AECOM Environment

Prepared for:
The BNSF Railway Company
Seattle, WA

Prepared by:
AECOM
Seattle, WA
60136319.0610
June 10, 2010

2009 Remediation – As-Built Completion Report

BNSF Former Maintenance and Fueling Facility Skykomish, Washington

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Prepared by Eric Storkerson, Project Specialist

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Reviewed by Greg Chase, Site Construction Manager

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Approved by Winston Chen, P.E., Engineer of Record

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Construction Completion Report
2009 Remediation
BNSF Former Maintenance and Fueling Facility
Skykomish, Washington

Based on direct observations made by AECOM Environment (AECOM) personnel (formerly The ENSR Corporation, Inc.), materials testing, laboratory testing and other construction documentation described in this report, it is the opinion of the undersigned that the portion of the 2009 Skykomish Remediation completed in 2009 has been constructed in substantial compliance with the scope of work presented in the *Cleanup Action Plan*, *2009 Engineering Design Report,* and *NWDZ Plans and Specifications.* The work carried out in 2009 described herein was completed, and the material and data in this report were prepared, under supervision and direction of the undersigned.

AECOM Environment.

Winston Chen, P.E., Engineer of Record
Registered Professional Engineer
State of Washington #39227

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1.0 Introduction

This document is completed to demonstrate project compliance with WAC 173-340-400, and presents the 2009 As-Built Completion Report (As-Built Report) completed for the BNSF Railway Company's (BNSF) Former Maintenance and Fueling Facility located in Skykomish, Washington. Figure 1 shows the project location. The 2009 Skykomish remediation included the work in the Northwest Developed Zones (NWDZ) as originally shown on Figure 5-1 of the Cleanup Action Plan (CAP). BNSF entered into a Consent Decree (CD; Ecology 2007a; *State of WA v. BNSF Railway Company*, King County Case No. 07-2-33672-9SEA) with Ecology to implement the CAP. The overall cleanup approach is described in the *Master Engineering Design Report* (AECOM 2008a).

The remediation construction activities described in this As-Built Report were performed from June 1, 2009 through December 31, 2009. Table 1-1 summarizes the remediation activities that were planned for 2009, as originally described in the *2009 Engineering Design Report* (EDR) (AECOM 2009a), and the *2009 Compliance Monitoring Plan* (CMP) (AECOM 2009b). The table provides the status of each activity including: 1) work completed in 2009, 2) work initiated in 2009 and scheduled to be completed in 2010, and 3) work scheduled to begin in 2010. The table also summarizes the types of compliance monitoring that were completed for each activity. The order of the activities presented in the table follows that presented in the CMP. The table also presents other relevant construction activities that were not described in the 2009 EDR, but were completed during 2009 consistent with the CAP and Master EDR.

Table 1-1 2009 Remediation Activity Summary

Activity	Status			Compliance Monitoring Performed		
	Completed 2009	Scheduled to be Completed 2010	Scheduled to Begin 2010	Protection	Performance	Confirmation
1. Structure Relocation		X		X	X	
2. Structure Demolition	X			X	X	
3. Hazardous Material Analyses and Asbestos Abatement	X			X	X	
4. Site Soil Excavation	X	X[4]		X	X	
5. Hydraulic Control and Containment (HCC) System Construction[1] and Operation[2]	X				X	
6. Construction and Operation of Temporary Construction Water Treatment System (CWTS)[2]	X			X	X	
7. Air Sparging System Construction[3] and Operation[2]	X			X	X	X*
8. Sheet Pile Removal	X			X	X	
9. Ecology Block Removal	X			X	X	
10. Utilities Construction	X	X[4]		X	X	
11. Restoration	X	X[4]		X	X	
12. Metals Investigation	X			X	X	
13. Mitigation	X			X	X	

Activity	Status			Compliance Monitoring Performed		
	Completed 2009	Scheduled to be Completed 2010	Scheduled to Begin 2010	Protection	Performance	Confirmation
14. Underground Storage Tank Closure[5]	X			X	X	
15. Air, Noise and Weather Monitoring	X	X[4]		X	X	
16. Routine Groundwater Monitoring[6]	X				X	
17. Bridge Abutment Remediation			X			
18. School Property Remediation			X			
19. Former Maloney Creek East and West Remediation			X			
20. Cascadia Inn Remediation			X			
21. Permanent Town Restoration			X			
22. Railyard Remediation			X			

1. Hydraulic Control and Containment (HCC) system construction began in 2008 and was completed in 2009.
2. System was operated in 2009 and will be operated in 2010 and beyond
3. AS system construction began in 2008 and was completed in 2009
4. Work described in the 2009 EDR and CPS was partially completed in 2009 and will be completed in total in 2010 and/or 2011.
5. UST closure at the Town Hall property was not anticipated and not specifically described in the 2009 EDR or NWDZ CPS
6. Routine Groundwater Monitoring encompasses all quarterly and semi-annual groundwater monitoring activities described in the Groundwater Monitoring Plan to evaluate overall groundwater quality at the site. It does not include groundwater monitoring activities intended to evaluate system performance.

* Groundwater confirmation monitoring was carried out to demonstrate the effectiveness of the 2008 NEDZ excavation and AS system at achieving the groundwater CUL of 208 µg/L and no visible LNAPL or sheen at the NEDZ conditional point of compliance (CPOC).

1.1 Report Organization

This As-Built report is organized into the following sections:

- **Section 1 – Introduction**
- **Section 2 – Project Management and Organization.** This section describes the roles and responsibilities of BNSF, AECOM, consultants, companies and contractors in the completing the 2009 remediation activities.
- **Section 3 – Permitting.** This section describes the permitting activities that were conducted to complete the 2009 remediation activities.
- **Section 4 – Site Preparation.** This section describes the general site preparation activities that were completed prior to the start of remediation activities.
- **Section 5 – Construction Activities.** This section describes the 2009 remediation activities, including: 1) activities described in the 2009 EDR; 2) additional activities which were completed, but not previously described in the 2009 EDR; 3) activities not completed in 2008; and 4) related compliance monitoring.
- **Section 6 – Work to be completed after 2009.** This section describes remediation activities which were described in the *NWDZ Construction Plans and Specifications* (2009 CPS) (AECOM 2009c), but were either not completed during the 2009 construction season or were planned to be addressed in future work prior to the 2009 remediation activities commencing and will be addressed in 2010 or 2011.
- **Section 7 – Summary and Conclusions**
- **Section 8 – References**

2.0 Project Management and Organization

AECOM was retained by BNSF as the Engineer for the project. AECOM prepared the 2009 CPS, oversaw the remediation activities, and served as a liaison between BNSF, contractors, the Town of Skykomish (Town) and local stakeholders. State of Washington Department of Ecology (Ecology) provided regulatory oversight. Brief descriptions of each contractor's, subcontractor's, consultant's and/or company's role in the 2009 remediation are provided below.

2.1 Primary General Contractor

- Strider Construction Company (Strider) – Excavation, backfill and grading of excavation area, loading of excavated materials for disposal and infrastructure reconstruction.

2.1.1 Subcontractors to Strider

- Axis Crane – Sheet Pile extraction
- Bravo Environmental – Septic tank and water treatment system pumping
- Cascade Drilling – Piezometer installation
- Clear Water Compliance Services, Inc. (CWCS) – Temporary construction water treatment system (WTS) installation and operation
- GeoTest Services, Inc. – Compaction testing of backfill material
- Inca Engineers – Surveying
- Kingworks Consulting, Structural Engineers – Design of building foundations for relocated structures
- Marine Vacuum Service, Inc. (MARVAC) – Oil recovery
- McCandlish Electric, Inc. – remediation equipment building and site-wide electrical wiring
- National Construction Rentals – Temporary site security fencing
- Nickel Bros. House Moving, Ltd. – Structure moving
- RW Rhine – Demolition of Sky River Inn and Office, Post Office and the Skykomish Hotel Annex
- Tunnel Systems, Inc. – Utility crossing installation beneath the main rail lines.

2.2 Subconsultants and Contractors to AECOM

- Argus Pacific (Argus) – Air and Noise Monitoring Plan development and implementation
- Cascade Drilling – Well installation and abandonment

- Northwest Archeological Associates Inc. (NWAA) – Prepared Archeological Monitoring and Discovery Plan and conducted on-site archeological monitoring during excavation and structure moving activities
- NVL Laboratories Pre-move hazardous materials assessment of temporarily relocated structures
- Pillar and Post – Residential structural assessments for building relocations
- True North Land Surveying, Inc. – Site-wide preconstruction survey
- Wiss, Janney, Elstner Associates Inc. (WJE) – Structural engineers provided structural assessment of relocated structures prior to moving

2.3 Subconsultants to Town

- Gray and Osborne, Inc. (G&O) – Civil engineering design for town-wide sanitary sewer

2.4 Contractors to BNSF

- EMR, Inc. – Hazardous materials assessment and abatement of asbestos materials
- EnviroIssues – Public outreach
- Jacobs Associates – Geotechnical engineers provided construction observation for slope stability of structural blocks removal under existing MSE wall; sheetpile removal; and 5th Street utilities crossing construction
- Friedman and Bruya, Inc. – On-site soil analytical testing
- Rabanco/Allied Waste – Impacted soil disposal
- Securitas – 24-hour security
- TestAmerica – National Pollutant Discharge Elimination System (NPDES) analytical testing, overburden and metals soil sample analysis.

3.0 Permitting

The 2009 remediation work performed required that BNSF obtain or apply for the following permits:

- NPDES permit, Washington State Department of Ecology
- Septic drain fields, King County
- Clearing and grading permit, Town of Skykomish
- Building permits, Town of Skykomish.

Copies of all permits have been included in Appendix A.

3.1 NPDES Discharge

Discharges from the on-site temporary construction water treatment system (CWTS) and the HCC system were performed in accordance with the project NPDES permit (Permit No. WA-003212-3). The NPDES permit for the site was originally issued on May 4, 2006 and was modified on June 30, 2008 (Ecology 2008). The NPDES permit also included preparation and implementation of the *Stormwater Pollution and Prevention Plan* (SWPPP), which is included in the CMP's Appendix G, and *Operations and Maintenance Manual for Water Treatment System* (AECOM 2008b), and submittal of monthly Discharge Monitoring Reports (DMR) to Ecology.

Discharge from the CWTS was conveyed through the Town's stormwater drainage system and ultimately to the Skykomish River at the 6th Street outfall, as specified in the NPDES permit. More details about the operation of the CWTS are discussed in Section 4.

HCC system discharge occurred at two locations:

1. Surface water discharge: Treated water was discharged to the Town's stormwater system and ultimately discharged to the Skykomish River at the 3rd Street outfall as specified in the NPDES permit.
2. Groundwater injection: Two injection wells (IW-01 and IW-02) were installed to inject treated groundwater into the railyard subsurface at appropriate locations in order to support hydraulic containment at the east side of the HCC barrier wall and to flush free product toward the recovery wells between the central and west gates. Injection well (IW) locations are shown on 2008 As-Built Report (AECOM 2009d) Figure 5-1 and on 2009 GWMP (CMP, Appendix E) Figure 3-2. The typical injection well construction details are shown on 2008 Construction Plans sheet M-106. The IWs were not operational before April 30, 2009.

More details about the operation of the HCC system are discussed in Section 5.

4.0 Site Preparation

4.1 Pre-Construction Meeting, Weekly Construction Meetings and Stakeholder Meetings

A pre-construction meeting was held in Skykomish on May 20, 2009. The attendees for the meeting included Strider, AECOM, and BNSF. Some of the key items discussed in the meeting were:

- Roles and responsibilities
- Site health and safety
- Weekly construction meetings
- Project contacts and communication
- Submittal procedure
- Anticipated construction schedule.

Weekly construction meetings were held at the site to discuss topics related to the performance and schedule of construction activities, and issues that needed to be addressed. The attendees to the weekly meetings included representatives of BNSF, AECOM, and Strider. The meeting agenda generally included the following:

- Resolution of construction issues
- Description of project schedule
- Submittal status and delivery schedule
- Reviewed contract modifications
- Health and Safety concerns.

Weekly stakeholder meetings were also held at the site during the construction season. The attendees included representatives of AECOM, Ecology, EnviroIssues, and Town. During the stakeholder meetings, AECOM provided construction updates and scheduled construction activities, and addressed any questions related to construction that Ecology and/or Town representatives had.

4.2 Well Abandonment and HCC Temporary Recovery Well Removal

4.2.1 Decommissioning of Existing Monitoring Wells

Five monitoring wells (1A-W-2, 1A-W-3, 5-W-1, MW-26 and MW-36) located within the 2009 excavation footprint were decommissioned prior to the excavation. These five wells were decommissioned by Cascade Drilling (a Washington State licensed well driller) using chipping in place method. The locations of these five wells are shown on Figure 4. A copy of the well decommissioning report is included in Appendix B of this report.

4.2.2 HCC Temporary Recovery Wells Removal

In October 2009, Cascade Drilling decommissioned three existing HCC system temporary recovery wells: GW-1, GW-2 and GW-3. These recovery wells were installed for operation of the temporary HCC system installed in 2008. Since the permanent HCC system was completed in 2009, these temporary recovery wells were no longer needed. The wells were removed in accordance with the requirements of WAC by filling each well with aggregate fill from the bottom of the well to approximately 4 feet below ground surface and the remainder of the well was filled with native soil to the ground surface.

4.3 Temporary Facilities and Controls

Temporary facilities and controls for the 2009 remediation were provided by Strider and their subcontractors, as described in the following paragraphs.

4.3.1 Construction Fencing

Temporary construction fencing was installed around the perimeter of active excavation areas and the impacted soil stockpile area. Silt fencing was installed at appropriate locations throughout the site to prevent stormwater runoff sediments from leaving the site.

4.3.2 Job Trailers

Strider provided jobsite trailers with electricity, first aid kits, fire extinguishers, eyewash kits, printer, scanner, fax machines and telephone lines with high-speed internet access. The job trailers were used as field offices for Strider, AECOM, and McCandlish Electric. Friedman and Bruya (mobile analytical laboratory unit) provided their own trailer. Strider also provided a number of portable restrooms to be used by all on-site personnel and visitors.

4.3.3 Sound Wall

A hay-bale sound wall was constructed along the south boundary of the soil handling facility (SHF) in 2008. During the 2009 construction, the sound wall was inspected and repaired by Strider to provide privacy and sound dampening for the local residences located south of the SHF along Old Cascade Highway.

4.3.4 Soil Handling Facility

Portions of the asphalt surface on the existing SHF that was damaged during the 2008 remediation work was repaired by Strider prior to stockpiling of impacted material in 2009. For areas that the high density polyethylene (HDPE) liner beneath the asphalt surface was not damaged, a new layer of asphalt was used to replace the damaged asphalt layer. In areas where the HDPE liner was damaged, a new piece of HDPE liner was installed directly over the damaged liner with at least 12 inches additional length in all directions. After the new liner was installed, an asphalt layer was placed on top of the repaired liner and compacted.

In August 2009, Strider expanded the existing SHF per the instruction of the Engineer to provide additional storage capacity. The expansion area occupies approximately 18,000 square feet located east of the existing SHF. The SHF expansion work involved: 1) grading the area to provide positive drainage to the collection sump, 2) installing a 40 mil HDPE liner, 3) placing 4 inches of asphalt treated base (ATB) asphalt, and 4) installing Ecology blocks around the perimeter for containment.

The location of the SHF expansion is shown on the Temporary Features map (Figure 2). The SHF expansion provided approximately 10,000 cubic yards of additional storage capacity.

4.3.5 Temporary Traffic Control

4.3.5.1 Railroad Crossing

A temporary railroad crossing was constructed by Strider to allow the construction vehicles to enter the SHF without using the 5th Street public crossing. The temporary construction crossing was located on the south side of Railroad Avenue, across from 4th Street. During the construction working period, Strider provided a flagger at the construction crossing to direct non-construction related vehicles and pedestrians away from accessing the crossing, and to safely guide construction traffic through the intersection. Additionally, a flagger provided by BNSF was stationed at the construction railroad crossing during the working hours. At the end of each day, the gates at this construction crossing were closed and locked to prevent any unauthorized access across the railroad tracks and onto BNSF property or the SHF.

4.3.5.2 Temporary Roads and Detours

Strider developed a temporary traffic control plan, as part of the Technical Execution Plan (TEP), for the 2009 construction season. The traffic control plan provided details related to road lane adjustments, detours and road closures during construction. These temporary roads and detours were designed to maximize pedestrian and driver safety, while minimizing construction delays.

The 2009 excavation limits required a temporary lane adjustment on Railroad Avenue which involved moving the lane farther south on Railroad Avenue. Consequently, the temporary Railroad Avenue traffic lane was moved approximately 25 feet south and re-graded with ATB for the distance between the 4th Street to 6th Street intersections. Temporary sidewalks, signage, and pedestrian access routes were installed for the lane adjustment.

Temporary detours were made during the construction to accommodate different phases of excavation. 5th Street traffic was diverted to temporary detours along West River Drive and East River Drive, depending on the activities being performed, during excavation. As part of the detour to East River Drive, a temporary ramp was constructed from the bridge onto East River Drive, as shown on Figure 2. Temporary traffic signage was placed on both ends of 5th Street to warn the vehicles and pedestrians. In addition to the warning signs, Strider provided a flagger to facilitate the safe movement of traffic and pedestrians maneuvering through this detour.

4.3.6 Temporary Erosion and Sediment Controls (TESCs)

Approximately 1,000 linear feet of silt fencing was installed in selected areas of the excavation boundaries. Sediment socks/inserts were installed in the catch basins in areas that were affected by remediation activities. A certified TESC inspector from Strider inspected these TESC measures in accordance with the NPDES permit and SWPPP. Strider performed repairs to the silt fence and other sediment control measures as necessary to provide effective erosion and sediment control. Daily inspections of the Skykomish River and its river bank were performed by Strider field staff, in accordance with the CMP. Observed turbidity impacts to the river were immediately abated in accordance with the TEP. Strider's TESC inspection reports were included in Strider's daily construction reports.

4.3.7 Construction Water Treatment Facility (CWTS)

The CWTS was installed by CWCI prior to the construction activities began. The CWTS was located on the railyard west of the SHF (Figure 2). Discharge from the CWTS began on August 19, 2009 and ended on November 23, 2009. The CWTS was operated and maintained by CWCI personnel. The CWTS provided treatment of construction water pumped from the excavation areas and from stormwater runoff collected on the SHF. The CWTS was operated in accordance with the NPDES permit and the operation and maintenance manual as described in the Operations and Maintenance Manual for Water Treatment System (AECOM 2008B). The following two subsections follow up on the compliance monitoring activities initially discussed in CMP Section 5.5.

4.3.7.1 Soil

The CWTS was constructed west of the SHF on an existing level gravel area. No excavation was required for the placement of the system, so none of the stockpile sampling described in CMP Section 5.5 occurred.

4.3.7.2 System Monitoring

Weekly and monthly NPDES performance monitoring samples were collected before, between and after the activated carbon treatment. The NPDES performance monitoring sample results were submitted to Ecology's Water Quality Program in the form of DMRs. DMRs for water treatment facility operations beginning in September 2009 and continuing through December 2009 are included in Appendix C. All discharges were in compliance with the NPDES permit.

4.3.8 Clearing and Grubbing

The designated clean overburden stockpile area was cleared, grubbed, and rough-graded prior to the overburden excavation. The surface top soil in the cleared and grubbed area was then removed and transported to the clean overburden stockpile area for storage and use as on-site backfill material. The approximate location of the clean overburden stockpile area is shown on Figure 2.

4.4 Surveying

True North Land Surveying (True North) conducted an initial land surveying of the project area in November 2007. The 2007 survey covered most of the remediation areas planned for 2008 and beyond. Additional surveying data was appended to the initial surveying during the 2008 and 2009 period as requested by AECOM. The survey control points established by True North were used by Strider's surveyor Inca Surveying (Inca) for locating the construction areas and site features. Strider also utilized the survey-grade global positioning system components (known as a Total Station) to locate features in the field.

A final and comprehensive as-built survey of the 2008–2010 permanent restoration features will be conducted upon completion of the remediation activities in the NWDZ in 2010. The final survey will include the completed restoration features, e.g., roadway surfaces, sidewalks, curbs, stormwater catch basins, electrical vaults and relocated structures, etc. The final as-built survey is expected to be included in the 2010 Construction As-Built Report, which will be submitted to Ecology in draft form in March 2011.

4.5 Structure Demolition

The structures that were demolished in 2009 consisted of Sky River Inn, Sky River Inn Office, Skykomish Post Office and Skykomish Hotel Annex. The structure demolitions were performed in accordance with the requirements described in the Master EDR, TEP, CPS, and CMP.

Materials in the excavation footprint including asphalt, concrete building foundations, slabs, and walkways were demolished and recycled or disposed of at the Roosevelt Regional Landfill in Roosevelt, Washington, an approved construction demolition waste landfill. Disposal information was provided in Strider's daily construction reports.

4.5.1 Pre-Demolition Inspection

Strider and AECOM conducted a pre-demolition inspection in early June 2009 on all surface and subsurface structures as shown on the construction plans. The pre-demolition inspections were conducted on the Sky River Inn, Sky River Inn Office, Skykomish Post Office, and the Skykomish Hotel Annex. Strider inspected the existing site features, including building structures, asphalt paving, building foundations, basements, sidewalk, curb and gutter, street light bases, concrete slabs, existing storm pipe and catch basins, sewer lines and septic tanks, water lines and other utility appurtenances on or adjacent to those properties. AECOM and Strider inspected the existing utilities, e.g., overhead power and telephone lines and poles that could affect the demolition activities.

