

6. Were custody papers inside cooler? YES..NO...NA

I certify that I opened the cooler and answered questions 1-6 (initial) W

7. Were custody seals on containers: YES NO and Intact YES...NO...NA
Were these signed and dated correctly? YES...NO...NA

8. Packing mat'l used? Bubblewrap Plastic bag Peanuts Vermiculite Foam Insert Paper Other None

9. Cooling process: Ice Ice-pack Ice (direct contact) Dry ice Other None

10. Did all containers arrive in good condition (unbroken)? YES..NO...NA

11. Were all container labels complete (#, date, signed, pres., etc)? YES..NO...NA

12. Did all container labels and tags agree with custody papers? YES..NO...NA

13a. Were VOA vials received? YES...NO...NA
b. Was there any observable headspace present in any VOA vial? YES...NO...NA

14. Was there a Trip Blank in this cooler? YES...NO...NA If multiple coolers, sequence # _____

I certify that I unloaded the cooler and answered questions 7-14 (initial) _____

15a. On pres'd bottles, did pH test strips suggest preservation reached the correct pH level? YES..NO...NA

b. Did the bottle labels indicate that the correct preservatives were used YES...NO...NA

16. Was residual chlorine present? YES...NO...NA

I certify that I checked for chlorine and pH as per SOP and answered questions 15-16 (initial) _____

17. Were custody papers properly filled out (ink, signed, etc)? YES..NO...NA

18. Did you sign the custody papers in the appropriate place? YES..NO...NA

19. Were correct containers used for the analysis requested? YES..NO...NA

20. Was sufficient amount of sample sent in each container? YES..NO...NA

I certify that I entered this project into LIMS and answered questions 17-20 (initial) _____

I certify that I attached a label with the unique LIMS number to each container (initial) _____

21. Were there Non-Conformance issues at login? YES...NO Was a PIPE generated? YES...NO...# _____

Chain of Custody Record

TestAmerica Tacoma

5755 8th Street East
Tacoma, WA 98424

Phone (253) 922-2310 Fax (253) 922-5047

Client Information (Sub Contract Lab)

Client Contact:
Shipping/Receiving

Company:
TestAmerica Laboratories, Inc

Address:
2960 Foster Creighton Drive,

City:
Nashville

State/Zip
TN, 37204

Phone:
800-765-0980(Tel) 615-726-0954(Fax)

Email:

Project Name:
BNSF Skykomish Diesel

Site:

Sampler:
Haney, Kate

Lab PM
Haney, Kate

E-Mail:
kate.haney@testamericainc.com

Carrier Tracking No(s):
580-2190.1

Page:
Page 1 of 1

Job #:
580-15097-2

Analysis Requested

Preservation Codes:

- M - Hexane
- A - HCL
- N - None
- O - AsNaO2
- C - Zn Acetate
- D - Nitric Acid
- E - NaHSO4
- F - MeOH
- G - Amchlor
- H - Ascorbic Acid
- I - Ice
- J - Di Water
- K - EDTA
- L - EDA
- Other:
- P - Na2O4S
- Q - Na2SO3
- R - Na2S2O3
- S - H2SO4
- T - TSP Dodecylhydrate
- U - Acetone
- V - MCAA
- W - ph 4-5
- Z - other (specify)

Field Filtered Sample (Yes or No)

Perform MS/MSD (Yes or No)

SUBCONTRACT/ 9034 Sulfide total

Total Number of containers

Special Instructions/Note:

Sample Identification - Client ID	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=wasteoil, BT=TISSUE, A=air)	Preservation Code:
3-B-52 0-2	8/24/09	15:55	Solid	Solid	
3-B-33 0-2	8/24/09	17:25	Solid	Solid	

NSH2373
09/03/09 23:59

Possible Hazard Identification

Non-Hazard Flammable Skin Irritant Poison B Unknown Radiological

Deliverable Requested: I, II, III, IV, Other (specify)

Empty Kit Relinquished by:

Relinquished by: *Calley Campbell*

Relinquished by:

Relinquished by:

Custody Seals Intact:
 Yes No

Custody Seal No.:

Date/Time: 8/24/09

Date/Time: 8/24/09

Date/Time: 8/24/09

Company: *TA Tac*

Company: *TA Tac*

Company: *TA Tac*

Date/Time: 8/27/09

Date/Time: 8/27/09

Date/Time: 8/27/09

Company: *TA Nashville*

Company: *TA Nashville*

Company: *TA Nashville*

Cooler Temperature(s) °C and Other Remarks: 4.1 °C

LAB WORK ORDER: 15097

LABORATORY INFORMATION
 Project Manager: **Kabe Hanna**
 Phone: **206.392.2310**
 Fax: **253.922.5047**
 Address: **Test America**
5755 8th Street E
Tacoma, WA 98424
 City/State/Zip: **Washington Skykomish**

SHIPMENT INFORMATION
 Shipment Method: **Courier**
 Tracking Number:
 Project Number: **01140-284-0270**
 Project Manager: **Sarah Albano**
 Email: **Sarah.Albano@ae.com**
 Phone: **206.634.7349** Fax: **206.633.3793**

CONSULTANT INFORMATION
 Company: **AECOM**
 Address: **7102nd Ave Ste 1000**
 City/State/Zip: **Seattle, WA 98104**

CHAIN OF CUSTODY
 BNSF Project Number:
 BNSF Project Name: **Stuykomish**
 BNSF Contact: **Bruce Sheppard**
 Project State of Origin: **Washington**
 Project City: **Skykomish**

DELIVERABLES
 BNSF Standard (Level II)
 Level III
 Level IV
 Other Deliverables?
TURNAROUND TIME
 1-day Rush
 2-day Rush
 3-day Rush
 5- to 8-day Rush
 Standard 10-Day
 Other

Sample Identification	Containers	Sample Collection		Filtered Y/N	Type (Comp/Grab)	Matrix	METHODS FOR ANALYSIS		COMMENTS	LAB USE
		Date	Time				Sampler	TOC		
3-B-52 4-6	4	8/24/09	1645	N	G	SO	X	X		16
3-B-33 0-2	4	8/24/09	1740	N	G	SO	X	X		17
3-B-33 2-4	2	8/24/09	1745	N	G	SO	X	X		18
3-B-33 4-6	2	8/24/09	1800	N	G	SO	X	X		19
3-B-52 0-2	1	8/24/09	1555	N	G	SO			Standard NAT	20
3-B-33 0-2	1	8/24/09	1735	N	C	SO			Standard NAT	21
1B-B-31 8	1	8/21/09	1120	N	G	SO	X			22
1B-B-31 8 (DUP)	1	8/21/09	1120	N	G	SO	X			23
1B-B-31 4,1	1	8/20/09	1530	N	G	SO	X			24
1B-B-31 10	1	8/20/09	1610	N	G	SO	X			25
<p>RECEIVED BY: <i>Re Kault</i> Date/Time: 8/25/09 1100 RECEIVED BY: <i>Khauley</i> Date/Time: 8/25/09 1250 RECEIVED BY: Date/Time: RECEIVED BY: Date/Time:</p>										

Comments and Special Analytical Requirements:
 @ Lab 1250 Temp 8.9 TB 8.9
 Cooler Dsc Blue/Int/Vet/Packs
 Packing Bubble

REINQUISHED BY: **Date/Time:**
REINQUISHED BY: **Date/Time:**
RECEIVED BY: **Date/Time:**

ORIGINAL - RETURN TO LABORATORY WITH SAMPLES
 DUPLICATE - CONSULTANT

Login Sample Receipt Check List

Client: AECOM, Inc.

Job Number: 580-15097-2

Login Number: 15097

List Source: TestAmerica Tacoma

Creator: Presley, Kim

List Number: 1

Question	T / F / NA	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	N/A	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Is the Field Sampler's name present on COC?	True	
Sample Preservation Verified	N/A	

ANALYTICAL REPORT

Job Number: 580-15145-1

Job Description: BNSF Skykomish Diesel

For:
AECOM, Inc.
710 Second Avenue
Suite 1000
Seattle, WA 98104
Attention: Sarah Albano



Approved for release.
Curtis Armstrong
Project Manager I
9/10/2009 5:19 PM

Designee for
Kate Haney
Project Manager II
kate.haney@testamericainc.com
09/10/2009

TestAmerica Tacoma is a part of TestAmerica Laboratories, Inc.

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This report shall not be reproduced except in full, without prior express written approval by the laboratory. The results relate only to the item(s) tested and the sample(s) as received by the laboratory.

The results included in this report have been reviewed for compliance with the laboratory QA/QC plan and meet all requirements of NELAC. All data have been found to be compliant with laboratory protocol, with the exception of any items noted in the case narrative.

TestAmerica Laboratories, Inc.

TestAmerica Tacoma 5755 8th Street East, Tacoma, WA 98424
Tel (253) 922-2310 Fax (253) 922-5047 www.testamericainc.com



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Job Narrative
580-J15145-1

Comments

No additional comments.

Receipt

All samples were received in good condition within temperature requirements.

GC Semi VOA

No analytical or quality issues were noted.

General Chemistry

No analytical or quality issues were noted.

Organic Prep

No analytical or quality issues were noted.

METHOD SUMMARY

Client: AECOM, Inc.

Job Number: 580-15145-1

Description	Lab Location	Method	Preparation Method
Matrix Solid			
Northwest - Semi-Volatile Petroleum Products (GC)	TAL TAC	NWTPH NWTPH-Dx	
Semi-Volatile Petroleum Products by NWTPH with Silica Gel Cleanup	TAL TAC	NWTPH NWTPH-Dx	
Ultrasonic Extraction	TAL TAC		SW846 3550B
Ultrasonic Extraction	TAL TAC		SW846 3550B
Silica Gel Cleanup	TAL TAC		SW846 3630C
Organic Carbon, Total (TOC)	TAL TAC	SW846 9060	
Percent Moisture	TAL TAC	EPA Moisture	

Lab References:

TAL TAC = TestAmerica Tacoma

Method References:

EPA = US Environmental Protection Agency

NWTPH = Northwest Total Petroleum Hydrocarbon

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

SAMPLE SUMMARY

Client: AECOM, Inc.

Job Number: 580-15145-1

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
580-15145-1	3-B-36 0-2	Solid	08/26/2009 0725	08/27/2009 1000
580-15145-2	3-B-36 2-4	Solid	08/26/2009 0730	08/27/2009 1000
580-15145-3	3-B-36 5.25-5.75	Solid	08/26/2009 0755	08/27/2009 1000
580-15145-4	3-B-36 10-12	Solid	08/26/2009 0715	08/27/2009 1000
580-15145-5	3-B-48 0-2	Solid	08/26/2009 0835	08/27/2009 1000
580-15145-6	3-B-48 2-4	Solid	08/26/2009 0900	08/27/2009 1000
580-15145-7	3-B-48 4-5.5	Solid	08/26/2009 0905	08/27/2009 1000
580-15145-8	3-B-48 14-15.5	Solid	08/26/2009 0855	08/27/2009 1000
580-15145-9	3-B-48 0-2	Solid	08/26/2009 0925	08/27/2009 1000
580-15145-10	3-B-46 0-2	Solid	08/26/2009 1000	08/27/2009 1000
580-15145-11	3-B-46 2-4	Solid	08/26/2009 1010	08/27/2009 1000
580-15145-12	3-B-46 4-6	Solid	08/26/2009 1025	08/27/2009 1000
580-15145-13	3-B-47 0-2	Solid	08/26/2009 1105	08/27/2009 1000
580-15145-14	1B-B-30A 9	Solid	08/26/2009 1100	08/27/2009 1000
580-15145-15	3-B-46 10-12	Solid	08/26/2009 0945	08/27/2009 1000

Analytical Data

Client: AECOM, Inc.

Job Number: 580-15145-1

Client Sample ID: 3-B-36 0-2

Lab Sample ID: 580-15145-1

Date Sampled: 08/26/2009 0725

Client Matrix: Solid

% Moisture: 33.6

Date Received: 08/27/2009 1000

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method:	NWTPH-Dx	Analysis Batch: 580-49540	Instrument ID:	TAC019
Preparation:	3550B	Prep Batch: 580-49280	Lab File ID:	GR00130.D
Dilution:	1.0		Initial Weight/Volume:	10.7055 g
Date Analyzed:	09/02/2009 1812		Final Weight/Volume:	10 mL
Date Prepared:	08/28/2009 0842		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
#2 Diesel (C10-C24)		9.2	J	8.0	35
Motor Oil (>C24-C36)		42	J	13	70

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	100		50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-15145-1

Client Sample ID: 3-B-36 0-2

Lab Sample ID: 580-15145-1

Date Sampled: 08/26/2009 0725

Client Matrix: Solid

% Moisture: 33.6

Date Received: 08/27/2009 1000

NWTPH-Dx Semi-Volatile Petroleum Products by NWTPH with Silica Gel Cleanup

Method:	NWTPH-Dx	Analysis Batch: 580-49741	Instrument ID:	TAC019
Preparation:	3550B	Prep Batch: 580-49280	Lab File ID:	GR00202.D
Dilution:	1.0		Initial Weight/Volume:	10.7055 g
Date Analyzed:	09/04/2009 2138		Final Weight/Volume:	10 mL
Date Prepared:	08/28/2009 0842		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
#2 Diesel (C10-C24)		8.9	J	8.0	35
Motor Oil (>C24-C36)		37	J	13	70

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	90		50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-15145-1

Client Sample ID: 3-B-36 2-4

Lab Sample ID: 580-15145-2

Date Sampled: 08/26/2009 0730

Client Matrix: Solid

% Moisture: 28.8

Date Received: 08/27/2009 1000

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method:	NWTPH-Dx	Analysis Batch: 580-49540	Instrument ID:	TAC019
Preparation:	3550B	Prep Batch: 580-49280	Lab File ID:	GR00131.D
Dilution:	1.0		Initial Weight/Volume:	10.0945 g
Date Analyzed:	09/03/2009 0659		Final Weight/Volume:	10 mL
Date Prepared:	08/28/2009 0842		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
#2 Diesel (C10-C24)		52		7.9	35
Motor Oil (>C24-C36)		83		13	70

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	101		50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-15145-1

Client Sample ID: 3-B-36 2-4

Lab Sample ID: 580-15145-2

Date Sampled: 08/26/2009 0730

Client Matrix: Solid

% Moisture: 28.8

Date Received: 08/27/2009 1000

NWTPH-Dx Semi-Volatile Petroleum Products by NWTPH with Silica Gel Cleanup

Method:	NWTPH-Dx	Analysis Batch: 580-49741	Instrument ID:	TAC019
Preparation:	3550B	Prep Batch: 580-49280	Lab File ID:	GR00203.D
Dilution:	1.0		Initial Weight/Volume:	10.0945 g
Date Analyzed:	09/04/2009 2159		Final Weight/Volume:	10 mL
Date Prepared:	08/28/2009 0842		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
#2 Diesel (C10-C24)		ND		7.9	35
Motor Oil (>C24-C36)		20	J	13	70

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	99		50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-15145-1

Client Sample ID: 3-B-36 5.25-5.75

Lab Sample ID: 580-15145-3

Date Sampled: 08/26/2009 0755

Client Matrix: Solid

% Moisture: 19.2

Date Received: 08/27/2009 1000

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method:	NWTPH-Dx	Analysis Batch: 580-49540	Instrument ID:	TAC019
Preparation:	3550B	Prep Batch: 580-49280	Lab File ID:	GR00132.D
Dilution:	1.0		Initial Weight/Volume:	10.7518 g
Date Analyzed:	09/03/2009 0720		Final Weight/Volume:	10 mL
Date Prepared:	08/28/2009 0842		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
#2 Diesel (C10-C24)		ND		6.6	29
Motor Oil (>C24-C36)		24	J	10	58

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	95		50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-15145-1

Client Sample ID: 3-B-36 5.25-5.75

Lab Sample ID: 580-15145-3

Date Sampled: 08/26/2009 0755

Client Matrix: Solid

% Moisture: 19.2

Date Received: 08/27/2009 1000

NWTPH-Dx Semi-Volatile Petroleum Products by NWTPH with Silica Gel Cleanup

Method:	NWTPH-Dx	Analysis Batch: 580-49741	Instrument ID:	TAC019
Preparation:	3550B	Prep Batch: 580-49280	Lab File ID:	GR00204.D
Dilution:	1.0		Initial Weight/Volume:	10.7518 g
Date Analyzed:	09/05/2009 1022		Final Weight/Volume:	10 mL
Date Prepared:	08/28/2009 0842		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
#2 Diesel (C10-C24)		18	J	6.6	29
Motor Oil (>C24-C36)		11	J	10	58

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	63		50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-15145-1

Client Sample ID: 3-B-36 10-12

Lab Sample ID: 580-15145-4

Date Sampled: 08/26/2009 0715

Client Matrix: Solid

% Moisture: 33.6

Date Received: 08/27/2009 1000

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method:	NWTPH-Dx	Analysis Batch: 580-49540	Instrument ID:	TAC019
Preparation:	3550B	Prep Batch: 580-49280	Lab File ID:	GR00133.D
Dilution:	1.0		Initial Weight/Volume:	10.4958 g
Date Analyzed:	09/03/2009 0740		Final Weight/Volume:	10 mL
Date Prepared:	08/28/2009 0842		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
#2 Diesel (C10-C24)		100		8.2	36
Motor Oil (>C24-C36)		700		13	72

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	98		50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-15145-1

Client Sample ID: 3-B-36 10-12

Lab Sample ID: 580-15145-4

Date Sampled: 08/26/2009 0715

Client Matrix: Solid

% Moisture: 33.6

Date Received: 08/27/2009 1000

NWTPH-Dx Semi-Volatile Petroleum Products by NWTPH with Silica Gel Cleanup

Method:	NWTPH-Dx	Analysis Batch: 580-49741	Instrument ID:	TAC019
Preparation:	3550B	Prep Batch: 580-49280	Lab File ID:	GR00205.D
Dilution:	1.0		Initial Weight/Volume:	10.4958 g
Date Analyzed:	09/05/2009 1043		Final Weight/Volume:	10 mL
Date Prepared:	08/28/2009 0842		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
#2 Diesel (C10-C24)		77		8.2	36
Motor Oil (>C24-C36)		410		13	72

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	95		50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-15145-1

Client Sample ID: 3-B-48 2-4

Lab Sample ID: 580-15145-6

Date Sampled: 08/26/2009 0900

Client Matrix: Solid

% Moisture: 35.2

Date Received: 08/27/2009 1000

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method:	NWTPH-Dx	Analysis Batch: 580-49540	Instrument ID:	TAC019
Preparation:	3550B	Prep Batch: 580-49280	Lab File ID:	GR00136.D
Dilution:	1.0		Initial Weight/Volume:	10.6482 g
Date Analyzed:	09/03/2009 0848		Final Weight/Volume:	10 mL
Date Prepared:	08/28/2009 0842		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
#2 Diesel (C10-C24)		12	J	8.3	36
Motor Oil (>C24-C36)		32	J	13	72

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	117		50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-15145-1

Client Sample ID: 3-B-48 2-4

Lab Sample ID: 580-15145-6

Date Sampled: 08/26/2009 0900

Client Matrix: Solid

% Moisture: 35.2

Date Received: 08/27/2009 1000

NWTPH-Dx Semi-Volatile Petroleum Products by NWTPH with Silica Gel Cleanup

Method:	NWTPH-Dx	Analysis Batch: 580-49741	Instrument ID:	TAC019
Preparation:	3550B	Prep Batch: 580-49280	Lab File ID:	GR00206.D
Dilution:	1.0		Initial Weight/Volume:	10.6482 g
Date Analyzed:	09/05/2009 1103		Final Weight/Volume:	10 mL
Date Prepared:	08/28/2009 0842		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
#2 Diesel (C10-C24)		ND		8.3	36
Motor Oil (>C24-C36)		31	J	13	72

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	101		50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-15145-1

Client Sample ID: 3-B-48 4-5.5

Lab Sample ID: 580-15145-7

Date Sampled: 08/26/2009 0905

Client Matrix: Solid

% Moisture: 21.9

Date Received: 08/27/2009 1000

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method:	NWTPH-Dx	Analysis Batch: 580-49540	Instrument ID:	TAC019
Preparation:	3550B	Prep Batch: 580-49280	Lab File ID:	GR00139.D
Dilution:	1.0		Initial Weight/Volume:	10.4265 g
Date Analyzed:	09/03/2009 1122		Final Weight/Volume:	10 mL
Date Prepared:	08/28/2009 0842		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
#2 Diesel (C10-C24)		ND		7.0	31
Motor Oil (>C24-C36)		12	J	11	61

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	114		50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-15145-1

Client Sample ID: 3-B-48 4-5.5

Lab Sample ID: 580-15145-7

Date Sampled: 08/26/2009 0905

Client Matrix: Solid

% Moisture: 21.9

Date Received: 08/27/2009 1000

NWTPH-Dx Semi-Volatile Petroleum Products by NWTPH with Silica Gel Cleanup

Method:	NWTPH-Dx	Analysis Batch: 580-49741	Instrument ID:	TAC019
Preparation:	3550B	Prep Batch: 580-49280	Lab File ID:	GR00207.D
Dilution:	1.0		Initial Weight/Volume:	10.4265 g
Date Analyzed:	09/05/2009 1124		Final Weight/Volume:	10 mL
Date Prepared:	08/28/2009 0842		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
#2 Diesel (C10-C24)		ND		7.0	31
Motor Oil (>C24-C36)		16	J	11	61

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	94		50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-15145-1

Client Sample ID: 3-B-48 14-15.5

Lab Sample ID: 580-15145-8

Date Sampled: 08/26/2009 0855

Client Matrix: Solid

% Moisture: 20.2

Date Received: 08/27/2009 1000

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method:	NWTPH-Dx	Analysis Batch: 580-49540	Instrument ID:	TAC019
Preparation:	3550B	Prep Batch: 580-49280	Lab File ID:	GR00140.D
Dilution:	1.0		Initial Weight/Volume:	10.5015 g
Date Analyzed:	09/03/2009 1143		Final Weight/Volume:	10 mL
Date Prepared:	08/28/2009 0842		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
#2 Diesel (C10-C24)		ND		6.8	30
Motor Oil (>C24-C36)		17	J	11	60

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	115		50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-15145-1

Client Sample ID: 3-B-48 14-15.5

Lab Sample ID: 580-15145-8

Date Sampled: 08/26/2009 0855

Client Matrix: Solid

% Moisture: 20.2

Date Received: 08/27/2009 1000

NWTPH-Dx Semi-Volatile Petroleum Products by NWTPH with Silica Gel Cleanup

Method:	NWTPH-Dx	Analysis Batch: 580-49741	Instrument ID:	TAC019
Preparation:	3550B	Prep Batch: 580-49280	Lab File ID:	GR00208.D
Dilution:	1.0		Initial Weight/Volume:	10.5015 g
Date Analyzed:	09/05/2009 1145		Final Weight/Volume:	10 mL
Date Prepared:	08/28/2009 0842		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
#2 Diesel (C10-C24)		7.7	J	6.8	30
Motor Oil (>C24-C36)		14	J	11	60

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	91		50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-15145-1

Client Sample ID: 3-B-48 0-2

Lab Sample ID: 580-15145-9

Date Sampled: 08/26/2009 0925

Client Matrix: Solid

% Moisture: 36.2

Date Received: 08/27/2009 1000

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method:	NWTPH-Dx	Analysis Batch: 580-49540	Instrument ID:	TAC019
Preparation:	3550B	Prep Batch: 580-49280	Lab File ID:	GR00142.D
Dilution:	1.0		Initial Weight/Volume:	10.9055 g
Date Analyzed:	09/03/2009 1224		Final Weight/Volume:	10 mL
Date Prepared:	08/28/2009 0842		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
#2 Diesel (C10-C24)		ND		8.2	36
Motor Oil (>C24-C36)		32	J	13	72

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	96		50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-15145-1

Client Sample ID: 3-B-48 0-2

Lab Sample ID: 580-15145-9

Date Sampled: 08/26/2009 0925

Client Matrix: Solid

% Moisture: 36.2

Date Received: 08/27/2009 1000

NWTPH-Dx Semi-Volatile Petroleum Products by NWTPH with Silica Gel Cleanup

Method:	NWTPH-Dx	Analysis Batch: 580-49741	Instrument ID:	TAC019
Preparation:	3550B	Prep Batch: 580-49280	Lab File ID:	GR00210.D
Dilution:	1.0		Initial Weight/Volume:	10.9055 g
Date Analyzed:	09/05/2009 1227		Final Weight/Volume:	10 mL
Date Prepared:	08/28/2009 0842		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
#2 Diesel (C10-C24)		9.7	J	8.2	36
Motor Oil (>C24-C36)		21	J	13	72

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	84		50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-15145-1

Client Sample ID: 3-B-46 0-2

Lab Sample ID: 580-15145-10

Date Sampled: 08/26/2009 1000

Client Matrix: Solid

% Moisture: 39.7

Date Received: 08/27/2009 1000

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method:	NWTPH-Dx	Analysis Batch: 580-49540	Instrument ID:	TAC019
Preparation:	3550B	Prep Batch: 580-49280	Lab File ID:	GR00143.D
Dilution:	1.0		Initial Weight/Volume:	10.3867 g
Date Analyzed:	09/03/2009 1245		Final Weight/Volume:	10 mL
Date Prepared:	08/28/2009 0842		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
#2 Diesel (C10-C24)		34	J	9.1	40
Motor Oil (>C24-C36)		300		15	80

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	195	X	50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-15145-1

Client Sample ID: 3-B-46 0-2

Lab Sample ID: 580-15145-10

Date Sampled: 08/26/2009 1000

Client Matrix: Solid

% Moisture: 39.7

Date Received: 08/27/2009 1000

NWTPH-Dx Semi-Volatile Petroleum Products by NWTPH with Silica Gel Cleanup

Method:	NWTPH-Dx	Analysis Batch: 580-49741	Instrument ID:	TAC019
Preparation:	3550B	Prep Batch: 580-49280	Lab File ID:	GR00211.D
Dilution:	1.0		Initial Weight/Volume:	10.3867 g
Date Analyzed:	09/05/2009 1248		Final Weight/Volume:	10 mL
Date Prepared:	08/28/2009 0842		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
#2 Diesel (C10-C24)		17	J	9.1	40
Motor Oil (>C24-C36)		94		15	80

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	91		50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-15145-1

Client Sample ID: 3-B-46 2-4

Lab Sample ID: 580-15145-11

Date Sampled: 08/26/2009 1010

Client Matrix: Solid

% Moisture: 35.0

Date Received: 08/27/2009 1000

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method:	NWTPH-Dx	Analysis Batch: 580-49540	Instrument ID:	TAC019
Preparation:	3550B	Prep Batch: 580-49280	Lab File ID:	GR00144.D
Dilution:	1.0		Initial Weight/Volume:	10.2428 g
Date Analyzed:	09/03/2009 1305		Final Weight/Volume:	10 mL
Date Prepared:	08/28/2009 0842		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
#2 Diesel (C10-C24)		ND		8.6	38
Motor Oil (>C24-C36)		32	J	14	75

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	113		50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-15145-1

Client Sample ID: 3-B-46 2-4

Lab Sample ID: 580-15145-11

Date Sampled: 08/26/2009 1010

Client Matrix: Solid

% Moisture: 35.0

Date Received: 08/27/2009 1000

NWTPH-Dx Semi-Volatile Petroleum Products by NWTPH with Silica Gel Cleanup

Method:	NWTPH-Dx	Analysis Batch: 580-49741	Instrument ID:	TAC019
Preparation:	3550B	Prep Batch: 580-49280	Lab File ID:	GR00212.D
Dilution:	1.0		Initial Weight/Volume:	10.2428 g
Date Analyzed:	09/05/2009 1309		Final Weight/Volume:	10 mL
Date Prepared:	08/28/2009 0842		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
#2 Diesel (C10-C24)		ND		8.6	38
Motor Oil (>C24-C36)		19	J	14	75

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	101		50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-15145-1

Client Sample ID: 3-B-46 4-6

Lab Sample ID: 580-15145-12

Date Sampled: 08/26/2009 1025

Client Matrix: Solid

% Moisture: 27.7

Date Received: 08/27/2009 1000

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method:	NWTPH-Dx	Analysis Batch: 580-49540	Instrument ID:	TAC019
Preparation:	3550B	Prep Batch: 580-49280	Lab File ID:	GR00145.D
Dilution:	1.0		Initial Weight/Volume:	10.4057 g
Date Analyzed:	09/03/2009 1325		Final Weight/Volume:	10 mL
Date Prepared:	08/28/2009 0842		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
#2 Diesel (C10-C24)		9.8	J	7.6	33
Motor Oil (>C24-C36)		42	J	12	66

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	118		50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-15145-1

Client Sample ID: 3-B-46 4-6

Lab Sample ID: 580-15145-12

Date Sampled: 08/26/2009 1025

Client Matrix: Solid

% Moisture: 27.7

Date Received: 08/27/2009 1000

NWTPH-Dx Semi-Volatile Petroleum Products by NWTPH with Silica Gel Cleanup

Method:	NWTPH-Dx	Analysis Batch: 580-49741	Instrument ID:	TAC019
Preparation:	3550B	Prep Batch: 580-49280	Lab File ID:	GR00213.D
Dilution:	1.0		Initial Weight/Volume:	10.4057 g
Date Analyzed:	09/05/2009 1330		Final Weight/Volume:	10 mL
Date Prepared:	08/28/2009 0842		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
#2 Diesel (C10-C24)		ND		7.6	33
Motor Oil (>C24-C36)		16	J	12	66

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	94		50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-15145-1

Client Sample ID: 1B-B-30A 9

Lab Sample ID: 580-15145-14

Date Sampled: 08/26/2009 1100

Client Matrix: Solid

% Moisture: 6.9

Date Received: 08/27/2009 1000

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method:	NWTPH-Dx	Analysis Batch: 580-49540	Instrument ID:	TAC019
Preparation:	3550B	Prep Batch: 580-49280	Lab File ID:	GR00146.D
Dilution:	1.0		Initial Weight/Volume:	10.5176 g
Date Analyzed:	09/03/2009 1346		Final Weight/Volume:	10 mL
Date Prepared:	08/28/2009 0842		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
#2 Diesel (C10-C24)		13	J	5.8	26
Motor Oil (>C24-C36)		22	J	9.3	51

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	94		50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-15145-1

Client Sample ID: 3-B-46 10-12

Lab Sample ID: 580-15145-15

Date Sampled: 08/26/2009 0945

Client Matrix: Solid

% Moisture: 38.1

Date Received: 08/27/2009 1000

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method:	NWTPH-Dx	Analysis Batch: 580-49540	Instrument ID:	TAC019
Preparation:	3550B	Prep Batch: 580-49280	Lab File ID:	GR00147.D
Dilution:	1.0		Initial Weight/Volume:	10.3429 g
Date Analyzed:	09/03/2009 1851		Final Weight/Volume:	10 mL
Date Prepared:	08/28/2009 0842		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
#2 Diesel (C10-C24)		39	J	8.9	39
Motor Oil (>C24-C36)		250		14	78

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	100		50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-15145-1

Client Sample ID: 3-B-46 10-12

Lab Sample ID: 580-15145-15

Date Sampled: 08/26/2009 0945

Client Matrix: Solid

% Moisture: 38.1

Date Received: 08/27/2009 1000

NWTPH-Dx Semi-Volatile Petroleum Products by NWTPH with Silica Gel Cleanup

Method:	NWTPH-Dx	Analysis Batch: 580-49741	Instrument ID:	TAC019
Preparation:	3550B	Prep Batch: 580-49280	Lab File ID:	GR00214.D
Dilution:	1.0		Initial Weight/Volume:	10.3429 g
Date Analyzed:	09/05/2009 1350		Final Weight/Volume:	10 mL
Date Prepared:	08/28/2009 0842		Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
#2 Diesel (C10-C24)		25	J	8.9	39
Motor Oil (>C24-C36)		130		14	78

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	95		50 - 150

Client: AECOM, Inc.

Job Number: 580-15145-1

General Chemistry

Client Sample ID: 3-B-36 0-2

Lab Sample ID: 580-15145-1

Client Matrix: Solid

Date Sampled: 08/26/2009 0725

Date Received: 08/27/2009 1000

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Total Organic Carbon	35000		mg/Kg	610	2000	1.0	9060
	Analysis Batch: 580-49980		Date Analyzed: 09/10/2009 0959				DryWt Corrected: N

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Percent Solids	66		%		0.10	1.0	Moisture
	Analysis Batch: 580-49281		Date Analyzed: 08/28/2009 0849				DryWt Corrected: N
Percent Moisture	34		%		0.10	1.0	Moisture
	Analysis Batch: 580-49281		Date Analyzed: 08/28/2009 0849				DryWt Corrected: N

Client: AECOM, Inc.

Job Number: 580-15145-1

General Chemistry

Client Sample ID: 3-B-36 2-4

Lab Sample ID: 580-15145-2

Client Matrix: Solid

Date Sampled: 08/26/2009 0730

Date Received: 08/27/2009 1000

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Total Organic Carbon	18000		mg/Kg	610	2000	1.0	9060
	Analysis Batch: 580-49980		Date Analyzed: 09/10/2009 0959				DryWt Corrected: N

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Percent Solids	71		%		0.10	1.0	Moisture
	Analysis Batch: 580-49281		Date Analyzed: 08/28/2009 0849				DryWt Corrected: N
Percent Moisture	29		%		0.10	1.0	Moisture
	Analysis Batch: 580-49281		Date Analyzed: 08/28/2009 0849				DryWt Corrected: N

Client: AECOM, Inc.

Job Number: 580-15145-1

General Chemistry

Client Sample ID: 3-B-36 5.25-5.75

Lab Sample ID: 580-15145-3

Client Matrix: Solid

Date Sampled: 08/26/2009 0755

Date Received: 08/27/2009 1000

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Total Organic Carbon	5700		mg/Kg	610	2000	1.0	9060
Analysis Batch: 580-49980		Date Analyzed: 09/10/2009 0959		DryWt Corrected: N			

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Percent Solids	81		%		0.10	1.0	Moisture
Analysis Batch: 580-49281		Date Analyzed: 08/28/2009 0849		DryWt Corrected: N			
Percent Moisture	19		%		0.10	1.0	Moisture
Analysis Batch: 580-49281		Date Analyzed: 08/28/2009 0849		DryWt Corrected: N			

Client: AECOM, Inc.

Job Number: 580-15145-1

General Chemistry

Client Sample ID: 3-B-36 10-12

Lab Sample ID: 580-15145-4

Client Matrix: Solid

Date Sampled: 08/26/2009 0715

Date Received: 08/27/2009 1000

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Total Organic Carbon	27000		mg/Kg	610	2000	1.0	9060
Analysis Batch: 580-49980		Date Analyzed: 09/10/2009 0959		DryWt Corrected: N			

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Percent Solids	66		%		0.10	1.0	Moisture
Analysis Batch: 580-49281		Date Analyzed: 08/28/2009 0849		DryWt Corrected: N			
Percent Moisture	34		%		0.10	1.0	Moisture
Analysis Batch: 580-49281		Date Analyzed: 08/28/2009 0849		DryWt Corrected: N			

Client: AECOM, Inc.

Job Number: 580-15145-1

General Chemistry

Client Sample ID: 3-B-48 0-2

Lab Sample ID: 580-15145-5

Client Matrix: Solid

Date Sampled: 08/26/2009 0835

Date Received: 08/27/2009 1000

Analyte	Result	Qual	Units	RL	Dil	Method
Percent Solids	74		%	0.10	1.0	Moisture
	Analysis Batch: 580-49448	Date Analyzed: 08/31/2009 1407				DryWt Corrected: N
Percent Moisture	26		%	0.10	1.0	Moisture
	Analysis Batch: 580-49448	Date Analyzed: 08/31/2009 1407				DryWt Corrected: N

Client: AECOM, Inc.

Job Number: 580-15145-1

General Chemistry

Client Sample ID: 3-B-48 2-4

Lab Sample ID: 580-15145-6

Date Sampled: 08/26/2009 0900

Client Matrix: Solid

Date Received: 08/27/2009 1000

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Total Organic Carbon	21000		mg/Kg	610	2000	1.0	9060
Analysis Batch: 580-49980		Date Analyzed: 09/10/2009 0959		DryWt Corrected: N			

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Percent Solids	65		%		0.10	1.0	Moisture
Analysis Batch: 580-49281		Date Analyzed: 08/28/2009 0849		DryWt Corrected: N			
Percent Moisture	35		%		0.10	1.0	Moisture
Analysis Batch: 580-49281		Date Analyzed: 08/28/2009 0849		DryWt Corrected: N			

Client: AECOM, Inc.

Job Number: 580-15145-1

General Chemistry

Client Sample ID: 3-B-48 4-5.5

Lab Sample ID: 580-15145-7

Client Matrix: Solid

Date Sampled: 08/26/2009 0905

Date Received: 08/27/2009 1000

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Total Organic Carbon	4700		mg/Kg	610	2000	1.0	9060
Analysis Batch: 580-49980		Date Analyzed: 09/10/2009 0959		DryWt Corrected: N			

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Percent Solids	78		%		0.10	1.0	Moisture
Analysis Batch: 580-49281		Date Analyzed: 08/28/2009 0849		DryWt Corrected: N			
Percent Moisture	22		%		0.10	1.0	Moisture
Analysis Batch: 580-49281		Date Analyzed: 08/28/2009 0849		DryWt Corrected: N			

Client: AECOM, Inc.

Job Number: 580-15145-1

General Chemistry

Client Sample ID: 3-B-48 14-15.5

Lab Sample ID: 580-15145-8

Client Matrix: Solid

Date Sampled: 08/26/2009 0855

Date Received: 08/27/2009 1000

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Total Organic Carbon	4800		mg/Kg	610	2000	1.0	9060
Analysis Batch: 580-49980		Date Analyzed: 09/10/2009 0959		DryWt Corrected: N			

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Percent Solids	80		%		0.10	1.0	Moisture
Analysis Batch: 580-49281		Date Analyzed: 08/28/2009 0849		DryWt Corrected: N			
Percent Moisture	20		%		0.10	1.0	Moisture
Analysis Batch: 580-49281		Date Analyzed: 08/28/2009 0849		DryWt Corrected: N			

Client: AECOM, Inc.

Job Number: 580-15145-1

General Chemistry

Client Sample ID: 3-B-48 0-2

Lab Sample ID: 580-15145-9

Date Sampled: 08/26/2009 0925

Client Matrix: Solid

Date Received: 08/27/2009 1000

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Total Organic Carbon	32000		mg/Kg	610	2000	1.0	9060
	Analysis Batch: 580-49980		Date Analyzed: 09/10/2009 0959				DryWt Corrected: N

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Percent Solids	64		%		0.10	1.0	Moisture
	Analysis Batch: 580-49281		Date Analyzed: 08/28/2009 0849				DryWt Corrected: N
Percent Moisture	36		%		0.10	1.0	Moisture
	Analysis Batch: 580-49281		Date Analyzed: 08/28/2009 0849				DryWt Corrected: N

Client: AECOM, Inc.

Job Number: 580-15145-1

General Chemistry

Client Sample ID: 3-B-46 0-2

Lab Sample ID: 580-15145-10

Date Sampled: 08/26/2009 1000

Client Matrix: Solid

Date Received: 08/27/2009 1000

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Total Organic Carbon	42000		mg/Kg	610	2000	1.0	9060
	Analysis Batch: 580-49980		Date Analyzed: 09/10/2009 0959				DryWt Corrected: N

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Percent Solids	60		%		0.10	1.0	Moisture
	Analysis Batch: 580-49281		Date Analyzed: 08/28/2009 0849				DryWt Corrected: N
Percent Moisture	40		%		0.10	1.0	Moisture
	Analysis Batch: 580-49281		Date Analyzed: 08/28/2009 0849				DryWt Corrected: N

Client: AECOM, Inc.

Job Number: 580-15145-1

General Chemistry

Client Sample ID: 3-B-46 2-4

Lab Sample ID: 580-15145-11

Client Matrix: Solid

Date Sampled: 08/26/2009 1010

Date Received: 08/27/2009 1000

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Total Organic Carbon	15000		mg/Kg	610	2000	1.0	9060
	Analysis Batch: 580-49980		Date Analyzed: 09/10/2009 0959				DryWt Corrected: N

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Percent Solids	65		%		0.10	1.0	Moisture
	Analysis Batch: 580-49281		Date Analyzed: 08/28/2009 0849				DryWt Corrected: N
Percent Moisture	35		%		0.10	1.0	Moisture
	Analysis Batch: 580-49281		Date Analyzed: 08/28/2009 0849				DryWt Corrected: N

Client: AECOM, Inc.

Job Number: 580-15145-1

General Chemistry

Client Sample ID: 3-B-46 4-6

Lab Sample ID: 580-15145-12

Date Sampled: 08/26/2009 1025

Client Matrix: Solid

Date Received: 08/27/2009 1000

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Total Organic Carbon	39000		mg/Kg	610	2000	1.0	9060
Analysis Batch: 580-49980		Date Analyzed: 09/10/2009 1001		DryWt Corrected: N			

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Percent Solids	72		%		0.10	1.0	Moisture
Analysis Batch: 580-49281		Date Analyzed: 08/28/2009 0849		DryWt Corrected: N			
Percent Moisture	28		%		0.10	1.0	Moisture
Analysis Batch: 580-49281		Date Analyzed: 08/28/2009 0849		DryWt Corrected: N			

Client: AECOM, Inc.

Job Number: 580-15145-1

General Chemistry

Client Sample ID: 3-B-47 0-2

Lab Sample ID: 580-15145-13

Date Sampled: 08/26/2009 1105

Client Matrix: Solid

Date Received: 08/27/2009 1000

Analyte	Result	Qual	Units	RL	Dil	Method
Percent Solids	50		%	0.10	1.0	Moisture
	Analysis Batch: 580-49448	Date Analyzed: 08/31/2009 1407				DryWt Corrected: N
Percent Moisture	50		%	0.10	1.0	Moisture
	Analysis Batch: 580-49448	Date Analyzed: 08/31/2009 1407				DryWt Corrected: N

Client: AECOM, Inc.

Job Number: 580-15145-1

General Chemistry

Client Sample ID: 1B-B-30A 9

Lab Sample ID: 580-15145-14

Client Matrix: Solid

Date Sampled: 08/26/2009 1100

Date Received: 08/27/2009 1000

Analyte	Result	Qual	Units	RL	Dil	Method
Percent Solids	93		%	0.10	1.0	Moisture
	Analysis Batch: 580-49281	Date Analyzed: 08/28/2009 0849				DryWt Corrected: N
Percent Moisture	6.9		%	0.10	1.0	Moisture
	Analysis Batch: 580-49281	Date Analyzed: 08/28/2009 0849				DryWt Corrected: N

Client: AECOM, Inc.

Job Number: 580-15145-1

General Chemistry

Client Sample ID: 3-B-46 10-12

Lab Sample ID: 580-15145-15

Date Sampled: 08/26/2009 0945

Client Matrix: Solid

Date Received: 08/27/2009 1000

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Total Organic Carbon	10000		mg/Kg	610	2000	1.0	9060
Analysis Batch: 580-49980		Date Analyzed: 09/10/2009 1001		DryWt Corrected: N			

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Percent Solids	62		%		0.10	1.0	Moisture
Analysis Batch: 580-49281		Date Analyzed: 08/28/2009 0849		DryWt Corrected: N			
Percent Moisture	38		%		0.10	1.0	Moisture
Analysis Batch: 580-49281		Date Analyzed: 08/28/2009 0849		DryWt Corrected: N			

DATA REPORTING QUALIFIERS

Client: AECOM, Inc.

Job Number: 580-15145-1

Lab Section	Qualifier	Description
GC Semi VOA	J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
	X	Surrogate exceeds the control limits
General Chemistry	F	MS or MSD exceeds the control limits

Quality Control Results

Client: AECOM, Inc.

Job Number: 580-15145-1

Method Blank - Batch: 580-49280

**Method: NWTPH-Dx
Preparation: 3550B**

Lab Sample ID: MB 580-49280/1-B
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 09/04/2009 1948
Date Prepared: 08/28/2009 0842

Analysis Batch: 580-49741
Prep Batch: 580-49280
Units: mg/Kg

Instrument ID: TAC019
Lab File ID: GR00197.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 10 mL
Injection Volume: 1 uL

Analyte	Result	Qual	MDL	RL
#2 Diesel (C10-C24)	ND		5.7	25
Motor Oil (>C24-C36)	23.5	J	9.1	50
<hr/>				
Surrogate	% Rec	Acceptance Limits		
o-Terphenyl	97	50 - 150		

Lab Control Sample - Batch: 580-49280

**Method: NWTPH-Dx
Preparation: 3550B**

Lab Sample ID: LCS 580-49280/2-B
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 09/04/2009 2008
Date Prepared: 08/28/2009 0842

Analysis Batch: 580-49741
Prep Batch: 580-49280
Units: mg/Kg

Instrument ID: TAC019
Lab File ID: GR00198.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 10 mL
Injection Volume: 1 uL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
#2 Diesel (C10-C24)	500	508	102	64 - 127	
Motor Oil (>C24-C36)	500	540	108	70 - 125	
<hr/>					
Surrogate	% Rec	Acceptance Limits			
o-Terphenyl	106	50 - 150			

Calculations are performed before rounding to avoid round-off errors in calculated results.