During the pre-demolition inspection, Strider determined how to protect existing utilities and other unmarked features, from being damaged during surface and subsurface structure removal work. AECOM personnel determined a sequential pattern of disconnecting the overhead power lines and telephone lines to the Skykomish Hotel Annex, Sky River Inn, Sky River Inn Office, Wheatley House, Skykomish Hotel and Skykomish Post Office. Puget Sound Energy (PSE) subsequently disconnected all overhead electrical service drops and Verizon disconnected all overhead telecommunication lines. AECOM determined that the existing power poles on the north side of the Sky River Inn Office and the west side of the Skykomish Post Office needed to be removed to allow unimpeded demolition work by Strider. Potelco removed both existing power poles after PSE and Verizon had completed all overhead line disconnections.

4.5.2 Asbestos Abatement

EMR conducted asbestos surveys on Skykomish Hotel and Annex, Sky River Inn, Sky River Inn Office and Post Office in mid May 2009. EMR collected potential asbestos material samples from vinyl flooring, drywall paper, drywall popcorn ceiling texture and exterior sheathing paper. After conducting laboratory tests on the material samples, EMR determined that all of the existing vinyl flooring paper backing contained asbestos and required abatement.

RW Rhine conducted the asbestos abatement work in Sky River Inn, Sky River Inn Office, and Post Office from June 6 through 18, 2009. All identified asbestos-containing materials were bagged and disposed offsite by R.W. Rhine under the constant onsite supervision of EMR. A copy of the asbestos survey report and abatement/disposal is included in Appendix D.

4.5.3 Demolition Debris Disposal

RW Rhine demolished the Sky River Inn, Sky River Inn Office, Skykomish Hotel Annex, and Post Office between June 18 and June 23, 2009. All demolition debris was loaded into waste haulers

supplied by Rabanco and transported offsite to a licensed disposal facility. Strider submitted the waste disposal documents including waste manifests, weight tickets, and bills of lading to AECOM.

4.6 Structure Relocation

Structure relocation performed in 2009 consisted of the following buildings:

- Bishop House
- Martin House and shed
- Sarno House and garage
- Wheatley House
- General Store
- Skykomish Hotel.

The Bishop House was sold by BNSF and moved by the new owners to a permanent location. Consequently, BNSF relinquished involvement with this building.

The remaining structures were temporarily relocated in accordance with the requirements described in the Master EDR, TEP, and CPS. With the exception of General Store and Wheatley house, all the other buildings were returned to their respective properties and placed on new foundations during the 2009 construction season. The following lists the dates each building was moved and returned, if applicable:

- Martin House moved on June 19, 2009 and returned on August 13, 2009
- Martin Garage moved on June 23, 2009 and returned on August 14, 2009
- Sarno House moved on June 24, 2009 and returned on August 10, 2009
- Sarno Garage moved on June 22, 2009 and returned on August 12, 2009
- Wheatley House moved on August 12, 2009 and remained in temporary location through 2009
- Bishop House moved on June 29, 2009 and immediately moved to new permanent location
- Skykomish Hotel moved on July 29, 2009 and returned on August 26, 2009
- General Store moved on July 8, 2009 and remained in temporary location through 2009.

Strider's structural engineer designs of the new foundations for the relocated structures were submitted to the Town for review and approval. Copies of the permits are included in Appendix A. The new foundations of the structures were inspected and approved by the Town's building inspector prior to returning the structures to their respective properties. The General Store and Wheatley house remained in their temporary locations until the 2010 construction season.

While the Skykomish Hotel was in possession of BNSF, a plastic tarp was installed over the hotel's rooftop per the access agreement for the property. The purpose of the tarp was to protect the interior from roof leaks during the construction. The entire roof was covered with the tarp, which was pinned

to the sides of the building. The tarp was laid over the roof on August 11, 2009 and remained on the building until BNSF returned possession to the property owners on February 19, 2010.

4.6.1 Pre-Move Inspection

AECOM retained WJE to perform a pre-move structural inspection prior to the issuance of the bid documents. The purpose of the WJE inspection was to determine the suitability for lifting and temporary relocation of each of the buildings. The findings of the WJE inspection were included as part of the bid documents. A copy of the WJE report is included in Appendix E.

Prior to moving the structures, Strider's subcontractor Nickel Brothers (NB) conducted pre-move inspections of all structures to be relocated. The inspection was used to prepare rigging plans for each structure (Appendix E). As required in the CPS, Strider performed a pre-move video survey of the structures to document the interior and exterior conditions of the relocated structures. In addition, Strider retained Pillar and Post perform a survey of all major components of the relocated structures. The survey documented any existing conditions using photographs, sketches, and notes taken prior to the move.

After the structures were moved to their temporary locations, temporary dehumidifiers, fans, and heaters were installed in the buildings while in storage to inhibit mold and mildew growth. Strider performed inspection of the temporarily stored buildings on a bi-weekly basis, including the interior and exterior conditions of the buildings. The observation and documentation included settling, micro-fungal growth, indoor temperatures and any damage due to weather or vandalism, as well as other observations related to the condition of the buildings.

The temporarily stored structures were periodically left open during working hours to allow venting and air circulation. Nickel Brothers also conducted bi-monthly inspections of the stored structures. If settling was observed during the inspections, Nickel Brothers added additional support to prevent any further settling to the structure. Securitas, a security monitoring firm under contract to BNSF, also provided security monitoring of the buildings during the construction season on a 24-hour, seven days a week basis. The bi-weekly inspection logs are included in Strider's daily construction reports.

4.6.2 Architectural Monitoring

Archaeological monitoring was conducted in accordance with the Archaeological Resources Monitoring and Discovery Plan (ARMDP) (NWAA 2009) prepared by NWAA. Personnel from NWAA performed archaeological monitoring on-site during excavation and structure moving activities. The results of the archaeological monitoring are detailed in the Results of Archaeological Monitoring, 2009 Remediation in Skykomish, King County, Washington report that is being prepared by NWAA. This report will be combined by NWAA with their report for the 2010 archeological monitoring. The final report detailing both 2009 and 2010 archeological findings will be finalized in late 2010 or early 2011 under separate cover.

4.6.3 Hazardous Material Abatement

Hazardous material surveys were performed on all the buildings relocated or demolished. The survey identified any hazardous materials, including lead paint and asbestos, that construction or relocation personnel might encounter, and to safely remove and abate these hazards prior to construction.

On May 1, 2009, personnel from NVL laboratories (NVL) performed hazardous material surveys in the work areas (crawl spaces, interiors and exteriors) for each of the structures to be relocated. During

these surveys, some lead-containing exterior paints were identified but no asbestos-containing materials were found. Based on these surveys, it was determined by NVL that no abatement activities were necessary at that time. It should be noted that some areas in Skykomish Hotel were inaccessible during the survey. These pre-construction survey reports prepared by NVL are provided in Appendix D.

As pre-move construction activities progressed on the Skykomish Hotel, some asbestos-containing material was found below the Skykomish Hotel in June 2009 after the area around the base of the Skykomish Hotel was excavated and the crawl space made accessible. This area was previously inaccessible during the May 1 hazardous material survey by NVL. EMR was informed and confirmed the presence of the asbestos-containing material. The asbestos-containing material was safely removed by RW Rhine and disposed of in a state-approved asbestos disposal facility. The disposal documentation is included in Appendix D.

5.0 Construction Activities

The 2009 BNSF Skykomish remediation project was implemented in accordance with the Washington Administrative Code (WAC) 173-340-400 – Implementation of the Cleanup Action Plan. The 2009 remediation work consisted of the activities described in the 2009 EDR, including: the demolition or relocation of buildings, the partial excavation of the NWDZ, HCC system operation, air sparge system operation, sheet pile removal from the Whistling Post property, concrete block removal from the Mitchell property, shallow metals investigation on two properties, underground storage tank (UST) decommissioning at the Skykomish Hotel property, underground sewer, stormwater, electrical, and communications utilities construction, and protection monitoring to confirm that human health and the environment were adequately protected during construction. This section describes each of these activities in detail.

BNSF submitted weekly progress reports to Ecology as required in the CD. AECOM documented daily activities in daily construction reports, which are in Appendix F. Photographs showing the construction activities are presented in Appendix G.

5.1 Building Demolition

These activities are described in Section 4.5.

5.2 Building Relocation

These activities are described in Section 4.6.

5.3 Phase 1, Phase 2A and Phase 2B Excavation

The NWDZ was excavated in three phases in order to facilitate excavated soil transport to the SHF and temporary building relocation. Excavation performance sampling and backfilling was completed for each phase before proceeding to the next phase. The Phase 1 excavation area comprised the east end of the 2009 excavation extents and included the Martin property, Sarno property, a portion of the Whistling Post property that was not excavated in 2008, and part of the 4th Street right of way (ROW). The Phase 2A excavation area comprised the southwest portion of the 2009 excavation extents and included the General Store property, Skykomish Hotel property, and portions of 5th Street and Railroad Avenue ROW. Phase 2B excavation area comprised the northwest portion of 2009 excavation extents and included the Bishop House, Wheatley House, Post Office, and Sky River Inn Office properties, as well as part of the 5th Street ROW.

The following sections describe performance monitoring for the NWDZ excavations. Primarily this work included 1) soil sampling to characterize overburden; 2) excavation performance sampling to evaluate whether the Remediation Level (RL) and Cleanup Level (CUL) had been achieved; 3) cultural resource monitoring to identify and preserve culturally significant artifacts discovered; and 4) surface water monitoring to demonstrate that excavation activities did not result in an exceedances of applicable water quality standards for turbidity in the Skykomish River. Table 5.1 was adapted from Table 1 of the Cleanup Action Plan (CAP) (Ecology 2007b) and summarizes the applicable NWDZ RLs and CULs.

Table 5-1 Soil Remediation and Cleanup Level Concentrations

Environmental Medium: Soil	Level Type	Chemical	Concentration	Point of Compliance per the CAP	Applicability to the 2009 Remediation
	Remediation	Petroleum	3,400 mg/kg NWTPH-Dx	Off the portion of the railyard owned by BNSF to any depth, except within 25 feet south of the OHWM of the Skykomish River and within 25 feet of the Former Maloney Creek as delineated by the OHWM or the wetland boundary, where the cleanup level of 22 mg/kg NWTPH-Dx must be met to a depth of 4 feet.	NWDZ excavation below 2 feet bgs.
	Remediation	Petroleum	1,870 mg/kg NWTPH-Dx	Soil within two feet of the surface.	NEDZ and NWDZ excavation.
	Cleanup	Arsenic	20 mg/kg	Throughout the site to a depth of 15 feet.	NEDZ, NWDZ, and RYZ excavation.
	Cleanup	Lead	250 mg/kg	Throughout the site to a depth of 15 feet.	NEDZ, NWDZ, and RYZ excavation.

5.3.1 Overburden Characterization and Excavation

Overburden from within the 2009 excavation area was pre-characterized prior to excavation in accordance with the procedures described in the *2009 Sampling and Analysis Plan* (SAP), which is CMP's Appendix D. 25-foot by 25-foot overburden sample grids were laid out over the excavation area using a tape measure and surveyor's measuring wheel, with the aid of GPS technology. The grid lines were indicated on the perimeter security fencing and at grid line intersections within the excavation using painted surveyor's lathes. Soil samples were collected from the center of each grid cell.

Tracked excavation equipment was used to complete the overburden pre-characterization to the vertical and horizontal extents shown on the NWDZ CPA (see drawing C-200). Exceptions to the 2009 plans were the areas from East River Drive north at the 5th Street Bridge and from the western edge of the General Store Property to the west of 6th Street. These areas are scheduled to be excavated in 2010. Overburden pre-characterization was completed with equipment designated for clean material

excavation only, or with equipment that was decontaminated at the DECON station at the SHF immediately prior to characterization activities.

In grid cells where the vertical delineation limit (VDL) or bottom of the excavation was less than or equal to 5 feet bgs, samples were collected halfway between the VDL and the ground surface. In grid cells where the VDL was located below 5 feet bgs, samples were collected at approximately 2.5 feet bgs and at a depth halfway between 5 feet bgs and the VDL. The shallower samples represented the top 5 feet of excavated material and the deeper samples represented the soil between 5 feet bgs and the VDL. All samples were analyzed for petroleum hydrocarbons using the NWTPH-Dx method. If concentrations in samples collected from cells where the VDL or bottom of excavation was less than 5 feet bgs were equal to or above 1,870 mg/kg, then all of the overburden in that grid cell (down to the VDL) was excavated and sent to the SHF for offsite disposal. If concentrations were below 1,870 mg/kg, then the overburden was excavated and sent to the SHF for potential re-use.

In cells where the VDL was greater than 5 feet bgs, if both shallow and deep overburden sample concentrations were below 1,870 mg/kg, then all of the overburden was excavated and sent to the clean overburden stockpile area for reuse.

If the shallow sample concentration was equal to or above 1,870 mg/kg, then all of the overburden (to the VDL) was excavated and sent to the SHF for offsite disposal. If only the deep sample concentration was equal to or above 1,870 mg/kg, then the top 5 feet was excavated and sent to the clean overburden stockpile for reuse; the bottom 5 feet was excavated and sent to the SHF for offsite disposal.

The exception to this process was grid cell J23, where a major archeological investigation took place. Concentrations in samples collected from this grid cell were below 1,870 mg/kg, but it was deemed that the privy discovered in this grid cell contained too much debris for the soil to be reused. This grid cell was consequently excavated and the soil was taken to the SHF for offsite disposal.

Selected overburden grid cells were also sampled for lead and arsenic. These grid cells were identified, in part, based on historic metals investigations and included D-16 through D-21, E-16 through E-21, F-16 through F-22, G-16 through G-22, H-18 through H-22, I-18 through I-24, J-18 through J-22, J-24, J-25, K-16 through K-25, L-16 through L-24, and M-16 through M-18. Samples were collected at 1 foot and 2 feet bgs from each grid cell center.

If the shallow and deep sample concentrations were below 250 mg/kg for lead and 20 mg/kg for arsenic, then all of the overburden was excavated and sent to the SHF for potential re-use. If the sample concentrations were equal to or above 250 mg/kg for lead and/or 20 mg/kg for arsenic, then all of the overburden was excavated and sent to the SHF for offsite disposal. If the deep sample concentrations were equal to or above 250 mg/kg for lead and/or 20 mg/kg for arsenic, then a final vertical sample was collected at the bottom of excavation and analyzed for lead and/or arsenic to determine vertical extent confirmation.

All grid cells adjacent to cells with lead concentrations at or above 250 mg/kg and/or arsenic concentrations at or above 20 mg/kg were also sampled for lead and/or arsenic to determine lateral extent of soil impacts. Samples collected from these cells were evaluated, and the overburden and VDL soil excavated and handled in accordance with the criteria and procedure described above. The grid cells where lead and arsenic were sampled are shown on Figure 3 and the results are listed in the Overburden Soil Sample Results and Below VDL Confirmation Soil Sample Results, Tables 5-2 and 5-3.

Information collected from Strider's surveys of the excavation area, before and after overburden removal, was used to calculate the volume of material sent to the clean overburden stockpile area (13,903 cubic yards) and the amount of material sent to the SHF for disposal (51,126 cubic yards).

5.3.2 Below VDL Excavation

Excavation performance sampling was completed in accordance with the SAP. Prior to the commencement of VDL excavation, a 25-foot by 25-foot confirmation sampling grid was surveyed and established by Strider's surveyor over the entire excavation area. The grid lines were indicated on the perimeter of the fencing and at grid line intersections within the excavation using painted surveyor's lathes. The planned and actual 2009 construction excavation extents are shown on Figure 3A. The actual excavation extents include a part of the 4th Street ROW and part of the Town Hall property. These areas were added to the excavation because impacted soil was discovered beyond planned excavation limits. The grid cells and these excavation extents are shown on Figure 3B.

Tracked excavation equipment was used to complete the excavation to the vertical and horizontal extents shown on Figure 3A. Equipment dedicated to handling impacted material was used to avoid cross contamination with clean equipment. In the event that equipment was needed to handle clean material, the equipment was decontaminated at the DECON station at the SHF.

At least one grab sample was collected from the approximate center bottom of each grid cell shown in Figure 3B, except as noted below. At least one discrete grab sample was collected from each cell sidewall that did not lie adjacent to future excavations. Samples were analyzed by the on-site mobile laboratory for NWTPH-Dx. Below VDL samples collected from cells D-19, E-20, F-18, G-20, H-19, I-19, I-20, J-21, J-22, J-23, and L-18 were also analyzed for lead and arsenic, based on overburden sampling results.

Analytical results collected from the excavation area were compared to the NWDZ RL of 3,400 mg/kg NWTPH-Dx, and where appropriate, to the 250 mg/kg lead CUL and 20 mg/kg arsenic CUL. If the NWTPH-Dx concentration was below the applicable RL, as well as the lead and arsenic CULs, where appropriate, and the requirement of no flowing or accumulating product was met, then the grid from which the sample was collected was designated as clean and approval for backfilling was communicated to Strider. If the NWTPH-Dx concentration was at or above the appropriate RL and/or CUL, then the grid from which the sample was collected was designated as impacted and would be excavated a minimum of 1 additional foot, measured as vertical distance in feet bgs in excavation bottoms and as lateral distances in sidewalls, and re-sampled until the grid could be designated clean or until no further excavation was possible due to adjacent buildings, features or structures that could have been undermined if excavation had continued.

There were two areas of the excavation where analytical results determined, after planned excavation, certain cells were designated as impacted and further excavation was warranted. See Section 5.3.3 for a discussion of these areas. Temporary HDPE sheeting or geotextile fabric was placed on the excavation slopes in cells adjacent to future excavations to delineate excavation limits and prevent cross-contamination of Bunker C and diesel impacts with clean backfill.

Table 5-2 Overburden Soil Sample Results

Sample Name	Date Sampled	SDG	Date Results	Diesel (mg/kg)	Oil (mg/kg)	Totaled Diesel & Oil (mg/kg)	Arsenic (mg/kg)	Lead (mg/kg)	Notes
OVBN09-B9-2.5	7/13/2009		7/24/2009	29	230	259			
OVBN09-B9-5.12	7/13/2009		7/24/2009	42	160	202			
OVBN09-B10-2.5	7/13/2009		7/24/2009	100	320	420			
OVBN09-B11-2.5	7/13/2009		7/24/2009	130	320	450			
OVBN09-B12-2.5	7/13/2009		7/24/2009	61	230	291			
OVBN09-B13-2.5	7/13/2009		7/24/2009	29	140	169			
OVBN09-C9-2.5	7/13/2009		7/24/2009	<10	<25	ND			
OVBN09-C9-5.17	7/13/2009		7/24/2009	<10	28	28			
OVBN09-C10-2.5	7/13/2009		7/24/2009	130	390	520			
OVBN09-C10-5.20	7/13/2009		7/24/2009	39	170	209			
OVBN09-C11-2.5	7/13/2009		7/24/2009	15	80	95			
OVBN09-C11-5.10	7/13/2009		7/24/2009	540	1,800	**2,340**			
OVBN09-C12-2.5	7/13/2009		7/24/2009	65	220	285			
OVBN09-C12-5.33	7/13/2009		7/24/2009	47	180	227			
OVBN09-C13-1.75	7/13/2009		7/24/2009	30	150	180			
OVBN09-C14-2.5	7/13/2009		7/24/2009	92	270	362			
OVBN09-C14-5.29	7/13/2009		7/24/2009	36	130	166			
OVBN09-C15-2.5	7/13/2009		7/24/2009	20	87	107			
OVBN09-C15-5.59	7/13/2009		7/24/2009	<10	<25	ND			
OVBN09-C16-3.02	7/7/2009		7/9/2009	320	280	600			
OVBN09-C17-1.18	7/7/2009		7/9/2009	15	130	145			
OVBN09-C18-1.38	7/7/2009		7/9/2009	47	45	92			
OVBN09-D9-2.48	7/8/2009		7/14/2009	<10	<25	ND			

Table 5-2 Overburden Soil Sample Results

Sample Name	Date Sampled	SDG	Date Results	Diesel (mg/kg)	Oil (mg/kg)	Totaled Diesel & Oil (mg/kg)	Arsenic (mg/kg)	Lead (mg/kg)	Notes
OVBN09-D10-2.39	7/8/2009		7/14/2009	1,600	2,400	**4,000**			
OVBN09-D11-2.5	7/8/2009		7/14/2009	<10	<25	ND			
OVBN09-D11-5.13	7/8/2009		7/14/2009	1,600	2,300	**3,900**			
OVBN09-D12-2.5	7/8/2009		7/14/2009	1,400	1,400	**2,800**			
OVBN09-D12-5.07	7/8/2009		7/14/2009	1,200	2,100	**3,500**			
OVBN09-D13-2.5	7/13/2009		7/24/2009	<10	<25	ND			
OVBN09-D13-5.21	7/13/2009		7/24/2009	800	2,600	**3,400**			
OVBN09-D14-2.5	7/13/2009		7/24/2009	<10	<25	ND			
OVBN09-D14-5.31	7/13/2009		7/24/2009	420	1,400	1,820			
OVBN09-D15-2.5	7/13/2009		7/24/2009	<10	53	53			
OVBN09-D15-5.34	7/13/2009		7/24/2009	590	2,000	**2,590**			
OVBN09-D16-2.05	7/7/2009		7/9/2009	26	110	136			
OVBN09-D16-1' to 2'	8/3/2009		8/5/2009					3.5	
OVBN09-D16-4' to 5'	8/3/2009		8/5/2009					2.8	
OVBN09-D17-2.17	7/7/2009		7/9/2009	65	120	185			
OVBN09-D17-1' to 2'	8/3/2009		8/5/2009					4.6	
OVBN09-D17-4' to 5'	8/3/2009		8/5/2009					2.8	
OVBN09-D18-0' to 1'	7/7/2009		7/8/2009				5.0	10	
OVBN09-D18-1' to 2'	7/7/2009		7/8/2009				5.3	20	
OVBN09-D18-1.63	6/22/2009	BSF0179	6/25/2009	<10.6	<26.5	ND			
OVBN09-D19-0' to 1'	7/7/2009		7/8/2009				4.5	5.1	
OVBN09-D19-1' to 2'	7/7/2009		7/8/2009				7.6	**370**	
OVBN09-D19-1.67	6/22/2009	BSF0179	6/25/2009	<10.7	<26.7	ND			

Table 5-2 Overburden Soil Sample Results

Sample Name	Date Sampled	SDG	Date Results	Diesel (mg/kg)	Oil (mg/kg)	Totaled Diesel & Oil (mg/kg)	Arsenic (mg/kg)	Lead (mg/kg)	Notes
OVBN09-D20-0' to 1'	7/7/2009		7/8/2009				4.4	4.5	
OVBN09-D20-1' to 2'	7/7/2009		7/8/2009				4.8	6.7	
OVBN09-D20-1.82	6/22/2009	BSF0179	6/25/2009	<10.7	<26.7	ND			
OVBN09-D21-0' - 1'	7/7/2009		7/8/2009				4.7	4.9	
OVBN09-D21-1' to 2'	7/7/2009		7/8/2009				4.1	4.4	
OVBN09-D21-1.85	6/22/2009	BSF0179	6/25/2009	<10.6	<26.6	ND			
OVBN09-D22-1.90	6/23/2009	BSF0183	6/25/2009	<10.8	<26.9	ND			
OVBN09-E9-2.22	7/8/2009		7/14/2009	<10	<25	ND			
OVBN09-E10-2.35	7/8/2009		7/14/2009	39	55	94			
OVBN09-E11-2.35	7/8/2009		7/14/2009	6,400	6,600	**13,000**			
OVBN09-E12-2.37	7/8/2009		7/14/2009	<10	<25	ND			
OVBN09-E13-2.48	7/13/2009		7/24/2009	<10	<25	ND			
OVBN09-E14-2.5	7/13/2009		7/24/2009	<10	<25	ND			
OVBN09-E14-5.08	7/13/2009		7/24/2009	120	470	590			
OVBN09-E15-2.5	8/3/2009		8/4/2009	270	390	660			
OVBN09-E15-5.31	8/3/2009		8/4/2009	420	590	1,010			
OVBN09-E16-2.5	8/3/2009		8/4/2009	16	<25	16			
OVBN09-E16-5.44	8/3/2009		8/4/2009	520	680	1,200			
OVBN09-E16-1' to 2'	8/3/2009		8/5/2009					2.6	
OVBN09-E16-4' to 5'	8/3/2009		8/5/2009					3.5	
OVBN09-E17-2.13	8/3/2009		8/4/2009	14	<25	14			
OVBN09-E17-1' to 2'	8/3/2009		8/5/2009					2.9	
OVBN09-E17-4' to 5'	8/3/2009		8/5/2009					3.2	

Table 5-2 Overburden Soil Sample Results

Sample Name	Date Sampled	SDG	Date Results	Diesel (mg/kg)	Oil (mg/kg)	Totaled Diesel & Oil (mg/kg)	Arsenic (mg/kg)	Lead (mg/kg)	Notes
OVBN09-E18-0' to 1'	7/7/2009		7/8/2009				10	**520**	
OVBN09-E18-1' to 2'	7/7/2009		7/8/2009				12	5.7	
OVBN09-E18-2.34	6/23/2009	BSF0183	6/25/2009	<11.1	<27.8	ND			
OVBN09-E19-0' to 1'	7/7/2009		7/8/2009				8.9	180	
OVBN09-E19-1' to 2'	7/7/2009		7/8/2009				4.6	3.3	
OVBN09-E19-1.68	6/22/2009	BSF0179	6/25/2009	<11.4	31.3	31.3			
OVBN09-E20-0' to 1'	7/7/2009		7/8/2009				13	**1,100**	
OVBN09-E20-1' to 2'	7/7/2009		7/8/2009				8.1	**620**	
OVBN09-E20-1.78	6/22/2009	BSF0179	6/25/2009	<10.3	<25.8	ND			
OVBN09-E21-0' to 1'	7/7/2009		7/8/2009				**32**	6.0	
OVBN09-E21-1' to 2'	7/7/2009		7/8/2009				5.3	6.5	
OVBN09-E21-1.92	6/22/2009	BSF0179	6/25/2009	<10.5	<26.2	ND			
OVBN09-E22-1.40	6/23/2009	BSF0183	6/25/2009	<10.7	<26.9	ND			
OVBN09-F9-1.83	7/6/2009		7/9/2009	18	66	84			
OVBN09-F10-2.12	7/8/2009		7/14/2009	65	110	175			
OVBN09-F11-2.02	7/8/2009		7/14/2009	<10	<25	ND			
OVBN09-F12-2.32	7/8/2009		7/14/2009	14	<25	14			
OVBN09-F13-2.31	7/13/2009		7/24/2009	<10	<25	ND			
OVBN09-F14-2.5	7/13/2009		7/24/2009	<10	<25	ND			
OVBN09-F14-5.02	7/13/2009		7/24/2009	58	260	318			
OVBN09-F15-2.5	7/31/2009		8/3/2009	<10	<25	ND			
OVBN09-F15-5.22	7/31/2009		8/3/2009	<10	<25	ND			
OVBN09-F16-1' to 2'	7/31/2009		8/5/2009					3.3	

Table 5-2 Overburden Soil Sample Results

Sample Name	Date Sampled	SDG	Date Results	Diesel (mg/kg)	Oil (mg/kg)	Totaled Diesel & Oil (mg/kg)	Arsenic (mg/kg)	Lead (mg/kg)	Notes
OVBN09-F16-4' to 5'	7/31/2009		8/5/2009					2.6	
OVBN09-F16-2.5	7/31/2009		8/3/2009	<10	<25	ND			
OVBN09-F16-5.34	7/31/2009		8/3/2009	<10	<25	ND			
OVBN09-F17-2.03	7/31/2009		8/3/2009	<10	<25	ND			
OVBN09-F17-1' to 2'	7/31/2009		8/5/2009					4.5	
OVBN09-F17-4' to 5'	7/31/2009		8/5/2009					2.9	
OVBN09-F18-0' to 1'	7/2/2009		7/6/2009				17	**2400**	
OVBN09-F18-1' to 2'	7/2/2009		7/6/2009				17	**250**	
OVBN09-F18-2.27	6/23/2009	BSF0183	6/25/2009	<11.0	<27.5	ND			
OVBN09-F19-0' to 1'	7/2/2009		7/6/2009				12	200	
OVBN09-F19-1.55	6/22/2009	BSF0179	6/25/2009	<11.4	<28.4	ND			
OVBN09-F19-1' to 2'	7/2/2009		7/6/2009				6.4	8.8	
OVBN09-F20-O' to 1'	7/2/2009		7/6/2009				7.0	13	
OVBN09-F20-1.74	6/22/2009	BSF0179	6/25/2009	<10.3	<25.7	ND			
OVBN09-F20-1' to 2'	7/2/2009		7/6/2009				6.0	5.5	
OVBN09-F21-0' to 1'	7/2/2009		7/6/2009				4.4	7.8	
OVBN09-F21-1.74	6/22/2009	BSF0179	6/25/2009	<10.4	<26.1	ND			
OVBN09-F21-1' to 2'	7/2/2009		7/6/2009				4.9	6.6	
OVBN09-F22-0' to 1'	7/2/2009		7/6/2009				4.6	23	
OVBN09-F22-1.57	6/23/2009	BSF0183	6/25/2009	<10.6	<26.6	ND			
OVBN09-F22-1' to 2'	7/2/2009		7/6/2009				4.3	6.5	
OVBN09-G7-0.98	7/13/2009		7/24/2009	33	130	163			
OVBN09-G8-1.24	7/6/2009		7/9/2009	1,100	3,100	**4,200**			

Table 5-2 Overburden Soil Sample Results

Sample Name	Date Sampled	SDG	Date Results	Diesel (mg/kg)	Oil (mg/kg)	Totaled Diesel & Oil (mg/kg)	Arsenic (mg/kg)	Lead (mg/kg)	Notes
OVBN09-G9-1.58	7/6/2009		7/9/2009	12	33	45			
OVBN09-G10-1.78	7/6/2009		7/9/2009	<10	100	100			
OVBN09-G11-2.07	7/6/2009		7/9/2009	<10	<25	ND			
OVBN09-G12-2.16	7/6/2009		7/9/2009	<10	42	42			
OVBN09-G13-1.93	7/13/2009		7/24/2009	<10	<25	ND			
OVBN09-G14-2.30	7/13/2009		7/24/2009	<10	<25	ND			
OVBN09-G15-2.98	6/26/2009	BSF0193	6/29/2009	<10.6	<26.6	ND			
OVBN09-G16-2.5	6/26/2009	BSF0193	6/29/2009	<10.4	<26.1	ND			
OVBN09-G16-5.30	6/26/2009	BSF0193	6/29/2009	94.7	200	294.7			
OVBN09-G16-0' to 1'	7/31/2009		8/5/2009					6.7	
OVBN09-G16-1' to 2'	7/31/2009		8/5/2009					3.2	
OVBN09-G17-2.5	6/26/2009	BSF0193	6/29/2009	<10.4	<26	ND			
OVBN09-G17-5.45	6/26/2009	BSF0193	6/29/2009	<10.3	<25.9	ND			
OVBN09-G17-0' to 1'	7/31/2009		8/5/2009					75	
OVBN09-G17-1' to 2'	7/31/2009		8/5/2009					19	
OVBN09-G18-0' to 1'	7/2/2009		7/6/2009				12	16	
OVBN09-G18-1' to 2'	7/2/2009		7/6/2009				12	19	
OVBN09-G18-2.16	6/23/2009	BSF0183	6/25/2009	<10.8	<27.1	ND			
OVBN09-G19-1.58	6/22/2009	BSF0179	6/25/2009	<10.3	<25.7	ND			Burned debris & trash
OVBN09-G19- 0' to 1'	7/2/2009		7/6/2009				19	**1,800**	
OVBN09-G19-1' to 2'	7/2/2009		7/6/2009				7.3	6.8	
OVBN09-G20-0' to 1'	7/2/2009		7/6/2009				**42**	**460**	
OVBN09-G20-1' to 2'	7/2/2009		7/6/2009				8.7	**560**	

Table 5-2 Overburden Soil Sample Results

Sample Name	Date Sampled	SDG	Date Results	Diesel (mg/kg)	Oil (mg/kg)	Totaled Diesel & Oil (mg/kg)	Arsenic (mg/kg)	Lead (mg/kg)	Notes
OVBN09-G20-1.67	6/22/2009	BSF0179	6/25/2009	<10.2	<25.5	ND			Burned debris & trash
OVBN09-G21-0' to 1'	7/2/2009		7/6/2009				4.9	18	
OVBN09-G21-1.77	6/22/2009	BSF0179	6/25/2009	<10.5	<26.2	ND			
OVBN09-G21-1' to 2'	7/2/2009		7/6/2009				6.0	16	
OVBN09-G22-0' to 1'	7/2/2009		7/6/2009				5.3	6.4	
OVBN09-G22-1.69	6/23/2009	BSF0183	6/25/2009	<10.6	<26.5	ND			
OVBN09-G22-1' to 2'	7/2/2009		7/6/2009				4.9	4.8	
OVBN09-H7-0.71	7/13/2009		7/24/2009	120	460	580			
OVBN09-H8-0.99	7/6/2009		7/9/2009	560	620	1,180			
OVBN09-H9-1.42	7/6/2009		7/9/2009	460	530	990			
OVBN09-H10-1.68	7/6/2009		7/9/2009	12	<25	12			
OVBN09-H11-1.93	7/6/2009		7/9/2009	<10	<25	ND			
OVBN09-H12-1.77	7/6/2009		7/9/2009	11	34	45			
OVBN09-H13-2.06	7/13/2009		7/24/2009	<10	<25	ND			
OVBN09-H14-2.01	7/13/2009		7/24/2009	<10	<25	ND			
OVBN09-H15-2.29	6/26/2009	BSF0193	6/29/2009	50.9	73.2	124.1			
OVBN09-H16-2.5	6/26/2009	BSF0193	6/29/2009	<10.4	<26.1	ND			
OVBN09-H16-5.24	6/26/2009	BSF0193	6/29/2009	706	2110	**2,816**			
OVBN09-H17-2.5	6/23/2009	BSF0183	6/25/2009	31.3	87.8	119.1			
OVBN09-H17-5.27	6/23/2009	BSF0183	6/25/2009	<10.8	<27.0	ND			
OVBN09-H18-0' to 1'	7/9/2009		7/10/2009				9.1	34	
OVBN09-H18-1' to 2'	7/9/2009		7/10/2009				14	5.9	
OVBN09-H18-2.18	6/23/2009	BSF0183	6/25/2009	527	2930	**3,457**			

Table 5-2 Overburden Soil Sample Results

Sample Name	Date Sampled	SDG	Date Results	Diesel (mg/kg)	Oil (mg/kg)	Totaled Diesel & Oil (mg/kg)	Arsenic (mg/kg)	Lead (mg/kg)	Notes
OVBN09-H19-0' to 1'	6/29/2009		7/1/2009				6.5	160	
OVBN09-H19-1' to 2'	6/29/2009		7/1/2009				12	**510**	
OVBN09-H19-2.5	6/22/2009	BSF0179	6/25/2009	<10.2	<25.4	ND			Concrete debris
OVBN09-H19-5.11	6/22/2009	BSF0179	6/25/2009	<10.4	<26.0	ND			
OVBN09-H20-0' to 1'	6/26/2009	BSF0193	7/1/2009				4.88	17.6	
OVBN09-H20-1' to 2'	6/26/2009	BSF0193	7/1/2009				7.82	213	
OVBN09-H20-2.5	6/22/2009	BSF0179	6/25/2009	<10.2	<25.5	ND			
OVBN09-H20-5.42	6/22/2009	BSF0179	6/25/2009	<10.3	<25.7	ND			
OVBN09-H21-0' to 1'	6/26/2009	BSF0193	6/29/2009				4.40	44.9	
OVBN09-H21-1' to 2'	6/26/2009	BSF0193	6/29/2009				4.32	7.08	
OVBN09-H21-2.23	6/26/2009	BSF0193	6/29/2009	<10.8	40.2	40.2			
OVBN09-H22-0' to 1'	6/26/2009	BSF0193	7/1/2009				4.30	6.13	
OVBN09-H22-1' to 2'	6/26/2009	BSF0193	7/1/2009				3.96	6.75	
OVBN09-I7-0.49	7/6/2009		7/9/2009	430	410	840			
OVBN09-I8-0.98	7/6/2009		7/9/2009	540	670	1,210			
OVBN09-I9-1.28	7/6/2009		7/9/2009	970	1,100	**2,070**			
OVBN09-I10-1.52	7/6/2009		7/9/2009	<10	47	47			
OVBN09-I11-1.80	7/6/2009		7/9/2009	18	<25	18			
OVBN09-I12-2.10	7/6/2009		7/9/2009	12	46	58			
OVBN09-I13-2.00	7/13/2009		7/24/2009	<10	<25	ND			
OVBN09-I14-1.77	7/13/2009		7/24/2009	10	64	74			
OVBN09-I15-2.08	6/23/2009	BSF0183	6/25/2009	<10.3	<25.8	ND			
OVBN09-I16-2.40	6/23/2009	BSF0183	6/25/2009	16.7	60.0	76.7			

Table 5-2 Overburden Soil Sample Results

Sample Name	Date Sampled	SDG	Date Results	Diesel (mg/kg)	Oil (mg/kg)	Totaled Diesel & Oil (mg/kg)	Arsenic (mg/kg)	Lead (mg/kg)	Notes
OVBN09-I17-2.5	6/23/2009	BSF0183	6/25/2009	43.8	147	190.8			
OVBN09-I17-5.20	6/23/2009	BSF0183	6/25/2009	<11.0	<27.5	ND			
OVBN09-I18-0' to 1'	6/29/2009		7/1/2009				11	84	
OVBN09-I18-1' to 2'	6/29/2009		7/1/2009				12	45	
OVBN09-I18-2.5	6/22/2009	BSF0179	6/25/2009	<10.8	<26.9	ND			
OVBN09-I18-5.62	6/22/2009	BSF0179	6/25/2009	<10.3	<25.8	ND			
OVBN09-I19-0' to 1'	6/29/2009		7/1/2009				15	11	
OVBN09-I19-1' to 2'	6/29/2009		7/1/2009				14	**510**	
OVBN09-I19-2.5	6/22/2009	BSF0179	6/25/2009	<12.7	<31.8	ND			
OVBN09-I19-6.01	6/22/2009	BSF0179	6/25/2009	<10.6	<26.6	ND			
OVBN09-I20-0' to 1'	6/26/2009	BSF0193	6/29/2009				15.6	**2,120**	
OVBN09-I20-1' to 2'	6/26/2009	BSF0193	6/29/2009				9.51	**770**	
OVBN09-I20-2.5	6/22/2009	BSF0179	6/25/2009	<12.0	<30.1	ND			Burned debris & trash
OVBN09-I20-6.26	6/22/2009	BSF0179	6/25/2009	<10.4	<26.0	ND			Burned debris & trash
OVBN09-I21-2.5	6/22/2009	BSF0179	6/25/2009	<10.6	<26.4	ND			
OVBN09-I21-5.12	6/22/2009	BSF0179	6/25/2009	<10.3	<25.7	ND			
OVBN09-I21-0' to 1'	6/22/2009	BSF0179	6/25/2009				8.64	**454**	
OVBN09-I21-1' to 2'	6/22/2009	BSF0179	6/25/2009				8.19	**285**	
OVBN09-I21-3.00	6/26/2009	BSF0193	6/29/2009				12.9	3.05	
OVBN09-I22-0' to 1'	6/26/2009	BSF0193	6/29/2009				8.43	**322**	
OVBN09-I22-1' to 2'	6/26/2009	BSF0193	6/29/2009				4.90	38.9	
OVBN09-I22-2.5	6/22/2009	BSF0179	6/25/2009	<10.3	<25.8	ND			
OVBN09-I22-6.37	6/22/2009	BSF0179	6/25/2009	<10.6	<26.4	ND			

Table 5-2 Overburden Soil Sample Results

Sample Name	Date Sampled	SDG	Date Results	Diesel (mg/kg)	Oil (mg/kg)	Totaled Diesel & Oil (mg/kg)	Arsenic (mg/kg)	Lead (mg/kg)	Notes
OVBN09-I23-2.5	6/25/2009	BSF0192	6/29/2009		<26.7				
OVBN09-I23-3.00	7/2/2009		7/6/2009				5.5	9.3	
OVBN09-I23-7.09	6/25/2009	BSF0192	6/29/2009		<26.5				
OVBN09-I24-0' to 1'	7/9/2009		7/10/2009				3.1	4.3	
OVBN09-I24-1' to 2'	7/9/2009		7/10/2009				3.8	11	
OVBN09-I24-2.5	6/25/2009	BSF0192	6/29/2009		91.9				
OVBN09-I24-7.43	6/25/2009	BSF0192	6/29/2009		122				
OVBN09-J7-0.62	7/6/2009		7/9/2009	26	55	81			
OVBN09-J8-0.94	7/6/2009		7/9/2009	56	67	123			
OVBN09-J9-1.18	7/6/2009		7/9/2009	61	64	125			
OVBN09-J10-1.49	7/6/2009		7/9/2009	<10	34	34			
OVBN09-J11-1.92	7/6/2009		7/9/2009	<10	37	37			
OVBN09-K12-1.93	7/15/2009		7/24/2009	61	180	241			
OVBN09-J13-2.02	7/15/2009		7/24/2009	<10	42	42			
OVBN09-J14-1.94	6/26/2009	BSF0193	6/29/2009	<10.6	60.5	60.5			
OVBN09-J15-1.80	6/23/2009	BSF0183	6/25/2009	<10.2	<25.5	ND			
OVBN09-J16-2.32	6/23/2009	BSF0183	6/25/2009	<10.2	<25.4	ND			
OVBN09-J17-2.44	6/23/2009	BSF0183	6/25/2009	<10.2	<25.4	ND			
OVBN09-J18-0' to 1'	6/29/2009		7/1/2009				6.7	150	
OVBN09-J18-1' to 2'	6/29/2009		7/1/2009				10	45	
OVBN09-J18-2.5	6/22/2009	BSF0179	6/25/2009	<10.2	<25.4	ND			
OVBN09-J18-5.35	6/22/2009	BSF0179	6/25/2009	<10.4	<25.9	ND			
OVBN09-J19-0' to 1'	6/29/2009		7/1/2009				12	**470**	