Quality Control Results

Client: AECOM, Inc.

Job Number: 580-15145-1

Duplicate - Batch: 580-49280

**Method: NWTPH-Dx
Preparation: 3550B**

Lab Sample ID: 580-15145-8
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 09/03/2009 1203
Date Prepared: 08/28/2009 0842

Analysis Batch: 580-49540
Prep Batch: 580-49280
Units: mg/Kg

Instrument ID: TAC019
Lab File ID: GR00141.D
Initial Weight/Volume: 10.3395 g
Final Weight/Volume: 10 mL
Injection Volume: 1 uL

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
#2 Diesel (C10-C24)	ND	7.68	12	35	J
Motor Oil (>C24-C36)	17 J	ND	NC	35	
Surrogate	% Rec		Acceptance Limits		
o-Terphenyl	103		50 - 150		

Duplicate - Batch: 580-49280

**Method: NWTPH-Dx
Preparation: 3550B**

Lab Sample ID: 580-15145-8
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 09/05/2009 1206
Date Prepared: 08/28/2009 0842

Analysis Batch: 580-49741
Prep Batch: 580-49280
Units: mg/Kg

Instrument ID: TAC019
Lab File ID: GR00209.D
Initial Weight/Volume: 10.3395 g
Final Weight/Volume: 10 mL
Injection Volume: 1 uL

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
#2 Diesel (C10-C24)	7.7 J	ND	NC	35	
Motor Oil (>C24-C36)	14 J	13.4	7	35	J
Surrogate	% Rec		Acceptance Limits		
o-Terphenyl	99		50 - 150		

Calculations are performed before rounding to avoid round-off errors in calculated results.

Quality Control Results

Client: AECOM, Inc.

Job Number: 580-15145-1

Method Blank - Batch: 580-49980

Method: 9060
Preparation: N/A

Lab Sample ID: MB 580-49980/1
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 09/10/2009 0959
Date Prepared: N/A

Analysis Batch: 580-49980
Prep Batch: N/A
Units: mg/Kg

Instrument ID: No Equipment Assigned
Lab File ID: N/A
Initial Weight/Volume: 1.0 mL
Final Weight/Volume: 1.0 mL

Analyte	Result	Qual	MDL	RL
Total Organic Carbon	ND		610	2000

LCS-Standard Reference Material - Batch: 580-49980

Method: 9060
Preparation: N/A

Lab Sample ID: LCSSRM 580-49980/2
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 09/10/2009 0959
Date Prepared: N/A

Analysis Batch: 580-49980
Prep Batch: N/A
Units: mg/Kg

Instrument ID: No Equipment Assigned
Lab File ID: N/A
Initial Weight/Volume: 1.0 mL
Final Weight/Volume: 1.0 mL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Total Organic Carbon	3400	5100	150	12.8 - 187	

Matrix Spike - Batch: 580-49980

Method: 9060
Preparation: N/A

Lab Sample ID: 580-15145-6
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 09/10/2009 0959
Date Prepared: N/A

Analysis Batch: 580-49980
Prep Batch: N/A
Units: mg/Kg

Instrument ID: No Equipment Assigned
Lab File ID: N/A
Initial Weight/Volume: 1.0 mL
Final Weight/Volume: 1.0 mL

Analyte	Sample Result/Qual	Spike Amount	Result	% Rec.	Limit	Qual
Total Organic Carbon	21000	20000	48300	137	76 - 128	F

Calculations are performed before rounding to avoid round-off errors in calculated results.

Quality Control Results

Client: AECOM, Inc.

Job Number: 580-15145-1

Duplicate - Batch: 580-49980

Method: 9060
Preparation: N/A

Lab Sample ID: 580-15145-6
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 09/10/2009 0959
Date Prepared: N/A

Analysis Batch: 580-49980
Prep Batch: N/A
Units: mg/Kg

Instrument ID: No Equipment Assigned
Lab File ID: N/A
Initial Weight/Volume: 1.0 mL
Final Weight/Volume: 1.0 mL

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
Total Organic Carbon	21000	20400	2	50	
Total Organic Carbon	21000	21900	5	50	

Calculations are performed before rounding to avoid round-off errors in calculated results.

Quality Control Results

Client: AECOM, Inc.

Job Number: 580-15145-1

Duplicate - Batch: 580-49281

Method: Moisture
Preparation: N/A

Lab Sample ID: 580-15127-A-3 DU
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 08/28/2009 0849
Date Prepared: N/A

Analysis Batch: 580-49281
Prep Batch: N/A
Units: %

Instrument ID: No Equipment Assigned
Lab File ID: N/A
Initial Weight/Volume:
Final Weight/Volume:

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
Percent Solids	91	92	1	20	
Percent Moisture	8.8	7.9	11	20	

Calculations are performed before rounding to avoid round-off errors in calculated results.

Quality Control Results

Client: AECOM, Inc.

Job Number: 580-15145-1

Duplicate - Batch: 580-49448

**Method: Moisture
Preparation: N/A**

Lab Sample ID: 580-15145-13
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 08/31/2009 1407
Date Prepared: N/A

Analysis Batch: 580-49448
Prep Batch: N/A
Units: %

Instrument ID: No Equipment Assigned
Lab File ID: N/A
Initial Weight/Volume:
Final Weight/Volume:

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
Percent Solids	50	51	1	20	
Percent Moisture	50	49	1	20	

Calculations are performed before rounding to avoid round-off errors in calculated results.

Quality Control Results

Client: AECOM, Inc.

Job Number: 580-15145-1

Duplicate - Batch: 580-49475

**Method: Moisture
Preparation: N/A**

Lab Sample ID: 580-15145-13
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 09/01/2009 0906
Date Prepared: N/A

Analysis Batch: 580-49475
Prep Batch: N/A
Units: %

Instrument ID: No Equipment Assigned
Lab File ID: N/A
Initial Weight/Volume:
Final Weight/Volume:

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
Percent Solids	49	49	1	20	
Percent Moisture	51	51	1	20	

Calculations are performed before rounding to avoid round-off errors in calculated results.

15145

BNSF RAILWAY
CHAIN OF CUSTODY
 BNSF Project Number: _____
 BNSF Project Name: Skykomish
 BNSF Contact: Bruce Sheppard
 BNSF Work Order No.: _____

LABORATORY INFORMATION
 Laboratory: Test America
 Address: 5755 9th Street E
 City/State/Zip: Tacoma, WA 98434

SHIPMENT INFORMATION
 Shipment Method: Drop Off
 Tracking Number: _____
 Project Number: 01140-284-0770
 Project Manager: Sarah Albano
 Email: sarah.albano@ae.com
 Phone: _____
 Fax: _____

CONSULTANT INFORMATION
 Company: AECOM
 Address: 710 2nd Ave Ste 1000
 City/State/Zip: Seattle, WA 98104

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? _____

OTHER REQUIREMENTS
 EDD Req. Format?
 EDD Req. Format?

Sample Identification	Containers	Sample Collection		Filtered Y/N	Type (Comp/Grab)	Matrix	METHODS FOR ANALYSIS						COMMENTS	LAB USE
		Date	Time				Sampler	NUTRA-DX W/SG	NUTRA-DX W/SG	TOC	Sulfide/Amonia	Grain Size		
3-B-36 0-2	2	8/26/09	07:25	HH	N	G SO	X	X	X					1
3-B-36 2-4	2	8/26/09	07:30	HH	N	G SO	X	X	X					2
3-B-36 5.25-5.75	2	8/26/09	07:55	HH	N	G SO	X	X	X					3
3-B-36 10-12	2	8/26/09	07:15	HH	N	G SO	X	X	X					4
3-B-48 0-2	1	8/26/09	08:35	HH	N	C SO				X			Standard TAT	5
3-B-48 2-4	2	8/26/09	09:00	HH	N	G SO	X	X	X					6
3-B-48 4-5.5	2	8/26/09	09:05	HH	N	G SO	X	X	X					7
3-B-48 14-15.5	2	8/26/09	08:55	HH	N	G SO	X	X	X					8
3-B-48 0-2	2	8/26/09	09:25	HH	N	G SO	X	X	X					9
3-B-46 0-2	2	8/26/09	10:00	HH	N	G SO	X	X	X					10
3-B-46 2-4	2	8/26/09	10:10	HH	N	G SO	X	X	X					11
3-B-46 4-6	2	8/26/09	10:25	HH	N	G SO	X	X	X					12
3-B-47 0-2	1	8/26/09	11:05	HH	N	C SO				X			Standard TAT	13
1-B-6-30A 9	1	8/26/09	11:00	RK	N	G SO	X							14
3-B-46 10-12	2	8/26/09	09:45	HH	N	G SO	X	X	X					15
Relinquished By: <u>[Signature]</u> Date/Time: <u>8/26/09 17:00</u>	Comments and Special Analytical Requirements: <u>[Signature]</u> 8/26/09													
Relinquished By: _____ Date/Time: _____	Custody Seal No.: _____													
Relinquished By: _____ Date/Time: _____	Lab. Custody Inact? <input type="checkbox"/> Yes <input type="checkbox"/> No													
Relinquished By: _____ Date/Time: _____	BNSF COC No.: _____													

Login Sample Receipt Check List

Client: AECOM, Inc.

Job Number: 580-15145-1

Login Number: 15145
Creator: Gamble, Cathy
List Number: 1

List Source: TestAmerica Tacoma

Question	T / F / NA	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	N/A	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Is the Field Sampler's name present on COC?	True	
Sample Preservation Verified	True	

ANALYTICAL REPORT

Job Number: 580-15145-2
Job Description: BNSF Skykomish Diesel

For:
AECOM, Inc.
710 Second Avenue
Suite 1000
Seattle, WA 98104
Attention: Sarah Albano



Approved for release.
Kate Haney
Project Manager II
9/11/2009 5:26 PM

Kate Haney
Project Manager II
kate.haney@testamericainc.com
09/11/2009

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This report shall not be reproduced except in full, without prior express written approval by the laboratory. The results relate only to the item(s) tested and the sample(s) as received by the laboratory.

The results included in this report have been reviewed for compliance with the laboratory QA/QC plan and meet all requirements of NELAC. All data have been found to be compliant with laboratory protocol, with the exception of any items noted in the case narrative.

TestAmerica Laboratories, Inc.

TestAmerica Tacoma 5755 8th Street East, Tacoma, WA 98424
Tel (253) 922-2310 Fax (253) 922-5047 www.testamericainc.com



Job Narrative
580-J15145-2

Comments

No additional comments.

Receipt

All samples were received in good condition within temperature requirements.

General Chemistry

No analytical or quality issues were noted.

Subcontract non-Sister

No analytical or quality issues were noted.

METHOD SUMMARY

Client: AECOM, Inc.

Job Number: 580-15145-2

Description	Lab Location	Method	Preparation Method
Matrix: Solid			
Nitrogen, Ammonia, Distillation	TAL TAC	MCAWW 350.2	
Distillation, Ammonia	TAL TAC		Distill/Ammonia
General Sub Contract Method	TAL NSH	Subcontract	

Lab References:

TAL NSH = TestAmerica Nashville

TAL TAC = TestAmerica Tacoma

Method References:

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

SAMPLE SUMMARY

Client: AECOM, Inc.

Job Number: 580-15145-2

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
580-15145-5	3-B-48 0-2	Solid	08/26/2009 0835	08/27/2009 1000
580-15145-13	3-B-47 0-2	Solid	08/26/2009 1105	08/27/2009 1000

Client: AECOM, Inc.

Job Number: 580-15145-2

General Chemistry

Client Sample ID: 3-B-48 0-2

Lab Sample ID: 580-15145-5

Date Sampled: 08/26/2009 0835

Client Matrix: Solid

% Moisture: 26.3

Date Received: 08/27/2009 1000

Analyte	Result	Qual	Units	RL	Dil	Method
Ammonia	ND		mg/Kg	87	1.0	350.2
	Analysis Batch: 580-49454	Date Analyzed: 08/31/2009	1527			DryWt Corrected: Y
	Prep Batch: 580-49406	Date Prepared: 08/31/2009	1036			

Client: AECOM, Inc.

Job Number: 580-15145-2

General Chemistry

Client Sample ID: 3-B-47 0-2

Lab Sample ID: 580-15145-13

Date Sampled: 08/26/2009 1105

Client Matrix: Solid

% Moisture: 50.1

Date Received: 08/27/2009 1000

Analyte	Result	Qual	Units	RL	Dil	Method
Ammonia	ND		mg/Kg	160	1.0	350.2
	Analysis Batch: 580-49454	Date Analyzed: 08/31/2009	1527			DryWt Corrected: Y
	Prep Batch: 580-49406	Date Prepared: 08/31/2009	1036			

Quality Control Results

Client: AECOM, Inc.

Job Number: 580-15145-2

Method Blank - Batch: 580-49406

Lab Sample ID: MB 580-49406/1-A
 Client Matrix: Solid
 Dilution: 1.0
 Date Analyzed: 08/31/2009 1527
 Date Prepared: 08/31/2009 1036

Analysis Batch: 580-49454
 Prep Batch: 580-49406
 Units: mg/Kg

**Method: 350.2
 Preparation: Distill/Ammonia**

Instrument ID: No Equipment Assigned
 Lab File ID: N/A
 Initial Weight/Volume: 1.0 g
 Final Weight/Volume: 250 mL

Analyte	Result	Qual	RL
Ammonia	ND		88

**Lab Control Sample/
 Lab Control Sample Duplicate Recovery Report - Batch: 580-49406**

LCS Lab Sample ID: LCS 580-49406/2-A
 Client Matrix: Solid
 Dilution: 1.0
 Date Analyzed: 08/31/2009 1527
 Date Prepared: 08/31/2009 1036

Analysis Batch: 580-49454
 Prep Batch: 580-49406
 Units: mg/Kg

**Method: 350.2
 Preparation: Distill/Ammonia**

Instrument ID: No Equipment Assigned
 Lab File ID: N/A
 Initial Weight/Volume: 1.0 g
 Final Weight/Volume: 250 mL

LCSD Lab Sample ID: LCSD 580-49406/3-A
 Client Matrix: Solid
 Dilution: 1.0
 Date Analyzed: 08/31/2009 1527
 Date Prepared: 08/31/2009 1036

Analysis Batch: 580-49454
 Prep Batch: 580-49406
 Units: mg/Kg

Instrument ID: No Equipment Assigned
 Lab File ID: N/A
 Initial Weight/Volume: 1.0 g
 Final Weight/Volume: 250 mL

Analyte	<u>% Rec.</u>		Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
	LCS	LCSD					
Ammonia	98	97	90 - 110	2	20		

Calculations are performed before rounding to avoid round-off errors in calculated results.

Quality Control Results

Client: AECOM, Inc.

Job Number: 580-15145-2

Matrix Spike/

Matrix Spike Duplicate Recovery Report - Batch: 580-49406

Method: 350.2

Preparation: Distill/Ammonia

MS Lab Sample ID: 580-15128-A-12-C MS Analysis Batch: 580-49454
 Client Matrix: Solid Prep Batch: 580-49406
 Dilution: 1.0
 Date Analyzed: 08/31/2009 1527
 Date Prepared: 08/31/2009 1036

Instrument ID: No Equipment Assigned
 Lab File ID: N/A
 Initial Weight/Volume: 1.11 g
 Final Weight/Volume: 250 mL

MSD Lab Sample ID: 580-15128-A-12-D MSD Analysis Batch: 580-49454
 Client Matrix: Solid Prep Batch: 580-49406
 Dilution: 1.0
 Date Analyzed: 08/31/2009 1527
 Date Prepared: 08/31/2009 1036

Instrument ID: No Equipment Assigned
 Lab File ID: N/A
 Initial Weight/Volume: 1.14 g
 Final Weight/Volume: 250 mL

Analyte	% Rec.		Limit	RPD	RPD Limit	MS Qual	MSD Qual
	MS	MSD					
Ammonia	89	92	90 - 110	1	20	F	

Duplicate - Batch: 580-49406

Method: 350.2

Preparation: Distill/Ammonia

Lab Sample ID: 580-15128-A-12-B DU Analysis Batch: 580-49454
 Client Matrix: Solid Prep Batch: 580-49406
 Dilution: 1.0 Units: mg/Kg
 Date Analyzed: 08/31/2009 1527
 Date Prepared: 08/31/2009 1036

Instrument ID: No Equipment Assigned
 Lab File ID: N/A
 Initial Weight/Volume: 1.19 g
 Final Weight/Volume: 250 mL

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
Ammonia	ND	ND	NC	20	

Calculations are performed before rounding to avoid round-off errors in calculated results.

DATA REPORTING QUALIFIERS

Client: AECOM, Inc.

Job Number: 580-15145-2

Lab Section	Qualifier	Description
General Chemistry	F	MS or MSD exceeds the control limits

September 04, 2009 12:16:35PM

Client: TestAmerica Tacoma
5755 8th Street East
Tacoma, WA 98424
Attn: Kate Haney

Work Order: NSH2546
Project Name: TA-Tacoma: BNSF-Skyomish Diesel
Project Nbr: 580-15145-2
P/O Nbr:
Date Received: 08/28/09

SAMPLE IDENTIFICATION	LAB NUMBER	COLLECTION DATE AND TIME
3-B-48 0-2	NSH2546-01	08/26/09 08:35
3-B-47 0-2	NSH2546-02	08/26/09 11:05

An executed copy of the chain of custody, the project quality control data, and the sample receipt form are also included as an addendum to this report. If you have any questions relating to this analytical report, please contact your Laboratory Project Manager at 1-800-765-0980. Any opinions, if expressed, are outside the scope of the Laboratory's accreditation.

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Washington Certification Number: C1712

The Chain(s) of Custody, 2 pages, are included and are an integral part of this report.

These results relate only to the items tested. This report shall not be reproduced except in full and with permission of the laboratory.

All solids results are reported in wet weight unless specifically stated.

Estimated uncertainty is available upon request.

This report has been electronically signed.

Report Approved By:



Debbie LaValle

Project Manager

Client TestAmerica Tacoma
 5755 8th Street East
 Tacoma, WA 98424
 Attn Kate Haney

Work Order: NSH2546
 Project Name: TA-Tacoma: BNSF-Skyomish Diesel
 Project Number: 580-15145-2
 Received: 08/28/09 08:00

ANALYTICAL REPORT

Analyte	Result	Flag	Units	MRL	Dilution Factor	Analysis Date/Time	Method	Batch
Sample ID: NSH2546-01 (3-B-48 0-2 - Soil) Sampled: 08/26/09 08:35								
General Chemistry Parameters								
% Dry Solids	70.0		%	0.500	1	09/04/09 10:27	SW-846	9090454
Sulfide	ND		mg/kg dry	28.6	1	09/02/09 17:30	W846 9030B/903	9090167
Sample ID: NSH2546-02 (3-B-47 0-2 - Soil) Sampled: 08/26/09 11:05								
General Chemistry Parameters								
% Dry Solids	49.6		%	0.500	1	09/04/09 10:27	SW-846	9090454
Sulfide	54.4		mg/kg dry	40.3	1	09/02/09 17:30	W846 9030B/903	9090167

Client TestAmerica Tacoma
5755 8th Street East
Tacoma, WA 98424
Attn Kate Haney

Work Order: NSH2546
Project Name: TA-Tacoma: BNSF-Skyomish Diesel
Project Number: 580-15145-2
Received: 08/28/09 08:00

PROJECT QUALITY CONTROL DATA
Blank

Analyte	Blank Value	Q	Units	Q.C. Batch	Lab Number	Analyzed Date/Time
General Chemistry Parameters						
9090167-BLK1						
Sulfide	9.00		mg/kg wet	9090167	9090167-BLK1	09/02/09 17:30

Client TestAmerica Tacoma
 5755 8th Street East
 Tacoma, WA 98424
 Attn Kate Haney

Work Order: NSH2546
 Project Name: TA-Tacoma: BNSF-Skyomish Diesel
 Project Number: 580-15145-2
 Received: 08/28/09 08:00

PROJECT QUALITY CONTROL DATA
Duplicate

Analyte	Orig. Val.	Duplicate	Q	Units	RPD	Limit	Batch	Sample Duplicated	% Rec.	Analyzed Date/Time
General Chemistry Parameters										
9090167-DUP1										
Sulfide	54.4	28.2	R2	mg/kg dry	63	12	9090167	NSH2546-02		09/02/09 17:30
9090454-DUP1										
% Dry Solids	84.6	83.7		%	1	20	9090454	NSH2117-01		09/04/09 10:27

Client TestAmerica Tacoma
5755 8th Street East
Tacoma, WA 98424
Attn Kate Haney

Work Order: NSH2546
Project Name: TA-Tacoma: BNSF-Skyomish Diesel
Project Number: 580-15145-2
Received: 08/28/09 08:00

PROJECT QUALITY CONTROL DATA
LCS

Analyte	Known Val.	Analyzed Val	Q	Units	% Rec.	Target Range	Batch	Analyzed Date/Time
General Chemistry Parameters								
9090167-BS1								
Sulfide	200	202		mg/kg wet	101%	80 - 120	9090167	09/02/09 17:30

Client TestAmerica Tacoma
5755 8th Street East
Tacoma, WA 98424
Attn Kate Haney

Work Order: NSH2546
Project Name: TA-Tacoma: BNSF-Skyomish Diesel
Project Number: 580-15145-2
Received: 08/28/09 08:00

PROJECT QUALITY CONTROL DATA
Matrix Spike

Analyte	Orig. Val.	MS Val	Q	Units	Spike Conc	% Rec.	Target Range	Batch	Sample Spiked	Analyzed Date/Time
General Chemistry Parameters										
9090167-MS1										
Sulfide	5.91	203		mg/kg dry	236	84%	70 - 130	9090167	NSH2581-01	09/02/09 17:30

Client TestAmerica Tacoma
 5755 8th Street East
 Tacoma, WA 98424
 Attn Kate Haney

Work Order: NSH2546
 Project Name: TA-Tacoma: BNSF-Skyomish Diesel
 Project Number: 580-15145-2
 Received: 08/28/09 08:00

PROJECT QUALITY CONTROL DATA

Matrix Spike Dup

Analyte	Orig. Val.	Duplicate	Q	Units	Spike Conc	% Rec.	Target Range	RPD	Limit	Batch	Sample Duplicated	Analyzed Date/Time
General Chemistry Parameters												
9090167-MSD1												
Sulfide	5.91	180		mg/kg dry	236	74%	70 - 130	12	12	9090167	NSH2581-01	09/02/09 17:30

Client TestAmerica Tacoma
5755 8th Street East
Tacoma, WA 98424
Attn Kate Haney

Work Order: NSH2546
Project Name: TA-Tacoma: BNSF-Skyomish Diesel
Project Number: 580-15145-2
Received: 08/28/09 08:00

CERTIFICATION SUMMARY

TestAmerica Nashville

Method	Matrix	AIHA	Nelac	Washington
SW846 9030B/9034	Soil	N/A	X	X
SW-846	Soil			

Client TestAmerica Tacoma
5755 8th Street East
Tacoma, WA 98424
Attn Kate Haney

Work Order: NSH2546
Project Name: TA-Tacoma: BNSF-Skyomish Diesel
Project Number: 580-15145-2
Received: 08/28/09 08:00

DATA QUALIFIERS AND DEFINITIONS

R2 The RPD exceeded the acceptance limit.
ND Not detected at the reporting limit (or method detection limit if shown)

METHOD MODIFICATION NOTES

COOLER RECEIPT



Cooler Received/Opened On: 8/28/2009 @ 8:00

NSH2546

1. Tracking # 3413 (last 4 digits, FedEx)

Courier: Fed-ex IR Gun ID: 95610068

2. Temperature of rep. sample or temp blank when opened: 2.7 Degrees Celsius

3. If Item #2 temperature is 0°C or less, was the representative sample or temp blank frozen? YES NO...NA

4. Were custody seals on outside of cooler? YES...NO...NA

If yes, how many and where: _____

5. Were the seals intact, signed, and dated correctly? YES...NO...NA

6. Were custody papers inside cooler? YES...NO...NA

I certify that I opened the cooler and answered questions 1-6 (initial) _____

7. Were custody seals on containers: YES NO and Intact YES...NO...NA

Were these signed and dated correctly? YES...NO...NA

8. Packing mat'l used? Bubblewrap Plastic bag Peanuts Vermiculite Foam Insert Paper Other None

9. Cooling process: Ice Ice-pack Ice (direct contact) Dry ice Other None

10. Did all containers arrive in good condition (unbroken)? YES...NO...NA

11. Were all container labels complete (#, date, signed, pres., etc)? YES...NO...NA

12. Did all container labels and tags agree with custody papers? YES...NO...NA

13a. Were VOA vials received? YES...NO...NA

b. Was there any observable headspace present in any VOA vial? YES...NO...NA

14. Was there a Trip Blank in this cooler? YES...NO...NA If multiple coolers, sequence # _____

I certify that I unloaded the cooler and answered questions 7-14 (initial) _____

15a. On pres'd bottles, did pH test strips suggest preservation reached the correct pH level? YES...NO...NA

b. Did the bottle labels indicate that the correct preservatives were used? YES...NO...NA

16. Was residual chlorine present? YES...NO...NA

I certify that I checked for chlorine and pH as per SOP and answered questions 15-16 (initial) _____

17. Were custody papers properly filled out (ink, signed, etc)? YES...NO...NA

18. Did you sign the custody papers in the appropriate place? YES...NO...NA

19. Were correct containers used for the analysis requested? YES...NO...NA

20. Was sufficient amount of sample sent in each container? YES...NO...NA

I certify that I entered this project into LIMS and answered questions 17-20 (initial) _____

I certify that I attached a label with the unique LIMS number to each container (initial) _____

21. Were there Non-Conformance issues at login? YES...NO Was a PIPE generated? YES...NO...# _____

15145

BNSF RAILWAY
CHAIN OF CUSTODY
BNSF PROJECT INFORMATION

LABORATORY INFORMATION
 Laboratory: Test America
 Address: 5755 9th Street E
 City/State/Zip: Tacoma, WA 98434

SHIPMENT INFORMATION
 Shipment Method: Drop Off
 Tracking Number:
 Project Number: 01140-284-0770

CONSULTANT INFORMATION
 Company: AECOM
 Address: 710 2nd Ave Ste 1000
 City/State/Zip: Seattle, WA 98104

LAB WORK ORDER:
 Project Manager: Kate Haney
 Phone: 253.922.2310
 Fax: 253.922.5047

Project Manager: Sarah Albano
 Email: sarah.albano@aecom.com
 Phone:
 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?

Sample Identification	Containers	Sample Collection		Filtered Y/N	Type (Comp/Grab)	Matrix	METHODS FOR ANALYSIS						COMMENTS	LAB USE
		Date	Time				Sampler	NUTP D w/SG	NUTP D w/SG	TOC	Sulfide/Amonia	Grain Size		
3-B-36 0-2	2	8/26/09	07:25	HH	N	G SO	X	X	X					1
3-B-36 2-4	2	8/26/09	07:30	HH	N	G SO	X	X	X					2
3-B-36 5.25-5.75	2	8/26/09	07:55	HH	N	G SO	X	X	X					3
3-B-36 10-12	2	8/26/09	07:15	HH	N	G SO	X	X	X					4
3-B-48 0-2	1	8/26/09	08:35	HH	N	C SO				X			Standard TAT	5
3-B-48 2-4	2	8/26/09	09:00	HH	N	G SO	X	X	X					6
3-B-48 4-5.5	2	8/26/09	09:05	HH	N	G SO	X	X	X					7
3-B-48 14-15.5	2	8/26/09	08:55	HH	N	G SO	X	X	X					8
3-B-48 0-2	2	8/26/09	09:25	HH	N	G SO	X	X	X					9
3-B-46 0-2	2	8/26/09	10:00	HH	N	G SO	X	X	X					10
3-B-46 2-4	2	8/26/09	10:10	HH	N	G SO	X	X	X					11
3-B-46 4-6	2	8/26/09	10:25	HH	N	G SO	X	X	X					12
3-B-47 0-2	1	8/26/09	11:05	HH	N	C SO				X			Standard TAT	13
3-B-30A 9	1	8/26/09	11:00	RK	N	G SO	X	X	X					14
3-B-46 10-12	2	8/26/09	09:45	HH	N	G SO	X	X	X					15

Comments and Special Analytical Requirements:
 Received By: [Signature] Date/Time: 8/26/09 17:00
 Received By: [Signature] Date/Time: 8/26/09 10:10
 Received By: [Signature] Date/Time: 8/26/09

Lab. Custody Inact?
 Yes No

Custody Seal No.: BNSF COC No.

Login Sample Receipt Check List

Client: AECOM, Inc.

Job Number: 580-15145-2

Login Number: 15145
Creator: Gamble, Cathy
List Number: 1

List Source: TestAmerica Tacoma

Question	T / F / NA	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	N/A	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Is the Field Sampler's name present on COC?	True	
Sample Preservation Verified	True	

ANALYTICAL REPORT

Job Number: 580-15149-1
Job Description: BNSF Skykomish Diesel

For:
AECOM, Inc.
710 Second Avenue
Suite 1000
Seattle, WA 98104
Attention: Sarah Albano



Approved for release.
Kate Haney
Project Manager II
9/8/2009 2:46 PM

Kate Haney
Project Manager II
kate.haney@testamericainc.com
09/08/2009

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This report shall not be reproduced except in full, without prior express written approval by the laboratory. The results relate only to the item(s) tested and the sample(s) as received by the laboratory.

The results included in this report have been reviewed for compliance with the laboratory QA/QC plan and meet all requirements of NELAC. All data have been found to be compliant with laboratory protocol, with the exception of any items noted in the case narrative.

TestAmerica Laboratories, Inc.

TestAmerica Tacoma 5755 8th Street East, Tacoma, WA 98424
Tel (253) 922-2310 Fax (253) 922-5047 www.testamericainc.com



Job Narrative
580-J15149-1

Comments

No additional comments.

Receipt

We did not receive a container for sulfide for the water sample. Sulfide was not able to be analyzed from the containers received.

All other samples were received in good condition within temperature requirements.

GC Semi VOA

Method(s) NWTPH-Dx: The continuing calibration verification (CCV) for analytical batch 49294 exceeded control criteria for surrogate (o-terphenyl). all other samples surrogate recovery within control. The data have been qualified and reported.

No other analytical or quality issues were noted.

General Chemistry

No analytical or quality issues were noted.

Organic Prep

No analytical or quality issues were noted.

METHOD SUMMARY

Client: AECOM, Inc.

Job Number: 580-15149-1

Description	Lab Location	Method	Preparation Method
Matrix: Solid			
Percent Moisture	TAL TAC	EPA Moisture	
Matrix: Water			
Northwest - Semi-Volatile Petroleum Products (GC)	TAL TAC	NWTPH NWTPH-Dx	
Semi-Volatile Petroleum Products by NWTPH with Silica Gel Cleanup	TAL TAC	NWTPH NWTPH-Dx	
Liquid-Liquid Extraction (Separatory Funnel)	TAL TAC		SW846 3510C
Liquid-Liquid Extraction (Separatory Funnel)	TAL TAC		SW846 3510C
Silica Gel Cleanup	TAL TAC		SW846 3630C
TOC	TAL TAC	MCAWW 415.1	

Lab References:

TAL TAC = TestAmerica Tacoma

Method References:

EPA = US Environmental Protection Agency

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

NWTPH = Northwest Total Petroleum Hydrocarbon

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

SAMPLE SUMMARY

Client: AECOM, Inc.

Job Number: 580-15149-1

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
580-15149-1	EB-082609	Water	08/26/2009 1150	08/27/2009 1000
580-15149-2	3-B-30 4-6	Solid	08/14/2009 0945	08/27/2009 1000
580-15149-3	3-B-49 0-2	Solid	08/25/2009 1650	08/27/2009 1000
580-15149-4	3-B-46 2-4	Solid	08/26/2009 1010	08/27/2009 1000
580-15149-5	3-B-48 2.25-3.75	Solid	08/26/2009 0900	08/27/2009 1000
580-15149-6	3-B-30 0-4	Solid	08/14/2009 0945	08/27/2009 1000
580-15149-7	3-B-48 3.75-5	Solid	08/26/2009 0905	08/27/2009 1000
580-15149-8	3-B-34 1-2	Solid	08/24/2009 1300	08/27/2009 1000
580-15149-9	3-B-31 2-4	Solid	08/24/2009 1030	08/27/2009 1000
580-15149-10	3-B-46 0-2	Solid	08/26/2009 1000	08/27/2009 1000
580-15149-11	3-B-39 2-3.25	Solid	08/24/2009 1326	08/27/2009 1000
580-15149-12	3-B-31 6-7.5	Solid	08/24/2009 1141	08/27/2009 1000
580-15149-13	3-B-31 0-2	Solid	08/24/2009 1115	08/27/2009 1000
580-15149-14	3-B-38 2-3.25	Solid	08/24/2009 1500	08/27/2009 1000

Analytical Data

Client: AECOM, Inc.

Job Number: 580-15149-1

Client Sample ID: EB-082609

Lab Sample ID: 580-15149-1

Date Sampled: 08/26/2009 1150

Client Matrix: Water

Date Received: 08/27/2009 1000

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Method:	NWTPH-Dx	Analysis Batch: 580-49470	Instrument ID:	TAC013
Preparation:	3510C	Prep Batch: 580-49294	Lab File ID:	FA39567.D
Dilution:	1.0		Initial Weight/Volume:	1006 mL
Date Analyzed:	09/01/2009 1146		Final Weight/Volume:	5 mL
Date Prepared:	08/28/2009 1026		Injection Volume:	1 uL

Analyte	Result (mg/L)	Qualifier	MDL	RL
#2 Diesel (C10-C24)	ND		0.073	0.12
Motor Oil (>C24-C36)	ND		0.048	0.25

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	119		50 - 150

Analytical Data

Client: AECOM, Inc.

Job Number: 580-15149-1

Client Sample ID: EB-082609

Lab Sample ID: 580-15149-1

Date Sampled: 08/26/2009 1150

Client Matrix: Water

Date Received: 08/27/2009 1000

NWTPH-Dx Semi-Volatile Petroleum Products by NWTPH with Silica Gel Cleanup

Method:	NWTPH-Dx	Analysis Batch: 580-49470	Instrument ID:	TAC013
Preparation:	3510C	Prep Batch: 580-49294	Lab File ID:	FA39562.D
Dilution:	1.0		Initial Weight/Volume:	1006 mL
Date Analyzed:	09/01/2009 1006		Final Weight/Volume:	5 mL
Date Prepared:	08/28/2009 1026		Injection Volume:	1 uL

Analyte	Result (mg/L)	Qualifier	MDL	RL
#2 Diesel (C10-C24)	ND		0.073	0.12
Motor Oil (>C24-C36)	ND		0.048	0.25

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	122		50 - 150

Client: AECOM, Inc.

Job Number: 580-15149-1

General Chemistry

Client Sample ID: EB-082609

Lab Sample ID: 580-15149-1

Date Sampled: 08/26/2009 1150

Client Matrix: Water

Date Received: 08/27/2009 1000

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Total Organic Carbon	1.0	J	mg/L	0.33	1.0	1.0	415.1

Analysis Batch: 580-49611 Date Analyzed: 09/02/2009 0744

Client: AECOM, Inc.

Job Number: 580-15149-1

General Chemistry

Client Sample ID: 3-B-30 4-6

Lab Sample ID: 580-15149-2

Date Sampled: 08/14/2009 0945

Client Matrix: Solid

Date Received: 08/27/2009 1000

Analyte	Result	Qual	Units	RL	RL	Dil	Method
Percent Solids	96		%	0.10	0.10	1.0	Moisture
	Analysis Batch: 580-49402	Date Analyzed: 08/31/2009 0958					DryWt Corrected: N
Percent Moisture	4.0		%	0.10	0.10	1.0	Moisture
	Analysis Batch: 580-49402	Date Analyzed: 08/31/2009 0958					DryWt Corrected: N

Client: AECOM, Inc.

Job Number: 580-15149-1

General Chemistry

Client Sample ID: 3-B-49 0-2

Lab Sample ID: 580-15149-3

Date Sampled: 08/25/2009 1650

Client Matrix: Solid

Date Received: 08/27/2009 1000

Analyte	Result	Qual	Units	RL	RL	Dil	Method
Percent Solids	72		%	0.10	0.10	1.0	Moisture
	Analysis Batch: 580-49402	Date Analyzed: 08/31/2009 0958					DryWt Corrected: N
Percent Moisture	28		%	0.10	0.10	1.0	Moisture
	Analysis Batch: 580-49402	Date Analyzed: 08/31/2009 0958					DryWt Corrected: N

Client: AECOM, Inc.

Job Number: 580-15149-1

General Chemistry

Client Sample ID: 3-B-46 2-4

Lab Sample ID: 580-15149-4

Date Sampled: 08/26/2009 1010

Client Matrix: Solid

Date Received: 08/27/2009 1000

Analyte	Result	Qual	Units	RL	RL	Dil	Method
Percent Solids	68		%	0.10	0.10	1.0	Moisture
	Analysis Batch: 580-49402	Date Analyzed: 08/31/2009 0958					DryWt Corrected: N
Percent Moisture	32		%	0.10	0.10	1.0	Moisture
	Analysis Batch: 580-49402	Date Analyzed: 08/31/2009 0958					DryWt Corrected: N

Client: AECOM, Inc.

Job Number: 580-15149-1

General Chemistry

Client Sample ID: 3-B-48 2.25-3.75

Lab Sample ID: 580-15149-5

Date Sampled: 08/26/2009 0900

Client Matrix: Solid

Date Received: 08/27/2009 1000

Analyte	Result	Qual	Units	RL	RL	Dil	Method
Percent Solids	61		%	0.10	0.10	1.0	Moisture
	Analysis Batch: 580-49402	Date Analyzed: 08/31/2009 0958					DryWt Corrected: N
Percent Moisture	39		%	0.10	0.10	1.0	Moisture
	Analysis Batch: 580-49402	Date Analyzed: 08/31/2009 0958					DryWt Corrected: N

Analytical Data

Client: AECOM, Inc.

Job Number: 580-15149-1

General Chemistry

Client Sample ID: 3-B-30 0-4

Lab Sample ID: 580-15149-6

Date Sampled: 08/14/2009 0945

Client Matrix: Solid

Date Received: 08/27/2009 1000

Analyte	Result	Qual	Units	RL	RL	Dil	Method
Percent Solids	77		%	0.10	0.10	1.0	Moisture
	Analysis Batch: 580-49402	Date Analyzed: 08/31/2009 0958					DryWt Corrected: N
Percent Moisture	23		%	0.10	0.10	1.0	Moisture
	Analysis Batch: 580-49402	Date Analyzed: 08/31/2009 0958					DryWt Corrected: N

Client: AECOM, Inc.

Job Number: 580-15149-1

General Chemistry

Client Sample ID: 3-B-48 3.75-5

Lab Sample ID: 580-15149-7

Client Matrix: Solid

Date Sampled: 08/26/2009 0905

Date Received: 08/27/2009 1000

Analyte	Result	Qual	Units	RL	RL	Dil	Method
Percent Solids	75		%	0.10	0.10	1.0	Moisture
	Analysis Batch: 580-49402	Date Analyzed: 08/31/2009 0958					DryWt Corrected: N
Percent Moisture	25		%	0.10	0.10	1.0	Moisture
	Analysis Batch: 580-49402	Date Analyzed: 08/31/2009 0958					DryWt Corrected: N

Client: AECOM, Inc.

Job Number: 580-15149-1

General Chemistry

Client Sample ID: 3-B-34 1-2

Lab Sample ID: 580-15149-8

Date Sampled: 08/24/2009 1300

Client Matrix: Solid

Date Received: 08/27/2009 1000

Analyte	Result	Qual	Units	RL	RL	Dil	Method
Percent Solids	66		%	0.10	0.10	1.0	Moisture
	Analysis Batch: 580-49402	Date Analyzed: 08/31/2009 0958					DryWt Corrected: N
Percent Moisture	34		%	0.10	0.10	1.0	Moisture
	Analysis Batch: 580-49402	Date Analyzed: 08/31/2009 0958					DryWt Corrected: N

Client: AECOM, Inc.

Job Number: 580-15149-1

General Chemistry

Client Sample ID: 3-B-31 2-4

Lab Sample ID: 580-15149-9

Date Sampled: 08/24/2009 1030

Client Matrix: Solid

Date Received: 08/27/2009 1000

Analyte	Result	Qual	Units	RL	RL	Dil	Method
Percent Solids	61		%	0.10	0.10	1.0	Moisture
	Analysis Batch: 580-49402	Date Analyzed: 08/31/2009 0958					DryWt Corrected: N
Percent Moisture	39		%	0.10	0.10	1.0	Moisture
	Analysis Batch: 580-49402	Date Analyzed: 08/31/2009 0958					DryWt Corrected: N

Client: AECOM, Inc.

Job Number: 580-15149-1

General Chemistry

Client Sample ID: 3-B-46 0-2

Lab Sample ID: 580-15149-10

Date Sampled: 08/26/2009 1000

Client Matrix: Solid

Date Received: 08/27/2009 1000

Analyte	Result	Qual	Units	RL	RL	Dil	Method
Percent Solids	65		%	0.10	0.10	1.0	Moisture
	Analysis Batch: 580-49402	Date Analyzed: 08/31/2009		0958			DryWt Corrected: N
Percent Moisture	35		%	0.10	0.10	1.0	Moisture
	Analysis Batch: 580-49402	Date Analyzed: 08/31/2009		0958			DryWt Corrected: N

Client: AECOM, Inc.

Job Number: 580-15149-1

General Chemistry

Client Sample ID: 3-B-39 2-3.25

Lab Sample ID: 580-15149-11

Client Matrix: Solid

Date Sampled: 08/24/2009 1326

Date Received: 08/27/2009 1000

Analyte	Result	Qual	Units	RL	RL	Dil	Method
Percent Solids	60		%	0.10	0.10	1.0	Moisture
	Analysis Batch: 580-49402	Date Analyzed: 08/31/2009 0958					DryWt Corrected: N
Percent Moisture	40		%	0.10	0.10	1.0	Moisture
	Analysis Batch: 580-49402	Date Analyzed: 08/31/2009 0958					DryWt Corrected: N

Client: AECOM, Inc.

Job Number: 580-15149-1

General Chemistry

Client Sample ID: 3-B-31 6-7.5

Lab Sample ID: 580-15149-12

Date Sampled: 08/24/2009 1141

Client Matrix: Solid

Date Received: 08/27/2009 1000

Analyte	Result	Qual	Units	RL	RL	Dil	Method
Percent Solids	77		%	0.10	0.10	1.0	Moisture
	Analysis Batch: 580-49402	Date Analyzed: 08/31/2009 0958					DryWt Corrected: N
Percent Moisture	23		%	0.10	0.10	1.0	Moisture
	Analysis Batch: 580-49402	Date Analyzed: 08/31/2009 0958					DryWt Corrected: N

Client: AECOM, Inc.

Job Number: 580-15149-1

General Chemistry

Client Sample ID: 3-B-31 0-2

Lab Sample ID: 580-15149-13

Date Sampled: 08/24/2009 1115

Client Matrix: Solid

Date Received: 08/27/2009 1000

Analyte	Result	Qual	Units	RL	RL	Dil	Method
Percent Solids	39		%	0.10	0.10	1.0	Moisture
	Analysis Batch: 580-49402	Date Analyzed: 08/31/2009 0958					DryWt Corrected: N
Percent Moisture	61		%	0.10	0.10	1.0	Moisture
	Analysis Batch: 580-49402	Date Analyzed: 08/31/2009 0958					DryWt Corrected: N

Client: AECOM, Inc.

Job Number: 580-15149-1

General Chemistry

Client Sample ID: 3-B-38 2-3.25

Lab Sample ID: 580-15149-14

Client Matrix: Solid

Date Sampled: 08/24/2009 1500

Date Received: 08/27/2009 1000

Analyte	Result	Qual	Units	RL	RL	Dil	Method
Percent Solids	53		%	0.10	0.10	1.0	Moisture
	Analysis Batch: 580-49402	Date Analyzed: 08/31/2009		0958			DryWt Corrected: N
Percent Moisture	47		%	0.10	0.10	1.0	Moisture
	Analysis Batch: 580-49402	Date Analyzed: 08/31/2009		0958			DryWt Corrected: N

Quality Control Results

Client: AECOM, Inc.