Table 5-2 Overburden Soil Sample Results

Sample Name	Date Sampled	SDG	Date Results	Diesel (mg/kg)	Oil (mg/kg)	Totaled Diesel & Oil (mg/kg)	Arsenic (mg/kg)	Lead (mg/kg)	Notes
OVBN09-J19-1' to 2'	6/29/2009		7/1/2009				9.9	110	
OVBN09-J19-2.5	6/22/2009	BSF0179	6/25/2009	<10.2	<25.4	ND			
OVBN09-J19-6.04	6/22/2009	BSF0179	6/25/2009	<11.1	<27.8	ND			
OVBN09-J20-0' to 1'	6/26/2009	BSF0193	7/1/2009				12.3	174	
OVBN09-J20-1' to 2'	6/26/2009	BSF0193	7/1/2009				6.07	117	
OVBN09-J20-2.5	6/22/2009	BSF0179	6/25/2009	<10.3	<25.7	ND			
OVBN09-J20-6.28	6/22/2009	BSF0179	6/25/2009	<11.0	<27.5	ND			
OVBN09-J21-0' to 1'	6/26/2009	BSF0193	6/29/2009				7.33	**436**	
OVBN09-J21-1' to 2'	6/26/2009	BSF0193	6/29/2009				8.22	**383**	
OVBN09-J21-2.5	6/25/2009	BSF0192	6/29/2009	<10.2	<25.5	ND			
OVBN09-J21-6.38	6/25/2009	BSF0192	6/29/2009	<10.3	<25.7	ND			
OVBN09-J22-0' to 1'	6/26/2009	BSF0193	7/1/2009				**110**	**676**	
OVBN09-J22-1' to 2'	6/26/2009	BSF0193	7/1/2009				**21.6**	**404**	
OVBN09-J22-2.5	6/25/2009	BSF0192	6/29/2009	<10.4	<26.1	ND			
OVBN09-J22-7.34	6/25/2009	BSF0192	6/29/2009	<10.6	<26.4	ND			
OVBN09-J23-2.5	6/25/2009	BSF0192	6/29/2009	<10.6	<26.6	ND			Privy discovered
OVBN09-J24-0' to 1'	7/9/2009		7/10/2009				4.4	3.0	
OVBN09-J24-1' to 2'	7/9/2009		7/10/2009				6.1	31	
OVBN09-J24-2.5	6/25/2009	BSF0192	6/29/2009	<10.2					
OVBN09-J24-7.16	6/25/2009	BSF0192	6/29/2009	<10.5					
OVBN09-J25-0' to 1'	7/9/2009		7/10/2009				5.9	130	
OVBN09-J25-1' to 2'	7/9/2009		7/10/2009				4.5	51	
OVBN09-J25-2.5	6/25/2009	BSF0192	6/29/2009		<26.4				

Table 5-2 Overburden Soil Sample Results

Sample Name	Date Sampled	SDG	Date Results	Diesel (mg/kg)	Oil (mg/kg)	Totaled Diesel & Oil (mg/kg)	Arsenic (mg/kg)	Lead (mg/kg)	Notes
OVBN09-J25-7.16	6/25/2009	BSF0192	6/29/2009		77.9				
OVBN09-K6-0.46	8/14/2009		8/19/2009	16	36	52			
OVBN09-K7-0.46	8/13/2009		8/17/2009	11	27	38			
OVBN09-K8-0.86	8/13/2009		8/17/2009	17	33	50			
OVBN09-K9-1.25	8/13/2009		8/17/2009	190	290	480			
OVBN09-K10-1.51	8/13/2009		8/17/2009	<10	<25	ND			
OVBN09-K11-1.60	7/15/2009		7/24/2009	<10	<25	ND			
OVBN09-K12-2.05	7/15/2009		7/24/2009	<10	<25	ND			
OVBN09-K13-2.45	7/15/2009		7/24/2009	<10	53	53			
OVBN09-K14-1.92	6/26/2009	BSF0193	6/29/2009	<10.0	<25.0	ND			
OVBN09-K15-1.64	6/24/2009	BSF0186	6/26/2009	<10.2	<25.5	ND			
OVBN09-K16-0' to 1'	7/6/2009		7/9/2009				3.8	5.2	
OVBN09-K16-1' to 2'	7/6/2009		7/9/2009				4.5	3.8	
OVBN09-K16-1.92	6/24/2009	BSF0186	6/26/2009	<10.1	<25.4	ND			
OVBN09-K17-0' to 1'	7/6/2009		7/9/2009				9.4	72	
OVBN09-K17-1' to 2'	7/6/2009		7/9/2009				3.2	70	
OVBN09-K17-2.27	6/23/2009	BSF0183	6/25/2009	<10.0	<25.0	ND			
OVBN09-K18-0' to 1'	6/29/2009		7/1/2009				7.3	10	
OVBN09-K18-1' to 2'	6/29/2009		7/1/2009				5.3	28	
OVBN09-K18-2.5	6/23/2009	BSF0183	6/25/2009	<10.5	<26.2	ND			
OVBN09-K18-5.24	6/23/2009	BSF0183	6/25/2009	<10.4	<25.9	ND			
OVBN09-K19-0' to 1'	6/29/2009		7/1/2009				12	91	
OVBN09-K19-1' to 2'	6/29/2009		7/1/2009				10	19	

Table 5-2 Overburden Soil Sample Results

Sample Name	Date Sampled	SDG	Date Results	Diesel (mg/kg)	Oil (mg/kg)	Totaled Diesel & Oil (mg/kg)	Arsenic (mg/kg)	Lead (mg/kg)	Notes
OVBN09-K19-2.5	6/22/2009	BSF0179	6/25/2009	<10.3	<25.7	ND			
OVBN09-K19-5.70	6/22/2009	BSF0179	6/25/2009	<10.1	<25.3	ND			
OVBN09-K20-0' to 1'	6/29/2009		7/1/2009				8.8	55	
OVBN09-K20-1' to 2'	6/29/2009		7/1/2009				7.7	48	
OVBN09-K20-2.5	6/22/2009	BSF0179	6/25/2009	<10.1	<25.2	ND			
OVBN09-K20-6.33	6/22/2009	BSF0179	6/25/2009	<10.2	<25.6	ND			
OVBN09-K21-0' to 1'	6/29/2009		7/1/2009				7.8	150	
OVBN09-K21-1' to 2'	6/29/2009		7/1/2009				5.5	72	
OVBN09-K21-2.5	6/25/2009	BSF0192	6/29/2009	<10.2	<25.5	ND			
OVBN09-K21-6.64	6/25/2009	BSF0192	6/29/2009	<10.7	<26.7	ND			
OVBN09-K22-0' to 1'	6/29/2009		7/1/2009				8.4	45	
OVBN09-K22-1' to 2'	6/29/2009		7/1/2009				5.6	21	
OVBN09-K22-2.5	6/25/2009	BSF0192	6/29/2009	<10.2	<25.6	ND			
OVBN09-K22-7.00	6/25/2009	BSF0192	6/29/2009	<10.4	<26.0	ND			
OVBN09-K23-0' to1'	6/29/2009		7/1/2009				9.6	66	
OVBN09-K23-1' to2'	6/29/2009		7/1/2009				5.8	13	
OVBN09-K23-2.5	6/25/2009	BSF0192	6/29/2009	<10.4	<25.9	ND			
OVBN09-K23-6.99	6/25/2009	BSF0192	6/29/2009	<10.4	<26.0	ND			
OVBN09-K24-0' to 1'	7/9/2009		7/10/2009				4.5	4.5	
OVBN09-K24-1' to 2'	7/9/2009		7/10/2009				3.8	2.2	
OVBN09-K24-2.5	6/25/2009	BSF0192	6/29/2009	<10.4	43.5	43.5			
OVBN09-K24-6.97	6/25/2009	BSF0192	6/29/2009	<10.2	<25.6	ND			
OVBN09-K25-0' to 1'	7/9/2009		7/10/2009				3.4	4.0	

Table 5-2 Overburden Soil Sample Results

Sample Name	Date Sampled	SDG	Date Results	Diesel (mg/kg)	Oil (mg/kg)	Totaled Diesel & Oil (mg/kg)	Arsenic (mg/kg)	Lead (mg/kg)	Notes
OVBN09-K25-1' to 2'	7/9/2009		7/10/2009				3.3	4.0	
OVBN09-K25-2.5	6/25/2009	BSF0192	6/29/2009	<10.2					
OVBN09-K25-6.97	6/25/2009	BSF0192	6/29/2009		<26.5				
OVBN09-L6-0.61	8/14/2009		8/19/2009	37	160	197			
OVBN09-L7-0.61	8/13/2009		8/17/2009	36	110	146			
OVBN09-L8-0.93	8/13/2009		8/17/2009	11	37	48			
OVBN09-L9-1.30	8/13/2009		8/17/2009	24	41	65			
OVBN09-L10-1.66	8/13/2009		8/17/2009	<10	33	33			
OVBN09-L11-1.66	7/15/2009		7/24/2009	16	71	87			
OVBN09-L12-2.28	7/15/2009		7/24/2009	<10	<25	ND			
OVBN09-L13-2.5	7/15/2009		7/24/2009	<10	48	48			
OVBN09-L13-5.30	7/15/2009		7/24/2009	<10	57	57			
OVBN09-L14-1.84	6/26/2009	BSF0193	6/29/2009	<10.4	40.9	40.9			
OVBN09-L15-1.46	6/24/2009	BSF0186	6/26/2009	<10.2	<25.5	ND			
OVBN09-L16-0' to 1'	7/6/2009		7/9/2009				5.1	24	
OVBN09-L16-1' to 2'	7/6/2009		7/9/2009				5.0	6.5	
OVBN09-L16-1.53	6/24/2009	BSF0186	6/26/2009	<10.3	<25.7	ND			
OVBN09-L17-0' to 1'	7/6/2009		7/9/2009				6.0	20	
OVBN09-L17-1' to 2'	7/6/2009		7/9/2009				2.5	3.2	
OVBN09-L17-2.12	6/24/2009	BSF0186	6/26/2009	<109	716	716			Discoloration & animal bones
OVBN09-L18-0' to 1'	6/29/2009		7/1/2009				5.2	200	
OVBN09-L18-1' to 2'	6/29/2009		7/1/2009				5.5	**550**	
OVBN09-L18-2.5	6/23/2009	BSF0183	6/25/2009	<10.3	<25.7	ND			

Table 5-2 Overburden Soil Sample Results

Sample Name	Date Sampled	SDG	Date Results	Diesel (mg/kg)	Oil (mg/kg)	Totaled Diesel & Oil (mg/kg)	Arsenic (mg/kg)	Lead (mg/kg)	Notes
OVBN09-L18-5.12	6/23/2009	BSF0183	6/25/2009	<10.7	<26.6	ND			
OVBN09-L19-0' to 1'	6/29/2009		7/1/2009				13	62	
OVBN09-L19-1' to 2'	6/29/2009		7/1/2009				6.7	36	
OVBN09-L19-2.5	6/22/2009	BSF0179	6/25/2009	<13.9	48.6	48.6			
OVBN09-L19-5.82	6/22/2009	BSF0179	6/25/2009	<10.6	<26.6	ND			
OVBN09-L20-0' to 1'	6/29/2009		7/1/2009				8.6	86	
OVBN09-L20-1' to 2'	6/29/2009		7/1/2009				8.6	67	
OVBN09-L20-2.5	6/23/2009	BSF0183	6/25/2009	<10.4	<25.9	ND			
OVBN09-L20-6.20	6/23/2009	BSF0183	6/25/2009	<10.5	<26.2	ND			
OVBN09-L21-0' to 1'	6/29/2009		7/1/2009				5.3	8.6	
OVBN09-L21-0' TO 1'	6/29/2009		7/1/2009				8.7	5.7	
OVBN09-L21-2.5	6/23/2009	BSF0183	6/25/2009	<10.2	<25.4	ND			
OVBN09-L21-6.53	6/23/2009	BSF0183	6/25/2009	<10.6	<26.5	ND			
OVBN09-L22-0' to 1'	6/29/2009		7/1/2009				8.1	4.9	
OVBN09-L22-1' to 2'	6/29/2009		7/1/2009				5.4	9.8	
OVBN09-L22-2.14	6/25/2009	BSF0192	6/29/2009	<10.2	<25.6	ND			
OVBN09-L23-0' to 1'	6/29/2009		7/1/2009				6.7	49	
OVBN09-L23-1' to 2'	6/29/2009		7/1/2009				4.6	25	
OVBN09-L23-2.20	6/25/2009	BSF0192	6/29/2009	<10.8	<27.0	ND			
OVBN09-L23-7.34	6/25/2009	BSF0192	6/29/2009	<10.8	<27.0	ND			
OVBN09-L24-0' to 1'	7/9/2009		7/10/2009				6.5	2.7	
OVBN09-L24-1' to 2'	7/9/2009		7/10/2009				5.8	2.9	
OVBN09-L24-2.5	6/25/2009	BSF0192	6/29/2009	<10.2					

Table 5-2 Overburden Soil Sample Results

Sample Name	Date Sampled	SDG	Date Results	Diesel (mg/kg)	Oil (mg/kg)	Totaled Diesel & Oil (mg/kg)	Arsenic (mg/kg)	Lead (mg/kg)	Notes
OVBN09-L24-6.97	6/25/2009	BSF0192	6/29/2009	<10.6					
OVBN09-M6-0.29	8/14/2009		8/19/2009	24	95	119			
OVBN09-M7-0.29	8/13/2009		8/17/2009	35	150	185			
OVBN09-M8-0.48	8/13/2009		8/17/2009	13	27	40			
OVBN09-M9-0.75	8/13/2009		8/17/2009	20	52	72			
OVBN09-M10-1.17	8/13/2009		8/17/2009	<10	<25	ND			
OVBN09-M11-1.52	7/15/2009		7/24/2009	<10	<25	ND			
OVBN09-M12-2.5	7/15/2009		7/24/2009	<10	<25	ND			
OVBN09-M12-5.45	7/15/2009		7/24/2009	11	79	90			
OVBN09-M13-2.5	7/15/2009		7/24/2009	<10	48	48			
OVBN09-M13-5.57	7/15/2009		7/24/2009	<10	51	51			
OVBN09-M14-1.51	6/26/2009	BSF0193	6/29/2009	<12.6	<31.4	ND			
OVBN09-M15-0.86	6/24/2009	BSF0186	6/26/2009	<10.7	<26.8	ND			
OVBN09-M16-0' to 1'	7/6/2009		7/9/2009				5.1	42	
OVBN09-M16-1' to 2'	7/6/2009		7/9/2009				4.7	31	
OVBN09-M16-1.32	6/23/2009	BSF0183	6/25/2009	<10.0	<25.1	ND			
OVBN09-M17-0' to 1'	7/6/2009		7/9/2009				4.4	23	
OVBN09-M17-1' to 2'	7/6/2009		7/9/2009				3.3	3.7	
OVBN09-M17-1.90	6/23/2009	BSF0183	6/25/2009	<10.2	<25.4	ND			
OVBN09-M18-0' to 1'	6/23/2009	BSF0183	6/25/2009				7.39	130	
OVBN09-M18-1' to 2'	6/23/2009	BSF0183	6/25/2009				4.48	10.5	
OVBN09-M18-2.5	6/23/2009	BSF0183	6/25/2009	<10.1	<25.2	ND			
OVBN09-M18-5.05	6/23/2009	BSF0183	6/25/2009	<10.5	<26.3	ND			

Table 5-2 Overburden Soil Sample Results

Sample Name	Date Sampled	SDG	Date Results	Diesel (mg/kg)	Oil (mg/kg)	Totaled Diesel & Oil (mg/kg)	Arsenic (mg/kg)	Lead (mg/kg)	Notes
OVBN09-M19-2.5	6/23/2009	BSF0183	6/25/2009	<10.9	<27.2	ND			
OVBN09-M19-5.72	6/23/2009	BSF0183	6/25/2009	<10.2	<25.6	ND			
OVBN09-M20-2.5	6/25/2009	BSF0192	6/29/2009	<10.2	<25.5	ND			
OVBN09-M20-5.11	6/25/2009	BSF0192	6/29/2009	<10.2	<25.6	ND			
OVBN09-M21-2.5	6/25/2009	BSF0192	6/29/2009	<10.9	<27.3	ND			
OVBN09-M21-6.32	6/25/2009	BSF0192	6/29/2009	<10.9	<27.2	ND			
OVBN09-N10-1.82	8/13/2009		8/17/2009	<10	<25	ND			
OVBN09-N11-1.82	7/15/2009		7/24/2009	<10	<25	ND			
OVBN09-N12-2.5	7/15/2009		7/24/2009	36	250	286			
OVBN09-N12-6.04	7/15/2009		7/24/2009	53	400	453			
OVBN09-N13-2.5	7/15/2009		7/24/2009	64	370	434			
OVBN09-N13-5.48	7/15/2009		7/24/2009	24	150	174			
OVBN09-N14-1.16	6/26/2009	BSF0193	6/29/2009	<10.7	<26.7	ND			
OVBN09-N15-0.71	6/24/2009	BSF0186	6/26/2009	<12.5	<31.2	ND			
OVBN09-N17-1.71	6/23/2009	BSF0183	6/25/2009	<10.2	<25.5	ND			
OVBN09-N18-2.26	6/23/2009	BSF0183	6/25/2009	<10.2	<25.5	ND			
OVBN09-N19-2.04	6/23/2009	BSF0183	6/25/2009	15.0	35.9	50.9			
OVBN09-N20-2.5	6/23/2009	BSF0183	6/25/2009	<10.4	49.2	49.2			
OVBN09-N20-5.70	6/23/2009	BSF0183	6/25/2009	<10.5	<26.2	ND			
OVBN09-O11-1.85	7/15/2009		7/24/2009	<10	55	55			
OVBN09-O12-1.85	7/15/2009		7/24/2009	<10	<25	ND			
OVBN09-O13-1.38	7/15/2009		7/24/2009	<10	<25	ND			
OVBN09-O14-0.70	6/26/2009	BSF0193	6/29/2009	40.4	232	272.4			

Table 5-2 Overburden Soil Sample Results

Sample Name	Date Sampled	SDG	Date Results	Diesel (mg/kg)	Oil (mg/kg)	Totaled Diesel & Oil (mg/kg)	Arsenic (mg/kg)	Lead (mg/kg)	Notes
OVBN09-O15-0.86	6/24/2009	BSF0186	6/26/2009	<12.4	<31.0	ND			
OVBN09-O16-1.22	6/24/2009	BSF0186	6/26/2009	<11.9	<29.8	ND			
OVBN09-O17-1.35	6/23/2009	BSF0183	6/25/2009	<10.3	<25.8	ND			
OVBN09-O18-1.19	6/23/2009	BSF0183	6/25/2009	<10.2	<25.6	ND			
OVBN09-O19-1.80	6/23/2009	BSF0183	6/25/2009	<10.3	<25.9	ND			
OVBN09-P14-0.46	6/26/2009	BSF0193	6/29/2009	<12.1	43.7	43.7			
OVBN09-P15-0.94	6/24/2009	BSF0186	6/26/2009	16.3	92.9	109.2			
OVBN09-P16-0.94	6/24/2009	BSF0186	6/26/2009	<10.5	<26.2	ND			
OVBN09-P17-0.85	6/24/2009	BSF0186	6/26/2009	<11.1	<27.8	ND			Discoloration & animal bones
OVBN09-P18-1.37	6/24/2009	BSF0186	6/26/2009	<10.2	45.0	45.0			
OVBN09-Q13-0.27	6/26/2009	BSF0193	6/29/2009	13.2	81.7	94.9			
OVBN09-Q14-0.70	6/26/2009	BSF0193	6/29/2009	<10.8	55.2	55.2			
OVBN09-Q15-0.82	6/26/2009	BSF0193	6/29/2009	36.6	217	253.6			
OVBN09-Q16-0.91	6/26/2009	BSF0193	6/29/2009	13.6	103	116.6			
OVBN09-Q17-0.49	6/26/2009	BSF0193	6/29/2009	<10.2	<25.5	ND			
OVBN09-R13-0.31	6/26/2009	BSF0193	6/29/2009	<53.3	216	216			
OVBN09-R14-0.84	6/26/2009	BSF0193	6/29/2009	<11.4	110	110			
OVBN09-R15-1.54	6/26/2009	BSF0193	6/29/2009	<11.2	<28.0	ND			
OVBN09-R16-1.09	6/26/2009	BSF0193	6/29/2009	<13.2	<33	ND			
OVBN09-R17-0.33	6/26/2009	BSF0193	6/29/2009	<10.3	<25.8	ND			
OVBN09-S13-0.44	6/26/2009	BSF0193	6/29/2009	<10.8	77.8	77.8			
OVBN09-S14-1.37	6/26/2009	BSF0193	6/29/2009	<10.4	<25.9	ND			
OVBN09-S15-1.87	6/26/2009	BSF0193	6/29/2009	<12.0	<29.9	ND			

Table 5-2 Overburden Soil Sample Results

Sample Name	Date Sampled	SDG	Date Results	Diesel (mg/kg)	Oil (mg/kg)	Totaled Diesel & Oil (mg/kg)	Arsenic (mg/kg)	Lead (mg/kg)	Notes
OVBN09-S16-0.95	6/26/2009	BSF0193	6/29/2009	<13.8	<34.6	ND			
OVBN09-T13-0.27	6/26/2009	BSF0193	6/29/2009	22.1	96.3	118.4			
OVBN09-T14-0.71	6/26/2009	BSF0193	6/29/2009	<10.4	33.2	33.2			
OVBN09-T15-0.90	6/26/2009	BSF0193	6/29/2009	16.6	59.8	76.4			
OVBN09-T16-0.46	6/26/2009	BSF0193	6/29/2009	<10.4	<26.0	ND			
OVBN09-G16-5.30-DUP	6/26/2009	BSF0193	6/29/2009	151	211	362			
OVBN09-I21-3.00-DUP	6/26/2009	BSF0193	6/29/2009				4.63	2.66	
OVBN09-S14-1.37-DUP	6/26/2009	BSF0193	6/29/2009	<10.4	<26.0	ND			
OVBN09-Z (I23-3.00 DUP)	7/2/2009		7/6/2009				4.8	8.4	
OVBN09-Z2 (K17-1' to 2' DUP)	7/6/2009		7/9/2009				7.3	67	
OVBN09-Z-070909 (J24-O' to 1' DUP)	7/9/2009		7/10/2009				7.0	6.3	
OVBN09-Z-071309 (C11-5.10 DUP)	7/13/2009		7/24/2009	550	1,900	**2,450**			
OVBN09-Z1-071309 (F14-5.02 DUP)	7/13/2009		7/24/2009	85	400	485			
OVBN09-Z-071509 (K13-2.45 DUP)	7/15/2009		7/24/2009	<10	<25	ND			
OVBN09-Z1-071509 (M12-5.45 DUP)	7/15/2009		7/24/2009	14	92	106			
OVBN09-Z-073109 (F17-2.03 DUP)	7/31/2009		8/3/2009	<10	<25	ND			
OVBN09-Z-080309 (E17-2.13 DUP)	8/3/2009		8/4/2009	12	<25	12			
OVBN09-Z-081309 (L9-1.30 DUP)	8/13/2009		8/17/2009	<10	29	29			
OVBN09-Z1-081309 (L8-0.93 DUP)	8/13/2009		8/17/2009	<10	35	35			
OVBN09-Z-081409 (K6-0.46 DUP)	8/14/2009		8/19/2009	<10	40	40			

Shading indicates sample results exceeding CULs.