Job Number: 580-15149-1

Method Blank - Batch: 580-49294

Lab Sample ID: MB 580-49294/1-B
 Client Matrix: Water
 Dilution: 1.0
 Date Analyzed: 09/01/2009 0906
 Date Prepared: 08/28/2009 1026

Analysis Batch: 580-49470
 Prep Batch: 580-49294
 Units: mg/L

**Method: NWTPH-Dx
 Preparation: 3510C**

Instrument ID: TAC013
 Lab File ID: FA39559.D
 Initial Weight/Volume: 1000 mL
 Final Weight/Volume: 5 mL
 Injection Volume: 1 uL

Analyte	Result	Qual	MDL	RL
#2 Diesel (C10-C24)	ND		0.073	0.12
Motor Oil (>C24-C36)	ND		0.048	0.25
<hr/>				
Surrogate	% Rec	Acceptance Limits		
o-Terphenyl	123	50 - 150		

Method Blank - Batch: 580-49294

Lab Sample ID: MB 580-49294/1-A
 Client Matrix: Water
 Dilution: 1.0
 Date Analyzed: 09/01/2009 1046
 Date Prepared: 08/28/2009 1026

Analysis Batch: 580-49470
 Prep Batch: 580-49294
 Units: mg/L

**Method: NWTPH-Dx
 Preparation: 3510C**

Instrument ID: TAC013
 Lab File ID: FA39559.D
 Initial Weight/Volume: 1000 mL
 Final Weight/Volume: 5 mL
 Injection Volume: 1 uL

Analyte	Result	Qual	MDL	RL
#2 Diesel (C10-C24)	ND		0.073	0.12
Motor Oil (>C24-C36)	ND		0.048	0.25
<hr/>				
Surrogate	% Rec	Acceptance Limits		
o-Terphenyl	121	50 - 150		

Calculations are performed before rounding to avoid round-off errors in calculated results.

Quality Control Results

Client: AECOM, Inc.

Job Number: 580-15149-1

Lab Control Sample - Batch: 580-49294

**Method: NWTPH-Dx
Preparation: 3510C**

Lab Sample ID: LCS 580-49294/2-B
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 09/01/2009 0926
Date Prepared: 08/28/2009 1026

Analysis Batch: 580-49470
Prep Batch: 580-49294
Units: mg/L

Instrument ID: TAC013
Lab File ID: FA39560.D
Initial Weight/Volume: 1000 mL
Final Weight/Volume: 5 mL
Injection Volume: 1 uL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
#2 Diesel (C10-C24)	5.00	5.23	105	70 - 130	
Motor Oil (>C24-C36)	5.00	5.12	102	70 - 130	
Surrogate		% Rec		Acceptance Limits	
o-Terphenyl		138		50 - 150	

**Lab Control Sample/
Lab Control Sample Duplicate Recovery Report - Batch: 580-49294**

**Method: NWTPH-Dx
Preparation: 3510C**

LCS Lab Sample ID: LCS 580-49294/2-A
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 09/01/2009 1106
Date Prepared: 08/28/2009 1026

Analysis Batch: 580-49470
Prep Batch: 580-49294
Units: mg/L

Instrument ID: TAC013
Lab File ID: FA39565.D
Initial Weight/Volume: 1000 mL
Final Weight/Volume: 5 mL
Injection Volume: 1 uL

LCSD Lab Sample ID: LCSD 580-49294/3-B
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 09/01/2009 0946
Date Prepared: 08/28/2009 1026

Analysis Batch: 580-49470
Prep Batch: 580-49294
Units: mg/L

Instrument ID: TAC013
Lab File ID: FA39561.D
Initial Weight/Volume: 1000 mL
Final Weight/Volume: 5 mL
Injection Volume: 1 uL

Analyte	% Rec.		Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
	LCS	LCSD					
#2 Diesel (C10-C24)	104	106	70 - 140	1	30		
#2 Diesel (C10-C24)	104	109	70 - 140	5	27		
Motor Oil (>C24-C36)	103	106	66 - 125	3	30		
Motor Oil (>C24-C36)	103	107	66 - 125	5	27		
Surrogate		LCS % Rec	LCSD % Rec		Acceptance Limits		
o-Terphenyl		136	131		50 - 150		
o-Terphenyl		136	138		50 - 150		

Calculations are performed before rounding to avoid round-off errors in calculated results.

Quality Control Results

Client: AECOM, Inc.

Job Number: 580-15149-1

Method Blank - Batch: 580-49611

Method: 415.1
Preparation: N/A

Lab Sample ID: MB 580-49611/1
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 09/02/2009 0744
Date Prepared: N/A

Analysis Batch: 580-49611
Prep Batch: N/A
Units: mg/L

Instrument ID: No Equipment Assigned
Lab File ID: N/A
Initial Weight/Volume: 40 mL
Final Weight/Volume: 40 mL

Analyte	Result	Qual	MDL	RL
Total Organic Carbon	ND		0.33	1.0

Lab Control Sample - Batch: 580-49611

Method: 415.1
Preparation: N/A

Lab Sample ID: LCS 580-49611/2
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 09/02/2009 0744
Date Prepared: N/A

Analysis Batch: 580-49611
Prep Batch: N/A
Units: mg/L

Instrument ID: No Equipment Assigned
Lab File ID: N/A
Initial Weight/Volume: 40 mL
Final Weight/Volume: 40 mL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Total Organic Carbon	15.0	14.8	99	85 - 115	

Matrix Spike - Batch: 580-49611

Method: 415.1
Preparation: N/A

Lab Sample ID: 580-15049-B-1 MS
Client Matrix: Water
Dilution: 5.0
Date Analyzed: 09/02/2009 0744
Date Prepared: N/A

Analysis Batch: 580-49611
Prep Batch: N/A
Units: mg/L

Instrument ID: No Equipment Assigned
Lab File ID: N/A
Initial Weight/Volume: 40 mL
Final Weight/Volume: 40 mL

Analyte	Sample Result/Qual	Spike Amount	Result	% Rec.	Limit	Qual
Total Organic Carbon	59	10.0	68.6	101	49 - 142	4

Calculations are performed before rounding to avoid round-off errors in calculated results.

Quality Control Results

Client: AECOM, Inc.

Job Number: 580-15149-1

Duplicate - Batch: 580-49611

**Method: 415.1
Preparation: N/A**

Lab Sample ID: 580-15049-B-1 DU
Client Matrix: Water
Dilution: 5.0
Date Analyzed: 09/02/2009 0744
Date Prepared: N/A

Analysis Batch: 580-49611
Prep Batch: N/A
Units: mg/L

Instrument ID: No Equipment Assigned
Lab File ID: N/A
Initial Weight/Volume: 40 mL
Final Weight/Volume: 40 mL

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
Total Organic Carbon	59	58.0	1	20	

Calculations are performed before rounding to avoid round-off errors in calculated results.

Quality Control Results

Client: AECOM, Inc.

Job Number: 580-15149-1

Duplicate - Batch: 580-49402

Method: Moisture
Preparation: N/A

Lab Sample ID: 580-15149-4
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 08/31/2009 0958
Date Prepared: N/A

Analysis Batch: 580-49402
Prep Batch: N/A
Units: %

Instrument ID: No Equipment Assigned
Lab File ID: N/A
Initial Weight/Volume:
Final Weight/Volume:

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
Percent Solids	68	67	1	20	
Percent Moisture	32	33	2	20	

Calculations are performed before rounding to avoid round-off errors in calculated results.

DATA REPORTING QUALIFIERS

Client: AECOM, Inc.

Job Number: 580-15149-1

Lab Section	Qualifier	Description
General Chemistry		
	4	MS, MSD: The analyte present in the original sample is 4 times greater than the matrix spike concentration; therefore, control limits are not applicable.
	J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

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 #: **15745 15149**

CLIENT: BNSF REPORT TO: Sarah Albano ADDRESS: 710 2nd Ave Ste 1000 Seattle, WA 98104 PHONE: 206 424 9349 FAX:		INVOICE TO: Bruce Sheppard / Sarah Albano P.O. NUMBER:	
PROJECT NAME: Skysmish PROJECT NUMBER: 01140-284-0270		PRESERVATIVE:	
SAMPLED BY: Renee Knecht		REQUESTED ANALYSES:	
CLIENT SAMPLE IDENTIFICATION	SAMPLING DATE/TIME	DATE	TIME
1. EB-082609	8/26/09 1150	8/26/09	1100
2. 3-B-30 4-6	8/14/09 0945	8/14/09	0945
3. 3-B-49 0-2	8/25/09 0850	8/25/09	0850
4. 3-B-46 2-4	8/26/09 1010	8/26/09	1010
5. 3-B-48 2.25-3.75	8/26/09 0900	8/26/09	0900
6. 3-B-30 0-4	8/14/09 0945	8/14/09	0945
7. 3-B-48 3.75-5	8/26/09 0905	8/26/09	0905
8. 3-B-34 1-2	8/24/09 1300	8/24/09	1300
9. 3-B-31 2-4	8/24/09 1030	8/24/09	1030
10. 3-B-46 0-2	8/26/09 1000	8/26/09	1000

TURNAROUND REQUEST
 in Business Days *
 Organic & Inorganic Analyses
 Petroleum Hydrocarbon Analyses

10 STD. 7 5 4 3 2 1 <1
 5 4 3 2 1 <1 STD.

OTHER Specify: **Standard TAT**
 * Turnaround Requests less than standard may incur Rush Charges.

MATRIX (W, S, O)	# OF CONT.	LOCATION/ COMMENTS	TA W/O ID
W	2	487AT	161
S	1		172
S	1		183
S	1		194
S	1		205
S	1		216
S	1		227
S	1		238
S	1		249
S	1		250

RECEIVED BY: **[Signature]** DATE: **8/26/09**
 PRINT NAME: **[Signature]** TIME: **8:45**
 RECEIVED BY: **[Signature]** DATE: **8/27/09**
 PRINT NAME: **[Signature]** TIME:

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 #: **15745**

CLIENT: BNSF REPORT TO: BNSF Sarah Albano ADDRESS: 7102nd Ave Ste 1000 Seattle, WA 98104 PHONE: 206.424.8346 FAX: PROJECT NAME: Skykomish PROJECT NUMBER: 01140-284-0270 SAMPLED BY: Renee Knecht		INVOICE TO: Brice Sheppard Sarah Albano P.O. NUMBER:	
PRESERVATIVE REQUESTED ANALYSES		TURNAROUND REQUEST in Business Days * Organic & Inorganic Analyses Petroleum Hydrocarbon Analyses	
MATRIX (W, S, O) # OF CONT. LOCATION/ COMMENTS TA WO ID		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 type="checkbox"/> 5 <input type="checkbox"/> 4 <input type="checkbox"/> 3 <input type="checkbox"/> 2 <input type="checkbox"/> 1 <input type="checkbox"/> <1 Specify: Standard	
* Turnaround Requests less than standard may incur Rush Charges.		DATE: 8/26/09 TIME: 8:45 DATE: 8/27/09 TIME: 10:00	
RECEIVED BY: [Signature] PRINT NAME: [Signature]		FIRM: AECOM	
RECEIVED BY: [Signature] PRINT NAME: [Signature]		FIRM: AECOM	
RECEIVED BY: [Signature] PRINT NAME: [Signature]		FIRM: AECOM	
RECEIVED BY: [Signature] PRINT NAME: [Signature]		FIRM: AECOM	
ADDITIONAL REMARKS:		TEMP:	

Login Sample Receipt Check List

Client: AECOM, Inc.

Job Number: 580-15149-1

Login Number: 15149
Creator: Gamble, Cathy
List Number: 1

List Source: TestAmerica Tacoma

Question	T / F / NA	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	N/A	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Is the Field Sampler's name present on COC?	True	
Sample Preservation Verified	True	

ANALYTICAL REPORT

Job Number: 580-15128-2
Job Description: BNSF Skykomish Diesel

For:
AECOM, Inc.
710 Second Avenue
Suite 1000
Seattle, WA 98104
Attention: Sarah Albano



Approved for release.
Kate Haney
Project Manager II
9/16/2009 3:39 PM

Kate Haney
Project Manager II
kate.haney@testamericainc.com
09/16/2009
Revision: 1

TestAmerica Tacoma is a part of TestAmerica Laboratories, Inc.

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This report shall not be reproduced except in full, without prior express written approval by the laboratory. The results relate only to the item(s) tested and the sample(s) as received by the laboratory.

The results included in this report have been reviewed for compliance with the laboratory QA/QC plan and meet all requirements of NELAC. All data have been found to be compliant with laboratory protocol, with the exception of any items noted in the case narrative.

TestAmerica Laboratories, Inc.

TestAmerica Tacoma 5755 8th Street East, Tacoma, WA 98424
Tel (253) 922-2310 Fax (253) 922-5047 www.testamericainc.com



Job Narrative
580-J15128-2

Comments

No additional comments.

Receipt

All samples were received in good condition within temperature requirements.

General Chemistry

No analytical or quality issues were noted.

Subcontract

No analytical or quality issues were noted.

METHOD SUMMARY

Client: AECOM, Inc.

Job Number: 580-15128-2

Description	Lab Location	Method	Preparation Method
Matrix Solid			
Nitrogen, Ammonia, Distillation	TAL TAC	MCAWW 350.2	
Distillation, Ammonia	TAL TAC		Distill/Ammonia
General Sub Contract Method	TAL NSH	Subcontract	

Lab References:

TAL NSH = TestAmerica Nashville

TAL TAC = TestAmerica Tacoma

Method References:

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

SAMPLE SUMMARY

Client: AECOM, Inc.

Job Number: 580-15128-2

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
580-15128-4	3-B-51 0-2	Solid	08/25/2009 1120	08/26/2009 1100
580-15128-12	3-B-50 0-2	Solid	08/25/2009 1405	08/26/2009 1100
580-15128-17	3-B-49 0-2	Solid	08/25/2009 1612	08/26/2009 1100

Client: AECOM, Inc.

Job Number: 580-15128-2

General Chemistry

Client Sample ID: 3-B-51 0-2

Lab Sample ID: 580-15128-4

Date Sampled: 08/25/2009 1120

Client Matrix: Solid

% Moisture: 35.2

Date Received: 08/26/2009 1100

Analyte	Result	Qual	Units	RL	Dil	Method
Ammonia	ND		mg/Kg	100	1.0	350.2
	Analysis Batch: 580-49454	Date Analyzed: 08/31/2009	1527			DryWt Corrected: Y
	Prep Batch: 580-49406	Date Prepared: 08/31/2009	1036			

Client: AECOM, Inc.

Job Number: 580-15128-2

General Chemistry

Client Sample ID: 3-B-50 0-2

Lab Sample ID: 580-15128-12

Date Sampled: 08/25/2009 1405

Client Matrix: Solid

% Moisture: 46.6

Date Received: 08/26/2009 1100

Analyte	Result	Qual	Units	RL	Dil	Method
Ammonia	ND		mg/Kg	130	1.0	350.2
	Analysis Batch: 580-49454	Date Analyzed: 08/31/2009	1527			DryWt Corrected: Y
	Prep Batch: 580-49406	Date Prepared: 08/31/2009	1036			

Client: AECOM, Inc.

Job Number: 580-15128-2

General Chemistry

Client Sample ID: 3-B-49 0-2

Lab Sample ID: 580-15128-17

Date Sampled: 08/25/2009 1612

Client Matrix: Solid

% Moisture: 32.9

Date Received: 08/26/2009 1100

Analyte	Result	Qual	Units	RL	Dil	Method
Ammonia	ND		mg/Kg	86	1.0	350.2
	Analysis Batch: 580-49454	Date Analyzed: 08/31/2009	1527			DryWt Corrected: Y
	Prep Batch: 580-49406	Date Prepared: 08/31/2009	1036			

Quality Control Results

Client: AECOM, Inc.

Job Number: 580-15128-2

Method Blank - Batch: 580-49406

Lab Sample ID: MB 580-49406/1-A
 Client Matrix: Solid
 Dilution: 1.0
 Date Analyzed: 08/31/2009 1527
 Date Prepared: 08/31/2009 1036

Analysis Batch: 580-49454
 Prep Batch: 580-49406
 Units: mg/Kg

**Method: 350.2
 Preparation: Distill/Ammonia**

Instrument ID: No Equipment Assigned
 Lab File ID: N/A
 Initial Weight/Volume: 1.0 g
 Final Weight/Volume: 250 mL

Analyte	Result	Qual	RL
Ammonia	ND		88

**Lab Control Sample/
 Lab Control Sample Duplicate Recovery Report - Batch: 580-49406**

LCS Lab Sample ID: LCS 580-49406/2-A
 Client Matrix: Solid
 Dilution: 1.0
 Date Analyzed: 08/31/2009 1527
 Date Prepared: 08/31/2009 1036

Analysis Batch: 580-49454
 Prep Batch: 580-49406
 Units: mg/Kg

**Method: 350.2
 Preparation: Distill/Ammonia**

Instrument ID: No Equipment Assigned
 Lab File ID: N/A
 Initial Weight/Volume: 1.0 g
 Final Weight/Volume: 250 mL

LCSD Lab Sample ID: LCSD 580-49406/3-A
 Client Matrix: Solid
 Dilution: 1.0
 Date Analyzed: 08/31/2009 1527
 Date Prepared: 08/31/2009 1036

Analysis Batch: 580-49454
 Prep Batch: 580-49406
 Units: mg/Kg

Instrument ID: No Equipment Assigned
 Lab File ID: N/A
 Initial Weight/Volume: 1.0 g
 Final Weight/Volume: 250 mL

Analyte	<u>% Rec.</u>		Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
	LCS	LCSD					
Ammonia	98	97	90 - 110	2	20		

Calculations are performed before rounding to avoid round-off errors in calculated results.

Quality Control Results

Client: AECOM, Inc.

Job Number: 580-15128-2

**Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 580-49406**

**Method: 350.2
Preparation: Distill/Ammonia**

MS Lab Sample ID: 580-15128-12
 Client Matrix: Solid
 Dilution: 1.0
 Date Analyzed: 08/31/2009 1527
 Date Prepared: 08/31/2009 1036

Analysis Batch: 580-49454
 Prep Batch: 580-49406

Instrument ID: No Equipment Assigned
 Lab File ID: N/A
 Initial Weight/Volume: 1.11 g
 Final Weight/Volume: 250 mL

MSD Lab Sample ID: 580-15128-12
 Client Matrix: Solid
 Dilution: 1.0
 Date Analyzed: 08/31/2009 1527
 Date Prepared: 08/31/2009 1036

Analysis Batch: 580-49454
 Prep Batch: 580-49406

Instrument ID: No Equipment Assigned
 Lab File ID: N/A
 Initial Weight/Volume: 1.14 g
 Final Weight/Volume: 250 mL

Analyte	% Rec.		Limit	RPD	RPD Limit	MS Qual	MSD Qual
	MS	MSD					
Ammonia	89	92	90 - 110	1	20	F	

Duplicate - Batch: 580-49406

**Method: 350.2
Preparation: Distill/Ammonia**

Lab Sample ID: 580-15128-12
 Client Matrix: Solid
 Dilution: 1.0
 Date Analyzed: 08/31/2009 1527
 Date Prepared: 08/31/2009 1036

Analysis Batch: 580-49454
 Prep Batch: 580-49406
 Units: mg/Kg

Instrument ID: No Equipment Assigned
 Lab File ID: N/A
 Initial Weight/Volume: 1.19 g
 Final Weight/Volume: 250 mL

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
Ammonia	ND	ND	NC	20	

Calculations are performed before rounding to avoid round-off errors in calculated results.

DATA REPORTING QUALIFIERS

Client: AECOM, Inc.

Job Number: 580-15128-2

Lab Section	Qualifier	Description
General Chemistry	F	MS or MSD exceeds the control limits

September 03, 2009 9:29:31AM

Client: TestAmerica Tacoma
5755 8th Street East
Tacoma, WA 98424
Attn: Kate Haney

Work Order: NSH2545
Project Name: TA-Tacoma: BNSF-Skyomish Diesel
Project Nbr: 58015128
P/O Nbr:
Date Received: 08/28/09

SAMPLE IDENTIFICATION	LAB NUMBER	COLLECTION DATE AND TIME
3-B-51 0-2	NSH2545-01	08/25/09 11:20
3-B-50 0-2	NSH2545-02	08/25/09 14:05
3-B-49 0-2	NSH2545-03	08/25/09 16:12

An executed copy of the chain of custody, the project quality control data, and the sample receipt form are also included as an addendum to this report. If you have any questions relating to this analytical report, please contact your Laboratory Project Manager at 1-800-765-0980. Any opinions, if expressed, are outside the scope of the Laboratory's accreditation.

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Washington Certification Number: C1712

The Chain(s) of Custody, 2 pages, are included and are an integral part of this report.

These results relate only to the items tested. This report shall not be reproduced except in full and with permission of the laboratory.

All solids results are reported in wet weight unless specifically stated.

Estimated uncertainty is available upon request.

This report has been electronically signed.

Report Approved By:



Debbie LaValle

Project Manager

Client TestAmerica Tacoma
 5755 8th Street East
 Tacoma, WA 98424
 Attn Kate Haney

Work Order: NSH2545
 Project Name: TA-Tacoma: BNSF-Skyomish Diesel
 Project Number: 58015128
 Received: 08/28/09 08:00

ANALYTICAL REPORT

Analyte	Result	Flag	Units	MRL	Dilution Factor	Analysis Date/Time	Method	Batch
Sample ID: NSH2545-01 (3-B-51 0-2 - Soil) Sampled: 08/25/09 11:20								
General Chemistry Parameters								
% Dry Solids	64.6		%	0.500	1	09/01/09 08:54	SW-846	9085105
Sulfide	ND		mg/kg dry	31.0	1	09/02/09 17:30	W846 9030B/903	9090167
Sample ID: NSH2545-02 (3-B-50 0-2 - Soil) Sampled: 08/25/09 14:05								
General Chemistry Parameters								
% Dry Solids	51.9		%	0.500	1	09/01/09 08:54	SW-846	9085105
Sulfide	ND		mg/kg dry	38.5	1	09/02/09 17:30	W846 9030B/903	9090167
Sample ID: NSH2545-03 (3-B-49 0-2 - Soil) Sampled: 08/25/09 16:12								
General Chemistry Parameters								
% Dry Solids	68.8		%	0.500	1	09/01/09 08:54	SW-846	9085105
Sulfide	ND		mg/kg dry	29.1	1	09/02/09 17:30	W846 9030B/903	9090167

Client TestAmerica Tacoma
5755 8th Street East
Tacoma, WA 98424
Attn Kate Haney

Work Order: NSH2545
Project Name: TA-Tacoma: BNSF-Skyomish Diesel
Project Number: 58015128
Received: 08/28/09 08:00

PROJECT QUALITY CONTROL DATA
Blank

Analyte	Blank Value	Q	Units	Q.C. Batch	Lab Number	Analyzed Date/Time
General Chemistry Parameters						
9090167-BLK1						
Sulfide	9.00		mg/kg wet	9090167	9090167-BLK1	09/02/09 17:30

Client TestAmerica Tacoma
 5755 8th Street East
 Tacoma, WA 98424
 Attn Kate Haney

Work Order: NSH2545
 Project Name: TA-Tacoma: BNSF-Skyomish Diesel
 Project Number: 58015128
 Received: 08/28/09 08:00

PROJECT QUALITY CONTROL DATA

Duplicate

Analyte	Orig. Val.	Duplicate	Q	Units	RPD	Limit	Batch	Sample Duplicated	% Rec.	Analyzed Date/Time
General Chemistry Parameters										
9085105-DUP1										
% Dry Solids	74.4	79.7		%	7	20	9085105	NSH1848-02		09/01/09 08:54
9090167-DUP1										
Sulfide	27.0	14.0	R2	mg/kg wet	63	12	9090167	NSH2546-02		09/02/09 17:30

Client TestAmerica Tacoma
5755 8th Street East
Tacoma, WA 98424
Attn Kate Haney

Work Order: NSH2545
Project Name: TA-Tacoma: BNSF-Skyomish Diesel
Project Number: 58015128
Received: 08/28/09 08:00

PROJECT QUALITY CONTROL DATA
LCS

Analyte	Known Val.	Analyzed Val	Q	Units	% Rec.	Target Range	Batch	Analyzed Date/Time
General Chemistry Parameters								
9090167-BS1								
Sulfide	200	202		mg/kg wet	101%	80 - 120	9090167	09/02/09 17:30

Client TestAmerica Tacoma
5755 8th Street East
Tacoma, WA 98424
Attn Kate Haney

Work Order: NSH2545
Project Name: TA-Tacoma: BNSF-Skyomish Diesel
Project Number: 58015128
Received: 08/28/09 08:00

PROJECT QUALITY CONTROL DATA
Matrix Spike

Analyte	Orig. Val.	MS Val	Q	Units	Spike Conc	% Rec.	Target Range	Batch	Sample Spiked	Analyzed Date/Time
General Chemistry Parameters										
9090167-MS1										
Sulfide	5.00	172		mg/kg wet	200	84%	70 - 130	9090167	NSH2581-01	09/02/09 17:30

Client TestAmerica Tacoma
 5755 8th Street East
 Tacoma, WA 98424
 Attn Kate Haney

Work Order: NSH2545
 Project Name: TA-Tacoma: BNSF-Skyomish Diesel
 Project Number: 58015128
 Received: 08/28/09 08:00

PROJECT QUALITY CONTROL DATA
Matrix Spike Dup

Analyte	Orig. Val.	Duplicate	Q	Units	Spike Conc	% Rec.	Target Range	RPD	Limit	Batch	Sample Duplicated	Analyzed Date/Time
General Chemistry Parameters												
9090167-MSD1												
Sulfide	5.00	152		mg/kg wet	200	74%	70 - 130	12	12	9090167	NSH2581-01	09/02/09 17:30

Client TestAmerica Tacoma
5755 8th Street East
Tacoma, WA 98424
Attn Kate Haney

Work Order: NSH2545
Project Name: TA-Tacoma: BNSF-Skyomish Diesel
Project Number: 58015128
Received: 08/28/09 08:00

CERTIFICATION SUMMARY

TestAmerica Nashville

Method	Matrix	AIHA	Nelac	Washington
SW846 9030B/9034	Soil	N/A	X	X
SW-846	Soil			

Client TestAmerica Tacoma
5755 8th Street East
Tacoma, WA 98424
Attn Kate Haney

Work Order: NSH2545
Project Name: TA-Tacoma: BNSF-Skyomish Diesel
Project Number: 58015128
Received: 08/28/09 08:00

DATA QUALIFIERS AND DEFINITIONS

R2 The RPD exceeded the acceptance limit.
ND Not detected at the reporting limit (or method detection limit if shown)

METHOD MODIFICATION NOTES

COOLER RECEIPT



NSH2545

Cooler Received/Opened On: 8/28/2009 @ 8:00

1. Tracking # 3413 (last 4 digits, FedEx)

Courier: Fed-ex IR Gun ID: 95610068

2. Temperature of rep. sample or temp blank when opened: 2.7 Degrees Celsius

3. If Item #2 temperature is 0°C or less, was the representative sample or temp blank frozen? YES NO NA

4. Were custody seals on outside of cooler? YES NO NA

If yes, how many and where: _____

5. Were the seals intact, signed, and dated correctly? YES NO NA

6. Were custody papers inside cooler? YES NO NA

I certify that I opened the cooler and answered questions 1-6 (initial) _____

7. Were custody seals on containers: YES NO and Intact YES NO NA

Were these signed and dated correctly? YES NO NA

8. Packing mat'l used? Bubblewrap Plastic bag Peanuts Vermiculite Foam Insert Paper Other None

9. Cooling process: Ice Ice-pack Ice (direct contact) Dry ice Other None

10. Did all containers arrive in good condition (unbroken)? YES NO NA

11. Were all container labels complete (#, date, signed, pres., etc)? YES NO NA

12. Did all container labels and tags agree with custody papers? YES NO NA

13a. Were VOA vials received? YES NO NA

b. Was there any observable headspace present in any VOA vial? YES NO NA

14. Was there a Trip Blank in this cooler? YES NO NA If multiple coolers, sequence # _____

I certify that I unloaded the cooler and answered questions 7-14 (initial) _____

15a. On pres'd bottles, did pH test strips suggest preservation reached the correct pH level? YES NO NA

b. Did the bottle labels indicate that the correct preservatives were used? YES NO NA

16. Was residual chlorine present? YES NO NA

I certify that I checked for chlorine and pH as per SOP and answered questions 15-16 (initial) _____

17. Were custody papers properly filled out (ink, signed, etc)? YES NO NA

18. Did you sign the custody papers in the appropriate place? YES NO NA

19. Were correct containers used for the analysis requested? YES NO NA

20. Was sufficient amount of sample sent in each container? YES NO NA

I certify that I entered this project into LIMS and answered questions 17-20 (initial) _____

I certify that I attached a label with the unique LIMS number to each container (initial) _____

21. Were there Non-Conformance issues at login? YES NO Was a PIPE generated? YES NO # _____



CHAIN OF CUSTODY

BNSF PROJECT INFORMATION

BNSF Project Number: Skylomish

BNSF Project Name: Bruce Sheppard

BNSF Contact: Skylomish

BNSF Work Order No.: Washington

Project State of Origin: Skylomish

Project City: Skylomish

Company: AECOM

Address: 710 2nd Ave Ste 1000

City/State/ZIP: Seattle, WA 98104

LABORATORY INFORMATION

Laboratory: Test America

Project Manager: Kate Haney

Address: 5755 8th St. E

Phone: 253.922.2310

City/State/ZIP: 253.922.5047

Project Number: 0140-284-0270

Project Manager: Sarah Albano

Company: AECOM

Address: 710 2nd Ave Ste 1000

City/State/ZIP: Seattle, WA 98104

Phone: 206.629.1349

Email: Sarah.albano@aecom.com

Project Number: 0140-284-0270

Project Manager: Sarah Albano

Company: AECOM

Address: 710 2nd Ave Ste 1000

City/State/ZIP: Seattle, WA 98104

Phone: 206.629.1349

Email: Sarah.albano@aecom.com

Project Number: 0140-284-0270

Project Manager: Sarah Albano

Company: AECOM

Address: 710 2nd Ave Ste 1000

City/State/ZIP: Seattle, WA 98104

Phone: 206.629.1349

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Address: 710 2nd Ave Ste 1000

City/State/ZIP: Seattle, WA 98104

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Address: 710 2nd Ave Ste 1000

City/State/ZIP: Seattle, WA 98104

Phone: 206.629.1349

Email: Sarah.albano@aecom.com

SAMPLE INFORMATION

Sample Identification

Containers

Date

Time

Sampler

Sample Collection

Filled Y/N

Type (Comp/Grab)

Matrix

DELIVERABLES

Other Deliverables?

BNSF Standard (Level II)

Level III

Level IV

EDD Req. Format?

TURNAROUND TIME

1-day Rush

2-day Rush

3-day Rush

5- to 8-day Rush

Standard 10-Day

Other

Comments

LAB USE

Comments and Special Analytical Requirements:

Lab: Custody Intact?

Custody Seal No.

Received By

Date/Time

Received By

Date/Time

LAB WORK ORDER: 15128

SHIPMENT INFORMATION

Shipment Method: Counter Drop Off

Tracking Number:

Project Number: 0140-284-0270

Project Manager: Sarah Albano

Company: AECOM

Address: 710 2nd Ave Ste 1000

City/State/ZIP: Seattle, WA 98104

Phone: 206.629.1349

Email: Sarah.albano@aecom.com

Project Number: 0140-284-0270

Project Manager: Sarah Albano

Company: AECOM

Address: 710 2nd Ave Ste 1000

City/State/ZIP: Seattle, WA 98104

Phone: 206.629.1349

Email: Sarah.albano@aecom.com

Project Number: 0140-284-0270

Project Manager: Sarah Albano

Company: AECOM

Address: 710 2nd Ave Ste 1000

City/State/ZIP: Seattle, WA 98104

Phone: 206.629.1349

Email: Sarah.albano@aecom.com

Project Number: 0140-284-0270

Project Manager: Sarah Albano

Company: AECOM

Address: 710 2nd Ave Ste 1000

City/State/ZIP: Seattle, WA 98104

Phone: 206.629.1349

Email: Sarah.albano@aecom.com

Project Number: 0140-284-0270

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Address: 710 2nd Ave Ste 1000

City/State/ZIP: Seattle, WA 98104

Phone: 206.629.1349

Email: Sarah.albano@aecom.com

Project Number: 0140-284-0270

Project Manager: Sarah Albano

ORIGINAL - RETURN TO LABORATORY WITH SAMPLES

kg Green/Blue - TB: 2.0

Temp 3.8

Temp 0.5

Temp 1.1

DUPLICATE - CONSULTANT

TAL-1001 (06/08)

Login Sample Receipt Check List

Client: AECOM, Inc.

Job Number: 580-15128-2

Login Number: 15128
Creator: Gamble, Cathy
List Number: 1

List Source: TestAmerica Tacoma

Question	T / F / NA	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	N/A	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Is the Field Sampler's name present on COC?	True	
Sample Preservation Verified	N/A	

ANALYTICAL REPORT

Job Number: 580-15149-2
Job Description: BNSF Skykomish

For:
AECOM, Inc.
710 Second Avenue
Suite 1000
Seattle, WA 98104
Attention: Sarah Albano



Approved for release.
Kate Haney
Project Manager II
9/21/2009 5:15 PM

Kate Haney
Project Manager II
kate.haney@testamericainc.com
09/21/2009

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This report is issued solely for the use of the person or company to whom it is addressed. Any use, copying or disclosure other than by the intended recipient is unauthorized. If you have received this report in error, please notify the sender immediately at 253-922-2310 and destroy this report immediately.

This report shall not be reproduced except in full, without prior express written approval by the laboratory. The results relate only to the item(s) tested and the sample(s) as received by the laboratory.

The results included in this report have been reviewed for compliance with the laboratory QA/QC plan and meet all requirements of NELAC. All data have been found to be compliant with laboratory protocol, with the exception of any items noted in the case narrative.

TestAmerica Laboratories, Inc.

TestAmerica Tacoma 5755 8th Street East, Tacoma, WA 98424
Tel (253) 922-2310 Fax (253) 922-5047 www.testamericainc.com



Job Narrative
580-J15149-2

Comments

No additional comments.

Receipt

All samples were received in good condition within temperature requirements.

Geotechnical

No analytical or quality issues were noted.

METHOD SUMMARY

Client: AECOM, Inc.

Job Number: 580-15149-2

Description	Lab Location	Method	Preparation Method
Matrix: Solid			
Grain Size	TAL TAC	ASTM D422	

Lab References:

TAL TAC = TestAmerica Tacoma

Method References:

ASTM = ASTM International

SAMPLE SUMMARY

Client: AECOM, Inc.

Job Number: 580-15149-2

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
580-15149-2	3-B-30 4-6	Solid	08/14/2009 0945	08/27/2009 1000
580-15149-3	3-B-49 0-2	Solid	08/25/2009 1650	08/27/2009 1000
580-15149-4	3-B-46 2-4	Solid	08/26/2009 1010	08/27/2009 1000
580-15149-5	3-B-48 2.25-3.75	Solid	08/26/2009 0900	08/27/2009 1000
580-15149-6	3-B-30 0-4	Solid	08/14/2009 0945	08/27/2009 1000
580-15149-7	3-B-48 3.75-5	Solid	08/26/2009 0905	08/27/2009 1000
580-15149-8	3-B-34 1-2	Solid	08/24/2009 1300	08/27/2009 1000
580-15149-9	3-B-31 2-4	Solid	08/24/2009 1030	08/27/2009 1000
580-15149-10	3-B-46 0-2	Solid	08/26/2009 1000	08/27/2009 1000
580-15149-11	3-B-39 2-3.25	Solid	08/24/2009 1326	08/27/2009 1000
580-15149-12	3-B-31 6-7.5	Solid	08/24/2009 1141	08/27/2009 1000
580-15149-13	3-B-31 0-2	Solid	08/24/2009 1115	08/27/2009 1000
580-15149-14	3-B-38 2-3.25	Solid	08/24/2009 1500	08/27/2009 1000

Analytical Data

Client: AECOM, Inc.

Job Number: 580-15149-2

Client Sample ID: 3-B-30 4-6

Lab Sample ID: 580-15149-2

Date Sampled: 08/14/2009 0945

Client Matrix: Solid

Date Received: 08/27/2009 1000

D422 Grain Size

Method:	D422	Analysis Batch: 580-50372	Instrument ID:	NOEQUIP
Preparation:	N/A		Lab File ID:	N/A
Dilution:	1.0		Initial Weight/Volume:	429.6 g
Date Analyzed:	09/10/2009 0740		Final Weight/Volume:	429.6 g
Date Prepared:				

Analyte	DryWt Corrected: N	Result (%)	Qualifier	NONE
Gravel		74		
Coarse Sand		12		
Medium Sand		7.6		
Fine Sand		3.4		
Very Fine Sand		0.30		
Silt		2.9		
Clay		0.60		

Analytical Data

Client: AECOM, Inc.

Job Number: 580-15149-2

Client Sample ID: 3-B-49 0-2

Lab Sample ID: 580-15149-3

Date Sampled: 08/25/2009 1650

Client Matrix: Solid

Date Received: 08/27/2009 1000

D422 Grain Size

Method:	D422	Analysis Batch: 580-50372	Instrument ID:	NOEQUIP
Preparation:	N/A		Lab File ID:	N/A
Dilution:	1.0		Initial Weight/Volume:	104.3 g
Date Analyzed:	09/10/2009 0740		Final Weight/Volume:	104.3 g
Date Prepared:				

Analyte	DryWt Corrected: N	Result (%)	Qualifier	NONE
Gravel		0.00		
Coarse Sand		0.30		
Medium Sand		4.5		
Fine Sand		46		
Very Fine Sand		2.9		
Silt		32		
Clay		14		

Analytical Data

Client: AECOM, Inc.

Job Number: 580-15149-2

Client Sample ID: 3-B-48 2.25-3.75

Lab Sample ID: 580-15149-5

Date Sampled: 08/26/2009 0900

Client Matrix: Solid

Date Received: 08/27/2009 1000

D422 Grain Size

Method:	D422	Analysis Batch: 580-50372	Instrument ID:	NOEQUIP
Preparation:	N/A		Lab File ID:	N/A
Dilution:	1.0		Initial Weight/Volume:	88.4 g
Date Analyzed:	09/10/2009 0740		Final Weight/Volume:	88.4 g
Date Prepared:				

Analyte	DryWt Corrected: N	Result (%)	Qualifier	NONE
Gravel		0.00		
Coarse Sand		0.40		
Medium Sand		3.3		
Fine Sand		62		
Very Fine Sand		3.7		
Silt		22		
Clay		8.6		

Analytical Data

Client: AECOM, Inc.

Job Number: 580-15149-2

Client Sample ID: 3-B-30 0-4

Lab Sample ID: 580-15149-6

Date Sampled: 08/14/2009 0945

Client Matrix: Solid

Date Received: 08/27/2009 1000

D422 Grain Size

Method:	D422	Analysis Batch: 580-50372	Instrument ID:	NOEQUIP
Preparation:	N/A		Lab File ID:	N/A
Dilution:	1.0		Initial Weight/Volume:	62.5 g
Date Analyzed:	09/10/2009 0740		Final Weight/Volume:	62.5 g
Date Prepared:				

Analyte	DryWt Corrected: N	Result (%)	Qualifier	NONE
Gravel		0.00		
Coarse Sand		0.00		
Medium Sand		4.6		
Fine Sand		37		
Very Fine Sand		4.9		
Silt		41		
Clay		12		

Analytical Data

Client: AECOM, Inc.

Job Number: 580-15149-2

Client Sample ID: 3-B-48 3.75-5

Lab Sample ID: 580-15149-7

Date Sampled: 08/26/2009 0905

Client Matrix: Solid

Date Received: 08/27/2009 1000

D422 Grain Size

Method:	D422	Analysis Batch: 580-50372	Instrument ID:	NOEQUIP
Preparation:	N/A		Lab File ID:	N/A
Dilution:	1.0		Initial Weight/Volume:	105.7 g
Date Analyzed:	09/10/2009 0740		Final Weight/Volume:	105.7 g
Date Prepared:				

Analyte	DryWt Corrected: N	Result (%)	Qualifier	NONE
Gravel		1.3		
Coarse Sand		3.9		
Medium Sand		38		
Fine Sand		45		
Very Fine Sand		0.80		
Silt		7.7		
Clay		3.8		

Analytical Data

Client: AECOM, Inc.

Job Number: 580-15149-2

Client Sample ID: 3-B-31 2-4

Lab Sample ID: 580-15149-9

Date Sampled: 08/24/2009 1030

Client Matrix: Solid

Date Received: 08/27/2009 1000

D422 Grain Size

Method:	D422	Analysis Batch: 580-50372	Instrument ID:	NOEQUIP
Preparation:	N/A		Lab File ID:	N/A
Dilution:	1.0		Initial Weight/Volume:	139.1 g
Date Analyzed:	09/10/2009 0740		Final Weight/Volume:	139.1 g
Date Prepared:				

Analyte	DryWt Corrected: N	Result (%)	Qualifier	NONE
Gravel		7.9		
Coarse Sand		41		
Medium Sand		22		
Fine Sand		25		
Very Fine Sand		1.1		
Silt		1.1		
Clay		2.2		

Analytical Data

Client: AECOM, Inc.

Job Number: 580-15149-2

Client Sample ID: 3-B-46 0-2

Lab Sample ID: 580-15149-10

Date Sampled: 08/26/2009 1000

Client Matrix: Solid

Date Received: 08/27/2009 1000

D422 Grain Size

Method:	D422	Analysis Batch: 580-50372	Instrument ID:	NOEQUIP
Preparation:	N/A		Lab File ID:	N/A
Dilution:	1.0		Initial Weight/Volume:	81.9 g
Date Analyzed:	09/10/2009 0740		Final Weight/Volume:	81.9 g
Date Prepared:				

Analyte	DryWt Corrected: N	Result (%)	Qualifier	NONE
Gravel		1.2		
Coarse Sand		1.4		
Medium Sand		4.4		
Fine Sand		41		
Very Fine Sand		2.9		
Silt		29		
Clay		20		

Analytical Data

Client: AECOM, Inc.

Job Number: 580-15149-2

Client Sample ID: 3-B-39 2-3.25

Lab Sample ID: 580-15149-11

Date Sampled: 08/24/2009 1326

Client Matrix: Solid

Date Received: 08/27/2009 1000

D422 Grain Size

Method:	D422	Analysis Batch: 580-50372	Instrument ID:	NOEQUIP
Preparation:	N/A		Lab File ID:	N/A
Dilution:	1.0		Initial Weight/Volume:	86.8 g
Date Analyzed:	09/10/2009 0740		Final Weight/Volume:	86.8 g
Date Prepared:				

Analyte	DryWt Corrected: N	Result (%)	Qualifier	NONE
Gravel		1.1		
Coarse Sand		1.6		
Medium Sand		3.8		
Fine Sand		51		
Very Fine Sand		4.6		
Silt		23		
Clay		15		

Analytical Data

Client: AECOM, Inc.

Job Number: 580-15149-2

Client Sample ID: 3-B-31 6-7.5

Lab Sample ID: 580-15149-12

Date Sampled: 08/24/2009 1141

Client Matrix: Solid

Date Received: 08/27/2009 1000

D422 Grain Size

Method:	D422	Analysis Batch: 580-50372	Instrument ID:	NOEQUIP
Preparation:	N/A		Lab File ID:	N/A
Dilution:	1.0		Initial Weight/Volume:	111.1 g
Date Analyzed:	09/10/2009 0740		Final Weight/Volume:	111.1 g
Date Prepared:				

Analyte	DryWt Corrected: N	Result (%)	Qualifier	NONE
Gravel		39		
Coarse Sand		4.9		
Medium Sand		26		
Fine Sand		24		
Very Fine Sand		0.30		
Silt		5.2		
Clay		0.60		

Analytical Data

Client: AECOM, Inc.

Job Number: 580-15149-2

Client Sample ID: 3-B-31 0-2

Lab Sample ID: 580-15149-13

Date Sampled: 08/24/2009 1115

Client Matrix: Solid

Date Received: 08/27/2009 1000

D422 Grain Size

Method:	D422	Analysis Batch: 580-50372	Instrument ID:	NOEQUIP
Preparation:	N/A		Lab File ID:	N/A
Dilution:	1.0		Initial Weight/Volume:	159.7 g
Date Analyzed:	09/10/2009 0740		Final Weight/Volume:	159.7 g
Date Prepared:				

Analyte	DryWt Corrected: N	Result (%)	Qualifier	NONE
Gravel		2.9		
Coarse Sand		2.0		
Medium Sand		3.5		
Fine Sand		32		
Very Fine Sand		3.2		
Silt		47		
Clay		8.7		

Analytical Data

Client: AECOM, Inc.