Table 5-3 Below VDL Confirmation Soil Sample Results

Sample Name	Date Sampled	Date Results	Diesel (mg/kg)	Oil (mg/kg)	Totaled Diesel & Oil (mg/kg)	Arsenic (mg/kg)	Lead (mg/kg)	Notes
EXV09-B9-B	8/3/2009	8/4/2009	<10	<25	ND			
EXV09-B9-SW	8/5/2009	8/7/2009	<10	31	31			
EXV09-B10-B	8/3/2009	8/4/2009	27	<25	27			
EXV09-B10-SW	8/6/2009	8/7/2009	<10	<25	ND			
EXV09-B11-B	8/4/2009	8/5/2009	<10	<25	ND			
EXV09-B11-SW	8/6/2009	8/7/2009	13	47	60			
EXV09-B12-SW	8/10/2009	8/11/2009	<10	31	31			
EXV09-B13-SW	8/12/2009	8/14/2009	34	55	89			
EXV09-C9-B	8/3/2009	8/4/2009	<10	<25	ND			
EXV09-C10-B	8/3/2009	8/4/2009	47	35	82			
EXV09-C11-B	8/4/2009	8/5/2009	<10	<25	ND			
EXV09-C12-B	8/4/2009	8/5/2009	<10	<25	ND			
EXV09-C13-B	8/7/2009	8/11/2009	<10	<25	ND			
EXV09-C14-B	8/11/2009	8/12/2009	<10	<25	ND			
EXV09-C14-SW	8/12/2009	8/14/2009	<10	31	31			
EXV09-C15-B	8/12/2009	8/14/2009	14	<25	14			
EXV09-C15-SW	8/13/2009	8/17/2009	<10	40	40			
EXV09-C16-B	8/12/2009	8/14/2009	<10	36	36			
EXV09-C16-SW	8/13/2009	8/17/2009	11	42	53			
EXV09-C17-B	8/18/2009	8/21/2009	<10	51	51			
EXV09-C17-SW	8/18/2009	8/21/2009	19	42	61			
EXV09-C18-B	8/12/2009	8/14/2009	<10	37	37			
EXV09-C18-SW	8/18/2009	8/21/2009	17	49	66			
EXV09-D9-B	8/3/2009	8/4/2009	<10	<25	ND			

Table 5-3 Below VDL Confirmation Soil Sample Results

Sample Name	Date Sampled	Date Results	Diesel (mg/kg)	Oil (mg/kg)	Totaled Diesel & Oil (mg/kg)	Arsenic (mg/kg)	Lead (mg/kg)	Notes
EXV09-D10-B	8/3/2009	8/4/2009	17	<25	17			
EXV09-D11-B	8/4/2009	8/5/2009	<10	<25	ND			
EXV09-D12-B	8/4/2009	8/5/2009	<10	<25	ND			
EXV09-D13-B	8/6/2009	8/7/2009	<10	<25	ND			
EXV09-D14-B	8/11/2009	8/12/2009	<10	<25	ND			
EXV09-D15-B	8/11/2009	8/12/2009	<10	<25	ND			
EXV09-D16-B	8/12/2009	8/14/2009	<10	38	38			
EXV09-D17-B	8/18/2009	8/21/2009	<10	45	45			
EXV09-D18-B	8/18/2009	8/21/2009	14	52	66			
EXV09-D19-B	7/24/2009	7/24/2009	<10	<25	ND		5.8	
EXV09-D19-SW	7/24/2009	7/24/2009	18	56	74			
EXV09-D20-B	7/24/2009	7/24/2009	<10	<25	ND			
EXV09-D20-SW	7/24/2009	7/24/2009	<10	<25	ND			
EXV09-D21-B	7/23/2009	7/24/2009	<10	<25	ND			
EXV09-D21-SW	7/24/2009	7/24/2009	36	40	76			
EXV09-E9-B	8/3/2009	8/4/2009	<10	<25	ND			
EXV09-E10-B	8/3/2009	8/4/2009	22	<25	22			
EXV09-E11-B	8/4/2009	8/5/2009	<10	<25	ND			
EXV09-E12-B	8/4/2009	8/5/2009	<10	<25	ND			
EXV09-E13-B	8/6/2009	8/7/2009	17	<25	17			
EXV09-E14-B	8/11/2009	8/12/2009	<10	<25	ND			
EXV09-E15-B	8/11/2009	8/12/2009	<10	<25	ND			
EXV09-E16-B	8/18/2009	8/21/2009	<10	47	47			
EXV09-E17-B	8/19/2009	8/21/2009	<10	<25	ND			

Table 5-3 Below VDL Confirmation Soil Sample Results

Sample Name	Date Sampled	Date Results	Diesel (mg/kg)	Oil (mg/kg)	Totaled Diesel & Oil (mg/kg)	Arsenic (mg/kg)	Lead (mg/kg)	Notes
EXV09-E18-B	8/19/2009	8/21/2009	<10	<25	ND			
EXV09-E19-B	7/23/2009	7/24/2009	<10	<25	ND			
EXV09-E20-B	7/23/2009	7/24/2009	<10	<25	ND	-	2.6	
EXV09-E21-B	7/23/2009	7/24/2009	<10	<25	ND			
EXV09-F9-B	8/3/2009	8/4/2009	<10	<25	ND			
EXV09-F10-B	8/3/2009	8/4/2009	<10	<25	ND			
EXV09-F11-B	8/4/2009	8/5/2009	<10	<25	ND			
EXV09-F12-B	8/4/2009	8/5/2009	<10	<25	ND			
EXV09-F13-B	8/6/2009	8/7/2009	<10	<25	ND			
EXV09-F14-B	8/7/2009	8/11/2009	<10	<25	ND			
EXV09-F15-B	8/11/2009	8/12/2009	<10	<25	ND			
EXV09-F16-B	8/18/2009	8/21/2009	<10	43	43			
EXV09-F17-B	8/19/2009	8/21/2009	<10	<25	ND			
EXV09-F18-B	8/19/2009	8/21/2009	<10	<25	ND	-	3.2	
EXV09-F19-B	7/22/2009	7/24/2009	<10	<25	ND			
EXV09-F20-B	7/22/2009	7/24/2009	<10	<25	ND			
EXV09-F21-B	7/23/2009	7/24/2009	<10	<25	ND			
EXV09-G8-B	9/2/2009	9/4/2009	<10	<25	ND			
EXV09-G9-B	8/3/2009	8/4/2009	<10	<25	ND			
EXV09-G10-B	8/3/2009	8/4/2009	14	<25	14			
EXV09-G11-B	8/4/2009	8/5/2009	<10	<25	ND			
EXV09-G12-B	8/4/2009	8/5/2009	14	<25	14			
EXV09-G13-B	8/6/2009	8/7/2009	<10	<25	ND			
EXV09-G14-B	8/7/2009	8/11/2009	<10	<25	ND			

Table 5-3 Below VDL Confirmation Soil Sample Results

Sample Name	Date Sampled	Date Results	Diesel (mg/kg)	Oil (mg/kg)	Totaled Diesel & Oil (mg/kg)	Arsenic (mg/kg)	Lead (mg/kg)	Notes
EXV09-G15-B	8/11/2009	8/12/2009	<10	<25	ND			
EXV09-G16-B	8/18/2009	8/21/2009	<10	34	34			
EXV09-G17-B	8/19/2009	8/21/2009	<10	<25	ND			
EXV09-G18-B	8/19/2009	8/21/2009	<10	<25	ND			
EXV09-G19-B	7/22/2009	7/24/2009	<10	<25	ND			
EXV09-G20-B	7/22/2009	7/24/2009	<10	<25	ND	-	5.7	
EXV09-G21-B	7/23/2009	7/24/2009	<10	<25	ND			
EXV09-H8-B	9/2/2009	9/4/2009	<10	<25	ND			
EXV09-H9-B	9/2/2009	9/4/2009	<10	<25	ND			
EXV09-H10-B	9/4/2009	9/9/2009	<10	<25	ND			
EXV09-H11-B	8/4/2009	8/5/2009	<10	<25	ND			
EXV09-H12-B	8/4/2009	8/5/2009	<10	<25	ND			
EXV09-H13-B	8/6/2009	8/7/2009	<10	<25	ND			
EXV09-H14-B	8/7/2009	8/11/2009	<10	<25	ND			
EXV09-H15-B	8/11/2009	8/12/2009	<10	<25	ND			
EXV09-H16-B	8/18/2009	8/21/2009	<10	<25	ND			
EXV09-H17-B	8/19/2009	8/21/2009	<10	<25	ND			
EXV09-H18-B	8/19/2009	8/21/2009	<10	<25	ND			
EXV09-H19-B	7/21/2009	7/24/2009	<10	<25	ND	-	3.1	
EXV09-H20-B	7/22/2009	7/24/2009	<10	<25	ND			
EXV09-H21-B	7/23/2009	7/24/2009	<10	<25	ND			
EXV09-I8-B	9/2/2009	9/4/2009	<10	<25	ND			
EXV09-I9-B	9/3/2009	9/4/2009	<10	<25	ND			
EXV09-I10-B	9/8/2009	9/9/2009	<10	<25	ND			

Table 5-3 Below VDL Confirmation Soil Sample Results

Sample Name	Date Sampled	Date Results	Diesel (mg/kg)	Oil (mg/kg)	Totaled Diesel & Oil (mg/kg)	Arsenic (mg/kg)	Lead (mg/kg)	Notes
EXV09-I11-B	9/9/2009	9/10/2009	<10	<25	ND			
EXV09-I12-B	9/10/2009	9/15/2009	<10	36	36			
EXV09-I13-B	9/15/2009	9/18/2009	<10	<25	ND			
EXV09-I14-B	9/16/2009	9/18/2009	<10	<25	ND			
EXV09-I15-B	9/17/2009	9/18/2009	<10	35	35			
EXV09-I16-B	8/19/2009	8/21/2009	<10	<25	ND			
EXV09-I17-B	8/19/2009	8/21/2009	<10	<25	ND			
EXV09-I18-B	7/30/2009	7/31/2009	<10	<25	ND			
EXV09-I19-B	7/21/2009	7/24/2009	<10	<25	ND	-	4.9	
EXV09-I20-B	7/22/2009	7/24/2009	17	<25	17	-	4.9	
EXV09-I21-B	7/21/2009	7/24/2009	<10	<25	ND			
EXV09-I22-B	7/21/2009	7/24/2009	<10	<25	ND			
EXV09-I23-B	7/21/2009	7/24/2009	<10	<25	ND			
EXV09-I24-B	7/21/2009	7/24/2009	<10	<25	ND			
EXV09-J7-B	9/3/2009	9/4/2009	<10	<25	ND			
EXV09-J8-B	9/2/2009	9/4/2009	<10	<25	ND			
EXV09-J9-B	9/4/2009	9/9/2009	<10	<25	ND			
EXV09-J10-B	9/4/2009	9/9/2009	<10	<25	ND			
EXV09-J11-B	9/8/2009	9/10/2009	16	34	50			
EXV09-J12-B	9/10/2009	9/15/2009	<10	<25	ND			
EXV09-J13-B	9/15/2009	9/18/2009	<10	<25	ND			
EXV09-J14-B	9/16/2009	9/18/2009	<10	<25	ND			
EXV09-J15-B	9/17/2009	9/18/2009	<10	<25	ND			
EXV09-J16-B	9/18/2009	9/23/2009	<10	<25	ND			

Table 5-3 Below VDL Confirmation Soil Sample Results

Sample Name	Date Sampled	Date Results	Diesel (mg/kg)	Oil (mg/kg)	Totaled Diesel & Oil (mg/kg)	Arsenic (mg/kg)	Lead (mg/kg)	Notes
EXV09-J17-B	9/21/2009	9/25/2009	<10	<25	ND			
EXV09-J18-B	7/30/2009	7/31/2009	14	<25	14			
EXV09-J19-B	7/21/2009	7/24/2009	<10	<25	ND			
EXV09-J20-B	7/21/2009	7/24/2009	69	58	127			
EXV09-J21-B	7/20/2009	7/22/2009	<10	<25	ND	-	4.3	
EXV09-J22-B	7/20/2009	7/22/2009	23	<25	23	6.3	5.3	
EXV09-J23-B	7/20/2009	7/22/2009	27	<25	27	10	8.4	
EXV09-J24-B	7/20/2009	7/23/2009	<10	<25	ND			
EXV09-J24-EW	7/20/2009	7/23/2009	2,900	2,400	**5,300**			
EXV09-J25-B	7/27/2009	7/28/2009	<10	<25	ND			
EXV09-J25-EW	7/20/2009	7/23/2009	33	150	188			
EXV09-K6-B	9/3/2009	9/4/2009	<10	<25	ND			
EXV09-K6-WW	9/3/2009	9/4/2009	<10	<25	ND			
EXV09-K7-B	9/3/2009	9/4/2009	<10	<25	ND			
EXV09-K8-B	9/4/2009	9/9/2009	<10	<25	ND			
EXV09-K9-B	9/4/2009	9/9/2009	<10	<25	ND			
EXV09-K10-B	9/3/2009	9/4/2009	<10	<25	ND			
EXV09-K11-B	9/8/2009	9/10/2009	<10	<25	ND			
EXV09-K12-B	9/9/2009	9/15/2009	<10	<25	ND			
EXV09-K13-B	9/15/2009	9/18/2009	<10	<25	ND			
EXV09-K14-B	9/16/2009	9/18/2009	<10	<25	ND			
EXV09-K15-B	9/17/2009	9/18/2009	<10	<25	ND			
EXV09-K16-B	9/18/2009	9/23/2009	<10	<25	ND			
EXV09-K17-B	9/21/2009	9/25/2009	<10	<25	ND			

Table 5-3 Below VDL Confirmation Soil Sample Results

Sample Name	Date Sampled	Date Results	Diesel (mg/kg)	Oil (mg/kg)	Totaled Diesel & Oil (mg/kg)	Arsenic (mg/kg)	Lead (mg/kg)	Notes
EXV09-K18-B	7/17/2009	7/23/2009	<10	<25	ND			
EXV09-K19-B	7/17/2009	7/23/2009	12	35	47			
EXV09-K20-B	7/17/2009	7/23/2009	<10	<25	ND			
EXV09-K21-B	7/17/2009	7/23/2009	13	<25	13			
EXV09-K22-B	7/20/2009	7/23/2009	<10	<25	ND			
EXV09-K23-B	7/20/2009	7/23/2009	13	79	92			
EXV09-K24-B	7/20/2009	7/23/2009	30	51	81			
EXV09-K24-EW	7/20/2009	7/23/2009	8,000	5,900	**13,900**			
EXV09-K25-B	7/27/2009	7/28/2009	<10	<25	ND			
EXV09-K25-EW	7/20/2009	7/23/2009	22	45	67			
EXV09-L6-B	9/3/2009	9/4/2009	<10	<25	ND			
EXV09-L6-WW	9/3/2009	9/4/2009	<10	<25	ND			
EXV09-L7-B	9/3/2009	9/4/2009	<10	<25	ND			
EXV09-L8-B	9/3/2009	9/4/2009	<10	<25	ND			
EXV09-L9-B	9/3/2009	9/4/2009	<10	<25	ND			
EXV09-L10-B	9/3/2009	9/4/2009	<10	<25	ND			
EXV09-L11-B	9/8/2009	9/9/2009	<10	<25	ND			
EXV09-L12-B	9/9/2009	9/10/2009	<10	<25	ND			
EXV09-L13-B	9/15/2009	9/18/2009	<10	<25	ND			
EXV09-L14-B	9/16/2009	9/18/2009	<10	<25	ND			
EXV09-L15-B	9/16/2009	9/18/2009	<10	<25	ND			
EXV09-L16-B	9/18/2009	9/23/2009	<10	<25	ND			
EXV09-L17-B	9/21/2009	9/25/2009	<10	<25	ND			
EXV09-L18-B	9/21/2009	9/25/2009	<10	<25	ND	-	5.3	

Table 5-3 Below VDL Confirmation Soil Sample Results

Sample Name	Date Sampled	Date Results	Diesel (mg/kg)	Oil (mg/kg)	Totaled Diesel & Oil (mg/kg)	Arsenic (mg/kg)	Lead (mg/kg)	Notes
EXV09-L19-B	7/17/2009	7/23/2009	<10	<25	ND			
EXV09-L20-B	7/17/2009	7/23/2009	<10	<25	ND			
EXV09-L21-B	7/17/2009	7/23/2009	<10	33	33			
EXV09-L22-NW	7/20/2009	7/23/2009	39	85	124			
EXV09-L23-NEW	7/20/2009	7/23/2009	13	<25	13			
EXV09-L23-NW	7/20/2009	7/23/2009	<10	<25	ND			
EXV09-L24-NEW	7/20/2009	7/23/2009	11	<25	11			
EXV09-M6-B	9/3/2009	9/4/2009	<10	<25	ND			
EXV09-M7-B	9/3/2009	9/4/2009	<10	<25	ND			
EXV09-M8-B	9/22/2009	9/25/2009	<10	<25	ND			
EXV09-M9-B	9/22/2009	9/25/2009	<10	<25	ND			
EXV09-M10-B	9/9/2009	9/10/2009	<10	38	38			
EXV09-M11-B	9/9/2009	9/10/2009	<10	<25	ND			
EXV09-M12-B	9/9/2009	9/10/2009	<10	<25	ND			
EXV09-M13-B	9/10/2009	9/15/2009	<10	<25	ND			
EXV09-M14-B	9/15/2009	9/18/2009	<10	<25	ND			
EXV09-M15-B	9/15/2009	9/18/2009	<10	<25	ND			
EXV09-M16-B	9/17/2009	9/18/2009	<10	<25	ND			
EXV09-M17-B	9/21/2009	9/25/2009	14	<25	14			
EXV09-M18-B	9/21/2009	9/25/2009	<10	<25	ND			
EXV09-M19-B	7/17/2009	7/23/2009	12	<25	12			
EXV09-M20-B	7/17/2009	7/23/2009	<10	<25	ND			
EXV09-M20-NEW	7/17/2009	7/23/2009	<10	<25	ND			
EXV09-M21-B	7/17/2009	7/23/2009	12	<25	12			

Table 5-3 Below VDL Confirmation Soil Sample Results

Sample Name	Date Sampled	Date Results	Diesel (mg/kg)	Oil (mg/kg)	Totaled Diesel & Oil (mg/kg)	Arsenic (mg/kg)	Lead (mg/kg)	Notes
EXV09-M21-NEW	7/17/2009	7/23/2009	<10	<25	ND			
EXV09-N10-B	9/9/2009	9/10/2009	<10	<25	ND			
EXV09-N11-B	9/9/2009	9/10/2009	<10	<25	ND			
EXV09-N12-B	9/9/2009	9/10/2009	<10	<25	ND			
EXV09-N13-B	9/10/2009	9/15/2009	<10	<25	ND			
EXV09-N14-B	9/15/2009	9/18/2009	<10	<25	ND			
EXV09-N15-B	9/15/2009	9/18/2009	<10	<25	ND			
EXV09-N16-B	9/17/2009	9/18/2009	<10	<25	ND			
EXV09-N17-B	9/21/2009	9/25/2009	<10	<25	ND			
EXV09-N18-B	9/21/2009	9/25/2009	<10	38	38			
EXV09-N19-B	7/17/2009	7/23/2009	13	<25	13			
EXV09-N19-NEW	7/17/2009	7/23/2009	<10	<25	ND			
EXV09-N20-NEW	7/17/2009	7/23/2009	20	<25	20			
EXV09-O16-B	9/16/2009	9/18/2009	<10	<25	ND			
EXV09-O17-B	9/18/2009	9/23/2009	<10	<25	ND			
EXV09-O18-B	9/18/2009	9/23/2009	<10	34	34			
EXV09-O19-NEW	7/17/2009	7/23/2009	20	<25	20			
EXV09-4TH ST-B1	7/27/2009	7/28/2009	<10	<25	ND			
EXV09-4TH ST-B2	7/27/2009	7/28/2009	<10	<25	ND			
EXV09-4TH ST-B3	7/27/2009	7/28/2009	<10	<25	ND			
EXV09-4TH ST-B4	7/28/2009	7/29/2009	<10	<25	ND			
EXV09-4TH ST-1	7/27/2009	7/28/2009	<10	<25	ND			
EXV09-4TH ST-2	7/27/2009	7/28/2009	20,000	19,000	**39,000**			
EXV09-4TH ST-3	7/27/2009	7/28/2009	<10	<25	ND			

Table 5-3 Below VDL Confirmation Soil Sample Results

Sample Name	Date Sampled	Date Results	Diesel (mg/kg)	Oil (mg/kg)	Totaled Diesel & Oil (mg/kg)	Arsenic (mg/kg)	Lead (mg/kg)	Notes
EXV09-4TH ST-4	7/27/2009	7/28/2009	<10	<25	ND			
EXV09-4TH ST-5	7/27/2009	7/28/2009	<10	<25	ND			
EXV09-4TH ST-6	7/27/2009	7/28/2009	<10	26	26			
EXV09-4TH ST-7	7/28/2009	7/29/2009	13	28	41			
EXV09-4TH ST-8	7/28/2009	8/5/2009	11,000	930	**11,930**			
EXV09-4TH ST-9	7/28/2009	7/29/2009	<10	<25	ND			
EXV09-4TH ST-10	7/28/2009	7/29/2009	6,900	5,600	**12,500**			
EXV09-4TH ST DOGLEG1	7/22/2009	7/24/2009	1,800	2,800	**4,600**			
EXV09-4TH ST DOGLEG2	7/22/2009	7/24/2009	28	<25	28			
EXV09-Sarno1-B	7/20/2009	7/23/2009	<10	<25	ND			
EXV09-Sarno2-B	7/20/2009	7/23/2009	<10	<25	ND			
EXV09-Sarno-N1	7/20/2009	7/23/2009	<10	<25	ND			
EXV09-Sarno-N2	7/20/2009	7/23/2009	<10	<25	ND			
EXV09-Sarno-N3	7/21/2009	7/24/2009	55,000	40,000	**95,000**			
EXV09-CITYHALL-1	7/28/2009	7/29/2009	5,300	6,000	**11,300**			
EXV09-CITYHALL-2	7/28/2009	7/29/2009	<10	<25	ND			
EXV09-CITYHALL-3	7/28/2009	7/29/2009	<10	<25	ND			
EXV09-CITYHALL-4	9/18/2009	9/23/2009	<10	<25	ND			
EXV09-CITYHALL-5	9/18/2009	9/23/2009	<10	<25	ND			
EXV09-CITYHALL-6	9/18/2009	9/23/2009	<10	<25	ND			
EXV09-CITYHALL-7	9/18/2009	9/23/2009	1,100	1,800	2,900			
EXV09-CITYHALL-B1	9/18/2009	9/23/2009	<10	<25	ND			
EXV09-CITYHALL-B2	9/18/2009	9/23/2009	<10	<25	ND			
EXV09-Z-072409 (D20-B DUP)	7/24/2009	7/24/2009	<10	<25	ND			

Table 5-3 Below VDL Confirmation Soil Sample Results

Sample Name	Date Sampled	Date Results	Diesel (mg/kg)	Oil (mg/kg)	Totaled Diesel & Oil (mg/kg)	Arsenic (mg/kg)	Lead (mg/kg)	Notes
EXV09-Z-073009 (J18-B DUP)	7/30/2009	7/31/2009	<10	<25	ND			
EXV09-Z-080409 (H11-B DUP)	8/4/2009	8/5/2009	<10	<25	ND			
EXV09-Z1-080409 (G12-B DUP)	8/4/2009	8/5/2009	13	<25	13			
EXV09-Z-080709 (C13-B DUP)	8/7/2009	8/11/2009	<10	<25	ND			
EXV09-Z-081009 (B12-SW DUP)	8/10/2009	8/11/2009	12	27	39			
EXV09-Z-081209 (D16-B DUP)	8/12/2009	8/14/2009	<10	<25	ND			
EXV09-Z-081909 (G17-B DUP)	8/19/2009	8/21/2009	<10	<25	ND			
EXV09-Z1-081909 (E18-B DUP)	8/19/2009	8/21/2009	<10	<25	ND			
EXV09-Z-090209 (H8-B DUP)	9/2/2009	9/4/2009	<10	<25	ND			
EXV09-Z-090309 (I9-B DUP)	9/3/2009	9/4/2009	<10	<25	ND			
EXV09-Z-090409 (K8-B DUP)	9/4/2009	9/9/2009	<10	<25	ND			
EXV09-Z-090809 (L11-B DUP)	9/8/2009	9/9/2009	<10	<25	ND			
EXV09-Z-090909 (N10-B DUP)	9/9/2009	9/10/2009	<10	<25	ND			
EXV09-Z-091509 (N14-B DUP)	9/15/2009	9/18/2009	<10	<25	ND			
EXV09-Z-091809 (K16-B DUP)	9/18/2009	9/23/2009	<10	<25	ND			
EXV09-Z-092109 (N18-B DUP)	9/21/2009	9/25/2009	<10	34	34			

Shading indicates sample results exceeding CULs.

5.3.2.1 Grids Not Sampled

Performance samples were not collected from the following grid cells:

- D22, E22, F22, G22 and H22 – these cells were excavated to remove an existing Mechanically Stabilized Earth (MSE) wall which was installed following excavation of impacted soil below the VDL in 2008.
- F8, G7, H7, I7, O11, O12, O13, O14, and O15 – these cells were partially excavated in 2009 and will be sampled upon completion of the excavation in 2010.

5.3.3 Petroleum Hydrocarbon-Impacted Soil beyond the Planned Excavation Limits

During the 2009 excavation, there were two locations where petroleum hydrocarbon-impacted soil was discovered beyond the planned excavation limits. The first location was near the Sarno property, Church property and in the 4th Street ROW. The second location was on the west part of the Town Hall property.

Figure 3 shows these two locations and the new excavation limits. Figure 3B shows the excavation performance soil sampling locations, which were beyond the grid cells. The following two sections describe each individual location and actions taken.

5.3.3.1 Sarno Property and 4th Street ROW

On July 20, 2009 AECOM personnel observed an active smear lens of petroleum-impacted soil that ran from the western portion of the Sarno property eastward to the temporary sheetpile wall located in the 4th Street ROW at approximately 10-15 feet bgs. Soil samples were collected from this lens and analyzed for TPH by Method NWTPH-Dx. Based on these analytical results, the excavation extents were expanded to include the entire Sarno property, portions of 4th Street not included in the original excavation limits and a small portion of the Church property adjacent to the temporary sheet pile wall.

Confirmation sidewall and bottom samples were collected, analyzed and compared to the RL cleanup standard. All sample results met RLs, with the exception of one sample collected in the 4th Street ROW, near the southeast corner of the Town Hall property, at approximately 4 feet bgs. No additional excavation was completed based on these sampling results because: 1) the soil was apparently impacted by a different source than that which impacted the 10-15 feet bgs soil; and 2) additional excavation would have impacted a nearby electrical utility pole which could not be relocated. A fabric and plastic barrier was placed over the face of the excavation in this area and backfilling of the excavation commenced. Based on discussions with the Town's Technical Coordinator, it was determined that the shallow soil could have been impacted by an UST located on the adjacent Town Hall property. Section 5.8.2 describes decommissioning of this UST.

5.3.3.2 Town Hall

On September 17, 2009 when excavation limits were reached adjacent to the western property boundary of the Town Hall, AECOM personnel observed an active smear lens of petroleum-impacted soil that ran along the edge of the Town Hall property. Since accumulated and flowing product was noticed, further excavation was required. On September 18, 2009 a portion of the Town Hall property was excavated. The excavation limits were extended to the Thompson property line on the north and eastward into the Town Hall property by about 10 feet.

Confirmation sidewall and bottom samples were collected and analyzed by Method NWTPH-Dx. The confirmation sample results confirmed that RLs were met in this area of the excavation and backfilling was authorized.

5.3.4 Laboratory Analysis, Reporting and Data Validation

Overburden pre-characterization samples were analyzed for NWTPH-Dx by Test America's laboratory in Tacoma Washington or by Friedman and Bruya's on-site laboratory. All excavation performance samples were analyzed for NWTPH-Dx by Friedman and Bruya's on-site laboratory in order to meet the turn-around times necessary to meet the project schedule. Select overburden pre-characterization and excavation performance samples were also analyzed for lead and arsenic by Test America's laboratory in Tacoma, Washington. Within 24 hours of the receipt of the analytical lab reports, AECOM posted the results on the Virtual Project Manager (VPM) website for Ecology to view.

The data provided to Ecology for approval of backfilling were subsequently reviewed to ensure that the QA/QC criteria established in the SAP were satisfied. Level III data validation using standard EPA-approved procedures was performed, and the analytical results were determined to be usable. The data validation report is included in Appendix H. A summary of the overburden sampling results data is presented in Table 5-2. The laboratory reports are included in Appendix I. A summary table of the performance sampling results data is presented in Table 5-3 and the laboratory reports are included in Appendix I.

5.3.5 Stockpiling

Stockpiling activities included stockpiling of pre-characterized clean overburden soil in the clean overburden stockpile area, and stockpiling excavated materials for offsite disposal in the SHF.

5.3.5.1 Stockpiling Clean Overburden Material

Overburden material from grid cells with NWTPH-Dx concentrations below 1,870 mg/kg, lead concentrations below 250 mg/kg and arsenic concentrations below 20 mg/kg were hauled to the clean stockpile area in off-road trucks. Strider's off-road trucks were decontaminated at the on-site DECON area prior to hauling any non-impacted material. To control the potential for erosion of the clean overburden stockpile, a silt fence was installed and weekly TESC inspections were conducted to ensure there was no erosion or migration of the clean soil.

5.3.5.2 Stockpiling Excavated Material for Off-Site Disposal

Essentially there were three categories of impacted soils were loaded into off-road dump trucks and transported to the SHF and impacted soils stockpile.

- Overburden soil with petroleum hydrocarbon concentrations at or above 1,870 mg/kg NWTPH-Dx, containing visible staining, burn-zone material or other debris unsuitable for backfill
- Overburden soil with lead concentrations above 250 mg/kg and/or arsenic concentrations above 20 mg/kg
- Soils below the VDL.

The impacted soil stockpile was then loaded into railcars for off-site disposal. Excavated soil was profiled to meet disposal criteria at the Rabanco subtitle D facility prior to disposal.

5.3.6 Soil Disposal

Impacted soil was stockpiled at the SHF containing varying degrees of moisture; some was wet and saturated and some was nearly dry. Wet and saturated soil was allowed to passively dry at the SHF. Excess free liquids in the soil that could not be gravity drained were collected and treated with the CWTS before the soil was loaded into railcars. All soil transported off-site to the Rabanco waste disposal facility was transported by railcar.

Soil was loaded into railcars using a front end loader with an on-board scale. The scale was checked for accuracy using a weight established by a certified scale located at the Cadman facility in Gold Bar Washington. This provided accurate soil load-out tonnages and provided a control for weight limitations established by Rabanco. Trains were loaded and left the site generally five days per week, typically with 18 to 20 railcars. Approximately 1,000 tons of soil left the site each weekday to be delivered to Rabanco's Subtitle D facility.

5.3.7 Oil Recovery

Oil control and removal was conducted by MARVAC. Oil recovery was achieved primarily by first using containment booms to isolate and prevent the floating oil from re-contaminating clean backfill. Then MARVAC personnel used high pressure water to direct floating oil product towards MARVAC's vacuum truck hose which removed the floating oil/water mixture from the excavation areas. The floating oil/water mixture collected in MARVAC's vacuum truck was pumped into on-site open-topped Baker tanks. An oil/water separator in the tanks removed floating oil, which was pumped off and taken to a disposal/recycling facility. The remaining water in the tanks was sent to the CWTS for treatment and discharge per the NPDES permit. Approximately 55,000 gallons of oil was recovered and sent to the disposal/recycling facility. Disposal records were provided in Strider's daily construction reports.

5.3.8 Bird Control

Mylar tape was installed at regular intervals along the perimeter fencing to keep waterfowl and other birds from flying into the open excavation and coming in contact with floating Bunker C or diesel. The Mylar tape provided a visible and audible deterrent to the birds. In addition to the Mylar tape, several 18-inch owl predator decoys were placed and moved throughout the excavation during times when open water was present.

5.3.9 Surface Water Monitoring

Surface water monitoring included: 1) daily visual observations of water quality in the South Fork of the Skykomish River for turbidity impacts that resulted from construction activities, and 2) weekly turbidity sampling. Visual monitoring was accomplished by inspecting the riverbank from 4th Street to the stormwater outfall location, north of the Shawver residence. Turbidity samples were collected just downstream or west of the 5th Street Bridge. A turbidity meter was used and the resulting data recorded in the field notes. Those results are listed in Table 5-4.

Table 5-4 Skykomish River Turbidity Results

Date	Turbidity (NTU)	Date	Turbidity (NTU)	Date	Turbidity (NTU)
5/5/2009	6.43	7/24/2009	1.60	10/6/2009	0.00
5/11/2009	6.51	7/31/2009	1.75	10/13/2009	0.04
5/19/2009	18.80	8/7/2009	1.08	10/20/2009	0.07
5/22/2009	5.32	8/14/2009	0.00	10/27/2009	7.86
5/26/2009	5.03	8/21/2009	0.00	11/3/2009	2.43
6/2/2009	6.00	8/28/2009	0.06	11/10/2009	6.85
6/9/2009	2.16	9/4/2009	1.06	11/24/2009	5.40
6/17/2009	2.20	9/8/2009	1.60	12/1/2009	3.80
6/26/2009	1.28	9/16/2009	0.86	12/9/2009	1.45
6/30/2009	0.84	9/18/2009	1.68	12/15/2009	1.25
7/7/2009	0.60	9/21/2009	0.03	12/22/2009	1.25
7/14/2009	0.60	9/29/2009	0.08	12/29/2009	1.15

One apparent turbidity impact was observed during construction. On the morning of August 11, 2009 Ecology and AECOM observed muddy discharge from the stormwater outfall on the south bank of the Skykomish River near the east side of the 5th Street Bridge. No oil sheen was observed. AECOM and Strider identified the source of the discharge as a sediment-laden puddle, which was emptying into a catch basin located at the intersection of East River Drive and 5th Street. The puddle was apparently created from an overnight storm. The muddy discharge subsided shortly after the source evaluation was completed.

AECOM determined, and Ecology agreed that the observed turbidity impacts did not result from construction activities, and therefore, no water samples were collected and no turbidity readings were recorded from this event because of several factors.

5.3.10 Groundwater Water Monitoring

Site-wide groundwater monitoring was completed in accordance with GWMP and is described in the *2008 – 2009 Annual Site-Wide Groundwater Monitoring Report* (AECOM 2009e).

5.3.11 Cultural Monitoring, Protection and Documentation

Archeological monitoring was performed from June 22 to August 31, 2009, in accordance with the MDP. The summary of the archeological monitoring activities are presented in the Results of Archaeological Monitoring, 2009 Remediation in Skykomish, King County, Washington that is being prepared by NWAA. This report will be combined by NWAA with their report for the 2010 archeological monitoring. The final report detailing both 2009 and 2010 archeological findings will be completed after 2010 construction activities have concluded (likely in late 2010 or early 2011). Recovered artifacts

found on private properties during the 2009 archeological monitoring are scheduled to be returned to the property owners in mid-2010 and recovered artifacts found in public right-of-way during the 2009 archeological monitoring are scheduled to be returned to the Town of Skykomish Historical Society in mid-2010.

5.3.12 Backfill Material

Stabilization aggregate was imported from the Cadman rock quarry in Gold Bar, Washington and used as backfill between the VDL and the bottom of the excavation.

Backfill material for the zone above the VDL was a combination of clean overburden material, and imported structural fill aggregate and crushed aggregate base course imported from the Cadman rock quarry in Gold Bar.

The sieve analyses and chemical characteristics for these backfill materials met the specifications requirements and copies of the reports are provided in the contractor submittals (Appendix J).

5.3.13 Compaction Testing

Compaction testing of the backfill materials was carried out by Geo Test Services, Inc. of Bellingham, Washington. Compaction testing was carried out in accordance with the project specifications. Testing results showed adherence to the construction plans and specifications, with all compaction achieving greater than or equal to 95%. The compaction testing results are included in Appendix K.

5.4 HCC Construction and Operation

HCC construction was largely completed in 2008 and is described in the *2008 Skykomish Remediation – As-Built Completion Report*. End well EW-1, four gate wells (GW-1 through GW-4) and two recovery wells (RW-7 and RW-8), and related appurtenances were installed in 2009. Well logs are included in Appendix B. The HCC system went online on January 15, 2009. System operation is described in *Draft Annual Hydraulic, Containment and Control System Operations Report - 2009* (AECOM 2010a).

5.5 Air Sparging System Construction and Operation

Air sparging (AS) system construction was completed in 2008 and is described in the *2008 Skykomish Remediation – As-Built Completion Report.* Two AS system monitoring wells (1C-W-7 and 1C-W-8) were constructed in 2009 and the AS system went online on March 23, 2009. System operation is described in the *2009 Annual Air Sparging System Report* (AECOM 2010b).

5.6 Geotechnical Actions

5.6.1 Sheet Pile Removal

As part of the 2008 construction activities, 150 feet of sheet pile wall comprised of 34 sheets, was installed across 4th Street and along the north property boundary of the Whistling Post in order to provide geotechnical support of the building during the 2009 construction excavation. The sheet pile wall was removed by Axis Crane using a crane and a vibratory hammer on August 7, 8, and 10, 2009, during excavation activities. As part of the 2009 construction activities, this sheet pile wall was removed when the area north of the building was excavated.

5.6.2 5th Street Utilities Crossing

On June 24-26, 2009, Tunnel Systems, Inc. (TSI) of Woodinville, Washington installed an approximately 167-foot long, 12-inch diameter steel casing beneath the BNSF railroad tracks by 5th Street. This utility crossing is oriented approximately north-south, and crossed under four sets of railroad tracks from the south edge of the BNSF ROW in the south to Railroad Avenue in the north. The purpose of the crossing is to accommodate two 2- to 3-inch diameter PSE electrical conduits that now tie into the PSE conduits in the Railroad Avenue joint utility trench. The design of the utility crossing was laid out and described in a project memorandum from Jacobs Associates to AECOM Environment titled BNSF Skykomish NWDZ Remediation, BNSF 5th Street Utilities Crossing Design Memorandum and dated February 11, 2009 (see Appendix L). The crossing was constructed by boring the open-ended casing at approximately 5 feet bgs. BNSF and Jacobs and Associates observers were on-site during the bore to ensure that BNSF railroad tracks were not displaced during this operation. Jacobs Associates conducted settlement monitoring in accordance with the Geotechnical Action Plan, which is CMP's Appendix I, during the boring activities.

5.6.3 Ecology Block Removal

During 2008 construction, mechanically stabilized earth (MSE) walls were constructed to delineate excavation extents. In areas of high groundwater, ecology blocks were placed as foundations for the MSE walls. In 2009, underlying ecology blocks were planned to be removed from along the western property line of the Whistling Post property; and along the south Mitchell property boundary.

At each location the excavation advanced to expose the MSE wall and the ecology blocks. The plan was to remove the blocks if this could be accomplished using best engineering practices and not impact building foundations or structures. The plan called for pulling out individual blocks and pushing clean backfill into the vacant spaces to provide stabilization and support until backfilling operations were completed. A Geotechnical professional from Jacobs and Associates was a witness and advisor to both events. The following two sections describe removal activities at each location.

5.6.3.1 Whistling Post

On July 23, 2009, the MSE wall and the ecology blocks were exposed during the excavation. Strider removed the first and northernmost ecology block. Immediately following the removal, fissures, and cracks formed in the topsoil. Due to the proximity to the Whistling Post foundation, it was determined that additional ecology block removal could potential compromise the integrity of the foundation; therefore, the attempt to remove the remaining ecology blocks was terminated. A total of one ecology block was removed. Clean backfill was placed in the vacant space. The Jacobs Associates memorandum describing the removal is included in Appendix M.

5.6.3.2 Mitchell Property

On September 3, 2009, the MSE wall and ecology blocks were exposed during excavation next to the Mitchell property in the phase 2B excavation. On September 22, 2009, Strider successfully removed the ecology blocks from beneath the MSE wall. No observable sloughing, displacement, or breaks of the topsoil occurred. Consequently all of the blocks were able to be removed. A total of 18 ecology blocks were extracted from along the southern Mitchell property line. Clean backfill was placed and compacted into the vacant spaces. The site Jacobs Associates memorandum describing the removal is included in Appendix N.

5.6.4 Settlement Monitoring

Jacobs Associates conducted settlement monitoring in accordance with the Vibration and Settlement Monitoring Plan during the following remediation activities:

- Overburden excavation
- Below VDL excavation
- Sheet pile removal
- The attempted removal of ecology blocks along the west side of the Whistling Post building
- Boring under the 5th Street crossing.

The settlement monitoring plan established 16 monitoring points. Baseline elevations were established for the monitoring points by surveyors from Inca Surveying and then verified by Strider. There was no settlement observed during the 2009 construction season, with the exception of the attempted removal of ecology blocks along the west side of the Whistling Post building, as described in Section 5.6.3.