Job Number: 580-15149-2

Client Sample ID: 3-B-38 2-3.25

Lab Sample ID: 580-15149-14

Date Sampled: 08/24/2009 1500

Client Matrix: Solid

Date Received: 08/27/2009 1000

D422 Grain Size

Method:	D422	Analysis Batch: 580-50372	Instrument ID:	NOEQUIP
Preparation:	N/A		Lab File ID:	N/A
Dilution:	1.0		Initial Weight/Volume:	97.2 g
Date Analyzed:	09/10/2009 0740		Final Weight/Volume:	97.2 g
Date Prepared:				

Analyte	DryWt Corrected: N	Result (%)	Qualifier	NONE
Gravel		0.00		
Coarse Sand		0.30		
Medium Sand		3.6		
Fine Sand		30		
Very Fine Sand		3.6		
Silt		49		
Clay		13		

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 #: **15745 15149**

CLIENT: BNSF REPORT TO: Sarah Albano ADDRESS: 710 2nd Ave Ste 1000 Seattle, WA 98104 PHONE: 206 424 9349 FAX:		INVOICE TO: Bruce Sheppard / Sarah Albano P.O. NUMBER:	
PROJECT NAME: Skysmish PROJECT NUMBER: 01140-284-0270		PRESERVATIVE:	
SAMPLED BY: Renee Knecht		REQUESTED ANALYSES:	
CLIENT SAMPLE IDENTIFICATION	SAMPLING DATE/TIME	DATE	TIME
1 EB-082609	8/26/09 1150	X	X
2 3-B-30 4-6	8/14/09 0945	X	X
3 3-B-49 0-2	8/25/09 0850	X	X
4 3-B-46 2-4	8/26/09 1010	X	X
5 3-B-48 2.25-3.75	8/26/09 0900	X	X
6 3-B-30 0-4	8/14/09 0945	X	X
7 3-B-48 3.75-5	8/26/09 0905	X	X
8 3-B-34 1-2	8/24/09 1300	X	X
9 3-B-31 2-4	8/24/09 1030	X	X
10 3-B-46 0-2	8/26/09 1000	X	X

TURNAROUND REQUEST
 in Business Days *
 Organic & Inorganic Analyses
 Petroleum Hydrocarbon Analyses

10 STD. 7 5 4 3 2 1 <1
 5 4 3 2 1 <1 STD.

OTHER Specify: **Standard/TAT**
 * Turnaround Requests less than standard may incur Rush Charges.

MATRIX (W, S, O)	# OF CONT.	LOCATION/ COMMENTS	TA W/O ID
W	2	487AT	161
S	1		172
S	1		183
S	1		194
S	1		205
S	1		216
S	1		227
S	1		238
S	1		249
S	1		250

RECEIVED BY: **[Signature]** DATE: **8/26/09**
 PRINT NAME: **[Signature]** TIME: **8:45**
 RECEIVED BY: **[Signature]** DATE: **8/27/09**
 PRINT NAME: **[Signature]** TIME:

FIRM: **AECOM** FIRM: **[Signature]**
 FIRM: **[Signature]** FIRM: **[Signature]**
 TEMP:

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 #: **15745**

CLIENT: BNSF		INVOICE TO: Brice Sheppard	
REPORT TO: BNSF Sarah Albano		P.O. NUMBER:	
ADDRESS: 7102nd Ave Ste 1000		PRESERVATIVE	
PHONE: 509.624.8346 FAX:		REQUESTED ANALYSES	
PROJECT NAME: Skykomish		MATRIX (W, S, O)	
PROJECT NUMBER: 01140-284-0270		# OF CONT.	
SAMPLED BY: Renee Knecht		LOCATION/ COMMENTS	
CLIENT SAMPLE IDENTIFICATION		TA WO ID	
SAMPLING DATE/TIME		DATE	
3-B-39 2-3-25		8/24/09 1326	
3-B-31 6-7-5		8/24/09 1141	
3-B-31 0-2		8/24/09 1115	
3-B-38 2-3-25		8/24/09 1520	
5			
6			
7			
8			
9			
10			
RELEASED BY: Renee Knecht		RECEIVED BY: Brice Sheppard	
PRINT NAME: Renee Knecht		PRINT NAME: Brice Sheppard	
FIRM: AECOM		FIRM: AECOM	
DATE: 8/26/09		DATE: 8/26/09	
TIME: 1700		TIME: 1445	
DATE: 8/27/09		DATE: 8/27/09	
TIME: 10:00		TIME: 10:00	
TEMP:		TEMP:	
ADDITIONAL REMARKS:		ADDITIONAL REMARKS:	

Standard 17

* Turnaround Requests less than standard may incur Rush Charges.

Login Sample Receipt Check List

Client: AECOM, Inc.

Job Number: 580-15149-2

Login Number: 15149
Creator: Gamble, Cathy
List Number: 1

List Source: TestAmerica Tacoma

Question	T / F / NA	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	N/A	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Is the Field Sampler's name present on COC?	True	
Sample Preservation Verified	True	

Prepared for:
BNSF - Skykomish Soils

September 18, 2009

Organic and Inorganic Limited Data Validation Report

BNSF Skykomish Soils
Soil and Water QC Samples
TestAmerica of Bothell and Tacoma,
Washington Laboratory Data and Friedman and
Bruya Inc. Mobile Laboratory Data
March, July, and August 2009 Sampling

**Prepared By Ann Biegelsen
Environmental Quality Assurance Chemist**

AECOM Inc.
Document No.: 01140-284-0275

AECOM

Overview

The samples analyzed for the BNSF Soil sampling event from March, July, and August 2009 are listed in the Table of Samples Analyzed (pages 3-7). Data validation was performed on 159 soil samples, and one equipment rinsate blank sample.

The samples were analyzed by TestAmerica of Bothell and Tacoma, Washington and Friedman and Bruya, Inc. Mobile Laboratory. Limited data validation was performed on the following analyses: Diesel Range Hydrocarbons and Lube Oil Range Hydrocarbons by Method NWTPH-Dx; #2 Diesel (C10-C24) and Motor Oil (>C24-C36) by Method NWTPH-Dx and NWTPH-Dx with Silica Gel Cleanup; Total Organic Carbon (TOC) by MCAWW Method 415.1; TOC by SW-846 Method 9060; and Ammonia by MCAWW Method 350.2.

The Analytical Limited Data Validation Checklist is presented as pages 12-21. Data were evaluated based on validation criteria set forth in the USEPA Contract Laboratory Program (CLP) National Functional Guidelines for Superfund Organic Methods Data Review, document number USEPA-540-R-08-01, June 2008 with additional reference to USEPA Contract Laboratory Program (CLP) National Functional Guidelines for Organic Data Review, document number EPA 540/R-99-008 of October 1999 and USEPA Contract Laboratory Program (CLP) National Functional Guidelines for Inorganic Data Review, document number EPA 540-R-04-004 of October 2004, as they applied to the reported methodology. Field duplicate RPD control limits were taken from the USEPA Region I Laboratory Data Validation Functional Guidelines for Evaluating Organics Analyses, February 1988, upheld in DRAFT 1993.

The following data components were reviewed during the data validation procedure:

Submitted Deliverables
Case Narratives
Chain-of-Custody form(s) and sample integrity
Sample results, reporting detection limits, method detection limits, dilution factors
Holding times
Method blank results
Equipment rinse blank results
LCS/LCSD (blank spike) results
MS/MSD (matrix spike) results
Laboratory duplicate results
Organic surrogate recoveries
Blind field duplicate results
Electronic data deliverables (EDDs)

Data Validation Qualifiers Assigned During this Review

- J detected result, estimated concentration
- UJ undetected result, reporting limit is estimated
- U result has been evaluated to be undetected at the reporting limit or at the reported concentration; result is considered to be a false positive

Assigned qualifiers are detailed in the Analytical Limited Data Validation Checklist and are summarized in the Table of Qualified Analytical Results (pages 8-11).

Overall Data Assessment

Precision, accuracy, method compliance, and completeness of the data set have been determined to be acceptable, based on the data submitted. The data are suitable for their intended use.

Table of Samples Analyzed
BNSF Skykomish Soils
Soil with Water QC Samples
TestAmerica of Bothell and Tacoma, Washington Laboratory SDGs (as listed)
March, July, and August 2009 Sampling

Matrix	Sample ID	Parent Sample ID	Sample Date and Time	Lab SDG	Lab Sample ID
Soil	EW-2A(11-13)		3/19/2009 12:55	BSC0216	BSC0216-02
Soil	EW-2A(13-15)		3/19/2009 13:45	BSC0216	BSC0216-03
Soil	EW-2A(15-17)		3/19/2009 14:15	BSC0216	BSC0216-04
Soil	EW-2A(9-11)		3/19/2009 11:20	BSC0216	BSC0216-01
Soil	2A-B-43-14-16		7/30/2009 11:25	580-146861	580-14686-010
Soil	2A-B-43-16-18		7/30/2009 13:40	580-146861	580-14686-011
Soil	2A-B-43-18-20		7/30/2009 13:45	580-146861	580-14686-012
Soil	2A-B-44-10-12		7/29/2009 15:20	580-146861	580-14686-006
Soil	2A-B-44-14-16		7/30/2009 8:05	580-146861	580-14686-007
Soil	2A-B-44-16-18		7/30/2009 8:30	580-146861	580-14686-008
Soil	2A-B-44-19-21		7/30/2009 8:40	580-146861	580-14686-009
Soil	2A-B-45-120-140	2A-B-45-12-14	7/29/2009 9:00	580-146861	580-14686-001
Soil	2A-B-45-12-14		7/29/2009 10:25	580-146861	580-14686-002
Soil	2A-B-45-14-16		7/29/2009 11:00	580-146861	580-14686-003
Soil	2A-B-45-16-18		7/29/2009 11:05	580-146861	580-14686-004
Soil	2A-B-45-18-19		7/29/2009 11:15	580-146861	580-14686-005
Soil	1C-B-10-12-14		8/3/2009 10:35	580-147361	580-14736-003
Soil	2A-B-46-12-14		7/31/2009 9:00	580-147361	580-14736-001
Soil	2A-B-46-14-16		7/31/2009 9:05	580-147361	580-14736-002
Soil	2A-B-46-17-19		7/31/2009 9:50	580-147361	580-14736-004
Soil	5-B-77-11-12.5		8/5/2009 12:05	580-147841	580-14784-001
Soil	5-B-77-15-17		8/5/2009 13:30	580-147841	580-14784-003
Soil	5-B-77-9-11		8/5/2009 11:20	580-147841	580-14784-002
Soil	5-B-80-11-13		8/5/2009 15:20	580-147841	580-14784-005
Soil	5-B-80-13-15		8/5/2009 15:25	580-147841	580-14784-006
Soil	5-B-80-15-17		8/5/2009 15:35	580-147841	580-14784-007
Soil	5-B-80-9-11		8/5/2009 15:00	580-147841	580-14784-004
Soil	5-B-75 11-13		8/12/2009 14:30	580-149121	580-14912-017
Soil	5-B-75 13-15		8/12/2009 14:40	580-149121	580-14912-018
Soil	5-B-75 15-17		8/12/2009 14:50	580-149121	580-14912-019
Soil	5-B-75 9-11		8/12/2009 14:25	580-149121	580-14912-016
Soil	5-B-78 15-17		8/12/2009 9:00	580-149121	580-14912-011
Soil	5-B-81 11-13		8/12/2009 12:15	580-149121	580-14912-013
Soil	5-B-81 13-15		8/12/2009 12:20	580-149121	580-14912-014
Soil	5-B-81 15-17		8/12/2009 12:35	580-149121	580-14912-015
Soil	5-B-81 9-11		8/12/2009 12:05	580-149121	580-14912-012
Soil	5-B-82 10-12		8/11/2009 11:10	580-149121	580-14912-002

Continued on following page

Table of Samples Analyzed (continued)
BNSF Skykomish Soils
Soil with Water QC Samples
TestAmerica of Bothell and Tacoma, Washington Laboratory SDGs (as listed)
March, July, and August 2009 Sampling

Matrix	Sample ID	Parent Sample ID	Sample Date and Time	Lab SDG	Lab Sample ID	
Soil	5-B-82 90-100	5-B-82 9-10	8/11/2009 10:00	580-149121	580-14912-003	
Soil	5-B-82 9-10		8/11/2009 10:55	580-149121	580-14912-001	
Soil	5-B-83 12-14	5-B-83 9-11	8/11/2009 14:40	580-149121	580-14912-006	
Soil	5-B-83 14-16		8/11/2009 15:40	580-149121	580-14912-007	
Soil	5-B-83 16-18		8/11/2009 15:45	580-149121	580-14912-008	
Soil	5-B-83 9-11		8/11/2009 14:15	580-149121	580-14912-005	
Soil	5-B-86 110-130		5-B-86 11-13	8/13/2009 7:25	580-149121	580-14912-024
Soil	5-B-86 11-13			8/13/2009 8:10	580-149121	580-14912-021
Soil	5-B-86 130-150	5-B-86 13-15	8/13/2009 7:40	580-149121	580-14912-025	
Soil	5-B-86 13-15		8/13/2009 8:25	580-149121	580-14912-022	
Soil	5-B-86 90-110	5-B-86 9-11	8/13/2009 7:20	580-149121	580-14912-023	
Soil	5-B-86 9-11		8/13/2009 8:00	580-149121	580-14912-020	
Soil	1C-B-11 11-13		8/14/2009 10:35	580-149631	580-14963-015	
Soil	1C-B-11 13-15		8/14/2009 10:35	580-149631	580-14963-016	
Soil	1C-B-11 15-17		8/14/2009 10:40	580-149631	580-14963-017	
Soil	1C-B-11 9-10		8/14/2009 10:30	580-149631	580-14963-014	
Soil	1C-B-9 11-13		8/13/2009 15:20	580-149631	580-14963-008	
Soil	1C-B-9 13-15		8/13/2009 15:25	580-149631	580-14963-009	
Soil	1C-B-9 9-11		8/13/2009 15:15	580-149631	580-14963-007	
Soil	3-B-30 10-12		8/14/2009 8:30	580-149631	580-14963-013	
Soil	3-B-30 4-6		8/14/2009 8:00	580-149631	580-14963-010	
Soil	3-B-30 6-8		8/14/2009 8:20	580-149631	580-14963-011	
Soil	3-B-30 8-10		8/14/2009 8:25	580-149631	580-14963-012	
Soil	3-W-42 10-12		8/14/2009 11:55	580-149631	580-14963-021	
Soil	3-W-42 4-6		8/14/2009 9:45	580-149631	580-14963-018	
Soil	3-W-42 6-8		8/14/2009 10:00	580-149631	580-14963-019	
Soil	3-W-42 8-10		8/14/2009 11:30	580-149631	580-14963-020	
Soil	5-B-79 11-13		8/13/2009 10:35	580-149631	580-14963-003	
Soil	5-B-79 13-15		8/13/2009 10:45	580-149631	580-14963-004	
Soil	5-B-79 7-9		8/13/2009 10:05	580-149631	580-14963-001	
Soil	5-B-79 9-11		8/13/2009 10:25	580-149631	580-14963-002	
Soil	3-W-41 10-12			8/17/2009 10:40	580-150311	580-15031-004
Soil	3-W-41 4-6	8/17/2009 10:00		580-150311	580-15031-001	
Soil	3-W-41 6-8	8/17/2009 10:20		580-150311	580-15031-002	
Soil	3-W-41 8-10	8/17/2009 10:25		580-150311	580-15031-003	
Soil	3-W-43 10-12	8/18/2009 14:16		580-150311	580-15031-010	
Soil	3-W-43 4-6	8/18/2009 13:55		580-150311	580-15031-007	
Soil	3-W-43 6-8	8/18/2009 13:40		580-150311	580-15031-008	
Soil	3-W-43 8-10	8/18/2009 13:42		580-150311	580-15031-009	

Continued on following page

Table of Samples Analyzed (continued)
BNSF Skykomish Soils
Soil with Water QC Samples
TestAmerica of Bothell and Tacoma, Washington Laboratory SDGs (as listed)
March, July, and August 2009 Sampling

Matrix	Sample ID	Parent Sample ID	Sample Date and Time	Lab SDG	Lab Sample ID
Soil	5-B-85 18-20		8/18/2009 10:00	580-150311	580-15031-006
Soil	5-B-85 20-22		8/18/2009 10:40	580-150311	580-15031-005
Soil	1B-B-31 4.1	1B-B-31 8	8/20/2009 13:30	580-150971	580-15097-024
Soil	1B-B-31 6		8/20/2009 16:10	580-150971	580-15097-025
Soil	1B-B-31 8		8/21/2009 11:20	580-150971	580-15097-022
Soil	1B-B-31 8(DUP)		8/21/2009 11:20	580-150971	580-15097-023
Soil	3-B-31 0-2		8/24/2009 11:15	580-150971	580-15097-001
Soil	3-B-31 2-4		8/24/2009 10:30	580-150971	580-15097-002
Soil	3-B-31 4-6		8/24/2009 10:45	580-150971	580-15097-003
Soil	3-B-33 0-2		8/24/2009 17:25	580-150971	580-15097-021 & NSH2373-02
Soil	3-B-33 0-2		8/24/2009 17:40	580-150971	580-15097-017
Soil	3-B-33 2-4		8/24/2009 17:45	580-150971	580-15097-018
Soil	3-B-33 4-6		8/24/2009 18:00	580-150971	580-15097-019
Soil	3-B-34 0-2		8/24/2009 12:23	580-150971	580-15097-004
Soil	3-B-34 2-4		8/24/2009 12:30	580-150971	580-15097-005
Soil	3-B-34 4-6		8/24/2009 12:40	580-150971	580-15097-006
Soil	3-B-38 0-2		8/24/2009 14:45	580-150971	580-15097-011
Soil	3-B-38 2-4		8/24/2009 15:00	580-150971	580-15097-012
Soil	3-B-38 4-5		8/24/2009 15:30	580-150971	580-15097-013
Soil	3-B-39 0-2		8/24/2009 13:24	580-150971	580-15097-007
Soil	3-B-39 2-4		8/24/2009 13:40	580-150971	580-15097-008
Soil	3-B-39 4-6		8/24/2009 14:00	580-150971	580-15097-009
Soil	3-B-39 6-7		8/24/2009 14:10	580-150971	580-15097-010
Soil	3-B-52 0-2		8/24/2009 15:55	580-150971	580-15097-020 & NSH2373-01
Soil	3-B-52 0-2		8/24/2009 16:20	580-150971	580-15097-014
Soil	3-B-52 2-4	8/24/2009 16:40	580-150971	580-15097-015	
Soil	3-B-52 4-6	8/24/2009 16:45	580-150971	580-15097-016	
Soil	1B-B-30A 4	3-B-37 0-2	8/25/2009 11:30	580-151281	580-15128-022
Soil	1B-B-30A 6		8/25/2009 14:30	580-151281	580-15128-023
Soil	1B-B-30A 8		8/25/2009 15:30	580-151281	580-15128-024
Soil	3-B-37 0-2		8/25/2009 14:55	580-151281	580-15128-013
Soil	3-B-37 10-12		8/25/2009 15:00	580-151281	580-15128-016
Soil	3-B-37 2-4		8/25/2009 15:25	580-151281	580-15128-014
Soil	3-B-37 4-6		8/25/2009 15:27	580-151281	580-15128-015
Soil	3-B-44 0-2		8/25/2009 10:00	580-151281	580-15128-001
Soil	3-B-44 2-4		8/25/2009 10:10	580-151281	580-15128-002
Soil	3-B-44 4-6		8/25/2009 10:20	580-151281	580-15128-003
Soil	3-B-45 4-6		8/25/2009 9:10	580-151281	580-15128-027
Soil	3-B-45-0-2		8/25/2009 8:48	580-151281	580-15128-025

Continued on following page

Table of Samples Analyzed (continued)
BNSF Skykomish Soils
Soil with Water QC Samples
TestAmerica of Bothell and Tacoma, Washington Laboratory SDGs (as listed)
March, July, and August 2009 Sampling

Matrix	Sample ID	Parent Sample ID	Sample Date and Time	Lab SDG	Lab Sample ID	
Soil	3-B-45-2-4	3-B-49 2-4	8/25/2009 9:25	580-151281	580-15128-026	
Soil	3-B-49 12-14		8/25/2009 16:00	580-151281	580-15128-021	
Soil	3-B-49 2-4		8/25/2009 16:15	580-151281	580-15128-018	
Soil	3-B-49 4-6		8/25/2009 16:45	580-151281	580-15128-019	
Soil	3-B-50 2-4		8/25/2009 13:35	580-151281	580-15128-010	
Soil	3-B-50 4-5		8/25/2009 13:55	580-151281	580-15128-011	
Soil	3-B-51 12-14		3-B-51 2-4	8/25/2009 11:30	580-151281	580-15128-006
Soil	3-B-51 2-4			8/25/2009 11:25	580-151281	580-15128-005
Soil	3-B-51 4-6			8/25/2009 11:45	580-151281	580-15128-007
Soil	3-B-49 0-2			8/25/2009 16:12	580-151282	580-15128-017 & NSH2545-03
Soil	3-B-49 0-2		8/25/2009 16:50	580-151282	580-15128-020	
Soil	3-B-50 0-2		8/25/2009 13:32	580-151282	580-15128-009	
Soil	3-B-50 0-2		8/25/2009 14:05	580-151282	580-15128-012 & NSH2545-02	
Soil	3-B-51 0-2		8/25/2009 11:20	580-151282	580-15128-004 & NSH2545-01	
Soil	3-B-51 0-2		8/25/2009 11:50	580-151282	580-15128-008	
Soil	1B-B-30A 9	3-B-36 0-2	8/26/2009 11:00	580-151451	580-15145-014	
Soil	3-B-36 0-2		8/26/2009 7:25	580-151451	580-15145-001	
Soil	3-B-36 10-12		8/26/2009 7:15	580-151451	580-15145-004	
Soil	3-B-36 2-4		8/26/2009 7:30	580-151451	580-15145-002	
Soil	3-B-36 5.25-5.75		8/26/2009 7:55	580-151451	580-15145-003	
Soil	3-B-46 0-2		8/26/2009 10:00	580-151451	580-15145-010	
Soil	3-B-46 10-12		3-B-46 0-2	8/26/2009 9:45	580-151451	580-15145-015
Soil	3-B-46 2-4			8/26/2009 10:10	580-151451	580-15145-011
Soil	3-B-46 4-6			8/26/2009 10:25	580-151451	580-15145-012
Soil	3-B-48 14-15.5			3-B-48 4-5.5	8/26/2009 8:55	580-151451
Soil	3-B-48 2-4		8/26/2009 9:00		580-151451	580-15145-006
Soil	3-B-48 4-5.5		8/26/2009 9:05		580-151451	580-15145-007
Soil	3-B-47 0-2		8/26/2009 11:05		580-151452	580-15145-013 & NSH2546-02
Soil	3-B-48 0-2		8/26/2009 8:35	580-151452	580-15145-005 & NSH2546-01	
Soil	3-B-48 0-2		8/26/2009 9:25	580-151452	580-15145-009	
Water QC	EB-082609		8/26/2009	580-151491	580-15149-001	
Soil	5-B-78 11-13		8/12/2009 9:30	S090812	S090812-10	
Soil	5-B-78 13-15		8/12/2009 9:45	S090812	S090812-11	
Soil	5-B-82 12-14		8/11/2009 11:20	S090812	S090812-08	
Soil	5-B-82 14-16		8/11/2009 11:25	S090812	S090812-09	
Soil	5-B-78 9-11		8/13/2009 9:25	S090813	S090813-01	

Continued on following page

Table of Samples Analyzed (continued)
BNSF Skykomish Soils
Soil with Water QC Samples
TestAmerica of Bothell and Tacoma, Washington Laboratory SDGs (as listed)
March, July, and August 2009 Sampling

Matrix	Sample ID	Parent Sample ID	Sample Date and Time	Lab SDG	Lab Sample ID
Soil	3-W-41-10-12		8/17/2009 10:40	S090817	S090817-04
Soil	3-W-41-4-6		8/17/2009 10:00	S090817	S090817-01
Soil	3-W-41-6-8		8/17/2009 10:20	S090817	S090817-02
Soil	3-W-41-8-10		8/17/2009 10:25	S090817	S090817-03
Soil	5-B-84D 13-15		8/17/2009 17:35	S090818	S090818-01
Soil	5-B-84D 15-17		8/17/2009 17:50	S090818	S090818-02
Soil	5-B-84D 17-19		8/17/2009 17:55	S090818	S090818-03
Soil	5-B-85 14-16		8/18/2009 9:50	S090818	S090818-06
Soil	5-B-85 16-18		8/18/2009 9:55	S090818	S090818-07

Table of Qualified Analytical Results
BNSF Skykomish Soils
Soil with Water QC Samples
TestAmerica of Bothell and Tacoma, Washington Laboratory SDGs (as listed)
March, July, and August 2009 Sampling

Lab SDG	Sample ID	Method	Analyte	Concentration	Qualifier	Reason Code
BSC0216	EW-2A(11-13)	NWTPH-Dx	Lube Oil Range Hydrocarbons	295 mg/kg	J	CHRO
BSC0216	EW-2A(11-13)	NWTPH-Dx	Diesel Range Hydrocarbons	279 mg/kg	J	CHRO
BSC0216	EW-2A(13-15)	NWTPH-Dx	Diesel Range Hydrocarbons	373 mg/kg	J	CHRO
BSC0216	EW-2A(15-17)	NWTPH-Dx	Lube Oil Range Hydrocarbons	172 mg/kg	J	CHRO
BSC0216	EW-2A(15-17)	NWTPH-Dx	Diesel Range Hydrocarbons	163 mg/kg	J	CHRO
BSC0216	EW-2A(9-11)	NWTPH-Dx	Lube Oil Range Hydrocarbons	5230 mg/kg	J	SUR
BSC0216	EW-2A(9-11)	NWTPH-Dx	Diesel Range Hydrocarbons	4660 mg/kg	J	CHRO, SUR
580147361	1C-B-10-12-14	NWTPH-Dx	#2 Diesel (C10-C24)	4000 mg/kg	J	MS
580147361	1C-B-10-12-14	NWTPH-Dx	Motor Oil (>C24-C36)	6400 mg/kg	J	MS
580149121	5-B-82 90-100	NWTPH-Dx	#2 Diesel (C10-C24)	410 mg/kg	J	FD
580149121	5-B-82 90-100	NWTPH-Dx	Motor Oil (>C24-C36)	700 mg/kg	J	FD
580149121	5-B-82 9-10	NWTPH-Dx	#2 Diesel (C10-C24)	780 mg/kg	J	FD
580149121	5-B-82 9-10	NWTPH-Dx	Motor Oil (>C24-C36)	1300 mg/kg	J	FD
580149631	5-B-79 7-9	NWTPH-Dx	#2 Diesel (C10-C24)	16000 mg/kg	J	SUR, RPD
580149631	5-B-79 7-9	NWTPH-Dx	Motor Oil (>C24-C36)	17000 mg/kg	J	SUR, RPD
580150311	3-W-41 8-10	NWTPHDxSG	#2 Diesel (C10-C24)	15 mg/kg	J	BRL
580150311	3-W-43 4-6	NWTPH-Dx	Motor Oil (>C24-C36)	10 mg/kg	J	BRL
580150311	3-W-43 6-8	NWTPH-Dx	Motor Oil (>C24-C36)	24 mg/kg	J	BRL
580150311	3-W-43 6-8	NWTPHDxSG	Motor Oil (>C24-C36)	25 mg/kg	J	BRL
580150311	5-B-85 18-20	NWTPH-Dx	Motor Oil (>C24-C36)	38 mg/kg	J	BRL
580150971	1B-B-31 6	NWTPH-Dx	Motor Oil (>C24-C36)	35 mg/kg	J	BRL
580150971	1B-B-31 8	NWTPH-Dx	Motor Oil (>C24-C36)	35 mg/kg	J	BRL
580150971	1B-B-31 8(DUP)	NWTPH-Dx	Motor Oil (>C24-C36)	49 mg/kg	J	BRL
580150971	3-B-31 0-2	NWTPH-Dx	Motor Oil (>C24-C36)	25 mg/kg	J	BRL
580150971	3-B-33 4-6	NWTPH-Dx	Motor Oil (>C24-C36)	41 mg/kg	J	BRL
580150971	3-B-33 4-6	NWTPHDxSG	Motor Oil (>C24-C36)	32 mg/kg	J	BRL
580150971	3-B-34 0-2	NWTPH-Dx	Motor Oil (>C24-C36)	91 mg/kg	J	BRL
580150971	3-B-38 2-4	NWTPH-Dx	Motor Oil (>C24-C36)	26 mg/kg	J	BRL
580150971	3-B-39 0-2	NWTPHDxSG	Motor Oil (>C24-C36)	13 mg/kg	J	BRL
580150971	3-B-39 4-6	NWTPH-Dx	#2 Diesel (C10-C24)	11 mg/kg	J	BRL
580150972	3-B-33 0-2	E350.2	Ammonia	< 160 mg/kg	UJ	MS
580150972	3-B-52 0-2	E350.2	Ammonia	< 110 mg/kg	UJ	MS
580151281	1B-B-30A 4	NWTPH-Dx	Motor Oil (>C24-C36)	28 mg/kg	J	BRL
580151281	1B-B-30A 6	NWTPH-Dx	Motor Oil (>C24-C36)	21 mg/kg	J	BRL
580151281	1B-B-30A 8	NWTPH-Dx	#2 Diesel (C10-C24)	35 mg/kg	J	RPD
580151281	1B-B-30A 8	NWTPH-Dx	Motor Oil (>C24-C36)	46 mg/kg	J	BRL

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Table of Qualified Analytical Results (continued)
BNSF Skykomish Soils
Soil with Water QC Samples
TestAmerica of Bothell and Tacoma, Washington Laboratory SDGs (as listed)
March, July, and August 2009 Sampling

Lab SDG	Sample ID	Method	Analyte	Concentration	Qualifier	Reason Code
580151281	3-B-37 0-2	NWTPH-Dx	#2 Diesel (C10-C24)	20 mg/kg	J	BRL
580151281	3-B-37 0-2	NWTPHDxSG	#2 Diesel (C10-C24)	16 mg/kg	J	BRL
580151281	3-B-37 10-12	NWTPH-Dx	Motor Oil (>C24-C36)	36 mg/kg	J	BRL
580151281	3-B-37 10-12	NWTPHDxSG	Motor Oil (>C24-C36)	44 mg/kg	J	BRL
580151281	3-B-45 4-6	NWTPH-Dx	#2 Diesel (C10-C24)	8.5 mg/kg	J	BRL
580151281	3-B-45 4-6	NWTPH-Dx	Motor Oil (>C24-C36)	22 mg/kg	J	BRL
580151281	3-B-45 4-6	NWTPHDxSG	#2 Diesel (C10-C24)	8.5 mg/kg	J	BRL
580151281	3-B-45 4-6	NWTPHDxSG	Motor Oil (>C24-C36)	< 74 mg/kg	U	MB, BRL, original result was 28 mg/Kg
580151281	3-B-45-0-2	NWTPH-Dx	#2 Diesel (C10-C24)	12 mg/kg	J	BRL
580151281	3-B-45-0-2	NWTPHDxSG	#2 Diesel (C10-C24)	9.7 mg/kg	J	BRL
580151281	3-B-45-2-4	NWTPH-Dx	#2 Diesel (C10-C24)	12 mg/kg	J	BRL
580151281	3-B-45-2-4	NWTPH-Dx	Motor Oil (>C24-C36)	35 mg/kg	J	BRL
580151281	3-B-45-2-4	NWTPHDxSG	#2 Diesel (C10-C24)	8.4 mg/kg	J	BRL
580151281	3-B-45-2-4	NWTPHDxSG	Motor Oil (>C24-C36)	< 73 mg/kg	U	MB, BRL, original result was 30 mg/Kg
580151282	3-B-49 0-2	NWTPH-Dx	Motor Oil (>C24-C36)	21 mg/kg	J	BRL
580151282	3-B-49 0-2	NWTPHDxSG	Motor Oil (>C24-C36)	15 mg/kg	J	BRL
580151282	3-B-50 0-2	NWTPH-Dx	Motor Oil (>C24-C36)	48 mg/kg	J	BRL
580151282	3-B-50 0-2	NWTPHDxSG	Motor Oil (>C24-C36)	42 mg/kg	J	BRL
580151282	3-B-51 0-2	NWTPH-Dx	#2 Diesel (C10-C24)	11 mg/kg	J	BRL
580151282	3-B-51 0-2	NWTPH-Dx	Motor Oil (>C24-C36)	73 mg/kg	J	BRL
580151282	3-B-51 0-2	NWTPHDxSG	#2 Diesel (C10-C24)	14 mg/kg	J	BRL
580151282	3-B-51 0-2	NWTPHDxSG	Motor Oil (>C24-C36)	74 mg/kg	J	BRL
580151451	1B-B-30A 9	NWTPH-Dx	#2 Diesel (C10-C24)	13 mg/kg	J	BRL
580151451	1B-B-30A 9	NWTPH-Dx	Motor Oil (>C24-C36)	< 51 mg/kg	U	MB, BRL, original result was 22 mg/Kg
580151451	3-B-36 0-2	NWTPH-Dx	#2 Diesel (C10-C24)	9.2 mg/kg	J	BRL, FD
580151451	3-B-36 0-2	NWTPH-Dx	Motor Oil (>C24-C36)	< 70 mg/kg	U	MB, BRL, FD, original result was 42 mg/Kg
580151451	3-B-36 0-2	NWTPHDxSG	#2 Diesel (C10-C24)	8.9 mg/kg	J	BRL, FD
580151451	3-B-36 0-2	NWTPHDxSG	Motor Oil (>C24-C36)	< 70 mg/kg	U	MB, BRL, FD, original result was 37 mg/Kg
580151451	3-B-36 0-2	SW9060	Total Organic Carbon	35000 mg/kg	J	MS
580151451	3-B-36 10-12	NWTPH-Dx	#2 Diesel (C10-C24)	100 mg/kg	J	FD
580151451	3-B-36 10-12	NWTPH-Dx	Motor Oil (>C24-C36)	700 mg/kg	J	FD
580151451	3-B-36 10-12	NWTPHDxSG	#2 Diesel (C10-C24)	77 mg/kg	J	FD
580151451	3-B-36 10-12	NWTPHDxSG	Motor Oil (>C24-C36)	410 mg/kg	J	FD
580151451	3-B-36 10-12	SW9060	Total Organic Carbon	27000 mg/kg	J	MS

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Table of Qualified Analytical Results (continued)
BNSF Skykomish Soils
Soil with Water QC Samples
TestAmerica of Bothell and Tacoma, Washington Laboratory SDGs (as listed)
March, July, and August 2009 Sampling

Lab SDG	Sample ID	Method	Analyte	Concentration	Qualifier	Reason Code
580151451	3-B-36 2-4	NWTPHDxSG	Motor Oil (>C24-C36)	< 70 mg/kg	U	MB, BRL, original result was 20 mg/Kg
580151451	3-B-36 2-4	SW9060	Total Organic Carbon	18000 mg/kg	J	MS
580151451	3-B-36 5.25-5.75	NWTPH-Dx	Motor Oil (>C24-C36)	< 58 mg/kg	U	MB, BRL, original result was 24 mg/Kg
580151451	3-B-36 5.25-5.75	NWTPHDxSG	#2 Diesel (C10-C24)	18 mg/kg	J	BRL
580151451	3-B-36 5.25-5.75	NWTPHDxSG	Motor Oil (>C24-C36)	< 58 mg/kg	U	MB, BRL, original result was 11 mg/Kg
580151451	3-B-36 5.25-5.75	SW9060	Total Organic Carbon	5700 mg/kg	J	MS
580151451	3-B-46 0-2	NWTPH-Dx	#2 Diesel (C10-C24)	34 mg/kg	J	BRL, SUR
580151451	3-B-46 0-2	NWTPH-Dx	Motor Oil (>C24-C36)	300 mg/kg	J	SUR
580151451	3-B-46 0-2	NWTPHDxSG	#2 Diesel (C10-C24)	17 mg/kg	J	BRL
580151451	3-B-46 0-2	SW9060	Total Organic Carbon	42000 mg/kg	J	MS, FD
580151451	3-B-46 10-12	NWTPH-Dx	#2 Diesel (C10-C24)	39 mg/kg	J	BRL
580151451	3-B-46 10-12	NWTPHDxSG	#2 Diesel (C10-C24)	25 mg/kg	J	BRL
580151451	3-B-46 10-12	SW9060	Total Organic Carbon	10000 mg/kg	J	MS, FD
580151451	3-B-46 2-4	NWTPH-Dx	Motor Oil (>C24-C36)	< 75 mg/kg	U	MB, BRL, original result was 32 mg/Kg
580151451	3-B-46 2-4	NWTPHDxSG	Motor Oil (>C24-C36)	< 75 mg/kg	U	MB, BRL, original result was 19 mg/Kg
580151451	3-B-46 2-4	SW9060	Total Organic Carbon	15000 mg/kg	J	MS
580151451	3-B-46 4-6	NWTPH-Dx	#2 Diesel (C10-C24)	9.8 mg/kg	J	BRL
580151451	3-B-46 4-6	NWTPH-Dx	Motor Oil (>C24-C36)	< 66 mg/kg	U	MB, BRL, original result was 42 mg/Kg
580151451	3-B-46 4-6	NWTPHDxSG	Motor Oil (>C24-C36)	< 66 mg/kg	U	MB, BRL, original result was 16 mg/Kg
580151451	3-B-46 4-6	SW9060	Total Organic Carbon	39000 mg/kg	J	MS
580151451	3-B-48 14-15.5	NWTPH-Dx	Motor Oil (>C24-C36)	< 60 mg/kg	U	MB, BRL, original result was 17 mg/Kg
580151451	3-B-48 14-15.5	NWTPHDxSG	#2 Diesel (C10-C24)	7.7 mg/kg	J	BRL
580151451	3-B-48 14-15.5	NWTPHDxSG	Motor Oil (>C24-C36)	< 60 mg/kg	U	MB, BRL, original result was 14 mg/Kg
580151451	3-B-48 14-15.5	SW9060	Total Organic Carbon	4800 mg/kg	J	MS
580151451	3-B-48 2-4	NWTPH-Dx	#2 Diesel (C10-C24)	12 mg/kg	J	BRL
580151451	3-B-48 2-4	NWTPH-Dx	Motor Oil (>C24-C36)	< 72 mg/kg	U	MB, BRL, original result was 32 mg/Kg
580151451	3-B-48 2-4	NWTPHDxSG	Motor Oil (>C24-C36)	< 72 mg/kg	U	MB, BRL, original result was 31 mg/Kg
580151451	3-B-48 2-4	SW9060	Total Organic Carbon	21000 mg/kg	J	MS
580151451	3-B-48 4-5.5	NWTPH-Dx	Motor Oil (>C24-C36)	< 61 mg/kg	U	MB, BRL, original result was 12 mg/Kg
580151451	3-B-48 4-5.5	NWTPHDxSG	Motor Oil (>C24-C36)	< 61 mg/kg	U	MB, BRL, original result was 16 mg/Kg
580151451	3-B-48 4-5.5	SW9060	Total Organic Carbon	4700 mg/kg	J	MS
580151452	3-B-47 0-2	SW9034	SULFIDE	54.4 mg/kg	J	RPD
580151452	3-B-48 0-2	NWTPH-Dx	Motor Oil (>C24-C36)	< 72 mg/kg	U	MB, BRL, original result was 32 mg/Kg
580151452	3-B-48 0-2	NWTPHDxSG	#2 Diesel (C10-C24)	9.7 mg/kg	J	BRL
580151452	3-B-48 0-2	NWTPHDxSG	Motor Oil (>C24-C36)	< 72 mg/kg	U	MB, BRL, original result was 21 mg/Kg
580151452	3-B-48 0-2	SW9060	Total Organic Carbon	32000 mg/kg	J	MS

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Table of Qualified Analytical Results (continued)
BNSF Skykomish Soils
Soil with Water QC Samples
TestAmerica of Bothell and Tacoma, Washington Laboratory SDGs (as listed)
March, July, and August 2009 Sampling

Lab SDG	Sample ID	Method	Analyte	Concentration	Qualifier	Reason Code
S090813	5-B-78 9-11	NWTPHDX	Diesel Rang (C10-C25)	6800 mg/kg	J	SUR
S090813	5-B-78 9-11	NWTPHDX	Motor Oil Range (C25-C36)	5500 mg/kg	J	SUR

Qualifier Definitions

J – Estimated concentration

U – Undetected at the reporting limit or at the reported concentration; result is considered to be a false positive

UJ – Undetected result, reporting limit is estimated

Reason Code Definitions

BRL – Reported concentration is greater than the MDL but less than the reporting limit.

CHRO – Detected response in the diesel range, but the chromatographic pattern does not match the calibration standard utilized.

FD – Field duplicate RPD outside limits.

MB – Method blank contamination.

MS – Matrix spike recovery is outside quality control limits.

RPD – Duplicate sample relative percent difference outside quality control limits.

SUR – Surrogate recovery is outside quality control limits.

ANALYTICAL LIMITED DATA VALIDATION CHECKLIST

Project Name: BNSF - Skykomish	Laboratory: TestAmerica of Bothell and Tacoma, Washington and Friedman & Bruya, Inc Mobile Laboratory					
Project Reference: Skykomish Soils	Sample Matrix: Soil with Water QC					
AECOM Project No.: 01140-284-0275	Sample Start Date: 03/05/2009					
Validated By/Date Validated: Ann Biegelsen / 09/18/2009	Sample End Date: 08/26/2009					
Samples Analyzed: Refer to the Table of Samples Analyzed (pages 3-7).						
<p>Parameters Validated: Diesel Range Hydrocarbons and Lube Oil Range Hydrocarbons by Method NWTPH-Dx; #2 Diesel (C10-C24) and Motor Oil (>C24-C36) by Method NWTPH-Dx and NWTPH-Dx with Silica Gel Cleanup; Total Organic Carbon (TOC) by MCAWW Method 415.1; TOC by SW-846 Method 9060; and Ammonia by MCAWW Method 350.2.</p> <p>Not all samples were analyzed for every parameter. Refer to individual Chain of Custody reports for the exact analyses requested.</p>						
<p>TA- Bothell Laboratory Sample Delivery Group (SDG) ID: BSC0216</p> <p>TA- Tacoma Laboratory SDG IDs: 580-14686-1, 580-14686-1, 580-14736-1, 580-14784-1, 580-12912-1, 580-14963-1, 580-15031-1, 580-15097-1, 580-15097-2, 580-15128-1, 580-15128-2, 580-15145-1, 580-15154-2, and 580-15149-1</p> <p>Friedman & Bruya SDGs: S090812-Drill, S090813-Drill, S090817, and S090818-Drill</p>						
PRECISION, ACCURACY, METHOD COMPLIANCE, AND COMPLETENESS ASSESSMENT						
Precision:	X	Acceptable		Unacceptable	AB	Initials
<p>Comments: Precision is the measure of variability of individual sample measurements. Field precision was determined by comparison of field duplicate sample results. Laboratory precision was determined by examination of laboratory duplicate results. Evaluation of both field and laboratory duplicates for precision was done using the Relative Percent Difference (RPD). The RPD is defined as the difference between two duplicate samples divided by the mean and expressed as a percent. Field duplicate RPD QC limits were set at 0-50% for soil samples. Laboratory RPD limits referenced EPA published QC limits. Although some data require qualification based on laboratory duplicate RPD outliers (see item 17) or field duplicate RPD outliers (see item 21), overall field and laboratory precision is acceptable. Precision measurements are reviewed in items 17, 20, and 21.</p>						
Accuracy:	X	Acceptable		Unacceptable	AB	Initials
<p>Comments: Field accuracy, a measure of the sampling bias, was determined by reviewing equipment rinse blank results for evidence of sample contamination stemming from field activities. Laboratory accuracy is a measure of the system bias, and was measured by evaluating laboratory control sample/laboratory control sample duplicate (LCS/LCSD), matrix spike/matrix spike duplicate (MS/MSD), and organic system monitoring compounds (surrogate) percent recoveries (%Rs). LCS/LCSD %Rs, which demonstrated the overall performance of the analysis, were compared to EPA published QC limits. MS/MSD %Rs, which provided information on sample matrix interferences, were compared to EPA published QC limits or laboratory control charted limits. System monitoring compound or surrogate recoveries, which measured system performance and efficiency during organic analysis, were compared to EPA published QC limits or laboratory control charted limits. Although some data require qualification based surrogate %R outliers (see item 14), or MS %R outliers (see item 16), overall field and laboratory accuracy is acceptable. Accuracy measurements are reviewed in items 12, 14, 15 and 16.</p>						

ANALYTICAL LIMITED DATA VALIDATION CHECKLIST

Method Compliance:	X	Acceptable		Unacceptable	AB	Initials
<p>Comments: Method compliance was determined by evaluating sample integrity, holding time, laboratory blanks, against method specified requirements, while applying EPA data validation guidelines. Although some data require qualification based on analytes detected with concentrations outside the calibration range of the instrument (see item 6), or laboratory blank contamination (see item 11), overall method compliance is acceptable based on the supplied data. Method compliance measurements are reviewed in items 4, 6, 8, 11, 13, 18, 19, 20 and 22.</p>						
Completeness:	X	Acceptable		Unacceptable	AB	Initials
<p>Comments: Completeness is the overall ratio of the number of samples planned versus the number of samples with validated analyses. Completeness goals are set at 90-100%. Determination of completeness included a review of chain of custody records, laboratory analytical methods and detection limits, laboratory case narratives, and project requirements. Completeness also included 100% review of the laboratory sample data results, QC summary reports, and electronic data deliverables (EDDs). All of the data received from the laboratory are useable with qualification. Completeness of the data is calculated to be 100% and is acceptable.</p>						
VALIDATION CRITERIA CHECK						
<p>Data validation qualifiers used in this review: J – detected result, estimated concentration UJ – undetected result, reporting limit is estimated U – result has been evaluated to be undetected at the reporting limit or at the reported concentration; result is considered to be a false positive</p> <p>The following comments requiring qualification are in bold type. The other comments are of interest, but qualification of the samples was not necessary.</p> <p>Refer to the Table of Qualified Analytical Results (pages 8-11) for a listing of the samples, analytes, and concentrations qualified.</p>						
1. Did the laboratory identify any non-conformances related to the analytical results?	X	Yes		No	AB	Initials
<p>Explanation by laboratory:</p> <p>Method NWTPh-Dx: TA SDG 580-14912-1: Due to the level of dilution (10X) required, the surrogate recoveries are not reported for sample 5-B-83 9-11.</p> <p>TA SDG 580-14963-1: Due to the level of dilution required, the surrogate recovery was outside of the upper control limits for sample 5-B-79 7-9.</p> <p>TA SDG 580-15097-1: The continuing calibration verification (CCV) for motor oil and diesel recovered above the upper control limit for analysis batches 49031, 49805, and 49205. All samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.</p> <p>TA SDG 580-15128-1: Surrogate recovery for the following sample(s) was outside the upper control limit: 3-B-44 2-4. This sample did not contain any target analytes; therefore, re-extraction and/or re-analysis was not performed.</p> <p>TA SDG 580-15149-1: The continuing calibration verification (CCV) for analytical batch 49294 exceeded the control criteria for surrogate (o-terphenyl). All sample surrogate recoveries were within control. The data have been qualified and reported.</p> <p>Friedman & Bruya SDGs S090812-Drill, S090813-Drill, S090817, and S090818-Drill: All quality control requirements were acceptable. The surrogate used for this analysis is o-terphenyl.</p> <p>Friedman & Bruya SDG S090812-Drill: The samples were analyzed at a 1:10 dilution. The reporting limits for this dilution level are <100 mg/Kg for diesel range organics and <250 mg/Kg for the motor oil range.</p> <p>Continued on following page</p>						

ANALYTICAL LIMITED DATA VALIDATION CHECKLIST

<p>Explanation by laboratory (continued):</p> <p>Method NWTPH-Dx (continued): Friedman & Bruya SDG S090813-Drill: The sample was analyzed at a 1:10 dilution. The reporting limits for this dilution level are <100 mg/Kg for diesel range organics and <250 mg/Kg for the motor oil range.</p> <p>Friedman & Bruya SDG S090818-Drill: The reporting limits for sample 5-B-85 16-18 are <100 mg/Kg for diesel range organics and <250 mg/Kg for the motor oil range.</p> <p>Additionally, assigned laboratory flags were considered as part of this data review. Data qualification, if any, related to the laboratory observations are discussed in the following sections.</p>						
2. Were sample Chain-of-Custody forms complete?	X	Yes		No	AB	Initials
<p>Comments: COC records from field to laboratory were complete, and custody was maintained as evidenced by field and laboratory personnel signatures, dates, and times of receipt..</p>						
3. Were all the analyses requested for the samples on the COCs completed by the laboratory?	X	Yes		No	AB	Initials
<p>Comments: All requested analyses as documented on original COC records were completed by the laboratory.</p>						
4. Were samples received in good condition and at the appropriate temperature?	X – Limited Review	Yes		No	AB	Initials
<p>Comments: Samples were received on ice, intact, and in good condition with cooler temperatures within the 4°C ± 2°C acceptance range at -0.4 °C to 8.9°C as noted on COCs and Sample Receiving Checklist forms. Cooler temperatures that were less than 2°C are judged acceptable as samples were not frozen and the sample containers were intact. Cooler temperatures that were greater than 6°C are judged acceptable as sample temperatures were still well below ambient (~25°C and the sample containers were intact.</p> <p>The temperatures upon receipt for the samples analyzed by the Friedman & Bruya Mobile laboratory were not included in the laboratory deliverables. No discrepancies or problems regarding sample condition were indicated for the associated samples. .</p>						
5. Were the requested analytical methods in compliance with WP/QAPP, permit, or COC?	X	Yes		No	AB	Initials
<p>Comments: Reported methods and target analyte lists were in compliance with COC records..</p>						
6. Were detection limits in accordance with WP/QAPP, permit, or method?	X	Yes		No	AB	Initials
<p>Comments: Reported detection limits are achievable by the quoted methods. Some samples required dilution due to high concentrations of target analytes or interference. The reporting limits for diluted results were raised appropriately. Detection limits for soil results reported on a dry weight basis were increased to reflect the percent moisture content.</p> <p>TA-Tacoma SDGs 580-14686-1, 580-14686-1, 580-14736-1, 580-14784-1, 580-12912-1, and 580-14963-1 and Friedman Bruya SDGs S090812, S090813, S090817, and S090818: There were no detected results reported with concentrations below the laboratory reporting limits (RLs) but above the method detection limits (MDLs) (laboratory “J” flags). No action is required except to alert the data user that information regarding detections below the RLs has not been included in these laboratory deliverables.</p> <p>Analytes reported with concentrations below the laboratory reporting limits (RLs), but above the laboratory method detection limits (MDLs), were qualified as J to indicate that the concentrations are estimated. The quantitation of analytes with concentrations outside the calibration range of the instrument is inherently less reliable.</p> <p>Refer to the Table of Qualified Analytical Results (pages 8-11) for a listing of the samples, analytes, and concentrations qualified.</p>						

ANALYTICAL LIMITED DATA VALIDATION CHECKLIST

7. Do the laboratory reports include only those constituents requested to be reported for a specific analytical method?	X	Yes		No	AB	Initials
Comments: Only the requested target analytes were reported.						
8. Were sample holding times met?	X	Yes		No	AB	Initials
Comments: Extraction and analytical holding times were met for all samples and analyses.						
9. Were correct concentration units reported?	X	Yes		No	AB	Initials
Comments: Correct concentration units were reported. All parameters are reported in units of mg/K or mg/L (ppm).						
10. Were the reporting requirements for flagged data met?	X	Yes		No	AB	Initials
Comments: Data validation qualifiers override assigned laboratory flags.						
11. Were laboratory blank samples free of target analyte contamination?		Yes	X	No	AB	Initials
<p>Comments: All laboratory blanks were free of target analyte contamination with the following exceptions.</p> <p>Method NWTPH-Dx with Silica Gel: TA SDG 580-15128-1: The laboratory blank sample associated with laboratory batch 580-49280 reported Motor Oil (>C24-C36) below the reporting limit at 23.5 mg/Kg. This analyte was also detected below the reporting limit in associated samples 3-B-45-2-4 and 3-B-45 4-6 and was qualified as U at the reporting limit to indicate that it was evaluated to be undetected and is considered to be a false positive below the reporting limit due to laboratory contamination.</p> <p>Method NWTPH-Dx: TA SDG 580-15145-1: The laboratory blank sample associated with laboratory batch 580-49280 reported Motor Oil (>C24-C36) below the reporting limit at 23.5 mg/Kg. This analyte was also detected below the reporting limit in associated samples 1B-B-30A 9, 3-B-36 0-2, 3-B-36 0-2 with Silica Gel, 3-B-36 2-4 with Silica Gel, 3-B-36 5.25-5.75, 3-B-36 5.25-5.75 with Silica Gel, 3-B-46 2-4, 3-B-46 2-4 with Silica Gel, 3-B-46 4-6, 3-B-46 4-6 with Silica Gel, 3-B-48 0-2, 3-B-48 0-2 with Silica Gel, 3-B-48 14-15.5, 3-B-48 14-15.5 with Silica Gel, 3-B-48 2-4, 3-B-48 2-4 with Silica Gel, 3-B-48 4-5.5, and 3-B-48 4-5.5 with Silica Gel and was qualified as U at the reporting limit to indicate that it was evaluated to be undetected and is considered to be a false positive below the reporting limit due to laboratory contamination.</p> <p>Method 9034: TA SDGs 580-15128-2 and 580-14145-2: The laboratory blank sample associated with laboratory batch 9090167 reported sulfide at 9.00 mg/Kg. As this analyte was not detected in the associated field samples with concentrations less than the reporting limit, no data requires qualification based on this blank detection.</p> <p>Refer to the Table of Qualified Analytical Results (pages 8-11) for a listing of the samples, analytes, and concentrations qualified.</p>						
12. Were trip blank, field blank, and/or equipment rinse blank samples free of target analyte contamination?	X	Yes		No	AB	Initials
Comments: There were no target analytes detected in the equipment rinsate sample.						
13. Were instrument calibrations within method control limits?	NA	Yes	NA	No	AB	Initials
Comments: Not applicable for this level of data validation – Instrument calibration data were not supplied in analytical laboratory reports and were therefore not included in this data review.						

ANALYTICAL LIMITED DATA VALIDATION CHECKLIST

14. Were surrogate recoveries within control limits?		Yes	X	No	AB	Initials
<p>Comments: Surrogate percent recoveries (%Rs) for organic analyses were within data validation QC criteria for all samples, with the following exceptions.</p> <p>Method NWTPH-Dx: TA SDG BSC0216: In the analysis of sample EW-2A(9-11) 3/24/2009 20:56, the %R of surrogate 2-FBP was outside the laboratory QC limits of 60-135% at 157%. In the re-analysis of this sample 03/25/2009 11:11, the %R of surrogate 2-FBP was outside the laboratory QC limits of 60-135% at 145%, and the %R of surrogate octacosane was outside the laboratory QC limits of 75-125% at 134%. All results associated with these analyses of this sample have been qualified as J to indicate estimated concentrations. Method</p> <p>TA SDG 580-14963-1: In the analysis of sample 5-B-79 7-9, the %R of surrogate o-terphenyl was outside the laboratory QC limits of 50-150% at 152%. Results associated with this analysis of this sample have been qualified as J to indicate estimated concentrations.</p> <p>TA SDG 580-15128-1: In the analysis of sample 3-B-44 2-4 at 09/05/2009 17:13, the %R of surrogate o-terphenyl was outside the laboratory QC limits of 50-150% at 154%. As the elevated recovery indicates possible high bias, undetected results do not require qualification. There were no analytes detected in this analysis of this sample and no data requires qualification based on this surrogate %R outlier.</p> <p>TA SDG 580-14145-1: In the analysis of sample 3-B-46 0-2, the %R of surrogate o-terphenyl was outside the laboratory QC limits of 50-150% at 195%. Results associated with this analysis of this sample have been qualified as J to indicate estimated concentrations.</p> <p>Friedman and Bruya SDG S090813: In the analysis of sample 5-B-78 9-11, the %R of surrogate o-terphenyl was outside the laboratory QC limits of 50-150% at 165%. Results associated with this analysis of this sample have been qualified as J to indicate the concentrations are estimated.</p> <p>Refer to the Table of Qualified Analytical Results (pages 8-11) for a listing of the samples, analytes, and concentrations qualified.</p>						
15. Were laboratory control sample recoveries within control limits?		X	Yes	No	AB	Initials
<p>Comments: LCS and LCSD (blank spike) recoveries were within data validation or laboratory control-charted QC limits for all target analytes.</p>						
16. Were matrix spike recoveries within control limits?		Yes	X	No	AB	Initials
<p>Comments: Project specific MS and MSD recoveries for target analytes were within data validation QC limits or were not applicable due to required sample dilution, or to sample concentrations which exceeded four times the amount spiked (applicable to inorganic analytical methods only), except as noted below. MS and MSD spike recoveries for non-project samples were not considered since matrix similarity to project samples could not be guaranteed.</p> <p>Method NWTPH-Dx: TA SDG 580-14736-1: In the MS of sample 1C-B-10-12-14, the %R of spike analyte #2 Diesel (C10-C24) was outside the laboratory QC limits of 70-125% at 195%, and the %R of spike analyte Motor Oil (>C24-C36) was outside the laboratory QC limits of 64-127% at 365%. These analytes were detected in this sample and have been qualified as J to indicate the concentrations are estimated.</p> <p>Method 9060: TA SDG 580-15145-1: In the MS of sample 3-B-48 2-4, the %R of TOC was outside the 76-128% laboratory QC limits at 137%. As the elevated recovery indicates high bias of detected results, undetected results do not require qualification. This analyte was detected in associated samples 3-B-36 0-2, 3-B-36 10-12, 3-B-36 2-4, 3-B-36 5.25-5.75, 3-B-46 0-2, 3-B-46 10-12, 3-B-46 2-4, 3-B-46 4-6, 3-B-48 0-2, 3-B-48 14-15.5, 3-B-48 2-4, and 3-B-48 4-5.5 and has been qualified as J in these samples to indicate the concentrations are estimated.</p> <p>Continued on following page</p>						

ANALYTICAL LIMITED DATA VALIDATION CHECKLIST

Comments (continued): Method 9060 (continued): TA SDG 580-15097-1: In the MS/MSD of sample 3-B-38 0-2, the %R of TOC was outside the 76-128% laboratory QC limits at 70% in the MS. The %R in the MSD and the MS/MSD RPD were within QC limits. As two of the three QC measurements (MS %R, MSD %R and MS/MSD RPD) were within QC limits, professional judgment determines the associated data do not require qualification. Method 350.2: TA SDG 580-15097-2: In the MS/MSD of sample 3-B-52 0-2, the %Rs of spike analyte ammonia were outside the laboratory QC limits of 90-110% at 70% in the MS and 80% in the MSD. This analyte was not detected in associated samples 3-B-33 0-2 and 3-B-52 0-2 and has been qualified as UJ in these samples to indicate the reporting limits are estimated. TA SDG 580-15128-2: In the MS/MSD of sample 3-B-50 0-2, the %R of spike analyte ammonia was outside the 90-110% laboratory QC limits at 89% in the MS. The %R in the MSD and the MS/MSD RPD were within QC limits. As two of the three QC measurements were within QC limits, professional judgment determines the associated data do not require qualification based on the MS %R outlier alone. Refer to the Table of Qualified Analytical Results (pages 8-11) for a listing of the samples, analytes, and concentrations qualified.						
17. Were RPDs within control limits?		Yes	X	No	AB	Initials
Comments: Laboratory RPDs for target analytes in LCS/LCSD and project-specific MS/MSD samples were within data validation control limits. All laboratory duplicate samples met data validation RPD criteria with the exceptions noted below. Laboratory duplicates for non-project samples were not considered since matrix similarity to project samples could not be guaranteed. Method NWTPH-Dx: TA SDG 580-14963-1: In the analysis of sample 5-B-79 7-9 and it's duplicate, the RPD for #2 Diesel (C10-C24) and Motor Oil (>C24-C36) were outside the 0-35% laboratory QC limits at 37% and 36%, respectively. These analytes were detected in this sample and have been qualified as J to indicate the concentrations are estimated. TA SDG 580-15128-1: In the analysis of sample 1B-B-30A 8 and it's duplicate, the RPD for #2 Diesel (C10-C24) was outside the 0-35% laboratory QC limits at 36%. This analyte was detected in this sample and has been qualified as J to indicate the concentration is estimated. Method 9034: TA SDG 580-15145-2: In the analysis of sample 3-B-47 0-2 and it's duplicate, the RPD for sulfide was outside the 0-12% laboratory QC limits at 63%. This analyte was detected in this sample and has been qualified as J to indicate the concentration is estimated. Refer to the Table of Qualified Analytical Results (pages 8-11) for a listing of the samples, analytes, and concentrations qualified.						
18. Were organic system performance criteria met?	NA	Yes	NA	No	AB	Initials
<i>Comments: Not applicable for this level of data validation – Organic system performance data were not supplied in the analytical laboratory reports and were therefore not included in this data review.</i>						
19. Were internal standards within method criteria for GC/MS sample analyses?	NA	Yes	NA	No	AB	Initials
<i>Comments: Not applicable for this data set – Internal standard addition is not required for the methods reviewed in this data set.</i>						
20. Were inorganic system performance criteria met?	NA	Yes	NA	No	AB	Initials
<i>Comments: Not applicable for this level of data validation – Inorganic system performance data were not supplied in the analytical laboratory reports and were therefore not included in this data review.</i>						

ANALYTICAL LIMITED DATA VALIDATION CHECKLIST

21. Were blind field duplicates collected? If so, discuss the precision (RPD) of the results.	X	Yes		No	AB	Initials
Duplicate Sample No.	2A-B-45-120-140	Primary Sample No.	2A-B-45-12-14			
Duplicate Sample No.	5-B-82 90-100	Primary Sample No.	5-B-82 9-10			
Duplicate Sample No.	5-B-86 110-130	Primary Sample No.	5-B-86 11-13			
Duplicate Sample No.	5-B-86 130-150	Primary Sample No.	5-B-86 13-15			
Duplicate Sample No.	5-B-86 90-110	Primary Sample No.	5-B-86 9-11			
Duplicate Sample No.	1B-B-31 8(DUP)	Primary Sample No.	1B-B-31 8			
Duplicate Sample No.	3-B-37 10-12	Primary Sample No.	3-B-37 0-2			
Duplicate Sample No.	3-B-49 12-14	Primary Sample No.	3-B-49 2-4			
Duplicate Sample No.	3-B-51 12-14	Primary Sample No.	3-B-51 2-4			
Duplicate Sample No.	3-B-36 10-12	Primary Sample No.	3-B-36 0-2			
Duplicate Sample No.	3-B-46 10-12	Primary Sample No.	3-B-46 0-2			
Duplicate Sample No.	3-B-48 14-15.5	Primary Sample No.	3-B-48 4-5.5			

Comments: The RPDs for the duplicates were within the 0-50% data validation QC limits for soil samples, or RPDs were not applicable due to results that were \pm the detection limit or were undetected in both samples except as indicated in bold type in the tables below.

The following RPDs were calculated:

Method	Analyte	2A-B-45-12-14	2A-B-45-120-140	RPD	Qualifier	Samp RL	Dup RL	Units
NWTPH-Dx	Motor Oil (>C24-C36)	ND	ND	NA	NA	51	54	mg/kg
NWTPH-Dx	#2 Diesel (C10-C24)	ND	ND	NA	NA	25	27	mg/kg

Method	Analyte	5-B-82 9-10	5-B-82 90-100	RPD	Qualifier	Samp RL	Dup RL	Units
NWTPH-Dx	Motor Oil (>C24-C36)	1300	700	60.00	J	55	56	mg/kg
NWTPH-Dx	#2 Diesel (C10-C24)	780	410	62.18	J	28	28	mg/kg

Method	Analyte	5-B-86 11-13	5-B-86 110-130	RPD	Qualifier	Samp RL	Dup RL	Units
NWTPH-Dx	Motor Oil (>C24-C36)	ND	ND	NA	NA	58	57	mg/kg
NWTPH-Dx	#2 Diesel (C10-C24)	ND	ND	NA	NA	29	29	mg/kg

Method	Analyte	5-B-86 13-15	5-B-86 130-150	RPD	Qualifier	Samp RL	Dup RL	Units
NWTPH-Dx	Motor Oil (>C24-C36)	ND	ND	NA	NA	64	60	mg/kg
NWTPH-Dx	#2 Diesel (C10-C24)	ND	ND	NA	NA	32	30	mg/kg

Method	Analyte	5-B-86 9-11	5-B-86 90-110	RPD	Qualifier	Samp RL	Dup RL	Units
NWTPH-Dx	Motor Oil (>C24-C36)	ND	ND	NA	NA	49	49	mg/kg
NWTPH-Dx	#2 Diesel (C10-C24)	ND	ND	NA	NA	25	25	mg/kg

Method	Analyte	1B-B-31 8	1B-B-31 8(DUP)	RPD	Qualifier	Samp RL	Dup RL	Units
NWTPH-Dx	Motor Oil (>C24-C36)	35	49	33.33		54	54	mg/kg
NWTPH-Dx	#2 Diesel (C10-C24)	39	53	30.43		27	27	mg/kg

Method	Analyte	3-B-37 0-2	3-B-37 10-12	RPD	Qualifier	Samp RL	Dup RL	Units
NWTPH-Dx	Motor Oil (>C24-C36)	110	36	101.37	<2XRL	74	72	mg/kg
NWTPH-Dx	#2 Diesel (C10-C24)	20	ND	200.00	<2XRL	37	36	mg/kg
NWTPH-DxSG	Motor Oil (>C24-C36)	100	44	77.78	<2XRL	74	72	mg/kg
NWTPH-DxSG	#2 Diesel (C10-C24)	16	ND	200.00	<2XRL	37	36	mg/kg
SW9060	Total Organic Carbon	36000	34000	5.71		2000	2000	mg/kg

Continued on following page

ANALYTICAL LIMITED DATA VALIDATION CHECKLIST

Comments (Continued): RPD table continued:

Method	Analyte	3-B-49 2-4	3-B-49 12-14	RPD	Qualifier	Samp RL	Dup RL	Units
NWTPH-Dx	Motor Oil (>C24-C36)	ND	ND	NA	NA	78	78	mg/kg
NWTPH-Dx	#2 Diesel (C10-C24)	ND	ND	NA	NA	39	39	mg/kg
NWTPH-DxSG	Motor Oil (>C24-C36)	ND	ND	NA	NA	78	78	mg/kg
NWTPH-DxSG	#2 Diesel (C10-C24)	ND	ND	NA	NA	39	39	mg/kg
SW9060	Total Organic Carbon	17000	14000	19.35		2000	2000	mg/kg

Method	Analyte	3-B-51 2-4	3-B-51 12-14	RPD	Qualifier	Samp RL	Dup RL	Units
NWTPH-Dx	Motor Oil (>C24-C36)	ND	ND	NA	NA	79	80	mg/kg
NWTPH-Dx	#2 Diesel (C10-C24)	ND	ND	NA	NA	39	40	mg/kg
NWTPH-DxSG	Motor Oil (>C24-C36)	ND	ND	NA	NA	79	80	mg/kg
NWTPH-DxSG	#2 Diesel (C10-C24)	ND	ND	NA	NA	39	40	mg/kg
SW9060	Total Organic Carbon	26000	28000	7.41		2000	2000	mg/kg

Method	Analyte	3-B-36 0-2	3-B-36 10-12	RPD	Qualifier	Samp RL	Dup RL	Units
NWTPH-Dx	Motor Oil (>C24-C36)	42 U	700	177.36	J	70	72	mg/kg
NWTPH-Dx	#2 Diesel (C10-C24)	9.2	100	166.30	J	35	36	mg/kg
NWTPH-DxSG	Motor Oil (>C24-C36)	37 U	410	166.89	J	70	72	mg/kg
NWTPH-DxSG	#2 Diesel (C10-C24)	8.9	77	158.56	J	35	36	mg/kg
SW9060	Total Organic Carbon	35000	27000	25.81		2000	2000	mg/kg

Method	Analyte	3-B-46 0-2	3-B-46 10-12	RPD	Qualifier	Samp RL	Dup RL	Units
NWTPH-Dx	Motor Oil (>C24-C36)	300	250	18.18		80	78	mg/kg
NWTPH-Dx	#2 Diesel (C10-C24)	34	39	13.70		40	39	mg/kg
NWTPH-DxSG	Motor Oil (>C24-C36)	94	130	32.14		80	78	mg/kg
NWTPH-DxSG	#2 Diesel (C10-C24)	17	25	38.10		40	39	mg/kg
SW9060	Total Organic Carbon	42000	10000	123.08	J	2000	2000	mg/kg

Method	Analyte	3-B-48 4-5.5	3-B-48 14-15.5	RPD	Qualifier	Samp RL	Dup RL	Units
NWTPH-Dx	Motor Oil (>C24-C36)	61	60	1.65		61	60	mg/kg
NWTPH-Dx	#2 Diesel (C10-C24)	ND	ND	NA	NA	31	30	mg/kg
NWTPH-DxSG	Motor Oil (>C24-C36)	61	60	1.65		61	60	mg/kg
NWTPH-DxSG	#2 Diesel (C10-C24)	ND	7.7	200.00	<2XRL	31	30	mg/kg
SW9060	Total Organic Carbon	4700	4800	2.11		2000	2000	mg/kg

As noted in item 11, the Motor Oil (>C24-C36) results for sample 3-B-36 0-2 were determined to be false positives due to laboratory contamination. As blank contamination (U qualification) takes precedence over other QC considerations, no further qualification is required for these results in this sample. For the remaining target analytes indicated in bold type in the tables above, qualification of J has been applied in the associated primary and duplicate samples to indicate the concentrations are estimated.

Refer to the Table of Qualified Analytical Results (pages 8-11) for a listing of the samples, analytes, and concentrations qualified.

ANALYTICAL LIMITED DATA VALIDATION CHECKLIST

22. Were qualitative criteria for organic target analyte identification met?		Yes	X	No	AB	Initials												
<p><i>Comments: Not applicable for this level of data verification – GC quantitation reports and chromatograms were not supplied in analytical laboratory reports and were therefore not included in this data review. However, retention times and chromatography were reviewed by trained laboratory personnel in accordance with the laboratory's internal QA/QC program. The laboratory notations regarding chromatography were reviewed and considered in the qualification of associated data as detailed below.</i></p> <p>Method NWTPH-Dx: TA SDG BSC0216: For the Diesel Range Hydrocarbons and/or the Lube Oil Range Hydrocarbons results in samples EW-2A(11-13), EW-2A(13-15), EW-2A(15-17), and EW-2A(9-11), the laboratory footnote states, "The hydrocarbons present are a complex mixture of diesel range and heavy oil range organics." The affected results have been qualified as J to indicate the concentrations are estimated.</p> <p>Refer to the Table of Qualified Analytical Results (pages 8-11) for a listing of the samples, analytes, and concentrations qualified.</p>																		
23. Were 100% of the EDD concentrations and reporting limits compared to the hardcopy data reports?	X	Yes		No	AB	Initials												
<p><i>Comments: The EDD entries were resolved with the hardcopy data results and corrected as necessary. According to validation protocol, the hardcopy data report was accepted as the correct reference. The data validator provided an edited EDD query with this validation report. The EDD file, with data validation qualifiers and reason codes added, was returned with this data validation report.</i></p> <p>The sample type code for the Equipment Rinse blank was changed from SO to WQ to indicate that this is a water QC sample.</p> <p>TA-Tacoma SDGs 580-14686-1, 580-14686-1, 580-14736-1, 580-14784-1, 580-12912-1, and 580-14963-1: MDLs appear in the EDD files, but do not appear on the hard copy reports. The MDL entries could not be compared to the hard copy reports.</p> <p>Results reported by Friedman and Bruya have entries in the <i>result_value</i> field of "<RL". These entries were left in the EDD query. Additionally the <i>organic_yn</i> field was populated by the data validator for these results.</p> <p>SDGs 580-15097-2, 580-15128-2, and 580-15145-2: The <i>organic_yn</i> field was corrected for the reported percent moisture results.</p> <p>TA-Tacoma SDG 580-15149-1: The reporting limits and or MDLs were entered into the EDD query by the data validator.</p> <p>Friedman & Bruya SDG S090818-Drill: The results reported in the EDD query for sample 5-B-84D 13-15 do not match the results reported on the hard copy reports. Re-issued EDD tables were requested and received from the laboratory 09/17/2009.</p> <p>See the table below for chemical name discrepancies between the hard copy reports and the EDD query.</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 20%;">Laboratory</th> <th style="width: 40%;">Chemical Name displayed on the Hard Copy Report</th> <th style="width: 40%;">Chemical Name displayed in the EDD</th> </tr> </thead> <tbody> <tr> <td>TestAmerica Bothell</td> <td>Diesel Range Hydrocarbons</td> <td>TPH - Diesel Range</td> </tr> <tr> <td>TestAmerica Tacoma</td> <td>#2 Diesel (C10-C24) Motor Oil (>C24-C36)</td> <td>TPH - Diesel Range Lube Oil</td> </tr> <tr> <td>Friedman & Bruya</td> <td>Diesel Range (C₁₀-C₂₅) Motor Oil Range (C₂₅-C₃₆)</td> <td>TPH - Diesel Range Motor Oil</td> </tr> </tbody> </table>							Laboratory	Chemical Name displayed on the Hard Copy Report	Chemical Name displayed in the EDD	TestAmerica Bothell	Diesel Range Hydrocarbons	TPH - Diesel Range	TestAmerica Tacoma	#2 Diesel (C10-C24) Motor Oil (>C24-C36)	TPH - Diesel Range Lube Oil	Friedman & Bruya	Diesel Range (C ₁₀ -C ₂₅) Motor Oil Range (C ₂₅ -C ₃₆)	TPH - Diesel Range Motor Oil
Laboratory	Chemical Name displayed on the Hard Copy Report	Chemical Name displayed in the EDD																
TestAmerica Bothell	Diesel Range Hydrocarbons	TPH - Diesel Range																
TestAmerica Tacoma	#2 Diesel (C10-C24) Motor Oil (>C24-C36)	TPH - Diesel Range Lube Oil																
Friedman & Bruya	Diesel Range (C ₁₀ -C ₂₅) Motor Oil Range (C ₂₅ -C ₃₆)	TPH - Diesel Range Motor Oil																

ANALYTICAL LIMITED DATA VALIDATION CHECKLIST

25. General Comments: Data were evaluated based on validation criteria set forth in the *USEPA Contract Laboratory Program (CLP) National Functional Guidelines for Superfund Organic Methods Data Review*, document number USEPA-540-R-08-01, June 2008 with additional reference to *USEPA Contract Laboratory Program (CLP) National Functional Guidelines for Organic Data Review*, document number EPA 540/R-99-008 of October 1999, and *USEPA Contract Laboratory Program (CLP) National Functional Guidelines for Inorganic Data Review*, document number EPA 540-R-04-004 of October 2004, as they applied to the reported methodology. Field duplicate RPD control limits were taken from the USEPA Region I Laboratory Data Validation Functional Guidelines for Evaluating Organics Analyses, February 1988, upheld in DRAFT 1993.

Refer to the Table of Qualified Analytical Results (pages 8-11) for a listing of the samples, analytes, and concentrations qualified.

Attachment A-3

Boring Logs

Project: Skykomish	Operator: Rodney Labrosse	Location: Skykomish, WA
Project #: 01140-284-0275	Drill Rig Type: Truck-mounted Sonic	Northing: 259274.944 Easting: 1511442.082
Client: BNSF	Method: Rotosonic	Ground Elevation: 935.38 ft
Contractor: Cascade Drilling Inc.	Casing ID: -	Total Depth: 15 ft.
Start Date & Time: 08/13/2009 1435	Bit Type: Carbide tooth Coring Bit	Seal: Bentonite chips
Finish Date & Time: 08/13/2009 1700	Boring ID: 6 in.	Logged By: R. Knecht, M. Graddon

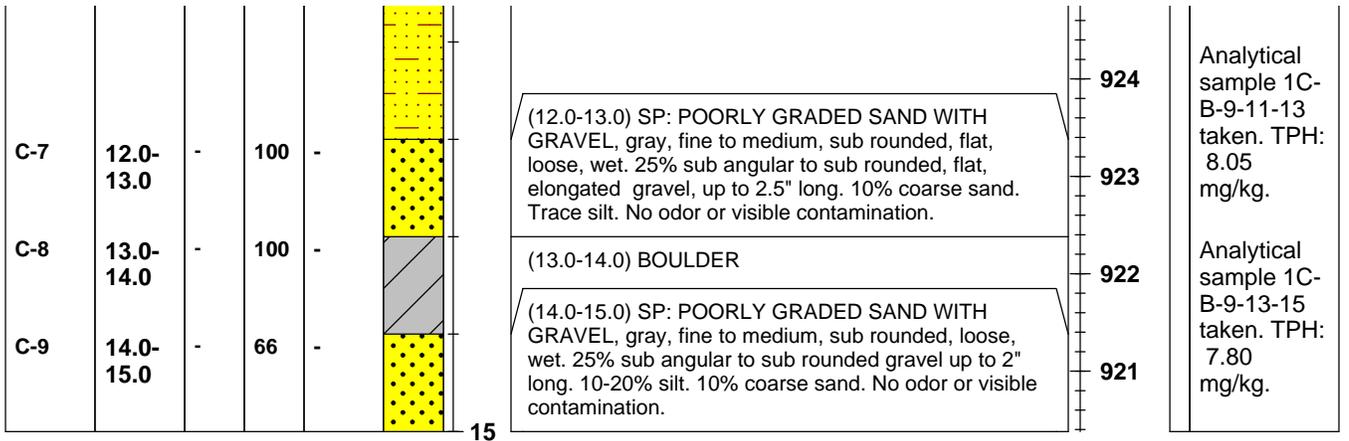
Type & No.	Sample				Graphic	Depth (ft.)	Soil and Rock Description Classification Scheme: USCS/ASTM	Elevation (ft.)	Comments
	Depth Range (ft.)	Blows Per 6 Inch	% Rec	PID (ppm)					

C-1	0.0-2.0	-	100	-		(0.0-2.0) SP: POORLY GRADED SAND WITH GRAVEL, brown, fine to medium, sub angular to rounded, flat, loose, moist. 15% sub angular to sub rounded gravel up to 2" long. 15% coarse sand. Trace silt. No odor or visible contamination.	935	Analytical sample 1C-B-9-9-11 taken. TPH: 134 mg/kg.
C-2	2.0-5.0	-	100	-		(2.0-5.0) SP: POORLY GRADED SAND WITH GRAVEL, 2.0-4.0' is dark brown, 4.0-5.0' is yellow brown, fine to medium, sub angular to rounded, equant, loose, moist. 20% sub rounded, flat gravel up to 3" long. Trace to 10% coarse sand. No odor or visible contamination.	933	
C-3	5.0-6.0	-	100	-		(5.0-6.0) SP: POORLY GRADED SAND WITH GRAVEL, gray, fine to medium, sub angular to sub rounded, flat, loose, dry. 35% sub angular to sub rounded gravel up to 3" long. Trace cobbles 3.1-4.0" long. 15% coarse sand. No odor or visible contamination.	930	
C-4	6.0-8.0	-	100	-		(6.0-8.0) SP: POORLY GRADED SAND WITH GRAVEL, gray, fine to medium, sub angular, flat, loose, dry. 25% sub angular to rounded, flat, elongated gravel up to 3" long. 10% coarse sand. Trace silt. No odor or visible contamination.	928	
C-5	8.0-9.0	-	66	-		(8.0-9.0) SP: POORLY GRADED SAND WITH GRAVEL, gray, fine to medium, sub rounded, flat, loose, moist. 25% sub angular to sub rounded gravel up to 1.5" long. 10% coarse sand. Trace silt. Sub rounded cobble/boulder up to 7" long at 8.5'. No odor or visible contamination.	927	
C-6	9.0-12.0	-	100	-		(9.0-12.0) SP-SM: POORLY GRADED SAND WITH SILT AND GRAVEL, gray, fine to medium, sub rounded, flat, loose, wet at 9.5 feet. 30% sub angular to sub rounded, flat, elongated gravel up to 3" long. 10-20% non plastic silt. 10% coarse sand. No odor or visible contamination.	925	

Remarks and Datum Used: AECOM - Environment 710 Second Avenue, Suite 1000 Seattle, WA 98104 Phone: (206) 624-9349 Fax: (206) 623-3793	_____ _____ _____	Sample Type GP = Geoprobe C = Core GS = Grab Sample SS = Split Spoon	Groundwater		
			Date	Time	Depth (ft.)

Project: Skykomish	Operator: Rodney Labrosse	Location: Skykomish, WA
Project #: 01140-284-0275	Drill Rig Type: Truck-mounted Sonic	Northing: 259274.944 Easting: 1511442.082
Client: BNSF	Method: Rotosonic	Ground Elevation: 935.38 ft
Contractor: Cascade Drilling Inc.	Casing ID: -	Total Depth: 15 ft.
Start Date & Time: 08/13/2009 1435	Bit Type: Carbide tooth Coring Bit	Seal: Bentonite chips
Finish Date & Time: 08/13/2009 1700	Boring ID: 6 in.	Logged By: R. Knecht, M. Graddon

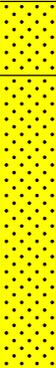
Sample					Graphic	Depth (ft.)	Soil and Rock Description Classification Scheme: USCS/ASTM	Elevation (ft.)	Comments
Type & No.	Depth Range (ft.)	Blows Per 6 Inch	% Rec	PID (ppm)					



Remarks and Datum Used: AECOM - Environment 710 Second Avenue, Suite 1000 Seattle, WA 98104 Phone: (206) 624-9349 Fax: (206) 623-3793	_____ _____ _____	Sample Type GP = Geoprobe C = Core GS = Grab Sample SS= Split Spoon	Groundwater			
			Date	Time	Depth (ft.)	
			-	-	-	
			-	-	-	
			-	-	-	

Project: Skykomish	Operator: Steve Zimmerman	Location: Skykomish, WA
Project #: 01140-284-0275	Drill Rig Type: Mini Sonic 17-C	Northing: 259262.474 Easting: 1511422.637
Client: BNSF	Method: Rotosonic	Ground Elevation: 935.41 ft.
Contractor: Cascadia Drilling Inc.	Casing ID: -	Total Depth: 14 ft.
Start Date & Time: 08/3/2009 0930	Bit Type: Carbide tooth Coring Bit	Seal: Bentonite chips
Finish Date & Time: 08/3/2009 1045	Boring ID: 4 in.	Logged By: R. Knecht, M. Graddon

Sample					Graphic	Depth (ft.)	Soil and Rock Description Classification Scheme: USCS/ASTM	Elevation (ft.)	Comments
Type & No.	Depth Range (ft.)	Blows Per 6 Inch	% Rec	PID (ppm)					

C-1	0.0-2.0	-	100	-	0		(0.0-2.0) SW: WELL GRADED SAND WITH GRAVEL, brownish gray, fine to coarse, sub angular to rounded, equant to flat, dry. 30% sub angular to rounded gravel up to 3" long. Trace rock flour at 1.0-1.2 feet. No odor or visible contamination.	935	1C-B-10C is located 5' south from original location 1C-B-10A	
							(2.0-4.0) SW: WELL GRADED SAND WITH GRAVEL, gray, fine to coarse, sub angular to rounded, equant, dry. 35% sub angular to rounded gravel up to 3" long. Rock flour at 2.0 to 2.2 feet. No odor or visible contamination.	934		
C-2	2.0-4.0	-	100	-	0		(2.0-4.0) SW: WELL GRADED SAND WITH GRAVEL, gray, fine to coarse, sub angular to rounded, equant, dry. 35% sub angular to rounded gravel up to 3" long. Rock flour at 2.0 to 2.2 feet. No odor or visible contamination.	933		
							(4.0-5.0) SW: WELL GRADED SAND WITH GRAVEL, gray, fine to coarse, angular to rounded, equant, dry. 25% angular to rounded gravel up to 2.5" long. No odor or visible contamination.	932		
C-3	4.0-9.0	-	60	-	5		(4.0-5.0) SW: WELL GRADED SAND WITH GRAVEL, gray, fine to coarse, angular to rounded, equant, dry. 25% angular to rounded gravel up to 2.5" long. No odor or visible contamination.	931		
							(5.0-9.0) SW: WELL GRADED SAND WITH GRAVEL, light gray, fine to coarse, angular to sub rounded, elongated, equant, flat, dry. Sharp contact at 5.0 feet. 40% angular to sub rounded gravel up to 1.5" long. No odor or visible contamination.	930		
C-4	9.0-14.0	-	60	-	10		(9.0-12.0) SW: WELL GRADED SAND WITH GRAVEL, light gray, fine to coarse, sub angular to rounded, elongated, equant, flat, dry. 30% sub angular to rounded gravel up to 3" long. Rock flour at 11.0-12.0 feet. No odor or visible contamination.	929		
							(12.0-14.0) SW: WELL GRADED SAND WITH GRAVEL, gray, fine to coarse, sub angular to rounded, equant, moist. 25% sub angular to rounded gravel, up to 3" long. . Slight diesel odor at 13.0 feet. Small blebs of bunker c.	928		
								927		
								926		
								925		Analytical sample 1C-B-10C-12-14 taken. TPH: 10,400 mg/kg.
								924		
								923		
								922		

Remarks and Datum Used: AECOM - Environment 710 Second Avenue, Suite 1000 Seattle, WA 98104 Phone: (206) 624-9349 Fax: (206) 623-3793	Rig broke down at 14 feet below ground surface. - - -	Sample Type GP = Geoprobe C = Core GS = Grab Sample SS= Split Spoon	Groundwater		
			Date	Time	Depth (ft.)
			-	-	-
			-	-	-
			-	-	-

Project: Skykomish	Operator: Rodney Labrosse	Location: Skykomish, WA
Project #: 01140-284-0275	Drill Rig Type: Truck-mounted Sonic	Northing: 259282.754 Easting: 1511411.537
Client: BNSF	Method: Rotosonic	Ground Elevation: 935.19 ft.
Contractor: Cascade Drilling Inc.	Casing ID: -	Total Depth: 20 ft.
Start Date & Time: 08/14/2009 0735	Bit Type: Carbide tooth Coring Bit	Seal: Bentonite chips
Finish Date & Time: 08/14/2009 1000	Boring ID: 6 in.	Logged By: R. Knecht

Sample					Graphic	Depth (ft.)	Soil and Rock Description Classification Scheme: USCS/ASTM	Elevation (ft.)	Comments
Type & No.	Depth Range (ft.)	Blows Per 6 Inch	% Rec	PID (ppm)					

C-1	0.0-3.0	-	83	-		0	(0.0-3.0) SP: POORLY GRADED SAND WITH GRAVEL, brown to dark brown, fine to medium, sub rounded to sub angular, equant, loose, dry. 20% fine to coarse rounded to sub rounded gravel, up to 3" in diameter, flat and equant. 10% coarse sand. Cobbles 5" long at 2.5 feet. Light brown lense from 2.0-2.5 feet. No odor or visible contamination.	935	Analytical sample 1C-B-11-9-10 taken. TPH: 7.25 mg/kg. Analytical sample 1C-B-11-11-13 taken. TPH: 7.55 mg/kg.
C-2	3.0-6.0	-	50	-		5	(3.0-6.0) SP: POORLY GRADED SAND WITH GRAVEL, light brown gray, fine, loose, dry. 20% medium sand. 20% fine to coarse, rounded to sub rounded gravel, flat, equant, 1/4-3" in diameter. Trace cobbles up to 6" long. No odor or visible contamination.	932	
C-3	6.0-7.0	-	100	-		10	(6.0-7.0) SP: POORLY GRADED SAND WITH GRAVEL, brownish gray, fine to medium, sub rounded to sub angular, loose, dry. 20% fine, rounded to sub angular gravel, flat, elongated, 1/4-1/2" in diameter. 15% coarse sand. 10% coarse, sub rounded to sub angular gravel, up to 2.5" long. Trace cobbles up to 4" long. No odor or visible contamination.	930	
C-4	7.0-9.0	-	100	-		(7.0-9.0) SP: POORLY GRADED SAND WITH GRAVEL, brownish gray, fine to medium, sub rounded to sub angular, loose, dry. 20% fine, rounded to sub rounded gravel, equant, elongated, up to 1/2" long. 10% coarse sand. 10% coarse, rounded to sub rounded gravel, elongated, equant, up to 3" long. 2" lense of coarse sand at 8.25 feet. No odor or visible contamination.	929		
C-5	9.0-10.0	-	100	-		(9.0-10.0) SP: POORLY GRADED SAND WITH GRAVEL, brownish gray, fine, loose, dry. 25% fine, sub rounded gravel, elongated, equant, trace amount is 0.5-0.75" in diameter. 15% medium sand. 10% coarse sand. 10% coarse, sub rounded gravel up to 3" long. Trace silt and sub rounded cobble up to 5" in diameter. No odor or visible contamination.	928		
C-6	10.0-11.0	-	100	-		(10.0-11.0) BOULDER and rock flour, light gray.	927		
C-7	11.0-13.0	-	75	-			926		
								925	
								924	
								923	

Remarks and Datum Used: AECOM - Environment 710 Second Avenue, Suite 1000 Seattle, WA 98104 Phone: (206) 624-9349 Fax: (206) 623-3793	Sample Type GP = Geoprobe C = Core GS = Grab Sample SS = Split Spoon	Groundwater		
		Date	Time	Depth (ft.)
		-	-	-
		-	-	-
		-	-	-

Project: Skykomish	Operator: Rodney Labrosse	Location: Skykomish, WA
Project #: 01140-284-0275	Drill Rig Type: Truck-mounted Sonic	Northing: 259282.754 Easting: 1511411.537
Client: BNSF	Method: Rotosonic	Ground Elevation: 935.19 ft.
Contractor: Cascade Drilling Inc.	Casing ID: -	Total Depth: 20 ft.
Start Date & Time: 08/14/2009 0735	Bit Type: Carbide tooth Coring Bit	Seal: Bentonite chips
Finish Date & Time: 08/14/2009 1000	Boring ID: 6 in.	Logged By: R. Knecht