5.7 Metals Investigation

Three metals investigations were completed outside the 2009 excavation area. Two of these metals investigations, took place on the Town Hall property and the Schoolyard property, which were previously identified on CAP Figure 6 as having potential shallow metals impacts. The third investigation was completed on the Weideman property after a shallow metals impact was discovered in an excavation sidewall on the Javier property at the conclusion of the 2008 metals excavation. The metals investigation locations are shown on Figures 6A and 6B. The following sections describe these metals investigations.

5.7.1 Town Hall Property

A shallow soil investigation was conducted on July 1, 2009 in accordance with procedures described in the CMP, Section 5.9.1 and SAP Section 4.1.3. A grid cell measuring approximately 15 feet x 15 feet (225 square feet) was marked out as shown on SAP Figure 4-2. Samples were collected from the center of this grid cell at intervals of 0-1 and 1-2 feet below ground surface (bgs) and submitted to Test America Laboratory, Inc. for analysis for total lead and arsenic by EPA Method 6020. Concentrations in both samples were below the lead CUL of 250 mg/kg and the arsenic CUL of 20 mg/kg. Laboratory results for this investigation area are summarized in Table 5-5 and the analytical report is included in Appendix I. As described in CMP Section 5.9.1.2, this grid cell was designated “clean” and no excavation within this grid cell was required.

Table 5-5 Summary of the Town Hall Metals Investigation Laboratory Results

Sample Name	Arsenic (mg/kg)	Lead (mg/kg)
Town Hall-1-0-1	12	55
Town Hall-1-1-2	8.6	30
CUL	**20**	**250**

5.7.2 Schoolyard Property

A shallow soil investigation was conducted on August 11, 2009 in accordance with procedures described in the August 8, 2009 AECOM memo to Ecology. Six grid cells each measuring approximately 25 feet x 25 feet (625 square feet) were marked out as shown on the figure that accompanied the work plan. Samples were collected at the approximate centers of each grid cell at intervals of 0-1 and 1-2 feet bgs and submitted to Test America Laboratory, Inc. for analysis for total lead and arsenic by EPA Method 6020. Lead was detected above the lead CUL of 250 mg/kg in the upper foot of material in two separate grid cell samples. Laboratory results for this investigation area are summarized in Table 5-6 and the analytical report is included in Appendix I. As described in the work plan, the upper 1 foot of overburden material in these two separate grid cells was designated as "metals impacted" and the overburden in the upper two feet of the other four grid cells was designated "metals clean." The metals investigation data was used to characterize the overburden soil on the schoolyard property and to develop an excavation plan for the schoolyard presented in the *Draft 2010 Engineering Design Report (*AECOM 2009f) *and Draft 2010 Compliance Monitoring Plan* (AECOM 2010c).

Table 5-6 Summary of the Schoolyard Metals Investigation Laboratory Results

Sample Name	Arsenic (mg/kg)	Lead (mg/kg)
Schoolyard-1-0-1	7.4	33
Schoolyard-1-1-2	10	100
Schoolyard-2-0-1	12	85
Schoolyard-2-1-2	8.3	42
Schoolyard-3-0-1	9.1	430
Schoolyard-3-1-2	4.7	54
Schoolyard-4-0-1	10	130
Schoolyard-4-1-2	11	51
Schoolyard-5-0-1	9.0	280
Schoolyard-5-1-2	10	53
Schoolyard-6-0-1	9.4	110
Schoolyard-6-1-2	8.3	37
CUL	**20**	**250**

5.7.3 Weideman Property

A shallow soil investigation was conducted on the Weideman property on July 1, 2009 in accordance with procedures described in CMP Section 5.9.1 and SAP Section 4.1.3. A grid cell measuring approximately 15 feet x 15 feet (225 square feet) was marked out as shown on SAP Figure 4-2. Samples were collected from the approximate center of the grid cell at intervals of 0 to 1 and 1 to 2 feet bgs and submitted to Test America Laboratory, Inc. for analysis for total lead and arsenic by EPA Method 6020. Concentrations in both samples were below the lead CUL of 250 mg/kg and the arsenic CUL of 20 mg/kg. Laboratory results for this investigation area are summarized in Table 5-7 and the analytical report is included in Appendix I. As described in CMP Section 5.9.1.2, this grid cell was designated "clean" and no excavation within this grid cell was required.

Table 5-7 Summary of the Weideman Metals Investigation Laboratory Results

Sample Name	Arsenic (mg/kg)	Lead (mg/kg)
Weideman-1-0-1	15	87
Weideman-1-1-2	16	71
CUL	**20**	**250**

5.8 Underground Storage Tank Closures

Three USTs were decommissioned during the 2009 construction activities. The following two sections further describe the UST discovery and decommissioning.

5.8.1 Skykomish Hotel

Strider discovered a UST on the Skykomish Hotel property on July 30, 2009 while excavating overburden material. The Town of Skykomish Fire Chief was notified of the discovery. The UST was located approximately 31.5 feet north and 10 feet east of the northwest corner of the Skykomish Hotel building. The UST was a single-lined steel cylinder, approximately 12 feet in length and 5 feet in diameter, and filled with to approximately 11.5 inches in depth with an unknown liquid substance having diesel odor. AECOM personnel collected a sample of the contents for laboratory analysis and identification.

On July 31, 2009 Strider discussed the UST discovery with onsite Ecology representatives. With consent from Ecology and BNSF, Strider personnel instructed MARVAC to decommission the UST. Using a vacuum truck, MARVAC transferred the UST contents to their onsite oil/water separator system, cleaned the UST, and removed the UST for off-site disposal. The decommissioning was completed in accordance with applicable Washington State regulations, under observation of an Ecology representative. The Closure and Site Assessment Notice, triple-rinse certificate, Bill of Lading, analytical laboratory report and Certificate of Destruction are included in Appendix O. Less than 50 gallons of material was removed from the UST. Laboratory analysis of the contents determined that the UST likely contained heating oil (diesel fuel #2). The analytical report for the UST material sample analysis is included in Appendix I.

5.8.2 Town Hall

On July 28, 2009 AECOM personnel observed a well-defined soil impact at approximately 4 feet bgs beneath 4th Street near the southeast corner of the Town Hall property. The Town of Skykomish notified AECOM that the impact could be due to a Town UST located in the southeast portion of the Town Hall property. The Town made plans and arranged for decommissioning of this UST and a second UST located in the northeast portion of the same property. On September 9, 2009 Environmental Partners and Sound Testing, Inc., under contract with the Town of Skykomish, injected CO2 into the USTs and cut open both tanks. MARVAC vacuumed the USTs contents out and conducted initial soil screening tests. The results of the screening suggested that the UST located in the southeastern portion of the property leaked. On September 17, 2009 Environmental Partners decommissioned and removed the southern UST, excavated additional soil from the UST pit, and closed in-place the northern UST.

BNSF, AECOM, and Strider had no involvement in these two UST decommissioning; however, AECOM personnel observed both decommissioning.

5.9 Post Office Snow Roof

In November 2009, a snow roof was constructed over the temporary post office building. The purpose of the roof was to protect the building from damage from excessive snow fall. The specifications of the new roof design incorporated a snow-load rating of 87 pounds per square foot (psf), which is consistent with local codes. The roof was completed on December 3, 2009. All pertinent permits are contained in Appendix A and the as-built drawings in Appendix P.

5.10 Restoration

Reconstruction and restoration operations were initiated upon the completion of excavation. This included:

- Backfilling and compaction of excavated areas.
- Construction of stormwater sewer system components.
- Installation of water main components.
- Construction of new building foundations for the Martin House, the Sarno House and the Skykomish Hotel.
- Construction of new septic holding tanks and related appurtenances for the Martin House, the Sarno House and the Skykomish Hotel and for the Skykomish Town Hall.
- Moving buildings back to their new foundations, and
- Restoring electrical and communication utilities services.

Existing roads within the excavation area were temporarily paved with Asphalt Treated Base (ATB).

The original drain fields for the relocated structures and for the Skykomish Town Hall were replaced with a sewage collection system designed by Gray & Osborne for the Town of Skykomish. This system consists of individual septic tanks and sewer lines. The septic tanks are designed to collect solid wastes while the sewer lines are designed to convey the liquid waste fraction from the businesses and houses to the Town lift station located at the west end of Railroad Avenue. All pertinent permits are contained in Appendix A and the as-built drawings in Appendix P.

5.10.1 Utilities Restoration

Prior to remediation activities, the Martin and Sarno Houses and the Skykomish Hotel were all fed with overhead electrical power lines and overhead telephone lines via power poles on 4th Street and 5th Street. Power to the Skykomish Hotel was not energized prior to remediation activities. All overhead power and telephone lines were disconnected as described in Section 4.6.1 of this report.

After the Martin and Sarno Houses and the Skykomish Hotel were moved back to their original property locations, utilities were restored with the following five-step process:

1. Strider installed one 3-inch conduit run from the JUT to each structure for the electrical power feed. Two 2-inch conduit runs were also installed for one telephone feed and one spare conduit for future use.
2. Puget Sound Energy (PSE) ran a new electrical feed to each structure via the 3-inch underground conduit.
3. Strider requested an electrical Labor & Industries (L&I) inspection for each structure after the power feeds had been run by PSE.
4. After the electrical L&I inspections were approved, PSE set new digital electrical meters on each structure. Strider subsequently re-energized the interior of the Martin and Sarno Houses by testing the interior panelboards and checking that all pre-existing lighting, plugs and appliances were fully operational. Power to the Skykomish Hotel was not energized and no interior electrical service checks were completed.
5. Verizon ran a new telecommunications feed to each structure via the 2-inch underground conduit and terminated the feed at the pre-existing exterior Network Interface Box (NIB). Interior phone jacks were tested for continuity and a clear telephone signal by Verizon.

5.10.2 Structure Restoration

Following remediation activities, the Martin and Sarno Houses and the Skykomish Hotel were returned to their respective properties on newly constructed concrete foundations. Structure restoration activities that took place in 2009 included the following:

- Construction of new concrete foundations that were constructed to current applicable codes (2006 IRC and 2006 IBC), including adequate venting area for a flood-prone area. Foundations were inspected by the Town of Skykomish's Building Inspector prior to pouring. The building permits for the new structure foundations are included in Appendix A.
- Dry rot repair and selected siding replacement.
- Attachment of the structures to the new foundations with new post to beam connections and sill plate connections with anchor bolts.
- Installation of new clean water service lines from 4th Street and 5th Street.
- Installation of new septic tanks.
- Installation of lateral septic lines from the new tanks to the new 4-inch sanitary sewer main line.

- Strider performed repairs on rotted rim and floor joists where they were in contact with the new foundation.
- Restoration of all ancillary appurtenances, such as driveways, walkways, sidewalks, patios, etc.

5.11 Protection Monitoring

5.11.1 Air Monitoring

Air monitoring was performed in accordance with the *Skykomish Air and Noise Monitoring Plan* (AMP; Argus Pacific 2009). Each week's monitoring results were detailed in the weekly Air and Noise Monitoring reports produced by Argus. In these reports, Argus tabulated and summarized the noise monitoring data and submitted it in weekly reports to AECOM. AECOM subsequently uploaded the reports to the VPM website for Ecology, BNSF and other interested parties to view.

5.11.2 Noise Monitoring

Noise monitoring was performed in accordance with the AMP. Each week's monitoring results were detailed in the weekly Air and Noise Monitoring reports produced by Argus. In these reports, Argus tabulated and summarized the noise monitoring data and submitted it in weekly reports to AECOM. AECOM subsequently uploaded the reports to the VPM website for Ecology, BNSF and other interested parties to view.

5.11.3 Weather Monitoring

Monitoring of weather conditions was performed in accordance with the AMP and the NPDES permit. A weather station was set up on the roof of the HCC treatment building, south of Railroad Avenue and the SHF. Weather data, including temperature, wind direction and speed, and precipitation were monitored continuously and downloaded periodically from the station, which was located in the AECOM trailer. These data are included in Appendix Q.

6.0 Work to Be Completed After 2009

This section describes remediation activities which were described in the NWDZ CPS, but were not completed during the 2009 construction season. Table 6-1 summarizes these activities and indicates the construction year during which they are likely to be completed. Future as-built reports will describe completion of these activities.

6.1 HCC Operation

The HCC system is operated on a 24 hour basis, 7 days a week. At this time there is not a completion date of HCC activities and a subsequent shutdown date. The next annual HCC system operations report will cover the period from January 1, 2010 until December 31, 2010.

6.2 Air Sparging System Operation

The air sparging system is operated on a 24 hour basis, 7 days a week. At this time there is not a completion date of air sparging activities and a subsequent shutdown date. The next annual air sparging system operations report will cover the period from January 1, 2010 until December 31, 2010.

6.3 NWDZ Excavation and Remediation

6.3.1 Cascadia Inn

During the 2008 and 2009 construction activities, NWTPH-Dx constituents were found under the Cascadia Inn property. Plans on remediating this property are currently underway and remediation will be addressed in the 2010 construction activities.

6.3.2 Opera House (Ward Property)

As part of the 2010 remediation activities, excavation work is planned for the soil within the Opera House property boundaries. Specific remediation activities and restoration work will be addressed in the 2010 construction activities.

6.3.3 Maintenance Building

As part of the 2010 remediation activities, excavation work is planned for the soil within the Maintenance Building property boundaries. Specific remediation activities and restoration work will be addressed in the 2010 construction activities.

6.3.4 School Properties East of 6th Street

As part of the 2010 remediation activities, excavation work is planned for the soil within the School-owned properties east of 6th Street. These properties encompass the Community Center, tennis court, and the adjacent park. Specific remediation activities and restoration work will be addressed in the 2010 construction activities.

6.3.5 Sky River Inn

As part of the 2010 remediation activities, excavation work is planned for the remaining impacted soil within the Sky River Inn property boundaries. Specific remediation activities and restoration work will be addressed in the 2010 construction activities.

6.4 Building Relocation

6.4.1 Depot

Depot relocation was not completed during the 2009 construction season. The disposition of the Depot is currently under consideration by BNSF.

6.4.2 Wheatley House

The Wheatley House relocation was not completed during the 2009 construction season. This was due to the anticipated 2010 excavation prism. Strider Construction determined that the foundation might be compromised if the Wheatley House was relocated to its permanent location. The permanent relocation of the Wheatley House will therefore occur in 2010.

6.4.3 General Store

The General Store relocation was not completed during the 2009 construction season. The permanent relocation of the General Store will occur during the 2010 remediation activities.

6.5 Utility and Town Restoration

Substantial restoration was completed in the 2009 construction season; however, with continued excavations planned for 2010 and 2011, final restoration will need to be completed pending property access and the subsequent remediation remedies as described in the CAP. Permanent sewer, water and electrical utilities will continue to be installed as excavations progress. Final permanent roadways, sidewalks and plantings are anticipated to be completed in 2011.

Table 6-1 Work Not Completed in 2009

Activity	Work Summary	Year to be Completed		
		2010	2011	2012
HCC System Operation	System compliance monitoring, operations and maintenance.	X	X	X
AS System Operation	System compliance monitoring, operations and maintenance.	X	X	X
Private Property Excavation and Remediation	Cascadia Inn excavation	X		
	Opera House	X		
	Maintenance Bldg	X		
	School-owned properties east of 6th St.	X		
	Sky River Inn	X		

Activity	Work Summary	Year to be Completed		
		2010	2011	2012
Building Relocation	Relocating Depot, Wheatley house and General Store	X	X	
Utility and Town Restoration	Complete utility lines along East River Drive and complete permanent ground surface restoration.	X	X	

Note: The schedule presented in Table 6-1 is preliminary and may change.

7.0 Summary and Conclusions

From the period starting May 5, 2009 and ending December 31, 2009, personnel from AECOM Environment oversaw the 2009 remediation activities at the Former BNSF Maintenance and Fueling Facility in Skykomish, Washington on behalf of BNSF.

Approximately 55,000 gallons of oil was recovered during excavation activities and approximately 51,126 cubic yards of impacted soil was excavated and disposed of off-site. The impacted soil was removed from the site, transported to and placed in Rabanco's Subtitle D landfill in Roosevelt, Washington. Analytical results from performance sampling of the extents of the excavation demonstrate that the soil remediation objectives were achieved for the excavation area grids.

Metals impacted soils were evaluated at three locations. At two locations, analytical results were designated as "clean" with no metal concentrations above CULs and excavations were not required. The third location, an area within the Schoolyard, two lead samples exceeded the CUL limit. As a result, excavations are planned in the 2010 season to remove the impacted soil.

The HCC system and AS system were commissioned in 2009. Weekly monitoring of parameters of these systems demonstrated their effectiveness under the guidelines of the CMP.

An underground storage tank was discovered on the Skykomish Hotel property during archeological monitoring. The tank was emptied, cleaned, removed from the site and disposed of according to Washington State regulations and under the scrutiny of an on-site representative of the Washington State Department of Ecology.

Geotechnical activities were successfully performed during construction activities. The sheet pile wall located north of the Whistling Post building and under 4th Street was successfully removed, as well as the ecology blocks along the southern Mitchell property line. A steel utility casing was installed under the railroad tracks along 5th Street. The ecology blocks located to the west of the Whistling Post building were scheduled to be removed, however, were ultimately left in-place, as removing the blocks was compromising the integrity of the soil along the building foundation.

Underground utilities were installed within the site per the 2009 specifications and plans, including the sewer system consisting of new septic tanks and piping and a joint utility trench that consolidated electrical, cable and telephone services. All pertinent permits are contained in Appendix A and the as-built drawings in Appendix P.

Temporary asphalt-treated paving of roads and sidewalks with painted lines were completed in areas of the Town disturbed by the 2009 construction activities. Permanent and temporary lighting was also installed to illuminate identified areas of concern.

A snow shed was built over the temporary post office with proper snow load capabilities. Its purpose being to protect the post office to any heavy snow falls. All pertinent permits are contained in Appendix A and the as-built drawings in Appendix P.

The planned work was substantially complete in 2009, but some restoration activities still remain to be completed in 2010 or 2011. Work completed in 2010 will be described in the 2010 Construction As-Built Report.

The work described in this report was completed in substantial compliance with the 2009 EDR, CMP, and NWDZ CPS.