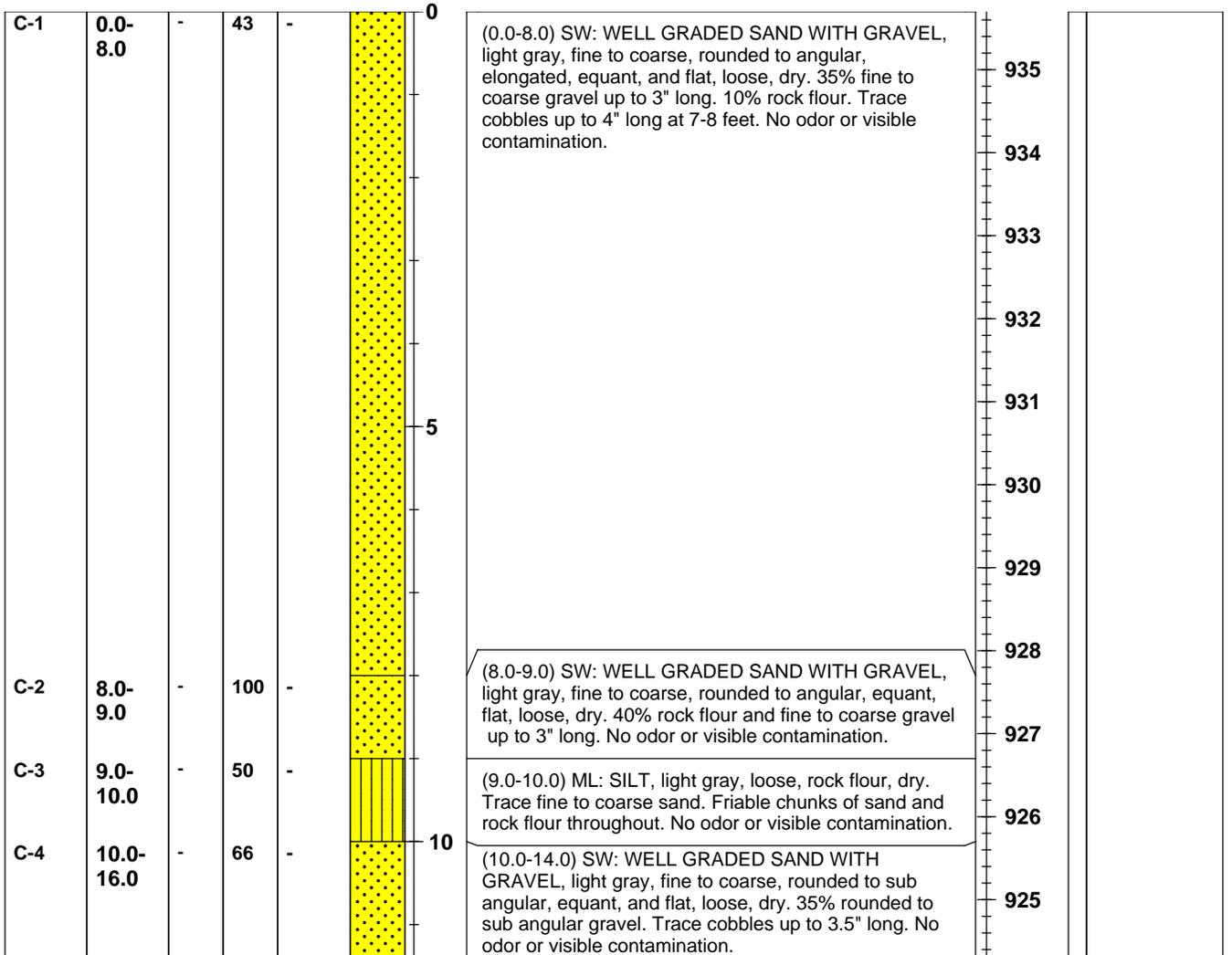
Sample					Graphic	Depth (ft.)	Soil and Rock Description Classification Scheme: USCS/ASTM	Elevation (ft.)	Comments
Type & No.	Depth Range (ft.)	Blows Per 6 Inch	% Rec	PID (ppm)					

C-8	13.0-15.0	-	62.5	-		15	922	Analytical sample 1C-B-11-13-15 taken. TPH: 7.55 mg/kg. Analytical sample 1C-B-11-15-17 taken. TPH: 8.95 mg/kg.
C-9	15.0-17.5	-	100	-		15	921	
							920	
							919	
C-10	17.5-20.0	-	100	-			918	
							917	
							916	
						20		

Remarks and Datum Used: AECOM - Environment 710 Second Avenue, Suite 1000 Seattle, WA 98104 Phone: (206) 624-9349 Fax: (206) 623-3793	Sample Type GP = Geoprobe C = Core GS = Grab Sample SS = Split Spoon	Groundwater		
		Date	Time	Depth (ft.)
		-	-	-
		-	-	-
		-	-	-

Project: Skykomish	Operator: Steve Zimmerman	Location: Skykomish, WA
Project #: 01140-284-0275	Drill Rig Type: Minisonic 17-C	Northing: 259260.303 Easting: 1511430.819
Client: BNSF	Method: Rotosonic	Ground Elevation: 935.70 ft.
Contractor: Cascade Drilling Inc.	Casing ID: -	Total Depth: 21 ft.
Start Date & Time: 07/30/2009 1000	Bit Type: Carbide tooth Coring Bit	Seal: Bentonite chips
Finish Date & Time: 07/30/2009 1345	Boring ID: 4 in.	Logged By: R. Knecht, M. Graddon

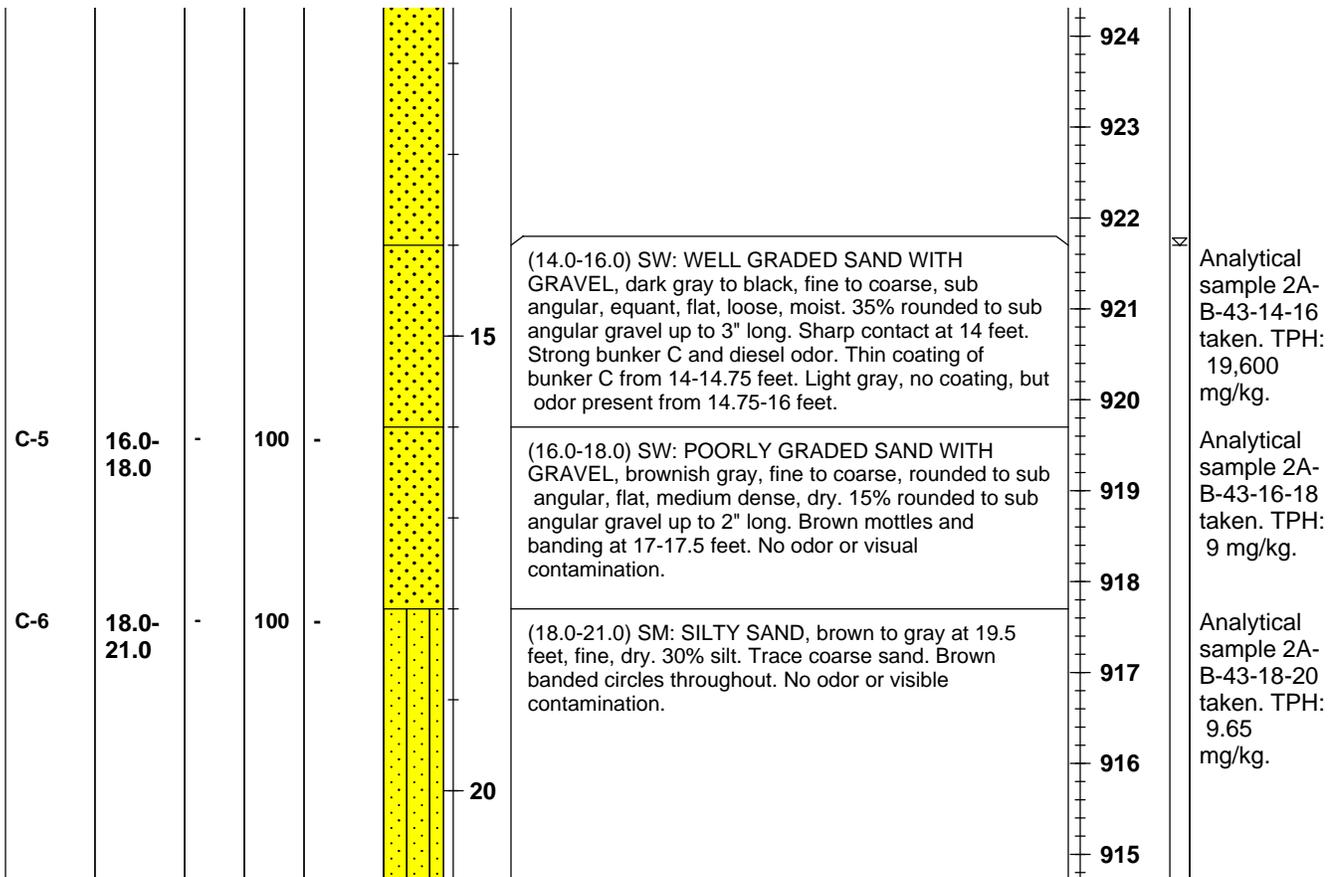
Sample					Graphic	Depth (ft.)	Soil and Rock Description Classification Scheme: USCS/ASTM	Elevation (ft.)	Comments
Type & No.	Depth Range (ft.)	Blows Per 6 Inch	% Rec	PID (ppm)					



Remarks and Datum Used: ft.-bgs = feet below ground surface AECOM - Environment 710 Second Avenue, Suite 1000 Seattle, WA 98104 Phone: (206) 624-9349 Fax: (206) 623-3793	Sample Type GP = Geoprobe C = Core GS = Grab Sample SS = Split Spoon	Groundwater		
		Date	Time	Depth (ft.)
		-	-	-
		-	-	-
		-	-	-

Project: Skykomish	Operator: Steve Zimmerman	Location: Skykomish, WA
Project #: 01140-284-0275	Drill Rig Type: Minisonic 17-C	Northing: 259260.303 Easting: 1511430.819
Client: BNSF	Method: Rotosonic	Ground Elevation: 935.70 ft.
Contractor: Cascade Drilling Inc.	Casing ID: -	Total Depth: 21 ft.
Start Date & Time: 07/30/2009 1000	Bit Type: Carbide tooth Coring Bit	Seal: Bentonite chips
Finish Date & Time: 07/30/2009 1345	Boring ID: 4 in.	Logged By: R. Knecht, M. Graddon

Sample					Graphic	Depth (ft.)	Soil and Rock Description Classification Scheme: USCS/ASTM	Elevation (ft.)	Comments
Type & No.	Depth Range (ft.)	Blows Per 6 Inch	% Rec	PID (ppm)					



Remarks and Datum Used: ft.-bgs = feet below ground surface AECOM - Environment 710 Second Avenue, Suite 1000 Seattle, WA 98104 Phone: (206) 624-9349 Fax: (206) 623-3793	Sample Type GP = Geoprobe C = Core GS = Grab Sample SS= Split Spoon	Groundwater		
		Date	Time	Depth (ft.)
		-	-	-
		-	-	-
		-	-	-

Project: Skykomish	Operator: Steve Zimmerman	Location: Skykomish, WA
Project #: 01140-284-0275	Drill Rig Type: Minisonic 17-C	Northing: 259241.348 Easting: 1511442.994
Client: BNSF	Method: Rotosonic	Ground Elevation: 936.97 ft.
Contractor: Cascade Drilling Inc.	Casing ID: -	Total Depth: 21 ft.
Start Date & Time: 07/29/2009 1300	Bit Type: Carbide tooth Coring Bit	Seal: Bentonite chips
Finish Date & Time: 07/30/2009 0910	Boring ID: 4 in.	Logged By: R. Knecht, Mindy Graddon

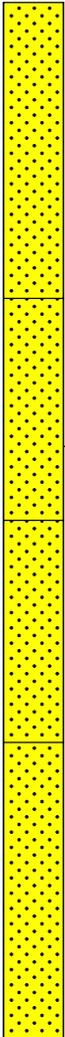
Sample					Graphic	Depth (ft.)	Soil and Rock Description Classification Scheme: USCS/ASTM	Elevation (ft.)	Comments
Type & No.	Depth Range (ft.)	Blows Per 6 Inch	% Rec	PID (ppm)					

C-1	0.0-2.5	-	100	-	[Yellow dotted pattern]	0	(0.0-0.5) SW: WELL GRADED SAND WITH GRAVEL, dark brown, fine to coarse, sub rounded to angular, flat, loose, dry. 20% sub rounded to angular gravel up to 3/4" long. Shiny, organic, coal-like at 0.5". No odor or visible contamination.	936	
							(0.5-1.5) SW: WELL GRADED SAND WITH GRAVEL, gray, fine to coarse, rounded to sub angular, equant, loose, dry. 40% rounded to sub angular gravel up to 3" long. No odor or visible contamination.		
C-2	2.5-4.0	-	100	-	[Yellow dotted pattern]		(1.5-2.5) SW: WELL GRADED SAND WITH GRAVEL, gray, fine to coarse, rounded to sub angular, equant, loose, dry. 40% rounded to sub angular rock flour and gravel up to 3" long. Rock flour. No odor or visible contamination.	935	
							(2.5-4.0) SW: WELL GRADED SAND WITH GRAVEL, gray, fine to coarse, rounded to sub angular, equant, loose, dry. 35% rounded to sub angular gravel. 30% rock flour. No odor or visible contamination.		
C-3	4.0-5.0	-	100	-	[Yellow dotted pattern]		(4.0-5.0) SW: WELL GRADED SAND WITH GRAVEL, dark gray, fine to coarse, rounded to angular, equant, and flat, loose, dry. 35% rounded to angular gravel up to 3" long. No odor or visible contamination.	933	
C-4	5.0-6.0	-	100	-	[Yellow dotted pattern]	5	(5.0-6.0) SW: WELL GRADED SAND WITH GRAVEL, light gray, fine to coarse, rounded to sub angular, elongated and flat, loose, dry. 30% rounded to sub angular gravel up to 3" long. Abundant rock flour. No odor or visible contamination.	932	
C-5	6.0-7.0	-	100	-	[Yellow dotted pattern]		(6.0-7.0) SW: WELL GRADED SAND WITH GRAVEL, light gray, fine to coarse, rounded to sub angular, elongated, loose, dry. 30% rounded to sub angular gravel up to 3" long. Abundant rock flour. No odor or visible contamination.	931	
								930	

Remarks and Datum Used: AECOM - Environment 710 Second Avenue, Suite 1000 Seattle, WA 98104 Phone: (206) 624-9349 Fax: (206) 623-3793	-	Sample Type GP = Geoprobe C = Core GS = Grab Sample SS = Split Spoon	Groundwater		
	-		Date	Time	Depth (ft.)
	-		-	-	-
	-		-	-	-
	-		-	-	-

Project: Skykomish	Operator: Steve Zimmerman	Location: Skykomish, WA
Project #: 01140-284-0275	Drill Rig Type: Minisonic 17-C	Northing: 259241.348 Easting: 1511442.994
Client: BNSF	Method: Rotosonic	Ground Elevation: 936.97 ft.
Contractor: Cascade Drilling Inc.	Casing ID: -	Total Depth: 21 ft.
Start Date & Time: 07/29/2009 1300	Bit Type: Carbide tooth Coring Bit	Seal: Bentonite chips
Finish Date & Time: 07/30/2009 0910	Boring ID: 4 in.	Logged By: R. Knecht, Mindy Graddon

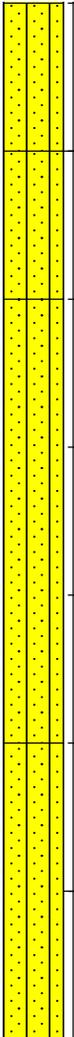
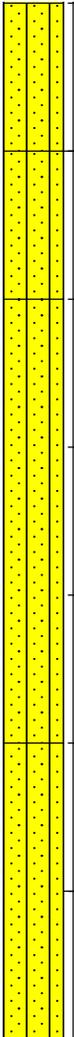
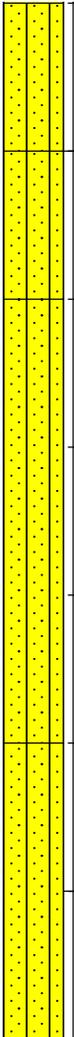
Sample					Graphic	Depth (ft.)	Soil and Rock Description Classification Scheme: USCS/ASTM	Elevation (ft.)	Comments
Type & No.	Depth Range (ft.)	Blows Per 6 Inch	% Rec	PID (ppm)					

C-6	7.0-9.0	-	100	-		(7.0-9.0) SW: WELL GRADED SAND WITH GRAVEL, light gray, fine to coarse, rounded to sub angular, elongated and flat, loose, dry. 30% rounded to sub angular gravel up to 3" long. Abundant rock flour. No odor or visible contamination.	930	Analytical sample 2A-B-44-10-12 taken. TPH: 7.9 mg/kg.
C-7	9.0-12.0	-	100	-		(9.0-10.5) SW: WELL GRADED SAND WITH GRAVEL, light gray, fine to coarse, rounded to angular, equant, flat, loose, dry. 30% rounded to angular gravel up to 3" long. Abundant rock flour. One cobble 4" long. No odor or visible contamination.	929	
						(10.5-12.0) SW: WELL GRADED SAND WITH GRAVEL, light gray, fine to coarse, rounded to sub angular, equant, flat, loose, dry. 40% rounded to sub angular gravel up to 3" long. One cobble 4" long. No odor or visible contamination.	928	
						(12.0-14.0) SW: WELL GRADED SAND WITH GRAVEL, light gray, fine to coarse, rounded to sub angular, elongated, flat, loose, dry. 30% rounded to sub angular gravel up to 3" long. Abundant rock flour. No odor or visible contamination.	927	
C-8	12.0-14.0	-	85	-			926	
							925	
							924	
							923	

Remarks and Datum Used: AECOM - Environment 710 Second Avenue, Suite 1000 Seattle, WA 98104 Phone: (206) 624-9349 Fax: (206) 623-3793	-	Sample Type GP = Geoprobe C = Core GS = Grab Sample SS = Split Spoon	Groundwater		
	-		Date	Time	Depth (ft.)
	-		-	-	-
	-		-	-	-
	-		-	-	-

Project: Skykomish	Operator: Steve Zimmerman	Location: Skykomish, WA
Project #: 01140-284-0275	Drill Rig Type: Minisonic 17-C	Northing: 259241.348 Easting: 1511442.994
Client: BNSF	Method: Rotosonic	Ground Elevation: 936.97 ft.
Contractor: Cascade Drilling Inc.	Casing ID: -	Total Depth: 21 ft.
Start Date & Time: 07/29/2009 1300	Bit Type: Carbide tooth Coring Bit	Seal: Bentonite chips
Finish Date & Time: 07/30/2009 0910	Boring ID: 4 in.	Logged By: R. Knecht, Mindy Graddon

Sample					Graphic	Depth (ft.)	Soil and Rock Description Classification Scheme: USCS/ASTM	Elevation (ft.)	Comments
Type & No.	Depth Range (ft.)	Blows Per 6 Inch	% Rec	PID (ppm)					

C-9	14.0-16.0	-	100	-		15	(14.0-15.0) SM: SILTY SAND, gray, fine to coarse, rounded to sub angular, elongated and flat, medium dense to dense, wet. 35% silt. Trace rounded to sub angular gravel up to 2" long. Strong diesel and bunker odor. Blebs of bunker C on water.	923	Analytical sample 2A-B-44-14-16 taken. TPH: 580 mg/kg.
							(15.0-16.0) SM: SILTY SAND WITH GRAVEL, gray, fine to coarse, rounded to sub angular, equant, loose, moist. 20% silt. 20% rounded to sub angular gravel up to 2" long. Moderate diesel odor.	922	
C-10	16.0-19.0	-	83	-			(16.0-19.0) SM: SILTY SAND WITH GRAVEL, gray, fine to coarse, rounded to angular, elongated, dense, moist. 25% silt. 20% rounded to sub angular gravel up to 3" long. Trace cobbles up to 3.5" long. Moderate diesel and bunker C odor.	921	Analytical sample 2A-B-44-16-18 taken. TPH: 9,000 mg/kg.
								920	
C-11	19.0-21.0	-	83	-			(19.0-21.0) SM: SILTY SAND, brownish gray, fine, dense, moist. 30% silt. Brown banding at 19.3 feet. Brown bands and laminations at 20 feet. Transition from dark gray to light gray at 19.6 feet. No odor or visible contamination.	918	Analytical sample 2A-B-44-19-21 taken. TPH: 9.7 mg/kg.
						20		917	
								916	

Remarks and Datum Used: AECOM - Environment 710 Second Avenue, Suite 1000 Seattle, WA 98104 Phone: (206) 624-9349 Fax: (206) 623-3793	-	Sample Type GP = Geoprobe C = Core GS = Grab Sample SS = Split Spoon	Groundwater		
	-		Date	Time	Depth (ft.)
	-		-	-	-
	-		-	-	-
	-		-	-	-

Project: Skykomish	Operator: Steve Zimmerman	Location: Skykomish, WA
Project #: 01140-284-0275	Drill Rig Type: Minisonic 17-C	Northing: 259261.931 Easting: 1511464.080
Client: BNSF	Method: Rotosonic	Ground Elevation: 936.48 ft.
Contractor: Cascade Drilling Inc.	Casing ID: -	Total Depth: 25 ft.
Start Date & Time: 07/29/2009 0800	Bit Type: Carbide tooth Coring Bit	Seal: Bentonite chips
Finish Date & Time: 07/29/2009 1140	Boring ID: 4 in.	Logged By: R. Knecht, Mindy Graddon

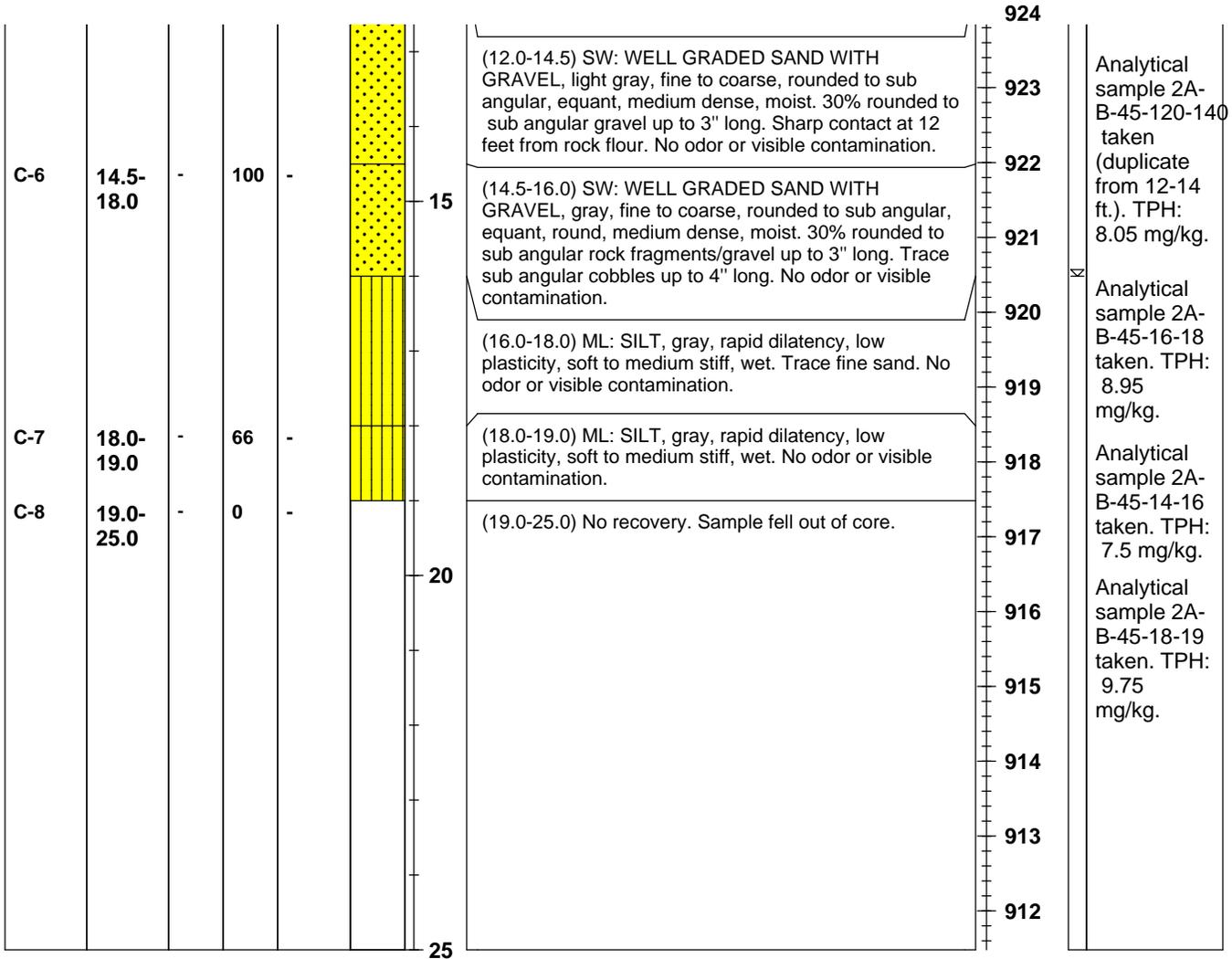
Sample					Graphic	Depth (ft.)	Soil and Rock Description Classification Scheme: USCS/ASTM	Elevation (ft.)	Comments
Type & No.	Depth Range (ft.)	Blows Per 6 Inch	% Rec	PID (ppm)					

C-1	0.0-3.5	-	85	-		0	(0.0-0.5) SW: WELL GRADED SAND WITH GRAVEL, dark brown, fine to coarse, sub rounded, equant, loose, damp. 30% rounded gravel up to 2" long. Trace silt. Top 2" granolithic from stockpile. No odor or visible contamination.	936	
							(0.5-1.5) SP-SM: POORLY GRADED SAND WITH SILT, yellowish brown, fine, medium dense, damp. 30% silt. No odor or visible contamination.		
C-2	3.5-4.5	-	100	-		5	(1.5-3.5) SW: WELL GRADED SAND WITH GRAVEL, gray brown, fine to coarse, rounded to sub angular, equant, loose, dry. 30% rounded to sub rounded gravel. Bottom 0.75' gravel with rock flour. No odor or visible contamination.	934	
C-3	4.5-7.0	-	80	-		5	(3.5-4.5) GP: POORLY GRADED GRAVEL, grayish white, dry. Abundant rock flour. No odor or visible contamination.	933	
C-4	7.0-10.0	-	100	-		10	(4.5-6.0) SW: WELL GRADED SAND WITH GRAVEL, gray, fine to coarse, rounded to sub angular, loose, dry. 30% rounded to sub rounded gravel up to 3" long. Abundant rock flour. No odor or visible contamination.	932	
							(6.0-7.0) SW: WELL GRADED SAND WITH GRAVEL, gray, fine to coarse, rounded to sub angular, equant, loose, dry. 35% rounded to sub angular rock fragments/gravel up to 2.5" long. Abundant rock flour. No odor or visible contamination.	931	
							(7.0-10.0) SW: WELL GRADED SAND WITH GRAVEL, gray, fine to coarse, rounded to sub angular, equant, loose, dry. 30% rounded to sub angular rock fragments/gravel up to 3" long. One cobble 4.5" long (broken cobble or boulder from drilling). Abundant rock flour. No odor or visible contamination.	930	
C-5	10.0-14.5	-	88	-		10	(4.5-6.0) SW: WELL GRADED SAND WITH GRAVEL, gray, fine to coarse, rounded to sub angular, loose, dry. 30% rounded to sub rounded gravel up to 3" long. Abundant rock flour. No odor or visible contamination.	929	
							(6.0-7.0) SW: WELL GRADED SAND WITH GRAVEL, gray, fine to coarse, rounded to sub angular, equant, loose, dry. 35% rounded to sub angular rock fragments/gravel up to 2.5" long. Abundant rock flour. No odor or visible contamination.	928	
							(7.0-10.0) SW: WELL GRADED SAND WITH GRAVEL, gray, fine to coarse, rounded to sub angular, equant, loose, dry. 30% rounded to sub angular rock fragments/gravel up to 3" long. One cobble 4.5" long (broken cobble or boulder from drilling). Abundant rock flour. No odor or visible contamination.	927	
							(10.0-12.0) SW: WELL GRADED SAND WITH GRAVEL, gray, fine to coarse, rounded to sub angular, equant, loose, dry. 30% rounded to sub angular rock fragments/gravel up to 3" long. Abundant rock flour. No odor or visible contamination.	926	Analytical sample 2A-B-45-12-14 taken. TPH: 7.5 mg/kg.
							(10.0-12.0) SW: WELL GRADED SAND WITH GRAVEL, gray, fine to coarse, rounded to sub angular, equant, loose, dry. 30% rounded to sub angular rock fragments/gravel up to 3" long. Abundant rock flour. No odor or visible contamination.	925	
								924	

Remarks and Datum Used: AECOM - Environment 710 Second Avenue, Suite 1000 Seattle, WA 98104 Phone: (206) 624-9349 Fax: (206) 623-3793	-	Sample Type GP = Geoprobe C = Core GS = Grab Sample SS = Split Spoon	Groundwater		
	-		Date	Time	Depth (ft.)
	-		-	-	-
	-		-	-	-
	-		-	-	-

Project: Skykomish	Operator: Steve Zimmerman	Location: Skykomish, WA
Project #: 01140-284-0275	Drill Rig Type: Minisonic 17-C	Northing: 259261.931 Easting: 1511464.080
Client: BNSF	Method: Rotosonic	Ground Elevation: 936.48 ft.
Contractor: Cascade Drilling Inc.	Casing ID: -	Total Depth: 25 ft.
Start Date & Time: 07/29/2009 0800	Bit Type: Carbide tooth Coring Bit	Seal: Bentonite chips
Finish Date & Time: 07/29/2009 1140	Boring ID: 4 in.	Logged By: R. Knecht, Mindy Graddon

Sample					Graphic	Depth (ft.)	Soil and Rock Description Classification Scheme: USCS/ASTM	Elevation (ft.)	Comments
Type & No.	Depth Range (ft.)	Blows Per 6 Inch	% Rec	PID (ppm)					



Remarks and Datum Used: AECOM - Environment 710 Second Avenue, Suite 1000 Seattle, WA 98104 Phone: (206) 624-9349 Fax: (206) 623-3793	-	Sample Type GP = Geoprobe C = Core GS = Grab Sample SS = Split Spoon	Groundwater		
	-		Date	Time	Depth (ft.)
	-		-	-	-
	-		-	-	-
	-		-	-	-

Project: Skykomish	Operator: Steve Zimmerman	Location: Skykomish, WA
Project #: 01140-284-0275	Drill Rig Type: Minisonic 17-C	Northing: 259246.366 Easting: 1511458.455
Client: BNSF	Method: Rotosonic	Ground Elevation: 937.11 ft.
Contractor: Cascade Drilling Inc.	Casing ID: -	Total Depth: 22 ft.
Start Date & Time: 07/31/2009 0710	Bit Type: Carbide tooth Coring Bit	Seal: Bentonite chips
Finish Date & Time: 07/31/2009 1000	Boring ID: 4 in.	Logged By: R. Knecht, Mindy Graddon

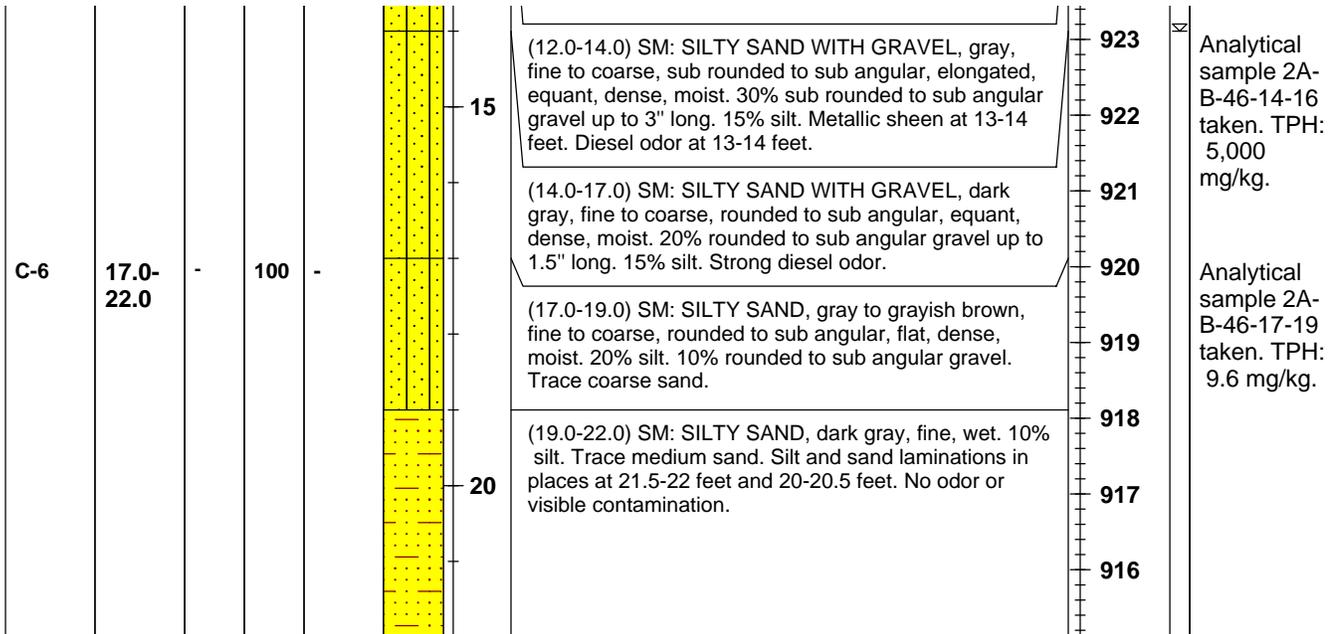
Sample					Graphic	Depth (ft.)	Soil and Rock Description Classification Scheme: USCS/ASTM	Elevation (ft.)	Comments
Type & No.	Depth Range (ft.)	Blows Per 6 Inch	% Rec	PID (ppm)					

Type & No.	Depth Range (ft.)	Blows Per 6 Inch	% Rec	PID (ppm)	Graphic	Depth (ft.)	Soil and Rock Description Classification Scheme: USCS/ASTM	Elevation (ft.)	Comments	
C-1	0.0-3.0	-	83	-		0	(0.0-2.0) SM: SILTY SAND, brown to gray, fine to coarse, sub rounded to sub angular, equant, flat, loose to dense at 1.5-2.0', dry. 15% silt. 5% sub rounded to sub angular gravel up to 1" long. Trace wood. No odor or visible contamination.	937		
C-2	3.0-8.0	-	80	-		(2.0-3.0) SW: WELL GRADED SAND WITH GRAVEL, brown to gray, fine to coarse, sub rounded to angular, equant, flat, loose, dry. 35% sub rounded to sub angular gravel up to 2" long. Sharp contact at 2 feet. No odor or visible contamination.	936			
						(3.0-8.0) SW: WELL GRADED SAND WITH GRAVEL, light gray, fine to coarse, rounded to angular, elongated, equant and flat, loose, dry. 35% rounded to angular gravel up to 3" long. Abundant rock flour. No odor or visible contamination.	935			
							5			934
										933
C-3	8.0-9.5	-	100	-			(8.0-9.5) SW: WELL GRADED SAND, light gray, fine to coarse, sub rounded to sub angular, equant and flat, loose, dry. 10% sub rounded to sub angular gravel up to 1.5" long. Abundant rock flour. No odor or visible contamination.	932		
C-4	9.5-12.0	-	100	-			(9.5-11.0) SW: WELL GRADED SAND WITH GRAVEL, light gray, fine to coarse, sub rounded to sub angular, equant and flat, loose, dry. Abundant rock flour with 15% sub angular gravel up to 3" long at 9.5-10.5 feet. Abundant friable rock flour with 30% sub rounded to sub angular gravel up to 3" long at 10.5-11 feet. No odor or visible contamination.	931		
								930		
								929		
								928		
								927		
C-5	12.0-17.0	-	80	-			(11.0-12.0) SW: WELL GRADED SAND WITH GRAVEL, brownish gray, fine to coarse, rounded to sub angular, elongated, equant, loose, dry. 35% rounded to sub angular gravel up to 2" long. No odor or visible contamination.	926		
								925	Analytical sample 2A-B-46-12-14 taken. TPH: 580 mg/kg.	
								924		

Remarks and Datum Used: AECOM - Environment 710 Second Avenue, Suite 1000 Seattle, WA 98104 Phone: (206) 624-9349 Fax: (206) 623-3793	-	Sample Type GP = Geoprobe C = Core GS = Grab Sample SS = Split Spoon	Groundwater		
	-		Date	Time	Depth (ft.)
-	-	-	-	-	
-	-	-	-	-	
-	-	-	-	-	

Project: Skykomish	Operator: Steve Zimmerman	Location: Skykomish, WA
Project #: 01140-284-0275	Drill Rig Type: Minisonic 17-C	Northing: 259246.366 Easting: 1511458.455
Client: BNSF	Method: Rotosonic	Ground Elevation: 937.11 ft.
Contractor: Cascade Drilling Inc.	Casing ID: -	Total Depth: 22 ft.
Start Date & Time: 07/31/2009 0710	Bit Type: Carbide tooth Coring Bit	Seal: Bentonite chips
Finish Date & Time: 07/31/2009 1000	Boring ID: 4 in.	Logged By: R. Knecht, Mindy Graddon

Sample					Graphic	Depth (ft.)	Soil and Rock Description Classification Scheme: USCS/ASTM	Elevation (ft.)	Comments
Type & No.	Depth Range (ft.)	Blows Per 6 Inch	% Rec	PID (ppm)					



Remarks and Datum Used: - AECOM - Environment 710 Second Avenue, Suite 1000 Seattle, WA 98104 Phone: (206) 624-9349 Fax: (206) 623-3793	-	Sample Type GP = Geoprobe C = Core GS = Grab Sample SS= Split Spoon	Groundwater		
	-		Date	Time	Depth (ft.)
	-		-	-	-
	-		-	-	-
	-		-	-	-

Project: Skykomish	Operator: Rodney Labrosse	Location: Skykomish, WA
Project #: 01140-284-0275	Drill Rig Type: Truck-mounted Sonic	Northing: 259217.382 Easting: 1509854.306
Client: BNSF	Method: Rotosonic	Ground Elevation: 923.54 ft.
Contractor: Cascade Drilling Inc.	Casing ID: -	Total Depth: 18 ft.
Start Date & Time: 08/12/2009 1353	Bit Type: Carbide tooth Coring Bit	Seal: Bentonite chips
Finish Date & Time: 08/12/2009 1455	Boring ID: 6 in.	Logged By: R. Knecht, Mindy Graddon

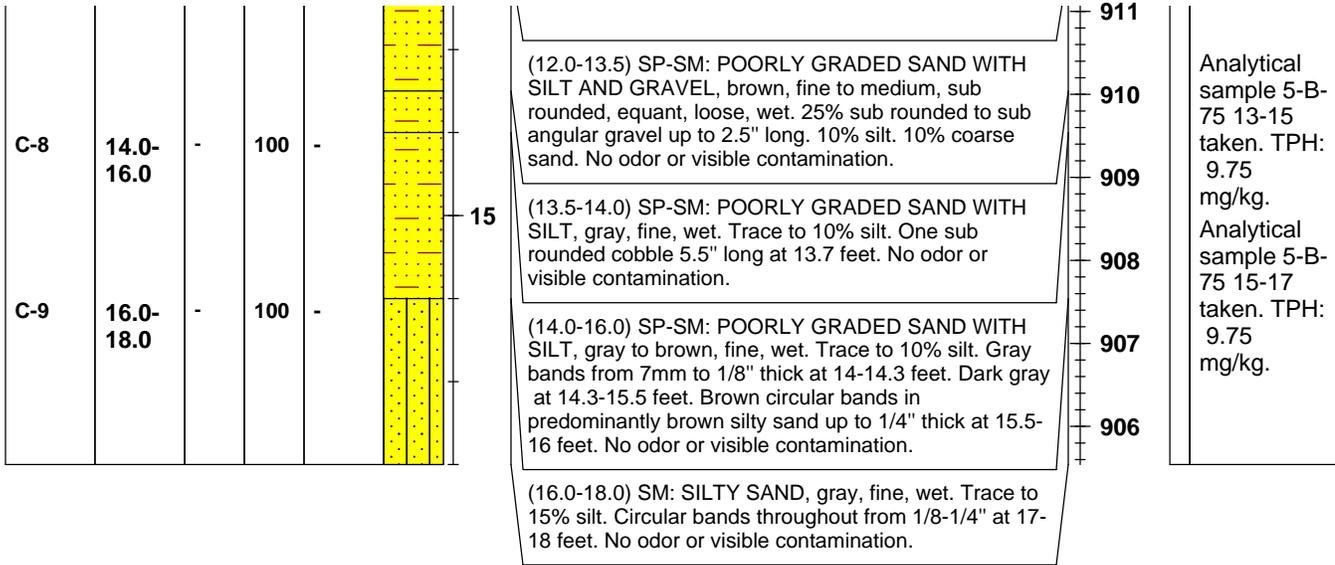
Sample					Graphic	Depth (ft.)	Soil and Rock Description Classification Scheme: USCS/ASTM	Elevation (ft.)	Comments
Type & No.	Depth Range (ft.)	Blows Per 6 Inch	% Rec	PID (ppm)					

C-1	0.0-2.0	-	100	-		0	(0.0-2.0) SP: POORLY GRADED SAND WITH GRAVEL, brownish gray, fine to medium, sub rounded, flat, loose, dry. 20% sub rounded to sub angular gravel up to 2" long. 10% coarse sand. Gravel, rock fragments, and asphalt/road base at 0.0-0.5 feet. No odor or visible contamination.	923	
C-2	2.0-5.0	-	50	-		5	(2.0-5.0) SP: POORLY GRADED SAND WITH GRAVEL, brown, fine to medium, sub rounded to sub angular, equant, elongated, loose, dry. 20% sub rounded to sub angular gravel up to 2.5" long. 10% coarse sand. Trace sub rounded cobbles up to 6" long. No odor or visible contamination.	921	
C-3	5.0-6.0	-	100	-		10	(5.0-6.0) SP: POORLY GRADED SAND WITH GRAVEL, brown, fine to medium, sub rounded, equant, loose, dry. 20% sub rounded to sub angular gravel up to 2.5" long. 10% coarse sand. One sub rounded cobbles 4" long. No odor or visible contamination.	918	
C-4	6.0-7.5	-	100	-		10	(6.0-6.5) SP: POORLY GRADED SAND WITH GRAVEL, brown, fine to medium, sub rounded, equant, loose, dry. 20% sub rounded to sub angular gravel up to 3" long. 10% coarse sand. No odor or visible contamination.	917	
C-5	7.5-10.0	-	100	-		10	(6.5-7.5) SP: POORLY GRADED SAND WITH GRAVEL, gray, fine to medium, moist at 7 feet. 25% sub rounded to sub angular gravel. 10% coarse sand. Two sub angular cobbles 3.5" and 6" long. No odor or visible contamination.	915	
C-6	10.0-12.0	-	100	-		10	(7.5-10.0) SP: POORLY GRADED SAND WITH GRAVEL, gray, fine to medium, sub rounded, equant, loose, dry. 30% rounded to sub angular gravel up to 2.5" long. 10% coarse sand. Two sub rounded cobbles 4.5" and 7" long. No odor or visible contamination.	913	
C-7	12.0-14.0	-	100	-		10	(10.0-12.0) SP: POORLY GRADED SAND WITH GRAVEL, gray, fine to medium, sub rounded, equant, loose, moist. 30% sub rounded to sub angular gravel up to 3" long. 10% coarse sand. No odor or visible contamination.	912	
								911	Analytical sample 5-B-75 9-11 taken. TPH: 159 mg/kg.
									Analytical sample 5-B-75 11-13 taken. TPH: 8.15 mg/kg.

Remarks and Datum Used: AECOM - Environment 710 Second Avenue, Suite 1000 Seattle, WA 98104 Phone: (206) 624-9349 Fax: (206) 623-3793	-	Sample Type GP = Geoprobe C = Core GS = Grab Sample SS = Split Spoon	Groundwater		
	-		Date	Time	Depth (ft.)
-	-	-	-	-	
-	-	-	-	-	
-	-	-	-	-	

Project: Skykomish	Operator: Rodney Labrosse	Location: Skykomish, WA
Project #: 01140-284-0275	Drill Rig Type: Truck-mounted Sonic	Northing: 259217.382 Easting: 1509854.306
Client: BNSF	Method: Rotosonic	Ground Elevation: 923.54 ft.
Contractor: Cascade Drilling Inc.	Casing ID: -	Total Depth: 18 ft.
Start Date & Time: 08/12/2009 1353	Bit Type: Carbide tooth Coring Bit	Seal: Bentonite chips
Finish Date & Time: 08/12/2009 1455	Boring ID: 6 in.	Logged By: R. Knecht, Mindy Graddon

Sample					Graphic	Depth (ft.)	Soil and Rock Description Classification Scheme: USCS/ASTM	Elevation (ft.)	Comments
Type & No.	Depth Range (ft.)	Blows Per 6 Inch	% Rec	PID (ppm)					



Remarks and Datum Used: - AECOM - Environment 710 Second Avenue, Suite 1000 Seattle, WA 98104 Phone: (206) 624-9349 Fax: (206) 623-3793	-	Sample Type GP = Geoprobe C = Core GS = Grab Sample SS = Split Spoon	Groundwater		
	-		Date	Time	Depth (ft.)
	-		-	-	-
	-		-	-	-
	-		-	-	-

Project: Skykomish	Operator: Steve Zimmerman	Location: Skykomish, WA
Project #: 01140-284-0275	Drill Rig Type: Minisonic 17-C	Northing: 259227.127 Easting: 1509834.568
Client: BNSF	Method: Rotosonic	Ground Elevation: 923.46 ft.
Contractor: Cascade Drilling Inc.	Casing ID: -	Total Depth: 19 ft.
Start Date & Time: 08/05/2009 0835	Bit Type: Carbide tooth Coring Bit	Seal: Bentonite chips
Finish Date & Time: 08/05/2009 1010	Boring ID: 4 in.	Logged By: R. Knecht, Mindy Graddon

Sample					Graphic	Depth (ft.)	Soil and Rock Description Classification Scheme: USCS/ASTM	Elevation (ft.)	Comments
Type & No.	Depth Range (ft.)	Blows Per 6 Inch	% Rec	PID (ppm)					

Type & No.	Depth Range (ft.)	Blows Per 6 Inch	% Rec	PID (ppm)	Graphic	Depth (ft.)	Soil and Rock Description Classification Scheme: USCS/ASTM	Elevation (ft.)	Comments
C-1	0.0-5.0	-	50	-		0	(0.0-4.0) SP: POORLY GRADED SAND, dark brown, fine to medium, sub angular, flat, loose, dry. 40% wood fragments, roots, and rootlets. Trace coarse sand. No odor or visible contamination.	923	
C-2	5.0-14.0	-	22.2	-		5	(4.0-5.0) SW: WELL GRADED SAND WITH GRAVEL, light brown, fine to coarse, sub rounded to sub angular, equant, flat, loose, dry. 35% sub rounded to sub angular gravel up to 1.5" long. Sharp contact at 4 feet. Rock flour throughout. Trace chunks of friable pieces of rock flour up to 3/4" long. No odor or visible contamination.	922	
C-3	14.0-19.0	-	0	-		15	(5.0-14.0) SP: POORLY GRADED SAND, light gray, fine, sub rounded, flat, loose, dry. 10% sub rounded gravel up to 3" long. 10% sand/rock flour. Trace wood fragments and rootlets at 5 feet. No odor and visible contamination.	921	
							No recovery.	920	
								919	
								918	
								917	
								916	
								915	
								914	
								913	
								912	
								911	
								910	
								909	
								908	
								907	
								906	
								905	

Remarks and Datum Used: AECOM - Environment 710 Second Avenue, Suite 1000 Seattle, WA 98104 Phone: (206) 624-9349 Fax: (206) 623-3793	Not sampled due to poor recovery.	Sample Type GP = Geoprobe C = Core GS = Grab Sample SS = Split Spoon	Groundwater		
			Date	Time	Depth (ft.)
	-		-	-	-
	-		-	-	-
	-		-	-	-

Project: Skykomish	Operator: Steve Zimmerman	Location: Skykomish, WA
Project #: 01140-284-0275	Drill Rig Type: Minisonic 17-C	Northing: 259244.984 Easting: 1509837.968
Client: BNSF	Method: Rotosonic	Ground Elevation: 923.67 ft.
Contractor: Cascade Drilling Inc.	Casing ID: -	Total Depth: 20 ft.
Start Date & Time: 08/05/2009 1030	Bit Type: Carbide tooth Coring Bit	Seal: Bentonite chips
Finish Date & Time: 08/05/2009 1335	Boring ID: 4 in.	Logged By: R. Knecht, Mindy Graddon

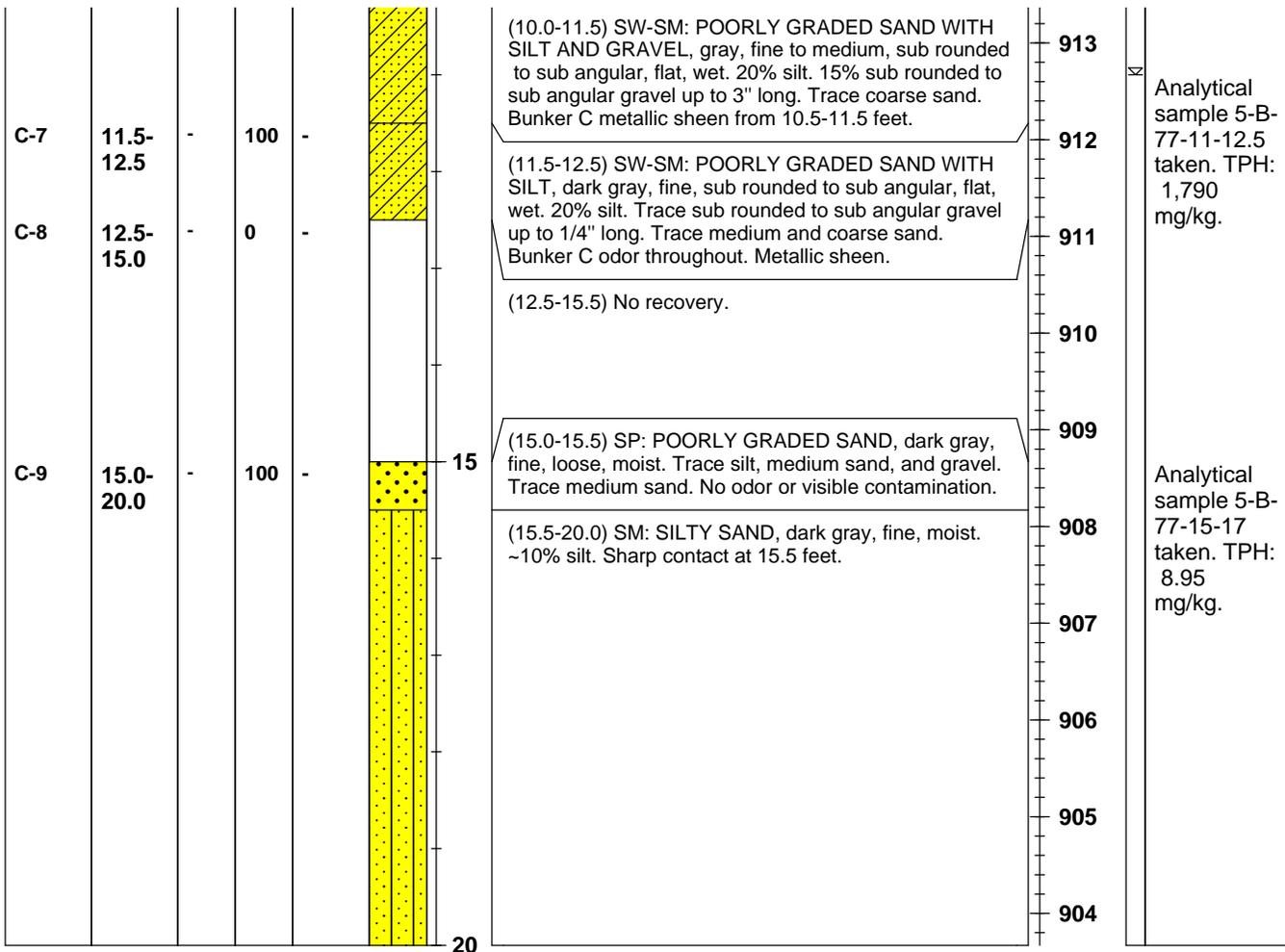
Sample					Graphic	Depth (ft.)	Soil and Rock Description Classification Scheme: USCS/ASTM	Elevation (ft.)	Comments
Type & No.	Depth Range (ft.)	Blows Per 6 Inch	% Rec	PID (ppm)					

C-1	0.0-3.5	-	85	-	[Yellow dotted pattern]	0	(0.0-1.5) SP: POORLY GRADED SAND, dark brown, fine to medium, sub angular, flat, dry. 40% organics - wood fragments, roots, rootlets. Trace coarse sand. No odor or visible contamination.	923	Analytical sample 5-B-77-9-11 taken. TPH: 13,700 mg/kg.
						(1.5-2.0) SW: WELL GRADED SAND WITH GRAVEL, light gray, fine to coarse, sub rounded to sub angular, elongated, flat, dry. 30% sub rounded to sub angular gravel up to 1" long. No odor or visible contamination.	922		
C-2	3.5-6.0	-	100	-	[Yellow dotted pattern]	5	(2.0-3.5) SW-SM: POORLY GRADED SAND WITH SILT, brownish gray, fine, sub rounded, flat, dry. 20% silt. 5% sub rounded gravel up to 1" long. Trace medium sand. Brown mottles at 2.0-3.4 feet. Mottled with brown, black, tan, and rust fragments. No odor or visible contamination.	921	
						(3.5-6.0) SW: WELL GRADED SAND WITH GRAVEL, light gray, fine to coarse, rounded to sub angular, elongated, equant, flat, dry. 35% rounded to sub angular gravel up to 3" long. Abundant rock flour. No odor or visible contamination.	920		
C-3	6.0-7.5	-	66	-	[Yellow dotted pattern]		(6.0-7.5) SP: POORLY GRADED SAND, light gray, fine, sub angular, flat, dry. 10% sub angular gravel up to 2" long. Trace medium and coarse sand. Abundant rock flour. No odor or visible contamination.	919	
							(7.5-8.5) SP: POORLY GRADED SAND, light gray, fine, sub angular, flat, dry. Trace sub angular gravel up to 1/4" long. Abundant rock flour. One cobble 3.5" long. Friable flat pieces throughout up to 1/2" long. No odor or visible contamination.	918	
C-4	7.5-8.5	-	50	-	[Yellow dotted pattern]			917	
C-5	8.5-10.0	-	50	-	[Yellow dotted pattern]		(8.5-10.0) SW-SM: POORLY GRADED SAND WITH SILT AND GRAVEL, dark gray, fine to medium, sub rounded to sub angular, flat, moist. 30% silt. 15% sub rounded to sub angular gravel up to 3" long. Trace coarse sand. One cobble 3.5" long. Up to 1" long blebs of bunker C blebs at 9.5 feet.	916	
C-6	10.0-11.5	-	100	-	[Yellow dotted pattern]	10		915	
								914	

Remarks and Datum Used: AECOM - Environment 710 Second Avenue, Suite 1000 Seattle, WA 98104 Phone: (206) 624-9349 Fax: (206) 623-3793	-	Sample Type GP = Geoprobe C = Core GS = Grab Sample SS = Split Spoon	Groundwater		
	-		Date	Time	Depth (ft.)
	-		-	-	-
	-		-	-	-
	-		-	-	-

Project: Skykomish	Operator: Steve Zimmerman	Location: Skykomish, WA
Project #: 01140-284-0275	Drill Rig Type: Minisonic 17-C	Northing: 259244.984 Easting: 1509837.968
Client: BNSF	Method: Rotosonic	Ground Elevation: 923.67 ft.
Contractor: Cascade Drilling Inc.	Casing ID: -	Total Depth: 20 ft.
Start Date & Time: 08/05/2009 1030	Bit Type: Carbide tooth Coring Bit	Seal: Bentonite chips
Finish Date & Time: 08/05/2009 1335	Boring ID: 4 in.	Logged By: R. Knecht, Mindy Graddon

Sample					Graphic	Depth (ft.)	Soil and Rock Description Classification Scheme: USCS/ASTM	Elevation (ft.)	Comments
Type & No.	Depth Range (ft.)	Blows Per 6 Inch	% Rec	PID (ppm)					



Remarks and Datum Used: AECOM - Environment 710 Second Avenue, Suite 1000 Seattle, WA 98104 Phone: (206) 624-9349 Fax: (206) 623-3793	-	Sample Type GP = Geoprobe C = Core GS = Grab Sample SS = Split Spoon	Groundwater		
	-		Date	Time	Depth (ft.)
	-		-	-	-
	-		-	-	-
	-		-	-	-

Project: Skykomish	Operator: Rodney Labrosse	Location: Skykomish, WA
Project #: 01140-284-0275	Drill Rig Type: Truck-mounted Sonic	Northing: 259270.730 Easting: 1509845.873
Client: BNSF	Method: Rotosonic	Ground Elevation: 924.26 ft.
Contractor: Cascade Drilling Inc.	Casing ID: -	Total Depth: 17 ft.
Start Date & Time: 08/12/2009 0755	Bit Type: Carbide tooth Coring Bit	Seal: Bentonite chips
Finish Date & Time: 08/12/2009 0950	Boring ID: 6 in.	Logged By: R. Knecht, Mindy Graddon

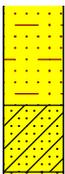
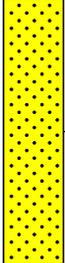
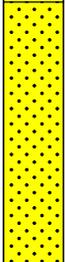
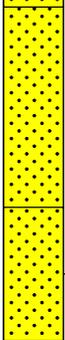
Sample					Graphic	Depth (ft.)	Soil and Rock Description Classification Scheme: USCS/ASTM	Elevation (ft.)	Comments
Type & No.	Depth Range (ft.)	Blows Per 6 Inch	% Rec	PID (ppm)					

C-1	0.0-2.0	-	100	-		0	(0.0-1.0) SP: POORLY GRADED SAND, brown, fine, dry. Trace to 10% medium and coarse sand. 50% organics - wood fragments, roots, rootlets. No odor or visible contamination.	924	
C-2	2.0-4.0	-	100	-		(1.0-2.0) SP: POORLY GRADED SAND WITH GRAVEL, brown, fine to medium, sub angular, equant, loose, dry. 30% fine gravel. Trace coarse sub rounded to sub angular gravel up to 1" long. Trace to 10% coarse sand. Trace organics from 1.5-2 feet. No odor or visible contamination.	923		
						(2.0-4.0) SP: POORLY GRADED SAND WITH GRAVEL, brown, fine to medium, sub angular, equant, loose, dry. 30% fine to coarse, sub rounded to sub angular gravel up to 3" long. Trace sun angular cobbles up to 4.5" long. No odor or visible contamination.	922		
							921		
C-3	4.0-5.0	-	66.6	-		(4.0-5.0) SM: SILTY SAND WITH GRAVEL, brown, fine to coarse, sub rounded to sub angular, loose, moist to wet. 15% silt. 30% cobble/boulder fragments 1.5" to 6" long. No odor or visible contamination.	920		
C-4	5.0-5.5	-	100	-		(5.0-5.5) Boulder and boulder fragments 3-6" long.	919		
C-5	5.5-6.5	-	100	-	(5.5-6.5) SW-SM: WELL GRADED SAND WITH SILT AND GRAVEL, gray, fine to coarse, rounded to sub angular, elongated, equant, and flat, loose, moist. 20% sub rounded to sub angular gravel up to 3" long. 15-20% silt. Trace wood fragments. No odor or visible contamination.	918			
C-6	6.5-9.0	-	80	-	(6.5-8.5) SP-SM: POORLY GRADED SAND WITH SILT AND GRAVEL, gray, fine, loose, moist. 25% sub rounded to sub angular gravel up to 2" long. 10% medium and coarse sand. 10% silt. Brown mottles at 8.3 to 8.4 feet. No odor or visible contamination.	917			

Remarks and Datum Used: AECOM - Environment 710 Second Avenue, Suite 1000 Seattle, WA 98104 Phone: (206) 624-9349 Fax: (206) 623-3793	-	Sample Type GP = Geoprobe C = Core GS = Grab Sample SS = Split Spoon	Groundwater		
	-		Date	Time	Depth (ft.)
	-		-	-	-
	-		-	-	-
	-		-	-	-

Project: Skykomish	Operator: Rodney Labrosse	Location: Skykomish, WA
Project #: 01140-284-0275	Drill Rig Type: Truck-mounted Sonic	Northing: 259270.730 Easting: 1509845.873
Client: BNSF	Method: Rotosonic	Ground Elevation: 924.26 ft.
Contractor: Cascade Drilling Inc.	Casing ID: -	Total Depth: 17 ft.
Start Date & Time: 08/12/2009 0755	Bit Type: Carbide tooth Coring Bit	Seal: Bentonite chips
Finish Date & Time: 08/12/2009 0950	Boring ID: 6 in.	Logged By: R. Knecht, Mindy Graddon

Sample					Graphic	Depth (ft.)	Soil and Rock Description Classification Scheme: USCS/ASTM	Elevation (ft.)	Comments
Type & No.	Depth Range (ft.)	Blows Per 6 Inch	% Rec	PID (ppm)					

C-7	9.0-11.0	-	75	-		(8.5-9.0) SW-SM: WELL GRADED SAND WITH SILT AND GRAVEL, grayish brown, fine to coarse, rounded to sub angular, equant, loose, moist. 30% rounded to sub angular gravel up to 3" long. 10% silt. One cobble 4" long. No odor or visible contamination.	916	Analytical sample 5-B-78 9-11 taken. TPH: 12,300 mg/kg.
						(9.0-11.0) SW: WELL GRADED SAND WITH GRAVEL, grayish brown, fine to coarse, sub rounded to sub angular, equant, loose, wet. 20% sub rounded to sub angular gravel up to 3" long. Trace silt. Black and brown blebs of bunker C on soil and gravel. Strong Bunker C odor.	915	
C-8	11.0-13.0	-	100	-		(11.0-13.0) SW: WELL GRADED SAND WITH GRAVEL, gray, fine to coarse, rounded to sub angular, equant, flat, loose, wet. 30% rounded to sub angular gravel up to 3" long. Trace silt. Blebs throughout up to 1/4" in diameter, metallic sheen throughout. Strong Bunker C odor.	913	Analytical sample 5-B-78 11-13 taken. TPH: 970 mg/kg. Analytical sample 5-B-78 13-15 taken. TPH: 3,400 mg/kg.
						(13.0-14.5) SW: WELL GRADED SAND WITH GRAVEL, brown and gray, fine to coarse, rounded to sub angular, elongated, equant, loose, wet. 30% rounded to sub angular gravel up to 3" long. Trace silt. Trace sub rounded cobbles up to 4" long. Ribbons of black sheen on gravel throughout. Pin point blebs throughout. Black metallic sheen throughout. Strong Bunker C odor.	912	
C-9	13.0-14.5	-	100	-		(13.0-14.5) SW: WELL GRADED SAND WITH GRAVEL, brown and gray, fine to coarse, rounded to sub angular, elongated, equant, loose, wet. 30% rounded to sub angular gravel up to 3" long. Trace silt. Trace sub rounded cobbles up to 4" long. Ribbons of black sheen on gravel throughout. Pin point blebs throughout. Black metallic sheen throughout. Strong Bunker C odor.	911	Analytical sample 5-B-78 15-17 taken. TPH: 156 mg/kg.
						(14.5-15.5) SW: WELL GRADED SAND, gray, fine to coarse, rounded to sub angular, elongated, loose, wet. Trace silt. Trace cobbles up to 4" long. Metallic sheen at 14.5 to 15.5 feet. Strong Bunker C odor.	910	
C-10	14.5-17.0	-	100	-		(14.5-15.5) SW: WELL GRADED SAND, gray, fine to coarse, rounded to sub angular, elongated, loose, wet. Trace silt. Trace cobbles up to 4" long. Metallic sheen at 14.5 to 15.5 feet. Strong Bunker C odor.	909	

Remarks and Datum Used: AECOM - Environment 710 Second Avenue, Suite 1000 Seattle, WA 98104 Phone: (206) 624-9349 Fax: (206) 623-3793	-	Sample Type GP = Geoprobe C = Core GS = Grab Sample SS = Split Spoon	Groundwater		
	-		Date	Time	Depth (ft.)
	-		-	-	-
	-		-	-	-
	-		-	-	-

Project: Skykomish	Operator: Rodney Labrosse	Location: Skykomish, WA
Project #: 01140-284-0275	Drill Rig Type: Truck-mounted Sonic	Northing: 259270.730 Easting: 1509845.873
Client: BNSF	Method: Rotosonic	Ground Elevation: 924.26 ft.
Contractor: Cascade Drilling Inc.	Casing ID: -	Total Depth: 17 ft.
Start Date & Time: 08/12/2009 0755	Bit Type: Carbide tooth Coring Bit	Seal: Bentonite chips
Finish Date & Time: 08/12/2009 0950	Boring ID: 6 in.	Logged By: R. Knecht, Mindy Graddon

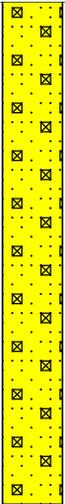
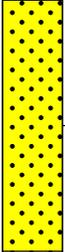
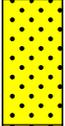
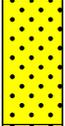
Sample					Graphic	Depth (ft.)	Soil and Rock Description Classification Scheme: USCS/ASTM	Elevation (ft.)	Comments
Type & No.	Depth Range (ft.)	Blows Per 6 Inch	% Rec	PID (ppm)					

					●●●●●●●●●●		(15.5-17.0) SP: POORLY GRADED SAND, gray, fine, wet. Trace gravel up to 1.5" long. Trace to 10% silt. No odor or visible contamination.	908	
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Remarks and Datum Used: - AECOM - Environment 710 Second Avenue, Suite 1000 Seattle, WA 98104 Phone: (206) 624-9349 Fax: (206) 623-3793	-	Sample Type GP = Geoprobe C = Core GS = Grab Sample SS= Split Spoon	Groundwater		
	-		Date	Time	Depth (ft.)
	-		-	-	-
	-		-	-	-
	-		-	-	-

Project: Skykomish	Operator: Rodney Labrosse	Location: Skykomish, WA
Project #: 01140-284-0275	Drill Rig Type: Truck-mounted Sonic	Northing: 259238.508 Easting: 1509878.977
Client: BNSF	Method: Rotosonic	Ground Elevation: 923.63 ft.
Contractor: Cascade Drilling Inc.	Casing ID: -	Total Depth: 21 ft.
Start Date & Time: 08/13/2009 0910	Bit Type: Carbide tooth Coring Bit	Seal: Bentonite chips
Finish Date & Time: 08/13/2009 1130	Boring ID: 6 in.	Logged By: R. Knecht, Mindy Graddon

Sample					Graphic	Depth (ft.)	Soil and Rock Description Classification Scheme: USCS/ASTM	Elevation (ft.)	Comments
Type & No.	Depth Range (ft.)	Blows Per 6 Inch	% Rec	PID (ppm)					

C-1	0.0-4.0	-	100	-		0	(0.0 - 4.0) GP: POORLY GRADED GRAVEL WITH SAND 2006 backfill material.	923 922 921 920	
C-2	4.0-6.0	-	100	-		5	(4.0 - 6.0) SP: POORLY GRADED SAND WITH GRAVEL, gray, fine to medium, sub rounded to sub angular, elongated, and flat, loose, dry. 35% sub rounded to sub angular gravel up to 3" long. 10% coarse sand. No odor or visible contamination.	919 918	
C-3	6.0-7.0	-	100	-			(6.0 - 7.0) SP: POORLY GRADED SAND WITH GRAVEL, gray, fine to medium, sub rounded, flat, loose, dry. 30% sub rounded to sub angular gravel. 10% coarse sand. Trace sub rounded to sub angular cobbles up to 5" long. No odor or visible contamination.	917	
C-4	7.0-8.0	-	66	-			(7.0 - 8.0) SP: POORLY GRADED SAND WITH GRAVEL, dark gray, fine to medium, sub rounded, flat, loose, dry. 20% sub rounded to sub angular gravel up to 3" long. 10% coarse sand. One sub rounded cobble 3" long. Black blebs and ribbons coating cobble and surrounding sand and gravel at 7.0 to 7.4 feet. Strong bunker C odor.	916	Analytical sample 5-B-79 7-9 taken. TPH: 33,000 mg/kg.
C-5	8.0-9.0	-	100	-					

Remarks and Datum Used: AECOM - Environment 710 Second Avenue, Suite 1000 Seattle, WA 98104 Phone: (206) 624-9349 Fax: (206) 623-3793	-	Sample Type GP = Geoprobe C = Core GS = Grab Sample SS = Split Spoon	Groundwater		
	-		Date	Time	Depth (ft.)
	-		-	-	-
	-		-	-	-
	-		-	-	-

Project: Skykomish	Operator: Rodney Labrosse	Location: Skykomish, WA
Project #: 01140-284-0275	Drill Rig Type: Truck-mounted Sonic	Northing: 259238.508 Easting: 1509878.977
Client: BNSF	Method: Rotosonic	Ground Elevation: 923.63 ft.
Contractor: Cascade Drilling Inc.	Casing ID: -	Total Depth: 21 ft.
Start Date & Time: 08/13/2009 0910	Bit Type: Carbide tooth Coring Bit	Seal: Bentonite chips
Finish Date & Time: 08/13/2009 1130	Boring ID: 6 in.	Logged By: R. Knecht, Mindy Graddon

Sample					Graphic	Depth (ft.)	Soil and Rock Description Classification Scheme: USCS/ASTM	Elevation (ft.)	Comments
Type & No.	Depth Range (ft.)	Blows Per 6 Inch	% Rec	PID (ppm)					

C-6	9.0-12.0	-	66	-		(8.0 - 9.0) SP: POORLY GRADED SAND WITH GRAVEL, brown, fine to medium, sub rounded, flat, loose, moist. 20% sub rounded to sub angular gravel up to 3" long. 10% coarse sand. One sub rounded cobble 4" long. Black coating/blebs from 8 to 9 feet. Strong Bunker C odor.	915	Analytical sample 5-B-79 9-11 taken. TPH: 2,600 mg/kg.
						(9.0 - 12.0) SP: POORLY GRADED SAND WITH GRAVEL, gray, fine to medium, rounded to sub rounded, flat, loose, wet at 11.5. 20% sub rounded to sub angular gravel up to 3" long. Trace to 10% silt. One cobble 6" long at 11.5 to 12 feet. Metallic sheen at 9 to 12 feet. Pin point blebs at 11.5 to 12 feet. Strong bunker C odor.	914	
C-7	12.0-13.0	-	100	-		(12.0 - 13.0) SP: POORLY GRADED SAND WITH GRAVEL, gray, fine to medium, sub rounded, elongated, flat, loose, wet. 25% sub rounded to sub angular gravel up to 3" long. 10% coarse sand. One cobble 4" long at 12.7 to 13.0 feet. Metallic sheen throughout. Strong bunker C odor.	913	Analytical sample 5-B-79 11-13 taken. TPH: 2,500 mg/kg.
						(13.0 - 14.5) SP: POORLY GRADED SAND WITH GRAVEL, dark brown, medium, sub rounded, flat, loose, wet. 15% sub rounded to sub angular gravel up to 3" long. 10% coarse sand. One sub rounded cobble 7" long. Metallic sheen throughout. Trace pin point blebs mainly on gravel pieces. Strong Bunker C odor.	912	
C-8	13.0-15.0	-	100	-		(13.0 - 14.5) SP: POORLY GRADED SAND WITH GRAVEL, dark brown, medium, sub rounded, flat, loose, wet. 15% sub rounded to sub angular gravel up to 3" long. 10% coarse sand. One sub rounded cobble 7" long. Metallic sheen throughout. Trace pin point blebs mainly on gravel pieces. Strong Bunker C odor.	911	Analytical sample 5-B-79 13-15 taken. TPH: 2,300 mg/kg.
						(14.5 - 15.0) SP-SM: POORLY GRADED SAND WITH SILT AND GRAVEL, fine to medium, wet. 20% silt. 20% sub rounded to sub angular gravel up to 2" long. Two sub angular cobbles or boulders 6" long. 10% coarse sand. Metallic sheen mostly on outside soil at 14.5 to 15 feet. Slight bunker C odor.	910	
C-9	15.0-18.0	-	83	-		(15.0 - 17.0) SP-SM: POORLY GRADED SAND WITH SILT AND GRAVEL, gray, fine to medium, sub rounded to sub angular, flat, loose, wet. 20% silt. 15% rounded to sub angular gravel up to 3" long. 10% coarse sand.	909	
							908	

Remarks and Datum Used: AECOM - Environment 710 Second Avenue, Suite 1000 Seattle, WA 98104 Phone: (206) 624-9349 Fax: (206) 623-3793	-	Sample Type GP = Geoprobe C = Core GS = Grab Sample SS = Split Spoon	Groundwater		
	-		Date	Time	Depth (ft.)
	-		-	-	-
	-		-	-	-
	-		-	-	-

Project: Skykomish	Operator: Rodney Labrosse	Location: Skykomish, WA
Project #: 01140-284-0275	Drill Rig Type: Truck-mounted Sonic	Northing: 259238.508 Easting: 1509878.977
Client: BNSF	Method: Rotosonic	Ground Elevation: 923.63 ft.
Contractor: Cascade Drilling Inc.	Casing ID: -	Total Depth: 21 ft.
Start Date & Time: 08/13/2009 0910	Bit Type: Carbide tooth Coring Bit	Seal: Bentonite chips
Finish Date & Time: 08/13/2009 1130	Boring ID: 6 in.	Logged By: R. Knecht, Mindy Graddon

Sample					Graphic	Depth (ft.)	Soil and Rock Description Classification Scheme: USCS/ASTM	Elevation (ft.)	Comments
Type & No.	Depth Range (ft.)	Blows Per 6 Inch	% Rec	PID (ppm)					

C-10	18.0-21.0	-	100	-		20	Metallic sheen throughout. Slight Bunker C odor.	907	
							(17.0 - 18.0) SP-SM: POORLY GRADED SAND WITH SILT AND GRAVEL, gray, fine to medium, sub rounded, flat, loose, wet. 20% silt. 15% rounded to sub angular gravel up to 3" long. 10% sub rounded to sub angular cobbles 3.1 to 5" long. Slight Bunker C odor.	906	
							(18.0 - 21.0) SM: SILTY SAND, brown and gray, fine, wet. Trace to ~10% silt. No odor or visible contamination.	905	
								904	
								903	

Remarks and Datum Used: - AECOM - Environment 710 Second Avenue, Suite 1000 Seattle, WA 98104 Phone: (206) 624-9349 Fax: (206) 623-3793	-	Sample Type GP = Geoprobe C = Core GS = Grab Sample SS= Split Spoon	Groundwater		
	-		Date	Time	Depth (ft.)
	-		-	-	-
	-		-	-	-
	-		-	-	-

Project: Skykomish	Operator: Steve Zimmerman	Location: Skykomish, WA
Project #: 01140-284-0270	Drill Rig Type: Minisonic 17-C	Northing: 259213.577 Easting: 1509811.105
Client: BNSF	Method: Rotosonic	Ground Elevation: 923.25 ft.
Contractor: Cascade Drilling Inc.	Casing ID: -	Total Depth: 20 ft.
Start Date & Time: 08/05/2009 1400	Bit Type: Carbide tooth Coring Bit	Seal: Bentonite chips
Finish Date & Time: 08/05/2009 1550	Boring ID: 4 in.	Logged By: R. Knecht, Mindy Graddon

Sample					Graphic	Depth (ft.)	Soil and Rock Description Classification Scheme: USCS/ASTM	Elevation (ft.)	Comments
Type & No.	Depth Range (ft.)	Blows Per 6 Inch	% Rec	PID (ppm)					

C-1	0.0-4.0	-	37	-		0	(0.0-2.0) SP: POORLY GRADED SAND, brown, fine, sub angular, flat, loose, dry. 20% rootlets, roots, wood fragments. Trace medium sand and gravel. No odor or visible contamination.	923	Analytical sample 5-B-80-9-11 taken. TPH: 7.55 mg/kg.	
							(2.0-4.0) SP: POORLY GRADED SAND WITH GRAVEL, light gray, fine, sub rounded to sub angular, equant, flat, loose, dry. 20% sub rounded to sub angular gravel up to 3" long. Trace medium and coarse sand. Abundant rock flour. Approximate lithology depth, suspected that a rock stuck at about 2.5 feet. No odor or visible contamination.	922		
C-2	4.0-6.0	-	100	-		5	(4.0-6.0) SW: WELL GRADED SAND WITH GRAVEL, gray, fine to coarse, rounded to angular, equant, flat, loose, dry. 30% rounded to angular gravel up to 3" long. No odor or visible contamination.	921		
								920		
C-3	6.0-9.0	-	33	-		5	(6.0-9.0) SW: WELL GRADED SAND WITH GRAVEL, light gray, fine to coarse, rounded to sub angular, flat, loose, dry. 20% rounded to sub angular gravel up to 2.5" long. Abundant rock flour. Brown and slightly more dense at 7-8 feet. No odor or visible contamination.	919		
								918		
C-4	9.0-11.0	-	75	-		10	(9.0-11.0) SW: WELL GRADED SAND WITH GRAVEL, brown, fine to coarse, rounded to sub angular, equant, and flat, loose, wet at 9 feet. 40% rounded to sub angular gravel up to 2.5" long. No odor or visible contamination.	917		
								916		
								915		
								914		
								913		

Remarks and Datum Used: AECOM - Environment 710 Second Avenue, Suite 1000 Seattle, WA 98104 Phone: (206) 624-9349 Fax: (206) 623-3793	-	Sample Type GP = Geoprobe C = Core GS = Grab Sample SS = Split Spoon	Groundwater		
	-		Date	Time	Depth (ft.)
	-		-	-	-
	-		-	-	-
	-		-	-	-

Project: Skykomish	Operator: Steve Zimmerman	Location: Skykomish, WA
Project #: 01140-284-0270	Drill Rig Type: Minisonic 17-C	Northing: 259213.577 Easting: 1509811.105
Client: BNSF	Method: Rotosonic	Ground Elevation: 923.25 ft.
Contractor: Cascade Drilling Inc.	Casing ID: -	Total Depth: 20 ft.
Start Date & Time: 08/05/2009 1400	Bit Type: Carbide tooth Coring Bit	Seal: Bentonite chips
Finish Date & Time: 08/05/2009 1550	Boring ID: 4 in.	Logged By: R. Knecht, Mindy Graddon

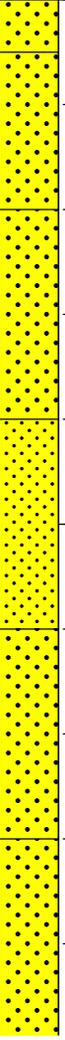
Sample					Graphic	Depth (ft.)	Soil and Rock Description Classification Scheme: USCS/ASTM	Elevation (ft.)	Comments
Type & No.	Depth Range (ft.)	Blows Per 6 Inch	% Rec	PID (ppm)					

C-5	11.0-15.0	-	50	-		(11.0-15.0) SP: POORLY GRADED SAND WITH GRAVEL, gray, fine to medium, rounded to sub angular, flat, loose, moist. 15% rounded to sub angular gravel up to 2" long. Trace coarse sand. No odor or visible contamination.	912	Analytical sample 5-B-80-11-13 taken. TPH: 8.05 mg/kg.
							911	
							910	
							909	
C-6	15.0-16.0	-	100	-		(15.0-16.0) SP: POORLY GRADED SAND, brown, fine, loose, wet. No odor or visible contamination.	908	Analytical sample 5-B-80-13-15 taken. TPH: 7.5 mg/kg.
C-7	16.0-20.0	-	100	-		(16.0-17.0) SP: POORLY GRADED SAND, brownish gray, fine, loose, moist. Trace silt. No odor or visible contamination.	907	
						(17.0-20.0) SM: SILTY SAND, dark gray, fine, loose, moist. 15% silt. No odor or visible contamination.	906	
							905	
							904	

Remarks and Datum Used: - AECOM - Environment 710 Second Avenue, Suite 1000 Seattle, WA 98104 Phone: (206) 624-9349 Fax: (206) 623-3793	-	Sample Type GP = Geoprobe C = Core GS = Grab Sample SS= Split Spoon	Groundwater		
	-		Date	Time	Depth (ft.)
	-		-	-	-
	-		-	-	-
	-		-	-	-

Project: Skykomish	Operator: Rodney Labrosse	Location: Skykomish, WA
Project #: 01140-284-0275	Drill Rig Type: Truck-mounted Sonic	Northing: 259237.824 Easting: 1509814.230
Client: BNSF	Method: Rotosonic	Ground Elevation: 923.81 ft
Contractor: Cascade Drilling Inc.	Casing ID: -	Total Depth: 18 ft
Start Date & Time: 08/12/2009 1045	Bit Type: Carbide tooth Coring Bit	Seal: Bentonite chips
Finish Date & Time: 08/12/2009 1235	Boring ID: 6 in.	Logged By: R. Knecht, M. Graddon

Sample					Graphic	Depth (ft.)	Soil and Rock Description Classification Scheme: USCS/ASTM	Elevation (ft.)	Comments
Type & No.	Depth Range (ft.)	Blows Per 6 Inch	% Rec	PID (ppm)					

C-1	0-2.0	-	100	-		(0.0-0.5) SP: POORLY GRADED SAND, dark brown, fine, dry. 35% roots, rootlets, wood fragments. 25% medium to coarse sand. Trace sub angular gravel, up to 1" long. No odor or visible contamination.	923	5-B-81B is second attempt to drill, located 3 feet west of original boring 5-B-81A
C-2	2.0-4.0	-	100	-		(0.5-2.0) SP: POORLY GRADED SAND WITH GRAVEL, gray, fine to medium, sub angular, elongated, loose, dry. 25% medium to coarse sand. 25% sub angular to sub rounded gravel, up to 3" long. No odor or visible contamination.	922	
						(2.0-4.0) SP: POORLY GRADED SAND WITH GRAVEL, brown, fine to medium, sub angular, equant, loose, dry. 30% coarse sand. 20% sub angular to sub rounded gravel, up to 2" long. No odor or visible contamination.	921	
C-3	4.0-6.0	-	75	-		(4.0-6.0) SW: WELL GRADED SAND WITH GRAVEL, brown, fine to coarse, sub angular to sub rounded, flat, elongated, loose, dry. 25% sub angular to sub rounded gravel, up to 3" long. No odor or visible contamination.	920	
						(6.0-8.0) SP: POORLY GRADED SAND WITH GRAVEL, brown to gray, fine to medium, sub angular to sub rounded, equant, loose, dry. 30% sub angular to sub rounded gravel, up to 3" long. 20% coarse sand. Sub rounded cobble 4.5" long. No odor or visible contamination.	919	
C-4	6.0-8.0	-	100	-		918		
						(6.0-8.0) SP: POORLY GRADED SAND WITH GRAVEL, brown to gray, fine to medium, sub angular to sub rounded, equant, loose, dry. 30% sub angular to sub rounded gravel, up to 3" long. 20% coarse sand. Sub rounded cobble 4.5" long. No odor or visible contamination.	917	
C-5	8.0-10.0	-	100	-		(8.0-10.0) SP: POORLY GRADED SAND WITH GRAVEL, dark brown, fine to medium, sub rounded, equant, loose, moist to wet. 20% sub angular to sub rounded, gravel up to 3" long. 10% coarse sand. Trace cobbles up to 4" long. No odor or visible contamination.	916	
							915	Analytical sample 5-B-81B-9-11 taken. TPH: 7.65 mg/kg.
							914	

Remarks and Datum Used: AECOM - Environment 710 Second Avenue, Suite 1000 Seattle, WA 98104 Phone: (206) 624-9349 Fax: (206) 623-3793	-	Sample Type GP = Geoprobe C = Core GS = Grab Sample SS = Split Spoon	Groundwater		
	-		Date	Time	Depth (ft.)
	-		-	-	-
	-		-	-	-
	-		-	-	-

Project: Skykomish	Operator: Rodney Labrosse	Location: Skykomish, WA
Project #: 01140-284-0275	Drill Rig Type: Truck-mounted Sonic	Northing: 259237.824 Easting: 1509814.230
Client: BNSF	Method: Rotosonic	Ground Elevation: 923.81 ft
Contractor: Cascade Drilling Inc.	Casing ID: -	Total Depth: 18 ft
Start Date & Time: 08/12/2009 1045	Bit Type: Carbide tooth Coring Bit	Seal: Bentonite chips
Finish Date & Time: 08/12/2009 1235	Boring ID: 6 in.	Logged By: R. Knecht, M. Graddon

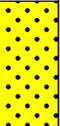
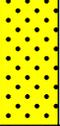
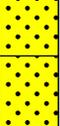
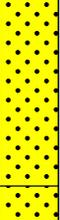
Sample					Graphic	Depth (ft.)	Soil and Rock Description Classification Scheme: USCS/ASTM	Elevation (ft.)	Comments
Type & No.	Depth Range (ft.)	Blows Per 6 Inch	% Rec	PID (ppm)					

C-6	10.0-12.0	-	100	-		10	(10.0-12.0) SP: POORLY GRADED SAND WITH GRAVEL, brownish gray, medium to coarse, sub rounded, equant, loose, wet. 25% sub angular to sub rounded gravel up to 3" long. Trace to 10% fine sand. Trace cobbles up to 4" long. No odor or visible contamination.	914	Analytical sample 5-B-81B-11-13 taken. TPH: 7.70 mg/kg.
C-&	12.0-14.0	-	100	-		(12.0-13.0) SP: POORLY GRADED SAND AND WELL GRADED GRAVEL, brown, medium to coarse, sub angular to sub rounded, equant, loose, wet. 20% sub angular to sub rounded gravel, up to 3" long. 15% fine sand. Trace to 5% silt. No odor or visible contamination.	913	Analytical sample 5-B-81B-13-15 taken. TPH: 9.75 mg/kg.	
						(13.0-14.0) SM: SILTY SAND, brown to gray, fine, wet. 10-20% silt. Brown circular bands 0.25" to 0.50" throughout. No odor or visible contamination.	912		
C-8	14.0-18.0	-	100	-		(14.0-18.0) SM SILTY SAND, dark gray, fine, 10-15% silt. Brown circular bands at 14-15 feet. No odor or visible contamination.	911	910	
						909	908		
						15		907	
								906	

Remarks and Datum Used: - AECOM - Environment 710 Second Avenue, Suite 1000 Seattle, WA 98104 Phone: (206) 624-9349 Fax: (206) 623-3793	-	Sample Type GP = Geoprobe C = Core GS = Grab Sample SS= Split Spoon	Groundwater		
	-		Date	Time	Depth (ft.)
	-		-	-	-
	-		-	-	-
	-		-	-	-

Project: Skykomish	Operator: Rodney Labrosse	Location: Skykomish, WA
Project #: 01140-284-0275	Drill Rig Type: Truck-mounted Sonic	Northing: 259253.208 Easting: 1509826.298
Client: BNSF	Method: Rotosonic	Ground Elevation: 923.87 ft.
Contractor: Cascade Drilling Inc.	Casing ID: -	Total Depth: 20 ft.
Start Date & Time: 08/11/2009 0904	Bit Type: Carbide tooth Coring Bit	Seal: Bentonite chips
Finish Date & Time: 08/11/2009 1130	Boring ID: 6 in.	Logged By: R. Knecht, M. Graddon

Sample					Graphic	Depth (ft.)	Soil and Rock Description Classification Scheme: USCS/ASTM	Elevation (ft.)	Comments
Type & No.	Depth Range (ft.)	Blows Per 6 Inch	% Rec	PID (ppm)					

C-1	0.0-1.0	-	0	-		0	(0.0-1.0) No recovery. Observation of soil as it fell from the core: Dark brown, ~40% organics: wood fragments, roots, rootlets. ~60% sand/gravel.	923	
C-2	1.0-2.0	-	100	-			(1.0-2.0) SP: POORLY GRADED SAND, brown, fine to medium, sub rounded to angular, loose, dry. 30% gravel sub rounded to angular up to 1" long. 10% coarse sand. No odor or visible contamination.	922	
C-3	2.0-4.0	-	50	-			(2.0-4.0) GW: WELL GRADED GRAVEL WITH SAND, dark brown, fine to coarse, rounded to angular, flat, equant, loose, up to 3" long, moist. 40% fine and coarse sand. Trace medium sand and silt. One 5" cobble (rock fragment). No odor or visible contamination.	921	
C-4	4.0-5.0	-	100	-			(4.0-5.0) SP: POORLY GRADED SAND, dark brown, fine, sub rounded to angular, flat, elongated, loose, moist. 20% coarse sand. 10% sub rounded to angular gravel up to 3" long. 10% silt. Trace medium sand and wood fragments. No odor or visible contamination.	920	
C-5	5.0-7.5	-	100	-		5	(5.0-5.5) SP: POORLY GRADED SAND WITH GRAVEL, dark brown, fine, elongated, and flat, loose, moist. 20% coarse sand. 20% sub rounded to angular gravel up to 3" long. 10% low plasticity silt. No odor or visible contamination.	918	
							(5.5-7.5) SP: POORLY GRADED SAND, dark brown, fine, loose, moist. 3" long wood fragment at 6.5 feet. No odor or visible contamination.	917	
C-6	7.5-8.0	-	100	-			(7.5-8.0) SP: POORLY GRADED SAND, dark brown, fine, loose, moist. 10% sub rounded to sub angular, flat gravel up to 3" long. 10% silt. Trace to 10% silt. Trace rootlets and wood fragments. One flat 6" long cobble at 8 feet. No odor or visible contamination.		