8.0 References

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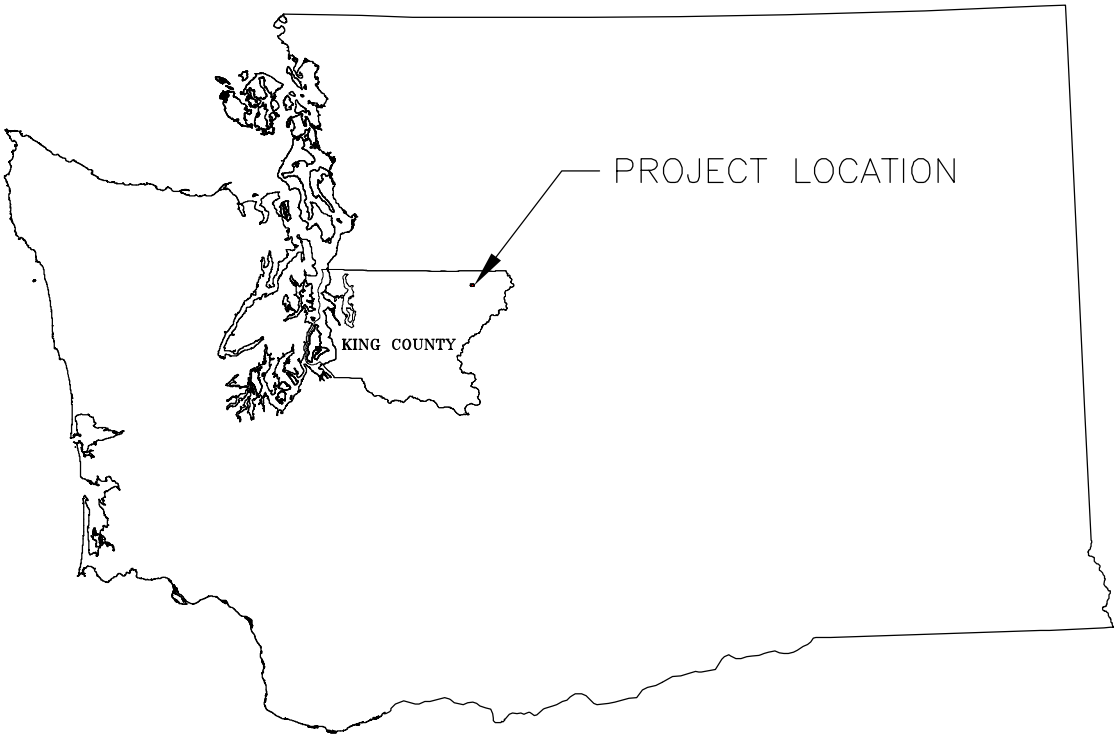
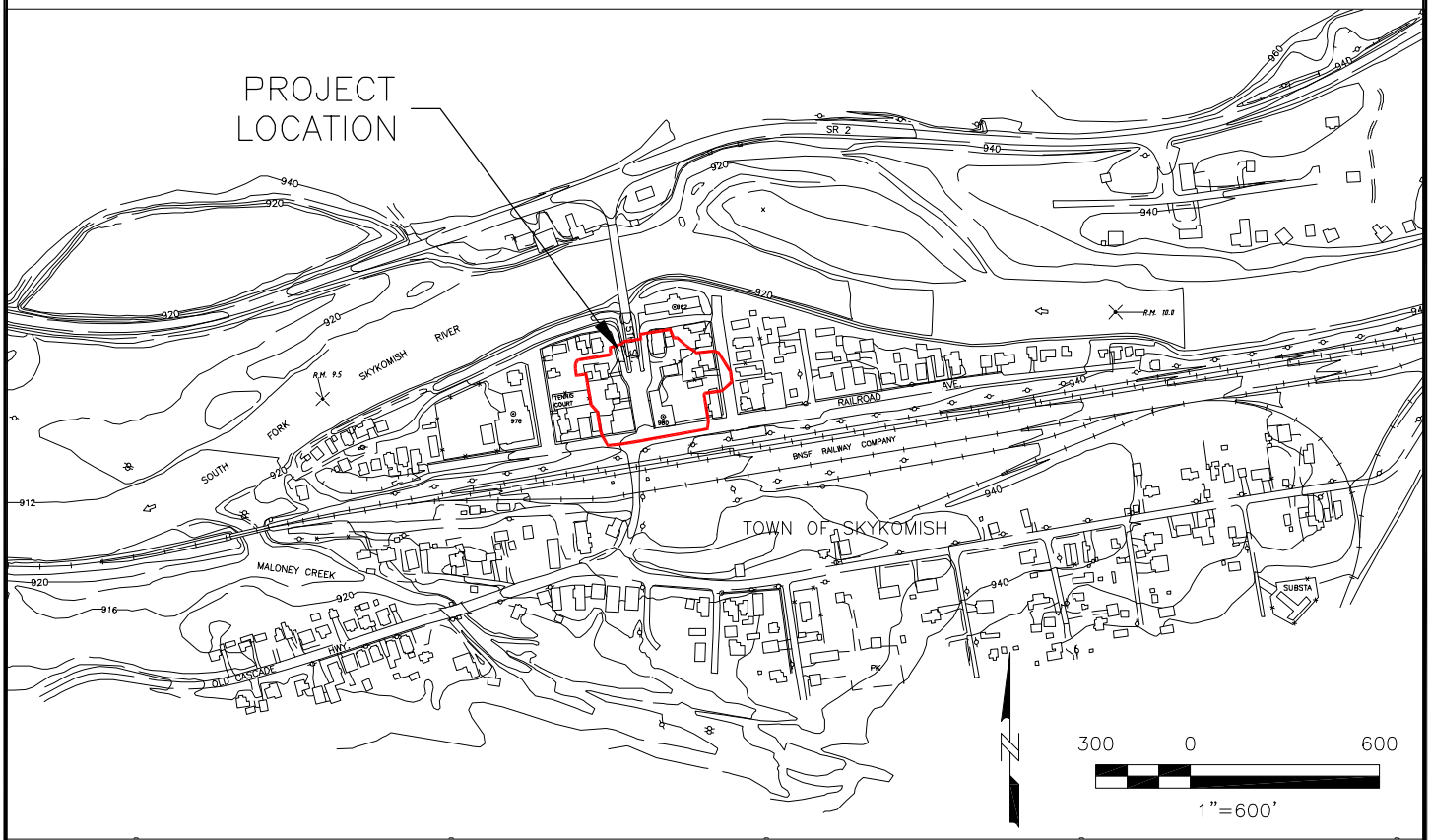
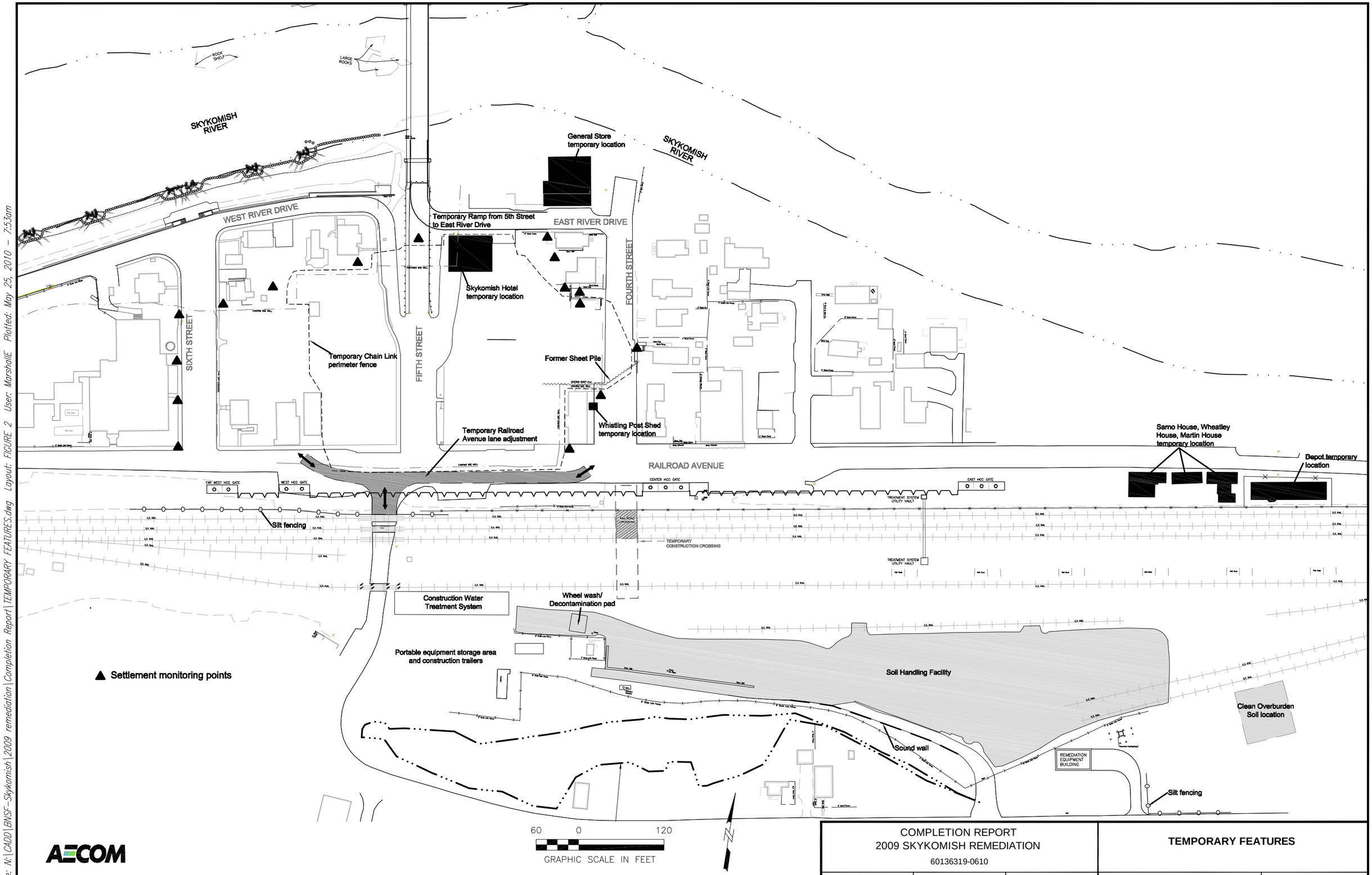




AECOM

COMPLETION REPORT 2009 SKYKOMISH REMEDIATION 60136319-0610			**SITE LOCATION MAP**
DATE: 1/12/10	DRWN: E.M./SEA		**FIGURE 1**

File: P:\CADD\BNSF-Skykomish\2009 remediation\Completion Report\SITE LOCATION.dwg Layout: FIG 1 User: MarshallE Plotted: Jan 12, 2010 - 11:40am Xref's:



AECOM

COMPLETION REPORT 2009 SKYKOMISH REMEDIATION 60136319-0610			**TEMPORARY FEATURES**
DATE: 3/15/10	DRWN: E.M./SEA		**FIGURE 2**

File: N:\CADD\BNSF-Skykomish\2009 remediation\Completion Report\TEMPORARY FEATURES.dwg Layout: FIGURE 2 User: MarshallE Plotted: May 25, 2010 – 7:53am

WEST RIVER DRIVE

EAST RIVER DRIVE

SIXTH STREET

FIFTH STREET

FOURTH STREET

EXISTING MSE WALL

FORMER SHEET PILE

Conc. Wall

3' Wood Fence

3' Wire Fence

Wood Ramp
Hand Rail

Hand Rail
Wood Ramp

Chainlink Fence

Brick

FAR WEST HCC GATE

WEST HCC GATE

CENTER HCC GAT

PLANNED EXCAVATION

ACTUAL EXCAVATION

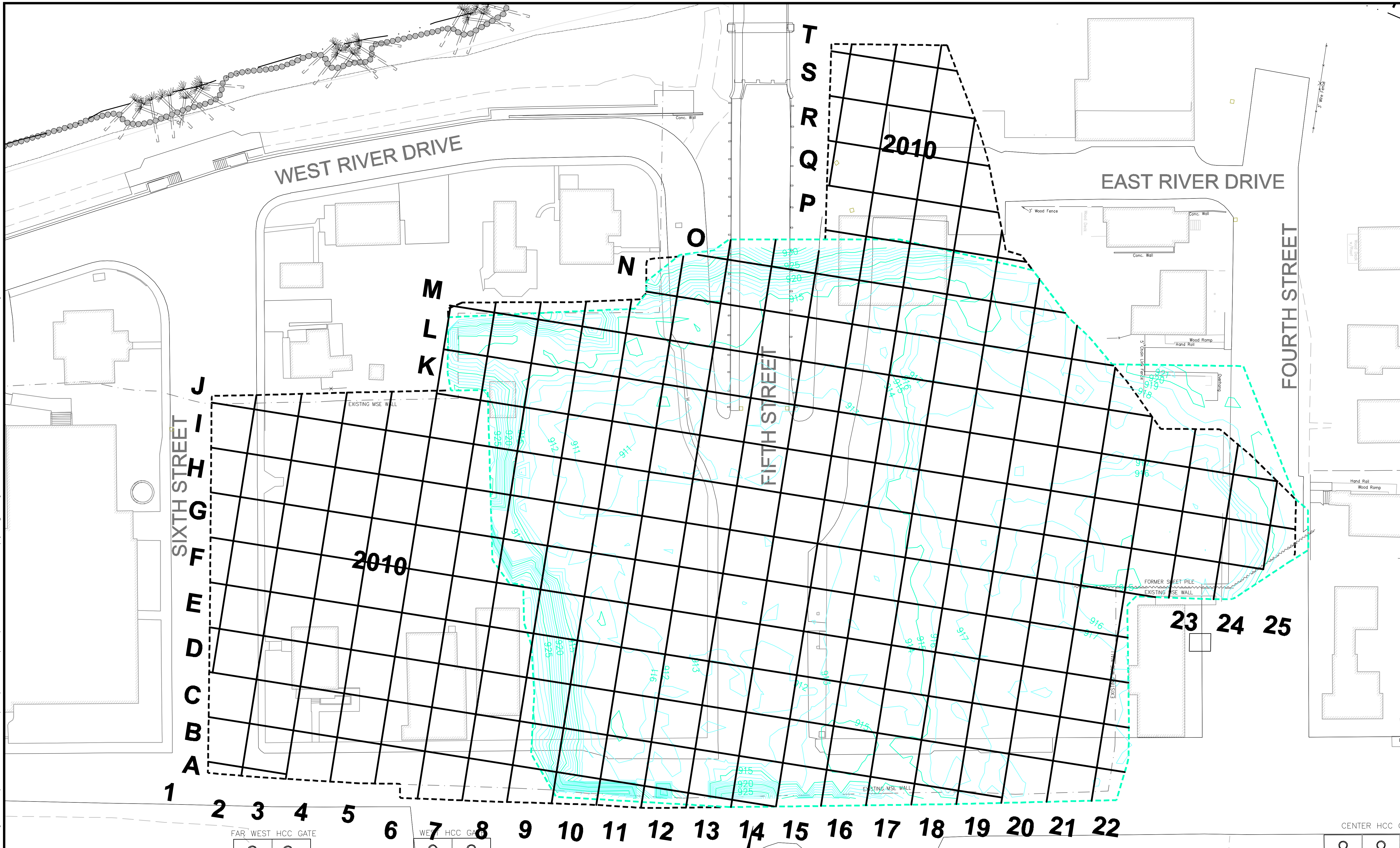
25 0 50

GRAPHIC SCALE IN FEET

AECOM

COMPLETION REPORT 2009 SKYKOMISH REMEDIATION 60136319-0610			**FINAL VS. PLANNED EXCAVATION CONTOURS**
DATE: 3/30/10	DRWN: E.M./SEA		**FIGURE 3A**

File: N:\CADD\BNSF-Skykomish\2009 remediation\Completion Report\As-built excavation (c).dwg Layout: FIGURE 3A User: MarshallE Plotted: May 25, 2010 - 7:55am



AECOM

COMPLETION REPORT
2009 SKYKOMISH REMEDIATION
60136319-0610

FINAL EXCAVATION CONTOURS WITH GRIDLINES

DATE: 3/30/10

DRWN: E.M./SEA

FIGURE 3B

File: N:\CADD\BNSF-Skykomish\2009 remediation\Completion Report\As-built excavation (c).dwg Layout: FIGURE 3B User: MarshallE Plotted: May 25, 2010 - 7:55am

SKYKOMISH RIVER

ROCK SHELF

LARGE ROCKS

WEST RIVER DRIVE

EAST RIVER DRIVE

FOURTH STREET

SIXTH STREET / FIFTH STREET

1A–W–3

MW–36

5–W–1

MW–26

1A–W–2

2009 Excavation Extents

RAILROAD AVENUE

FAR WEST HCC GATE

WEST HCC GATE

CENTER HCC GATE

TREATMENT SYSTEM UTILITY VAULT

TREATMENT SYSTEM UTILITY VAULT

50 0 100

GRAPHIC SCALE IN FEET

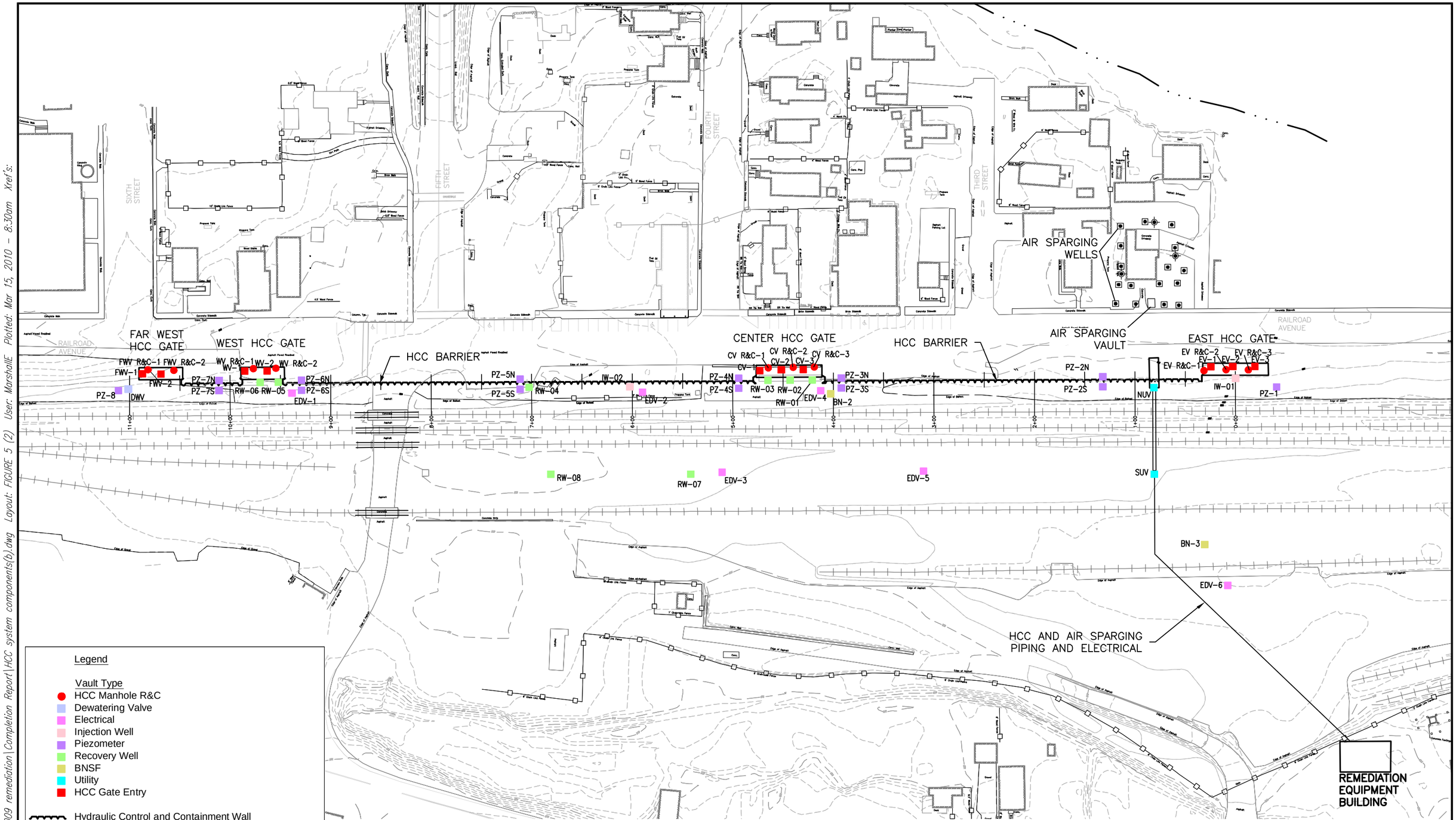
AECOM

COMPLETION REPORT
2009 SKYKOMISH REMEDIATION
60136319-0610

WELLS DECOMMISSIONED IN 2009

DATE: 1/12/10 | DRWN: E.M./SEA | **FIGURE 4**

File: P:\CADD\BNSF–Skykomish\2009 remediation\Completion Report\Decommissioned Wells.dwg Layout: FIGURE 4 User: MarshallE Plotted: Jan 12, 2010 – 11:48am



AECOM

COMPLETION REPORT 2009 SKYKOMISH REMEDIATION 60136319-0610			HYDRAULIC CONTROL AND CONTAINMENT AND AIR SPARGING COMPONENTS
DATE: 3/15/10	DRWN: E.M./SEA		FIGURE 5

File: M:\BNSF-Skykomish\2009 remediation\Completion Report\HCC system components(b).dwg Layout: FIGURE 5 (2) User: MarshallE Plotted: Mar 15, 2010 - 8:30am Xref's:

1A-SS-3
LEAD HOTSPOT

SAMPLING
LOCATION

TOWN HALL GRID
CELL DESIGNATOR

Edge of Asphalt
Conc.
Conc. Wall
Fuel Oil Tank
Rock Garden
Concrete Walk
Edge of Asphalt
TOWN HALL
Propane Tank
5' Chain Link Fence
Concrete
Deck
SARNO
RESIDENCE
Deck
Concrete
Concrete Sidewalk
Concrete Driveway

Fourth Street

Edge of Asphalt
Wood Deck
Wood Deck w/Roof
Conc.

SHALLOW METALS IMPACT
DISCOVERED AT COMPLETION
OF 2008 METALS EXCAVATION

SAMPLING
LOCATION

WEIDEMAN
RESIDENCE
Concrete
Conc.
Conc.
4' Chain Link Fence
Concrete
4' Chain Link Fence

METALS-15A-N

WEIDEMAN GRID
CELL DESIGNATOR

4' Wood Fn.
Conc.
JAVIER
RESIDENCE
Conc.
Gravel
Gravel
Edge of Asphalt

2008 METALS
EXCAVATION BOUNDARY

4' Wood Fence
Conc. Pad
4' Wood Fence
Conc.
Conc.
CHURCH
Fuel Oil

NOTE:

1. LEAD HOTSPOTS WERE IDENTIFIED IN FIGURE 3-8 OF THE MARCH 15, 2005 FINAL FEASIBILITY STUDY, FORMER MAINTENANCE AND FUELING FACILITY, SKYKOMISH, WASHINGTON

METALS INVESTIGATION SAMPLING GRID

AECOM

10 0 20
SCALE IN FEET

N

COMPLETION REPORT 2009 SKYKOMISH REMEDIATION 60136319-0610			**2009 SHALLOW SOILS METALS INVESTIGATION LOCATIONS**
DATE: 01/12/10	DRWN: E.M./SEA		**FIGURE 6A**

6' Chain Link Fence

Concrete Walk

Concrete Ring

12" SD

Sixth Street

Concrete Walk

5-SS-9

B-11

Concrete Walk

Concrete

Play Area

Edge of Gravel

Covered Play Area

METALS INVESTIGATION SAMPLING GRID

AECOM

10 0 20

SCALE IN FEET

N

COMPLETION REPORT
2009 SKYKOMISH REMEDIATION
60136319-0610

2009 SCHOOLYARD METALS INVESTIGATION LOCATIONS

DATE: 01/12/10 | DRWN: E.M./SEA | **FIGURE 6B**

Appendices

(Please note that all appendices are provided on the attached DVD.)

Appendix A Permits and Inspection Records

Appendix B Well Decommissioning and Construction Reports

Appendix C Discharge Monitoring Reports

Appendix D Lead and Asbestos Inspection and Abatement Records

Appendix E Structural Assessment Report

Appendix F Daily Construction Reports

Appendix G Project Photographs

Appendix H Data Validation Results

Appendix I Analytical Laboratory Reports for the Overburden and Performance Sampling and the Metals Investigation

Appendix J Contractor Submittals

Appendix K Compaction Testing Results

Appendix L 5th Street Utilities Crossing: Site Visit and Comments Memo – Jacobs Associates

Appendix M Ecology Block Removal – Whistling Post: Site Visit and Comments Memo – Jacobs Associates

Appendix N Ecology Block Removal – Mitchell Property: Site Visit and Comments Memo – Jacobs Associates

Appendix O UST Closure Details

Appendix P As-Built Construction Drawings

Appendix Q Weather Data