Remarks and Datum Used: AECOM - Environment 710 Second Avenue, Suite 1000 Seattle, WA 98104 Phone: (206) 624-9349 Fax: (206) 623-3793	-	Sample Type GP = Geoprobe C = Core GS = Grab Sample SS = Split Spoon	Groundwater		
	-		Date	Time	Depth (ft.)
	-		-	-	-
	-		-	-	-
	-		-	-	-

Project: Skykomish	Operator: Rodney Labrosse	Location: Skykomish, WA
Project #: 01140-284-0275	Drill Rig Type: Truck-mounted Sonic	Northing: 259253.208 Easting: 1509826.298
Client: BNSF	Method: Rotosonic	Ground Elevation: 923.87 ft.
Contractor: Cascade Drilling Inc.	Casing ID: -	Total Depth: 20 ft.
Start Date & Time: 08/11/2009 0904	Bit Type: Carbide tooth Coring Bit	Seal: Bentonite chips
Finish Date & Time: 08/11/2009 1130	Boring ID: 6 in.	Logged By: R. Knecht, M. Graddon

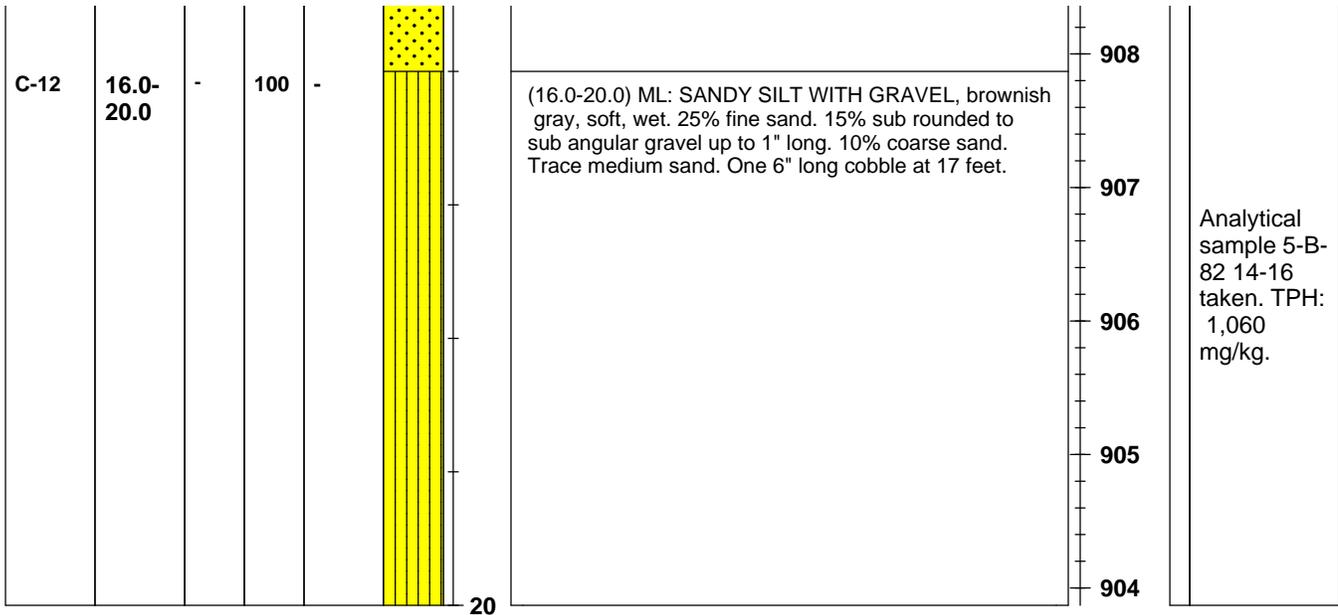
Sample					Graphic	Depth (ft.)	Soil and Rock Description Classification Scheme: USCS/ASTM	Elevation (ft.)	Comments
Type & No.	Depth Range (ft.)	Blows Per 6 Inch	% Rec	PID (ppm)					

C-7	8.0-8.5	-	100	-		(8.0-8.5) GW: WELL GRADED GRAVEL, light gray, sub rounded to sub angular, elongated, flat up to 3" long, dry. 15% fine and coarse sand (pieces of rock/rock flour). Trace medium sand and rock flour. 5% flat cobbles up to 3.5" long. No odor or visible contamination.	916	Analytical sample 5-B-82 9-10 taken. TPH: 2,080 mg/kg.		
C-8	8.5-9.0	-	100	-		(8.5-9.0) SP: POORLY GRADED SAND WITH GRAVEL, light gray, fine, loose, dry. 30% rounded to sub angular, elongated, round, gravel up to 3" long. 20% coarse sand. 10% medium sand. Trace 1" friable chunks of sand throughout. No odor or visible contamination.	915			
C-9	9.0-10.0	-	100	-		(9.0-10.0) SW: WELL GRADED SAND WITH GRAVEL, dark brown, fine to coarse, sub rounded to sub angular, elongated, loose, wet (from driller adding water). 25% sub rounded to sub angular gravel up to 3" long. Trace rootlets and wood fragments. Rock at 9.7 to 10 feet. Strong bunker odor, metallic sheen on water at 9.0 to 9.5 feet.	914		Analytical sample 5-B-82 90-100 taken (Duplicate from 9-10 ft.). TPH: 1,110 mg/kg.	
C-10	10.0-13.0	-	100	-		(10.0-13.0) SW: WELL GRADED SAND WITH GRAVEL, dark brown, fine to coarse, rounded to sub angular, elongated, flat, loose, wet at 11 feet. 35% rounded to sub angular gravel up to 3" long. Trace flat cobbles up to 5" long. Circular mottles 1/2" wide at 10.5 feet. Bunker odor throughout. Metallic sheen at 12.5 feet.	913			
C-11	13.0-16.0	-	33	-		(10.0-13.0)	(10.0-13.0) SW: WELL GRADED SAND WITH GRAVEL, dark brown, fine to coarse, rounded to sub angular, elongated, flat, loose, wet at 11 feet. 35% rounded to sub angular gravel up to 3" long. Trace flat cobbles up to 5" long. Circular mottles 1/2" wide at 10.5 feet. Bunker odor throughout. Metallic sheen at 12.5 feet.		912	Analytical sample 5-B-82 10-12 taken. TPH: 5,700 mg/kg.
						(13.0-16.0)	(13.0-16.0) SW: WELL GRADED SAND WITH GRAVEL, dark brown, fine to coarse, rounded to sub angular, elongated, loose, wet to saturated. Greater than or equal to 15% gravel. Bunker odor throughout. Metallic sheen and pinpoint blebs throughout up to dime size.		911	
									910	
									909	Analytical sample 5-B-82 12-14 taken. TPH: 1,260 mg/kg.

Remarks and Datum Used: AECOM - Environment 710 Second Avenue, Suite 1000 Seattle, WA 98104 Phone: (206) 624-9349 Fax: (206) 623-3793	-	Sample Type GP = Geoprobe C = Core GS = Grab Sample SS = Split Spoon	Groundwater		
	-		Date	Time	Depth (ft.)
	-		-	-	-
	-		-	-	-
	-		-	-	-

Project: Skykomish	Operator: Rodney Labrosse	Location: Skykomish, WA
Project #: 01140-284-0275	Drill Rig Type: Truck-mounted Sonic	Northing: 259253.208 Easting: 1509826.298
Client: BNSF	Method: Rotosonic	Ground Elevation: 923.87 ft.
Contractor: Cascade Drilling Inc.	Casing ID: -	Total Depth: 20 ft.
Start Date & Time: 08/11/2009 0904	Bit Type: Carbide tooth Coring Bit	Seal: Bentonite chips
Finish Date & Time: 08/11/2009 1130	Boring ID: 6 in.	Logged By: R. Knecht, M. Graddon

Sample					Graphic	Depth (ft.)	Soil and Rock Description Classification Scheme: USCS/ASTM	Elevation (ft.)	Comments
Type & No.	Depth Range (ft.)	Blows Per 6 Inch	% Rec	PID (ppm)					



Remarks and Datum Used: - AECOM - Environment 710 Second Avenue, Suite 1000 Seattle, WA 98104 Phone: (206) 624-9349 Fax: (206) 623-3793	-	Sample Type GP = Geoprobe C = Core GS = Grab Sample SS= Split Spoon	Groundwater		
	-		Date	Time	Depth (ft.)
	-		-	-	-
	-		-	-	-
	-		-	-	-

Project: Skykomish	Operator: Rodney Labrosse	Location: Skykomish, WA
Project #: 01140-284-0275	Drill Rig Type: Truck-mounted Sonic	Northing: 259261.274 Easting: 1509864.845
Client: BNSF	Method: Rotosonic	Ground Elevation: 923.76 ft.
Contractor: Cascade Drilling Inc.	Casing ID: -	Total Depth: 22 ft.
Start Date & Time: 08/11/2009 1328	Bit Type: Carbide tooth Coring Bit	Seal: Bentonite chips
Finish Date & Time: 08/11/2009 1600	Boring ID: 6 in.	Logged By: R. Knecht, M. Graddon

Type & No.	Sample				Graphic	Depth (ft.)	Soil and Rock Description Classification Scheme: USCS/ASTM	Elevation (ft.)	Comments
	Depth Range (ft.)	Blows Per 6 Inch	% Rec	PID (ppm)					

C-1	0.0-2.0	-	100	-		0	(0.0-2.0) GW: WELL GRADED GRAVEL WITH SAND, gray, sub rounded to sub angular, equant, loose, 3/4" to 1.5" long, dry. 20% fine sand. 5% coarse sand. Trace medium sand. No odor or visible contamination.	923	Analytical sample 5-B-83 9-11 taken. TPH: 26,000 mg/kg.
C-2	2.0-4.0	-	75	-		(2.0-4.0) SP: POORLY GRADED SAND, brown, fine, loose, dry. 10% sub angular gravel up to 1" long. 5% wood fragments, roots and rootlets. No odor or visible contamination.	922		
C-3	4.0-6.0	-	100	-		(4.0-4.5) SP: POORLY GRADED SAND WITH GRAVEL, gray, fine, sub rounded to sub angular, equant loose, dry. 40% sub rounded to sub angular gravel from 3/4" to 1.5" long. Trace medium and coarse sand. Trace rootlets and roots. No odor or visible contamination.	920		
						(4.5-6.0) SP: POORLY GRADED SAND WITH GRAVEL, brown, fine to medium, loose, dry. 15% sub rounded to angular gravel up to 1.5" long. Trace coarse sand. No odor or visible contamination.	919		
C-4	6.0-8.0	-	100	-		(6.0-8.0) SP: POORLY GRADED SAND WITH GRAVEL, grading from dark brown to gray at 7 feet and light brown at 7.5 feet, fine, loose, dry. 40% rounded to sub angular gravel up to 3" long. 10% coarse sand. Trace cobbles up to 4" long. No odor or visible contamination.	918		
						(8.0-9.0) SP: POORLY GRADED SAND WITH GRAVEL, gray, fine, dry. 40% sub rounded to sub angular gravel 3/4" to 1.5" long. 10% medium and coarse sand. No odor or visible contamination.	917		
C-5	8.0-10.0	-	100	-	(9.0-10.0) SW: WELL GRADED SAND WITH GRAVEL, dark brown, fine to coarse, rounded to sub angular, loose, moist. 20% rounded to sub angular gravel up to 3" long. Trace silt. One sub angular cobble 4" long. Bunker C odor and blebs in soil up to dime-sized at 9-10 feet.	916			
						915			
C-6	10.0-12.0	-	100	-		10		914	

Remarks and Datum Used: AECOM - Environment 710 Second Avenue, Suite 1000 Seattle, WA 98104 Phone: (206) 624-9349 Fax: (206) 623-3793	-	Sample Type GP = Geoprobe C = Core GS = Grab Sample SS = Split Spoon	Groundwater		
	-		Date	Time	Depth (ft.)
	-		-	-	-
	-		-	-	-
	-		-	-	-

Project: Skykomish	Operator: Rodney Labrosse	Location: Skykomish, WA
Project #: 01140-284-0275	Drill Rig Type: Truck-mounted Sonic	Northing: 259261.274 Easting: 1509864.845
Client: BNSF	Method: Rotosonic	Ground Elevation: 923.76 ft.
Contractor: Cascade Drilling Inc.	Casing ID: -	Total Depth: 22 ft.
Start Date & Time: 08/11/2009 1328	Bit Type: Carbide tooth Coring Bit	Seal: Bentonite chips
Finish Date & Time: 08/11/2009 1600	Boring ID: 6 in.	Logged By: R. Knecht, M. Graddon

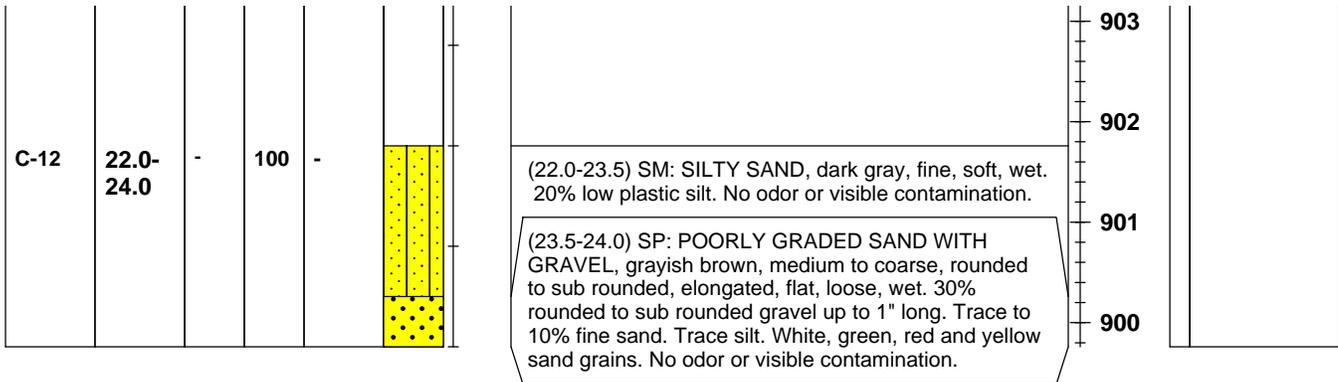
Sample					Graphic	Depth (ft.)	Soil and Rock Description Classification Scheme: USCS/ASTM	Elevation (ft.)	Comments
Type & No.	Depth Range (ft.)	Blows Per 6 Inch	% Rec	PID (ppm)					

C-7	12.0-14.0	-	100	-		(10.0-12.0) SW: WELL GRADED SAND WITH GRAVEL, gray, rounded to sub angular, equant, flat, loose, up to 3" long, moist. 35% rounded to sub angular gravel up to 3" long. Trace sub angular cobbles up to 6" long. Bunker C odor and metallic spots on gravel at 10-12 feet.	913	Analytical sample 5-B-83 12-14 taken. TPH: 1,030 mg/kg.
						(12.0-14.0) GW: WELL GRADED GRAVEL WITH SAND, gray, fine to coarse, rounded to sub angular, loose, up to 3" long, wet at 12 feet. 35% medium to coarse sand. Trace fine sand. Bunker C odor throughout. Trace pinpoint blebs and rainbow sheen on water.	912	
C-8	14.0-15.5	-	100	-		(14.0-15.5) GW: WELL GRADED GRAVEL WITH SAND, gray, fine to coarse, rounded to sub angular, flat, equant, loose, up to 3" long, wet. 40% medium to coarse sand. Trace fine sand. Bunker C odor and metallic and rainbow sheen on water throughout.	911	Analytical sample 5-B-83 14-16 taken. TPH: 204 mg/kg.
						(15.5-18.0) GW: WELL GRADED GRAVEL WITH SAND, light gray, coarse, sub rounded to sub angular, elongated, flat, loose, 3/4" to 1.5" long, wet. 20% coarse sand. Trace fine and medium sand. Bunker C odor and metallic sheen throughout.	910	
C-9	15.5-18.0	-	25	-		(15.5-18.0) GW: WELL GRADED GRAVEL WITH SAND, light gray, coarse, sub rounded to sub angular, elongated, flat, loose, 3/4" to 1.5" long, wet. 20% coarse sand. Trace fine and medium sand. Bunker C odor and metallic sheen throughout.	909	Analytical sample 5-B-83 16-18 taken. TPH: 258 mg/kg.
						(18.0-20.0) GW: WELL GRADED GRAVEL WITH SAND, light gray, coarse, sub rounded to sub angular, elongated, flat, loose, 3/4" to 2" long, wet. No odor or visible contamination.	908	
C-10	18.0-20.0	-	100	-		(18.0-20.0) GW: WELL GRADED GRAVEL WITH SAND, light gray, coarse, sub rounded to sub angular, elongated, flat, loose, 3/4" to 2" long, wet. No odor or visible contamination.	907	
						(20.0-22.0) No recovery.	906	
C-11	20.0-22.0	-	33	-		(20.0-22.0) No recovery.	905	

Remarks and Datum Used: AECOM - Environment 710 Second Avenue, Suite 1000 Seattle, WA 98104 Phone: (206) 624-9349 Fax: (206) 623-3793	-	Sample Type GP = Geoprobe C = Core GS = Grab Sample SS = Split Spoon	Groundwater		
	-		Date	Time	Depth (ft.)
	-		-	-	-
	-		-	-	-
	-		-	-	-

Project: Skykomish	Operator: Rodney Labrosse	Location: Skykomish, WA
Project #: 01140-284-0275	Drill Rig Type: Truck-mounted Sonic	Northing: 259261.274 Easting: 1509864.845
Client: BNSF	Method: Rotosonic	Ground Elevation: 923.76 ft.
Contractor: Cascade Drilling Inc.	Casing ID: -	Total Depth: 22 ft.
Start Date & Time: 08/11/2009 1328	Bit Type: Carbide tooth Coring Bit	Seal: Bentonite chips
Finish Date & Time: 08/11/2009 1600	Boring ID: 6 in.	Logged By: R. Knecht, M. Graddon

Sample					Graphic	Depth (ft.)	Soil and Rock Description Classification Scheme: USCS/ASTM	Elevation (ft.)	Comments
Type & No.	Depth Range (ft.)	Blows Per 6 Inch	% Rec	PID (ppm)					



Remarks and Datum Used: - AECOM - Environment 710 Second Avenue, Suite 1000 Seattle, WA 98104 Phone: (206) 624-9349 Fax: (206) 623-3793	-	Sample Type GP = Geoprobe C = Core GS = Grab Sample SS= Split Spoon	Groundwater		
	-		Date	Time	Depth (ft.)
	-		-	-	-
	-		-	-	-
	-		-	-	-

Project: Skykomish	Operator: Steve Zimmerman	Location: Skykomish, WA
Project #: 01140-284-0275	Drill Rig Type: Minisonic 17-C	Northing: 259281.810 Easting: 1509840.533
Client: BNSF	Method: Rotosonic	Ground Elevation: 928.06 ft.
Contractor: Cascade Drilling Inc.	Casing ID: -	Total Depth: 21 ft.
Start Date & Time: 08/17/2009 1605	Bit Type: Carbide tooth Coring Bit	Seal: Bentonite chips
Finish Date & Time: 08/17/2009 1750	Boring ID: 4 in.	Logged By: R. Knecht, M. Graddon

Sample					Graphic	Depth (ft.)	Soil and Rock Description Classification Scheme: USCS/ASTM	Elevation (ft.)	Comments
Type & No.	Depth Range (ft.)	Blows Per 6 Inch	% Rec	PID (ppm)					

C-1	0.0-3.0	-	100	-	0	(0.0-1.0) SP: POORLY GRADED SAND, dark brown, fine to medium, sub rounded to sub angular, flat, loose, dry. 30% wood fragments, rootlets, and roots. Soil held together by roots and rootlets. No odor or visible contamination.	928	5-B-84D location was located 5 feet east of original 5-B-84A location.
						(1.0-5.0) SP: POORLY GRADED SAND WITH GRAVEL, gray, fine to medium, sub rounded to sub angular, flat, loose, dry. 25% sub rounded to sub angular, flat, elongated gravel up to 1.5" long. 15% coarse sand. No odor or visible contamination.	927	
C-2	3.0-5.0	-	100	-	5	(5.0-6.0) SP: POORLY GRADED SAND WITH GRAVEL, gray, fine to medium, sub rounded to sub angular, flat, loose, dry. 25% sub rounded to sub angular, flat, elongated gravel up to 1.5" long. 15% coarse sand. Abundant rock flour at 5-6 feet. No odor or visible contamination.	926	
						(6.0-8.0) SP: POORLY GRADED SAND WITH GRAVEL, light gray, fine to medium, loose, wet at 8 feet. 25% sub rounded, elongated gravel up to 2" long. 15% coarse sand. Abundant rock flour. No odor or visible contamination.	925	
C-3	5.0-6.0	-	100	-	5	(8.0-11.0) SP: POORLY GRADED SAND WITH GRAVEL, gray, fine to medium, loose, wet. 20% sub rounded to sub angular, equant gravel up to 2" long. No odor or visible contamination.	924	
C-4	6.0-8.0	-	50	-	10		923	
C-5	8.0-1.0	-	16	-	10		922	
							921	
							920	
							919	
							918	

Remarks and Datum Used: - AECOM - Environment 710 Second Avenue, Suite 1000 Seattle, WA 98104 Phone: (206) 624-9349 Fax: (206) 623-3793	Sample Type GP = Geoprobe C = Core GS = Grab Sample SS = Split Spoon	Groundwater		
		Date	Time	Depth (ft.)
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-

Project: Skykomish	Operator: Steve Zimmerman	Location: Skykomish, WA
Project #: 01140-284-0275	Drill Rig Type: Minisonic 17-C	Northing: 259281.810 Easting: 1509840.533
Client: BNSF	Method: Rotosonic	Ground Elevation: 928.06 ft.
Contractor: Cascade Drilling Inc.	Casing ID: -	Total Depth: 21 ft.
Start Date & Time: 08/17/2009 1605	Bit Type: Carbide tooth Coring Bit	Seal: Bentonite chips
Finish Date & Time: 08/17/2009 1750	Boring ID: 4 in.	Logged By: R. Knecht, M. Graddon

Sample					Graphic	Depth (ft.)	Soil and Rock Description Classification Scheme: USCS/ASTM	Elevation (ft.)	Comments
Type & No.	Depth Range (ft.)	Blows Per 6 Inch	% Rec	PID (ppm)					

C-6	11.0-12.5	-	100	-		(11.0-12.5) SP: POORLY GRADED SAND WITH GRAVEL, gray, fine to medium, sub angular, equant, dense, moist. 20% fine to coarse, rounded to angular, gravel up to 1.5" long. 15% coarse sand. Trace silt. Trace 1/2" pieces of broken glass. Slight bunker C and diesel odor. Trace small 1/4" blebs in soil.	917	Analytical sample 5-B-84D 13-15 taken. TPH: 5,300 mg/kg.
C-7	12.5-16.0	-	42	-		(12.5-13.5) SP: POORLY GRADED SAND, brownish gray, fine, dense, wet. 15% medium sand. 10% fine to coarse, rounded to sub angular, equant, elongated gravel up to 1.5" long. 10% coarse sand. Trace silt. Trace small blebs in soil. Bunker C odor and metallic sheen.	916	
						(13.5-16.0) SP: POORLY GRADED SAND WITH GRAVEL, gray, fine to coarse, sub rounded to sub angular, equant, elongated, loose, wet. 15% coarse, sub rounded to sub angular gravel up to 3" long. Bunker C odor and metallic sheen. 1/2" blebs on large gravel thicker layer at 13.5-14 feet and lessens with depth.	915	
						(16.0-21.0) SM: SILTY SAND WITH GRAVEL, gray, fine, dense, loose, wet. 20% silt grading to no silt at 21 feet. Top 3" is 20% coarse, rounded gravel. 15% coarse sand to fine, rounded gravel. Lense of fine sand, no silt at 17-18 feet. Laminations to bands of red and light brown from 1/4" to 1" thick. Metallic sheen on outside of core only.	914	
C-8	16.0-21.0	-	70	-	15		913	Analytical sample 5-B-84D 15-17 taken. TPH: 370 mg/kg.
							912	
							911	Analytical sample 5-B-84D 17-19 taken. TPH: 44.2 mg/kg.
							910	
							909	
							908	

Remarks and Datum Used: AECOM - Environment 710 Second Avenue, Suite 1000 Seattle, WA 98104 Phone: (206) 624-9349 Fax: (206) 623-3793	-	Sample Type GP = Geoprobe C = Core GS = Grab Sample SS = Split Spoon	Groundwater		
	-		Date	Time	Depth (ft.)
	-		-	-	-
	-		-	-	-
	-		-	-	-

Project: Skykomish	Operator: Steve Zimmerman	Location: Skykomish, WA
Project #: 01140-284-0275	Drill Rig Type: Minisonic 17-C	Northing: 259281.810 Easting: 1509840.533
Client: BNSF	Method: Rotosonic	Ground Elevation: 927.97 ft.
Contractor: Cascade Drilling Inc.	Casing ID: -	Total Depth: 23 ft.
Start Date & Time: 08/18/2009 0802	Bit Type: Carbide tooth Coring Bit	Seal: Bentonite chips
Finish Date & Time: 08/18/2009 1037	Boring ID: 4 in.	Logged By: R. Knecht, M. Graddon

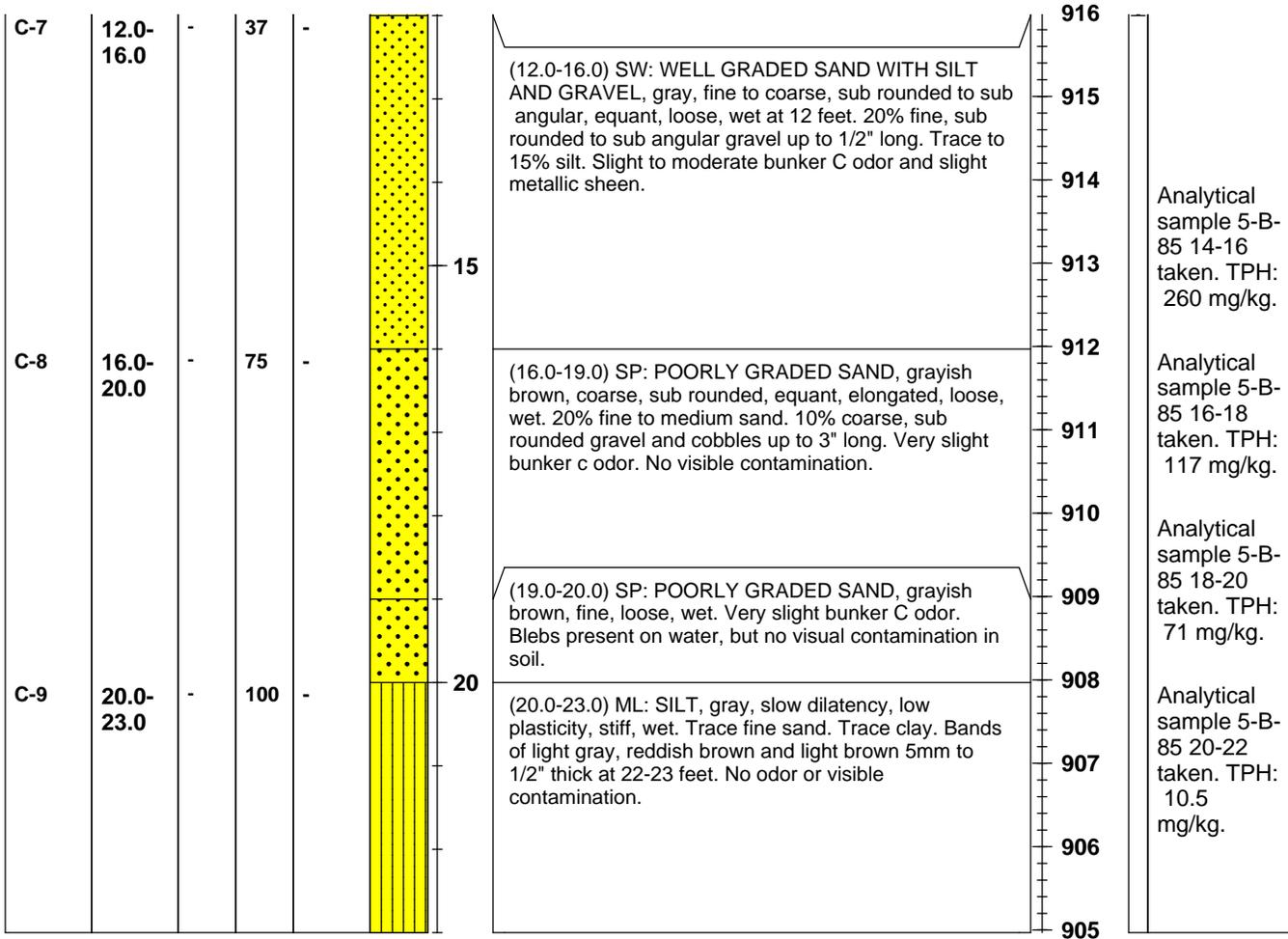
Type & No.	Sample				Graphic	Depth (ft.)	Soil and Rock Description Classification Scheme: USCS/ASTM	Elevation (ft.)	Comments
	Depth Range (ft.)	Blows Per 6 Inch	% Rec	PID (ppm)					

C-1	0.0-3.0	-	88	-		(0.0-0.7) SP: POORLY GRADED SAND, brown to dark brown, fine to medium, sub angular, equant, loose, dry. Abundant rootlets and some pieces of wood. No odor or visible contamination.	927	
						(0.7-3.0) SP: POORLY GRADED SAND WITH GRAVEL, gray to olive gray, fine to medium, sub rounded to sub angular, equant, loose, dry. 15% coarse sand to fine, rounded to sub rounded gravel up to 1/2" long. 10% coarse, sub rounded, equant, elongated gravel up to 1.5" long. No odor or visible contamination.	926	
C-2	3.0-5.0	-	100	-		(3.0-5.0) SP: POORLY GRADED SAND WITH GRAVEL, gray to olive gray, fine to medium, sub rounded to sub angular, equant, loose, moist. 20% coarse, sub rounded sand. 15% fine to coarse, rounded to sub angular, equant, elongated, and flat gravel up to 1.5" long. No odor or visible contamination.	925	
						(5.0-7.0) GW: WELL GRADED GRAVEL WITH SAND, gray to olive gray, fine to coarse, sub rounded to sub angular, equant, flat, loose, moist. 15% coarse sand. Trace silt. Two cobbles 4" and 6.5" long at 7 feet. No odor or visible contamination.	924	
C-3	5.0-7.0	-	75	-		(7.0-10.0) GP: POORLY GRADED GRAVEL, gray, coarse, rounded to sub rounded, equant, elongated, loose, dry. Rock flour on outside of rocks. No odor or visible contamination.	923	
						(10.0-11.0) SP: POORLY GRADED SAND WITH GRAVEL, brown, fine to medium, sub rounded to sub angular, equant, loose, dry to moist. 25-30% fine to coarse, rounded to sub angular gravel up to 2" long. 15% coarse sand. Cobble/boulder in shoe. No odor or visible contamination.	922	
C-4	7.0-10.0	-	16	-		921		
						920		
						919		
C-5	10.0-11.0	-	100	-		918		
						917		
C-6	11.0-12.0	-	100	-		916		
						915		

Remarks and Datum Used: AECOM - Environment 710 Second Avenue, Suite 1000 Seattle, WA 98104 Phone: (206) 624-9349 Fax: (206) 623-3793	-	Sample Type GP = Geoprobe C = Core GS = Grab Sample SS = Split Spoon	Groundwater		
	-		Date	Time	Depth (ft.)
	-		-	-	-
	-		-	-	-
	-		-	-	-

Project: Skykomish	Operator: Steve Zimmerman	Location: Skykomish, WA
Project #: 01140-284-0275	Drill Rig Type: Minisonic 17-C	Northing: 259281.810 Easting: 1509840.533
Client: BNSF	Method: Rotosonic	Ground Elevation: 927.97 ft.
Contractor: Cascade Drilling Inc.	Casing ID: -	Total Depth: 23 ft.
Start Date & Time: 08/18/2009 0802	Bit Type: Carbide tooth Coring Bit	Seal: Bentonite chips
Finish Date & Time: 08/18/2009 1037	Boring ID: 4 in.	Logged By: R. Knecht, M. Graddon

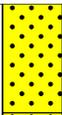
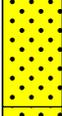
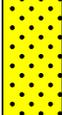
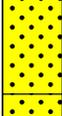
Type & No.	Sample				Graphic	Depth (ft.)	Soil and Rock Description Classification Scheme: USCS/ASTM	Elevation (ft.)	Comments
	Depth Range (ft.)	Blows Per 6 Inch	% Rec	PID (ppm)					



Remarks and Datum Used: AECOM - Environment 710 Second Avenue, Suite 1000 Seattle, WA 98104 Phone: (206) 624-9349 Fax: (206) 623-3793	-	Sample Type GP = Geoprobe C = Core GS = Grab Sample SS = Split Spoon	Groundwater		
	-		Date	Time	Depth (ft.)
	-		-	-	-
	-		-	-	-
	-		-	-	-

Project: Skykomish	Operator: Rodney Labrosse	Location: Skykomish, WA
Project #: 01140-284-0275	Drill Rig Type: Truck-mounted Sonic	Northing: 259221.692 Easting: 1509822.701
Client: BNSF	Method: Rotosonic	Ground Elevation: 923.30 ft.
Contractor: Cascade Drilling Inc.	Casing ID: -	Total Depth: 16 ft.
Start Date & Time: 08/13/2009 0725	Bit Type: Carbide tooth Coring Bit	Seal: Bentonite chips
Finish Date & Time: 08/13/2009 0810	Boring ID: 6 in.	Logged By: R. Knecht, M. Graddon

Sample					Graphic	Depth (ft.)	Soil and Rock Description Classification Scheme: USCS/ASTM	Elevation (ft.)	Comments
Type & No.	Depth Range (ft.)	Blows Per 6 Inch	% Rec	PID (ppm)					

C-1	0.0-2.0	-	100	-		(0.0-1.0) SP: POORLY GRADED SAND, dark brown, fine to medium, dry. 40% organics: rootlets, wood fragments, and roots. Trace coarse sand. No odor or visible contamination.	923	Analytical sample 5-B-86 9-11 taken. TPH: 7.3 mg/kg. Analytical sample 5-B-8 90-110 taken (duplicate at 9-11 feet). TPH: 7.25 mg/kg. Analytical sample 5-B-86 11-13 taken. TPH: 8.8 mg/kg.	
						(1.0-2.0) SP: POORLY GRADED SAND WITH GRAVEL, gray, fine to medium, sub rounded, equant, flat, loose, dry. 35% sub rounded to sub angular gravel up to 1.5" long. Trace to 10% coarse sand. No odor or visible contamination.	922		
C-2	2.0-4.0	-	75	-		(2.0-4.0) SP: POORLY GRADED SAND WITH GRAVEL, gray, fine to medium, sub rounded, flat, loose, dry. 40% sub rounded to sub angular gravel 1/4" up to 3" long. No odor or visible contamination.	921		
						(4.0-6.0) SP: POORLY GRADED SAND WITH GRAVEL, light gray, fine to medium, sub rounded, elongated and flat, loose, dry. 35% rounded to sub angular, elongated, flat and equant gravel 1/4" to 3" long. 10% coarse sand. No odor or visible contamination.	920		
C-3	4.0-7.0	-	100	-		(6.0-7.0) SP: POORLY GRADED SAND WITH GRAVEL, brownish gray, medium, loose, dry. 25% fine sand. 20% coarse sand. 15% sub rounded to sub angular gravel up to 3" long. Trace silt. No odor or visible contamination.	919		
						(7.0-9.5) SP: POORLY GRADED SAND WITH GRAVEL, light gray, fine to medium, sub rounded, flat, loose, dry. 30% sub rounded to sub angular gravel up to 3" long. 15% coarse sand. No odor or visible contamination.	918		
C-4	7.0-9.5	-	60	-		(7.0-9.5) SP: POORLY GRADED SAND WITH GRAVEL, light gray, fine to medium, sub rounded, flat, loose, dry. 30% sub rounded to sub angular gravel up to 3" long. 15% coarse sand. No odor or visible contamination.	917		
							916		
							915		
							914		

Remarks and Datum Used: AECOM - Environment 710 Second Avenue, Suite 1000 Seattle, WA 98104 Phone: (206) 624-9349 Fax: (206) 623-3793	-	Sample Type GP = Geoprobe C = Core GS = Grab Sample SS= Split Spoon	Groundwater		
	-		Date	Time	Depth (ft.)
	-		-	-	-
	-		-	-	-
	-		-	-	-

Project: Skykomish	Operator: Rodney Labrosse	Location: Skykomish, WA
Project #: 01140-284-0275	Drill Rig Type: Truck-mounted Sonic	Northing: 259221.692 Easting: 1509822.701
Client: BNSF	Method: Rotosonic	Ground Elevation: 923.30 ft.
Contractor: Cascade Drilling Inc.	Casing ID: -	Total Depth: 16 ft.
Start Date & Time: 08/13/2009 0725	Bit Type: Carbide tooth Coring Bit	Seal: Bentonite chips
Finish Date & Time: 08/13/2009 0810	Boring ID: 6 in.	Logged By: R. Knecht, M. Graddon

Sample					Graphic	Depth (ft.)	Soil and Rock Description Classification Scheme: USCS/ASTM	Elevation (ft.)	Comments
Type & No.	Depth Range (ft.)	Blows Per 6 Inch	% Rec	PID (ppm)					

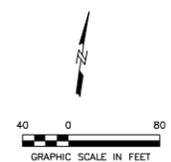
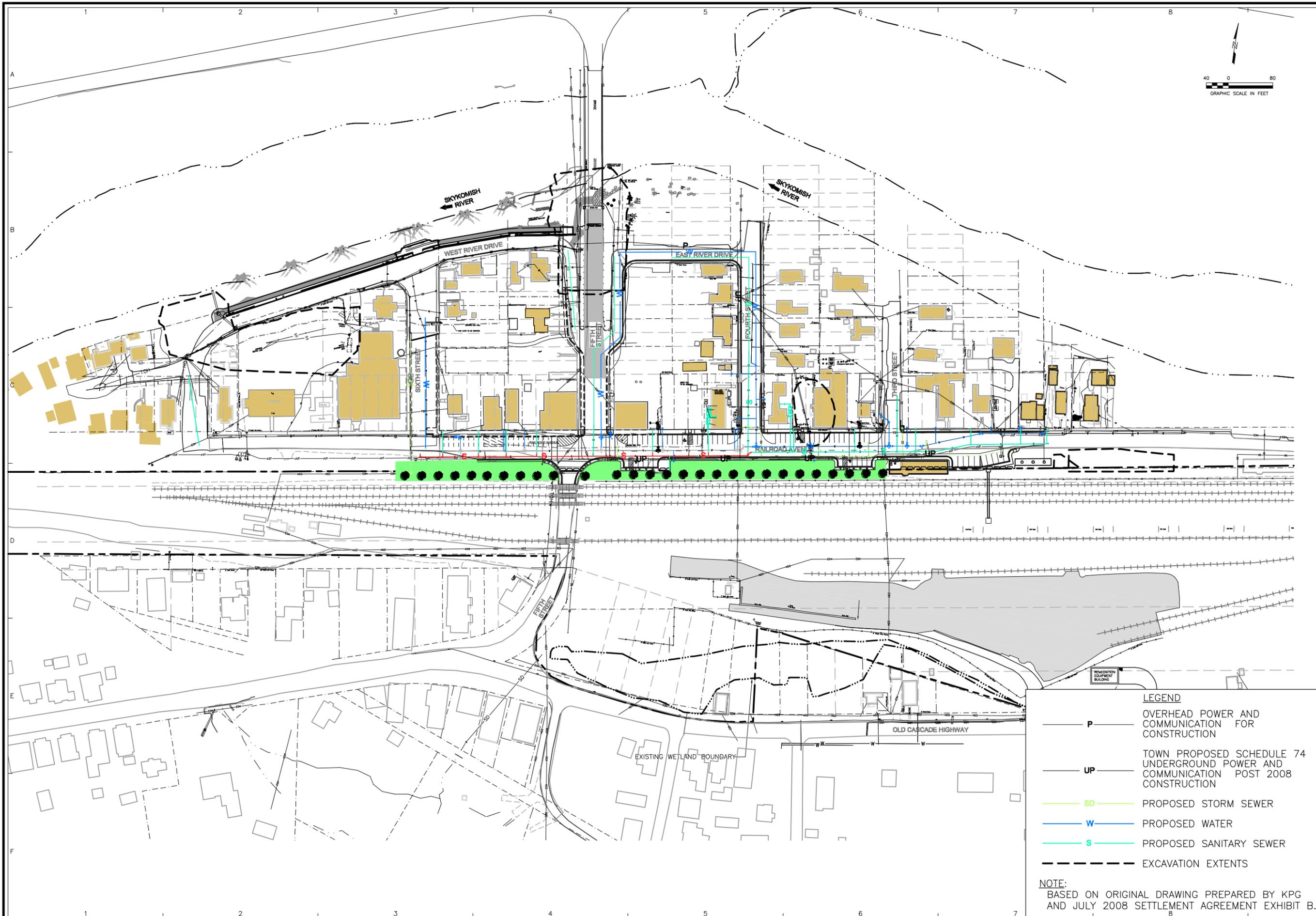
C-5	9.5-12.5	-	80	-		10	(9.5-12.0) SP: POORLY GRADED SAND WITH GRAVEL, brown, fine to medium, rounded, flat, loose, dry to wet at 11 feet. 25% sub rounded to sub angular gravel up to 3" long. 15% coarse sand. Trace sub rounded, flat, elongated cobbles 4" to 8" long. Trace silt. No odor or visible contamination.	913	Analytical sample 5-B-86 110-130 taken (duplicate at 11-13 feet). TPH: 8.3 mg/kg.	
C-6	12.5-14.0	-	100	-		10	(12.0-14.0) SP: POORLY GRADED SAND, brownish gray, fine to medium, rounded to sub rounded, flat, loose, wet. Trace to 10% sub rounded gravel up to 2" long. Trace coarse sand. Brown mottles from 13.9 to 14 feet. No odor or visible contamination.	911		Analytical sample 5-B-86 13-15 taken. TPH: 9.65 mg/kg.
C-7	14.0-16.0	-	100	-		15	(14.0-16.0) SP-SM: POORLY GRADED SAND WITH SILT, brown to gray, fine, wet. 10% non plastic silt. Brown bands 1/4" thick at 14-14.4 feet. No odor or visible contamination.	909		Analytical sample 5-B-86 130-150 taken (duplicate of 13-15 feet). TPH: 8.9 mg/kg.

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	-		Date	Time	Depth (ft.)
	-		-	-	-
	-		-	-	-
	-		-	-	-

Appendix B

2010 Conceptual Restoration Plan

File: F:\PROJECTS\BNSF\Skykomish\2010\CAO\CONSTRUCTION\WPPR\9-16-09\REVISED\0914092\REVISED\0914092-EDR\CONCEPT PLAN.dwg Layer: ANSL_D User: vrsrshab Plotfile: Oct 02, 2009 - 10:25am Xref's:



LEGEND	
	OVERHEAD POWER AND COMMUNICATION FOR CONSTRUCTION
	TOWN PROPOSED SCHEDULE 74 UNDERGROUND POWER AND COMMUNICATION POST 2008 CONSTRUCTION
	PROPOSED STORM SEWER
	PROPOSED WATER
	PROPOSED SANITARY SEWER
	EXCAVATION EXTENTS

NOTE:
 BASED ON ORIGINAL DRAWING PREPARED BY KPG AND JULY 2008 SETTLEMENT AGREEMENT EXHIBIT B.

NO	DATE	REVISION	CHKD	DATE	APPVDATE
7					
6					
5					
4					
3					
2					
1					
0					

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THE BNSF RAILWAY COMPANY
 FORMER MAINTENANCE AND
 FUELING FACILITY
 SKYKOMISH, WASHINGTON

PROJ. NO.: 01140-284-0640 DATE: 10/05/09

2010 CONCEPTUAL RESTORATION PLAN

2010 REMEDIATION

DRAWING NUMBER:
 SHEET NUMBER:
 REVISION: